

APPENDIX C

DATA VALIDATION REPORT



January 18, 2017

Mr. David Enos
Manager, Dormant Properties
Teck American Incorporated
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Spokane, WA 99202

Dear Mr. Enos:

Enclosed is the revised quality assurance review for the organic and inorganic analyses of the sturgeon tissue samples collected on August 30 and 31, 2016, and on September 7, 2016, and the aqueous processing blanks prepared on October 17, 18, and 19, 2016, as part of the Upper Columbia River 2016 Sturgeon Tissue Study. The samples were analyzed for polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans, polychlorinated biphenyl congeners, polybrominated diphenyl ethers, inductively coupled plasma metals, inductively coupled plasma/mass spectrometry metals, mercury, fluoride, total inorganic arsenic, percent lipids, and percent moisture and underwent a Stage 4 data validation.

Several organic results were qualified as "not-detected" due to blank contamination or as estimated due to out-of-criteria labeled extraction standard recoveries, quantitation above the instrument calibration range, out-of-criteria ion abundance ratios, and quantitation between the sample-specific detection limit and reporting limit. Several inorganic results were qualified as "not-detected" due to blank contamination or as estimated due to quantitation of results between the detection limit and the reporting limit. Overall, the data reviewed are usable with the qualifications presented in this report.

The quality assurance review has been revised to update several guidance document references, include the percent lipids and percent moisture determinations on Table 1, report "not-detected" organic results to the estimated detection limit rather than the reporting limit, and to include a summary of analytical concentration goal exceedances.

If you have any questions or comments, or if we can be of any further assistance, please feel free to call.

Sincerely,

Thomas H. Weinmann
Senior Quality Assurance Chemist/
Data Validation Task Manager

Sincerely,

Rock J. Vitale, CEAC
Technical Director of Chemistry/
Principal

THW/RJV:scEnc.



**QUALITY ASSURANCE REVIEW OF THE
UPPER COLUMBIA RIVER
2016 STURGEON TISSUE STUDY
SAMPLES COLLECTED BETWEEN
AUGUST 30, 2016 AND OCTOBER 19, 2016
SAMPLE DELIVERY GROUPS 1601354 AND K1611838**

January 18, 2017

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Introduction

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the sturgeon tissue samples collected on August 30 and 31, 2016, and on September 7, 2016, and the aqueous processing blanks prepared on October 17, 18, and 19, 2016, as part of the Upper Columbia River 2016 Sturgeon Tissue Study. The samples that have undergone a rigorous QA review are listed on Table 1. Table 1 also presents the laboratory sample number, collection date, matrix, and the parameter(s) examined for each sample.

This review has been performed with direction from the “Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use” (EPA 540-R-08-005, January 2009); National “Functional Guidelines for Superfund Organic Methods Data Review” (EPA-540-R-014-002, August 2014); “National Functional Guidelines for Inorganic Superfund Data Review” (EPA-540-R-013-001, August 2014); “US EPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dibenzo-*p*-Dioxins and Chlorinated Dibenzofurans Data Review” (EPA-540-R-11-016, September 2011); and the requirements specified in the “Upper Columbia River Sturgeon Tissue Study Quality Assurance Project Plan” (QAPP, September 2016).

The reported analytical results are presented in Section 2. Any required data validation qualifications have been annotated on the data tables presented in Section 2. Data were examined to determine the usability of the analytical results and compliance relative to the requirements specified in the previously referenced documents and the analytical methods. In addition, the deliverables were evaluated for completeness and accuracy. Qualifier codes have been placed next to results on the data tables to enable the data user to quickly assess the qualitative and/or quantitative reliability of any result based on the criteria evaluated. Details of this QA review are presented in Section 1 of this report. This report was prepared to provide a critical review of the laboratory analyses and reported analytical results. Rigorous QA reviews of laboratory-generated data routinely identify problems associated with analytical measurements, even from the most experienced and capable laboratories.

TABLE 1

SAMPLES INCLUDED IN THIS QUALITY ASSURANCE REVIEW

Teck American Incorporated Sample Name	Laboratory Sample Numbers	Date of Sample Collection	Matrix	Parameters Examined
EPA-HS-A1	1601354-01 K1611838-009	8/30/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-A1MS (Matrix Spike)	K1611838-009S K1611838-009MS	8/30/16	Tissue	M ¹ , M ² Hg, F, As
EPA-HS-A1MSD (Matrix Spike Duplicate)	K1611838-009MSD	8/30/16	Tissue	Hg, F, As
EPA-HS-A1DUP (Laboratory Duplicate)	K1611838-009D K1611838-009DUP	8/30/16	Tissue	M ¹ , M ² F
EPA-HS-A1 DUP (Laboratory Processing Duplicate of EPA-HS-A1)	1601354-02 K1611838-010	8/30/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-A1 TRIP (Laboratory Processing Triplicate of EPA-HS-A1)	1601354-03 K1611838-011	8/30/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-A2	1601354-04 K1611838-020	8/31/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-A3	1601354-05 K1611838-029	8/30/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-B1	1601354-06 K1611838-038	8/31/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-B2	1601354-07 K1611838-047	8/30/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-B3	1601354-08 K1611838-056	8/30/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-C1	1601354-09 K1611838-065	9/7/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist

TABLE 1 (Cont.)

Teck American Incorporated Sample Name	Laboratory Sample Numbers	Date of Sample Collection	Matrix	Parameters Examined
EPA-HS-C2	1601354-10 K1611838-074	8/30/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
EPA-HS-C3	1601354-11 K1611838-083	9/7/16	Tissue	D/F, PCB, PBDE M ¹ , M ² , Hg, F, As, Lipid, Moist
Homogenization Blank 10/17/16 (Equipment Blank)	1601354-12 K1611838-084	10/17/16	Aq	D/F, PBDE M ¹ , M ² , Hg, F
Homogenization Blank 10/19/16 (Equipment Blank)	1601354-13 K1611838-085	10/19/16	Aq	D/F, PCB, PBDE M ¹ , M ² , Hg, F
Homogenization Blank 10/18/16 (Equipment Blank)	1601354-14 K1611838-086	10/18/16	Aq	D/F, PCB, PBDE M ¹ , M ² , Hg, F

NOTES:

- D/F - Polychlorinated Dibenzo-*p*-dioxins and Polychlorinated Dibenzofurans by US EPA Method 1613B. (14 Stage 4 analyses)
- PCB - Polychlorinated Biphenyl Congeners by US EPA Method 1668A. (13 Stage 4 analyses)
- PBDE - Polybrominated Diphenyl Ethers by US EPA Method 1614. (14 Stage 4 analyses)
- M¹ - Target Analyte List (TAL) Metals by SW-846 Methods 6010C/7742. (16 Stage 4 analyses)
- M² - TAL Metals by SW-846 Method 6020A. (16 Stage 4 analyses)
- Hg - Mercury by US EPA Method 1631E or SW-846 Method 7470A. (16 Stage 4 analyses)
- F - Fluoride by Standard Method 4500-F-C. (17 Stage 4 analyses)
- As - Total Inorganic Arsenic by US EPA Method 1632A. (13 Stage 4 analyses)
- Lipid - Percent Lipids by Bligh-Dyer/Gravimetric. (11 Stage 4 analyses)
- Moist - Percent Moisture by Freeze-dry/Gravimetric. (11 Stage 4 analyses)
- Aq - Aqueous.

Section 1 Quality Assurance Review

A. Data Review

The analyses of 14 tissue samples (including quality control [QC] samples) and 3 aqueous blanks were performed by Vista Analytical Laboratory (Vista) in El Dorado Hills, California, and ALS Environmental (ALS) in Kelso, Washington. The samples were analyzed for polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans (PCDD/PCDF), polychlorinated biphenyl (PCB) congeners, polybrominated diphenyl ethers (PBDE), inductively coupled plasma (ICP) metals, inductively coupled plasma/mass spectrometry (ICP/MS) metals, mercury, fluoride, total inorganic arsenic, percent lipids, and percent moisture. The specific samples and analyses reviewed are identified on Table 1.

The findings in this QA review are based upon a review of sample holding times, condition of samples upon laboratory receipt, blank analysis results, matrix spike/matrix spike duplicate (MS/MSD) results, laboratory control sample (LCS) results, laboratory duplicate and triplicate results, ongoing precision and recovery (OPR) standard results, mass tuning, initial and continuing calibrations, labeled compound recoveries, sample preparation, reporting limit (RL) standard results, interference check sample results, post-digestion spike results, serial dilution results, internal standard performance, instrument sensitivity, retention times (RTs), analytical sequence, and quantitation of positive results. Any required data validation qualifications are annotated on the data tables presented in Section 2.

Issues are typically presented in three categories - Deliverable Review, Procedural Review, and Data Qualifiers. The Deliverable Review addresses reporting issues that can be corrected and that have impacted the usability of the reported results. Reporting issues that did not impact usability of the reported results are noted in the Support Documentation (Section 3), but are not summarized in this section of the report. Any deliverables that were not provided in the original data packages were requested and subsequently received from the laboratory; these data are included in Section 3. One deliverable review issue was identified for the Sample Delivery Groups (SDGs) included in this QA review.

The Procedural Review addresses issues that cannot be corrected and method compliance issues; these issues have impacted the usability of the reported results. Procedural issues that did not impact usability of the reported results are noted in Section 3, but are not summarized in this section of the report. The data reviewer included copies of relevant data and other documentation needed to support any changes made to the data package in Section 3. Two procedural review issues were identified for the SDGs included in this QA review.

Data Qualifiers are the data usability qualifiers determined based on the review of the data packages provided. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the data usability issues should not be construed as an indication of laboratory performance.

This QA review addresses each SDG individually, including any deliverable issues, procedure issues, and data qualifications. Complete support documentation for this QA review is presented in Section 3 of this QA review. The cover sheet for each SDG in Section 3 is a checklist of all QA procedures required by the protocol and examined in this data review.

Sample Delivery Group 1601354

The laboratory was requested to prepare a detailed data package to substantiate the reported analytical results. The data package that was prepared allowed for a comprehensive (Stage 4) review to be performed. The data reviewer evaluated the reported results for compliance with the analytical methods performed and for completeness and accuracy of reported data. Based on the data package provided, a few deliverable and procedural issues were observed as detailed below. Data qualification based on the evaluation of the data is presented in the subsequent Data Qualifiers section.

Deliverable Review

- In the organic fractions, ion abundance ratios outside of acceptance criteria were observed for native compounds in several project samples. According to the analytical methods, the ion abundance ratios for each compound must be within the theoretical limits or within ± 15 percent (± 10 percent for US EPA Method 1613B) of the ratio in the midpoint (CS-3) calibration or calibration verification (VER), whichever is more recent. If these criteria are not met, a qualitative identification of the compound has not been made, and a result should not be reported. The laboratory reported results with ion abundance ratios outside of acceptance criteria as estimated maximum possible concentrations (EMPCs) on the results summary forms. The data reviewer concurs that these results should be considered quantitative estimates. Peaks were present at the expected RTs; however, these results may or may not represent target compounds. Qualification of data due to ion abundance ratios outside of acceptance criteria is addressed in the subsequent Data Qualifiers section.

Procedural Review

1. In the PBDE fraction, out-of-criteria recoveries were observed for one or more labeled extraction standards in several samples. According to US EPA Method 1614 (Section 9.3.3), if the recovery of any labeled standard is outside of the acceptance limits, additional cleanup of the samples should be performed or a smaller amount of sample should be analyzed. The laboratory did not initiate corrective action. Qualification of data due to the out-of-criteria extraction standard recoveries is addressed in the subsequent Data Qualifiers section.
2. The reported results for BDE-47 in all tissue samples exceeded the instrument calibration range. According to US EPA Method 1614 (Section 17.5), if the response for any compound exceeds the calibration range of the instrument, the sample extract should be diluted or a smaller aliquot of sample should be analyzed. The laboratory did

not initiate corrective action. Qualification of data due to results reported above the instrument calibration range is addressed in the subsequent Data Qualifiers section.

Comments

1. Vista noted on the Sample Log-in Checklist summary that the caps on the containers for samples EPA-HS-A1 DUP (1601354-02) and EPA-HS-B2 were broken upon receipt. Vista did not indicate that the integrity of the samples was compromised. Data were not qualified due to this issue.
2. Sample Homogenization Blank 10/17/16 was not analyzed for PCB congeners due to the limited sample volume provided to Vista by ALS. ALS explained that only 2 liters of blank water was collected on the first day of homogenization. The 2 liters of sample was consumed to perform the PCDD/PCDF and PBDE analyses on sample Homogenization Blank 10/17/16. Upon receiving feedback regarding volume requirements, ALS created additional blank volume on the subsequent days of processing.
3. The injection log associated with the PCB congener continuing calibration verification (CCV) standard analyzed on 11/11/16 at 18:24 on Instrument VG-8, was not included in the data package provided. Upon Environmental Standards, Inc.'s (Environmental Standards') request, Vista provided the injection log.

Data Qualifiers

- Due to its presence in the associated laboratory method blank, the positive results for PCB-11 in all tissue samples should be considered "not-detected" and have been flagged "U*" on the data tables. The reported result value has replaced the detection limit (DL) and RL (if the value exceeded the RL) on the data tables.
- The positive result for Total Tetra-BDE in sample EPA-HS-C1 should be considered estimated and has been flagged "J" on the data tables. A low recovery (< 25%) was observed for an associated labeled extraction standard in the analysis of this sample (see Procedural Issue 1).
- The positive results for Total Hepta-BDE in sample EPA-HS-B3 and for BDE-99, Total Penta-BDE, and Total Hexa-BDE in samples EPA-HS-C1 and EPA-HS-C2 should be considered estimated and have been flagged "J" on the data tables. High recoveries (> 150%) were observed for one or more associated labeled extraction standards in the analyses of these samples (see Procedural Issue 1).
- The positive results for BDE-47 in all tissue samples should be considered estimated and have been flagged "J" on the data tables. The reported results for BDE-47 exceeded the instrument calibration range (see Procedural Issue 2).
- Results reported as "EMPC" by the laboratory due to out-of-criteria ion abundance ratios have been flagged "EMPC" on the data tables (see Deliverable Review).

- Positive results between the DL and the RL should be considered estimated and have been flagged “J” on the data tables.

Sample Delivery Group K1611838

The laboratory was requested to prepare a detailed data package to substantiate the reported analytical results. The data package that was prepared allowed for a comprehensive (Stage 4) review to be performed. The data reviewer evaluated the reported results for compliance with the analytical methods performed and for completeness and accuracy of reported data. Based on the data package provided, deliverable and procedural issues that impacted data usability were not observed and the laboratory adhered to the analytical methods. Data qualification based on the evaluation of the data is presented in the subsequent Data Qualifiers section.

Comment

- The analytical concentration goal (ACG) of 0.02 mg/kg (QAPP, Table A-2) was exceeded for the total inorganic arsenic analyses. Positive results for total inorganic arsenic were not observed in the project samples. The DL and RL for the total inorganic arsenic analyses were 0.03 mg/kg and 0.08 mg/kg, respectively.

Data Qualifiers

- Due to their presence in the associated laboratory method blank and calibration blanks, the positive results for antimony in all tissue samples, except sample EPA-HS-C3; for silver in samples EPA-HS-A1, EPA-HS-A1DUP, EPA-HS-A1 DUP (K1611838-010), EPA-HS-A1 TRIP, EPA-HS-B3, and EPA-HS-C1; and for aluminum in samples EPA-HS-C1, EPA-HS-C2, and EPA-HS-C3 should be considered “not-detected” and have been flagged “U*” on the data tables. The reported result value has replaced the DL and RL (if the value exceeded the RL) on the data tables.
- Positive results between the DL and the RL should be considered estimated and have been flagged “J” on the data tables.

B. Conclusions

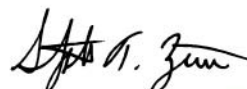
This revised QA review has identified several aspects of the data that required qualification. The data users should understand the qualifications and limitations of data specified in the QA review prior to using the data. The Project Case Narratives, Chain-of-Custody Records, and Project Correspondence are presented in Section 3 (Support Documentation).

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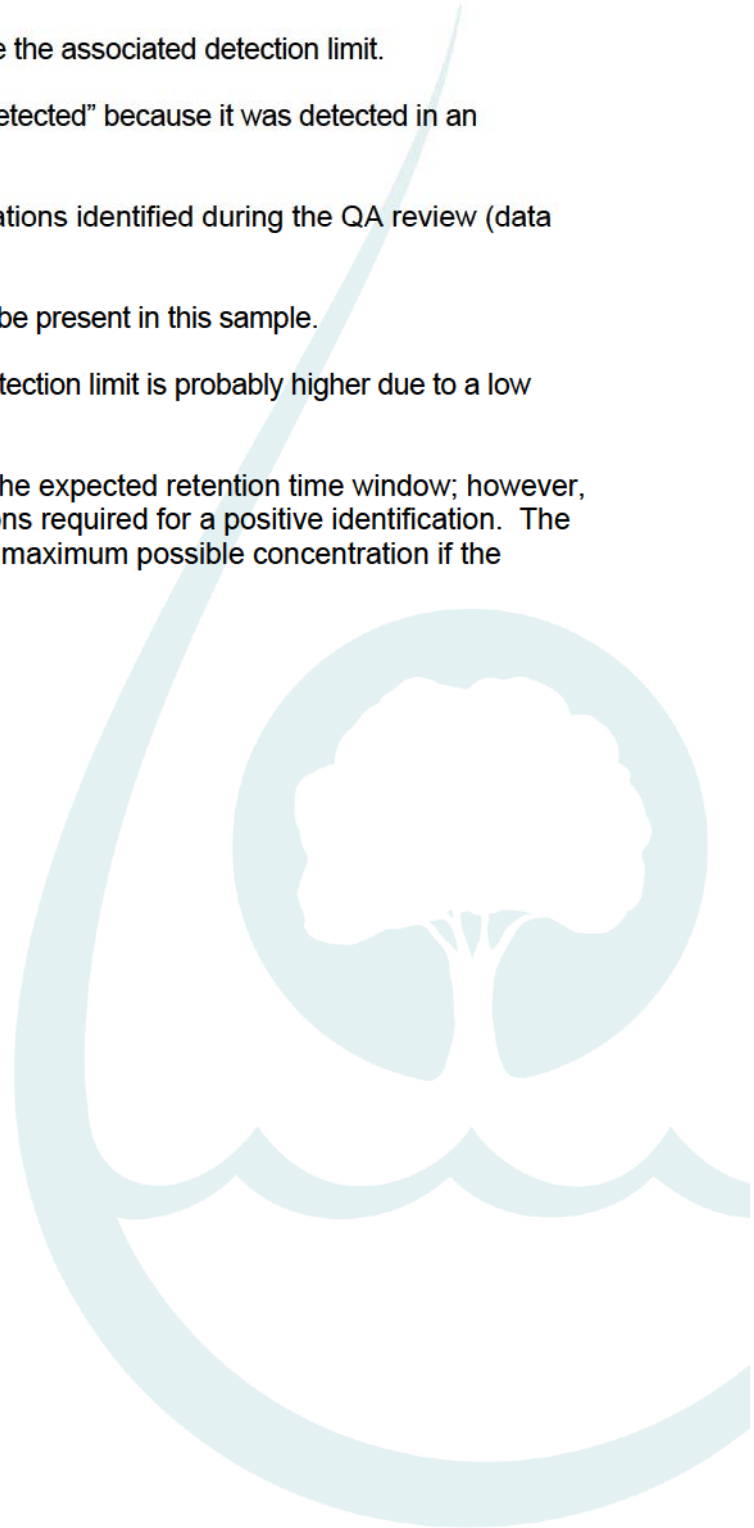


SECTION 2

ANALYTICAL RESULTS

DATA VALIDATION QUALIFIER NOTES

- U This analyte was not detected at or above the associated detection limit.
- U* This analyte should be considered “not-detected” because it was detected in an associated blank at a similar level.
- J Quantitation is approximate due to limitations identified during the QA review (data validation).
- R Unusable result; analyte may or may not be present in this sample.
- UJ This analyte was not detected, but the detection limit is probably higher due to a low bias identified during the QA review.
- EMPC Chromatographic peaks are present in the expected retention time window; however, the peaks do not meet all of the conditions required for a positive identification. The detection limit represents the estimated maximum possible concentration if the analyte was present.



A. SAMPLE DELIVERY GROUP 1601354

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: 1601354

Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.139	0.139	U	U	0.139	2.49	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/g	0.106	0.106	U	U	0.106	2.49	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.117	0.117	U	U	0.117	2.49	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.167	0.167	U	U	0.167	2.49	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.102	0.102	U	U	0.102	2.49	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.167	0.167	U	U	0.167	2.49	No	Yes	No	Yes	
	123678HexFuran	57117449	pg/g	0.104	0.104	U	U	0.104	2.49	No	Yes	No	Yes	
	123789HexDioxin	19408743	pg/g	0.179	0.179	U	U	0.179	2.49	No	Yes	No	Yes	
	123789HexFuran	72918219	pg/g	0.166	0.166	U	U	0.166	2.49	No	Yes	No	Yes	
	12378PenDioxin	40321764	pg/g	0.0847	0.0847	U	U	0.0847	2.49	No	Yes	No	Yes	
	12378PenFuran	57117416	pg/g	0.107	0.107	U	U	0.107	2.49	No	Yes	No	Yes	
	234678HexFuran	60851345	pg/g	0.113	0.113	U	U	0.113	2.49	No	Yes	No	Yes	
	23478PenFuran	57117314	pg/g	0.112	0.112	U	U	0.112	2.49	No	Yes	No	Yes	
	2378TetDioxin	1746016	pg/g	0.0981	0.0981	U	U	0.0981	0.498	0.498	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	0.546	0.546	U	U		0.498	0.498	No	No	No	Yes
	HpClDiBzDioxin	37871004	pg/g	0.139	0.139	U	U	0.139	2.49	2.49	No	Yes	No	Yes
	HpClDiBzFuran	38998753	pg/g	0.111	0.111	U	U	0.111	2.49	2.49	No	Yes	No	Yes
	HxCIDiBzDioxin	34465468	pg/g	0.171	0.171	U	U	0.171	2.49	2.49	No	Yes	No	Yes
	HxCIDiBzFuran	55684941	pg/g	0.120	0.120	U	U	0.120	2.49	2.49	No	Yes	No	Yes
	OctClDiBzDioxin	3266879	pg/g	0.211	0.211	U	U	0.211	4.98	4.98	No	Yes	No	Yes
OctClDiBzFuran	39001020	pg/g	0.274	0.274	U	U	0.274	4.98	4.98	No	Yes	No	Yes	
PenClDiBzDioxin	36088229	pg/g	0.0847	0.0847	U	U	0.0847	2.49	2.49	No	Yes	No	Yes	
PenClDiBzFuran	30402154	pg/g	0.110	0.110	U	U	0.110	2.49	2.49	No	Yes	No	Yes	
TEQMinWHO05Dioxn			0.0546	0.0546						No	No	No	Yes	
TetClDiBzDioxin	41903575	pg/g	0.0981	0.0981	U	U	0.0981	0.498	0.498	No	Yes	No	Yes	
TetClDiBzFuran	30402143	pg/g	0.546	0.546	U	U		0.498	0.498	No	No	No	Yes	
EPA1614	PBDE_cong_153		ug/kg	0.0411	0.0411				0.00998	No	No	No	Yes	
	PBDE_cong_209		ug/kg	0.0129	0.0129	J	J		0.0499	Yes	No	No	Yes	
	PBDE_cong_47		ug/kg	1.12	1.12	E, B	J		0.00998	Yes	No	No	Yes	
	PBDE_cong_99		ug/kg	0.0890	0.0890	B			0.00998	No	No	No	Yes	

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: 1601354

Sample		EPA-HS-A1												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.0129	0.0129	J	J		0.0499	Yes	No	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00131	0.00131	J	J		0.00499	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00524	0.00524	J	J	0.00599	0.0200	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.143	0.143			0.145	0.00998	No	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.000131	0.000131	U	U	0.000131	0.00499	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg	0.000485	0.000485	U	U	0.000485	0.0499	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.00281	0.00281	J	J		0.0200	Yes	No	No	Yes	
	Total Penta-BDE	32534819	ug/kg	0.339	0.339	B		0.340	0.00998	No	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg	1.21	1.21	B			0.00998	No	No	No	Yes	
	Total Tri-BDE	49690940	ug/kg	0.0871	0.0871			0.0941	0.00499	No	No	No	Yes	
	EPA1668A	2Cl11pbiphenyl	2051607	pg/g	0.0468	0.0468	EMPC	EMPC		0.494	No	Yes	No	Yes
		35DiClBiphenyl	34883415	pg/g	0.0711	0.0711	U	U	0.0711	0.494	No	Yes	No	Yes
3ClBiphenyl		2051618	pg/g	0.143	0.143	U	U	0.143	0.494	No	Yes	No	Yes	
44DiClBiphenyl		2050662	pg/g	0.231	0.231	U	U	0.231	0.494	No	Yes	No	Yes	
4Cl11Biphenyl		2051629	pg/g	0.139	0.139	U	U	0.139	0.494	No	Yes	No	Yes	
DecaClBiphenyls			pg/g	8.68	8.68					No	No	No	Yes	
DecClBiphenyl		2051243	pg/g	8.68	8.68				0.494	No	No	No	Yes	
DiClBiphenyls		25512429	pg/g	2.46	2.46			2.73		No	No	No	Yes	
HepClBiphenyls		28655712	pg/g	1250	1250					No	No	No	Yes	
HexClBiphenyls		26601649	pg/g	2200	2200					No	No	No	Yes	
MonoClBiphenyls		27323188	pg/g	0.0468	0.0468	EMPC	EMPC			No	Yes	No	Yes	
NonClBiphenyls		53742077	pg/g	49.1	49.1					No	No	No	Yes	
OctClBiphenyls		55722264	pg/g	327	327					No	No	No	Yes	
PCB_138+163+164			pg/g	592	592				1.48	No	No	No	Yes	
PCB_20+21+33			pg/g	0.731	0.731	J	J		1.48	Yes	No	No	Yes	
PCB_41+64+71+72			pg/g	23.9	23.9				1.98	No	No	No	Yes	
PCB_87+117+125			pg/g	64.0	64.0				1.48	No	No	No	Yes	
PCB_95+98+102			pg/g	130	130				1.48	No	No	No	Yes	
PCB_cong_100	39485831	pg/g	1.11	1.11				0.494	No	No	No	Yes		
PCB_cong_103	60145213	pg/g	2.17	2.17				0.494	No	No	No	Yes		
PCB_cong_104	56558168	pg/g	0.0695	0.0695	U	U	0.0695	0.494	No	Yes	No	Yes		

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Sample		EPA-HS-A1											
Lab ID		1601354-01											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	85.5	85.5				0.494	No	No	No	Yes
	PCB_cong_106+118		pg/g	170	170				0.988	No	No	No	Yes
	PCB_cong_107+109		pg/g	26.3	26.3				0.988	No	No	No	Yes
	PCB_cong_108+112		pg/g	6.57	6.57				0.988	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	1.27	1.27	B	U*	1.27	1.27	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	199	199				0.494	No	No	No	Yes
	PCB_cong_111+115		pg/g	4.42	4.42				0.988	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.0725	0.0725	U	U	0.0725	0.494	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	4.78	4.78				0.494	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	8.71	8.71				0.494	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.0821	0.0821	U	U	0.0821	0.988	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	1.20	1.20				0.494	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.0673	0.0673	U	U	0.0673	0.494	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.266	0.266	U	U	0.266	0.494	No	Yes	No	Yes
	PCB_cong_123	65510443	pg/g	2.61	2.61				0.494	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	3.14	3.14				0.494	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	0.597	0.597				0.494	No	No	No	Yes
	PCB_cong_127	38635331	pg/g	0.253	0.253	U	U	0.253	0.494	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	71.9	71.9				0.988	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	8.28	8.28				0.494	No	No	No	Yes
	PCB_cong_130	52663668	pg/g	32.4	32.4				0.494	No	No	No	Yes
	PCB_cong_131	61798707	pg/g	0.255	0.255	U	U	0.255	0.494	No	Yes	No	Yes
	PCB_cong_132+161		pg/g	63.6	63.6				0.988	No	No	No	Yes
	PCB_cong_133+142		pg/g	13.4	13.4				0.988	No	No	No	Yes
	PCB_cong_134+143		pg/g	11.4	11.4				0.988	No	No	No	Yes
	PCB_cong_135	52744135	pg/g	48.6	48.6				0.494	No	No	No	Yes
	PCB_cong_136	38411222	pg/g	25.4	25.4				0.494	No	No	No	Yes
	PCB_cong_137	35694065	pg/g	18.2	18.2				0.494	No	No	No	Yes
	PCB_cong_139+149		pg/g	315	315	B			0.988	No	No	No	Yes
	PCB_cong_140	59291644	pg/g	2.38	2.38				0.494	No	No	No	Yes
	PCB_cong_141	52712046	pg/g	67.0	67.0				0.494	No	No	No	Yes

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Sample		EPA-HS-A1											
Lab ID		1601354-01											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	68194149	pg/g	12.7	12.7				0.494	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.0639	0.0639	U	U	0.0639	0.494	No	Yes	No	Yes
	PCB_cong_146+165		pg/g	101	101				0.988	No	No	No	Yes
	PCB_cong_147	68194138	pg/g	9.71	9.71				0.494	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	0.451	0.451	J	J		0.494	Yes	No	No	Yes
	PCB_cong_150	68194081	pg/g	0.352	0.352	J	J		0.494	Yes	No	No	Yes
	PCB_cong_151	52663635	pg/g	111	111				0.494	No	No	No	Yes
	PCB_cong_152	68194092	pg/g	0.154	0.154	J	J		0.494	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	592	592				0.494	No	No	No	Yes
	PCB_cong_154	50145224	pg/g	7.31	7.31				0.494	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.593	0.593				0.494	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	37.2	37.2				0.494	No	No	No	Yes
	PCB_cong_157	69782907	pg/g	8.19	8.19				0.494	No	No	No	Yes
	PCB_cong_158+160		pg/g	47.2	47.2				0.988	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.161	0.161	U	U	0.161	0.494	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	2.53	2.53				0.988	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	2.04	2.04				0.494	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	2.05	2.05				0.494	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	0.816	0.816				0.494	No	No	No	Yes
	PCB_cong_169	32774166	pg/g	0.968	0.968				0.494	No	No	No	Yes
	PCB_cong_17	37680663	pg/g	0.946	0.946				0.494	No	No	No	Yes
	PCB_cong_170	35065306	pg/g	104	104				0.494	No	No	No	Yes
	PCB_cong_171	52663715	pg/g	33.7	33.7				0.494	No	No	No	Yes
	PCB_cong_172	52663748	pg/g	22.3	22.3				0.494	No	No	No	Yes
	PCB_cong_173	68194161	pg/g	1.68	1.68				0.494	No	No	No	Yes
	PCB_cong_174	38411255	pg/g	112	112				0.494	No	No	No	Yes
	PCB_cong_175	40186707	pg/g	4.94	4.94				0.494	No	No	No	Yes
	PCB_cong_176	52663657	pg/g	13.1	13.1				0.494	No	No	No	Yes
	PCB_cong_177	52663704	pg/g	93.1	93.1				0.494	No	No	No	Yes
	PCB_cong_178	52663679	pg/g	37.4	37.4				0.494	No	No	No	Yes
	PCB_cong_179	52663646	pg/g	57.1	57.1				0.494	No	No	No	Yes

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Sample		EPA-HS-A1											
Lab ID		1601354-01											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680852	pg/g	9.24	9.24				0.494	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	282	282				0.494	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.0991	0.0991	U	U	0.0991	0.494	No	Yes	No	Yes
	PCB_cong_182+187		pg/g	335	335				0.988	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	74.4	74.4				0.494	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	1.20	1.20				0.494	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	18.5	18.5				0.494	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.0749	0.0749	U	U	0.0749	0.494	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.409	0.409	J	J		0.494	Yes	No	No	Yes
	PCB_cong_189	39635319	pg/g	3.83	3.83				0.494	No	No	No	Yes
	PCB_cong_19	38444734	pg/g	0.558	0.558				0.494	No	No	No	Yes
	PCB_cong_190	41411647	pg/g	28.9	28.9				0.494	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	4.46	4.46				0.494	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.0800	0.0800	U	U	0.0800	0.494	No	Yes	No	Yes
	PCB_cong_193	69782918	pg/g	20.7	20.7				0.494	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	48.0	48.0				0.494	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	27.7	27.7				0.494	No	No	No	Yes
	PCB_cong_196+203		pg/g	96.8	96.8				0.988	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	3.26	3.26				0.494	No	No	No	Yes
	PCB_cong_198	68194172	pg/g	3.72	3.72				0.494	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	98.8	98.8				0.494	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	8.38	8.38				0.494	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	10.2	10.2				0.494	No	No	No	Yes
	PCB_cong_202	2136994	pg/g	27.6	27.6				0.494	No	No	No	Yes
	PCB_cong_204	74472529	pg/g	0.112	0.112	U	U	0.112	0.494	No	Yes	No	Yes
	PCB_cong_205	74472530	pg/g	2.82	2.82				0.494	No	No	No	Yes
	PCB_cong_206	40186729	pg/g	34.7	34.7				0.494	No	No	No	Yes
	PCB_cong_207	52663793	pg/g	3.64	3.64				0.494	No	No	No	Yes
	PCB_cong_208	52663771	pg/g	10.8	10.8				0.494	No	No	No	Yes
	PCB_cong_22	38444858	pg/g	2.12	2.12				0.494	No	No	No	Yes
	PCB_cong_23	55720440	pg/g	0.0929	0.0929	U	U	0.0929	0.494	No	Yes	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_24+27		pg/g	0.574	0.574	J	J		0.988	Yes	No	No	Yes	
	PCB_cong_25	55712373	pg/g	0.136	0.136	J	J		0.494	Yes	No	No	Yes	
	PCB_cong_26	38444814	pg/g	0.880	0.880				0.494	No	No	No	Yes	
	PCB_cong_28	7012375	pg/g	18.4	18.4				0.494	No	No	No	Yes	
	PCB_cong_29	15862074	pg/g	0.0846	0.0846	U	U	0.0846	0.494	No	Yes	No	Yes	
	PCB_cong_30	35693926	pg/g	0.0327	0.0327	U	U	0.0327	0.494	No	Yes	No	Yes	
	PCB_cong_31	16606023	pg/g	9.91	9.91				0.494	No	No	No	Yes	
	PCB_cong_34	37680685	pg/g	0.0883	0.0883	J	J		0.494	Yes	No	No	Yes	
	PCB_cong_35	37680696	pg/g	0.0673	0.0673	U	U	0.0673	0.494	No	Yes	No	Yes	
	PCB_cong_36	38444870	pg/g	0.0662	0.0662	U	U	0.0662	0.494	No	Yes	No	Yes	
	PCB_cong_37	38444905	pg/g	0.325	0.325	J	J		0.494	Yes	No	No	Yes	
	PCB_cong_38	53555661	pg/g	0.393	0.393	J	J		0.494	Yes	No	No	Yes	
	PCB_cong_39	38444881	pg/g	0.0625	0.0625	U	U	0.0625	0.494	No	Yes	No	Yes	
	PCB_cong_4+10			0.267	0.267	EMPC	EMPC		0.988	No	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	0.291	0.291	J	J		0.494	Yes	No	No	No	Yes
	PCB_cong_42	36559225	pg/g	2.94	2.94				0.988	No	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	25.3	25.3				0.988	No	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	17.3	17.3				0.494	No	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	1.53	1.53				0.494	No	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	0.371	0.371	EMPC	EMPC		0.494	No	No	Yes	No	Yes
	PCB_cong_47	2437798	pg/g	15.2	15.2	B			0.494	No	No	No	No	Yes
	PCB_cong_48+75			2.72	2.72				0.988	No	No	No	No	Yes
	PCB_cong_5+8			1.20	1.20				0.988	No	No	No	No	Yes
	PCB_cong_50	62796650	pg/g	0.0987	0.0987	U	U	0.0987	0.494	No	No	Yes	No	Yes
	PCB_cong_51	68194047	pg/g	0.495	0.495				0.494	No	No	No	No	Yes
	PCB_cong_52+69			55.6	55.6				0.988	No	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	3.18	3.18				0.494	No	No	No	No	Yes
PCB_cong_54	15968055	pg/g	0.0275	0.0275	J	J		0.494	Yes	No	No	No	Yes	
PCB_cong_55	74338242	pg/g	0.829	0.829				0.494	No	No	No	No	Yes	
PCB_cong_56+60			11.1	11.1				0.988	No	No	No	No	Yes	
PCB_cong_57	70424678	pg/g	0.201	0.201	J	J		0.494	Yes	No	No	No	Yes	

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Sample		EPA-HS-A1											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_58	41464497	pg/g	0.196	0.196	J	J		0.494	Yes	No	No	Yes
	PCB_cong_6	25569806	pg/g	0.119	0.119	U	U	0.119	0.494	No	Yes	No	Yes
	PCB_cong_61+70		pg/g	31.8	31.8				0.988	No	No	No	Yes
	PCB_cong_62	54230227	pg/g	0.0836	0.0836	U	U	0.0836	0.494	No	Yes	No	Yes
	PCB_cong_63	74472347	pg/g	2.61	2.61				0.494	No	No	No	Yes
	PCB_cong_65	33284547	pg/g	0.0892	0.0892	U	U	0.0892	0.494	No	Yes	No	Yes
	PCB_cong_66+76		pg/g	39.9	39.9				0.988	No	No	No	Yes
	PCB_cong_67	73575538	pg/g	0.156	0.156	J	J		0.494	Yes	No	No	Yes
	PCB_cong_68	73575527	pg/g	1.37	1.37				0.494	No	No	No	Yes
	PCB_cong_7+9		pg/g	0.114	0.114	U	U	0.114	0.988	No	Yes	No	Yes
	PCB_cong_73	74338231	pg/g	0.0849	0.0849	U	U	0.0849	0.494	No	Yes	No	Yes
	PCB_cong_74	32690930	pg/g	28.3	28.3				0.494	No	No	No	Yes
	PCB_cong_77	32598133	pg/g	1.20	1.20				0.494	No	No	No	Yes
	PCB_cong_78	70362491	pg/g	0.0729	0.0729	U	U	0.0729	0.494	No	Yes	No	Yes
	PCB_cong_79	41464486	pg/g	3.85	3.85				0.494	No	No	No	Yes
	PCB_cong_80	33284525	pg/g	0.0627	0.0627	U	U	0.0627	0.494	No	Yes	No	Yes
	PCB_cong_81	70362504	pg/g	0.483	0.483	J	J		0.494	Yes	No	No	Yes
	PCB_cong_82	52663624	pg/g	2.43	2.43				0.494	No	No	No	Yes
	PCB_cong_83	60145202	pg/g	0.0695	0.0695	U	U	0.0695	0.494	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	68.8	68.8				0.988	No	No	No	Yes
PCB_cong_85+116		pg/g	49.2	49.2				0.988	No	No	No	Yes	
PCB_cong_86	55312691	pg/g	0.115	0.115	U	U	0.115	0.494	No	Yes	No	Yes	
PCB_cong_88+91		pg/g	22.9	22.9				0.988	No	No	No	Yes	
PCB_cong_89	73575572	pg/g	0.0961	0.0961	U	U	0.0961	0.494	No	Yes	No	Yes	
PCB_cong_90+101		pg/g	231	231				0.988	No	No	No	Yes	
PCB_cong_93	73575561	pg/g	0.0980	0.0980	U	U	0.0980	0.494	No	Yes	No	Yes	
PCB_cong_94	73575550	pg/g	0.546	0.546				0.494	No	No	No	Yes	
PCB_cong_96	73575549	pg/g	0.357	0.357	J	J		0.494	Yes	No	No	Yes	
PCB_cong_97	41464511	pg/g	23.7	23.7				0.494	No	No	No	Yes	
PCB_cong_99	38380017	pg/g	162	162				0.494	No	No	No	Yes	
PentCIBiphenyls		pg/g	1270	1270						No	No	No	Yes

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Sample		EPA-HS-A1											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TetCBiphenyls	26914330	pg/g	270	270	-		271		No	No	No	Yes
	ToiPCBs		pg/g	5430	5430					No	No	No	Yes
	TriCBiphenyls	25323686	pg/g	46.8	46.8					No	No	No	Yes
Unk	Lipid		%	5.77	5.77					No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.134	0.134	U	U	0.134	2.50	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/g	0.111	0.111	U	U	0.111	2.50	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.0968	0.0968	U	U	0.0968	2.50	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.116	0.116	U	U	0.116	2.50	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.0791	0.0791	U	U	0.0791	2.50	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.118	0.118	U	U	0.118	2.50	No	No	Yes	No	Yes
	123678HexFuran	57117449	pg/g	0.0855	0.0855	U	U	0.0855	2.50	No	No	Yes	No	Yes
	123789HexDioxin	19408743	pg/g	0.124	0.124	U	U	0.124	2.50	No	No	Yes	No	Yes
	123789HexFuran	72918219	pg/g	0.125	0.125	U	U	0.125	2.50	No	No	Yes	No	Yes
	12378PenDioxin	40321764	pg/g	0.0781	0.0781	U	U	0.0781	2.50	No	Yes	No	No	Yes
	12378PenFuran	57117416	pg/g	0.100	0.100	U	U	0.100	2.50	No	Yes	No	No	Yes
	234678HexFuran	60851345	pg/g	0.0867	0.0867	U	U	0.0867	2.50	No	No	Yes	No	Yes
	23478PenFuran	57117314	pg/g	0.101	0.101	U	U	0.101	2.50	No	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/g	0.0681	0.0681	U	U	0.0681	0.500	No	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	0.433	0.433	EMPC	EMPC		0.500	No	No	Yes	No	Yes
	HpClDIBzDioxin	37871004	pg/g	0.134	0.134	U	U	0.134	2.50	No	No	Yes	No	Yes
	HpClDIBzFuran	38998753	pg/g	0.104	0.104	U	U	0.104	2.50	No	No	Yes	No	Yes
	HxCIDIBzDioxin	34465468	pg/g	0.120	0.120	U	U	0.120	2.50	No	No	Yes	No	Yes
	HxCIDIBzFuran	55684941	pg/g	0.0933	0.0933	U	U	0.0933	2.50	No	No	Yes	No	Yes
	OctClDIBzDioxin	3268879	pg/g	0.237	0.237	J	J		5.00	Yes	Yes	No	No	Yes
	OctClDIBzFuran	39001020	pg/g	0.323	0.323	U	U	0.323	5.00	No	No	Yes	No	Yes
	PenClDIBzDioxin	36088229	pg/g	0.0781	0.0781	U	U	0.0781	2.50	No	No	Yes	No	Yes
	PenClDIBzFuran	30402154	pg/g	0.101	0.101	U	U	0.101	2.50	No	No	Yes	No	Yes
TEQminWHO05Dioxin		pg/g	0.0000711	0.0000711						No	No	No	Yes	
TetClDIBzDioxin	41903575	pg/g	0.0681	0.0681	U	U	0.0681	0.500	No	No	Yes	No	Yes	
TetClDIBzFuran	30402143	pg/g	0.433	0.433	EMPC	EMPC		0.500	No	No	Yes	No	Yes	
PBDE_cong_153		ug/kg	0.0396	0.0396					0.0100	No	No	No	Yes	
PBDE_cong_209		ug/kg	0.00603	0.00603	U	U	0.00603	0.0500	0.0500	No	Yes	No	Yes	
PBDE_cong_47		ug/kg	1.02	1.02	B, E	J		0.0100	0.0100	Yes	No	No	Yes	
PBDE_cong_99		ug/kg	0.101	0.101	B			0.0100	0.0100	No	No	No	Yes	

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Sample		EPA-HS-A1 DUP												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.00603	0.00603	U	U	0.00603	0.0500	No	Yes	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00123	0.00123	J	J		0.00500	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00543	0.00543	J	J		0.0200	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.134	0.134				0.0100	No	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.000132	0.000132	U	U	0.000132	0.00500	No	Yes	No	Yes	
	Total Nona-BDE	63938561	ug/kg	0.000548	0.000548	U	U	0.000548	0.0500	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.000842	0.000842	J	J	0.00120	0.0200	Yes	No	No	Yes	
	Total Penta-BDE	32534819	ug/kg	0.321	0.321	B			0.0100	No	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg	1.12	1.12	B			0.0100	No	No	No	Yes	
	Total Tri-BDE	49690940	ug/kg	0.0722	0.0722			0.0792	0.00500	No	No	No	Yes	
	EPA1668A	2Cl11bBiphenyl	2051607	pg/g	0.141	0.141	J	J		0.500	Yes	No	No	Yes
		35DiClBiphenyl	34883415	pg/g	0.0516	0.0516	U	U	0.0516	0.500	No	Yes	No	Yes
		3ClBiphenyl	2051618	pg/g	0.0868	0.0868	U	U	0.0868	0.500	No	Yes	No	Yes
44DiClBiphenyl		2050682	pg/g	0.295	0.295	U	U	0.295	0.500	No	Yes	No	Yes	
4Cl11Biphenyl		2051629	pg/g	0.114	0.114	J	J		0.500	Yes	No	No	Yes	
DecaClBiphenyls			pg/g	7.48	7.48					No	No	No	Yes	
DecClBiphenyl		2051243	pg/g	7.48	7.48				0.500	No	No	No	Yes	
DiClBiphenyls		25512429	pg/g	3.60	3.60					No	No	No	Yes	
HepClBiphenyls		28655712	pg/g	1130	1130					No	No	No	Yes	
HexClBiphenyls		26601649	pg/g	1880	1880					No	No	No	Yes	
MonoClBiphenyls		27323188	pg/g	0.254	0.254					No	No	No	Yes	
NonClBiphenyls		53742077	pg/g	43.0	43.0					No	No	No	Yes	
OctClBiphenyls		55722264	pg/g	288	288					No	No	No	Yes	
	PCB_138+163+164		pg/g	493	493				1.50	No	No	No	Yes	
	PCB_20+21+33		pg/g	0.672	0.672	J	J		1.50	Yes	No	No	Yes	
	PCB_41+64+71+72		pg/g	20.1	20.1				2.00	No	No	No	Yes	
	PCB_87+117+125		pg/g	55.5	55.5				1.50	No	No	No	Yes	
	PCB_95+98+102		pg/g	108	108				1.50	No	No	No	Yes	
	PCB_cong_100	39485831	pg/g	0.865	0.865				0.500	No	No	No	Yes	
	PCB_cong_103	60145213	pg/g	1.63	1.63				0.500	No	No	No	Yes	
	PCB_cong_104	56558168	pg/g	0.101	0.101	U	U	0.101	0.500	No	Yes	No	Yes	

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Sample		EPA-HS-A1 DUP											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	69.8	69.8				0.500	No	No	No	Yes
	PCB_cong_106+118		pg/g	142	142				1.00	No	No	No	Yes
	PCB_cong_107+109		pg/g	21.9	21.9				1.00	No	No	No	Yes
	PCB_cong_108+112		pg/g	5.85	5.85				1.00	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	2.33	2.33	B	U*	2.33	2.33	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	169	169				0.500	No	No	No	Yes
	PCB_cong_111+115		pg/g	3.87	3.87				1.00	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.111	0.111	U	U	0.111	0.500	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	4.12	4.12				0.500	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	7.44	7.44				0.500	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.0596	0.0596	U	U	0.0596	1.00	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	0.867	0.867				0.500	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.102	0.102	U	U	0.102	0.500	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.316	0.316	U	U	0.316	0.500	No	Yes	No	Yes
	PCB_cong_123	66510443	pg/g	2.23	2.23				0.500	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	2.67	2.67				0.500	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	0.517	0.517				0.500	No	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.301	0.301	U	U	0.301	0.500	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	59.6	59.6				1.00	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	7.00	7.00				0.500	No	No	No	Yes
PCB_cong_130	52663668	pg/g	24.2	24.2				0.500	No	No	No	Yes	
PCB_cong_131	61798707	pg/g	0.0692	0.0692	U	U	0.0692	0.500	No	Yes	No	Yes	
PCB_cong_132+161		pg/g	53.1	53.1				1.00	No	No	No	Yes	
PCB_cong_133+142		pg/g	10.9	10.9				1.00	No	No	No	Yes	
PCB_cong_134+143		pg/g	9.68	9.68				1.00	No	No	No	Yes	
PCB_cong_135	52744135	pg/g	42.7	42.7				0.500	No	No	No	Yes	
PCB_cong_136	38411222	pg/g	22.7	22.7				0.500	No	No	No	Yes	
PCB_cong_137	35694065	pg/g	19.3	19.3				0.500	No	No	No	Yes	
PCB_cong_139+149		pg/g	277	277	B			1.00	No	No	No	Yes	
PCB_cong_140	59291644	pg/g	2.28	2.28				0.500	No	No	No	Yes	
PCB_cong_141	52712046	pg/g	59.2	59.2				0.500	No	No	No	Yes	

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Sample		EPA-HS-A1 DUP											
Lab ID		1601354-02											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	88194149	pg/g	11.3	11.3				0.500	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.0719	0.0719	U	U	0.0719	0.500	No	Yes	No	Yes
	PCB_cong_146+165		pg/g	85.9	85.9				1.00	No	No	No	Yes
	PCB_cong_147	88194138	pg/g	9.58	9.58				0.500	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	0.508	0.508				0.500	No	No	No	Yes
	PCB_cong_150	88194081	pg/g	0.272	0.272	J	J		0.500	Yes	No	No	Yes
	PCB_cong_151	52663635	pg/g	99.4	99.4				0.500	No	No	No	Yes
	PCB_cong_152	88194092	pg/g	0.169	0.169	J	J		0.500	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	505	505				0.500	No	No	No	Yes
	PCB_cong_154	60145224	pg/g	6.37	6.37				0.500	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.534	0.534				0.500	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	31.8	31.8				0.500	No	No	No	Yes
	PCB_cong_157	69782907	pg/g	7.14	7.14				0.500	No	No	No	Yes
	PCB_cong_158+160		pg/g	40.4	40.4				1.00	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.0466	0.0466	U	U	0.0466	0.500	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	2.59	2.59				1.00	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	1.44	1.44				0.500	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	1.65	1.65				0.500	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	0.441	0.441	J	J		0.500	Yes	No	No	Yes
	PCB_cong_169	32774166	pg/g	0.863	0.863				0.500	No	No	No	Yes
	PCB_cong_17	37680663	pg/g	0.983	0.983				0.500	No	No	No	Yes
	PCB_cong_170	35065306	pg/g	93.3	93.3				0.500	No	No	No	Yes
	PCB_cong_171	52663715	pg/g	29.7	29.7				0.500	No	No	No	Yes
	PCB_cong_172	52663748	pg/g	20.5	20.5				0.500	No	No	No	Yes
	PCB_cong_173	88194161	pg/g	1.49	1.49				0.500	No	No	No	Yes
	PCB_cong_174	38411255	pg/g	91.4	91.4				0.500	No	No	No	Yes
	PCB_cong_175	40186707	pg/g	4.99	4.99				0.500	No	No	No	Yes
	PCB_cong_176	52663657	pg/g	11.8	11.8				0.500	No	No	No	Yes
	PCB_cong_177	52663704	pg/g	81.4	81.4				0.500	No	No	No	Yes
	PCB_cong_178	52663679	pg/g	34.9	34.9				0.500	No	No	No	Yes
	PCB_cong_179	52663646	pg/g	51.0	51.0				0.500	No	No	No	Yes

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Sample		EPA-HS-A1 DUP											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680652	pg/g	9.29	9.29				0.500	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	262	262				0.500	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.0624	0.0624	U	U	0.0624	0.500	No	Yes	No	Yes
	PCB_cong_182+187		pg/g	306	306				1.00	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	71.7	71.7				0.500	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	1.12	1.12				0.500	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	16.1	16.1				0.500	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.0489	0.0489	U	U	0.0489	0.500	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.395	0.395	J	J		0.500	Yes	No	No	Yes
	PCB_cong_189	39636319	pg/g	3.63	3.63				0.500	No	No	No	Yes
	PCB_cong_19	38444734	pg/g	0.609	0.609				0.500	No	No	No	Yes
	PCB_cong_190	41411647	pg/g	25.2	25.2				0.500	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	4.14	4.14				0.500	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.0504	0.0504	U	U	0.0504	0.500	No	No	Yes	Yes
	PCB_cong_193	69782918	pg/g	18.3	18.3				0.500	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	42.5	42.5				0.500	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	24.6	24.6				0.500	No	No	No	Yes
	PCB_cong_196+203		pg/g	85.5	85.5				1.00	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	2.88	2.88				0.500	No	No	No	Yes
	PCB_cong_198	68194172	pg/g	3.01	3.01				0.500	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	87.2	87.2				0.500	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	7.22	7.22				0.500	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	9.37	9.37				0.500	No	No	No	Yes
PCB_cong_202	2136994	pg/g	23.2	23.2				0.500	No	No	No	Yes	
PCB_cong_204	74472529	pg/g	0.0931	0.0931	U	U	0.0931	0.500	No	No	Yes	Yes	
PCB_cong_205	74472530	pg/g	2.71	2.71				0.500	No	No	No	Yes	
PCB_cong_206	40186729	pg/g	30.4	30.4				0.500	No	No	No	Yes	
PCB_cong_207	52663793	pg/g	3.37	3.37				0.500	No	No	No	Yes	
PCB_cong_208	52663771	pg/g	9.15	9.15				0.500	No	No	No	Yes	
PCB_cong_22	38444858	pg/g	1.88	1.88				0.500	No	No	No	Yes	
PCB_cong_23	55720440	pg/g	0.0947	0.0947	U	U	0.0947	0.500	No	No	Yes	Yes	

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Sample		EPA-HS-A1 DUP											
Lab ID		1601354-02											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_24+27		pg/g	0.599	0.599	J	J		1.00	Yes	No	No	Yes
	PCB_cong_25	55712373	pg/g	0.134	0.134	J	J		0.500	Yes	No	No	Yes
	PCB_cong_26	38444814	pg/g	0.663	0.663				0.500	No	No	No	Yes
	PCB_cong_28	7012375	pg/g	16.4	16.4				0.500	No	No	No	Yes
	PCB_cong_29	15862074	pg/g	0.0862	0.0862	U	U	0.0862	0.500	No	Yes	No	Yes
	PCB_cong_30	35693926	pg/g	0.0468	0.0468	U	U	0.0468	0.500	No	Yes	No	Yes
	PCB_cong_31	16606023	pg/g	9.05	9.05				0.500	No	No	No	Yes
	PCB_cong_34	37680685	pg/g	0.0446	0.0446	EMPC	EMPC		0.500	No	Yes	No	Yes
	PCB_cong_35	37680696	pg/g	0.0723	0.0723	U	U	0.0723	0.500	No	Yes	No	Yes
	PCB_cong_36	38444870	pg/g	0.0711	0.0711	U	U	0.0711	0.500	No	Yes	No	Yes
	PCB_cong_37	38444905	pg/g	0.324	0.324	J	J		0.500	Yes	No	No	Yes
	PCB_cong_38	53555661	pg/g	0.388	0.388	J	J		0.500	Yes	No	No	Yes
	PCB_cong_39	38444881	pg/g	0.0671	0.0671	U	U	0.0671	0.500	No	Yes	No	Yes
	PCB_cong_4+10		pg/g	0.0887	0.0887	U	U	0.0887	1.00	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	0.345	0.345	J	J		0.500	Yes	No	No	Yes
	PCB_cong_42	36559225	pg/g	2.66	2.66				1.00	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	23.1	23.1				1.00	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	15.2	15.2				0.500	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	1.28	1.28				0.500	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	0.510	0.510				0.500	No	No	No	Yes
	PCB_cong_47	2437798	pg/g	13.9	13.9	B			0.500	No	No	No	Yes
	PCB_cong_48+75		pg/g	2.18	2.18				1.00	No	No	No	Yes
	PCB_cong_5+8		pg/g	1.27	1.27				1.00	No	No	No	Yes
	PCB_cong_50	62796650	pg/g	0.100	0.100	U	U	0.100	0.500	No	Yes	No	Yes
	PCB_cong_51	68194047	pg/g	0.529	0.529				0.500	No	No	No	Yes
	PCB_cong_52+69		pg/g	48.7	48.7				1.00	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	2.60	2.60				0.500	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.0837	0.0837	U	U	0.0837	0.500	No	Yes	No	Yes
	PCB_cong_55	74338242	pg/g	0.798	0.798				0.500	No	No	No	Yes
	PCB_cong_56+60		pg/g	10.1	10.1				1.00	No	No	No	Yes
	PCB_cong_57	70424678	pg/g	0.212	0.212	J	J		0.500	Yes	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_58	41464497	pg/g	0.195	0.195	J	J		0.500	Yes	No	No	Yes
	PCB_cong_6	25569806	pg/g	0.0645	0.0645	U	U	0.0645	0.500	No	Yes	No	Yes
	PCB_cong_61+70		pg/g	27.9	27.9				1.00	No	No	No	Yes
	PCB_cong_62	54230227	pg/g	0.0827	0.0827	U	U	0.0827	0.500	No	Yes	No	Yes
	PCB_cong_63	74472347	pg/g	2.40	2.40				0.500	No	No	No	Yes
	PCB_cong_65	33284547	pg/g	0.0882	0.0882	U	U	0.0882	0.500	No	Yes	No	Yes
	PCB_cong_66+76		pg/g	34.1	34.1				1.00	No	No	No	Yes
	PCB_cong_67	73575538	pg/g	0.153	0.153	J	J		0.500	Yes	No	No	Yes
	PCB_cong_68	73575527	pg/g	1.25	1.25				0.500	No	No	No	Yes
	PCB_cong_7+9		pg/g	0.0617	0.0617	U	U	0.0617	1.00	No	Yes	No	Yes
	PCB_cong_73	74338231	pg/g	0.0813	0.0813	U	U	0.0813	0.500	No	Yes	No	Yes
	PCB_cong_74	32690930	pg/g	26.5	26.5				0.500	No	No	No	Yes
	PCB_cong_77	32598133	pg/g	1.09	1.09				0.500	No	No	No	Yes
	PCB_cong_78	70362491	pg/g	0.0755	0.0755	U	U	0.0755	0.500	No	Yes	No	Yes
	PCB_cong_79	41464486	pg/g	3.40	3.40				0.500	No	No	No	Yes
	PCB_cong_80	33284525	pg/g	0.123	0.123	J	J		0.500	Yes	No	No	Yes
	PCB_cong_81	70362504	pg/g	0.431	0.431	J	J		0.500	Yes	No	No	Yes
	PCB_cong_82	52663624	pg/g	2.14	2.14				0.500	No	No	No	Yes
	PCB_cong_83	60145202	pg/g	0.102	0.102	U	U	0.102	0.500	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	60.5	60.5				1.00	No	No	No	Yes
	PCB_cong_85+116		pg/g	42.1	42.1				1.00	No	No	No	Yes
	PCB_cong_86	55312691	pg/g	0.169	0.169	U	U	0.169	0.500	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	19.5	19.5				1.00	No	No	No	Yes
	PCB_cong_89	73575572	pg/g	0.147	0.147	U	U	0.147	0.500	No	Yes	No	Yes
	PCB_cong_90+101		pg/g	205	205				1.00	No	No	No	Yes
	PCB_cong_93	73575561	pg/g	0.148	0.148	U	U	0.148	0.500	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/g	0.552	0.552				0.500	No	No	No	Yes
PCB_cong_96	73575549	pg/g	0.316	0.316	J	J		0.500	Yes	No	No	Yes	
PCB_cong_97	41464511	pg/g	20.8	20.8				0.500	No	No	No	Yes	
PCB_cong_99	38380017	pg/g	141	141				0.500	No	No	No	Yes	
PentCBiphenyls		pg/g	1090	1090						No	No	No	Yes

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Sample		EPA-HS-A1 DUP											
Lab ID		1601354-02											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TriCBiphenyls	26914330	pg/g	240	240					No	No	No	Yes
	TriPCBs		pg/g	4730	4730					No	No	No	Yes
	TriCBiphenyls	25323686	pg/g	43.6	43.6					No	No	No	Yes
Unk	Lipid		%	5.27	5.27					No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.114	0.114	U	U	0.114	2.49	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/g	0.132	0.132	U	U	0.132	2.49	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.136	0.136	U	U	0.136	2.49	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.130	0.130	U	U	0.130	2.49	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.0702	0.0702	U	U	0.0702	2.49	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.128	0.128	U	U	0.128	2.49	No	Yes	No	Yes	
	123678HexFuran	57117449	pg/g	0.0705	0.0705	U	U	0.0705	2.49	No	Yes	No	Yes	
	123789HexDioxin	19408743	pg/g	0.144	0.144	U	U	0.144	2.49	No	Yes	No	Yes	
	123789HexFuran	72918219	pg/g	0.122	0.122	U	U	0.122	2.49	No	Yes	No	Yes	
	12378PenDioxin	40321764	pg/g	0.0891	0.0891	U	U	0.0891	2.49	No	Yes	No	Yes	
	12378PenFuran	57117416	pg/g	0.116	0.116	U	U	0.116	2.49	2.49	No	Yes	No	Yes
	234678HexFuran	60851345	pg/g	0.0781	0.0781	U	U	0.0781	2.49	2.49	No	Yes	No	Yes
	23478PenFuran	57117314	pg/g	0.113	0.113	U	U	0.113	2.49	2.49	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/g	0.0703	0.0703	U	U	0.0703	0.499	0.499	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	0.527	0.527	U	U		0.499	0.499	No	No	No	Yes
	HpCIDIBzDioxin	37871004	pg/g	0.114	0.114	U	U	0.114	2.49	2.49	No	Yes	No	Yes
	HpCIDIBzFuran	38998763	pg/g	0.134	0.134	U	U	0.134	2.49	2.49	No	Yes	No	Yes
	HxCIDIBzDioxin	34465468	pg/g	0.134	0.134	U	U	0.134	2.49	2.49	No	Yes	No	Yes
	HxCIDIBzFuran	55684941	pg/g	0.0837	0.0837	U	U	0.0837	2.49	2.49	No	Yes	No	Yes
	OctCIDIBzDioxin	3268879	pg/g	0.181	0.181	J	J		4.99	4.99	Yes	No	No	Yes
	OctCIDIBzFuran	39001020	pg/g	0.225	0.225	U	U	0.225	4.99	4.99	No	Yes	No	Yes
	PenCIDIBzDioxin	36088229	pg/g	0.0891	0.0891	U	U	0.0891	2.49	2.49	No	Yes	No	Yes
	PenCIDIBzFuran	30402154	pg/g	0.114	0.114	U	U	0.114	2.49	2.49	No	Yes	No	Yes
	TEQMinWHO05Dioxn		pg/g	0.0528	0.0528						No	No	No	Yes
	TetCIDIBzDioxin	41903575	pg/g	0.0703	0.0703	U	U	0.0703	0.499	0.499	No	Yes	No	Yes
	TetCIDIBzFuran	30402143	pg/g	0.527	0.527				0.499	0.499	No	No	No	Yes
	EPA1614	PBDE_cong_153		ug/kg	0.0316	0.0316				0.0100	No	No	No	Yes
		PBDE_cong_209		ug/kg	0.0220	0.0220	J	J		0.0500	Yes	No	No	Yes
		PBDE_cong_47		ug/kg	0.876	0.876	B, E	J		0.0100	Yes	No	No	Yes
		PBDE_cong_99		ug/kg	0.0760	0.0760	B			0.0100	No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.0220	0.0220	J	J		0.0500	Yes	No	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00109	0.00109	J	J	0.00109	0.00500	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00221	0.00221	J	J	0.00476	0.0200	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.111	0.111			0.112	0.0700	No	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.000127	0.000127	U	U	0.000127	0.00500	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg	0.000507	0.000507	U	U	0.000507	0.0500	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.00135	0.00135	J	J		0.0200	Yes	No	No	Yes	
	Total Penta-BDE	32534819	ug/kg	0.254	0.254	B			0.0100	No	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg	0.965	0.965	B		0.966	0.0100	No	No	No	Yes	
	Total Tri-BDE	49690940	ug/kg	0.0659	0.0659			0.0720	0.00500	No	No	No	Yes	
	EPA1668A	2C11pBiphenyl	2051607	pg/g	0.172	0.172	U	U	0.172	0.491	No	Yes	No	Yes
		35DiCBiphenyl	34883415	pg/g	0.0782	0.0782	U	U	0.0782	0.491	No	Yes	No	Yes
		3CiBiphenyl	2051618	pg/g	0.162	0.162	U	U	0.162	0.491	No	Yes	No	Yes
		44DiCBiphenyl	2050682	pg/g	0.269	0.269	U	U	0.269	0.491	No	Yes	No	Yes
4C11Biphenyl		2051629	pg/g	0.157	0.157	U	U	0.157	0.491	No	Yes	No	Yes	
DecaCBiphenyls			pg/g	6.69	6.69					No	No	No	Yes	
DecCBiphenyl		2051243	pg/g	6.69	6.69				0.491	No	No	No	Yes	
DiCBiphenyls		25512429	pg/g	2.61	2.61					No	No	No	Yes	
HepCBiphenyls		28655712	pg/g	956	956					No	No	No	Yes	
HexCBiphenyls		26601649	pg/g	1650	1650					No	No	No	Yes	
MonoCBiphenyls		27323188	pg/g	0.172	0.172	U	U	0.172	0.491	No	Yes	No	Yes	
NonCBiphenyls		53742077	pg/g	36.4	36.4					No	No	No	Yes	
OctCBiphenyls		55722264	pg/g	249	249					No	No	No	Yes	
PCB_138+163+164			pg/g	432	432				1.47	No	No	No	Yes	
PCB_20+21+33		pg/g	0.630	0.630	J	J		1.47	Yes	No	No	Yes		
PCB_41+64+71+72		pg/g	16.5	16.5				1.96	No	No	No	Yes		
PCB_87+117+125		pg/g	47.3	47.3				1.47	No	No	No	Yes		
PCB_95+98+102		pg/g	98.8	98.8				1.47	No	No	No	Yes		
PCB_cong_100		pg/g	0.717	0.717				0.491	No	No	No	Yes		
PCB_cong_103		pg/g	1.31	1.31	EMPC	EMPC		0.491	No	Yes	No	Yes		
PCB_cong_104		pg/g	0.0773	0.0773	U	U	0.0773	0.491	No	No	Yes	Yes		

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	61.0	61.0				0.491	No	No	No	Yes
	PCB_cong_106+118		pg/g	129	129				0.982	No	No	No	Yes
	PCB_cong_107+109		pg/g	19.9	19.9				0.982	No	No	No	Yes
	PCB_cong_108+112		pg/g	5.06	5.06				0.982	No	No	No	Yes
	PCB_cong_11	2050871	pg/g	1.49	1.49	B	U*	1.49	1.49	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	148	148				0.491	No	No	No	Yes
	PCB_cong_111+115		pg/g	3.32	3.32				0.982	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.0793	0.0793	U	U	0.0793	0.491	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	3.61	3.61				0.491	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	6.61	6.61				0.491	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.0903	0.0903	U	U	0.0903	0.982	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	0.671	0.671				0.491	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.0766	0.0766	U	U	0.0766	0.491	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.300	0.300	U	U	0.300	0.491	No	Yes	No	Yes
	PCB_cong_123	65510443	pg/g	1.90	1.90				0.491	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	2.61	2.61				0.491	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	0.377	0.377		J		0.491	Yes	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.296	0.296	U	U	0.296	0.491	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	51.4	51.4				0.982	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	6.41	6.41				0.491	No	No	No	Yes
PCB_cong_130	52663668	pg/g	23.8	23.8				0.491	No	No	No	Yes	
PCB_cong_131	61798707	pg/g	0.359	0.359	U	U	0.359	0.491	No	Yes	No	Yes	
PCB_cong_132+161		pg/g	45.0	45.0				0.982	No	No	No	Yes	
PCB_cong_133+142		pg/g	9.71	9.71				0.982	No	No	No	Yes	
PCB_cong_134+143		pg/g	8.57	8.57				0.982	No	No	No	Yes	
PCB_cong_135	52744135	pg/g	37.4	37.4				0.491	No	No	No	Yes	
PCB_cong_136	38411222	pg/g	19.6	19.6				0.491	No	No	No	Yes	
PCB_cong_137	35694065	pg/g	13.5	13.5				0.491	No	No	No	Yes	
PCB_cong_139+149		pg/g	238	238	B			0.982	No	No	No	Yes	
PCB_cong_140	59291644	pg/g	1.89	1.89				0.491	No	No	No	Yes	
PCB_cong_141	52712046	pg/g	49.1	49.1				0.491	No	No	No	Yes	

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Sample		EPA-HS-A1 TRIP											
Lab ID		1601354-03											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1658A	PCB_cong_144	68194149	pg/g	9.86	9.86				0.491	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.0850	0.0850	U	U	0.0850	0.491	No	Yes	No	Yes
	PCB_cong_146+165		pg/g	74.1	74.1				0.982	No	No	No	Yes
	PCB_cong_147	68194138	pg/g	7.47	7.47				0.491	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	0.427	0.427	J	J		0.491	Yes	No	No	Yes
	PCB_cong_150	68194081	pg/g	0.198	0.198	EMPC	EMPC		0.491	No	Yes	No	Yes
	PCB_cong_151	52663635	pg/g	87.0	87.0				0.491	No	No	No	Yes
	PCB_cong_152	68194092	pg/g	0.141	0.141	J	J		0.491	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	451	451				0.491	No	No	No	Yes
	PCB_cong_154	60145224	pg/g	5.61	5.61				0.491	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.492	0.492				0.491	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	27.7	27.7				0.491	No	No	No	Yes
	PCB_cong_157	69782907	pg/g	6.22	6.22				0.491	No	No	No	Yes
	PCB_cong_158+160		pg/g	35.6	35.6				0.982	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.229	0.229	U	U	0.229	0.491	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	2.40	2.40				0.982	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	1.45	1.45				0.491	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	1.36	1.36				0.491	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	0.502	0.502				0.491	No	No	No	Yes
	PCB_cong_169	32774166	pg/g	0.735	0.735				0.491	No	No	No	Yes
	PCB_cong_17	37680663	pg/g	0.911	0.911				0.491	No	No	No	Yes
	PCB_cong_170	35065306	pg/g	81.2	81.2				0.491	No	No	No	Yes
	PCB_cong_171	52663715	pg/g	25.3	25.3				0.491	No	No	No	Yes
	PCB_cong_172	52663748	pg/g	17.2	17.2				0.491	No	No	No	Yes
	PCB_cong_173	68194161	pg/g	1.41	1.41				0.491	No	No	No	Yes
	PCB_cong_174	38411255	pg/g	78.7	78.7				0.491	No	No	No	Yes
	PCB_cong_175	40186707	pg/g	3.67	3.67				0.491	No	No	No	Yes
	PCB_cong_176	52663657	pg/g	9.74	9.74				0.491	No	No	No	Yes
	PCB_cong_177	52663704	pg/g	68.6	68.6				0.491	No	No	No	Yes
	PCB_cong_178	52663679	pg/g	29.2	29.2				0.491	No	No	No	Yes
	PCB_cong_179	52663646	pg/g	43.3	43.3				0.491	No	No	No	Yes

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Sample		EPA-HS-A1 TRIP											
Lab ID		1601354-03											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680652	pg/g	7.75	7.75				0.491	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	222	222				0.491	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.277	0.277	U	U	0.277	0.491	No	Yes	No	Yes
	PCB_cong_182+187		pg/g	256	256				0.982	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	59.4	59.4				0.491	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	0.997	0.997				0.491	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	13.7	13.7				0.491	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.215	0.215	U	U	0.215	0.491	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.356	0.356	J	J		0.491	Yes	No	No	Yes
	PCB_cong_189	39635319	pg/g	3.16	3.16				0.491	No	No	No	Yes
	PCB_cong_19	38444734	pg/g	0.478	0.478	J	J		0.491	Yes	No	No	Yes
	PCB_cong_190	41411647	pg/g	22.5	22.5				0.491	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	3.42	3.42				0.491	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.224	0.224	U	U	0.224	0.491	No	Yes	No	Yes
	PCB_cong_193	69782918	pg/g	15.9	15.9				0.491	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	35.3	35.3				0.491	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	19.7	19.7				0.491	No	No	No	Yes
	PCB_cong_196+203		pg/g	75.2	75.2				0.982	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	2.46	2.46				0.491	No	No	No	Yes
	PCB_cong_198	68194172	pg/g	2.83	2.83				0.491	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	76.8	76.8				0.491	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	6.34	6.34				0.491	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	8.24	8.24				0.491	No	No	No	Yes
	PCB_cong_202	2136994	pg/g	20.5	20.5				0.491	No	No	No	Yes
	PCB_cong_204	74472529	pg/g	0.0821	0.0821	U	U	0.0821	0.491	No	Yes	No	Yes
	PCB_cong_205	74472530	pg/g	1.95	1.95				0.491	No	No	No	Yes
	PCB_cong_206	40186729	pg/g	25.6	25.6				0.491	No	No	No	Yes
	PCB_cong_207	52663793	pg/g	2.80	2.80				0.491	No	No	No	Yes
	PCB_cong_208	52663771	pg/g	8.02	8.02				0.491	No	No	No	Yes
	PCB_cong_22	38444858	pg/g	1.55	1.55				0.491	No	No	No	Yes
	PCB_cong_23	55720440	pg/g	0.0841	0.0841	U	U	0.0841	0.491	No	Yes	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_24+27		pg/g	0.572	0.572	J	J		0.982	Yes	No	No	Yes	
	PCB_cong_25	55712373	pg/g	0.166	0.166	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_26	38444814	pg/g	0.633	0.633				0.491	No	No	No	Yes	
	PCB_cong_28	7012375	pg/g	13.3	13.3				0.491	No	No	No	Yes	
	PCB_cong_29	15862074	pg/g	0.0765	0.0765	U	U	0.0765	0.491	No	Yes	No	Yes	
	PCB_cong_30	35693926	pg/g	0.0611	0.0611	U	U	0.0611	0.491	No	Yes	No	Yes	
	PCB_cong_31	16606023	pg/g	7.09	7.09				0.491	No	No	No	Yes	
	PCB_cong_34	37680685	pg/g	0.0553	0.0553	EMPC	EMPC		0.491	No	Yes	No	Yes	
	PCB_cong_35	37680696	pg/g	0.0638	0.0638	U	U	0.0638	0.491	No	Yes	No	Yes	
	PCB_cong_36	38444870	pg/g	0.0627	0.0627	U	U	0.0627	0.491	No	Yes	No	Yes	
	PCB_cong_37	38444905	pg/g	0.228	0.228	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_38	53555661	pg/g	0.389	0.389	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_39	38444881	pg/g	0.0592	0.0592	U	U	0.0592	0.491	No	No	No	Yes	
	PCB_cong_4+10		pg/g	0.327	0.327	U	U	0.327	0.982	No	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	0.187	0.187	EMPC	EMPC		0.491	No	No	Yes	No	Yes
	PCB_cong_42	36559225	pg/g	2.20	2.20				0.982	No	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	18.8	18.8				0.982	No	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	12.2	12.2				0.491	No	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	1.13	1.13				0.491	No	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	0.318	0.318	J	J		0.491	Yes	Yes	No	No	Yes
	PCB_cong_47	2437798	pg/g	11.4	11.4	B			0.491	No	No	No	No	Yes
	PCB_cong_48+75		pg/g	1.92	1.92				0.982	No	No	No	No	Yes
	PCB_cong_5+8		pg/g	1.12	1.12				0.982	No	No	No	No	Yes
	PCB_cong_50	82796650	pg/g	0.0601	0.0601	U	U	0.0601	0.491	No	No	Yes	No	Yes
	PCB_cong_51	88194047	pg/g	0.351	0.351	J	J		0.491	Yes	Yes	No	No	Yes
	PCB_cong_52+69		pg/g	41.5	41.5				0.982	No	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	2.09	2.09				0.491	No	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.0244	0.0244	U	U	0.0244	0.491	No	No	Yes	No	Yes
PCB_cong_55	74338242	pg/g	0.720	0.720				0.491	No	No	No	No	Yes	
PCB_cong_56+60		pg/g	7.96	7.96				0.982	No	No	No	No	Yes	
PCB_cong_57	70424678	pg/g	0.162	0.162	J	J		0.491	Yes	Yes	No	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_58	41464497	pg/g	0.153	0.153	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_6	25569806	pg/g	0.240	0.240	U	U	0.240	0.491	No	Yes	No	Yes	
	PCB_cong_61+70		pg/g	24.1	24.1				0.982	No	No	No	Yes	
	PCB_cong_62	54230227	pg/g	0.0498	0.0498	U	U	0.0498	0.491	No	Yes	No	Yes	
	PCB_cong_63	74472347	pg/g	2.04	2.04				0.491	No	No	No	Yes	
	PCB_cong_65	33284547	pg/g	0.0531	0.0531	U	U	0.0531	0.491	No	Yes	No	Yes	
	PCB_cong_66+76		pg/g	28.8	28.8				0.982	No	No	No	Yes	
	PCB_cong_67	73575538	pg/g	0.117	0.117	EMPC	EMPC		0.491	No	Yes	No	Yes	
	PCB_cong_68	73575527	pg/g	0.989	0.989				0.491	No	No	No	Yes	
	PCB_cong_7+9		pg/g	0.0987	0.0987	U	U	0.0987	0.982	No	Yes	No	Yes	
	PCB_cong_73	74338231	pg/g	0.0475	0.0475	U	U	0.0475	0.491	No	Yes	No	Yes	
	PCB_cong_74	32690930	pg/g	21.6	21.6				0.491	No	No	No	Yes	
	PCB_cong_77	32598133	pg/g	0.891	0.891				0.491	No	No	No	Yes	
	PCB_cong_78	70362491	pg/g	0.0453	0.0453	U	U	0.0453	0.491	No	Yes	No	Yes	
	PCB_cong_79	41464486	pg/g	3.12	3.12				0.491	No	No	No	Yes	
	PCB_cong_80	33284525	pg/g	0.0361	0.0361	U	U	0.0361	0.491	No	Yes	No	Yes	
	PCB_cong_81	70362504	pg/g	0.434	0.434	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_82	52663624	pg/g	1.72	1.72				0.491	No	No	No	Yes	
	PCB_cong_83	80145202	pg/g	0.0746	0.0746	U	U	0.0746	0.491	No	Yes	No	Yes	
	PCB_cong_84+92		pg/g	51.6	51.6				0.982	No	No	No	Yes	
	PCB_cong_85+116		pg/g	36.1	36.1				0.982	No	No	No	Yes	
	PCB_cong_86	55312691	pg/g	0.124	0.124	U	U	0.124	0.491	No	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	17.7	17.7				0.982	No	No	No	Yes	
	PCB_cong_89	73575572	pg/g	0.105	0.105	U	U	0.105	0.491	No	Yes	No	Yes	
	PCB_cong_90+101		pg/g	171	171				0.982	No	No	No	Yes	
	PCB_cong_93	73575561	pg/g	0.112	0.112	U	U	0.112	0.491	No	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/g	0.389	0.389	J	J		0.491	Yes	No	No	Yes	
PCB_cong_96	73575549	pg/g	0.262	0.262	J	J		0.491	Yes	Yes	No	Yes		
PCB_cong_97	41464511	pg/g	17.6	17.6				0.491	No	No	No	Yes		
PCB_cong_99	38380017	pg/g	121	121				0.491	No	No	No	Yes		
PentCBiphenyls	25429292	pg/g	946	946			948			No	No	No	Yes	

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Sample		EPA-HS-A1 TRIP											
Lab ID		1601354-03											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TetCBiphenyls	26914330	pg/g	199	199			200		No	No	No	Yes
	ToIPCBs		pg/g	4080	4080					No	No	No	Yes
	TriCBiphenyls	25323686	pg/g	36.1	36.1			36.2		No	No	No	Yes
Unk	Lipid		%	4.96	4.96					No	No	No	Yes

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Sample		EPA-HS-A2											
Lab ID		1601354-04											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1613B	1234678HepDioxin	35822489	pg/g	0.0998	0.0998	U	U	0.0998	2.49	No	Yes	No	Yes
	1234678HepFuran	87562394	pg/g	0.0962	0.0962	U	U	0.0962	2.49	No	Yes	No	Yes
	1234789HepFuran	55673897	pg/g	0.0964	0.0964	U	U	0.0964	2.49	No	Yes	No	Yes
	1234789HexDioxin	39227286	pg/g	0.108	0.108	U	U	0.108	2.49	No	Yes	No	Yes
	1234789HexFuran	70648269	pg/g	0.0691	0.0691	U	U	0.0691	2.49	No	Yes	No	Yes
	123678HexDioxin	57653857	pg/g	0.111	0.111	U	U	0.111	2.49	No	Yes	No	Yes
	123678HexFuran	57117449	pg/g	0.0748	0.0748	U	U	0.0748	2.49	No	Yes	No	Yes
	123789HexDioxin	19408743	pg/g	0.120	0.120	U	U	0.120	2.49	No	Yes	No	Yes
	123789HexFuran	72918219	pg/g	0.123	0.123	U	U	0.123	2.49	No	Yes	No	Yes
	12378PenDioxin	40321764	pg/g	0.0714	0.0714	U	U	0.0714	2.49	No	Yes	No	Yes
	12378PenFuran	57117416	pg/g	0.0757	0.0757	U	U	0.0757	2.49	No	Yes	No	Yes
	234678HexFuran	80851345	pg/g	0.0808	0.0808	U	U	0.0808	2.49	No	Yes	No	Yes
	23478PenFuran	57117314	pg/g	0.0707	0.0707	U	U	0.0707	2.49	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/g	0.0412	0.0412	U	U	0.0412	0.498	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	0.807	0.807	U	U		0.498	No	No	No	Yes
	HpCIDIBzDioxin	37871004	pg/g	0.0998	0.0998	U	U	0.0998	2.49	No	Yes	No	Yes
	HpCIDIBzFuran	38998753	pg/g	0.0962	0.0962	U	U	0.0962	2.49	No	Yes	No	Yes
	HxCIDIBzDioxin	34465468	pg/g	0.113	0.113	U	U	0.113	2.49	No	Yes	No	Yes
	HxCIDIBzFuran	55684941	pg/g	0.0854	0.0854	U	U	0.0854	2.49	No	Yes	No	Yes
	OctCIDIBzDioxin	3268879	pg/g	0.326	0.326	J	J		4.98	Yes	No	No	Yes
OctCIDIBzFuran	39001020	pg/g	0.230	0.230	U	U	0.230	4.98	No	Yes	No	Yes	
PenCIDIBzDioxin	36088229	pg/g	0.0714	0.0714	U	U	0.0714	2.49	No	Yes	No	Yes	
PenCIDIBzFuran	30402154	pg/g	0.0732	0.0732	U	U	0.0732	2.49	No	Yes	No	Yes	
TEQMinWHO05Dioxin			pg/g	0.0808	0.0808					No	No	No	Yes
TetCIDIBzDioxin	41903575	pg/g	0.0412	0.0412	U	U	0.0412	0.498	No	Yes	No	Yes	
TetCIDIBzFuran	30402143	pg/g	0.807	0.807				0.498	No	No	No	Yes	
EPA1614	PBDE_cong_153		ug/kg	0.0820	0.0820				0.00995	No	No	No	Yes
	PBDE_cong_209		ug/kg	0.00770	0.00770	U	U	0.00770	0.0498	No	Yes	No	Yes
	PBDE_cong_47		ug/kg	1.81	1.81	B, E	J		0.00995	Yes	No	No	Yes
	PBDE_cong_99		ug/kg	0.175	0.175	B	B		0.00995	No	No	No	Yes

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Sample		EPA-HS-A2												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.00770	0.00770	U	U	0.00770	0.0498	No	Yes	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00212	0.00212	J	J		0.00498	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00872	0.00872	J	J	0.00973	0.0199	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.251	0.251			0.252	0.00995	No	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.000145	0.000145	U	U	0.000145	0.00498	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg	0.000695	0.000695	U	U	0.000695	0.0498	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.00148	0.00148	J	J	0.00473	0.0199	Yes	Yes	No	No	Yes
	Total Penta-BDE	32534819	ug/kg	0.561	0.561	B		0.562	0.00995	No	No	No	No	Yes
	Total Tetra-BDE	40088479	ug/kg	2.00	2.00	B			0.00995	No	No	No	No	Yes
	Total Tri-BDE	49690940	ug/kg	0.108	0.108			0.118	0.00498	No	No	No	No	Yes
	EPA1668A	2Cl11pBiphenyl	2051607	pg/g	0.147	0.147	J	J		0.499	Yes	No	No	Yes
		35DiClBiphenyl	34883415	pg/g	0.0615	0.0615	U	U	0.0615	0.499	No	Yes	No	Yes
		3ClBiphenyl	2051618	pg/g	0.217	0.217	U	U	0.217	0.499	No	Yes	No	Yes
		44DiClBiphenyl	2050682	pg/g	0.445	0.445	U	U	0.445	0.499	No	Yes	No	Yes
4Cl11Biphenyl		2051629	pg/g	0.109	0.109	EMPC	EMPC		0.499	No	Yes	No	Yes	
DecaClBiphenyls			pg/g	11.1	11.1					No	No	No	Yes	
DecClBiphenyl		2051243	pg/g	11.1	11.1				0.499	No	No	No	Yes	
DiClBiphenyls		25512429	pg/g	3.96	3.96			4.36		No	No	No	Yes	
HepClBiphenyls		28655712	pg/g	1880	1880					No	No	No	Yes	
HexClBiphenyls		26601649	pg/g	3020	3020					No	No	No	Yes	
MonoClBiphenyls		27323188	pg/g	0.147	0.147			0.255		No	No	No	Yes	
NonClBiphenyls		53742077	pg/g	66.6	66.6					No	No	No	Yes	
OctClBiphenyls		55722264	pg/g	475	475					No	No	No	Yes	
PCB_138+163+164			pg/g	776	776				1.50	No	No	No	Yes	
PCB_20+21+33		pg/g	1.54	1.54				1.50	No	No	No	Yes		
PCB_41+64+71+72		pg/g	29.2	29.2				2.00	No	No	No	Yes		
PCB_87+117+125		pg/g	91.1	91.1				1.50	No	No	No	Yes		
PCB_95+98+102		pg/g	168	168				1.50	No	No	No	Yes		
PCB_cong_100		pg/g	1.56	1.56				0.499	No	No	No	Yes		
PCB_cong_103		pg/g	2.75	2.75				0.499	No	No	No	Yes		
PCB_cong_104		pg/g	0.0976	0.0976	U	U	0.0976	0.499	No	No	Yes	Yes		

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Sample		EPA-HS-A2											
Lab ID		1601354-04											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	103	103				0.499	No	No	No	Yes
	PCB_cong_106+118		pg/g	220	220				0.998	No	No	No	Yes
	PCB_cong_107+109		pg/g	36.8	36.8				0.998	No	No	No	Yes
	PCB_cong_108+112		pg/g	10.2	10.2				0.998	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	1.51	1.51	B	U*	1.51	1.51	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	271	271				0.499	No	No	No	Yes
	PCB_cong_111+115		pg/g	6.64	6.64				0.998	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.102	0.102	U	U	0.102	0.499	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	6.66	6.66				0.499	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	11.5	11.5				0.499	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.145	0.145	U	U	0.145	0.998	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	1.52	1.52				0.499	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.0966	0.0966	U	U	0.0966	0.499	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.170	0.170	U	U	0.170	0.499	No	Yes	No	Yes
	PCB_cong_123	65510443	pg/g	3.00	3.00				0.499	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	4.45	4.45				0.499	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	0.766	0.766				0.499	No	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.162	0.162	U	U	0.162	0.499	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	90.3	90.3				0.998	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	12.6	12.6				0.499	No	No	No	Yes
	PCB_cong_130	52663668	pg/g	37.3	37.3				0.499	No	No	No	Yes
	PCB_cong_131	61798707	pg/g	0.142	0.142	U	U	0.142	0.499	No	Yes	No	Yes
	PCB_cong_132+161		pg/g	97.6	97.6				0.998	No	No	No	Yes
	PCB_cong_133+142		pg/g	19.1	19.1				0.998	No	No	No	Yes
	PCB_cong_134+143		pg/g	17.3	17.3				0.998	No	No	No	Yes
	PCB_cong_135	52744135	pg/g	65.4	65.4				0.499	No	No	No	Yes
	PCB_cong_136	38411222	pg/g	35.5	35.5				0.499	No	No	No	Yes
	PCB_cong_137	35694065	pg/g	26.9	26.9				0.499	No	No	No	Yes
	PCB_cong_139+149		pg/g	448	448	B			0.998	No	No	No	Yes
	PCB_cong_140	59291644	pg/g	3.34	3.34				0.499	No	No	No	Yes
	PCB_cong_141	52712046	pg/g	86.3	86.3				0.499	No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	88194149	pg/g	17.5	17.5				0.499	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.0940	0.0940	U		0.0940	0.499	No	Yes	No	Yes
	PCB_cong_146+165		pg/g	139	139				0.998	No	No	No	Yes
	PCB_cong_147	88194138	pg/g	14.5	14.5				0.499	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	0.861	0.861				0.499	No	No	No	Yes
	PCB_cong_150	88194081	pg/g	0.475	0.475	J	J		0.499	Yes	No	No	Yes
	PCB_cong_151	52663635	pg/g	161	161				0.499	No	No	No	Yes
	PCB_cong_152	88194092	pg/g	0.227	0.227	J	J		0.499	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	832	832				0.499	No	No	No	Yes
	PCB_cong_154	80145224	pg/g	10.3	10.3				0.499	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.704	0.704				0.499	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	51.4	51.4				0.499	No	No	No	Yes
	PCB_cong_157	89782907	pg/g	11.3	11.3				0.499	No	No	No	Yes
	PCB_cong_158+160		pg/g	63.0	63.0				0.998	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.0881	0.0881	U	U	0.0881	0.499	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	4.15	4.15				0.998	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	2.44	2.44				0.499	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	2.75	2.75				0.499	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	0.734	0.734				0.499	No	No	No	Yes
	PCB_cong_169	32774166	pg/g	0.946	0.946				0.499	No	No	No	Yes
PCB_cong_17	37680663	pg/g	2.13	2.13				0.499	No	No	No	Yes	
PCB_cong_170	35065306	pg/g	158	158				0.499	No	No	No	Yes	
PCB_cong_171	52663715	pg/g	48.4	48.4				0.499	No	No	No	Yes	
PCB_cong_172	52663748	pg/g	33.6	33.6				0.499	No	No	No	Yes	
PCB_cong_173	88194161	pg/g	2.79	2.79				0.499	No	No	No	Yes	
PCB_cong_174	38411255	pg/g	138	138				0.499	No	No	No	Yes	
PCB_cong_175	40186707	pg/g	8.12	8.12				0.499	No	No	No	Yes	
PCB_cong_176	52663657	pg/g	18.7	18.7				0.499	No	No	No	Yes	
PCB_cong_177	52663704	pg/g	129	129				0.499	No	No	No	Yes	
PCB_cong_178	52663679	pg/g	60.5	60.5				0.499	No	No	No	Yes	
PCB_cong_179	52663646	pg/g	86.8	86.8				0.499	No	No	No	Yes	

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Sample		EPA-HS-A2											
Lab ID		1601354-04											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680652	pg/g	14.4	14.4				0.499	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	444	444				0.499	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.106	0.106	U	U	0.106	0.499	No	Yes	No	Yes
	PCB_cong_182+187		pg/g	518	518				0.998	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	124	124				0.499	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	1.47	1.47				0.499	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	24.4	24.4				0.499	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.0883	0.0883	U	U	0.0883	0.499	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.538	0.538				0.499	No	No	No	Yes
	PCB_cong_189	39635319	pg/g	6.25	6.25				0.499	No	No	No	Yes
	PCB_cong_19	38444734	pg/g	0.910	0.910				0.499	No	No	No	Yes
	PCB_cong_190	41411647	pg/g	42.1	42.1				0.499	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	6.79	6.79				0.499	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.0858	0.0858	U	U	0.0858	0.499	No	Yes	No	Yes
	PCB_cong_193	89782918	pg/g	32.7	32.7				0.499	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	71.5	71.5				0.499	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	37.5	37.5				0.499	No	No	No	Yes
	PCB_cong_196+203		pg/g	140	140				0.998	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	4.76	4.76				0.499	No	No	No	Yes
	PCB_cong_198	88194172	pg/g	5.30	5.30				0.499	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	147	147				0.499	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	10.7	10.7				0.499	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	14.6	14.6				0.499	No	No	No	Yes
	PCB_cong_202	2136994	pg/g	40.0	40.0				0.499	No	No	No	Yes
	PCB_cong_204	74472529	pg/g	0.104	0.104	U	U	0.104	0.499	No	Yes	No	Yes
	PCB_cong_205	74472530	pg/g	3.84	3.84				0.499	No	No	No	Yes
	PCB_cong_206	40186729	pg/g	47.5	47.5				0.499	No	No	No	Yes
	PCB_cong_207	52663793	pg/g	5.11	5.11				0.499	No	No	No	Yes
	PCB_cong_208	52663771	pg/g	14.0	14.0				0.499	No	No	No	Yes
	PCB_cong_22	38444858	pg/g	2.62	2.62				0.499	No	No	No	Yes
	PCB_cong_23	55720440	pg/g	0.133	0.133	U	U	0.133	0.499	No	Yes	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_24+27		pg/g	0.962	0.962	J	J		0.998	Yes	No	No	Yes
	PCB_cong_25	55712373	pg/g	0.446	0.446	J	J		0.499	Yes	No	No	Yes
	PCB_cong_26	38444814	pg/g	1.34	1.34				0.499	No	No	No	Yes
	PCB_cong_28	7012375	pg/g	20.4	20.4				0.499	No	No	No	Yes
	PCB_cong_29	15862074	pg/g	0.121	0.121	U	U	0.121	0.499	No	Yes	No	Yes
	PCB_cong_30	35693926	pg/g	0.0780	0.0780	U	U	0.0780	0.499	No	Yes	No	Yes
	PCB_cong_31	16606023	pg/g	10.5	10.5				0.499	No	No	No	Yes
	PCB_cong_34	37680685	pg/g	0.126	0.126	J	J		0.499	Yes	No	No	Yes
	PCB_cong_35	37680696	pg/g	0.0897	0.0897	U	U	0.0897	0.499	No	Yes	No	Yes
	PCB_cong_36	38444870	pg/g	0.0882	0.0882	U	U	0.0882	0.499	No	Yes	No	Yes
	PCB_cong_37	38444905	pg/g	0.378	0.378	J	J		0.499	Yes	No	No	Yes
	PCB_cong_38	53555661	pg/g	0.620	0.620				0.499	No	No	No	Yes
	PCB_cong_39	38444881	pg/g	0.0832	0.0832	U	U	0.0832	0.499	No	Yes	No	Yes
	PCB_cong_4+10			0.480	0.480	J	J		0.998	Yes	No	No	Yes
	PCB_cong_40	38444938	pg/g	0.671	0.671				0.499	No	No	No	Yes
	PCB_cong_42	36559225	pg/g	4.67	4.67				0.998	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	31.3	31.3				0.998	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	25.7	25.7				0.499	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	1.94	1.94				0.499	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	0.621	0.621				0.499	No	No	No	Yes
	PCB_cong_47	2437798	pg/g	19.1	19.1	B			0.499	No	No	No	Yes
	PCB_cong_48+75			4.13	4.13				0.998	No	No	No	Yes
	PCB_cong_5+8			1.97	1.97				0.998	No	No	No	Yes
	PCB_cong_50	82796650	pg/g	0.0627	0.0627	J	J		0.499	Yes	No	No	Yes
	PCB_cong_51	58194047	pg/g	0.654	0.654				0.499	No	No	No	Yes
	PCB_cong_52+69			73.6	73.6				0.998	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	3.44	3.44				0.499	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.0325	0.0325	EMPC	EMPC		0.499	No	No	No	Yes
PCB_cong_55	74338242	pg/g	1.21	1.21				0.499	No	No	No	Yes	
PCB_cong_56+60			14.3	14.3				0.998	No	No	No	Yes	
PCB_cong_57	70424678	pg/g	0.263	0.263	J	J		0.499	Yes	No	No	Yes	

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Sample		EPA-HS-A2											
Lab ID		1601354-04											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_58	41464497	pg/g	0.252	0.252	J	J		0.499	Yes	No	No	Yes
	PCB_cong_6	25569806	pg/g	0.400	0.400	EMPC	EMPC		0.499	No	Yes	No	Yes
	PCB_cong_61+70		pg/g	43.9	43.9				0.998	No	No	No	Yes
	PCB_cong_62	54230227	pg/g	0.141	0.141	U	U	0.141	0.499	No	Yes	No	Yes
	PCB_cong_63	74472347	pg/g	3.36	3.36				0.499	No	No	No	Yes
	PCB_cong_65	33284547	pg/g	0.151	0.151	U	U	0.151	0.499	No	Yes	No	Yes
	PCB_cong_66+76		pg/g	50.1	50.1				0.998	No	No	No	Yes
	PCB_cong_67	73575538	pg/g	0.272	0.272	J	J		0.499	Yes	No	No	Yes
	PCB_cong_68	73575527	pg/g	1.69	1.69				0.499	No	No	No	Yes
	PCB_cong_7+9		pg/g	0.127	0.127	U	U	0.127	0.998	No	Yes	No	Yes
	PCB_cong_73	74338231	pg/g	0.134	0.134	U	U	0.134	0.499	No	Yes	No	Yes
	PCB_cong_74	32690930	pg/g	34.6	34.6				0.499	No	No	No	Yes
	PCB_cong_77	32598133	pg/g	1.75	1.75				0.499	No	No	No	Yes
	PCB_cong_78	70362491	pg/g	0.121	0.121	U	U	0.121	0.499	No	Yes	No	Yes
	PCB_cong_79	41464486	pg/g	5.24	5.24				0.499	No	No	No	Yes
	PCB_cong_80	33284525	pg/g	0.136	0.136	J	J		0.499	Yes	No	No	Yes
	PCB_cong_81	70362504	pg/g	0.702	0.702				0.499	No	No	No	Yes
	PCB_cong_82	52663624	pg/g	6.31	6.31				0.499	No	No	No	Yes
	PCB_cong_83	60145202	pg/g	0.0994	0.0994	U	U	0.0994	0.499	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	96.7	96.7				0.998	No	No	No	Yes
	PCB_cong_85+116		pg/g	60.2	60.2				0.998	No	No	No	Yes
	PCB_cong_86	55312691	pg/g	0.165	0.165	U	U	0.165	0.499	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	30.6	30.6				0.998	No	No	No	Yes
	PCB_cong_89	73575572	pg/g	0.560	0.560				0.499	No	No	No	Yes
	PCB_cong_90+101		pg/g	327	327				0.998	No	No	No	Yes
	PCB_cong_93	73575561	pg/g	0.141	0.141	U	U	0.141	0.499	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/g	0.746	0.746	EMPC	EMPC		0.499	No	Yes	No	Yes
	PCB_cong_96	73575549	pg/g	0.533	0.533				0.499	No	No	No	Yes
	PCB_cong_97	41464511	pg/g	45.0	45.0				0.499	No	No	No	Yes
	PCB_cong_99	38380017	pg/g	213	213				0.499	No	No	No	Yes
	PentCIBiphenyls	25429292	pg/g	1720	1720					No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TetCBiphenyls	26914330	pg/g	353	353					No	No	No	Yes
	TotPCBs		pg/g	7600	7600					No	No	No	Yes
	TriCBiphenyls	25323686	pg/g	60.5	60.5					No	No	No	Yes
Unk	Lipid		%	6.25	6.25					No	No	No	Yes

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Sample		EPA-HS-A3											
Lab ID		1601354-05											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1613B	1234678HepDioxin	55822469	pg/g	0.156	0.156	J	J		2.50	Yes	No	No	Yes
	1234678HepFuran	67562394	pg/g	0.101	0.101	U	U	0.101	2.50	No	Yes	No	Yes
	1234789HepFuran	55673897	pg/g	0.102	0.102	U	U	0.102	2.50	No	Yes	No	Yes
	123478HexDioxin	39227286	pg/g	0.112	0.112	U	U	0.112	2.50	No	Yes	No	Yes
	123478HexFuran	70648269	pg/g	0.0631	0.0631	U	U	0.0631	2.50	No	Yes	No	Yes
	123678HexDioxin	57653857	pg/g	0.129	0.129	U	U	0.129	2.50	No	Yes	No	Yes
	123678HexFuran	57117449	pg/g	0.0627	0.0627	U	U	0.0627	2.50	No	Yes	No	Yes
	123789HexDioxin	19408743	pg/g	0.119	0.119	U	U	0.119	2.50	No	Yes	No	Yes
	123789HexFuran	72918219	pg/g	0.0972	0.0972	U	U	0.0972	2.50	No	Yes	No	Yes
	12378PenDioxin	40321764	pg/g	0.0527	0.0527	U	U	0.0527	2.50	No	Yes	No	Yes
	12378PenFuran	57117416	pg/g	0.0302	0.0302	EMPC	EMPC		2.50	No	Yes	No	Yes
	234678HexFuran	60851345	pg/g	0.0690	0.0690	U	U	0.0690	2.50	No	Yes	No	Yes
	23478PenFuran	57117314	pg/g	0.0629	0.0629	U	U	0.0629	2.50	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/g	0.0567	0.0567	U	U	0.0567	0.500	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	0.416	0.416	J	J		0.500	Yes	No	No	Yes
	HpClDiBzDioxin	37871004	pg/g	0.156	0.156	J	J		2.50	Yes	No	No	Yes
	HpClDiBzFuran	38998753	pg/g	0.101	0.101	U	U	0.101	2.50	No	Yes	No	Yes
	HxCIDiBzDioxin	34465468	pg/g	0.120	0.120	U	U	0.120	2.50	No	Yes	No	Yes
	HxCIDiBzFuran	55684941	pg/g	0.0721	0.0721	U	U	0.0721	2.50	No	Yes	No	Yes
	OctClDiBzDioxin	3268879	pg/g	0.173	0.173	EMPC	EMPC		5.00	No	Yes	No	Yes
OctClDiBzFuran	39001020	pg/g	0.277	0.277	U	U	0.277	5.00	No	Yes	No	Yes	
PenClDiBzDioxin	36088229	pg/g	0.0527	0.0527	U	U	0.0527	2.50	No	Yes	No	Yes	
PenClDiBzFuran	30402154	pg/g	0.0302	0.0302	EMPC	EMPC		2.50	No	Yes	No	Yes	
TEQMinWHO05Dioxn		pg/g	0.0432	0.0432						No	No	No	Yes
TetClDiBzDioxin	41903575	pg/g	0.0567	0.0567	U	U	0.0567	0.500	No	Yes	No	No	Yes
TetClDiBzFuran	30402143	pg/g	0.416	0.416	J	J		0.500	Yes	No	No	No	Yes
EPA1614	PBDE_cong_153		ug/kg	0.0421	0.0421				0.00995	No	No	No	Yes
	PBDE_cong_209		ug/kg	0.0273	0.0273	J	J		0.0498	Yes	No	No	Yes
	PBDE_cong_47		ug/kg	1.05	1.05	B, E	J		0.00995	Yes	No	No	Yes
	PBDE_cong_99		ug/kg	0.0979	0.0979	B			0.00995	No	No	No	Yes

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Sample		EPA-HS-A3												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		µg/kg	0.0273	0.0273	J	J		0.0498	Yes	No	No	Yes	
	Total Di-BDE	2050477	µg/kg	0.00118	0.00118	EMPC	EMPC		0.00498	No	Yes	No	Yes	
	Total Hepta-BDE	88928803	µg/kg	0.00252	0.00252	J	J	0.00486	0.0199	Yes	No	No	Yes	
	Total Hexa-BDE	86483600	µg/kg	0.145	0.145				0.00995	No	No	No	Yes	
	Total Mono-BDE	101553	µg/kg	0.000102	0.000102	U	U	0.000102	0.00498	No	Yes	No	Yes	
	Total Nona-BDE	83936561	µg/kg	0.000545	0.000545	U	U	0.000545	0.0498	No	Yes	No	Yes	
	Total Octa-BDE	82536520	µg/kg	0.000183	0.000183	U	U	0.000183	0.0199	No	Yes	No	Yes	
	Total Penta-BDE	82534819	µg/kg	0.328	0.328	B			0.00995	No	No	No	Yes	
	Total Tetra-BDE	40088479	µg/kg	1.13	1.13	B			0.00995	No	No	No	Yes	
	Total Tri-BDE	49690940	µg/kg	0.107	0.107			0.114	0.00498	No	No	No	Yes	
	EPA1668A	2C11pBiphenyl	2051607	pg/g	0.119	0.119	J	J		0.494	Yes	No	No	Yes
		35DiCBiphenyl	34883415	pg/g	0.0420	0.0420	U	U	0.0420	0.494	No	Yes	No	Yes
		3CBiphenyl	2051618	pg/g	0.0864	0.0864	U	U	0.0864	0.494	No	Yes	No	Yes
		44DiCBiphenyl	2050682	pg/g	0.252	0.252	U	U	0.252	0.494	No	Yes	No	Yes
4C11Biphenyl		2051629	pg/g	0.132	0.132	U	U	0.132	0.494	No	Yes	No	Yes	
DecaCBiphenyls			pg/g	7.01	7.01					No	No	No	Yes	
DecCBiphenyl		2051243	pg/g	7.01	7.01				0.494	No	No	No	Yes	
DiCBiphenyls		25512429	pg/g	2.55	2.55			2.66		No	No	No	Yes	
HepCBiphenyls		28655712	pg/g	1410	1410					No	No	No	Yes	
HexCBiphenyls		26601649	pg/g	1970	1970					No	No	No	Yes	
MonoCBiphenyls		27323188	pg/g	0.119	0.119					No	No	No	Yes	
NonCBiphenyls		53742077	pg/g	45.3	45.3					No	No	No	Yes	
OctCBiphenyls		55722264	pg/g	365	365					No	No	No	Yes	
PCB_138+163+164			pg/g	509	509				1.48	No	No	No	Yes	
PCB_20+21+33		pg/g	0.946	0.946	J	J		1.48	Yes	No	No	Yes		
PCB_41+64+71+72		pg/g	17.2	17.2				1.98	No	No	No	Yes		
PCB_87+117+125		pg/g	50.1	50.1				1.48	No	No	No	Yes		
PCB_95+98+102		pg/g	90.0	90.0				1.48	No	No	No	Yes		
PCB_cong_100	39485831	pg/g	0.818	0.818				0.494	No	No	No	Yes		
PCB_cong_103	80145213	pg/g	1.49	1.49				0.494	No	No	No	Yes		
PCB_cong_104	56558168	pg/g	0.0820	0.0820	U	U	0.0820	0.494	No	Yes	No	Yes		

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Sample		EPA-HS-A3											
Lab ID		1601354-05											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	61.0	61.0				0.494	No	No	No	Yes
	PCB_cong_106+118		pg/g	113	113				0.988	No	No	No	Yes
	PCB_cong_107+109		pg/g	20.7	20.7				0.988	No	No	No	Yes
	PCB_cong_108+112		pg/g	5.02	5.02				0.988	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	1.33	1.33	B	U*	1.33	1.33	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	154	154				0.494	No	No	No	Yes
	PCB_cong_111+115		pg/g	3.57	3.57				0.988	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.0874	0.0874	U	U	0.0874	0.494	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	4.03	4.03				0.494	No	No	No	Yes
	PCB_cong_119	56568179	pg/g	6.43	6.43				0.494	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.0485	0.0485	U	U	0.0485	0.988	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	0.765	0.765				0.494	No	No	No	Yes
	PCB_cong_121	56568180	pg/g	0.0803	0.0803	U	U	0.0803	0.494	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.214	0.214	U	U	0.214	0.494	No	Yes	No	Yes
	PCB_cong_123	65510443	pg/g	1.93	1.93				0.494	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	2.62	2.62				0.494	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	0.514	0.514				0.494	No	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.204	0.204	U	U	0.204	0.494	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	52.2	52.2				0.988	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	7.47	7.47				0.494	No	No	No	Yes
	PCB_cong_130	52663668	pg/g	23.6	23.6				0.494	No	No	No	Yes
	PCB_cong_131	61798707	pg/g	0.159	0.159	U	U	0.159	0.494	No	Yes	No	Yes
	PCB_cong_132+161		pg/g	53.9	53.9				0.988	No	No	No	Yes
	PCB_cong_133+142		pg/g	11.4	11.4				0.988	No	No	No	Yes
	PCB_cong_134+143		pg/g	9.62	9.62				0.988	No	No	No	Yes
	PCB_cong_135	52744135	pg/g	40.2	40.2				0.494	No	No	No	Yes
	PCB_cong_136	38411222	pg/g	20.8	20.8				0.494	No	No	No	Yes
	PCB_cong_137	35694065	pg/g	18.9	18.9				0.494	No	No	No	Yes
	PCB_cong_139+149		pg/g	264	264	B			0.988	No	No	No	Yes
	PCB_cong_140	59291644	pg/g	1.84	1.84				0.494	No	No	No	Yes
	PCB_cong_141	52712046	pg/g	68.3	68.3				0.494	No	No	No	Yes

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Sample		EPA-HS-A3											
Lab ID		1601354-05											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	68194149	pg/g	11.0	11.0				0.494	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.0689	0.0689	U	U	0.0689	0.494	No	Yes	No	Yes
	PCB_cong_146+165		pg/g	87.9	87.9				0.988	No	No	No	Yes
	PCB_cong_147	68194138	pg/g	8.07	8.07				0.494	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	0.552	0.552				0.494	No	No	No	Yes
	PCB_cong_150	68194081	pg/g	0.286	0.286	J	J		0.494	Yes	No	No	Yes
	PCB_cong_151	52663635	pg/g	95.3	95.3				0.494	No	No	No	Yes
	PCB_cong_152	68194092	pg/g	0.181	0.181	J	J		0.494	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	591	591				0.494	No	No	No	Yes
	PCB_cong_154	60145224	pg/g	5.52	5.52				0.494	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.426	0.426	J	J		0.494	Yes	No	No	Yes
	PCB_cong_156	38380084	pg/g	35.0	35.0				0.494	No	No	No	Yes
	PCB_cong_157	69782907	pg/g	7.43	7.43				0.494	No	No	No	Yes
	PCB_cong_158+160		pg/g	44.3	44.3				0.988	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.101	0.101	U	U	0.101	0.494	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	3.20	3.20				0.988	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	1.40	1.40				0.494	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	1.30	1.30				0.494	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	0.597	0.597				0.494	No	No	No	Yes
	PCB_cong_169	32774166	pg/g	0.604	0.604				0.494	No	No	No	Yes
	PCB_cong_17	37680663	pg/g	1.52	1.52				0.494	No	No	No	Yes
	PCB_cong_170	35065306	pg/g	128	128				0.494	No	No	No	Yes
	PCB_cong_171	52663715	pg/g	37.0	37.0				0.494	No	No	No	Yes
	PCB_cong_172	52663748	pg/g	27.8	27.8				0.494	No	No	No	Yes
	PCB_cong_173	68194161	pg/g	1.82	1.82				0.494	No	No	No	Yes
	PCB_cong_174	38411255	pg/g	113	113				0.494	No	No	No	Yes
	PCB_cong_175	40186707	pg/g	5.88	5.88				0.494	No	No	No	Yes
	PCB_cong_176	52663657	pg/g	11.8	11.8				0.494	No	No	No	Yes
	PCB_cong_177	52663704	pg/g	92.2	92.2				0.494	No	No	No	Yes
	PCB_cong_178	52663679	pg/g	39.5	39.5				0.494	No	No	No	Yes
	PCB_cong_179	52663646	pg/g	50.3	50.3				0.494	No	No	No	Yes

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Sample		EPA-HS-A3											
Lab ID		1601354-05											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680652	pg/g	9.46	9.46				0.494	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	402	402				0.494	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.0674	0.0674	U	U	0.0674	0.494	No	Yes	No	Yes
	PCB_cong_182+187		pg/g	323	323				0.988	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	98.8	98.8				0.494	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	0.812	0.812				0.494	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	19.6	19.6				0.494	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.0544	0.0544	U	U	0.0544	0.494	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.320	0.320	J	J		0.494	Yes	No	No	Yes
	PCB_cong_189	39635319	pg/g	4.75	4.75				0.494	No	No	No	Yes
	PCB_cong_19	88444734	pg/g	0.599	0.599				0.494	No	No	No	Yes
	PCB_cong_190	41411647	pg/g	29.7	29.7				0.494	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	5.62	5.62				0.494	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.0545	0.0545	U	U	0.0545	0.494	No	Yes	No	Yes
	PCB_cong_193	69782918	pg/g	21.8	21.8				0.494	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	59.9	59.9				0.494	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	29.2	29.2				0.494	No	No	No	Yes
	PCB_cong_196+203		pg/g	115	115				0.988	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	3.02	3.02				0.494	No	No	No	Yes
	PCB_cong_198	68194172	pg/g	4.00	4.00				0.494	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	107	107				0.494	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	7.70	7.70				0.494	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	10.5	10.5				0.494	No	No	No	Yes
	PCB_cong_202	2136994	pg/g	24.4	24.4				0.494	No	No	No	Yes
	PCB_cong_204	74472529	pg/g	0.0804	0.0804	U	U	0.0804	0.494	No	Yes	No	Yes
	PCB_cong_205	74472530	pg/g	3.14	3.14				0.494	No	No	No	Yes
	PCB_cong_206	40186729	pg/g	33.0	33.0				0.494	No	No	No	Yes
	PCB_cong_207	52663793	pg/g	3.38	3.38				0.494	No	No	No	Yes
	PCB_cong_208	52663771	pg/g	8.88	8.88				0.494	No	No	No	Yes
	PCB_cong_22	38444858	pg/g	1.81	1.81				0.494	No	No	No	Yes
	PCB_cong_23	55720440	pg/g	0.101	0.101	U	U	0.101	0.494	No	Yes	No	Yes

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Sample		EPA-HS-A3											
Lab ID		1601354-05											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_24+27		pg/g	0.678	0.678	J	J		0.988	Yes	No	No	Yes
	PCB_cong_25	55712373	pg/g	0.171	0.171	J	J		0.494	Yes	No	No	Yes
	PCB_cong_26	38444814	pg/g	0.757	0.757				0.494	No	No	No	Yes
	PCB_cong_28	7012375	pg/g	10.8	10.8				0.494	No	No	No	Yes
	PCB_cong_29	15862074	pg/g	0.0918	0.0918	U	U	0.0918	0.494	No	Yes	No	Yes
	PCB_cong_30	35693926	pg/g	0.0640	0.0640	U	U	0.0640	0.494	No	Yes	No	Yes
	PCB_cong_31	16606023	pg/g	8.87	8.87				0.494	No	No	No	Yes
	PCB_cong_34	37680685	pg/g	0.0772	0.0772	U	U	0.0772	0.494	No	Yes	No	Yes
	PCB_cong_35	37680696	pg/g	0.0736	0.0736	U	U	0.0736	0.494	No	Yes	No	Yes
	PCB_cong_36	38444870	pg/g	0.0723	0.0723	U	U	0.0723	0.494	No	Yes	No	Yes
	PCB_cong_37	38444905	pg/g	0.188	0.188	J	J		0.494	Yes	No	No	Yes
	PCB_cong_38	53555661	pg/g	0.390	0.390	J	J		0.494	Yes	No	No	Yes
	PCB_cong_39	38444881	pg/g	0.0683	0.0683	U	U	0.0683	0.494	No	Yes	No	Yes
	PCB_cong_4+10		pg/g	0.328	0.328	U	U	0.328	0.988	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	0.333	0.333	EMPC	EMPC		0.494	No	Yes	No	Yes
	PCB_cong_42	36559225	pg/g	3.00	3.00				0.988	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	19.3	19.3				0.988	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	14.3	14.3				0.494	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	1.18	1.18				0.494	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	0.440	0.440	J	J		0.494	Yes	No	No	Yes
	PCB_cong_47	2437798	pg/g	10.3	10.3	B	B		0.494	No	No	No	Yes
	PCB_cong_48+75		pg/g	2.43	2.43				0.988	No	No	No	Yes
	PCB_cong_5+8		pg/g	1.21	1.21				0.988	No	No	No	Yes
	PCB_cong_50	62796650	pg/g	0.0931	0.0931	U	U	0.0931	0.494	No	Yes	No	Yes
	PCB_cong_51	68194047	pg/g	0.507	0.507				0.494	No	No	No	Yes
	PCB_cong_52+69		pg/g	38.5	38.5				0.988	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	2.11	2.11				0.494	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.0779	0.0779	U	U	0.0779	0.494	No	Yes	No	Yes
	PCB_cong_55	74338242	pg/g	0.641	0.641	EMPC	EMPC		0.494	No	Yes	No	Yes
	PCB_cong_56+60		pg/g	7.54	7.54				0.988	No	No	No	Yes
	PCB_cong_57	70424678	pg/g	0.135	0.135	J	J		0.494	Yes	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_58	41464497	pg/g	0.124	0.124	J	J		0.494	Yes	No	No	Yes
	PCB_cong_6	25569806	pg/g	0.112	0.112	EMPC	EMPC		0.494	No	Yes	No	Yes
	PCB_cong_61+70		pg/g	22.4	22.4				0.988	No	No	No	Yes
	PCB_cong_62	54230227	pg/g	0.0753	0.0753	U	U	0.0753	0.494	No	Yes	No	Yes
	PCB_cong_63	74472347	pg/g	1.76	1.76				0.494	No	No	No	Yes
	PCB_cong_65	33284547	pg/g	0.0803	0.0803	U	U	0.0803	0.494	No	Yes	No	Yes
	PCB_cong_66+76		pg/g	24.2	24.2				0.988	No	No	No	Yes
	PCB_cong_67	73575538	pg/g	0.105	0.105	EMPC	EMPC		0.494	No	Yes	No	Yes
	PCB_cong_68	73575527	pg/g	0.931	0.931				0.494	No	No	No	Yes
	PCB_cong_7+9		pg/g	0.0991	0.0991	U	U	0.0991	0.988	No	Yes	No	Yes
	PCB_cong_73	74338231	pg/g	0.0771	0.0771	U	U	0.0771	0.494	No	Yes	No	Yes
	PCB_cong_74	32690930	pg/g	19.1	19.1				0.494	No	No	No	Yes
	PCB_cong_77	32598133	pg/g	0.546	0.546				0.494	No	No	No	Yes
	PCB_cong_78	70362491	pg/g	0.0668	0.0668	U	U	0.0668	0.494	No	Yes	No	Yes
	PCB_cong_79	41464486	pg/g	3.13	3.13				0.494	No	No	No	Yes
	PCB_cong_80	33284525	pg/g	0.0552	0.0552	U	U	0.0552	0.494	No	Yes	No	Yes
	PCB_cong_81	70362504	pg/g	0.392	0.392	J	J		0.494	Yes	No	No	Yes
	PCB_cong_82	52663624	pg/g	3.31	3.31				0.494	No	No	No	Yes
	PCB_cong_83	80145202	pg/g	0.0809	0.0809	U	U	0.0809	0.494	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	53.0	53.0				0.988	No	No	No	Yes
	PCB_cong_85+116		pg/g	36.5	36.5				0.988	No	No	No	Yes
	PCB_cong_86	55312691	pg/g	0.134	0.134	U	U	0.134	0.494	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	16.5	16.5				0.988	No	No	No	Yes
	PCB_cong_89	73575572	pg/g	0.116	0.116	U	U	0.116	0.494	No	Yes	No	Yes
	PCB_cong_90+101		pg/g	188	188				0.988	No	No	No	Yes
	PCB_cong_93	73575561	pg/g	0.117	0.117	U	U	0.117	0.494	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/g	0.429	0.429	J	J		0.494	Yes	No	No	Yes
	PCB_cong_96	73575549	pg/g	0.263	0.263	J	J		0.494	Yes	Yes	No	Yes
	PCB_cong_97	41464511	pg/g	23.6	23.6				0.494	No	No	No	Yes
PCB_cong_99	38380017	pg/g	128	128				0.494	No	No	No	Yes	
PentClBiphenyls		25429292	pg/g	966	966					No	No	No	Yes

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Sample		EPA-HS-A3												
Lab ID		1601354-05												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	TetCBiphenyls	26914330	pg/g	190	190			191		No	No	No	Yes	
	TotPCBs		pg/g	5000	5000					No	No	No	Yes	
	TriCBiphenyls	25323686	pg/g	39.4	39.4					No	No	No	Yes	
Unk	Lipid		%	3.54	3.54					No	No	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.117	0.117	U	U	0.117	2.50	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/g	0.0987	0.0987	U	U	0.0987	2.50	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.0957	0.0957	U	U	0.0957	2.50	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.112	0.112	U	U	0.112	2.50	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.0605	0.0605	U	U	0.0605	2.50	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.110	0.110	U	U	0.110	2.50	No	No	Yes	No	Yes
	123678HexFuran	57117449	pg/g	0.0634	0.0634	U	U	0.0634	2.50	No	No	Yes	No	Yes
	123789HexDioxin	19408743	pg/g	0.117	0.117	U	U	0.117	2.50	No	No	Yes	No	Yes
	123789HexFuran	72918219	pg/g	0.0894	0.0894	U	U	0.0894	2.50	No	No	Yes	No	Yes
	12378PenDioxin	40321764	pg/g	0.0473	0.0473	U	U	0.0473	2.50	No	No	Yes	No	Yes
	12378PenFuran	57117416	pg/g	0.0979	0.0979	U	U	0.0979	2.50	No	No	Yes	No	Yes
	234678HexFuran	80851345	pg/g	0.0637	0.0637	U	U	0.0637	2.50	No	No	Yes	No	Yes
	23478PenFuran	57117314	pg/g	0.0923	0.0923	U	U	0.0923	2.50	No	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/g	0.0678	0.0678	U	U	0.0678	0.499	No	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	0.828	0.828	U	U		0.499	No	No	No	No	Yes
	HpCIDIBzDioxin	37871004	pg/g	0.117	0.117	U	U	0.117	2.50	No	No	Yes	No	Yes
	HpCIDIBzFuran	38998753	pg/g	0.0972	0.0972	U	U	0.0972	2.50	No	No	Yes	No	Yes
	HxCIDIBzDioxin	34465468	pg/g	0.113	0.113	U	U	0.113	2.50	No	No	Yes	No	Yes
	HxCIDIBzFuran	55684941	pg/g	0.0685	0.0685	U	U	0.0685	2.50	No	No	Yes	No	Yes
	OctCIDIBzDioxin	3268879	pg/g	0.125	0.125	U	U	0.125	4.99	No	No	Yes	No	Yes
	OctCIDIBzFuran	39001020	pg/g	0.179	0.179	U	U	0.179	4.99	No	No	Yes	No	Yes
	PenCIDIBzDioxin	36088229	pg/g	0.0473	0.0473	U	U	0.0473	2.50	No	No	Yes	No	Yes
	PenCIDIBzFuran	30402154	pg/g	0.0950	0.0950	U	U	0.0950	2.50	No	No	Yes	No	Yes
	TEQMinWHO05Dioxn				0.0828	0.0828					No	No	No	Yes
	TetCIDIBzDioxin	41903575	pg/g	0.0678	0.0678	U	U	0.0678	0.499	No	No	Yes	No	Yes
	TetCIDIBzFuran	30402143	pg/g	0.828	0.828				0.499	No	No	No	No	Yes
	EPA1614	PBDE_cong_153		ug/kg	0.0393	0.0393				0.00996	No	No	No	Yes
PBDE_cong_209			ug/kg	0.0102	0.0102	U	U	0.0102	0.0498	No	Yes	No	Yes	
PBDE_cong_47			ug/kg	1.72	1.72	B, E	J		0.00996	Yes	No	No	Yes	
PBDE_cong_99			ug/kg	0.0657	0.0657	B			0.00996	No	No	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.0102	0.0102	U	U	0.0102	0.0498	No	Yes	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00289	0.00289	J	J		0.00498	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00618	0.00618	J	J		0.0199	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.174	0.174			0.175	0.00996	No	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.000150	0.000150	U	U	0.000150	0.00498	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg	0.000654	0.000654	U	U	0.000654	0.0498	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.000187	0.000187	U	U	0.000187	0.0199	No	Yes	No	Yes	
	Total Penta-BDE	32534819	ug/kg	0.429	0.429	B			0.00996	No	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg	1.88	1.88	B			0.00996	No	No	No	Yes	
	Total Tri-BDE	49690940	ug/kg	0.239	0.239			0.250	0.00498	No	No	No	Yes	
	2Cl11biphenyl	2051607	pg/g	0.310	0.310	U	U	0.310	0.491	No	Yes	No	Yes	
	35DiClbiphenyl	34883415	pg/g	0.112	0.112	U	U	0.112	0.491	No	Yes	No	Yes	
	3Clbiphenyl	2051618	pg/g	0.124	0.124	U	U	0.124	0.491	No	Yes	No	Yes	
	44DiClbiphenyl	2050682	pg/g	0.372	0.372	U	U	0.372	0.491	No	Yes	No	Yes	
EPA1668A	4Cl11biphenyl	2051629	pg/g	0.0656	0.0656	EMPC	EMPC		0.491	No	Yes	No	Yes	
	DecaClbiphenyls		pg/g	9.11	9.11					No	No	No	Yes	
	DecClbiphenyl	2051243	pg/g	9.11	9.11				0.491	No	No	No	Yes	
	DiClbiphenyls	25512429	pg/g	3.10	3.10					No	No	No	Yes	
	HepClbiphenyls	28655712	pg/g	1360	1360					No	No	No	Yes	
	HexClbiphenyls	26601649	pg/g	2420	2420					No	No	No	Yes	
	MonoClbiphenyls	27323188	pg/g	0.0656	0.0656	EMPC	EMPC			No	Yes	No	Yes	
	NonClbiphenyls	53742077	pg/g	48.8	48.8					No	No	No	Yes	
	OctClbiphenyls	55722264	pg/g	348	348					No	No	No	Yes	
	PCB_138+163+164		pg/g	610	610					1.47	No	No	No	Yes
	PCB_20+21+33		pg/g	1.04	1.04	J	J		1.47	Yes	No	No	Yes	
	PCB_41+64+71+72		pg/g	27.8	27.8				1.96	No	No	No	Yes	
	PCB_87+117+125		pg/g	82.6	82.6				1.47	No	No	No	Yes	
	PCB_95+98+102		pg/g	163	163				1.47	No	No	No	Yes	
PCB_cong_100		pg/g	1.50	1.50				0.491	No	No	No	Yes		
PCB_cong_103		pg/g	2.52	2.52				0.491	No	No	No	Yes		
PCB_cong_104		pg/g	0.114	0.114	U	U	0.114	0.491	No	No	Yes	No	Yes	

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Sample		EPA-HS-B1											
Lab ID		1601354-06											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	84.0	84.0				0.491	No	No	No	Yes
	PCB_cong_106+118		pg/g	185	185				0.982	No	No	No	Yes
	PCB_cong_107+109		pg/g	29.8	29.8				0.982	No	No	No	Yes
	PCB_cong_108+112		pg/g	9.87	9.87				0.982	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	1.51	1.51	B	U*	1.51	1.51	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	263	263				0.491	No	No	No	Yes
	PCB_cong_111+115		pg/g	4.61	4.61				0.982	No	No	No	Yes
	PCB_cong_113	88194105	pg/g	0.123	0.123	U	U	0.123	0.491	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	5.46	5.46				0.491	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	10.1	10.1				0.491	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.130	0.130	U	U	0.130	0.982	No	Yes	No	Yes
	PCB_cong_120	88194127	pg/g	0.999	0.999				0.491	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.113	0.113	U	U	0.113	0.491	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.183	0.183	U	U	0.183	0.491	No	Yes	No	Yes
	PCB_cong_123	85510443	pg/g	3.19	3.19				0.491	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	4.07	4.07				0.491	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	0.594	0.594				0.491	No	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.176	0.176	U	U	0.176	0.491	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	73.7	73.7				0.982	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	10.7	10.7				0.491	No	No	No	Yes
	PCB_cong_130	52663668	pg/g	31.8	31.8				0.491	No	No	No	Yes
	PCB_cong_131	81798707	pg/g	0.0975	0.0975	U	U	0.0975	0.491	No	Yes	No	Yes
	PCB_cong_132+161		pg/g	87.1	87.1				0.982	No	No	No	Yes
	PCB_cong_133+142		pg/g	15.0	15.0				0.982	No	No	No	Yes
	PCB_cong_134+143		pg/g	16.6	16.6				0.982	No	No	No	Yes
	PCB_cong_135	52744135	pg/g	62.4	62.4				0.491	No	No	No	Yes
	PCB_cong_136	38411222	pg/g	36.8	36.8				0.491	No	No	No	Yes
	PCB_cong_137	35694065	pg/g	19.5	19.5				0.491	No	No	No	Yes
	PCB_cong_139+149		pg/g	418	418	B			0.982	No	No	No	Yes
	PCB_cong_140	59291644	pg/g	3.16	3.16				0.491	No	No	No	Yes
	PCB_cong_141	52712046	pg/g	67.7	67.7				0.491	No	No	No	Yes

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Lab ID		1601354-06												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_144	68194149	pg/g	17.0	17.0				0.491	No	No	No	Yes	
	PCB_cong_145	74472405	pg/g	0.0786	0.0786	U	U	0.0786	0.491	No	Yes	No	Yes	
	PCB_cong_146+165		pg/g	101	101				0.982	No	No	No	Yes	
	PCB_cong_147	68194138	pg/g	12.1	12.1				0.491	No	No	No	Yes	
	PCB_cong_148	74472416	pg/g	0.597	0.597				0.491	No	No	No	Yes	
	PCB_cong_150	68194081	pg/g	0.479	0.479	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_151	52663635	pg/g	146	146				0.491	No	No	No	Yes	
	PCB_cong_152	68194092	pg/g	0.237	0.237	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_153	35065271	pg/g	583	583				0.491	No	No	No	Yes	
	PCB_cong_154	60145224	pg/g	8.16	8.16				0.491	No	No	No	Yes	
	PCB_cong_155	33979032	pg/g	0.652	0.652				0.491	No	No	No	Yes	
	PCB_cong_156	38380084	pg/g	37.9	37.9				0.491	No	No	No	Yes	
	PCB_cong_157	69782907	pg/g	8.98	8.98				0.491	No	No	No	Yes	
	PCB_cong_158+160		pg/g	49.5	49.5				0.982	No	No	No	Yes	
	PCB_cong_159	39635353	pg/g	0.0576	0.0576	U	U	0.0576	0.491	No	Yes	No	Yes	
	PCB_cong_16+32		pg/g	3.85	3.85				0.982	No	No	No	Yes	
	PCB_cong_166	41411636	pg/g	1.80	1.80				0.491	No	No	No	Yes	
	PCB_cong_167	52663726	pg/g	1.74	1.74				0.491	No	No	No	Yes	
	PCB_cong_168	59291655	pg/g	0.532	0.532				0.491	No	No	No	Yes	
	PCB_cong_169	32774166	pg/g	0.792	0.792				0.491	No	No	No	Yes	
	PCB_cong_17	37680663	pg/g	1.62	1.62				0.491	No	No	No	Yes	
	PCB_cong_170	35065306	pg/g	111	111				0.491	No	No	No	Yes	
	PCB_cong_171	52663715	pg/g	38.1	38.1				0.491	No	No	No	Yes	
	PCB_cong_172	52663748	pg/g	22.7	22.7				0.491	No	No	No	Yes	
	PCB_cong_173	68194161	pg/g	2.44	2.44				0.491	No	No	No	Yes	
	PCB_cong_174	38411255	pg/g	117	117				0.491	No	No	No	Yes	
	PCB_cong_175	40186707	pg/g	5.68	5.68				0.491	No	No	No	Yes	
	PCB_cong_176	52663657	pg/g	15.6	15.6				0.491	No	No	No	Yes	
	PCB_cong_177	52663704	pg/g	104	104				0.491	No	No	No	Yes	
	PCB_cong_178	52663679	pg/g	42.9	42.9				0.491	No	No	No	Yes	
	PCB_cong_179	52663646	pg/g	69.8	69.8				0.491	No	No	No	Yes	

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Sample		EPA-HS-B1											
Lab ID		1601354-06											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680652	pg/g	14.1	14.1				0.491	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	296	296				0.491	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.0838	0.0838	U	U	0.0838	0.491	No	Yes	No	Yes
	PCB_cong_182+187		pg/g	371	371				0.982	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	82.2	82.2				0.491	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	1.11	1.11				0.491	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	19.8	19.8				0.491	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.0686	0.0686	U	U	0.0686	0.491	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.525	0.525				0.491	No	No	No	Yes
	PCB_cong_189	39635319	pg/g	3.98	3.98				0.491	No	No	No	Yes
	PCB_cong_19	38444734	pg/g	0.840	0.840				0.491	No	No	No	Yes
	PCB_cong_190	41411647	pg/g	31.0	31.0				0.491	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	4.54	4.54				0.491	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.0677	0.0677	U	U	0.0677	0.491	No	Yes	No	Yes
	PCB_cong_193	59782918	pg/g	22.5	22.5				0.491	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	42.8	42.8				0.491	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	27.5	27.5				0.491	No	No	No	Yes
	PCB_cong_196+203		pg/g	104	104				0.982	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	3.58	3.58				0.491	No	No	No	Yes
	PCB_cong_198	58194172	pg/g	4.38	4.38				0.491	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	113	113				0.491	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	8.93	8.93				0.491	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	11.6	11.6				0.491	No	No	No	Yes
	PCB_cong_202	2136994	pg/g	29.4	29.4				0.491	No	No	No	Yes
	PCB_cong_204	74472529	pg/g	0.128	0.128	U	U	0.128	0.491	No	Yes	No	Yes
	PCB_cong_205	74472530	pg/g	2.76	2.76				0.491	No	No	No	Yes
	PCB_cong_206	40186729	pg/g	34.3	34.3				0.491	No	No	No	Yes
	PCB_cong_207	52663793	pg/g	3.52	3.52				0.491	No	No	No	Yes
	PCB_cong_208	52663771	pg/g	11.1	11.1				0.491	No	No	No	Yes
	PCB_cong_22	38444858	pg/g	2.21	2.21				0.491	No	No	No	Yes
	PCB_cong_23	55720440	pg/g	0.180	0.180	U	U	0.180	0.491	No	Yes	No	Yes

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Sample		EPA-HS-B1											
Lab ID		1601354-06											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_24+27		pg/g	0.937	0.937	J	J		0.982	Yes	No	No	Yes
	PCB_cong_25	55712373	pg/g	0.210	0.210	J	J		0.491	Yes	No	No	Yes
	PCB_cong_26	38444814	pg/g	0.993	0.993				0.491	No	No	No	Yes
	PCB_cong_28	7012375	pg/g	19.4	19.4				0.491	No	No	No	Yes
	PCB_cong_29	15862074	pg/g	0.164	0.164	U	U	0.164	0.491	No	Yes	No	Yes
	PCB_cong_30	35693926	pg/g	0.0895	0.0895	U	U	0.0895	0.491	No	Yes	No	Yes
	PCB_cong_31	16606023	pg/g	10.4	10.4				0.491	No	No	No	Yes
	PCB_cong_34	37680685	pg/g	0.102	0.102	J	J		0.491	Yes	No	No	Yes
	PCB_cong_35	37680696	pg/g	0.127	0.127	U	U	0.127	0.491	No	Yes	No	Yes
	PCB_cong_36	38444870	pg/g	0.125	0.125	U	U	0.125	0.491	No	Yes	No	Yes
	PCB_cong_37	38444905	pg/g	0.227	0.227	J	J		0.491	Yes	No	No	Yes
	PCB_cong_38	53555661	pg/g	0.588	0.588				0.491	No	No	No	Yes
	PCB_cong_39	38444881	pg/g	0.118	0.118	U	U	0.118	0.491	No	Yes	No	Yes
	PCB_cong_4+10		pg/g	0.512	0.512	U	U	0.512	0.982	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	0.624	0.624				0.491	No	No	No	Yes
	PCB_cong_42	36559225	pg/g	4.06	4.06				0.982	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	33.7	33.7				0.982	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	24.7	24.7				0.491	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	2.06	2.06				0.491	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	0.588	0.588				0.491	No	No	No	Yes
	PCB_cong_47	2437798	pg/g	17.4	17.4	B			0.491	No	No	No	Yes
	PCB_cong_48+75		pg/g	3.51	3.51				0.982	No	No	No	Yes
	PCB_cong_5+8		pg/g	1.59	1.59				0.982	No	No	No	Yes
	PCB_cong_50	62796650	pg/g	0.196	0.196	U	U	0.196	0.491	No	Yes	No	Yes
	PCB_cong_51	68194047	pg/g	0.602	0.602				0.491	No	No	No	Yes
	PCB_cong_52+69		pg/g	71.1	71.1				0.982	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	3.48	3.48				0.491	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.164	0.164	U	U	0.164	0.491	No	Yes	No	Yes
	PCB_cong_55	74338242	pg/g	1.17	1.17				0.491	No	No	No	Yes
	PCB_cong_56+60		pg/g	12.6	12.6				0.982	No	No	No	Yes
	PCB_cong_57	70424678	pg/g	0.292	0.292	J	J		0.491	Yes	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_58	41464497	pg/g	0.221	0.221	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_6	25569806	pg/g	0.266	0.266	U	U	0.266	0.491	No	Yes	No	Yes	
	PCB_cong_61+70		pg/g	40.3	40.3				0.982	No	No	No	Yes	
	PCB_cong_62	54230227	pg/g	0.158	0.158	U	U	0.158	0.491	No	Yes	No	Yes	
	PCB_cong_63	74472347	pg/g	2.94	2.94				0.491	No	No	No	Yes	
	PCB_cong_65	33284547	pg/g	0.169	0.169	U	U	0.169	0.491	No	Yes	No	Yes	
	PCB_cong_66+76		pg/g	42.6	42.6				0.982	No	No	No	Yes	
	PCB_cong_67	73575538	pg/g	0.188	0.188	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_68	73575527	pg/g	1.54	1.54				0.491	No	No	No	Yes	
	PCB_cong_7+9		pg/g	0.145	0.145	U	U	0.145	0.982	No	Yes	No	Yes	
	PCB_cong_73	74338231	pg/g	0.155	0.155	U	U	0.155	0.491	No	Yes	No	Yes	
	PCB_cong_74	32690930	pg/g	31.6	31.6				0.491	No	No	No	Yes	
	PCB_cong_77	32598133	pg/g	0.960	0.960				0.491	No	No	No	Yes	
	PCB_cong_78	70362491	pg/g	0.147	0.147	U	U	0.147	0.491	No	No	Yes	No	Yes
	PCB_cong_79	41464486	pg/g	4.71	4.71				0.491	No	No	No	Yes	
	PCB_cong_80	33284525	pg/g	0.123	0.123	U	U	0.123	0.491	No	Yes	No	Yes	
	PCB_cong_81	70362504	pg/g	0.887	0.887				0.491	No	No	No	Yes	
	PCB_cong_82	52663624	pg/g	4.55	4.55				0.491	No	No	No	Yes	
	PCB_cong_83	60145202	pg/g	0.121	0.121	U	U	0.121	0.491	No	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	87.1	87.1				0.982	No	No	No	Yes	
	PCB_cong_85+116		pg/g	53.7	53.7				0.982	No	No	No	Yes	
	PCB_cong_86	55312691	pg/g	0.201	0.201	U	U	0.201	0.491	No	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	28.9	28.9				0.982	No	No	No	Yes	
	PCB_cong_89	73575572	pg/g	0.374	0.374	J	J		0.491	Yes	No	No	Yes	
	PCB_cong_90+101		pg/g	292	292				0.982	No	No	No	Yes	
	PCB_cong_93	73575561	pg/g	0.165	0.165	U	U	0.165	0.491	No	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/g	0.815	0.815				0.491	No	No	No	Yes	
PCB_cong_96	73575649	pg/g	0.509	0.509				0.491	No	No	No	Yes		
PCB_cong_97	41464511	pg/g	42.2	42.2				0.491	No	No	No	Yes		
PCB_cong_99	38380017	pg/g	177	177				0.491	No	No	No	Yes		
PentCBiphenyls		pg/g	1540	1540					No	No	No	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TetCIBiphenyls	26914330	pg/g	330	330					No	No	No	Yes
	TotPCBs		pg/g	6120	6120					No	No	No	Yes
	TriCIBiphenyls	25323686	pg/g	56.6	56.6					No	No	No	Yes
Unk	Lipid		%	6.16	6.16					No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.0934	0.0934	U	U	0.0934	2.49	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/g	0.0942	0.0942	U	U	0.0942	2.49	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.100	0.100	U	U	0.100	2.49	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.0934	0.0934	U	U	0.0934	2.49	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.0495	0.0495	U	U	0.0495	2.49	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.0906	0.0906	U	U	0.0906	2.49	No	No	No	Yes	
	123678HexFuran	57117449	pg/g	0.0531	0.0531	U	U	0.0531	2.49	No	No	No	Yes	
	123789HexDioxin	19408743	pg/g	0.0989	0.0989	U	U	0.0989	2.49	No	No	Yes	No	Yes
	123789HexFuran	72918219	pg/g	0.0764	0.0764	U	U	0.0764	2.49	No	No	Yes	No	Yes
	12378PenDioxin	40321764	pg/g	0.0445	0.0445	U	U	0.0445	2.49	No	No	No	No	Yes
	12378PenFuran	57117416	pg/g	0.0644	0.0644	U	U	0.0644	2.49	No	No	Yes	No	Yes
	234678HexFuran	60851345	pg/g	0.0561	0.0561	U	U	0.0561	2.49	No	No	Yes	No	Yes
	23478PenFuran	57117314	pg/g	0.0368	0.0368	EMPC	EMPC		2.49	No	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/g	0.0401	0.0401	U	U	0.0401	0.498	0.498	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	0.739	0.739	U	U		0.498	0.498	No	No	No	Yes
	HpClDiBzDioxin	37871004	pg/g	0.0934	0.0934	U	U	0.0934	2.49	2.49	No	Yes	No	Yes
	HpClDiBzFuran	38998753	pg/g	0.0970	0.0970	U	U	0.0970	2.49	2.49	No	Yes	No	Yes
	HxCIDiBzDioxin	34465468	pg/g	0.0944	0.0944	U	U	0.0944	2.49	2.49	No	Yes	No	Yes
	HxCIDiBzFuran	55684941	pg/g	0.0582	0.0582	U	U	0.0582	2.49	2.49	No	Yes	No	Yes
	OctClDiBzDioxin	3268879	pg/g	0.145	0.145	U	U	0.145	4.98	4.98	No	Yes	No	Yes
	OctClDiBzFuran	39001020	pg/g	0.181	0.181	U	U	0.181	4.98	4.98	No	Yes	No	Yes
	PenClDiBzDioxin	36088229	pg/g	0.0445	0.0445	U	U	0.0445	2.49	2.49	No	Yes	No	Yes
	PenClDiBzFuran	30402154	pg/g	0.0368	0.0368	EMPC	EMPC		2.49	2.49	No	Yes	No	Yes
	TEQMinWH005Dioxn			0.0739	0.0739						No	No	No	Yes
	TetClDiBzDioxin	41903575	pg/g	0.0401	0.0401	U	U	0.0401	0.498	0.498	No	Yes	No	Yes
	TetClDiBzFuran	30402143	pg/g	0.739	0.739				0.498	0.498	No	No	No	Yes
	PBDE_cong_153			0.0408	0.0408				0.00995	0.00995	No	No	No	Yes
	PBDE_cong_209			0.00798	0.00798	U	U	0.00798	0.0498	0.0498	No	Yes	No	Yes
	PBDE_cong_47			1.63	1.63	B, E	J		0.00995	0.00995	Yes	No	No	Yes
	PBDE_cong_99			0.0652	0.0652	B			0.00995	0.00995	No	No	No	Yes
	EPA1614													

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Sample		EPA-HS-B2												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.00798	0.00798	U	U	0.00798	0.0498	No	Yes	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00222	0.00222	EMPC	EMPC		0.00498	No	Yes	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00275	0.00275	J	J	0.00513	0.0199	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.164	0.164			0.165	0.00995	No	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.0000987	0.0000987	U	U	0.0000987	0.00498	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg	0.000569	0.000569	U	U	0.000569	0.0498	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.00211	0.00211	J	J	0.00278	0.0199	Yes	No	No	Yes	
	Total Penta-BDE	32534819	ug/kg	0.393	0.393	B			0.00995	No	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg	1.81	1.81	B		0.176	0.00995	No	No	No	Yes	
	Total Tri-BDE	49690940	ug/kg	0.167	0.167				0.00498	No	No	No	Yes	
	EPA1668A	2CI11pBiphenyl	2051607	pg/g	0.116	0.116	EMPC	EMPC		0.493	No	Yes	No	Yes
		35DiCiBiphenyl	34883415	pg/g	0.0882	0.0882	U	U	0.0882	0.493	No	Yes	No	Yes
		3CiBiphenyl	2051618	pg/g	0.162	0.162	U	U	0.162	0.493	No	Yes	No	Yes
		44DiCiBiphenyl	2050682	pg/g	0.310	0.310	U	U	0.310	0.493	No	Yes	No	Yes
4CI11Biphenyl		2051629	pg/g	0.100	0.100	EMPC	EMPC		0.493	No	Yes	No	Yes	
DecaCiBiphenyls			pg/g	13.4	13.4					No	No	No	Yes	
DecCiBiphenyl		2051243	pg/g	13.4	13.4				0.493	No	No	No	Yes	
DiCiBiphenyls		25512429	pg/g	2.97	2.97					No	No	No	Yes	
HepCiBiphenyls		28655712	pg/g	1720	1720					No	No	No	Yes	
HexCiBiphenyls		26601649	pg/g	3100	3100					No	No	No	Yes	
MonoCiBiphenyls		27323188	pg/g	0.216	0.216	EMPC	EMPC			No	Yes	No	Yes	
NonCiBiphenyls		53742077	pg/g	92.0	92.0					No	No	No	Yes	
OctCiBiphenyls		55722264	pg/g	471	471					No	No	No	Yes	
PCB_138+163+164			pg/g	823	823					1.48	No	No	No	Yes
PCB_20+21+33		pg/g	0.735	0.735	J	J			1.48	Yes	No	No	Yes	
PCB_41+64+71+72		pg/g	29.8	29.8					1.97	No	No	No	Yes	
PCB_87+117+125		pg/g	129	129					1.48	No	No	No	Yes	
PCB_95+98+102		pg/g	250	250					1.48	No	No	No	Yes	
PCB_cong_100		pg/g	1.53	1.53					0.493	No	No	No	Yes	
PCB_cong_103		pg/g	3.14	3.14					0.493	No	No	No	Yes	
PCB_cong_104		pg/g	0.138	0.138	U	U	0.138		0.493	No	Yes	No	Yes	

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Sample		EPA-HS-B2											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	133	133				0.493	No	No	No	Yes
	PCB_cong_106+118		pg/g	250	250				0.985	No	No	No	Yes
	PCB_cong_107+109		pg/g	41.2	41.2				0.985	No	No	No	Yes
	PCB_cong_108+112		pg/g	14.3	14.3				0.985	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	1.55	1.55	B	U*	1.55	1.55	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	384	384				0.493	No	No	No	Yes
	PCB_cong_111+115		pg/g	6.86	6.86				0.985	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.153	0.153	U	U	0.153	0.493	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	8.70	8.70				0.493	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	11.9	11.9				0.493	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.102	0.102	U	U	0.102	0.985	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	1.09	1.09				0.493	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.136	0.136	U	U	0.136	0.493	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.245	0.245	U	U	0.245	0.493	No	Yes	No	Yes
	PCB_cong_123	65510443	pg/g	3.73	3.73				0.493	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	4.68	4.68				0.493	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	1.04	1.04				0.493	No	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.240	0.240	U	U	0.240	0.493	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	106	106				0.985	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	17.8	17.8				0.493	No	No	No	Yes
	PCB_cong_130	52663668	pg/g	39.1	39.1				0.493	No	No	No	Yes
	PCB_cong_131	61798707	pg/g	0.512	0.512	U	U	0.512	0.493	No	Yes	No	Yes
	PCB_cong_132+161		pg/g	111	111				0.985	No	No	No	Yes
	PCB_cong_133+142		pg/g	19.3	19.3				0.985	No	No	No	Yes
	PCB_cong_134+143		pg/g	22.1	22.1				0.985	No	No	No	Yes
	PCB_cong_135	52744135	pg/g	75.2	75.2				0.493	No	No	No	Yes
	PCB_cong_136	38411222	pg/g	43.0	43.0				0.493	No	No	No	Yes
	PCB_cong_137	35694065	pg/g	37.5	37.5				0.493	No	No	No	Yes
	PCB_cong_139+149		pg/g	450	450	B			0.985	No	No	No	Yes
	PCB_cong_140	59291644	pg/g	3.66	3.66				0.493	No	No	No	Yes
	PCB_cong_141	52712046	pg/g	97.0	97.0				0.493	No	No	No	Yes

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Sample		EPA-HS-B2											
Lab ID		1601354-07											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	68194149	pg/g	17.0	17.0				0.493	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.0911	0.0911	EMPC	EMPC		0.493	No	Yes	No	Yes
	PCB_cong_146+165		pg/g	127	127				0.985	No	No	No	Yes
	PCB_cong_147	68194138	pg/g	15.6	15.6				0.493	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	0.684	0.684				0.493	No	No	No	Yes
	PCB_cong_150	68194081	pg/g	0.460	0.460	EMPC	EMPC		0.493	No	Yes	No	Yes
	PCB_cong_151	52663635	pg/g	157	157				0.493	No	No	No	Yes
	PCB_cong_152	68194092	pg/g	0.348	0.348	J	J		0.493	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	766	766				0.493	No	No	No	Yes
	PCB_cong_154	60145224	pg/g	9.03	9.03				0.493	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.550	0.550				0.493	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	63.2	63.2				0.493	No	No	No	Yes
	PCB_cong_157	69782907	pg/g	14.4	14.4				0.493	No	No	No	Yes
	PCB_cong_158+160		pg/g	76.3	76.3				0.985	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.342	0.342	U	U	0.342	0.493	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	3.05	3.05				0.985	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	2.87	2.87				0.493	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	2.18	2.18				0.493	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	0.885	0.885				0.493	No	No	No	Yes
	PCB_cong_169	32774166	pg/g	0.700	0.700				0.493	No	No	No	Yes
	PCB_cong_17	37680663	pg/g	1.42	1.42				0.493	No	No	No	Yes
	PCB_cong_170	35065306	pg/g	156	156				0.493	No	No	No	Yes
	PCB_cong_171	52663715	pg/g	48.9	48.9				0.493	No	No	No	Yes
	PCB_cong_172	52663748	pg/g	32.6	32.6				0.493	No	No	No	Yes
	PCB_cong_173	68194161	pg/g	2.68	2.68				0.493	No	No	No	Yes
	PCB_cong_174	38411255	pg/g	130	130				0.493	No	No	No	Yes
	PCB_cong_175	40186707	pg/g	7.19	7.19				0.493	No	No	No	Yes
	PCB_cong_176	52663657	pg/g	16.7	16.7				0.493	No	No	No	Yes
	PCB_cong_177	52663704	pg/g	122	122				0.493	No	No	No	Yes
	PCB_cong_178	52663679	pg/g	51.9	51.9				0.493	No	No	No	Yes
	PCB_cong_179	52663646	pg/g	78.3	78.3				0.493	No	No	No	Yes

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Sample		EPA-HS-B2												
Lab ID		1601354-07												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_18	37680652	pg/g	11.9	11.9				0.493	No	No	No	Yes	
	PCB_cong_180	35065293	pg/g	431	431				0.493	No	No	No	Yes	
	PCB_cong_181	74472472	pg/g	0.0599	0.0599	U	U	0.0599	0.493	No	Yes	No	Yes	
	PCB_cong_182+187		pg/g	432	432				0.985	No	No	No	Yes	
	PCB_cong_183	52663691	pg/g	111	111				0.493	No	No	No	Yes	
	PCB_cong_184	74472483	pg/g	0.986	0.986				0.493	No	No	No	Yes	
	PCB_cong_185	52712057	pg/g	23.2	23.2				0.493	No	No	No	Yes	
	PCB_cong_186	74472494	pg/g	0.0478	0.0478	U	U	0.0478	0.493	No	Yes	No	Yes	
	PCB_cong_188	74487857	pg/g	0.436	0.436	J	J		0.493	Yes	No	No	Yes	
	PCB_cong_189	39635319	pg/g	5.75	5.75				0.493	No	No	No	Yes	
	PCB_cong_19	38444734	pg/g	0.689	0.689				0.493	No	No	No	Yes	
	PCB_cong_190	41411647	pg/g	36.4	36.4				0.493	No	No	No	Yes	
	PCB_cong_191	74472507	pg/g	7.31	7.31				0.493	No	No	No	Yes	
	PCB_cong_192	74472518	pg/g	0.0484	0.0484	U	U	0.0484	0.493	No	Yes	No	Yes	
	PCB_cong_193	69782918	pg/g	27.8	27.8				0.493	No	No	No	Yes	
	PCB_cong_194	35694087	pg/g	64.5	64.5				0.493	No	No	No	Yes	
	PCB_cong_195	52663782	pg/g	31.5	31.5				0.493	No	No	No	Yes	
	PCB_cong_196+203		pg/g	148	148				0.985	No	No	No	Yes	
	PCB_cong_197	33091177	pg/g	3.87	3.87				0.493	No	No	No	Yes	
	PCB_cong_198	68194172	pg/g	5.66	5.66				0.493	No	No	No	Yes	
	PCB_cong_199	52663759	pg/g	149	149				0.493	No	No	No	Yes	
	PCB_cong_200	52663737	pg/g	11.4	11.4				0.493	No	No	No	Yes	
	PCB_cong_201	40186718	pg/g	15.0	15.0				0.493	No	No	No	Yes	
	PCB_cong_202	2136994	pg/g	38.8	38.8				0.493	No	No	No	Yes	
	PCB_cong_204	74472529	pg/g	0.150	0.150	U	U	0.150	0.493	No	Yes	No	Yes	
	PCB_cong_205	74472530	pg/g	3.35	3.35				0.493	No	No	No	Yes	
	PCB_cong_206	40186729	pg/g	66.7	66.7				0.493	No	No	No	Yes	
	PCB_cong_207	52663793	pg/g	6.53	6.53				0.493	No	No	No	Yes	
	PCB_cong_208	52663771	pg/g	18.8	18.8				0.493	No	No	No	Yes	
	PCB_cong_22	38444858	pg/g	1.35	1.35				0.493	No	No	No	Yes	
	PCB_cong_23	55720440	pg/g	0.122	0.122	U	U	0.122	0.493	No	Yes	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_24+27		pg/g	0.756	0.756	J	J		0.985	Yes	No	No	Yes	
	PCB_cong_25	55712373	pg/g	0.170	0.170	J	J		0.493	Yes	No	No	Yes	
	PCB_cong_26	38444814	pg/g	0.642	0.642				0.493	No	No	No	Yes	
	PCB_cong_28	7012375	pg/g	16.9	16.9				0.493	No	No	No	Yes	
	PCB_cong_29	15862074	pg/g	0.111	0.111	U	U	0.111	0.493	No	Yes	No	Yes	
	PCB_cong_30	35693926	pg/g	0.0692	0.0692	U	U	0.0692	0.493	No	Yes	No	Yes	
	PCB_cong_31	16606023	pg/g	7.76	7.76				0.493	No	No	No	Yes	
	PCB_cong_34	37680685	pg/g	0.108	0.108	U	U	0.108	0.493	No	Yes	No	Yes	
	PCB_cong_35	37680696	pg/g	0.0992	0.0992	U	U	0.0992	0.493	No	Yes	No	Yes	
	PCB_cong_36	38444870	pg/g	0.0975	0.0975	U	U	0.0975	0.493	No	Yes	No	Yes	
	PCB_cong_37	38444905	pg/g	0.173	0.173	J	J		0.493	Yes	Yes	No	Yes	
	PCB_cong_38	53555661	pg/g	0.681	0.681				0.493	No	No	No	Yes	
	PCB_cong_39	38444881	pg/g	0.0920	0.0920	U	U	0.0920	0.493	No	No	Yes	No	Yes
	PCB_cong_4+10		pg/g	0.563	0.563	U	U	0.563	0.985	No	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	0.484	0.484	J	J		0.493	Yes	Yes	No	No	Yes
	PCB_cong_42	36559225	pg/g	3.24	3.24				0.985	No	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	36.8	36.8				0.985	No	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	25.3	25.3				0.493	No	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	1.76	1.76				0.493	No	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	0.513	0.513				0.493	No	No	No	No	Yes
	PCB_cong_47	2437798	pg/g	18.0	18.0	B			0.493	No	No	No	No	Yes
	PCB_cong_48+75		pg/g	3.32	3.32				0.985	No	No	No	No	Yes
	PCB_cong_5+8		pg/g	1.41	1.41				0.985	No	No	No	No	Yes
	PCB_cong_50	52796650	pg/g	0.251	0.251	U	U	0.251	0.493	0.493	No	Yes	No	Yes
	PCB_cong_51	58194047	pg/g	0.500	0.500				0.493	0.493	No	No	No	Yes
	PCB_cong_52+69		pg/g	100	100				0.985	No	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	3.40	3.40				0.493	0.493	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.210	0.210	U	U	0.210	0.493	0.493	No	Yes	No	Yes
PCB_cong_55	74338242	pg/g	1.63	1.63				0.493	0.493	No	No	No	Yes	
PCB_cong_56+60		pg/g	13.2	13.2				0.985	No	No	No	No	Yes	
PCB_cong_57	70424678	pg/g	0.268	0.268	J	J		0.493	0.493	Yes	No	No	Yes	

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SDG: 1601354

Sample		EPA-HS-B2											
Lab ID		1601354-07											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_58	41464497	pg/g	0.206	0.206	J	J		0.493	Yes	No	No	Yes
	PCB_cong_6	25569806	pg/g	0.234	0.234	U	U	0.234	0.493	No	Yes	No	Yes
	PCB_cong_61+70		pg/g	44.3	44.3				0.985	No	No	No	Yes
	PCB_cong_62	54230227	pg/g	0.205	0.205	U	U	0.205	0.493	No	Yes	No	Yes
	PCB_cong_63	74472347	pg/g	3.38	3.38				0.493	No	No	No	Yes
	PCB_cong_65	33284547	pg/g	0.219	0.219	U	U	0.219	0.493	No	Yes	No	Yes
	PCB_cong_66+76		pg/g	49.0	49.0				0.985	No	No	No	Yes
	PCB_cong_67	73575538	pg/g	0.181	0.181	J	J		0.493	Yes	No	No	Yes
	PCB_cong_68	73575527	pg/g	1.47	1.47				0.493	No	No	No	Yes
	PCB_cong_7+9		pg/g	0.132	0.132	U	U	0.132	0.985	No	Yes	No	Yes
	PCB_cong_73	74338231	pg/g	0.204	0.204	U	U	0.204	0.493	No	Yes	No	Yes
	PCB_cong_74	32690930	pg/g	40.3	40.3				0.493	No	No	No	Yes
	PCB_cong_77	32598133	pg/g	0.813	0.813				0.493	No	No	No	Yes
	PCB_cong_78	70362491	pg/g	0.190	0.190	U	U	0.190	0.493	No	No	Yes	Yes
	PCB_cong_79	41464486	pg/g	6.45	6.45				0.493	No	No	No	Yes
	PCB_cong_80	33284525	pg/g	0.149	0.149	U	U	0.149	0.493	No	Yes	No	Yes
	PCB_cong_81	70362504	pg/g	0.730	0.730				0.493	No	No	No	Yes
	PCB_cong_82	52663624	pg/g	5.06	5.06				0.493	No	No	No	Yes
	PCB_cong_83	60145202	pg/g	0.142	0.142	U	U	0.142	0.493	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	128	128				0.985	No	No	No	Yes
	PCB_cong_85+116		pg/g	77.3	77.3				0.985	No	No	No	Yes
	PCB_cong_86	55312691	pg/g	0.235	0.235	U	U	0.235	0.493	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	42.5	42.5				0.985	No	No	No	Yes
	PCB_cong_89	73575572	pg/g	0.475	0.475	J	J		0.493	Yes	No	No	Yes
	PCB_cong_90+101		pg/g	435	435				0.985	No	No	No	Yes
PCB_cong_93	73575561	pg/g	0.199	0.199	U	U	0.199	0.493	No	Yes	No	Yes	
PCB_cong_94	73575550	pg/g	1.07	1.07				0.493	No	No	No	Yes	
PCB_cong_96	73575549	pg/g	0.832	0.832				0.493	No	No	No	Yes	
PCB_cong_97	41464511	pg/g	51.9	51.9				0.493	No	No	No	Yes	
PCB_cong_99	38380017	pg/g	257	257				0.493	No	No	No	Yes	
PentCBiphenyls		pg/g	2240	2240						No	No	No	Yes

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Sample		EPA-HS-B2											
Lab ID		1601354-07											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TetCBiphenyls	26914330	pg/g	385	385					No	No	No	Yes
	TotPCBs		pg/g	8070	8070					No	No	No	Yes
	TriCBiphenyls	25323686	pg/g	46.2	46.2					No	No	No	Yes
Unk	Lipid		%	5.14	5.14					No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.0853	0.0853	U	U	0.0853	2.49	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/g	0.0676	0.0676	U	U	0.0676	2.49	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.0720	0.0720	U	U	0.0720	2.49	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.0762	0.0762	U	U	0.0762	2.49	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.0582	0.0582	U	U	0.0582	2.49	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.0782	0.0782	U	U	0.0782	2.49	No	Yes	No	Yes	
	123678HexFuran	57117449	pg/g	0.0600	0.0600	U	U	0.0600	2.49	No	Yes	No	Yes	
	123789HexDioxin	19408743	pg/g	0.0820	0.0820	U	U	0.0820	2.49	No	Yes	No	Yes	
	123789HexFuran	72918219	pg/g	0.0880	0.0880	U	U	0.0880	2.49	No	Yes	No	Yes	
	12378PenDioxin	40321764	pg/g	0.0533	0.0533	U	U	0.0533	2.49	No	Yes	No	Yes	
	12378PenFuran	57117416	pg/g	0.0529	0.0529	EMPC	EMPC		2.49	No	Yes	No	Yes	
	234678HexFuran	60851345	pg/g	0.0629	0.0629	U	U	0.0629	2.49	No	Yes	No	Yes	
	23478PenFuran	57117314	pg/g	0.0397	0.0397	EMPC	EMPC		2.49	No	Yes	No	Yes	
	2378TetDioxin	1746016	pg/g	0.0573	0.0573	U	U	0.0573	0.499	0.499	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	1.04	1.04				0.499	0.499	No	No	No	Yes
	HpClDiBzDioxin	37871004	pg/g	0.0853	0.0853	U	U	0.0853	2.49	2.49	No	Yes	No	Yes
	HpClDiBzFuran	38998753	pg/g	0.0696	0.0696	U	U	0.0696	2.49	2.49	No	Yes	No	Yes
	HxCliBzDioxin	34465468	pg/g	0.0790	0.0790	U	U	0.0790	2.49	2.49	No	Yes	No	Yes
	HxCliBzFuran	55684941	pg/g	0.0665	0.0665	U	U	0.0665	2.49	2.49	No	Yes	No	Yes
	OctClDiBzDioxin	3268879	pg/g	0.312	0.312	J	J		4.99	4.99	Yes	No	No	Yes
	OctClDiBzFuran	39001020	pg/g	0.151	0.151	U	U	0.151	4.99	4.99	No	Yes	No	Yes
	PenClDiBzDioxin	36088229	pg/g	0.0533	0.0533	U	U	0.0533	2.49	2.49	No	Yes	No	Yes
	PenClDiBzFuran	30402154	pg/g	0.0943	0.0943	U	U	0.0943	2.49	2.49	No	Yes	No	Yes
	TEQMinWHO05Dioxn			pg/g	0.104	0.104					No	No	No	Yes
	TetClDiBzDioxin	41903575	pg/g	0.0573	0.0573	U	U	0.0573	0.499	0.499	No	Yes	No	Yes
	TetClDiBzFuran	30402143	pg/g	1.04	1.04				0.499	0.499	No	No	No	Yes
	PBDE_cong_153			ug/kg	0.0263	0.0263				0.00999	No	No	No	Yes
PBDE_cong_209			ug/kg	0.0151	0.0151	U	U	0.0151	0.0500	No	Yes	No	Yes	
PBDE_cong_47			ug/kg	1.18	1.18	B, E	J		0.00999	Yes	No	No	Yes	
PBDE_cong_99			ug/kg	0.0535	0.0535	B	B		0.00999	No	No	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.0151	0.0151	U	U	0.0151	0.0500	No	Yes	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00178	0.00178	J	J		0.00500	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00290	0.00290	J	J	0.00425	0.0200	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.116	0.116				0.00999	No	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.000108	0.000108	U	U	0.000108	0.00500	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg	0.000946	0.000946	U	U	0.000946	0.0500	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.000373	0.000373	U	U	0.000373	0.0200	No	Yes	No	Yes	
	Total Penta-BDE	32534819	ug/kg	0.294	0.294	B			0.00999	No	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg	1.28	1.28	B			0.00999	No	No	No	Yes	
	Total Tri-BDE	49690940	ug/kg	0.167	0.167			0.175	0.00500	No	No	No	Yes	
	EPA1668A	2Cl11pBiphenyl	2051607	pg/g	0.110	0.110	J	J		0.498	Yes	No	No	Yes
		35DiCBiphenyl	34883415	pg/g	0.0560	0.0560	U	U	0.0560	0.498	No	Yes	No	Yes
		3ClBiphenyl	2051618	pg/g	0.186	0.186	U	U	0.186	0.498	No	Yes	No	Yes
		44DiCBiphenyl	2050682	pg/g	0.251	0.251	U	U	0.251	0.498	No	Yes	No	Yes
4Cl11Biphenyl		2051629	pg/g	0.0956	0.0956	J	J		0.498	Yes	No	No	Yes	
DecaClBiphenyls			pg/g	9.60	9.60					No	No	No	Yes	
DecClBiphenyl		2051243	pg/g	9.60	9.60				0.498	No	No	No	Yes	
DiClBiphenyls		25512429	pg/g	2.86	2.86					No	No	No	Yes	
HepClBiphenyls		28655712	pg/g	1340	1340					No	No	No	Yes	
HexClBiphenyls		26601649	pg/g	2480	2480					No	No	No	Yes	
MonoClBiphenyls		27323188	pg/g	0.206	0.206					No	No	No	Yes	
NonClBiphenyls		53742077	pg/g	60.3	60.3					No	No	No	Yes	
OctClBiphenyls		55722264	pg/g	353	353					No	No	No	Yes	
PCB_138+163+164			pg/g	655	655					1.49	No	No	No	Yes
PCB_20+21+33		pg/g	2.18	2.18					1.49	No	No	No	Yes	
PCB_41+64+71+72		pg/g	33.5	33.5					1.99	No	No	No	Yes	
PCB_87+117+125		pg/g	80.1	80.1					1.49	No	No	No	Yes	
PCB_95+98+102		pg/g	154	154					1.49	No	No	No	Yes	
PCB_cong_100		pg/g	1.22	1.22					0.498	No	No	No	Yes	
PCB_cong_103		pg/g	2.61	2.61					0.498	No	No	No	Yes	
PCB_cong_104		pg/g	0.102	0.102	U	U	0.102	0.498	No	No	Yes	No	Yes	

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Sample		EPA-HS-B3											
Lab ID		1601354-08											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	99.9	99.9				0.498	No	No	No	Yes
	PCB_cong_106+118		pg/g	185	185				0.995	No	No	No	Yes
	PCB_cong_107+109		pg/g	29.3	29.3				0.995	No	No	No	Yes
	PCB_cong_108+112		pg/g	9.28	9.28				0.995	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	1.21	1.21	B	U*	1.21	1.21	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	258	258				0.498	No	No	No	Yes
	PCB_cong_111+115		pg/g	4.78	4.78				0.995	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.113	0.113	U	U	0.113	0.498	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	6.31	6.31				0.498	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	10.3	10.3				0.498	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.0647	0.0647	U	U	0.0647	0.995	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	1.20	1.20				0.498	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.101	0.101	U	U	0.101	0.498	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.434	0.434	U	U	0.434	0.498	No	Yes	No	Yes
	PCB_cong_123	65510443	pg/g	3.59	3.59				0.498	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	3.52	3.52				0.498	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	0.696	0.696				0.498	No	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.421	0.421	U	U	0.421	0.498	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	80.3	80.3				0.995	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	11.1	11.1				0.498	No	No	No	Yes
	PCB_cong_130	52663668	pg/g	35.4	35.4				0.498	No	No	No	Yes
	PCB_cong_131	61798707	pg/g	0.435	0.435	U	U	0.435	0.498	No	Yes	No	Yes
	PCB_cong_132+161		pg/g	90.1	90.1				0.995	No	No	No	Yes
	PCB_cong_133+142		pg/g	15.5	15.5				0.995	No	No	No	Yes
	PCB_cong_134+143		pg/g	18.0	18.0				0.995	No	No	No	Yes
	PCB_cong_135	52744135	pg/g	56.9	56.9				0.498	No	No	No	Yes
	PCB_cong_136	38411222	pg/g	36.5	36.5				0.498	No	No	No	Yes
	PCB_cong_137	35694065	pg/g	19.0	19.0				0.498	No	No	No	Yes
	PCB_cong_139+149		pg/g	383	383	B			0.995	No	No	No	Yes
	PCB_cong_140	59291644	pg/g	2.98	2.98				0.498	No	No	No	Yes
	PCB_cong_141	52712046	pg/g	73.8	73.8				0.498	No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1688A	PCB_cong_144	68194149	pg/g	13.4	13.4				0.498	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.0802	0.0802	U	U	0.0802	0.498	No	Yes	No	Yes
	PCB_cong_146+165		pg/g	106	106				0.995	No	No	No	Yes
	PCB_cong_147	68194138	pg/g	11.5	11.5				0.498	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	0.538	0.538				0.498	No	No	No	Yes
	PCB_cong_150	68194081	pg/g	0.441	0.441	J	J		0.498	Yes	No	No	Yes
	PCB_cong_151	52663635	pg/g	139	139				0.498	No	No	No	Yes
	PCB_cong_152	68194092	pg/g	0.221	0.221	J	J		0.498	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	620	620				0.498	No	No	No	Yes
	PCB_cong_154	50145224	pg/g	8.46	8.46				0.498	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.593	0.593				0.498	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	40.9	40.9				0.498	No	No	No	Yes
	PCB_cong_157	69782907	pg/g	9.60	9.60				0.498	No	No	No	Yes
	PCB_cong_158+160		pg/g	50.2	50.2				0.995	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.288	0.288	U	U	0.288	0.498	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	3.24	3.24				0.995	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	2.16	2.16				0.498	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	1.85	1.85				0.498	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	0.811	0.811				0.498	No	No	No	Yes
PCB_cong_169	32774166	pg/g	0.898	0.898				0.498	No	No	No	Yes	
PCB_cong_17	37680663	pg/g	1.69	1.69				0.498	No	No	No	Yes	
PCB_cong_170	35065306	pg/g	109	109				0.498	No	No	No	Yes	
PCB_cong_171	52663715	pg/g	36.6	36.6				0.498	No	No	No	Yes	
PCB_cong_172	52663748	pg/g	22.1	22.1				0.498	No	No	No	Yes	
PCB_cong_173	68194161	pg/g	2.56	2.56				0.498	No	No	No	Yes	
PCB_cong_174	38411255	pg/g	119	119				0.498	No	No	No	Yes	
PCB_cong_175	40166707	pg/g	5.21	5.21				0.498	No	No	No	Yes	
PCB_cong_176	52663657	pg/g	15.7	15.7				0.498	No	No	No	Yes	
PCB_cong_177	52663704	pg/g	98.8	98.8				0.498	No	No	No	Yes	
PCB_cong_178	52663679	pg/g	41.9	41.9				0.498	No	No	No	Yes	
PCB_cong_179	52663646	pg/g	70.2	70.2				0.498	No	No	No	Yes	

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Sample		EPA-HS-B3											
Lab ID		1601354-08											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680652	pg/g	10.6	10.6				0.498	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	285	285				0.498	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.463	0.463	U	U	0.463	0.498	No	Yes	No	Yes
	PCB_cong_182+167		pg/g	368	368				0.995	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	80.9	80.9				0.498	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	1.11	1.11				0.498	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	19.1	19.1				0.498	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.363	0.363	U	U	0.363	0.498	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.418	0.418	J	J		0.498	Yes	No	No	Yes
	PCB_cong_189	39635319	pg/g	4.01	4.01				0.498	No	No	No	Yes
	PCB_cong_19	38444734	pg/g	0.648	0.648				0.498	No	No	No	Yes
	PCB_cong_190	41411647	pg/g	30.4	30.4				0.498	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	4.69	4.69				0.498	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.374	0.374	U	U	0.374	0.498	No	Yes	No	Yes
	PCB_cong_193	59782918	pg/g	22.6	22.6				0.498	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	52.9	52.9				0.498	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	28.4	28.4				0.498	No	No	No	Yes
	PCB_cong_196+203		pg/g	101	101				0.995	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	3.21	3.21				0.498	No	No	No	Yes
	PCB_cong_198	68194172	pg/g	3.99	3.99				0.498	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	111	111				0.498	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	9.45	9.45				0.498	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	11.3	11.3				0.498	No	No	No	Yes
	PCB_cong_202	2136994	pg/g	29.8	29.8				0.498	No	No	No	Yes
	PCB_cong_204	74472529	pg/g	0.0902	0.0902	U	U	0.0902	0.498	No	Yes	No	Yes
	PCB_cong_205	74472530	pg/g	3.23	3.23				0.498	No	No	No	Yes
	PCB_cong_206	40186729	pg/g	42.5	42.5				0.498	No	No	No	Yes
	PCB_cong_207	52663793	pg/g	4.64	4.64				0.498	No	No	No	Yes
	PCB_cong_208	52663771	pg/g	13.2	13.2				0.498	No	No	No	Yes
	PCB_cong_22	38444858	pg/g	3.68	3.68				0.498	No	No	No	Yes
	PCB_cong_23	55720440	pg/g	0.118	0.118	U	U	0.118	0.498	No	Yes	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_24+27		pg/g	0.805	0.805	J	J		0.995	Yes	No	No	Yes
	PCB_cong_25	55712373	pg/g	0.411	0.411	J	J		0.498	Yes	No	No	Yes
	PCB_cong_26	38444814	pg/g	2.01	2.01				0.498	No	No	No	Yes
	PCB_cong_28	7012375	pg/g	25.3	25.3				0.498	No	No	No	Yes
	PCB_cong_29	15862074	pg/g	0.0803	0.0803	U	U	0.0803	0.498	No	Yes	No	Yes
	PCB_cong_30	35693926	pg/g	0.0541	0.0541	U	U	0.0541	0.498	No	Yes	No	Yes
	PCB_cong_31	16606023	pg/g	18.2	18.2				0.498	No	No	No	Yes
	PCB_cong_34	37680685	pg/g	0.146	0.146	J	J		0.498	Yes	No	No	Yes
	PCB_cong_35	37660696	pg/g	0.0910	0.0910	U	U	0.0910	0.498	No	Yes	No	Yes
	PCB_cong_36	38444870	pg/g	0.0895	0.0895	U	U	0.0895	0.498	No	Yes	No	Yes
	PCB_cong_37	38444905	pg/g	0.350	0.350	J	J		0.498	Yes	No	No	Yes
	PCB_cong_38	53555661	pg/g	0.505	0.505				0.498	No	No	No	Yes
	PCB_cong_39	38444881	pg/g	0.0843	0.0843	U	U	0.0843	0.498	No	Yes	No	Yes
	PCB_cong_4+10		pg/g	0.483	0.483	U	U	0.483	0.995	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	1.23	1.23				0.498	No	No	No	Yes
	PCB_cong_42	36559225	pg/g	6.92	6.92				0.995	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	40.0	40.0				0.995	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	30.1	30.1				0.498	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	2.78	2.78				0.498	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	0.827	0.827				0.498	No	No	No	Yes
	PCB_cong_47	2437798	pg/g	20.4	20.4	B			0.498	No	No	No	Yes
	PCB_cong_48+75		pg/g	4.89	4.89				0.995	No	No	No	Yes
	PCB_cong_5+8		pg/g	1.65	1.65		U	0.235	0.995	No	No	No	Yes
	PCB_cong_50	62796650	pg/g	0.235	0.235	U			0.498	No	Yes	No	Yes
	PCB_cong_51	58194047	pg/g	0.816	0.816				0.498	No	No	No	Yes
	PCB_cong_52+69		pg/g	83.3	83.3				0.995	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	4.09	4.09				0.498	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.197	0.197	U	U	0.197	0.498	No	Yes	No	Yes
	PCB_cong_55	74338242	pg/g	1.07	1.07				0.498	No	No	No	Yes
	PCB_cong_56+60		pg/g	15.2	15.2				0.995	No	No	No	Yes
	PCB_cong_57	70424678	pg/g	0.345	0.345	J	J		0.498	Yes	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_58	41464497	pg/g	0.282	0.282	J	J		0.498	Yes	No	No	Yes	
	PCB_cong_6	25569806	pg/g	0.281	0.281	U	U	0.281	0.498	No	Yes	No	Yes	
	PCB_cong_61+70		pg/g	48.2	48.2				0.995	No	No	No	Yes	
	PCB_cong_62	54230227	pg/g	0.205	0.205	U	U	0.205	0.498	No	Yes	No	Yes	
	PCB_cong_63	74472347	pg/g	3.45	3.45				0.498	No	No	No	Yes	
	PCB_cong_65	33284547	pg/g	0.219	0.219	U	U	0.219	0.498	No	Yes	No	Yes	
	PCB_cong_66+76		pg/g	52.1	52.1				0.995	No	No	No	Yes	
	PCB_cong_67	73575538	pg/g	0.275	0.275	J	J		0.498	Yes	No	No	Yes	
	PCB_cong_68	73575527	pg/g	1.86	1.86				0.498	No	No	No	Yes	
	PCB_cong_7+9		pg/g	0.152	0.152	U	U	0.152	0.995	No	Yes	No	Yes	
	PCB_cong_73	74338231	pg/g	0.195	0.195	U	U	0.195	0.498	No	Yes	No	Yes	
	PCB_cong_74	32690930	pg/g	35.4	35.4				0.498	No	No	No	Yes	
	PCB_cong_77	32598133	pg/g	1.53	1.53	EMPC	EMPC		0.498	No	Yes	No	Yes	
	PCB_cong_78	70362491	pg/g	0.172	0.172	U	U	0.172	0.498	No	No	No	Yes	
	PCB_cong_79	41464486	pg/g	4.15	4.15				0.498	No	No	No	Yes	
	PCB_cong_80	33284525	pg/g	0.179	0.179	U	U	0.179	0.498	No	Yes	No	Yes	
	PCB_cong_81	70362504	pg/g	0.561	0.561				0.498	No	No	No	Yes	
	PCB_cong_82	52663624	pg/g	6.37	6.37				0.498	No	No	No	Yes	
	PCB_cong_83	60145202	pg/g	0.105	0.105	U	U	0.105	0.498	No	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	82.9	82.9				0.995	No	No	No	Yes	
	PCB_cong_85+116		pg/g	51.9	51.9				0.995	No	No	No	Yes	
	PCB_cong_86	55312691	pg/g	0.175	0.175	U	U	0.175	0.498	No	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	27.5	27.5				0.995	No	No	No	Yes	
	PCB_cong_89	73575572	pg/g	0.408	0.408	J	J		0.498	Yes	No	No	Yes	
	PCB_cong_90+101		pg/g	270	270				0.995	No	No	No	Yes	
	PCB_cong_93	73575561	pg/g	0.147	0.147	U	U	0.147	0.498	No	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/g	0.646	0.646				0.498	No	No	No	Yes	
	PCB_cong_96	73575549	pg/g	0.551	0.551				0.498	No	No	No	Yes	
	PCB_cong_97	41464511	pg/g	43.3	43.3				0.498	No	No	No	Yes	
PCB_cong_99	38380017	pg/g	165	165				0.498	No	No	No	Yes		
PentCIBiphenyls		pg/g	1500	1500						No	No	No	Yes	

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Sample		EPA-HS-B3												
Lab ID		1601354-08												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	TetCBiphenyls	26914330	pg/g	392	392			393		No	No	No	Yes	
	TotPCBs		pg/g	6210	6210					No	No	No	Yes	
	TriCBiphenyls	25323686	pg/g	69.8	69.8					No	No	No	Yes	
Unk	Lipid		%	6.22	6.22					No	No	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.111	0.111	U	U	0.111	2.49	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/g	0.0856	0.0856	U	U	0.0856	2.49	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.0914	0.0914	U	U	0.0914	2.49	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.114	0.114	U	U	0.114	2.49	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.0749	0.0749	U	U	0.0749	2.49	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.110	0.110	U	U	0.110	2.49	No	Yes	No	Yes	
	123678HexFuran	57117449	pg/g	0.0717	0.0717	U	U	0.0717	2.49	No	Yes	No	Yes	
	123789HexDioxin	19408743	pg/g	0.120	0.120	U	U	0.120	2.49	No	Yes	No	Yes	
	123789HexFuran	72918219	pg/g	0.112	0.112	U	U	0.112	2.49	No	Yes	No	Yes	
	12378PenDioxin	40321764	pg/g	0.0647	0.0647	U	U	0.0647	2.49	No	Yes	No	Yes	
	12378PenFuran	57117416	pg/g	0.0814	0.0814	EMPC	EMPC		2.49	No	Yes	No	Yes	
	234678HexFuran	80851345	pg/g	0.0775	0.0775	U	U	0.0775	2.49	No	Yes	No	Yes	
	23478PenFuran	57117314	pg/g	0.121	0.121	J	J		2.49	Yes	Yes	No	Yes	
	2378TetDioxin	1746016	pg/g	0.0580	0.0580	U	U	0.0580	0.498	No	Yes	No	Yes	
	2378TetFuran	51207319	pg/g	1.56	1.56				0.498	No	No	No	Yes	
	HpClDiBzDioxin	37871004	pg/g	0.111	0.111	U	U	0.111	2.49	No	Yes	No	Yes	
	HpClDiBzFuran	38998753	pg/g	0.0882	0.0882	U	U	0.0882	2.49	No	Yes	No	Yes	
	HxCiDiBzDioxin	34465468	pg/g	0.115	0.115	U	U	0.115	2.49	No	Yes	No	Yes	
	HxCiDiBzFuran	55684941	pg/g	0.0831	0.0831	U	U	0.0831	2.49	No	Yes	No	Yes	
	OCiDiBzDioxin	3268879	pg/g	0.166	0.166	U	U	0.166	4.98	No	Yes	No	Yes	
	OCiDiBzFuran	39001020	pg/g	0.259	0.259	U	U	0.259	4.98	No	Yes	No	Yes	
	PenClDiBzDioxin	36088229	pg/g	0.0647	0.0647	U	U	0.0647	2.49	No	Yes	No	Yes	
	PenClDiBzFuran	30402154	pg/g	0.121	0.121	J	J	0.203	2.49	Yes	Yes	No	Yes	
	TEQMinWHO05Dioxn		pg/g	0.192	0.192						No	No	No	Yes
	TetCiDiBzDioxin	41903575	pg/g	0.0580	0.0580	U	U	0.0580	0.498	No	Yes	No	Yes	
	TetCiDiBzFuran	30402143	pg/g	1.56	1.56				0.498	No	No	No	Yes	
	EPA1614	PBDE_cong_163		ug/kg	0.0564	0.0564				0.00998	No	No	No	Yes
PBDE_cong_209			ug/kg	0.0701	0.0701	U	U	0.0701	0.0499	No	Yes	No	Yes	
PBDE_cong_47			ug/kg	2.74	2.74	B, E	J		0.00998	Yes	No	No	Yes	
PBDE_cong_99			ug/kg	0.106	0.106	B	J		0.00998	Yes	No	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.0701	0.0701	U	U	0.0701	0.0499	No	Yes	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00485	0.00485	J	J		0.00499	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00603	0.00603	J	J		0.0200	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.235	0.235		J		0.00998	Yes	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.000305	0.000305	U	U	0.000305	0.00499	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg	0.00955	0.00955	U	U	0.00955	0.0499	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.00271	0.00271	U	U	0.00271	0.0200	No	Yes	No	Yes	
	Total Penta-BDE	32534819	ug/kg	0.610	0.610	B	J	0.615	0.00998	Yes	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg	2.99	2.99	B	J	3.00	0.00998	Yes	Yes	No	Yes	
	Total Tri-BDE	49690940	ug/kg	0.329	0.329			0.352	0.00499	No	No	No	Yes	
	EPA1668A	2Cl11biphenyl	2051607	pg/g	0.156	0.156	J	J		0.493	Yes	No	No	Yes
		35DiCBiphenyl	34883415	pg/g	0.111	0.111	U	U	0.111	0.493	No	Yes	No	Yes
		3ClBiphenyl	2051618	pg/g	0.148	0.148	J	J		0.493	Yes	No	No	Yes
		44DiCBiphenyl	2050682	pg/g	0.552	0.552	U	U	0.552	0.493	No	Yes	No	Yes
4Cl11Biphenyl		2051629	pg/g	0.161	0.161	J	J		0.493	Yes	No	No	Yes	
DecaCBiphenyls			pg/g	14.5	14.5					No	No	No	Yes	
DecCBiphenyl		2051243	pg/g	14.5	14.5				0.493	No	No	No	Yes	
DiCBiphenyls		25512429	pg/g	5.47	5.47					No	No	No	Yes	
HepCBiphenyls		28655712	pg/g	1870	1870					No	No	No	Yes	
HexCBiphenyls		26601649	pg/g	3910	3910					No	No	No	Yes	
MonoCBiphenyls		27323188	pg/g	0.465	0.465					No	No	No	Yes	
NonCBiphenyls		53742077	pg/g	84.9	84.9					No	No	No	Yes	
OctCBiphenyls		55722264	pg/g	499	499					No	No	No	Yes	
PCB_138+163+164			pg/g	1070	1070					1.48	No	No	No	Yes
PCB_20+21+33		pg/g	2.79	2.79					1.48	No	No	No	Yes	
PCB_41+64+71+72		pg/g	56.8	56.8					1.97	No	No	No	Yes	
PCB_87+117+125		pg/g	132	132					1.48	No	No	No	Yes	
PCB_95+98+102		pg/g	282	282					1.48	No	No	No	Yes	
PCB_cong_100		pg/g	2.76	2.76					0.493	No	No	No	Yes	
PCB_cong_103		pg/g	5.78	5.78					0.493	No	No	No	Yes	
PCB_cong_104		pg/g	0.197	0.197	U	U	0.197	0.493	0.493	No	Yes	No	Yes	

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Sample		EPA-HS-C1											
Lab ID		1601354-09											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	204	204				0.493	No	No	No	Yes
	PCB_cong_106+118		pg/g	384	384				0.986	No	No	No	Yes
	PCB_cong_107+109		pg/g	54.0	54.0				0.986	No	No	No	Yes
	PCB_cong_108+112		pg/g	17.3	17.3				0.986	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	2.13	2.13	B	U*	2.13	2.13	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	429	429				0.493	No	No	No	Yes
	PCB_cong_111+115		pg/g	10.1	10.1				0.986	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.183	0.183	U	U	0.183	0.493	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	12.7	12.7				0.493	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	16.4	16.4				0.493	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.128	0.128	U	U	0.128	0.986	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	1.21	1.21				0.493	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.159	0.159	U	U	0.159	0.493	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.509	0.509	U	U	0.509	0.493	No	Yes	No	Yes
	PCB_cong_123	65510443	pg/g	6.48	6.48				0.493	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	8.03	8.03				0.493	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	1.72	1.72				0.493	No	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.481	0.481	U	U	0.481	0.493	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	144	144				0.986	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	23.2	23.2				0.493	No	No	No	Yes
	PCB_cong_130	52663668	pg/g	52.9	52.9				0.493	No	No	No	Yes
	PCB_cong_131	61798707	pg/g	0.788	0.788	U	U	0.788	0.493	No	Yes	No	Yes
	PCB_cong_132+161		pg/g	172	172				0.986	No	No	No	Yes
	PCB_cong_133+142		pg/g	25.0	25.0				0.986	No	No	No	Yes
	PCB_cong_134+143		pg/g	34.1	34.1				0.986	No	No	No	Yes
	PCB_cong_135	52744135	pg/g	106	106				0.493	No	No	No	Yes
	PCB_cong_136	38411222	pg/g	62.5	62.5				0.493	No	No	No	Yes
	PCB_cong_137	35694065	pg/g	37.7	37.7				0.493	No	No	No	Yes
	PCB_cong_139+149		pg/g	652	652	B			0.986	No	No	No	Yes
	PCB_cong_140	59291644	pg/g	4.61	4.61				0.493	No	No	No	Yes
	PCB_cong_141	52712046	pg/g	105	105				0.493	No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	88194149	pg/g	23.1	23.1				0.493	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.150	0.150	J	J		0.493	Yes	No	No	Yes
	PCB_cong_146+165		pg/g	150	150				0.986	No	No	No	Yes
	PCB_cong_147	88194138	pg/g	18.2	18.2				0.493	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	1.04	1.04				0.493	No	No	No	Yes
	PCB_cong_150	88194081	pg/g	0.756	0.756				0.493	No	No	No	Yes
	PCB_cong_151	52663635	pg/g	208	208				0.493	No	No	No	Yes
	PCB_cong_152	88194092	pg/g	0.360	0.360	J	J		0.493	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	815	815				0.493	No	No	No	Yes
	PCB_cong_154	60145224	pg/g	12.8	12.8				0.493	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.918	0.918				0.493	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	80.0	80.0				0.493	No	No	No	Yes
	PCB_cong_157	69782907	pg/g	18.1	18.1				0.493	No	No	No	Yes
	PCB_cong_158+160		pg/g	80.9	80.9				0.986	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.517	0.517	U	U	0.517	0.493	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	5.03	5.03				0.986	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	3.21	3.21				0.493	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	5.00	5.00				0.493	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	1.17	1.17				0.493	No	No	No	Yes
PCB_cong_169	32774166	pg/g	1.15	1.15				0.493	No	No	No	Yes	
PCB_cong_17	37680663	pg/g	2.63	2.63				0.493	No	No	No	Yes	
PCB_cong_170	35065306	pg/g	159	159				0.493	No	No	No	Yes	
PCB_cong_171	52663715	pg/g	57.9	57.9				0.493	No	No	No	Yes	
PCB_cong_172	52663748	pg/g	30.9	30.9				0.493	No	No	No	Yes	
PCB_cong_173	88194161	pg/g	3.73	3.73				0.493	No	No	No	Yes	
PCB_cong_174	38411255	pg/g	173	173				0.493	No	No	No	Yes	
PCB_cong_175	40186707	pg/g	7.64	7.64				0.493	No	No	No	Yes	
PCB_cong_176	52663657	pg/g	25.5	25.5				0.493	No	No	No	Yes	
PCB_cong_177	52663704	pg/g	153	153				0.493	No	No	No	Yes	
PCB_cong_178	52663679	pg/g	63.2	63.2				0.493	No	No	No	Yes	
PCB_cong_179	52663646	pg/g	110	110				0.493	No	No	No	Yes	

**Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: 1601354**

Sample		EPA-HS-C1												
Lab ID		1601354-09												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_18	37680652	pg/g	20.4	20.4				0.493	No	No	No	Yes	
	PCB_cong_180	35065293	pg/g	376	376				0.493	No	No	No	Yes	
	PCB_cong_181	74472472	pg/g	0.144	0.144	U	U	0.144	0.493	No	Yes	No	Yes	
	PCB_cong_182+187		pg/g	485	485				0.986	No	No	No	Yes	
	PCB_cong_183	52663691	pg/g	109	109				0.493	No	No	No	Yes	
	PCB_cong_184	74472483	pg/g	1.49	1.49				0.493	No	No	No	Yes	
	PCB_cong_185	52712057	pg/g	25.9	25.9				0.493	No	No	No	Yes	
	PCB_cong_186	74472494	pg/g	0.116	0.116	U	U	0.116	0.493	No	Yes	No	Yes	
	PCB_cong_188	74487857	pg/g	0.697	0.697				0.493	No	No	No	Yes	
	PCB_cong_189	39635319	pg/g	5.35	5.35				0.493	No	No	No	Yes	
	PCB_cong_19	38444734	pg/g	1.29	1.29				0.493	No	No	No	Yes	
	PCB_cong_190	41411647	pg/g	45.3	45.3				0.493	No	No	No	Yes	
	PCB_cong_191	74472507	pg/g	6.83	6.83				0.493	No	No	No	Yes	
	PCB_cong_192	74472518	pg/g	0.116	0.116	U	U	0.116	0.493	No	Yes	No	Yes	
	PCB_cong_193	69782918	pg/g	31.2	31.2				0.493	No	No	No	Yes	
	PCB_cong_194	35694087	pg/g	65.3	65.3				0.493	No	No	No	Yes	
	PCB_cong_195	52663782	pg/g	44.0	44.0				0.493	No	No	No	Yes	
	PCB_cong_196+203		pg/g	140	140				0.986	No	No	No	Yes	
	PCB_cong_197	33091177	pg/g	5.12	5.12				0.493	No	No	No	Yes	
	PCB_cong_198	68194172	pg/g	6.71	6.71				0.493	No	No	No	Yes	
	PCB_cong_199	52663759	pg/g	155	155				0.493	No	No	No	Yes	
	PCB_cong_200	52663737	pg/g	14.2	14.2				0.493	No	No	No	Yes	
	PCB_cong_201	40186718	pg/g	17.8	17.8				0.493	No	No	No	Yes	
	PCB_cong_202	2136994	pg/g	46.8	46.8				0.493	No	No	No	Yes	
	PCB_cong_204	74472529	pg/g	0.107	0.107	U	U	0.107	0.493	No	Yes	No	Yes	
	PCB_cong_205	74472530	pg/g	4.19	4.19				0.493	No	No	No	Yes	
	PCB_cong_206	40186729	pg/g	58.3	58.3				0.493	No	No	No	Yes	
	PCB_cong_207	52663793	pg/g	6.94	6.94				0.493	No	No	No	Yes	
	PCB_cong_208	52663771	pg/g	19.6	19.6				0.493	No	No	No	Yes	
	PCB_cong_22	38444858	pg/g	5.78	5.78				0.493	No	No	No	Yes	
	PCB_cong_23	55720440	pg/g	0.247	0.247	U	U	0.247	0.493	No	Yes	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1688A	PCB_cong_24+27		pg/g	1.49	1.49				0.986	No	No	No	Yes	
	PCB_cong_25	55712373	pg/g	0.608	0.608				0.493	No	No	No	Yes	
	PCB_cong_26	38444814	pg/g	3.02	3.02				0.493	No	No	No	Yes	
	PCB_cong_28	7012375	pg/g	42.5	42.5				0.493	No	No	No	Yes	
	PCB_cong_29	15862074	pg/g	0.225	0.225	U	U	0.225	0.493	No	Yes	No	Yes	
	PCB_cong_30	35693926	pg/g	0.0619	0.0619	U	U	0.0619	0.493	No	Yes	No	Yes	
	PCB_cong_31	16606023	pg/g	33.6	33.6				0.493	No	No	No	Yes	
	PCB_cong_34	37680685	pg/g	0.252	0.252	EMPC	EMPC		0.493	No	No	Yes	Yes	
	PCB_cong_35	37680696	pg/g	0.172	0.172	U	U	0.172	0.493	No	Yes	No	Yes	
	PCB_cong_36	38444870	pg/g	0.169	0.169	U	U	0.169	0.493	No	No	No	Yes	
	PCB_cong_37	38444905	pg/g	1.15	1.15				0.493	No	No	No	Yes	
	PCB_cong_38	53555661	pg/g	0.979	0.979				0.493	No	No	No	Yes	
	PCB_cong_39	38444881	pg/g	0.136	0.136	U	U	0.136	0.493	No	No	Yes	Yes	
	PCB_cong_4+10		pg/g	1.03	1.03	U	U	1.03	0.986	No	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	1.04	1.04				0.493	No	No	No	No	Yes
	PCB_cong_42	36559225	pg/g	9.88	9.88				0.986	No	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	68.5	68.5				0.986	No	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	47.6	47.6				0.493	No	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	4.86	4.86				0.493	No	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	1.71	1.71				0.493	No	No	No	No	Yes
	PCB_cong_47	2437798	pg/g	35.5	35.5	B			0.493	No	No	No	No	Yes
	PCB_cong_48+75		pg/g	6.32	6.32				0.986	No	No	No	No	Yes
	PCB_cong_5+8		pg/g	3.34	3.34				0.986	No	No	No	No	Yes
	PCB_cong_50	62796650	pg/g	0.129	0.129	J	J		0.493	Yes	Yes	No	No	Yes
	PCB_cong_51	58194047	pg/g	1.18	1.18				0.493	No	No	No	No	Yes
	PCB_cong_52+69		pg/g	148	148				0.986	No	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	8.08	8.08				0.493	No	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.0896	0.0896	U	U		0.493	No	No	Yes	No	Yes
	PCB_cong_55	74338242	pg/g	1.77	1.77				0.493	No	No	No	No	Yes
PCB_cong_56+60		pg/g	26.2	26.2				0.986	No	No	No	No	Yes	
PCB_cong_57	70424678	pg/g	0.612	0.612				0.493	No	No	No	No	Yes	

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Sample		EPA-HS-C1											
Lab ID		1601354-09											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_58	41464497	pg/g	0.469	0.469	J	J		0.493	Yes	No	No	Yes
	PCB_cong_6	25569806	pg/g	0.490	0.490	U	U	0.490	0.493	No	Yes	No	Yes
	PCB_cong_61+70		pg/g	97.0	97.0				0.986	No	No	No	Yes
	PCB_cong_62	54230227	pg/g	0.158	0.158	U	U	0.158	0.493	No	Yes	No	Yes
	PCB_cong_63	74472347	pg/g	6.00	6.00				0.493	No	No	No	Yes
	PCB_cong_65	33284547	pg/g	0.168	0.168	U	U	0.168	0.493	No	Yes	No	Yes
	PCB_cong_66+76		pg/g	96.9	96.9				0.986	No	No	No	Yes
	PCB_cong_67	73575538	pg/g	0.623	0.623				0.493	No	No	No	Yes
	PCB_cong_68	73575527	pg/g	3.03	3.03				0.493	No	No	No	Yes
	PCB_cong_7+9		pg/g	0.246	0.246	U	U	0.246	0.986	No	Yes	No	Yes
	PCB_cong_73	74338231	pg/g	0.137	0.137	U	U	0.137	0.493	No	Yes	No	Yes
	PCB_cong_74	32690930	pg/g	61.5	61.5				0.493	No	No	No	Yes
	PCB_cong_77	32598133	pg/g	3.31	3.31				0.493	No	No	No	Yes
	PCB_cong_78	70362491	pg/g	0.125	0.125	U	U	0.125	0.493	No	Yes	No	Yes
	PCB_cong_79	41464486	pg/g	7.32	7.32				0.493	No	No	No	Yes
	PCB_cong_80	33284525	pg/g	0.273	0.273	J	J		0.493	Yes	No	No	Yes
	PCB_cong_81	70362504	pg/g	1.46	1.46				0.493	No	No	No	Yes
	PCB_cong_82	52663624	pg/g	8.82	8.82				0.493	No	No	No	Yes
	PCB_cong_83	30145202	pg/g	0.168	0.168	U	U	0.168	0.493	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	143	143				0.986	No	No	No	Yes
	PCB_cong_85+116		pg/g	78.2	78.2				0.986	No	No	No	Yes
	PCB_cong_86	55312691	pg/g	0.278	0.278	U	U	0.278	0.493	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	44.6	44.6				0.986	No	No	No	Yes
	PCB_cong_89	73575572	pg/g	0.819	0.819				0.493	No	No	No	Yes
	PCB_cong_90+101		pg/g	412	412				0.986	No	No	No	Yes
	PCB_cong_93	73575561	pg/g	0.232	0.232	U	U	0.232	0.493	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/g	1.21	1.21				0.493	No	No	No	Yes
	PCB_cong_96	73575549	pg/g	1.21	1.21				0.493	No	No	No	Yes
	PCB_cong_97	41464511	pg/g	81.7	81.7				0.493	No	No	No	Yes
	PCB_cong_99	38380017	pg/g	278	278				0.493	No	No	No	Yes
	PentC(Biphenyls)	25429292	pg/g	2620	2620					No	No	No	Yes

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Sample		EPA-HS-C1												
Lab ID		1601354-09												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	TetCBiphenyls	26914330	pg/g	696	696					No	No	No	Yes	
	TotPCBs		pg/g	9820	9820					No	No	No	Yes	
	TriCBiphenyls	25323686	pg/g	121	121					No	No	No	Yes	
Unk	Lipid		%	15.4	15.4					No	No	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.253	0.253	J	J		2.50	Yes	No	No	Yes	
	1234678HepFuran	67562394	pg/g	0.0629	0.0629	U	U	0.0629	2.50	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.0663	0.0663	U	U	0.0663	2.50	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.118	0.118	U	U	0.118	2.50	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.0506	0.0506	U	U	0.0506	2.50	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.116	0.116	U	U	0.116	2.50	No	No	Yes	No	Yes
	123678HexFuran	57117449	pg/g	0.0531	0.0531	U	U	0.0531	2.50	No	No	Yes	No	Yes
	123789HexDioxin	19408743	pg/g	0.116	0.116	U	U	0.116	2.50	No	No	Yes	No	Yes
	123789HexFuran	72918219	pg/g	0.0806	0.0806	U	U	0.0806	2.50	No	No	Yes	No	Yes
	12378PenDioxin	40321764	pg/g	0.0422	0.0422	U	U	0.0422	2.50	No	No	Yes	No	Yes
	12378PenFuran	57117416	pg/g	0.0585	0.0585	U	U	0.0585	2.50	No	No	Yes	No	Yes
	234678HexFuran	60851345	pg/g	0.0576	0.0576	U	U	0.0576	2.50	No	No	Yes	No	Yes
	23478PenFuran	57117314	pg/g	0.0605	0.0605	EMPC	EMPC		2.50	No	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/g	0.0483	0.0483	U	U	0.0483	0.500	No	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	1.60	1.60				0.500	No	No	No	No	Yes
	HpClDiBzDioxin	37871004	pg/g	0.253	0.253	J	J		2.50	Yes	Yes	No	No	Yes
	HpClDiBzFuran	38998753	pg/g	0.0644	0.0644	U	U	0.0644	2.50	No	No	Yes	No	Yes
	HxCIDiBzDioxin	34465468	pg/g	0.117	0.117	U	U	0.117	2.50	No	No	Yes	No	Yes
	HxCIDiBzFuran	55684941	pg/g	0.0596	0.0596	U	U	0.0596	2.50	No	No	Yes	No	Yes
	OctClDiBzDioxin	3268879	pg/g	0.380	0.380	EMPC	EMPC		5.00	No	No	Yes	No	Yes
	OctClDiBzFuran	39001020	pg/g	0.199	0.199	U	U	0.199	5.00	No	No	Yes	No	Yes
	PenClDiBzDioxin	36088229	pg/g	0.0422	0.0422	U	U	0.0422	2.50	No	No	Yes	No	Yes
	PenClDiBzFuran	30402154	pg/g	0.143	0.143	EMPC	EMPC		2.50	No	No	Yes	No	Yes
	TEQMinWHO05Dioxin										No	No	No	Yes
	TetClDiBzDioxin	41903575	pg/g	0.0483	0.0483	U	U	0.0483	0.500	0.500	No	Yes	No	Yes
	TetClDiBzFuran	30402143	pg/g	1.60	1.60				0.500	0.500	No	No	No	Yes
	PBDE_cong_153			ug/kg	0.0767	0.0767				0.00996	No	No	No	Yes
PBDE_cong_209			ug/kg	0.0215	0.0215	U	U	0.0215	0.0498	No	Yes	No	Yes	
PBDE_cong_47			ug/kg	3.54	3.54	B, E	J		0.00996	Yes	No	No	Yes	
PBDE_cong_99			ug/kg	0.0933	0.0933	B	J		0.00996	Yes	No	No	Yes	

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SDG: 1601354

Sample		EPA-HS-C2													
Method Code	Analyte	Cas No	Units	Lab ID	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	1601354-10	0.0215	0.0215	U	U	0.0215	0.0498	No	Yes	No	Yes	
	Total Di-BDE	2050477	ug/kg		0.00480	0.00480	J	J		0.00498	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg		0.00736	0.00736	J	J	0.0116	0.0199	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg		0.348	0.348		J	0.349	0.00996	Yes	No	No	Yes	
	Total Mono-BDE	101553	ug/kg		0.000177	0.000177	U	U	0.000177	0.00498	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg		0.00330	0.00330	U	U	0.00330	0.0498	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg		0.00157	0.00157	U	U	0.00157	0.0199	No	Yes	No	Yes	
	Total Penta-BDE	32534819	ug/kg		0.772	0.772	B	J	0.775	0.00996	Yes	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg		3.80	3.80	B		3.81	0.00996	No	No	No	Yes	
	Total Tri-BDE	49690940	ug/kg		0.566	0.566			0.591	0.00498	No	No	No	Yes	
	EPA1668A	2Cl11pBiphenyl	2051607	pg/g		0.147	0.147	EMPC	EMPC		0.499	No	Yes	No	Yes
		35DiClBiphenyl	34883415	pg/g		0.0929	0.0929	U	U	0.0929	0.499	No	Yes	No	Yes
		3ClBiphenyl	2051618	pg/g		0.100	0.100	J	J		0.499	Yes	No	No	Yes
44DiClBiphenyl		2050682	pg/g		0.591	0.591	U	U	0.591	0.499	No	Yes	No	Yes	
4Cl11Biphenyl		2051629	pg/g		0.134	0.134	J	J		0.499	Yes	No	No	Yes	
DecaClBiphenyls			pg/g		16.6	16.6					No	No	No	Yes	
DecClBiphenyl		2051243	pg/g		16.6	16.6				0.499	No	No	No	Yes	
DiClBiphenyls		25512429	pg/g		4.12	4.12					No	No	No	Yes	
HepClBiphenyls		28655712	pg/g		2840	2840					No	No	No	Yes	
HexClBiphenyls		26601649	pg/g		5180	5180					No	No	No	Yes	
MonoClBiphenyls		27323188	pg/g		0.235	0.235					No	No	No	Yes	
NonClBiphenyls		53742077	pg/g		109	109				0.382	No	No	No	Yes	
OctClBiphenyls		55722264	pg/g		737	737					No	No	No	Yes	
EPA1668B	PCB_138+163+164		pg/g		1380	1380				1.50	No	No	No	Yes	
	PCB_20+21+33		pg/g		2.00	2.00				1.50	No	No	No	Yes	
	PCB_41+64+71+72		pg/g		67.0	67.0				1.99	No	No	No	Yes	
	PCB_87+117+125		pg/g		155	155				1.50	No	No	No	Yes	
	PCB_95+98+102		pg/g		330	330				1.50	No	No	No	Yes	
	PCB_cong_100		pg/g		3.21	3.21				0.499	No	No	No	Yes	
	PCB_cong_103		pg/g		6.12	6.12				0.499	No	No	No	Yes	
	PCB_cong_104		pg/g		0.198	0.198	U	U	0.198	0.499	No	Yes	No	Yes	

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SDG: 1601354

Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	225	225				0.499	No	No	No	Yes
	PCB_cong_106+118		pg/g	382	382				0.997	No	No	No	Yes
	PCB_cong_107+109		pg/g	63.9	63.9				0.997	No	No	No	Yes
	PCB_cong_108+112		pg/g	19.5	19.5				0.997	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	1.49	1.49	B	U*	1.49	1.49	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	501	501				0.499	No	No	No	Yes
	PCB_cong_111+115		pg/g	11.5	11.5				0.997	No	No	No	Yes
	PCB_cong_113	88194105	pg/g	0.179	0.179	U	U	0.179	0.499	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	14.5	14.5				0.499	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	20.8	20.8				0.499	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.107	0.107	U	U	0.107	0.997	No	Yes	No	Yes
	PCB_cong_120	88194127	pg/g	1.08	1.08				0.499	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.170	0.170	U	U	0.170	0.499	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.409	0.409	U	U	0.409	0.499	No	Yes	No	Yes
PCB_cong_123	85510443	pg/g	7.75	7.75				0.499	No	No	No	Yes	
PCB_cong_124	70424703	pg/g	7.27	7.27				0.499	No	No	No	Yes	
PCB_cong_126	57465288	pg/g	1.56	1.56				0.499	No	No	No	Yes	
PCB_cong_127	39635331	pg/g	0.382	0.382	U	U	0.382	0.499	No	Yes	No	Yes	
PCB_cong_128+162		pg/g	172	172				0.997	No	No	No	Yes	
PCB_cong_129	55215184	pg/g	22.4	22.4				0.499	No	No	No	Yes	
PCB_cong_130	52663668	pg/g	62.3	62.3				0.499	No	No	No	Yes	
PCB_cong_131	61798707	pg/g	0.503	0.503	U	U	0.503	0.499	No	Yes	No	Yes	
PCB_cong_132+161		pg/g	183	183				0.997	No	No	No	Yes	
PCB_cong_133+142		pg/g	31.5	31.5				0.997	No	No	No	Yes	
PCB_cong_134+143		pg/g	35.5	35.5				0.997	No	No	No	Yes	
PCB_cong_135	52744135	pg/g	127	127				0.499	No	No	No	Yes	
PCB_cong_136	38411222	pg/g	76.8	76.8				0.499	No	No	No	Yes	
PCB_cong_137	35694065	pg/g	49.3	49.3				0.499	No	No	No	Yes	
PCB_cong_139+149		pg/g	801	801	B			0.997	No	No	No	Yes	
PCB_cong_140	59291644	pg/g	6.06	6.06				0.499	No	No	No	Yes	
PCB_cong_141	52712046	pg/g	154	154				0.499	No	No	No	Yes	

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Upper Columbia River 2016 Sturgeon Tissue Study
SDG: 1601354**

Sample		EPA-HS-C2											
Lab ID		1601354-10											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	88194149	pg/g	33.1	33.1				0.499	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.183	0.183	J	J		0.499	Yes	No	No	Yes
	PCB_cong_146+165		pg/g	213	213				0.997	No	No	No	Yes
	PCB_cong_147	88194138	pg/g	22.1	22.1				0.499	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	1.20	1.20				0.499	No	No	No	Yes
	PCB_cong_150	88194081	pg/g	0.963	0.963				0.499	No	No	No	Yes
	PCB_cong_151	52663635	pg/g	276	276				0.499	No	No	No	Yes
	PCB_cong_152	88194092	pg/g	0.473	0.473	J	J		0.499	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	1270	1270				0.499	No	No	No	Yes
	PCB_cong_154	80145224	pg/g	16.6	16.6				0.499	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	1.11	1.11				0.499	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	97.0	97.0				0.499	No	No	No	Yes
	PCB_cong_157	89782907	pg/g	21.3	21.3				0.499	No	No	No	Yes
	PCB_cong_158+160		pg/g	111	111				0.997	No	No	No	Yes
	PCB_cong_169	39635353	pg/g	0.294	0.294	U	U	0.294	0.499	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	5.02	5.02				0.997	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	3.72	3.72				0.499	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	3.83	3.83				0.499	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	1.34	1.34				0.499	No	No	No	Yes
	PCB_cong_169	32774166	pg/g	1.51	1.51				0.499	No	No	No	Yes
	PCB_cong_17	37680663	pg/g	2.01	2.01				0.499	No	No	No	Yes
	PCB_cong_170	35065306	pg/g	246	246				0.499	No	No	No	Yes
	PCB_cong_171	52663715	pg/g	81.5	81.5				0.499	No	No	No	Yes
	PCB_cong_172	52663748	pg/g	50.0	50.0				0.499	No	No	No	Yes
	PCB_cong_173	88194161	pg/g	4.61	4.61				0.499	No	No	No	Yes
	PCB_cong_174	38411255	pg/g	238	238				0.499	No	No	No	Yes
	PCB_cong_175	40186707	pg/g	12.2	12.2				0.499	No	No	No	Yes
	PCB_cong_176	52663657	pg/g	32.1	32.1				0.499	No	No	No	Yes
	PCB_cong_177	52663704	pg/g	207	207				0.499	No	No	No	Yes
	PCB_cong_178	52663679	pg/g	85.7	85.7				0.499	No	No	No	Yes
	PCB_cong_179	52663646	pg/g	136	136				0.499	No	No	No	Yes

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SDG: 1601354

Sample		EPA-HS-C2											
Lab ID		1601354-10											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680652	pg/g	19.6	19.6				0.499	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	677	677				0.499	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.133	0.133	U	U	0.133	0.499	No	Yes	No	Yes
	PCB_cong_182+187		pg/g	718	718				0.997	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	184	184				0.499	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	1.98	1.98				0.499	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	39.4	39.4				0.499	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.104	0.104	U	U	0.104	0.499	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.782	0.782				0.499	No	No	No	Yes
	PCB_cong_189	39635319	pg/g	8.32	8.32				0.499	No	No	No	Yes
	PCB_cong_19	38444734	pg/g	1.17	1.17				0.499	No	No	No	Yes
	PCB_cong_190	41411647	pg/g	61.0	61.0				0.499	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	10.9	10.9				0.499	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.107	0.107	U	U	0.107	0.499	No	Yes	No	Yes
	PCB_cong_193	59782918	pg/g	45.2	45.2				0.499	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	109	109				0.499	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	57.6	57.6				0.499	No	No	No	Yes
	PCB_cong_196+203		pg/g	216	216				0.997	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	7.54	7.54				0.499	No	No	No	Yes
	PCB_cong_198	68194172	pg/g	8.18	8.18				0.499	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	229	229				0.499	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	19.0	19.0				0.499	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	24.8	24.8				0.499	No	No	No	Yes
	PCB_cong_202	2136994	pg/g	61.2	61.2				0.499	No	No	No	Yes
	PCB_cong_204	74472529	pg/g	0.205	0.205		J		0.499	Yes	No	No	Yes
	PCB_cong_205	74472530	pg/g	5.75	5.75				0.499	No	No	No	Yes
	PCB_cong_206	40186729	pg/g	75.7	75.7				0.499	No	No	No	Yes
	PCB_cong_207	52663793	pg/g	8.99	8.99				0.499	No	No	No	Yes
	PCB_cong_208	52663771	pg/g	24.0	24.0				0.499	No	No	No	Yes
	PCB_cong_22	38444858	pg/g	4.90	4.90				0.499	No	No	No	Yes
	PCB_cong_23	55720440	pg/g	0.257	0.257	U	U	0.257	0.499	No	Yes	No	Yes

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SDG: 1601354**

Sample		EPA-HS-C2											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_24+27		pg/g	1.37	1.37				0.997	No	No	No	Yes
	PCB_cong_25	55712373	pg/g	0.327	0.327	J	J		0.499	Yes	No	No	Yes
	PCB_cong_26	38444814	pg/g	2.54	2.54				0.499	No	No	No	Yes
	PCB_cong_28	7012375	pg/g	49.8	49.8				0.499	No	No	No	Yes
	PCB_cong_29	15862074	pg/g	0.234	0.234	U	U	0.234	0.499	No	Yes	No	Yes
	PCB_cong_30	35693926	pg/g	0.0672	0.0672	U	U	0.0672	0.499	No	Yes	No	Yes
	PCB_cong_31	16606023	pg/g	28.1	28.1				0.499	No	No	No	Yes
	PCB_cong_34	37680685	pg/g	0.249	0.249	J	J		0.499	Yes	No	No	Yes
	PCB_cong_35	37680696	pg/g	0.171	0.171	U	U	0.171	0.499	No	Yes	No	Yes
	PCB_cong_36	38444870	pg/g	0.168	0.168	U	U	0.168	0.499	No	Yes	No	Yes
	PCB_cong_37	38444905	pg/g	0.663	0.663				0.499	No	No	No	Yes
	PCB_cong_38	53555661	pg/g	1.41	1.41				0.499	No	No	No	Yes
	PCB_cong_39	38444881	pg/g	0.116	0.116	J	J		0.499	Yes	No	No	Yes
	PCB_cong_4+10		pg/g	0.721	0.721	U	U	0.721	0.997	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	0.837	0.837				0.499	No	No	No	Yes
	PCB_cong_42	36559225	pg/g	8.98	8.98				0.997	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	76.2	76.2				0.997	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	55.6	55.6				0.499	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	4.86	4.86				0.499	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	1.43	1.43				0.499	No	No	No	Yes
	PCB_cong_47	2437798	pg/g	46.0	46.0	B			0.499	No	No	No	Yes
	PCB_cong_48+75		pg/g	6.38	6.38				0.997	No	No	No	Yes
	PCB_cong_5+8		pg/g	2.63	2.63				0.997	No	No	No	Yes
	PCB_cong_50	82796650	pg/g	0.108	0.108	EMPC	EMPC		0.499	No	Yes	No	Yes
	PCB_cong_51	88194047	pg/g	1.36	1.36				0.499	No	No	No	Yes
	PCB_cong_52+69		pg/g	162	162				0.997	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	8.93	8.93				0.499	No	No	No	Yes
	PCB_cong_54	15968055	pg/g	0.0857	0.0857	J	J		0.499	Yes	No	No	Yes
	PCB_cong_55	74338242	pg/g	2.41	2.41				0.499	No	No	No	Yes
	PCB_cong_56+60		pg/g	29.9	29.9				0.997	No	No	No	Yes
	PCB_cong_57	70424678	pg/g	0.724	0.724				0.499	No	No	No	Yes

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Sample		EPA-HS-C2											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_58	41464497	pg/g	0.671	0.671				0.499	No	No	No	Yes
	PCB_cong_6	25569806	pg/g	0.299	0.299	U	U	0.299	0.499	No	Yes	No	Yes
	PCB_cong_61+70		pg/g	93.1	93.1				0.997	No	No	No	Yes
	PCB_cong_62	54230227	pg/g	0.114	0.114	U	U	0.114	0.499	No	Yes	No	Yes
	PCB_cong_63	74472347	pg/g	7.77	7.77				0.499	No	No	No	Yes
	PCB_cong_65	33284547	pg/g	0.122	0.122	U	U	0.122	0.499	No	Yes	No	Yes
	PCB_cong_66+76		pg/g	113	113				0.997	No	No	No	Yes
	PCB_cong_67	73575538	pg/g	0.416	0.416	J	J		0.499	Yes	No	No	Yes
	PCB_cong_68	73575527	pg/g	3.97	3.97				0.499	No	No	No	Yes
	PCB_cong_7+9		pg/g	0.168	0.168	U	U	0.168	0.997	No	Yes	No	Yes
	PCB_cong_73	74338231	pg/g	0.0943	0.0943	U	U	0.0943	0.499	No	Yes	No	Yes
	PCB_cong_74	32690930	pg/g	78.1	78.1				0.499	No	No	No	Yes
	PCB_cong_77	32598133	pg/g	2.52	2.52				0.499	No	No	No	Yes
	PCB_cong_78	70362491	pg/g	0.0906	0.0906	U	U	0.0906	0.499	No	Yes	No	Yes
	PCB_cong_79	41464486	pg/g	9.93	9.93				0.499	No	No	No	Yes
	PCB_cong_80	33284525	pg/g	0.263	0.263	J	J		0.499	Yes	No	No	Yes
	PCB_cong_81	70362504	pg/g	1.99	1.99				0.499	No	No	No	Yes
	PCB_cong_82	52663624	pg/g	7.85	7.85				0.499	No	No	No	Yes
	PCB_cong_83	60145202	pg/g	0.167	0.167	U	U	0.167	0.499	No	Yes	No	Yes
	PCB_cong_84+92		pg/g	170	170				0.997	No	No	No	Yes
	PCB_cong_85+116		pg/g	106	106				0.997	No	No	No	Yes
	PCB_cong_86	55312691	pg/g	0.277	0.277	U	U	0.277	0.499	No	Yes	No	Yes
	PCB_cong_88+91		pg/g	57.8	57.8				0.997	No	No	No	Yes
	PCB_cong_89	73575572	pg/g	0.893	0.893				0.499	No	No	No	Yes
	PCB_cong_90+101		pg/g	520	520				0.997	No	No	No	Yes
	PCB_cong_93	73575561	pg/g	0.247	0.247	U	U	0.247	0.499	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/g	1.62	1.62				0.499	No	No	No	Yes
	PCB_cong_96	73575549	pg/g	1.29	1.29				0.499	No	No	No	Yes
	PCB_cong_97	41464511	pg/g	76.8	76.8				0.499	No	No	No	Yes
	PCB_cong_99	38380017	pg/g	356	356				0.499	No	No	No	Yes
	PentCBiPhenyls	25429292	pg/g	3050	3050					No	No	No	Yes

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Sample		EPA-HS-C2											
Lab ID		1601354-10											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TetCIBiphenyls	26914330	pg/g	784	784					No	No	No	Yes
	TotPCBs		pg/g	12800	12800					No	No	No	Yes
	TrCIBiphenyls	25323686	pg/g	119	119					No	No	No	Yes
Unk	Lipid		%	12.1	12.1					No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/g	0.134	0.134	J	J		2.49	Yes	No	No	Yes	
	1234678HepFuran	67562394	pg/g	0.0644	0.0644	U	U	0.0644	2.49	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/g	0.0619	0.0619	U	U	0.0619	2.49	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/g	0.110	0.110	U	U	0.110	2.49	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/g	0.0572	0.0572	U	U	0.0572	2.49	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/g	0.105	0.105	U	U	0.105	2.49	No	No	Yes	No	Yes
	123678HexFuran	57117449	pg/g	0.0657	0.0657	U	U	0.0657	2.49	No	No	Yes	No	Yes
	123789HexDioxin	19408743	pg/g	0.114	0.114	U	U	0.114	2.49	No	No	Yes	No	Yes
	123789HexFuran	72918219	pg/g	0.0978	0.0978	U	U	0.0978	2.49	No	No	Yes	No	Yes
	12378PenDioxin	40321764	pg/g	0.0689	0.0689	U	U	0.0689	2.49	No	No	Yes	No	Yes
	12378PenFuran	57117416	pg/g	0.0803	0.0803	EMPC	EMPC		2.49	No	Yes	No	Yes	
	234678HexFuran	60851345	pg/g	0.0678	0.0678	U	U	0.0678	2.49	No	No	Yes	No	Yes
	23478PenFuran	57117314	pg/g	0.0998	0.0998	EMPC	EMPC		2.49	No	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/g	0.0669	0.0669	U	U	0.0669	0.499	No	No	Yes	No	Yes
	2378TetFuran	51207319	pg/g	1.41	1.41				0.499	No	No	No	No	Yes
	HpClDiBzDioxin	37871004	pg/g	0.134	0.134	J	J		2.49	Yes	No	No	No	Yes
	HpClDiBzFuran	38998753	pg/g	0.0631	0.0631	U	U	0.0631	2.49	No	No	Yes	No	Yes
	HxCIDiBzDioxin	34465468	pg/g	0.110	0.110	U	U	0.110	2.49	No	No	Yes	No	Yes
	HxCIDiBzFuran	55684941	pg/g	0.0712	0.0712	U	U	0.0712	2.49	No	No	Yes	No	Yes
	OctClDiBzDioxin	3268879	pg/g	0.400	0.400	J	J		4.99	Yes	Yes	No	No	Yes
OctClDiBzFuran	39001020	pg/g	0.189	0.189	U	U	0.189	4.99	No	No	Yes	No	Yes	
PenClDiBzDioxin	36086229	pg/g	0.0689	0.0689	U	U	0.0689	2.49	No	No	Yes	No	Yes	
PenClDiBzFuran	30402154	pg/g	0.270	0.270	EMPC	EMPC		2.49	No	No	Yes	No	Yes	
TEQMinWHO05Dioxn										No	No	No	Yes	
TetClDiBzDioxin	41903575	pg/g	0.0669	0.0669	U	U	0.0669	0.499	0.499	No	Yes	No	Yes	
TetClDiBzFuran	30402143	pg/g	1.41	1.41				0.499	0.499	No	No	No	Yes	
EPA1614	PBDE_cong_163		ug/kg	0.0486	0.0486				0.00999	No	No	No	Yes	
	PBDE_cong_209		ug/kg	0.0147	0.0147	U	U	0.0147	0.0500	No	Yes	No	Yes	
	PBDE_cong_47		ug/kg	2.11	2.11	B, E	J		0.00999	Yes	No	No	Yes	
	PBDE_cong_99		ug/kg	0.0934	0.0934	B			0.00999	No	No	No	Yes	

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Sample		EPA-HS-C3												
Lab ID		1601354-11												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		ug/kg	0.0147	0.0147	U	U	0.0147	0.0500	No	Yes	No	Yes	
	Total Di-BDE	2050477	ug/kg	0.00331	0.00331	J	J		0.00500	Yes	No	No	Yes	
	Total Hepta-BDE	68928803	ug/kg	0.00700	0.00700	J	J	0.00838	0.0200	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	ug/kg	0.199	0.199				0.00999	No	No	No	Yes	
	Total Mono-BDE	101553	ug/kg	0.000139	0.000139	U	U	0.000139	0.00500	No	Yes	No	Yes	
	Total Nona-BDE	63936561	ug/kg	0.00249	0.00249	U	U	0.00249	0.0500	No	Yes	No	Yes	
	Total Octa-BDE	32536520	ug/kg	0.000940	0.000940	U	U	0.000940	0.0200	No	Yes	No	Yes	
	Total Penta-BDE	32534819	ug/kg	0.482	0.482	B			0.00999	No	No	No	Yes	
	Total Tetra-BDE	40088479	ug/kg	2.33	2.33	B			0.00999	No	No	No	Yes	
	Total Tri-BDE	49690940	ug/kg	0.243	0.243			0.259	0.00500	No	No	No	Yes	
	EPA1668A	2CI11pBiphenyl	2051607	pg/g	0.293	0.293	U	U	0.293	0.499	No	Yes	No	Yes
		35DiCBiphenyl	34883415	pg/g	0.0854	0.0854	U	U	0.0854	0.499	No	Yes	No	Yes
		3CIbiphenyl	2051618	pg/g	0.128	0.128	J	J		0.499	Yes	No	No	Yes
		44DiCBiphenyl	2050682	pg/g	0.495	0.495	U	U	0.495	0.499	No	Yes	No	Yes
4CI11Biphenyl		2051629	pg/g	0.0780	0.0780	EIMPC	EMPC		0.499	No	Yes	No	Yes	
DecaCBiphenyls			pg/g	13.7	13.7					No	No	No	Yes	
DecCBiphenyl		2051243	pg/g	13.7	13.7				0.499	No	No	No	Yes	
DiCBiphenyls		25512429	pg/g	4.19	4.19			4.60		No	No	No	Yes	
HepCBiphenyls		28655712	pg/g	1840	1840					No	No	No	Yes	
HexCBiphenyls		26601649	pg/g	3540	3540					No	No	No	Yes	
	MonoCBiphenyls	27323188	pg/g	0.128	0.128					No	No	No	Yes	
	NonCBiphenyls	53742077	pg/g	76.5	76.5			0.206		No	No	No	Yes	
	OctCBiphenyls	55722264	pg/g	477	477					No	No	No	Yes	
	PCB_138+163+164		pg/g	942	942				1.50	No	No	No	Yes	
	PCB_20+21+33		pg/g	1.63	1.63				1.50	No	No	No	Yes	
	PCB_41+64+71+72		pg/g	50.5	50.5				2.00	No	No	No	Yes	
	PCB_87+117+125		pg/g	115	115				1.50	No	No	No	Yes	
	PCB_95+98+102		pg/g	242	242				1.50	No	No	No	Yes	
	PCB_cong_100	39485831	pg/g	2.33	2.33				0.499	No	No	No	Yes	
	PCB_cong_103	60145213	pg/g	4.62	4.62				0.499	No	No	No	Yes	
PCB_cong_104	56558168	pg/g	0.197	0.197	U	U	0.197	0.499	No	Yes	No	Yes		

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Sample		EPA-HS-C3											
Lab ID		1601354-11											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/g	151	151				0.499	No	No	No	Yes
	PCB_cong_106+118		pg/g	283	283				0.998	No	No	No	Yes
	PCB_cong_107+109		pg/g	43.5	43.5				0.998	No	No	No	Yes
	PCB_cong_108+112		pg/g	14.1	14.1				0.998	No	No	No	Yes
	PCB_cong_11	2050671	pg/g	1.52	1.52	B	U*	1.52	1.52	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/g	381	381				0.499	No	No	No	Yes
	PCB_cong_111+115		pg/g	4.75	4.75				0.998	No	No	No	Yes
	PCB_cong_113	68194105	pg/g	0.195	0.195	U	U	0.195	0.499	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/g	9.70	9.70				0.499	No	No	No	Yes
	PCB_cong_119	56558179	pg/g	14.6	14.6				0.499	No	No	No	Yes
	PCB_cong_12+13		pg/g	0.0987	0.0987	U	U	0.0987	0.998	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/g	0.923	0.923				0.499	No	No	No	Yes
	PCB_cong_121	56558180	pg/g	0.175	0.175	U	U	0.175	0.499	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/g	0.417	0.417	U	U	0.417	0.499	No	Yes	No	Yes
	PCB_cong_123	65510443	pg/g	5.07	5.07				0.499	No	No	No	Yes
	PCB_cong_124	70424703	pg/g	5.93	5.93				0.499	No	No	No	Yes
	PCB_cong_126	57465288	pg/g	1.37	1.37				0.499	No	No	No	Yes
	PCB_cong_127	39635331	pg/g	0.296	0.296	U	U	0.296	0.499	No	Yes	No	Yes
	PCB_cong_128+162		pg/g	117	117				0.998	No	No	No	Yes
	PCB_cong_129	55215184	pg/g	16.7	16.7				0.499	No	No	No	Yes
	PCB_cong_130	52663668	pg/g	48.9	48.9				0.499	No	No	No	Yes
	PCB_cong_131	61798707	pg/g	0.556	0.556	U	U	0.556	0.499	No	Yes	No	Yes
	PCB_cong_132+161		pg/g	140	140				0.998	No	No	No	Yes
	PCB_cong_133+142		pg/g	22.2	22.2				0.998	No	No	No	Yes
	PCB_cong_134+143		pg/g	27.6	27.6				0.998	No	No	No	Yes
	PCB_cong_135	52744135	pg/g	93.4	93.4				0.499	No	No	No	Yes
	PCB_cong_136	38411222	pg/g	56.6	56.6				0.499	No	No	No	Yes
	PCB_cong_137	35694065	pg/g	27.0	27.0				0.499	No	No	No	Yes
	PCB_cong_139+149		pg/g	603	603	B			0.998	No	No	No	Yes
	PCB_cong_140	59291644	pg/g	4.54	4.54				0.499	No	No	No	Yes
	PCB_cong_141	52712046	pg/g	98.8	98.8				0.499	No	No	No	Yes

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Sample		EPA-HS-C3											
Lab ID		1601354-11											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	88194149	pg/g	22.2	22.2				0.499	No	No	No	Yes
	PCB_cong_145	74472405	pg/g	0.149	0.149	J	J		0.499	Yes	No	No	Yes
	PCB_cong_146+165		pg/g	139	139				0.998	No	No	No	Yes
	PCB_cong_147	88194138	pg/g	15.8	15.8				0.499	No	No	No	Yes
	PCB_cong_148	74472416	pg/g	1.08	1.08				0.499	No	No	No	Yes
	PCB_cong_150	88194081	pg/g	0.699	0.699				0.499	No	No	No	Yes
	PCB_cong_151	52663635	pg/g	207	207				0.499	No	No	No	Yes
	PCB_cong_152	88194092	pg/g	0.332	0.332	J	J		0.499	Yes	No	No	Yes
	PCB_cong_153	35065271	pg/g	781	781				0.499	No	No	No	Yes
	PCB_cong_154	80145224	pg/g	11.9	11.9				0.499	No	No	No	Yes
	PCB_cong_155	33979032	pg/g	0.948	0.948				0.499	No	No	No	Yes
	PCB_cong_156	38380084	pg/g	64.1	64.1				0.499	No	No	No	Yes
	PCB_cong_157	89782907	pg/g	14.8	14.8				0.499	No	No	No	Yes
	PCB_cong_158+160		pg/g	71.1	71.1				0.998	No	No	No	Yes
	PCB_cong_159	39635353	pg/g	0.355	0.355	U	U	0.355	0.499	No	Yes	No	Yes
	PCB_cong_16+32		pg/g	4.11	4.11				0.998	No	No	No	Yes
	PCB_cong_166	41411636	pg/g	2.85	2.85				0.499	No	No	No	Yes
	PCB_cong_167	52663726	pg/g	2.88	2.88				0.499	No	No	No	Yes
	PCB_cong_168	59291655	pg/g	0.948	0.948				0.499	No	No	No	Yes
	PCB_cong_169	32774166	pg/g	1.14	1.14				0.499	No	No	No	Yes
	PCB_cong_17	37680663	pg/g	1.72	1.72				0.499	No	No	No	Yes
	PCB_cong_170	35065306	pg/g	156	156				0.499	No	No	No	Yes
	PCB_cong_171	52663715	pg/g	53.4	53.4				0.499	No	No	No	Yes
	PCB_cong_172	52663748	pg/g	30.7	30.7				0.499	No	No	No	Yes
	PCB_cong_173	88194161	pg/g	3.64	3.64				0.499	No	No	No	Yes
	PCB_cong_174	38411255	pg/g	168	168				0.499	No	No	No	Yes
	PCB_cong_175	40186707	pg/g	7.58	7.58				0.499	No	No	No	Yes
	PCB_cong_176	52663657	pg/g	23.0	23.0				0.499	No	No	No	Yes
	PCB_cong_177	52663704	pg/g	144	144				0.499	No	No	No	Yes
	PCB_cong_178	52663679	pg/g	59.6	59.6				0.499	No	No	No	Yes
	PCB_cong_179	52663646	pg/g	98.8	98.8				0.499	No	No	No	Yes

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Sample		EPA-HS-C3											
Lab ID		1601354-11											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_18	37680652	pg/g	16.3	16.3				0.499	No	No	No	Yes
	PCB_cong_180	35065293	pg/g	390	390				0.499	No	No	No	Yes
	PCB_cong_181	74472472	pg/g	0.0713	0.0713	U	U	0.0713	0.499	No	Yes	No	Yes
	PCB_cong_182+187		pg/g	487	487				0.998	No	No	No	Yes
	PCB_cong_183	52663691	pg/g	108	108				0.499	No	No	No	Yes
	PCB_cong_184	74472483	pg/g	1.44	1.44				0.499	No	No	No	Yes
	PCB_cong_185	52712057	pg/g	25.3	25.3				0.499	No	No	No	Yes
	PCB_cong_186	74472494	pg/g	0.0571	0.0571	U	U	0.0571	0.499	No	Yes	No	Yes
	PCB_cong_188	74487857	pg/g	0.627	0.627				0.499	No	No	No	Yes
	PCB_cong_189	39635319	pg/g	5.45	5.45				0.499	No	No	No	Yes
	PCB_cong_19	38444734	pg/g	1.13	1.13				0.499	No	No	No	Yes
	PCB_cong_190	41411647	pg/g	41.8	41.8				0.499	No	No	No	Yes
	PCB_cong_191	74472507	pg/g	6.57	6.57				0.499	No	No	No	Yes
	PCB_cong_192	74472518	pg/g	0.0576	0.0576	U	U	0.0576	0.499	No	Yes	No	Yes
	PCB_cong_193	89782918	pg/g	31.4	31.4				0.499	No	No	No	Yes
	PCB_cong_194	35694087	pg/g	66.3	66.3				0.499	No	No	No	Yes
	PCB_cong_195	52663782	pg/g	40.1	40.1				0.499	No	No	No	Yes
	PCB_cong_196+203		pg/g	134	134				0.998	No	No	No	Yes
	PCB_cong_197	33091177	pg/g	5.21	5.21				0.499	No	No	No	Yes
	PCB_cong_198	88194172	pg/g	5.69	5.69				0.499	No	No	No	Yes
	PCB_cong_199	52663759	pg/g	149	149				0.499	No	No	No	Yes
	PCB_cong_200	52663737	pg/g	13.7	13.7				0.499	No	No	No	Yes
	PCB_cong_201	40186718	pg/g	15.7	15.7				0.499	No	No	No	Yes
	PCB_cong_202	2136994	pg/g	44.6	44.6				0.499	No	No	No	Yes
	PCB_cong_204	74472529	pg/g	0.111	0.111	U	U	0.111	0.499	No	Yes	No	Yes
	PCB_cong_205	74472530	pg/g	3.59	3.59				0.499	No	No	No	Yes
	PCB_cong_206	40186729	pg/g	52.3	52.3				0.499	No	No	No	Yes
	PCB_cong_207	52663793	pg/g	6.42	6.42				0.499	No	No	No	Yes
	PCB_cong_208	52663771	pg/g	17.8	17.8				0.499	No	No	No	Yes
	PCB_cong_22	38444858	pg/g	4.28	4.28				0.499	No	No	No	Yes
	PCB_cong_23	55720440	pg/g	0.179	0.179	U	U	0.179	0.499	No	Yes	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_24+27		pg/g	1.32	1.32				0.998	No	No	No	Yes	
	PCB_cong_25	55712373	pg/g	0.401	0.401	J	J		0.499	Yes	No	No	Yes	
	PCB_cong_26	38444814	pg/g	2.11	2.11				0.499	No	No	No	Yes	
	PCB_cong_28	7012375	pg/g	33.4	33.4				0.499	No	No	No	Yes	
	PCB_cong_29	15862074	pg/g	0.163	0.163	U	U	0.163	0.499	No	Yes	No	Yes	
	PCB_cong_30	35693926	pg/g	0.0658	0.0658	U	U	0.0658	0.499	No	Yes	No	Yes	
	PCB_cong_31	16606023	pg/g	21.6	21.6				0.499	No	No	No	Yes	
	PCB_cong_34	37680685	pg/g	0.205	0.205	J	J		0.499	Yes	No	No	Yes	
	PCB_cong_35	37680696	pg/g	0.129	0.129	U	U	0.129	0.499	No	Yes	No	Yes	
	PCB_cong_36	38444870	pg/g	0.127	0.127	U	U	0.127	0.499	No	Yes	No	Yes	
	PCB_cong_37	38444905	pg/g	0.587	0.587				0.499	No	No	No	Yes	
	PCB_cong_38	53555661	pg/g	0.874	0.874				0.499	No	No	No	Yes	
	PCB_cong_39	38444881	pg/g	0.0978	0.0978	J	J		0.499	Yes	No	No	Yes	
	PCB_cong_4+10			0.404	0.404	EMPC	EMPC		0.998	No	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/g	0.700	0.700				0.499	No	No	No	No	Yes
	PCB_cong_42	36559225	pg/g	8.78	8.78				0.998	No	No	No	No	Yes
	PCB_cong_43	70362468	pg/g	62.1	62.1				0.998	No	No	No	No	Yes
	PCB_cong_44	41464395	pg/g	41.5	41.5				0.499	No	No	No	No	Yes
	PCB_cong_45	70362457	pg/g	3.77	3.77				0.499	No	No	No	No	Yes
	PCB_cong_46	41464475	pg/g	1.33	1.33				0.499	No	No	No	No	Yes
	PCB_cong_47	2437798	pg/g	30.1	30.1	B			0.499	No	No	No	No	Yes
	PCB_cong_48+75			5.95	5.95				0.998	No	No	No	No	Yes
	PCB_cong_5+8			2.68	2.68				0.998	No	No	No	No	Yes
	PCB_cong_50	62796650	pg/g	0.0893	0.0893	J	J		0.499	Yes	Yes	No	No	Yes
	PCB_cong_51	58194047	pg/g	1.15	1.15				0.499	No	No	No	No	Yes
	PCB_cong_52+69			126	126				0.998	No	No	No	No	Yes
	PCB_cong_53	41464419	pg/g	6.61	6.61				0.499	No	No	No	No	Yes
PCB_cong_54	15968055	pg/g	0.0710	0.0710	J	J		0.499	Yes	Yes	No	No	Yes	
PCB_cong_55	74338242	pg/g	1.73	1.73				0.499	No	No	No	No	Yes	
PCB_cong_56+60			21.8	21.8				0.998	No	No	No	No	Yes	
PCB_cong_57	70424678	pg/g	0.571	0.571				0.499	No	No	No	No	Yes	

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Sample		EPA-HS-C3		1601354-11															
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable						
EPA1668A	PCB_cong_58	41464497	pg/g	0.529	0.529				0.499	No	No	No	Yes						
	PCB_cong_6	25569806	pg/g	0.298	0.298	U	U	0.298	0.499	No	Yes	No	Yes						
	PCB_cong_61+70		pg/g	78.0	78.0				0.998	No	No	No	Yes						
	PCB_cong_62	64230227	pg/g	0.116	0.116	U	U	0.116	0.499	No	Yes	No	Yes						
	PCB_cong_63	74472347	pg/g	5.40	5.40				0.499	No	No	No	Yes						
	PCB_cong_65	33284547	pg/g	0.124	0.124	U	U	0.124	0.499	No	Yes	No	Yes						
	PCB_cong_66+76		pg/g	79.4	79.4				0.998	No	No	No	Yes						
	PCB_cong_67	73575538	pg/g	0.508	0.508				0.499	No	No	No	Yes						
	PCB_cong_68	73575527	pg/g	2.83	2.83				0.499	No	No	No	Yes						
	PCB_cong_7+9		pg/g	0.203	0.203	U	U	0.203	0.998	No	Yes	No	Yes						
	PCB_cong_73	74338231	pg/g	0.105	0.105	U	U	0.105	0.499	No	Yes	No	Yes						
	PCB_cong_74	32690930	pg/g	52.3	52.3				0.499	No	No	No	Yes						
	PCB_cong_77	32598133	pg/g	2.62	2.62				0.499	No	No	No	Yes						
	PCB_cong_78	70362491	pg/g	0.0919	0.0919	U	U	0.0919	0.499	No	Yes	No	Yes						
	PCB_cong_79	41464486	pg/g	6.73	6.73				0.499	No	No	No	Yes						
	PCB_cong_80	33284525	pg/g	0.0817	0.0817	U	U	0.0817	0.499	No	Yes	No	Yes						
	PCB_cong_81	70362504	pg/g	0.829	0.829				0.499	No	No	No	Yes						
	PCB_cong_82	32663624	pg/g	5.87	5.87				0.499	No	No	No	Yes						
	PCB_cong_83	60145202	pg/g	0.177	0.177	U	U	0.177	0.499	No	Yes	No	Yes						
	PCB_cong_84+92		pg/g	126	126				0.998	No	No	No	Yes						
	PCB_cong_85+116		pg/g	72.1	72.1				0.998	No	No	No	Yes						
	PCB_cong_86	55312691	pg/g	0.295	0.295	U	U	0.295	0.499	No	Yes	No	Yes						
	PCB_cong_88+91		pg/g	41.1	41.1				0.998	No	No	No	Yes						
	PCB_cong_89	73575572	pg/g	0.518	0.518				0.499	No	No	No	Yes						
	PCB_cong_90+101		pg/g	371	371				0.998	No	No	No	Yes						
	PCB_cong_93	73575561	pg/g	0.254	0.254	U	U	0.254	0.499	No	Yes	No	Yes						
	PCB_cong_94	73575550	pg/g	1.10	1.10				0.499	No	No	No	Yes						
	PCB_cong_96	73575549	pg/g	0.916	0.916				0.499	No	No	No	Yes						
	PCB_cong_97	41464511	pg/g	57.6	57.6				0.499	No	No	No	Yes						
	PCB_cong_99	38380017	pg/g	235	235				0.499	No	No	No	Yes						
	PentCBiPhenyls	25429292	pg/g	2190	2190					No	No	No	Yes						

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Sample		EPA-HS-C3											
Lab ID		1601354-11											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	Te/CiBiphenyls	26914330	pg/g	592	592					No	No	No	Yes
	TotPCBs		pg/g	8820	8820					No	No	No	Yes
	Tri/CiBiphenyls	25323686	pg/g	89.8	89.8					No	No	No	Yes
Unk	Lipid		%	12.1	12.1					No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/l	1.26	1.26	U	U	1.26	24.2	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/l	0.837	0.837	U	U	0.837	24.2	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/l	0.988	0.988	U	U	0.988	24.2	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/l	0.926	0.926	U	U	0.926	24.2	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/l	0.686	0.686	U	U	0.686	24.2	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/l	0.949	0.949	U	U	0.949	24.2	No	No	Yes	No	Yes
	123678HexFuran	57117449	pg/l	0.733	0.733	U	U	0.733	24.2	No	No	Yes	No	Yes
	123789HexDioxin	19408743	pg/l	1.06	1.06	U	U	1.06	24.2	No	No	Yes	No	Yes
	123789HexFuran	72918219	pg/l	1.24	1.24	U	U	1.24	24.2	No	No	Yes	No	Yes
	12378PenDioxin	40321764	pg/l	0.778	0.778	U	U	0.778	24.2	No	No	Yes	No	Yes
	12378PenFuran	57117416	pg/l	0.817	0.817	U	U	0.817	24.2	No	No	Yes	No	Yes
	234678HexFuran	60851345	pg/l	0.774	0.774	U	U	0.774	24.2	No	No	Yes	No	Yes
	23478PenFuran	57117314	pg/l	0.794	0.794	U	U	0.794	24.2	No	No	Yes	No	Yes
	2378TetDioxin	1746016	pg/l	0.625	0.625	U	U	0.625	4.83	No	No	Yes	No	Yes
	2378TetFuran	51207319	pg/l	0.993	0.993	U	U	0.993	4.83	No	No	Yes	No	Yes
	HpCIDIBzDioxin	37871004	pg/l	1.26	1.26	U	U	1.26	24.2	No	No	Yes	No	Yes
	HpCIDIBzFuran	38998753	pg/l	0.905	0.905	U	U	0.905	24.2	No	No	Yes	No	Yes
	HxCIDIBzDioxin	34465468	pg/l	0.983	0.983	U	U	0.983	24.2	No	No	Yes	No	Yes
	HxCIDIBzFuran	55684941	pg/l	0.840	0.840	U	U	0.840	24.2	No	No	Yes	No	Yes
	OCtCIDIBzDioxin	3268879	pg/l	1.42	1.42	U	U	1.42	48.3	No	No	Yes	No	Yes
OCtCIDIBzFuran	39001020	pg/l	2.70	2.70	U	U	2.70	48.3	No	No	Yes	No	Yes	
PenCIDIBzDioxin	36088229	pg/l	0.778	0.778	U	U	0.778	24.2	No	No	Yes	No	Yes	
PenCIDIBzFuran	30402154	pg/l	0.806	0.806	U	U	0.806	24.2	No	No	Yes	No	Yes	
TEQMinWHO05Dioxn			0.00	0.00						No	No	No	Yes	
TetCIDIBzDioxin	41903575	pg/l	0.625	0.625	U	U	0.625	4.83	No	No	Yes	No	Yes	
TetCIDIBzFuran	30402143	pg/l	0.993	0.993	U	U	0.993	4.83	No	No	Yes	No	Yes	
PBDE_cong_153			34.2	34.2	J	J		96.9	96.9	Yes	No	No	Yes	
PBDE_cong_209			68.7	68.7	U	U	68.7	484	484	No	Yes	No	Yes	
PBDE_cong_47			41.7	41.7	J, B	J		96.9	96.9	Yes	No	No	Yes	
PBDE_cong_99			247	247				96.9	96.9	No	No	No	Yes	

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Sample		HomogenBlank_101716												
Method Code	Analyte	Cas No	Units	Lab ID	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1614	Total Deca-BDE		pg/l	1601354-12	68.7	68.7	U	U	68.7	484	No	Yes	No	Yes
	Total Di-BDE	2050477	pg/l		0.140	0.140	U	U	0.140	48.4	No	Yes	No	Yes
	Total Hepta-BDE	68928803	pg/l		17.8	17.8	J	J	23.2	194	Yes	No	No	Yes
	Total Hexa-BDE	36483600	pg/l		73.8	73.8	J, B	J		96.9	Yes	No	No	Yes
	Total Mono-BDE	101553	pg/l		1.19	1.19	U	U	1.19	48.4	No	Yes	No	Yes
	Total Nona-BDE	63936561	pg/l		3.69	3.69	U	U	3.69	484	No	Yes	No	Yes
	Total Octa-BDE	32536520	pg/l		5.91	5.91	J	J		194	Yes	No	No	Yes
	Total Penta-BDE	32534819	pg/l		299	299	B			96.9	No	No	No	Yes
	Total Tetra-BDE	40088479	pg/l		41.7	41.7	J, B	J	44.1	96.9	Yes	No	No	Yes
	Total Tri-BDE	49690940	pg/l		0.139	0.139	U	U	0.139	48.4	No	Yes	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B	1234678HepDioxin	35822469	pg/l	0.974	0.974	U	U	0.974	24.6	No	Yes	No	Yes	
	1234678HepFuran	67562394	pg/l	0.858	0.858	U	U	0.858	24.6	No	Yes	No	Yes	
	1234789HepFuran	55673897	pg/l	1.01	1.01	U	U	1.01	24.6	No	Yes	No	Yes	
	123478HexDioxin	39227286	pg/l	1.25	1.25	U	U	1.25	24.6	No	Yes	No	Yes	
	123478HexFuran	70648269	pg/l	0.609	0.609	U	U	0.609	24.6	No	Yes	No	Yes	
	123678HexDioxin	57653857	pg/l	1.40	1.40	U	U	1.40	24.6	No	Yes	No	Yes	
	123678HexFuran	57117449	pg/l	0.672	0.672	U	U	0.672	24.6	No	Yes	No	Yes	
	123789HexDioxin	19408743	pg/l	1.49	1.49	U	U	1.49	24.6	No	Yes	No	Yes	
	123789HexFuran	72918219	pg/l	1.07	1.07	U	U	1.07	24.6	No	Yes	No	Yes	
	12378PenDioxin	40321764	pg/l	0.686	0.686	U	U	0.686	24.6	No	Yes	No	Yes	
	12378PenFuran	57117416	pg/l	0.853	0.853	U	U	0.853	24.6	No	Yes	No	Yes	
	234678HexFuran	60851345	pg/l	0.697	0.697	U	U	0.697	24.6	No	Yes	No	Yes	
	23478PenFuran	57117314	pg/l	0.781	0.781	U	U	0.781	24.6	No	Yes	No	Yes	
	2378TeDioxin	1746016	pg/l	0.618	0.618	U	U	0.618	4.91	No	Yes	No	Yes	
	2378TeFuran	51207319	pg/l	1.14	1.14	U	U	1.14	4.91	No	Yes	No	Yes	
	HpClDiBzDioxin	37871004	pg/l	0.974	0.974	U	U	0.974	24.6	No	Yes	No	Yes	
	HpClDiBzFuran	38998763	pg/l	0.929	0.929	U	U	0.929	24.6	No	Yes	No	Yes	
	HxCIDiBzDioxin	34465468	pg/l	1.38	1.38	U	U	1.38	24.6	No	Yes	No	Yes	
	HxCIDiBzFuran	55684941	pg/l	0.747	0.747	U	U	0.747	24.6	No	Yes	No	Yes	
	OctClDiBzDioxin	3268879	pg/l	2.05	2.05	U	U	2.05	49.1	No	Yes	No	Yes	
	OctClDiBzFuran	39001020	pg/l	2.39	2.39	U	U	2.39	49.1	No	Yes	No	Yes	
	PenClDiBzDioxin	36088229	pg/l	0.686	0.686	U	U	0.686	24.6	No	Yes	No	Yes	
	PenClDiBzFuran	30402154	pg/l	0.816	0.816	U	U	0.816	24.6	No	Yes	No	Yes	
	TEQMinWHO05Dioxn		pg/l	0.00	0.00						No	No	No	Yes
	TeClDiBzDioxin	41903575	pg/l	0.618	0.618	U	U	0.618	4.91	No	Yes	Yes	No	Yes
	TeClDiBzFuran	30402143	pg/l	1.14	1.14	U	U	1.14	4.91	No	Yes	Yes	No	Yes
	PBDE_cong_153		pg/l	1.08	1.08	U	U	1.08	99.9	No	Yes	Yes	No	Yes
	PBDE_cong_209		pg/l	85.2	85.2	U	U	85.2	499	No	Yes	Yes	No	Yes
	PBDE_cong_47		pg/l	15.2	15.2	J, B	J		99.9	Yes	Yes	No	No	Yes
	PBDE_cong_99		pg/l	5.92	5.92	J	J		99.9	Yes	Yes	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		pg/l	85.2	85.2	U	U	85.2	499	No	Yes	No	Yes	
	Total Di-BDE	2050477	pg/l	0.185	0.185	U	U	0.185	49.9	No	Yes	No	Yes	
	Total Hepta-BDE	68928803	pg/l	5.23	5.23	J	J	7.70	200	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	pg/l	0.779	0.779	U	U	0.779	99.9	No	Yes	No	Yes	
	Total Mono-BDE	101553	pg/l	1.49	1.49	U	U	1.49	49.9	No	Yes	No	Yes	
	Total Nona-BDE	63936561	pg/l	4.27	4.27	U	U	4.27	499	No	Yes	No	Yes	
	Total Octa-BDE	32536520	pg/l	1.59	1.59	U	U	1.59	200	No	Yes	No	Yes	
	Total Penta-BDE	32534819	pg/l	7.84	7.84	J, B	J		99.9	Yes	No	No	Yes	
	Total Tetra-BDE	40088479	pg/l	15.2	15.2	J, B	J		99.9	Yes	No	No	Yes	
	Total Tri-BDE	49690940	pg/l	1.20	1.20	J, B	J		49.9	Yes	No	No	Yes	
	EPA1668A	2C111pBiphenyl	2051607	pg/l	1.12	1.12	U	U	1.12	5.07	No	Yes	No	Yes
		35DiCiBiphenyl	34883415	pg/l	0.835	0.835	U	U	0.835	5.07	No	Yes	No	Yes
		3CiBiphenyl	2051618	pg/l	1.16	1.16	U	U	1.16	5.07	No	Yes	No	Yes
		44DiCiBiphenyl	2050682	pg/l	0.856	0.856	U	U	0.856	5.07	No	Yes	No	Yes
4C111Biphenyl		2051629	pg/l	1.13	1.13	U	U	1.13	5.07	No	Yes	No	Yes	
DecaCiBiphenyls			pg/l	6.32	6.32				5.07	No	No	No	Yes	
DecCiBiphenyl		2051243	pg/l	6.32	6.32				5.07	No	No	No	Yes	
DiCiBiphenyls		25512429	pg/l	4.83	4.83				5.07	No	No	No	Yes	
HepCiBiphenyls		28655712	pg/l	0.469	0.469	U	U	0.469	5.07	No	Yes	No	Yes	
HexCiBiphenyls		26601649	pg/l	0.609	0.609				5.07	No	No	No	Yes	
MonoCiBiphenyls		27323188	pg/l	1.16	1.16	U	U	1.16	5.07	No	Yes	No	Yes	
NonCiBiphenyls		53742077	pg/l	0.563	0.563	U	U	0.563	5.07	No	Yes	No	Yes	
OctCiBiphenyls		55722264	pg/l	1.21	1.21	U	U	1.21	5.07	No	Yes	No	Yes	
PCB_138+163+164			pg/l	0.609	0.609	J	J		15.2	Yes	Yes	No	Yes	
PCB_20+21+33		pg/l	0.849	0.849	EMPC	EMPC		15.2	No	Yes	No	Yes		
PCB_41+64+71+72		pg/l	0.943	0.943	J	J		20.3	Yes	Yes	No	Yes		
PCB_87+117+125		pg/l	1.06	1.06	U	U	1.06	15.2	No	Yes	No	Yes		
PCB_96+98+102		pg/l	0.923	0.923	U	U	0.923	15.2	No	Yes	Yes	No	Yes	
PCB_cong_100		pg/l	1.30	1.30	U	U	1.30	5.07	No	Yes	No	Yes		
PCB_cong_103		pg/l	1.30	1.30	U	U	1.30	5.07	No	Yes	No	Yes		
PCB_cong_104		pg/l	1.02	1.02	U	U	1.02	5.07	No	Yes	No	Yes		

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/l	0.533	0.533	U	U	0.533	5.07	No	Yes	No	Yes
	PCB_cong_106+118		pg/l	0.579	0.579	U	U	0.579	10.1	No	Yes	No	Yes
	PCB_cong_107+109		pg/l	0.914	0.914	U	U	0.914	10.1	No	Yes	No	Yes
	PCB_cong_108+112		pg/l	1.17	1.17	U	U	1.17	10.1	No	Yes	No	Yes
	PCB_cong_11	2050671	pg/l	4.83	4.83	J	J		5.07	Yes	No	No	Yes
	PCB_cong_110	38380039	pg/l	0.454	0.454	EMPC	EMPC		5.07	No	Yes	No	Yes
	PCB_cong_111+115		pg/l	0.906	0.906	U	U	0.906	10.1	No	Yes	No	Yes
	PCB_cong_113	68194105	pg/l	1.08	1.08	U	U	1.08	5.07	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/l	0.536	0.536	U	U	0.536	5.07	No	Yes	No	Yes
	PCB_cong_119	56558179	pg/l	0.895	0.895	U	U	0.895	5.07	No	Yes	No	Yes
	PCB_cong_12+13		pg/l	0.964	0.964	U	U	0.964	10.1	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/l	0.876	0.876	U	U	0.876	5.07	No	Yes	No	Yes
	PCB_cong_121	56558180	pg/l	0.979	0.979	U	U	0.979	5.07	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/l	0.607	0.607	U	U	0.607	5.07	No	Yes	No	Yes
PCB_cong_123	65510443	pg/l	0.907	0.907	U	U	0.907	5.07	No	Yes	No	Yes	
PCB_cong_124	70424703	pg/l	0.941	0.941	U	U	0.941	5.07	No	Yes	No	Yes	
PCB_cong_126	57465288	pg/l	0.561	0.561	U	U	0.561	5.07	No	Yes	No	Yes	
PCB_cong_127	39635331	pg/l	0.568	0.568	U	U	0.568	5.07	No	Yes	No	Yes	
PCB_cong_128+162		pg/l	0.520	0.520	U	U	0.520	10.1	No	Yes	No	Yes	
PCB_cong_129	55215184	pg/l	0.693	0.693	U	U	0.693	5.07	No	Yes	No	Yes	
PCB_cong_130	52663668	pg/l	0.671	0.671	U	U	0.671	5.07	No	Yes	No	Yes	
PCB_cong_131	61798707	pg/l	0.674	0.674	U	U	0.674	5.07	No	Yes	No	Yes	
PCB_cong_132+161		pg/l	0.534	0.534	U	U	0.534	10.1	No	Yes	No	Yes	
PCB_cong_133+142		pg/l	0.694	0.694	U	U	0.694	10.1	No	Yes	No	Yes	
PCB_cong_134+143		pg/l	0.668	0.668	U	U	0.668	10.1	No	Yes	No	Yes	
PCB_cong_135	52744135	pg/l	1.55	1.55	U	U	1.55	5.07	No	Yes	No	Yes	
PCB_cong_136	38411222	pg/l	1.08	1.08	U	U	1.08	5.07	No	Yes	No	Yes	
PCB_cong_137	35694065	pg/l	0.566	0.566	U	U	0.566	5.07	No	Yes	No	Yes	
PCB_cong_139+149		pg/l	1.40	1.40	U	U	1.40	10.1	No	Yes	No	Yes	
PCB_cong_140	59291644	pg/l	1.53	1.53	U	U	1.53	5.07	No	Yes	No	Yes	
PCB_cong_141	52712046	pg/l	0.581	0.581	U	U	0.581	5.07	No	Yes	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_144	68194149	pg/l	1.38	1.38	U	U	1.38	5.07	No	Yes	No	Yes	
	PCB_cong_145	74472405	pg/l	1.11	1.11	U	U	1.11	5.07	No	Yes	No	Yes	
	PCB_cong_146+165		pg/l	0.558	0.558	U	U	0.558	10.1	No	Yes	No	Yes	
	PCB_cong_147	68194138	pg/l	1.58	1.58	U	U	1.58	5.07	No	Yes	No	Yes	
	PCB_cong_148	74472416	pg/l	1.56	1.56	U	U	1.56	5.07	No	Yes	No	Yes	
	PCB_cong_150	68194081	pg/l	1.11	1.11	U	U	1.11	5.07	No	Yes	No	Yes	
	PCB_cong_151	52663635	pg/l	1.49	1.49	U	U	1.49	5.07	No	Yes	No	Yes	
	PCB_cong_152	68194092	pg/l	1.07	1.07	U	U	1.07	5.07	No	Yes	No	Yes	
	PCB_cong_153	35065271	pg/l	0.520	0.520	U	U	0.520	5.07	No	Yes	No	Yes	
	PCB_cong_154	60145224	pg/l	1.40	1.40	U	U	1.40	5.07	No	Yes	No	Yes	
	PCB_cong_155	33979032	pg/l	1.01	1.01	U	U	1.01	5.07	No	Yes	No	Yes	
	PCB_cong_156	38380084	pg/l	0.440	0.440	U	U	0.440	5.07	No	Yes	No	Yes	
	PCB_cong_157	69782907	pg/l	0.454	0.454	U	U	0.454	5.07	No	Yes	No	Yes	
	PCB_cong_158+160		pg/l	0.475	0.475	U	U	0.475	10.1	10.1	No	Yes	No	Yes
	PCB_cong_159	39635353	pg/l	0.429	0.429	U	U	0.429	5.07	5.07	No	Yes	No	Yes
	PCB_cong_16+32		pg/l	1.44	1.44	J	J		10.1	10.1	Yes	No	No	Yes
	PCB_cong_166	41411636	pg/l	0.460	0.460	U	U	0.460	5.07	5.07	No	Yes	No	Yes
	PCB_cong_167	52663726	pg/l	0.449	0.449	U	U	0.449	5.07	5.07	No	Yes	No	Yes
	PCB_cong_168	59291655	pg/l	0.432	0.432	U	U	0.432	5.07	5.07	No	Yes	No	Yes
	PCB_cong_169	32774166	pg/l	0.490	0.490	U	U	0.490	5.07	5.07	No	Yes	No	Yes
PCB_cong_17	37680663	pg/l	0.656	0.656	U	U	0.656	5.07	5.07	No	Yes	No	Yes	
PCB_cong_170	35065306	pg/l	0.396	0.396	U	U	0.396	5.07	5.07	No	Yes	No	Yes	
PCB_cong_171	52663715	pg/l	0.382	0.382	U	U	0.382	5.07	5.07	No	Yes	No	Yes	
PCB_cong_172	52663748	pg/l	0.416	0.416	U	U	0.416	5.07	5.07	No	Yes	No	Yes	
PCB_cong_173	68194161	pg/l	0.469	0.469	U	U	0.469	5.07	5.07	No	Yes	No	Yes	
PCB_cong_174	38411255	pg/l	0.427	0.427	U	U	0.427	5.07	5.07	No	Yes	No	Yes	
PCB_cong_175	40186707	pg/l	0.402	0.402	U	U	0.402	5.07	5.07	No	Yes	No	Yes	
PCB_cong_176	52663657	pg/l	0.290	0.290	U	U	0.290	5.07	5.07	No	Yes	No	Yes	
PCB_cong_177	52663704	pg/l	0.444	0.444	U	U	0.444	5.07	5.07	No	Yes	No	Yes	
PCB_cong_178	52663679	pg/l	0.377	0.377	U	U	0.377	5.07	5.07	No	Yes	No	Yes	
PCB_cong_179	52663646	pg/l	0.311	0.311	U	U	0.311	5.07	5.07	No	Yes	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_18	37680652	pg/l	1.33	1.33	EMPC	EMPC		5.07	No	Yes	No	Yes	
	PCB_cong_180	35065293	pg/l	0.389	0.389	U	U	0.389	5.07	No	Yes	No	Yes	
	PCB_cong_181	74472472	pg/l	0.395	0.395	U	U	0.395	5.07	No	Yes	No	Yes	
	PCB_cong_182+187		pg/l	0.364	0.364	U	U	0.364	10.1	No	Yes	No	Yes	
	PCB_cong_183	52663691	pg/l	0.329	0.329	U	U	0.329	5.07	No	Yes	No	Yes	
	PCB_cong_184	74472483	pg/l	0.314	0.314	U	U	0.314	5.07	No	Yes	No	Yes	
	PCB_cong_185	52712057	pg/l	0.405	0.405	U	U	0.405	5.07	No	Yes	No	Yes	
	PCB_cong_186	74472494	pg/l	0.290	0.290	U	U	0.290	5.07	No	Yes	No	Yes	
	PCB_cong_188	74487857	pg/l	0.283	0.283	U	U	0.283	5.07	No	Yes	No	Yes	
	PCB_cong_189	39635319	pg/l	0.281	0.281	U	U	0.281	5.07	No	Yes	No	Yes	
	PCB_cong_19	38444734	pg/l	0.702	0.702	U	U	0.702	5.07	No	Yes	No	Yes	
	PCB_cong_190	41411647	pg/l	0.294	0.294	U	U	0.294	5.07	No	Yes	No	Yes	
	PCB_cong_191	74472507	pg/l	0.306	0.306	U	U	0.306	5.07	No	Yes	No	Yes	
	PCB_cong_192	74472518	pg/l	0.319	0.319	U	U	0.319	5.07	No	Yes	No	Yes	
	PCB_cong_193	69782918	pg/l	0.308	0.308	U	U	0.308	5.07	No	Yes	No	Yes	
	PCB_cong_194	35694087	pg/l	0.353	0.353	U	U	0.353	5.07	No	Yes	No	Yes	
	PCB_cong_195	52663782	pg/l	0.616	0.616	U	U	0.616	5.07	No	Yes	No	Yes	
	PCB_cong_196+203		pg/l	1.11	1.11	U	U	1.11	10.1	No	No	Yes	No	Yes
	PCB_cong_197	33091177	pg/l	0.797	0.797	U	U	0.797	5.07	No	No	Yes	No	Yes
	PCB_cong_198	68194172	pg/l	1.20	1.20	U	U	1.20	5.07	No	No	Yes	No	Yes
	PCB_cong_199	52663759	pg/l	1.21	1.21	U	U	1.21	5.07	No	No	Yes	No	Yes
	PCB_cong_200	52663737	pg/l	0.868	0.868	U	U	0.868	5.07	No	No	Yes	No	Yes
	PCB_cong_201	40186718	pg/l	0.835	0.835	U	U	0.835	5.07	No	No	Yes	No	Yes
PCB_cong_202	2136994	pg/l	0.894	0.894	U	U	0.894	5.07	No	No	Yes	No	Yes	
PCB_cong_204	74472529	pg/l	0.885	0.885	U	U	0.885	5.07	No	No	Yes	No	Yes	
PCB_cong_205	74472530	pg/l	0.419	0.419	U	U	0.419	5.07	No	No	Yes	No	Yes	
PCB_cong_206	40186729	pg/l	0.563	0.563	U	U	0.563	5.07	No	No	Yes	No	Yes	
PCB_cong_207	52663793	pg/l	0.308	0.308	U	U	0.308	5.07	No	No	Yes	No	Yes	
PCB_cong_208	52663771	pg/l	0.306	0.306	U	U	0.306	5.07	No	No	Yes	No	Yes	
PCB_cong_22	38444858	pg/l	0.455	0.455	U	U	0.455	5.07	No	No	Yes	No	Yes	
PCB_cong_23	55720440	pg/l	0.634	0.634	U	U	0.634	5.07	No	No	Yes	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_24+27		pg/l	0.469	0.469	U	U	0.469	10.1	No	Yes	No	Yes	
	PCB_cong_25	55712373	pg/l	0.588	0.588	U	U	0.588	5.07	No	Yes	No	Yes	
	PCB_cong_26	38444814	pg/l	0.563	0.563	U	U	0.563	5.07	No	Yes	No	Yes	
	PCB_cong_28	7012375	pg/l	0.702	0.702	EMPC	EMPC		5.07	No	Yes	No	Yes	
	PCB_cong_29	15862074	pg/l	0.577	0.577	U	U	0.577	5.07	No	Yes	No	Yes	
	PCB_cong_30	35693926	pg/l	0.461	0.461	U	U	0.461	5.07	No	No	Yes	Yes	
	PCB_cong_31	16606023	pg/l	0.620	0.620	EMPC	EMPC		5.07	No	No	Yes	Yes	
	PCB_cong_34	37680685	pg/l	0.563	0.563	U	U	0.563	5.07	No	No	Yes	Yes	
	PCB_cong_35	37680696	pg/l	0.447	0.447	U	U	0.447	5.07	No	No	Yes	Yes	
	PCB_cong_36	38444870	pg/l	0.439	0.439	U	U	0.439	5.07	No	No	Yes	Yes	
	PCB_cong_37	38444905	pg/l	0.418	0.418	U	U	0.418	5.07	No	No	Yes	Yes	
	PCB_cong_38	53555661	pg/l	0.453	0.453	U	U	0.453	5.07	No	No	Yes	Yes	
	PCB_cong_39	38444881	pg/l	0.414	0.414	U	U	0.414	5.07	No	No	Yes	Yes	
	PCB_cong_4+10		pg/l	1.37	1.37	U	U	1.37	10.1	No	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/l	0.744	0.744	U	U	0.744	5.07	No	No	Yes	No	Yes
	PCB_cong_42	36559225	pg/l	0.507	0.507	U	U	0.507	10.1	No	No	Yes	No	Yes
	PCB_cong_43	70362468	pg/l	0.513	0.513	EMPC	EMPC		10.1	No	No	Yes	No	Yes
	PCB_cong_44	41464395	pg/l	1.15	1.15	J	J		5.07	Yes	No	No	No	Yes
	PCB_cong_45	70362457	pg/l	0.704	0.704	U	U	0.704	5.07	No	No	Yes	No	Yes
	PCB_cong_46	41464475	pg/l	0.753	0.753	U	U	0.753	5.07	No	No	Yes	No	Yes
	PCB_cong_47	2437798	pg/l	3.55	3.55	J, B	J		5.07	Yes	Yes	No	No	Yes
	PCB_cong_48+75		pg/l	0.485	0.485	U	U	0.485	10.1	No	No	Yes	No	Yes
	PCB_cong_5+8		pg/l	1.03	1.03	U	U	1.03	10.1	No	No	Yes	No	Yes
	PCB_cong_50	62796650	pg/l	0.614	0.614	U	U	0.614	5.07	No	No	Yes	No	Yes
	PCB_cong_51	68194047	pg/l	0.989	0.989	J	J		5.07	Yes	Yes	No	No	Yes
	PCB_cong_52+69		pg/l	1.31	1.31	J	J		10.1	Yes	Yes	No	No	Yes
	PCB_cong_53	41464419	pg/l	0.637	0.637	U	U	0.637	5.07	No	No	Yes	No	Yes
	PCB_cong_54	15968055	pg/l	0.514	0.514	U	U	0.514	5.07	No	No	Yes	No	Yes
PCB_cong_55	74338242	pg/l	0.408	0.408	U	U	0.408	5.07	No	No	Yes	No	Yes	
PCB_cong_56+60		pg/l	0.417	0.417	U	U	0.417	10.1	No	No	Yes	No	Yes	
PCB_cong_57	70424678	pg/l	0.428	0.428	U	U	0.428	5.07	No	No	Yes	No	Yes	

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EPA1668A	PCB_cong_58	41464497	pg/l	0.414	0.414	U	U	0.414	5.07	No	Yes	No	Yes	
	PCB_cong_6	25569806	pg/l	1.08	1.08	U	U	1.08	5.07	No	Yes	No	Yes	
	PCB_cong_61+70		pg/l	0.675	0.675	EMPC	EMPC		10.1	No	Yes	No	Yes	
	PCB_cong_62	54230227	pg/l	0.473	0.473	U	U	0.473	5.07	No	Yes	No	Yes	
	PCB_cong_63	74472347	pg/l	0.400	0.400	U	U	0.400	5.07	No	Yes	No	Yes	
	PCB_cong_65	33284547	pg/l	0.505	0.505	U	U	0.505	5.07	No	Yes	No	Yes	
	PCB_cong_66+76		pg/l	0.502	0.502	U	U	0.502	10.1	No	Yes	No	Yes	
	PCB_cong_67	73575538	pg/l	0.437	0.437	U	U	0.437	5.07	No	Yes	No	Yes	
	PCB_cong_68	73575527	pg/l	0.722	0.722	U	U	0.722	5.07	No	Yes	No	Yes	
	PCB_cong_7+9		pg/l	1.03	1.03	U	U	1.03	10.1	No	Yes	No	Yes	
	PCB_cong_73	74338231	pg/l	0.511	0.511	U	U	0.511	5.07	No	Yes	No	Yes	
	PCB_cong_74	32690930	pg/l	0.489	0.489	U	U	0.489	5.07	No	Yes	No	Yes	
	PCB_cong_77	32598133	pg/l	0.406	0.406	U	U	0.406	5.07	No	Yes	No	Yes	
	PCB_cong_78	70362491	pg/l	0.432	0.432	U	U	0.432	5.07	No	Yes	No	Yes	
	PCB_cong_79	41464486	pg/l	0.405	0.405	U	U	0.405	5.07	No	Yes	No	Yes	
	PCB_cong_80	33284525	pg/l	0.363	0.363	U	U	0.363	5.07	No	Yes	No	Yes	
	PCB_cong_81	70362504	pg/l	0.399	0.399	U	U	0.399	5.07	No	Yes	No	Yes	
	PCB_cong_82	52663624	pg/l	1.50	1.50	U	U	1.50	5.07	No	Yes	No	Yes	
	PCB_cong_83	60145202	pg/l	0.987	0.987	U	U	0.987	5.07	No	Yes	No	Yes	
	PCB_cong_84+92		pg/l	1.37	1.37	U	U	1.37	10.1	No	Yes	No	Yes	
	PCB_cong_85+116		pg/l	1.17	1.17	U	U	1.17	10.1	No	No	Yes	No	Yes
	PCB_cong_86	55312691	pg/l	1.64	1.64	U	U	1.64	5.07	No	Yes	No	Yes	
	PCB_cong_88+91		pg/l	1.38	1.38	U	U	1.38	5.07	No	Yes	No	Yes	
	PCB_cong_89	73575572	pg/l	1.43	1.43	U	U	1.43	5.07	No	Yes	No	Yes	
	PCB_cong_90+101		pg/l	0.848	0.848	U	U	0.848	10.1	No	Yes	No	Yes	
PCB_cong_93	73575561	pg/l	1.43	1.43	U	U	1.43	5.07	No	Yes	No	Yes		
PCB_cong_94	73575550	pg/l	1.44	1.44	U	U	1.44	5.07	No	Yes	No	Yes		
PCB_cong_96	73575549	pg/l	1.16	1.16	U	U	1.16	5.07	No	Yes	No	Yes		
PCB_cong_97	41464511	pg/l	1.28	1.28	U	U	1.28	5.07	No	Yes	No	Yes		
PCB_cong_99	38380017	pg/l	1.25	1.25	U	U	1.25	5.07	No	Yes	No	Yes		
PentCBiphenyls		25429292	pg/l	0.454	0.454	EMPC	EMPC		5.07	No	Yes	No	Yes	

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Sample		HomogenBlank_101916												
Method Code	Analyte	Cas No	Units	Lab ID	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TetCBiphenyls	26914330	pg/l	1601354-13	7.94	7.94			9.13	5.07	No	No	No	Yes
	TotPCBs		pg/l		21.1	21.1				5.07	No	No	No	Yes
	TriCBiphenyls	25323686	pg/l		1.44	1.44			4.94	5.07	No	No	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1613B				HomogenBlank_101816										
				1601354-14										
		1234678HepDioxin	35622469	pg/l	1.32	1.32	U	U	1.32	24.5	No	Yes	No	Yes
		1234678HepFuran	67562394	pg/l	0.721	0.721	U	U	0.721	24.5	No	Yes	No	Yes
		1234789HepFuran	55673897	pg/l	0.794	0.794	U	U	0.794	24.5	No	Yes	No	Yes
		123478HexDioxin	39227286	pg/l	1.14	1.14	U	U	1.14	24.5	No	Yes	No	Yes
		123478HexFuran	70648269	pg/l	0.639	0.639	U	U	0.639	24.5	No	Yes	No	Yes
		123678HexDioxin	57653857	pg/l	1.19	1.19	U	U	1.19	24.5	No	Yes	No	Yes
		123678HexFuran	57117449	pg/l	0.685	0.685	U	U	0.685	24.5	No	Yes	No	Yes
		123789HexDioxin	19408743	pg/l	1.29	1.29	U	U	1.29	24.5	No	Yes	No	Yes
		123789HexFuran	72918219	pg/l	1.13	1.13	U	U	1.13	24.5	No	Yes	No	Yes
		12378PenDioxin	40321764	pg/l	0.516	0.516	U	U	0.516	24.5	No	Yes	No	Yes
		12378PenFuran	57117416	pg/l	0.718	0.718	U	U	0.718	24.5	No	Yes	No	Yes
		234678HexFuran	60851345	pg/l	0.722	0.722	U	U	0.722	24.5	No	Yes	No	Yes
		23478PenFuran	57117314	pg/l	0.672	0.672	U	U	0.672	24.5	No	Yes	No	Yes
		2378TeDioxin	1746016	pg/l	0.418	0.418	U	U	0.418	4.90	No	Yes	No	Yes
		2378TeFuran	51207319	pg/l	0.901	0.901	U	U	0.901	4.90	No	Yes	No	Yes
		HpCIBzDioxin	37871004	pg/l	1.32	1.32	U	U	1.32	24.5	No	Yes	No	Yes
		HpCIBzFuran	38998753	pg/l	0.754	0.754	U	U	0.754	24.5	No	Yes	No	Yes
		HxCIBzDioxin	34465468	pg/l	1.21	1.21	U	U	1.21	24.5	No	Yes	No	Yes
		HxCIBzFuran	55684941	pg/l	0.775	0.775	U	U	0.775	24.5	No	Yes	No	Yes
		OctCIBzDioxin	3268879	pg/l	1.44	1.44	U	U	1.44	49.0	No	Yes	No	Yes
		OctCIBzFuran	39001020	pg/l	2.50	2.50	U	U	2.50	49.0	No	Yes	No	Yes
		PenCIBzDioxin	36088229	pg/l	0.516	0.516	U	U	0.516	24.5	No	Yes	No	Yes
		PenCIBzFuran	30402154	pg/l	0.695	0.695	U	U	0.695	24.5	No	Yes	No	Yes
		TEQMinWHO05Dioxn		pg/l	0.00	0.00					No	No	No	Yes
		TeCIBzDioxin	41903575	pg/l	0.418	0.418	U	U	0.418	4.90	No	Yes	No	Yes
		TeCIBzFuran	30402143	pg/l	0.901	0.901	U	U	0.901	4.90	No	Yes	No	Yes
	EPA1614	PBDE_cong_153		pg/l	3.81	3.81	EMPC	EMPC		96.5	No	Yes	No	Yes
		PBDE_cong_209		pg/l	83.6	83.6	U	U	83.6	482	No	Yes	No	Yes
		PBDE_cong_47		pg/l	18.0	18.0	EMPC	EMPC		96.5	No	Yes	No	Yes
		PBDE_cong_99		pg/l	12.2	12.2	EMPC	EMPC		96.5	No	Yes	No	Yes

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1614	Total Deca-BDE		pg/l	83.6	83.6	U	U	83.6	482	No	Yes	No	Yes	
	Total Di-BDE	2050477	pg/l	0.145	0.145	U	U	0.145	48.2	No	Yes	No	Yes	
	Total Hepta-BDE	68928803	pg/l	7.31	7.31	J	J		193	Yes	No	No	Yes	
	Total Hexa-BDE	36483600	pg/l	2.70	2.70	J, B	J	6.51	96.5	Yes	No	No	Yes	
	Total Mono-BDE	101553	pg/l	1.12	1.12	U	U	1.12	48.2	No	Yes	No	Yes	
	Total Nona-BDE	63936561	pg/l	3.46	3.46	U	U	3.46	482	No	Yes	No	Yes	
	Total Octa-BDE	32536520	pg/l	2.24	2.24	U	U	2.24	193	No	Yes	No	Yes	
	Total Penta-BDE	32534819	pg/l	2.92	2.92	J, B	J	15.1	96.5	Yes	No	No	Yes	
	Total Tetra-BDE	40088479	pg/l	18.0	18.0	EMPC	EMPC		96.5	No	Yes	No	Yes	
	Total Tri-BDE	49690940	pg/l	1.07	1.07	J, B	J	1.50	48.2	Yes	No	No	Yes	
	EPA1668A	2Cl11pBiphenyl	2051607	pg/l	1.26	1.26	U	U	1.26	5.28	No	Yes	No	Yes
		35DiClBiphenyl	34883415	pg/l	1.20	1.20	U	U	1.20	5.28	No	Yes	No	Yes
		3ClBiphenyl	2051618	pg/l	1.27	1.27	U	U	1.27	5.28	No	Yes	No	Yes
		44DiClBiphenyl	2050682	pg/l	1.23	1.23	U	U	1.23	5.28	No	Yes	No	Yes
4Cl11Biphenyl		2051629	pg/l	1.23	1.23	U	U	1.23	5.28	No	Yes	No	Yes	
DecaClBiphenyls			pg/l	0.592	0.592	U	U	0.592	5.28	No	Yes	No	Yes	
DecClBiphenyl		2051243	pg/l	0.592	0.592	U	U	0.592	5.28	No	Yes	No	Yes	
DiClBiphenyls		25512429	pg/l	8.00	8.00	U	U	8.00	5.28	No	Yes	No	Yes	
HepClBiphenyls		28655712	pg/l	0.602	0.602	U	U	0.602	5.28	No	Yes	No	Yes	
HexClBiphenyls		26601649	pg/l	0.774	0.774				5.28	No	No	No	Yes	
MonoClBiphenyls		27323188	pg/l	1.27	1.27	U	U	1.27	5.28	No	Yes	No	Yes	
NonClBiphenyls		53742077	pg/l	0.493	0.493	U	U	0.493	5.28	No	Yes	No	Yes	
OctClBiphenyls		55722264	pg/l	0.558	0.558	EMPC	EMPC		5.28	No	Yes	No	Yes	
PCB_138+163+164			pg/l	0.774	0.774	J	J		15.8	Yes	No	No	Yes	
PCB_20+21+33		pg/l	0.630	0.630	U	U	0.630	15.8	No	Yes	No	Yes		
PCB_41+64+71+72		pg/l	1.06	1.06	J	J		21.1	Yes	No	No	Yes		
PCB_87+117+125		pg/l	1.41	1.41	U	U	1.41	15.8	No	Yes	No	Yes		
PCB_95+98+102		pg/l	0.925	0.925	EMPC	EMPC		15.8	No	Yes	No	Yes		
PCB_cong_100		pg/l	1.66	1.66	U	U	1.66	5.28	No	Yes	No	Yes		
PCB_cong_103		pg/l	1.67	1.67	U	U	1.67	5.28	No	Yes	No	Yes		
PCB_cong_104		pg/l	1.31	1.31	U	U	1.31	5.28	No	Yes	No	Yes		

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Sample		HomogenBlank_101816											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_105	32598144	pg/l	0.663	0.663	U	U	0.663	5.28	No	Yes	No	Yes
	PCB_cong_106+118		pg/l	1.21	1.21	U	U	1.21	10.6	No	Yes	No	Yes
	PCB_cong_107+109		pg/l	1.19	1.19	U	U	1.19	10.6	No	Yes	No	Yes
	PCB_cong_108+112		pg/l	1.56	1.56	U	U	1.56	10.6	No	Yes	No	Yes
	PCB_cong_11	2050671	pg/l	8.00	8.00	U	U	8.00	5.28	No	Yes	No	Yes
	PCB_cong_110	38380039	pg/l	1.21	1.21	J	J		5.28	Yes	No	No	Yes
	PCB_cong_111+115		pg/l	1.21	1.21	U	U	1.21	10.6	No	Yes	No	Yes
	PCB_cong_113	68194105	pg/l	1.38	1.38	U	U	1.38	5.28	No	Yes	No	Yes
	PCB_cong_114	74472370	pg/l	0.696	0.696	U	U	0.696	5.28	No	Yes	No	Yes
	PCB_cong_119	56558179	pg/l	1.20	1.20	U	U	1.20	5.28	No	Yes	No	Yes
	PCB_cong_12+13		pg/l	1.38	1.38	U	U	1.38	10.6	No	Yes	No	Yes
	PCB_cong_120	68194127	pg/l	1.17	1.17	U	U	1.17	5.28	No	Yes	No	Yes
	PCB_cong_121	56558180	pg/l	1.27	1.27	U	U	1.27	5.28	No	Yes	No	Yes
	PCB_cong_122	76842074	pg/l	0.787	0.787	U	U	0.787	5.28	No	Yes	No	Yes
PCB_cong_123	65510443	pg/l	1.18	1.18	U	U	1.18	5.28	No	Yes	No	Yes	
PCB_cong_124	70424703	pg/l	1.23	1.23	U	U	1.23	5.28	No	Yes	No	Yes	
PCB_cong_126	57465288	pg/l	0.669	0.669	U	U	0.669	5.28	No	Yes	No	Yes	
PCB_cong_127	39635331	pg/l	0.698	0.698	U	U	0.698	5.28	No	Yes	No	Yes	
PCB_cong_128+162		pg/l	0.551	0.551	U	U	0.551	10.6	No	No	Yes	No	Yes
PCB_cong_129	55215184	pg/l	0.767	0.767	U	U	0.767	5.28	No	Yes	No	Yes	
PCB_cong_130	52663668	pg/l	0.743	0.743	U	U	0.743	5.28	No	Yes	No	Yes	
PCB_cong_131	61798707	pg/l	0.770	0.770	U	U	0.770	5.28	No	Yes	No	Yes	
PCB_cong_132+161		pg/l	0.559	0.559	U	U	0.559	10.6	No	No	Yes	No	Yes
PCB_cong_133+142		pg/l	0.793	0.793	U	U	0.793	10.6	No	No	Yes	No	Yes
PCB_cong_134+143		pg/l	0.764	0.764	U	U	0.764	10.6	No	No	Yes	No	Yes
PCB_cong_135	52744135	pg/l	1.76	1.76	U	U	1.76	5.28	No	No	Yes	No	Yes
PCB_cong_136	38411222	pg/l	1.22	1.22	U	U	1.22	5.28	No	Yes	No	Yes	
PCB_cong_137	35694065	pg/l	0.627	0.627	U	U	0.627	5.28	No	Yes	No	Yes	
PCB_cong_139+149		pg/l	0.907	0.907	U	U	0.907	10.6	No	No	Yes	No	Yes
PCB_cong_140	59291644	pg/l	1.73	1.73	U	U	1.73	5.28	No	No	Yes	No	Yes
PCB_cong_141	52712046	pg/l	0.643	0.643	U	U	0.643	5.28	No	No	Yes	No	Yes

Teck American Incorporated
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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_144	68194149	pg/l	1.57	1.57	U	U	1.57	5.28	No	Yes	No	Yes
	PCB_cong_145	74472405	pg/l	1.27	1.27	U	U	1.27	5.28	No	Yes	No	Yes
	PCB_cong_146+165		pg/l	0.637	0.637	U	U	0.637	10.6	No	Yes	No	Yes
	PCB_cong_147	68194138	pg/l	1.80	1.80	U	U	1.80	5.28	No	Yes	No	Yes
	PCB_cong_148	74472416	pg/l	1.77	1.77	U	U	1.77	5.28	No	Yes	No	Yes
	PCB_cong_150	68194081	pg/l	1.26	1.26	U	U	1.26	5.28	No	Yes	No	Yes
	PCB_cong_151	52663635	pg/l	1.69	1.69	U	U	1.69	5.28	No	Yes	No	Yes
	PCB_cong_152	68194092	pg/l	1.22	1.22	U	U	1.22	5.28	No	Yes	No	Yes
	PCB_cong_153	35065271	pg/l	0.544	0.544	U	U	0.544	5.28	No	Yes	No	Yes
	PCB_cong_154	60145224	pg/l	1.59	1.59	U	U	1.59	5.28	No	Yes	No	Yes
	PCB_cong_155	33979032	pg/l	1.15	1.15	U	U	1.15	5.28	No	Yes	No	Yes
	PCB_cong_156	38380084	pg/l	0.494	0.494	U	U	0.494	5.28	No	Yes	No	Yes
	PCB_cong_157	69782907	pg/l	0.500	0.500	U	U	0.500	5.28	No	Yes	No	Yes
	PCB_cong_158+160		pg/l	0.526	0.526	U	U	0.526	10.6	No	Yes	No	Yes
	PCB_cong_159	39635353	pg/l	0.455	0.455	U	U	0.455	5.28	No	Yes	No	Yes
	PCB_cong_16+32		pg/l	1.65	1.65	EMPC	EMPC		10.6	No	No	No	Yes
	PCB_cong_166	41411636	pg/l	0.488	0.488	U	U	0.488	5.28	No	Yes	No	Yes
	PCB_cong_167	52663726	pg/l	0.486	0.486	U	U	0.486	5.28	No	Yes	No	Yes
	PCB_cong_168	59291655	pg/l	0.494	0.494	U	U	0.494	5.28	No	Yes	No	Yes
	PCB_cong_169	32774166	pg/l	0.517	0.517	U	U	0.517	5.28	No	Yes	No	Yes
PCB_cong_17	37680663	pg/l	0.629	0.629	U	U	0.629	5.28	No	Yes	No	Yes	
PCB_cong_170	35065306	pg/l	0.513	0.513	U	U	0.513	5.28	No	Yes	No	Yes	
PCB_cong_171	52663715	pg/l	0.490	0.490	U	U	0.490	5.28	No	Yes	No	Yes	
PCB_cong_172	52663748	pg/l	0.535	0.535	U	U	0.535	5.28	No	Yes	No	Yes	
PCB_cong_173	68194161	pg/l	0.602	0.602	U	U	0.602	5.28	No	Yes	No	Yes	
PCB_cong_174	38411255	pg/l	0.548	0.548	U	U	0.548	5.28	No	Yes	No	Yes	
PCB_cong_175	40186707	pg/l	0.539	0.539	U	U	0.539	5.28	No	Yes	No	Yes	
PCB_cong_176	52663657	pg/l	0.389	0.389	U	U	0.389	5.28	No	Yes	No	Yes	
PCB_cong_177	52663704	pg/l	0.571	0.571	U	U	0.571	5.28	No	Yes	No	Yes	
PCB_cong_178	52663679	pg/l	0.505	0.505	U	U	0.505	5.28	No	Yes	No	Yes	
PCB_cong_179	52663646	pg/l	0.417	0.417	U	U	0.417	5.28	No	Yes	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1668A	PCB_cong_18	37680652	pg/l	1.40	1.40	EMPC	EMPC		5.28	No	Yes	No	Yes	
	PCB_cong_180	35065293	pg/l	0.399	0.399	U	U	0.399	5.28	No	Yes	No	Yes	
	PCB_cong_181	74472472	pg/l	0.507	0.507	U	U	0.507	5.28	No	Yes	No	Yes	
	PCB_cong_182+187		pg/l	0.488	0.488	U	U	0.488	10.6	No	Yes	No	Yes	
	PCB_cong_183	52663691	pg/l	0.441	0.441	U	U	0.441	5.28	No	Yes	No	Yes	
	PCB_cong_184	74472483	pg/l	0.421	0.421	U	U	0.421	5.28	No	Yes	No	Yes	
	PCB_cong_185	52712057	pg/l	0.520	0.520	U	U	0.520	5.28	No	Yes	No	Yes	
	PCB_cong_186	74472494	pg/l	0.388	0.388	U	U	0.388	5.28	No	Yes	No	Yes	
	PCB_cong_188	74487857	pg/l	0.380	0.380	U	U	0.380	5.28	No	Yes	No	Yes	
	PCB_cong_189	39635319	pg/l	0.344	0.344	U	U	0.344	5.28	No	Yes	No	Yes	
	PCB_cong_19	38444734	pg/l	0.758	0.758	U	U	0.758	5.28	No	Yes	No	Yes	
	PCB_cong_190	41411647	pg/l	0.380	0.380	U	U	0.380	5.28	No	Yes	No	Yes	
	PCB_cong_191	74472507	pg/l	0.393	0.393	U	U	0.393	5.28	5.28	No	Yes	No	Yes
	PCB_cong_192	74472518	pg/l	0.410	0.410	U	U	0.410	5.28	5.28	No	Yes	No	Yes
	PCB_cong_193	69782918	pg/l	0.396	0.396	U	U	0.396	5.28	5.28	No	Yes	No	Yes
	PCB_cong_194	35694087	pg/l	0.558	0.558	EMPC	EMPC		5.28	5.28	No	Yes	No	Yes
	PCB_cong_195	52663782	pg/l	0.504	0.504	U	U	0.504	5.28	5.28	No	Yes	No	Yes
	PCB_cong_196+203		pg/l	1.21	1.21	U	U	1.21	10.6	10.6	No	Yes	No	Yes
	PCB_cong_197	33091177	pg/l	0.867	0.867	U	U	0.867	5.28	5.28	No	Yes	No	Yes
	PCB_cong_198	68194172	pg/l	1.30	1.30	U	U	1.30	5.28	5.28	No	Yes	No	Yes
	PCB_cong_199	52663759	pg/l	1.31	1.31	U	U	1.31	5.28	5.28	No	Yes	No	Yes
	PCB_cong_200	52663737	pg/l	0.944	0.944	U	U	0.944	5.28	5.28	No	Yes	No	Yes
	PCB_cong_201	40186718	pg/l	0.908	0.908	U	U	0.908	5.28	5.28	No	Yes	No	Yes
PCB_cong_202	2136994	pg/l	0.973	0.973	U	U	0.973	5.28	5.28	No	Yes	No	Yes	
PCB_cong_204	74472529	pg/l	0.962	0.962	U	U	0.962	5.28	5.28	No	Yes	No	Yes	
PCB_cong_205	74472530	pg/l	0.343	0.343	U	U	0.343	5.28	5.28	No	Yes	No	Yes	
PCB_cong_206	40186729	pg/l	0.493	0.493	U	U	0.493	5.28	5.28	No	Yes	No	Yes	
PCB_cong_207	52663793	pg/l	0.264	0.264	U	U	0.264	5.28	5.28	No	Yes	No	Yes	
PCB_cong_208	52663771	pg/l	0.161	0.161	U	U	0.161	5.28	5.28	No	Yes	No	Yes	
PCB_cong_22	38444858	pg/l	0.445	0.445	U	U	0.445	5.28	5.28	No	Yes	No	Yes	
PCB_cong_23	55720440	pg/l	0.746	0.746	U	U	0.746	5.28	5.28	No	Yes	No	Yes	

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Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_24+27		pg/l	0.534	0.534	U	U	0.534	10.6	No	Yes	No	Yes
	PCB_cong_25	55712373	pg/l	0.692	0.692	U	U	0.692	5.28	No	Yes	No	Yes
	PCB_cong_26	38444814	pg/l	0.662	0.662	U	U	0.662	5.28	No	Yes	No	Yes
	PCB_cong_28	7012375	pg/l	0.715	0.715	EMPC	EMPC		5.28	No	Yes	No	Yes
	PCB_cong_29	15862074	pg/l	0.679	0.679	U	U	0.679	5.28	No	Yes	No	Yes
	PCB_cong_30	35693926	pg/l	0.498	0.498	U	U	0.498	5.28	No	Yes	No	Yes
	PCB_cong_31	16606023	pg/l	0.752	0.752	EMPC	EMPC		5.28	No	Yes	No	Yes
	PCB_cong_34	37680685	pg/l	0.662	0.662	U	U	0.662	5.28	No	Yes	No	Yes
	PCB_cong_35	37680696	pg/l	0.513	0.513	U	U	0.513	5.28	No	Yes	No	Yes
	PCB_cong_36	38444870	pg/l	0.504	0.504	U	U	0.504	5.28	No	Yes	No	Yes
	PCB_cong_37	38444905	pg/l	0.480	0.480	U	U	0.480	5.28	No	Yes	No	Yes
	PCB_cong_38	53555661	pg/l	0.520	0.520	U	U	0.520	5.28	No	Yes	No	Yes
	PCB_cong_39	38444881	pg/l	0.476	0.476	U	U	0.476	5.28	No	Yes	No	Yes
	PCB_cong_4+10		pg/l	1.56	1.56	U	U	1.56	10.6	No	Yes	No	Yes
	PCB_cong_40	38444938	pg/l	0.762	0.762	U	U	0.762	5.28	No	Yes	No	Yes
	PCB_cong_42	36559225	pg/l	0.520	0.520	U	U	0.520	10.6	No	Yes	No	Yes
	PCB_cong_43	70362468	pg/l	0.483	0.483	EMPC	EMPC		10.6	No	Yes	No	Yes
	PCB_cong_44	41464395	pg/l	1.37	1.37	J	J		5.28	Yes	No	No	Yes
	PCB_cong_45	70362457	pg/l	0.652	0.652	U	U	0.652	5.28	No	Yes	No	Yes
	PCB_cong_46	41464475	pg/l	0.697	0.697	U	U	0.697	5.28	No	Yes	No	Yes
	PCB_cong_47	2437798	pg/l	9.09	9.09	B	B		5.28	No	No	No	Yes
	PCB_cong_48+75		pg/l	0.497	0.497	U	U	0.497	10.6	No	Yes	No	Yes
	PCB_cong_5+8		pg/l	1.45	1.45	U	U	1.45	10.6	No	Yes	No	Yes
	PCB_cong_50	62796650	pg/l	0.616	0.616	U	U	0.616	5.28	No	Yes	No	Yes
	PCB_cong_51	68194047	pg/l	2.07	2.07	J	J		5.28	Yes	No	No	Yes
	PCB_cong_52+69		pg/l	1.61	1.61	J	J		10.6	Yes	No	No	Yes
	PCB_cong_53	41464419	pg/l	0.590	0.590	U	U	0.590	5.28	No	Yes	No	Yes
	PCB_cong_54	15968055	pg/l	0.516	0.516	U	U	0.516	5.28	No	Yes	No	Yes
	PCB_cong_55	74338242	pg/l	0.398	0.398	U	U	0.398	5.28	No	Yes	No	Yes
	PCB_cong_56+60		pg/l	0.406	0.406	U	U	0.406	10.6	No	Yes	No	Yes
	PCB_cong_57	70424678	pg/l	0.439	0.439	U	U	0.439	5.28	No	Yes	No	Yes

Teck American Incorporated
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Sample		HomogenBlank_101816											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	PCB_cong_58	41464497	pg/l	0.425	0.425	U	U	0.425	5.28	No	Yes	No	Yes
	PCB_cong_6	25569806	pg/l	1.46	1.46	U	U	1.46	5.28	No	Yes	No	Yes
	PCB_cong_61+70		pg/l	0.765	0.765	J	J		10.6	Yes	No	No	Yes
	PCB_cong_62	54230227	pg/l	0.485	0.485	U	U	0.485	5.28	No	Yes	No	Yes
	PCB_cong_63	74472347	pg/l	0.410	0.410	U	U	0.410	5.28	No	Yes	No	Yes
	PCB_cong_65	33284547	pg/l	0.517	0.517	U	U	0.517	5.28	No	Yes	No	Yes
	PCB_cong_66+76		pg/l	0.431	0.431	U	U	0.431	10.6	No	Yes	No	Yes
	PCB_cong_67	73575538	pg/l	0.448	0.448	U	U	0.448	5.28	No	Yes	No	Yes
	PCB_cong_68	73575527	pg/l	1.94	1.94	J	J		5.28	Yes	No	No	Yes
	PCB_cong_7+9		pg/l	1.39	1.39	U	U	1.39	10.6	No	Yes	No	Yes
	PCB_cong_73	74338231	pg/l	0.473	0.473	U	U	0.473	5.28	No	Yes	No	Yes
	PCB_cong_74	32690930	pg/l	0.419	0.419	U	U	0.419	5.28	No	Yes	No	Yes
	PCB_cong_77	32598133	pg/l	0.406	0.406	U	U	0.406	5.28	No	Yes	No	Yes
	PCB_cong_78	70362491	pg/l	0.436	0.436	U	U	0.436	5.28	No	Yes	No	Yes
	PCB_cong_79	41464486	pg/l	0.395	0.395	U	U	0.395	5.28	No	Yes	No	Yes
	PCB_cong_80	33284525	pg/l	0.354	0.354	U	U	0.354	5.28	No	Yes	No	Yes
	PCB_cong_81	70362504	pg/l	0.403	0.403	U	U	0.403	5.28	No	Yes	No	Yes
	PCB_cong_82	52663624	pg/l	1.96	1.96	U	U	1.96	5.28	No	Yes	No	Yes
	PCB_cong_83	60145202	pg/l	1.32	1.32	U	U	1.32	5.28	No	Yes	No	Yes
	PCB_cong_84+92		pg/l	1.75	1.75	U	U	1.75	10.6	No	Yes	No	Yes
	PCB_cong_85+116		pg/l	1.56	1.56	U	U	1.56	10.6	No	Yes	No	Yes
	PCB_cong_86	55312691	pg/l	2.19	2.19	U	U	2.19	5.28	No	Yes	No	Yes
	PCB_cong_88+91		pg/l	1.79	1.79	U	U	1.79	5.28	No	Yes	No	Yes
	PCB_cong_89	73575572	pg/l	1.83	1.83	U	U	1.83	5.28	No	Yes	No	Yes
	PCB_cong_90+101		pg/l	0.942	0.942	U	U	0.942	10.6	No	Yes	No	Yes
	PCB_cong_93	73575561	pg/l	1.85	1.85	U	U	1.85	5.28	No	Yes	No	Yes
	PCB_cong_94	73575550	pg/l	1.87	1.87	U	U	1.87	5.28	No	Yes	No	Yes
PCB_cong_96	73575549	pg/l	1.48	1.48	U	U	1.48	5.28	No	Yes	No	Yes	
PCB_cong_97	41464511	pg/l	1.71	1.71	U	U	1.71	5.28	No	Yes	No	Yes	
PCB_cong_99	38380017	pg/l	1.61	1.61	U	U	1.61	5.28	No	Yes	No	Yes	
PentCIBiphenyls		pg/l	1.21	1.21			2.13	5.28	No	No	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: 1601354

Sample		HomogenBlank_101816											
Lab ID		1601354-14											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1668A	TetCBiphenyls	26914330	pg/l	17.9	17.9			18.4	5.28	No	No	No	Yes
	TotPCBs		pg/l	19.9	19.9				5.28	No	No	No	Yes
	TriCBiphenyls	25323686	pg/l	4.52	4.52	EMPC	EMPC		5.28	No	Yes	No	Yes

B. SAMPLE DELIVERY GROUP K1611838

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-A1												
Lab ID		K1611838-009												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1631E	Mercury	7439976	ng/g	278	278			0.29	4.8	No	No	No	Yes	
EPA1632	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes	
EPA6010C	Boron	7440428	mg/kg	1.9	1.9	U	U	0.8	1.9	No	Yes	No	Yes	
	Calcium	7440702	mg/kg	281	281			1.9	3.9	No	No	No	Yes	
	Magnesium	7439954	mg/kg	1120	1120			0.58	0.97	No	No	No	Yes	
	Potassium	7440097	mg/kg	17100	17100			8.7	19.3	No	No	No	Yes	
	Silicon	7440213	mg/kg	11.1	11.1	J	J	1.8	18.1	Yes	No	No	Yes	
	Sodium	7440235	mg/kg	1510	1510			1.9	19.3	No	No	No	Yes	
	Sulfur	7704-34-9	mg/kg	8190	8190			0.9	4.8	No	No	No	Yes	
EPA6020	Aluminum	7429905	mg/kg	4.1	4.1			0.2	1.9	No	No	No	Yes	
	Antimony	7440360	mg/kg	0.010	0.010	J	U*	0.010	0.048	No	Yes	No	Yes	
	Arsenic	7440382	mg/kg	0.693	0.693			0.010	0.482	No	No	No	Yes	
	Barium	7440393	mg/kg	0.105	0.105			0.010	0.048	No	No	No	Yes	
	Beryllium	7440417	mg/kg	0.019	0.019	U	U	0.004	0.019	No	Yes	No	Yes	
	Cadmium	7440439	mg/kg	0.007	0.007	J	J	0.001	0.019	Yes	No	No	Yes	
	Chromium	7440473	mg/kg	0.28	0.28			0.01	0.19	No	No	No	Yes	
	Cobalt	7440484	mg/kg	0.015	0.015	J	J	0.001	0.019	Yes	No	No	Yes	
	Copper	7440508	mg/kg	0.92	0.92			0.01	0.10	No	No	No	Yes	
	Iron	7439896	mg/kg	14.3	14.3			0.04	0.97	No	No	No	Yes	
	Lead	7439921	mg/kg	0.055	0.055			0.001	0.019	No	No	No	Yes	
	Manganese	7439965	mg/kg	1.26	1.26			0.005	0.048	No	No	No	Yes	
	Molybdenum	7439987	mg/kg	0.0122	0.0122	J	J	0.0029	0.0482	Yes	No	No	Yes	
	Nickel	7440020	mg/kg	0.13	0.13	J	J	0.01	0.19	Yes	No	No	Yes	
	Silver	7440224	mg/kg	0.013	0.013	J	U*	0.013	0.019	No	Yes	No	Yes	
	Thallium	7440280	mg/kg	0.012	0.012	J	J	0.001	0.019	Yes	No	No	Yes	
	Tin	7440315	mg/kg	0.013	0.013	J	J	0.002	0.048	Yes	No	No	Yes	
	Uranium	7440611	mg/kg	0.001	0.001	J	J	0.001	0.019	Yes	No	No	Yes	
	Vanadium	7440622	mg/kg	0.02	0.02	J	J	0.01	0.19	Yes	No	No	Yes	
	Zinc	7440666	mg/kg	12.3	12.3			0.04	0.48	No	No	No	Yes	
EPA7742	Selenium	7782492	mg/kg	3.96	3.96			0.19	0.39	No	No	No	Yes	

Teck American Incorporated
 Upper Columbia River 2016 Sturgeon Tissue Study
 SDG: K1611838

Sample		EPA-HS-A1												
Lab ID		K1611838-009												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
Freeze Dry	Solids		percent	23.9	23.9					No	No	No	Yes	
SM4500FC	Fluoride	Fluoride	mg/kg	1.5	1.5	J	J	0.9	1.8	Yes	No	No	Yes	

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-A1											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA6010C	Boron	7440428	mg/kg	2.0	2.0	U	U	0.8	2.0	No	Yes	No	Yes
	Calcium	7440702	mg/kg	278	278			2.0	3.9	No	No	No	Yes
	Magnesium	7439954	mg/kg	1110	1110			0.59	0.98	No	No	No	Yes
	Potassium	7440097	mg/kg	17100	17100			8.8	19.5	No	No	No	Yes
	Silicon	7440213	mg/kg	10.0	10.0	J	J	1.9	19.0	Yes	No	No	Yes
	Sodium	7440235	mg/kg	1500	1500			2.0	19.5	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	8090	8090			0.9	4.9	No	No	No	Yes
	Aluminum	7429905	mg/kg	3.5	3.5			0.2	2.0	No	No	No	Yes
	Antimony	7440360	mg/kg	0.006	0.006	J	U*	0.006	0.049	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.701	0.701			0.010	0.489	No	No	No	Yes
	Barium	7440393	mg/kg	0.101	0.101			0.010	0.049	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.020	0.020	U	U	0.004	0.020	No	Yes	No	Yes
	EPA6020	Cadmium	7440439	mg/kg	0.005	0.005	J	J	0.001	0.020	Yes	No	No
Chromium		7440473	mg/kg	0.17	0.17	J	J	0.01	0.20	Yes	No	No	Yes
Cobalt		7440484	mg/kg	0.015	0.015	J	J	0.001	0.020	Yes	No	No	Yes
Copper		7440508	mg/kg	0.92	0.92			0.01	0.10	No	No	No	Yes
Iron		7439896	mg/kg	13.07	13.07			0.04	0.98	No	No	No	Yes
Lead		7439921	mg/kg	0.048	0.048			0.001	0.020	No	No	No	Yes
Manganese		7439965	mg/kg	1.193	1.193			0.005	0.049	No	No	No	Yes
Molybdenum		7439987	mg/kg	0.0079	0.0079	J	J	0.0029	0.0489	Yes	No	No	Yes
Nickel		7440020	mg/kg	0.09	0.09	J	J	0.01	0.20	Yes	No	No	Yes
Silver		7440224	mg/kg	0.003	0.003	J	U*	0.003	0.020	No	Yes	No	Yes
Thallium		7440280	mg/kg	0.010	0.010	J	J	0.001	0.020	Yes	No	No	Yes
Tin		7440315	mg/kg	0.015	0.015	J	J	0.002	0.049	Yes	No	No	Yes
Uranium		7440611	mg/kg	0.020	0.020	U	U	0.001	0.020	No	Yes	No	Yes
EPA7742	Vanadium	7440622	mg/kg	0.02	0.02	J	J	0.01	0.20	Yes	No	No	Yes
	Zinc	7440666	mg/kg	12.21	12.21			0.04	0.49	No	No	No	Yes
	Selenium	7782492	mg/kg	4.17	4.17			0.20	0.39	No	No	No	Yes
	Solids		percent	23.8	23.8					No	No	No	Yes
SM4500FC	Fluoride		mg/kg	1.7	1.7			0.9	1.8	No	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-A1 DUP											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E	Mercury	7439976	ng/g	269	269			0.28	4.7	No	No	No	Yes
EPA1632	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
EPA6010C	Boron	7440428	mg/kg	2.0	2.0	U	U	0.8	2.0	No	Yes	No	Yes
	Calcium	7440702	mg/kg	361	361			2.0	4.0	No	No	No	Yes
	Magnesium	7439954	mg/kg	1070	1070			0.60	1.00	No	No	No	Yes
	Potassium	7440097	mg/kg	16300	16300			9.0	19.9	No	No	No	Yes
	Silicon	7440213	mg/kg	8.8	8.8	J	J	1.9	18.8	Yes	No	No	Yes
	Sodium	7440235	mg/kg	1420	1420			2.0	19.9	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	7910	7910			0.9	5.0	No	No	No	Yes
EPA6020	Aluminum	7429905	mg/kg	2.2	2.2			0.2	2.0	No	No	No	Yes
	Antimony	7440360	mg/kg	0.006	0.006	J	U*	0.006	0.050	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.714	0.714			0.010	0.498	No	No	No	Yes
	Barium	7440393	mg/kg	0.121	0.121			0.010	0.050	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.020	0.020	U	U	0.004	0.020	No	Yes	No	Yes
	Cadmium	7440439	mg/kg	0.005	0.005	J	J	0.001	0.020	Yes	No	No	Yes
	Chromium	7440473	mg/kg	0.21	0.21			0.01	0.20	No	No	No	Yes
	Cobalt	7440484	mg/kg	0.014	0.014	J	J	0.001	0.020	Yes	No	No	Yes
	Copper	7440508	mg/kg	0.94	0.94			0.02	0.10	No	No	No	Yes
	Iron	7439896	mg/kg	12.4	12.4			0.05	1.00	No	No	No	Yes
	Lead	7439921	mg/kg	0.034	0.034			0.001	0.020	No	No	No	Yes
	Manganese	7439965	mg/kg	1.17	1.17			0.005	0.050	No	No	No	Yes
	Molybdenum	7439987	mg/kg	0.0143	0.0143	J	J	0.0030	0.0498	Yes	No	No	Yes
	Nickel	7440020	mg/kg	0.14	0.14	J	J	0.01	0.20	Yes	No	No	Yes
	Silver	7440224	mg/kg	0.002	0.002	J	U*	0.002	0.020	No	Yes	No	Yes
	Thallium	7440280	mg/kg	0.013	0.013	J	J	0.001	0.020	Yes	No	No	Yes
	Tin	7440315	mg/kg	0.016	0.016	J	J	0.002	0.050	Yes	No	No	Yes
	Uranium	7440611	mg/kg	0.001	0.001	J	J	0.001	0.020	Yes	No	No	Yes
	Vanadium	7440622	mg/kg	0.01	0.01	J	J	0.01	0.20	Yes	No	No	Yes
	Zinc	7440666	mg/kg	12.9	12.9			0.04	0.50	No	No	No	Yes
EPA7742	Selenium	7782492	mg/kg	4.12	4.12			0.20	0.40	No	No	No	Yes

Teck American Incorporated
 Upper Columbia River 2016 Sturgeon Tissue Study
 SDG: K1611838

EPA-HS-A1 DUP													
Sample	K1611838-010												
Lab ID	K1611838-010												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	24.4	24.4					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	2.0	2.0	J	J	1.0	1.9	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-A1 TRIP											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E	Mercury	7439976	mg/g	283	283			0.28	4.6	No	No	No	Yes
EPA1632	As_inrg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
EPA6010C	Boron	7440428	mg/kg	1.8	1.8	U	U	0.7	1.8	No	Yes	No	Yes
	Calcium	7440702	mg/kg	300	300			1.8	3.6	No	No	No	Yes
	Magnesium	7439954	mg/kg	1060	1060			0.54	0.90	No	No	No	Yes
	Potassium	7440097	mg/kg	16300	16300			8.1	18.1	No	No	No	Yes
	Silicon	7440213	mg/kg	9.6	9.6	J	J	1.9	18.8	Yes	No	No	Yes
	Sodium	7440235	mg/kg	1430	1430			1.8	18.1	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	7660	7660			0.8	4.5	No	No	No	Yes
EPA6020	Aluminum	7429905	mg/kg	2.3	2.3			0.2	1.8	No	No	No	Yes
	Antimony	7440360	mg/kg	0.005	0.005	J	U*	0.005	0.045	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.670	0.670			0.009	0.452	No	No	No	Yes
	Barium	7440393	mg/kg	0.093	0.093			0.009	0.045	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.018	0.018	U	U	0.004	0.018	No	Yes	No	Yes
	Cadmium	7440439	mg/kg	0.005	0.005	J	J	0.001	0.018	Yes	No	No	Yes
	Chromium	7440473	mg/kg	0.14	0.14	J	J	0.01	0.18	Yes	No	No	Yes
	Cobalt	7440484	mg/kg	0.013	0.013	J	J	0.001	0.018	Yes	No	No	Yes
	Copper	7440508	mg/kg	0.83	0.83			0.01	0.09	No	No	No	Yes
	Iron	7439896	mg/kg	11.4	11.4			0.04	0.90	No	No	No	Yes
	Lead	7439921	mg/kg	0.051	0.051			0.001	0.018	No	No	No	Yes
	Manganese	7439965	mg/kg	1.14	1.14			0.005	0.045	No	No	No	Yes
	Molybdenum	7439987	mg/kg	0.0067	0.0067	J	J	0.0027	0.0452	Yes	No	No	Yes
	Nickel	7440020	mg/kg	0.07	0.07	J	J	0.01	0.18	Yes	No	No	Yes
	Silver	7440224	mg/kg	0.001	0.001	J	U*	0.001	0.018	No	Yes	No	Yes
	Thallium	7440280	mg/kg	0.010	0.010	J	J	0.001	0.018	Yes	No	No	Yes
	Tin	7440315	mg/kg	0.018	0.018	J	J	0.002	0.045	Yes	No	No	Yes
	Uranium	7440611	mg/kg	0.018	0.018	U	U	0.001	0.018	No	Yes	No	Yes
	Vanadium	7440622	mg/kg	0.01	0.01	J	J	0.01	0.18	Yes	No	No	Yes
	Zinc	7440666	mg/kg	12.0	12.0			0.04	0.45	No	No	No	Yes
EPA7742	Selenium	7782492	mg/kg	3.80	3.80			0.18	0.36	No	No	No	Yes

Teck American Incorporated
 Upper Columbia River 2016 Sturgeon Tissue Study
 SDG: K1611838

Sample		EPA-HS-A1 TRIP											
Lab ID		K1611838-011											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	23.4	23.4					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.8	1.8	J	J	1.0	2	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-A2											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E EPA1632 EPA6010C	Mercury	7439976	ng/g	242	242			0.28	4.7	No	No	No	Yes
	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
	Boron	7440428	mg/kg	2.0	2.0	U	U	0.8	2.0	No	Yes	No	Yes
EPA6020	Calcium	7440702	mg/kg	241	241			2.0	4.0	No	No	No	Yes
	Magnesium	7439954	mg/kg	1000	1000			0.60	0.99	No	No	No	Yes
	Potassium	7440097	mg/kg	15400	15400			8.9	19.9	No	No	No	Yes
	Silicon	7440213	mg/kg	8.1	8.1	J	J	2.0	19.6	Yes	No	No	Yes
	Sodium	7440235	mg/kg	1410	1410			2.0	19.9	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	7250	7250			0.9	5.0	No	No	No	Yes
	Aluminum	7429905	mg/kg	5.2	5.2			0.2	2.0	No	No	No	Yes
	Antimony	7440360	mg/kg	0.007	0.007	J	U*	0.007	0.050	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.617	0.617			0.010	0.497	No	No	No	Yes
	Barium	7440393	mg/kg	0.058	0.058			0.010	0.050	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.020	0.020	U	U	0.004	0.020	No	Yes	No	Yes
	EPA7742	Cadmium	7440439	mg/kg	0.004	0.004	J	J	0.001	0.020	Yes	No	No
Chromium		7440473	mg/kg	0.31	0.31			0.01	0.20	No	No	No	Yes
Cobalt		7440484	mg/kg	0.016	0.016	J	J	0.001	0.020	Yes	No	No	Yes
Copper		7440508	mg/kg	2.32	2.32			0.02	0.10	No	No	No	Yes
Iron		7439896	mg/kg	24.8	24.8			0.05	0.99	No	No	No	Yes
Lead		7439921	mg/kg	0.019	0.019	J	J	0.001	0.020	Yes	No	No	Yes
Manganese		7439965	mg/kg	0.988	0.988			0.005	0.050	No	No	No	Yes
Molybdenum		7439987	mg/kg	0.0125	0.0125	J	J	0.0030	0.0497	Yes	No	No	Yes
Nickel		7440020	mg/kg	0.14	0.14	J	J	0.01	0.20	Yes	No	No	Yes
Silver		7440224	mg/kg	0.020	0.020	U	U	0.001	0.020	No	Yes	No	Yes
Thallium		7440280	mg/kg	0.008	0.008	J	J	0.001	0.020	Yes	No	No	Yes
Tin		7440315	mg/kg	0.015	0.015	J	J	0.002	0.050	Yes	No	No	Yes
Uranium	7440611	mg/kg	0.020	0.020	U	U	0.001	0.020	No	Yes	No	Yes	
Vanadium	7440622	mg/kg	0.01	0.01	J	J	0.01	0.20	Yes	No	No	Yes	
Zinc	7440666	mg/kg	13.4	13.4			0.04	0.50	No	No	No	Yes	
Selenium	7782492	mg/kg	3.64	3.64			0.20	0.40	No	No	No	Yes	

Teck American Incorporated
 Upper Columbia River 2016 Sturgeon Tissue Study
 SDG: K1611838

Sample		EPA-HS-A2											
Lab ID		K1611838-020											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	23.7	23.7					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.7	1.7	J	J	0.9	1.9	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-A3											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E	Mercury	7439976	ng/g	260	260			0.29	4.8	No	No	No	Yes
EPA1632	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
EPA6010C	Boron	7440428	mg/kg	1.9	1.9	U	U	0.8	1.9	No	Yes	No	Yes
	Calcium	7440702	mg/kg	305	305			1.9	3.8	No	No	No	Yes
	Magnesium	7439954	mg/kg	1100	1100			0.57	0.94	No	No	No	Yes
	Potassium	7440097	mg/kg	16600	16600			8.5	18.9	No	No	No	Yes
	Silicon	7440213	mg/kg	9.5	9.5	J	J	2.0	19.8	Yes	No	No	Yes
	Sodium	7440235	mg/kg	1430	1430			1.9	18.9	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	7930	7930			0.8	4.7	No	No	No	Yes
EPA6020	Aluminum	7429905	mg/kg	2.1	2.1			0.2	1.9	No	No	No	Yes
	Antimony	7440360	mg/kg	0.008	0.008	J	U*	0.008	0.047	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.780	0.780			0.009	0.472	No	No	No	Yes
	Barium	7440393	mg/kg	0.108	0.108			0.009	0.047	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.005	0.005	J	J	0.004	0.019	Yes	No	No	Yes
	Cadmium	7440439	mg/kg	0.017	0.017	J	J	0.001	0.019	Yes	No	No	Yes
	Chromium	7440473	mg/kg	0.58	0.58			0.01	0.19	No	No	No	Yes
	Cobalt	7440484	mg/kg	0.018	0.018	J	J	0.001	0.019	Yes	No	No	Yes
	Copper	7440508	mg/kg	1.20	1.20			0.01	0.09	No	No	No	Yes
	Iron	7439896	mg/kg	21.2	21.2			0.04	0.94	No	No	No	Yes
	Lead	7439921	mg/kg	0.022	0.022			0.001	0.019	No	No	No	Yes
	Manganese	7439965	mg/kg	1.13	1.13			0.005	0.047	No	No	No	Yes
	Molybdenum	7439987	mg/kg	0.0235	0.0235	J	J	0.0028	0.0472	Yes	No	No	Yes
	Nickel	7440020	mg/kg	0.20	0.20			0.01	0.19	No	No	No	Yes
	Silver	7440224	mg/kg	0.019	0.019	U	U	0.001	0.019	No	Yes	No	Yes
	Thallium	7440280	mg/kg	0.017	0.017	J	J	0.001	0.019	Yes	No	No	Yes
	Tin	7440315	mg/kg	0.014	0.014	J	J	0.002	0.047	Yes	No	No	Yes
	Uranium	7440611	mg/kg	0.001	0.001	J	J	0.001	0.019	Yes	No	No	Yes
	Vanadium	7440622	mg/kg	0.02	0.02	J	J	0.01	0.19	Yes	No	No	Yes
	Zinc	7440666	mg/kg	13.9	13.9			0.04	0.47	No	No	No	Yes
EPA7742	Selenium	7782492	mg/kg	4.15	4.15			0.19	0.38	No	No	No	Yes

Teck American Incorporated
 Upper Columbia River 2016 Sturgeon Tissue Study
 SDG: K1611838

Sample		EPA-HS-A3											
Lab ID		K1611838-029											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	24.7	24.7					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.8	1.8	J	J	1	2	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-B1												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA1631E	Mercury	7439976	ng/g	258	258			0.27	4.5	No	No	No	Yes	
EPA1632	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes	
EPA6010C	Boron	7440428	mg/kg	1.9	1.9	U	U	0.8	1.9	No	Yes	No	Yes	
	Calcium	7440702	mg/kg	216	216			1.9	3.9	No	No	No	Yes	
	Magnesium	7439954	mg/kg	988	988			0.58	0.96	No	No	No	Yes	
	Potassium	7440097	mg/kg	14600	14600			8.7	19.2	No	No	No	Yes	
	Silicon	7440213	mg/kg	4.9	4.9	J	J	2.0	19.9	Yes	No	No	Yes	
	Sodium	7440235	mg/kg	1300	1300			1.9	19.2	No	No	No	Yes	
	Sulfur	7704-34-9	mg/kg	7070	7070			0.9	4.8	No	No	No	Yes	
EPA6020	Aluminum	7429905	mg/kg	2.1	2.1			0.2	1.9	No	No	No	Yes	
	Antimony	7440360	mg/kg	0.006	0.006	J	U*	0.006	0.048	No	Yes	No	Yes	
	Arsenic	7440382	mg/kg	0.704	0.704			0.010	0.481	No	No	No	Yes	
	Barium	7440393	mg/kg	0.069	0.069			0.010	0.048	No	No	No	Yes	
	Beryllium	7440417	mg/kg	0.019	0.019	U	U	0.004	0.019	No	Yes	No	Yes	
	Cadmium	7440439	mg/kg	0.003	0.003	J	J	0.001	0.019	Yes	No	No	Yes	
	Chromium	7440473	mg/kg	0.26	0.26			0.01	0.19	No	No	No	Yes	
	Cobalt	7440484	mg/kg	0.014	0.014	J	J	0.001	0.019	Yes	No	No	Yes	
	Copper	7440508	mg/kg	1.38	1.38			0.01	0.10	No	No	No	Yes	
	Iron	7439896	mg/kg	18.1	18.1			0.04	0.96	No	No	No	Yes	
	Lead	7439921	mg/kg	0.019	0.019			0.001	0.019	No	No	No	Yes	
	Manganese	7439965	mg/kg	0.918	0.918			0.005	0.048	No	No	No	Yes	
	Molybdenum	7439967	mg/kg	0.0070	0.0070	J	J	0.0029	0.0481	Yes	No	No	Yes	
	Nickel	7440020	mg/kg	0.14	0.14	J	J	0.01	0.19	Yes	No	No	Yes	
	Silver	7440224	mg/kg	0.019	0.019	U	U	0.001	0.019	No	Yes	No	Yes	
	Thallium	7440280	mg/kg	0.009	0.009	J	J	0.001	0.019	Yes	No	No	Yes	
	Tin	7440315	mg/kg	0.011	0.011	J	J	0.002	0.048	Yes	No	No	Yes	
	Uranium	7440611	mg/kg	0.019	0.019	U	U	0.001	0.019	No	Yes	No	Yes	
	Vanadium	7440622	mg/kg	0.02	0.02	J	J	0.01	0.19	Yes	No	No	Yes	
	Zinc	7440666	mg/kg	14.2	14.2			0.04	0.48	No	No	No	Yes	
EPA7742	Selenium	7782492	mg/kg	4.47	4.47			0.19	0.38	No	No	No	Yes	

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 SDG: K1611838

Sample		EPA-HS-B1											
Lab ID		K1611838-038											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	26.4	26.4					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.5	1.5	J	J	0.9	1.8	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-B2											
Lab ID		K1611838-047											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E EPA1632 EPA6010C	Mercury	7439976	ng/g	309	309			0.29	4.9	No	No	No	Yes
	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
	Boron	7440428	mg/kg	2.0	2.0	U	U	0.8	2.0	No	Yes	No	Yes
EPA6020	Calcium	7440702	mg/kg	254	254			2.0	3.9	No	No	No	Yes
	Magnesium	7439954	mg/kg	1070	1070			0.59	0.98	No	No	No	Yes
	Potassium	7440097	mg/kg	15600	15600			8.9	19.7	No	No	No	Yes
	Silicon	7440213	mg/kg	8.1	8.1	J	J	1.9	18.8	Yes	No	No	Yes
	Sodium	7440235	mg/kg	1440	1440			2.0	19.7	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	7650	7650			0.9	4.9	No	No	No	Yes
	Aluminum	7429905	mg/kg	1.9	1.9	J	J	0.2	2.0	Yes	No	No	Yes
	Antimony	7440360	mg/kg	0.006	0.006	J	U*	0.006	0.049	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.844	0.844			0.010	0.492	No	No	No	Yes
	Barium	7440393	mg/kg	0.069	0.069			0.010	0.049	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.020	0.020	U	U	0.004	0.020	No	Yes	No	Yes
	Cadmium	7440439	mg/kg	0.004	0.004	J	J	0.001	0.020	Yes	No	No	Yes
	Chromium	7440473	mg/kg	0.27	0.27			0.01	0.20	No	No	No	Yes
	Cobalt	7440484	mg/kg	0.013	0.013	J	J	0.001	0.020	Yes	No	No	Yes
Copper	7440508	mg/kg	1.11	1.11			0.02	0.10	No	No	No	Yes	
Iron	7439896	mg/kg	14.6	14.6			0.04	0.98	No	No	No	Yes	
Lead	7439921	mg/kg	0.015	0.015	J	J	0.001	0.020	Yes	No	No	Yes	
Manganese	7439965	mg/kg	1.04	1.04			0.005	0.049	No	No	No	Yes	
Molybdenum	7439987	mg/kg	0.0087	0.0087	J	J	0.0030	0.0492	Yes	No	No	Yes	
Nickel	7440020	mg/kg	0.09	0.09	J	J	0.01	0.20	Yes	No	No	Yes	
Silver	7440224	mg/kg	0.020	0.020	U	U	0.001	0.020	No	Yes	No	Yes	
Thallium	7440280	mg/kg	0.015	0.015	J	J	0.001	0.020	Yes	No	No	Yes	
Tin	7440315	mg/kg	0.016	0.016	J	J	0.002	0.049	Yes	No	No	Yes	
Uranium	7440611	mg/kg	0.020	0.020	U	U	0.001	0.020	No	Yes	No	Yes	
Vanadium	7440622	mg/kg	0.01	0.01	J	J	0.01	0.20	Yes	No	No	Yes	
Zinc	7440666	mg/kg	14.1	14.1			0.04	0.49	No	No	No	Yes	
EPA7742	Selenium	7782492	mg/kg	4.98	4.98			0.20	0.39	No	No	No	Yes

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 SDG: K1611838

Sample		EPA-HS-B2											
Lab ID		K1611838-047											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	24.6	24.6					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.7	1.7	J	J	0.9	1.9	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-B3											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E	Mercury	7439976	ng/g	370	370			0.3	4.9	No	No	No	Yes
EPA1632	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
EPA6010C	Boron	7440428	mg/kg	2.0	2.0	U	U	0.8	2.0	No	Yes	No	Yes
	Calcium	7440702	mg/kg	240	240			2.0	4.0	No	No	No	Yes
	Magnesium	7439954	mg/kg	1050	1050			0.60	1.00	No	No	No	Yes
	Potassium	7440097	mg/kg	15800	15800			9.0	19.9	No	No	No	Yes
	Silicon	7440213	mg/kg	8.0	8.0	J	J	2.0	19.5	Yes	No	No	Yes
	Sodium	7440235	mg/kg	1450	1450			2.0	19.9	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	7740	7740			0.9	5.0	No	No	No	Yes
EPA6020	Aluminum	7429905	mg/kg	1.7	1.7	J	J	0.2	2.0	Yes	No	No	Yes
	Antimony	7440360	mg/kg	0.004	0.004	J	U*	0.004	0.050	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	1.07	1.07			0.010	0.498	No	No	No	Yes
	Barium	7440393	mg/kg	0.060	0.060			0.010	0.050	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.020	0.020	U	U	0.004	0.020	No	Yes	No	Yes
	Cadmium	7440439	mg/kg	0.006	0.006	J	J	0.001	0.020	Yes	No	No	Yes
	Chromium	7440473	mg/kg	0.38	0.38			0.01	0.20	No	No	No	Yes
	Cobalt	7440484	mg/kg	0.014	0.014	J	J	0.001	0.020	Yes	No	No	Yes
	Copper	7440508	mg/kg	1.11	1.11			0.02	0.10	No	No	No	Yes
	Iron	7439896	mg/kg	17.9	17.9			0.05	1.00	No	No	No	Yes
	Lead	7439921	mg/kg	0.021	0.021			0.001	0.020	No	No	No	Yes
	Manganese	7439965	mg/kg	0.862	0.862			0.005	0.050	No	No	No	Yes
	Molybdenum	7439987	mg/kg	0.0160	0.0160	J	J	0.0030	0.0498	Yes	No	No	Yes
	Nickel	7440020	mg/kg	0.09	0.09	J	J	0.01	0.20	Yes	No	No	Yes
	Silver	7440224	mg/kg	0.006	0.006	J	U*	0.006	0.020	No	Yes	No	Yes
	Thallium	7440280	mg/kg	0.016	0.016	J	J	0.001	0.020	Yes	No	No	Yes
	Tin	7440315	mg/kg	0.011	0.011	J	J	0.002	0.050	Yes	No	No	Yes
	Uranium	7440611	mg/kg	0.020	0.020	U	U	0.001	0.020	No	Yes	No	Yes
	Vanadium	7440622	mg/kg	0.02	0.02	J	J	0.01	0.20	Yes	No	No	Yes
	Zinc	7440666	mg/kg	14.1	14.1			0.04	0.50	No	No	No	Yes
EPA7742	Selenium	7782492	mg/kg	4.87	4.87			0.20	0.40	No	No	No	Yes

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 SDG: K1611838

Sample		EPA-HS-B3											
Lab ID		K1611838-056											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	23.9	23.9					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.6	1.6	J	J	0.9	1.9	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-C1											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E EPA1632 EPA6010C	Mercury	7439976	ng/g	340	340			0.28	4.7	No	No	No	Yes
	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
	Boron	7440428	mg/kg	1.8	1.8	U	U	0.7	1.8	No	Yes	No	Yes
	Calcium	7440702	mg/kg	152	152			1.8	3.6	No	No	No	Yes
	Magnesium	7439954	mg/kg	653	653			0.54	0.91	No	No	No	Yes
	Potassium	7440097	mg/kg	10200	10200			8.2	18.1	No	No	No	Yes
	Silicon	7440213	mg/kg	2.3	2.3	J	J	2.0	19.5	Yes	No	No	Yes
	Sodium	7440235	mg/kg	953	953			1.8	18.1	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	5260	5260			0.8	4.5	No	No	No	Yes
	Aluminum	7429905	mg/kg	0.9	0.9	J	U*	0.9	1.8	No	Yes	No	Yes
	Antimony	7440360	mg/kg	0.006	0.006	J	U*	0.006	0.045	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.645	0.645			0.009	0.453	No	No	No	Yes
	EPA6020	Barium	7440393	mg/kg	0.062	0.062			0.009	0.045	No	No	No
Beryllium		7440417	mg/kg	0.018	0.018	U	U	0.004	0.018	No	Yes	No	Yes
Cadmium		7440439	mg/kg	0.010	0.010	J	J	0.001	0.018	Yes	No	No	Yes
Chromium		7440473	mg/kg	0.15	0.15	J	J	0.01	0.18	Yes	No	No	Yes
Cobalt		7440484	mg/kg	0.008	0.008	J	J	0.001	0.018	Yes	No	No	Yes
Copper		7440508	mg/kg	0.73	0.73			0.01	0.09	No	No	No	Yes
Iron		7439896	mg/kg	9.62	9.62			0.04	0.91	No	No	No	Yes
Lead		7439921	mg/kg	0.011	0.011	J	J	0.001	0.018	Yes	No	No	Yes
Manganese		7439965	mg/kg	0.556	0.556			0.005	0.045	No	No	No	Yes
Molybdenum		7439987	mg/kg	0.0047	0.0047	J	J	0.0027	0.0453	Yes	No	No	Yes
Nickel		7440020	mg/kg	0.16	0.16	J	J	0.01	0.18	Yes	No	No	Yes
Silver		7440224	mg/kg	0.001	0.001	J	U*	0.001	0.018	No	Yes	No	Yes
Thallium		7440280	mg/kg	0.013	0.013	J	J	0.001	0.018	Yes	No	No	Yes
EPA7742	Tin	7440315	mg/kg	0.008	0.008	J	J	0.002	0.045	Yes	No	No	Yes
	Uranium	7440611	mg/kg	0.018	0.018	U	U	0.001	0.018	No	Yes	No	Yes
	Vanadium	7440622	mg/kg	0.01	0.01	J	J	0.01	0.18	Yes	No	No	Yes
	Zinc	7440666	mg/kg	10.4	10.4			0.04	0.45	No	No	No	Yes
	Selenium	7782492	mg/kg	3.80	3.80			0.18	0.36	No	No	No	Yes

Teck American Incorporated
 Upper Columbia River 2016 Sturgeon Tissue Study
 SDG: K1611838

Sample		EPA-HS-C1											
Lab ID		K1611838-065											
Method Code	Analyte	Gas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	31.6	31.6					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.7	1.7	J	J	1.0	2	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-C2											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E	Mercury	7439976	ng/g	343	343			0.29	4.8	No	No	No	Yes
EPA1632	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
EPA6010C	Boron	7440428	mg/kg	1.9	1.9	U	U	0.8	1.9	No	Yes	No	Yes
	Calcium	7440702	mg/kg	171	171			1.9	3.8	No	No	No	Yes
	Magnesium	7439964	mg/kg	766	766			0.56	0.94	No	No	No	Yes
	Potassium	7440097	mg/kg	11300	11300			8.4	18.8	No	No	No	Yes
	Silicon	7440213	mg/kg	4.1	4.1	J	J	1.9	18.8	Yes	No	No	Yes
	Sodium	7440235	mg/kg	944	944			1.9	18.8	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	5730	5730			0.8	4.7	No	No	No	Yes
EPA6020	Aluminum	7429905	mg/kg	1.0	1.0	J	U*	1.0	1.9	No	Yes	No	Yes
	Antimony	7440360	mg/kg	0.005	0.005	J	U*	0.005	0.047	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.686	0.686			0.009	0.469	No	No	No	Yes
	Barium	7440393	mg/kg	0.062	0.062			0.009	0.047	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.019	0.019	U	U	0.004	0.019	No	Yes	No	Yes
	Cadmium	7440439	mg/kg	0.003	0.003	J	J	0.001	0.019	Yes	No	No	Yes
	Chromium	7440473	mg/kg	0.30	0.30			0.01	0.19	No	No	No	Yes
	Cobalt	7440484	mg/kg	0.013	0.013	J	J	0.001	0.019	Yes	No	No	Yes
	Copper	7440508	mg/kg	0.72	0.72			0.01	0.09	No	No	No	Yes
	Iron	7439896	mg/kg	10.6	10.6			0.04	0.94	No	No	No	Yes
	Lead	7439921	mg/kg	0.013	0.013	J	J	0.001	0.019	Yes	No	No	Yes
	Manganese	7439965	mg/kg	0.832	0.832			0.005	0.047	No	No	No	Yes
	Molybdenum	7439987	mg/kg	0.0071	0.0071	J	J	0.0028	0.0469	Yes	No	No	Yes
	Nickel	7440020	mg/kg	0.16	0.16	J	J	0.01	0.19	Yes	No	No	Yes
	Silver	7440224	mg/kg	0.019	0.019	U	U	0.001	0.019	No	Yes	No	Yes
	Thallium	7440280	mg/kg	0.010	0.010	J	J	0.001	0.019	Yes	No	No	Yes
	Tin	7440315	mg/kg	0.007	0.007	J	J	0.002	0.047	Yes	No	No	Yes
	Uranium	7440611	mg/kg	0.019	0.019	U	U	0.001	0.019	No	Yes	No	Yes
	Vanadium	7440622	mg/kg	0.01	0.01	J	J	0.01	0.19	Yes	No	No	Yes
	Zinc	7440666	mg/kg	9.70	9.70			0.04	0.47	No	No	No	Yes
EPA7742	Selenium	7782492	mg/kg	3.10	3.10			0.19	0.38	No	No	No	Yes

Teck American Incorporated
 Upper Columbia River 2016 Sturgeon Tissue Study
 SDG: K1611838

Sample		EPA-HS-C2											
Lab ID		K1611838-074											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	30.1	30.1					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.7	1.7	J	J	0.9	1.8	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		EPA-HS-C3											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA1631E	Mercury	7439976	ng/g	378	378			0.28	4.6	No	No	No	Yes
EPA1632	As_inorg	7440382	ug/g	0.08	0.08	U	U	0.03	0.08	No	Yes	No	Yes
EPA6010C	Boron	7440428	mg/kg	1.8	1.8	U	U	0.7	1.8	No	Yes	No	Yes
	Calcium	7440702	mg/kg	168	168			1.8	3.7	No	No	No	Yes
	Magnesium	7439964	mg/kg	787	787			0.55	0.92	No	No	No	Yes
	Potassium	7440097	mg/kg	11600	11600			8.2	18.3	No	No	No	Yes
	Silicon	7440213	mg/kg	5.4	5.4	J	J	2.0	19.6	Yes	No	No	Yes
	Sodium	7440235	mg/kg	1120	1120			1.8	18.3	No	No	No	Yes
	Sulfur	7704-34-9	mg/kg	5840	5840			0.8	4.6	No	No	No	Yes
	Aluminum	7429905	mg/kg	0.9	0.9	J	U*	0.9	1.8	No	Yes	No	Yes
	Antimony	7440360	mg/kg	0.046	0.046	U	U	0.003	0.046	No	Yes	No	Yes
	Arsenic	7440382	mg/kg	0.755	0.755			0.009	0.457	No	No	No	Yes
EPA6020	Barium	7440393	mg/kg	0.062	0.062			0.009	0.046	No	No	No	Yes
	Beryllium	7440417	mg/kg	0.018	0.018	U	U	0.004	0.018	No	Yes	No	Yes
	Cadmium	7440439	mg/kg	0.003	0.003	J	J	0.001	0.018	Yes	No	No	Yes
	Chromium	7440473	mg/kg	0.04	0.04	J	J	0.01	0.18	Yes	No	No	Yes
	Cobalt	7440484	mg/kg	0.010	0.010	J	J	0.001	0.018	Yes	No	No	Yes
	Copper	7440508	mg/kg	0.72	0.72			0.01	0.09	No	No	No	Yes
	Iron	7439896	mg/kg	10.9	10.9			0.04	0.92	No	No	No	Yes
	Lead	7439921	mg/kg	0.011	0.011	J	J	0.001	0.018	Yes	No	No	Yes
	Manganese	7439965	mg/kg	0.617	0.617			0.005	0.046	No	No	No	Yes
	Molybdenum	7439987	mg/kg	0.0029	0.0029	J	J	0.0027	0.0457	Yes	No	No	Yes
EPA7742	Nickel	7440020	mg/kg	0.02	0.02	J	J	0.01	0.18	Yes	No	No	Yes
	Silver	7440224	mg/kg	0.018	0.018	U	U	0.001	0.018	No	Yes	No	Yes
	Thallium	7440280	mg/kg	0.014	0.014	J	J	0.001	0.018	Yes	No	No	Yes
	Tin	7440315	mg/kg	0.003	0.003	J	J	0.002	0.046	Yes	No	No	Yes
	Uranium	7440611	mg/kg	0.018	0.018	U	U	0.001	0.018	No	Yes	No	Yes
	Vanadium	7440622	mg/kg	0.01	0.01	J	J	0.01	0.18	Yes	No	No	Yes
	Zinc	7440666	mg/kg	10.8	10.8			0.04	0.46	No	No	No	Yes
	Selenium	7782492	mg/kg	3.35	3.35			0.18	0.37	No	No	No	Yes

Teck American Incorporated
 Upper Columbia River 2016 Sturgeon Tissue Study
 SDG: K1611838

Sample		EPA-HS-C3											
Lab ID		K1611838-083											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
Freeze Dry	Solids		percent	28.7	28.7					No	No	No	Yes
SM4500FC	Fluoride	Fluoride	mg/kg	1.8	1.8	J	J	1.0	1.9	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		HomogenBlank_101716											
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA6010C	Boron	7440428	ug/L	20.0	20.0	U	U	4.0	20.0	No	Yes	No	Yes
	Calcium	7440702	ug/L	8.0	8.0	J	J	0.9	20.0	Yes	No	No	Yes
	Magnesium	7439954	ug/L	1.4	1.4	J	J	0.3	5.0	Yes	No	No	Yes
	Potassium	7440097	ug/L	200	200	U	U	60.0	200	No	Yes	No	Yes
	Silicon	7440213	ug/L	200	200	U	U	20.0	200	No	Yes	No	Yes
	Sodium	7440235	ug/L	200	200	U	U	20.0	200	No	Yes	No	Yes
	Sulfur	7704-34-9	ug/L	40.0	40.0	U	U	6.0	40.0	No	Yes	No	Yes
	Aluminum	7429905	ug/L	1.0	1.0	J	J	0.2	2.0	Yes	No	No	Yes
	Antimony	7440360	ug/L	0.05	0.05	U	U	0.02	0.05	No	Yes	No	Yes
	Arsenic	7440382	ug/L	0.08	0.08	J	J	0.08	0.50	Yes	No	No	Yes
	Barium	7440393	ug/L	0.050	0.050	U	U	0.020	0.050	No	Yes	No	Yes
	Beryllium	7440417	ug/L	0.020	0.020	U	U	0.002	0.020	No	Yes	No	Yes
	EPA6020	Cadmium	7440439	ug/L	0.020	0.020	U	U	0.009	0.020	No	Yes	No
Chromium		7440473	ug/L	0.05	0.05	J	J	0.03	0.20	Yes	No	No	Yes
Cobalt		7440484	ug/L	0.020	0.020	U	U	0.005	0.020	No	Yes	No	Yes
Copper		7440508	ug/L	0.06	0.06	J	J	0.02	0.10	Yes	No	No	Yes
Iron		7439896	ug/L	1.9	1.9			0.3	1.0	No	No	No	Yes
Lead		7439921	ug/L	0.020	0.020	U	U	0.007	0.020	No	Yes	No	Yes
Manganese		7439965	ug/L	0.041	0.041	J	J	0.006	0.050	Yes	No	No	Yes
Molybdenum		7439987	ug/L	0.01	0.01	J	J	0.01	0.05	Yes	No	No	Yes
Nickel		7440020	ug/L	0.05	0.05	J	J	0.04	0.20	Yes	No	No	Yes
Selenium		7782492	ug/L	1.0	1.0	U	U	0.2	1.0	No	Yes	No	Yes
Silver		7440224	ug/L	0.020	0.020	U	U	0.002	0.020	No	Yes	No	Yes
Thallium		7440280	ug/L	0.020	0.020	U	U	0.008	0.020	No	Yes	No	Yes
Tin		7440315	ug/L	0.10	0.10	U	U	0.02	0.10	No	Yes	No	Yes
EPA7470A	Uranium	7440611	ug/L	0.020	0.020	U	U	0.005	0.020	No	Yes	No	Yes
	Vanadium	7440622	ug/L	0.20	0.20	U	U	0.04	0.20	No	Yes	No	Yes
	Zinc	7440666	ug/L	0.56	0.56			0.08	0.50	No	No	No	Yes
	Mercury	7439976	ug/L	0.20	0.20	U	U	0.02	0.20	No	Yes	No	Yes
SM4500FC	Fluoride		mg/L	0.02	0.02	J	J	0.007	0.20	Yes	No	No	Yes

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample		HomogenBlank_101916												
Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable	
EPA6010C	Boron	7440428	ug/L	20.0	20.0	U	U	4.0	20.0	No	Yes	No	Yes	
	Calcium	7440702	ug/L	21.8	21.8			0.9	20.0	No	No	No	Yes	
	Magnesium	7439954	ug/L	4.2	4.2	J	J	0.3	5.0	Yes	No	No	Yes	
	Potassium	7440097	ug/L	200	200	U	U	60.0	200	No	Yes	No	Yes	
	Silicon	7440213	ug/L	200	200	U	U	20.0	200	No	Yes	No	Yes	
	Sodium	7440235	ug/L	156	156	J	J	20.0	200	Yes	No	No	Yes	
	Sulfur	7704-34-9	ug/L	40.0	40.0	U	U	6.0	40.0	No	Yes	No	Yes	
	Aluminum	7429905	ug/L	0.6	0.6	J	J	0.2	2.0	Yes	No	No	Yes	
	Antimony	7440360	ug/L	0.05	0.05	U	U	0.02	0.05	No	Yes	No	Yes	
	Arsenic	7440382	ug/L	0.08	0.08	J	J	0.08	0.50	Yes	No	No	Yes	
	Barium	7440393	ug/L	0.169	0.169			0.020	0.050	No	No	No	Yes	
	Beryllium	7440417	ug/L	0.020	0.020	U	U	0.002	0.020	No	Yes	No	Yes	
	EPA6020	Cadmium	7440439	ug/L	0.020	0.020	U	U	0.009	0.020	No	Yes	No	Yes
Chromium		7440473	ug/L	0.12	0.12	J	J	0.03	0.20	Yes	No	No	Yes	
Cobalt		7440484	ug/L	0.020	0.020	U	U	0.005	0.020	No	Yes	No	Yes	
Copper		7440508	ug/L	2.28	2.28			0.02	0.10	No	No	No	Yes	
Iron		7439896	ug/L	0.9	0.9	J	J	0.3	1.0	Yes	No	No	Yes	
Lead		7439921	ug/L	0.020	0.020	U	U	0.007	0.020	No	Yes	No	Yes	
Manganese		7439965	ug/L	0.116	0.116			0.006	0.050	No	No	No	Yes	
Molybdenum		7439987	ug/L	0.05	0.05	U	U	0.01	0.05	No	Yes	No	Yes	
Nickel		7440020	ug/L	0.20	0.20	U	U	0.04	0.20	No	Yes	No	Yes	
Selenium		7782492	ug/L	1.0	1.0	U	U	0.2	1.0	No	Yes	No	Yes	
Silver		7440224	ug/L	0.020	0.020	U	U	0.002	0.020	No	Yes	No	Yes	
Thallium		7440280	ug/L	0.020	0.020	U	U	0.008	0.020	No	Yes	No	Yes	
Tin		7440315	ug/L	0.10	0.10	U	U	0.02	0.10	No	Yes	No	Yes	
EPA7470A	Uranium	7440611	ug/L	0.020	0.020	U	U	0.005	0.020	No	Yes	No	Yes	
	Vanadium	7440622	ug/L	0.20	0.20	U	U	0.04	0.20	No	Yes	No	Yes	
	Zinc	7440666	ug/L	0.50	0.50	U	U	0.08	0.50	No	Yes	No	Yes	
	Mercury	7439976	ug/L	0.20	0.20	U	U	0.02	0.20	No	Yes	No	Yes	
	Fluoride	Fluoride		mg/L	0.02	0.02	J	J	0.007	0.20	Yes	No	Yes	
SM4500FC														

Teck American Incorporated
Upper Columbia River 2016 Sturgeon Tissue Study
SDG: K1611838

Sample HomogenBlank_101816

Lab ID K1611838-086

Method Code	Analyte	Cas No	Units	Original Lab Result	Meas Value	Lab Flags	Validator Flags	Detection Limit	Reporting Limit	Estimated	Undetected	Rejected	Reportable
EPA6010C	Boron	7440428	ug/L	20.0	20.0	U	U	4.0	20.0	No	Yes	No	Yes
	Calcium	7440702	ug/L	5.6	5.6	J	J	0.9	20.0	Yes	No	No	Yes
	Magnesium	7439954	ug/L	0.7	0.7	J	J	0.3	5.0	Yes	No	No	Yes
	Potassium	7440097	ug/L	200	200	U	U	60.0	200	No	Yes	No	Yes
	Silicon	7440213	ug/L	200	200	U	U	20.0	200	No	Yes	No	Yes
	Sodium	7440235	ug/L	200	200	U	U	20.0	200	No	Yes	No	Yes
	Sulfur	7704-34-9	ug/L	40.0	40.0	U	U	6.0	40.0	No	Yes	No	Yes
	Aluminum	7429905	ug/L	0.7	0.7	J	J	0.2	2.0	Yes	No	No	Yes
	Antimony	7440360	ug/L	0.05	0.05	U	U	0.02	0.05	No	Yes	No	Yes
	Arsenic	7440382	ug/L	0.50	0.50	U	U	0.08	0.50	No	Yes	No	Yes
	Barium	7440393	ug/L	0.050	0.050	U	U	0.020	0.050	No	Yes	No	Yes
	Beryllium	7440417	ug/L	0.020	0.020	U	U	0.002	0.020	No	Yes	No	Yes
	Cadmium	7440439	ug/L	0.020	0.020	U	U	0.009	0.020	No	Yes	No	Yes
EPA6020	Chromium	7440473	ug/L	0.20	0.20	U	U	0.03	0.20	No	Yes	No	Yes
	Cobalt	7440484	ug/L	0.020	0.020	U	U	0.005	0.020	No	Yes	No	Yes
	Copper	7440508	ug/L	0.10	0.10	U	U	0.02	0.10	No	Yes	No	Yes
	Iron	7439896	ug/L	0.9	0.9	J	J	0.3	1.0	Yes	No	No	Yes
	Lead	7439921	ug/L	0.009	0.009	J	J	0.007	0.020	Yes	No	No	Yes
	Manganese	7439965	ug/L	0.030	0.030	J	J	0.006	0.050	Yes	No	No	Yes
	Molybdenum	7439987	ug/L	0.05	0.05	U	U	0.01	0.05	No	Yes	No	Yes
	Nickel	7440020	ug/L	0.20	0.20	U	U	0.04	0.20	No	Yes	No	Yes
	Selenium	7782492	ug/L	1.0	1.0	U	U	0.2	1.0	No	Yes	No	Yes
	Silver	7440224	ug/L	0.020	0.020	U	U	0.002	0.020	No	Yes	No	Yes
	Thallium	7440280	ug/L	0.020	0.020	U	U	0.008	0.020	No	Yes	No	Yes
	Tin	7440315	ug/L	0.10	0.10	U	U	0.02	0.10	No	Yes	No	Yes
	Uranium	7440611	ug/L	0.020	0.020	U	U	0.005	0.020	No	Yes	No	Yes
Vanadium	7440622	ug/L	0.20	0.20	U	U	0.04	0.20	No	Yes	No	Yes	
Zinc	7440666	ug/L	1.11	1.11			0.08	0.50	No	No	No	Yes	
Mercury	7439976	ug/L	0.20	0.20	U	U	0.02	0.20	No	Yes	No	Yes	
Fluoride	Fluoride		mg/L	0.02	0.02	J	J	0.007	0.20	Yes	No	No	Yes
SM4500FC													

SECTION 3

SUPPORT DOCUMENTATION

A. SAMPLE DELIVERY GROUP 1601354



ORGANIC ANALYSIS SUPPORT DOCUMENTATION

ESI project name: Teck 2016 Tissue Study
 Sample Collection Dates: 8/30 – 10/19/16
 Job Number: 20167549
 Project Manager: Tom Weinmann
 Laboratory: Vista

Reviewed by: THW
 Approved by: STL
 Completion Date: 12/16

Applicable Sample No's (x) Refer to Table 1 in the Quality Assurance Review

Deliverable:	CLP (Full)	()	Sample No.	Lab Control No.
	Level IV (Full)	(x)	1601354	
	Limited	()		
	Other:			

The following table indicates criteria that were examined, the identified problems, and support documentation attachments

	Criteria Examined in Detail					Problems Identified					Support Documentation Attachments				
	Check (√) if Yes or Footnote Letter for Comments Below					Check (√) if Yes or Footnote Letter for Comments Below					Check (√) if Yes or Footnote Letter for Comments Below				
	1613B	1614	1668A			1613B	1614	1668A			1613B	1614	1668A		
Holding Times	x	x	x								x	x	x		
Blank Analysis: Target Cmpds	x	x	x					x			x	x	x		
Sys Montr Cmps/Surrogates	x	x	x				x				x	x	x		
Matrix Spike/Matrix Spike Duplicate															
Blank Spike	x	x	x								x	x	x		
Duplicate Analysis () Field (x) Lab	x	x	x								x	x	x		
Detection Limit/Sensitivity	x	x	x								x	x	x		
Qualitative Identification: Target Cmpds	x	x	x								x	x	x		
Qualitative Identification: TICs															
DFTPP & BFB Mass Tuning															
GC Instrument Performance	x	x	x								x	x	x		
Initial Calibrations	x	x	x								x	x	x		
Continuing Calibrations	x	x	x								x	x	x		
Quantitation of Results	x	x	x				x				x	x	x		
DDT/Endrin Breakdown															
Surrogate Retention Time Shifts															
Internal Standards Performance	x	x	x								x	x	x		
Resolution Check Standards	x	x	x								x	x	x		
Analytical Sequence	x	x	x								x	x	x		
Florisil Cartridge & GPC Calibration															
GC Column Agreement															
Condition Upon Receipt	x	x	x								x	x	x		
Percent Solids	x	x	x								x	x	x		
Others:															

Comments: _____

BLANK ANALYSIS RESULTS FOR ORGANIC PARAMETERS

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (µg/L, mg/L, mg/Kg)	Qualification limit		
						5×	10×	
D/F	S	MB	B6K0059	None				
		MB	B6J0188	None				
	Aq	EB	Homog Blank 10/17	None				
			Homog Blank 10/19	None				
			Homog Blank 10/18	None				
PBDE	S	MB	B6K0060	BDE-47 (ug/Kg)	0.000628	0.00314		
				BDE-99	0.000451	0.002255		
				Total Tetra-BDE	0.000628	0.00314		
				Total Penta-BDE	0.000539	0.002695		
	Aq	MB	B6K0018	BDE-47 (pg/L)	11.5	57.5		
				BDE-99	4.89 EMPC	24.45		
				BDE-153	1.59 EMPC	7.95		
				Total Tri-BDE	0.774	3.87		
				Total Tetra-BDE	12.3	61.5		
				EB	Homog Blank 10/17	See Form 1		
					Homog Blank 10/19	See Form 1		
					Homog Blank 10/18	See Form 1		
				P	S	MB	B6K0046	PCB-11 (pg/g)
PCB-47	0.199	0.995						
PCB-139/149	0.133	0.665						
PCB-194	0.0439 EMPC	0.2195						
Aq	MB	B6K0073	PCB-1 (pg/L)		1.12	5.6		
			PCB-2		0.934 EMPC	4.67		
			PCB-11		8.37 EMPC	41.85		
			PCB-47		2.38	11.9		
			PCB-52/69		0.836 EMPC	4.18		
			PCB-61/70		0.521 EMPC	2.605		
			PCB-194		0.469	2.345		
			EB		Homog Blank 10/19	See Form 1		
					Homog Blank 10/18	See Form 1		

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: D/F = Dioxin/Furan; PBDE = Polybrominated Diphenyl Ether

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Blank; FB = Field Blank; IB = Instrument Blank; SB = Storage Blank

Notes: _____

EVALUATION OF TRIPPLICATE ANALYSIS PRECISION

Precision Objectives*	Aqueous Solid	Analyte > or = 5 X RL		Analyte < 5 X RL	
		RSD < or =	20	Difference < or = RL times	1.0
All Parameters		RSD < or =	30	Difference < or = RL times	1.0

*Enter the project-specific acceptance criteria

Sample Identification #1: EPA-HS-A1 Matrix: Solid
(Aqueous or Solid)

Sample Identification #2: EPA-HS-A1 DUP

Sample Identification #3: EPA-HS-A1 TRIP Units: mg/Kg
(ug/L, mg/L, ug/Kg, or mg/Kg)

ANALYTE	SAMPLE #1		SAMPLE #2		SAMPLE #3		RELATIVE STANDARD DEVIATION	RL	NOTES
	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q			
2378TetFuran	0.546		0.433	J	0.527		12	0.500	IN
2378TetFuran	0.546		0.433	J	0.527		12	0.500	IN
OctCidibzDioxin	4.98	U	0.237	J	0.181	J	N.C.	5.00	IN
PBDE_cong_153	0.0411		0.0396		0.0316		14	0.0100	IN
PBDE_cong_99	0.0890		0.101		0.0760		14	0.0100	IN
PBDE_cong_47	1.12	J	1.02	J	0.876	J	12	0.0100	IN
PBDE_cong_209	0.0129	J	0.0500	U	0.0220	J	N.C.	0.0500	IN
Total Deca-BDE	0.0129	J	0.0500	U	0.0220	J	N.C.	0.0500	IN
Total Di-BDE	0.00131	J	0.00123	J	0.00109	J	9	0.00500	IN
Total Hepta-BDE	0.00524	J	0.00543	J	0.00221	J	42	0.0200	IN
Total Hexa-BDE	0.143		0.134		0.111		13	0.0100	IN
Total Octa-BDE	0.00281	J	0.000842	J	0.00135	J	61	0.0200	IN
Total Penta-BDE	0.339		0.321		0.254		15	0.0100	IN
Total Tetra-BDE	1.21		1.12		0.965		11	0.0100	IN
Total Tri-BDE	0.0871		0.0722		0.0659		15	0.00500	IN
PCB_cong_206	34.7		30.4		25.6		15	0.500	IN
PCB_cong_194	48.0		42.5		35.3		15	0.500	IN
PCB_cong_207	3.64		3.37		2.80		13	0.500	IN
PCB_cong_196	96.8		85.5		75.2		13	1.00	IN
PCB_cong_195	27.7		24.6		19.7		17	0.500	IN
PCB_cong_170	104		93.3		81.2		12	0.500	IN
PCB_cong_197	3.26		2.88		2.46		14	0.500	IN
PCB_cong_171	33.7		29.7		25.3		14	0.500	IN
PCB_cong_128	71.9		59.6		51.4		17	1.00	IN
PCB_cong_208	10.8		9.15		8.02		15	0.500	IN
PCB_cong_199	98.8		87.2		76.8		13	0.500	IN
PCB_cong_198	3.72		3.01		2.83		15	0.500	IN
PCB_cong_172	22.3		20.5		17.2		13	0.500	IN
PCB_cong_200	8.38		7.22		6.34		14	0.500	IN
PCB_cong_201	10.2		9.37		8.24		11	0.500	IN
PCB_cong_174	112		91.4		78.7		18	0.500	IN
PCB_cong_173	1.68		1.49		1.41		9	0.500	IN
PCB_cong_177	93.1		81.4		68.6		15	0.500	IN
PCB_cong_175	4.94		4.99		3.67		17	0.500	IN
PCB_cong_130	32.4		23.2		23.8		18	0.500	IN
PCB_cong_129	8.28		7.00		6.41		13	0.500	IN
PCB_cong_176	13.1		11.8		9.74		15	0.500	IN
PCB_cong_132	63.6		53.1		45.0		17	1.00	IN
PCB_cong_82	2.43		2.14		1.72		17	0.500	IN
PCB_cong_202	27.6		23.2		20.5		15	0.500	IN
PCB_cong_178	37.4		34.9		29.2		12	0.500	IN
PCB_cong_133	13.4		10.9		9.71		17	1.00	IN
PCB_cong_179	57.1		51.0		43.3		14	0.500	IN
PCB_cong_135	48.6		42.7		37.4		13	0.500	IN
PCB_cong_134	11.4		9.68		8.57		14	1.00	IN
PCB_cong_136	25.4		22.7		19.6		13	0.500	IN
PCB_cong_84	68.8		60.5		51.6		14	1.00	IN
PCB_cong_40	0.291	J	0.345	J	0.187	J	29	0.500	IN
PCB_cong_180	282		262		222		12	0.500	IN
PCB_cong_182	335		306		256		13	1.00	IN
PCB_cong_183	74.4		71.7		59.4		12	0.500	IN
PCB_cong_138	592		493		432		16	1.50	IN
PCB_cong_137	18.2		19.3		13.5		18	0.500	IN
PCB_cong_184	1.20		1.12		0.997		9	0.500	IN
PCB_cong_140	2.38		2.28		1.89		12	0.500	IN

EVALUATION OF TRIPLICATE ANALYSIS PRECISION

Precision Objectives*		Analyte > or = 5 X RL		Analyte < 5 X RL	
All Parameters	Aqueous	RSD < or =	20	Difference < or = RL times	1.0
	Solid	RSD < or =	30	Difference < or = RL times	1.0

*Enter the project-specific acceptance criteria

Sample Identification #1: EPA-HS-A1 Matrix: Solid
(Aqueous or Solid)

Sample Identification #2: EPA-HS-A1 DUP

Sample Identification #3: EPA-HS-A1 TRIP Units: mg/Kg
(ug/L, mg/L, ug/Kg, or mg/Kg)

ANALYTE	SAMPLE #1		SAMPLE #2		SAMPLE #3		RELATIVE STANDARD DEVIATION	RL	NOTES
	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q			
PCB cong 139	315		277		238		14	1.00	IN
PCB cong 85	49.2		42.1		36.1		15	1.00	IN
PCB cong 185	18.5		16.1		13.7		15	0.500	IN
PCB cong 141	67.0		59.2		49.1		15	0.500	IN
PCB cong 146	101		85.9		74.1		15	1.00	IN
PCB cong 188	0.409	J	0.395	J	0.356	J	7	0.500	IN
PCB cong 144	12.7		11.3		9.86		13	0.500	IN
PCB cong 148	0.451	J	0.508		0.427	J	9	0.500	IN
PCB cong 147	9.71		9.58		7.47		14	0.500	IN
PCB cong 87	64.0		55.5		47.3		15	1.50	IN
PCB cong 97	23.7		20.8		17.6		15	0.500	IN
PCB cong 90	231		205		171		15	1.00	IN
PCB cong 150	0.352	J	0.272	J	0.198	J	28	0.500	IN
PCB cong 88	22.9		19.5		17.7		13	1.00	IN
PCB cong 42	2.94		2.66		2.20		14	1.00	IN
PCB cong 41	23.9		20.1		16.5		18	2.00	IN
PCB cong 151	111		99.4		87.0		12	0.500	IN
PCB cong 152	0.154	J	0.169	J	0.141	J	9	0.500	IN
PCB cong 94	0.546		0.552		0.389	J	19	0.500	IN
PCB cong 95	130		108		98.8		14	1.50	IN
PCB cong 44	17.3		15.2		12.2		17	0.500	IN
PCB cong 43	25.3		23.1		18.8		15	1.00	IN
PCB cong 96	0.357	J	0.316	J	0.262	J	15	0.500	IN
PCB cong 46	0.371	J	0.510		0.318	J	25	0.500	IN
PCB cong 45	1.53		1.28		1.13		15	0.500	IN
PCB cong 16	2.53		2.59		2.40		4	1.00	IN
PCB cong 153	592		505		451		14	0.500	IN
PCB cong 154	7.31		6.37		5.61		13	0.500	IN
PCB cong 99	162		141		121		15	0.500	IN
PCB cong 155	0.593		0.534		0.492		9	0.500	IN
PCB cong 100	1.11		0.865		0.717		22	0.500	IN
PCB cong 47	15.2		13.9		11.4		14	0.500	IN
PCB cong 103	2.17		1.63		1.31	J	26	0.500	IN
PCB cong 48	2.72		2.18		1.92		18	1.00	IN
PCB cong 51	0.495		0.529		0.351	J	21	0.500	IN
PCB cong 17	0.946		0.983		0.911		4	0.500	IN
PCB cong 52	55.6		48.7		41.5		15	1.00	IN
PCB cong 53	3.18		2.60		2.09		21	0.500	IN
PCB cong 18	9.24		9.29		7.75		10	0.500	IN
PCB cong 54	0.0275	J	0.500	U	0.491	U	N.C.	0.500	IN
PCB cong 19	0.558		0.609		0.478	J	12	0.500	IN
PCB cong 4	0.267	J	1.00	U	0.982	U	N.C.	1.00	IN
PCB cong 205	2.82		2.71		1.95		19	0.500	IN
PCB cong 189	3.83		3.63		3.16		10	0.500	IN
PCB cong 190	28.9		25.2		22.5		13	0.500	IN
PCB cong 191	4.46		4.14		3.42		13	0.500	IN
PCB cong 157	8.19		7.14		6.22		14	0.500	IN
PCB cong 156	37.2		31.8		27.7		15	0.500	IN
PCB cong 158	47.2		40.4		35.6		14	1.00	IN
PCB cong 105	85.5		69.8		61.0		17	0.500	IN
PCB cong 193	20.7		18.3		15.9		13	0.500	IN
PCB cong 108	6.57		5.85		5.06		13	1.00	IN
PCB cong 106	170		142		129		14	1.00	IN
PCB cong 107	26.3		21.9		19.9		14	1.00	IN
PCB cong 110	199		169		148		15	0.500	IN

EVALUATION OF TRIPLICATE ANALYSIS PRECISION

Precision Objectives*

All Parameters	Aqueous Solid	Analyte > or = 5 X RL		Analyte < 5 X RL	
		RSD < or =	20	Difference < or = RL times	1.0
		RSD < or =	30	Difference < or = RL times	1.0

*Enter the project-specific acceptance criteria

Sample Identification #1: EPA-HS-A1 Matrix: Solid
(Aqueous or Solid)

Sample Identification #2: EPA-HS-A1 DUP

Sample Identification #3: EPA-HS-A1 TRIP Units: mg/Kg
(ug/L, mg/L, ug/Kg, or mg/Kg)

ANALYTE	SAMPLE #1		SAMPLE #2		SAMPLE #3		RELATIVE STANDARD DEVIATION	RL	NOTES
	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q			
PCB cong 56	11.1		10.1		7.96		17	1.00	IN
PCB cong 55	0.829		0.798		0.720		7	0.500	IN
PCB cong 111	4.42		3.87		3.32		14	1.00	IN
PCB cong 58	0.196	J	0.195	J	0.153	J	14	0.500	IN
PCB cong 57	0.201	J	0.212	J	0.162	J	14	0.500	IN
PCB cong 20	0.731	J	0.672	J	0.630	J	7	1.50	IN
PCB cong 167	2.05		1.65		1.36		21	0.500	IN
PCB cong 166	2.04		1.44		1.45		21	0.500	IN
PCB cong 168	0.816		0.441	J	0.502		34	0.500	IN
PCB cong 114	4.78		4.12		3.61		14	0.500	IN
PCB cong 123	2.61		2.23		1.90		16	0.500	IN
PCB cong 119	8.71		7.44		6.61		14	0.500	IN
PCB cong 120	1.20		0.867		0.671		29	0.500	IN
PCB cong 124	3.14		2.67		2.61		10	0.500	IN
PCB cong 61	31.8		27.9		24.1		14	1.00	IN
PCB cong 63	2.61		2.40		2.04		12	0.500	IN
PCB cong 68	1.37		1.25		0.989		16	0.500	IN
PCB cong 67	0.156	J	0.153	J	0.117	J	15	0.500	IN
PCB cong 76	39.9		34.1		28.8		16	1.00	IN
PCB cong 22	2.12		1.88		1.55		15	0.500	IN
PCB cong 25	0.136	J	0.134	J	0.166	J	12	0.500	IN
PCB cong 34	0.0883	J	0.0446	J	0.0553	J	36	0.500	IN
PCB cong 26	0.880		0.663		0.633		19	0.500	IN
PCB cong 24	0.574	J	0.599	J	0.572	J	3	1.00	IN
PCB cong 5	1.20		1.27		1.12		6	1.00	IN
PCB cong 74	28.3		26.5		21.6		14	0.500	IN
PCB cong 28	18.4		16.4		13.3		16	0.500	IN
PCB cong 31	9.91		9.05		7.09		17	0.500	IN
2Cl11pBiphenyl	0.0468	J	0.141	J	0.491	U	N.C.	0.500	IN
PCB cong 169	0.968		0.863		0.735		14	0.500	IN
PCB cong 126	0.597		0.517		0.377	J	22	0.500	IN
PCB cong 77	1.20		1.09		0.891		15	0.500	IN
PCB cong 79	3.85		3.40		3.12		11	0.500	IN
PCB cong 80	0.494	U	0.123	J	0.491	U	N.C.	0.500	IN
PCB cong 11	1.27	B	2.33	B	1.49	B	33	0.500	IN
PCB cong 81	0.483	J	0.431	J	0.434	J	6	0.500	IN
PCB cong 37	0.325	J	0.324	J	0.228	J	19	0.500	IN
PCB cong 38	0.393	J	0.388	J	0.389	J	1	0.500	IN
4Cl11Biphenyl	0.494	U	0.114	J	0.491	U	N.C.	0.500	IN
DecClBiphenyl	8.68		7.48		6.69		13	0.500	IN
DecClBiphenyl	8.68		7.48		6.69		13	0.500	IN
DiClBiphenyls	2.46		3.60		2.61		21	0.500	IN
HepClBiphenyls	1250		1130		956		13	0.500	IN
HexClBiphenyls	2200		1880		1650		14	0.500	IN
MonoClBiphenyls	0.0468	J	0.254		0.491	U	N.C.	0.500	IN
NonClBiphenyls	49.1		43.0		36.4		15	0.500	IN
OctClBiphenyls	327		288		249		14	0.500	IN
PentClBiphenyls	1270		1090		946		15	0.500	IN
TetClBiphenyls	270		240		199		15	0.500	IN
TotPCBs	5430		4730		4080		14	0.500	IN
TriClBiphenyls	46.8		43.6		36.1		13	0.500	IN
									NO RL
									NO RL
									NO RL

Blank contains, no impact

EVALUATION OF TRIPLICATE ANALYSIS PRECISION

Precision Objectives*	Aqueous Solid	Analyte > or = 5 X RL		Analyte < 5 X RL	
		RSD < or =	20	Difference < or = RL times	1.0
All Parameters		RSD < or =	30	Difference < or = RL times	1.0
*Enter the project-specific acceptance criteria					

Sample Identification #1:	EPA-HS-A1	Matrix:	Solid (Aqueous or Solid)
Sample Identification #2:	EPA-HS-A1 DUP	Units:	mg/Kg (ug/L, mg/L, ug/Kg, or mg/Kg)
Sample Identification #3:	EPA-HS-A1 TRIP		

ANALYTE	SAMPLE #1		SAMPLE #2		SAMPLE #3		RELATIVE STANDARD DEVIATION	RL	NOTES
	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q			

NOTES:

- 1) All results are > or = 5 X the RL and RSD is over acceptance limit, flag the positive results "J".
- 2) At least one result is < 5 X RL and the difference is over the acceptance limit, flag the positive results "J" and the "not-detected" results "L".
- Q) The column in which the qualifier is entered to indicate if the analyte was not-detected or qualitatively questionable in the sample.
- U) The analyte was not-detected in the sample. The reported numerical value was used for comparison purposes.
- RL) Reporting limit equal to the low concentration calibration standard.
- N.C.) The RSD was not calculated because at least one result was not-detected.
- U*/B) The result was blank qualified. The numerical value will be used for comparison purposes.

COMMENTS:

Sample ID: Method Blank

EPA Method 1613B

Matrix: Tissue		QC Batch: B6K0059	Lab Sample: B6K0059-BLK1	
Sample Size: 10.0 g		Date Extracted: 09-Nov-2016 7:44	Date Analyzed: 16-Nov-16 18:14 Column: ZB-5MS	
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
				LCL-UCL
			%R	Qualifiers
2,3,7,8-TCDD	ND	0.0841	100	25 - 164
1,2,3,7,8-PeCDD	ND	0.0694	115	25 - 181
1,2,3,4,7,8-HxCDD	ND	0.188	111	32 - 141
1,2,3,6,7,8-HxCDD	ND	0.191	116	28 - 130
1,2,3,7,8,9-HxCDD	ND	0.197	119	32 - 141
1,2,3,4,6,7,8-HpCDD	ND	0.161	125	23 - 140
OCDD	ND	0.168	101	17 - 157
2,3,7,8-TCDF	ND	0.121	110	24 - 169
1,2,3,7,8-PeCDF	ND	0.108	121	24 - 185
2,3,4,7,8-PeCDF	ND	0.105	118	21 - 178
1,2,3,4,7,8-HxCDF	ND	0.0752	101	26 - 152
1,2,3,6,7,8-HxCDF	ND	0.0846	105	26 - 123
2,3,4,6,7,8-HxCDF	ND	0.0818	116	28 - 136
1,2,3,7,8,9-HxCDF	ND	0.122	115	29 - 147
1,2,3,4,6,7,8-HpCDF	ND	0.149	113	28 - 143
1,2,3,4,7,8,9-HpCDF	ND	0.158	115	26 - 138
OCDF	ND	0.242	110	17 - 157
CRS 37Cl-2,3,7,8-TCDD				86.3
Toxic Equivalent Quotient (TEQ) Data				
TEQ _{MinWHO2005Dioxin}				0.00
TOTALS				
Total TCDD	ND	0.0841		
Total PeCDD	ND	0.0694		
Total HxCDD	ND	0.193		
Total HpCDD	ND	0.161		
Total TCDF	ND	0.121		
Total PeCDF	ND	0.106		
Total HxCDF	ND	0.0900		
Total HpCDF	ND	0.153		

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

Results are reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

IS	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
IS	6.74e+06	0.79 Y	1.05	26:24	1.022	199.98	26.24	185	2.5	0.0841	Total Tetra-Dioxins	0.0000	*	*	185	0.0841
IS	6.94e+06	0.61 Y	0.95	30:59	1.200	229.25	30.59	176	2.5	0.0694	Total Penta-Dioxins	0.0000	*	*	176	0.0694
IS	5.92e+06	1.24 Y	0.90	34:17	1.014	222.57	34.17	252	2.5	0.188	Total Hexa-Dioxins	0.0000	*	*	252	0.188
IS	5.89e+06	1.25 Y	0.86	34:23	1.017	231.34	34.23	252	2.5	0.191	Total Hepta-Dioxins	0.0000	*	*	252	0.191
IS	5.99e+06	1.21 Y	0.85	34:42	1.026	238.18	34.42	252	2.5	0.197	Total Tetra-Furans	0.0000	*	*	252	0.197
IS	4.92e+06	1.00 Y	0.66	38:11	1.129	250.54	38.11	191	2.5	0.161	Total Penta-Furans	0.0000	*	*	191	0.161
IS	7.55e+06	0.89 Y	0.63	41:27	1.226	405.70	41.27	127	2.5	0.168	Total Hexa-Furans	0.0000	*	*	127	0.168
IS	8.43e+06	0.78 Y	0.91	25:36	0.992	219.40	25.36	292	2.5	0.121	Total Hepta-Furans	0.0000	*	*	292	0.121
IS	8.95e+06	1.61 Y	0.88	29:47	1.154	241.27	29.47	221	2.5	0.108					221	0.108
IS	1.02e+07	1.58 Y	1.02	30:42	1.189	236.23	30.42	221	2.5	0.105					221	0.105
IS	6.18e+06	0.48 Y	1.04	33:23	0.988	201.35	33.23	200	2.5	0.0752					200	0.0752
IS	6.73e+06	0.49 Y	1.08	33:31	0.992	209.78	33.31	200	2.5	0.0846					200	0.0846
IS	6.48e+06	0.49 Y	0.94	34:07	1.009	231.68	34.07	200	2.5	0.0818					200	0.0818
IS	5.92e+06	0.49 Y	0.87	35:05	1.038	230.21	35.05	245	2.5	0.149					245	0.149
IS	4.45e+06	0.40 Y	0.66	36:54	1.092	226.17	36.54	245	2.5	0.158					245	0.158
IS	4.11e+06	0.39 Y	0.60	38:43	1.145	229.63	38.43	225	2.5	0.242					225	0.242
IS	9.26e+06	0.88 Y	0.71	41:41	1.233	438.83	41.41									
C/Up	37Cl-2,3,7,8-TCDD		1.20	26:25	1.023	69.003	26.25									
RS/RT	13C-1,2,3,4-TCDD	0.81 Y	1.00	25:50	*	200.00	25.50									
RS	13C-1,2,3,4-TCDF	0.80 Y	1.00	24:21	*	200.00	24.21									
RS/RT	13C-1,2,3,4,6,9-HxCDF	0.47 Y	1.00	33:48	*	200.00	33.48									

Rec 100.0
 Qual 115
 111
 116
 119
 125
 101
 110
 121
 118
 101
 105
 116
 115
 113
 115
 110

Integrations by Analyst: DB
 Reviewed by Analyst: CT
 Date: 11/17/16
 Date: 11/18/16

Sample ID: OPR		EPA Method 1613B						
Matrix: Tissue	QC Batch: B6K0059	Lab Sample: B6K0059-BS1						
Sample Size: 10.0 g	Date Extracted: 09-Nov-2016 7:44	Date Analyzed: 16-Nov-16 05:29	Column: ZB-5MS					
Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	IS	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	18.7	20.0	93.7	67 - 158		13C-2,3,7,8-TCDD	96.0	20 - 175
1,2,3,7,8-PeCDD	85.5	100	85.5	70 - 142		13C-1,2,3,7,8-PeCDD	102	21 - 227
1,2,3,4,7,8-HxCDD	93.1	100	93.1	70 - 164		13C-1,2,3,4,7,8-HxCDD	94.7	21 - 193
1,2,3,6,7,8-HxCDD	93.8	100	93.8	76 - 134		13C-1,2,3,6,7,8-HxCDD	98.3	25 - 163
1,2,3,7,8,9-HxCDD	93.1	100	93.1	64 - 162		13C-1,2,3,7,8,9-HxCDD	101	21 - 193
1,2,3,4,6,7,8-HpCDD	96.3	100	96.3	70 - 140		13C-1,2,3,4,6,7,8-HpCDD	106	26 - 166
OCDD	182	200	90.8	78 - 144		13C-OCDD	74.3	13 - 199
2,3,7,8-TCDF	20.2	20.0	101	75 - 158		13C-2,3,7,8-TCDF	107	22 - 152
1,2,3,7,8-PeCDF	93.4	100	93.4	80 - 134		13C-1,2,3,7,8-PeCDF	98.0	21 - 192
2,3,4,7,8-PeCDF	99.3	100	99.3	68 - 160		13C-2,3,4,7,8-PeCDF	91.4	13 - 328
1,2,3,4,7,8-HxCDF	102	100	102	72 - 134		13C-1,2,3,4,7,8-HxCDF	100	19 - 202
1,2,3,6,7,8-HxCDF	98.6	100	98.6	84 - 130		13C-1,2,3,6,7,8-HxCDF	106	21 - 159
2,3,4,6,7,8-HxCDF	97.9	100	97.9	70 - 156		13C-2,3,4,6,7,8-HxCDF	113	22 - 176
1,2,3,7,8,9-HxCDF	98.6	100	98.6	78 - 130		13C-1,2,3,7,8,9-HxCDF	112	17 - 205
1,2,3,4,6,7,8-HpCDF	97.9	100	97.9	82 - 122		13C-1,2,3,4,6,7,8-HpCDF	106	21 - 158
1,2,3,4,7,8,9-HpCDF	97.7	100	97.7	78 - 138		13C-1,2,3,4,7,8,9-HpCDF	111	20 - 186
OCDF	193	200	96.5	63 - 170		13C-OCDF	83.8	13 - 199
					CRS	37Cl-2,3,7,8-TCDD	86.3	31 - 191

LCL-UCL - Lower control limit - upper control limit

Name	Resp	RA	RRF	RT	RRF	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	1.07e+06	0.81	Y	1.11	26:26	1.001	9.3748		2.5	*	Total Tetra-Dioxins	9.69	9.90		*	*
1,2,3,7,8-PeCDD	4.12e+06	0.62	Y	0.98	31:00	1.001	42.756		2.5	*	Total Penta-Dioxins	42.8	42.8		*	*
1,2,3,4,7,8-HxCDD	3.62e+06	1.23	Y	0.95	34:17	1.000	46.565		2.5	*	Total Hexa-Dioxins	141	141		*	*
1,2,3,6,7,8-HxCDD	3.98e+06	1.24	Y	1.05	34:24	1.000	46.881		2.5	*	Total Hepta-Dioxins	49.0	50.6		*	*
1,2,3,7,8,9-HxCDD	3.94e+06	1.25	Y	1.03	34:42	1.000	46.552		2.5	*	Total Tetra-Furans	10.4	11.0		*	*
1,2,3,4,6,7,8-HxCDD	3.27e+06	1.06	Y	1.01	38:11	1.000	48.134		2.5	*	Total Penta-Furans	98.006	98.934		*	*
OCDD	3.90e+06	0.89	Y	0.96	41:27	1.000	90.779		2.5	*	Total Hexa-Furans	199	200		*	*
2,3,7,8-TCDF	1.55e+06	0.75	Y	1.00	25:38	1.001	10.091		2.5	*	Total Hepta-Furans	98.1	100		*	*
1,2,3,7,8-PeCDF	6.24e+06	1.53	Y	0.99	29:48	1.001	46.684		2.5	*						
2,3,4,7,8-PeCDF	6.31e+06	1.59	Y	0.87	30:43	1.001	49.633		2.5	*						
1,2,3,4,7,8-HxCDF	5.22e+06	1.25	Y	1.03	33:24	1.000	50.899		2.5	*						
1,2,3,6,7,8-HxCDF	5.54e+06	1.26	Y	1.03	33:32	1.000	49.316		2.5	*						
2,3,4,6,7,8-HxCDF	5.45e+06	1.23	Y	1.09	34:08	1.000	48.937		2.5	*						
1,2,3,7,8,9-HxCDF	4.63e+06	1.25	Y	1.01	35:05	1.000	49.293		2.5	*						
1,2,3,4,6,7,8-HpCDF	4.24e+06	1.01	Y	1.29	36:55	1.000	48.954		2.5	*						
1,2,3,4,7,8,9-HpCDF	3.68e+06	1.00	Y	1.17	38:44	1.000	48.851		2.5	*						
OCDF	5.29e+06	0.90	Y	0.96	41:41	1.000	96.492		2.5	*						

Qual

IS	Rec	Qual
13C-2,3,7,8-TCDD	96.0	
13C-1,2,3,7,8-PeCDD	102	
13C-1,2,3,4,7,8-HxCDD	94.7	
13C-1,2,3,6,7,8-HxCDD	98.3	
13C-1,2,3,7,8,9-HxCDD	101	
13C-1,2,3,4,6,7,8-HpCDD	106	
13C-OCDD	74.3	
13C-2,3,7,8-TCDF	107	
13C-1,2,3,7,8-PeCDF	98.0	
13C-2,3,4,7,8-PeCDF	91.4	
13C-1,2,3,4,7,8-HxCDF	100	
13C-1,2,3,6,7,8-HxCDF	106	
13C-2,3,4,6,7,8-HxCDF	113	
13C-1,2,3,7,8,9-HxCDF	112	
13C-1,2,3,4,6,7,8-HpCDF	106	
13C-1,2,3,4,7,8,9-HpCDF	111	
13C-OCDF	83.8	
C/Up	86.3	
RS/RT	100.00	
RS	100.00	
RS/RT	100.00	

Integrations by Analyst: DB

Reviewed by Analyst: ET

Date: 11/16/16

Date: 11/16/16

Sample ID: EPA-HS-A1

EPA Method 1613B

Client Data
 Name: Teck American Incorporated
 Project: Upper Columbia River
 Date Collected: 30-Aug-2016 15:17

Sample Data
 Matrix: Tissue
 Sample Size: 10.1 g
 %Lipids: 5.77

Laboratory Data
 Lab Sample: 1601354-01
 QC Batch: B6K0059
 Date Analyzed: 16-Nov-16 23:00
 Column: ZB-5MS
 Date Received: 25-Oct-2016 9:00
 Date Extracted: 09-Nov-2016 7:44

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0981			13C-2,3,7,8-TCDD	80.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0847			13C-1,2,3,7,8-PeCDD	90.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.167			13C-1,2,3,4,7,8-HxCDD	89.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.167			13C-1,2,3,6,7,8-HxCDD	96.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.179			13C-1,2,3,7,8,9-HxCDD	98.0	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.139			13C-1,2,3,4,6,7,8-HpCDD	102	23 - 140	
OCDD	ND	0.211			13C-OCDD	79.2	17 - 157	
2,3,7,8-TCDF	0.546				13C-2,3,7,8-TCDF	91.0	24 - 169	✓
1,2,3,7,8-PeCDF	ND	0.107			13C-1,2,3,7,8-PeCDF	94.5	24 - 185	
2,3,4,7,8-PeCDF	ND	0.112			13C-2,3,4,7,8-PeCDF	95.6	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.102			13C-1,2,3,4,7,8-HxCDF	83.9	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.104			13C-1,2,3,6,7,8-HxCDF	88.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.113			13C-2,3,4,6,7,8-HxCDF	98.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.166			13C-1,2,3,7,8,9-HxCDF	94.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.106			13C-1,2,3,4,6,7,8-HpCDF	94.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.117			13C-1,2,3,4,7,8,9-HpCDF	99.5	26 - 138	
OCDF	ND	0.274			13C-OCDF	86.9	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	74.7	35 - 197	

Toxic Equivalent Quotient (TEQ) Data	
TEQMinWHO2005Dioxin	0.0546

TOTALS	
Total TCDD	ND
Total PeCDD	0.0981
Total HxCDD	0.0847
Total HpCDD	0.171
Total TCDF	0.139
Total PeCDF	0.546
Total HxCDF	ND
Total HpCDF	0.110
	0.120
	0.111

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Client ID: EPA-HS-A1
Lab ID: 1601354-01

Filename: 161116D2 S:10 Acq:16-NOV-16 23:00:58
GC Column ID: ZB-5MS ICAL: 1613VG7-8-5-16

ConCal: ST161116D2-1
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	2.14e+04	0.84	1.00	25:38	1.000	0.54574	✓	200	2.5	0.0981	Total Tetra-Dioxins	*	*	200	0.0981	
1,2,3,7,8-PeCDF			0.99	NotFt	*			183	2.5	0.0847	Total Penta-Dioxins	*	*	183	0.0847	
2,3,4,7,8-PeCDF			0.87	NotFt	*			199	2.5	0.167	Total Hexa-Dioxins	*	*	199	0.171	
1,2,3,4,7,8-HxCDF			1.03	NotFt	*			199	2.5	0.167	Total Hepta-Dioxins	*	*	146	0.139	
1,2,3,6,7,8-HxCDF			1.03	NotFt	*			199	2.5	0.1179	Total Tetra-Furans	0.546	0.546	*	*	
1,2,3,7,8,9-HxCDF			1.01	NotFt	*			146	2.5	0.139	Total Penta-Furans	0.0000	0.0000	212	0.110	
1,2,3,4,6,7,8-HpCDD			0.96	NotFt	*			139	2.5	0.211	Total Hexa-Furans	*	*	244	0.120	
2,3,7,8-TCDF			1.00	25:38	1.000	0.54574	✓	212	2.5	0.107	Total Hepta-Furans	*	*	157	0.111	
1,2,3,7,8-PeCDF			0.99	NotFt	*			212	2.5	0.112						
2,3,4,7,8-PeCDF			0.87	NotFt	*			244	2.5	0.102						
1,2,3,4,7,8-HxCDF			1.03	NotFt	*			244	2.5	0.104						
1,2,3,6,7,8-HxCDF			1.03	NotFt	*			244	2.5	0.113						
2,3,4,6,7,8-HxCDF			1.09	NotFt	*			244	2.5	0.166						
1,2,3,7,8,9-HxCDF			1.01	NotFt	*			157	2.5	0.106						
1,2,3,4,6,7,8-HpCDF			1.29	NotFt	*			157	2.5	0.117						
1,2,3,4,7,8,9-HpCDF			1.37	NotFt	*			215	2.5	0.274						
1,2,3,4,6,7,8-HpCDF			0.96	NotFt	*											

Rec	Qual
80.8	
90.1	
89.7	
96.1	
98.0	
102	
79.2	
91.0	
94.5	
95.6	
83.9	
88.3	
98.5	
94.8	
94.1	
99.5	
86.9	

Integrations	Reviewed
74.7	by Analyst: <u>CT</u>
59.446	Analyst: <u>DB</u>
199.00	Date: <u>11/17/16</u>
199.00	
199.00	
345.85	

C/Up	RS/RT	RS	RS/RT
37Cl-2,3,7,8-TCDD	13C-1,2,3,7,8-TCDD	13C-1,2,3,4,7,8-TCDD	13C-1,2,3,4,7,8-TCDF
2.62e+06	7.30e+06	9.44e+06	6.22e+06
1.20	1.00	0.79	1.00
26:26	25:50	24:22	33:49
1.023	*	*	*
59.446	199.00	199.00	199.00
1.20	1.00	0.79	1.00
26:26	25:50	24:22	33:49
1.023	*	*	*
59.446	199.00	199.00	199.00

Sample ID: EPA-HS-A1 DUP

EPA Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-02		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0059		
Date Collected:	30-Aug-2016 15:17	%Lipids:	5.27	Date Analyzed:	16-Nov-16 23:48		
				Column:	ZB-5MS		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	09-Nov-2016 7:44		
Analyte	Conc. (pg/g)	DL	EMPC	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0681		13C-2,3,7,8-TCDD	87.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0781		13C-1,2,3,7,8-PeCDD	95.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.116		13C-1,2,3,4,7,8-HxCDD	102	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.118		13C-1,2,3,6,7,8-HxCDD	104	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.124		13C-1,2,3,7,8,9-HxCDD	108	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.134		13C-1,2,3,4,6,7,8-HpCDD	104	23 - 140	
OCDD	0.237			13C-OCDD	78.1	17 - 157	✓
2,3,7,8-TCDF	ND		0.433	13C-2,3,7,8-TCDF	93.9	24 - 169	
1,2,3,7,8-PeCDF	ND	0.100		13C-1,2,3,7,8-PeCDF	96.1	24 - 185	
2,3,4,7,8-PeCDF	ND	0.101		13C-2,3,4,7,8-PeCDF	95.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0791		13C-1,2,3,4,7,8-HxCDF	89.2	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0855		13C-1,2,3,6,7,8-HxCDF	92.9	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0867		13C-2,3,4,6,7,8-HxCDF	96.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.125		13C-1,2,3,7,8,9-HxCDF	102	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.111		13C-1,2,3,4,6,7,8-HpCDF	92.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0968		13C-1,2,3,4,7,8,9-HpCDF	104	26 - 138	
OCDF	ND	0.323		13C-OCDF	87.5	17 - 157	
				CRS	83.9	35 - 197	
TOTALS				Toxic Equivalent Quotient (TEQ) Data			
				TEQMinWHO2005Dioxin	0.0000711		
Total TCDD	ND	0.0681					
Total PeCDD	ND	0.0781					
Total HxCDD	ND	0.120					
Total HpCDD	ND	0.134					
Total TCDF	ND		0.433				
Total PeCDF	ND	0.101					
Total HxCDF	ND	0.0933					
Total HpCDF	ND	0.104					

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Client ID: EPA-HS-A1 DUP
Lab ID: 1601354-02

Filename: 161116D2 S:11 Acq:16-NOV-16 23:48:40
GC Column ID: ZB-SMS ICal: 1613VG7-8-5-16

wt/vol:10.010

ConCal: ST161116D2-1
EndCAL: NA

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IS	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
IS	1,2,3,7,8-TCDD	*	n	1.11	Not F	*	*	149	2.5	0.0681	Total Tetra-Dioxins	*	*	*	149	0.0681
IS	1,2,3,7,8-PeCDF	*	n	0.98	Not F	*	*	193	2.5	0.0781	Total Penta-Dioxins	*	*	*	193	0.0781
IS	1,2,3,4,7,8-HxCDD	*	n	0.95	Not F	*	*	158	2.5	0.1116	Total Hexa-Dioxins	*	*	*	158	0.120
IS	1,2,3,6,7,8-HxCDD	*	n	1.05	Not F	*	*	158	2.5	0.1118	Total Hepta-Dioxins	*	*	*	148	0.134
IS	1,2,3,7,8,9-HxCDD	*	n	1.03	Not F	*	*	158	2.5	0.124	Total Tetra-Furans	0.433	*	*	*	*
IS	1,2,3,4,6,7,8-HpCDD	*	n	1.01	Not F	*	*	148	2.5	0.134	Total Penta-Furans	0.0000	*	*	193	0.101
IS	OCDD	0.95 Y	0.96	41:29	1.000	0.23736	*	*	2.5	*	Total Hexa-Furans	*	*	*	200	0.0933
IS	1,2,3,7,8-TCDF	1.87e+04	1.00	25:38	1.001	0.43345	*	*	2.5	*	Total Hepta-Furans	*	*	*	155	0.104
IS	1,2,3,7,8-PeCDF	*	n	0.99	Not F	*	*	193	2.5	0.100						
IS	2,3,4,7,8-PeCDF	*	n	0.87	Not F	*	*	193	2.5	0.101						
IS	1,2,3,4,7,8-HxCDF	*	n	1.03	Not F	*	*	200	2.5	0.0791						
IS	1,2,3,6,7,8-HxCDF	*	n	1.03	Not F	*	*	200	2.5	0.0855						
IS	2,3,4,6,7,8-HxCDF	*	n	1.09	Not F	*	*	200	2.5	0.0867						
IS	1,2,3,7,8,9-HxCDF	*	n	1.01	Not F	*	*	200	2.5	0.125						
IS	1,2,3,4,6,7,8-HpCDF	*	n	1.29	Not F	*	*	155	2.5	0.111						
IS	1,2,3,4,7,8,9-HpCDF	*	n	1.17	Not F	*	*	155	2.5	0.0968						
IS	OCDF	*	n	0.96	Not F	*	*	243	2.5	0.323						
IS	13C-2,3,7,8-TCDD	6.79e+06	0.77 Y	1.05	26:25	1.023		174.65			Rec	87.4				
IS	13C-1,2,3,7,8-PeCDD	6.69e+06	0.62 Y	0.95	30:59	1.200		191.50			87.4					
IS	13C-1,2,3,4,7,8-HxCDD	5.83e+06	1.24 Y	0.90	34:17	1.014		204.21			95.8					
IS	13C-1,2,3,6,7,8-HxCDD	5.69e+06	1.26 Y	0.86	34:24	1.017		208.31			102					
IS	13C-1,2,3,7,8,9-HxCDD	5.80e+06	1.21 Y	0.85	34:42	1.026		215.05			104					
IS	13C-1,2,3,4,6,7,8-HpCDD	4.39e+06	0.98 Y	0.66	38:11	1.129		208.27			108					
IS	13C-OCDD	6.23e+06	0.88 Y	0.63	41:28	1.226		312.17			104					
IS	13C-2,3,7,8-TCDF	8.58e+06	0.79 Y	0.91	25:37	0.992		187.66			78.1					
IS	13C-1,2,3,7,8-PeCDF	8.48e+06	1.56 Y	0.88	29:48	1.154		192.02			93.9					
IS	13C-2,3,4,7,8-PeCDF	9.76e+06	1.60 Y	1.02	30:42	1.189		190.23			96.1					
IS	13C-1,2,3,4,7,8-HxCDF	5.86e+06	0.49 Y	1.04	33:24	0.988		178.13			95.2					
IS	13C-1,2,3,6,7,8-HxCDF	6.38e+06	0.48 Y	1.08	33:31	0.991		185.54			89.2					
IS	13C-2,3,4,6,7,8-HxCDF	5.81e+06	0.49 Y	0.94	34:08	1.009		193.60			92.9					
IS	13C-1,2,3,7,8,9-HxCDF	5.62e+06	0.48 Y	0.87	35:05	1.038		203.51			96.9					
IS	13C-1,2,3,4,6,7,8-HpCDF	3.89e+06	0.40 Y	0.66	36:55	1.092		184.23			102					
IS	13C-1,2,3,4,7,8,9-HpCDF	3.99e+06	0.39 Y	0.60	38:44	1.145		208.07			92.2					
IS	13C-OCDF	7.91e+06	0.68 Y	0.71	41:41	1.233		349.49			104					
C/Up	37Cl-2,3,7,8-TCDD	2.97e+06	1.20	26:25	1.023	67.065					83.9					
RS/RT	13C-1,2,3,4-TCDD	7.37e+06	0.82 Y	1.00	25:50	199.80					Integrations					
RS	13C-1,2,3,4-TCDF	1.01e+07	0.80 Y	1.00	24:21	199.80					by					
RS/RT	13C-1,2,3,4,6,9-HxCDF	6.35e+06	0.46 Y	1.00	33:49	199.80					Analyst: DB					

Date: 11/17/16

Date: 11/17/16

Date: 11/17/16

Sample ID: EPA-HS-A1 TRIP

EPA Method 1613B

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-03			
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0059			
Date Collected:	30-Aug-2016 15:17	%Lipids:	4.96	Date Analyzed:	17-Nov-16 00:36			
				Column:	ZB-5MS			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	09-Nov-2016 7:44			
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0703			IS 13C-2,3,7,8-TCDD	89.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0891			13C-1,2,3,7,8-PeCDD	98.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.130			13C-1,2,3,4,7,8-HxCDD	95.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.128			13C-1,2,3,6,7,8-HxCDD	96.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.144			13C-1,2,3,7,8,9-HxCDD	99.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.114			13C-1,2,3,4,6,7,8-HpCDD	94.9	23 - 140	
OCDD	0.181			J	13C-OCDD	75.0	17 - 157	✓
2,3,7,8-TCDF	0.527				13C-2,3,7,8-TCDF	98.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.116			13C-1,2,3,7,8-PeCDF	96.1	24 - 185	
2,3,4,7,8-PeCDF	ND	0.113			13C-2,3,4,7,8-PeCDF	94.4	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0702			13C-1,2,3,4,7,8-HxCDF	85.0	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0705			13C-1,2,3,6,7,8-HxCDF	92.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0781			13C-2,3,4,6,7,8-HxCDF	96.8	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.122			13C-1,2,3,7,8,9-HxCDF	93.0	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.132			13C-1,2,3,4,6,7,8-HpCDF	87.4	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.136			13C-1,2,3,4,7,8,9-HpCDF	94.5	26 - 138	
OCDF	ND	0.225			13C-OCDF	79.2	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	83.5	35 - 197	
TOTALS					Toxic Equivalent Quotient (TEQ) Data			
					TEQMinWHO2005Dioxin		0.0528	
Total TCDD	ND	0.0703						
Total PeCDD	ND	0.0891						
Total HxCDD	ND	0.134						
Total HpCDD	ND	0.114						
Total TCDF	0.527							
Total PeCDF	ND	0.114						
Total HxCDF	ND	0.0837						
Total HpCDF	ND	0.134						

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
Results are reported in wet weight.
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL	
2,3,7,8-TCDD	*	n	1.11	NotF	*	*	*	157	2.5	0.0703	Total Tetra-Dioxins	*	*	*	157	0.0703	
1,2,3,7,8-PeCDD	*	n	0.98	NotF	*	*	*	233	2.5	0.0891	Total Penta-Dioxins	*	*	*	233	0.0891	
1,2,3,4,7,8-HxCDD	*	n	0.95	NotF	*	*	*	184	2.5	0.130	Total Hexa-Dioxins	*	*	*	184	0.134	
1,2,3,6,7,8-HxCDD	*	n	1.05	NotF	*	*	*	184	2.5	0.128	Total Hepta-Dioxins	*	*	*	132	0.114	
1,2,3,7,8,9-HxCDD	*	n	1.03	NotF	*	*	*	184	2.5	0.144	Total Tetra-Furans	0.527	0.527	*	*	*	
1,2,3,4,6,7,8-HpCDD	*	n	1.01	NotF	*	*	*	132	2.5	0.114	Total Penta-Furans	0.0000	0.0000	*	*	222	0.114
OCDD	2.92e+03	0.76 Y	0.96	41:27	1.000	0.18078	*	*	2.5	*	Total Hexa-Furans	*	*	*	*	194	0.0837
2,3,7,8-TCDF	2.44e+04	0.75 Y	1.00	25:38	1.001	0.52744	*	*	2.5	*	Total Hepta-Furans	*	*	*	*	210	0.134
1,2,3,7,8-PeCDF	*	n	0.99	NotF	*	*	*	222	2.5	0.116							
2,3,4,7,8-PeCDF	*	n	0.87	NotF	*	*	*	222	2.5	0.113							
1,2,3,4,7,8-HxCDF	*	n	1.03	NotF	*	*	*	194	2.5	0.0702							
1,2,3,6,7,8-HxCDF	*	n	1.03	NotF	*	*	*	194	2.5	0.0705							
2,3,4,6,7,8-HxCDF	*	n	1.09	NotF	*	*	*	194	2.5	0.0781							
1,2,3,7,8,9-HxCDF	*	n	1.01	NotF	*	*	*	194	2.5	0.122							
1,2,3,4,6,7,8-HpCDF	*	n	1.29	NotF	*	*	*	210	2.5	0.132							
1,2,3,4,7,8,9-HpCDF	*	n	1.17	NotF	*	*	*	210	2.5	0.136							
OCDF	7.95	0.96	0.96	NotF	*	*	*	177	2.5	0.225							

IS	Rec	Qual
13C-2,3,7,8-TCDD	89.4	178.35
13C-1,2,3,7,8-PeCDD	98.3	195.96
13C-1,2,3,4,7,8-HxCDD	95.4	190.17
13C-1,2,3,6,7,8-HxCDD	96.3	191.99
13C-1,2,3,7,8,9-HxCDD	99.3	198.00
13C-1,2,3,4,6,7,8-HpCDD	94.9	189.32
13C-OCDD	75.0	299.96
13C-2,3,7,8-TCDF	98.0	195.40
13C-1,2,3,7,8-PeCDF	96.1	191.65
13C-2,3,4,7,8-HxCDF	94.4	188.25
13C-1,2,3,4,7,8-HxCDF	85.0	169.47
13C-1,2,3,6,7,8-HxCDF	92.0	183.49
13C-2,3,4,6,7,8-HxCDF	96.8	192.99
13C-1,2,3,7,8,9-HxCDF	93.0	185.41
13C-1,2,3,4,6,7,8-HpCDF	87.4	174.23
13C-1,2,3,4,7,8,9-HpCDF	94.5	188.37
13C-OCDF	79.2	315.99

C/Up	Integrations	Reviewed
37Cl-2,3,7,8-TCDD	83.5	by Analyst: <u>DB</u>
13C-1,2,3,4-TCDD	66.632	by Analyst: <u>CT</u>
13C-1,2,3,4-TCDF	195.40	Date: <u>11/18/16</u>
13C-1,2,3,4,6,9-HxCDF	199.40	Date: <u>11/17/16</u>
13C-1,2,3,4,6,9-HxCDF	199.40	Date: <u>11/18/16</u>

Sample ID: EPA-HS-A2

EPA Method 1613B

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-04
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0059
Date Collected:	31-Aug-2016 13:58	%Lipids:	6.25	Date Analyzed:	14-Nov-16 23:40
				Column:	ZB-5MS
				Date Received:	25-Oct-2016 9:00
				Date Extracted:	09-Nov-2016 7:44

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0412			13C-2,3,7,8-TCDD	82.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0714			13C-1,2,3,7,8-PeCDD	87.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.108			13C-1,2,3,4,7,8-HxCDD	89.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.111			13C-1,2,3,6,7,8-HxCDD	94.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.120			13C-1,2,3,7,8,9-HxCDD	95.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.0998			13C-1,2,3,4,6,7,8-HpCDD	97.1	23 - 140	
OCDD	0.326			J	13C-OCDD	67.5	17 - 157	✓
2,3,7,8-TCDF	0.807				13C-2,3,7,8-TCDF	89.1	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0757			13C-1,2,3,7,8-PeCDF	91.0	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0707			13C-2,3,4,7,8-PeCDF	88.7	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0691			13C-1,2,3,4,7,8-HxCDF	87.7	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0748			13C-1,2,3,6,7,8-HxCDF	88.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0808			13C-2,3,4,6,7,8-HxCDF	95.0	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.123			13C-1,2,3,7,8,9-HxCDF	89.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0962			13C-1,2,3,4,6,7,8-HpCDF	86.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0964			13C-1,2,3,4,7,8,9-HpCDF	89.1	26 - 138	
OCDF	ND	0.230			13C-OCDF	67.7	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	77.3	35 - 197	
TOTALS					Toxic Equivalent Quotient (TEQ) Data			
					TEQMinWHO2005Dioxin	0.0808		
Total TCDD	ND	0.0412						
Total PeCDD	ND	0.0714						
Total HxCDD	ND	0.113						
Total HpCDD	ND	0.0998						
Total TCDF	0.807							
Total PeCDF	ND	0.0732						
Total HxCDF	ND	0.0854						
Total HpCDF	ND	0.0962						

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
Results are reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Client ID: EPA-HS-A2
Lab ID: 1601354-04

Filename: 161114D2 S:3
GC Column ID: ZB-SMS ICAL: 1613VG7-8-5-16

Acq:14-NOV-16 23:40:49
wt/vol:10.050

Concal: ST161114D2-1
EndCAL: NA

Page 2 of 2

Name	Resp	RA	RRP	RT	RRT	Conc	Q	noise	Pac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	n	1.11	NotF	*	*	*	133	2.5	0.0412	Total Tetra-Dioxins	*	*	*	133	0.0412
1,2,3,7,8-PeCDD	*	n	0.98	NotF	*	*	*	236	2.5	0.0714	Total Penta-Dioxins	*	*	*	236	0.0714
1,2,3,4,7,8-HxCDD	*	n	0.95	NotF	*	*	*	184	2.5	0.108	Total Hexa-Dioxins	*	*	*	184	0.113
1,2,3,6,7,8-HxCDD	*	n	1.05	NotF	*	*	*	184	2.5	0.111	Total Hepta-Dioxins	*	*	*	148	0.0998
1,2,3,7,8,9-HxCDD	*	n	1.03	NotF	*	*	*	184	2.5	0.120	Total Tetra-Furans	0.807	0.807	*	*	*
1,2,3,4,6,7,8-HpCDD	*	n	1.01	NotF	*	*	*	148	2.5	0.0998	Total Penta-Furans	0.0000	0.0000	*	212	0.0732
OCDD	6.01e+03	0.81 Y	0.96	41:28	1.000	0.32600	*	*	2.5	*	Total Hexa-Furans	*	*	*	240	0.0854
2,3,7,8-TCDF	5.00e+04	0.76 Y	1.00	25:38	1.000	0.80747	*	*	2.5	*	Total Hepta-Furans	*	*	*	170	0.0962
1,2,3,7,8-PeCDF	*	n	0.99	NotF	*	*	*	212	2.5	0.0757						
2,3,4,7,8-PeCDF	*	n	0.87	NotF	*	*	*	212	2.5	0.0707						
1,2,3,4,7,8-HxCDF	*	n	1.03	NotF	*	*	*	240	2.5	0.0691						
1,2,3,6,7,8-HxCDF	*	n	1.03	NotF	*	*	*	240	2.5	0.0748						
2,3,4,6,7,8-HxCDF	*	n	1.09	NotF	*	*	*	240	2.5	0.0808						
1,2,3,7,8,9-HxCDF	*	n	1.01	NotF	*	*	*	240	2.5	0.123						
1,2,3,4,6,7,8-HpCDF	*	n	1.29	NotF	*	*	*	170	2.5	0.0962						
1,2,3,4,7,8,9-HpCDF	*	n	1.17	NotF	*	*	*	170	2.5	0.0964						
OCDF	*	n	0.96	NotF	*	*	*	207	2.5	0.230						

IS	Rec	Qual									
13C-2,3,7,8-TCDD	9.75e+06	0.79 Y	1.05	26:24	1.022	163.63					82.2
13C-1,2,3,7,8-PeCDD	9.26e+06	0.63 Y	0.95	30:59	1.200	173.07					87.0
13C-1,2,3,4,7,8-HxCDD	7.20e+06	1.24 Y	0.90	34:17	1.014	177.23					89.1
13C-1,2,3,6,7,8-HxCDD	7.27e+06	1.26 Y	0.86	34:24	1.017	187.27					94.1
13C-1,2,3,7,8,9-HxCDD	7.30e+06	1.27 Y	0.85	34:42	1.026	190.02					95.5
13C-1,2,3,4,6,7,8-HpCDD	5.79e+06	1.03 Y	0.66	38:11	1.129	193.29					97.1
13C-OCDD	7.63e+06	0.87 Y	0.63	41:28	1.226	268.61					67.5
13C-2,3,7,8-TCDF	1.23e+07	0.80 Y	0.91	25:37	0.992	177.37					89.1
13C-1,2,3,7,8-PeCDF	1.21e+07	1.64 Y	0.88	29:48	1.154	181.01					91.0
13C-2,3,4,7,8-PeCDF	1.37e+07	1.56 Y	1.02	30:42	1.189	176.45					88.7
13C-1,2,3,4,7,8-HxCDF	8.17e+06	0.50 Y	1.04	33:24	0.988	174.44					87.7
13C-1,2,3,6,7,8-HxCDF	8.57e+06	0.53 Y	1.08	33:32	0.992	175.13					88.0
13C-2,3,4,6,7,8-HxCDF	8.07e+06	0.52 Y	0.94	34:08	1.009	189.01					95.0
13C-1,2,3,7,8,9-HxCDF	7.01e+06	0.51 Y	0.87	35:05	1.038	178.41					89.7
13C-1,2,3,4,6,7,8-HpCDF	5.16e+06	0.44 Y	0.66	36:55	1.091	171.72					86.3
13C-1,2,3,4,7,8,9-HpCDF	4.84e+06	0.44 Y	0.60	38:44	1.145	177.32					89.1
13C-OCDF	8.69e+06	0.89 Y	0.71	41:41	1.233	269.53					67.7

C/Up	Integrations	Reviewed
37Cl-2,3,7,8-TCDD	61.540	77.3

RS/RT	Integrations	Reviewed				
13C-1,2,3,4-TCDD	1.13e+07	0.78 Y	1.00	25:50	*	199.00
13C-1,2,3,4-TCDF	1.52e+07	0.80 Y	1.00	24:22	*	199.00
13C-1,2,3,4,6,9-HxCDF	9.00e+06	0.50 Y	1.00	33:49	*	199.00

Integrations by DB Reviewed by CT
Analyst: DB
Date: 11/15/16
Date: 11/18/16

Sample ID: EPA-HS-A3

EPA Method 1613B

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-05			
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0059			
Date Collected:	30-Aug-2016 12:10	%Lipids:	3.54	Date Analyzed:	15-Nov-16 00:28 Column: ZB-5MS			
Date Received:	25-Oct-2016 9:00			Date Extracted:	09-Nov-2016 7:44			
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0567			IS 13C-2,3,7,8-TCDD	84.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0527			13C-1,2,3,7,8-PeCDD	90.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.112			13C-1,2,3,4,7,8-HxCDD	93.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.129			13C-1,2,3,6,7,8-HxCDD	88.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.119			13C-1,2,3,7,8,9-HxCDD	100	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.156 ✓			J	13C-1,2,3,4,6,7,8-HpCDD	97.8 ✓	23 - 140	
OCDD	ND		0.173 ✓		13C-OCDD	71.0	17 - 157	
2,3,7,8-TCDF	0.416 ✓			J	13C-2,3,7,8-TCDF	87.7	24 - 169	
1,2,3,7,8-PeCDF	ND		0.0302 ✓		13C-1,2,3,7,8-PeCDF	93.0 ✓	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0629			13C-2,3,4,7,8-PeCDF	90.4	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0631			13C-1,2,3,4,7,8-HxCDF	87.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0627			13C-1,2,3,6,7,8-HxCDF	90.5	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0690			13C-2,3,4,6,7,8-HxCDF	99.6	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0972			13C-1,2,3,7,8,9-HxCDF	94.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.101			13C-1,2,3,4,6,7,8-HpCDF	90.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.102			13C-1,2,3,4,7,8,9-HpCDF	91.6	26 - 138	
OCDF	ND	0.277			13C-OCDF	71.6	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	79.1 ✓	35 - 197	
TOTALS					Toxic Equivalent Quotient (TEQ) Data			
					TEQMinWHO2005Dioxin		0.0432	
Total TCDD	ND	0.0567						
Total PeCDD	ND	0.0527						
Total HxCDD	ND	0.120						
Total HpCDD	0.156 ✓							
Total TCDF	0.416 ✓							
Total PeCDF	ND		0.0302 ✓					
Total HxCDF	ND	0.0721						
Total HpCDF	ND	0.101						

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	n	1.11	NotFh	*	*	190	2.5	2.5	0.0567	Total Tetra-Dioxins	*	*	*	190	0.0567
1,2,3,7,8-PeCDD	*	n	0.98	NotFh	*	*	196	2.5	2.5	0.0527	Total Penta-Dioxins	*	*	*	196	0.0527
1,2,3,4,7,8-HxCDD	*	n	0.95	NotFh	*	*	207	2.5	2.5	0.112	Total Hexa-Dioxins	*	*	*	207	0.120
1,2,3,6,7,8-HxCDD	*	n	1.05	NotFh	*	*	207	2.5	2.5	0.129	Total Hepta-Dioxins	0.156	*	*	*	*
1,2,3,7,8,9-HxCDD	*	n	1.03	NotFh	*	*	207	2.5	2.5	0.119	Total Tetra-Furans	0.416	*	*	*	*
1,2,3,4,6,7,8-HpCDD	5.04e+03	1.14	Y	38:11	1.000	0.15562	*	2.5	2.5	*	Total Penta-Furans	0.0000	0.030249	*	*	223 0.0721
OCDD	3.66e+03	0.62	n	41:28	1.000	0.17264	*	2.5	2.5	*	Total Hexa-Furans	*	*	*	*	212 0.101
2,3,7,8-TCDF	2.64e+04	0.68	Y	25:38	1.001	0.41585	*	2.5	2.5	*	Total Hepta-Furans	*	*	*	*	212 0.101
1,2,3,7,8-PeCDF	1.94e+03	0.57	n	29:48	1.000	0.030249	*	2.5	2.5	*						
2,3,4,7,8-PeCDF	*	n	0.87	NotFh	*	*	183	2.5	2.5	0.0629						
1,2,3,4,7,8-HxCDF	*	n	1.03	NotFh	*	*	223	2.5	2.5	0.0631						
1,2,3,6,7,8-HxCDF	*	n	1.03	NotFh	*	*	223	2.5	2.5	0.0627						
2,3,4,6,7,8-HxCDF	*	n	1.09	NotFh	*	*	223	2.5	2.5	0.0690						
1,2,3,7,8,9-HxCDF	*	n	1.01	NotFh	*	*	223	2.5	2.5	0.0972						
1,2,3,4,6,7,8-HpCDF	*	n	1.29	NotFh	*	*	212	2.5	2.5	0.101						
OCDF	1.01e+07	0.88	Y	41:40	1.233	286.12	*	294	2.5	0.277						
IS 13C-2,3,7,8-TCDD	1.03e+07	0.78	Y	26:24	1.022	169.33					Rec	84.8				
IS 13C-1,2,3,7,8-PeCDD	9.92e+06	0.63	Y	30:59	1.200	181.12					Qual	90.6				
IS 13C-1,2,3,4,7,8-HxCDD	8.25e+06	1.25	Y	34:17	1.014	186.10						93.1				
IS 13C-1,2,3,6,7,8-HxCDD	7.46e+06	1.24	Y	34:24	1.017	175.84						88.0				
IS 13C-1,2,3,7,8,9-HxCDD	8.38e+06	1.20	Y	34:42	1.026	199.82						100				
IS 13C-1,2,3,4,6,7,8-HpCDD	6.39e+06	1.06	Y	38:11	1.129	195.38						97.8				
IS 13C-OCDD	8.80e+06	0.89	Y	41:27	1.226	283.59						71.0				
IS 13C-2,3,7,8-TCDF	1.27e+07	0.79	Y	25:37	0.992	175.24						87.7				
IS 13C-1,2,3,7,8-PeCDF	1.30e+07	1.55	Y	29:48	1.154	185.87						93.0				
IS 13C-2,3,4,7,8-PeCDF	1.46e+07	1.58	Y	30:42	1.189	180.55						90.4				
IS 13C-1,2,3,4,7,8-HxCDF	8.95e+06	0.50	Y	33:24	0.988	174.99						87.6				
IS 13C-1,2,3,6,7,8-HxCDF	9.67e+06	0.51	Y	33:31	0.991	180.86						90.5				
IS 13C-2,3,4,6,7,8-HxCDF	9.28e+06	0.50	Y	34:08	1.009	199.07						99.6				
IS 13C-1,2,3,7,8,9-HxCDF	8.11e+06	0.50	Y	35:05	1.038	189.10						94.6				
IS 13C-1,2,3,4,6,7,8-HpCDF	5.96e+06	0.42	Y	36:55	1.092	181.43						90.8				
IS 13C-1,2,3,4,7,8,9-HpCDF	5.46e+06	0.43	Y	38:44	1.145	182.96						91.6				
IS 13C-OCDF	1.01e+07	0.88	Y	41:40	1.233	286.12						71.6				
C/Up 37Cl-2,3,7,8-TCDD	4.39e+06		1.20	26:25	1.023	63.180						79.1				
RS/RT 13C-1,2,3,4-TCDD	1.16e+07	0.80	Y	25:50	*	199.80										
RS 13C-1,2,3,4-TCDF	1.59e+07	0.78	Y	24:21	*	199.80										
RS/RT 13C-1,2,3,4,6,9-HxCDF	9.86e+06	0.51	Y	33:49	*	199.80										

Integrations by DB Reviewed by CT
 Analyst: CT
 Date: 11/15/16
 Date: 11/15/16

Sample ID: EPA-HS-B1

EPA Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-06		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0059		
Date Collected:	31-Aug-2016 10:47	%Lipids:	6.16	Date Analyzed:	15-Nov-16 01:16		
				Column:	ZB-5MS		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	09-Nov-2016 7:44		
Analyte	Conc. (pg/g)	DL	EMPC	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0678		13C-2,3,7,8-TCDD	88.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0473		13C-1,2,3,7,8-PeCDD	91.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.112		13C-1,2,3,4,7,8-HxCDD	93.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.110		13C-1,2,3,6,7,8-HxCDD	96.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.117		13C-1,2,3,7,8,9-HxCDD	100	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.117		13C-1,2,3,4,6,7,8-HpCDD	105	23 - 140	
OCDD	ND	0.125		13C-OCDD	78.2	17 - 157	
2,3,7,8-TCDF	0.828			13C-2,3,7,8-TCDF	94.3	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0979		13C-1,2,3,7,8-PeCDF	93.4	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0923		13C-2,3,4,7,8-PeCDF	93.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0605		13C-1,2,3,4,7,8-HxCDF	90.7	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0634		13C-1,2,3,6,7,8-HxCDF	91.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0637		13C-2,3,4,6,7,8-HxCDF	98.6	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0894		13C-1,2,3,7,8,9-HxCDF	96.0	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0987		13C-1,2,3,4,6,7,8-HpCDF	90.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0957		13C-1,2,3,4,7,8,9-HpCDF	94.5	26 - 138	
OCDF	ND	0.179		13C-OCDF	77.6	17 - 157	
				CRS 37Cl-2,3,7,8-TCDD	83.6	35 - 197	
TOTALS				Toxic Equivalent Quotient (TEQ) Data			
				TEQMinWHO2005Dioxin		0.0828	
Total TCDD	ND	0.0678					
Total PeCDD	ND	0.0473					
Total HxCDD	ND	0.113					
Total HpCDD	ND	0.117					
Total TCDF	0.828						
Total PeCDF	ND	0.0950					
Total HxCDF	ND	0.0685					
Total HpCDF	ND	0.0972					

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
 Results are reported in wet weight.
 Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

IS	RS/RT	Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
IS	13C-2,3,7,8-TCDD	2,3,7,8-TCDD	9.82e+06	0.73 Y	1.00	25:38	1.001	0.82810	2.5	217	2.5	0.0678	Total Tetra-Dioxins	*	*	217	0.0678	
IS	13C-1,2,3,7,8-PCDF	1,2,3,7,8-PCDF	9.11e+06	0.62 Y	0.99	NotEq	*	182.28	2.5	162	2.5	0.0473	Total Penta-Dioxins	*	*	162	0.0473	
IS	13C-1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDD	7.16e+06	1.28 Y	0.87	NotEq	*	187.19	2.5	188	2.5	0.112	Total Hexa-Dioxins	*	*	188	0.112	
IS	13C-1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDD	7.04e+06	1.20 Y	1.03	NotEq	*	192.49	2.5	194	2.5	0.0605	Total Hepta-Dioxins	*	*	194	0.0605	
IS	13C-1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDD	7.22e+06	1.22 Y	1.03	NotEq	*	199.61	2.5	194	2.5	0.0634	Total Tetra-Furans	0.828	0.828	194	0.117	
IS	13C-1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDD	5.92e+06	1.07 Y	1.09	NotEq	*	209.67	2.5	188	2.5	0.117	Total Penta-Furans	0.0000	0.0000	188	0.0950	
IS	13C-OCDD	OCDD	8.35e+06	0.88 Y	1.01	NotEq	*	312.06	2.5	166	2.5	0.125	Total Hexa-Furans	*	*	166	0.0685	
IS	13C-2,3,7,8-TCDF	2,3,7,8-TCDF	1.22e+07	0.78 Y	0.91	25:37	0.992	188.23	2.5	109	2.5	0.0987	Total Hepta-Furans	*	*	109	0.0972	
IS	13C-1,2,3,7,8-PCDF	1,2,3,7,8-PCDF	1.17e+07	1.58 Y	0.88	29:48	1.154	186.46	2.5	255	2.5	0.0979						
IS	13C-2,3,4,7,8-HxCDF	2,3,4,7,8-HxCDF	1.36e+07	1.55 Y	1.02	30:42	1.189	186.28	2.5	255	2.5	0.0923						
IS	13C-1,2,3,4,7,8-HxCDF	1,2,3,4,7,8-HxCDF	7.99e+06	0.50 Y	1.04	33:24	0.988	181.00	2.5	194	2.5	0.0634						
IS	13C-1,2,3,6,7,8-HxCDF	1,2,3,6,7,8-HxCDF	8.43e+06	0.51 Y	1.08	33:31	0.991	182.93	2.5	194	2.5	0.0637						
IS	13C-2,3,4,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	7.91e+06	0.52 Y	0.94	34:07	1.009	196.84	2.5	194	2.5	0.0894						
IS	13C-1,2,3,7,8,9-HxCDF	1,2,3,7,8,9-HxCDF	7.09e+06	0.50 Y	0.87	35:05	1.038	191.67	2.5	180	2.5	0.0987						
IS	13C-1,2,3,4,6,7,8-HpCDF	1,2,3,4,6,7,8-HpCDF	5.10e+06	0.43 Y	0.66	36:54	1.091	180.17	2.5	180	2.5	0.0957						
IS	13C-1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8,9-HpCDF	4.85e+06	0.44 Y	0.60	38:43	1.145	188.64	2.5	180	2.5	0.0957						
IS	13C-OCDF	OCDF	9.40e+06	0.88 Y	0.71	41:41	1.233	309.72	2.5	166	2.5	0.179						
C/Up	37C1-2,3,7,8-TCDD	2,3,7,8-TCDD	4.23e+06	1.20	26:25	1.024		66.714		83.6								
RS/RT	13C-1,2,3,4-TCDD	1,2,3,4-TCDD	1.05e+07	0.79 Y	1.00	25:49	*	199.60										
RS	13C-1,2,3,4-TCDF	1,2,3,4-TCDF	1.43e+07	0.81 Y	1.00	24:21	*	199.60										
RS/RT	13C-1,2,3,4,6,9-HxCDF	1,2,3,4,6,9-HxCDF	8.50e+06	0.51 Y	1.00	33:49	*	199.60										

Rec Qual
 88.5
 91.3
 93.8
 96.4
 100
 105
 78.2
 94.3
 93.4
 93.3
 90.7
 91.6
 98.6
 96.0
 90.3
 94.5
 77.6

Integrations by DB
 Analyst: CT
 Date: 11/16/16
 Reviewed by CT
 Analyst: CT
 Date: 11/18/16

Sample ID: EPA-HS-B2

EPA Method 1613B

Client Data Name: Teck American Incorporated Project: Upper Columbia River Date Collected: 30-Aug-2016 14:46		Sample Data Matrix: Tissue Sample Size: 10.0 g %Lipids: 5.14		Laboratory Data Lab Sample: 1601354-07 QC Batch: B6K0059 Date Analyzed: 15-Nov-16 02:03 Column: ZB-5MS		Date Received: 25-Oct-2016 9:00 Date Extracted: 09-Nov-2016 7:44	
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Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0401			13C-2,3,7,8-TCDD	86.0	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0445			13C-1,2,3,7,8-PeCDD	90.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0934			13C-1,2,3,4,7,8-HxCDD	95.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0906			13C-1,2,3,6,7,8-HxCDD	98.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0989			13C-1,2,3,7,8,9-HxCDD	100	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.0934			13C-1,2,3,4,6,7,8-HpCDD	106	23 - 140	
OCDD	ND	0.145			13C-OCDD	80.2	17 - 157	
2,3,7,8-TCDF	0.739				13C-2,3,7,8-TCDF	90.7	24 - 169	✓
1,2,3,7,8-PeCDF	ND	0.0644			13C-1,2,3,7,8-PeCDF	92.9	24 - 185	
2,3,4,7,8-PeCDF	ND		0.0368		13C-2,3,4,7,8-PeCDF	89.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0495			13C-1,2,3,4,7,8-HxCDF	91.1	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0531			13C-1,2,3,6,7,8-HxCDF	92.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0561			13C-2,3,4,6,7,8-HxCDF	98.8	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0764			13C-1,2,3,7,8,9-HxCDF	96.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0942			13C-1,2,3,4,6,7,8-HpCDF	93.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.100			13C-1,2,3,4,7,8,9-HpCDF	94.0	26 - 138	
OCDF	ND	0.181			13C-OCDF	81.7	17 - 157	
		CRS	37Cl-2,3,7,8-TCDD			81.9	35 - 197	

TOTALS		Toxic Equivalent Quotient (TEQ) Data	
		TEQMin	WHO2005Dioxin
			0.0739

Total TCDD	ND	0.0401	
Total PeCDD	ND	0.0445	
Total HxCDD	ND	0.0944	
Total HpCDD	ND	0.0934	
Total TCDF	0.739		
Total PeCDF	ND	0.0368	✓
Total HxCDF	ND	0.0582	
Total HpCDF	ND	0.0970	

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

IS	RS/RT	Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL	
IS	IS	2,3,7,8-TCDD	4.89e+04	0.87 Y	1.00	25:37	1.000	0.73874	*	147	2.5	0.0401	Total Tetra-Dioxins	*	*	*	147	0.0401	
IS	IS	1,2,3,7,8-TCDF	9.99e+06	0.62 Y	0.99	30:58	1.200	180.34	*	162	2.5	0.0445	Total Penta-Dioxins	*	*	*	162	0.0445	
IS	IS	1,2,3,4,7,8-HxCDF	8.12e+06	1.25 Y	0.90	34:16	1.014	190.58	*	173	2.5	0.0934	Total Hexa-Dioxins	*	*	*	173	0.0934	
IS	IS	1,2,3,6,7,8-HxCDF	8.01e+06	1.23 Y	0.86	34:23	1.017	196.65	*	173	2.5	0.0906	Total Hepta-Dioxins	*	*	*	159	0.0934	
IS	IS	1,2,3,7,8,9-HxCDF	8.03e+06	1.23 Y	0.85	34:41	1.026	199.24	*	173	2.5	0.0989	Total Tetra-Furans	0.739	0.739	*	*	*	
IS	IS	1,2,3,4,6,7,8-HpCDF	6.67e+06	1.04 Y	0.66	38:10	1.129	212.01	*	159	2.5	0.0934	Total Penta-Furans	0.0000	0.036816	*	*	187	0.0582
IS	IS	1,2,3,4,7,8,9-HpCDF	9.53e+06	0.86 Y	0.63	41:27	1.226	319.59	*	145	2.5	0.145	Total Hexa-Furans	*	*	*	*	200	0.0970
IS	IS	1,2,3,4,6,7,8,9-HxCDF	1.32e+07	0.78 Y	0.91	25:36	0.992	180.76	*	195	2.5	0.0644	Total Hepta-Furans	*	*	*	*	187	0.0582
IS	IS	1,2,3,7,8-HxCDF	1.30e+07	1.58 Y	0.88	29:47	1.154	185.10	*	187	2.5	0.0495							
IS	IS	1,2,3,4,7,8-HxCDF	1.45e+07	1.59 Y	1.02	30:41	1.189	177.84	*	187	2.5	0.0531							
IS	IS	1,2,3,6,7,8-HxCDF	8.92e+06	0.51 Y	1.04	33:23	0.988	181.38	*	187	2.5	0.0561							
IS	IS	1,2,3,4,6,7,8-HxCDF	9.47e+06	0.50 Y	1.08	33:31	0.992	184.44	*	187	2.5	0.0764							
IS	IS	1,2,3,4,7,8-HxCDF	8.82e+06	0.51 Y	0.94	34:07	1.009	196.84	*	200	2.5	0.0942							
IS	IS	1,2,3,7,8,9-HxCDF	7.90e+06	0.49 Y	0.87	35:04	1.038	191.53	*	202	2.5	0.100							
IS	IS	1,2,3,4,6,7,8-HpCDF	5.86e+06	0.42 Y	0.66	36:54	1.092	185.79	*	202	2.5	0.100							
IS	IS	1,2,3,4,7,8,9-HpCDF	5.37e+06	0.41 Y	0.60	38:43	1.145	187.25	*	202	2.5	0.181							
IS	IS	1,2,3,4,6,7,8,9-HxCDF	1.10e+07	0.88 Y	0.71	41:40	1.233	325.45	*										
C/Up	RS/RT	37Cl-2,3,7,8-TCDD	4.59e+06	1.20	26:25	1.023		65.240											
RS/RT	RS	13C-1,2,3,4-TCDD	1.17e+07	0.79 Y	1.00	25:49	*	199.20											
RS/RT	RS	13C-1,2,3,4-TCDF	1.60e+07	0.78 Y	1.00	24:21	*	199.20											
RS/RT	RS	13C-1,2,3,4,6,9-HxCDF	9.45e+06	0.51 Y	1.00	33:48	*	199.20											

Integrations by DB Reviewed by CT
 Analyst: CT
 Date: 11/16/16

Sample ID: EPA-HS-B3

EPA Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-08		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0059		
Date Collected:	30-Aug-2016 10:39	%Lipids:	6.22	Date Analyzed:	15-Nov-16 02:51		
				Column:	ZB-5MS		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	09-Nov-2016 7:44		
Analyte	Conc. (pg/g)	DL	EMPC	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0573		13C-2,3,7,8-TCDD	89.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0533		13C-1,2,3,7,8-PeCDD	91.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0762		13C-1,2,3,4,7,8-HxCDD	100	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0782		13C-1,2,3,6,7,8-HxCDD	102	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0820		13C-1,2,3,7,8,9-HxCDD	107	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.0853		13C-1,2,3,4,6,7,8-HpCDD	110	23 - 140	
OCDD	0.312			13C-OCDD	81.7	17 - 157	J
2,3,7,8-TCDF	1.04			13C-2,3,7,8-TCDF	96.5	24 - 169	
1,2,3,7,8-PeCDF	ND		0.0529	13C-1,2,3,7,8-PeCDF	96.0	24 - 185	
2,3,4,7,8-PeCDF	ND		0.0397	13C-2,3,4,7,8-PeCDF	94.4	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0582		13C-1,2,3,4,7,8-HxCDF	94.3	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0600		13C-1,2,3,6,7,8-HxCDF	96.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0629		13C-2,3,4,6,7,8-HxCDF	105	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0880		13C-1,2,3,7,8,9-HxCDF	101	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0676		13C-1,2,3,4,6,7,8-HpCDF	95.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0720		13C-1,2,3,4,7,8,9-HpCDF	98.3	26 - 138	
OCDF	ND	0.151		13C-OCDF	81.4	17 - 157	
TOTALS				Toxic Equivalent Quotient (TEQ) Data			
Total TCDD	ND			TEQMinWHO2005Dioxin	0.104		
Total PeCDD	0.0573						
Total HxCDD	0.0533						
Total HpCDD	0.0790						
Total TCDF	0.0853						
Total PeCDF	1.04						
Total HxCDF	0.0943						
Total HpCDF	0.0665						
Total HpCDF	0.0696						

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
 Results are reported in wet weight.
 Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Client ID: EPA-HS-08
Lab ID: 1601354-08

Filename: 161114D2 S:7
GC Column: ID: ZB-5MS ICAL: 1613VG7-8-5-16

Acq: 15-NOV-16 02:51:41
wt/vol: 10.040

ConCal: SRI161114D2-1
EndCAL: NA

10.03 *ck*
11/16/16

Name	Resp	RA	RF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL			
2,3,7,8-TCDD	* n	1.11	NotF	*	*	201	2.5	0.0573	*	201	0.0573	*	*	201	0.0573				
1,2,3,7,8-PeCDF	* n	0.98	NotF	*	*	181	2.5	0.0533	*	181	0.0533	*	*	181	0.0533				
1,2,3,4,7,8-HxCDD	* n	0.95	NotF	*	*	146	2.5	0.0762	*	146	0.0790	*	*	146	0.0790				
1,2,3,6,7,8-HxCDD	* n	1.05	NotF	*	*	146	2.5	0.0782	*	146	0.0853	*	*	137	0.0853	*			
1,2,3,7,8,9-HxCDD	* n	1.03	NotF	*	*	146	2.5	0.0820	*	146	1.04	1.04	1.04	*	*	*			
1,2,3,4,6,7,8-HpCDD	* n	1.01	NotF	*	*	137	2.5	0.0853	*	137	0.0943	0.0000	0.092659	*	*	312	0.0943		
OCDD	6.90e+03	0.99	Y	41:28	1.000	0.31206	*	2.5	*	208	0.0600	*	*	208	0.0665	*	208	0.0665	
2,3,7,8-TCDF	7.13e+04	0.75	Y	25:37	1.000	1.0409	*	2.5	*	208	0.0582	*	*	208	0.0676	*	208	0.0676	
1,2,3,7,8-PeCDF	3.43e+03	0.99	n	29:47	1.000	0.052916	*	2.5	*	143	2.5	0.0720	*	143	2.5	0.0720	*	143	2.5
2,3,4,7,8-PeCDF	2.58e+03	0.89	n	30:42	1.000	0.039743	*	2.5	*	163	2.5	0.151	*	163	2.5	0.151	*	163	2.5
1,2,3,4,7,8-HxCDF	*	n	1.03	NotF	*	*	*	208	2.5	0.0582									
1,2,3,6,7,8-HxCDF	*	n	1.03	NotF	*	*	*	208	2.5	0.0600									
2,3,4,6,7,8-HxCDF	*	n	1.09	NotF	*	*	*	208	2.5	0.0629									
1,2,3,7,8,9-HxCDF	*	n	1.01	NotF	*	*	*	208	2.5	0.0880									
1,2,3,4,6,7,8-HpCDF	*	n	1.29	NotF	*	*	*	143	2.5	0.0676									
1,2,3,4,7,8,9-HpCDF	*	n	1.17	NotF	*	*	*	143	2.5	0.0720									
OCDF	*	n	0.96	NotF	*	*	*	163	2.5	0.151									

IS	Rec	Qual
13C-2,3,7,8-TCDD	89.5	178.27
13C-1,2,3,7,8-PeCDD	91.2	181.60
13C-1,2,3,4,7,8-HxCDD	100	199.25
13C-1,2,3,6,7,8-HxCDD	102	202.46
13C-1,2,3,7,8,9-HxCDD	107	212.94
13C-1,2,3,4,6,7,8-HpCDD	110	218.29
13C-OCDD	81.7	325.46
13C-2,3,7,8-TCDF	96.5	192.25
13C-1,2,3,7,8-PeCDF	96.0	191.31
13C-2,3,4,7,8-PeCDF	94.4	188.14
13C-1,2,3,4,7,8-HxCDF	94.3	187.92
13C-1,2,3,6,7,8-HxCDF	96.3	191.76
13C-2,3,4,6,7,8-HxCDF	105	208.45
13C-1,2,3,7,8,9-HxCDF	101	202.07
13C-1,2,3,4,6,7,8-HpCDF	95.2	189.55
13C-1,2,3,4,7,8,9-HpCDF	98.3	195.80
13C-OCDF	81.4	324.27

Integrations by DB Reviewed by DB
 Analyst: DB Analyst: DB
 Date: 11/16/16 Date: 11/16/16

C/Up	RS/RT	RS	RS/RT
37Cl-2,3,7,8-TCDD	1.20	68.223	1.023
13C-1,2,3,4-TCDD	1.00	199.20	25:49
13C-1,2,3,4-TCDF	1.00	199.20	24:21
13C-1,2,3,4,6,9-HxCDF	1.00	199.20	33:49

Sample ID: EPA-HS-CI

EPA Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-09		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0059		
Date Collected:	07-Sep-2016 14:05	%Lipids:	15.4	Date Analyzed:	15-Nov-16 03:39		
				Column:	ZB-5MS		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	09-Nov-2016 7:44		
Analyte	Conc. (pg/g)	DL	EMPC	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0580		IS 13C-2,3,7,8-TCDD	87.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0647		13C-1,2,3,7,8-PeCDD	90.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.114		13C-1,2,3,4,7,8-HxCDD	96.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.110		13C-1,2,3,6,7,8-HxCDD	99.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.120		13C-1,2,3,7,8,9-HxCDD	102	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.111		13C-1,2,3,4,6,7,8-HpCDD	106	23 - 140	
OCDD	ND	0.166		13C-OCDD	78.9	17 - 157	
2,3,7,8-TCDF	1.56			13C-2,3,7,8-TCDF	90.1	24 - 169	
1,2,3,7,8-PeCDF	ND		0.0814	13C-1,2,3,7,8-PeCDF	96.7	24 - 185	
2,3,4,7,8-PeCDF	0.121			13C-2,3,4,7,8-PeCDF	93.6	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0749		13C-1,2,3,4,7,8-HxCDF	91.3	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0717		13C-1,2,3,6,7,8-HxCDF	94.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0775		13C-2,3,4,6,7,8-HxCDF	98.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.112		13C-1,2,3,7,8,9-HxCDF	101	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0856		13C-1,2,3,4,6,7,8-HpCDF	92.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0914		13C-1,2,3,4,7,8,9-HpCDF	94.6	26 - 138	
OCDF	ND	0.259		13C-OCDF	77.4	17 - 157	
				CRS 37Cl-2,3,7,8-TCDD	83.1	35 - 197	
Toxic Equivalent Quotient (TEQ) Data							
				TEQMinWHO2005Dioxin	0.192		
TOTALS							
Total TCDD	ND	0.0580					
Total PeCDD	ND	0.0647					
Total HxCDD	ND	0.115					
Total HpCDD	ND	0.111					
Total TCDF	1.56						
Total PeCDF	0.121		0.203				
Total HxCDF	ND	0.0831					
Total HpCDF	ND	0.0882					

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
*	n	1.11	NotF	*	*	*	183	2.5	0.0580	Total Tetra-Dioxins	*	*	*	183	0.0580
*	n	0.98	NotF	*	*	*	208	2.5	0.0647	Total Penta-Dioxins	*	*	*	208	0.0647
*	n	0.95	NotF	*	*	*	193	2.5	0.114	Total Hexa-Dioxins	*	*	*	193	0.115
*	n	1.05	NotF	*	*	*	193	2.5	0.110	Total Hepta-Dioxins	*	*	*	161	0.111
*	n	1.03	NotF	*	*	*	193	2.5	0.120	Total Tetra-Furans	1.56	1.56	*	*	*
*	n	1.01	NotF	*	*	*	161	2.5	0.111	Total Penta-Furans	0.12131	0.20267	*	*	247
*	n	0.96	NotF	*	*	*	142	2.5	0.166	Total Hexa-Furans	*	*	*	*	159
										Total Hepta-Furans	*	*	*	*	159

IS	Rec	Qual
13C-2,3,7,8-TCDF	87.2	173.66
13C-1,2,3,7,8-PeCDF	90.5	180.23
13C-1,2,3,4,7,8-HxCDD	96.1	191.42
13C-1,2,3,6,7,8-HxCDD	99.8	198.75
13C-1,2,3,7,8,9-HxCDD	102	203.02
13C-1,2,3,4,6,7,8-HpCDD	106	210.33
13C-OCDD	78.9	314.43
13C-2,3,7,8-TCDF	90.1	179.54
13C-1,2,3,7,8-PeCDF	96.7	192.72
13C-2,3,4,7,8-PeCDF	93.6	186.55
13C-1,2,3,4,7,8-HxCDF	91.3	181.91
13C-1,2,3,6,7,8-HxCDF	94.2	187.67
13C-2,3,4,6,7,8-HxCDF	98.5	196.19
13C-1,2,3,7,8,9-HxCDF	101	200.21
13C-1,2,3,4,6,7,8-HpCDF	92.2	183.70
13C-1,2,3,4,7,8,9-HpCDF	94.6	188.43
13C-OCDF	77.4	308.46

C/Up	RS/RT	RS	RS/RT
37Cl-2,3,7,8-TCDD	1.20	26:25	1.023
13C-1,2,3,4-TCDD	1.00	25:50	*
13C-1,2,3,4-TCDF	1.00	24:22	*
13C-1,2,3,4,6,9-HxCDF	1.00	33:48	*

Integrations by DB Reviewed by CT
 Date: 11/16/16 Date: 11/16/16

Sample ID: EPA-HS-C2

EPA Method 1613B

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-10			
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0059			
Date Collected:	30-Aug-2016 13:10	%Lipids:	12.1	Date Analyzed:	15-Nov-16 04:27			
				Column:	ZB-5MS			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	09-Nov-2016 7:44			
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0483			IS 13C-2,3,7,8-TCDD	89.4	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0422			13C-1,2,3,7,8-PeCDD	91.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.118			13C-1,2,3,4,7,8-HxCDD	103	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.116			13C-1,2,3,6,7,8-HxCDD	102	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.116			13C-1,2,3,7,8,9-HxCDD	106	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.253			J	13C-1,2,3,4,6,7,8-HpCDD	108	23 - 140	
OCDD	ND		0.380		13C-OCDD	79.9	17 - 157	
2,3,7,8-TCDF	1.60				13C-2,3,7,8-TCDF	95.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0585			13C-1,2,3,7,8-PeCDF	100	24 - 185	
2,3,4,7,8-PeCDF	ND		0.0605		13C-2,3,4,7,8-PeCDF	97.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0506			13C-1,2,3,4,7,8-HxCDF	95.9	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0531			13C-1,2,3,6,7,8-HxCDF	95.9	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0576			13C-2,3,4,6,7,8-HxCDF	103	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0806			13C-1,2,3,7,8,9-HxCDF	99.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0629			13C-1,2,3,4,6,7,8-HpCDF	95.4	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0663			13C-1,2,3,4,7,8,9-HpCDF	99.1	26 - 138	
OCDF	ND	0.199			13C-OCDF	79.1	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	87.2	35 - 197	
TOTALS					Toxic Equivalent Quotient (TEQ) Data			
Total TCDD	ND				TEQ _{Min} WHO2005Dioxin	0.163		
Total PeCDD	ND	0.0483						
Total HxCDD	ND	0.0422						
Total HpCDD	0.253							
Total TCDF	1.60							
Total PeCDF	ND		0.1143					
Total HxCDF	ND	0.0596						
Total HpCDF	ND	0.0644						

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Name	Resp	RA	RRF	RT	RRF	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	n	1.11	NotF	*	166	2.5	0.0483			Total Tetra-Dioxins	*	*	166	0.0483	
1,2,3,7,8-PeCDD	*	n	0.98	NotF	*	148	2.5	0.0422			Total Penta-Dioxins	*	*	148	0.0422	
1,2,3,4,7,8-HxCDD	*	n	0.95	NotF	*	210	2.5	0.118			Total Hexa-Dioxins	*	*	210	0.117	
1,2,3,6,7,8-HxCDD	*	n	1.05	NotF	*	210	2.5	0.116			Total Hepta-Dioxins	0.253	*	0.253	*	
1,2,3,7,8,9-HxCDD	*	n	1.03	NotF	*	210	2.5	0.116			Total Tetra-Furans	1.60	*	1.60	*	
1,2,3,4,6,7,8-HpCDD	7.84e+03	1.11	Y	38:10	1.000	0.25324	*	2.5	*	*	Total Penta-Furans	0.0000	*	0.14327	*	
OCDD	7.83e+03	1.27	n	41:27	1.000	0.38022	*	2.5	*	*	Total Hexa-Furans	*	*	177	0.0596	
2,3,7,8-TCDF	1.02e+05	0.76	Y	25:37	1.000	1.6034	*	2.5	*	*	Total Hepta-Furans	*	*	177	0.0596	
1,2,3,7,8-PeCDF	*	n	0.99	NotF	*	178	2.5	0.0585								
2,3,4,7,8-PeCDF	3.80e+03	0.87	n	30:42	1.000	0.060470	*	2.5	*	*						
1,2,3,4,7,8-HxCDF	*	n	1.03	NotF	*	177	2.5	0.0506								
1,2,3,6,7,8-HxCDF	*	n	1.03	NotF	*	177	2.5	0.0531								
2,3,4,6,7,8-HxCDF	*	n	1.09	NotF	*	177	2.5	0.0576								
1,2,3,7,8,9-HxCDF	*	n	1.01	NotF	*	177	2.5	0.0806								
1,2,3,4,6,7,8-HpCDF	*	n	1.29	NotF	*	126	2.5	0.0629								
1,2,3,4,7,8,9-HpCDF	*	n	1.17	NotF	*	126	2.5	0.0663								
OCDF	*	n	0.96	NotF	*	205	2.5	0.199								

IS	Rec	Qual
13C-2,3,7,8-TCDD	89.4	
13C-1,2,3,7,8-PeCDD	91.5	
13C-1,2,3,4,7,8-HxCDD	103	
13C-1,2,3,6,7,8-HxCDD	102	
13C-1,2,3,7,8,9-HxCDD	106	
13C-1,2,3,4,6,7,8-HpCDD	108	
13C-OCDD	79.9	
13C-2,3,7,8-TCDF	95.6	
13C-1,2,3,7,8-PeCDF	100	
13C-2,3,4,7,8-PeCDF	97.2	
13C-1,2,3,4,7,8-HxCDF	95.9	
13C-1,2,3,6,7,8-HxCDF	95.9	
13C-2,3,4,6,7,8-HxCDF	103	
13C-1,2,3,7,8,9-HxCDF	99.5	
13C-1,2,3,4,6,7,8-HpCDF	95.4	
13C-1,2,3,4,7,8,9-HpCDF	99.1	
13C-OCDF	79.1	

C/Up	RS/RT	RS	RS/RT	Integrations	Reviewed
37Cl-2,3,7,8-TCDD	4.61e+06	1.20	26:25	1.023	69.697
13C-1,2,3,4-TCDD	1.10e+07	0.79	Y	1.00	25:49
13C-1,2,3,4-TCDF	1.46e+07	0.77	Y	1.00	24:21
13C-1,2,3,4,6,9-HxCDF	8.52e+06	0.51	Y	1.00	33:48

Integrations by DB Analyst: DB
 Reviewed by CT Analyst: CT
 Date: 11/16/16 Date: 11/16/16

Sample ID: EPA-HS-C3

EPA Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-11		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0059		
Date Collected:	07-Sep-2016 10:11	%Lipids:	12.1	Date Analyzed:	15-Nov-16 05:14 Column: ZB-5MS		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	09-Nov-2016 7:44		
Analyte	Conc. (pg/g)	DL	EMPC	Labelled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0669		IS 13C-2,3,7,8-TCDD	81.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0689		13C-1,2,3,7,8-PeCDD	85.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.110		13C-1,2,3,4,7,8-HxCDD	91.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.105		13C-1,2,3,6,7,8-HxCDD	92.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.114		13C-1,2,3,7,8,9-HxCDD	97.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.134			13C-1,2,3,4,6,7,8-HpCDD	105	23 - 140	
OCDD	0.400			13C-OCDD	76.5	17 - 157	
2,3,7,8-TCDF	1.41			13C-2,3,7,8-TCDF	88.4	24 - 169	
1,2,3,7,8-PeCDF	ND		0.0803	13C-1,2,3,7,8-PeCDF	93.5	24 - 185	
2,3,4,7,8-PeCDF	ND		0.0998	13C-2,3,4,7,8-PeCDF	90.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0572		13C-1,2,3,4,7,8-HxCDF	86.9	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0657		13C-1,2,3,6,7,8-HxCDF	88.9	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0678		13C-2,3,4,6,7,8-HxCDF	93.8	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0978		13C-1,2,3,7,8,9-HxCDF	93.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0644		13C-1,2,3,4,6,7,8-HpCDF	87.5	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0619		13C-1,2,3,4,7,8,9-HpCDF	96.3	26 - 138	
OCDF	ND	0.189		13C-OCDF	76.3	17 - 157	
				CRS 37Cl-2,3,7,8-TCDD	76.0	35 - 197	
TOTALS				Toxic Equivalent Quotient (TEQ) Data			
Total TCDD	ND			TEQMinWHO2005Dioxin	0.142		
Total PeCDD	0.0669						
Total HxCDD	0.0689						
Total HpCDD	0.110						
Total TCDF	0.134						
Total PeCDF	1.41		0.270				
Total HxCDF	ND						
Total HpCDF	0.0712						
Total OCDD	0.0631						

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
Results are reported in wet weight.
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
1,2,3,7,8-TCDD	*	n	1.11	NotF	*	*	212	2.5	2.5	0.0669	Total Tetra-Dioxins	*	*	212	0.0669	
1,2,3,7,8-PeCDD	*	n	0.98	NotF	*	*	239	2.5	2.5	0.0689	Total Penta-Dioxins	*	*	239	0.0689	
1,2,3,4,7,8-HxCDD	*	n	0.95	NotF	*	*	177	2.5	2.5	0.110	Total Hexa-Dioxins	*	*	177	0.110	
1,2,3,6,7,8-HxCDD	*	n	1.05	NotF	*	*	177	2.5	2.5	0.105	Total Hepta-Dioxins	0.134	*	*	*	
1,2,3,7,8,9-HxCDD	*	n	1.03	NotF	*	*	177	2.5	2.5	0.114	Total Tetra-Furans	1.41	1.41	*	*	
1,2,3,4,6,7,8-HpCDD	4.07e+03	0.90	Y	38:09	0.999	0.13436	*	2.5	2.5	*	Total Penta-Furans	0.0000	0.26987	*	*	
OCDD	8.00e+03	0.99	Y	41:27	1.000	0.40048	*	2.5	2.5	*	Total Hexa-Furans	*	*	201	0.0712	
2,3,7,8-TCDF	8.18e+04	0.70	Y	25:36	1.000	1.4102	*	2.5	2.5	*	Total Hepta-Furans	*	*	122	0.0631	
1,2,3,7,8-PeCDF	4.69e+03	0.87	n	29:47	1.000	0.080323	*	2.5	2.5	*						
2,3,4,7,8-PeCDF	5.74e+03	0.84	n	30:42	1.000	0.099807	*	2.5	2.5	*						
1,2,3,4,7,8-HxCDF	*	n	1.03	NotF	*	*	201	2.5	2.5	0.0572						
1,2,3,6,7,8-HxCDF	*	n	1.03	NotF	*	*	201	2.5	2.5	0.0657						
2,3,4,6,7,8-HxCDF	*	n	1.09	NotF	*	*	201	2.5	2.5	0.0678						
1,2,3,7,8,9-HxCDF	*	n	1.01	NotF	*	*	201	2.5	2.5	0.0978						
1,2,3,4,6,7,8-HpCDF	*	n	1.29	NotF	*	*	122	2.5	2.5	0.0644						
1,2,3,4,7,8,9-HpCDF	*	n	1.17	NotF	*	*	122	2.5	2.5	0.0619						
OCDF	*	n	0.96	NotF	*	*	181	2.5	2.5	0.189						

IS	Rec	Qual
13C-2,3,7,8-TCDD	81.2	
13C-1,2,3,7,8-PeCDD	85.3	
13C-1,2,3,4,7,8-HxCDD	91.2	
13C-1,2,3,6,7,8-HxCDD	92.9	
13C-1,2,3,7,8,9-HxCDD	97.5	
13C-1,2,3,4,6,7,8-HpCDD	105	
13C-OCDD	76.5	
13C-2,3,7,8-TCDF	88.4	
13C-1,2,3,7,8-PeCDF	93.5	
13C-2,3,4,7,8-PeCDF	90.3	
13C-1,2,3,4,7,8-HxCDF	86.9	
13C-1,2,3,6,7,8-HxCDF	88.9	
13C-2,3,4,6,7,8-HxCDF	93.8	
13C-1,2,3,7,8,9-HxCDF	93.4	
13C-1,2,3,4,6,7,8-HpCDF	87.5	
13C-1,2,3,4,7,8,9-HpCDF	96.3	
13C-OCDF	76.3	

Integrations by DB Reviewed by CT
 Analyst: DB Analyst: CT
 Date: 11/16/16 Date: 11/16/16

Sample ID: Method Blank

EPA Method 1613B

Matrix: Aqueous		QC Batch: B6J0188	Lab Sample: B6J0188-BLK1					
Sample Size: 1.00 L		Date Extracted: 31-Oct-2016 7:54	Date Analyzed: 04-Nov-16 16:58 Column: ZB-5MS					
Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.579			IS 13C-2,3,7,8-TCDD	91.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.503			13C-1,2,3,7,8-PeCDD	92.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.997			13C-1,2,3,4,7,8-HxCDD	88.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.965			13C-1,2,3,6,7,8-HxCDD	102	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.11			13C-1,2,3,7,8,9-HxCDD	101	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.958			13C-1,2,3,4,6,7,8-HpCDD	93.4	23 - 140	
OCDD	ND	2.32			13C-OCDD	67.1	17 - 157	
2,3,7,8-TCDF	ND	0.438			13C-2,3,7,8-TCDF	97.7	24 - 169	
1,2,3,7,8-PeCDF	ND	0.625			13C-1,2,3,7,8-PeCDF	92.7	24 - 185	
2,3,4,7,8-PeCDF	ND	0.613			13C-2,3,4,7,8-PeCDF	91.5	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.546			13C-1,2,3,4,7,8-HxCDF	85.3	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.545			13C-1,2,3,6,7,8-HxCDF	93.5	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.605			13C-2,3,4,6,7,8-HxCDF	95.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.920			13C-1,2,3,7,8,9-HxCDF	90.3	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.648			13C-1,2,3,4,6,7,8-HpCDF	86.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.746			13C-1,2,3,4,7,8,9-HpCDF	90.6	26 - 138	
OCDF	ND	2.12			13C-OCDF	78.5	17 - 157	
		CRS 37CI-2,3,7,8-TCDD				88.4	35 - 197	
TOTALS				Toxic Equivalent Quotient (TEQ) Data				
				TEQMinWHO2005Dioxin		0.00		
Total TCDD	ND	0.579						
Total PeCDD	ND	0.503						
Total HxCDD	ND	1.03						
Total HpCDD	ND	0.958						
Total TCDF	ND	0.438						
Total PeCDF	ND	0.620						
Total HxCDF	ND	0.641						
Total HpCDF	ND	0.693						

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

IS	RS/RT	RS	RS/RT	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
IS	13C-2,3,7,8-TCDD	1.43e+07	0.78 Y	1.05	26:39	1.022	1834.4							Total Tetra-Dioxins	*	*		275	0.579
IS	13C-1,2,3,7,8-PeCDD	1.30e+07	0.63 Y	0.95	31:08	1.194	1858.4							Total Penta-Dioxins	*	*		222	0.503
IS	13C-1,2,3,4,7,8-HxCDD	8.61e+06	1.26 Y	0.90	34:27	1.014	1759.7							Total Hexa-Dioxins	*	*		194	1.03
IS	13C-1,2,3,6,7,8-HxCDD	9.56e+06	1.26 Y	0.86	34:34	1.017	2043.2							Total Hepta-Dioxins	*	*		194	0.965
IS	13C-1,2,3,7,8,9-HxCDD	9.31e+06	1.24 Y	0.85	34:53	1.027	2012.0							Total Tetra-Furans	*	*	0.0000	226	0.438
IS	13C-1,2,3,4,6,7,8-HpCDD	6.74e+06	1.04 Y	0.66	38:20	1.129	1867.2							Total Penta-Furans	*	*		245	0.620
IS	13C-OCDD	9.19e+06	0.94 Y	0.63	41:42	1.227	2685.4							Total Hexa-Furans	*	*		215	0.641
IS	13C-2,3,7,8-TCDF	1.88e+07	0.79 Y	0.91	25:53	0.992	1954.3							Total Hepta-Furans	*	*		172	0.693
IS	13C-1,2,3,7,8-PeCDF	1.72e+07	1.56 Y	0.88	29:57	1.149	1854.3												
IS	13C-2,3,4,7,8-PeCDF	1.97e+07	1.58 Y	1.02	30:51	1.183	1829.0												
IS	13C-1,2,3,4,7,8-HxCDF	9.63e+06	0.48 Y	1.04	33:33	0.988	1705.2												
IS	13C-2,3,4,6,7,8-HxCDF	1.10e+07	0.49 Y	1.08	33:41	0.991	1869.6												
IS	13C-1,2,3,7,8,9-HxCDF	8.55e+06	0.50 Y	0.87	35:17	1.038	1805.8												
IS	13C-1,2,3,4,6,7,8-HpCDF	6.25e+06	0.41 Y	0.66	37:08	1.093	1725.4												
IS	13C-1,2,3,4,7,8,9-HpCDF	5.96e+06	0.39 Y	0.60	38:54	1.145	1811.1												
IS	13C-OCDF	1.22e+07	0.92 Y	0.71	41:55	1.234	3138.6												
C/Up	37Cl-2,3,7,8-TCDD	6.30e+06		1.20	26:40	1.022	707.04												
RS/RT	13C-1,2,3,4-TCDD	1.48e+07	0.77 Y	1.00	26:05	*	2000.0												
RS	13C-1,2,3,4-TCDF	2.12e+07	0.79 Y	1.00	24:40	*	2000.0												
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.09e+07	0.48 Y	1.00	33:58	*	2000.0												

Integrations by DB Analyst: MLK
 Date: 11/7/16
 Reviewed by MLK Analyst: MLK
 Date: 11/7/16

Sample ID: OPR		EPA Method 1613B					
Matrix: Sample Size:	Aqueous 1.00 L	QC Batch: Date Extracted:	B6J0188 31-Oct-2016 7:54	Lab Sample: Date Analyzed:	B6J0188-BS1 04-Nov-16 15:23 Column: ZB-5MS		
Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	193	200	96.5	67 - 158	IS	86.7	20 - 175
1,2,3,7,8-PeCDD	951	1000	95.1	70 - 142		89.1	21 - 227
1,2,3,4,7,8-HxCDD	962	1000	96.2	70 - 164		81.3	21 - 193
1,2,3,6,7,8-HxCDD	938	1000	93.8	76 - 134		97.9	25 - 163
1,2,3,7,8,9-HxCDD	920	1000	92.0	64 - 162		96.3	21 - 193
1,2,3,4,6,7,8-HpCDD	951	1000	95.1	70 - 140		101	26 - 166
OCDD	1890	2000	94.3	78 - 144	13C-OCDD	82.6	13 - 199
2,3,7,8-TCDF	177	200	88.3	75 - 158	13C-2,3,7,8-TCDF	96.1	22 - 152
1,2,3,7,8-PeCDF	966	1000	96.6	80 - 134	13C-1,2,3,7,8-PeCDF	91.0	21 - 192
2,3,4,7,8-PeCDF	1020	1000	102	68 - 160	13C-2,3,4,7,8-PeCDF	90.7	13 - 328
1,2,3,4,7,8-HxCDF	950	1000	95.0	72 - 134	13C-1,2,3,4,7,8-HxCDF	80.8	19 - 202
1,2,3,6,7,8-HxCDF	964	1000	96.4	84 - 130	13C-1,2,3,6,7,8-HxCDF	90.7	21 - 159
2,3,4,6,7,8-HxCDF	931	1000	93.1	70 - 156	13C-2,3,4,6,7,8-HxCDF	89.9	22 - 176
1,2,3,7,8,9-HxCDF	941	1000	94.1	78 - 130	13C-1,2,3,7,8,9-HxCDF	86.0	17 - 205
1,2,3,4,6,7,8-HpCDF	953	1000	95.3	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	86.8	21 - 158
1,2,3,4,7,8,9-HpCDF	964	1000	96.4	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	88.5	20 - 186
OCDF	1890	2000	94.7	63 - 170	CRS 37Cl-2,3,7,8-TCDD	83.4	13 - 199
						90.3	31 - 191

LCL-UCL - Lower control limit - upper control limit

Client ID: OPR
Lab ID: B6J0188-BS1

Filename: 161104D1
GC Column ID: ZB-5MS

S:2 ACQ: 4-NOV-16 15:23:03
ICal: 1613VG7-8-5-16

ConcAl: ST161104D1-1
EndCAL: ST161104D1-2

wt/vol: 1.000

IS	RS/RT	Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Pac	DL	Name	Conc	EMPC	Qual	noise	DL
		2,3,7,8-TCDD	1.39e+06	0.80 Y	1.11	26:40	1.001	9.6545			2.5	*	Total Tetra-Dioxins	9.85	10.2	*	*	*
		1,2,3,7,8-PeCDD	5.56e+06	0.63 Y	0.98	31:08	1.001	47.572			2.5	*	Total Penta-Dioxins	48.2	48.2	*	*	*
		1,2,3,4,7,8-HxCDD	3.65e+06	1.18 Y	0.95	34:28	1.000	48.080			2.5	*	Total Hexa-Dioxins	142	145	*	*	*
		1,2,3,6,7,8-HxCDD	4.51e+06	1.18 Y	1.05	34:35	1.000	46.893			2.5	*	Total Hepta-Dioxins	48.4	50.7	*	*	*
		1,2,3,7,8,9-HxCDD	4.20e+06	1.18 Y	1.03	34:53	1.000	46.007			2.5	*	Total Tetra-Furans	8.97	9.41	*	*	*
		1,2,3,4,6,7,8-HpCDD	3.49e+06	1.01 Y	1.01	38:21	1.000	47.564			2.5	*	Total Penta-Furans	99.191	101.72	*	*	*
		OCDD	5.12e+06	0.89 Y	0.96	41:43	1.000	94.344			2.5	*	Total Hexa-Furans	190	193	*	*	*
		2,3,7,8-TCDF	1.54e+06	0.81 Y	1.00	25:54	1.001	8.8331			2.5	*	Total Hepta-Furans	96.9	99.3	*	*	*
		1,2,3,7,8-PeCDF	7.58e+06	1.53 Y	0.99	29:58	1.000	48.282			2.5	*						
		2,3,4,7,8-PeCDF	8.12e+06	1.57 Y	0.87	30:52	1.001	50.864			2.5	*						
		1,2,3,4,7,8-HxCDF	4.46e+06	1.17 Y	1.03	33:34	1.000	47.492			2.5	*						
		1,2,3,6,7,8-HxCDF	5.29e+06	1.19 Y	1.03	33:42	1.000	48.218			2.5	*						
		2,3,4,6,7,8-HxCDF	4.58e+06	1.18 Y	1.09	34:18	1.000	46.530			2.5	*						
		1,2,3,7,8,9-HxCDF	3.87e+06	1.22 Y	1.01	35:17	1.000	47.033			2.5	*						
		1,2,3,4,6,7,8-HpCDF	3.86e+06	0.97 Y	1.29	37:09	1.001	47.675			2.5	*						
		1,2,3,4,7,8,9-HpCDF	3.28e+06	0.99 Y	1.17	38:55	1.000	48.189			2.5	*						
		OCDF	5.87e+06	0.87 Y	0.96	41:56	1.000	94.678			2.5	*						

Qual

IS	RS/RT	Name	Rec	Qual
		13C-2,3,7,8-TCDD	86.7	
		13C-1,2,3,7,8-PeCDD	89.1	
		13C-1,2,3,4,7,8-HxCDD	81.3	
		13C-1,2,3,6,7,8-HxCDD	97.9	
		13C-1,2,3,7,8,9-HxCDD	96.3	
		13C-1,2,3,4,6,7,8-HpCDD	101	
		13C-OCDD	82.6	
		13C-2,3,7,8-TCDF	96.1	
		13C-1,2,3,7,8-PeCDF	91.0	
		13C-2,3,4,7,8-PeCDF	90.7	
		13C-1,2,3,4,7,8-HxCDF	80.8	
		13C-1,2,3,6,7,8-HxCDF	90.7	
		13C-2,3,4,6,7,8-HxCDF	89.9	
		13C-1,2,3,7,8,9-HxCDF	86.0	
		13C-1,2,3,4,6,7,8-HpCDF	86.8	
		13C-1,2,3,4,7,8,9-HpCDF	88.5	
		13C-OCDF	83.4	

Integrations
by DB

Reviewed by Analyst: MLK

Date: 11/21/16

Date: 11/21/16

Sample ID: Homogenization Blank 10/17/16

EPA Method 1613B

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-12
Project:	Upper Columbia River	Sample Size:	1.03 L	QC Batch:	B6J0188
Date Collected:	17-Oct-2016 10:35			Date Analyzed:	03-Nov-16 21:54 Column: ZB-5MS
Date Received:	25-Oct-2016 9:00			Date Extracted:	31-Oct-2016 7:54

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.625			13C-2,3,7,8-TCDD	90.0	25 - 164	
1,2,3,7,8-PeCDD	ND	0.778			13C-1,2,3,7,8-PeCDD	97.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.926			13C-1,2,3,4,7,8-HxCDD	92.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.949			13C-1,2,3,6,7,8-HxCDD	102	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.06			13C-1,2,3,7,8,9-HxCDD	101	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	1.26			13C-1,2,3,4,6,7,8-HpCDD	88.9	23 - 140	
OCDD	ND	1.42			13C-OCDD	66.1	17 - 157	
2,3,7,8-TCDF	ND	0.993			13C-2,3,7,8-TCDF	89.7	24 - 169	
1,2,3,7,8-PeCDF	ND	0.817			13C-1,2,3,7,8-PeCDF	95.6	24 - 185	
2,3,4,7,8-PeCDF	ND	0.794			13C-2,3,4,7,8-PeCDF	95.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.686			13C-1,2,3,4,7,8-HxCDF	88.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.733			13C-1,2,3,6,7,8-HxCDF	91.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.774			13C-2,3,4,6,7,8-HxCDF	97.7	28 - 136	
1,2,3,7,8,9-HxCDF	ND	1.24			13C-1,2,3,7,8,9-HxCDF	90.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.837			13C-1,2,3,4,6,7,8-HpCDF	78.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.988			13C-1,2,3,4,7,8,9-HpCDF	80.2	26 - 138	
OCDF	ND	2.70			13C-OCDF	75.1	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	89.4	35 - 197	
TOTALS				Toxic Equivalent Quotient (TEQ) Data				
Total TCDD	ND				TEQMinWHO2005Dioxin	0.00		
Total PeCDD	ND	0.625						
Total HxCDD	ND	0.778						
Total HpCDD	ND	0.983						
Total TCDF	ND	1.26						
Total PeCDF	ND	0.993						
Total HxCDF	ND	0.806						
Total HpCDF	ND	0.840						
Total HpCDF	ND	0.905						

DL - Sample specific; estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

IS	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
	*	n	1.11	NotFl	*	242	2.5	0.625			Total Tetra-Dioxins	*	*	242	0.625	
	*	n	0.98	NotFl	*	332	2.5	0.778			Total Penta-Dioxins	*	*	332	0.778	
	*	n	0.95	NotFl	*	187	2.5	0.926			Total Hexa-Dioxins	*	*	187	0.983	
	*	n	1.05	NotFl	*	187	2.5	0.949			Total Hepta-Dioxins	*	*	173	1.26	
	*	n	1.03	NotFl	*	187	2.5	1.06			Total Tetra-Furans	*	*	422	0.993	
	*	n	1.01	NotFl	*	173	2.5	1.26			Total Penta-Furans	0.0000	0.0000	297	0.806	
	*	n	0.96	NotFl	*	112	2.5	1.42			Total Hexa-Furans	*	*	275	0.840	
	*	n	1.00	NotFl	*	422	2.5	0.993			Total Hepta-Furans	*	*	161	0.905	
	*	n	0.99	NotFl	*	297	2.5	0.817								
	*	n	0.87	NotFl	*	297	2.5	0.794								
	*	n	1.03	NotFl	*	275	2.5	0.686								
	*	n	1.03	NotFl	*	275	2.5	0.733								
	*	n	1.09	NotFl	*	275	2.5	0.774								
	*	n	1.01	NotFl	*	275	2.5	1.24								
	*	n	1.29	NotFl	*	161	2.5	0.837								
	*	n	1.17	NotFl	*	161	2.5	0.988								
	*	n	0.96	NotFl	*	277	2.5	2.70								
IS	13C-2,3,7,8-TCDD	1.19e+07	0.77	Y	1.05	26:38	1.022	1739.3			Rec	90.0				
IS	13C-1,2,3,7,8-PeCDF	1.17e+07	0.63	Y	0.95	31:07	1.194	1893.5			Qual	97.9				
IS	13C-1,2,3,4,7,8-HxCDF	8.62e+06	1.27	Y	0.90	34:26	1.014	1787.7				92.5				
IS	13C-1,2,3,6,7,8-HxCDF	9.04e+06	1.26	Y	0.86	34:34	1.017	1962.3				102				
IS	13C-1,2,3,7,8,9-HxCDF	8.90e+06	1.25	Y	0.85	34:52	1.026	1952.7				101				
IS	13C-1,2,3,4,6,7,8-HpCDF	6.11e+06	1.03	Y	0.66	38:20	1.129	1719.2				88.9				
IS	13C-OCDF	8.62e+06	0.90	Y	0.63	41:41	1.227	2555.5				66.1				
IS	13C-2,3,7,8-TCDF	1.46e+07	0.79	Y	0.91	25:52	0.992	1734.5				89.7				
IS	13C-1,2,3,7,8-PeCDF	1.50e+07	1.58	Y	0.88	29:57	1.149	1847.5				95.6				
IS	13C-2,3,4,7,8-PeCDF	1.75e+07	1.62	Y	1.02	30:50	1.183	1854.8				95.9				
IS	13C-1,2,3,4,7,8-HxCDF	9.52e+06	0.49	Y	1.04	33:32	0.987	1712.3				88.6				
IS	13C-1,2,3,6,7,8-HxCDF	1.02e+07	0.50	Y	1.08	33:41	0.991	1763.8				91.2				
IS	13C-2,3,4,6,7,8-HxCDF	9.56e+06	0.49	Y	0.94	34:17	1.009	1888.1				97.7				
IS	13C-1,2,3,7,8,9-HxCDF	8.18e+06	0.50	Y	0.87	35:16	1.038	1754.6				90.8				
IS	13C-1,2,3,4,6,7,8-HpCDF	5.38e+06	0.40	Y	0.66	37:07	1.093	1508.2				78.0				
IS	13C-1,2,3,4,7,8,9-HpCDF	5.02e+06	0.42	Y	0.60	38:54	1.145	1549.7				80.2				
IS	13C-OCDF	1.11e+07	0.89	Y	0.71	41:55	1.234	2905.3				75.1				
C/Up	37Cl-2,3,7,8-TCDD	5.41e+06	1.20	26:39	1.022	691.53					Integrations	89.4				
RS/RT	13C-1,2,3,4-TCDD	1.26e+07	0.79	Y	1.00	26:04	*	1933.3			by					
RS	13C-1,2,3,4-TCDF	1.79e+07	0.80	Y	1.00	24:40	*	1933.3			Analyst:					
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.04e+07	0.50	Y	1.00	33:58	*	1933.3			Date:	11/4/16				

Reviewed by JKS
 Analyst: JKS
 Date: 11/16/16

Integrations by JB
 Analyst: JB
 Date: 11/4/16

Sample ID: Homogenization Blank 10/19/16

EPA Method 1613B

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-13		
Project:	Upper Columbia River	Sample Size:	1.02 L	QC Batch:	B610188		
Date Collected:	19-Oct-2016 9:30			Date Analyzed:	03-Nov-16 22:42 Column: ZB-5MS		
Date Received:	25-Oct-2016 9:00			Date Extracted:	31-Oct-2016 7:54		
Analyte	Conc. (pg/L)	DL	EMPC	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.618		13C-2,3,7,8-TCDD	88.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.686		13C-1,2,3,7,8-PeCDD	93.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.25		13C-1,2,3,4,7,8-HxCDD	88.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.40		13C-1,2,3,6,7,8-HxCDD	91.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.49		13C-1,2,3,7,8,9-HxCDD	91.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.974		13C-1,2,3,4,6,7,8-HpCDD	84.4	23 - 140	
OCDD	ND	2.05		13C-OCDD	66.9	17 - 157	
2,3,7,8-TCDF	ND	1.14		13C-2,3,7,8-TCDF	91.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.853		13C-1,2,3,7,8-PeCDF	91.2	24 - 185	
2,3,4,7,8-PeCDF	ND	0.781		13C-2,3,4,7,8-PeCDF	92.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.609		13C-1,2,3,4,7,8-HxCDF	84.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.672		13C-1,2,3,6,7,8-HxCDF	85.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.697		13C-2,3,4,6,7,8-HxCDF	89.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	1.07		13C-1,2,3,7,8,9-HxCDF	84.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.858		13C-1,2,3,4,6,7,8-HpCDF	75.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	1.01		13C-1,2,3,4,7,8,9-HpCDF	74.0	26 - 138	
OCDF	ND	2.39		13C-OCDF	71.2	17 - 157	
				CRS 37Cl-2,3,7,8-TCDD	89.8	35 - 197	
TOTALS				Toxic Equivalent Quotient (TEQ) Data			
				TEQMinWHO2005Dioxin	0.00		
Total TCDD	ND	0.618					
Total PeCDD	ND	0.686					
Total HxCDD	ND	1.38					
Total HpCDD	ND	0.974					
Total TCDF	ND	1.14					
Total PeCDF	ND	0.816					
Total HxCDF	ND	0.747					
Total HpCDF	ND	0.929					

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
*	n	1.11	NotF	*	*	*	262	2.5	0.618	Total Tetra-Dioxins	*	*	*	262	0.618
*	n	0.98	NotF	*	*	*	302	2.5	0.686	Total Penta-Dioxins	*	*	*	302	0.686
*	n	0.95	NotF	*	*	*	251	2.5	1.25	Total Hexa-Dioxins	*	*	*	251	1.38
*	n	1.05	NotF	*	*	*	251	2.5	1.40	Total Hepta-Dioxins	*	*	*	134	0.974
*	n	1.03	NotF	*	*	*	251	2.5	1.49	Total Tetra-Furans	*	*	*	511	1.14
*	n	1.01	NotF	*	*	*	134	2.5	0.974	Total Penta-Furans	0.0000	*	*	289	0.816
*	n	0.96	NotF	*	*	*	178	2.5	2.05	Total Hexa-Furans	*	*	*	237	0.747
*	n	1.00	NotF	*	*	*	511	2.5	1.14	Total Hepta-Furans	*	*	*	169	0.929
*	n	0.99	NotF	*	*	*	289	2.5	0.853						
*	n	0.87	NotF	*	*	*	289	2.5	0.781						
*	n	1.03	NotF	*	*	*	237	2.5	0.609						
*	n	1.03	NotF	*	*	*	237	2.5	0.672						
*	n	1.09	NotF	*	*	*	237	2.5	0.697						
*	n	1.01	NotF	*	*	*	237	2.5	1.07						
*	n	1.29	NotF	*	*	*	169	2.5	0.858						
*	n	1.17	NotF	*	*	*	169	2.5	1.01						
*	n	0.96	NotF	*	*	*	256	2.5	2.39						

IS	Rec	Qual
IS 13C-2,3,7,8-TCDD	88.2	
IS 13C-1,2,3,7,8-PeCDD	93.4	
IS 13C-1,2,3,4,7,8-HxCDD	88.0	
IS 13C-1,2,3,6,7,8-HxCDD	91.5	
IS 13C-1,2,3,7,8,9-HxCDD	91.9	
IS 13C-1,2,3,4,6,7,8-HpCDD	84.4	
IS 13C-OCDD	66.9	
IS 13C-2,3,7,8-TCDF	91.6	
IS 13C-1,2,3,7,8-PeCDF	91.2	
IS 13C-2,3,4,7,8-PeCDF	92.3	
IS 13C-1,2,3,4,7,8-HxCDF	84.8	
IS 13C-1,2,3,6,7,8-HxCDF	85.4	
IS 13C-2,3,4,6,7,8-HxCDF	89.1	
IS 13C-1,2,3,7,8,9-HxCDF	84.1	
IS 13C-1,2,3,4,6,7,8-HpCDF	75.6	
IS 13C-1,2,3,4,7,8,9-HpCDF	74.0	
IS 13C-OCDF	71.2	
C/Up 37Cl-2,3,7,8-TCDD	89.8	
RS/RT 13C-1,2,3,4-TCDD	706.02	
RS 13C-1,2,3,4-TCDF	1965.4	
RS/RT 13C-1,2,3,4,6,9-HxCDF	1965.4	
	1965.4	

Integrations by JB Reviewed by JMK
 Analyst: JMK
 Date: 11/16/16

Sample ID: Homogenization Blank 10/18/16

EPA Method 1613B

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-14	Date Received:	25-Oct-2016	9:00
Project:	Upper Columbia River	Sample Size:	1.02 L	QC Batch:	B6J0188	Date Extracted:	31-Oct-2016	7:54
Date Collected:	18-Oct-2016 10:35			Date Analyzed:	03-Nov-16 23:29	Column:	ZB-5MS	
Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.418			IS 13C-2,3,7,8-TCDD	87.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.516			13C-1,2,3,7,8-PeCDD	92.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.14			13C-1,2,3,4,7,8-HxCDD	91.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.19			13C-1,2,3,6,7,8-HxCDD	92.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.29			13C-1,2,3,7,8,9-HxCDD	92.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	1.32			13C-1,2,3,4,6,7,8-HpCDD	86.7	23 - 140	
OCDD	ND	1.44			13C-OCDD	68.4	17 - 157	
2,3,7,8-TCDF	ND	0.901			13C-2,3,7,8-TCDF	92.7	24 - 169	
1,2,3,7,8-PeCDF	ND	0.718			13C-1,2,3,7,8-PeCDF	95.4	24 - 185	
2,3,4,7,8-PeCDF	ND	0.672			13C-2,3,4,7,8-PeCDF	96.8	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.639			13C-1,2,3,4,7,8-HxCDF	86.0	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.685			13C-1,2,3,6,7,8-HxCDF	89.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.722			13C-2,3,4,6,7,8-HxCDF	94.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	1.13			13C-1,2,3,7,8,9-HxCDF	85.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.721			13C-1,2,3,4,6,7,8-HpCDF	79.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.794			13C-1,2,3,4,7,8,9-HpCDF	78.9	26 - 138	
OCDF	ND	2.50			13C-OCDF	72.5	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	94.8	35 - 197	
TOTALS					Toxic Equivalent Quotient (TEQ) Data			
					TEQMinWHO2005Dioxin	0.00		
Total TCDD	ND	0.418						
Total PeCDD	ND	0.516						
Total HxCDD	ND	1.21						
Total HpCDD	ND	1.32						
Total TCDF	ND	0.901						
Total PeCDF	ND	0.695						
Total HxCDF	ND	0.775						
Total HpCDF	ND	0.754						

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

IS	RS/RT	RS	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
IS			2,3,7,8-TCDD	* n	1.11	NotFh	*	*	186	2.5	0.418	186	Total Tetra-Dioxins	*	*	186	0.418	
IS			1,2,3,7,8-PeCDD	* n	0.98	NotFh	*	*	231	2.5	0.516	231	Total Penta-Dioxins	*	*	231	0.516	
IS			1,2,3,4,7,8-HxCDD	* n	0.95	NotFh	*	*	235	2.5	1.14	235	Total Hexa-Dioxins	*	*	235	1.21	
IS			1,2,3,6,7,8-HxCDD	* n	1.05	NotFh	*	*	235	2.5	1.19	235	Total Hepta-Dioxins	*	*	193	1.32	
IS			1,2,3,7,8,9-HxCDD	* n	1.03	NotFh	*	*	235	2.5	1.29	235	Total Tetra-Furans	*	0.0000	261	0.695	
IS			1,2,3,4,6,7,8-HpCDD	* n	1.01	NotFh	*	*	193	2.5	1.32	193	Total Penta-Furans	*	*	263	0.775	
IS			OCCDF	* n	0.96	NotFh	*	*	125	2.5	1.44	125	Total Hepta-Furans	*	*	153	0.754	
IS			2,3,7,8-TCDF	* n	1.00	NotFh	*	*	411	2.5	0.901	411						
IS			1,2,3,7,8-PeCDF	* n	0.99	NotFh	*	*	261	2.5	0.718	261						
IS			2,3,4,7,8-PeCDF	* n	0.87	NotFh	*	*	261	2.5	0.672	261						
IS			1,2,3,4,7,8-HxCDF	* n	1.03	NotFh	*	*	263	2.5	0.639	263						
IS			1,2,3,6,7,8-HxCDF	* n	1.03	NotFh	*	*	263	2.5	0.685	263						
IS			2,3,4,6,7,8-HxCDF	* n	1.09	NotFh	*	*	263	2.5	0.722	263						
IS			1,2,3,7,8,9-HxCDF	* n	1.01	NotFh	*	*	263	2.5	1.13	263						
IS			1,2,3,4,6,7,8-HpCDF	* n	1.29	NotFh	*	*	153	2.5	0.721	153						
IS			1,2,3,4,7,8,9-HpCDF	* n	1.17	NotFh	*	*	153	2.5	0.794	153						
IS			OCCDF	* n	0.96	NotFh	*	*	262	2.5	2.50	262						

Qual

Rec	Qual
87.9	
92.6	
91.4	
92.2	
92.9	
86.7	
68.4	
92.7	
95.4	
96.8	
86.0	
89.2	
94.9	
85.6	
79.7	
78.9	
72.5	

Integrations by JB Reviewed by JMK
 Analyst: JB Analyst: JMK
 Date: 11/16/16 Date: 11/16/16

C/Up	37Cl-2,3,7,8-TCDD	6.18e+06	1.20	26:40	1.022	743.68	94.8
RS/RT	13C-1,2,3,4-TCDD	1.36e+07	0.79	Y	1.00	1961.6	
RS	13C-1,2,3,4-TCDF	1.86e+07	0.78	Y	1.00	1961.6	
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.08e+07	0.50	Y	1.00	1961.6	

Vista Analytical Laboratory - Injection Log Run file: 160805D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file S#	Sample ID	Analyst	Acq date	Acq time	CCal	Ecal
160805D1 1	ST160805D1-1	DB	5-AUG-16	12:40:42	ST160805D1-4	NA
160805D1 2	ST160805D1-2	DB	5-AUG-16	13:28:29	ST160805D1-4	NA
160805D1 3	ST160805D1-3	DB	5-AUG-16	14:16:19	ST160805D1-4	NA
160805D1 4	ST160805D1-4	DB	5-AUG-16	15:04:06	ST160805D1-4	NA
160805D1 5	ST160805D1-5	DB	5-AUG-16	15:51:58	ST160805D1-4	NA
160805D1 6	ST160805D1-6	DB	5-AUG-16	16:39:46	ST160805D1-4	NA
160805D1 7	SOLVENT BLANK	DB	5-AUG-16	17:27:32	ST160805D1-4	NA
160805D1 8	SS160805D1-1	DB	5-AUG-16	18:15:20	ST160805D1-4	NA
160805D1 9	SOLVENT BLANK	DB	5-AUG-16	19:03:07	ST160805D1-4	NA

Initial Calibration RRF Summary (ICAL)
 Run: 160805D1

Vista Analytical Laboratory
 Cal: 1613VG7-8-5-16

Inst. ID. VG-7

Analyte:

Data filename: 160805D1

Name	Mean	RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
2,3,7,8-TCDD	1.11	4.03	✓	1.15	1.04	1.09	1.10	1.12	1.17
1,2,3,7,8-PeCDF	0.98	5.24	✓	1.05	0.99	0.90	0.95	0.99	1.01
1,2,3,4,7,8-HxCDD	0.95	4.20	✓	0.96	0.98	0.90	0.91	1.00	0.97
1,2,3,6,7,8-HxCDD	1.05	3.32	✓	1.10	1.02	1.03	1.04	1.03	1.10
1,2,3,7,8,9-HxCDD	1.03	5.94	✓	1.10	1.09	0.94	0.99	1.01	1.03
1,2,3,4,6,7,8-HpCDD	1.01	5.49	✓	1.09	1.02	0.93	0.98	1.02	1.04
OCDD	0.96	5.38	✓	1.03	0.99	0.88	0.93	0.96	0.97
2,3,7,8-TCDF	1.00	2.80	✓	0.98	1.04	0.97	0.98	1.01	1.03
1,2,3,7,8-PeCDF	0.99	4.85	✓	1.01	1.04	0.91	0.95	1.00	1.02
2,3,4,7,8-PeCDF	0.87	2.89	✓	0.88	0.88	0.84	0.83	0.87	0.90
1,2,3,4,7,8-HxCDF	1.03	3.96	✓	1.09	1.00	0.97	1.02	1.05	1.05
1,2,3,6,7,8-HxCDF	1.03	2.64	✓	1.04	1.04	0.98	1.01	1.03	1.06
2,3,4,6,7,8-HxCDF	1.09	3.67	✓	1.14	1.11	1.02	1.08	1.11	1.10
1,2,3,7,8,9-HxCDF	1.01	5.25	✓	1.10	1.00	0.95	0.97	1.01	1.04
1,2,3,4,6,7,8-HpCDF	1.29	3.60	✓	1.35	1.32	1.22	1.26	1.29	1.31
1,2,3,4,7,8,9-HpCDF	1.17	3.54	✓	1.20	1.18	1.11	1.14	1.17	1.22
OCDF	0.96	5.93	✓	1.06	0.96	0.89	0.92	0.97	0.96
13C-2,3,7,8-TCDD	1.05	1.89	✓	1.05	1.05	1.03	1.05	1.05	1.09
13C-1,2,3,7,8-PeCDD	0.95	5.72	✓	0.89	0.95	0.92	0.93	0.94	1.05
13C-1,2,3,4,7,8-HxCDD	0.90	9.34	✓	0.85	0.85	0.84	0.88	0.91	1.06
13C-1,2,3,6,7,8-HxCDD	0.86	10.16	✓	0.81	0.83	0.79	0.82	0.89	1.02
13C-1,2,3,7,8,9-HxCDD	0.85	6.73	✓	0.82	0.82	0.79	0.81	0.87	0.99
13C-1,2,3,4,6,7,8-HpCDD	0.66	10.33	✓	0.64	0.64	0.61	0.63	0.66	0.80
13C-OCDD	0.63	16.57	✓	0.57	0.58	0.57	0.59	0.62	0.84
13C-2,3,7,8-TCDF	0.91	1.32	✓	0.91	0.90	0.90	0.90	0.90	0.93
13C-1,2,3,7,8-PeCDF	0.88	5.89	✓	0.83	0.84	0.86	0.88	0.87	0.98
13C-2,3,4,7,8-PeCDF	1.02	5.73	✓	0.94	1.03	0.99	1.02	1.01	1.12
13C-1,2,3,4,7,8-HxCDF	1.04	7.27	✓	0.99	0.99	0.97	1.03	1.06	1.18
13C-1,2,3,6,7,8-HxCDF	1.08	6.73	✓	1.04	1.04	1.00	1.10	1.11	1.21
13C-2,3,4,6,7,8-HxCDF	0.94	6.14	✓	0.91	0.90	0.91	0.93	0.96	1.05
13C-1,2,3,7,8,9-HxCDF	0.87	8.80	✓	0.81	0.83	0.82	0.86	0.87	1.02
13C-1,2,3,4,6,7,8-HpCDF	0.66	8.10	✓	0.62	0.66	0.63	0.64	0.68	0.77
13C-1,2,3,4,7,8,9-HpCDF	0.60	8.81	✓	0.60	0.58	0.56	0.57	0.61	0.71
13C-OCDF	0.71	16.02	✓	0.66	0.66	0.64	0.66	0.71	0.94
37Cl-2,3,7,8-TCDD	1.20	9.25	✓	1.30	1.29	1.12	1.06	1.12	1.31
13C-1,2,3,4-TCDD	1.00	0.00	✓	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4-TCDF	1.00	0.00	✓	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4,6,9-HxCDF	1.00	0.00	✓	1.00	1.00	1.00	1.00	1.00	1.00

DB
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 9/15/16
 SW
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Initial Calibration RRF Summary (ICAL) Vista Analytical Laboratory

Run: 160805D1 Analyte: Cal: 1613VG7-8-5-16 Inst. ID. VG-7

Data filename: 160805D1

Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
Total Tetra-Dioxins	1.11	4.03 %	1.15	1.04	1.09	1.10	1.12	1.17
TCDD EMPC	1.11	4.03 %	1.15	1.04	1.09	1.10	1.12	1.17
Total Penta-Dioxins	0.98	5.24 %	1.05	0.99	0.90	0.95	0.99	1.01
PeCDD EMPC	0.98	5.24 %	1.05	0.99	0.90	0.95	0.99	1.01
Total Hexa-Dioxins	1.01	3.67 %	1.05	1.03	0.95	0.98	1.01	1.03
HxCDD EMPC	1.01	3.67 %	1.05	1.03	0.95	0.98	1.01	1.03
Total Hepta-Dioxins	1.01	5.49 %	1.09	1.02	0.93	0.98	1.02	1.04
HpCDD EMPC	1.01	5.49 %	1.09	1.02	0.93	0.98	1.02	1.04
Total Tetra-Furans	1.00	2.80 %	0.98	1.04	0.97	0.98	1.01	1.03
TCDF EMPC	1.00	2.80 %	0.98	1.04	0.97	0.98	1.01	1.03
1st Func. Penta-Furans	0.92	3.75 %	0.94	0.95	0.87	0.89	0.93	0.95
1st Func. PeCDF EMPC	0.92	3.75 %	0.94	0.95	0.87	0.89	0.93	0.95
Total Penta-Furans	0.92	3.75 %	0.94	0.95	0.87	0.89	0.93	0.95
PeCDF EMPC	0.92	3.75 %	0.94	0.95	0.87	0.89	0.93	0.95
Total Hexa-Furans	1.04	3.52 %	1.09	1.04	0.98	1.02	1.05	1.06
HxCDF EMPC	1.04	3.52 %	1.09	1.04	0.98	1.02	1.05	1.06
Total Hepta-Furans	1.23	3.41 %	1.28	1.25	1.17	1.20	1.23	1.27
HpCDF EMPC	1.23	3.41 %	1.28	1.25	1.17	1.20	1.23	1.27

Analyte:

Inst. ID, VG-7

Data filename: 160805D1

Samp# 1 0.25 Samp# 2 0.50 Samp# 3 2.0 Samp# 4 10 Samp# 5 40 Samp# 6 300

RRT Limits

Name	Lower	Upper	RRT#1	RRT#2	RRT#3	RRT#4	RRT#5	RRT#6
2,3,7,8-TCDD	0.999	-1.002	1.000	1.001	1.001	1.001	1.001	1.001
1,2,3,7,8-PeCDD	0.999	-1.002	1.001	1.001	1.001	1.001	1.001	1.001
1,2,3,4,7,8-HxCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,6,7,8-HxCDD	0.998	-1.004	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,7,8,9-HxCDD	0.998	-1.004	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,4,6,7,8-HpCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
OCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
2,3,7,8-TCDF	0.999	-1.003	1.001	1.000	1.001	1.001	1.001	1.001
1,2,3,7,8-PeCDF	0.999	-1.002	1.000	1.001	1.001	1.001	1.001	1.001
2,3,4,7,8-PeCDF	0.999	-1.002	1.000	1.000	1.001	1.000	1.001	1.001
1,2,3,4,7,8-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,6,7,8-HxCDF	0.997	-1.005	1.000	1.000	1.000	1.000	1.000	1.000
2,3,4,6,7,8-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,7,8,9-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,4,6,7,8-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,4,7,8,9-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
OCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
13C-2,3,7,8-TCDD	0.976	-1.043	1.022	1.022	1.022	1.022	1.021	1.022
13C-1,2,3,7,8-PeCDD	1.000	-1.567	1.190	1.190	1.190	1.191	1.190	1.191
13C-1,2,3,4,7,8-HxCDD	1.002	-1.029	1.014	1.014	1.014	1.014	1.014	1.014
13C-1,2,3,6,7,8-HxCDD	1.007	-1.029	1.017	1.018	1.018	1.018	1.018	1.018
13C-1,2,3,7,8,9-HxCDD	1.014	-1.038	1.026	1.026	1.026	1.026	1.026	1.026
13C-1,2,3,4,6,7,8-HpCDD	1.117	-1.141	1.127	1.127	1.127	1.127	1.127	1.127
13C-OCDD	1.065	-1.365	1.224	1.224	1.224	1.224	1.224	1.224
13C-2,3,7,8-TCDF	0.923	-1.103	0.992	0.993	0.993	0.993	0.992	0.993
13C-1,2,3,7,8-PeCDF	1.000	-1.425	1.146	1.146	1.146	1.146	1.146	1.146
13C-2,3,4,7,8-HxCDF	1.011	-1.526	1.180	1.180	1.180	1.180	1.180	1.180
13C-1,2,3,4,7,8-HxCDF	0.975	-1.001	0.987	0.988	0.988	0.988	0.988	0.988
13C-1,2,3,6,7,8-HxCDF	0.979	-1.005	0.991	0.992	0.992	0.992	0.992	0.992
13C-2,3,4,6,7,8-HxCDF	1.001	-1.020	1.009	1.009	1.009	1.009	1.009	1.009
13C-1,2,3,7,8,9-HxCDF	1.002	-1.072	1.038	1.038	1.038	1.038	1.038	1.038
13C-1,2,3,4,6,7,8-HpCDF	1.069	-1.111	1.092	1.092	1.092	1.092	1.092	1.092
13C-1,2,3,4,7,8,9-HpCDF	1.098	-1.192	1.143	1.143	1.143	1.143	1.143	1.143
13C-OCDF	1.091	-1.371	1.231	1.232	1.232	1.231	1.231	1.232
37Cl-2,3,7,8-TCDD	0.989	-1.052	1.022	1.022	1.022	1.023	1.022	1.023
13C-1,2,3,4-TCDD	0.000	-0.000	*	*	*	*	*	*
13C-1,2,3,4-TCDF	0.000	-0.000	*	*	*	*	*	*
13C-1,2,3,4,6,9-HxCDF	0.000	-0.000	*	*	*	*	*	*

Filename: 160805D1 S: 1 Acquired: 5-AUG-16 12:40:42
 Run: 160805D1 Analyte: Cal: 1613VG7-8-5-16 Results:
 Sample text: ST160805D1-1 1613 CS0 15J1904

Name	Amount	Resp	RA	RT	RF	RRF
2,3,7,8-TCDD	0.250	2.01e+04	0.82 Y	26:53	-	1.15
1,2,3,7,8-PeCDD	1.25	7.85e+04	0.59 Y	31:20	-	1.05
1,2,3,4,7,8-HxCDD	1.25	5.83e+04	1.18 Y	34:40	-	0.96
1,2,3,6,7,8-HxCDD	1.25	6.32e+04	1.21 Y	34:47	-	1.10
1,2,3,7,8,9-HxCDD	1.25	6.38e+04	1.22 Y	35:05	-	1.10
1,2,3,4,6,7,8-HpCDD	1.25	4.98e+04	1.02 Y	38:31	-	1.09
OCDD	2.50	8.42e+04	0.82 Y	41:51	-	1.03
2,3,7,8-TCDF	0.250	2.31e+04	0.83 Y	26:08	-	0.98
1,2,3,7,8-PeCDF	1.25	1.09e+05	1.62 Y	30:10	-	1.01
2,3,4,7,8-PeCDF	1.25	1.07e+05	1.51 Y	31:03	-	0.88
1,2,3,4,7,8-HxCDF	1.25	7.65e+04	1.26 Y	33:46	-	1.09
1,2,3,6,7,8-HxCDF	1.25	7.74e+04	1.35 Y	33:54	-	1.04
2,3,4,6,7,8-HxCDF	1.25	7.38e+04	1.08 Y	34:30	-	1.14
1,2,3,7,8,9-HxCDF	1.25	6.37e+04	1.11 Y	35:29	-	1.10
1,2,3,4,6,7,8-HpCDF	1.25	5.99e+04	1.08 Y	37:19	-	1.35
1,2,3,4,7,8,9-HpCDF	1.25	5.12e+04	1.19 Y	39:04	-	1.20
OCDF	2.50	1.00e+05	0.87 Y	42:05	-	1.06
Total Tetra-Dioxins	0.00	-	- n	-	-	1.15
TCDD EMPC	0.00	-	- n	-	-	1.15
Total Penta-Dioxins	0.00	-	- n	-	-	1.05
PeCDD EMPC	0.00	-	- n	-	-	1.05
Total Hexa-Dioxins	0.00	-	- n	-	-	1.05
HxCDD EMPC	0.00	-	- n	-	-	1.05
Total Hepta-Dioxins	0.00	-	- n	-	-	1.09
HpCDD EMPC	0.00	-	- n	-	-	1.09
Total Tetra-Furans	0.00	-	- n	-	-	0.98
TCDF EMPC	0.00	-	- n	-	-	0.98
1st Func. Penta-Furans	0.00	-	- n	-	-	0.94
1st Func. PeCDF EMPC	0.00	-	- n	-	-	0.94
Total Penta-Furans	0.00	-	- n	-	-	0.94
PeCDF EMPC	0.00	-	- n	-	-	0.94
Total Hexa-Furans	0.00	-	- n	-	-	1.09
HxCDF EMPC	0.00	-	- n	-	-	1.09
Total Hepta-Furans	0.00	-	- n	-	-	1.28
HpCDF EMPC	0.00	-	- n	-	-	1.28
13C-2,3,7,8-TCDD	100	7.02e+06	0.79 Y	26:53	-	1.05
13C-1,2,3,7,8-PeCDD	100	5.95e+06	0.64 Y	31:19	-	0.89
13C-1,2,3,4,7,8-HxCDD	100	4.85e+06	1.27 Y	34:39	-	0.85
13C-1,2,3,6,7,8-HxCDD	100	4.61e+06	1.26 Y	34:46	-	0.81
13C-1,2,3,7,8,9-HxCDD	100	4.66e+06	1.22 Y	35:04	-	0.82

13C-1,2,3,4,6,7,8-HpCDD	100	3.66e+06	1.02 Y	38:31	0.64
13C-OCDD	200	6.51e+06	0.87 Y	41:50	0.57
13C-2,3,7,8-TCDF	100	9.40e+06	0.79 Y	26:07	0.91
13C-1,2,3,7,8-PeCDF	100	8.58e+06	1.59 Y	30:10	0.83
13C-2,3,4,7,8-PeCDF	100	9.76e+06	1.60 Y	31:03	0.94
13C-1,2,3,4,7,8-HxCDF	100	5.63e+06	0.49 Y	33:45	0.99
13C-1,2,3,6,7,8-HxCDF	100	5.96e+06	0.50 Y	33:53	1.04
13C-2,3,4,6,7,8-HxCDF	100	5.18e+06	0.50 Y	34:29	0.91
13C-1,2,3,7,8,9-HxCDF	100	4.63e+06	0.50 Y	35:29	0.81
13C-1,2,3,4,6,7,8-HpCDF	100	3.56e+06	0.44 Y	37:19	0.62
13C-1,2,3,4,7,8,9-HpCDF	100	3.40e+06	0.45 Y	39:04	0.60

13C-OCDF	200	7.58e+06	0.88 Y	42:05	0.66
37Cl-2,3,7,8-TCDD	0.250	2.18e+04		26:53	1.30
13C-1,2,3,4-TCDD	100	6.68e+06	0.80 Y	26:19	1.00
13C-1,2,3,4-TCDF	100	1.03e+07	0.79 Y	24:55	1.00
13C-1,2,3,4,6,9-HxCDF	100	5.71e+06	0.51 Y	34:11	1.00

Filename: 160805D1 S: 2 Acquired: 5-AUG-16 13:28:29
 Run: 160805D1 Analyte: Cal: 1613VG7-8-5-16
 Sample text: ST160805D1-2 1613 CS1 15J1905 Results:

Name	Amount	Resp	RA	RT	RF	RRF
2,3,7,8-TCDD	0.500	3.73e+04	0.69 Y	26:54	-	1.04
1,2,3,7,8-PeCDD	2.50	1.60e+05	0.65 Y	31:20	-	0.99
1,2,3,4,7,8-HxCDD	2.50	1.21e+05	1.21 Y	34:40	-	0.98
1,2,3,6,7,8-HxCDD	2.50	1.22e+05	1.25 Y	34:47	-	1.02
1,2,3,7,8,9-HxCDD	2.50	1.29e+05	1.07 Y	35:05	-	1.09
1,2,3,4,6,7,8-HpCDD	2.50	9.33e+04	0.96 Y	38:30	-	1.02
OCDD	5.00	1.66e+05	0.91 Y	41:51	-	0.99
2,3,7,8-TCDF	0.500	4.83e+04	0.69 Y	26:08	-	1.04
1,2,3,7,8-PeCDF	2.50	2.25e+05	1.55 Y	30:10	-	1.04
2,3,4,7,8-PeCDF	2.50	2.33e+05	1.41 Y	31:03	-	0.88
1,2,3,4,7,8-HxCDF	2.50	1.44e+05	1.29 Y	33:45	-	1.00
1,2,3,6,7,8-HxCDF	2.50	1.56e+05	1.19 Y	33:53	-	1.04
2,3,4,6,7,8-HxCDF	2.50	1.45e+05	1.11 Y	34:30	-	1.11
1,2,3,7,8,9-HxCDF	2.50	1.21e+05	1.26 Y	35:29	-	1.00
1,2,3,4,6,7,8-HpCDF	2.50	1.26e+05	0.92 Y	37:20	-	1.32
1,2,3,4,7,8,9-HpCDF	2.50	9.88e+04	0.91 Y	39:04	-	1.18
OCDF	5.00	1.83e+05	0.91 Y	42:05	-	0.96
Total Tetra-Dioxins	0.00	-	- n	-	-	1.04
TCDD EMPC	0.00	-	- n	-	-	1.04
Total Penta-Dioxins	0.00	-	- n	-	-	0.99
PeCDD EMPC	0.00	-	- n	-	-	0.99
Total Hexa-Dioxins	0.00	-	- n	-	-	1.03
HxCDD EMPC	0.00	-	- n	-	-	1.03
Total Hepta Dioxins	0.00	-	- n	-	-	1.02
HpCDD EMPC	0.00	-	- n	-	-	1.02
Total Tetra-Furans	0.00	-	- n	-	-	1.04
TCDF EMPC	0.00	-	- n	-	-	1.04
1st Func. Penta-Furans	0.00	-	- n	-	-	0.95
1st Func. PeCDF EMPC	0.00	-	- n	-	-	0.95
Total Penta-Furans	0.00	-	- n	-	-	0.95
PeCDF EMPC	0.00	-	- n	-	-	0.95
Total Hexa-Furans	0.00	-	- n	-	-	1.04
HxCDF EMPC	0.00	-	- n	-	-	1.04
Total Hepta-Furans	0.00	-	- n	-	-	1.25
HpCDF EMPC	0.00	-	- n	-	-	1.25
13C-2,3,7,8 TCDD	100	7.16e+06	0.80 Y	26:53	-	1.05
13C-1,2,3,7,8-PeCDD	100	6.46e+06	0.63 Y	31:19	-	0.95
13C-1,2,3,4,7,8-HxCDD	100	4.92e+06	1.29 Y	34:39	-	0.85
13C-1,2,3,6,7,8-HxCDD	100	4.77e+06	1.23 Y	34:46	-	0.83
13C-1,2,3,7,8,9-HxCDD	100	4.72e+06	1.22 Y	35:04	-	0.82

13C-1,2,3,4,6,7,8-HpCDD	100	3.67e+06	1.04 Y	38:30	-	0.64
13C-OCDD	200	6.72e+06	0.91 Y	41:50	-	0.58
13C-2,3,7,8-TCDF	100	9.31e+06	0.80 Y	26:08	-	0.90
13C-1,2,3,7,8-PeCDF	100	8.69e+06	1.56 Y	30:09	-	0.84
13C-2,3,4,7,8-PeCDF	100	1.06e+07	1.57 Y	31:03	-	1.03
13C-1,2,3,4,7,8-HxCDF	100	5.74e+06	0.48 Y	33:45	-	0.99
13C-1,2,3,6,7,8-HxCDF	100	6.00e+06	0.49 Y	33:53	-	1.04
13C-2,3,4,6,7,8-HxCDF	100	5.22e+06	0.48 Y	34:29	-	0.90
13C-1,2,3,7,8,9-HxCDF	100	4.82e+06	0.49 Y	35:28	-	0.83
13C-1,2,3,4,6,7,8-HpCDF	100	3.80e+06	0.43 Y	37:19	-	0.66
13C-1,2,3,4,7,8,9-HpCDF	100	3.35e+06	0.43 Y	39:04	-	0.58

13C-OCDF	200	7.68e+06	0.89	Y	42:05	-	0.66
37Cl-2,3,7,8-TCDD	0.500	4.40e+04			26:54	-	1.29
13C-1,2,3,4-TCDD	100	6.82e+06	0.79	Y	26:19	-	1.00
13C-1,2,3,4-TCDF	100	1.03e+07	0.80	Y	24:55	-	1.00
13C-1,2,3,4,6,9-HxCDF	100	5.77e+06	0.49	Y	34:10	-	1.00

Filename: 160805D1 S: 3 Acquired: 5-AUG-16 14:16:19
 Run: 160805D1 Analyte: Cal: 1613VG7-8-5-16 Results:
 Sample text: ST160805D1-3 1613 CS2 15J1906

Name	Amount	Resp	RA	RT	RF	RRF
2,3,7,8-TCDD	2.00	1.57e+05	0.76 Y	26:54	-	1.09
1,2,3,7,8-PeCDD	10.0	5.82e+05	0.66 Y	31:20	-	0.90
1,2,3,4,7,8-HxCDD	10.0	4.51e+05	1.17 Y	34:40	-	0.90
1,2,3,6,7,8-HxCDD	10.0	4.88e+05	1.20 Y	34:47	-	1.03
1,2,3,7,8,9-HxCDD	10.0	4.42e+05	1.09 Y	35:05	-	0.94
1,2,3,4,6,7,8-HpCDD	10.0	3.37e+05	1.03 Y	38:30	-	0.93
OCDD	20.0	6.03e+05	0.85 Y	41:51	-	0.88
2,3,7,8-TCDF	2.00	1.83e+05	0.77 Y	26:09	-	0.97
1,2,3,7,8-PeCDF	10.0	8.24e+05	1.59 Y	30:11	-	0.91
2,3,4,7,8-PeCDF	10.0	8.65e+05	1.59 Y	31:04	-	0.84
1,2,3,4,7,8-HxCDF	10.0	5.66e+05	1.20 Y	33:45	-	0.97
1,2,3,6,7,8-HxCDF	10.0	5.88e+05	1.21 Y	33:54	-	0.98
2,3,4,6,7,8-HxCDF	10.0	5.52e+05	1.18 Y	34:30	-	1.02
1,2,3,7,8,9-HxCDF	10.0	4.67e+05	1.20 Y	35:29	-	0.95
1,2,3,4,6,7,8-HpCDF	10.0	4.57e+05	0.99 Y	37:20	-	1.22
1,2,3,4,7,8,9-HpCDF	10.0	3.70e+05	1.05 Y	39:05	-	1.11
OCDF	20.0	6.77e+05	0.89 Y	42:05	-	0.89
Total Tetra-Dioxins	0.00	-	- n	-	-	1.09
TCDD EMPC	0.00	-	- n	-	-	1.09
Total Penta-Dioxins	0.00	-	- n	-	-	0.90
PeCDD EMPC	0.00	-	- n	-	-	0.90
Total Hexa-Dioxins	0.00	-	- n	-	-	0.95
HxCDD EMPC	0.00	-	- n	-	-	0.95
Total Hepta-Dioxins	0.00	-	- n	-	-	0.93
HpCDD EMPC	0.00	-	- n	-	-	0.93
Total Tetra-Furans	0.00	-	- n	-	-	0.97
TCDF EMPC	0.00	-	- n	-	-	0.97
1st Func. Penta-Furans	0.00	-	- n	-	-	0.87
1st Func. PeCDF EMPC	0.00	-	- n	-	-	0.87
Total Penta-Furans	0.00	-	- n	-	-	0.87
PeCDF EMPC	0.00	-	- n	-	-	0.87
Total Hexa-Furans	0.00	-	- n	-	-	0.98
HxCDF EMPC	0.00	-	- n	-	-	0.98
Total Hepta-Furans	0.00	-	- n	-	-	1.17
HpCDF EMPC	0.00	-	- n	-	-	1.17
13C-2,3,7,8-TCDD	100	7.20e+06	0.80 Y	26:53	-	1.03
13C-1,2,3,7,8-PeCDD	100	6.45e+06	0.61 Y	31:19	-	0.92
13C-1,2,3,4,7,8-HxCDD	100	5.02e+06	1.26 Y	34:39	-	0.84
13C-1,2,3,6,7,8-HxCDD	100	4.73e+06	1.26 Y	34:46	-	0.79
13C-1,2,3,7,8,9-HxCDD	100	4.72e+06	1.27 Y	35:04	-	0.79

13C-1,2,3,4,6,7,8-HpCDD	100	3.64e+06	1.06 Y	38:30	=	0.61
13C-OCDD	200	6.82e+06	0.91 Y	41:50	=	0.57
13C-2,3,7,8-TCDF	100	9.36e+06	0.79 Y	26:08	=	0.90
13C-1,2,3,7,8-PeCDF	100	9.02e+06	1.58 Y	30:10	=	0.86
13C-2,3,4,7,8-PeCDF	100	1.03e+07	1.56 Y	31:03	=	0.99
13C-1,2,3,4,7,8-HxCDF	100	5.82e+06	0.50 Y	33:45	=	0.97
13C-1,2,3,6,7,8-HxCDF	100	5.98e+06	0.49 Y	33:53	=	1.00
13C-2,3,4,6,7,8-HxCDF	100	5.41e+06	0.49 Y	34:29	=	0.91
13C-1,2,3,7,8,9-HxCDF	100	4.90e+06	0.50 Y	35:28	=	0.82
13C-1,2,3,4,6,7,8-HpCDF	100	3.75e+06	0.41 Y	37:19	=	0.63
13C-1,2,3,4,7,8,9-HpCDF	100	3.33e+06	0.42 Y	39:04	=	0.56

13C-OCDF	200	7.60e+06	0.89 Y	42:05	-	0.64
37Cl-2,3,7,8-TCDD	2.00	1.57e+05		26:54	-	1.12
13C-1,2,3,4-TCDD	100	7.00e+06	0.79 Y	26:19	-	1.00
13C-1,2,3,4-TCDF	100	1.05e+07	0.80 Y	24:56	-	1.00
13C-1,2,3,4,6,9-HxCDF	100	5.97e+06	0.50 Y	34:10	-	1.00

Filename: 160805D1 S: 4 Acquired: 5-AUG-16 15:04:06
 Run: 160805D1 Analyte: Cal: 1613VG7-8-5-16 Results:
 Sample text: ST160805D1-4 1613 CS3 16C3101

Name	Amount	Resp	RA	RT	RF	RRF
2,3,7,8-TCDD	10.0	6.49e+05	0.76 Y	26:55	-	1.10
1,2,3,7,8-PeCDD	50.0	2.47e+06	0.61 Y	31:21	-	0.95
1,2,3,4,7,8-HxCDD	50.0	1.87e+06	1.21 Y	34:41	-	0.91
1,2,3,6,7,8-HxCDD	50.0	1.97e+06	1.23 Y	34:48	-	1.04
1,2,3,7,8,9-HxCDD	50.0	1.87e+06	1.19 Y	35:06	-	0.99
1,2,3,4,6,7,8-HpCDD	50.0	1.43e+06	1.03 Y	38:31	-	0.98
OCDD	100	2.54e+06	0.91 Y	41:52	-	0.93
2,3,7,8-TCDF	10.0	7.55e+05	0.80 Y	26:09	-	0.98
1,2,3,7,8-PeCDF	50.0	3.56e+06	1.60 Y	30:11	-	0.95
2,3,4,7,8-PeCDF	50.0	3.63e+06	1.62 Y	31:04	-	0.83
1,2,3,4,7,8-HxCDF	50.0	2.45e+06	1.18 Y	33:47	-	1.02
1,2,3,6,7,8-HxCDF	50.0	2.58e+06	1.21 Y	33:55	-	1.01
2,3,4,6,7,8-HxCDF	50.0	2.34e+06	1.20 Y	34:31	-	1.08
1,2,3,7,8,9-HxCDF	50.0	1.94e+06	1.20 Y	35:30	-	0.97
1,2,3,4,6,7,8-HpCDF	50.0	1.87e+06	1.00 Y	37:21	-	1.26
1,2,3,4,7,8,9-HpCDF	50.0	1.53e+06	1.04 Y	39:05	-	1.14
OCDF	100	2.83e+06	0.90 Y	42:06	-	0.92
Total Tetra-Dioxins	0.00	-	- n	-	-	1.10
TCDD EMPC	0.00	-	- n	-	-	1.10
Total Penta-Dioxins	0.00	-	- n	-	-	0.95
PeCDD EMPC	0.00	-	- n	-	-	0.95
Total Hexa-Dioxins	0.00	-	- n	-	-	0.98
HxCDD EMPC	0.00	-	- n	-	-	0.98
Total Hepta-Dioxins	0.00	-	- n	-	-	0.98
HpCDD EMPC	0.00	-	- n	-	-	0.98
Total Tetra-Furans	0.00	-	- n	-	-	0.98
TCDF EMPC	0.00	-	- n	-	-	0.98
1st Func. Penta-Furans	0.00	-	- n	-	-	0.89
1st Func. PeCDF EMPC	0.00	-	- n	-	-	0.89
Total Penta-Furans	0.00	-	- n	-	-	0.89
PeCDF EMPC	0.00	-	- n	-	-	0.89
Total Hexa-Furans	0.00	-	- n	-	-	1.02
HxCDF EMPC	0.00	-	- n	-	-	1.02
Total Hepta-Furans	0.00	-	- n	-	-	1.20
HpCDF EMPC	0.00	-	- n	-	-	1.20
13C-2,3,7,8-TCDD	100	5.86e+06	0.79 Y	26:54	-	1.05
13C-1,2,3,7,8-PeCDD	100	5.17e+06	0.64 Y	31:20	-	0.93
13C-1,2,3,4,7,8-HxCDD	100	4.11e+06	1.24 Y	34:40	-	0.88
13C-1,2,3,6,7,8-HxCDD	100	3.81e+06	1.25 Y	34:47	-	0.82
13C-1,2,3,7,8,9-HxCDD	100	3.79e+06	1.21 Y	35:05	-	0.81

13C-1,2,3,4,6,7,8-HpCDD	100	2.93e+06	1.00 Y	38:31	=	0.63
13C-OCDD	200	5.49e+06	0.92 Y	41:51	=	0.59
13C-2,3,7,8-TCDF	100	7.72e+06	0.80 Y	26:08	=	0.90
13C-1,2,3,7,8-PeCDF	100	7.53e+06	1.56 Y	30:10	=	0.88
13C-2,3,4,7,8-PeCDF	100	8.70e+06	1.58 Y	31:04	=	1.02
13C-1,2,3,4,7,8-HxCDF	100	4.80e+06	0.51 Y	33:46	=	1.03
13C-1,2,3,6,7,8-HxCDF	100	5.12e+06	0.49 Y	33:54	=	1.10
13C-2,3,4,6,7,8-HxCDF	100	4.35e+06	0.49 Y	34:30	=	0.93
13C-1,2,3,7,8,9-HxCDF	100	4.02e+06	0.49 Y	35:29	=	0.86
13C-1,2,3,4,6,7,8-HpCDF	100	2.97e+06	0.42 Y	37:20	=	0.64
13C-1,2,3,4,7,8,9-HpCDF	100	2.68e+06	0.45 Y	39:04	=	0.57

13C-OCDF	200	6.17e+06	0.88 Y	42:05	-	0.66
37Cl-2,3,7,8-TCDD	10.0	5.93e+05		26:55	+	1.06
13C-1,2,3,4-TCDD	100	5.58e+06	0.80 Y	26:19	-	1.00
13C 1,2,3,4-TCDF	100	8.56e+06	0.78 Y	24:56	-	1.00
13C-1,2,3,4,6,9-HxCDF	100	4.67e+06	0.48 Y	34:11	-	1.00

Filename: 160805D1 S: 5 Acquired: 5-AUG-16 15:51:58
 Run: 160805D1 Analyte: Cal: 1613VG7-8-5-16 Results:
 Sample text: ST160805D1-5 1613 CS4 15J1908

Name	Amount	Resp	RA	RT	RF	RRF
2,3,7,8-TCDD	40.0	3.10e+06	0.79 Y	26:54	-	1.12
1,2,3,7,8-PeCDD	200	1.23e+07	0.61 Y	31:21	-	0.99
1,2,3,4,7,8-HxCDD	200	9.64e+06	1.20 Y	34:41	-	1.00
1,2,3,6,7,8-HxCDD	200	9.76e+06	1.21 Y	34:48	-	1.03
1,2,3,7,8,9-HxCDD	200	9.38e+06	1.19 Y	35:06	-	1.01
1,2,3,4,6,7,8-HpCDD	200	7.23e+06	1.02 Y	38:31	-	1.02
OCDD	400	1.28e+07	0.89 Y	41:51	-	0.96
2,3,7,8-TCDF	40.0	3.67e+06	0.78 Y	26:09	-	1.01
1,2,3,7,8-PeCDF	200	1.74e+07	1.57 Y	30:11	-	1.00
2,3,4,7,8-PeCDF	200	1.78e+07	1.53 Y	31:05	-	0.87
1,2,3,4,7,8-HxCDF	200	1.19e+07	1.20 Y	33:46	-	1.05
1,2,3,6,7,8-HxCDF	200	1.22e+07	1.19 Y	33:54	-	1.03
2,3,4,6,7,8-HxCDF	200	1.13e+07	1.20 Y	34:31	-	1.11
1,2,3,7,8,9-HxCDF	200	9.37e+06	1.17 Y	35:29	-	1.01
1,2,3,4,6,7,8-HpCDF	200	9.30e+06	1.00 Y	37:20	-	1.29
1,2,3,4,7,8,9-HpCDF	200	7.62e+06	0.99 Y	39:05	-	1.17
OCDF	400	1.47e+07	0.88 Y	42:06	-	0.97
Total Tetra-Dioxins	0.00	-	- n	-	-	1.12
TCDD EMPC	0.00	-	- n	-	-	1.12
Total Penta-Dioxins	0.00	-	- n	-	-	0.99
PeCDD EMPC	0.00	-	- n	-	-	0.99
Total Hexa-Dioxins	0.00	-	- n	-	-	1.01
HxCDD EMPC	0.00	-	- n	-	-	1.01
Total Hepta-Dioxins	0.00	-	- n	-	-	1.02
HpCDD EMPC	0.00	-	- n	-	-	1.02
Total Tetra-Furans	0.00	-	- n	-	-	1.01
TCDF EMPC	0.00	-	- n	-	-	1.01
1st Func. Penta-Furans	0.00	-	- n	-	-	0.93
1st Func. PeCDF EMPC	0.00	-	- n	-	-	0.93
Total Penta-Furans	0.00	-	- n	-	-	0.93
PeCDF EMPC	0.00	-	- n	-	-	0.93
Total Hexa-Furans	0.00	-	- n	-	-	1.05
HxCDF EMPC	0.00	-	- n	-	-	1.05
Total Hepta-Furans	0.00	-	- n	-	-	1.23
HpCDF EMPC	0.00	-	- n	-	-	1.23
13C-2,3,7,8-TCDD	100	6.93e+06	0.81 Y	26:53	-	1.05
13C-1,2,3,7,8-PeCDD	100	6.21e+06	0.64 Y	31:20	-	0.94
13C-1,2,3,4,7,8-HxCDD	100	4.83e+06	1.25 Y	34:40	-	0.91
13C-1,2,3,6,7,8-HxCDD	100	4.74e+06	1.28 Y	34:47	-	0.89
13C-1,2,3,7,8,9-HxCDD	100	4.64e+06	1.22 Y	35:04	-	0.87

13C-1,2,3,4,6,7,8-HpCDD	100	3.54e+06	1.00 Y	38:31	0.66
13C-OCDD	200	6.63e+06	0.88 Y	41:50	0.62
13C-2,3,7,8-TCDF	100	9.09e+06	0.80 Y	26:08	0.90
13C-1,2,3,7,8-PeCDF	100	8.71e+06	1.59 Y	30:10	0.87
13C-2,3,4,7,8-PeCDF	100	1.02e+07	1.61 Y	31:04	1.01
13C-1,2,3,4,7,8-HxCDF	100	5.63e+06	0.50 Y	33:46	1.06
13C-1,2,3,6,7,8-HxCDF	100	5.89e+06	0.50 Y	33:54	1.11
13C-2,3,4,6,7,8-HxCDF	100	5.12e+06	0.50 Y	34:30	0.96
13C-1,2,3,7,8,9-HxCDF	100	4.62e+06	0.49 Y	35:29	0.87
13C-1,2,3,4,6,7,8-HpCDF	100	3.61e+06	0.44 Y	37:19	0.68
13C-1,2,3,4,7,8,9-HpCDF	100	3.25e+06	0.45 Y	39:04	0.61

13C-OCDF	200	7.57e+06	0.89 Y	42:05	0.71
37Cl-2,3,7,8-TCDD	40.0	2.97e+06		26:54	1.12
13C-1,2,3,4-TCDD	100	6.60e+06	0.82 Y	26:20	1.00
13C-1,2,3,4-TCDF	100	1.01e+07	0.79 Y	24:56	1.00
13C-1,2,3,4,6,9-HxCDF	100	5.33e+06	0.49 Y	34:11	1.00

Filename: 160805D1 S: 6 Acquired: 5-AUG-16 16:39:46
 Run: 160805D1 Analyte: Cal: 1613VG7-8-5-16 Results:
 Sample text: ST160805D1-6 1613 CSS 15J1909

Name	Amount	Resp	RA	RT	RP	RRF
2,3,7,8-TCDD	300	2.56e+07	0.79 Y	26:55	-	1.17
1,2,3,7,8-PeCDD	1500	1.06e+08	0.63 Y	31:21	-	1.01
1,2,3,4,7,8-HxCDD	1500	8.61e+07	1.20 Y	34:41	-	0.97
1,2,3,6,7,8-HxCDD	1500	9.34e+07	1.21 Y	34:48	-	1.10
1,2,3,7,8,9-HxCDD	1500	8.54e+07	1.18 Y	35:06	-	1.03
1,2,3,4,6,7,8-HpCDD	1500	6.89e+07	1.01 Y	38:32	-	1.04
OCDD	3000	1.36e+08	0.89 Y	41:52	-	0.97
2,3,7,8-TCDF	300	2.89e+07	0.79 Y	26:09	-	1.03
1,2,3,7,8-PeCDF	1500	1.50e+08	1.57 Y	30:11	-	1.02
2,3,4,7,8-PeCDF	1500	1.51e+08	1.54 Y	31:04	-	0.90
1,2,3,4,7,8-HxCDF	1500	1.03e+08	1.19 Y	33:47	-	1.05
1,2,3,6,7,8-HxCDF	1500	1.07e+08	1.19 Y	33:55	-	1.06
2,3,4,6,7,8-HxCDF	1500	9.63e+07	1.17 Y	34:31	-	1.10
1,2,3,7,8,9-HxCDF	1500	8.78e+07	1.20 Y	35:30	-	1.04
1,2,3,4,6,7,8-HpCDF	1500	8.35e+07	0.98 Y	37:21	-	1.31
1,2,3,4,7,8,9-HpCDF	1500	7.19e+07	0.99 Y	39:06	-	1.22
OCDF	3000	1.51e+08	0.90 Y	42:06	-	0.96
Total Tetra-Dioxins	0.00	-	- n	-	-	1.17
TCDD EMPC	0.00	-	- n	-	-	1.17
Total Penta-Dioxins	0.00	-	- n	-	-	1.01
PeCDD EMPC	0.00	-	- n	-	-	1.01
Total Hexa-Dioxins	0.00	-	- n	-	-	1.03
HxCDD EMPC	0.00	-	- n	-	-	1.03
Total Hepta-Dioxins	0.00	-	- n	-	-	1.04
HpCDD EMPC	0.00	-	- n	-	-	1.04
Total Tetra-Furans	0.00	-	- n	-	-	1.03
TCDF EMPC	0.00	-	- n	-	-	1.03
1st Func. Penta-Furans	0.00	-	- n	-	-	0.95
1st Func. PeCDF EMPC	0.00	-	- n	-	-	0.95
Total Penta-Furans	0.00	-	- n	-	-	0.95
PeCDF EMPC	0.00	-	- n	-	-	0.95
Total Hexa-Furans	0.00	-	- n	-	-	1.06
HxCDF EMPC	0.00	-	- n	-	-	1.06
Total Hepta-Furans	0.00	-	- n	-	-	1.27
HpCDF EMPC	0.00	-	- n	-	-	1.27
13C-2,3,7,8-TCDD	100	7.28e+06	0.78 Y	26:54	-	1.09
13C-1,2,3,7,8-PeCDD	100	7.01e+06	0.63 Y	31:20	-	1.05
13C-1,2,3,4,7,8-HxCDD	100	5.90e+06	1.25 Y	34:40	-	1.06
13C-1,2,3,6,7,8-HxCDD	100	5.68e+06	1.24 Y	34:47	-	1.02
13C-1,2,3,7,8,9-HxCDD	100	5.50e+06	1.24 Y	35:05	-	0.99

13C-1,2,3,4,6,7,8-HpCDD	100	4.43e+06	1.02 Y	38:31	-	0.80
13C-OCDD	200	9.30e+06	0.90 Y	41:51	-	0.84
13C-2,3,7,8-TCDF	100	9.32e+06	0.80 Y	26:08	-	0.93
13C-1,2,3,7,8-PeCDF	100	9.77e+06	1.58 Y	30:10	-	0.98
13C-2,3,4,7,8-PeCDF	100	1.12e+07	1.56 Y	31:03	-	1.12
13C-1,2,3,4,7,8-HxCDF	100	6.54e+06	0.50 Y	33:46	-	1.18
13C-1,2,3,6,7,8-HxCDF	100	6.71e+06	0.48 Y	33:54	-	1.21
13C-2,3,4,6,7,8-HxCDF	100	5.85e+06	0.48 Y	34:30	-	1.05
13C-1,2,3,7,8,9-HxCDF	100	5.66e+06	0.50 Y	35:29	-	1.02
13C-1,2,3,4,6,7,8-HpCDF	100	4.26e+06	0.43 Y	37:20	-	0.77
13C-1,2,3,4,7,8,9-HpCDF	100	3.92e+06	0.42 Y	39:05	-	0.71

13C-OCDF	200	1.04e+07	0.87 Y	42:06	-	0.94
37Cl-2,3,7,8-TCDD	200	1.75e+07		26:55	-	1.31
13C-1,2,3,4-TCDD	100	6.68e+06	0.80 Y	26:19	-	1.00
13C-1,2,3,4-TCDF	100	1.00e+07	0.79 Y	24:56	-	1.00
13C-1,2,3,4,6,9-HXCDF	100	5.55e+06	0.51 Y	34:11	-	1.00

FORM 5
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 8-5-16

RT Window Data Filename: 160805D1 S#4 Analysis Date: 5-AUG-16 Time: 15:04:06

ZB-5MS IS Data Filename: 160805D1 S#4 Analysis Date: 5-AUG-16 Time: 15:04:06

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:36	1,3,6,8-TCDF (F)	21:30
1,2,8,9-TCDD (L)	27:45	1,2,8,9-TCDF (L)	27:54
1,2,4,7,9-PeCDD (F)	29:19	1,3,4,6,8-PeCDF (F)	27:50
1,2,3,8,9-PeCDD (L)	31:43	1,2,3,8,9-PeCDF (L)	31:57
1,2,4,6,7,9-HxCDD (F)	33:07	1,2,3,4,6,8-HxCDF (F)	32:34
1,2,3,7,8,9-HxCDD (L)	35:06	1,2,3,7,8,9-HxCDF (L)	35:30
1,2,3,4,6,7,9-HpCDD (F)	37:42	1,2,3,4,6,7,8-HpCDF (F)	37:21
1,2,3,4,6,7,8-HpCDD (L)	38:31	1,2,3,4,7,8,9-HpCDF (L)	39:05

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT BETWEEN COMPARED PEAKS (1)

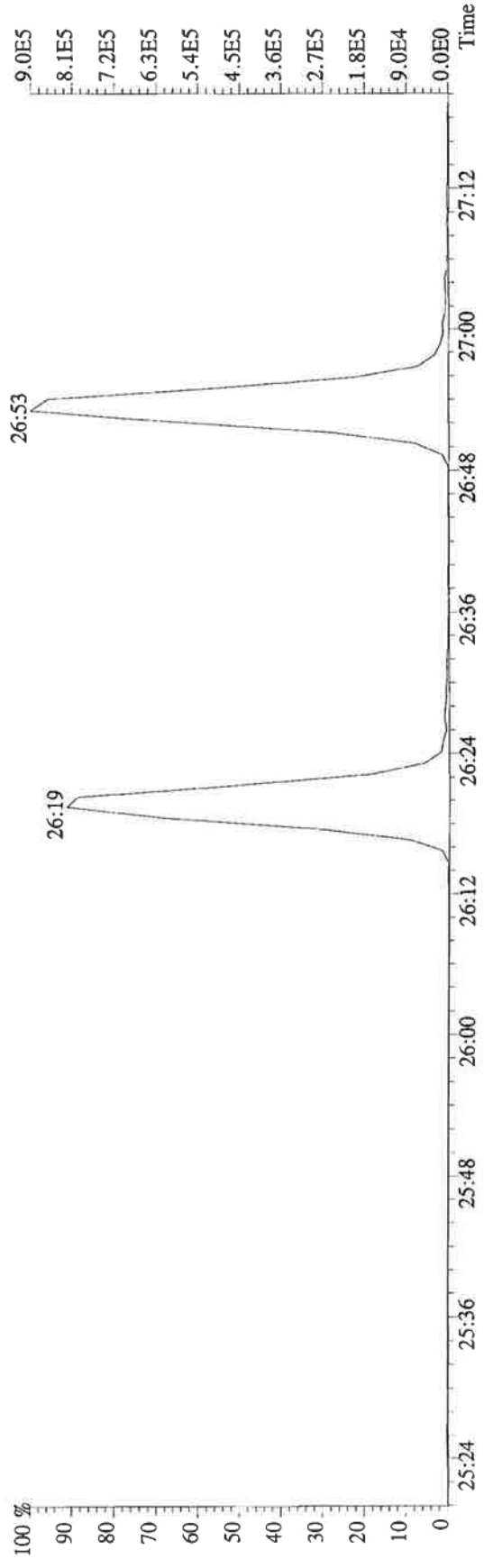
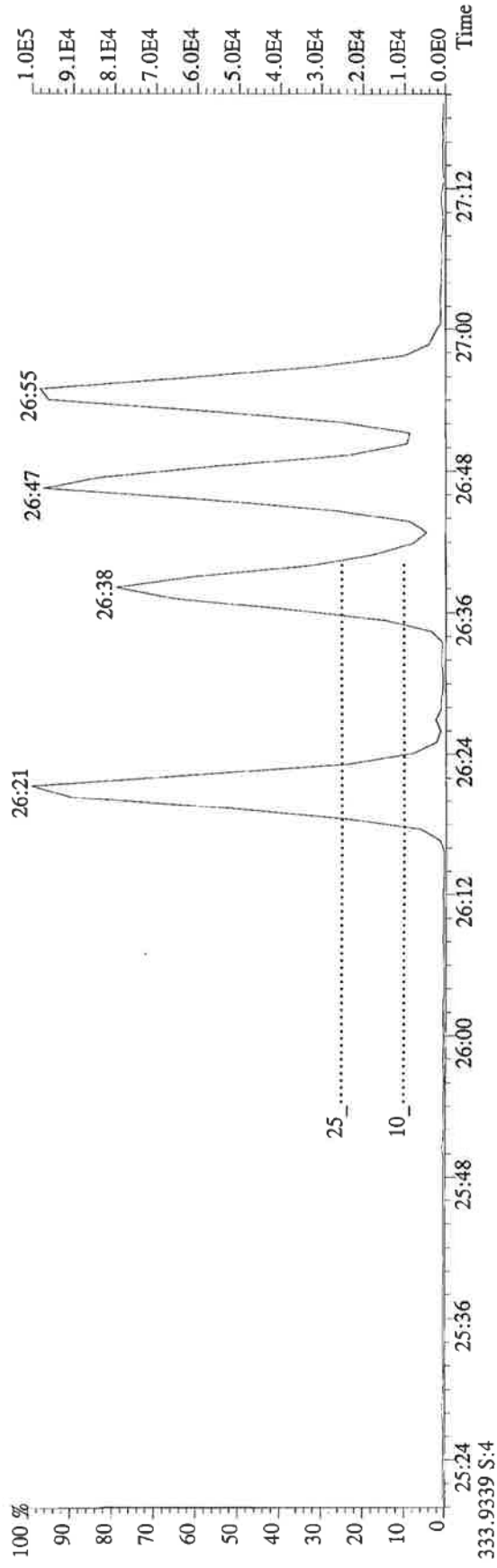
<25%

(1) To meet contract requirements, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: *DB*

Date: 8/8/16

File:160805D1 #1-552 Acq: 5-AUG-2016 15:04:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST160805D1-4 1613 CS3 16C3101 Exp:OCDD_DB5
321.8936 S:4



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:
Contract No.: SAS No.:
Initial Calibration Date: 8-5-16
Instrument ID: VG-7 GC Column ID: ZB-SMS
VER Data Filename: 160805D1 S#8 Analysis Date: 5-AUG-16 Time: 18:15:20

CCAL ID: SS160805D1-1

Analyst: DB
Date: 8/8/16

- (1) See Table 8, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
- (3) Contract-required concentration range as specified in Table 6, Method 1613.
- (4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	OC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
2,3,7,8-TCDD	M/M+2	0.83	0.65-0.89	Y	9.16	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	Y	49.6	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	Y	49.5	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.17	1.05-1.43	Y	47.9	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.16	1.05-1.43	Y	48.1	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.99	0.88-1.20	Y	46.8	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	Y	98.6	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	Y	8.82	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	Y	50.5	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	Y	52.2	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	Y	47.1	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.19	1.05-1.43	Y	48.9	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.19	1.05-1.43	Y	46.9	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.21	1.05-1.43	Y	48.8	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.00	0.88-1.20	Y	50.2	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	0.88-1.20	Y	49.1	43.0 - 58.0
OCDF	M+2/M+4	0.88	0.76-1.02	Y	96.7	63.0 - 159.0

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 160805D1 S#8 Analysis Date: 5-AUG-16 Time: 18:15:20

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC.	CONC.
					FOUND	RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65-0.89	Y	97.4	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	Y	97.5	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	Y	96.3	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	Y	95.8	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	Y	96.4	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	Y	100	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	Y	204	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.78	0.65-0.89	Y	100	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	Y	98.0	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	Y	102	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	Y	97.5	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.49	0.43-0.59	Y	97.8	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.48	0.43-0.59	Y	97.2	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.49	0.43-0.59	Y	96.1	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.42	0.37-0.51	Y	97.4	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.43	0.37-0.51	Y	98.6	77.0 - 129.0
13C-OCDF	M+2/M+4	0.88	0.76-1.02	Y	203	96.0 - 415.0

CLEANUP STANDARD (3)

37Cl-2,3,7,8-TCDD 9.05 7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

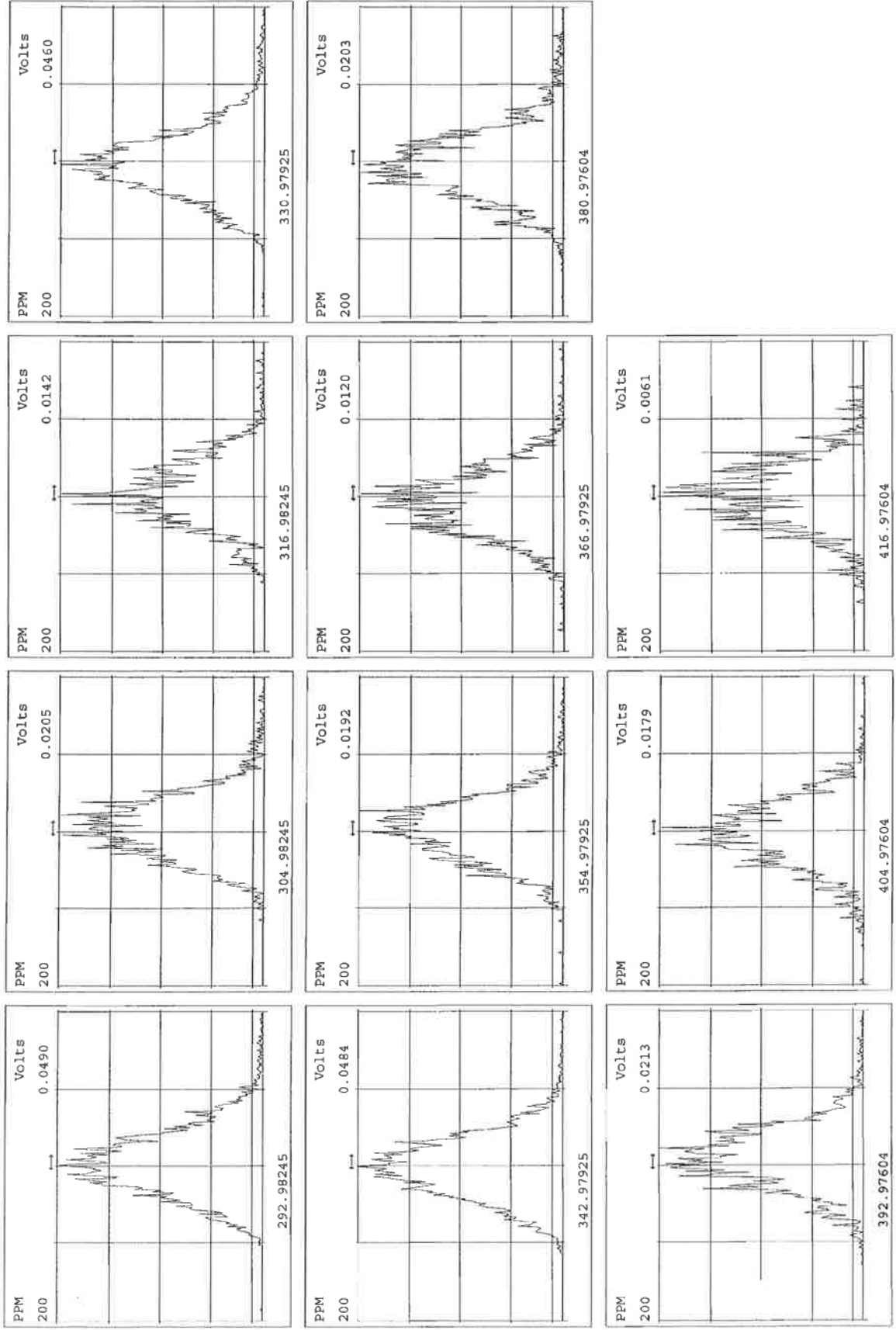
Date: 8/8/16

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	9.05e+05	0.83	Y	1.11	26:54	1.001	9.1593		2.5	*	Total Tetra-Dioxins	9.24	9.70	*	*	*
1,2,3,7,8-PeCDF	3.89e+06	0.64	Y	0.98	31:20	1.001	49.571		2.5	*	Total Penta-Dioxins	49.6	49.6	*	*	*
1,2,3,4,7,8-HxCDF	3.08e+06	1.28	Y	0.95	34:41	1.001	49.496		2.5	*	Total Hexa-Dioxins	146	146	*	*	*
1,2,3,6,7,8-HxCDF	3.13e+06	1.17	Y	1.05	34:48	1.001	47.892		2.5	*	Total Hepta-Dioxins	47.4	48.3	*	*	*
1,2,3,7,8,9-HxCDF	3.05e+06	1.16	Y	1.03	35:06	1.001	48.149		2.5	*	Total Tetra-Furans	8.92	9.45	*	*	*
1,2,3,4,6,7,8-HpCDF	2.37e+06	0.99	Y	1.01	38:31	1.000	46.771		2.5	*	Total Penta-Furans	104.63	105.34	*	*	*
OCCD	4.59e+06	0.89	Y	0.96	41:51	1.000	98.564		2.5	*	Total Hexa-Furans	192	193	*	*	*
2,3,7,8-TCDF	1.02e+06	0.79	Y	1.00	26:09	1.001	8.8224		2.5	*	Total Hepta-Furans	99.3	101	*	*	*
1,2,3,7,8-PeCDF	5.46e+06	1.62	Y	0.99	30:11	1.000	50.493		2.5	*						
2,3,4,7,8-PeCDF	5.98e+06	1.58	Y	0.87	31:04	1.000	52.189		2.5	*						
1,2,3,4,7,8-HxCDF	3.70e+06	1.18	Y	1.03	33:46	1.001	47.105		2.5	*						
1,2,3,6,7,8-HxCDF	4.01e+06	1.19	Y	1.03	33:54	1.000	48.883		2.5	*						
2,3,4,6,7,8-HxCDF	3.54e+06	1.19	Y	1.09	34:31	1.001	46.874		2.5	*						
1,2,3,7,8,9-HxCDF	3.11e+06	1.21	Y	1.01	35:29	1.000	48.833		2.5	*						
1,2,3,4,6,7,8-HpCDF	3.16e+06	1.00	Y	1.29	37:20	1.000	50.216		2.5	*						
1,2,3,4,7,8,9-HpCDF	2.58e+06	0.99	Y	1.17	39:05	1.000	49.051		2.5	*						
OCCD	5.07e+06	0.88	Y	0.96	42:06	1.000	96.722		2.5	*						
13C-2,3,7,8-TCDD	8.88e+06	0.81	Y	1.05	26:53	1.021	97.443				Rec					
13C-1,2,3,7,8-PeCDF	7.98e+06	0.62	Y	0.95	31:19	1.190	97.505				Qual					
13C-1,2,3,4,7,8-HxCDF	6.52e+06	1.28	Y	0.90	34:40	1.014	96.270				97.4					
13C-1,2,3,6,7,8-HxCDF	6.21e+06	1.27	Y	0.86	34:46	1.017	95.840				97.5					
13C-1,2,3,7,8,9-HxCDF	6.18e+06	1.24	Y	0.85	35:05	1.026	96.448				95.8					
13C-1,2,3,4,6,7,8-HpCDF	5.00e+06	1.04	Y	0.66	38:31	1.127	100.02				96.4					
13C-OCCD	9.68e+06	0.90	Y	0.63	41:50	1.224	204.30				100					
13C-2,3,7,8-TCDF	1.16e+07	0.78	Y	0.91	26:08	0.993	100.13				102					
13C-1,2,3,7,8-PeCDF	1.09e+07	1.63	Y	0.88	30:10	1.146	97.988				98.0					
13C-2,3,4,7,8-PeCDF	1.32e+07	1.60	Y	1.02	31:03	1.180	101.94				102					
13C-1,2,3,4,7,8-HxCDF	7.62e+06	0.50	Y	1.04	33:45	0.988	97.506				97.5					
13C-1,2,3,6,7,8-HxCDF	7.99e+06	0.49	Y	1.08	33:53	0.991	97.846				97.8					
13C-2,3,4,6,7,8-HxCDF	6.92e+06	0.48	Y	0.94	34:30	1.009	97.171				97.2					
13C-1,2,3,7,8,9-HxCDF	6.30e+06	0.49	Y	0.87	35:29	1.038	96.119				96.1					
13C-1,2,3,4,6,7,8-HpCDF	4.88e+06	0.42	Y	0.66	37:19	1.092	97.379				97.4					
13C-1,2,3,4,7,8,9-HpCDF	4.49e+06	0.43	Y	0.60	39:04	1.143	98.608				98.6					
13C-OCCD	1.09e+07	0.88	Y	0.71	42:05	1.231	203.30				102					

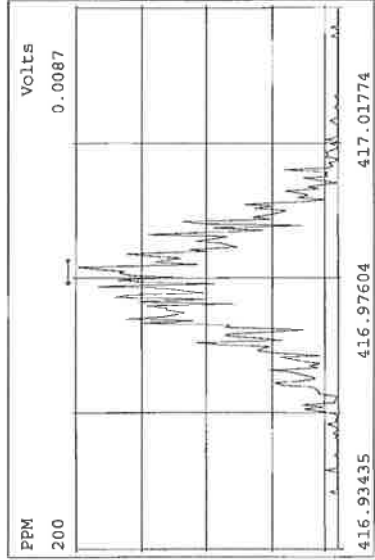
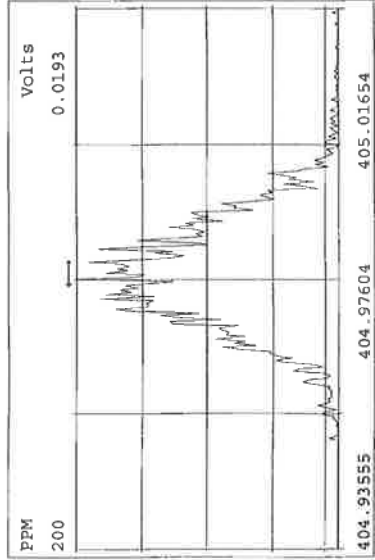
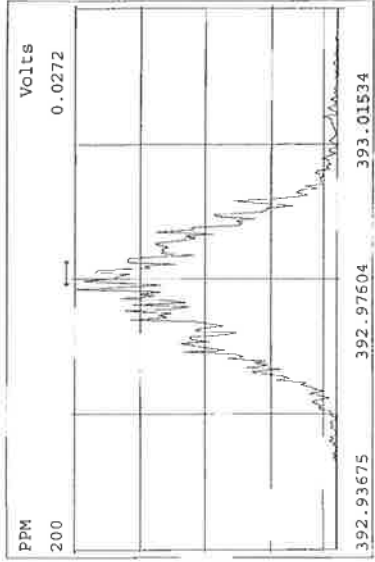
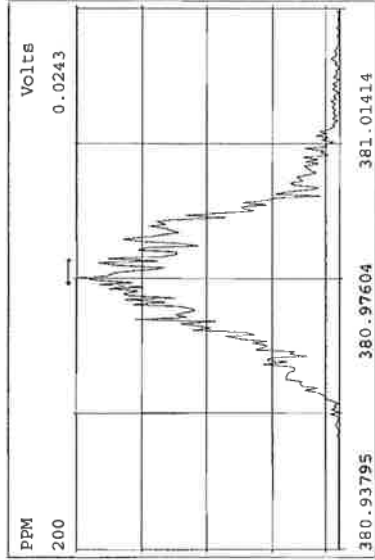
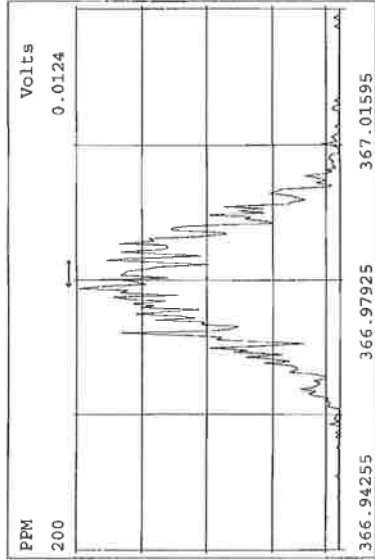
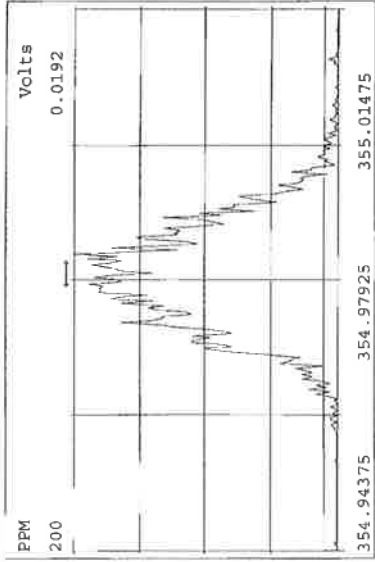
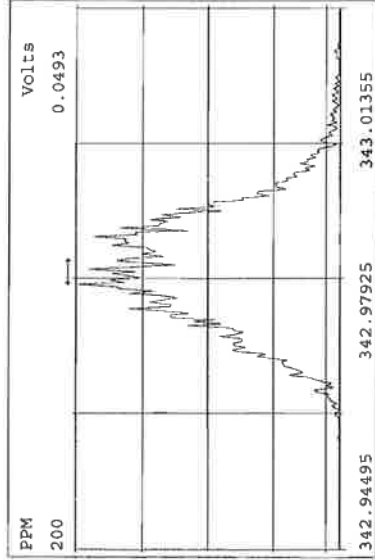
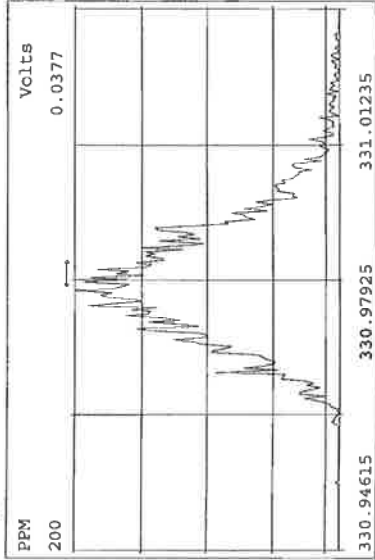
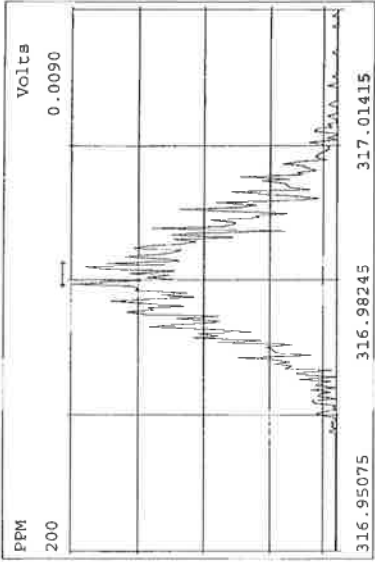
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 RS 13C-1,2,3,4-TCDF 1.27e+07 0.77 Y 1.00 24:56 * 100.00
 RS/RT 13C-1,2,3,4,6,9-HxCDF 7.54e+06 0.51 Y 1.00 34:11 * 100.00

Integrations by DB
 Analyzed by M
 Date: 8/8/16
 Date: 8/11/16

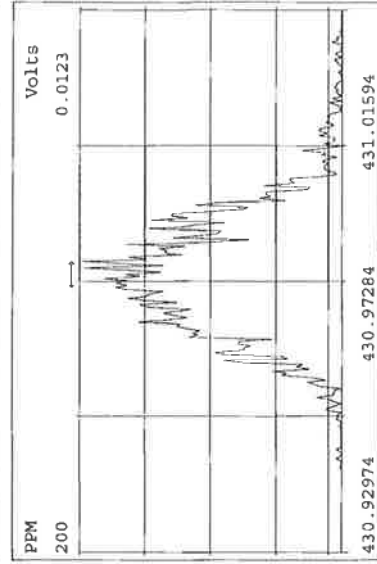
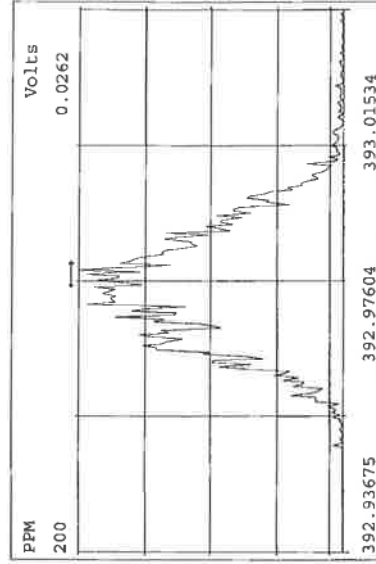
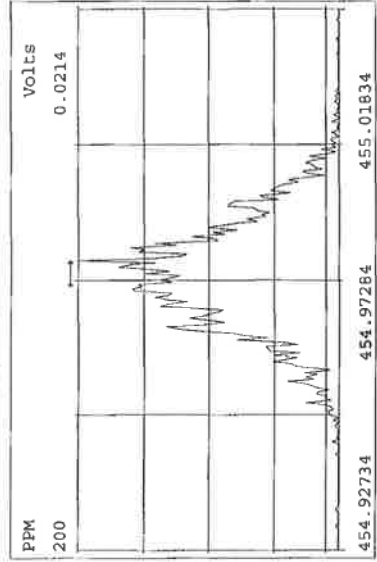
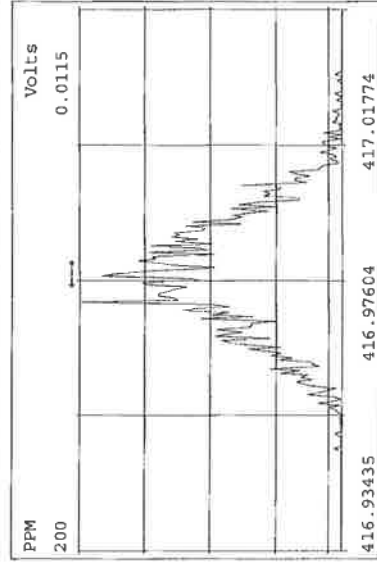
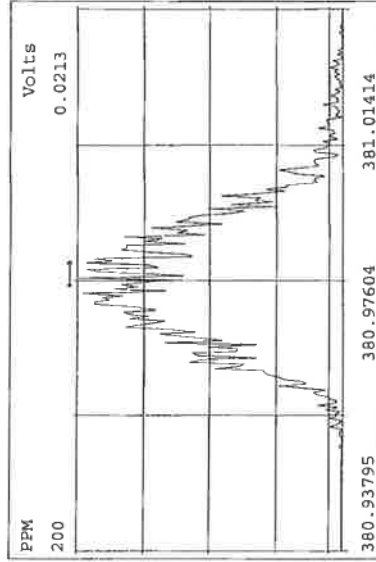
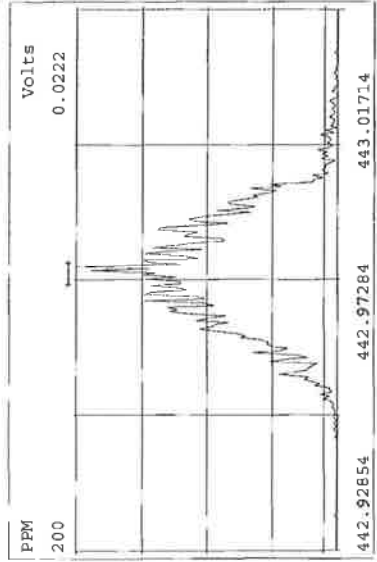
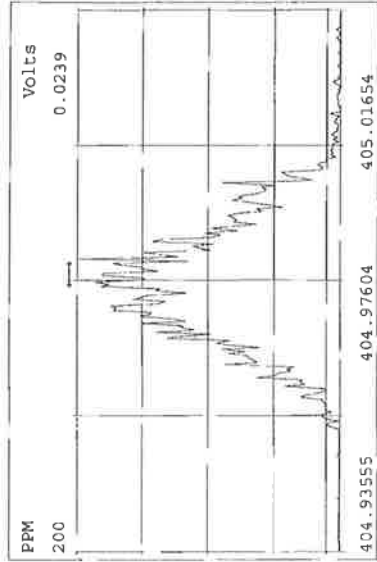
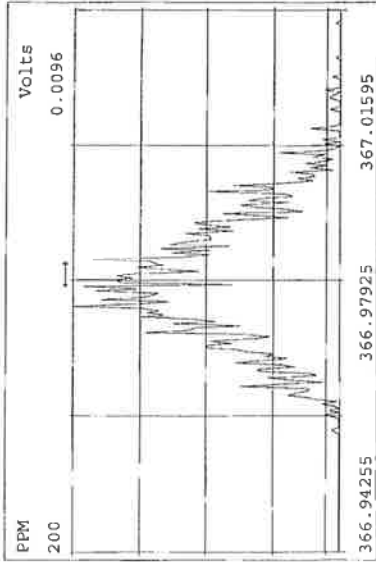
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Experiment:OCDD_DB5 Function:1 Reference:PFK



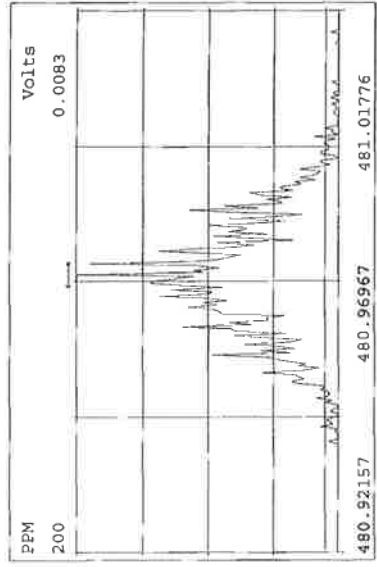
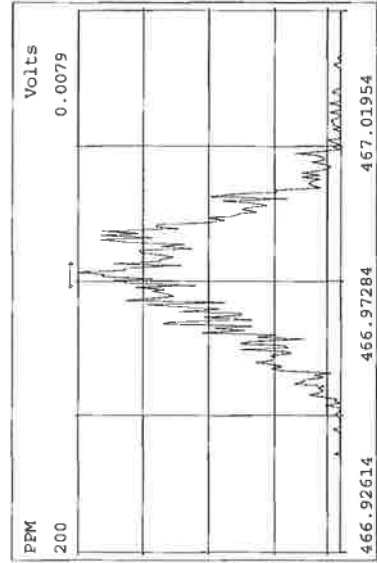
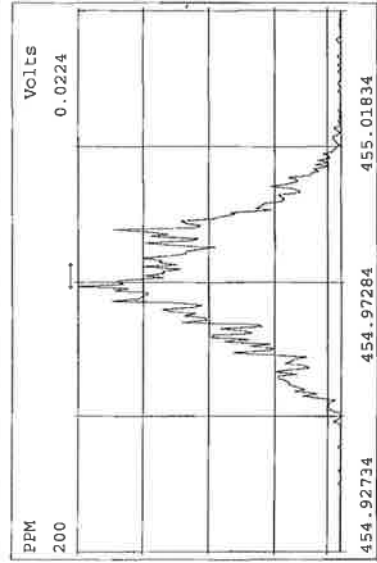
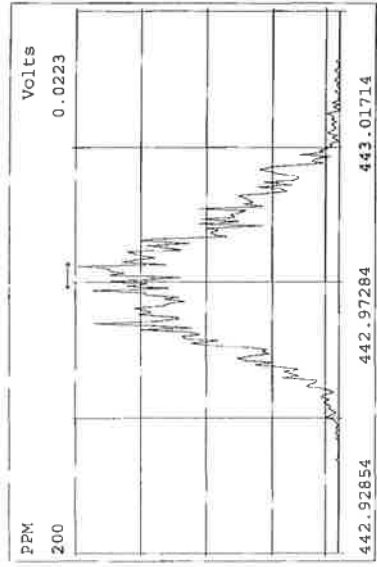
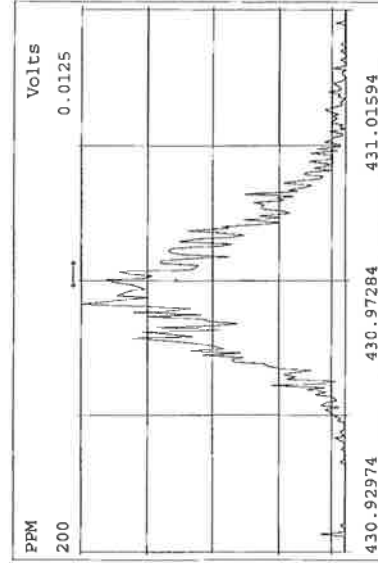
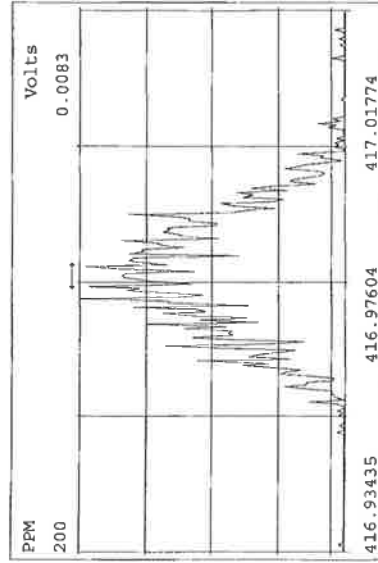
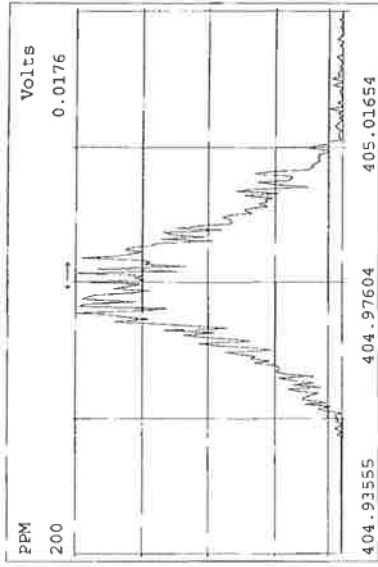
Peak Locate Examination: 5-AUG-2016:12:38 File:160805D1
Experiment:OCDD_DB5 Function:2 Reference:PFK



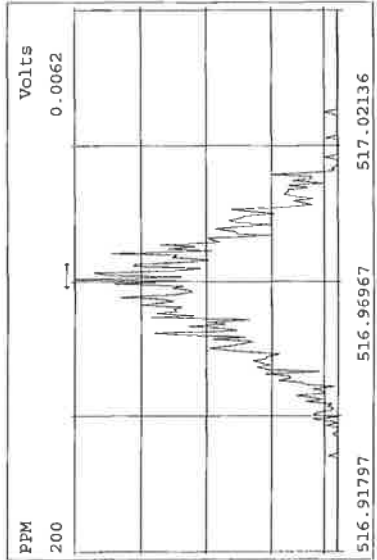
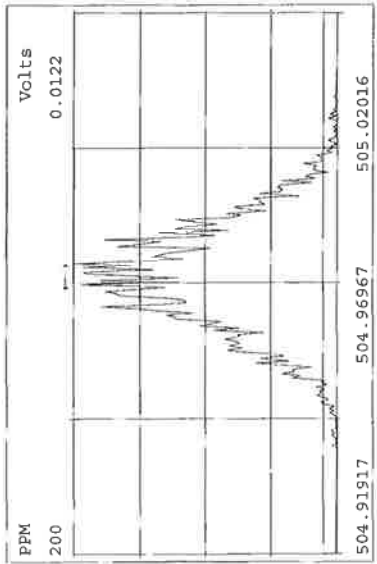
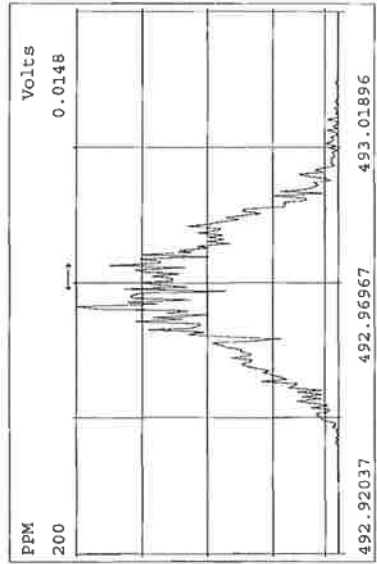
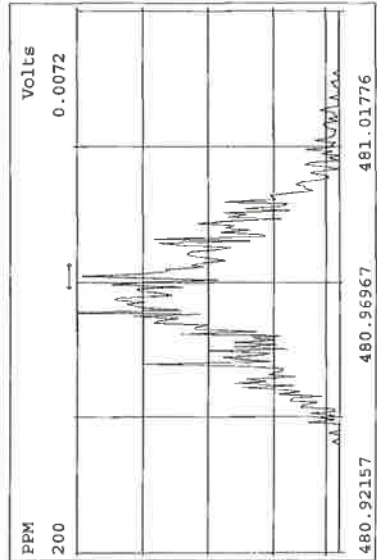
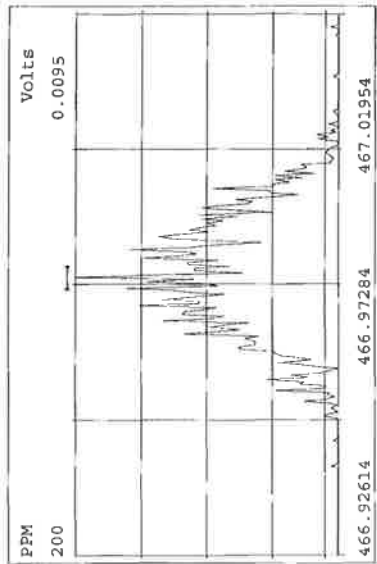
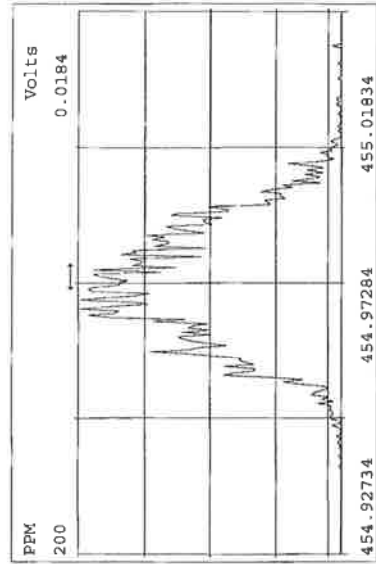
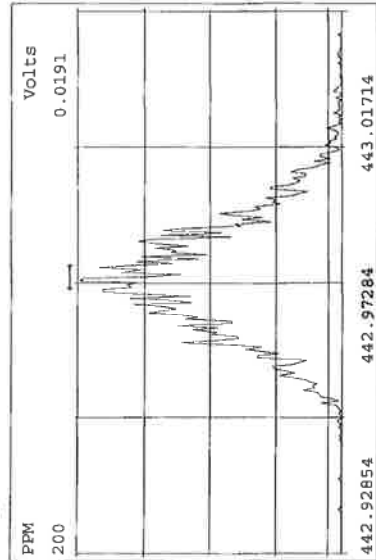
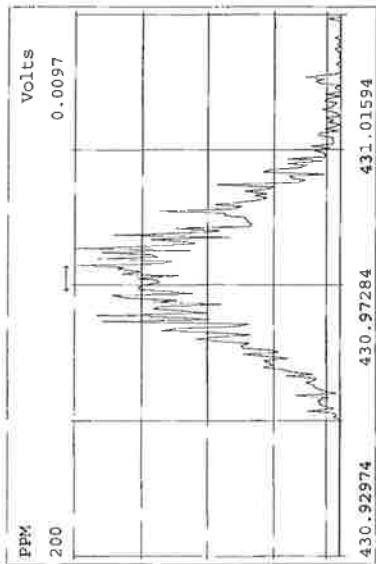
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Experiment:OCDD_DB5 Function:3 Reference:PFK



Peak Locate Examination: 5-AUG-2016:12:39 File:160805D1
Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination: 5-AUG-2016:12:39 File:160805D1
Experiment:OCDD_DB5 Function:5 Reference:PFK



Vista Analytical Laboratory - Injection Log Run file: 161103D2 Instrument ID: VG-7 GC Column ID: ZB-SMS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
161103D2	1	ST161103D2-1	DB	3-NOV-16	16:21:10	ST161103D2-1	NA
161103D2	2	B6J0188-BS1	DB	3-NOV-16	17:08:45	ST161103D2-1	NA
161103D2	3	SOLVENT BLANK	DB	3-NOV-16	17:56:26	ST161103D2-1	NA
161103D2	4	B6J0188-BLKI	DB	3-NOV-16	18:44:06	ST161103D2-1	NA
161103D2	5	1601350-01	DB	3-NOV-16	19:31:45	ST161103D2-1	NA
161103D2	6	1601350-02	DB	3-NOV-16	20:19:21	ST161103D2-1	NA
161103D2	7	1601352-01	DB	3-NOV-16	21:06:56	ST161103D2-1	NA
161103D2	8	1601354-12	DB	3-NOV-16	21:54:30	ST161103D2-1	NA
161103D2	9	1601354-13	DB	3-NOV-16	22:42:06	ST161103D2-1	NA
161103D2	10	1601354-14	DB	3-NOV-16	23:29:40	ST161103D2-1	NA
161103D2	11	1601376-01	DB	4-NOV-16	00:17:13	ST161103D2-1	NA
161103D2	12	1601378-01	DB	4-NOV-16	01:04:48	ST161103D2-1	NA
161103D2	13	SOLVENT BLANK	DB	4-NOV-16	01:52:27	ST161103D2-1	NA

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:
Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER Data Filename: 161103D2 SH1 Analysis Date: 3-NOV-16 Time: 16:21:10

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3)	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3)
1,2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	Y	9.57	7.8 - 12.9	0.65-0.89	Y	9.57	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	Y	45.7	39.0 - 65.0	0.54-0.72	Y	45.7	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	Y	48.0	39.0 - 64.0	1.05-1.43	Y	48.0	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.20	1.05-1.43	Y	44.6	39.0 - 64.0	1.05-1.43	Y	44.6	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	Y	44.3	41.0 - 61.0	1.05-1.43	Y	44.3	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	Y	46.4	43.0 - 58.0	0.88-1.20	Y	46.4	43.0 - 58.0
OCDD	M+2/M+4	0.88	0.76-1.02	Y	91.7	79.0 - 126.0	0.76-1.02	Y	91.7	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	Y	9.42	8.4 - 12.0	0.65-0.89	Y	9.42	8.4 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	Y	45.8	41.0 - 60.0	1.32-1.78	Y	45.8	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	Y	45.9	41.0 - 61.0	1.32-1.78	Y	45.9	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	Y	45.1	45.0 - 56.0	1.05-1.43	Y	45.1	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.16	1.05-1.43	Y	47.3	44.0 - 57.0	1.05-1.43	Y	47.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	Y	46.0	44.0 - 57.0	1.05-1.43	Y	46.0	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.21	1.05-1.43	Y	47.5	45.0 - 56.0	1.05-1.43	Y	47.5	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.99	0.86-1.20	Y	46.3	45.0 - 55.0	0.86-1.20	Y	46.3	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	0.88-1.20	Y	47.6	43.0 - 58.0	0.88-1.20	Y	47.6	43.0 - 58.0
OCDF	M+2/M+4	0.93	0.76-1.02	Y	86.5	63.0 - 159.0	0.76-1.02	Y	86.5	63.0 - 159.0

- (1) See Table 8, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
- (3) Contract-required concentration range as specified in Table 6, Method 1613.
- (4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 11/3/16

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER Data Filename: 161103D2 S#1 Analysis Date: 3-NOV-16 Time: 16:21:10

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	Y	96.6	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	Y	101	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	Y	93.2	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	Y	111	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.16	1.05-1.43	Y	103	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	Y	107	72.0 - 138.0
13C-OCDD	M/M+2	0.92	0.76-1.02	Y	218	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.77	0.65-0.89	Y	102	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	Y	101	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	Y	103	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.49	0.43-0.59	Y	91.8	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.49	0.43-0.59	Y	102	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.50	0.43-0.59	Y	103	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43-0.59	Y	90.6	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.41	0.37-0.51	Y	93.4	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.43	0.37-0.51	Y	88.6	77.0 - 129.0
13C-OCDF	M+2/M+4	0.87	0.76-1.02	Y	199	96.0 - 415.0
CLEANUP STANDARD (3)					9.18	7.9 - 12.7
37Cl-2,3,7,8-TCDD						

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 11/3/16

FORM 5
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 8-5-16

RT Window Data Filename: 161103D2 S#1 Analysis Date: 3-NOV-16 Time: 16:21:10

ZB-SMS IS Data Filename: 161103D2 S#1 Analysis Date: 3-NOV-16 Time: 16:21:10

DB_225 IS Data Filename: Analysis Date: Time:

ZB-SMS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:17	1,3,6,8-TCDF (F)	21:08
1,2,8,9-TCDD (L)	27:30	1,2,8,9-TCDF (L)	27:39
1,2,4,7,9-PeCDD (F)	29:06	1,3,4,6,8-PeCDF (F)	27:36
1,2,3,8,9-PeCDD (L)	31:30	1,2,3,8,9-PeCDF (L)	31:44
1,2,4,6,7,9-HxCDD (F)	32:54	1,2,3,4,6,8-HxCDF (F)	32:22
1,2,3,7,8,9-HxCDD (L)	34:53	1,2,3,7,8,9-HxCDF (L)	35:17
1,2,3,4,6,7,9-HpCDD (F)	37:31	1,2,3,4,6,7,8-HpCDF (F)	37:08
1,2,3,4,6,7,8-HpCDD (L)	38:22	1,2,3,4,7,8,9-HpCDF (L)	38:55

(F) = First eluting isomer (ZB-SMS); (L) = Last eluting isomer (ZB-SMS).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

* VALLEY HEIGHT BETWEEN COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DB

Date: 11/3/16

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 161103D2 S#1 Analysis Date: 3-NOV-16 Time: 16:21:10

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME		RRT	QC LIMITS (1)	RRT
	REFERENCE	RRT			
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	1.001	0.999-1.002	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	1.001	0.999-1.002	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	1.001	0.999-1.003	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	1.001	0.999-1.002	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	1.000	0.999-1.002	0.999-1.002
LABELED COMPOUNDS					
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	1.022	0.976-1.043	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.194	1.194	1.000-1.567	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.992	0.992	0.923-1.103	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.149	1.149	1.000-1.425	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.184	1.184	1.011-1.526	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	1.023	0.989-1.052	0.989-1.052

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613. 10/94

Analyst: DB
Date: 11/3/16

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7 GC Column ID: ZB-SMS

VER Data Filename: 161103D2 S#1 Analysis Date: 3-NOV-16 Time: 16:21:10

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.001	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613. 10/94

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.992	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.010	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.234	1.091-1.371

Analyst: *JB*

Date: 11/3/16

Client ID: 1613 CS3 16G2711
Lab ID: ST161103D2-1

Filename: 161103D2 S:1 Acq: 3-NOV-16 16:21:10
GC Column ID: ZB-5MS ICal: 1613VG7-8-5-16 wt/vol: 1.000

ConCal: ST161103D2-1
EndCAL: NA

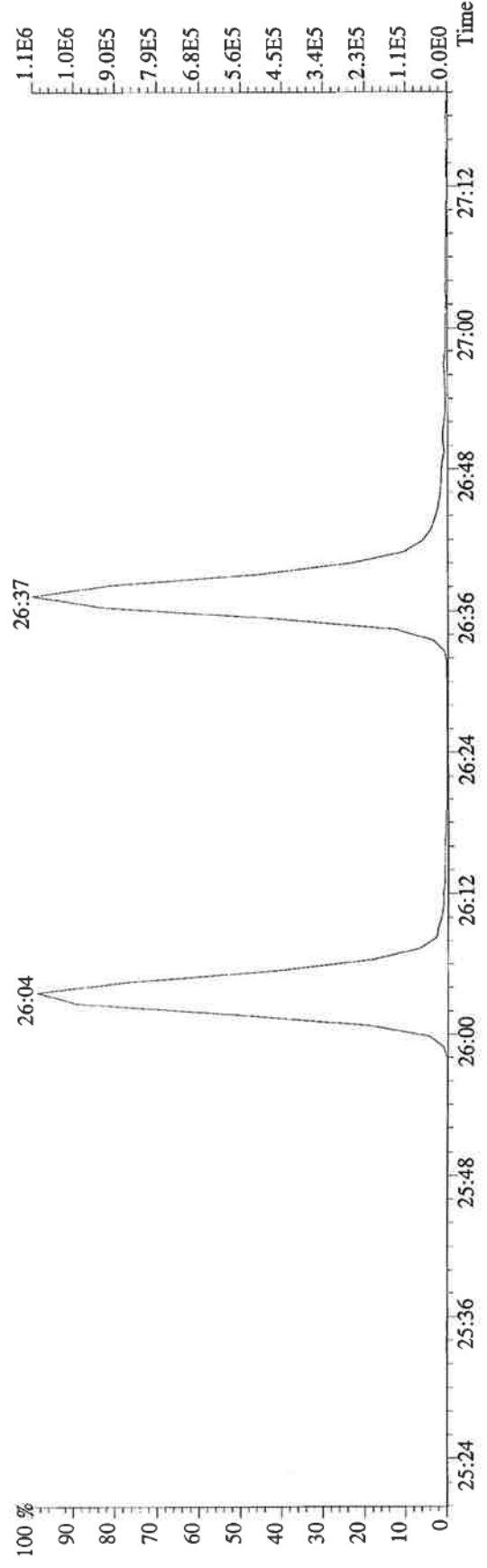
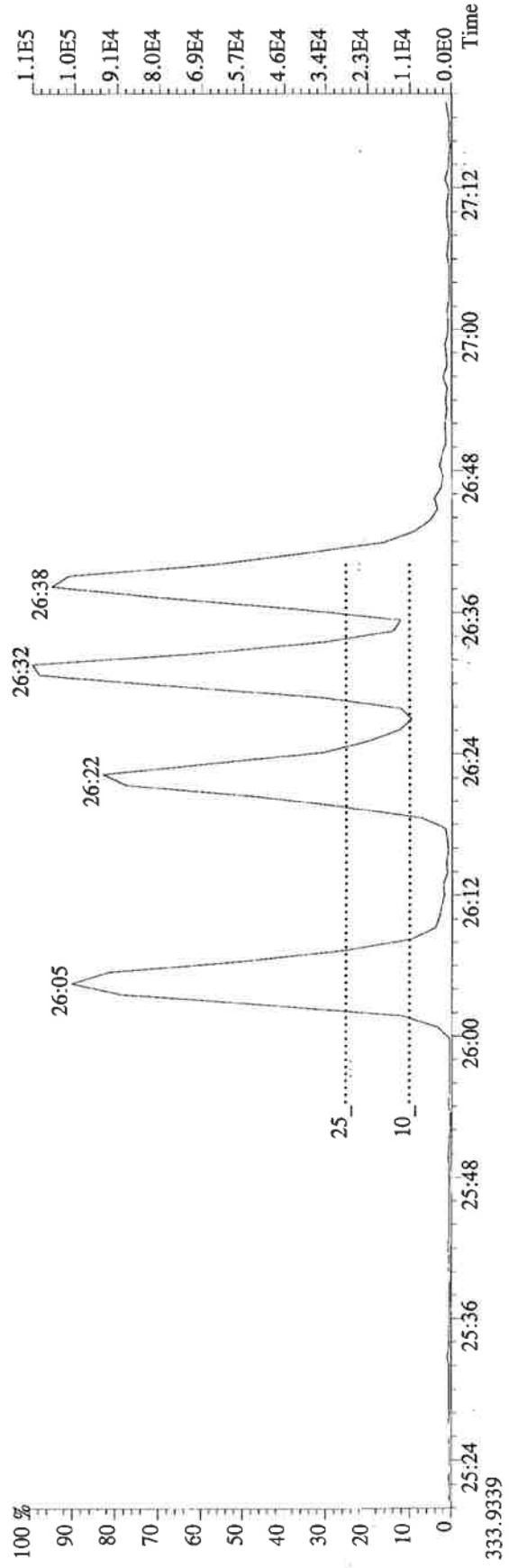
Page 1 of 1

Name	Resp	RA	RRF	RT	RRT	Conc	Q noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	8.39e+05	0.80	Y	1.11	26:39	1.001	9.5682	2.5	*	Total Tetra-Dioxins	52.7	53.4	*	*	*
1,2,3,7,8-PeCDD	3.33e+06	0.62	Y	0.98	31:08	1.001	45.732	2.5	*	Total Penta-Dioxins	142	142	*	*	*
1,2,3,4,7,8-HxCDD	2.26e+06	1.22	Y	0.95	34:27	1.000	47.953	2.5	*	Total Hexa-Dioxins	180	184	*	*	*
1,2,3,6,7,8-HxCDD	2.63e+06	1.20	Y	1.05	34:35	1.001	44.642	2.5	*	Total Hepta-Dioxins	116	119	*	*	*
1,2,3,7,8,9-HxCDD	2.33e+06	1.21	Y	1.03	34:53	1.000	44.263	2.5	*	Total Tetra-Furans	28.2	29.1	*	*	*
1,2,3,4,6,7,8-HpCDD	1.96e+06	1.03	Y	1.01	38:22	1.000	46.424	2.5	*	Total Penta-Furans	191.18	192.76	*	*	*
OCDD	3.56e+06	0.88	Y	0.96	41:43	1.000	91.700	2.5	*	Total Hexa-Furans	233	236	*	*	*
2,3,7,8-TCDF	9.42e+05	0.76	Y	1.00	25:52	1.001	9.4228	2.5	*	Total Hepta-Furans	94.6	97.9	*	*	*
1,2,3,7,8-PeCDF	4.32e+06	1.59	Y	0.99	29:58	1.001	45.787	2.5	*						
2,3,4,7,8-PeCDF	4.50e+06	1.55	Y	0.87	30:51	1.000	45.901	2.5	*						
1,2,3,4,7,8-HxCDF	2.61e+06	1.18	Y	1.03	33:33	1.000	45.082	2.5	*						
1,2,3,6,7,8-HxCDF	3.15e+06	1.16	Y	1.03	33:41	1.000	47.311	2.5	*						
2,3,4,6,7,8-HxCDF	2.89e+06	1.18	Y	1.09	34:18	1.000	46.012	2.5	*						
1,2,3,7,8,9-HxCDF	2.23e+06	1.21	Y	1.01	35:17	1.001	47.453	2.5	*						
1,2,3,4,6,7,8-HpCDF	2.19e+06	0.99	Y	1.29	37:08	1.001	46.296	2.5	*						
1,2,3,4,7,8,9-HpCDF	1.76e+06	0.99	Y	1.17	38:55	1.000	47.552	2.5	*						
OCDF	3.47e+06	0.93	Y	0.96	41:56	1.000	86.454	2.5	*						

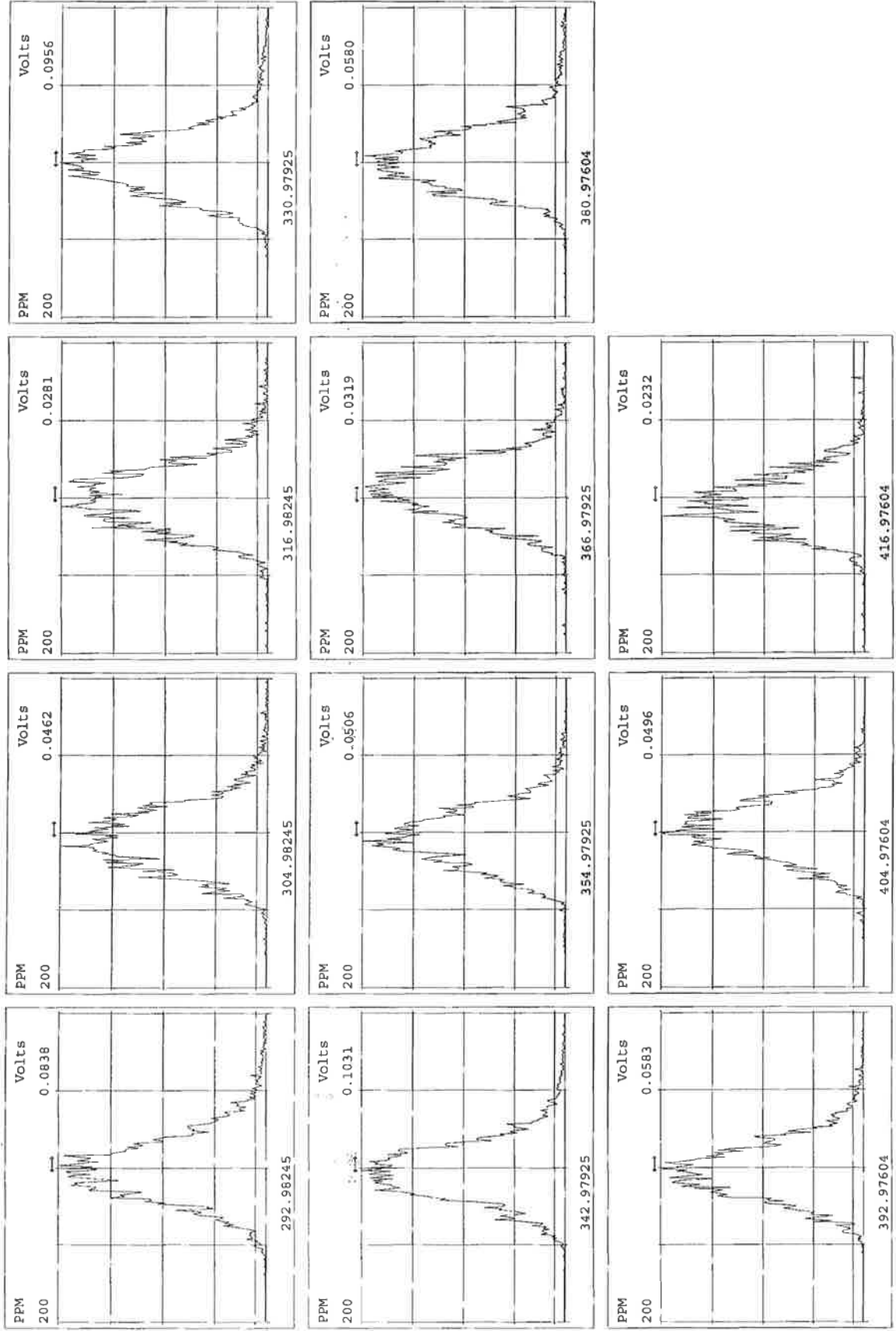
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13C-2,3,7,8-TCDD	96.6	
13C-1,2,3,7,8-PeCDD	101	
13C-1,2,3,4,7,8-HxCDD	93.2	
13C-1,2,3,6,7,8-HxCDD	111	
13C-1,2,3,7,8,9-HxCDD	103	
13C-1,2,3,4,7,8,9-HpCDD	107	
13C-OCDD	109	
13C-2,3,7,8-TCDF	102	
13C-1,2,3,7,8-PeCDF	101	
13C-2,3,4,7,8-PeCDF	103	
13C-1,2,3,4,7,8-HxCDF	91.8	
13C-1,2,3,6,7,8-HxCDF	102	
13C-2,3,4,6,7,8-HxCDF	103	
13C-1,2,3,7,8,9-HxCDF	90.6	
13C-1,2,3,4,6,7,8-HpCDF	93.4	
13C-1,2,3,4,7,8,9-HpCDF	88.6	
13C-OCDF	99.6	
C/Up	91.8	
37Cl-2,3,7,8-TCDD	9.1844	
13C-1,2,3,4-TCDD	100.00	
13C-1,2,3,4-TCDF	100.00	
13C-1,2,3,4,6,9-HxCDF	100.00	
5.89e+06	1.00	
33:58	*	

Integrations by DB
Analyst: DB
Date: 11/3/16
Reviewed by _____
Analyst: _____
Date: _____

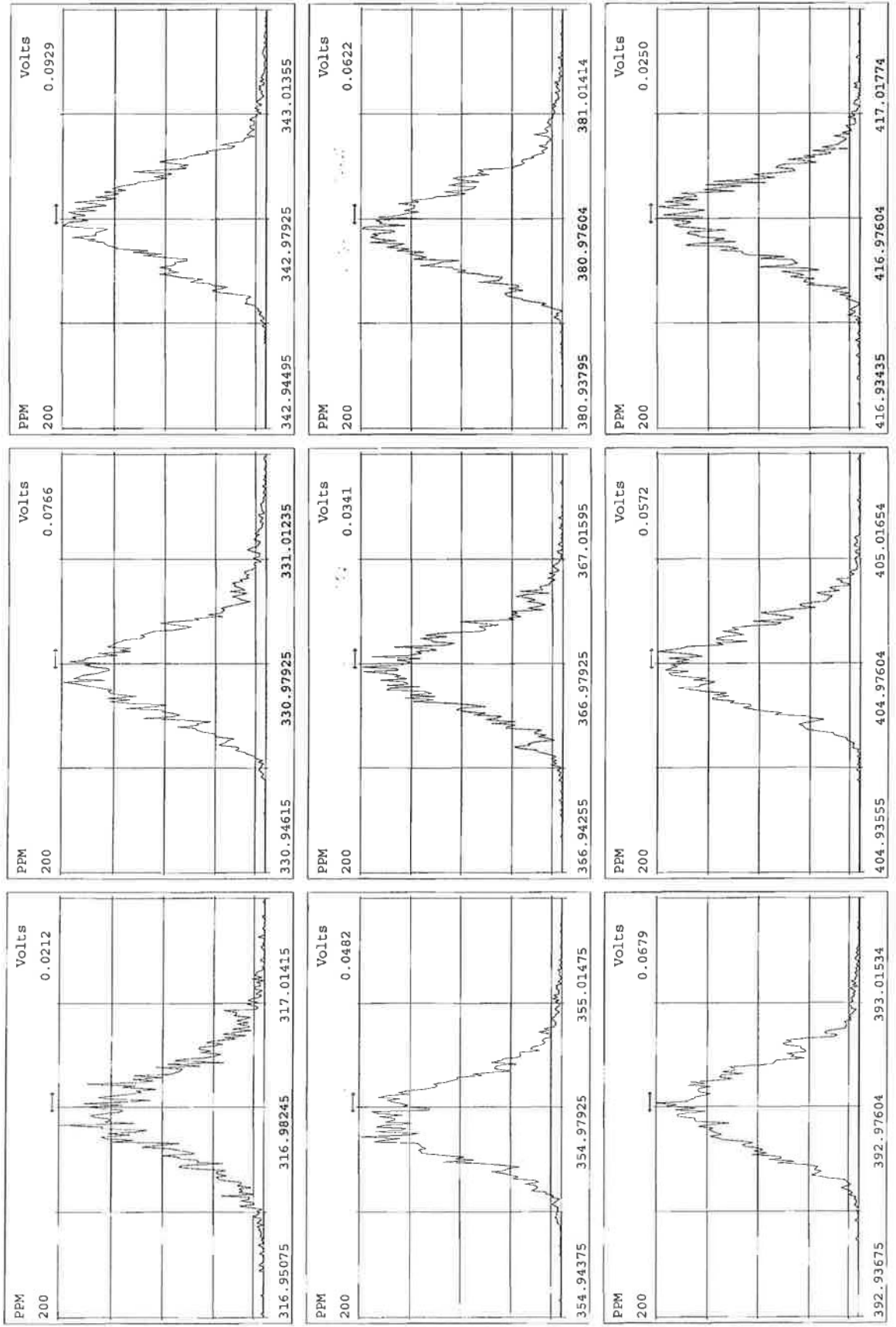
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 Sample#1 File Text: Vista Analytical Laboratory VG-7 Text:ST161103D2-1 1613 CS3 16G2711 Exp:OCDD_DB5
 321.8936



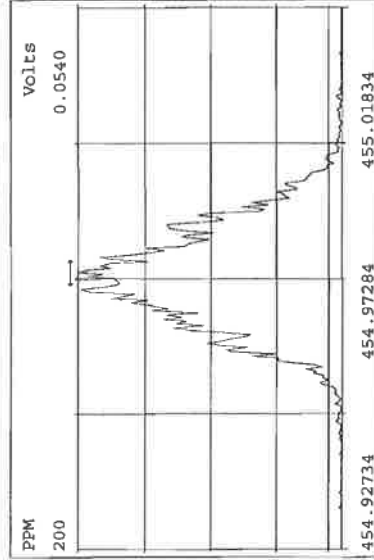
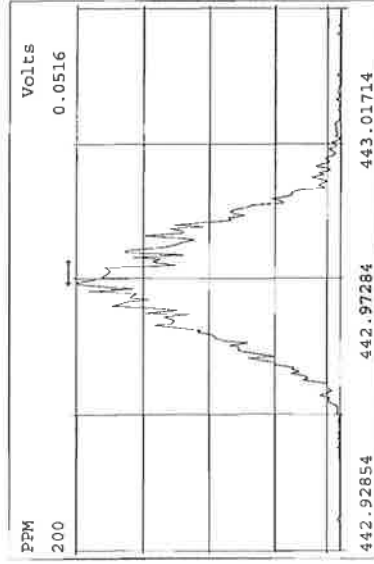
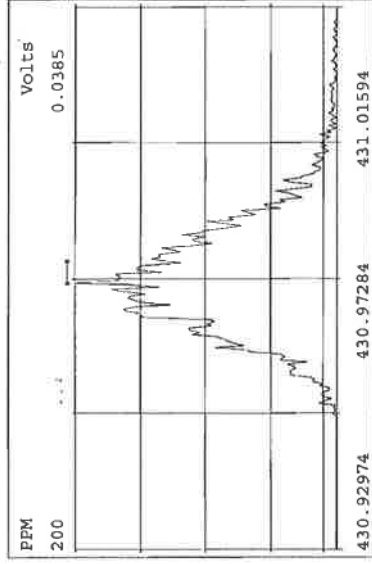
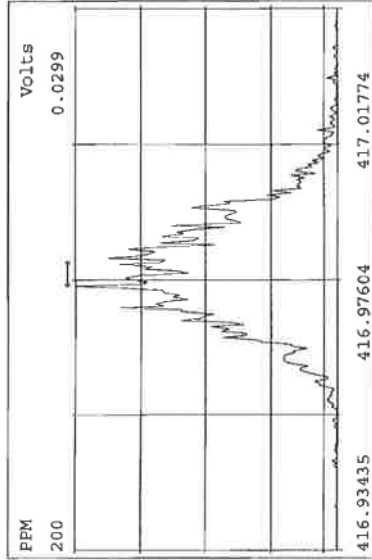
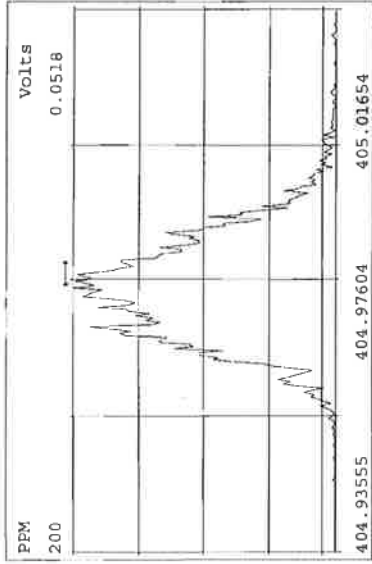
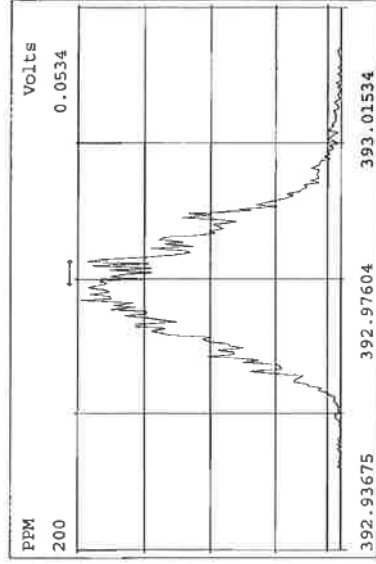
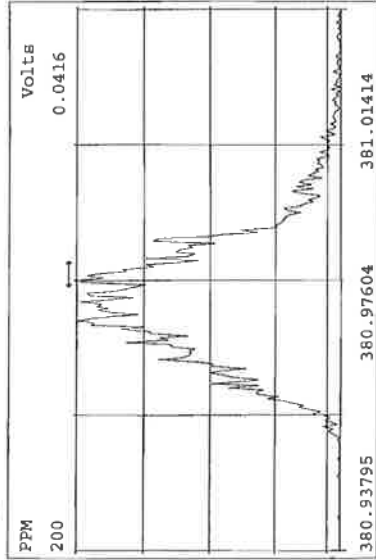
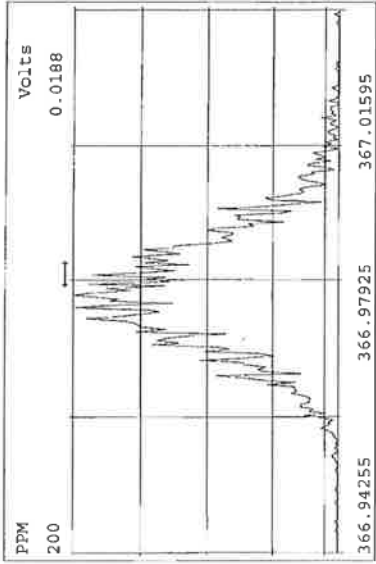
Peak Locate Examination: 3-NOV-2016:16:18 File:161103D2
Experiment:OCDD_DB5 Function:1 Reference:PFK



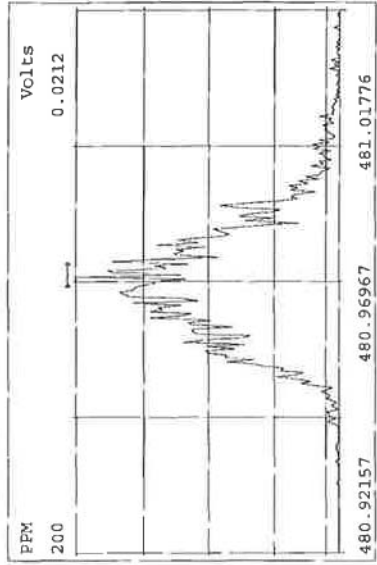
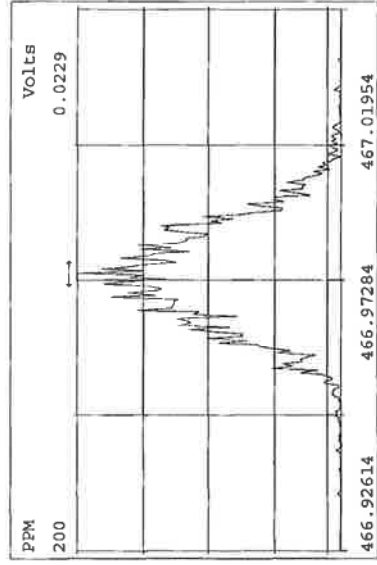
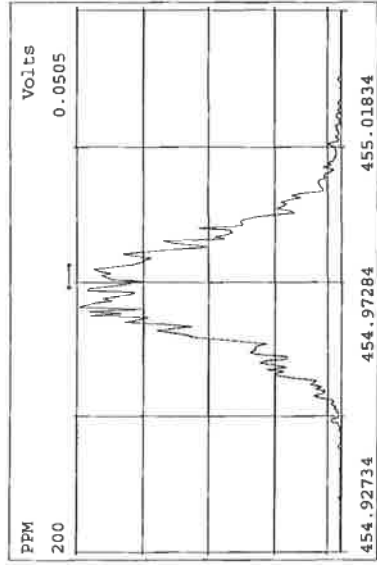
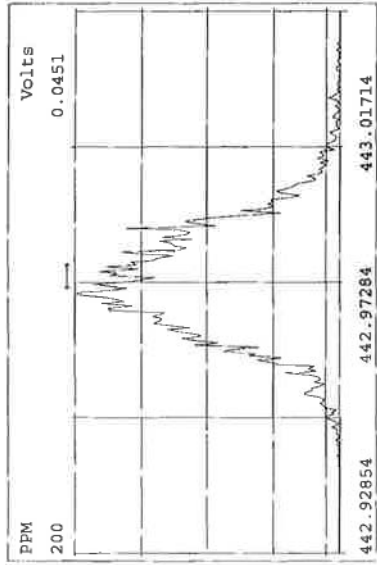
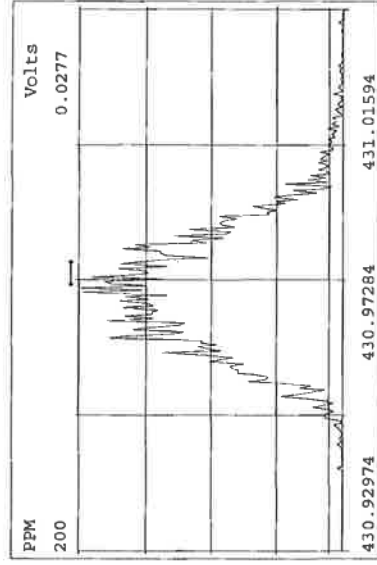
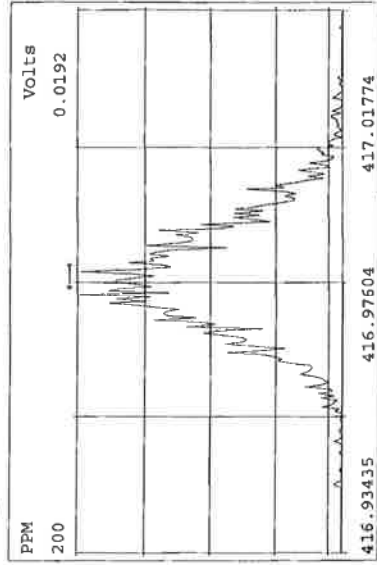
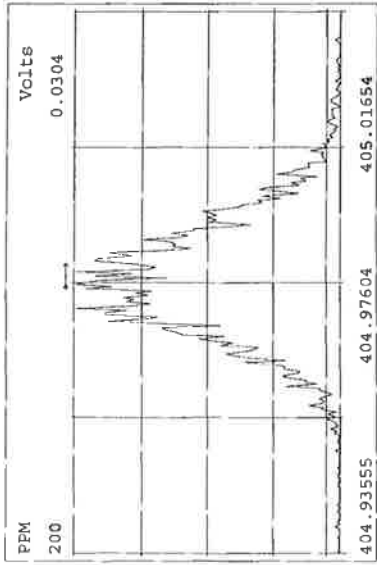
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 Experiment:OCDD_DB5 Function:2 Reference:PFK



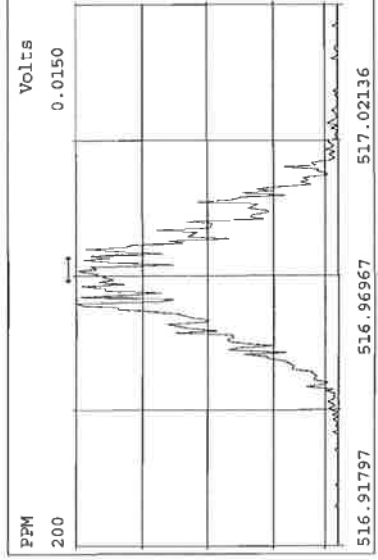
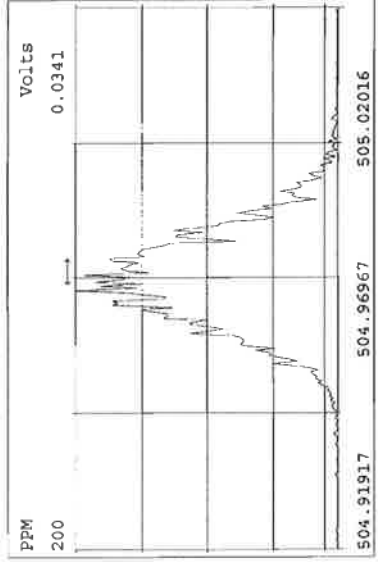
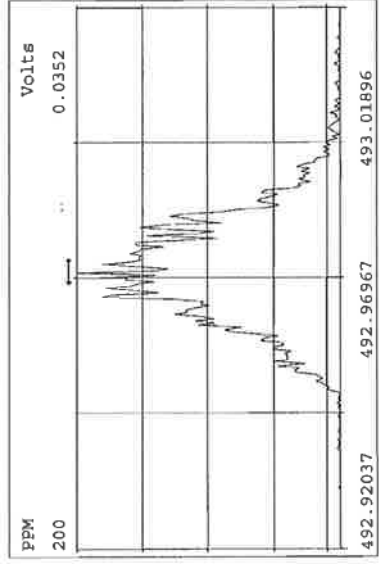
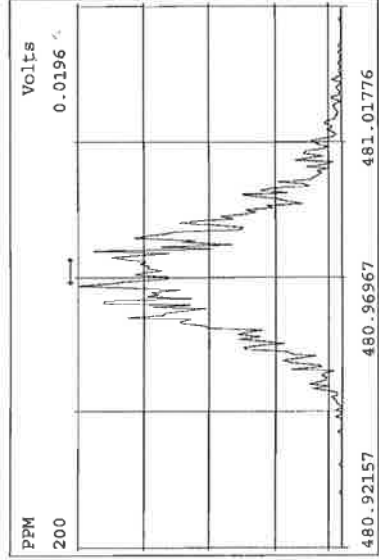
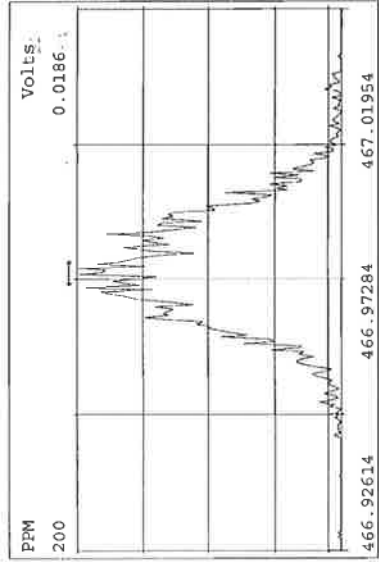
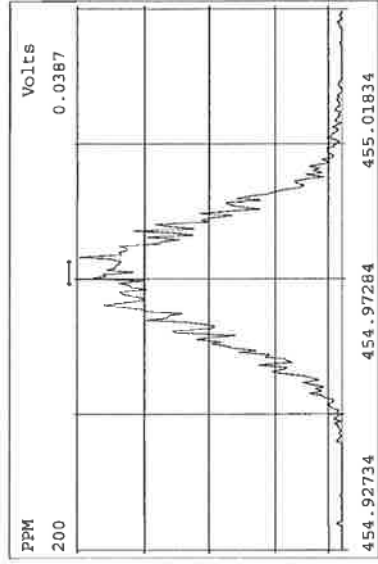
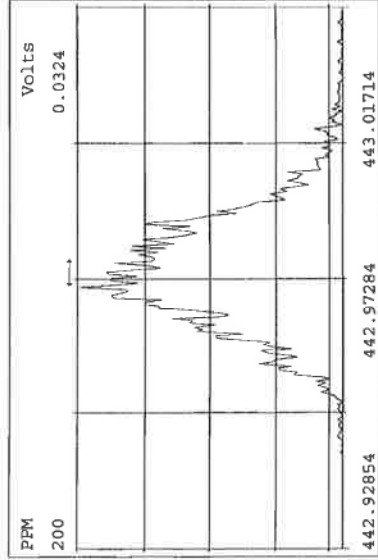
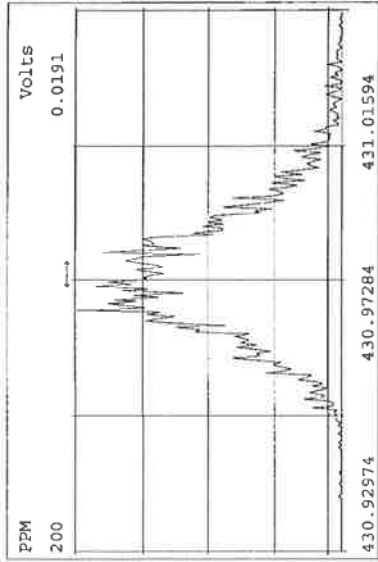
Peak Locate Examination: 3-NOV-2016:16:19 File:161103D2
Experiment:OCDD_DB5 Function:3 Reference:PFK



Peak Locate Examination: 3-NOV-2016:16:20 File:161103D2
Experiment:OCDD_DB5_Function:4 Reference:PFK



Peak Locate Examination: 3-NOV-2016:16:20 File:161103D2
Experiment:OCDD_DB5 Function:5 Reference:PFK



Vista Analytical Laboratory - Injection Log Run file: 161114D2 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
161114D2 1	ST161114D2-1	DB	14-NOV-16	22:05:24	ST161114D2-1	NA
161114D2 2	SOLVENT BLANK	DB	14-NOV-16	22:53:06	ST161114D2-1	NA
161114D2 3	1601354-04	DB	14-NOV-16	23:40:49	ST161114D2-1	NA
161114D2 4	1601354-05	DB	15-NOV-16	00:28:32	ST161114D2-1	NA
161114D2 5	1601354-06	DB	15-NOV-16	01:16:14	ST161114D2-1	NA
161114D2 6	1601354-07	DB	15-NOV-16	02:03:57	ST161114D2-1	NA
161114D2 7	1601354-08	DB	15-NOV-16	02:51:41	ST161114D2-1	NA
161114D2 8	1601354-09	DB	15-NOV-16	03:39:24	ST161114D2-1	NA
161114D2 9	1601354-10	DB	15-NOV-16	04:27:08	ST161114D2-1	NA
161114D2 10	1601354-11	DB	15-NOV-16	05:14:51	ST161114D2-1	NA
161114D2 11	SOLVENT BLANK	DB	15-NOV-16	06:02:34	ST161114D2-1	NA

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST161114D2-1

Contract No.:

SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER Data Filename: 161114D2 S#1 Analysis Date: 14-NOV-16 Time: 22:05:24

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)	M/M+2	M/M+4	QC LIMITS (2)		CONC. RANGE (3) (ng/mL)
									0.65-0.89	0.88-1.20	
2,3,7,8-TCDD	0.79	0.65-0.89	Y	Pass	9.54	7.8 - 12.9	M/M+2	M/M+4	0.65-0.89	0.88-1.20	7.8 - 12.9
1,2,3,7,8-PeCDD	0.62	0.54-0.72	Y	Pass	44.5	39.0 - 65.0	M/M+2	M/M+4	0.54-0.72	0.88-1.20	39.0 - 65.0
1,2,3,4,7,8-HxCDD	1.20	1.05-1.43	Y	Pass	47.2	39.0 - 64.0	M+2/M+4	M+2/M+4	1.05-1.43	0.88-1.20	39.0 - 64.0
1,2,3,6,7,8-HxCDD	1.21	1.05-1.43	Y	Pass	48.1	39.0 - 64.0	M+2/M+4	M+2/M+4	1.05-1.43	0.88-1.20	39.0 - 64.0
1,2,3,7,8,9-HxCDD	1.19	1.05-1.43	Y	Pass	45.6	41.0 - 61.0	M+2/M+4	M+2/M+4	1.05-1.43	0.88-1.20	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	1.02	0.88-1.20	Y	Pass	48.3	43.0 - 58.0	M+2/M+4	M+2/M+4	0.88-1.20	0.88-1.20	43.0 - 58.0
OCDD	0.87	0.76-1.02	Y	Pass	96.9	79.0 - 126.0	M+2/M+4	M+2/M+4	0.76-1.02	0.88-1.20	79.0 - 126.0
2,3,7,8-TCDF	0.79	0.65-0.89	Y	Pass	9.91	8.4 - 12.0	M/M+2	M/M+4	0.65-0.89	0.88-1.20	8.4 - 12.0
1,2,3,7,8-PeCDF	1.58	1.32-1.78	Y	Pass	47.6	41.0 - 60.0	M+2/M+4	M+2/M+4	1.32-1.78	0.88-1.20	41.0 - 60.0
2,3,4,7,8-PeCDF	1.62	1.32-1.78	Y	Pass	47.1	41.0 - 61.0	M+2/M+4	M+2/M+4	1.32-1.78	0.88-1.20	41.0 - 61.0
1,2,3,4,7,8-HxCDF	1.23	1.05-1.43	Y	Pass	49.9	45.0 - 56.0	M+2/M+4	M+2/M+4	1.05-1.43	0.88-1.20	45.0 - 56.0
1,2,3,6,7,8-HxCDF	1.20	1.05-1.43	Y	Pass	50.1	44.0 - 57.0	M+2/M+4	M+2/M+4	1.05-1.43	0.88-1.20	44.0 - 57.0
2,3,4,6,7,8-HxCDF	1.22	1.05-1.43	Y	Pass	49.1	44.0 - 57.0	M+2/M+4	M+2/M+4	1.05-1.43	0.88-1.20	44.0 - 57.0
1,2,3,7,8,9-HxCDF	1.25	1.05-1.43	Y	Pass	48.7	45.0 - 56.0	M+2/M+4	M+2/M+4	1.05-1.43	0.88-1.20	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	1.03	0.88-1.20	Y	Pass	48.9	45.0 - 55.0	M+2/M+4	M+2/M+4	0.88-1.20	0.88-1.20	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	1.04	0.88-1.20	Y	Pass	48.9	43.0 - 58.0	M+2/M+4	M+2/M+4	0.88-1.20	0.88-1.20	43.0 - 58.0
OCDF	0.88	0.76-1.02	Y	Pass	94.8	63.0 - 159.0	M+2/M+4	M+2/M+4	0.76-1.02	0.88-1.20	63.0 - 159.0

- (1) See Table 8, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
- (3) Contract-required concentration range as specified in Table 6, Method 1613.
- (4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB
Date: 11/5/16

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 161114D2 S#1 Analysis Date: 14-NOV-16 Time: 22:05:24

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	Y	97.2	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	Y	98.0	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	Y	102	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	Y	101	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05-1.43	Y	107	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88-1.20	Y	116	72.0 - 138.0
13C-OCDD	M/M+2	0.87	0.76-1.02	Y	220	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.77	0.65-0.89	Y	105	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	Y	100	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	Y	98.0	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	Y	97.3	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	Y	99.2	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	Y	106	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	Y	102	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.44	0.37-0.51	Y	104	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.42	0.37-0.51	Y	106	77.0 - 129.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	Y	210	96.0 - 415.0

CLEANUP STANDARD (3)

37Cl-2,3,7,8-TCDD 8.68 7.9 - 12.7

- (1) See Table 8, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified
- (3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 11/15/16

FORM 5
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 8-5-16

RT Window Data Filename: 161114D2 S#1 Analysis Date: 14-NOV-16 Time: 22:05:24

DB_225 IS Data Filename: 161114D2 S#1 Analysis Date: 14-NOV-16 Time: 22:05:24

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:55	1,3,6,8-TCDF (F)	20:43
1,2,8,9-TCDD (L)	27:17	1,2,8,9-TCDF (L)	27:27
1,2,4,7,9-PeCDD (F)	28:55	1,3,4,6,8-PeCDF (F)	27:23
1,2,3,8,9-PeCDD (L)	31:21	1,2,3,8,9-PeCDF (L)	31:35
1,2,4,6,7,9-HxCDD (F)	32:46	1,2,3,4,6,8-HxCDF (F)	32:13
1,2,3,7,8,9-HxCDD (L)	34:42	1,2,3,7,8,9-HxCDF (L)	35:05
1,2,3,4,6,7,9-HpCDD (F)	37:18	1,2,3,4,6,7,8-HpCDF (F)	36:55
1,2,3,4,6,7,8-HpCDD (L)	38:11	1,2,3,4,7,8,9-HpCDF (L)	38:44

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DB

Date: 11/15/16

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7 GC Column ID: ZB-SMS

VEB-Data, Filename: 161114D2 SH1 Analysis Date: 14-NOV-16 Time: 22:05:24

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME		QC LIMITS (1)
	REFERENCE	RRT	
2,3,7,8-TCDD	1.001	0.999-1.002	(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613. 10/94
1,2,3,7,8-PeCDD	1.001	0.999-1.002	
2,3,7,8-TCDF	1.001	0.999-1.003	
1,2,3,7,8-PeCDF	1.000	0.999-1.002	
2,3,4,7,8-PeCDF	1.000	0.999-1.002	
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	1.023	0.976-1.043	
13C-1,2,3,7,8-PeCDD	1.200	1.000-1.567	
13C-2,3,7,8-TCDF	0.992	0.923-1.103	
13C-1,2,3,7,8-PeCDF	1.154	1.000-1.425	
13C-2,3,4,7,8-PeCDF	1.189	1.011-1.526	
37Cl-2,3,7,8-TCDD	1.023	0.989-1.052	

Analyst: DB

Date: 11/15/16

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER Data Filename: 161114D2 S#1 Analysis Date: 14-NOV-16 Time: 22:05:24

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613. 10/94

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
LABELLED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.026	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.092	1.069-1.111
13C-1,2,3,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.226	1.085-1.365
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.233	1.091-1.371

Analyst: DB

Date: 11/15/16

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL	
2,3,7,8-TCDD	9.84e+05	0.79 Y	1.11	26:25	1.001	9.5428	*	2.5	*	*	Total tetra-Dioxins	51.7	52.3	*	*	*	
1,2,3,7,8-PeCDD	3.67e+06	0.62 Y	0.98	30:59	1.001	44.510	*	2.5	*	*	Total Penta-Dioxins	142	142	*	*	*	
1,2,3,4,7,8-HxCDD	3.13e+06	1.20 Y	0.95	34:17	1.000	47.208	*	2.5	*	*	Total Hexa-Dioxins	181	182	*	*	*	
1,2,3,6,7,8-HxCDD	3.34e+06	1.21 Y	1.05	34:24	1.000	48.111	*	2.5	*	*	Total Hepta-Dioxins	120	122	*	*	*	
1,2,3,7,8,9-HxCDD	3.21e+06	1.19 Y	1.03	34:42	1.000	45.583	*	2.5	*	*	Total Tetra-Furans	29.2	30.4	*	*	*	
1,2,3,4,6,7,8-HpCDD	2.84e+06	1.02 Y	1.01	38:11	1.000	48.253	*	2.5	*	*	Total Penta-Furans	199.81	201.31	*	*	*	
OCDD	4.87e+06	0.87 Y	0.96	41:28	1.000	96.852	*	2.5	*	*	Total Hexa-Furans	246	248	*	*	*	
2,3,7,8-TCDF	1.18e+06	0.79 Y	1.00	25:37	1.001	9.9150	*	2.5	*	*	Total Hepta-Furans	98.7	101	*	*	*	
1,2,3,7,8-PeCDF	5.15e+06	1.55 Y	0.55	29:48	1.000	47.572	*	2.5	*	*							
2,3,4,7,8-PeCDF	5.07e+06	1.62 Y	0.87	30:42	1.000	47.067	*	2.5	*	*							
1,2,3,4,7,8-HxCDF	3.93e+06	1.23 Y	1.03	33:24	1.000	49.937	*	2.5	*	*							
1,2,3,6,7,8-HxCDF	4.18e+06	1.20 Y	1.03	33:32	1.001	50.105	*	2.5	*	*							
2,3,4,6,7,8-HxCDF	4.07e+06	1.22 Y	1.09	34:08	1.000	49.116	*	2.5	*	*							
1,2,3,7,8,9-HxCDF	3.30e+06	1.25 Y	1.01	35:05	1.001	48.694	*	2.5	*	*							
1,2,3,4,6,7,8-HpCDF	3.29e+06	1.03 Y	1.29	36:55	1.000	48.921	*	2.5	*	*							
OCDF	2.77e+06	1.04 Y	1.17	38:44	1.001	48.920	*	2.5	*	*							
OCDF	5.15e+06	0.88 Y	0.96	41:41	1.000	94.814	*	2.5	*	*							
IS	13C-2,3,7,8-TCDD	9.27e+06	0.78 Y	1.05	26:24	1.023	97.166				Rec	97.2					
IS	13C-1,2,3,7,8-PeCDD	8.40e+06	0.61 Y	0.95	30:58	1.200	97.961				Qual	98.0					
IS	13C-1,2,3,4,7,8-HxCDD	6.95e+06	1.26 Y	0.90	34:17	1.014	102.28				102						
IS	13C-1,2,3,6,7,8-HxCDD	6.60e+06	1.24 Y	0.86	34:23	1.017	101.46				101						
IS	13C-1,2,3,7,8,9-HxCDD	6.87e+06	1.22 Y	0.85	34:41	1.026	106.80				107						
IS	13C-1,2,3,4,6,7,8-HpCDD	5.81e+06	1.01 Y	0.66	38:10	1.129	115.86				116						
IS	13C-OCDD	1.05e+07	0.87 Y	0.63	41:27	1.226	220.08				110						
IS	13C-2,3,7,8-TCDF	1.19e+07	0.77 Y	0.91	25:36	0.992	105.26				105						
IS	13C-1,2,3,7,8-PeCDF	1.09e+07	1.61 Y	0.88	29:47	1.154	100.11				100						
IS	13C-2,3,4,7,8-PeCDF	1.24e+07	1.55 Y	1.02	30:42	1.189	98.046				98.0						
IS	13C-1,2,3,4,7,8-HxCDF	7.63e+06	0.52 Y	1.04	33:23	0.988	97.311				97.3						
IS	13C-1,2,3,6,7,8-HxCDF	8.13e+06	0.51 Y	1.08	33:31	0.991	99.240				99.2						
IS	13C-2,3,4,6,7,8-HxCDF	7.60e+06	0.51 Y	0.94	34:07	1.009	106.37				106						
IS	13C-1,2,3,7,8,9-HxCDF	6.70e+06	0.51 Y	0.87	35:04	1.038	101.84				102						
IS	13C-1,2,3,4,6,7,8-HpCDF	5.22e+06	0.44 Y	0.66	36:54	1.092	103.70				104						
IS	13C-1,2,3,4,7,8,9-HpCDF	4.84e+06	0.42 Y	0.60	38:43	1.145	105.76				106						
IS	13C-OCDF	1.13e+07	0.89 Y	0.71	41:40	1.233	210.10				105						

C/Up 37Cl-2,3,7,8-TCDD 9.45e+05 1.20 26:25 1.023 8.6838 Reviewed by Integrations

RS/RT 13C-1,2,3,4-TCDD 9.06e+06 0.78 Y 1.00 25:49 * 100.00 by Analyst: *DB*

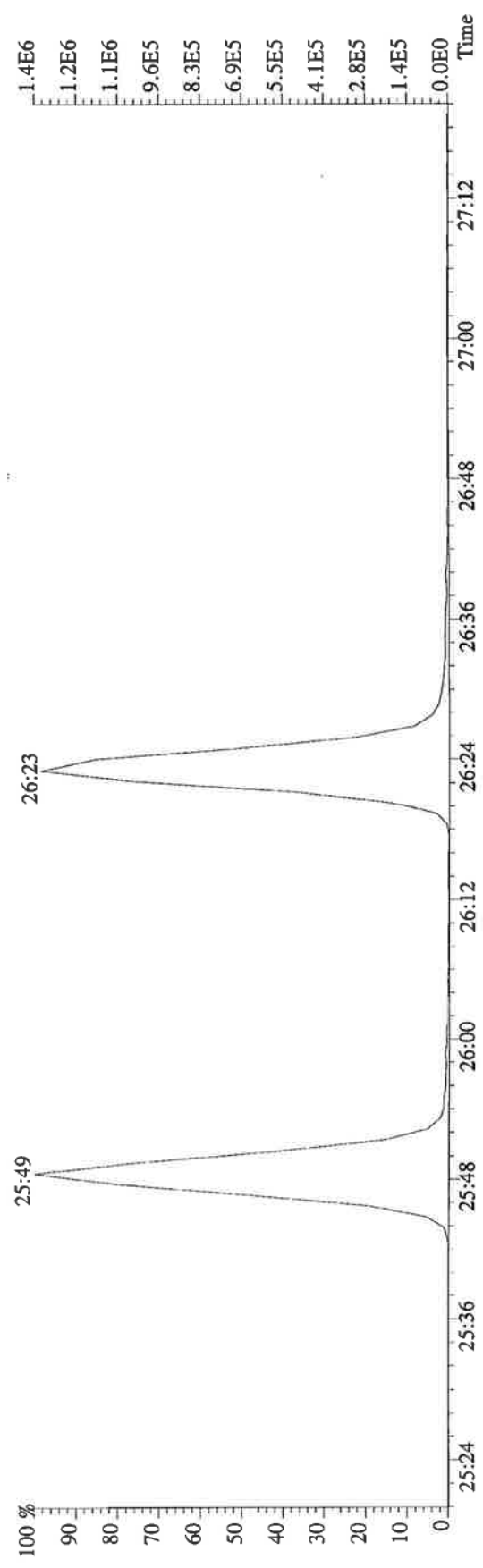
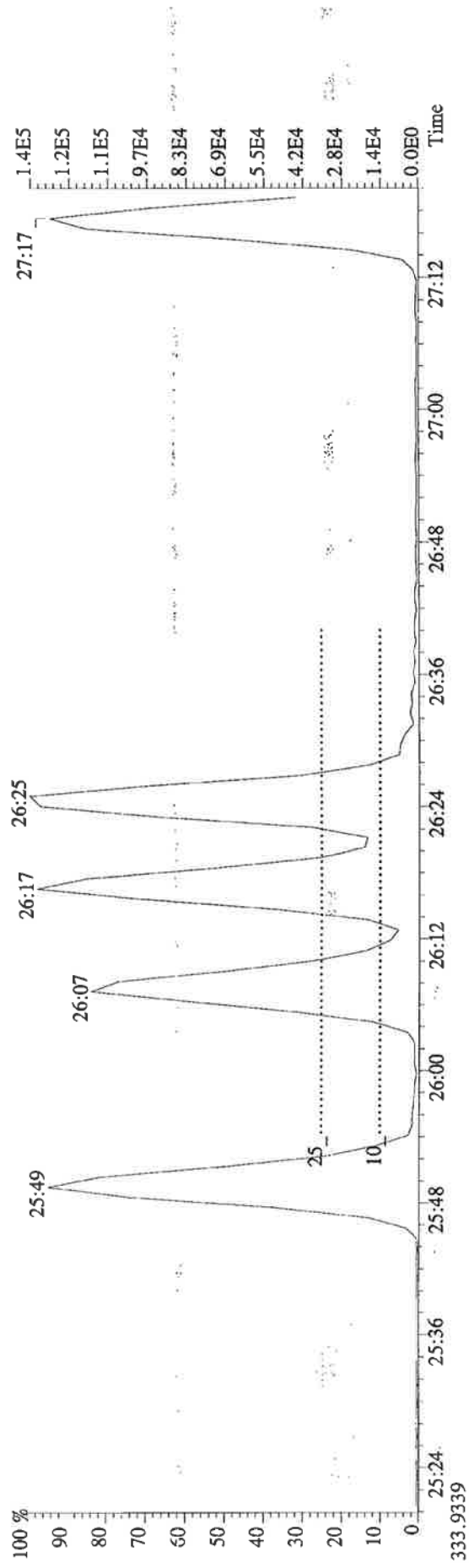
RS 13C-1,2,3,4-TCDF 1.24e+07 0.81 Y 1.00 24:20 * 100.00

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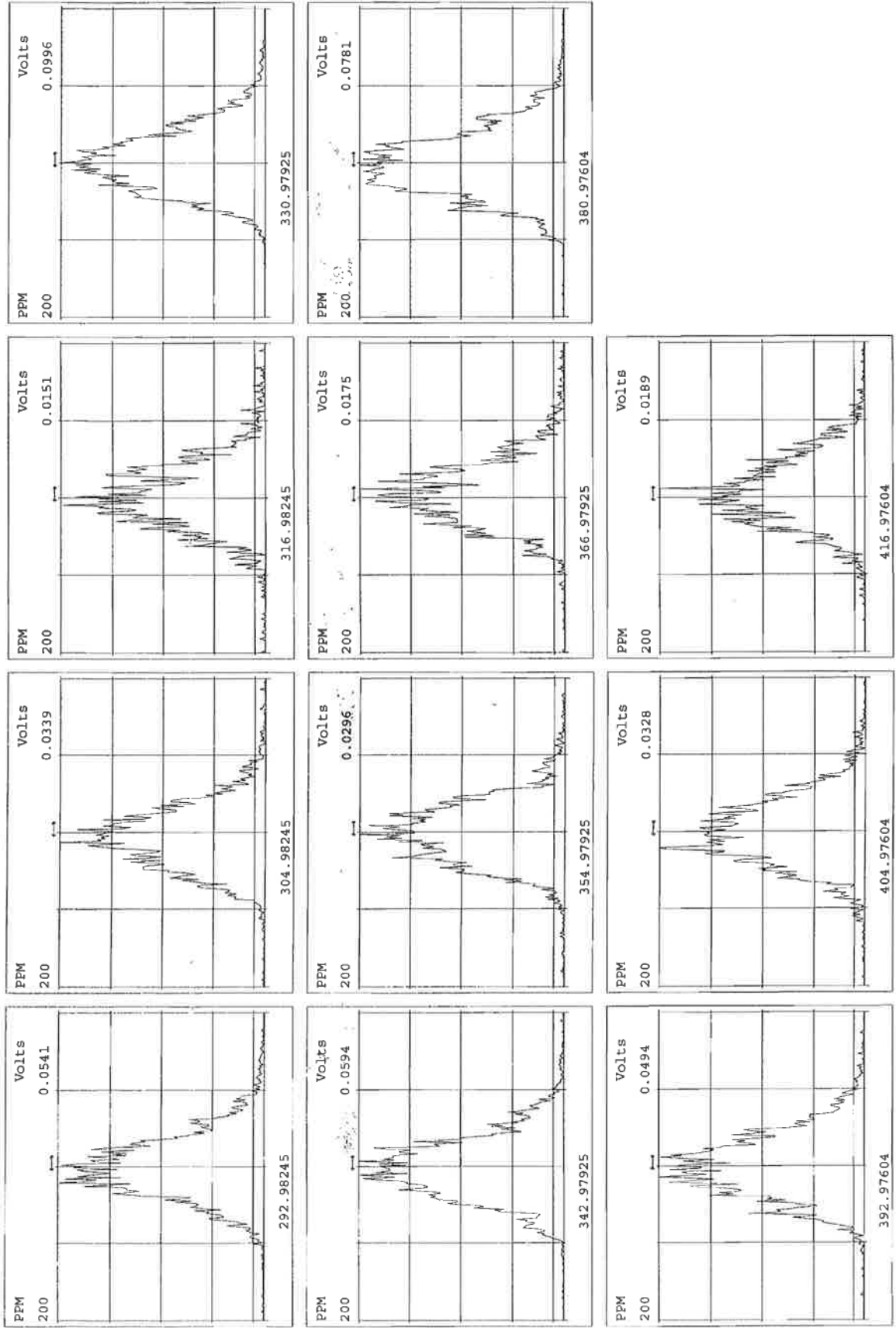
Date: 11/15/16

Date: 11/16/16

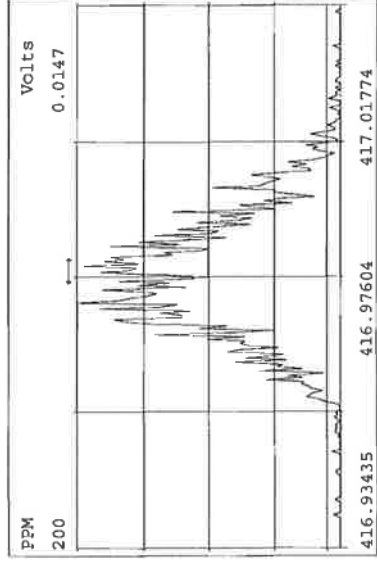
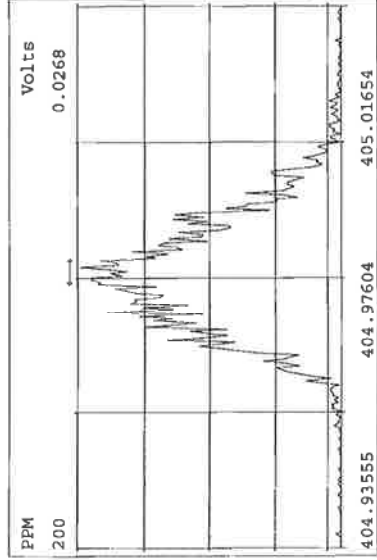
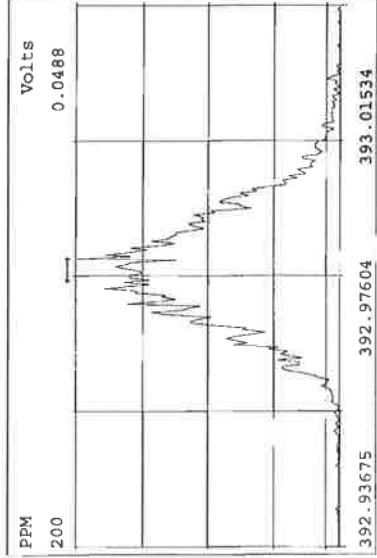
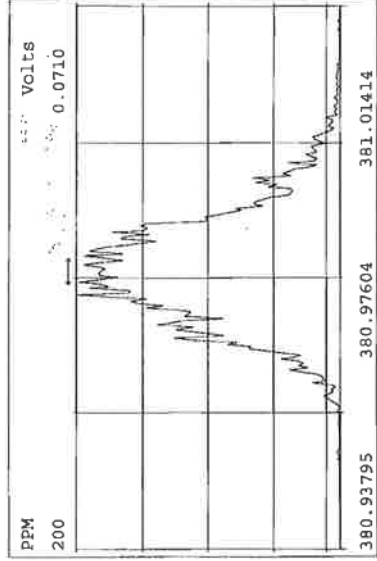
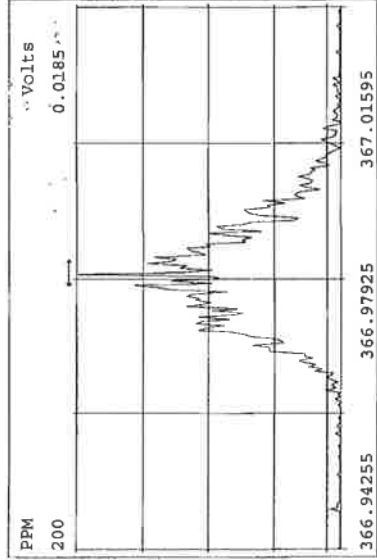
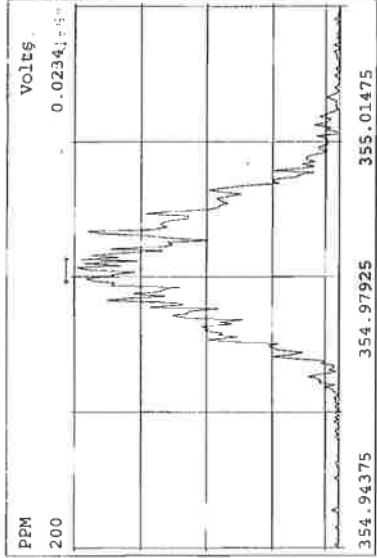
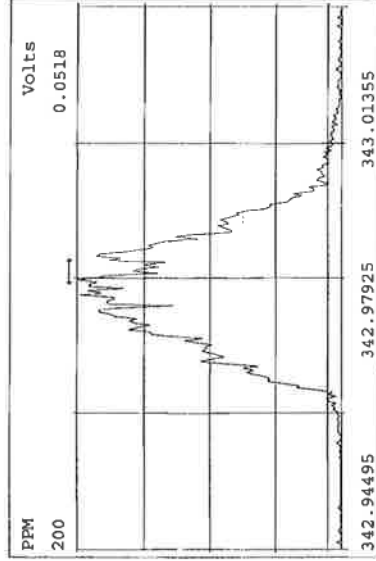
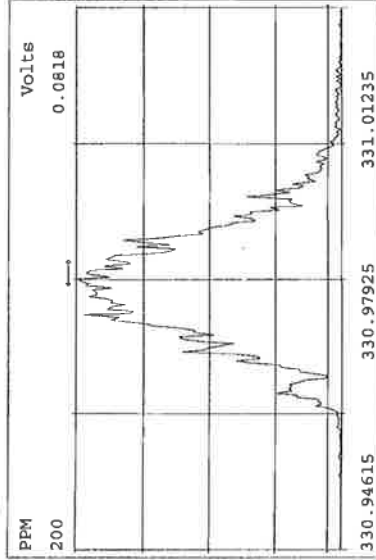
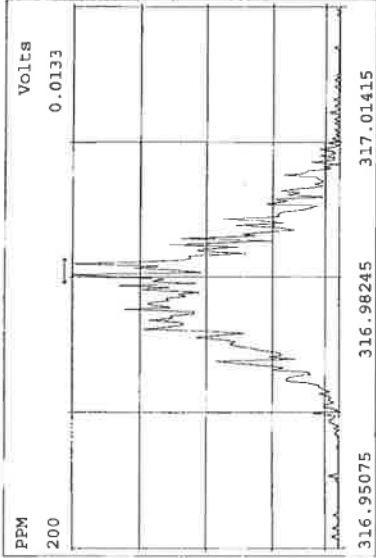
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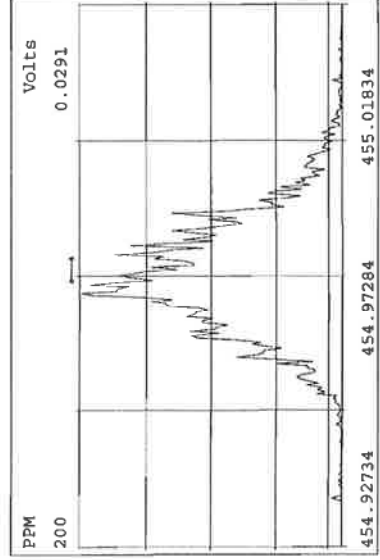
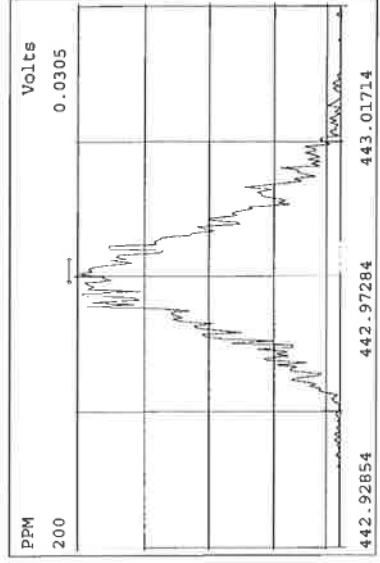
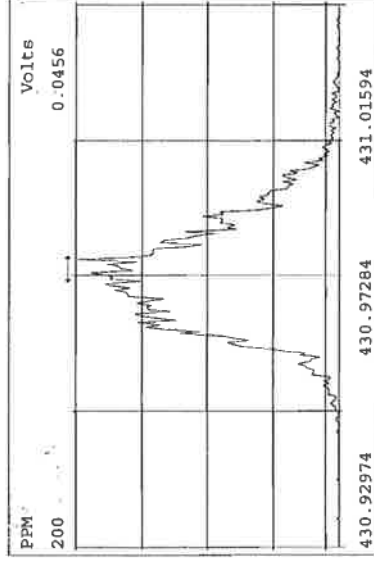
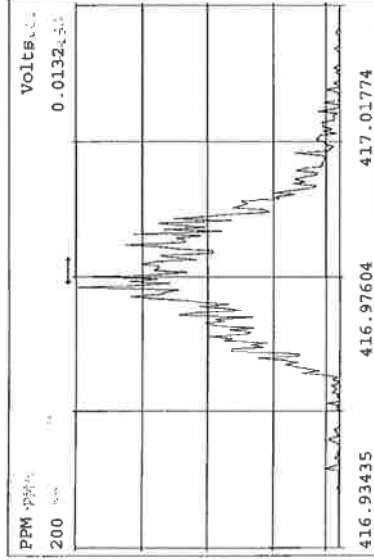
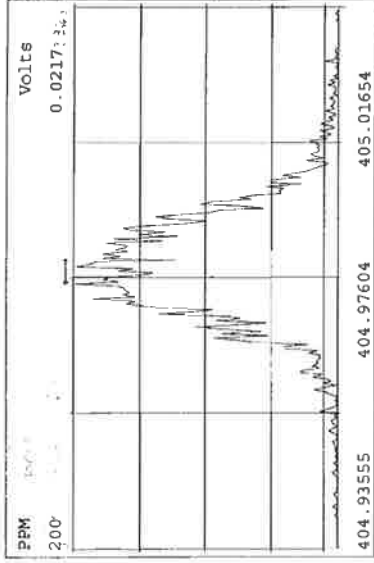
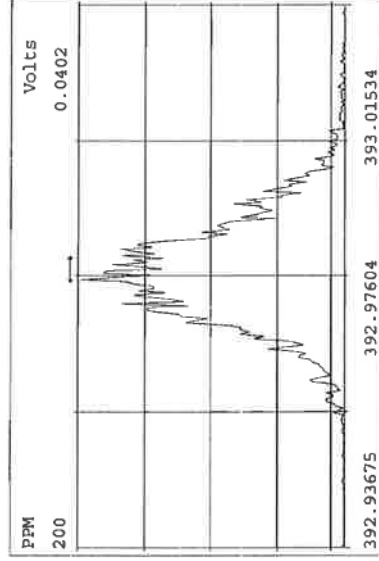
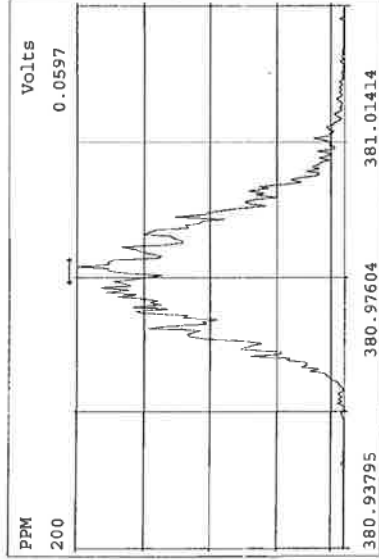
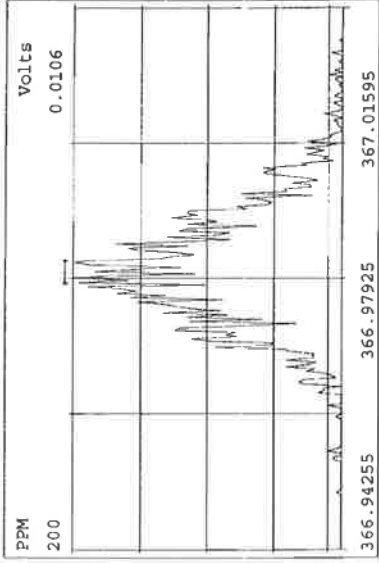
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Experiment:OCDD_DB5 Function:1 Reference:PFK



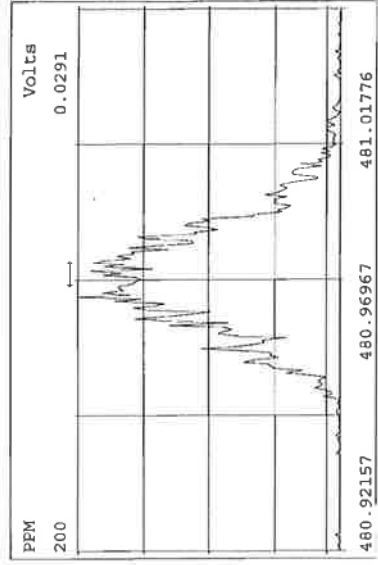
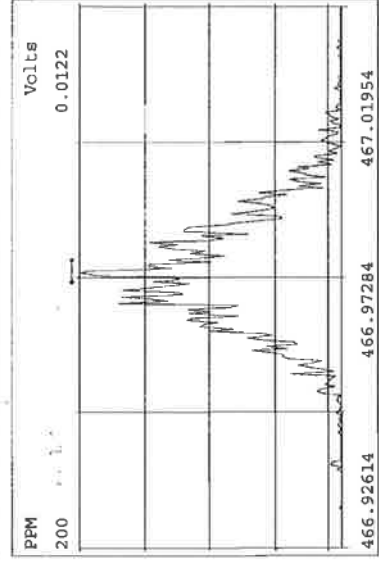
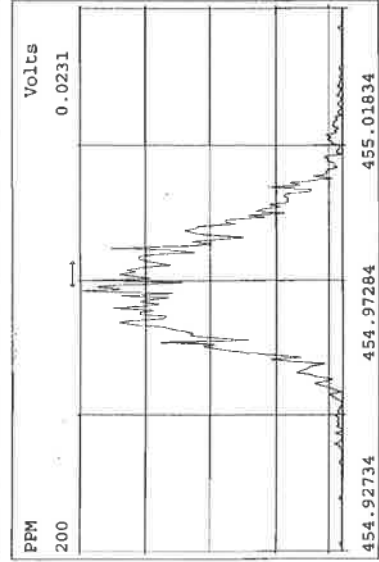
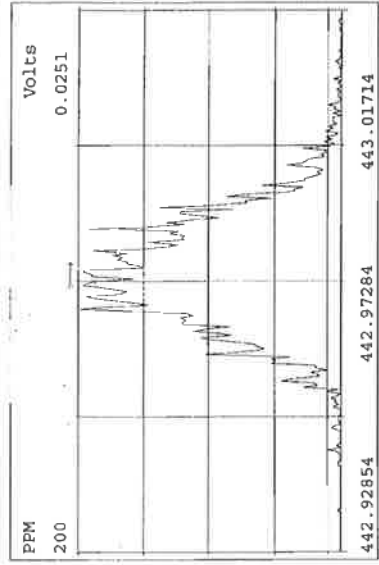
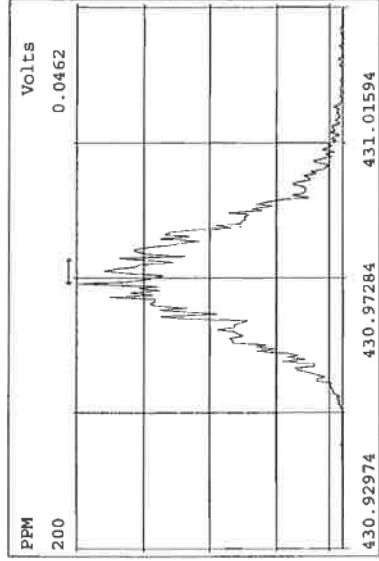
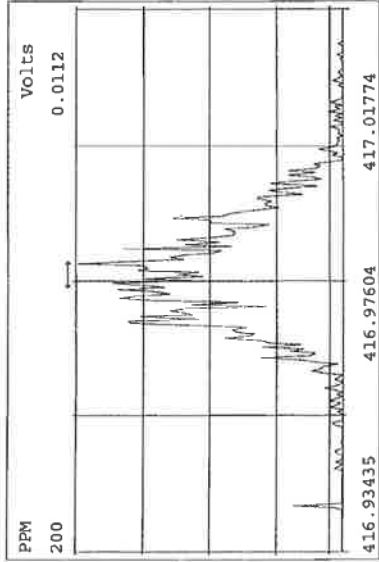
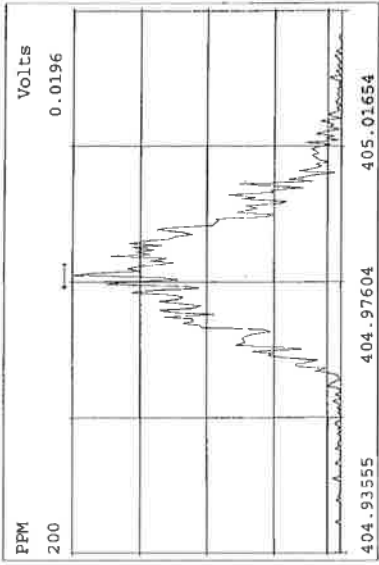
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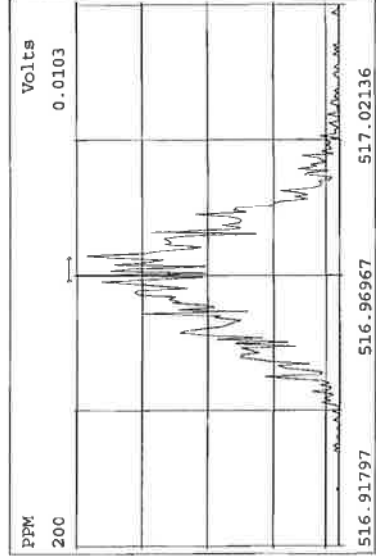
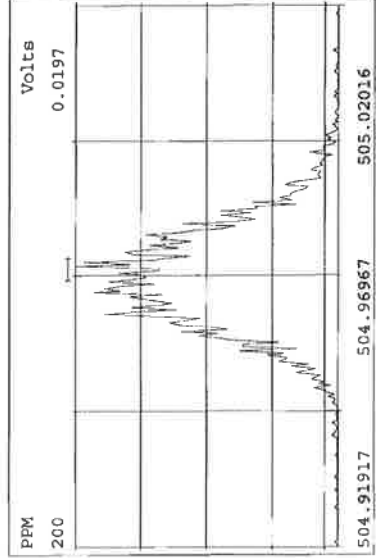
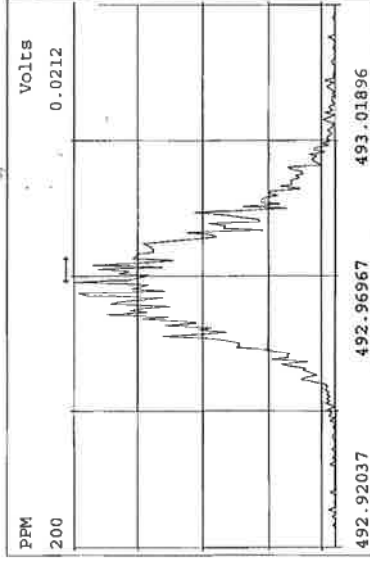
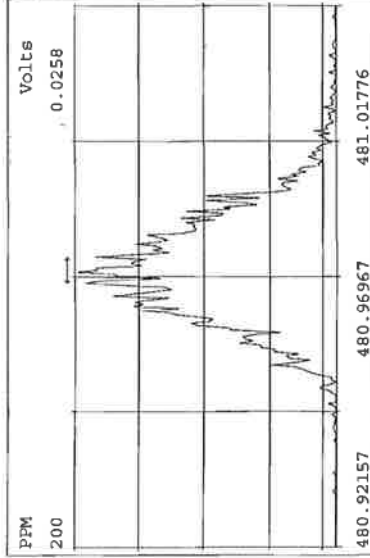
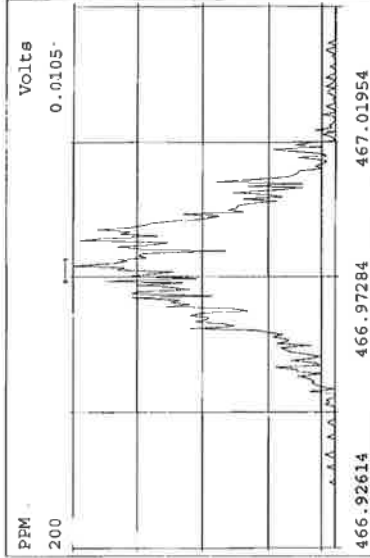
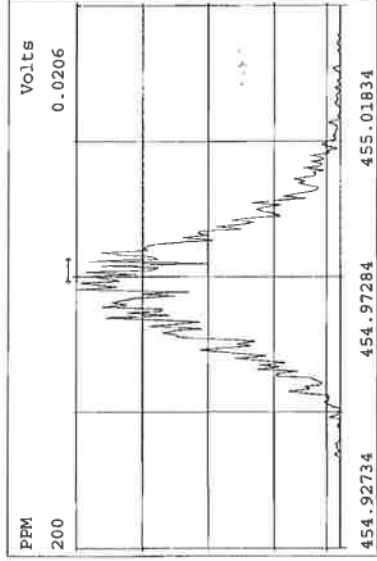
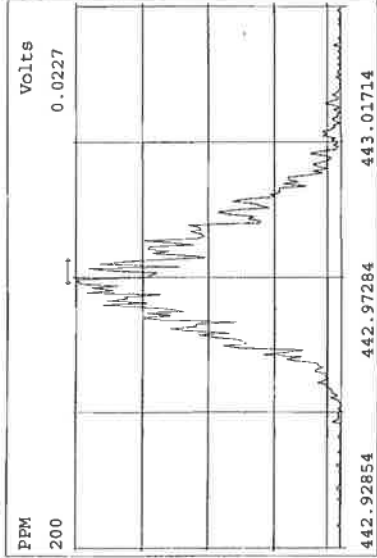
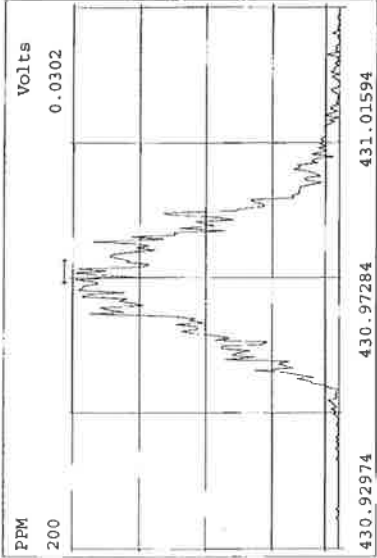
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 Experiment:OCDD_DB5 Function:3 Reference:PFK



Peak Locate Examination: 14-NOV-2016:22:03 File:RES_CHECK
 Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination: 14-NOV-2016:22:04 File: RES_CHECK
 Experiment: OCDD_DB5 Function: 5 Reference: PFK



Vista Analytical Laboratory - Injection Log Run file: 161115D2 Instrument ID: VG-7 GC Column ID: ZB-SMS

Data file S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
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161115D2 4	1601427-02	DB	16-NOV-16	06:17:21	ST161115D2-1	NA
161115D2 5	SOLVENT BLANK	DB	16-NOV-16	07:05:04	ST161115D2-1	NA

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

CCAL ID: ST161115D2-1

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7 GC Column ID: ZB-SMS

VER Data: Filename: 161115D2 S#1 Analysis Date: 16-NOV-16 Time: 03:54:11

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	Y	10.3	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	Y	44.2	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	Y	48.8	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	Y	51.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	Y	50.4	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	Y	51.8	43.0 - 58.0
OCDD	M+2/M+4	0.88	0.76-1.02	Y	101	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	Y	10.9	8.4 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	Y	52.5	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	Y	52.8	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	Y	54.1	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	Y	55.8	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	Y	53.0	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	Y	53.1	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88-1.20	Y	52.3	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.06	0.88-1.20	Y	53.2	43.0 - 58.0
OCDF	M+2/M+4	0.89	0.76-1.02	Y	105	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 11/16/16

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER Data Filename: 161115D2 S#1 Analysis Date: 16-NOV-16 Time: 03:54:11

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	PASS	CONC.	CONC.	COMC. RANGE (ng/mL)
					FOUND	FOUND	
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	Y	97.0	97.0	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	Y	94.6	94.6	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	Y	88.9	88.9	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	Y	93.7	93.7	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	Y	94.8	94.8	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88-1.20	Y	107	107	72.0 - 138.0
13C-OCDD	M/M+2	0.89	0.76-1.02	Y	200	200	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.79	0.65-0.89	Y	104	104	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	Y	88.3	88.3	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	Y	83.2	83.2	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	Y	97.8	97.8	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43-0.59	Y	100	100	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	Y	109	109	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	Y	101	101	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.41	0.37-0.51	Y	111	111	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.43	0.37-0.51	Y	110	110	77.0 - 129.0
13C-OCDF	M+2/M+4	0.90	0.76-1.02	Y	206	206	96.0 - 415.0

CLEANUP STANDARD (3)

37Cl-2,3,7,8-TCDD 9.00 7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 11/16/16

FORM 5
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 8-5-16

RT Window Data Filename: 161115D2 S#1 Analysis Date: 16-NOV-16 Time: 03:54:11

ZB-5MS .IS/Data Filename: 161115D2 S#1 Analysis Date: 16-NOV-16 Time: 03:54:11

DB_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:54	1,3,6,8-TCDF (F)	20:43
1,2,8,9-TCDD (L)	27:17	1,2,8,9-TCDF (L)	27:26
1,2,4,7,9-PeCDD (F)	28:55	1,3,4,6,8-PeCDF (F)	27:23
1,2,3,8,9-PeCDD (L)	31:20	1,2,3,8,9-PeCDF (L)	31:35
1,2,4,6,7,9-HxCDD (F)	32:45	1,2,3,4,6,8-HxCDF (F)	32:13
1,2,3,7,8,9-HxCDD (L)	34:42	1,2,3,7,8,9-HxCDF (L)	35:05
1,2,3,4,6,7,9-HpCDD (F)	37:18	1,2,3,4,6,7,8-HpCDF (F)	36:55
1,2,3,4,6,7,8-HpCDD (L)	38:11	1,2,3,4,7,8,9-HpCDF (L)	38:44

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

* VALLEY HEIGHT BETWEEN COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, *Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DB

Date: 11/16/16

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER>Data:Filename: 461115D2 S#1 Analysis Date: 16-NOV-16 Time: 03:54:11

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME		QC LIMITS (1)	
	REFERENCE	RRT	RRT	RRT
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002	0.999-1.002
Labeled Compounds				
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.976-1.043	
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.200	1.000-1.567	
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDF	0.992	0.923-1.103	
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.154	1.000-1.425	
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.189	1.011-1.526	
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.024	0.989-1.052	

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613. 10/94

Analyst: DB
Date: 11/16/16

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 161115D2 S#1 Analysis Date: 16-NOV-16 Time: 03:54:11

Method 1613. 10/94

NATIVE ANALYTES	RETENTION TIME		QC LIMITS (1)
	REFERENCE	RRT	
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.001	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.001	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613. 10/94

Analyst: DB

Date: 11/16/16

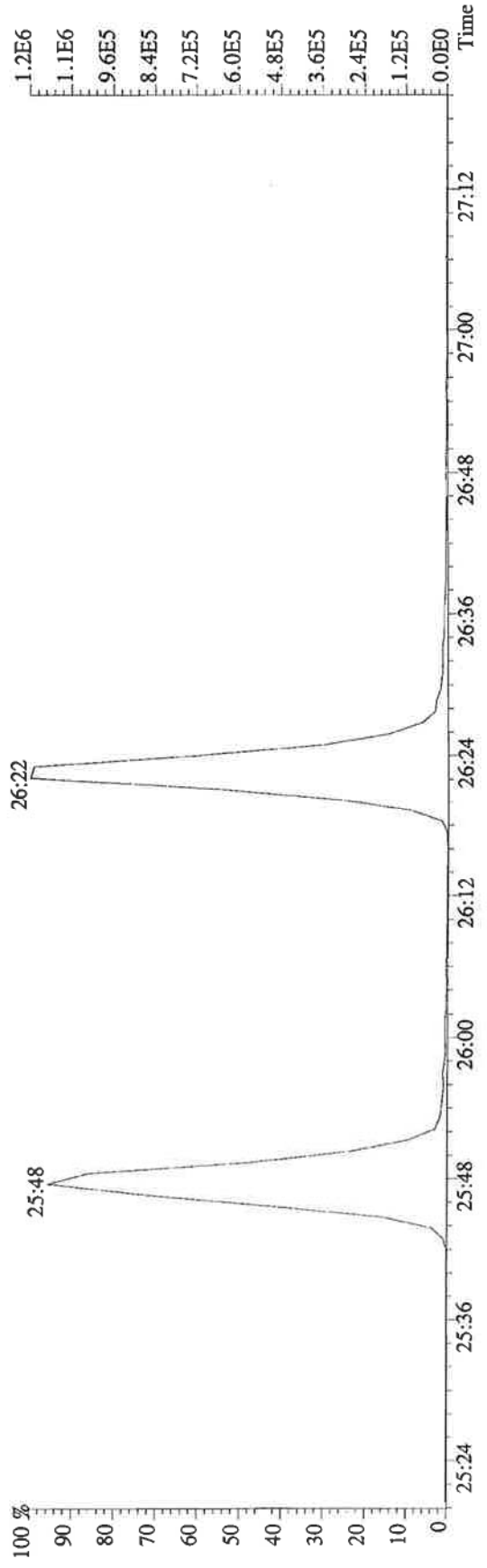
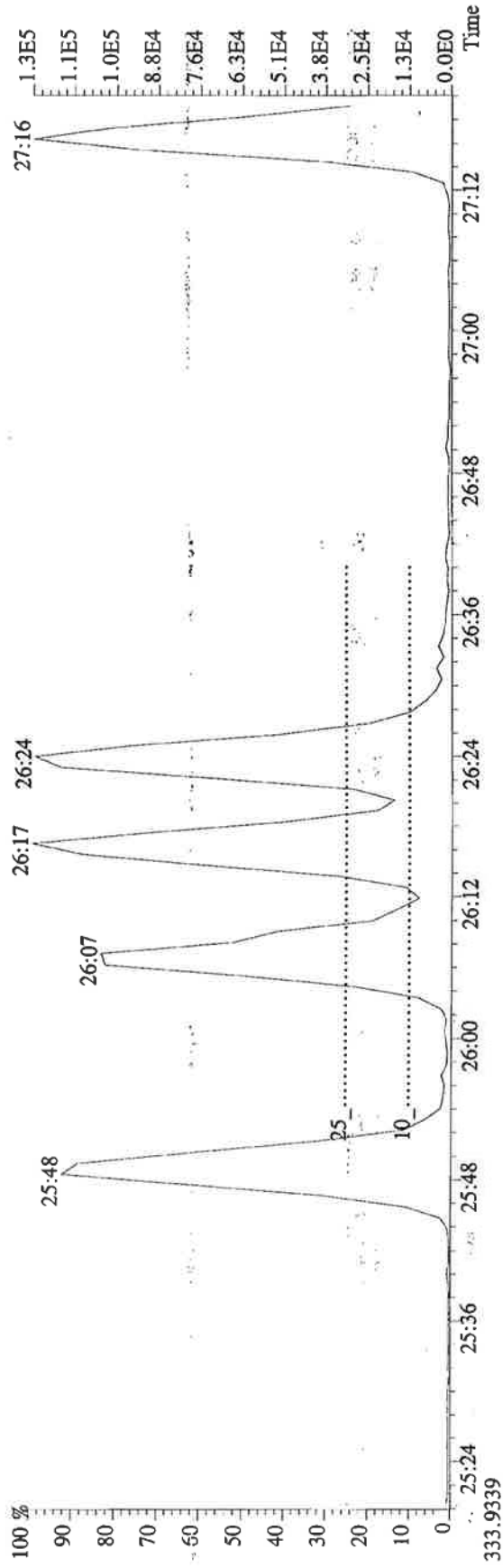
LABELLED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.992	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.026	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.092	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.146	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.226	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.233	1.091-1.371

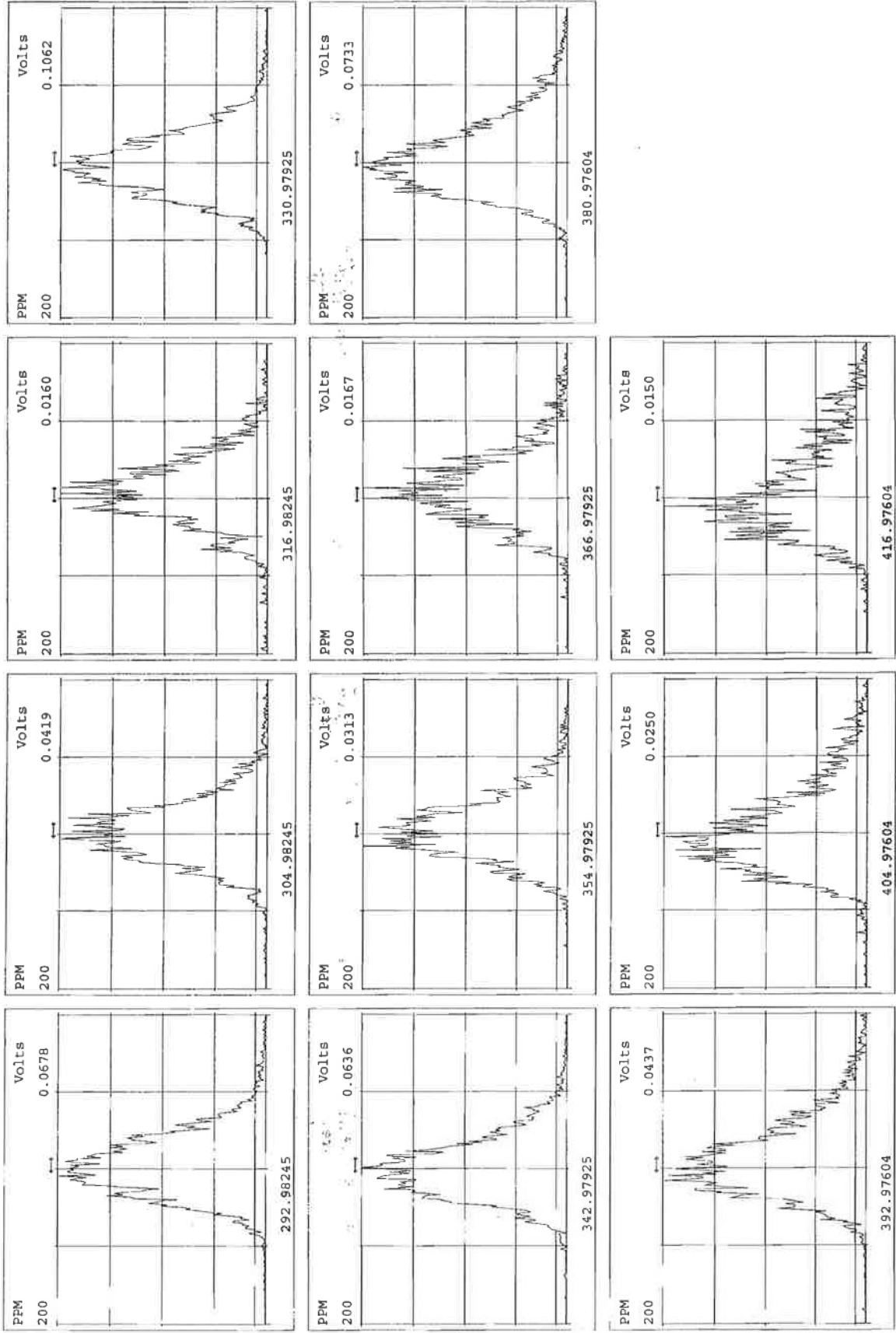
IS	RS/RT	Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
IS		2,3,7,8-TCDD	9.43e+05	0.80	1.11	26:24	1.001	10.289			2.5	*	Total Tetra-Dioxins	55.9	56.3		*	*
IS		1,2,3,7,8-PeCDD	3.13e+06	0.61	0.98	30:59	1.001	44.162			2.5	*	Total Penta-Dioxins	143	144		*	*
IS		1,2,3,4,7,8-PeCDF	4.85e+06	1.22	0.95	34:17	1.001	48.824			2.5	*	Total Hexa-Dioxins	194	195		*	*
IS		1,2,3,6,7,8-HxCDD	3.10e+06	1.25	1.05	34:24	1.001	51.446			2.5	*	Total Hepta-Dioxins	130	133		*	*
IS		1,2,3,7,8,9-HxCDD	2.96e+06	1.23	1.03	34:42	1.000	50.383			2.5	*	Total Tetra-Furans	32.4	33.4		*	*
IS		1,2,3,4,6,7,8-HpCDD	2.64e+06	1.04	1.01	38:11	1.000	51.821			2.5	*	Total Penta-Furans	215.71	216.17		*	*
IS		OCDD	4.33e+06	0.88	0.96	41:27	1.000	100.65			2.5	*	Total Hexa-Furans	268	270		*	*
IS		2,3,7,8-TCDF	1.30e+06	0.77	1.00	25:36	1.001	10.928			2.5	*	Total Hepta-Furans	106	108		*	*
IS		1,2,3,7,8-PeCDF	5.02e+06	1.59	0.99	29:47	1.001	52.484			2.5	*						
IS		2,3,4,7,8-PeCDF	4.85e+06	1.54	0.87	30:42	1.001	52.809			2.5	*						
IS		1,2,3,4,7,8-HxCDF	4.03e+06	1.25	1.03	33:24	1.001	54.124			2.5	*						
IS		1,2,3,6,7,8-HxCDF	4.42e+06	1.22	1.03	33:31	1.000	55.791			2.5	*						
IS		2,3,4,6,7,8-HxCDF	4.23e+06	1.22	1.09	34:08	1.001	53.030			2.5	*						
IS		1,2,3,7,8,9-HxCDF	3.36e+06	1.23	1.01	35:05	1.001	53.097			2.5	*						
IS		1,2,3,4,6,7,8-HpCDF	3.54e+06	1.02	1.29	36:55	1.001	52.300			2.5	*						
IS		1,2,3,4,6,7,8,9-HpCDF	2.95e+06	1.06	1.17	38:44	1.000	53.196			2.5	*						
IS		OCDF	5.24e+06	0.89	0.96	41:41	1.000	104.66			2.5	*						
IS		13C-2,3,7,8-TCDD	8.24e+06	0.77	1.05	26:23	1.023	96.992					Rec	97.0				Qual
IS		13C-1,2,3,7,8-PeCDD	7.22e+06	0.61	0.95	30:58	1.200	94.605					94.6					
IS		13C-1,2,3,4,7,8-HxCDD	5.69e+06	1.27	0.90	34:16	1.014	88.909					88.9					
IS		13C-1,2,3,6,7,8-HxCDD	5.73e+06	1.27	0.86	34:23	1.017	93.668					93.7					
IS		13C-1,2,3,7,8,9-HxCDD	5.74e+06	1.21	0.85	34:41	1.026	94.766					94.8					
IS		13C-1,2,3,4,6,7,8-HpCDD	5.03e+06	1.08	0.66	38:10	1.129	106.51					107					
IS		13C-OCDD	8.94e+06	0.89	0.63	41:27	1.226	199.71					99.9					
IS		13C-2,3,7,8-TCDF	1.18e+07	0.79	0.91	25:35	0.992	104.07					104					
IS		13C-1,2,3,7,8-PeCDF	9.69e+06	1.61	0.88	29:46	1.154	88.302					88.3					
IS		13C-2,3,4,7,8-PeCDF	1.06e+07	1.61	1.02	30:41	1.189	83.184					83.2					
IS		13C-1,2,3,4,7,8-HxCDF	7.22e+06	0.51	1.04	33:23	0.988	97.752					97.8					
IS		13C-1,2,3,6,7,8-HxCDF	7.72e+06	0.50	1.08	33:31	0.992	100.10					100					
IS		13C-2,3,4,6,7,8-HxCDF	7.31e+06	0.52	0.94	34:06	1.009	108.66					109					
IS		13C-1,2,3,7,8,9-HxCDF	6.26e+06	0.51	0.87	35:04	1.038	101.14					101					
IS		13C-1,2,3,4,6,7,8-HpCDF	5.25e+06	0.41	0.66	36:54	1.092	110.82					111					
IS		13C-1,2,3,4,7,8,9-HpCDF	4.73e+06	0.43	0.60	38:43	1.146	110.00					110					
IS		13C-OCDF	1.04e+07	0.90	0.71	41:41	1.233	205.75					103					
C/Up		37Cl-2,3,7,8-TCDD	8.73e+05		1.20	26:24	1.024	9.0026					90.0					
RS/RT		13C-1,2,3,4-TCDD	8.07e+06	0.79	1.00	25:48	*	100.00					Integrations					
RS		13C-1,2,3,4-TCDF	1.25e+07	0.80	1.00	24:19	*	100.00					by					
RS/RT		13C-1,2,3,4,6,9-HxCDF	7.12e+06	0.52	1.00	33:48	*	100.00					Analyst:	DB				

Reviewed by Analyst: CT
 Date: 11/16/16
 Date: 11/17/16

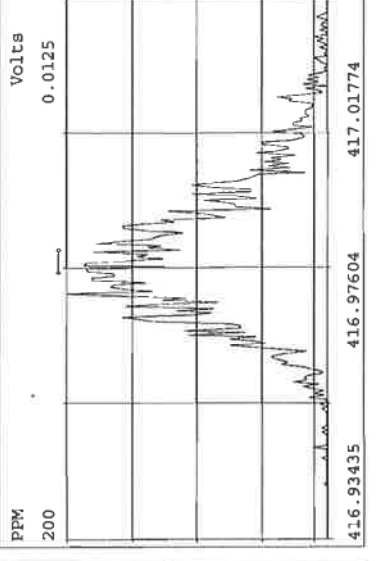
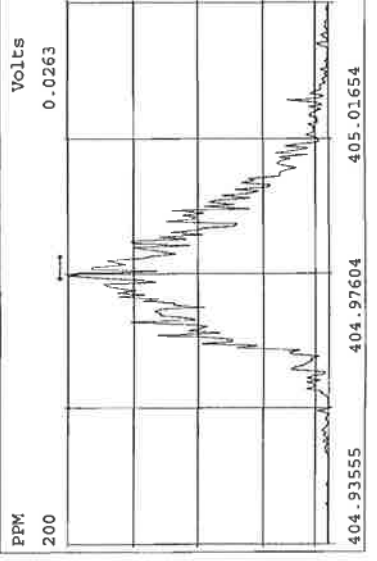
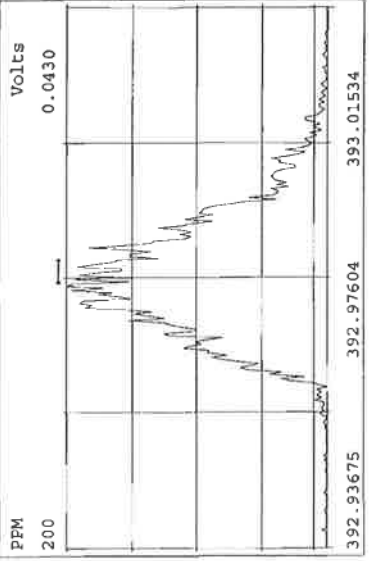
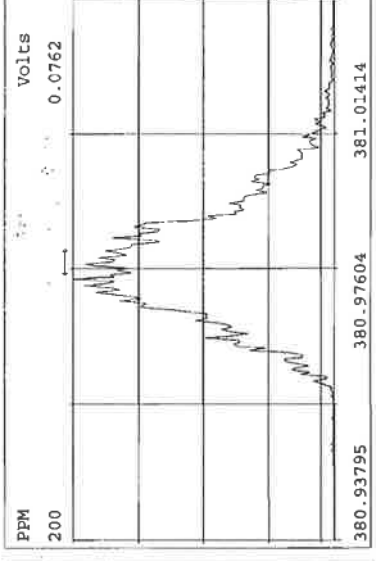
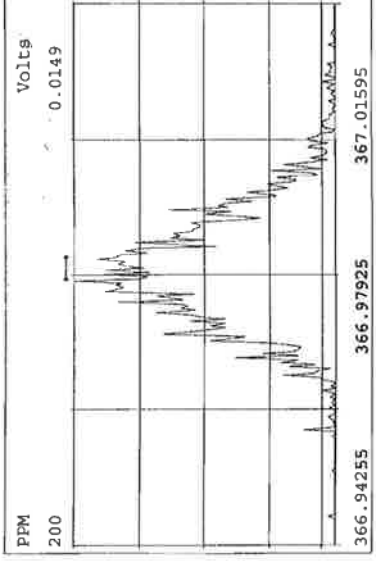
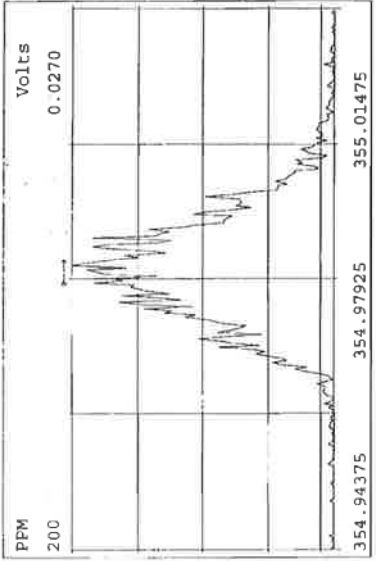
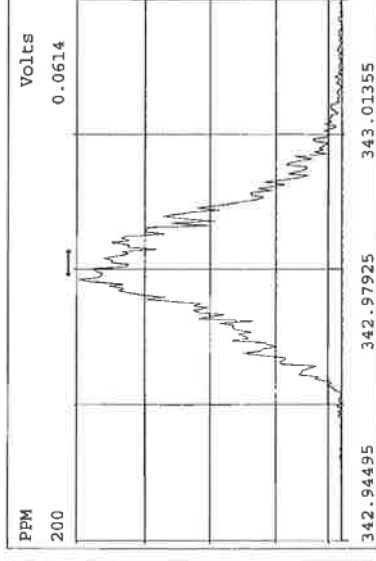
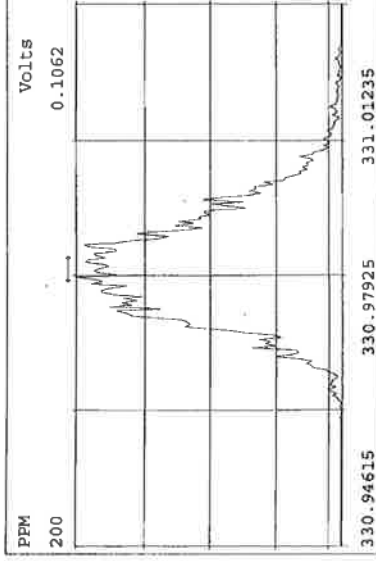
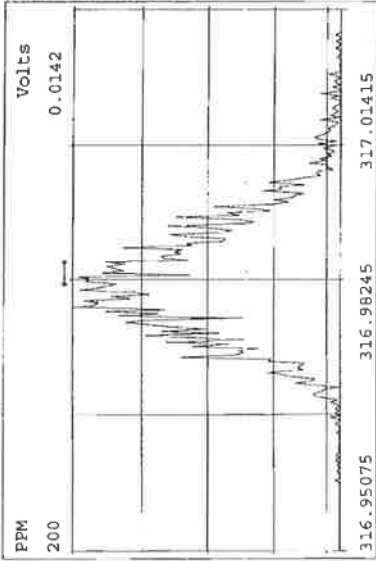
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321.8936



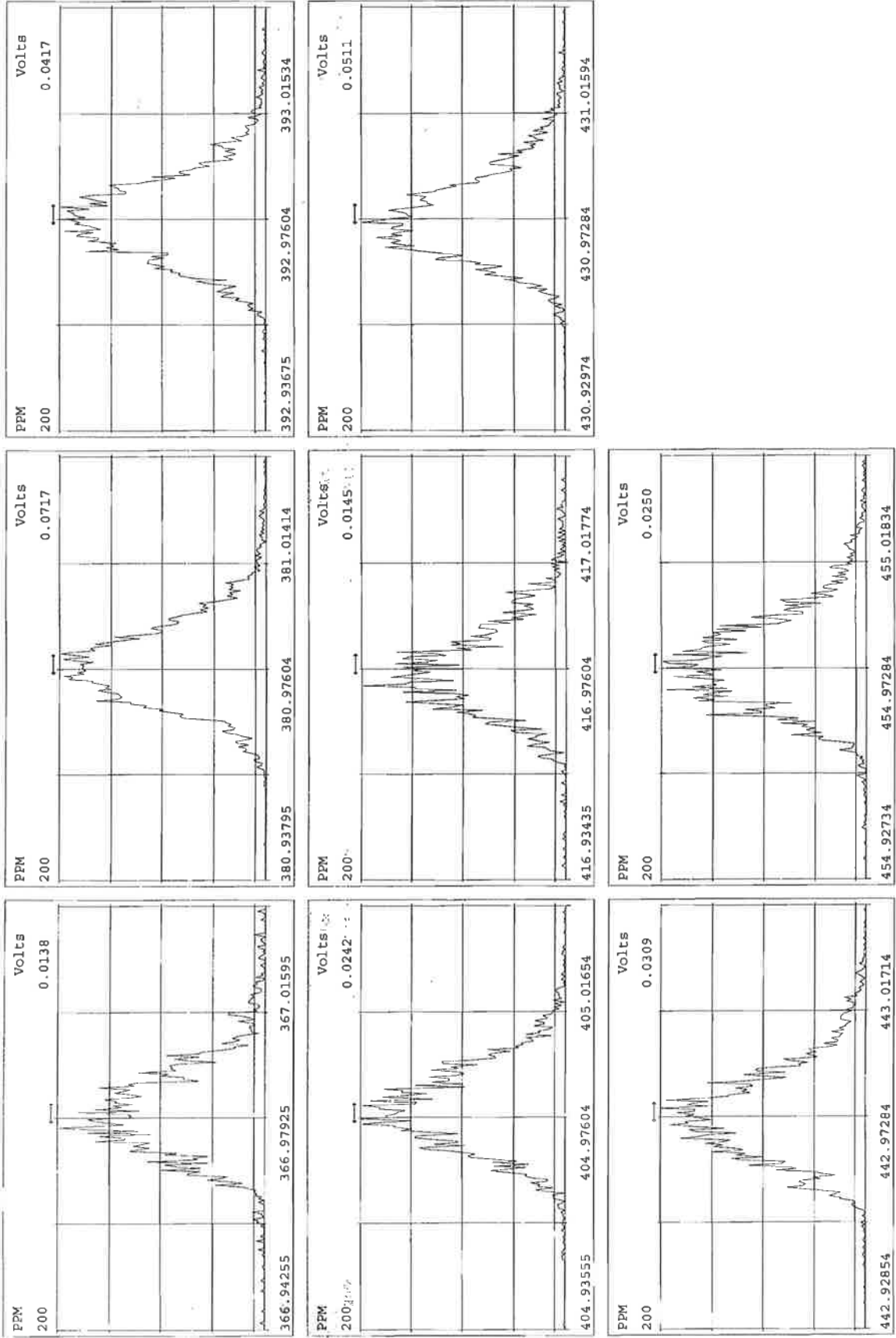
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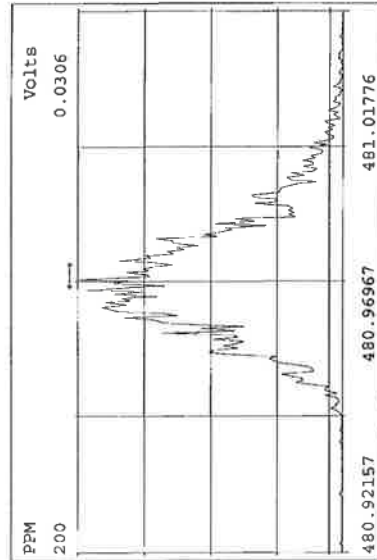
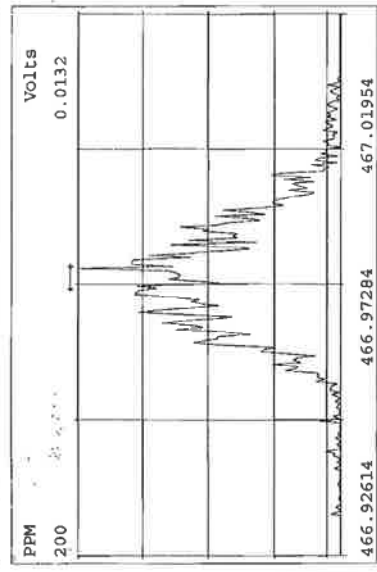
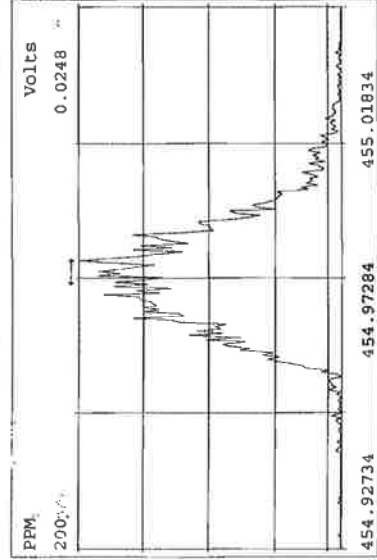
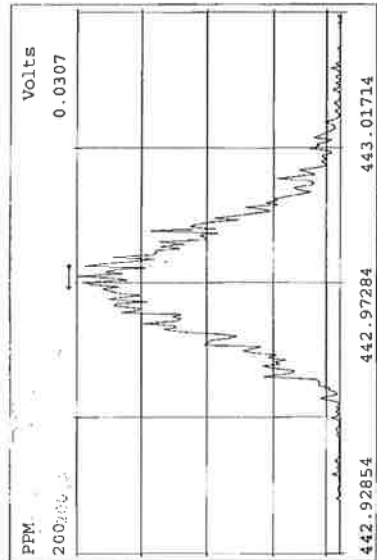
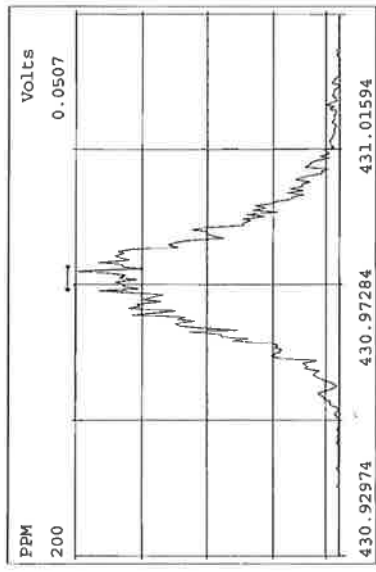
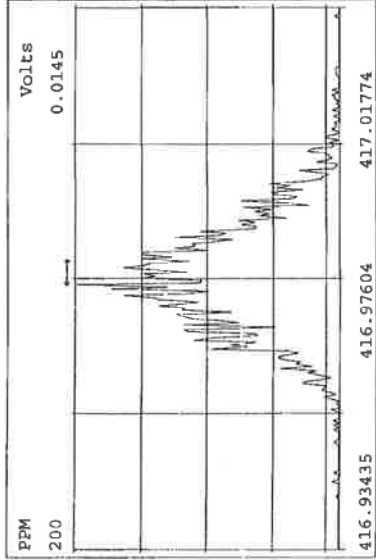
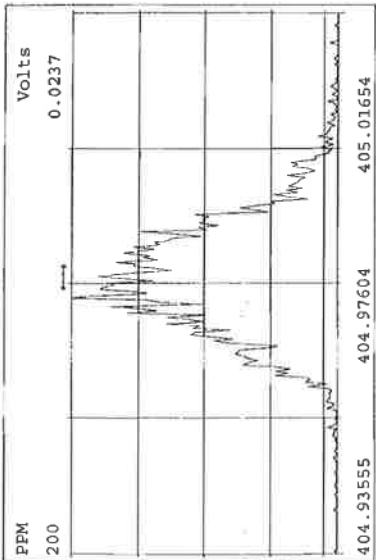
Peak Locate Examination: 16-NOV-2016:03:50 File: RES_CHECK
Experiment: OCDD_DB5 Function: 2 Reference: PFK



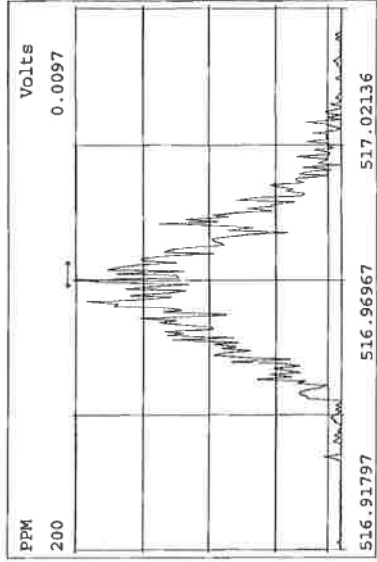
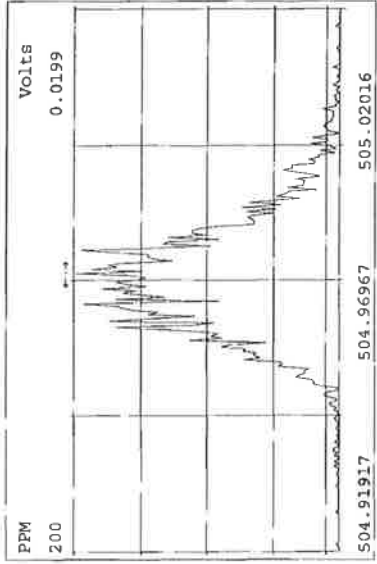
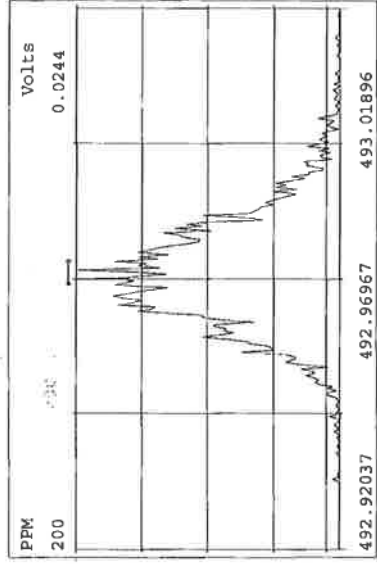
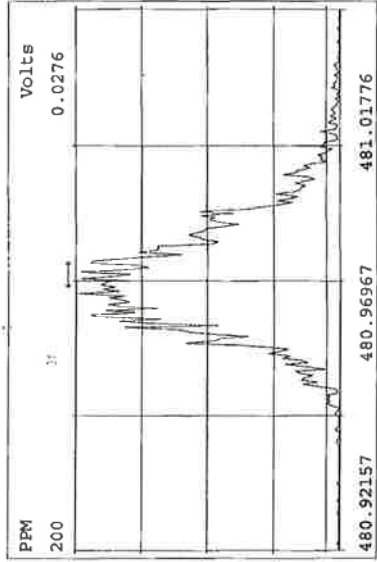
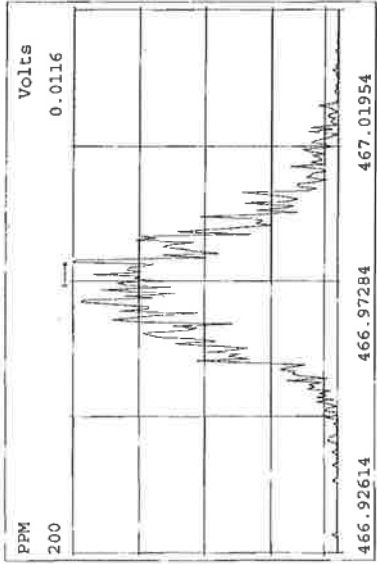
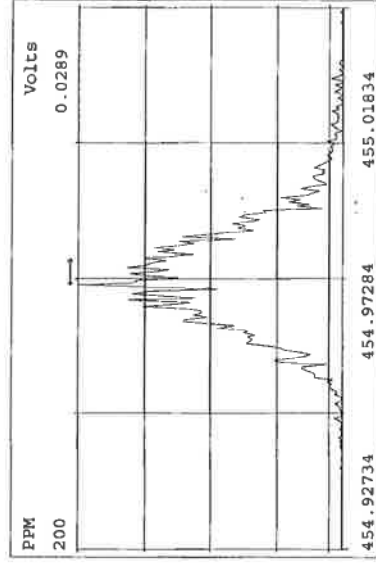
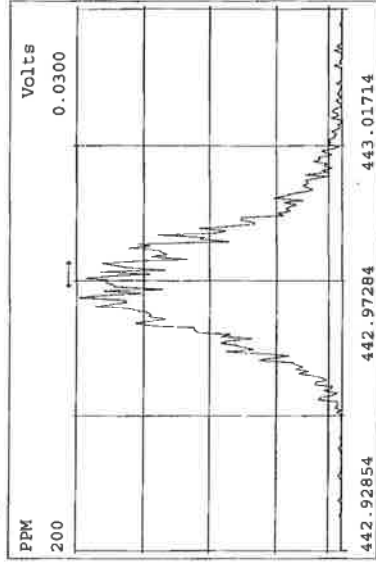
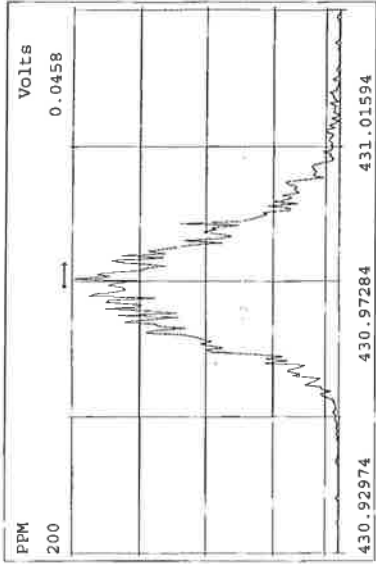
Peak Locate Examination:16-NOV-2016:03:51 File:RES_CHECK
 Experiment:OCDD_DB5 Function:3 Reference:PFK



Peak Locate Examination: 16-NOV-2016:03:52 File: RES_CHECK
 Experiment: OCTD_DB5 Function: 4 Reference: PFK



Peak Locate Examination:16-NOV-2016:03:53 File:RES_CHECK
Experiment:OCDD_DB5 Function:5 Reference:PFK



Vista Analytical Laboratory - Injection Log Run file: 161116D2 Instrument ID: VG-7 GC Column ID: ZB-SMS

Data file S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
161116D2 1	ST161116D2-1	DB	16-NOV-16	15:51:26	ST161116D2-1	ST161116D2-2
161116D2 2	B6K0094-BS1	DB	16-NOV-16	16:39:09	ST161116D2-1	ST161116D2-2
161116D2 3	SOLVENT BLANK	DB	16-NOV-16	17:26:55	NA	NA
161116D2 4	B6K0059-BLX1	DB	16-NOV-16	18:14:38	ST161116D2-1	NA
161116D2 5	B6K0094-BLX1	DB	16-NOV-16	19:02:23	ST161116D2-1	ST161116D2-2
161116D2 6	1601408-01	DB	16-NOV-16	19:50:07	ST161116D2-1	ST161116D2-2
161116D2 7	1601422-01	DB	16-NOV-16	20:37:50	ST161116D2-1	ST161116D2-2
161116D2 8	1601423-01	DB	16-NOV-16	21:25:33	ST161116D2-1	ST161116D2-2
161116D2 9	1601427-01	DB	16-NOV-16	22:13:16	ST161116D2-1	NA
161116D2 10	1601354-01	DB	16-NOV-16	23:00:58	ST161116D2-1	NA
161116D2 11	1601354-02	DB	16-NOV-16	23:48:40	ST161116D2-1	NA
161116D2 12	1601354-03	DB	17-NOV-16	00:36:22	ST161116D2-1	NA
161116D2 13	1601396-11	DB	17-NOV-16	01:24:05	ST161116D2-1	NA
161116D2 14	1601396-13	DB	17-NOV-16	02:11:47	ST161116D2-1	NA
161116D2 15	SOLVENT BLANK	DB	17-NOV-16	02:59:32	NA	NA
161116D2 16	ST161116D2-2	DB	17-NOV-16	03:47:15	ST161116D2-1	ST161116D2-2

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

CCAL ID: ST161116D2-1

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER_Data_Filename: 161116D2 S#1 Analysis Date: 16-NOV-16 Time: 15:51:26

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	PASS	CONC. FOUND	CONC. RANGE (3) (ng/mL)	COMMENTS	
							(1) See Table 8, Method 1613, for m/z specifications.	(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	Y	10.0	7.8 - 12.9		(1) See Table 8, Method 1613, for m/z specifications.
1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	Y	43.2	39.0 - 65.0		(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	Y	46.5	39.0 - 64.0		(3) Contract-required concentration range as specified in Table 6, Method 1613.
1,2,3,6,7,8-HxCDD	M+2/M+4	1.16	1.05-1.43	Y	48.9	39.0 - 64.0		(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.
1,2,3,7,8,9-HxCDD	M+2/M+4	1.16	1.05-1.43	Y	47.9	41.0 - 61.0		
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88-1.20	Y	49.1	43.0 - 58.0		
OCDD	M+2/M+4	0.88	0.76-1.02	Y	98.6	79.0 - 126.0		
2,3,7,8-TCDF	M/M+2	0.85	0.65-0.89	Y	8.79	8.4 - 12.0		
1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	Y	47.6	41.0 - 60.0		
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	Y	48.7	41.0 - 61.0		
1,2,3,4,7,8-HxCDF	M+2/M+4	1.15	1.05-1.43	Y	48.3	45.0 - 56.0		
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	Y	52.0	44.0 - 57.0		
2,3,4,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	Y	49.0	44.0 - 57.0		
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	Y	49.3	45.0 - 56.0		
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.95	0.88-1.20	Y	50.1	45.0 - 55.0		
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.97	0.88-1.20	Y	52.7	43.0 - 58.0		
OCDF	M+2/M+4	0.89	0.76-1.02	Y	99.9	63.0 - 159.0		

Analyst: DB
Date: 11/16/16

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER Data Filename: 161116D2 S#1 Analysis Date: 16-NOV-16 Time: 15:51:26

Labeled Compounds	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)	Notes	
							(1) See Table 8, Method 1613, for m/z specifications.	(2) Ion Abundance Ratio Control Limits as specified
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65-0.89	Y	101	82.0 - 121.0	(3) No ion abundance ratio; report concentration found.	
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	Y	109	62.0 - 160.0		
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	Y	100	85.0 - 117.0		
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	Y	103	85.0 - 118.0		
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	Y	109	85.0 - 118.0		
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.00	0.88-1.20	Y	114	72.0 - 138.0		
13C-OCDD	M/M+2	0.91	0.76-1.02	Y	233	96.0 - 415.0		
13C-2,3,7,8-TCDF	M+2/M+4	0.77	0.65-0.89	Y	104	71.0 - 140.0		
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	Y	104	76.0 - 130.0		
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	Y	104	77.0 - 130.0		
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	Y	91.5	76.0 - 131.0		
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.49	0.43-0.59	Y	93.3	70.0 - 143.0		
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.49	0.43-0.59	Y	103	73.0 - 137.0		
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43-0.59	Y	110	74.0 - 135.0		
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.40	0.37-0.51	Y	108	78.0 - 129.0		
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.41	0.37-0.51	Y	109	77.0 - 129.0		
13C-OCDF	M+2/M+4	0.90	0.76-1.02	Y	236	96.0 - 415.0		

CLEANUP STANDARD (3)

37Cl-2,3,7,8-TCDD

8.84 7.9 - 12.7

Analyst: DB

Date: 11/16/16

FORM 5
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 8-5-16

RT Window Data Filename: 161116D2 S#1 Analysis Date: 16-NOV-16 Time: 15:51:26

ZB-SMS IS Data Filename: 161116D2 S#1 Analysis Date: 16-NOV-16 Time: 15:51:26

DB_225 IS Data Filename: Analysis Date: Time:

ZB-SMS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS:	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:56	1,3,6,8-TCDF (F)	20:45
1,2,8,9-TCDD (L)	27:18	1,2,8,9-TCDF (L)	27:27
1,2,4,7,9-PeCDD (F)	28:56	1,3,4,6,8-PeCDF (F)	27:24
1,2,3,8,9-PeCDD (L)	31:22	1,2,3,8,9-PeCDF (L)	31:36
1,2,4,6,7,9-HxCDD (F)	32:46	1,2,3,4,6,8-HxCDF (F)	32:14
1,2,3,7,8,9-HxCDD (L)	34:43	1,2,3,7,8,9-HxCDF (L)	35:06
1,2,3,4,6,7,9-HpCDD (F)	37:20	1,2,3,4,6,7,8-HpCDF (F)	36:56
1,2,3,4,6,7,8-HpCDD (L)	38:12	1,2,3,4,7,8,9-HpCDF (L)	38:45

(F) = First eluting isomer (ZB-SMS); (L) = Last eluting isomer (ZB-SMS).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

* VALLEY HEIGHT BETWEEN COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, *Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DB

Date: 11/16/16

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

Lab Data Filename: 161116D2 S#1 Analysis Date: 16-NOV-16 Time: 15:51:26

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	QC LIMITS (1)	RRT
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002	(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613, 10/94
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002	
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003	
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002	
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002	

LABELLED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.200	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.992	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.153	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.189	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052

Analyst: DB

Date: 11/16/16

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8-5-16

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER_Data Filename: 1611J6D2_ S#1 Analysis Date: 16-NOV-16 Time: 15:51:25

RETENTION TIME REFERENCE RRT QC LIMITS (1)

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613, 10/94

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001

LABELLED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.026	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.092	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.226	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.233	1.091-1.371

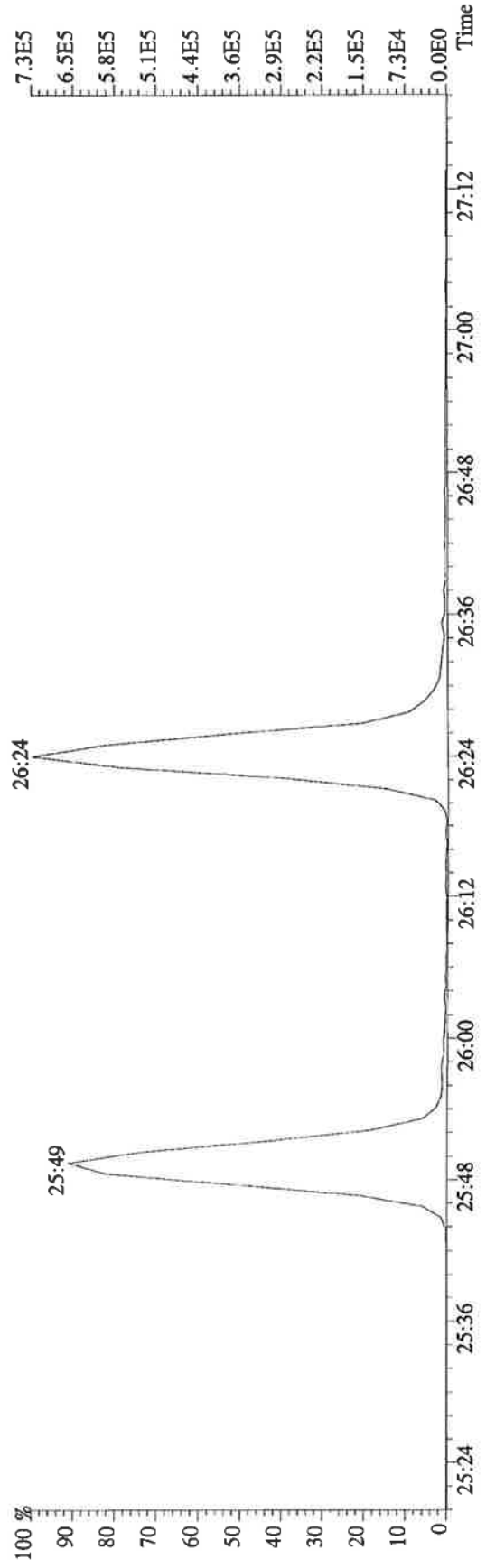
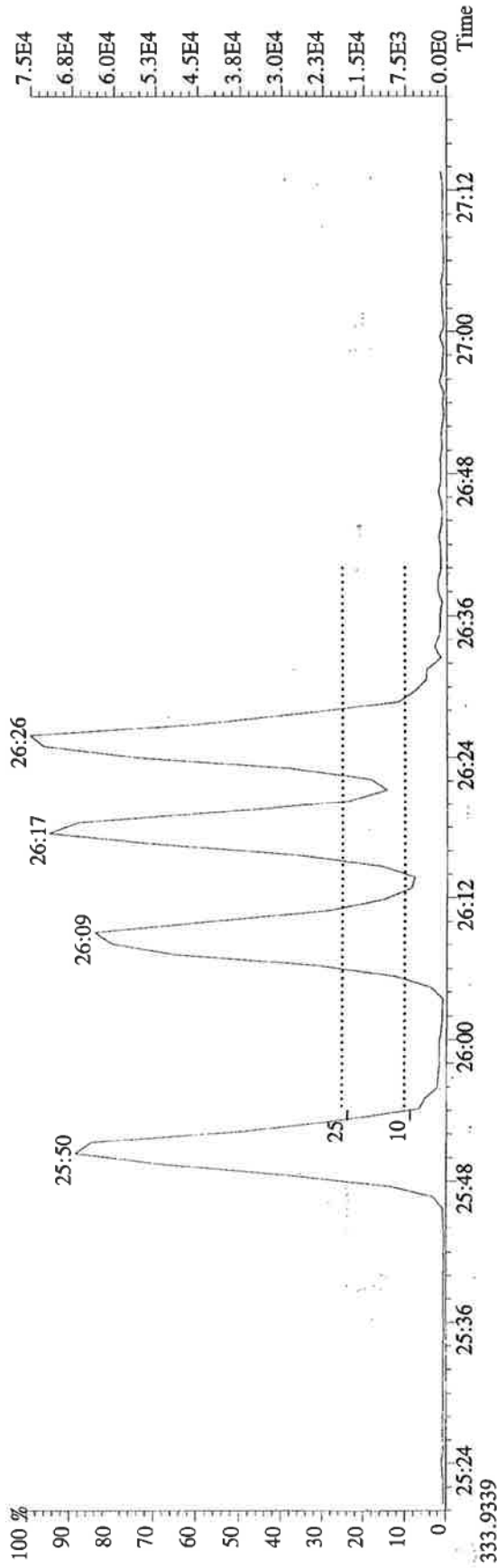
Analyst: JB

Date: 11/16/16

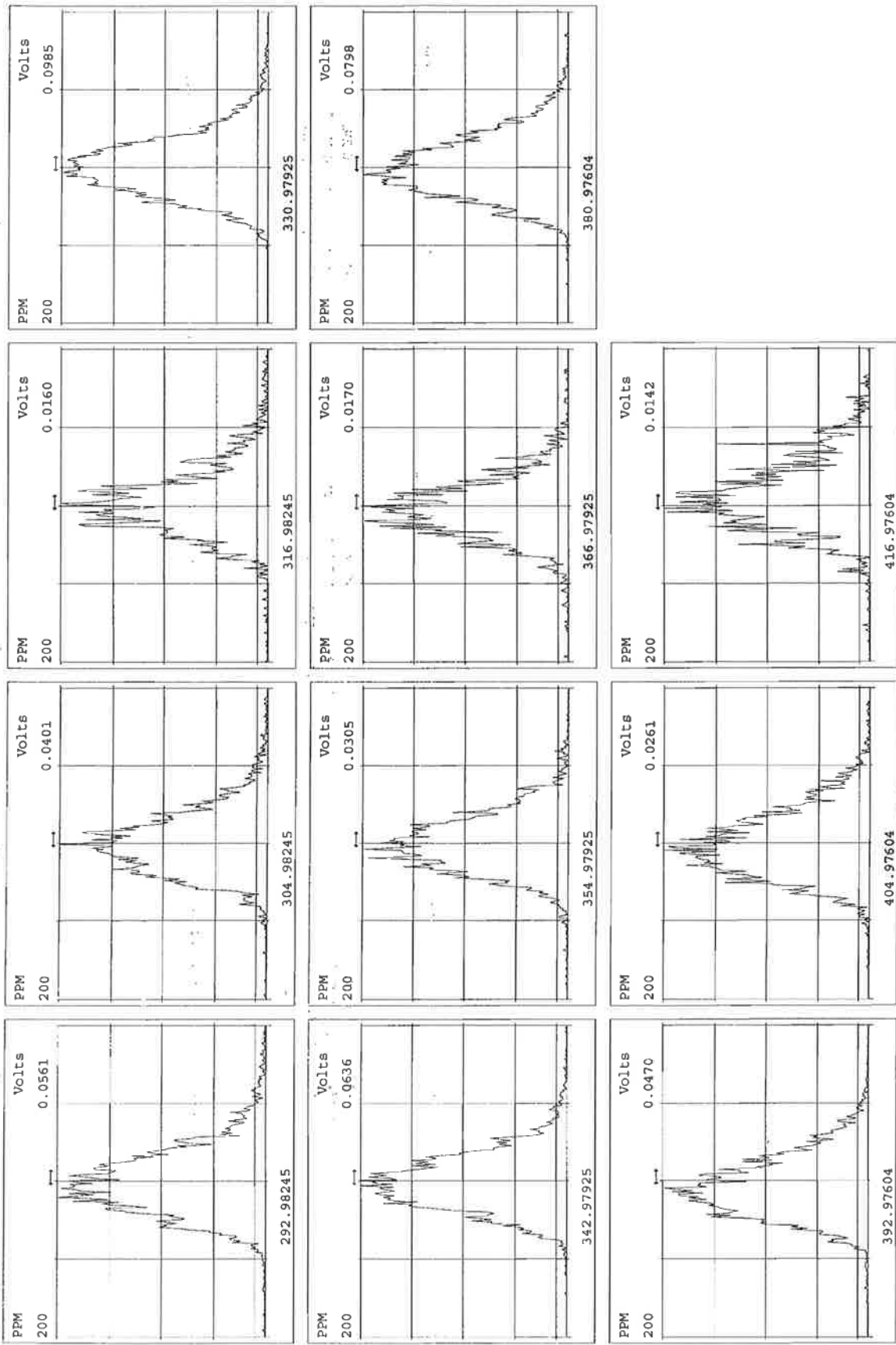
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IS	IS	2,3,7,8-TCDD	5.62e+05	0.77 Y	1.11	26:26	1.001	10.029	*	2.5	*	*	Total Tetra-Dioxins	53.4	54.6	*	*	*
IS	IS	1,2,3,7,8-TCDF	2.90e+06	1.62 Y	0.99	29:48	1.001	47.595	*	2.5	*	*	Total Penta-Dioxins	133	134	*	*	*
IS	IS	2,3,4,7,8-TCDF	3.02e+06	1.54 Y	0.87	30:43	1.001	48.695	*	2.5	*	*	Total Hexa-Dioxins	183	185	*	*	*
IS	IS	1,2,3,4,7,8-HxCDF	2.23e+06	1.15 Y	1.03	33:25	1.000	48.308	*	2.5	*	*	Total Hepta-Dioxins	124	126	*	*	*
IS	IS	2,3,6,7,8-HxCDF	2.55e+06	1.21 Y	1.09	34:08	1.000	49.044	*	2.5	*	*	Total Tetra-Furans	25.9	27.2	*	*	*
IS	IS	2,3,4,6,7,8-HxCDF	2.45e+06	1.21 Y	1.09	34:08	1.000	49.044	*	2.5	*	*	Total Penta-Furans	201.71	203.61	*	*	*
IS	IS	1,2,3,7,8,9-HxCDF	2.27e+06	1.24 Y	1.01	35:06	1.000	49.324	*	2.5	*	*	Total Hexa-Furans	244	246	*	*	*
IS	IS	1,2,3,4,6,7,8-HpCDF	2.19e+06	0.95 Y	1.29	36:56	1.000	50.089	*	2.5	*	*	Total Hepta-Furans	104	106	*	*	*
IS	IS	1,2,3,4,7,8,9-HpCDF	1.93e+06	0.97 Y	1.17	38:45	1.000	52.659	*	2.5	*	*						
IS	IS	OCDF	3.82e+06	0.89 Y	0.96	41:42	1.000	99.896	*	2.5	*	*						
IS	IS	13C-2,3,7,8-TCDD	5.05e+06	0.81 Y	1.05	26:25	1.023	101.47										
IS	IS	13C-1,2,3,7,8-TCDD	4.86e+06	0.63 Y	0.95	30:59	1.200	108.60										
IS	IS	13C-1,2,3,4,7,8-HxCDD	4.26e+06	1.24 Y	0.90	34:17	1.014	100.26										
IS	IS	13C-1,2,3,6,7,8-HxCDD	4.17e+06	1.27 Y	0.86	34:24	1.017	102.67										
IS	IS	13C-1,2,3,7,8,9-HxCDD	4.36e+06	1.23 Y	0.85	34:42	1.026	108.57										
IS	IS	13C-1,2,3,4,6,7,8-HpCDD	3.58e+06	1.00 Y	0.66	38:11	1.129	114.29										
IS	IS	13C-OCDD	6.91e+06	0.91 Y	0.63	41:28	1.226	232.72										
IS	IS	13C-2,3,7,8-TCDF	6.37e+06	0.77 Y	0.91	25:37	0.992	103.91										
IS	IS	13C-1,2,3,7,8-TCDF	6.16e+06	1.56 Y	0.88	29:47	1.153	104.12										
IS	IS	13C-2,3,4,7,8-TCDF	7.16e+06	1.63 Y	1.02	30:42	1.189	104.04										
IS	IS	13C-1,2,3,4,7,8-HxCDF	4.48e+06	0.50 Y	1.04	33:24	0.988	91.485										
IS	IS	13C-1,2,3,6,7,8-HxCDF	4.78e+06	0.49 Y	1.08	33:31	0.991	93.315										
IS	IS	13C-2,3,4,6,7,8-HxCDF	4.58e+06	0.49 Y	0.94	34:08	1.009	102.67										
IS	IS	13C-1,2,3,7,8,9-HxCDF	4.54e+06	0.50 Y	0.87	35:05	1.038	110.48										
IS	IS	13C-1,2,3,4,6,7,8-HpCDF	3.39e+06	0.40 Y	0.66	36:55	1.092	107.68										
IS	IS	13C-1,2,3,4,7,8,9-HpCDF	3.13e+06	0.41 Y	0.60	38:44	1.145	109.42										
IS	IS	13C-OCDF	7.96e+06	0.90 Y	0.71	41:41	1.233	236.36										
C/Up		37Cl-2,3,7,8-TCDD	5.02e+05		1.20	26:26	1.023	8.8378										
RS/RT		13C-1,2,3,4-TCDD	4.73e+06	0.77 Y	1.00	25:49	*	100.00										
RS		13C-1,2,3,4-TCDF	6.76e+06	0.82 Y	1.00	24:21	*	100.00										
RS/RT		13C-1,2,3,4,6,9-HxCDF	4.73e+06	0.50 Y	1.00	33:49	*	100.00										

Reviewed by Integrations
 Analyst: DB
 Date: 11/16/16

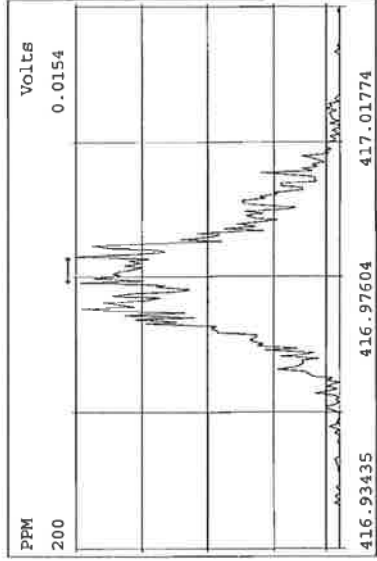
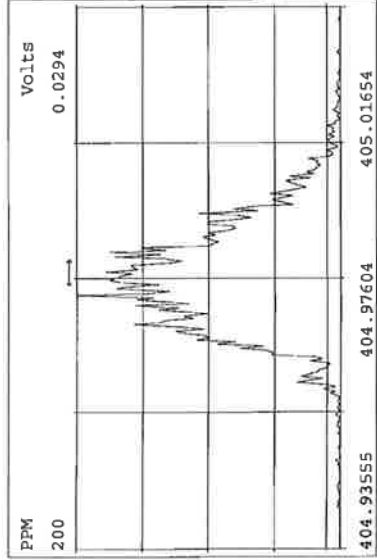
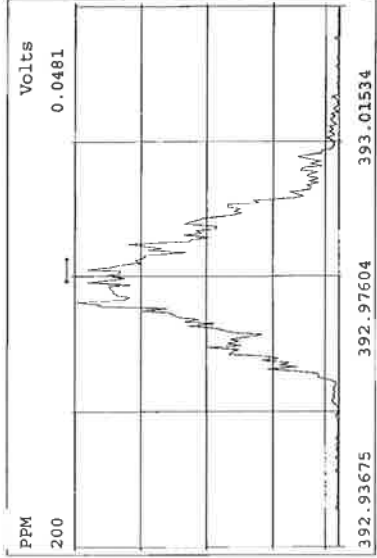
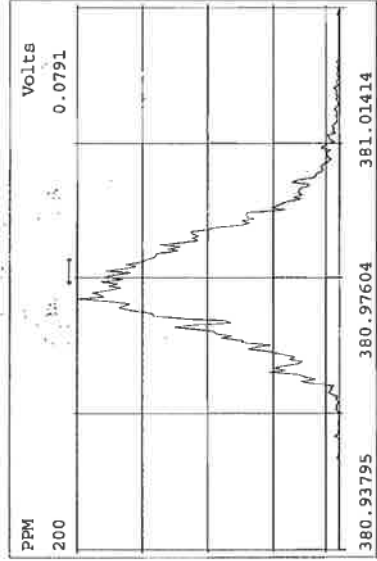
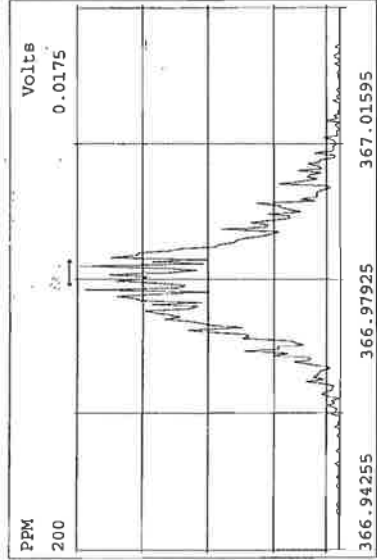
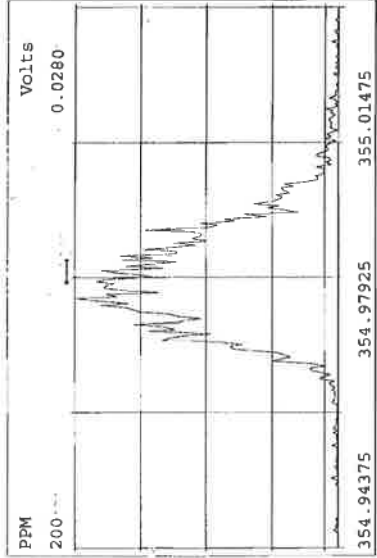
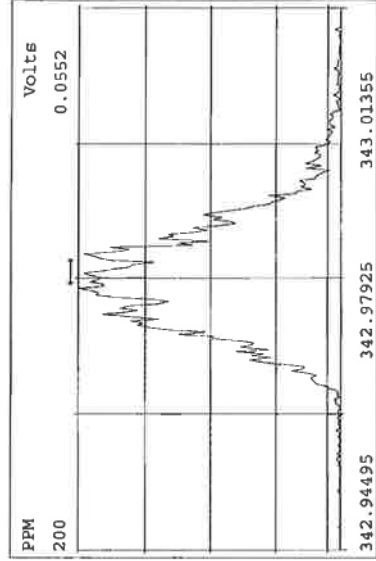
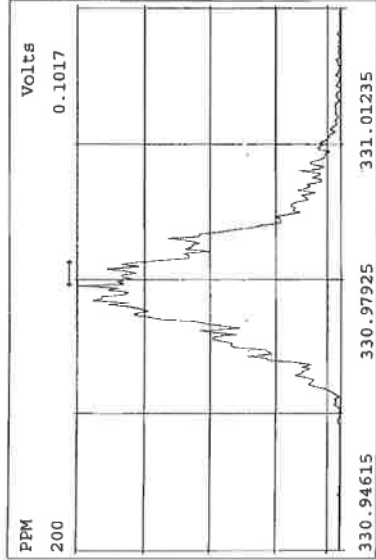
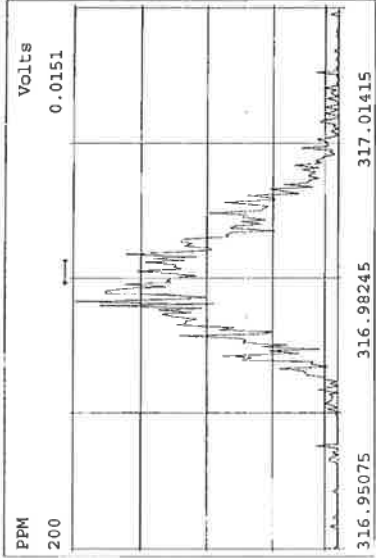
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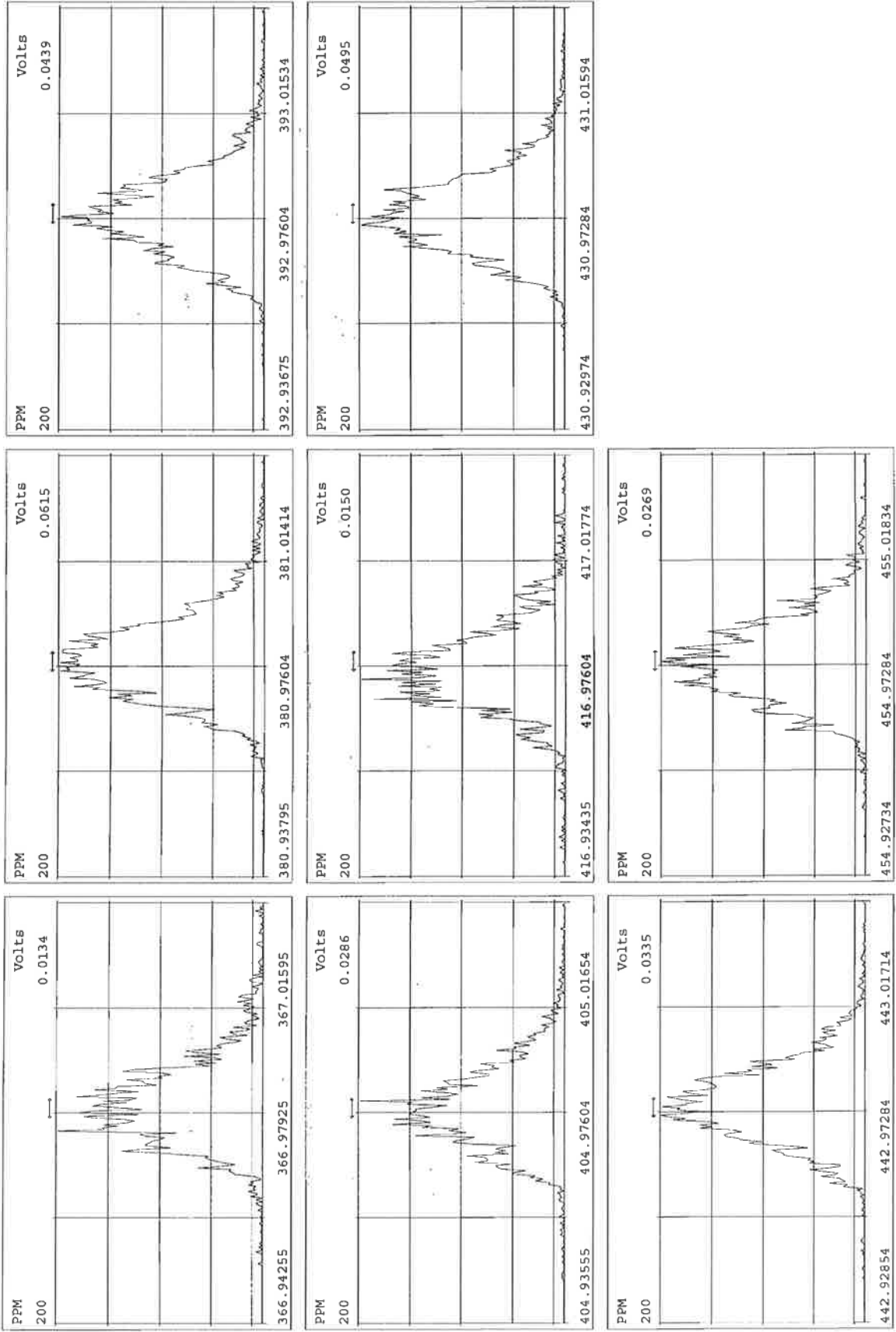
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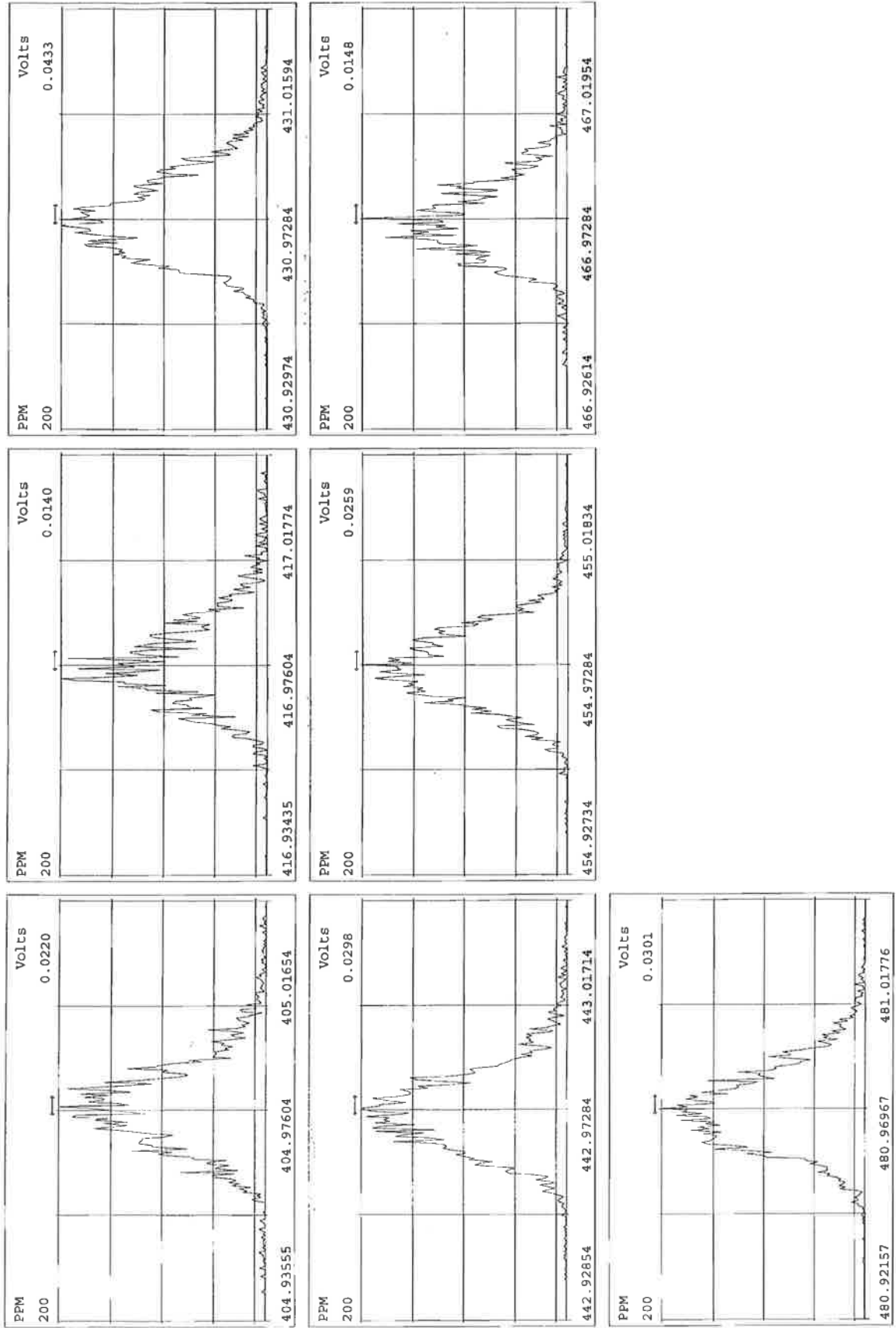
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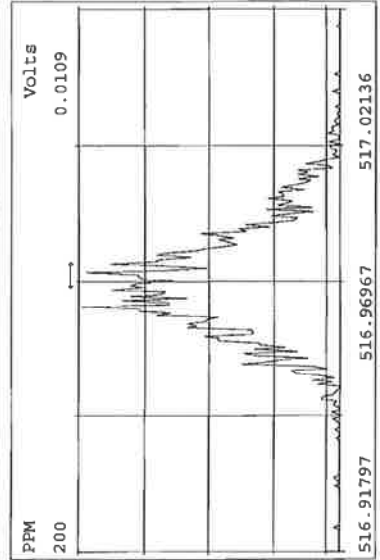
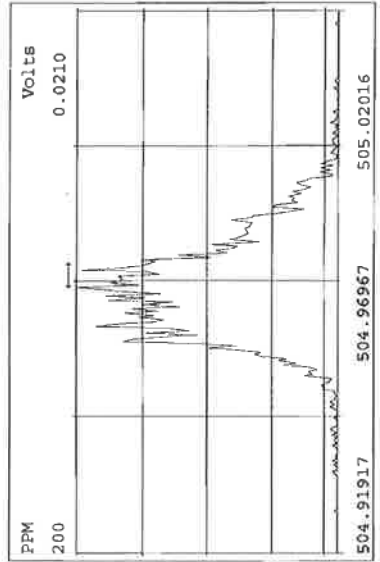
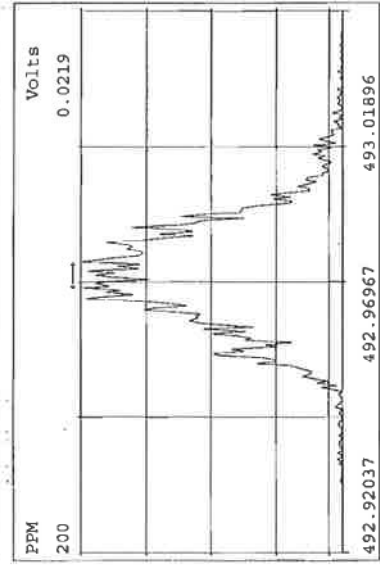
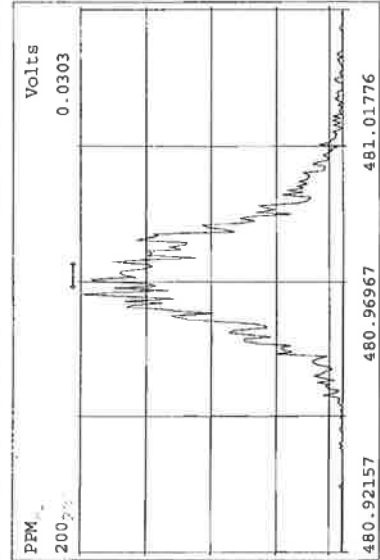
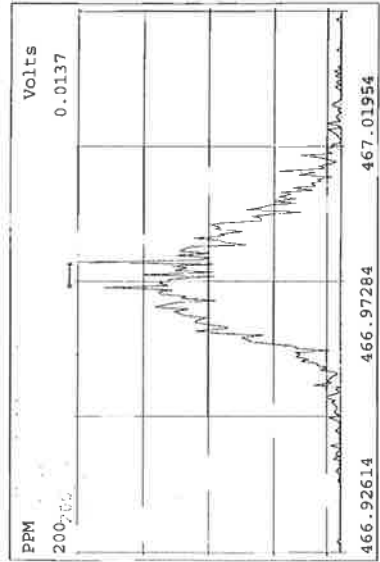
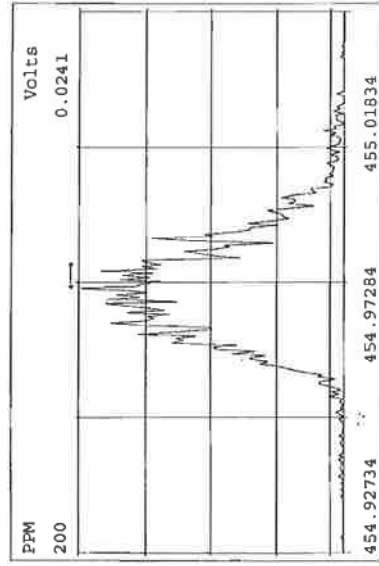
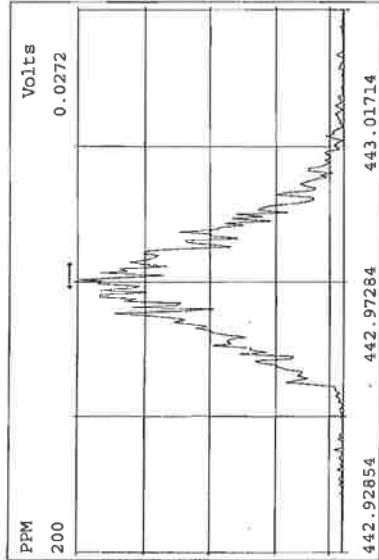
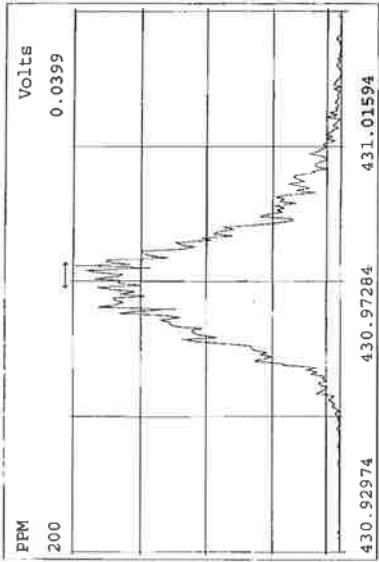
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 Experiment:OCDD_DB5 Function:3 Reference:PFK



Peak Locate Examination:16-NOV-2016:15:50 File:161116D2
 Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination:16-NOV-2016:15:50 File:161116D2
 Experiment:OCDD_DB5 Function:5 Reference:PFK



Process Sheet
 Workorder: **1601354**

Prep Expiration: 08/30/2017
 Client: Teck American Incorporated

Workorder Due: 15-Nov-16 00:00
 TAT: 21

Method: **1613 Full List**
 Matrix: **Tissue**
 Client Matrix: Tissue
 Also run: ~~Percent Solids~~ & **Percent Lipids**

Prep Batch: B6K0059

Prep Data Entered: 11/11/16 TLD
Date and Initials

Initial Sequence: S6120042

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601354-01	<input checked="" type="checkbox"/>	EPA-HS-A1	25-Oct-16 09:00	WF-2 C-6	
1601354-02	<input checked="" type="checkbox"/>	EPA-HS-A1 DUP	25-Oct-16 09:00	WF-2 C-6	
1601354-03	<input checked="" type="checkbox"/>	EPA-HS-A1 TRIP	25-Oct-16 09:00	WF-2 C-6	
1601354-04	<input checked="" type="checkbox"/>	EPA-HS-A2	25-Oct-16 09:00	WF-2 C-6	
1601354-05	<input checked="" type="checkbox"/>	EPA-HS-A3	25-Oct-16 09:00	WF-2 C-6	
1601354-06	<input checked="" type="checkbox"/>	EPA-HS-B1	25-Oct-16 09:00	WF-2 C-6	
1601354-07	<input checked="" type="checkbox"/>	EPA-HS-B2	25-Oct-16 09:00	WF-2 C-6	
1601354-08	<input checked="" type="checkbox"/>	EPA-HS-B3	25-Oct-16 09:00	WF-2 C-6	
1601354-09	<input checked="" type="checkbox"/>	EPA-HS-C1	25-Oct-16 09:00	WF-2 C-6	
1601354-10	<input checked="" type="checkbox"/>	EPA-HS-C2	25-Oct-16 09:00	WF-2 C-6	
1601354-11	<input checked="" type="checkbox"/>	EPA-HS-C3	25-Oct-16 09:00	WF-2 C-6	

WO Comments: **PBDEs: Total PBDEs, BDE-47, BDE-99, BDE-153, BDE-209**

Report in ng/kg. Samples received freeze dried, need to add % solids to report in wet weight.

Vista PM: Martha Maier

Vial Box ID: Hoka (back row)

Sample Reconciled By: TLD 11/9/16

% Lipids for Extraction Set B6K0061

Procedures:

WO: 1601354

Matrix: Tissue

Chemist: TVD

Analysis: Percent Lipids

Prep Date: 11/10/16

Vista Sample ID	Sample Wt. Equiv.	^{TIN} Rnd Bottom Wt. (g)	^{TIN} Rnd Bottom & Residue Wt. (g)	Residue Wt.	% Lipids	Comments:
1601354-01	1.005	1.295412	1.35765	0.058038	5.77%	NA ↓ J.T. 11/21/16
1601354-02	1.001	1.289612 1.282496	1.33524	0.052744	5.27%	
1601354-03	1.003	1.295112	1.34486	0.049748	4.96%	
1601354-04	1.005	1.286807	1.34963	0.062823	6.25%	
1601354-05	1.001	1.288400	1.32384	0.03544	3.54%	
1601354-06	1.002	1.289256	1.35095	0.061694	6.16%	
1601354-07	1.004	1.274282	1.32585	0.051568	5.14%	
1601354-08	1.003	1.282421	1.34479	0.062369	6.22%	
1601354-09	1.004	1.282037	1.43642	0.154383	15.38%	
1601354-10	1.001	1.281486	1.40277	0.121284	12.12%	
1601354-11	1.003	1.285631	1.40654	0.120909	12.05%	

Notes:

Sample Wt Equiv = $\frac{\% \text{Sample Wt Used} * \text{Sample Wt}}{100}$

% Lipids = $\frac{\text{Residue Wt} * 100}{\text{Sample Wt Equiv}}$

Balance ID MRMS-6

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal Tissue
Analysis Method: Freeze Dry
Prep Method: None

Service Request: K1611838
Date Collected: 08/30/16 - 09/07/16
Date Received: 10/4/16

Units: Percent
Basis: Wet

Total Solids

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
EPA-HS-A1	K1611838-009	23.9	-	-	1	10/20/16 17:00	
EPA-HS-A1 DUP	K1611838-010	24.4	-	-	1	10/20/16 17:00	
EPA-HS-A1 TRIP	K1611838-011	23.4	-	-	1	10/20/16 17:00	
EPA-HS-A2	K1611838-020	23.7	-	-	1	10/20/16 17:00	
EPA-HS-A3	K1611838-029	24.7	-	-	1	10/20/16 17:00	
EPA-HS-B1	K1611838-038	26.4	-	-	1	10/20/16 17:00	
EPA-HS-B2	K1611838-047	24.6	-	-	1	10/20/16 17:00	
EPA-HS-B3	K1611838-056	23.9	-	-	1	10/20/16 17:00	
EPA-HS-C1	K1611838-065	31.6	-	-	1	10/20/16 17:00	
EPA-HS-C2	K1611838-074	30.1	-	-	1	10/20/16 17:00	
EPA-HS-C3	K1611838-083	28.7	-	-	1	10/20/16 17:00	

PREPARATION BENCH SHEET

Matrix: Tissue

B6K0059

Chemist: TLD

Method: 1613 Full List

Prep Date/Time: 09-Nov-16 07:44

Prepared using: HRMS Soxhlet

C	VISTA Sample ID	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	ABSG CHEM/DATE	AA CHEM/DATE	Florisil CHEM/DATE	Charcoal CHEM/DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	B6K0059-BLK1	(10.00)	TLD BSS 11/9/16	TLD BSS 11/10/16	TLD 11/10/16	TLD 11/10/16	TLD 11/10/16	TLD 11/11/16	BSS TLD 11/11/16
<input type="checkbox"/>	B6K0059-BS1	(10.06)							
<input type="checkbox"/>	1601354-01	10.07							
<input type="checkbox"/>	1601354-02	16.61							
<input type="checkbox"/>	1601354-03	10.03							
<input type="checkbox"/>	1601354-04	10.05							
<input type="checkbox"/>	1601354-05	10.01							
<input type="checkbox"/>	1601354-06	10.12							
<input type="checkbox"/>	1601354-07	10.04							
<input type="checkbox"/>	1601354-08	10.03							
<input type="checkbox"/>	1601354-09	10.04							
<input type="checkbox"/>	1601354-10	10.01							
<input type="checkbox"/>	1601354-11	10.03							

Prepared using: HRMS Soxhlet

NS Name: 1551324, 10ul PCDD/F 1551327, 10ul PCDD/F 1551325, 10ul PCDD/F 1551326, 10ul

CRS Name: 110

RS Name: 113

IS Name: 113

PCB: _____ PAH: _____

PCB: _____ PAH: _____

PCB: _____ PAH: _____

APP: SEFUN SOX SDS

SOLV: 1:1 DCM:Hex

Other: NA

Final Volume(s): 20ul

Cycle Time: Start Date/Time 11/9/16 1430 Stop Date/Time 11/10/16 0830

Check Out: Chemist/Date: TLD 11/9/16

Check In: Chemist/Date: TLD 11/9/16

Balance ID: HRMS-8

Final Volume(s): 20ul

C14

Comments: Work Order 1601354

Process Sheet
Workorder: 1601354

Prep Expiration: 10/17/2017
 Client: Teck American Incorporated

Workorder Due: 15-Nov-16 00:00

TAT: 21

Method: **1613 Full List**
 Matrix: **Aqueous**
 Client Matrix: Aqueous
 Also run: **Percent Solids**

Prep Batch: B6J0188

Prep Data Entered: 11/1/16, TLD
Date and Initials

Initial Sequence: 56K0002

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601354-12	<input checked="" type="checkbox"/>	Homogenization Blank 10/17/16	25-Oct-16 09:00	WR-2 D-6	
1601354-13	<input checked="" type="checkbox"/>	Homogenization Blank 10/19/16	25-Oct-16 09:00	WR-2 D-6	
1601354-14	<input checked="" type="checkbox"/>	Homogenization Blank 10/18/16	25-Oct-16 09:00	WR-2 D-6	

WO Comments: ~~PBDEs: Total PBDEs, BDE-47, BDE-99, BDE-153, BDE-209~~

Vista PM: Martha Maier

Vial Box ID: HOKA

Sample Reconciled By: TLD 10/31/16

Percent Moisture/Percent Solids

D2216-90 BATCH ID B6J0189

Analyst: MD
 Test Code: %Moist/%Solids
 Units: %
 Analyte:
 Dried at 110°C +/- 5°C

Inst HRMS-9
 Date/Time IN: 10/21/16 0700
 Date/Time OUT: 11/1/16 1400

Crystals present. TD 11/1/16

Particle Size	Sample ID	Sample Type	Initial and Date:		T D 10/31/16		T D 11/1/16		M N O P Q					
			Pan	Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	% Solids Raw Val	pH Before	pH After	Acid Added	Cl-	Visual Inspection	
	1601350-01	Sample	1.30	13.50	1.42	1.42	0	0	7	NA	NA	0	0	Clear
	1601350-02	Sample	1.29	10.82	1.73	1.73	0	0	7	NA	NA	0	0	Clear
	1601352-01	Sample	1.30	15.05	1.40	1.40	0	0	7	NA	NA	0	0	Clear
	1601354-12	Sample	1.29	14.96	1.30	1.30	0	0	7	NA	NA	0	0	Clear
	1601354-13	Sample	1.30	14.33	1.31	1.31	0	0	7	NA	NA	0	0	Clear
	1601354-14	Sample	1.30	16.53	1.31	1.31	0	0	7	NA	NA	0	0	Clear
	1601376-01	Sample	1.31	18.36	1.33	1.33	0	0	7	NA	NA	0	0	Murky
	1601378-01	Sample	1.31	28.29	1.33	1.33	0	0	7	NA	NA	0	0	Clear
	BLK	QC					100	100	7	NA	NA	0	0	Clear
	BSI	QC					100	100	7	NA	NA	0	0	Clear

Percent Moisture/ Percent Solids

D2216-90 BATCH ID B6J0189

Analyst: TLD
 Analyte: Dried at 110°C +/- 5°C
 Test Code: %Moist/%Solids
 Units: %

Date/Time IN: 10/31/16 9:00
 Date/Time OOUT: 11/1/16 14:00

HRMS-9

Particle Size	SampleID	D			E		F			G			H			K			M			N			O			P			Q		
		Sample Type	Initial and Date:	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	pH Before	pH After	Acid Added	Cl-	Visual Inspection																				
	1601350-01	Sample	1.3000	13.5000	1.6200	0.3200	2.62	8	na	na	0	clear																					
	1601350-02	Sample	1.2900	16.8200	1.7300	0.4400	2.83	8	na	na	0	clear																					
	1601352-01	Sample	1.3000	15.0500	1.4000	0.1000	0.73	9	na	na	0	clear																					
	1601354-12	Sample	1.2900	16.9600	1.3000	0.0100	0.06	5	na	na	0	clear																					
	1601354-13	Sample	1.3000	14.8300	1.3100	0.0100	0.07	5	na	na	0	clear																					
	1601354-14	Sample	1.3000	16.5300	1.3100	0.0100	0.07	5	na	na	0	clear																					
	1601376-01	Sample	1.3100	18.3600	1.3300	0.0200	0.12	7	na	na	0	murky																					
	1601378-01	Sample	1.3100	28.2900	1.3300	0.0200	0.07	7	na	na	0	clear																					

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 1613 Full List

Method: 1613 2.3.7.8-TCDD Only

B6J0188

Chemist: TJD

Prep Date/Time: 31-Oct-16 07:54

Prepared using: HRMS - Separatory Funnel

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/DATE	CRS CHEM/DATE	AP CHEM/DATE	ABSG CHEM/DATE	AA CHEM/DATE	Florisi CHEM/DATE	RS CHEM/DATE
<input checked="" type="checkbox"/>	B6J0188-BLKI	NA	NA	(.0000)	TJD 11/1/16	TJD 11/1/16	NA	TJD 11/1/16	TJD 11/1/16	TJD 11/1/16	TJD 11/31/16
<input checked="" type="checkbox"/>	B6J0188-BS1	NA	NA	(.0000)	TJD 11/1/16	TJD 11/1/16	NA	TJD 11/1/16	TJD 11/1/16	TJD 11/1/16	TJD 11/31/16
<input checked="" type="checkbox"/>	1601350-01	1530.50	502.99	1.02351							
<input checked="" type="checkbox"/>	1601350-02	1538.82	500.01	1.03881							
<input checked="" type="checkbox"/>	1601352-01	1452.77	499.80	0.95347							
<input checked="" type="checkbox"/>	1601354-12	1547.09	512.57	1.03448							
<input checked="" type="checkbox"/>	1601354-13	1528.71	511.08	1.01763							
<input checked="" type="checkbox"/>	1601354-14	1534.61	515.04	1.01957							
<input checked="" type="checkbox"/>	1601376-01	1532.88	500.57	1.03231							
<input checked="" type="checkbox"/>	1601378-01	1307.25	383.89	0.92396							

(A) Centrifuged DCM emulsions. TJD 10/31/16

(B) 11/1/16

IS Name PCDD/F 15J1324, 10, PCDD/F 15J1327, 10, PCDD/F 15J1325, 10, PCDD/F 15J1326, 10	NS Name PCB PAH	CRS Name PCB PAH	RS Name PCDD/F 15J1325, 10, PCB PAH	APP: (SEFUN) SOX SDS SOLV: DCM Other: NA Final Volume(s): 20ul C14	Check Out: Chemist/Date: TJD 10/31/16 Check In: Chemist/Date: empty Balance ID: HRMS-9
PCB	PCB	PCB	PCB		
PAH	PAH	PAH	PAH		

Comments: Assume 1 g = 1 mL (B) Florisi (not done) TJD 11/1/16

Sample ID: Method Blank

EPA Method 1614

Matrix: Tissue	QC Batch: B6K0060	Lab Sample: B6K0060-BLK1
Sample Size: 10.0 g	Date Extracted: 09-Nov-2016 7:47	Date Analyzed: 16-Nov-16 15:40
		Column: ZB-50

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	0.000628 ✓			J	IS 13C-BDE-3	60.6	25-150	
BDE-99	0.000451 ✓			J	IS 13C-BDE-15	88.4	25-150	
BDE-153	ND	0.000136			IS 13C-BDE-28	90.9	25-150	
BDE-209	ND	0.00480			IS 13C-BDE-47	101 ✓	30-140	
Total Mono-BDE	ND	0.000141			IS 13C-BDE-77	97.1	25-150	
Total Di-BDE	ND	0.0000132			IS 13C-BDE-100	116	25-150	
Total Tri-BDE	ND	0.0000115			IS 13C-BDE-99	110 ✓	25-150	
Total Tetra-BDE	0.000628 ✓				IS 13C-BDE-118	105	25-150	
Total Penta-BDE	0.000539 ✓				IS 13C-BDE-155	117	25-150	
Total Hexa-BDE	ND	0.000116			IS 13C-BDE-154	113	25-150	
Total Hepta-BDE	ND	0.000399			IS 13C-BDE-153	105	25-150	
Total Octa-BDE	ND	0.000255			IS 13C-BDE-138	92.1	25-150	
Total Nona-BDE	ND	0.000528			IS 13C-BDE-169	86.8	25-150	
Total Deca-BDE	ND	0.00480			IS 13C-BDE-183	121	25-150	
					IS 13C-BDE-180	103	25-150	
					IS 13C-BDE-204	105	25-150	
					IS 13C-BDE-197	112	25-150	
					IS 13C-BDE-205	90.4	25-150	
					IS 13C-BDE-207	98.6	25-150	
					IS 13C-BDE-206	86.2	25-150	
					IS 13C-BDE-209	51.9	20-200	
					CRS 13C-BDE-126	94.3 ✓	30-135	

No impact

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.

Quantify Sample Summary Report
Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-4qld.qld

Last Altered: Thursday, November 17, 2016 08:13:58 Pacific Standard Time
Printed: Friday, November 25, 2016 11:58:55 Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_4, Date: 16-Nov-2016, Time: 15:40:21, ID: B6K0060-BLK1 Method Blank 10, Description: Method Blank

Handwritten: 07 11/25/16 11/29/16

#	Name	Resp	RA	n/y	RRF	w/vol	RI	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
1	20 BDE-47	2.24e3	0.75	NO	0.899	10.000	25.21	1.000	1.000	NO	0.62803	—	0.0169	0.828
2	26 BDE-99	1.01e3	1.05	NO	0.944	10.000	29.11	1.000	1.000	NO	0.45104	—	0.0428	0.451
3	34 BDE-153			NO	0.947	10.000		1.000	1.000	YES			0.136	
4	55 BDE-209			NO	1.29	10.000		1.001	1.001	YES			4.80	
5	56 13C-BDE-3	3.73e6	1.03	NO	2.71	10.000	10.75	0.419	0.419	NO	302.90	60.6	0.0588	
6	57 13C-BDE-15	3.76e6	0.51	NO	1.87	10.000	16.73	0.652	0.652	NO	441.89	88.4	0.0743	
7	58 13C-BDE-28	2.43e6	1.03	NO	1.17	10.000	21.09	0.822	0.822	NO	454.61	90.9	0.0609	
8	59 13C-BDE-47	1.99e6	0.66	NO	0.865	10.000	25.20	0.983	0.982	NO	504.72	101	0.0526	
9	60 13C-BDE-77	1.99e6	0.68	NO	0.902	10.000	26.83	1.046	1.046	NO	485.35	97.1	0.0505	
10	61 13C-BDE-100	1.61e6	1.02	NO	2.34	10.000	28.15	0.852	0.851	NO	578.38	116	0.281	
11	62 13C-BDE-99	1.18e6	1.02	NO	1.82	10.000	29.10	0.881	0.880	NO	548.79	110	0.362	
12	63 13C-BDE-118	7.78e5	1.02	NO	1.25	10.000	29.90	0.905	0.904	NO	523.37	105	0.525	
13	64 13C-BDE-155	1.17e6	0.76	NO	1.68	10.000	30.72	0.930	0.929	NO	585.18	117	0.162	
14	65 13C-BDE-154	8.35e5	0.77	NO	1.24	10.000	31.39	0.950	0.950	NO	565.12	113	0.219	
15	66 13C-BDE-153	5.70e5	0.76	NO	0.918	10.000	32.65	0.988	0.988	NO	522.36	104	0.297	
16	67 13C-BDE-138	4.51e5	0.77	NO	0.825	10.000	34.21	1.035	1.036	NO	460.50	92.1	1.14	
17	68 13C-BDE-169	6.89e5	0.76	NO	1.34	10.000	34.88	1.056	1.056	NO	433.76	86.8	0.703	
18	69 13C-BDE-183	4.02e5	1.03	NO	2.50	10.000	35.93	1.087	1.088	NO	605.97	121	0.514	
19	70 13C-BDE-180	2.16e5	1.02	NO	1.57	10.000	37.27	0.984	0.984	NO	516.79	103	2.82	
20	71 13C-BDE-204	2.68e5	0.82	NO	0.593	10.000	39.42	0.983	0.983	NO	1054.4	105	2.32	
21	72 13C-BDE-197	3.51e5	0.82	NO	0.733	10.000	39.50	0.985	0.984	NO	1115.4	112	1.87	
22	73 13C-BDE-205	1.11e5	0.78	NO	0.285	10.000	41.29	1.029	1.030	NO	903.68	90.4	4.81	
23	74 13C-BDE-207	2.50e5	1.00	NO	0.985	10.000	45.74	1.014	1.013	NO	985.61	98.6	4.33	
24	75 13C-BDE-206	1.55e5	1.00	NO	0.700	10.000	47.41	1.051	1.052	NO	861.90	86.2	6.09	
25	76 13C-BDE-209	6.64e4	0.80	NO	0.249	10.000	56.69	1.257	1.257	NO	1037.1	51.9	8.49	
26	77 13C-BDE-79	2.27e6	0.68	NO		10.000	25.65	0.000	0.000	NO	500.00	100	0.0455	
27	78 13C-BDE-139	5.94e5	0.77	NO		10.000	33.04	0.000	0.000	NO	500.00	100	0.272	
28	79 13C-BDE-190	1.33e5	1.04	NO		10.000	37.86	0.000	0.000	NO	500.00	100	4.44	
29	80 13C-BDE-203	2.15e5	0.81	NO		10.000	40.11	0.000	0.000	NO	500.00	100	1.37	
30	81 13C-BDE-208	1.29e5	1.00	NO		10.000	45.10	0.000	0.000	NO	500.00	100	4.26	
31	82 13C-BDE-126	1.16e6	1.03	NO	2.07	10.000	31.05	0.940	0.940	NO	471.43	94.3	0.318	471

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-4.qld.qld

Last Altered: Thursday, November 17, 2016 08:13:58 Pacific Standard Time
 Printed: Friday, November 25, 2016 11:58:55 Pacific Standard Time

Name: 161116K1_4, Date: 16-Nov-2016, Time: 15:40:21, ID: B6K0060-BLK1 Method Blank 10, Description: Method Blank

#	Name	Resp	RA	n/y	RRF	w/vol	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE				0.836	10.000			0.000	NO			0.141	
33	84 Total Di BDE				0.786	10.000			0.000	NO			0.0132	
34	85 Total Tri BDE				0.966	10.000			0.000	NO			0.0115	
35	86 Total Tetra BDE				0.806	10.000			0.000	YES	0.62803		0.0172	0.628
36	87 1st Function Penta BDE				0.999	10.000			0.000	NO			0.0117	
37	88 Total Penta BDE				0.950	10.000			0.000	NO	0.53884		0.0366	0.539
38	89 1st Function Hexa BDE				0.970	10.000			0.000	NO			0.0480	
39	90 Total Hexa BDE				0.698	10.000			0.000	NO			0.116	
40	91 1st Function Hepta BDE				0.970	10.000			0.000	NO	0.00000		0.0662	0.399
41	92 Total Hepta BDE				0.834	10.000			0.000	NO			0.129	
42	93 Total Octa BDE				0.822	10.000			0.000	NO			0.255	
43	94 Total Nona BDE				0.943	10.000			0.000	NO			0.528	
44	95 Total Deca BDE				1.29	10.000			0.000	NO			2.33	

Sample ID: OPR

EPA Method 1614

Matrix: Tissue
Sample Size: 10.0 g

QC Batch: B6K0060
Date Extracted: 09-Nov-2016 7:47

Lab Sample: B6K0060-BS1
Date Analyzed: 16-Nov-16 13:38 Column: ZB-50

Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
BDE-47	0.104	0.100	104	50 - 150	IS 13C-BDE-3	61.7	30 - 140
BDE-99	0.105	0.100	105	50 - 150	IS 13C-BDE-15	88.4	30 - 140
BDE-153	0.102	0.100	102	50 - 150	IS 13C-BDE-28	91.2	30 - 140
BDE-209	0.506	0.500	101	50 - 150	IS 13C-BDE-47	101	30 - 140
					IS 13C-BDE-77	94.9	30 - 140
					IS 13C-BDE-100	108	30 - 140
					IS 13C-BDE-99	102	30 - 140
					IS 13C-BDE-118	98.3	30 - 140
					IS 13C-BDE-155	109	30 - 140
					IS 13C-BDE-154	108	30 - 140
					IS 13C-BDE-153	102	30 - 140
					IS 13C-BDE-138	90.1	30 - 140
					IS 13C-BDE-169	88.9	30 - 140
					IS 13C-BDE-183	116	30 - 140
					IS 13C-BDE-180	105	30 - 140
					IS 13C-BDE-204	98.8	30 - 140
					IS 13C-BDE-197	110	30 - 140
					IS 13C-BDE-205	85.8	20 - 200
					IS 13C-BDE-207	98.7	30 - 140
					IS 13C-BDE-206	92.7	30 - 140
					IS 13C-BDE-209	56.7	20 - 200
					CRS 13C-BDE-126	95.7	40 - 125

LCL-UCL - Lower control limit - upper control limit

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-2.qld

Last Altered: Thursday, November 17, 2016 08:04:21 Pacific Standard Time
Printed: Thursday, November 17, 2016 08:06:05 Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_2, Date: 16-Nov-2016, Time: 13:38:38, ID: B6K0060-BS1 OPR 10, Description: OPR

Handwritten: 11/17/16

# Name	Resp	RA	mY	RRF	wfvol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1 BDE-1	1.47e5	0.99	NO	0.572	10.000	10.07	10.09	0.937	0.939	44.857	0.477	0.477	44.9
2 BDE-2	2.61e5	1.01	NO	0.917	10.000	10.43	10.42	0.970	0.969	49.738	0.298	0.298	49.7
3 BDE-3	2.77e5	1.00	NO	1.02	10.000	10.76	10.76	1.001	1.001	47.478	0.268	0.268	47.5
4 BDE-10	1.07e5	0.48	NO	0.468	10.000	14.15	14.17	0.846	0.847	40.367	0.0736	0.0736	40.4
5 BDE-7	1.40e5	0.48	NO	0.567	10.000	15.31	15.31	0.915	0.915	43.737	0.0607	0.0607	43.7
6 BDE-8/11	4.59e5	0.49	NO	0.821	10.000	15.88	15.88	0.949	0.949	98.861	0.0419	0.0419	98.9
7 BDE-12	2.25e5	0.48	NO	0.883	10.000	16.21	16.21	0.969	0.969	45.032	0.0390	0.0390	45.0
8 BDE-13	2.65e5	0.49	NO	0.931	10.000	16.31	16.31	0.975	0.975	50.383	0.0370	0.0370	50.4
9 BDE-15	3.04e5	0.49	NO	1.05	10.000	16.75	16.74	1.001	1.001	51.251	0.0329	0.0329	51.3
10 BDE-30	1.15e5	1.06	NO	0.711	10.000	18.62	18.62	0.883	0.883	44.290	0.0633	0.0633	44.3
11 BDE-32	1.87e5	1.03	NO	0.982	10.000	20.02	20.03	0.949	0.950	51.834	0.0459	0.0459	51.8
12 BDE-17	1.77e5	1.03	NO	0.953	10.000	20.39	20.37	0.967	0.966	50.669	0.0472	0.0472	50.7
13 BDE-25	1.19e5	1.04	NO	0.653	10.000	20.54	20.53	0.974	0.973	49.798	0.0689	0.0689	49.8
14 BDE-28/33	3.42e5	1.02	NO	0.899	10.000	21.11	21.10	1.001	1.001	103.70	0.0501	0.0501	104
15 BDE-35/21	2.36e5	1.02	NO	1.26	10.000	21.51	21.53	1.020	1.021	50.951	0.0356	0.0356	51.0
16 BDE-37	2.44e5	1.04	NO	1.30	10.000	22.00	22.01	1.043	1.044	51.059	0.0345	0.0345	51.1
17 BDE-75/51	5.63e5	0.64	NO	0.897	10.000	24.24	24.29	0.945	0.947	209.62	0.0250	0.0250	210
18 BDE-49	2.11e5	0.65	NO	0.699	10.000	24.57	24.58	0.958	0.958	101.03	0.0320	0.0320	101
19 BDE-71	1.92e5	0.64	NO	0.625	10.000	24.75	24.74	0.965	0.965	102.89	0.0358	0.0358	103
20 BDE-47	2.80e5	0.64	NO	0.899	10.000	25.20	25.21	1.000	1.000	103.95	0.0249	0.0249	104
21 BDE-79	3.06e5	0.65	NO	0.994	10.000	25.68	25.66	1.019	1.018	102.70	0.0225	0.0225	103
22 BDE-66	1.78e5	0.63	NO	0.579	10.000	25.89	25.86	0.965	0.964	105.02	0.0398	0.0398	105
23 BDE-77	2.92e5	0.64	NO	0.950	10.000	26.83	26.85	1.000	1.000	105.05	0.0242	0.0242	105
24 BDE-100	2.55e5	1.03	NO	0.999	10.000	28.16	28.17	1.000	1.000	106.30	0.122	0.122	106
25 BDE-119/120	2.32e5	1.01	NO	0.494	10.000	28.55	28.57	1.014	1.015	196.47	0.247	0.247	196
26 BDE-99	1.75e5	1.04	NO	0.944	10.000	29.12	29.12	1.000	1.000	105.25	0.173	0.173	105
27 BDE-116	5.91e4	1.01	NO	0.577	10.000	29.48	29.45	0.986	0.985	87.423	0.437	0.437	87.4
28 BDE-118	1.14e5	1.04	NO	0.950	10.000	29.90	29.91	1.000	1.000	102.38	0.265	0.265	102
29 BDE-65	1.30e5	1.02	NO	1.11	10.000	30.68	30.67	1.026	1.026	99.393	0.226	0.226	99.4
30 BDE-126	1.90e5	1.03	NO	1.63	10.000	31.06	31.06	1.039	1.039	99.797	0.155	0.155	99.8
31 BDE-105	1.04e5	1.07	NO	0.894	10.000	31.30	31.30	1.047	1.047	98.942	0.282	0.282	98.9

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-2.qld

Last Altered: Thursday, November 17, 2016 08:04:21 Pacific Standard Time
Printed: Thursday, November 17, 2016 08:06:05 Pacific Standard Time

Name: 161116K1_2, Date: 16-Nov-2016, Time: 13:38:38, ID: B6K0060-BS1 OPR 10, Description: OPR

#	Name	Resp	RA	nY	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	BDE-155	1.73e5	0.75	NO	0.948	10.000	30.72	30.73	1.000	1.000	104.21		0.101	104
33	BDE-128/154	2.06e5	0.77	NO	0.796	10.000	31.40	31.41	1.000	1.000	203.74		0.180	204
34	BDE-153	8.62e4	0.75	NO	0.947	10.000	32.66	32.67	1.000	1.000	102.04		0.201	102
35	BDE-139	9.71e4	0.75	NO	1.11	10.000	33.05	33.05	1.012	1.012	98.112		0.172	98.1
36	BDE-140	9.32e4	0.76	NO	1.05	10.000	33.37	33.37	1.022	1.022	99.454		0.181	99.5
37	BDE-138	7.14e4	0.75	NO	0.988	10.000	34.24	34.22	1.001	1.000	102.14		0.984	102
38	BDE-166	4.58e4	0.76	NO	0.677	10.000	34.38	34.36	1.005	1.005	95.687		1.44	95.7
39	BDE-148/156/169	9.91e4	0.76	NO	0.429	10.000	34.89	34.90	1.000	1.000	204.07		1.48	204
40	BDE-184	1.58e5	1.01	NO	1.19	10.000	35.32	35.31	0.983	0.983	207.05		0.159	207
41	BDE-183/176	1.19e5	1.01	NO	0.904	10.000	35.93	35.94	1.000	1.000	204.23		0.209	204
42	BDE-175	9.85e4	0.99	NO	0.821	10.000	36.18	36.17	1.007	1.007	186.24		0.230	186
43	BDE-191	7.08e4	1.02	NO	0.948	10.000	36.79	36.83	0.987	0.988	202.61		1.09	203
44	BDE-180	6.32e4	1.00	NO	0.840	10.000	37.28	37.28	1.000	1.000	204.31		1.23	204
45	BDE-181/177	5.78e4	1.02	NO	0.809	10.000	37.57	37.57	1.008	1.008	194.12		1.27	194
46	BDE-190/171	1.08e5	1.02	NO	0.741	10.000	37.87	37.86	1.016	1.016	396.98		1.39	397
47	BDE-201	3.87e4	0.80	NO	0.807	10.000	39.19	39.17	0.994	0.994	231.99		1.43	232
48	BDE-204	3.72e4	0.76	NO	0.844	10.000	39.42	39.43	1.000	1.000	213.33		1.37	213
49	BDE-197	4.99e4	0.80	NO	0.859	10.000	39.54	39.51	1.001	1.000	205.09		1.10	205
50	BDE-203/200	3.25e4	0.79	NO	0.635	10.000	40.17	40.13	1.017	1.016	180.53		1.49	181
51	BDE-205	1.83e4	0.76	NO	0.965	10.000	41.29	41.31	1.000	1.001	218.84		3.84	219
52	BDE-208	9.01e4	1.01	NO	1.02	10.000	45.16	45.12	0.987	0.986	500.38		3.00	500
53	BDE-207	7.85e4	1.00	NO	0.873	10.000	45.79	45.78	1.001	1.001	507.28		3.49	507
54	BDE-206	5.63e4	1.01	NO	0.941	10.000	47.47	47.44	1.001	1.000	504.91		5.68	505
55	BDE-209	1.68e4	0.77	NO	1.29	10.000	56.75	56.72	1.001	1.001	506.05		13.3	506
56	13C-BDE-3	2.86e6	1.03	NO	2.71	10.000	10.75	10.75	0.419	0.419	308.30	61.7	0.0695	
57	13C-BDE-15	2.83e6	0.51	NO	1.87	10.000	16.72	16.73	0.652	0.652	442.05	88.4	0.0584	
58	13C-BDE-28	1.83e6	1.02	NO	1.17	10.000	21.08	21.09	0.822	0.822	456.06	91.2	0.0666	
59	13C-BDE-47	1.50e6	0.68	NO	0.865	10.000	25.19	25.20	0.982	0.983	505.07	101	0.0636	
60	13C-BDE-77	1.47e6	0.68	NO	0.902	10.000	26.83	26.83	1.046	1.046	474.73	94.9	0.0610	
61	13C-BDE-100	1.20e6	1.03	NO	2.34	10.000	28.12	28.16	0.851	0.852	537.78	108	0.284	
62	13C-BDE-99	8.80e5	1.03	NO	1.82	10.000	29.08	29.11	0.880	0.881	509.28	102	0.366	
63	13C-BDE-118	5.86e5	1.03	NO	1.25	10.000	29.87	29.90	0.904	0.905	491.66	98.3	0.531	
64	13C-BDE-155	8.76e5	0.76	NO	1.68	10.000	30.70	30.72	0.929	0.930	546.79	109	0.218	
65	13C-BDE-154	6.37e5	0.77	NO	1.24	10.000	31.39	31.40	0.950	0.950	537.81	108	0.295	

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-2.qld
 Last Altered: Thursday, November 17, 2016 08:04:21 Pacific Standard Time
 Printed: Thursday, November 17, 2016 08:06:05 Pacific Standard Time

Name: 161116K1_2, Date: 16-Nov-2016, Time: 13:38:38, ID: B6K0060-BS1 OPR 10, Description: OPR

#	Name	Resp	RA	nly	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
66	13C-BDE-153	4.46e5	0.77	NO	0.918	10.000	32.65	32.66	0.988	0.988	510.02	102	0.400	
67	13C-BDE-138	3.54e5	0.75	NO	0.825	10.000	34.23	34.21	1.036	1.035	450.69	90.1	1.16	
68	13C-BDE-169	5.66e5	0.77	NO	1.34	10.000	34.89	34.89	1.056	1.056	444.52	88.9	0.717	
69	13C-BDE-183	3.22e5	1.04	NO	2.50	10.000	35.95	35.93	1.088	1.087	579.37	116	0.776	
70	13C-BDE-180	1.84e5	1.02	NO	1.57	10.000	37.26	37.27	0.984	0.984	525.32	105	3.33	
71	13C-BDE-204	2.07e5	0.80	NO	0.593	10.000	39.42	39.42	0.983	0.983	988.35	98.8	2.48	
72	13C-BDE-197	2.83e5	0.81	NO	0.733	10.000	39.47	39.50	0.984	0.985	1094.9	109	2.00	
73	13C-BDE-205	8.64e4	0.80	NO	0.285	10.000	41.32	41.29	1.030	1.029	858.40	85.8	5.15	
74	13C-BDE-207	1.77e5	1.01	NO	0.985	10.000	45.71	45.74	1.013	1.014	986.72	98.7	4.55	
75	13C-BDE-206	1.18e5	0.97	NO	0.700	10.000	47.45	47.42	1.052	1.051	927.06	92.7	6.40	
76	13C-BDE-209	5.14e4	0.81	NO	0.249	10.000	56.69	56.69	1.257	1.257	1133.0	56.7	13.0	
77	13C-BDE-79	1.71e6	0.67	NO		10.000	25.65	25.65	0.000	0.000	500.00	100	0.0550	
78	13C-BDE-139	4.76e5	0.75	NO		10.000	33.05	33.04	0.000	0.000	500.00	100	0.367	
79	13C-BDE-190	1.11e5	1.00	NO		10.000	37.86	37.87	0.000	0.000	500.00	100	5.24	
80	13C-BDE-203	1.76e5	0.82	NO		10.000	40.15	40.11	0.000	0.000	500.00	100	1.47	
81	13C-BDE-208	9.12e4	1.01	NO		10.000	45.10	45.10	0.000	0.000	500.00	100	4.48	
82	13C-BDE-126	9.41e5	1.04	NO	2.07	10.000	31.06	31.05	0.940	0.940	478.31	95.7	0.322	478

Sample ID: EPA-HS-A1

EPA Method 1614

Client Data		Sample Data		Laboratory Data	
Name: Teck American Incorporated	Matrix: Tissue	Lab Sample: 1601354-01	Date Received: 10/25/2016 9:00:00AM	QC Batch: B6K0060	Date Extracted: 09-Nov-16 07:56
Project: Upper Columbia River	Sample Size: 10.0 g	Date Analyzed: 16-Nov-16 16:41	Column: ZB-50		
Date Collected: 8/30/2016 3:17:00PM					

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	1.12 ✓			B, E	IS 13C-BDE-3	61.1	25 - 150	
BDE-99	0.0890 ✓			B	IS 13C-BDE-15	90.9	25 - 150	
BDE-153	0.0411 ✓				IS 13C-BDE-28	92.8	25 - 150	
BDE-209	0.0129 ✓			J	IS 13C-BDE-47	106	30 - 140	
Total Mono-BDE	ND	0.000131			IS 13C-BDE-77	71.0	25 - 150	
Total Di-BDE	0.00131 ✓				IS 13C-BDE-100	55.7	25 - 150	
Total Tri-BDE	0.0871 ✓		0.0941	B	IS 13C-BDE-99	81.4 ✓	25 - 150	
Total Tetra-BDE	1.21 ✓			B	IS 13C-BDE-118	89.1	25 - 150	
Total Penta-BDE	0.339 ✓		0.340	B	IS 13C-BDE-155	126	25 - 150	
Total Hexa-BDE	0.143 ✓		0.145		IS 13C-BDE-154	120	25 - 150	
Total Hepta-BDE	0.00524 ✓		0.00599		IS 13C-BDE-153	108	25 - 150	
Total Octa-BDE	0.00281 ✓				IS 13C-BDE-138	89.9	25 - 150	
Total Nona-BDE	ND				IS 13C-BDE-169	91.1	25 - 150	
Total Deca-BDE	0.0129 ✓	0.000485			IS 13C-BDE-183	104	25 - 150	
					IS 13C-BDE-180	98.3	25 - 150	
					IS 13C-BDE-204	94.2	25 - 150	
					IS 13C-BDE-197	115	25 - 150	
					IS 13C-BDE-205	89.1	25 - 150	
					IS 13C-BDE-207	94.6	25 - 150	
					IS 13C-BDE-206	79.2	25 - 150	
					IS 13C-BDE-209	36.6 ✓	20 - 200	
					CRS 13C-BDE-126	93.3	30 - 135	

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.

Dataset: Untitled

Last Altered: Thursday, November 17, 2016 9:39:46 AM Pacific Standard Time
Printed: Thursday, November 17, 2016 9:41:11 AM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_5, Date: 16-Nov-2016, Time: 16:41:10, ID: 1601354-01 EPA-HS-A1 10.02, Description: EPA-HS-A1

WP
11/17/16
of 11/17/16

#	Name	Resp	RA	RA	RA	nly	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	20 BDE-47	3.89e6	0.65	NO	0.899	10.020	25.21	25.23	1.000	1.000	1.000	1.000	1119.2	1119.2	0.0337	1120
2	26 BDE-99	1.19e5	1.03	NO	0.944	10.020	29.28	29.28	1.000	1.000	1.000	1.000	89.050	89.050	0.166	89.0
3	34 BDE-153	3.71e4	0.73	NO	0.947	10.020	32.71	32.72	1.000	1.000	1.000	1.000	41.064	41.064	0.188	41.1
4	55 BDE-209	4.43e2	0.71	NO	1.29	10.020	56.75	56.74	1.001	1.001	1.001	1.001	12.852	12.852	5.94	12.9
5	56 13C-BDE-3	3.48e6	1.03	NO	2.71	10.020	10.76	10.73	0.419	0.418	0.418	0.418	305.08	305.08	0.0788	305.08
6	57 13C-BDE-15	3.57e6	0.51	NO	1.87	10.020	16.75	16.74	0.652	0.652	0.652	0.652	453.58	453.58	0.0827	453.58
7	58 13C-BDE-28	2.29e6	1.02	NO	1.17	10.020	21.11	21.10	0.822	0.822	0.822	0.822	463.08	463.08	0.0841	463.08
8	59 13C-BDE-47	1.93e6	0.68	NO	0.865	10.020	25.22	25.21	0.982	0.982	0.982	0.982	528.98	528.98	0.0805	528.98
9	60 13C-BDE-77	1.34e6	0.68	NO	0.902	10.020	26.87	26.90	1.046	1.047	1.046	1.046	354.16	354.16	0.0773	354.16
10	61 13C-BDE-100	6.24e5	1.01	NO	2.34	10.020	28.16	28.29	0.851	0.855	0.851	0.855	277.81	277.81	0.412	277.81
11	62 13C-BDE-99	7.07e5	1.04	NO	1.82	10.020	29.12	29.27	0.880	0.885	0.880	0.885	405.94	405.94	0.531	405.94
12	63 13C-BDE-118	5.34e5	1.02	NO	1.25	10.020	29.91	30.01	0.904	0.907	0.904	0.907	444.45	444.45	0.770	444.45
13	64 13C-BDE-155	1.01e6	0.77	NO	1.68	10.020	30.74	30.79	0.929	0.931	0.929	0.931	627.50	627.50	0.235	627.50
14	65 13C-BDE-154	7.15e5	0.77	NO	1.24	10.020	31.43	31.45	0.950	0.951	0.950	0.951	599.25	599.25	0.318	599.25
15	66 13C-BDE-153	4.76e5	0.76	NO	0.918	10.020	32.69	32.71	0.988	0.989	0.988	0.989	540.59	540.59	0.431	540.59
16	67 13C-BDE-138	3.55e5	0.76	NO	0.825	10.020	34.28	34.26	1.036	1.035	1.036	1.035	448.39	448.39	1.80	448.39
17	68 13C-BDE-169	5.84e5	0.77	NO	1.34	10.020	34.94	34.93	1.056	1.056	1.056	1.056	454.83	454.83	1.11	454.83
18	69 13C-BDE-183	4.16e5	1.01	NO	2.50	10.020	36.00	35.96	1.088	1.087	1.088	1.087	520.26	520.26	0.563	520.26
19	70 13C-BDE-180	2.47e5	1.02	NO	1.57	10.020	37.28	37.29	0.984	0.984	0.984	0.984	490.57	490.57	2.97	490.57
20	71 13C-BDE-204	3.41e5	0.89	NO	0.593	10.020	39.44	39.43	0.983	0.982	0.983	0.982	940.46	940.46	2.07	940.46
21	72 13C-BDE-197	5.16e5	0.74	NO	0.733	10.020	39.49	39.51	0.984	0.984	0.984	0.984	1150.6	1150.6	1.67	1150.6
22	73 13C-BDE-205	1.55e5	0.81	NO	0.285	10.020	41.34	41.31	1.030	1.029	1.030	1.029	899.49	899.49	4.30	899.49
23	74 13C-BDE-207	2.73e5	1.00	NO	0.985	10.020	45.72	45.76	1.013	1.014	1.013	1.014	944.58	944.58	3.46	944.58
24	75 13C-BDE-206	1.63e5	1.01	NO	0.700	10.020	47.47	47.42	1.052	1.051	1.052	1.051	790.65	790.65	4.87	790.65
25	76 13C-BDE-209	5.34e4	0.75	NO	0.249	10.020	56.71	56.69	1.257	1.256	1.257	1.256	730.51	730.51	7.88	730.51
26	77 13C-BDE-79	2.10e6	0.67	NO	1.020	10.020	25.65	25.69	0.000	0.000	0.000	0.000	499.00	499.00	0.0697	499.00
27	78 13C-BDE-139	4.79e5	0.77	NO	1.020	10.020	33.05	33.09	0.000	0.000	0.000	0.000	499.00	499.00	0.396	499.00
28	79 13C-BDE-190	1.60e5	0.99	NO	1.020	10.020	37.86	37.89	0.000	0.000	0.000	0.000	499.00	499.00	4.67	499.00
29	80 13C-BDE-203	3.05e5	0.83	NO	1.020	10.020	40.15	40.14	0.000	0.000	0.000	0.000	499.00	499.00	1.23	499.00
30	81 13C-BDE-208	1.47e5	1.03	NO	1.020	10.020	45.10	45.12	0.000	0.000	0.000	0.000	499.00	499.00	3.41	499.00
31	82 13C-BDE-126	9.24e5	1.04	NO	2.07	10.020	31.10	31.11	0.940	0.940	0.940	0.940	465.73	465.73	0.467	465.73

Dataset: Untitled

Last Altered: Thursday, November 17, 2016 9:39:46 AM Pacific Standard Time
 Printed: Thursday, November 17, 2016 9:41:11 AM Pacific Standard Time

Name: 161116K1_5, Date: 16-Nov-2016, Time: 16:41:10, ID: 1601354-01 EPA-HS-A1 10.02, Description: EPA-HS-A1

# Name	Resp	RA	nly	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE			0.836	10.020	10.00		0.000				0.131	
33	84 Total Di BDE			0.786	10.020	15.25		0.000		1.3069		0.0313	1.31
34	85 Total Tri BDE			0.966	10.020	20.00		0.000		87.134		0.0493	94.1
35	86 Total Tetra BDE			0.806	10.020	25.00		0.000		1212.9		0.0487	1210
36	87 1st Function Penta BDE			0.999	10.020	27.00		0.000		5.0925		0.0964	5.09
37	88 Total Penta BDE			0.950	10.020	28.50		0.000		334.25		0.230	335
38	89 1st Function Hexa BDE			0.970	10.020	32.00		0.000		143.25		0.147	145
39	90 Total Hexa BDE			0.698	10.020	35.00		0.000				0.136	
40	91 1st Function Hepta BDE			0.970	10.020	35.00		0.000		5.2428		0.180	5.99
41	92 Total Hepta BDE			0.834	10.020	37.00		0.000				0.152	
42	93 Total Octa BDE			0.822	10.020	40.00		0.000		2.8103		0.479	2.81
43	94 Total Nona BDE			0.943	10.020	45.00		0.000				0.485	
44	95 Total Deca BDE			1.29	10.020	55.00		0.000		12.852		5.94	12.9

Sample ID: EPA-HS-A1 DUP

EPA Method 1614

Client Data

Name: Teck American Incorporated
 Project: Upper Columbia River
 Date Collected: 8/30/2016 3:17:00PM

Sample Data

Matrix: Tissue
 Sample Size: 10.0 g

Laboratory Data

Lab Sample: 1601354-02 Date Received: 10/25/2016 9:00:00AM
 QC Batch: B6K0060 Date Extracted: 09-Nov-16 07:56
 Date Analyzed: 16-Nov-16 17:42 Column: ZB-50

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	1.02 ✓			B, E	IS 13C-BDE-3	62.1	25 - 150	
BDE-99	0.101 ✓			B	IS 13C-BDE-15	89.9	25 - 150	
BDE-153	0.0396 ✓				IS 13C-BDE-28	91.7	25 - 150	
BDE-209	ND	0.00603			IS 13C-BDE-47	90.2 ✓	30 - 140	
Total Mono-BDE	ND	0.000132			IS 13C-BDE-77	64.5	25 - 150	
Total Di-BDE	0.00123 ✓				IS 13C-BDE-100	49.8	25 - 150	
Total Tri-BDE	0.0722 ✓		0.0792		IS 13C-BDE-99	77.5 ✓	25 - 150	
Total Tetra-BDE	1.12 ✓			B	IS 13C-BDE-118	87.2	25 - 150	
Total Penta-BDE	0.321 ✓			B	IS 13C-BDE-155	124	25 - 150	
Total Hexa-BDE	0.134 ✓				IS 13C-BDE-154	119	25 - 150	
Total Hepta-BDE	0.00543 ✓				IS 13C-BDE-153	108 ✓	25 - 150	
Total Octa-BDE	0.000842 ✓		0.00120		IS 13C-BDE-138	89.9	25 - 150	
Total Nona-BDE	ND	0.000548			IS 13C-BDE-169	86.5	25 - 150	
Total Deca-BDE	ND	0.00603			IS 13C-BDE-183	105	25 - 150	
					IS 13C-BDE-180	93.8	25 - 150	
					IS 13C-BDE-204	95.5	25 - 150	
					IS 13C-BDE-197	106	25 - 150	
					IS 13C-BDE-205	86.2	25 - 150	
					IS 13C-BDE-207	94.2	25 - 150	
					IS 13C-BDE-206	77.0	25 - 150	
					IS 13C-BDE-209	35.7	20 - 200	
					CRS 13C-BDE-126	88.1 ✓	30 - 135	

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-6.qld

Last Altered: Tuesday, November 22, 2016 7:54:44 AM Pacific Standard Time
Printed: Tuesday, November 22, 2016 8:03:59 AM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurvedB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_6, Date: 16-Nov-2016, Time: 17:42:00, ID: 1601354-02 EPA-HS-A1 DUP 10, Description: EPA-HS-A1 DUP

h/p d/22/16
07
11/29/16

#.Name	Resp	RA	ny	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1													
20 BDE-47	2.91e6	0.65	NO	0.899	10.000	25.21	25.23	1.000	1.000	1021.3	62.1	0.0315	1020
2													
26 BDE-99	1.28e5	1.03	NO	0.944	10.000	29.27	29.28	1.000	1.001	101.04	89.9	0.201	101
3													
34 BDE-153	3.54e4	0.75	NO	0.947	10.000	32.71	32.72	1.000	1.000	39.563	91.7	0.190	39.6
4													
55 BDE-209			NO	1.29	10.000	56.75		1.001				6.03	
5													
56 13C-BDE-3	3.42e6	1.03	NO	2.71	10.000	10.76	10.73	0.419	0.418	310.42	62.1	0.0767	
6													
57 13C-BDE-15	3.42e6	0.51	NO	1.87	10.000	16.74	16.72	0.652	0.651	449.74	89.9	0.0799	
7													
58 13C-BDE-28	2.19e6	1.02	NO	1.17	10.000	21.10	21.09	0.822	0.822	458.70	91.7	0.0911	
8													
59 13C-BDE-47	1.59e6	0.66	NO	0.865	10.000	25.21	25.21	0.982	0.982	451.00	90.2	0.0732	
9													
60 13C-BDE-77	1.18e6	0.68	NO	0.902	10.000	26.85	26.90	1.046	1.048	322.37	64.5	0.0703	
10													
61 13C-BDE-100	5.54e5	1.01	NO	2.34	10.000	28.17	28.28	0.851	0.855	249.16	49.8	0.342	
11													
62 13C-BDE-99	6.69e5	1.02	NO	1.82	10.000	29.12	29.26	0.880	0.884	387.52	77.5	0.441	
12													
63 13C-BDE-118	5.19e5	1.04	NO	1.25	10.000	29.92	30.01	0.904	0.907	435.95	87.2	0.639	
13													
64 13C-BDE-155	9.87e5	0.76	NO	1.68	10.000	30.75	30.79	0.929	0.930	617.54	124	0.214	
14													
65 13C-BDE-154	7.02e5	0.76	NO	1.24	10.000	31.44	31.45	0.950	0.950	593.61	119	0.290	
15													
66 13C-BDE-153	4.72e5	0.75	NO	0.918	10.000	32.70	32.71	0.988	0.988	541.09	108	0.393	
16													
67 13C-BDE-138	3.52e5	0.75	NO	0.825	10.000	34.29	34.26	1.036	1.035	449.52	89.9	1.29	
17													
68 13C-BDE-169	5.50e5	0.77	NO	1.34	10.000	34.95	34.93	1.056	1.055	432.68	86.5	0.797	
18													
69 13C-BDE-183	3.87e5	1.04	NO	2.50	10.000	36.01	35.96	1.088	1.087	522.28	104	0.313	
19													
70 13C-BDE-180	2.19e5	1.03	NO	1.57	10.000	37.27	37.29	0.984	0.985	468.82	93.8	2.42	
20													
71 13C-BDE-204	3.30e5	0.81	NO	0.593	10.000	39.44	39.44	0.983	0.983	954.52	95.5	2.05	
21													
72 13C-BDE-197	4.53e5	0.81	NO	0.733	10.000	39.49	39.52	0.984	0.985	1057.1	106	1.66	
22													
73 13C-BDE-205	1.44e5	0.82	NO	0.285	10.000	41.34	41.31	1.030	1.029	861.52	86.2	4.27	
23													
74 13C-BDE-207	2.42e5	0.97	NO	0.985	10.000	45.72	45.76	1.013	1.014	942.26	94.2	3.81	
24													
75 13C-BDE-206	1.40e5	0.99	NO	0.700	10.000	47.47	47.42	1.052	1.051	770.43	77.0	5.37	
25													
76 13C-BDE-209	4.62e4	0.77	NO	0.249	10.000	56.72	56.69	1.257	1.257	713.74	35.7	7.76	
26													
77 13C-BDE-79	2.03e6	0.67	NO	10.000	10.000	25.65	25.67	0.000	0.000	500.00	100	0.0634	
27													
78 13C-BDE-139	4.75e5	0.76	NO	10.000	10.000	33.05	33.10	0.000	0.000	500.00	100	0.361	
28													
79 13C-BDE-190	1.48e5	1.00	NO	10.000	10.000	37.86	37.88	0.000	0.000	500.00	100	3.81	
29													
80 13C-BDE-203	2.92e5	0.82	NO	10.000	10.000	40.15	40.14	0.000	0.000	500.00	100	1.22	
30													
81 13C-BDE-208	1.30e5	1.00	NO	10.000	10.000	45.10	45.12	0.000	0.000	500.00	100	3.76	
31													
82 13C-BDE-126	8.65e5	1.05	NO	2.07	10.000	31.11	31.11	0.940	0.940	440.33	88.1	0.387	440

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-6.qld

Last Altered: Tuesday, November 22, 2016 7:54:44 AM Pacific Standard Time
Printed: Tuesday, November 22, 2016 8:03:59 AM Pacific Standard Time

Name: 161116K1_6, Date: 16-Nov-2016, Time: 17:42:00, ID: 1601354-02 EPA-HS-A1 DUP 10, Description: EPA-HS-A1 DUP

#	Name	Resp	RA	n/y	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE				0.836	10.000	10.00		0.000				0.132	
33	84 Total Di BDE				0.786	10.000	15.25		0.000		1.2317		0.0343	1.23
34	85 Total Tri BDE				0.966	10.000	20.00		0.000		72.231		0.0749	79.2 Y
35	86 Total Tetra BDE				0.806	10.000	25.00		0.000		1119.6		0.0379	1120
36	87 1st Function Penta BDE				0.999	10.000	27.00		0.000		4.8420		0.165	4.84
37	88 Total Penta BDE				0.950	10.000	28.50		0.000		315.70		0.285	316
38	89 1st Function Hexa BDE				0.970	10.000	32.00		0.000		134.18		0.155	134
39	90 Total Hexa BDE				0.698	10.000	35.00		0.000				0.196	
40	91 1st Function Hepta BDE				0.970	10.000	35.00		0.000		5.4284		0.230	5.43
41	92 Total Hepta BDE				0.834	10.000	37.00		0.000				0.168	
42	93 Total Octa BDE				0.822	10.000	40.00		0.000		0.84151		0.406	1.20
43	94 Total Nona BDE				0.943	10.000	45.00		0.000				0.548	
44	95 Total Deca BDE				1.29	10.000	55.00		0.000				2.56 6.03	

Sample ID: EPA-HS-A1 TRIP

EPA Method 1614

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-03
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0060
Date Collected:	8/30/2016 3:17:00PM			Date Analyzed:	16-Nov-16 18:42 Column: ZB-50
				Date Received:	10/25/2016 9:00:00AM
				Date Extracted:	09-Nov-16 07:56

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	0.876			B, E	IS 13C-BDE-3	64.4	25 - 150	
BDE-99	0.0760			B	IS 13C-BDE-15	91.2	25 - 150	
BDE-153	0.0316				IS 13C-BDE-28	92.5	25 - 150	
BDE-209	0.0220			J	IS 13C-BDE-47	90.0	30 - 140	
Total Mono-BDE	ND	0.000127			IS 13C-BDE-77	59.6	25 - 150	
Total Di-BDE	0.00109		0.00109		IS 13C-BDE-100	49.7	25 - 150	
Total Tri-BDE	0.0659		0.0720		IS 13C-BDE-99	77.4	25 - 150	
Total Tetra-BDE	0.965		0.966	B	IS 13C-BDE-118	88.7	25 - 150	
Total Penta-BDE	0.254			B	IS 13C-BDE-155	128	25 - 150	
Total Hexa-BDE	0.111		0.112		IS 13C-BDE-154	121	25 - 150	
Total Hepta-BDE	0.00221		0.00476		IS 13C-BDE-153	109	25 - 150	
Total Octa-BDE	0.00135				IS 13C-BDE-138	90.4	25 - 150	
Total Nona-BDE	ND	0.000507			IS 13C-BDE-169	87.6	25 - 150	
Total Deca-BDE	0.0220				IS 13C-BDE-183	109	25 - 150	
					IS 13C-BDE-180	95.4	25 - 150	
					IS 13C-BDE-204	87.1	25 - 150	
					IS 13C-BDE-197	117	25 - 150	
					IS 13C-BDE-205	87.9	25 - 150	
					IS 13C-BDE-207	94.7	25 - 150	
					IS 13C-BDE-206	75.9	25 - 150	
					IS 13C-BDE-209	34.4	20 - 200	
					CRS 13C-BDE-126	88.7	30 - 135	

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-7.qld

Last Altered: Thursday, November 17, 2016 1:46:45 PM Pacific Standard Time
Printed: Tuesday, November 22, 2016 8:02:50 AM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_7, Date: 16-Nov-2016, Time: 18:42:55, ID: 1601354-03 EPA-HS-A1 TRIP 10, Description: EPA-HS-A1 TRIP

Handwritten: 11/22/16
OT
11/29/16

# Name	Resp	RA	RA	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1 20 BDE-47	2.44e6	0.65	NO	0.899	10.000	25.20	25.23	1.000	1.001	875.70	64.4	0.0405	876
2 26 BDE-99	9.15e4	1.00	NO	0.944	10.000	29.28	29.28	1.000	1.000	75.966	91.2	0.273	76.0
3 34 BDE-153	2.73e4	0.72	NO	0.947	10.000	32.71	32.73	1.000	1.001	31.638	92.5	0.186	31.6
4 55 BDE-209	5.85e2	0.73	NO	1.29	10.000	56.73	56.72	1.001	1.001	21.958	90.0	7.42	22.0
5 56 13C-BDE-3	3.48e6	1.03	NO	2.71	10.000	10.76	10.72	0.419	0.418	321.87	64.4	0.0816	
6 57 13C-BDE-15	3.40e6	0.51	NO	1.87	10.000	16.74	16.72	0.652	0.651	456.18	91.2	0.0886	
7 58 13C-BDE-28	2.17e6	1.04	NO	1.17	10.000	21.10	21.09	0.822	0.822	462.52	92.5	0.0792	
8 59 13C-BDE-47	1.55e6	0.67	NO	0.865	10.000	25.21	25.20	0.982	0.982	450.19	90.0	0.0531	
9 60 13C-BDE-77	1.07e6	0.67	NO	0.902	10.000	26.86	26.90	1.046	1.048	297.76	59.6	0.0509	
10 61 13C-BDE-100	5.28e5	1.03	NO	2.34	10.000	28.17	28.30	0.851	0.855	248.58	49.7	0.396	
11 62 13C-BDE-99	6.38e5	1.02	NO	1.82	10.000	29.12	29.27	0.880	0.884	386.97	77.4	0.510	
12 63 13C-BDE-118	5.04e5	1.02	NO	1.25	10.000	29.92	30.02	0.904	0.907	443.65	88.7	0.740	
13 64 13C-BDE-155	9.74e5	0.77	NO	1.68	10.000	30.75	30.80	0.929	0.931	637.70	128	0.265	
14 65 13C-BDE-154	6.85e5	0.76	NO	1.24	10.000	31.44	31.45	0.950	0.950	606.99	121	0.359	
15 66 13C-BDE-153	4.56e5	0.77	NO	0.918	10.000	32.70	32.71	0.988	0.988	547.02	109	0.486	
16 67 13C-BDE-138	3.38e5	0.75	NO	0.825	10.000	34.29	34.26	1.036	1.035	452.07	90.4	1.63	
17 68 13C-BDE-169	5.32e5	0.78	NO	1.34	10.000	34.95	34.94	1.056	1.056	438.11	87.6	1.01	
18 69 13C-BDE-183	3.84e5	1.06	NO	2.50	10.000	36.01	35.96	1.088	1.087	543.57	109	0.440	
19 70 13C-BDE-180	2.12e5	1.00	NO	1.57	10.000	37.27	37.29	0.984	0.984	477.11	95.4	2.74	
20 71 13C-BDE-204	2.73e5	0.79	NO	0.593	10.000	39.43	39.43	0.983	0.983	870.72	87.1	2.15	
21 72 13C-BDE-197	4.54e5	0.81	NO	0.733	10.000	39.48	39.51	0.984	0.985	1169.2	117	1.74	
22 73 13C-BDE-205	1.33e5	0.80	NO	0.285	10.000	41.33	41.30	1.030	1.029	878.97	87.9	4.47	
23 74 13C-BDE-207	2.25e5	0.98	NO	0.985	10.000	45.72	45.76	1.013	1.014	947.39	94.7	4.29	
24 75 13C-BDE-206	1.28e5	1.00	NO	0.700	10.000	47.47	47.42	1.052	1.051	758.66	75.9	6.04	
25 76 13C-BDE-209	4.13e4	0.83	NO	0.249	10.000	56.72	56.67	1.257	1.256	688.41	34.4	9.55	
26 77 13C-BDE-79	1.99e6	0.67	NO	10.000	10.000	25.65	25.67	0.000	0.000	500.00	100	0.0459	
27 78 13C-BDE-139	4.54e5	0.77	NO	10.000	10.000	33.05	33.10	0.000	0.000	500.00	100	0.446	
28 79 13C-BDE-190	1.41e5	1.03	NO	10.000	10.000	37.86	37.88	0.000	0.000	500.00	100	4.31	
29 80 13C-BDE-203	2.64e5	0.80	NO	10.000	10.000	40.15	40.13	0.000	0.000	500.00	100	1.27	
30 81 13C-BDE-208	1.21e5	0.99	NO	10.000	10.000	45.10	45.12	0.000	0.000	500.00	100	4.23	
31 82 13C-BDE-126	8.32e5	1.03	NO	2.07	10.000	31.11	31.11	0.940	0.940	443.42	88.7	0.448	443

Quantify Sample Summary Report
 Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\wg11.PRO\Results\161116K1\161116K1-7.qld

Last Altered: Thursday, November 17, 2016 1:46:45 PM Pacific Standard Time
 Printed: Tuesday, November 22, 2016 8:02:50 AM Pacific Standard Time

Name: 161116K1_7, Date: 16-Nov-2016, Time: 18:42:55, ID: 1601354-03 EPA-HS-A1 TRIP 10, Description: EPA-HS-A1 TRIP

#	Name	Resp	RA	nly	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE				0.836	10.000	10.00		0.000				0.127	
33	84 Total Di BDE				0.786	10.000	15.25		0.000		1.0851		0.0299	1.09
34	85 Total Tri BDE				0.966	10.000	20.00		0.000		65.912		0.0591	72.0
35	86 Total Tetra BDE				0.806	10.000	25.00		0.000		964.77		0.0508	966
36	87 1st Function Penta BDE				0.999	10.000	27.00		0.000		4.2435		0.133	4.24
37	88 Total Penta BDE				0.950	10.000	28.50		0.000		249.65		0.372	250
38	89 1st Function Hexa BDE				0.970	10.000	32.00		0.000		110.97		0.148	112
39	90 Total Hexa BDE				0.698	10.000	35.00		0.000				0.189	
40	91 1st Function Hepta BDE				0.970	10.000	35.00		0.000		2.2097		0.172	4.76
41	92 Total Hepta BDE				0.834	10.000	37.00		0.000				0.145	
42	93 Total Octa BDE				0.822	10.000	40.00		0.000		1.3545		0.377	1.35
43	94 Total Nona BDE				0.943	10.000	45.00		0.000				0.507	
44	95 Total Deca BDE				1.29	10.000	55.00		0.000		21.958		7.42	22.0

Sample ID: EPA-HS-A2

EPA Method 1614

Client Data

Name: Teck American Incorporated
 Project: Upper Columbia River
 Date Collected: 8/31/2016 1:58:00PM

Sample Data

Matrix: Tissue
 Sample Size: 10.1 g

Laboratory Data

Lab Sample: 1601354-04 Date Received: 10/25/2016 9:00:00AM
 QC Batch: B6K0060 Date Extracted: 09-Nov-16 07:56
 Date Analyzed: 16-Nov-16 19:43 Column: ZB-50

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	1.81			B, E	IS 13C-BDE-3	56.7	25 - 150	
BDE-99	0.175			B	IS 13C-BDE-15	86.0	25 - 150	
BDE-153	0.0820				IS 13C-BDE-28	89.1	25 - 150	
BDE-209	ND	0.00770			IS 13C-BDE-47	82.6	30 - 140	
Total Mono-BDE	ND	0.000145			IS 13C-BDE-77	62.6	25 - 150	
Total Di-BDE	0.00212				IS 13C-BDE-100	52.8	25 - 150	
Total Tri-BDE	0.108		0.118		IS 13C-BDE-99	78.9	25 - 150	
Total Tetra-BDE	2.00			B	IS 13C-BDE-118	87.6	25 - 150	
Total Penta-BDE	0.561		0.562	B	IS 13C-BDE-155	125	25 - 150	
Total Hexa-BDE	0.251		0.252		IS 13C-BDE-154	117	25 - 150	
Total Hepta-BDE	0.00872		0.00973		IS 13C-BDE-153	105	25 - 150	
Total Octa-BDE	0.00148		0.00473		IS 13C-BDE-138	83.5	25 - 150	
Total Nona-BDE	ND	0.000695			IS 13C-BDE-169	77.2	25 - 150	
Total Deca-BDE	ND	0.00770			IS 13C-BDE-183	104	25 - 150	
					IS 13C-BDE-180	93.8	25 - 150	
					IS 13C-BDE-204	79.3	25 - 150	
					IS 13C-BDE-197	111	25 - 150	
					IS 13C-BDE-205	75.4	25 - 150	
					IS 13C-BDE-207	90.6	25 - 150	
					IS 13C-BDE-206	71.1	25 - 150	
					IS 13C-BDE-209	31.4	20 - 200	
					CRS 13C-BDE-126	89.3	30 - 135	

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-8.qld

Last Altered: Thursday, November 17, 2016 3:30:09 PM Pacific Standard Time
Printed: Thursday, November 17, 2016 3:43:09 PM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_8, Date: 16-Nov-2016, Time: 19:43:50, ID: 1601354-04 EPA-HS-A2 10.05, Description: EPA-HS-A2

M/S 11/17/16
07
11/20/16

#	Name	Resp	RA	ny	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	20 BDE-47	4.95e6	0.65	NO	0.899	10.050	25.21	25.23	1.000	1.000	1808.7	56.7	0.0404	1810
2	26 BDE-99	2.26e5	1.02	NO	0.944	10.050	29.27	29.27	1.000	1.000	174.80	86.0	0.288	175
3	34 BDE-153	7.14e4	0.76	NO	0.947	10.050	32.72	32.73	1.000	1.000	81.983	89.1	0.206	82.0
4	55 BDE-209			NO	1.29	10.050	56.75		1.001				7.70	
5	56 13C-BDE-3	3.26e6	1.03	NO	2.71	10.050	10.76	10.72	0.419	0.418	282.08	56.7	0.0779	
6	57 13C-BDE-15	3.41e6	0.51	NO	1.87	10.050	16.74	16.72	0.652	0.651	427.83	86.0	0.0738	
7	58 13C-BDE-28	2.22e6	1.02	NO	1.17	10.050	21.10	21.09	0.822	0.822	443.18	89.1	0.0880	
8	59 13C-BDE-47	1.52e6	0.68	NO	0.865	10.050	25.21	25.21	0.982	0.982	411.03	82.6	0.0538	
9	60 13C-BDE-77	1.20e6	1.01	NO	0.902	10.050	26.86	26.90	1.046	1.048	311.44	62.6	0.0517	
10	61 13C-BDE-100	5.88e5	0.68	NO	2.34	10.050	28.17	28.28	0.851	0.854	262.56	52.8	0.395	
11	62 13C-BDE-99	6.82e5	1.01	NO	1.82	10.050	29.13	29.26	0.880	0.884	392.48	78.9	0.509	
12	63 13C-BDE-118	5.22e5	1.02	NO	1.25	10.050	29.93	30.01	0.904	0.907	435.73	87.6	0.739	
13	64 13C-BDE-155	1.00e6	0.77	NO	1.68	10.050	30.76	30.79	0.929	0.930	624.07	125	0.242	
14	65 13C-BDE-154	6.94e5	0.77	NO	1.24	10.050	31.45	31.45	0.950	0.950	583.10	117	0.328	
15	66 13C-BDE-153	4.58e5	0.77	NO	0.918	10.050	32.71	32.72	0.988	0.988	521.03	105	0.444	
16	67 13C-BDE-138	3.28e5	0.75	NO	0.825	10.050	34.30	34.27	1.036	1.035	415.33	83.5	1.75	
17	68 13C-BDE-169	4.91e5	0.74	NO	1.34	10.050	34.96	34.94	1.056	1.055	383.94	77.2	1.08	
18	69 13C-BDE-183	3.51e5	1.05	NO	2.50	10.050	36.02	35.97	1.088	1.086	515.66	104	0.384	
19	70 13C-BDE-180	2.00e5	1.03	NO	1.57	10.050	37.28	37.30	0.984	0.984	466.49	93.8	2.80	
20	71 13C-BDE-204	2.38e5	0.84	NO	0.593	10.050	39.45	39.44	0.983	0.983	788.69	79.3	2.63	
21	72 13C-BDE-197	4.13e5	0.84	NO	0.733	10.050	39.50	39.52	0.984	0.984	1106.3	111	2.12	
22	73 13C-BDE-205	1.09e5	0.80	NO	0.285	10.050	41.35	41.32	1.030	1.029	749.88	75.4	5.45	
23	74 13C-BDE-207	1.96e5	0.99	NO	0.985	10.050	45.74	45.78	1.013	1.014	901.80	90.6	4.43	
24	75 13C-BDE-206	1.09e5	0.98	NO	0.700	10.050	47.48	47.44	1.052	1.051	707.35	71.1	6.23	
25	76 13C-BDE-209	3.43e4	0.80	NO	0.249	10.050	56.74	56.69	1.257	1.256	624.12	31.4	8.86	
26	77 13C-BDE-79	2.12e6	0.68	NO		10.050	25.65	25.67	0.000	0.000	497.51	100	0.0466	
27	78 13C-BDE-139	4.76e5	0.77	NO		10.050	33.05	33.11	0.000	0.000	497.51	100	0.408	
28	79 13C-BDE-190	1.35e5	1.02	NO		10.050	37.86	37.89	0.000	0.000	497.51	100	4.41	
29	80 13C-BDE-203	2.53e5	0.82	NO		10.050	40.15	40.15	0.000	0.000	497.51	100	1.56	
30	81 13C-BDE-208	1.10e5	0.98	NO		10.050	45.10	45.13	0.000	0.000	497.51	100	4.36	
31	82 13C-BDE-126	8.78e5	1.03	NO	2.07	10.050	31.12	31.11	0.940	0.940	444.08	89.3	0.448	444

Quantify Sample Summary Report
 Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-8.qld

Last Altered: Thursday, November 17, 2016 3:30:09 PM Pacific Standard Time
 Printed: Thursday, November 17, 2016 3:43:09 PM Pacific Standard Time

Name: 161116K1_8, Date: 16-Nov-2016, Time: 19:43:50, ID: 1601354-04 EPA-HS-A2 10.05, Description: EPA-HS-A2

#	Name	Resp	RA	n/y	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE				0.836	10.050	10.00		0.000				0.145	
33	84 Total Di BDE				0.786	10.050	15.25		0.000		2.1203		0.0323	2.12
34	85 Total Tri BDE				0.966	10.050	20.00		0.000		107.62		0.0768	118
35	86 Total Tetra BDE				0.806	10.050	25.00		0.000		2000.2		0.0459	2000
36	87 1st Function Penta BDE				0.999	10.050	27.00		0.000		6.9161		0.0955	6.92
37	88 Total Penta BDE				0.950	10.050	28.50		0.000		553.84		0.374	555
38	89 1st Function Hexa BDE				0.970	10.050	32.00		0.000		249.15		0.163	249
39	90 Total Hexa BDE				0.698	10.050	35.00		0.000		1.6142		0.436	2.52
40	91 1st Function Hepta BDE				0.970	10.050	35.00		0.000		8.7239		0.193	9.73
41	92 Total Hepta BDE				0.834	10.050	37.00		0.000				0.183	
42	93 Total Octa BDE				0.822	10.050	40.00		0.000		1.4844		0.421	4.73
43	94 Total Nona BDE				0.943	10.050	45.00		0.000				0.695	
44	95 Total Deca BDE				1.29	10.050	55.00		0.000				3.74	

7.70

Sample ID: EPA-HS-A3

EPA Method 1614

Client Data

Name: Teck American Incorporated
 Project: Upper Columbia River
 Date Collected: 8/30/2016 12:10:00PM

Sample Data

Matrix: Tissue
 Sample Size: 10.1 g

Laboratory Data

Lab Sample: 1601354-05 Date Received: 10/25/2016 9:00:00AM
 QC Batch: B6K0060 Date Extracted: 09-Nov-16 07:56
 Date Analyzed: 16-Nov-16 20:44 Column: ZB-50

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	1.05			B, E	IS 13C-BDE-3	72.2	25 - 150	
BDE-99	0.0979			B	IS 13C-BDE-15	95.3	25 - 150	
BDE-153	0.0421				IS 13C-BDE-28	92.2	25 - 150	
BDE-209	0.0273			J	IS 13C-BDE-47	103	30 - 140	
Total Mono-BDE	ND				IS 13C-BDE-77	81.0	25 - 150	
Total Di-BDE	ND		0.00118		IS 13C-BDE-100	65.7	25 - 150	
Total Tri-BDE	0.107		0.114		IS 13C-BDE-99	88.9	25 - 150	
Total Tetra-BDE	1.13			B	IS 13C-BDE-118	93.2	25 - 150	
Total Penta-BDE	0.328			B	IS 13C-BDE-155	127	25 - 150	
Total Hexa-BDE	0.145				IS 13C-BDE-154	122	25 - 150	
Total Hepta-BDE	0.00252		0.00486		IS 13C-BDE-153	107	25 - 150	
Total Octa-BDE	ND	0.000183			IS 13C-BDE-138	81.8	25 - 150	
Total Nona-BDE	ND	0.000545			IS 13C-BDE-169	85.0	25 - 150	
Total Deca-BDE	0.0273				IS 13C-BDE-183	108	25 - 150	
					IS 13C-BDE-180	99.8	25 - 150	
					IS 13C-BDE-204	94.7	25 - 150	
					IS 13C-BDE-197	112	25 - 150	
					IS 13C-BDE-205	82.2	25 - 150	
					IS 13C-BDE-207	92.0	25 - 150	
					IS 13C-BDE-206	76.3	25 - 150	
					IS 13C-BDE-209	37.9	20 - 200	
					CRS 13C-BDE-126	91.7	30 - 135	

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-9.qld

Last Altered: Thursday, November 17, 2016 4:07:54 PM Pacific Standard Time
 Printed: Thursday, November 17, 2016 4:08:49 PM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-16-16.mdb 16 Nov 2016 14:30:55
 Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_9, Date: 16-Nov-2016, Time: 20:44:45, ID: 1601354-05 EPA-HS-A3 10.05, Description: EPA-HS-A3

M 11/17/16
07 11/21/16

#	Name	Resp	RA	ny	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	20 BDE-47	3.44e6	0.66	NO	0.899	10.050	25.20	25.21	1.000	1.001	1053.8	72.2	0.0244	1050
2	26 BDE-99	1.45e5	1.02	NO	0.944	10.050	29.22	29.22	1.000	1.000	97.869	95.3	0.196	97.9
3	34 BDE-153	3.82e4	0.79	NO	0.947	10.050	32.68	32.69	1.000	1.000	42.109	92.2	0.164	42.1
4	55 BDE-209	8.23e2	0.91	NO	1.29	10.050	56.72	56.69	1.001	1.001	27.304	81.0	5.38	27.3
5	56 13C-BDE-3	3.99e6	1.03	NO	2.71	10.050	10.75	10.72	0.419	0.418	359.42	72.2	0.0629	0.0629
6	57 13C-BDE-15	3.63e6	0.51	NO	1.87	10.050	16.73	16.72	0.652	0.651	474.02	95.3	0.0715	0.0715
7	58 13C-BDE-28	2.21e6	1.02	NO	1.17	10.050	21.09	21.08	0.822	0.821	458.88	92.2	0.0769	0.0769
8	59 13C-BDE-47	1.81e6	0.67	NO	0.865	10.050	25.20	25.20	0.982	0.982	510.48	103	0.0448	0.0448
9	60 13C-BDE-77	1.49e6	0.67	NO	0.902	10.050	26.84	26.86	1.046	1.047	403.23	81.0	0.0430	0.0430
10	61 13C-BDE-100	7.43e5	1.01	NO	2.34	10.050	28.14	28.25	0.851	0.854	326.80	65.7	0.378	0.378
11	62 13C-BDE-99	7.80e5	1.05	NO	1.82	10.050	29.10	29.21	0.880	0.883	442.12	88.9	0.487	0.487
12	63 13C-BDE-118	5.64e5	1.04	NO	1.25	10.050	29.89	29.96	0.904	0.906	463.83	93.2	0.706	0.706
13	64 13C-BDE-155	1.03e6	0.77	NO	1.68	10.050	30.72	30.76	0.929	0.930	630.36	127	0.261	0.261
14	65 13C-BDE-154	7.36e5	0.77	NO	1.24	10.050	31.41	31.42	0.950	0.950	608.89	122	0.353	0.353
15	66 13C-BDE-153	4.77e5	0.76	NO	0.918	10.050	32.67	32.68	0.988	0.988	534.23	107	0.478	0.478
16	67 13C-BDE-138	3.26e5	0.73	NO	0.825	10.050	34.26	34.23	1.036	1.035	406.93	81.8	1.54	1.54
17	68 13C-BDE-169	5.49e5	0.77	NO	1.34	10.050	34.92	34.90	1.056	1.055	422.72	85.0	0.949	0.949
18	69 13C-BDE-183	3.66e5	1.04	NO	2.50	10.050	35.97	35.94	1.088	1.087	537.68	108	0.300	0.300
19	70 13C-BDE-180	2.13e5	1.04	NO	1.57	10.050	37.26	37.27	0.984	0.984	496.50	99.8	3.28	3.28
20	71 13C-BDE-204	2.82e5	0.82	NO	0.593	10.050	39.42	39.42	0.983	0.983	942.50	94.7	2.38	2.38
21	72 13C-BDE-197	4.12e5	0.83	NO	0.733	10.050	39.47	39.50	0.984	0.985	1115.5	112	1.92	1.92
22	73 13C-BDE-205	1.18e5	0.79	NO	0.285	10.050	41.32	41.29	1.030	1.029	818.23	82.2	4.94	4.94
23	74 13C-BDE-207	2.24e5	0.99	NO	0.985	10.050	45.71	45.74	1.013	1.014	915.56	92.0	4.62	4.62
24	75 13C-BDE-206	1.32e5	1.00	NO	0.700	10.050	47.45	47.41	1.052	1.051	759.58	76.3	6.50	6.50
25	76 13C-BDE-209	4.65e4	0.79	NO	0.249	10.050	56.69	56.66	1.257	1.256	754.11	37.9	10.7	10.7
26	77 13C-BDE-79	2.04e6	0.67	NO	10.050	10.050	25.65	25.66	0.000	0.000	497.51	100	0.0388	0.0388
27	78 13C-BDE-139	4.83e5	0.75	NO	10.050	10.050	33.05	33.06	0.000	0.000	497.51	100	0.439	0.439
28	79 13C-BDE-190	1.36e5	1.04	NO	10.050	10.050	37.86	37.87	0.000	0.000	497.51	100	5.15	5.15
29	80 13C-BDE-203	2.51e5	0.81	NO	10.050	10.050	40.15	40.11	0.000	0.000	497.51	100	1.41	1.41
30	81 13C-BDE-208	1.23e5	1.02	NO	10.050	10.050	45.10	45.10	0.000	0.000	497.51	100	4.55	4.55
31	82 13C-BDE-126	9.17e5	1.05	NO	2.07	10.050	31.08	31.07	0.940	0.940	456.45	91.7	0.428	0.428

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-9.qld

Last Altered: Thursday, November 17, 2016 4:07:54 PM Pacific Standard Time
 Printed: Thursday, November 17, 2016 4:08:49 PM Pacific Standard Time

Name: 161116K1_9, Date: 16-Nov-2016, Time: 20:44:45, ID: 1601354-05 EPA-HS-A3 10.05, Description: EPA-HS-A3

#	Name	Resp	RA	ny	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc	%Rec	DL	EMPC
32	83 Total Mono BDE				0.836	10.050	10.00		0.000				0.102	
33	84 Total Di BDE				0.766	10.050	15.25		0.000		0.00000		0.0139	1.18
34	85 Total Tri BDE				0.966	10.050	20.00		0.000		107.12		0.0683	114
35	86 Total Tetra BDE				0.806	10.050	25.00		0.000		1131.4		0.0317	1130
36	87 1st Function Penta BDE				0.999	10.050	27.00		0.000		3.7895		0.0813	3.79
37	88 Total Penta BDE				0.950	10.050	28.50		0.000		324.33		0.240	324
38	89 1st Function Hexa BDE				0.970	10.050	32.00		0.000		144.60		0.134	145
39	90 Total Hexa BDE				0.698	10.050	35.00		0.000				0.226	
40	91 1st Function Hepta BDE				0.970	10.050	35.00		0.000		2.5211		0.120	4.86
41	92 Total Hepta BDE				0.834	10.050	37.00		0.000				0.143	
42	93 Total Octa BDE				0.822	10.050	40.00		0.000				0.183	
43	94 Total Nona BDE				0.943	10.050	45.00		0.000				0.545	
44	95 Total Deca BDE				1.29	10.050	55.00		0.000		27.304		5.38	27.3

Sample ID: EPA-HS-B1

EPA Method 1614

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-06
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0060
Date Collected:	8/31/2016 10:47:00AM			Date Analyzed:	16-Nov-16 21:45
				Date Received:	10/25/2016 9:00:00AM
				Date Extracted:	09-Nov-16 07:56
				Column:	ZB-50

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	1.72			B, E	IS 13C-BDE-3	57.1	25 - 150	
BDE-99	0.0657			B	IS 13C-BDE-15	88.1	25 - 150	
BDE-153	0.0393				IS 13C-BDE-28	92.2	25 - 150	
BDE-209	ND	0.0102			IS 13C-BDE-47	108	30 - 140	
Total Mono-BDE	ND	0.000150			IS 13C-BDE-77	71.2	25 - 150	
Total Di-BDE	0.00289				IS 13C-BDE-100	61.1	25 - 150	
Total Tri-BDE	0.239		0.250		IS 13C-BDE-99	85.8	25 - 150	
Total Tetra-BDE	1.88			B	IS 13C-BDE-118	92.1	25 - 150	
Total Penta-BDE	0.429			B	IS 13C-BDE-155	133	25 - 150	
Total Hexa-BDE	0.174		0.175		IS 13C-BDE-154	126	25 - 150	
Total Hepta-BDE	0.00618				IS 13C-BDE-153	111	25 - 150	
Total Octa-BDE	ND	0.000187			IS 13C-BDE-138	81.5	25 - 150	
Total Nona-BDE	ND	0.000654			IS 13C-BDE-169	81.7	25 - 150	
Total Deca-BDE	ND	0.0102			IS 13C-BDE-183	122	25 - 150	
					IS 13C-BDE-180	101	25 - 150	
					IS 13C-BDE-204	111	25 - 150	
					IS 13C-BDE-197	120	25 - 150	
					IS 13C-BDE-205	87.5	25 - 150	
					IS 13C-BDE-207	92.5	25 - 150	
					IS 13C-BDE-206	73.0	25 - 150	
					IS 13C-BDE-209	29.9	20 - 200	
					CRS 13C-BDE-126	90.7	30 - 135	

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.

Dataset: Untitled

Last Altered: Friday, November 18, 2016 8:09:57 AM Pacific Standard Time
 Printed: Friday, November 18, 2016 8:13:14 AM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
 Calibration: U:\vg11.pro\CurveDB\1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_10, Date: 16-Nov-2016, Time: 21:45:39, ID: 1601354-06 EPA-HS-B1 10.04, Description: EPA-HS-B1

Handwritten notes:
 11/18/16
 11/20/16

# Name	Resp	RA	m/y	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
20 BDE-47	6.18e6	0.66	NO	0.899	10.040	25.21	25.23	1.000	1.000	1717.7	57.1	0.0212	1720
26 BDE-99	9.23e4	1.03	NO	0.944	10.040	29.26	29.26	1.000	1.000	65.744	88.1	0.221	65.7
34 BDE-153	3.63e4	0.75	NO	0.947	10.040	32.72	32.73	1.000	1.000	39.293	92.2	0.183	39.3
55 BDE-209			NO	1.29	10.040	56.73		1.001			10.2		
56 13C-BDE-3	3.31e6	1.03	NO	2.71	10.040	10.76	10.72	0.419	0.418	284.17	57.1	0.0751	
57 13C-BDE-15	3.53e6	0.51	NO	1.87	10.040	16.74	16.72	0.652	0.651	438.68	88.1	0.0695	
58 13C-BDE-28	2.32e6	1.03	NO	1.17	10.040	21.10	21.09	0.822	0.821	459.18	92.2	0.0887	
59 13C-BDE-47	1.99e6	0.68	NO	0.865	10.040	25.21	25.21	0.982	0.982	535.40	108	0.0597	
60 13C-BDE-77	1.38e6	0.68	NO	0.902	10.040	26.86	26.88	1.046	1.047	354.58	71.2	0.0573	
61 13C-BDE-100	6.80e5	1.02	NO	2.34	10.040	28.16	28.28	0.851	0.855	304.25	61.1	0.323	
62 13C-BDE-99	7.40e5	1.04	NO	1.82	10.040	29.12	29.25	0.880	0.884	427.19	85.8	0.416	
63 13C-BDE-118	5.48e5	1.03	NO	1.25	10.040	29.92	30.00	0.904	0.907	458.59	92.1	0.604	
64 13C-BDE-155	1.06e6	0.76	NO	1.68	10.040	30.75	30.79	0.929	0.930	662.51	133	0.302	
65 13C-BDE-154	7.45e5	0.77	NO	1.24	10.040	31.44	31.45	0.950	0.950	628.05	126	0.409	
66 13C-BDE-153	4.85e5	0.77	NO	0.918	10.040	32.70	32.72	0.988	0.989	553.77	111	0.553	
67 13C-BDE-138	3.19e5	0.75	NO	0.825	10.040	34.29	34.26	1.036	1.035	405.87	81.5	1.50	
68 13C-BDE-169	5.19e5	0.76	NO	1.34	10.040	34.95	34.94	1.056	1.056	406.70	81.7	0.923	
69 13C-BDE-183	3.48e5	1.03	NO	2.50	10.040	36.01	35.97	1.088	1.087	608.34	122	0.466	
70 13C-BDE-180	1.81e5	1.00	NO	1.57	10.040	37.28	37.30	0.984	0.985	502.02	101	3.42	
71 13C-BDE-204	2.66e5	0.81	NO	0.593	10.040	39.45	39.45	0.983	0.983	1100.5	110	3.19	
72 13C-BDE-197	3.56e5	0.81	NO	0.733	10.040	39.50	39.52	0.984	0.984	1191.0	120	2.58	
73 13C-BDE-205	1.01e5	0.83	NO	0.285	10.040	41.35	41.32	1.030	1.029	871.60	87.5	6.62	
74 13C-BDE-207	1.63e5	1.00	NO	0.985	10.040	45.74	45.78	1.013	1.014	921.31	92.5	4.94	
75 13C-BDE-206	9.13e4	0.98	NO	0.700	10.040	47.48	47.44	1.052	1.051	727.43	73.0	6.96	
76 13C-BDE-209	2.65e4	0.83	NO	0.249	10.040	56.73	56.67	1.257	1.256	595.03	29.9	11.5	
77 13C-BDE-79	2.14e6	0.67	NO		10.040	25.65	25.67	0.000	0.000	498.01	100	0.0517	
78 13C-BDE-139	4.75e5	0.76	NO		10.040	33.05	33.10	0.000	0.000	498.01	100	0.508	
79 13C-BDE-190	1.14e5	1.04	NO		10.040	37.86	37.89	0.000	0.000	498.01	100	5.38	
80 13C-BDE-203	2.03e5	0.83	NO		10.040	40.15	40.15	0.000	0.000	498.01	100	1.89	
81 13C-BDE-208	8.92e4	0.99	NO		10.040	45.10	45.13	0.000	0.000	498.01	100	4.87	
82 13C-BDE-126	8.91e5	1.03	NO	2.07	10.040	31.11	31.10	0.940	0.940	451.71	90.7	0.366	452

Dataset: Untitled

Last Altered: Friday, November 18, 2016 8:09:57 AM Pacific Standard Time
Printed: Friday, November 18, 2016 8:13:14 AM Pacific Standard Time

Name: 161116K1_10, Date: 16-Nov-2016, Time: 21:45:39, ID: 1601354-06 EPA-HS-B1 10.04, Description: EPA-HS-B1

#	Name	Resp	RA	nty	RRE	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE				0.836	10.040	10.00		0.000				0.150	
33	84 Total Di BDE				0.786	10.040	15.25		0.000		2.8861		0.0310	2.89
34	85 Total Tri BDE				0.966	10.040	20.00		0.000		238.96		0.0779	250
35	86 Total Tetra BDE				0.806	10.040	25.00		0.000		1879.0		0.0332	1880
36	87 1st Function Penta BDE				0.999	10.040	27.00		0.000		6.8771		0.0951	6.88
37	88 Total Penta BDE				0.950	10.040	28.50		0.000		422.06		0.291	422
38	89 1st Function Hexa BDE				0.970	10.040	32.00		0.000		173.50		0.142	175
39	90 Total Hexa BDE				0.698	10.040	35.00		0.000				0.139	
40	91 1st Function Hepta BDE				0.970	10.040	35.00		0.000		6.1788		0.109	6.18
41	92 Total Hepta BDE				0.834	10.040	37.00		0.000				0.172	
42	93 Total Octa BDE				0.822	10.040	40.00		0.000				0.187	
43	94 Total Nona BDE				0.943	10.040	45.00		0.000				0.654	
44	95 Total Deca BDE				1.29	10.040	55.00		0.000				5.51/0.1	

Sample ID: EPA-HS-B2

EPA Method 1614

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-07
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0060
Date Collected:	8/30/2016 2:46:00PM			Date Analyzed:	16-Nov-16 22:46 Column: ZB-50
				Date Received:	10/25/2016 9:00:00AM
				Date Extracted:	09-Nov-16 07:56

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	1.63 ✓			B, E	IS 13C-BDE-3	59.0	25 - 150	
BDE-99	0.0652 ✓			B	IS 13C-BDE-15	89.9	25 - 150	
BDE-153	0.0408 ✓				IS 13C-BDE-28	93.0	25 - 150	
BDE-209	ND	0.00798			IS 13C-BDE-47	80.0	30 - 140	
Total Mono-BDE	ND	0.0000987			IS 13C-BDE-77	65.3	25 - 150	
Total Di-BDE	ND		0.00222		IS 13C-BDE-100	57.5	25 - 150	
Total Tri-BDE	0.167 ✓		0.176		IS 13C-BDE-99	85.9	25 - 150	
Total Tetra-BDE	1.81 ✓			B	IS 13C-BDE-118	96.1	25 - 150	
Total Penta-BDE	0.393 ✓			B	IS 13C-BDE-155	138	25 - 150	
Total Hexa-BDE	0.164 ✓		0.165		IS 13C-BDE-154	128	25 - 150	
Total Hepta-BDE	0.00275 ✓		0.00513		IS 13C-BDE-153	113	25 - 150	
Total Octa-BDE	0.00211 ✓		0.00278		IS 13C-BDE-138	82.6	25 - 150	
Total Nona-BDE	ND	0.000569			IS 13C-BDE-169	79.6	25 - 150	
Total Deca-BDE	ND	0.00798			IS 13C-BDE-183	142	25 - 150	
					IS 13C-BDE-180	110	25 - 150	
					IS 13C-BDE-204	89.7	25 - 150	
					IS 13C-BDE-197	113	25 - 150	
					IS 13C-BDE-205	85.9	25 - 150	
					IS 13C-BDE-207	93.7	25 - 150	
					IS 13C-BDE-206	74.7	25 - 150	
					IS 13C-BDE-209	32.3	20 - 200	
					CRS 13C-BDE-126	91.5	30 - 135	

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-11.qld

Last Altered: Friday, November 18, 2016 11:14:09 AM Pacific Standard Time
Printed: Friday, November 18, 2016 11:22:04 AM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\lb5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_11, Date: 16-Nov-2016, Time: 22:46:34, ID: 1601354-07 EPA-HS-B2 10.05, Description: EPA-HS-B2

Handwritten: 11/21/16
C7 11/21/16

#	Name	Resp	RA	nly	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	20 BDE-47	5.19e6	0.65	NO	0.899	10.050	25.21	25.23	1.000	1.000	1630.4	59.0	0.0346	1630
2	26 BDE-99	1.01e5	1.01	NO	0.944	10.050	29.26	29.26	1.000	1.000	65.169	89.9	0.219	65.2
3	34 BDE-153	4.22e4	0.77	NO	0.947	10.050	32.72	32.73	1.000	1.000	40.759	93.0	0.158	40.8
4	55 BDE-209			NO	1.29	10.050	56.72		1.001				7.98	
5	56 13C-BDE-3	4.07e6	1.03	NO	2.71	10.050	10.76	10.72	0.419	0.418	293.76	80.0	0.0629	
6	57 13C-BDE-15	4.28e6	0.51	NO	1.87	10.050	16.74	16.72	0.652	0.651	447.19	85.3	0.0529	
7	58 13C-BDE-28	2.78e6	1.03	NO	1.17	10.050	21.10	21.09	0.822	0.821	462.78	85.9	0.0680	
8	59 13C-BDE-47	1.76e6	0.66	NO	0.865	10.050	25.21	25.21	0.982	0.982	397.80	89.7	0.0518	
9	60 13C-BDE-77	1.50e6	0.68	NO	0.902	10.050	26.86	26.88	1.046	1.047	325.10	89.7	0.0497	
10	61 13C-BDE-100	7.08e5	1.02	NO	2.34	10.050	28.16	28.27	0.851	0.854	286.17	85.9	0.363	
11	62 13C-BDE-99	8.20e5	1.01	NO	1.82	10.050	29.12	29.25	0.880	0.884	427.49	96.1	0.468	
12	63 13C-BDE-118	6.32e5	1.03	NO	1.25	10.050	29.92	30.00	0.904	0.907	477.89	138	0.679	
13	64 13C-BDE-155	1.22e6	0.77	NO	1.68	10.050	30.75	30.79	0.929	0.930	685.71	127	0.300	
14	65 13C-BDE-154	8.33e5	0.77	NO	1.24	10.050	31.44	31.45	0.950	0.950	634.11	113	0.406	
15	66 13C-BDE-153	5.43e5	0.75	NO	0.918	10.050	32.70	32.72	0.988	0.989	560.00	82.6	0.549	
16	67 13C-BDE-138	3.58e5	0.75	NO	0.825	10.050	34.29	34.26	1.036	1.035	411.04	79.6	1.64	
17	68 13C-BDE-169	5.60e5	0.76	NO	1.34	10.050	34.95	34.94	1.056	1.056	396.01	142	1.01	
18	69 13C-BDE-183	4.00e5	1.01	NO	2.50	10.050	36.01	35.97	1.088	1.087	705.97	110	0.619	
19	70 13C-BDE-180	1.96e5	1.04	NO	1.57	10.050	37.28	37.30	0.984	0.985	548.21	89.7	3.24	
20	71 13C-BDE-204	2.42e5	0.84	NO	0.593	10.050	39.45	39.45	0.983	0.983	892.62	113	2.26	
21	72 13C-BDE-197	3.78e5	0.81	NO	0.733	10.050	39.50	39.53	0.984	0.985	1127.5	85.9	1.83	
22	73 13C-BDE-205	1.11e5	0.80	NO	0.285	10.050	41.35	41.32	1.030	1.029	854.78	93.7	4.70	
23	74 13C-BDE-207	1.80e5	0.99	NO	0.985	10.050	45.72	45.76	1.013	1.014	932.40	74.7	4.23	
24	75 13C-BDE-206	1.02e5	0.97	NO	0.700	10.050	47.47	47.44	1.052	1.051	743.67	32.3	5.95	
25	76 13C-BDE-209	3.13e4	0.83	NO	0.249	10.050	56.71	56.66	1.257	1.256	641.98	100	10.7	
26	77 13C-BDE-79	2.55e6	0.67	NO		10.050	25.65	25.67	0.000	0.000	497.51	100	0.0448	
27	78 13C-BDE-139	5.26e5	0.76	NO		10.050	33.05	33.10	0.000	0.000	497.51	100	0.504	
28	79 13C-BDE-190	1.13e5	1.00	NO		10.050	37.86	37.89	0.000	0.000	497.51	100	5.10	
29	80 13C-BDE-203	2.27e5	0.81	NO		10.050	40.15	40.15	0.000	0.000	497.51	100	1.34	
30	81 13C-BDE-208	9.73e4	1.00	NO		10.050	45.10	45.12	0.000	0.000	497.51	100	4.17	
31	82 13C-BDE-126	9.94e5	1.03	NO	2.07	10.050	31.11	31.11	0.940	0.940	455.24	91.5	0.411	455

Quantify Sample Summary Report
 Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-11.qld

Last Altered: Friday, November 18, 2016 11:14:09 AM Pacific Standard Time
 Printed: Friday, November 18, 2016 11:22:04 AM Pacific Standard Time

Name: 161116K1_11, Date: 16-Nov-2016, Time: 22:46:34, ID: 1601354-07 EPA-HS-B2 10.05, Description: EPA-HS-B2

#-Name	Resp	RA	nly	RRF	wVol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE			0.836	10.050	10.00		0.000				0.0987	
33	84 Total Di BDE			0.786	10.050	15.25		0.000		0.00000		0.0171	2.22
34	85 Total Tri BDE			0.966	10.050	20.00		0.000		167.11		0.0769	176
35	86 Total Tetra BDE			0.806	10.050	25.00		0.000		1806.6		0.0336	1810
36	87 1st Function Penta BDE			0.999	10.050	27.00		0.000		6.3681		0.103	6.37
37	88 Total Penta BDE			0.950	10.050	28.50		0.000		386.52		0.290	387
38	89 1st Function Hexa BDE			0.970	10.050	32.00		0.000		163.88		0.125	164
39	90 Total Hexa BDE			0.698	10.050	35.00		0.000		0.00000		0.177	1.07
40	91 1st Function Hepta BDE			0.970	10.050	35.00		0.000		2.7537		0.329	5.13
41	92 Total Hepta BDE			0.834	10.050	37.00		0.000				0.162	
42	93 Total Octa BDE			0.822	10.050	40.00		0.000		2.1057		0.401	2.78
43	94 Total Nona BDE			0.943	10.050	45.00		0.000				0.569	
44	95 Total Deca BDE			1.29	10.050	55.00		0.000				2.65	7.98

Sample ID: EPA-HS-B3

EPA Method 1614

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-08
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0060
Date Collected:	8/30/2016 10:39:00AM			Date Analyzed:	17-Nov-16 03:00 Column: ZB-50
				Date Received:	10/25/2016 9:00:00AM
				Date Extracted:	09-Nov-16 07:56

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	1.18 ✓			B, E	IS 13C-BDE-3	72.4	25 - 150	
BDE-99	0.0535 ✓			B	IS 13C-BDE-15	94.9	25 - 150	
BDE-153	0.0263 ✓				IS 13C-BDE-28	94.9	25 - 150	
BDE-209	ND	0.0151			IS 13C-BDE-47	99.6 ✓	30 - 140	
Total Mono-BDE	ND	0.000108			IS 13C-BDE-77	76.2	25 - 150	
Total Di-BDE	0.00178 ✓				IS 13C-BDE-100	66.5	25 - 150	
Total Tri-BDE	0.167 ✓		0.175		IS 13C-BDE-99	94.2	25 - 150	
Total Tetra-BDE	1.28 ✓			B	IS 13C-BDE-118	102	25 - 150	
Total Penta-BDE	0.294 ✓			B	IS 13C-BDE-155	144	25 - 150	
Total Hexa-BDE	0.116 ✓				IS 13C-BDE-154	139	25 - 150	
Total Hepta-BDE	0.00290 ✓		0.00425		IS 13C-BDE-153	115	25 - 150	
Total Octa-BDE	ND	0.000373			IS 13C-BDE-138	84.0	25 - 150	
Total Nona-BDE	ND	0.000946			IS 13C-BDE-169	77.6	25 - 150	
Total Deca-BDE	ND	0.0151			IS 13C-BDE-183	151	25 - 150	H
					IS 13C-BDE-180	99.1	25 - 150	
					IS 13C-BDE-204	88.2	25 - 150	
					IS 13C-BDE-197	112	25 - 150	
					IS 13C-BDE-205	86.3	25 - 150	
					IS 13C-BDE-207	93.2	25 - 150	
					IS 13C-BDE-206	78.3	25 - 150	
					IS 13C-BDE-209	31.6	20 - 200	
					CRS 13C-BDE-126	96.9	30 - 135	

LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

Quantify Sample Summary Report

Vista Analytical Laboratory

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-4.qld

Last Altered: Friday, November 18, 2016 11:44:17 AM Pacific Standard Time
Printed: Friday, November 18, 2016 11:47:36 AM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K2_4, Date: 17-Nov-2016, Time: 03:00:37, ID: 1601354-08 EPA-HS-B3 10.01, Description: EPA-HS-B3

MP 11/18/16
C 11/21/16

#.Name	Resp	RA	nly	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1 20 BDE-47	3.29e6	0.65	NO	0.899	10.010	25.20	25.20	1.000	1.000	1184.3	72.4	0.0296	1180
2 26 BDE-99	5.72e4	1.01	NO	0.944	10.010	29.22	29.22	1.000	1.000	53.506	94.9	0.153	53.5
3 34 BDE-153	1.74e4	0.77	NO	0.947	10.010	32.69	32.70	1.000	1.000	26.283	99.6	0.206	26.3
4 55 BDE-209			NO	1.29	10.010	56.70		1.001				15.1	
5 56 13C-BDE-3	3.51e6	1.03	NO	2.71	10.010	10.75	10.72	0.419	0.418	361.79	72.4	0.0853	
6 57 13C-BDE-15	3.18e6	0.52	NO	1.87	10.010	16.73	16.70	0.652	0.651	474.03	94.9	0.0681	
7 58 13C-BDE-28	2.00e6	1.02	NO	1.17	10.010	21.09	21.08	0.822	0.821	474.21	94.9	0.108	
8 59 13C-BDE-47	1.54e6	0.67	NO	0.865	10.010	25.20	25.20	0.982	0.982	497.37	99.6	0.107	
9 60 13C-BDE-77	1.23e6	0.67	NO	0.902	10.010	26.84	26.86	1.046	1.047	380.46	76.2	0.103	
10 61 13C-BDE-100	5.15e5	1.03	NO	2.34	10.010	28.15	28.24	0.851	0.854	332.13	66.5	0.426	
11 62 13C-BDE-99	5.66e5	1.00	NO	1.82	10.010	29.11	29.21	0.880	0.883	470.64	94.2	0.549	
12 63 13C-BDE-118	4.23e5	1.03	NO	1.25	10.010	29.90	29.97	0.904	0.906	510.09	102	0.796	
13 64 13C-BDE-155	7.99e5	0.76	NO	1.68	10.010	30.73	30.76	0.929	0.930	717.40	144	0.290	
14 65 13C-BDE-154	5.70e5	0.76	NO	1.24	10.010	31.42	31.43	0.950	0.950	692.00	139	0.393	
15 66 13C-BDE-153	3.49e5	0.76	NO	0.918	10.010	32.68	32.69	0.988	0.988	574.07	115	0.532	
16 67 13C-BDE-138	2.29e5	0.75	NO	0.825	10.010	34.27	34.25	1.036	1.035	419.37	84.0	1.96	
17 68 13C-BDE-169	3.43e5	0.76	NO	1.34	10.010	34.93	34.92	1.056	1.056	387.47	77.6	1.21	
18 69 13C-BDE-183	2.41e5	1.04	NO	2.50	10.010	35.99	35.95	1.088	1.087	755.52	151	0.547	
19 70 13C-BDE-180	9.97e4	1.02	NO	1.57	10.010	37.27	37.29	0.984	0.985	495.13	99.1	5.10	
20 71 13C-BDE-204	1.30e5	0.79	NO	0.593	10.010	39.44	39.43	0.983	0.982	881.46	88.2	3.97	
21 72 13C-BDE-197	2.04e5	0.80	NO	0.733	10.010	39.49	39.52	0.984	0.985	1119.6	112	3.21	
22 73 13C-BDE-205	6.09e4	0.81	NO	0.285	10.010	41.34	41.30	1.030	1.029	861.77	86.3	8.24	
23 74 13C-BDE-207	1.01e5	0.95	NO	0.985	10.010	45.71	45.74	1.013	1.014	931.39	93.2	6.74	
24 75 13C-BDE-206	6.02e4	0.97	NO	0.700	10.010	47.45	47.41	1.052	1.051	782.50	78.3	9.49	
25 76 13C-BDE-209	1.73e4	0.84	NO	0.249	10.010	56.69	56.64	1.257	1.256	631.87	31.6	13.8	
26 77 13C-BDE-79	1.79e6	0.67	NO		10.010	25.65	25.66	0.000	0.000	499.50	100	0.0926	
27 78 13C-BDE-139	3.31e5	0.78	NO		10.010	33.05	33.08	0.000	0.000	499.50	100	0.488	
28 79 13C-BDE-190	6.39e4	1.06	NO		10.010	37.86	37.88	0.000	0.000	499.50	100	8.02	
29 80 13C-BDE-203	1.24e5	0.82	NO		10.010	40.15	40.14	0.000	0.000	499.50	100	2.35	
30 81 13C-BDE-208	5.49e4	0.98	NO		10.010	45.10	45.10	0.000	0.000	499.50	100	6.64	
31 82 13C-BDE-126	6.63e5	1.04	NO	2.07	10.010	31.09	31.08	0.940	0.940	483.99	96.9	0.482	484

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-4.qld

Last Altered: Friday, November 18, 2016 11:44:17 AM Pacific Standard Time
Printed: Friday, November 18, 2016 11:47:36 AM Pacific Standard Time

Name: 161116K2_4, Date: 17-Nov-2016, Time: 03:00:37, ID: 1601354-08 EPA-HS-B3 10.01, Description: EPA-HS-B3

#	Name	Resp	RA	nly	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE				0.836	10.010	10.00		0.000				0.108	
33	84 Total Di BDE				0.786	10.010	15.25		0.000		1.7834		0.0299	1.78
34	85 Total Tri BDE				0.966	10.010	20.00		0.000		167.30		0.0852	175
35	86 Total Tetra BDE				0.806	10.010	25.00		0.000		1281.9		0.0361	1280
36	87 1st Function Penta BDE				0.999	10.010	27.00		0.000		5.5756		0.0695	5.58
37	88 Total Penta BDE				0.950	10.010	28.50		0.000		288.67		0.200	289
38	89 1st Function Hexa BDE				0.970	10.010	32.00		0.000		115.76		0.165	116
39	90 Total Hexa BDE				0.698	10.010	35.00		0.000				0.151	
40	91 1st Function Hepta BDE				0.970	10.010	35.00		0.000		2.8997		0.236	4.25
41	92 Total Hepta BDE				0.834	10.010	37.00		0.000				0.286	
42	93 Total Octa BDE				0.822	10.010	40.00		0.000				0.373	
43	94 Total Nona BDE				0.943	10.010	45.00		0.000				0.946	
44	95 Total Deca BDE				1.29	10.010	55.00		0.000				7.99/51	

Sample ID: EPA-HS-C1

EPA Method 1614

Client Data		Sample Data		Laboratory Data	
Name: Teck American Incorporated	Matrix: Tissue	Lab Sample: 1601354-09	Date Received: 10/25/2016 9:00:00AM	QC Batch: B6K0060	Date Extracted: 09-Nov-16 07:56
Project: Upper Columbia River	Sample Size: 10.0 g	Date Analyzed: 17-Nov-16 04:01	Column: ZB-50		
Date Collected: 9/7/2016 2:05:00PM					

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	2.74			B, E	IS 13C-BDE-3	74.6	25 - 150	
BDE-99	0.106			B	IS 13C-BDE-15	134	25 - 150	
BDE-153	0.0564				IS 13C-BDE-28	119	25 - 150	
BDE-209	ND	0.0701			IS 13C-BDE-47	113	30 - 140	
Total Mono-BDE	ND	0.000305			IS 13C-BDE-77	23.9	25 - 150	H
Total Di-BDE	0.00485				IS 13C-BDE-100	194	25 - 150	H
Total Tri-BDE	0.329		0.352		IS 13C-BDE-99	182	25 - 150	H
Total Tetra-BDE	2.99		3.00	B	IS 13C-BDE-118	157	25 - 150	H
Total Penta-BDE	0.610		0.615	B	IS 13C-BDE-155	168	25 - 150	H
Total Hexa-BDE	0.235				IS 13C-BDE-154	152	25 - 150	H
Total Hepta-BDE	0.00603				IS 13C-BDE-153	114	25 - 150	
Total Octa-BDE	ND	0.00271			IS 13C-BDE-138	81.4	25 - 150	
Total Nona-BDE	ND	0.00955			IS 13C-BDE-169	76.3	25 - 150	
Total Deca-BDE	ND	0.0701			IS 13C-BDE-183	123	25 - 150	
					IS 13C-BDE-180	99.0	25 - 150	
					IS 13C-BDE-204	91.5	25 - 150	
					IS 13C-BDE-197	108	25 - 150	
					IS 13C-BDE-205	79.6	25 - 150	
					IS 13C-BDE-207	86.4	25 - 150	
					IS 13C-BDE-206	77.7	25 - 150	
					IS 13C-BDE-209	56.3	20 - 200	
					CRS 13C-BDE-126	139	30 - 135	H

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.

Quantify Sample Summary Report
Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-5.qld

Last Altered: Friday, November 18, 2016 12:14:40 PM Pacific Standard Time
Printed: Tuesday, November 22, 2016 8:00:50 AM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K2_5, Date: 17-Nov-2016, Time: 04:01:33, ID: 1601354-09 EPA-HS-C1 10.02, Description: EPA-HS-C1

Handwritten: 11/22/16

#	Name	Resp	RA	RV	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	20 BDE-47	3.70e6	0.65	NO	0.899	10.020	25.38	25.39	1.000	1.000	2743.2	74.6	0.106	2740
2	26 BDE-99	5.73e4	1.02	NO	0.944	10.020	29.19	29.20	1.000	1.000	105.77	134	0.594	106
3	34 BDE-153	9.70e3	0.76	NO	0.947	10.020	32.69	32.70	1.000	1.000	56.444	119	1.30	56.4
4	55 BDE-209			NO	1.29	10.020	56.75		1.001				70.1	
5	56 13C-BDE-3	1.55e6	1.03	NO	2.71	10.020	10.86	10.73	0.419	0.414	372.36	74.6	0.422	
6	57 13C-BDE-15	1.92e6	0.51	NO	1.87	10.020	16.89	16.80	0.652	0.649	669.18	134	0.303	
7	58 13C-BDE-28	1.07e6	1.03	NO	1.17	10.020	21.30	21.17	0.822	0.817	593.22	119	0.410	
8	59 13C-BDE-47	7.48e5	0.66	NO	0.865	10.020	25.44	25.38	0.982	0.979	563.13	113	0.218	
9	60 13C-BDE-77	1.65e5	0.63	NO	0.902	10.020	27.10	27.12	1.046	1.047	119.05	23.9	0.209	
10	61 13C-BDE-100	3.94e5	1.01	NO	2.34	10.020	28.15	28.26	0.851	0.854	968.05	194	1.64	
11	62 13C-BDE-99	2.86e5	1.00	NO	1.82	10.020	29.11	29.19	0.880	0.882	906.69	182	2.11	
12	63 13C-BDE-118	1.71e5	1.04	NO	1.25	10.020	29.90	29.95	0.904	0.905	783.08	157	3.06	
13	64 13C-BDE-155	2.45e5	0.74	NO	1.68	10.020	30.73	30.76	0.929	0.930	838.02	168	1.81	
14	65 13C-BDE-154	1.64e5	0.74	NO	1.24	10.020	31.42	31.42	0.950	0.950	757.11	152	2.45	
15	66 13C-BDE-153	9.06e4	0.74	NO	0.918	10.020	32.68	32.69	0.988	0.988	566.94	114	3.31	
16	67 13C-BDE-138	5.83e4	0.73	NO	0.825	10.020	34.27	34.26	1.036	1.036	406.39	81.4	6.04	
17	68 13C-BDE-169	8.86e4	0.74	NO	1.34	10.020	34.93	34.93	1.056	1.056	380.67	76.3	3.72	
18	69 13C-BDE-183	4.52e4	1.03	NO	2.50	10.020	35.99	35.94	1.088	1.087	613.52	123	4.03	
19	70 13C-BDE-180	2.29e4	1.08	NO	1.57	10.020	37.25	37.27	0.984	0.984	493.84	99.0	13.3	
20	71 13C-BDE-204	2.20e4	0.85	NO	0.593	10.020	39.40	39.40	0.983	0.983	913.33	91.5	16.4	
21	72 13C-BDE-197	3.23e4	0.82	NO	0.733	10.020	39.45	39.47	0.984	0.985	1081.7	108	13.2	
22	73 13C-BDE-205	9.23e3	0.80	NO	0.285	10.020	41.30	41.25	1.030	1.029	794.88	79.6	34.1	
23	74 13C-BDE-207	1.78e4	1.01	NO	0.985	10.020	45.66	45.71	1.013	1.015	862.33	86.4	33.9	
24	75 13C-BDE-206	1.14e4	1.05	NO	0.700	10.020	47.40	47.36	1.052	1.051	775.65	77.7	47.6	
25	76 13C-BDE-209	5.86e3	0.85	NO	0.249	10.020	56.63	56.69	1.257	1.258	1122.8	56.3	99.1	
26	77 13C-BDE-79	7.66e5	0.66	NO		10.020	25.65	25.91	0.000	0.000	499.00	100	0.189	
27	78 13C-BDE-139	8.68e4	0.76	NO		10.020	33.05	33.08	0.000	0.000	499.00	100	3.04	
28	79 13C-BDE-190	1.47e4	0.98	NO		10.020	37.86	37.86	0.000	0.000	499.00	100	21.0	
29	80 13C-BDE-203	2.03e4	0.80	NO		10.020	40.15	40.09	0.000	0.000	499.00	100	9.72	
30	81 13C-BDE-208	1.05e4	1.05	NO		10.020	45.10	45.06	0.000	0.000	499.00	100	33.4	
31	82 13C-BDE-126	2.49e5	1.03	NO	2.07	10.020	31.09	31.07	0.940	0.939	692.18	139	1.85	692

Handwritten: CT 11/22/16

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-5.qld

Last Altered: Friday, November 18, 2016 12:14:40 PM Pacific Standard Time
Printed: Tuesday, November 22, 2016 8:00:50 AM Pacific Standard Time

Name: 161116K2_5, Date: 17-Nov-2016, Time: 04:01:33, ID: 1601354-09 EPA-HS-C1 10.02, Description: EPA-HS-C1

#	Name	Resp	RA	n/y	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE				0.836	10.020	10.00		0.000				0.305	
33	84 Total Di BDE				0.786	10.020	15.25		0.000		4.8454		0.221	4.84
34	85 Total Tri BDE				0.966	10.020	20.00		0.000		329.23		0.208	352
35	86 Total Tetra BDE				0.806	10.020	25.00		0.000		2990.6		0.300	3000
36	87 1st Function Penta BDE				0.999	10.020	27.00		0.000				0.0807	
37	88 Total Penta BDE				0.950	10.020	28.50		0.000		610.49		0.502	615
38	89 1st Function Hexa BDE				0.970	10.020	32.00		0.000		235.10		0.969	235
39	90 Total Hexa BDE				0.698	10.020	35.00		0.000				1.17	
40	91 1st Function Hepta BDE				0.970	10.020	35.00		0.000		6.0294		1.73	6.03
41	92 Total Hepta BDE				0.834	10.020	37.00		0.000				1.44	
42	93 Total Octa BDE				0.822	10.020	40.00		0.000				2.71	
43	94 Total Nona BDE				0.943	10.020	45.00		0.000				9.55	
44	95 Total Deca BDE				1.29	10.020	55.00		0.000				32.2	20.1

Sample ID: EPA-HS-C2

EPA Method 1614

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-10		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0060		
Date Collected:	8/30/2016 1:10:00PM			Date Analyzed:	17-Nov-16 05:02 Column: ZB-50		
				Date Received:	10/25/2016 9:00:00AM		
				Date Extracted:	09-Nov-16 07:56		
Analyte	Conc. (ug/kg)	DL	EMPC	Labelled Standard	%R	LCL-UCL	Qualifiers
BDE-47	3.54 ✓			IS 13C-BDE-3	74.4	25 - 150	
BDE-99	0.0933 ✓			IS 13C-BDE-15	143	25 - 150	
BDE-153	0.0767 ✓			IS 13C-BDE-28	139	25 - 150	
BDE-209	ND	0.0215		IS 13C-BDE-47	129	30 - 140	
Total Mono-BDE	ND	0.000177		IS 13C-BDE-77	26.1	25 - 150	
Total Di-BDE	0.00480 ✓			IS 13C-BDE-100	176	25 - 150	H
Total Tri-BDE	0.566 ✓		0.591	IS 13C-BDE-99	174	25 - 150	H
Total Tetra-BDE	3.80 ✓		3.81	IS 13C-BDE-118	144	25 - 150	
Total Penta-BDE	0.772 ✓		0.775	IS 13C-BDE-155	157	25 - 150	H
Total Hexa-BDE	0.348 ✓		0.349	IS 13C-BDE-154	148	25 - 150	
Total Hepta-BDE	0.00736 ✓		0.0116	IS 13C-BDE-153	116	25 - 150	
Total Octa-BDE	ND	0.00157		IS 13C-BDE-138	86.0	25 - 150	
Total Nona-BDE	ND	0.00330		IS 13C-BDE-169	89.4	25 - 150	
Total Deca-BDE	ND	0.0215		IS 13C-BDE-183	108	25 - 150	
				IS 13C-BDE-180	103	25 - 150	
				IS 13C-BDE-204	111	25 - 150	
				IS 13C-BDE-197	93.7	25 - 150	
				IS 13C-BDE-205	101	25 - 150	
				IS 13C-BDE-207	94.1	25 - 150	
				IS 13C-BDE-206	84.0	25 - 150	
				IS 13C-BDE-209	62.5	20 - 200	
				CRS 13C-BDE-126	137	30 - 135	H

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.

Quantify Sample Summary Report
Vista Analytical Laboratory

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-6.qld

Last Altered: Tuesday, November 22, 2016 1:46:43 PM Pacific Standard Time
Printed: Tuesday, November 22, 2016 1:55:51 PM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\ids_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K2_6, Date: 17-Nov-2016, Time: 05:02:30, ID: 1601354-10 EPA-HS-C2 10.04, Description: EPA-HS-C2

Handwritten notes:
11/22/16
C1
11/22/16

#	Name	Resp	RA	n/y	RRE	w/Volume	RT	RRT	Pred.RRT	Check.RRT	Conc	%Re	DL	EMPC
1	20 BDE-47	9.38e6	0.65	NO	0.899	10.040	25.33	1.001	1.000	NO	3544.2	74.4	0.145	3540
2	26 BDE-99	9.03e4	1.02	NO	0.944	10.040	29.26	1.000	1.000	NO	93.273	143	0.216	93.3
3	34 BDE-153	2.53e4	0.75	NO	0.947	10.040	32.79	1.000	1.000	NO	76.670	139	0.878	76.7
4	55 BDE-209			NO	1.29	10.040			1.001	NO		129	21.5	
5	56 13C-BDE-3	2.63e6	1.01	NO	2.71	10.040	10.76	0.417	0.419	NO	370.51	176	0.556	
6	57 13C-BDE-15	3.50e6	0.51	NO	1.87	10.040	16.82	0.651	0.652	NO	713.27	174	0.420	
7	58 13C-BDE-28	2.13e6	1.02	NO	1.17	10.040	21.18	0.820	0.822	NO	691.52	144	0.452	
8	59 13C-BDE-47	1.46e6	0.66	NO	0.865	10.040	25.30	0.979	0.982	NO	642.67	157	0.280	
9	60 13C-BDE-77	3.07e5	0.66	NO	0.902	10.040	27.06	1.047	1.046	NO	129.86	116	0.269	
10	61 13C-BDE-100	6.69e5	1.01	NO	2.34	10.040	28.35	0.855	0.851	NO	878.59	176	0.618	
11	62 13C-BDE-99	5.11e5	1.02	NO	1.82	10.040	29.25	0.882	0.880	NO	864.12	174	0.796	
12	63 13C-BDE-118	2.92e5	1.02	NO	1.25	10.040	30.01	0.905	0.904	NO	716.55	144	1.16	
13	64 13C-BDE-155	4.29e5	0.76	NO	1.98	10.040	30.82	0.929	0.929	NO	784.02	157	0.962	
14	65 13C-BDE-154	2.97e5	0.75	NO	1.24	10.040	31.48	0.949	0.950	NO	734.86	148	1.30	
15	66 13C-BDE-153	1.73e5	0.78	NO	0.918	10.040	32.78	0.989	0.988	NO	579.57	116	1.76	
16	67 13C-BDE-138	1.15e5	0.74	NO	0.825	10.040	34.33	1.035	1.036	NO	428.31	86.0	4.03	
17	68 13C-BDE-169	1.94e5	0.76	NO	1.34	10.040	35.00	1.056	1.056	NO	445.19	89.4	2.48	
18	69 13C-BDE-183	1.08e5	1.04	NO	2.50	10.040	36.00	1.086	1.088	NO	538.46	108	1.48	
19	70 13C-BDE-180	6.50e4	1.01	NO	1.57	10.040	37.32	0.995	0.984	NO	512.39	103	7.70	
20	71 13C-BDE-204	7.54e4	0.79	NO	0.593	10.040	39.47	0.983	0.983	NO	1109.7	111	6.60	
21	72 13C-BDE-197	7.85e4	0.79	NO	0.733	10.040	39.54	0.984	0.984	NO	933.50	93.7	5.33	
22	73 13C-BDE-205	3.28e4	0.77	NO	0.285	10.040	41.35	1.029	1.030	NO	1002.7	101	13.7	
23	74 13C-BDE-207	5.88e4	0.98	NO	0.985	10.040	45.84	1.015	1.013	NO	937.27	94.1	14.1	
24	75 13C-BDE-206	3.73e4	0.97	NO	0.700	10.040	47.52	1.052	1.052	NO	836.38	84.0	19.8	
25	76 13C-BDE-209	1.97e4	0.81	NO	0.249	10.040	56.82	1.258	1.257	NO	1244.2	62.5	39.5	
26	77 13C-BDE-79	1.31e6	0.65	NO		10.040	25.84	0.000	0.000	NO	498.01	100	0.243	
27	78 13C-BDE-139	1.62e5	0.76	NO		10.040	33.16	0.000	0.000	NO	498.01	100	1.62	
28	79 13C-BDE-190	4.02e4	1.05	NO		10.040	37.91	0.000	0.000	NO	498.01	100	12.1	
29	80 13C-BDE-203	5.71e4	0.80	NO		10.040	40.17	0.000	0.000	NO	498.01	100	3.91	
30	81 13C-BDE-208	3.17e4	1.00	NO		10.040	45.18	0.000	0.000	NO	498.01	100	13.9	
31	82 13C-BDE-126	4.57e5	1.02	NO	2.07	10.040	31.15	0.939	0.940	NO	679.79	137	0.700	680

Quantify Sample Summary Report
 Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-6.qld

Last Altered: Tuesday, November 22, 2016 1:46:43 PM Pacific Standard Time
 Printed: Tuesday, November 22, 2016 1:55:51 PM Pacific Standard Time

Name: 161116K2_6, Date: 17-Nov-2016, Time: 05:02:30, ID: 1601354-10 EPA-HS-C2 10.04, Description: EPA-HS-C2

# Name	Resp	RA	RRF	RRF _{sum}	RT	RRT	Pred.RRT	Check.RRT	Comp.	%Rec	DL	EMPC
83 Total Mono BDE			0.836		10.040		0.000	NO			0.177	
84 Total Di BDE			0.786		10.040		0.000	NO	4.8004		0.101	4.80
85 Total Tri BDE			0.966		10.040		0.000	NO	565.75		0.0935	591
86 Total Tetra BDE			0.806		10.040		0.000	YES	3802.2		0.478	3810
87 1st Function Penta BDE			0.999		10.040		0.000	NO			0.0398	
88 Total Penta BDE			0.950		10.040		0.000	NO	771.53		0.185	775
89 1st Function Hexa BDE			0.970		10.040		0.000	NO	347.79		0.638	348
90 Total Hexa BDE			0.698		10.040		0.000	NO	0.00000		0.608	1.20
91 1st Function Hepta BDE			0.970		10.040		0.000	NO	7.3553		0.972	11.6
92 Total Hepta BDE			0.834		10.040		0.000	NO			0.785	
93 Total Octa BDE			0.822		10.040		0.000	NO			1.57	
94 Total Nona BDE			0.943		10.040		0.000	NO			3.30	
95 Total Deca BDE			1.29		10.040		0.000	NO			8.98	

Sample ID: EPA-HS-C3

EPA Method 1614

Client Data

Name: Teck American Incorporated
 Project: Upper Columbia River
 Date Collected: 9/7/2016 10:11:00AM

Sample Data

Matrix: Tissue
 Sample Size: 10.0 g

Laboratory Data

Lab Sample: 1601354-11 Date Received: 10/25/2016 9:00:00AM
 QC Batch: B6K0060 Date Extracted: 09-Nov-16 07:56
 Date Analyzed: 17-Nov-16 06:03 Column: ZB-50

Analyte	Conc. (ug/kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	2.11			B, E	IS 13C-BDE-3	48.6	25 - 150	
BDE-99	0.0934			B	IS 13C-BDE-15	111	25 - 150	
BDE-153	0.0486				IS 13C-BDE-28	113	25 - 150	
BDE-209	ND	0.0147			IS 13C-BDE-47	113	30 - 140	
Total Mono-BDE	ND	0.000139			IS 13C-BDE-77	41.8	25 - 150	
Total Di-BDE	0.00331				IS 13C-BDE-100	121	25 - 150	
Total Tri-BDE	0.243		0.259		IS 13C-BDE-99	140	25 - 150	
Total Tetra-BDE	2.33			B	IS 13C-BDE-118	128	25 - 150	
Total Penta-BDE	0.482			B	IS 13C-BDE-155	143	25 - 150	
Total Hexa-BDE	0.199				IS 13C-BDE-154	130	25 - 150	
Total Hepta-BDE	0.00700		0.00838		IS 13C-BDE-153	106	25 - 150	
Total Octa-BDE	ND	0.000940			IS 13C-BDE-138	75.4	25 - 150	
Total Nona-BDE	ND	0.00249			IS 13C-BDE-169	80.5	25 - 150	
Total Deca-BDE	ND	0.0147			IS 13C-BDE-183	119	25 - 150	
					IS 13C-BDE-180	105	25 - 150	
					IS 13C-BDE-204	110	25 - 150	
					IS 13C-BDE-197	107	25 - 150	
					IS 13C-BDE-205	94.6	25 - 150	
					IS 13C-BDE-207	92.3	25 - 150	
					IS 13C-BDE-206	83.7	25 - 150	
					IS 13C-BDE-209	67.2	20 - 200	
					CRS 13C-BDE-126	116	30 - 135	

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-7.qld

Last Altered: Friday, November 18, 2016 1:05:22 PM Pacific Standard Time
Printed: Friday, November 18, 2016 1:07:17 PM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\lb5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K2_7, Date: 17-Nov-2016, Time: 06:03:27, ID: 1601354-11 EPA-HS-C3 10.01, Description: EPA-HS-C3

Handwritten: 11/21/16
11/21/16

#	Name	Resp	RA	ny	RRF	wdvol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	20 BDE-47	7.47e6	0.65	NO	0.899	10.010	25.33	25.34	1.000	1.000	2110.1	48.6	0.0519	2110
2	26 BDE-99	1.34e5	1.01	NO	0.944	10.010	29.31	29.31	1.000	1.000	93.429	111	0.158	93.4
3	34 BDE-153	2.68e4	0.78	NO	0.947	10.010	32.82	32.83	1.000	1.000	48.615	113	0.493	48.6
4	55 BDE-209			NO	1.29	10.010	56.94		1.001				14.7	
5	56 13C-BDE-3	2.65e6	1.02	NO	2.71	10.010	10.83	10.78	0.419	0.417	242.54	48.6	0.298	
6	57 13C-BDE-15	4.19e6	0.52	NO	1.87	10.010	16.85	16.82	0.652	0.651	555.53	111	0.217	
7	58 13C-BDE-28	2.67e6	1.02	NO	1.17	10.010	21.25	21.19	0.822	0.820	563.92	113	0.349	
8	59 13C-BDE-47	1.97e6	0.66	NO	0.865	10.010	25.38	25.33	0.982	0.980	563.49	113	0.194	
9	60 13C-BDE-77	7.59e5	0.67	NO	0.902	10.010	27.04	27.04	1.046	1.046	208.78	41.8	0.186	
10	61 13C-BDE-100	8.52e5	1.00	NO	2.34	10.010	28.26	28.39	0.851	0.855	605.67	121	0.463	
11	62 13C-BDE-99	7.62e5	1.03	NO	1.82	10.010	29.23	29.30	0.880	0.882	698.21	140	0.597	
12	63 13C-BDE-118	4.79e5	1.01	NO	1.25	10.010	30.02	30.07	0.904	0.905	637.47	128	0.866	
13	64 13C-BDE-155	7.21e5	0.75	NO	1.68	10.010	30.85	30.85	0.929	0.929	713.31	143	0.567	
14	65 13C-BDE-154	4.87e5	0.76	NO	1.24	10.010	31.55	31.52	0.950	0.949	651.44	130	0.767	
15	66 13C-BDE-153	2.91e5	0.75	NO	0.918	10.010	32.81	32.82	0.988	0.988	527.11	106	1.04	
16	67 13C-BDE-138	1.86e5	0.77	NO	0.825	10.010	34.41	34.38	1.036	1.035	376.47	75.4	2.94	
17	68 13C-BDE-169	3.23e5	0.75	NO	1.34	10.010	35.07	35.04	1.056	1.055	402.12	80.5	1.81	
18	69 13C-BDE-183	1.77e5	1.01	NO	2.50	10.010	36.13	36.04	1.088	1.085	596.20	119	2.07	
19	70 13C-BDE-180	9.76e4	1.04	NO	1.57	10.010	37.33	37.36	0.984	0.985	523.17	105	4.66	
20	71 13C-BDE-204	1.11e5	0.83	NO	0.593	10.010	39.51	39.51	0.983	0.983	1097.0	110	4.39	
21	72 13C-BDE-197	1.35e5	0.81	NO	0.733	10.010	39.57	39.58	0.984	0.984	1069.7	107	3.55	
22	73 13C-BDE-205	4.62e4	0.82	NO	0.285	10.010	41.42	41.39	1.030	1.029	944.83	94.6	9.13	
23	74 13C-BDE-207	8.39e4	1.00	NO	0.985	10.010	45.84	45.89	1.013	1.015	921.75	92.3	9.19	
24	75 13C-BDE-206	5.41e4	0.97	NO	0.700	10.010	47.58	47.58	1.052	1.052	835.98	83.7	12.9	
25	76 13C-BDE-209	3.09e4	0.81	NO	0.249	10.010	56.86	56.88	1.257	1.258	1342.5	67.2	21.5	
26	77 13C-BDE-79	2.01e6	0.67	NO		10.010	25.65	25.85	0.000	0.000	499.50	100	0.168	
27	78 13C-BDE-139	3.00e5	0.74	NO		10.010	33.05	33.21	0.000	0.000	499.50	100	0.954	
28	79 13C-BDE-190	5.92e4	1.08	NO		10.010	37.86	37.94	0.000	0.000	499.50	100	7.33	
29	80 13C-BDE-203	8.56e4	0.79	NO		10.010	40.15	40.21	0.000	0.000	499.50	100	2.60	
30	81 13C-BDE-208	4.62e4	1.01	NO		10.010	45.10	45.23	0.000	0.000	499.50	100	9.05	
31	82 13C-BDE-126	7.20e5	1.02	NO	2.07	10.010	31.22	31.19	0.940	0.939	579.76	116	0.524	580

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-7.qld

Last Altered: Friday, November 18, 2016 1:05:22 PM Pacific Standard Time
Printed: Friday, November 18, 2016 1:07:17 PM Pacific Standard Time

Name: 161116K2_7, Date: 17-Nov-2016, Time: 06:03:27, ID: 1601354-11 EPA-HS-C3 10.01, Description: EPA-HS-C3

#-Name	Resp	RA	nly	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE			0.836	10.010	10.00		0.000				0.139	
33	84 Total Di BDE			0.786	10.010	15.25		0.000		3.3125		0.0397	3.31
34	85 Total Tri BDE			0.966	10.010	20.00		0.000		242.73		0.0591	259
35	86 Total Tetra BDE			0.806	10.010	25.00		0.000		2329.4		0.152	2330
36	87 1st Function Penta BDE			0.999	10.010	27.00		0.000				0.0266	
37	88 Total Penta BDE			0.950	10.010	28.50		0.000		481.64		0.155	482
38	89 1st Function Hexa BDE			0.970	10.010	32.00		0.000		198.81		0.386	199
39	90 Total Hexa BDE			0.698	10.010	35.00		0.000				0.430	
40	91 1st Function Hepta BDE			0.970	10.010	35.00		0.000		7.0032		0.511	8.38
41	92 Total Hepta BDE			0.834	10.010	37.00		0.000				0.521	
42	93 Total Octa BDE			0.822	10.010	40.00		0.000				0.940	
43	94 Total Nona BDE			0.943	10.010	45.00		0.000				2.49	
44	95 Total Deca BDE			1.29	10.010	55.00		0.000				7.66 /417	

Sample ID: Homogenization Blank 10/17/16 **EPA Method 1614**

Client Data	Sample Data	Laboratory Data
Name: Teck American Incorporated	Matrix: Aqueous	Lab Sample: 1601354-12
Project: Upper Columbia River	Sample Size: 1.03 L	QC Batch: B6K0018
Date Collected: 10/17/2016 10:35:00AM		Date Analyzed: 12-Nov-16 00:15
		Column: ZB-5MS
		Date Received: 10/25/2016 9:00:00AM
		Date Extracted: 04-Nov-16 13:08

Analyte	Conc. (µg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	41.7 ✓			J, B	IS 13C-BDE-3	82.8	25 - 150	
BDE-99	247 ✓				IS 13C-BDE-15	115	25 - 150	
BDE-153	34.2 ✓			J	IS 13C-BDE-28	112	25 - 150	
BDE-209	ND	68.7			IS 13C-BDE-47	98.9 ✓	30 - 140	
Total Mono-BDE	ND	1.19			IS 13C-BDE-77	86.1	25 - 150	
Total Di-BDE	ND	0.140			IS 13C-BDE-100	105	25 - 150	
Total Tri-BDE	ND	0.139			IS 13C-BDE-99	98.5	25 - 150	
Total Tetra-BDE	41.7 ✓		44.1	B	IS 13C-BDE-118	90.7	25 - 150	
Total Penta-BDE	299 -				IS 13C-BDE-155	94.6	25 - 150	
Total Hexa-BDE	73.8 ✓				IS 13C-BDE-154	92.8	25 - 150	
Total Hepta-BDE	17.8 -		23.2		IS 13C-BDE-153	87.1	25 - 150	
Total Octa-BDE	5.91 ✓				IS 13C-BDE-138	83.6	25 - 150	
Total Nona-BDE	ND	3.69			IS 13C-BDE-169	82.1	25 - 150	
Total Deca-BDE	ND	68.7			IS 13C-BDE-183	96.2	25 - 150	
					IS 13C-BDE-180	92.5	25 - 150	
					IS 13C-BDE-204	81.7	25 - 150	
					IS 13C-BDE-197	81.7	25 - 150	
					IS 13C-BDE-205	75.4	25 - 150	
					IS 13C-BDE-207	77.1	25 - 150	
					IS 13C-BDE-206	79.8	25 - 150	
					IS 13C-BDE-209	73.4	20 - 200	
					CRS 13C-BDE-126	95.6 ✓	30 - 135	

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit

79/L ⇒ 115/Kg
 10-6

No impact on tissue samples

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-20.qld

Last Altered: Monday, November 14, 2016 12:10:17 Pacific Standard Time
Printed: Saturday, November 26, 2016 08:36:28 Pacific Standard Time

Method: Untitled 14 Nov 2016 10:49:56

Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-11-16.cdb 12 Nov 2016 07:50:14

Name: 161111K1_20, Date: 12-Nov-2016, Time: 00:15:56, ID: 1601354-12 Homogenization Blank 10/17/16, Description: Homogenization Blank 10/17/16

Handwritten: 11/26/16
11/26/16

# Name	Resp	RA	ny	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1 20 BDE-47	1.05e4	0.68	NO	0.883	1.032	24.84	24.84	1.000	1.000	41.704	82.8	0.179	41.7
2 26 BDE-99	3.33e4	1.08	NO	0.938	1.032	28.75	28.76	1.000	1.000	247.39	115	0.755	247
3 34 BDE-153	2.36e3	0.73	NO	0.911	1.032	32.28	32.30	1.000	1.001	34.188	98.9	0.839	34.2
4 55 BDE-209			NO	1.31	1.032	55.26		1.001				68.7	
5 56 13C-BDE-3	4.03e6	1.02	NO	3.13	1.032	10.45	10.44	0.413	0.412	4010.0	82.8	1.11	
6 57 13C-BDE-15	2.97e6	0.53	NO	1.66	1.032	16.40	16.39	0.648	0.648	5562.6	115	1.03	
7 58 13C-BDE-28	1.27e6	0.95	NO	0.729	1.032	20.75	20.74	0.820	0.820	5414.6	112	1.50	
8 59 13C-BDE-47	1.38e6	0.67	NO	0.899	1.032	24.87	24.84	0.983	0.982	4790.7	98.9	1.72	
9 60 13C-BDE-77	1.23e6	0.68	NO	0.922	1.032	26.46	26.47	1.046	1.046	4171.8	86.1	1.68	
10 61 13C-BDE-100	1.00e6	1.01	NO	2.04	1.032	27.79	27.79	0.851	0.851	5094.4	105	4.44	
11 62 13C-BDE-99	6.95e5	1.02	NO	1.51	1.032	28.74	28.75	0.880	0.880	4770.5	98.5	6.00	
12 63 13C-BDE-118	4.31e5	1.02	NO	1.02	1.032	29.52	29.53	0.904	0.904	4391.9	90.7	8.92	
13 64 13C-BDE-155	7.55e5	0.76	NO	1.71	1.032	30.34	30.34	0.929	0.929	4583.9	94.6	1.82	
14 65 13C-BDE-154	5.48e5	0.76	NO	1.26	1.032	31.02	31.02	0.950	0.950	4496.9	92.8	2.46	
15 66 13C-BDE-153	3.67e5	0.75	NO	0.902	1.032	32.26	32.28	0.988	0.988	4217.0	87.1	3.44	
16 67 13C-BDE-138	2.74e5	0.76	NO	0.701	1.032	33.83	33.82	1.036	1.036	4049.9	83.6	17.4	
17 68 13C-BDE-169	4.70e5	0.76	NO	1.23	1.032	34.48	34.49	1.056	1.056	3974.9	82.1	9.96	
18 69 13C-BDE-183	2.71e5	1.04	NO	2.51	1.032	35.53	35.54	1.088	1.088	4661.0	96.2	3.90	
19 70 13C-BDE-180	1.50e5	1.02	NO	1.44	1.032	36.90	36.90	0.984	0.984	4480.8	92.5	44.6	
20 71 13C-BDE-204	1.84e5	0.92	NO	0.634	1.032	38.97	38.96	0.984	0.984	7916.7	81.7	30.9	
21 72 13C-BDE-197	2.39e5	0.74	NO	0.824	1.032	39.03	39.03	0.985	0.985	7914.9	81.7	23.8	
22 73 13C-BDE-205	6.48e4	0.81	NO	0.242	1.032	40.68	40.67	1.027	1.027	7305.7	75.4	81.0	
23 74 13C-BDE-207	1.29e5	0.99	NO	0.991	1.032	44.76	44.76	1.013	1.013	7471.1	77.1	41.8	
24 75 13C-BDE-206	7.68e4	1.01	NO	0.569	1.032	46.28	46.26	1.048	1.048	7730.5	79.8	72.8	
25 76 13C-BDE-209	1.52e4	0.85	NO	0.0611	1.032	55.25	55.21	1.251	1.250	14225	73.4	360	
26 77 13C-BDE-79	1.55e6	0.66	NO		1.032	25.30	25.30	0.000	0.000	4843.3	100	1.55	
27 78 13C-BDE-139	4.68e5	0.76	NO		1.032	32.67	32.65	0.000	0.000	4843.3	100	3.11	
28 79 13C-BDE-190	1.12e5	1.05	NO		1.032	37.51	37.50	0.000	0.000	4843.3	100	64.2	
29 80 13C-BDE-203	1.78e5	0.81	NO		1.032	39.62	39.61	0.000	0.000	4843.3	100	19.6	
30 81 13C-BDE-208	8.45e4	1.00	NO		1.032	44.18	44.17	0.000	0.000	4843.3	100	41.4	
31 82 13C-BDE-126	8.59e5	1.02	NO	1.92	1.032	30.66	30.67	0.939	0.939	4632.1	95.6	4.72	4630

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-20.qld

Last Altered: Monday, November 14, 2016 12:10:17 Pacific Standard Time
Printed: Saturday, November 26, 2016 08:36:28 Pacific Standard Time

Name: 161111K1_20, Date: 12-Nov-2016, Time: 00:15:56, ID: 1601354-12 Homogenization Blank 10/17/16 1.03236, Description: Homogenization Blank 10/17/16

#	Name	Resp	RA	ny	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE				0.817	1.032	10.00		0.000				1.19	
33	84 Total Di BDE				0.828	1.032	15.25		0.000				0.140	
34	85 Total Tri BDE				1.32	1.032	20.00		0.000				0.139	
35	86 Total Tetra BDE				0.741	1.032	25.00		0.000		41.704		0.221	44.1
36	87 1st Function Penta BDE				1.01	1.032	27.00		0.000				0.252	
37	88 Total Penta BDE				0.967	1.032	28.50		0.000		299.36		0.606	299
38	89 1st Function Hexa BDE				0.943	1.032	32.00		0.000		73.811		0.658	73.8
39	90 Total Hexa BDE				0.694	1.032	35.00		0.000				0.547	
40	91 1st Function Hepta BDE				0.975	1.032	35.00		0.000		17.792		0.905	17.8
41	92 Total Hepta BDE				0.848	1.032	37.00		0.000		0.00000		0.907	5.38
42	93 Total Octa BDE				0.804	1.032	40.00		0.000		5.9135		3.12	5.91
43	94 Total Nona BDE				0.942	1.032	45.00		0.000				3.69	
44	95 Total Deca BDE				1.31	1.032	55.00		0.000				68.7	

Sample ID: Homogenization Blank 10/19/16

EPA Method 1614

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-13			
Project:	Upper Columbia River	Sample Size:	1.00 L	QC Batch:	B6K0018			
Date Collected:	10/19/2016 9:30:00AM			Date Analyzed:	12-Nov-16 01:14 Column: ZB-5MS			
				Date Received:	10/25/2016 9:00:00AM			
				Date Extracted:	04-Nov-16 13:08			
Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	15.2 ✓			J, B	IS 13C-BDE-3	82.3	25 - 150	
BDE-99	5.92 ✓			J	IS 13C-BDE-15	111	25 - 150	
BDE-153	ND	1.08			IS 13C-BDE-28	114	25 - 150	
BDE-209	ND	85.2			IS 13C-BDE-47	102	30 - 140	
Total Mono-BDE	ND	1.49			IS 13C-BDE-77	91.4	25 - 150	
Total Di-BDE	ND	0.185			IS 13C-BDE-100	114	25 - 150	
Total Tri-BDE	1.20 ✓			B	IS 13C-BDE-99	110	25 - 150	
Total Tetra-BDE	15.2 ✓			B	IS 13C-BDE-118	101	25 - 150	
Total Penta-BDE	7.84 ✓				IS 13C-BDE-155	107	25 - 150	
Total Hexa-BDE	ND	0.779			IS 13C-BDE-154	105	25 - 150	
Total Hepta-BDE	5.23 ✓		7.70		IS 13C-BDE-153	99.0	25 - 150	
Total Octa-BDE	ND	1.59			IS 13C-BDE-138	92.6	25 - 150	
Total Nona-BDE	ND	4.27			IS 13C-BDE-169	92.6	25 - 150	
Total Deca-BDE	ND	85.2			IS 13C-BDE-183	102	25 - 150	
					IS 13C-BDE-180	103	25 - 150	
					IS 13C-BDE-204	91.5	25 - 150	
					IS 13C-BDE-197	101	25 - 150	
					IS 13C-BDE-205	92.7	25 - 150	
					IS 13C-BDE-207	91.3	25 - 150	
					IS 13C-BDE-206	92.9	25 - 150	
					IS 13C-BDE-209	85.9	20 - 200	
					CRS 13C-BDE-126	96.3	30 - 135	

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

no impact

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-21.qld

Last Altered: Monday, November 14, 2016 13:12:14 Pacific Standard Time
 Printed: Saturday, November 26, 2016 08:39:12 Pacific Standard Time

Method: Untitled 14 Nov 2016 11:59:06
 Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-11-16.cdb 12 Nov 2016 07:50:14

Name: 161111K1_21, Date: 12-Nov-2016, Time: 01:14:31, ID: 1601354-13 Homogenization Blank 10/19/16, Description: Homogenization Blank 10/19/16

Handwritten: 11/28/16
 11/12/16

# Name	Resp	RA	ny	RRF	wfval	Pred.RT	RT	Pred.RT	RRT	Conc.	%Rec	DL	EMPC
1 20 BDE-47	3.14e3	0.67	NO	0.883	1.001	24.84	24.85	1.000	1.000	15.209	15.209	0.220	15.2
2 26 BDE-99	7.03e2	1.05	NO	0.938	1.001	28.75	28.75	1.000	1.000	5.9152	5.9152	0.785	5.92
3 34 BDE-153			NO	0.911	1.001	32.28		1.000				1.08	
4 55 BDE-209			NO	1.31	1.001	55.26		1.001				85.2	
5 56 13C-BDE-3	3.27e6	1.02	NO	3.13	1.001	10.45	10.44	0.413	0.413	4108.4	82.3	1.25	
6 57 13C-BDE-15	2.35e6	0.53	NO	1.66	1.001	16.40	16.39	0.648	0.648	5546.8	111	1.13	
7 58 13C-BDE-28	1.06e6	0.95	NO	0.729	1.001	20.75	20.74	0.820	0.820	5694.2	114	2.01	
8 59 13C-BDE-47	1.17e6	0.67	NO	0.899	1.001	24.87	24.84	0.983	0.982	5108.2	102	1.03	
9 60 13C-BDE-77	1.07e6	0.68	NO	0.922	1.001	26.47	26.47	1.046	1.046	4564.3	91.4	1.00	
10 61 13C-BDE-100	8.90e5	1.03	NO	2.04	1.001	27.79	27.79	0.851	0.851	5700.4	114	5.83	
11 62 13C-BDE-99	6.33e5	1.03	NO	1.51	1.001	28.74	28.75	0.880	0.880	5478.3	110	7.88	
12 63 13C-BDE-118	3.91e5	1.03	NO	1.02	1.001	29.52	29.53	0.904	0.904	5037.2	101	11.7	
13 64 13C-BDE-155	7.00e5	0.75	NO	1.71	1.001	30.34	30.34	0.929	0.929	5364.7	107	2.89	
14 65 13C-BDE-154	5.04e5	0.75	NO	1.26	1.001	31.02	31.02	0.950	0.950	5225.8	105	3.91	
15 66 13C-BDE-153	3.41e5	0.76	NO	0.902	1.001	32.26	32.28	0.988	0.988	4941.4	99.0	5.47	
16 67 13C-BDE-138	2.48e5	0.75	NO	0.701	1.001	33.83	33.82	1.036	1.036	4626.3	92.6	24.2	
17 68 13C-BDE-169	4.34e5	0.76	NO	1.23	1.001	34.48	34.49	1.056	1.056	4626.3	92.6	13.8	
18 69 13C-BDE-183	2.30e5	1.02	NO	2.51	1.001	35.53	35.54	1.088	1.088	5105.9	102	5.39	
19 70 13C-BDE-180	1.32e5	1.04	NO	1.44	1.001	36.90	36.90	0.984	0.984	5133.9	103	47.9	
20 71 13C-BDE-204	1.53e5	0.80	NO	0.634	1.001	38.97	38.97	0.984	0.984	9135.2	91.5	42.1	
21 72 13C-BDE-197	2.19e5	0.82	NO	0.824	1.001	39.03	39.03	0.985	0.985	10071	101	32.4	
22 73 13C-BDE-205	5.91e4	0.80	NO	0.242	1.001	40.68	40.67	1.027	1.027	9258.9	92.7	110	
23 74 13C-BDE-207	1.19e5	1.02	NO	0.991	1.001	44.76	44.74	1.013	1.013	9123.4	91.3	59.4	
24 75 13C-BDE-206	6.93e4	0.98	NO	0.569	1.001	46.28	46.26	1.048	1.048	9278.9	92.9	103	
25 76 13C-BDE-209	1.38e4	0.76	NO	0.0611	1.001	55.25	55.21	1.251	1.250	17150	85.9	615	
26 77 13C-BDE-79	1.27e6	0.67	NO		1.001	25.30	25.30	0.000	0.000	4993.7	100	0.924	
27 78 13C-BDE-139	3.62e5	0.76	NO		1.001	32.67	32.65	0.000	0.000	4993.7	100	4.93	
28 79 13C-BDE-190	8.95e4	1.00	NO		1.001	37.51	37.50	0.000	0.000	4993.7	100	68.9	
29 80 13C-BDE-203	1.32e5	0.81	NO		1.001	39.62	39.61	0.000	0.000	4993.7	100	26.7	
30 81 13C-BDE-208	6.55e4	1.00	NO		1.001	44.18	44.17	0.000	0.000	4993.7	100	58.8	
31 82 13C-BDE-126	7.07e5	1.02	NO	1.92	1.001	30.66	30.67	0.939	0.939	4809.7	96.3	6.20	4810

Quantify Sample Summary Report
 Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-21.qld

Last Altered: Monday, November 14, 2016 13:12:14 Pacific Standard Time
 Printed: Saturday, November 26, 2016 08:39:12 Pacific Standard Time

Name: 161111K1_21, Date: 12-Nov-2016, Time: 01:14:31, ID: 1601354-13 Homogenization Blank 10/19/16 1.00126, Description: Homogenization Blank 10/19/16

#	Name	Resp	RA	only	RRF	w/wvol	Pred.RT	RT	Pred.RRT	RRT	Conc	%Rec	DL	EMPC
32	83 Total Mono BDE				0.817	1.001	10.00		0.000				1.49	
33	84 Total Di BDE				0.828	1.001	15.25		0.000				0.185	
34	85 Total Tri BDE				1.32	1.001	20.00		0.000		1.1999		0.241	1.20
35	86 Total Tetra BDE				0.741	1.001	25.00		0.000		15.209		0.260	15.2
36	87 1st Function Penta BDE				1.01	1.001	27.00		0.000		7.8423		0.298	
37	88 Total Penta BDE				0.967	1.001	28.50		0.000				0.639	7.84
38	89 1st Function Hexa BDE				0.943	1.001	32.00		0.000				0.392	
39	90 Total Hexa BDE				0.694	1.001	35.00		0.000				0.779	
40	91 1st Function Hepta BDE				0.975	1.001	35.00		0.000		0.00000		0.240	2.47
41	92 Total Hepta BDE				0.848	1.001	37.00		0.000		5.2306		2.41	5.23
42	93 Total Octa BDE				0.804	1.001	40.00		0.000				1.59	
43	94 Total Nona BDE				0.942	1.001	45.00		0.000				4.27	
44	95 Total Deca BDE				1.31	1.001	55.00		0.000				32.8	32.8

Sample ID: Homogenization Blank 10/18/16

EPA Method 1614

Client Data		Sample Data		Laboratory Data	
Name: Teck American Incorporated	Matrix: Aqueous	Lab Sample: 1601354-14	Date Received: 10/25/2016 9:00:00AM	QC Batch: B6K0018	Date Extracted: 04-Nov-16 13:08
Project: Upper Columbia River	Sample Size: 1.04 L	Date Analyzed: 12-Nov-16 02:13	Column: ZB-5MS		
Date Collected: 10/18/2016 10:35:00AM					

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	ND		18.0		IS 13C-BDE-3	77.4	25 - 150	
BDE-99	ND		12.2		IS 13C-BDE-15	114	25 - 150	
BDE-153	ND		3.81		IS 13C-BDE-28	115	25 - 150	
BDE-209	ND	83.6			IS 13C-BDE-47	104	30 - 140	
Total Mono-BDE	ND	1.12			IS 13C-BDE-77	91.4	25 - 150	
Total Di-BDE	ND	0.145			IS 13C-BDE-100	114	25 - 150	
Total Tri-BDE	1.07		1.50	B	IS 13C-BDE-99	108	25 - 150	
Total Tetra-BDE	ND		18.0		IS 13C-BDE-118	101	25 - 150	
Total Penta-BDE	2.92		15.1		IS 13C-BDE-155	104	25 - 150	
Total Hexa-BDE	2.70		6.51		IS 13C-BDE-154	103	25 - 150	
Total Hepta-BDE	7.31				IS 13C-BDE-153	95.2	25 - 150	
Total Octa-BDE	ND	2.24			IS 13C-BDE-138	91.1	25 - 150	
Total Nona-BDE	ND	3.46			IS 13C-BDE-169	88.5	25 - 150	
Total Deca-BDE	ND	83.6			IS 13C-BDE-183	102	25 - 150	
					IS 13C-BDE-180	99.6	25 - 150	
					IS 13C-BDE-204	91.2	25 - 150	
					IS 13C-BDE-197	98.4	25 - 150	
					IS 13C-BDE-205	88.0	25 - 150	
					IS 13C-BDE-207	87.7	25 - 150	
					IS 13C-BDE-206	86.5	25 - 150	
					IS 13C-BDE-209	77.7	20 - 200	
					CRS 13C-BDE-126	102	30 - 135	

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit

NO IMPACT

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-22.qld

Last Altered: Monday, November 14, 2016 13:24:38 Pacific Standard Time
Printed: Saturday, November 26, 2016 08:41:44 Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-11-16.mdb 14 Nov 2016 13:18:54
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-11-16.cdb 12 Nov 2016 07:50:14

Name: 161111K1_22, Date: 12-Nov-2016, Time: 02:13:05, ID: 1601354-14 Homogenization Blank 10/18/16 1.03648, Description: Homogenization Blank 10/18/16

CP 11/28/16
MP 11/26/16

#	Name	Resp	RA	n/y	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	20 BDE-47	5.17e3	0.58	YES	0.883	1.036	24.84	24.84	1.000	1.000	18340	77.4	0.200	18.0
2	26 BDE-99	1.91e3	1.23	YES	0.938	1.036	28.74	28.75	1.000	1.000	13330	114	0.788	12.2
3	34 BDE-153	3.05e2	0.94	YES	0.911	1.036	32.28	32.29	1.000	1.000	41660	115	0.842	3.81
4	55 BDE-209			NO	1.31	1.036	55.26		1.001				83.6	
5	56 13C-BDE-3	3.67e6	1.03	NO	3.13	1.036	10.44	10.44	0.413	0.413	3733.9	108	1.17	
6	57 13C-BDE-15	2.87e6	0.53	NO	1.66	1.036	16.39	16.39	0.648	0.648	5499.4	114	1.00	
7	58 13C-BDE-28	1.27e6	0.92	NO	0.729	1.036	20.74	20.74	0.820	0.820	5540.1	115	1.57	
8	59 13C-BDE-47	1.42e6	0.67	NO	0.899	1.036	24.86	24.84	0.983	0.982	5023.7	104	1.15	
9	60 13C-BDE-77	1.27e6	0.68	NO	0.922	1.036	26.45	26.47	1.046	1.047	4409.9	91.4	1.13	
10	61 13C-BDE-100	1.06e6	1.03	NO	2.04	1.036	27.79	27.78	0.851	0.851	5520.0	114	6.25	
11	62 13C-BDE-99	7.35e5	1.04	NO	1.51	1.036	28.74	28.74	0.880	0.880	5195.4	108	8.45	
12	63 13C-BDE-118	4.64e5	1.04	NO	1.02	1.036	29.52	29.52	0.904	0.904	4874.0	101	12.6	
13	64 13C-BDE-155	8.01e5	0.76	NO	1.71	1.036	30.34	30.34	0.929	0.929	5012.6	104	1.72	
14	65 13C-BDE-154	5.87e5	0.76	NO	1.26	1.036	31.02	31.02	0.950	0.950	4970.7	103	2.33	
15	66 13C-BDE-153	3.88e5	0.74	NO	0.902	1.036	32.26	32.28	0.988	0.988	4590.3	95.2	3.26	
16	67 13C-BDE-138	2.89e5	0.75	NO	0.701	1.036	33.83	33.82	1.036	1.036	4393.1	91.1	17.9	
17	68 13C-BDE-169	4.90e5	0.76	NO	1.23	1.036	34.48	34.49	1.056	1.056	4268.5	88.5	10.2	
18	69 13C-BDE-183	2.60e5	1.02	NO	2.51	1.036	35.53	35.53	1.088	1.088	4929.0	102	7.03	
19	70 13C-BDE-180	1.45e5	1.02	NO	1.44	1.036	36.90	36.90	0.984	0.984	4802.3	99.6	53.6	
20	71 13C-BDE-204	1.79e5	0.82	NO	0.634	1.036	38.97	38.96	0.984	0.984	8801.2	91.2	50.7	
21	72 13C-BDE-197	2.51e5	0.82	NO	0.824	1.036	39.03	39.03	0.985	0.985	9495.1	98.4	39.0	
22	73 13C-BDE-205	6.58e4	0.80	NO	0.242	1.036	40.68	40.67	1.027	1.027	8491.3	88.0	133	
23	74 13C-BDE-207	1.23e5	1.02	NO	0.991	1.036	44.76	44.74	1.013	1.013	8459.5	87.7	52.8	
24	75 13C-BDE-206	6.98e4	1.01	NO	0.569	1.036	46.28	46.26	1.048	1.048	8349.7	86.5	91.9	
25	76 13C-BDE-209	1.35e4	0.82	NO	0.0611	1.036	55.25	55.21	1.251	1.250	15002	77.7	472	
26	77 13C-BDE-79	1.51e6	0.67	NO		1.036	25.30	25.29	0.000	0.000	4824.0	100	1.04	
27	78 13C-BDE-139	4.52e5	0.76	NO		1.036	32.67	32.65	0.000	0.000	4824.0	100	2.94	
28	79 13C-BDE-190	1.01e5	1.04	NO		1.036	37.51	37.50	0.000	0.000	4824.0	100	77.1	
29	80 13C-BDE-203	1.55e5	0.82	NO		1.036	39.62	39.61	0.000	0.000	4824.0	100	32.1	
30	81 13C-BDE-208	7.09e4	1.01	NO		1.036	44.18	44.17	0.000	0.000	4824.0	100	52.4	
31	82 13C-BDE-126	8.80e5	1.03	NO	1.92	1.036	30.66	30.67	0.939	0.939	4894.0	101	6.65	4890

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-22.qld

Last Altered: Monday, November 14, 2016 13:24:38 Pacific Standard Time
Printed: Saturday, November 26, 2016 08:41:44 Pacific Standard Time

Name: 161111K1_22, Date: 12-Nov-2016, Time: 02:13:05, ID: 1601354-14 Homogenization Blank 10/18/16 1.03648, Description: Homogenization Blank 10/18/16

# Name	Resp	RA	nlv	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	83 Total Mono BDE			0.817	1.036	10.00		0.000				1.12	
33	84 Total Di BDE			0.828	1.036	15.25		0.000				0.145	
34	85 Total Tri BDE			1.32	1.036	20.00		0.000		1.0747		0.243	1.50
35	86 Total Tetra BDE			0.741	1.036	25.00		0.000		0.00000		0.145	18.0
36	87 1st Function Penta BDE			1.01	1.036	27.00		0.000				0.350	
37	88 Total Penta BDE			0.967	1.036	28.50		0.000		2.9224		0.633	15.1
38	89 1st Function Hexa BDE			0.943	1.036	32.00		0.000		2.7023		0.631	6.51
39	90 Total Hexa BDE			0.694	1.036	35.00		0.000				0.552	
40	91 1st Function Hepta BDE			0.975	1.036	35.00		0.000		7.3095		0.839	7.31
41	92 Total Hepta BDE			0.848	1.036	37.00		0.000				0.961	
42	93 Total Octa BDE			0.804	1.036	40.00		0.000				2.24	
43	94 Total Nona BDE			0.942	1.036	45.00		0.000				3.46	
44	95 Total Deca BDE			1.31	1.036	55.00		0.000				39.9 83.6	

Quantify Compound Summary Report MassLynx 4.1 SCN815
Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:26:11 Pacific Standard Time

Method: Untitled 16 Nov 2016 09:20:42
Calibration: U:\vg11.PRO\CurveDB\db5_1614vg11-1-16-16.cdb 16 Nov 2016 13:18:10

Compound name: Total Tetra BDE

Name	ID	Acq. Date	Acq. Time
1	ST161115K3-1 1614 CS1 16I0201	15-Nov-16	16:29:16
2	ST161115K3-2 1614 CS2 16G1421	15-Nov-16	17:28:59
3	ST161115K3-3 1614 CS4 16G1423	15-Nov-16	18:29:47
4	ST161115K3-5 1614 CS3 16K1422	15-Nov-16	20:31:24
5	ST161115K4-2 1614 CS5 16K1413	16-Nov-16	09:51:55

2nd Source 11/15/16 21:32

TRW
12/2/16

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

RSD = 20 ✓
[Signature]
11/16/16
OT 11/17/16

Method: Untitled 16 Nov 2016 09:20:42
 Calibration: U:\vg11.PRO\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Compound name: BDE-1
 Response Factor: 0.572151
 RRF SD: 0.0383769, Relative SD: 6.70747
 Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	1.00	1.05	NO	10.17	2.74e4	5.24e6	0.913	0.523
2	161115K3_2	5.00	0.96	NO	10.17	1.57e5	5.78e6	4.75	0.544
3	161115K3_3	20.0	1.00	NO	10.15	7.55e5	6.28e6	21.0	0.601
4	161115K3_5	10.0	1.02	NO	10.12	3.37e5	5.82e6	10.1	0.580
5	161115K4_2	50.0	1.02	NO	10.06	1.68e6	5.48e6	53.6	0.614

Compound name: BDE-2
 Response Factor: 0.916912
 RRF SD: 0.0370547, Relative SD: 4.04125
 Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	1.00	0.94	NO	10.50	4.54e4	5.24e6	0.946	0.868
2	161115K3_2	5.00	1.00	NO	10.50	2.58e5	5.78e6	4.87	0.892
3	161115K3_3	20.0	1.00	NO	10.49	1.18e6	6.28e6	20.5	0.942
4	161115K3_5	10.0	1.02	NO	10.45	5.37e5	5.82e6	10.1	0.924
5	161115K4_2	50.0	1.01	NO	10.38	2.63e6	5.48e6	52.3	0.959

Compound name: BDE-3
 Response Factor: 1.01866
 RRF SD: 0.0387859, Relative SD: 3.80756
 Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1,3,4	1.00	1.00	NO	10.85	5.03e4	5.24e6	0.943	0.961

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-3

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
2	5.00	0.98	NO	10.85	2.91e5	5.78e6	4.95	1.01
3	20.0	1.01	NO	10.83	1.31e6	6.28e6	20.5	1.04
4	10.0	0.98	NO	10.80	5.92e5	5.82e6	9.99	1.02
5	50.0	1.02	NO	10.73	2.91e6	5.48e6	52.2	1.06

Compound name: BDE-10

Response Factor: 0.467953
RRF SD: 0.0461885, Relative SD: 9.87032
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	1.00	0.48	NO	14.29	1.53e4	3.77e6	0.866	0.405
2	5.00	0.48	NO	14.29	8.61e4	3.91e6	4.70	0.440
3	20.0	0.49	NO	14.26	4.28e5	4.23e6	21.6	0.506
4	10.0	0.48	NO	14.22	1.85e5	3.93e6	10.1	0.472
5	50.0	0.50	NO	14.15	1.00e6	3.89e6	55.2	0.516

Compound name: BDE-7

Response Factor: 0.566888
RRF SD: 0.0573668, Relative SD: 10.1196
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	1.00	0.49	NO	15.45	1.84e4	3.77e6	0.864	0.490
2	5.00	0.49	NO	15.45	1.04e5	3.91e6	4.69	0.531
3	20.0	0.50	NO	15.42	5.14e5	4.23e6	21.5	0.609
4	10.0	0.49	NO	15.37	2.25e5	3.93e6	10.1	0.574
5	50.0	0.50	NO	15.29	1.23e6	3.89e6	55.7	0.631

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qid

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-8/11
 Response Factor: 0.821005
 RRF SD: 0.086089, Relative SD: 10.4858
 Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.48	NO	16.03	5.09e4	3.77e6	1.65	0.676
2	10.0	0.48	NO	16.01	3.19e5	3.91e6	9.94	0.816
3	40.0	0.50	NO	15.99	1.50e6	4.23e6	43.4	0.890
4	20.0	0.49	NO	15.95	6.63e5	3.93e6	20.5	0.843
5	100	0.51	NO	15.86	3.42e6	3.89e6	107	0.879

Compound name: BDE-12
 Response Factor: 0.88286
 RRF SD: 0.0783962, Relative SD: 8.8798
 Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	1.00	0.50	NO	16.35	2.88e4	3.77e6	0.868	0.766
2	5.00	0.48	NO	16.34	1.66e5	3.91e6	4.81	0.849
3	20.0	0.50	NO	16.32	7.96e5	4.23e6	21.3	0.942
4	10.0	0.49	NO	16.27	3.52e5	3.93e6	10.1	0.896
5	50.0	0.51	NO	16.19	1.87e6	3.89e6	54.4	0.961

Compound name: BDE-13
 Response Factor: 0.931074
 RRF SD: 0.086982, Relative SD: 9.34211
 Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	1.00	0.51	NO	16.46	3.02e4	3.77e6	0.862	0.803
2	5.00	0.48	NO	16.45	1.75e5	3.91e6	4.80	0.894
3	20.0	0.50	NO	16.43	8.39e5	4.23e6	21.3	0.993
4	10.0	0.49	NO	16.38	3.70e5	3.93e6	10.1	0.943

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-13

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
5	5.00	0.51	NO	16.29	1.99e6	3.89e6	54.9	1.02

Compound name: BDE-15

Response Factor: 1.04746
RRF SD: 0.095564, Relative SD: 9.12341
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	1.00	0.48	NO	16.90	3.44e4	3.77e6	0.871	0.913
2	5.00	0.48	NO	16.88	1.97e5	3.91e6	4.80	1.01
3	20.0	0.50	NO	16.86	9.33e5	4.23e6	21.1	1.10
4	10.0	0.49	NO	16.81	4.13e5	3.93e6	10.0	1.05
5	50.0	0.51	NO	16.72	2.26e6	3.89e6	55.5	1.16

Compound name: BDE-30

Response Factor: 0.710726
RRF SD: 0.0639425, Relative SD: 8.99678
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	1.00	1.05	NO	18.77	1.48e4	2.33e6	0.890	0.633
2	5.00	0.98	NO	18.77	7.92e4	2.39e6	4.67	0.663
3	20.0	1.03	NO	18.75	4.02e5	2.62e6	21.6	0.767
4	10.0	1.03	NO	18.70	1.73e5	2.43e6	10.0	0.710
5	50.0	1.03	NO	18.61	1.03e6	2.64e6	54.9	0.780

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-32

Response Factor: 0.981573
 RRF SD: 0.0972211, Relative SD: 9.90462

Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	ny	RT	Resp	IS Resp	Conc	RRF
1	1.00	1.03	NO	20.19	1.99e4	2.33e6	0.867	0.851
2	5.00	1.04	NO	20.18	1.10e5	2.39e6	4.70	0.922
3	20.0	1.02	NO	20.16	5.49e5	2.62e6	21.3	1.05
4	10.0	1.02	NO	20.11	2.42e5	2.43e6	10.1	0.993
5	50.0	1.02	NO	20.02	1.45e6	2.64e6	55.7	1.09

Compound name: BDE-17

Response Factor: 0.952574
 RRF SD: 0.0976754, Relative SD: 10.2538

Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	ny	RT	Resp	IS Resp	Conc	RRF
1	1.00	1.08	NO	20.54	1.92e4	2.33e6	0.864	0.823
2	5.00	1.04	NO	20.53	1.07e5	2.39e6	4.71	0.897
3	20.0	1.03	NO	20.51	5.35e5	2.62e6	21.4	1.02
4	10.0	1.01	NO	20.46	2.32e5	2.43e6	10.0	0.953
5	50.0	1.01	NO	20.36	1.41e6	2.64e6	56.1	1.07

Compound name: BDE-25

Response Factor: 0.653276
 RRF SD: 0.067934, Relative SD: 10.399

Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	ny	RT	Resp	IS Resp	Conc	RRF
1	1.00	1.02	NO	20.70	1.33e4	2.33e6	0.873	0.571
2	5.00	1.03	NO	20.69	7.29e4	2.39e6	4.68	0.611
3	20.0	1.02	NO	20.67	3.65e5	2.62e6	21.3	0.697
4	10.0	1.03	NO	20.62	1.57e5	2.43e6	9.89	0.646

Work Order: 160115-4

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-25

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
5	50.0	1.02	NO	20.52	9.81e5	2.64e6	56.8	0.742

Compound name: BDE-28/33

Response Factor: 0.89903
 RRF SD: 0.0978684, Relative SD: 10.886
 Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
 Curve type: RF

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	2.00	1.03	NO	21.28	3.62e4	2.33e6	1.73	0.776
2	10.0	1.02	NO	21.26	2.00e5	2.39e6	9.30	0.836
3	40.0	1.03	NO	21.23	9.96e5	2.62e6	42.3	0.951
4	20.0	1.02	NO	21.18	4.40e5	2.43e6	20.1	0.905
5	100	1.03	NO	21.08	2.72e6	2.64e6	114	1.03

Compound name: BDE-35/21

Response Factor: 1.26379
 RRF SD: 0.113787, Relative SD: 9.00365
 Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
 Curve type: RF

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	1.00	1.03	NO	21.70	2.66e4	2.33e6	0.900	1.14
2	5.00	1.01	NO	21.69	1.41e5	2.39e6	4.67	1.18
3	20.0	1.04	NO	21.66	6.90e5	2.62e6	20.8	1.32
4	10.0	1.02	NO	21.61	3.07e5	2.43e6	9.97	1.26
5	50.0	1.03	NO	21.51	1.88e6	2.64e6	56.4	1.42

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-37

Response Factor: 1.30351

RRF SD: 0.121478, Relative SD: 9.31929

Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	1.00	1.03	NO	22.19	2.71e4	2.33e6	0.892	1.16
2	5.00	1.02	NO	22.19	1.46e5	2.39e6	4.68	1.22
3	20.0	1.03	NO	22.15	7.15e5	2.62e6	21.0	1.37
4	10.0	1.03	NO	22.10	3.15e5	2.43e6	9.95	1.30
5	50.0	1.02	NO	22.00	1.95e6	2.64e6	56.5	1.47

Compound name: BDE-75/51

Response Factor: 0.896811

RRF SD: 0.0846596, Relative SD: 9.44007

Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	4.00	0.66	NO	24.45	5.39e4	1.72e6	3.50	0.784
2	20.0	0.65	NO	24.45	2.90e5	1.75e6	18.5	0.830
3	80.0	0.65	NO	24.43	1.45e6	1.88e6	86.1	0.965
4	40.0	0.64	NO	24.38	6.31e5	1.75e6	40.3	0.902
5	200	0.66	NO	24.28	4.10e6	2.07e6	221	0.992

Compound name: BDE-49

Response Factor: 0.699322

RRF SD: 0.0603818, Relative SD: 8.63433

Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	2.00	0.66	NO	24.75	2.21e4	1.72e6	1.84	0.643
2	10.0	0.63	NO	24.75	1.12e5	1.75e6	9.16	0.641
3	40.0	0.65	NO	24.72	5.61e5	1.88e6	42.7	0.747
4	20.0	0.64	NO	24.67	2.42e5	1.75e6	19.8	0.692

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-49

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
5	161115K4_2	100	0.66	NO	24.57	1.60e6	2.07e6	111	0.774

Compound name: BDE-71

Response Factor: 0.624872
 RRF SD: 0.0628699, Relative SD: 10.0612
 Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	2.00	0.64	NO	24.90	1.89e4	1.72e6	1.76	0.549
2	161115K3_2	10.0	0.66	NO	24.90	1.02e5	1.75e6	9.29	0.581
3	161115K3_3	40.0	0.67	NO	24.88	5.04e5	1.88e6	43.0	0.671
4	161115K3_5	20.0	0.64	NO	24.82	2.17e5	1.75e6	19.9	0.622
5	161115K4_2	100	0.65	NO	24.73	1.45e6	2.07e6	112	0.701

Compound name: BDE-47

Response Factor: 0.898877
 RRF SD: 0.0839661, Relative SD: 9.34123
 Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	2.00	0.62	NO	25.40	2.76e4	1.72e6	1.79	0.803
2	161115K3_2	10.0	0.64	NO	25.39	1.48e5	1.75e6	9.43	0.848
3	161115K3_3	40.0	0.65	NO	25.36	7.06e5	1.88e6	41.8	0.939
4	161115K3_5	20.0	0.64	NO	25.30	3.09e5	1.75e6	19.7	0.885
5	161115K4_2	100	0.66	NO	25.20	2.11e6	2.07e6	113	1.02

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-79

Response Factor: 0.994438

RRF SD: 0.0865412, Relative SD: 8.70252

Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.67	NO	25.86	3.04e4	1.72e6	1.78	0.883
2	10.0	0.65	NO	25.85	1.67e5	1.75e6	9.59	0.953
3	40.0	0.65	NO	25.82	7.87e5	1.88e6	42.2	1.05
4	20.0	0.65	NO	25.76	3.42e5	1.75e6	19.7	0.980
5	100	0.65	NO	25.66	2.29e6	2.07e6	111	1.11

Compound name: BDE-66

Response Factor: 0.579111

RRF SD: 0.0633898, Relative SD: 10.946

Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.60	NO	26.05	1.88e4	1.81e6	1.79	0.519
2	10.0	0.66	NO	26.05	9.74e4	1.86e6	9.04	0.524
3	40.0	0.66	NO	26.02	4.79e5	1.99e6	41.6	0.603
4	20.0	0.63	NO	25.96	2.08e5	1.80e6	19.9	0.577
5	100	0.67	NO	25.86	1.40e6	2.08e6	116	0.673

Compound name: BDE-77

Response Factor: 0.949961

RRF SD: 0.0915738, Relative SD: 9.63974

Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.68	NO	27.03	3.06e4	1.81e6	1.78	0.847
2	10.0	0.64	NO	27.03	1.65e5	1.86e6	9.36	0.889
3	40.0	0.66	NO	27.00	7.91e5	1.99e6	41.9	0.995
4	20.0	0.65	NO	26.94	3.38e5	1.80e6	19.7	0.937

Work Order: 160115-1

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-77

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161115K4_2	100	0.66	NO	26.85	2.25e6	2.08e6	114	1.08

Compound name: BDE-100

Response Factor: 0.999346
RRF SD: 0.0986863, Relative SD: 9.87509
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	2.00	1.02	NO	28.36	2.56e4	1.45e6	1.77	0.884
2	161115K3_2	10.0	1.04	NO	28.36	1.45e5	1.55e6	9.32	0.932
3	161115K3_3	40.0	1.04	NO	28.33	6.99e5	1.66e6	42.1	1.05
4	161115K3_5	20.0	1.02	NO	28.26	2.99e5	1.50e6	19.9	0.994
5	161115K4_2	100	1.03	NO	28.17	2.12e6	1.87e6	114	1.13

Compound name: BDE-119/120

Response Factor: 0.49374
RRF SD: 0.0427978, Relative SD: 8.66809
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	4.00	1.07	NO	28.77	2.57e4	1.45e6	3.59	0.444
2	161115K3_2	20.0	1.03	NO	28.76	1.44e5	1.55e6	18.8	0.464
3	161115K3_3	80.0	1.05	NO	28.72	7.06e5	1.66e6	86.0	0.531
4	161115K3_5	40.0	1.02	NO	28.67	2.92e5	1.50e6	39.4	0.486
5	161115K4_2	200	1.03	NO	28.57	2.03e6	1.87e6	220	0.544

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-99

Response Factor: 0.944043

RRF SD: 0.0961606, Relative SD: 10.186

Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161115K3_1	2.00	1.05	NO	29.32	1.91e4	1.14e6	1.78	0.840
2 161115K3_2	10.0	1.04	NO	29.31	1.08e5	1.24e6	9.21	0.869
3 161115K3_3	40.0	1.03	NO	29.28	5.22e5	1.31e6	42.1	0.993
4 161115K3_5	20.0	1.04	NO	29.22	2.18e5	1.16e6	19.9	0.939
5 161115K4_2	100	1.02	NO	29.12	1.50e6	1.39e6	114	1.08

Compound name: BDE-116

Response Factor: 0.576579

RRF SD: 0.0498892, Relative SD: 8.65262

Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161115K3_1	2.00	1.00	NO	29.64	8.52e3	7.95e5	1.86	0.536
2 161115K3_2	10.0	1.02	NO	29.64	4.56e4	8.68e5	9.11	0.525
3 161115K3_3	40.0	1.03	NO	29.60	2.24e5	9.12e5	42.7	0.615
4 161115K3_5	20.0	1.02	NO	29.54	9.13e4	8.05e5	19.7	0.566
5 161115K4_2	100	1.03	NO	29.45	5.88e5	9.19e5	111	0.640

Compound name: BDE-118

Response Factor: 0.950467

RRF SD: 0.111256, Relative SD: 11.7054

Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161115K3_1	2.00	1.05	NO	30.12	1.33e4	7.95e5	1.76	0.838
2 161115K3_2	10.0	1.02	NO	30.11	7.49e4	8.68e5	9.08	0.863
3 161115K3_3	40.0	1.02	NO	30.08	3.61e5	9.12e5	41.7	0.990
4 161115K3_5	20.0	1.03	NO	30.01	1.52e5	8.05e5	19.9	0.944

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-118

#.Name	Std. Conc.	RA	n/y	RT. Resp.	IS Resp.	Conc.	RRF		
5	161115K4_2	100	1.03	NO	29.91	1.03e6	9.19e5	118	1.12

Compound name: BDE-85

Response Factor: 1.11491
RRF SD: 0.0929932, Relative SD: 8.34086
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: RF

#.Name	Std. Conc.	RA	n/y	RT. Resp.	IS Resp.	Conc.	RRF		
1	161115K3_1	2.00	1.03	NO	30.87	1.58e4	7.95e5	1.79	0.997
2	161115K3_2	10.0	1.03	NO	30.86	9.29e4	8.68e5	9.59	1.07
3	161115K3_3	40.0	1.02	NO	30.83	4.27e5	9.12e5	42.0	1.17
4	161115K3_5	20.0	1.03	NO	30.77	1.77e5	8.05e5	19.7	1.10
5	161115K4_2	100	1.03	NO	30.67	1.14e6	9.19e5	111	1.24

Compound name: BDE-126

Response Factor: 1.62511
RRF SD: 0.167522, Relative SD: 10.3084
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: RF

#.Name	Std. Conc.	RA	n/y	RT. Resp.	IS Resp.	Conc.	RRF		
1	161115K3_1	2.00	1.04	NO	31.27	2.19e4	7.95e5	1.69	1.37
2	161115K3_2	10.0	1.04	NO	31.26	1.35e5	8.68e5	9.56	1.55
3	161115K3_3	40.0	1.02	NO	31.23	6.43e5	9.12e5	43.4	1.76
4	161115K3_5	20.0	1.03	NO	31.17	2.66e5	8.05e5	20.3	1.65
5	161115K4_2	100	1.03	NO	31.06	1.64e6	9.19e5	110	1.78

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-105

Response Factor: 0.89361

RRF SD: 0.0948501, Relative SD: 10.6143

Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	nly	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	2.00	1.08	NO	31.50	1.25e4	7.95e5	1.76	0.787
2	161115K3_2	10.0	1.04	NO	31.49	7.24e4	8.68e5	9.33	0.834
3	161115K3_3	40.0	1.05	NO	31.46	3.50e5	9.12e5	43.0	0.961
4	161115K3_5	20.0	1.05	NO	31.41	1.40e5	8.05e5	19.4	0.867
5	161115K4_2	100	1.05	NO	31.30	9.36e5	9.19e5	114	1.02

Compound name: BDE-155

Response Factor: 0.948191

RRF SD: 0.0980111, Relative SD: 10.3366

Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	nly	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	2.00	0.75	NO	30.93	1.72e4	1.02e6	1.77	0.838
2	161115K3_2	10.0	0.75	NO	30.92	1.04e5	1.17e6	9.36	0.888
3	161115K3_3	40.0	0.76	NO	30.88	4.82e5	1.22e6	41.5	0.984
4	161115K3_5	20.0	0.75	NO	30.83	2.01e5	1.07e6	19.8	0.937
5	161115K4_2	100	0.77	NO	30.73	1.42e6	1.30e6	115	1.09

Compound name: BDE-128/154

Response Factor: 0.79474

RRF SD: 0.093146, Relative SD: 11.7203

Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	nly	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	4.00	0.75	NO	31.61	2.05e4	7.45e5	3.46	0.688
2	161115K3_2	20.0	0.74	NO	31.60	1.27e5	8.67e5	18.4	0.732
3	161115K3_3	80.0	0.76	NO	31.57	6.13e5	9.06e5	85.2	0.846
4	161115K3_5	40.0	0.76	NO	31.50	2.51e5	8.01e5	39.5	0.785

Work Order: 1601354

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-128/154

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
5	161115K4_2	200	0.76	NO	31.41	1.77e6	9.59e5	232	0.923

Compound name: BDE-153

Response Factor: 0.947192
 RRF SD: 0.106865, Relative SD: 11.2822
 Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
1	161115K3_1	2.00	0.78	NO	32.88	9.83e3	5.58e5	1.86	0.880
2	161115K3_2	10.0	0.77	NO	32.88	5.61e4	6.58e5	9.00	0.853
3	161115K3_3	40.0	0.76	NO	32.84	2.72e5	7.00e5	41.0	0.970
4	161115K3_5	20.0	0.76	NO	32.78	1.10e5	6.05e5	19.2	0.911
5	161115K4_2	100	0.77	NO	32.67	7.17e5	6.39e5	118	1.12

Compound name: BDE-139

Response Factor: 1.10982
 RRF SD: 0.125174, Relative SD: 11.2788
 Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
1	161115K3_1	2.00	0.74	NO	33.25	1.10e4	5.58e5	1.77	0.982
2	161115K3_2	10.0	0.76	NO	33.25	6.67e4	6.58e5	9.14	1.01
3	161115K3_3	40.0	0.76	NO	33.22	3.27e5	7.00e5	42.1	1.17
4	161115K3_5	20.0	0.75	NO	33.16	1.32e5	6.05e5	19.7	1.09
5	161115K4_2	100	0.77	NO	33.05	8.27e5	6.39e5	116	1.29

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-140

Response Factor: 1.051

RRF SD: 0.123413, Relative SD: 11.7424

Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.81	NO	33.57	1.03e4	5.58e5	1.76	0.924
2	10.0	0.74	NO	33.56	6.35e4	6.58e5	9.19	0.965
3	40.0	0.75	NO	33.53	3.06e5	7.00e5	41.5	1.09
4	20.0	0.76	NO	33.47	1.25e5	6.05e5	19.7	1.03
5	100	0.76	NO	33.37	7.93e5	6.39e5	118	1.24

Compound name: BDE-138

Response Factor: 0.987674

RRF SD: 0.120368, Relative SD: 12.187

Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.80	NO	34.43	8.29e3	4.83e5	1.74	0.858
2	10.0	0.76	NO	34.43	5.47e4	6.04e5	9.18	0.906
3	40.0	0.77	NO	34.39	2.69e5	6.41e5	42.5	1.05
4	20.0	0.74	NO	34.33	1.09e5	5.64e5	19.5	0.963
5	100	0.77	NO	34.22	6.38e5	5.49e5	118	1.16

Compound name: BDE-166

Response Factor: 0.67678

RRF SD: 0.0530176, Relative SD: 7.8338

Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.77	NO	34.57	6.13e3	4.83e5	1.88	0.635
2	10.0	0.75	NO	34.57	3.82e4	6.04e5	9.34	0.632
3	40.0	0.75	NO	34.53	1.87e5	6.41e5	43.0	0.728
4	20.0	0.75	NO	34.48	7.32e4	5.64e5	19.2	0.648

Work Order: 1601754

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-166

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
5	161115K4_2	100	0.78	NO	34.36	4.07e5	5.49e5	109
								0.741

Compound name: BDE-148/156/169

Response Factor: 0.429101

RRF SD: 0.0512215, Relative SD: 11.9369

Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	4.00	0.75	NO	35.12	1.18e4	7.94e5	3.47
								0.372
2	161115K3_2	20.0	0.78	NO	35.11	7.76e4	9.79e5	18.5
								0.396
3	161115K3_3	80.0	0.77	NO	35.08	3.80e5	1.05e6	84.7
								0.454
4	161115K3_5	40.0	0.78	NO	35.01	1.59e5	9.45e5	39.2
								0.421
5	161115K4_2	200	0.79	NO	34.90	8.49e5	8.44e5	234
								0.503

Compound name: BDE-184

Response Factor: 1.18551

RRF SD: 0.123393, Relative SD: 10.4084

Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	4.00	0.99	NO	35.52	1.63e4	3.99e5	3.46
								1.02
2	161115K3_2	20.0	1.03	NO	35.51	1.13e5	4.99e5	19.1
								1.13
3	161115K3_3	80.0	1.02	NO	35.48	5.45e5	5.50e5	83.6
								1.24
4	161115K3_5	40.0	0.99	NO	35.41	2.31e5	4.90e5	39.7
								1.18
5	161115K4_2	200	1.01	NO	35.31	1.34e6	4.95e5	229
								1.36

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-183/176

Response Factor: 0.903876

RRF SD: 0.102562, Relative SD: 11.3469

Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	4.00	1.03	NO	36.15	1.26e4	3.99e5	3.51	0.793
2	20.0	1.03	NO	36.14	8.27e4	4.99e5	18.3	0.829
3	80.0	1.02	NO	36.10	4.16e5	5.50e5	83.7	0.945
4	40.0	1.00	NO	36.04	1.76e5	4.90e5	39.8	0.899
5	200	1.01	NO	35.94	1.04e6	4.95e5	233	1.05

Compound name: BDE-175

Response Factor: 0.82054

RRF SD: 0.0879105, Relative SD: 10.7137

Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	4.00	1.04	NO	36.38	1.14e4	3.99e5	3.48	0.714
2	20.0	1.02	NO	36.37	7.62e4	4.99e5	18.6	0.764
3	80.0	1.00	NO	36.34	3.81e5	5.50e5	84.5	0.867
4	40.0	1.02	NO	36.27	1.60e5	4.90e5	39.8	0.817
5	200	1.01	NO	36.18	9.31e5	4.95e5	229	0.940

Compound name: BDE-191

Response Factor: 0.94804

RRF SD: 0.0820672, Relative SD: 8.65652

Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	4.00	0.93	NO	37.03	8.67e3	2.44e5	3.75	0.888
2	20.0	1.00	NO	37.03	5.35e4	3.04e5	18.5	0.878
3	80.0	1.04	NO	37.00	2.70e5	3.47e5	82.1	0.972
4	40.0	1.02	NO	36.94	1.17e5	3.16e5	38.9	0.922

Work Order: 1601354

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-191

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
5	161115K4_2	200	1.02	NO	36.84	7.01e5	3.25e5	228	1.08

Compound name: BDE-180

Response Factor: 0.839598
 RRF SD: 0.0997807, Relative SD: 11.8843
 Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	4.00	1.08	NO	37.48	7.26e3	2.44e5	3.55	0.744
2	161115K3_2	20.0	1.01	NO	37.47	4.68e4	3.04e5	18.3	0.769
3	161115K3_3	80.0	1.00	NO	37.44	2.44e5	3.47e5	84.0	0.881
4	161115K3_5	40.0	1.03	NO	37.39	1.03e5	3.16e5	38.6	0.811
5	161115K4_2	200	1.02	NO	37.28	6.44e5	3.25e5	236	0.992

Compound name: BDE-181/177

Response Factor: 0.808975
 RRF SD: 0.081897, Relative SD: 10.1236
 Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	4.00	0.89	NO	37.77	7.20e3	2.44e5	3.65	0.738
2	161115K3_2	20.0	1.05	NO	37.76	4.45e4	3.04e5	18.1	0.731
3	161115K3_3	80.0	1.02	NO	37.73	2.37e5	3.47e5	84.5	0.854
4	161115K3_5	40.0	1.02	NO	37.67	1.01e5	3.16e5	39.4	0.798
5	161115K4_2	200	1.02	NO	37.58	6.00e5	3.25e5	229	0.925

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-190/171

Response Factor: 0.740776

RRF SD: 0.0942383, Relative SD: 12.7216

Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	161115K3_1	8.00	1.07	NO	38.05	1.29e4	2.44e5	7.12	0.659
2	161115K3_2	40.0	1.04	NO	38.05	8.17e4	3.04e5	36.2	0.671
3	161115K3_3	160	1.04	NO	38.01	4.23e5	3.47e5	165	0.763
4	161115K3_5	80.0	1.04	NO	37.96	1.82e5	3.16e5	77.7	0.719
5	161115K4_2	400	1.02	NO	37.85	1.16e6	3.25e5	482	0.892

Compound name: BDE-201

Response Factor: 0.807416

RRF SD: 0.111836, Relative SD: 13.851

Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	161115K3_1	4.00	0.76	NO	39.39	4.05e3	2.74e5	3.66	0.738
2	161115K3_2	20.0	0.79	NO	39.38	2.48e4	3.40e5	18.1	0.732
3	161115K3_3	80.0	0.78	NO	39.35	1.33e5	3.97e5	83.3	0.841
4	161115K3_5	40.0	0.77	NO	39.28	5.63e4	3.82e5	36.5	0.737
5	161115K4_2	200	0.79	NO	39.16	3.50e5	3.54e5	245	0.990

Compound name: BDE-204

Response Factor: 0.844404

RRF SD: 0.100898, Relative SD: 11.949

Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	161115K3_1	4.00	0.90	NO	39.67	4.11e3	2.74e5	3.55	0.749
2	161115K3_2	20.0	0.75	NO	39.65	2.63e4	3.40e5	18.4	0.776
3	161115K3_3	80.0	0.77	NO	39.62	1.39e5	3.97e5	82.7	0.873
4	161115K3_5	40.0	0.77	NO	39.56	6.26e4	3.82e5	38.8	0.820

Quantify Compound Summary Report MassLynx 4.1 SCN815
 Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld
 Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-204

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
5	161115K4_2	200	0.77	NO	39.44	3.55e5	3.54e5	238	1.00

Compound name: BDE-197

Response Factor: 0.859276
 RRF SD: 0.105348, Relative SD: 12.2601
 Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	4.00	0.79	NO	39.74	5.48e3	3.48e5	3.66	0.787
2	161115K3_2	20.0	0.79	NO	39.73	3.22e4	4.17e5	18.0	0.773
3	161115K3_3	80.0	0.79	NO	39.70	1.79e5	4.99e5	83.6	0.898
4	161115K3_5	40.0	0.80	NO	39.63	7.21e4	4.44e5	37.8	0.813
5	161115K4_2	200	0.79	NO	39.52	4.60e5	4.48e5	239	1.03

Compound name: BDE-203/200

Response Factor: 0.634582
 RRF SD: 0.0538598, Relative SD: 8.48744
 Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	4.00	0.80	NO	40.40	4.19e3	3.48e5	3.80	0.602
2	161115K3_2	20.0	0.80	NO	40.38	2.34e4	4.17e5	17.7	0.560
3	161115K3_3	80.0	0.79	NO	40.35	1.34e5	4.99e5	84.4	0.670
4	161115K3_5	40.0	0.78	NO	40.27	5.73e4	4.44e5	40.7	0.646
5	161115K4_2	200	0.78	NO	40.14	3.12e5	4.48e5	219	0.695

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-205
 Response Factor: 0.964922
 RRF SD: 0.114848, Relative SD: 11.9023
 Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	4.00	0.88	NO	41.61	2.64e3	1.38e5	3.97	0.959
2	161115K3_2	20.0	0.80	NO	41.59	1.38e4	1.65e5	17.3	0.835
3	161115K3_3	80.0	0.79	NO	41.55	8.06e4	2.08e5	80.4	0.969
4	161115K3_5	40.0	0.77	NO	41.47	3.51e4	1.92e5	37.9	0.914
5	161115K4_2	200	0.78	NO	41.31	1.62e5	1.41e5	238	1.15

Compound name: BDE-208
 Response Factor: 1.01573
 RRF SD: 0.109194, Relative SD: 10.7503
 Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	10.0	1.01	NO	45.58	1.31e4	2.74e5	9.41	0.956
2	161115K3_2	50.0	1.04	NO	45.53	7.20e4	3.09e5	45.9	0.933
3	161115K3_3	200	1.00	NO	45.46	4.27e5	4.12e5	204	1.03
4	161115K3_5	100	1.02	NO	45.35	1.91e5	4.00e5	94.3	0.957
5	161115K4_2	500	1.01	NO	45.13	9.07e5	3.03e5	590	1.20

Compound name: BDE-207
 Response Factor: 0.872837
 RRF SD: 0.0974895, Relative SD: 11.1693
 Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	10.0	1.09	NO	46.23	1.11e4	2.74e5	9.26	0.808
2	161115K3_2	50.0	1.00	NO	46.20	6.12e4	3.09e5	45.4	0.793
3	161115K3_3	200	1.02	NO	46.14	3.73e5	4.12e5	207	0.904
4	161115K3_5	100	1.02	NO	46.01	1.66e5	4.00e5	95.1	0.830

Quantify Compound Summary Report MassLynx 4.1 SCN815
Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: BDE-207

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161115K4_2	500	1.00	NO	45.77	7.80e5	3.03e5	590	1.03

Compound name: BDE-206

Response Factor: 0.941277
RRF SD: 0.0969343, Relative SD: 10.2982
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	10.0	1.02	NO	47.99	9.34e3	1.99e5	9.97	0.938
2	161115K3_2	50.0	1.03	NO	47.94	4.74e4	2.25e5	44.7	0.842
3	161115K3_3	200	1.00	NO	47.88	2.86e5	3.02e5	201	0.945
4	161115K3_5	100	1.03	NO	47.72	1.29e5	2.91e5	93.9	0.884
5	161115K4_2	500	1.01	NO	47.45	5.25e5	1.91e5	583	1.10

Compound name: BDE-209

Response Factor: 1.28922
RRF SD: 0.105086, Relative SD: 8.15108
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	10.0	0.76	NO	57.40	4.52e3	1.34e5	10.5	1.35
2	161115K3_2	50.0	0.77	NO	57.29	2.68e4	1.79e5	46.3	1.19
3	161115K3_3	200	0.78	NO	57.21	1.56e5	2.47e5	196	1.26
4	161115K3_5	100	0.84	NO	57.02	6.72e4	2.24e5	93.1	1.20
5	161115K4_2	500	0.75	NO	56.73	1.56e5	8.64e4	559	1.44

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: 13C-BDE-3

Response Factor: 2.70994
 RRF SD: 0.224372, Relative SD: 8.27959

Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	100	1.03	NO	10.84	5.24e6	1.96e6	98.5
2	161115K3_2	100	1.03	NO	10.84	5.78e6	2.04e6	105
3	161115K3_3	100	1.04	NO	10.82	6.28e6	2.21e6	105
4	161115K3_5	100	1.03	NO	10.78	5.82e6	2.02e6	106
5	161115K4_2	100	1.03	NO	10.72	5.48e6	2.35e6	86.2

Compound name: 13C-BDE-15

Response Factor: 1.86955
 RRF SD: 0.118415, Relative SD: 6.33389

Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	100	0.52	NO	16.88	3.77e6	1.96e6	103
2	161115K3_2	100	0.52	NO	16.87	3.91e6	2.04e6	103
3	161115K3_3	100	0.52	NO	16.85	4.23e6	2.21e6	102
4	161115K3_5	100	0.52	NO	16.80	3.93e6	2.02e6	104
5	161115K4_2	100	0.52	NO	16.71	3.89e6	2.35e6	88.7

Compound name: 13C-BDE-28

Response Factor: 1.17466
 RRF SD: 0.0292397, Relative SD: 2.48921

Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	100	1.03	NO	21.26	2.33e6	1.96e6	101
2	161115K3_2	100	1.03	NO	21.25	2.39e6	2.04e6	99.6
3	161115K3_3	100	1.03	NO	21.23	2.62e6	2.21e6	101
4	161115K3_5	100	1.03	NO	21.18	2.43e6	2.02e6	102

Work Order 1601354

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

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Compound name: 13C-BDE-28

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
5	161115K4_2	100	1.03	NO	21.08	2.64e6	2.35e6	95.9	1.13

Compound name: 13C-BDE-47

Response Factor: 0.865355
 RRF SD: 0.0131122, Relative SD: 1.51523
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
1	161115K3_1	100	0.67	NO	25.39	1.72e6	1.96e6	101	0.876
2	161115K3_2	100	0.67	NO	25.38	1.75e6	2.04e6	99.2	0.858
3	161115K3_3	100	0.68	NO	25.35	1.88e6	2.21e6	98.0	0.848
4	161115K3_5	100	0.68	NO	25.29	1.75e6	2.02e6	99.8	0.864
5	161115K4_2	100	0.68	NO	25.19	2.07e6	2.35e6	102	0.880

Compound name: 13C-BDE-77

Response Factor: 0.90154
 RRF SD: 0.0149798, Relative SD: 1.66158
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
1	161115K3_1	100	0.68	NO	27.02	1.81e6	1.96e6	102	0.922
2	161115K3_2	100	0.69	NO	27.02	1.86e6	2.04e6	101	0.912
3	161115K3_3	100	0.68	NO	26.98	1.99e6	2.21e6	99.6	0.898
4	161115K3_5	100	0.69	NO	26.93	1.80e6	2.02e6	98.8	0.890
5	161115K4_2	100	0.69	NO	26.83	2.08e6	2.35e6	98.3	0.886

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

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Compound name: 13C-BDE-100

Response Factor: 2.34146
 RRF SD: 0.232841, Relative SD: 9.94428
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	100	1.03	NO	28.35	1.45e6	6.03e5	103	2.40
2	100	1.03	NO	28.35	1.55e6	7.20e5	92.3	2.16
3	100	1.04	NO	28.32	1.66e6	7.64e5	92.9	2.17
4	100	1.03	NO	28.25	1.50e6	6.68e5	96.0	2.25
5	100	1.03	NO	28.16	1.87e6	6.87e5	116	2.72

Compound name: 13C-BDE-99

Response Factor: 1.81641
 RRF SD: 0.133122, Relative SD: 7.32883
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	100	1.02	NO	29.31	1.14e6	6.03e5	104	1.89
2	100	1.04	NO	29.30	1.24e6	7.20e5	94.8	1.72
3	100	1.04	NO	29.27	1.31e6	7.64e5	94.7	1.72
4	100	1.04	NO	29.21	1.16e6	6.68e5	95.5	1.73
5	100	1.03	NO	29.11	1.39e6	6.87e5	111	2.02

Compound name: 13C-BDE-118

Response Factor: 1.2523
 RRF SD: 0.0693916, Relative SD: 5.54115
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	100	1.04	NO	30.10	7.95e5	6.03e5	105	1.32
2	100	1.04	NO	30.10	8.68e5	7.20e5	96.3	1.21
3	100	1.04	NO	30.07	9.12e5	7.64e5	95.3	1.19
4	100	1.04	NO	30.00	8.05e5	6.68e5	96.3	1.21

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

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Compound name: 13C-BDE-118

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
5	161115K4_2	100	1.02	NO	29.90	9.19e5	6.87e5	107	1.34

Compound name: 13C-BDE-155

Response Factor: 1.68282
 RRF SD: 0.119981, Relative SD: 7.12979
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	100	0.77	NO	30.92	1.02e6	6.03e5	101	1.70
2	161115K3_2	100	0.77	NO	30.90	1.17e6	7.20e5	96.3	1.62
3	161115K3_3	100	0.76	NO	30.87	1.22e6	7.64e5	95.3	1.60
4	161115K3_5	100	0.76	NO	30.81	1.07e6	6.68e5	95.5	1.61
5	161115K4_2	100	0.77	NO	30.72	1.30e6	6.87e5	112	1.89

Compound name: 13C-BDE-154

Response Factor: 1.24381
 RRF SD: 0.0865435, Relative SD: 6.95792
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	100	0.76	NO	31.60	7.45e5	6.03e5	99.2	1.23
2	161115K3_2	100	0.76	NO	31.59	8.67e5	7.20e5	96.9	1.20
3	161115K3_3	100	0.77	NO	31.56	9.06e5	7.64e5	95.4	1.19
4	161115K3_5	100	0.78	NO	31.49	8.01e5	6.68e5	96.4	1.20
5	161115K4_2	100	0.77	NO	31.40	9.59e5	6.87e5	112	1.40

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

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Compound name: 13C-BDE-153

Response Factor: 0.918381
 RRF SD: 0.00993546, Relative SD: 1.08185
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	100	0.76	NO	32.87	5.58e5	6.03e5	101	0.925
2	100	0.77	NO	32.85	6.58e5	7.20e5	99.5	0.914
3	100	0.77	NO	32.82	7.00e5	7.64e5	99.8	0.917
4	100	0.77	NO	32.76	6.05e5	6.68e5	98.6	0.905
5	100	0.76	NO	32.66	6.39e5	6.87e5	101	0.931

Compound name: 13C-BDE-138

Response Factor: 0.824565
 RRF SD: 0.0225121, Relative SD: 2.73017
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	100	0.77	NO	34.42	4.83e5	6.03e5	97.1	0.800
2	100	0.78	NO	34.41	6.04e5	7.20e5	102	0.839
3	100	0.77	NO	34.38	6.41e5	7.64e5	102	0.839
4	100	0.76	NO	34.31	5.64e5	6.68e5	102	0.845
5	100	0.76	NO	34.21	5.49e5	6.87e5	97.0	0.800

Compound name: 13C-BDE-169

Response Factor: 1.33811
 RRF SD: 0.0702976, Relative SD: 5.2535
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	100	0.77	NO	35.11	7.94e5	6.03e5	98.3	1.32
2	100	0.77	NO	35.10	9.79e5	7.20e5	102	1.36
3	100	0.77	NO	35.07	1.05e6	7.64e5	102	1.37
4	100	0.76	NO	35.00	9.45e5	6.68e5	106	1.41

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

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Compound name: 13C-BDE-169

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
5	161115K4_2	100	0.76	NO	34.89	8.44e5	6.87e5	91.9	1.23

Compound name: 13C-BDE-183

Response Factor: 2.49695
 RRF SD: 0.0961087, Relative SD: 3.84905
 Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	100	1.02	NO	36.14	3.99e5	1.53e5	104	2.61
2	161115K3_2	100	1.04	NO	36.13	4.99e5	1.95e5	103	2.56
3	161115K3_3	100	1.03	NO	36.09	5.50e5	2.21e5	99.4	2.48
4	161115K3_5	100	1.03	NO	36.03	4.90e5	1.98e5	99.2	2.48
5	161115K4_2	100	1.02	NO	35.93	4.95e5	2.10e5	94.3	2.36

Compound name: 13C-BDE-180

Response Factor: 1.57333
 RRF SD: 0.0230356, Relative SD: 1.46413
 Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	100	1.05	NO	37.46	2.44e5	1.53e5	101	1.60
2	161115K3_2	100	1.05	NO	37.46	3.04e5	1.95e5	99.4	1.56
3	161115K3_3	100	1.05	NO	37.43	3.47e5	2.21e5	99.5	1.56
4	161115K3_5	100	1.03	NO	37.38	3.16e5	1.98e5	102	1.60
5	161115K4_2	100	1.01	NO	37.27	3.25e5	2.10e5	98.2	1.54

Quantify Compound Summary Report MassLynx 4.1 SCN815

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Compound name: 13C-BDE-204

Response Factor: 0.592762
 RRF SD: 0.0229595, Relative SD: 3.87332
 Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	200	0.81	NO	39.65	2.74e5	2.33e5	199
2	161115K3_2	200	0.81	NO	39.64	3.40e5	2.89e5	199
3	161115K3_3	200	0.82	NO	39.61	3.97e5	3.50e5	191
4	161115K3_5	200	0.81	NO	39.55	3.82e5	3.24e5	199
5	161115K4_2	200	0.80	NO	39.42	3.54e5	2.81e5	213

Compound name: 13C-BDE-197

Response Factor: 0.73347
 RRF SD: 0.0429111, Relative SD: 5.85042
 Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	200	0.82	NO	39.73	3.48e5	2.33e5	204
2	161115K3_2	200	0.82	NO	39.72	4.17e5	2.89e5	197
3	161115K3_3	200	0.82	NO	39.69	4.99e5	3.50e5	194
4	161115K3_5	200	0.82	NO	39.61	4.44e5	3.24e5	187
5	161115K4_2	200	0.82	NO	39.51	4.48e5	2.81e5	218

Compound name: 13C-BDE-205

Response Factor: 0.285298
 RRF SD: 0.0195198, Relative SD: 6.84188
 Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	200	0.79	NO	41.60	1.38e5	2.33e5	207
2	161115K3_2	200	0.79	NO	41.58	1.65e5	2.89e5	200
3	161115K3_3	200	0.82	NO	41.54	2.08e5	3.50e5	208
4	161115K3_5	200	0.79	NO	41.45	1.92e5	3.24e5	208

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

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Compound name: 13C-BDE-205

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
5	200	0.77	NO	41.29	1.41e5	2.81e5	176	0.251

Compound name: 13C-BDE-207

Response Factor: 0.985282
 RRF SD: 0.0252967, Relative SD: 2.56745
 Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
 Curve type: RF

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	200	1.03	NO	46.22	2.74e5	1.38e5	202	0.994
2	200	1.01	NO	46.18	3.09e5	1.55e5	202	0.994
3	200	1.02	NO	46.12	4.12e5	2.06e5	203	1.00
4	200	1.02	NO	45.99	4.00e5	2.00e5	203	0.998
5	200	0.99	NO	45.75	3.03e5	1.65e5	187	0.919

Compound name: 13C-BDE-206

Response Factor: 0.700185
 RRF SD: 0.0594003, Relative SD: 8.48352
 Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
 Curve type: RF

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	200	1.04	NO	47.98	1.99e5	1.38e5	206	0.721
2	200	1.00	NO	47.93	2.25e5	1.55e5	207	0.725
3	200	1.01	NO	47.85	3.02e5	2.06e5	210	0.734
4	200	1.02	NO	47.70	2.91e5	2.00e5	208	0.727
5	200	0.99	NO	47.43	1.91e5	1.65e5	166	0.581

Dataset: U:\vg11\PRO\Results\161115K3\161115K3-cCRV.qld

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Compound name: 13C-BDE-209
 Response Factor: 0.248915
 RRF SD: 0.067581, Relative SD: 27.1502
 Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
 Curve type: RF
*OK Method 1614 10.5.6
 RSD < 100 for 209L*

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	400	0.80	NO	57.36	1.34e5	1.38e5	390	0.243
2	400	0.80	NO	57.28	1.79e5	1.55e5	464	0.288
3	400	0.79	NO	57.18	2.47e5	2.06e5	482	0.300
4	400	0.80	NO	57.00	2.24e5	2.00e5	449	0.279
5	400	0.79	NO	56.72	8.64e4	1.65e5	211	0.131

Compound name: 13C-BDE-79
 Response Factor: 1
 RRF SD: 1.66533e-016, Relative SD: 1.66533e-014
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	100	0.67	NO	25.85	1.96e6	1.96e6	100	1.00
2	100	0.67	NO	25.84	2.04e6	2.04e6	100	1.00
3	100	0.67	NO	25.81	2.21e6	2.21e6	100	1.00
4	100	0.68	NO	25.75	2.02e6	2.02e6	100	1.00
5	100	0.67	NO	25.65	2.35e6	2.35e6	100	1.00

Compound name: 13C-BDE-139
 Response Factor: 1
 RRF SD: 0, Relative SD: 0
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	100	0.76	NO	33.24	6.03e5	6.03e5	100	1.00
2	100	0.77	NO	33.24	7.20e5	7.20e5	100	1.00
3	100	0.77	NO	33.21	7.64e5	7.64e5	100	1.00
4	100	0.77	NO	33.15	6.68e5	6.68e5	100	1.00

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-cCRV.qld

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Compound name: 13C-BDE-139

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
5	161115K4_2	100	0.76	NO	33.04	6.87e5	6.87e5	100	1.00

Compound name: 13C-BDE-190

Response Factor: 1
 RRF SD: 0, Relative SD: 0
 Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
 Curve type: RF

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	100	1.01	NO	38.06	1.53e5	1.53e5	100	1.00
2	161115K3_2	100	1.05	NO	38.06	1.95e5	1.95e5	100	1.00
3	161115K3_3	100	1.03	NO	38.03	2.21e5	2.21e5	100	1.00
4	161115K3_5	100	1.03	NO	37.96	1.98e5	1.98e5	100	1.00
5	161115K4_2	100	1.03	NO	37.87	2.10e5	2.10e5	100	1.00

Compound name: 13C-BDE-203

Response Factor: 1
 RRF SD: 1.11022e-016, Relative SD: 1.11022e-014
 Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
 Curve type: RF

#.Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161115K3_1	100	0.80	NO	40.39	2.33e5	2.33e5	100	1.00
2	161115K3_2	100	0.82	NO	40.37	2.89e5	2.89e5	100	1.00
3	161115K3_3	100	0.82	NO	40.34	3.50e5	3.50e5	100	1.00
4	161115K3_5	100	0.81	NO	40.25	3.24e5	3.24e5	100	1.00
5	161115K4_2	100	0.81	NO	40.12	2.81e5	2.81e5	100	1.00

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

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Compound name: 13C-BDE-208

Response Factor: 1

RRF SD: 5.55112e-017, Relative SD: 5.55112e-015

Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	100	1.02	NO	45.54	1.38e5	100	1.00
2	161115K3_2	100	1.01	NO	45.51	1.55e5	100	1.00
3	161115K3_3	100	1.02	NO	45.45	2.06e5	100	1.00
4	161115K3_5	100	1.01	NO	45.34	2.00e5	100	1.00
5	161115K4_2	100	1.01	NO	45.11	1.65e5	100	1.00

Compound name: 13C-BDE-126

Response Factor: 2.06758

RRF SD: 0.0662313, Relative SD: 3.20333

Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	100	1.04	NO	31.26	1.30e6	104	2.15
2	161115K3_2	100	1.04	NO	31.25	1.46e6	98.2	2.03
3	161115K3_3	100	1.04	NO	31.22	1.55e6	98.1	2.03
4	161115K3_5	100	1.04	NO	31.16	1.34e6	96.8	2.00
5	161115K4_2	100	1.04	NO	31.05	1.46e6	103	2.13

Compound name: Total Mono BDE

Response Factor: 0.835906

RRF SD: 0.0377607, Relative SD: 4.51733

Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	0.000					1.86	
2	161115K3_2	0.000					9.62	
3	161115K3_3	0.000					41.6	
4	161115K3_5	0.000					20.2	

Work Order: 1601554

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: Total Mono BDE

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161115K4_2	0.000					5.48e6	106	

Compound name: Total Di BDE

Response Factor: 0.786207
RRF SD: 0.0742479, Relative SD: 9.44382
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	0.000					3.77e6	5.98	
2	161115K3_2	0.000					3.91e6	33.7	
3	161115K3_3	0.000					4.23e6	150	
4	161115K3_5	0.000					3.93e6	71.1	
5	161115K4_2	0.000					3.89e6	383	

Compound name: Total Tri BDE

Response Factor: 0.966353
RRF SD: 0.0937774, Relative SD: 9.70425
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	0.000					2.33e6	7.01	
2	161115K3_2	0.000					2.39e6	37.4	
3	161115K3_3	0.000					2.62e6	170	
4	161115K3_5	0.000					2.43e6	80.1	
5	161115K4_2	0.000					2.64e6	451	

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: Total Tetra BDE

Response Factor: 0.806199

RRF SD: 0.0754081, Relative SD: 9.35354

Response type: Internal Std (Ref Multiple), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	2.00				0.00e0	14.2	
2	161115K3_2	10.0				0.00e0	74.4	
3	161115K3_3	40.0				0.00e0	340	
4	161115K3_5	20.0				0.00e0	159	
5	161115K4_2	100				0.00e0	900	

Compound name: 1st Function Penta BDE

Response Factor: 0.999346

RRF SD: 0.0986863, Relative SD: 9.87509

Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	0.000				0.00e0		
2	161115K3_2	0.000				0.00e0		
3	161115K3_3	0.000				0.00e0		
4	161115K3_5	0.000				0.00e0		
5	161115K4_2	0.000				0.00e0	0.0918	

Compound name: Total Penta BDE

Response Factor: 0.949725

RRF SD: 0.0924906, Relative SD: 9.73867

Response type: Internal Std (Ref Multiple), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	0.000				0.00e0	14.2	
2	161115K3_2	0.000				0.00e0	84.0	
3	161115K3_3	0.000				0.00e0	383	
4	161115K3_5	0.000				0.00e0	178	

Work Order: 1601334

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: Total Penta BDE

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
5	161115K4_2	0.000				0.00e0	1020	

Compound name: 1st Function Hexa BDE

Response Factor: 0.970188
 RRF SD: 0.108373, Relative SD: 11.1703
 Response type: Internal Std (Ref Multiple), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	0.000				0.00e0	11.6	
2	161115K3_2	0.000				0.00e0	61.0	
3	161115K3_3	0.000				0.00e0	278	
4	161115K3_5	0.000				0.00e0	129	
5	161115K4_2	0.000				0.00e0	776	

Compound name: Total Hexa BDE

Response Factor: 0.697852
 RRF SD: 0.0740144, Relative SD: 10.606
 Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161115K3_1	0.000				7.94e5	8.26	
2	161115K3_2	0.000				9.79e5	45.5	
3	161115K3_3	0.000				1.05e6	215	
4	161115K3_5	0.000				9.45e5	96.2	
5	161115K4_2	0.000				8.44e5	644	

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: 1st Function Hepta BDE

Response Factor: 0.969975

RRF SD: 0.104242, Relative SD: 10.7469

Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	0.000				3.99e5	6.97	
2	161115K3_2	0.000				4.99e5	37.4	
3	161115K3_3	0.000				5.50e5	168	
4	161115K3_5	0.000				4.90e5	79.8	
5	161115K4_2	0.000				4.95e5	693	

Compound name: Total Hepta BDE

Response Factor: 0.834347

RRF SD: 0.089038, Relative SD: 10.6716

Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	0.000				2.44e5	10.9	
2	161115K3_2	0.000				3.04e5	54.9	
3	161115K3_3	0.000				3.47e5	251	
4	161115K3_5	0.000				3.16e5	195	
5	161115K4_2	0.000				3.25e5	1170	

Compound name: Total Octa BDE

Response Factor: 0.82212

RRF SD: 0.0940574, Relative SD: 11.4408

Response type: Internal Std (Ref Multiple), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161115K3_1	0.000				0.00e0	18.6	
2	161115K3_2	0.000				0.00e0	89.4	
3	161115K3_3	0.000				0.00e0	420	
4	161115K3_5	0.000				0.00e0	194	

Work Order: 1601554

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-cCRV.qld

Last Altered: Wednesday, November 16, 2016 13:20:28 Pacific Standard Time
 Printed: Wednesday, November 16, 2016 13:24:30 Pacific Standard Time

Compound name: Total Octa BDE

#	Name	Std. Conc.	RA	n/y	RT	Resp.	IS Resp.	Conc.	RRF
5	161115K4_2	0.000					0.00e0	1200	

Compound name: Total Nona BDE

Response Factor: 0.943281
 RRF SD: 0.0998898, Relative SD: 10.5896
 Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp.	IS Resp.	Conc.	RRF
1	161115K3_1	0.000				2.74e5		18.7	
2	161115K3_2	0.000				3.09e5		91.3	
3	161115K3_3	0.000				4.12e5		411	
4	161115K3_5	0.000				4.00e5		189	
5	161115K4_2	0.000				3.03e5		1180	

Compound name: Total Deca BDE

Response Factor: 1.28922
 RRF SD: 0.105086, Relative SD: 8.15108
 Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp.	IS Resp.	Conc.	RRF
1	161115K3_1	0.000				1.34e5		10.5	
2	161115K3_2	0.000				1.79e5		46.3	
3	161115K3_3	0.000				2.47e5		196	
4	161115K3_5	0.000				2.24e5		93.1	
5	161115K4_2	0.000				8.64e4		564	

Dataset: U:\vg11.PRO\Results\161115k3\161115K3-6.qld

Last Altered: Thursday, November 17, 2016 07:35:12 Pacific Standard Time
 Printed: Thursday, November 17, 2016 07:37:58 Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-16-16.mdb 16 Nov 2016 14:30:55
 Calibration: U:\vg11.pro\CurvedB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161115K3_6, Date: 15-Nov-2016, Time: 21:32:13, ID: SS161115K3-1 1614 SS 16K1414, Description: 1614 SS 16K1414

AP 11/17/16
OT 11/17/16

#.Name	Resp	RA	ny	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1 BDE-1	2.94e6	1.01	NO	0.572	1.000	10.09	10.10	0.937	0.938	86.948	50-150	0.101	86.9
2 BDE-2	4.69e6	1.01	NO	0.917	1.000	10.44	10.43	0.970	0.969	86.428		0.0628	86.4
3 BDE-3	5.16e6	1.01	NO	1.02	1.000	10.78	10.78	1.001	1.001	85.526		0.0565	85.5
4 BDE-10	1.76e6	0.51	NO	0.468	1.000	14.19	14.20	0.846	0.847	92.213		0.0150	92.2
5 BDE-7	1.97e6	0.51	NO	0.567	1.000	15.35	15.35	0.915	0.915	85.384		0.0124	85.4
6 BDE-8/11	5.86e6	0.51	NO	0.821	1.000	15.92	15.92	0.949	0.949	175.05	100-500	0.00855	175
7 BDE-12	3.41e6	0.51	NO	0.883	1.000	16.25	16.25	0.969	0.969	94.680		0.00795	94.7
8 BDE-13	3.36e6	0.51	NO	0.931	1.000	16.35	16.36	0.975	0.975	88.500	50-150	0.00754	88.5
9 BDE-15	3.81e6	0.51	NO	1.05	1.000	16.79	16.79	1.001	1.001	89.246		0.00670	89.2
10 BDE-30	1.65e6	1.03	NO	0.711	1.000	18.68	18.67	0.883	0.883	89.226		0.0173	89.2
11 BDE-32	2.40e6	1.03	NO	0.982	1.000	20.07	20.08	0.949	0.949	94.230		0.0125	94.2
12 BDE-17	2.20e6	1.02	NO	0.953	1.000	20.45	20.43	0.967	0.966	88.851		0.0129	88.9
13 BDE-25	1.55e6	1.02	NO	0.653	1.000	20.60	20.59	0.974	0.974	91.173		0.0188	91.2
14 BDE-28/33	4.27e6	1.02	NO	0.899	1.000	21.17	21.15	1.001	1.000	182.82	100-500	0.0137	183
15 BDE-35/21	2.88e6	1.02	NO	1.26	1.000	21.58	21.59	1.020	1.021	87.892	50-150	0.00971	87.9
16 BDE-37	2.94e6	1.03	NO	1.30	1.000	22.06	22.07	1.043	1.044	86.786		0.00942	86.8
17 BDE-75/51	1.45e6	0.66	NO	0.897	1.000	24.31	24.29	0.945	0.944	84.448		0.00515	84.4
18 BDE-49	1.27e6	0.66	NO	0.699	1.000	24.64	24.64	0.958	0.958	94.709		0.00661	94.7
19 BDE-71	1.14e6	0.65	NO	0.625	1.000	24.82	24.80	0.965	0.964	94.868		0.00739	94.9
20 BDE-47	1.62e6	0.66	NO	0.899	1.000	25.26	25.28	1.000	1.000	94.053		0.00514	94.1
21 BDE-79			NO	0.994	1.000	25.74		1.019		*		0.00465	
22 BDE-66	1.05e6	0.66	NO	0.579	1.000	25.97	25.94	0.965	0.964	90.847	50-150	0.00716	90.8
23 BDE-77	1.65e6	0.66	NO	0.950	1.000	26.91	26.92	1.000	1.000	86.911	50-150	0.00436	86.9
24 BDE-100	2.42e6	1.02	NO	0.999	1.000	28.23	28.24	1.000	1.000	139.74	75-225	0.0301	140
25 BDE-119/20	1.48e6	1.03	NO	0.494	1.000	28.63	28.64	1.014	1.014	173.30		0.0609	173
26 BDE-99	1.78e6	1.03	NO	0.944	1.000	29.19	29.20	1.000	1.000	142.12		0.0407	142
27 BDE-116	8.39e5	1.02	NO	0.577	1.000	29.55	29.52	0.986	0.985	157.05		0.0988	157
28 BDE-118	1.19e6	1.03	NO	0.950	1.000	29.97	29.99	1.000	1.001	134.85		0.0599	135
29 BDE-85	1.47e6	1.02	NO	1.11	1.000	30.75	30.75	1.026	1.026	142.70		0.0511	143
30 BDE-126	2.10e6	1.03	NO	1.63	1.000	31.14	31.14	1.039	1.039	139.78		0.0351	140
31 BDE-105		0.00	YES	0.894	1.000	31.38		1.047		*		0.0638	

A not in 2nd scan

Dataset: U:\vg11.PRO\Results\161115K3\161115K3-6.qld

Last Altered: Thursday, November 17, 2016 07:35:12 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:37:58 Pacific Standard Time

Name: 161115K3_6, Date: 15-Nov-2016, Time: 21:32:13, ID: SS161115K3-1 1614 SS 16K1414, Description: 1614 SS 16K1414

#.Name	Resp	RA	ply	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC	
32	BDE-155	2.09e6	0.77	NO	0.948	1.000	30.79	30.80	1.000	1.000	172.35	100%	0.0262	172
33	BDE-128/154	1.90e6	0.77	NO	0.795	1.000	31.47	31.48	1.000	1.000	250.92		0.0412	251
34	BDE-153	1.48e6	0.77	NO	0.947	1.000	32.74	32.75	1.000	1.000	206.73		0.0426	207
35	BDE-139			NO	1.11	1.000	33.13		1.012				0.0364	
36	BDE-140			NO	1.05	1.000	33.46		1.022				0.0384	
37	BDE-138	1.38e6	0.77	NO	0.988	1.000	34.33	34.30	1.001	1.000	196.79		0.145	197
38	BDE-166	9.84e5	0.78	NO	0.677	1.000	34.46	34.45	1.005	1.005	205.36		0.212	205
39	BDE-148/156/169			NO	0.429	1.000	34.97		1.000				0.202	
40	BDE-184			NO	1.19	1.000	35.39		0.983				0.0273	
41	BDE-183/176	1.52e6	1.01	NO	0.904	1.000	36.00	36.02	1.000	1.001	255.50	125.5%	0.0359	256
42	BDE-175			NO	0.821	1.000	36.25		1.007				0.0395	
43	BDE-191			NO	0.948	1.000	36.86		0.987				0.0682	
44	BDE-180			NO	0.840	1.000	37.35		1.000				0.0770	
45	BDE-181/177	8.39e5	1.02	NO	0.809	1.000	37.64	37.64	1.008	1.008	247.28		0.0799	247
46	BDE-190/171	5.77e5	1.01	NO	0.741	1.000	37.94	37.95	1.016	1.016	185.53		0.0873	186
47	BDE-201			NO	0.807	1.000	39.27		0.994				0.0763	
48	BDE-204			NO	0.844	1.000	39.51		1.000				0.0729	
49	BDE-197			NO	0.859	1.000	39.62		1.001				0.0610	
50	BDE-203/200			NO	0.635	1.000	40.25		1.017				0.0827	
51	BDE-205			NO	0.965	1.000	41.41		1.000				0.160	
52	BDE-208			NO	1.02	1.000	45.34		0.987				0.358	
53	BDE-207			NO	0.873	1.000	45.97		1.001				0.416	
54	BDE-206			NO	0.941	1.000	47.67		1.001				0.644	
55	BDE-209			NO	1.29	1.000	57.00		1.001				0.478	
56	13C-BDE-3	5.92e6	1.03	NO	2.71	1.000	10.78	10.76	0.419	0.418	99.878	99.9	0.0125	
57	13C-BDE-15	4.08e6	0.52	NO	1.87	1.000	16.77	16.77	0.652	0.652	99.730	99.7	0.0201	
58	13C-BDE-28	2.60e6	1.03	NO	1.17	1.000	21.15	21.15	0.822	0.822	101.07	101	0.0127	
59	13C-BDE-47	1.92e6	0.68	NO	0.865	1.000	25.26	25.26	0.982	0.982	101.35	101	0.0118	
60	13C-BDE-77	2.00e6	0.68	NO	0.902	1.000	26.91	26.91	1.046	1.046	101.30	101	0.0114	
61	13C-BDE-100	1.73e6	1.03	NO	2.34	1.000	28.18	28.23	0.851	0.852	91.750	91.7	0.0491	
62	13C-BDE-99	1.33e6	1.02	NO	1.82	1.000	29.14	29.19	0.880	0.881	90.579	90.6	0.0634	
63	13C-BDE-118	9.26e5	1.04	NO	1.25	1.000	29.94	29.97	0.904	0.905	91.723	91.7	0.0919	
64	13C-BDE-155	1.28e6	0.77	NO	1.68	1.000	30.77	30.79	0.929	0.930	94.407	94.4	0.0412	
65	13C-BDE-154	9.55e5	0.76	NO	1.24	1.000	31.46	31.47	0.950	0.950	95.219	95.2	0.0558	

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Dataset: U:\vg11.PRO\Results\161115K3\161115K3-6.qld

Last Altered: Thursday, November 17, 2016 07:35:12 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:37:58 Pacific Standard Time

Name: 161115K3_6, Date: 15-Nov-2016, Time: 21:32:13, ID: SS161115K3-1 1614 SS 16K1414, Description: 1614 SS 16K1414

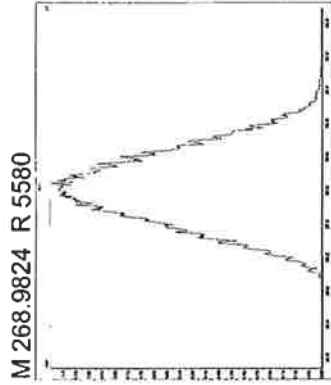
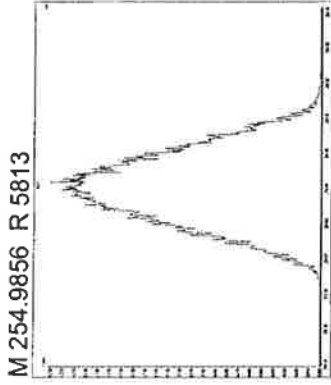
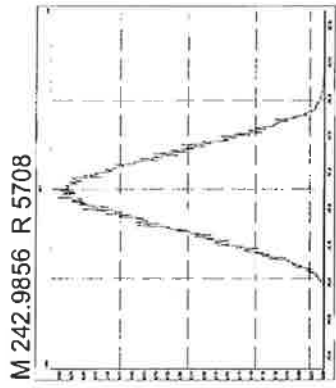
# Name	Resp	RA	nlv	RRF	w/vol	Pred:RT	RT	Pred:RRT	RRT	Conc.	%Rec	DL	EMPC
66	7.56e5	0.76	NO	0.918	1.000	32.72	32.74	0.988	0.989	102.12	102	0.0756	
67	7.08e5	0.77	NO	0.825	1.000	34.31	34.29	1.036	1.035	106.47	106	0.233	
68	1.18e6	0.77	NO	1.34	1.000	34.97	34.97	1.056	1.056	109.71	110	0.143	
69	6.57e5	1.02	NO	2.50	1.000	36.03	36.00	1.088	1.087	94.326	94.3	0.0451	
70	4.20e5	1.04	NO	1.57	1.000	37.33	37.34	0.984	0.984	95.570	95.6	0.293	
71	5.03e5	0.81	NO	0.593	1.000	39.52	39.51	0.983	0.982	207.85	104	0.333	
72	5.84e5	0.83	NO	0.733	1.000	39.58	39.58	0.984	0.984	195.16	97.6	0.269	
73	2.35e5	0.80	NO	0.285	1.000	41.43	41.41	1.030	1.030	201.78	101	0.692	
74	4.33e5	1.01	NO	0.985	1.000	45.88	45.93	1.013	1.014	199.25	99.6	0.723	
75	2.98e5	1.00	NO	0.700	1.000	47.63	47.62	1.052	1.052	193.11	96.6	1.02	
76	2.74e5	0.79	NO	0.249	1.000	56.91	56.94	1.257	1.258	499.59	125	1.44	
77	2.19e6	0.68	NO	1.000	1.000	25.65	25.72	0.000	0.000	100.00	100	0.0102	
78	8.06e5	0.77	NO	1.000	1.000	33.05	33.12	0.000	0.000	100.00	100	0.0694	
79	2.79e5	1.03	NO	1.000	1.000	37.86	37.94	0.000	0.000	100.00	100	0.460	
80	4.08e5	0.81	NO	1.000	1.000	40.15	40.22	0.000	0.000	100.00	100	0.197	
81	2.20e5	1.01	NO	1.000	1.000	45.10	45.27	0.000	0.000	100.00	100	0.713	
82	1.59e6	1.04	NO	2.07	1.000	31.13	31.13	0.940	0.940	95.337	95.3	0.0557	

Experiment Calibration Report

MassLynx 4.1 SCN815

File: 1614full_zb5.exp Reference: pfk.ref Function: 1 @ 400 (ppm)

Printed: Tuesday, November 15, 2016 16:25:18 Pacific Standard Time



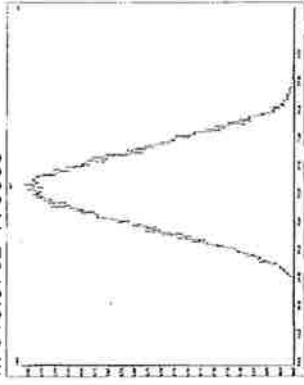
Experiment Calibration Report

MassLynx 4.1 SCN815

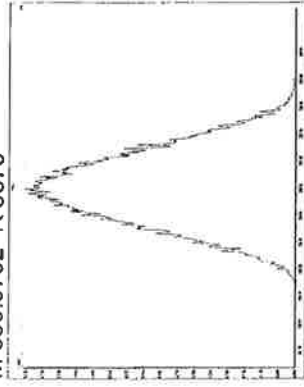
File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 2 @ 400 (ppm)

Printed: Tuesday, November 15, 2016 16:25:31 Pacific Standard Time

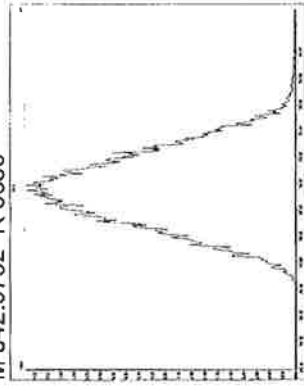
M 318.9792 R 5555



M 330.9792 R 5579



M 342.9792 R 5630

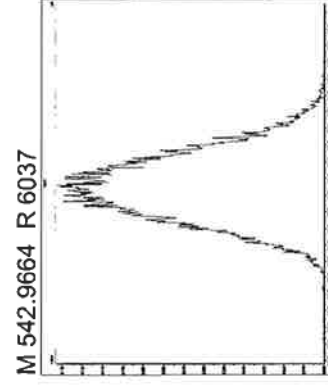
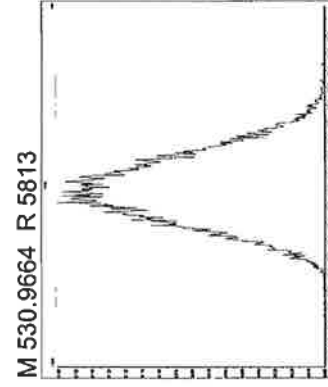
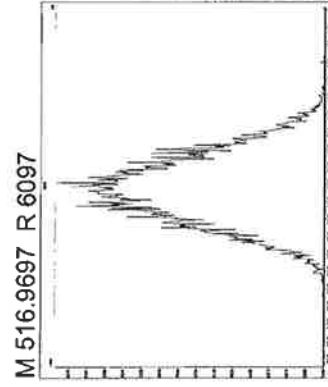
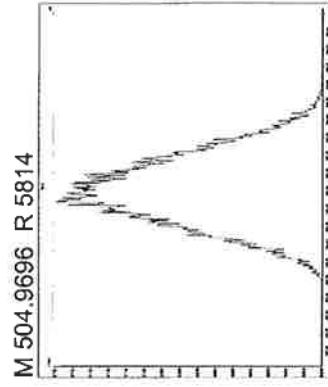
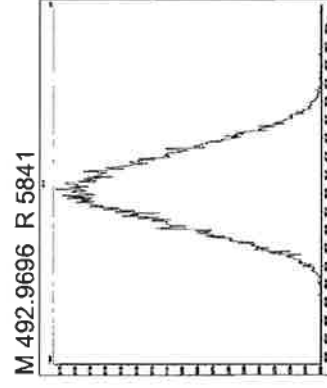
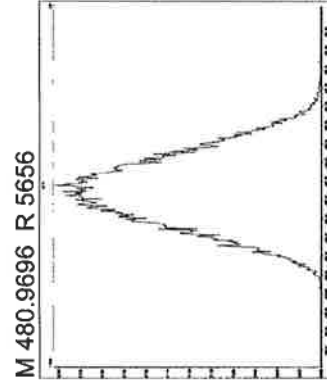
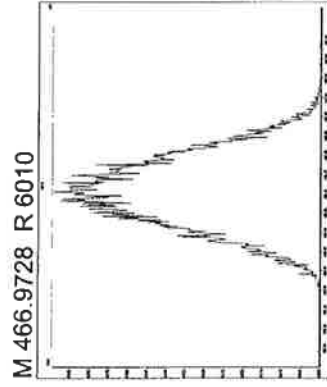
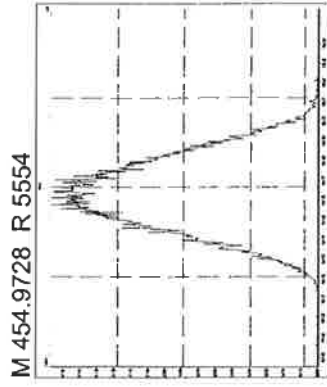
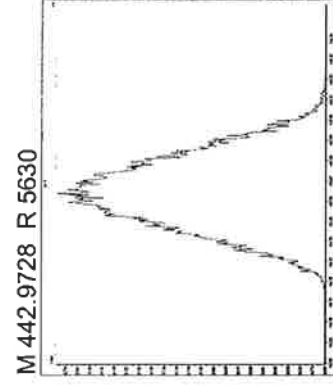
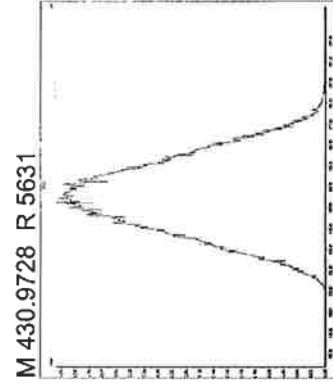
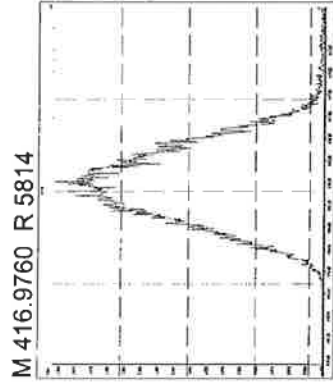
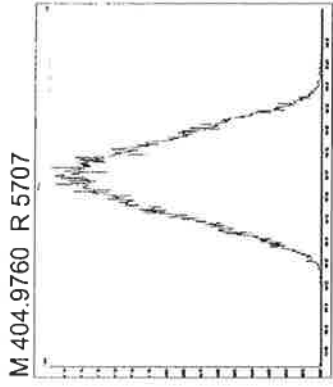


Experiment Calibration Report

MassLynx 4.1 SCN815

File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 3 @ 400 (ppm)

Printed: Tuesday, November 15, 2016 16:25:47 Pacific Standard Time



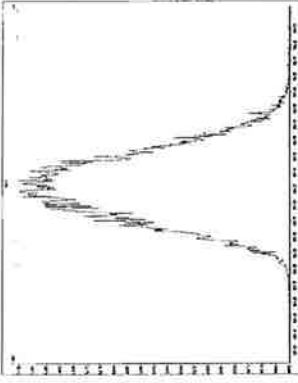
Experiment Calibration Report

MassLynx 4.1 SCN815

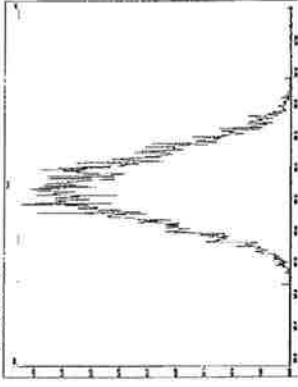
File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 3 @ 400 (ppm)

Printed: Tuesday, November 15, 2016 16:25:47 Pacific Standard Time

M 554.9664 R 6038



M 566.9664 R 6280

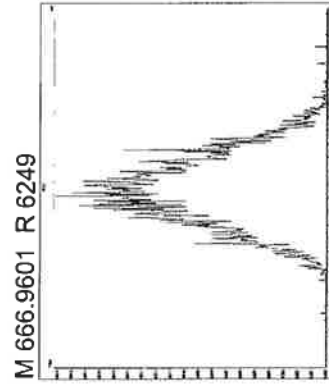
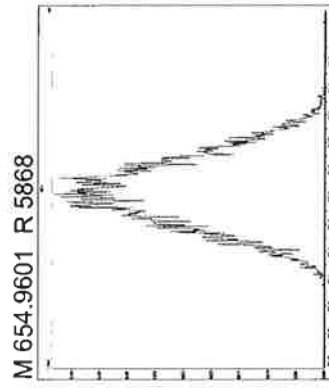
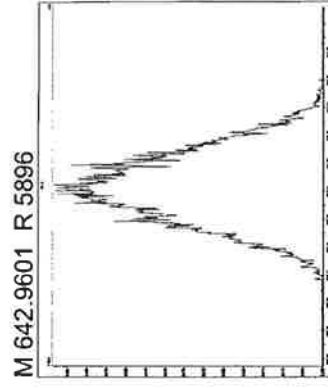
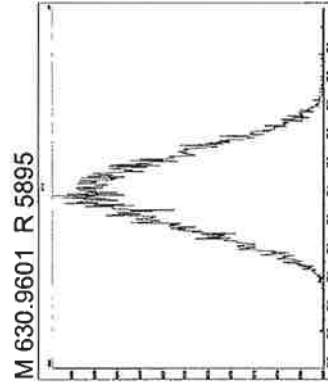
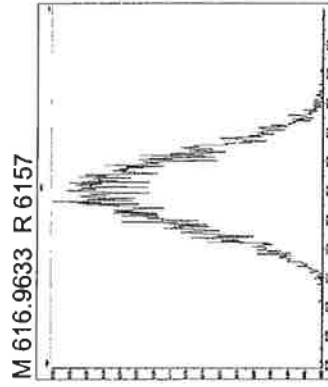
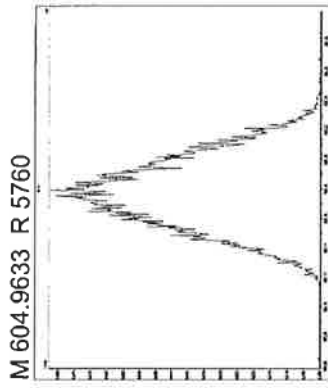
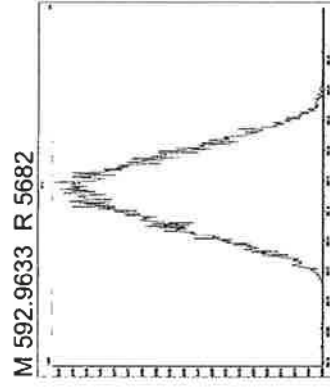
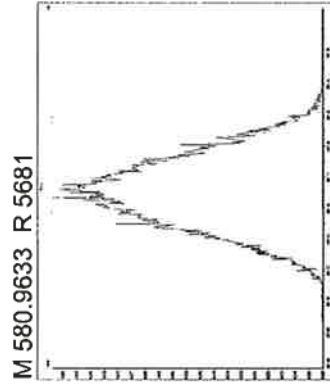
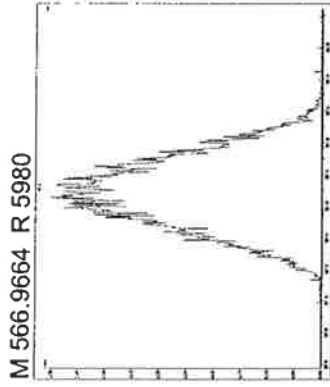
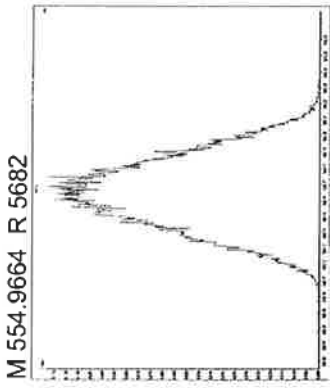


Experiment Calibration Report

MassLynx 4.1 SCN815

File: 1614full_zb5.exp Reference: pfk.ref Function: 4 @ 400 (ppm)

Printed: Tuesday, November 15, 2016 16:26:10 Pacific Standard Time



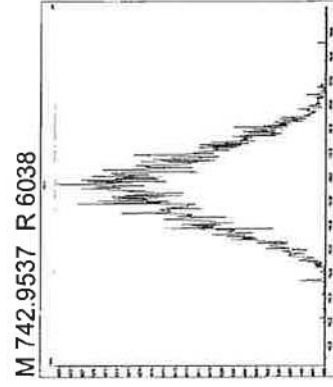
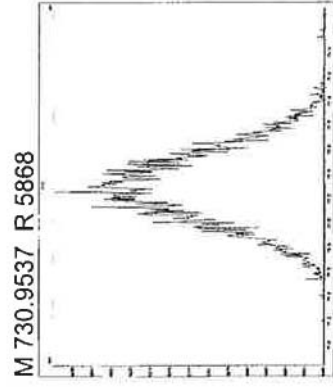
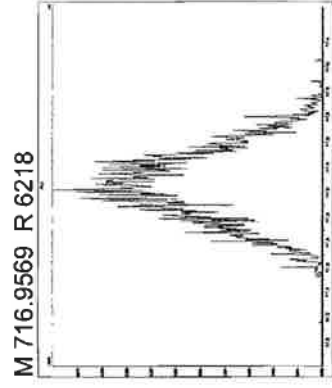
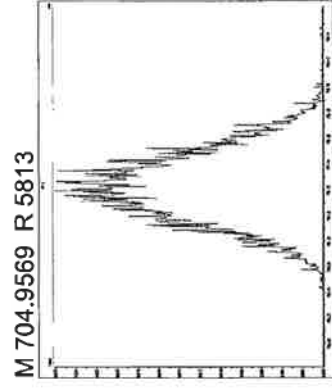
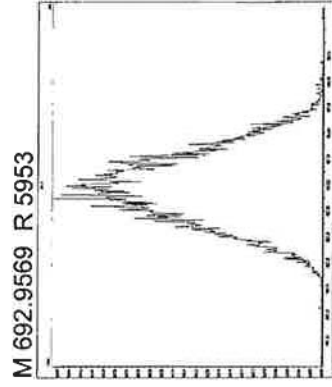
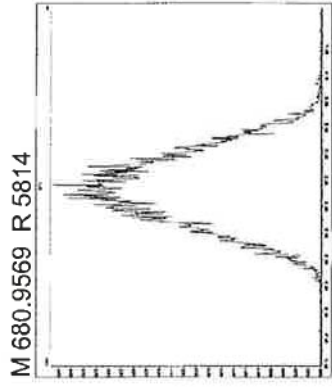
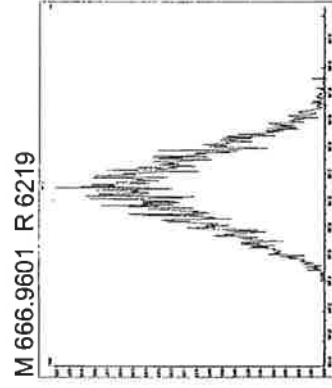
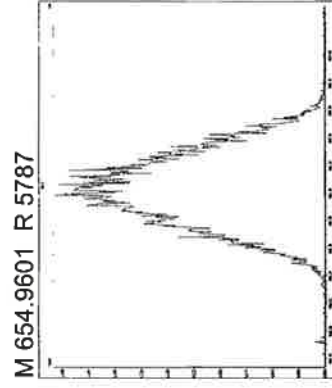
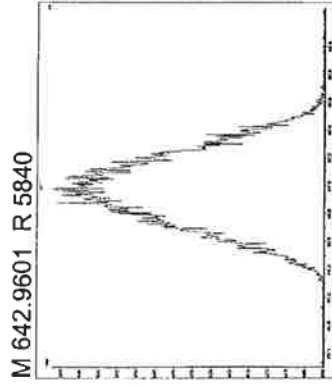
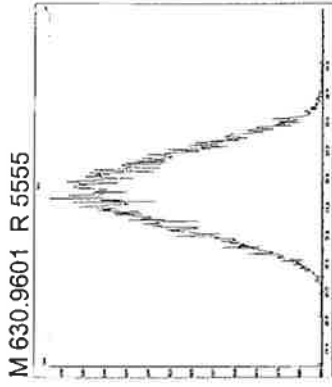
Experiment Calibration Report

MassLynx 4.1 SCN815

Page 1 of 1

File: Experiment: 1614full_zb5.exp Reference: pkf.ref Function: 5 @ 400 (ppm)

Printed: Tuesday, November 15, 2016 16:26:31 Pacific Standard Time



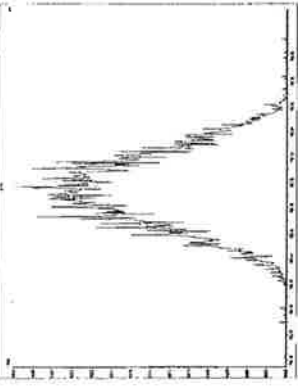
Experiment Calibration Report

MassLynx 4.1 SCN815

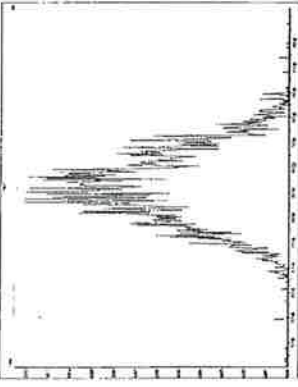
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Printed: Tuesday, November 15, 2016 16:27:08 Pacific Standard Time

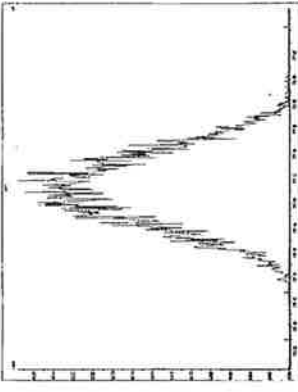
M 704.9569 R 5733



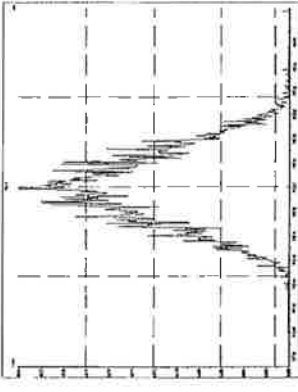
M 716.9569 R 6097



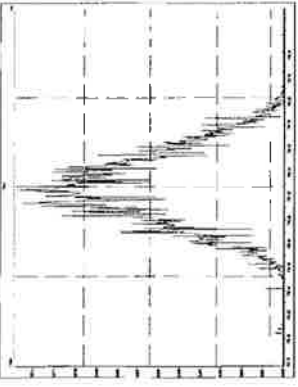
M 730.9537 R 6038



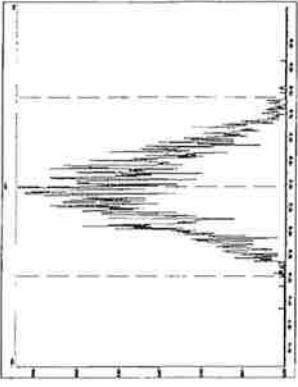
M 742.9537 R 5868



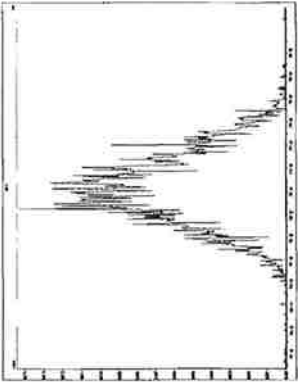
M 754.9537 R 6188



M 766.9537 R 7266



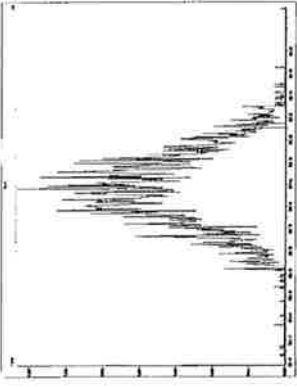
M 780.9505 R 6281



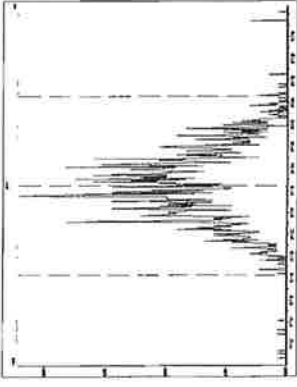
M 792.9505 R 6282



M 804.9505 R 7395



M 816.9505 R 6944

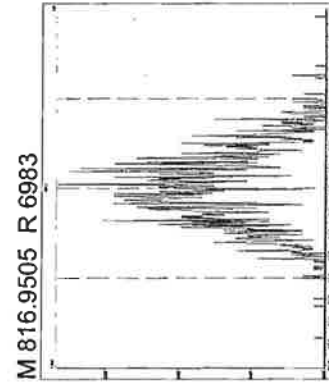
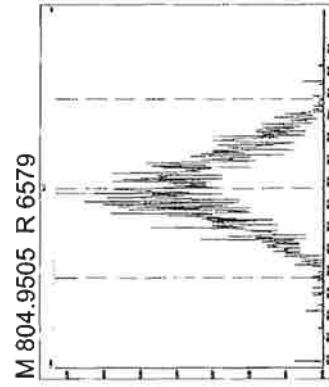
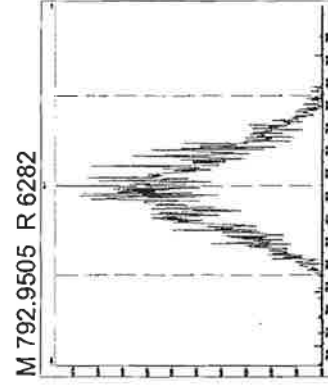
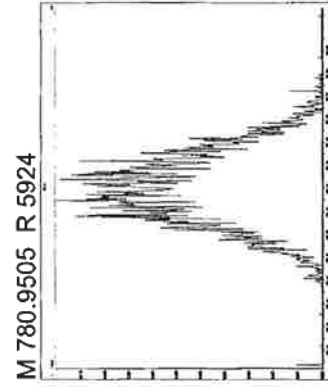
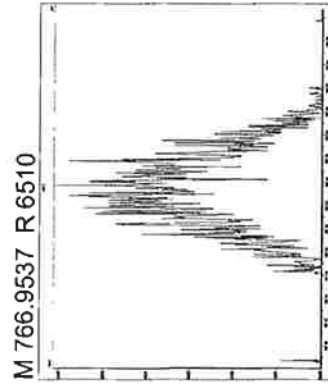
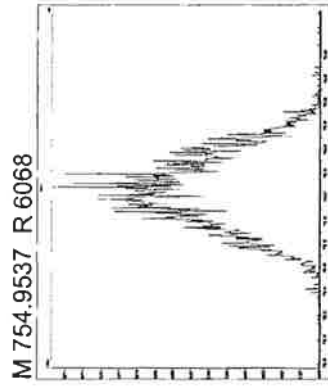
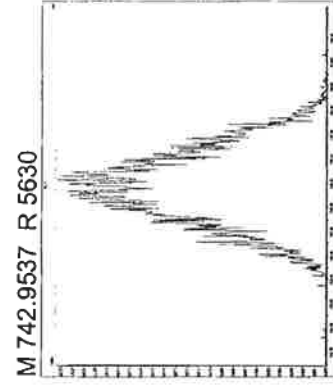
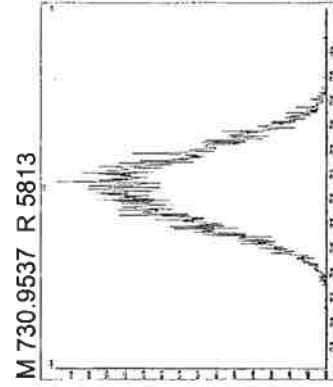
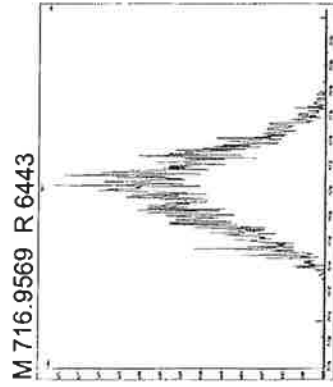
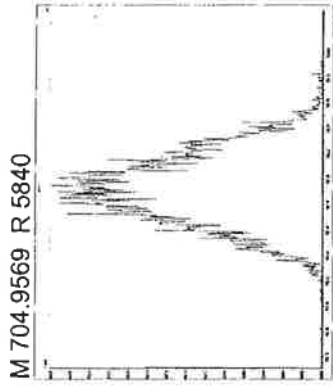


Experiment Calibration Report

MassLynx 4.1 SCN815

File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 7 @ 400 (ppm)

Printed: Tuesday, November 15, 2016 16:27:45 Pacific Standard Time



Quantify Compound Summary Report MassLynx 4.1 SCN815
Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Thursday, November 17, 2016 07:18:58 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:19:02 Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Compound name: BDE-1

Name	ID	Acq.Date	Acq.Time
1 :161116K1_1	ST161116K1-1 1614 CS3 16G1422	16-Nov-16	12:39:13
2 :161116K1_2	B6K0060-BS1 OPR 10	16-Nov-16	13:38:38
3 :161116K1_3	SOLVENT BLANK	16-Nov-16	14:39:28
4 :161116K1_4	B6K0060-BLK1 Method Blank 10	16-Nov-16	15:40:21
5 :161116K1_5	1601354-01 EPA-HS-A1 10.02	16-Nov-16	16:41:10
6 :161116K1_6	1601354-02 EPA-HS-A1 DUP 10	16-Nov-16	17:42:00
7 :161116K1_7	1601354-03 EPA-HS-A1 TRIP 10	16-Nov-16	18:42:55
8 :161116K1_8	1601354-04 EPA-HS-A2 10.05	16-Nov-16	19:43:50
9 :161116K1_9	1601354-05 EPA-HS-A3 10.05	16-Nov-16	20:44:45
10 :161116K1_10	1601354-06 EPA-HS-B1 10.04	16-Nov-16	21:45:39
11 :161116K1_11	1601354-07 EPA-HS-B2 10.05	16-Nov-16	22:46:34
12 :161116K2_1	SOLVENT BLANK	16-Nov-16	23:59:18

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-1.qld

Last Altered: Thursday, November 17, 2016 06:56:48 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:01:40 Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K1_1, Date: 16-Nov-2016, Time: 12:39:13, ID: ST161116K1-1 1614 CS3 16G1422, Description: 1614 CS3 16G1422

Handwritten: 11/17/16
11/17/16
11/17/16

#-Name	Resp: IS Resp	RA: n/y	RRF	wVol: Pred:RT	RT	RRT-Pred:RRT: RRT: Fail:	Conc: %Rec	DL: EMPC					
1 BDE-1	3.39e5	5.92e6	1.00	NO	10.04	10.05	0.938	0.937	NO	10.0	100	0.0494	10.018
2 BDE-2	5.34e5	5.92e6	1.02	NO	10.39	10.38	0.968	0.970	NO	9.84	98.4	0.0308	9.8361
3 BDE-3	5.99e5	5.92e6	1.02	NO	10.73	10.72	1.001	1.001	NO	9.93	99.3	0.0278	9.9317
4 BDE-10	1.96e5	4.49e6	0.48	NO	14.14	14.15	0.846	0.846	NO	9.31	93.1	0.00960	9.3096
5 BDE-7	2.71e5	4.49e6	0.49	NO	15.29	15.29	0.915	0.915	NO	10.6	106	0.00792	10.644
6 BDE-8/11	7.32e5	4.49e6	0.49	NO	15.86	15.85	0.949	0.949	NO	19.9	99.4	0.00547	19.875
7 BDE-12	4.00e5	4.49e6	0.49	NO	16.19	16.18	0.968	0.969	NO	10.1	101	0.00509	10.086
8 BDE-13	4.23e5	4.49e6	0.49	NO	16.29	16.30	0.975	0.975	NO	10.1	101	0.00482	10.120
9 BDE-15	4.79e5	4.49e6	0.49	NO	16.73	16.72	1.001	1.001	NO	10.2	102	0.00429	10.178
10 BDE-30	2.16e5	3.09e6	1.03	NO	18.61	18.61	0.883	0.883	NO	9.84	98.4	0.00912	9.8369
11 BDE-32	2.91e5	3.09e6	1.03	NO	20.00	20.02	0.950	0.949	NO	9.60	96.0	0.00661	9.6047
12 BDE-17	2.87e5	3.09e6	1.04	NO	20.38	20.36	0.966	0.967	NO	9.74	97.4	0.00681	9.7385
13 BDE-25	1.98e5	3.09e6	1.02	NO	20.53	20.52	0.973	0.974	NO	9.83	98.3	0.00992	9.8282
14 BDE-28/33	5.62e5	3.09e6	1.02	NO	21.10	21.09	1.001	1.001	NO	20.3	101	0.00721	20.255
15 BDE-35/21	4.05e5	3.09e6	1.03	NO	21.50	21.51	1.021	1.020	NO	10.4	104	0.00513	10.376
16 BDE-37	4.16e5	3.09e6	1.03	NO	21.98	22.00	1.044	1.043	NO	10.3	103	0.00497	10.329
17 BDE-75/51	9.00e5	2.49e6	0.65	NO	24.24	24.28	0.947	0.945	NO	40.3	101	0.00439	40.341
18 BDE-49	3.60e5	2.49e6	0.64	NO	24.57	24.57	0.958	0.958	NO	20.7	103	0.00562	20.680
19 BDE-71	3.14e5	2.49e6	0.66	NO	24.75	24.73	0.964	0.965	NO	20.2	101	0.00629	20.201
20 BDE-47	4.46e5	2.49e6	0.66	NO	25.19	25.20	1.000	1.000	NO	20.0	99.8	0.00438	19.957
21 BDE-79	4.87e5	2.49e6	0.65	NO	25.67	25.66	1.019	1.019	NO	19.7	98.4	0.00396	19.672
22 BDE-66	2.96e5	2.58e6	0.64	NO	25.89	25.86	0.984	0.965	NO	19.8	99.1	0.00681	19.826
23 BDE-77	4.93e5	2.58e6	0.65	NO	26.83	26.85	1.000	1.000	NO	20.1	101	0.00415	20.141
24 BDE-100	4.31e5	2.13e6	1.03	NO	28.15	28.16	1.000	1.000	NO	20.2	101	0.0166	20.234
25 BDE-119/120	4.15e5	2.13e6	1.02	NO	28.54	28.57	1.015	1.014	NO	39.5	98.8	0.0335	39.505
26 BDE-99	3.11e5	1.60e6	1.02	NO	29.11	29.12	1.001	1.000	NO	20.6	103	0.0240	20.583
27 BDE-116	1.14e5	1.09e6	1.03	NO	29.48	29.44	0.985	0.986	NO	18.2	90.8	0.0567	18.170
28 BDE-118	2.06e5	1.09e6	1.04	NO	29.90	29.91	1.000	1.000	NO	19.9	99.6	0.0344	19.912
29 BDE-85	2.31e5	1.09e6	1.05	NO	30.68	30.66	1.026	1.026	NO	19.0	95.2	0.0293	19.040
30 BDE-126	3.33e5	1.09e6	1.02	NO	31.06	31.06	1.039	1.039	NO	18.8	94.2	0.0201	18.847
31 BDE-105	1.74e5	1.09e6	1.02	NO	31.30	31.29	1.047	1.047	NO	17.9	89.7	0.0366	17.940

Work Order 1601354

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-1.qld

Last Altered: Thursday, November 17, 2016 06:56:48 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:01:40 Pacific Standard Time

Name: 161116K1_1, Date: 16-Nov-2016, Time: 12:39:13, ID: ST161116K1-1 1614 CS3 16G1422, Description: 1614 CS3 16G1422

#-Name	Resp.	IS Resp.	RA	ni/y	RRF	w/vol	Pred.RT	RT	RRT:Pred	RRT:Fail	Conc.	%Rec	DL	EMPC	
32 BDE-155	2.74e5	1.44e6	0.76	NO	0.948	1.000	30.72	30.73	1.000	1.000	NO	20.0	100	0.0130	20.015
33 BDE-128/154	3.26e5	1.04e6	0.75	NO	0.795	1.000	31.39	31.40	1.000	1.000	NO	39.5	98.7	0.0202	39.475
34 BDE-153	1.38e5	7.36e5	0.76	NO	0.947	1.000	32.66	32.67	1.000	1.000	NO	19.8	99.2	0.0235	19.833
35 BDE-139	1.51e5	7.36e5	0.75	NO	1.11	1.000	33.05	33.05	1.012	1.012	NO	18.5	92.3	0.0201	18.451
36 BDE-140	1.41e5	7.36e5	0.75	NO	1.05	1.000	33.37	33.36	1.022	1.022	NO	18.2	91.2	0.0212	18.250
37 BDE-138	1.19e5	5.92e5	0.75	NO	0.988	1.000	34.24	34.22	1.000	1.001	NO	20.3	102	0.0884	20.308
38 BDE-166	6.90e4	5.92e5	0.76	NO	0.677	1.000	34.38	34.36	1.005	1.005	NO	17.2	86.1	0.129	17.220
39 BDE-148/156/169	1.52e5	9.09e5	0.79	NO	0.429	1.000	34.88	34.89	1.000	1.000	NO	39.1	97.7	0.136	39.082
40 BDE-184	2.20e5	4.76e5	0.99	NO	1.19	1.000	35.32	35.31	0.983	0.983	NO	39.1	97.8	0.0328	39.104
41 BDE-183/176	1.73e5	4.76e5	1.01	NO	0.904	1.000	35.93	35.94	1.000	1.000	NO	40.2	101	0.0430	40.212
42 BDE-175	1.48e5	4.76e5	1.03	NO	0.821	1.000	36.18	36.17	1.007	1.007	NO	38.0	95.0	0.0473	38.012
43 BDE-191	1.05e5	2.96e5	1.01	NO	0.948	1.000	36.79	36.83	0.988	0.987	NO	37.5	93.6	0.176	37.457
44 BDE-180	9.94e4	2.96e5	1.03	NO	0.840	1.000	37.28	37.27	1.000	1.000	NO	40.1	100	0.198	40.060
45 BDE-181/177	8.80e4	2.96e5	1.00	NO	0.809	1.000	37.57	37.57	1.008	1.008	NO	36.8	92.0	0.206	36.799
46 BDE-190/171	1.60e5	2.96e5	1.04	NO	0.741	1.000	37.87	37.85	1.015	1.016	NO	73.1	91.4	0.225	73.145
47 BDE-201	5.16e4	2.97e5	0.77	NO	0.807	1.000	39.19	39.17	0.994	0.994	NO	43.1	108	0.302	43.102
48 BDE-204	5.05e4	2.97e5	0.81	NO	0.844	1.000	39.42	39.43	1.000	1.000	NO	40.3	101	0.289	40.287
49 BDE-197	6.99e4	4.21e5	0.78	NO	0.859	1.000	39.54	39.51	1.000	1.001	NO	38.7	96.7	0.218	38.668
50 BDE-203/200	4.37e4	4.21e5	0.82	NO	0.635	1.000	40.17	40.13	1.016	1.017	NO	32.7	81.8	0.296	32.720
51 BDE-205	2.51e4	1.30e5	0.83	NO	0.965	1.000	41.29	41.31	1.001	1.000	NO	39.8	99.5	0.745	39.814
52 BDE-208	1.35e5	2.89e5	1.02	NO	1.02	1.000	45.18	45.12	0.986	0.987	NO	92.3	92.3	0.444	92.315
53 BDE-207	1.20e5	2.89e5	0.99	NO	0.873	1.000	45.80	45.78	1.000	1.001	NO	95.1	95.1	0.517	95.082
54 BDE-206	7.85e4	1.75e5	0.96	NO	0.941	1.000	47.47	47.44	1.000	1.001	NO	95.4	95.4	0.892	95.358
55 BDE-209	2.58e4	8.18e4	0.78	NO	1.29	1.000	56.78	56.74	1.000	1.001	NO	97.7	97.7	1.81	97.720
56 13C-BDE-3	5.92e6	2.86e6	1.03	NO	2.71	1.000	10.75	10.72	0.418	0.419	NO	76.4	76.4	0.00676	
57 13C-BDE-15	4.49e6	2.86e6	0.52	NO	1.87	1.000	16.72	16.71	0.652	0.652	NO	84.1	84.1	0.00763	
58 13C-BDE-28	3.09e6	2.86e6	1.03	NO	1.17	1.000	21.08	21.08	0.822	0.822	NO	92.1	92.1	0.0100	
59 13C-BDE-47	2.49e6	2.86e6	0.67	NO	0.865	1.000	25.19	25.19	0.982	0.982	NO	101	101	0.0125	
60 13C-BDE-77	2.58e6	2.86e6	0.68	NO	0.902	1.000	26.83	26.83	1.046	1.046	NO	100	100	0.0120	
61 13C-BDE-100	2.13e6	7.43e5	1.03	NO	2.34	1.000	28.12	28.15	0.852	0.851	NO	122	122	0.0514	
62 13C-BDE-99	1.60e6	7.43e5	1.04	NO	1.82	1.000	29.08	29.10	0.881	0.880	NO	119	119	0.0662	
63 13C-BDE-118	1.09e6	7.43e5	1.03	NO	1.25	1.000	29.87	29.90	0.905	0.904	NO	117	117	0.0960	
64 13C-BDE-155	1.44e6	7.43e5	0.77	NO	1.68	1.000	30.70	30.72	0.930	0.929	NO	115	115	0.0253	
65 13C-BDE-154	1.04e6	7.43e5	0.77	NO	1.24	1.000	31.39	31.39	0.950	0.950	NO	113	113	0.0253	

Dataset: U:\vg11.PRO\Results\161116K1\161116K1-1.qld

Last Altered: Thursday, November 17, 2016 06:56:48 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:01:40 Pacific Standard Time

Name: 161116K1_1, Date: 16-Nov-2016, Time: 12:39:13, ID: ST161116K1-1 1614 CS3 16G1422, Description: 1614 CS3 16G1422

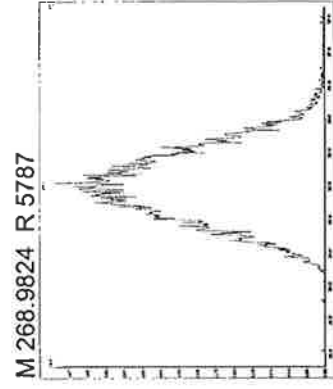
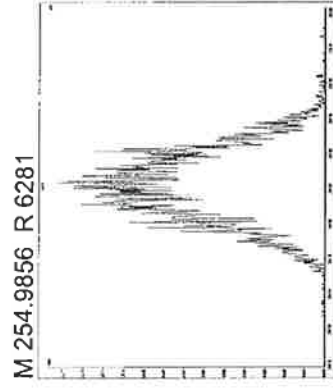
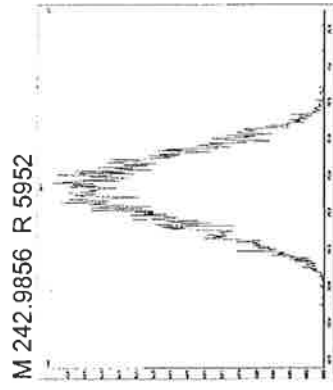
# Name	Resp: IS Resp:	RA:	n/y	RRF	w/Vol:	Pred.RT:	RT	RRT:Pred.RRT:	RRT:Fail:	Conc.:	%Rec	DI:	EMPC
66	7.36e5	0.77	NO	0.918	1.000	32.65	32.66	0.988	NO	108	108	0.0463	
67	5.92e5	0.76	NO	0.825	1.000	34.23	34.21	1.035	NO	96.7	96.7	0.179	
68	9.09e5	0.77	NO	1.34	1.000	34.89	34.88	1.056	NO	91.4	91.4	0.110	
69	4.76e5	1.07	NO	2.50	1.000	35.95	35.93	1.087	NO	111	111	0.0704	
70	2.96e5	1.71e5	NO	1.57	1.000	37.25	37.27	0.985	NO	110	110	0.521	
71	2.97e5	2.26e5	NO	0.593	1.000	39.42	39.42	0.983	NO	221	111	0.562	
72	4.21e5	2.26e5	NO	0.733	1.000	39.47	39.50	0.985	NO	254	127	0.454	
73	1.30e5	2.26e5	NO	0.285	1.000	41.32	41.29	1.029	NO	202	101	1.17	
74	2.89e5	1.43e5	NO	0.985	1.000	45.71	45.76	1.015	NO	205	103	0.817	
75	1.75e5	1.43e5	NO	0.700	1.000	47.45	47.42	1.051	NO	175	87.4	1.15	
76	8.18e4	1.43e5	NO	0.249	1.000	56.69	56.72	1.258	NO	230	57.5	1.80	
77	2.86e6	2.86e6	NO	0.67	1.000	25.65	25.65	0.000	NO	100	100	0.0108	
78	7.43e5	7.43e5	NO	0.77	1.000	33.05	33.04	0.000	NO	100	100	0.0426	
79	1.71e5	1.71e5	NO	1.10	1.000	37.86	37.86	0.000	NO	100	100	0.819	
80	2.26e5	2.26e5	NO	0.80	1.000	40.15	40.11	0.000	NO	100	100	0.333	
81	1.43e5	1.43e5	NO	1.01	1.000	45.10	45.10	0.000	NO	100	100	0.805	
82	1.69e6	7.43e5	NO	2.07	1.000	31.06	31.05	0.940	NO	110	110	0.0582	109.81

Experiment Calibration Report

MassLynx 4.1 SCN815

File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 1 @ 400 (ppm)

Printed: Wednesday, November 16, 2016 12:29:40 Pacific Standard Time



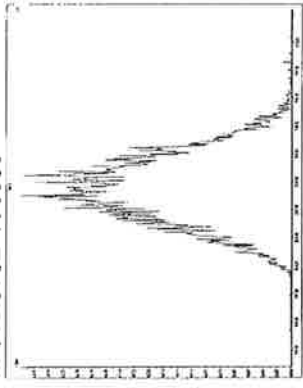
Experiment Calibration Report

MassLynx 4.1 SCN815

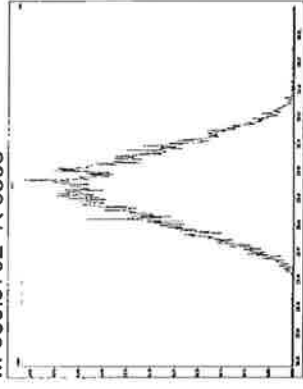
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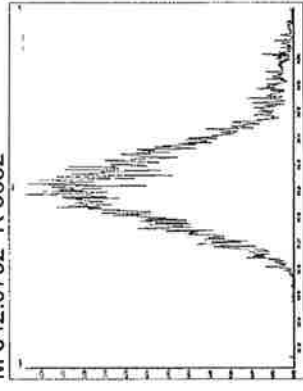
M 318.9792 R 6038



M 330.9792 R 5868



M 342.9792 R 5682

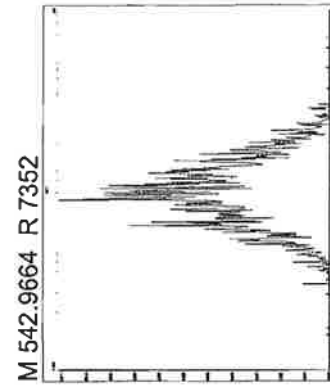
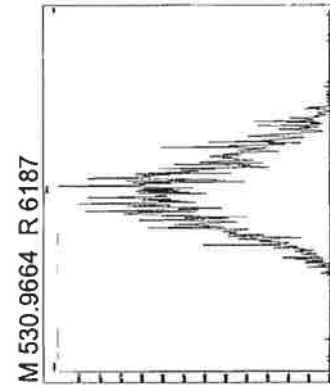
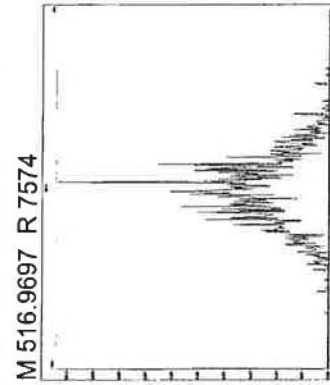
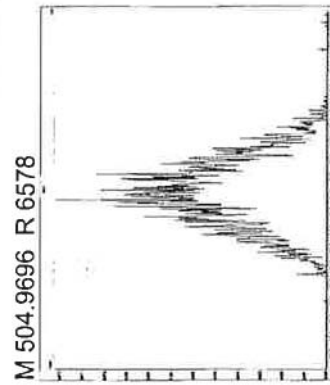
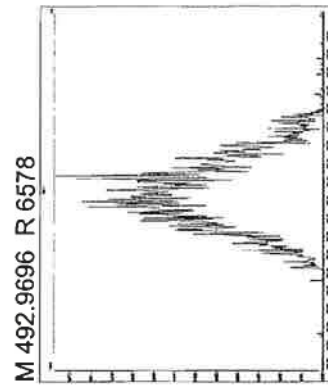
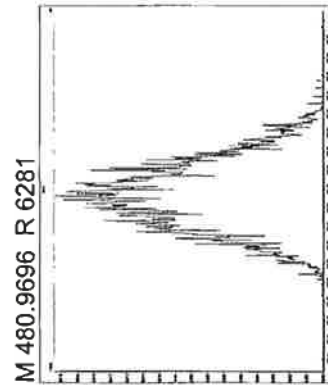
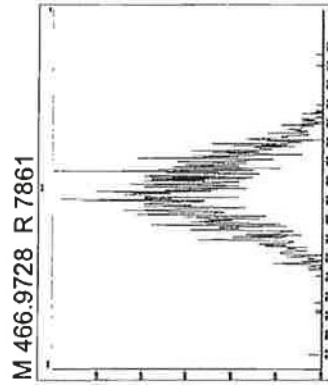
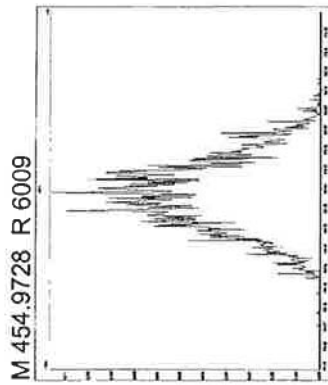
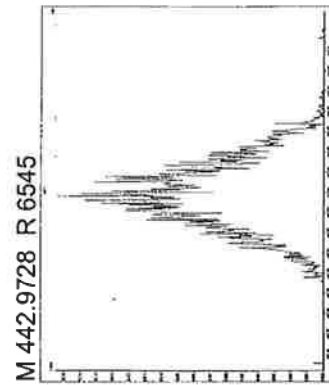
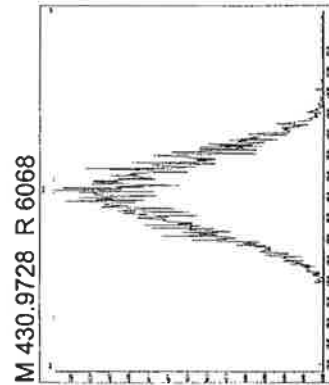
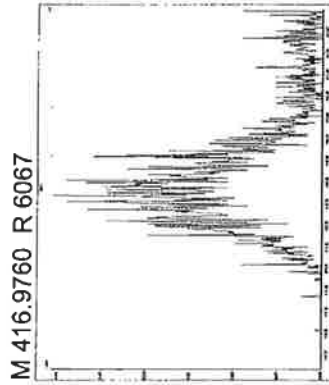
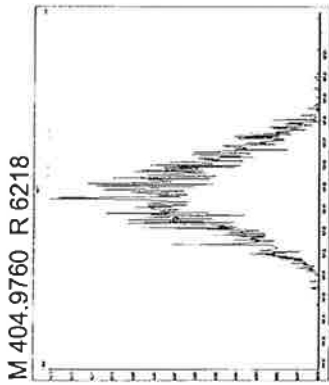


Experiment Calibration Report

MassLynx 4.1 SCN815

File: 1614full_zb5.exp Reference: pfk.ref Function: 3 @ 400 (ppm)

Printed: Wednesday, November 16, 2016 12:30:35 Pacific Standard Time



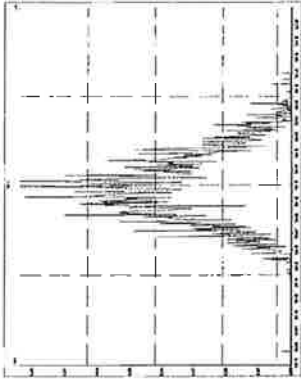
Experiment Calibration Report

MassLynx 4.1 SCN815

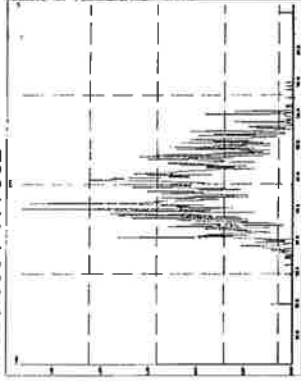
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Printed: Wednesday, November 16, 2016 12:30:35 Pacific Standard Time

M 554.9664 R 7183



M 566.9664 R 7862



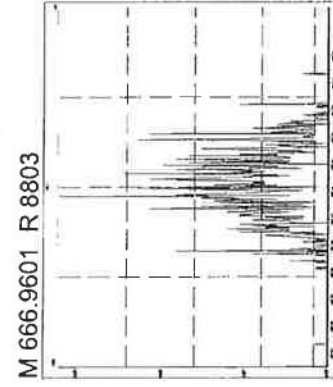
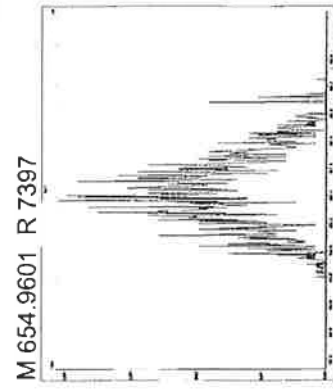
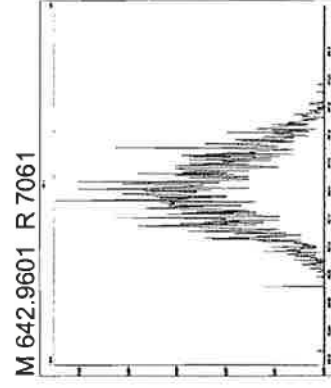
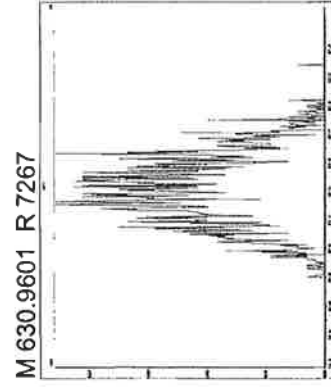
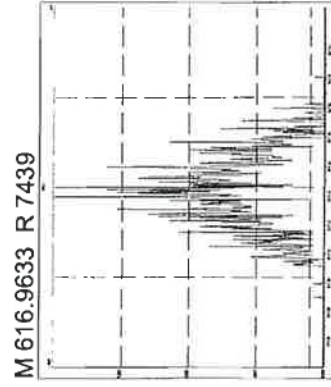
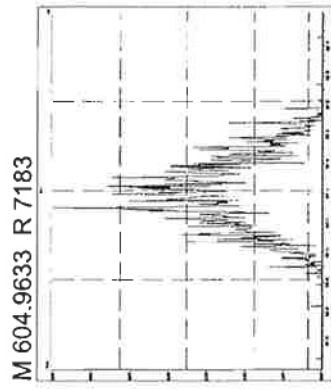
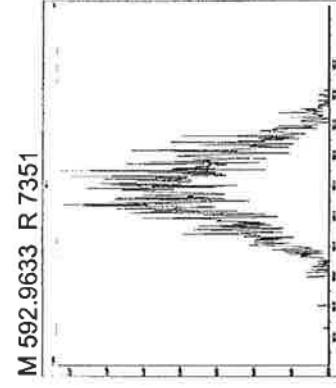
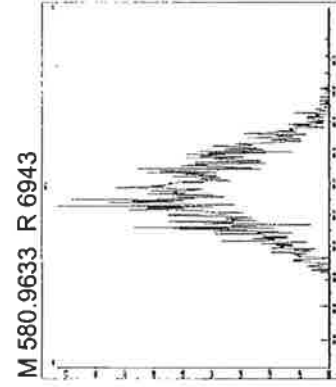
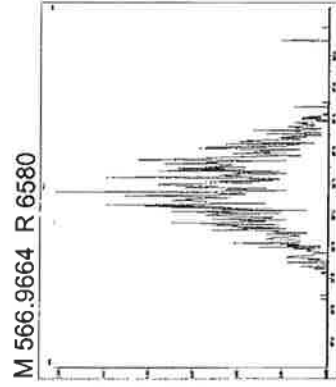
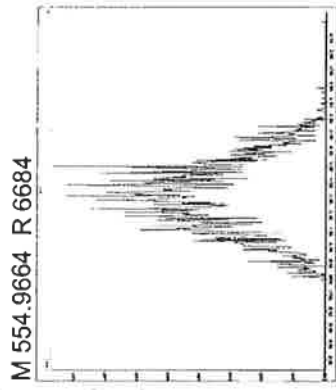
Experiment Calibration Report

MassLynx 4.1 SCN815

Page 1 of 1

File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 4 @ 400 (ppm)

Printed: Wednesday, November 16, 2016 12:31:13 Pacific Standard Time



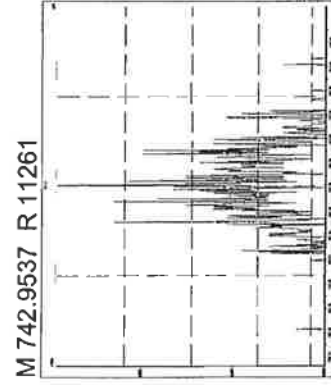
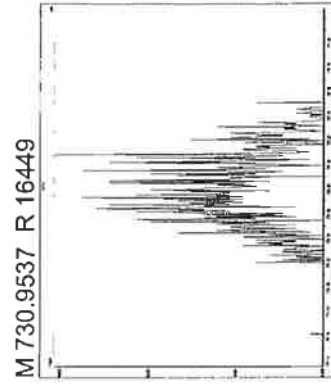
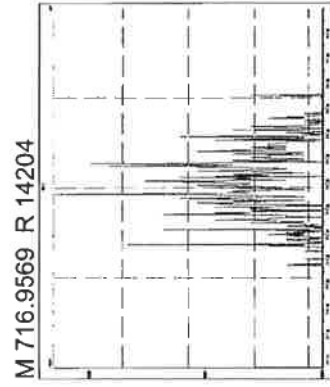
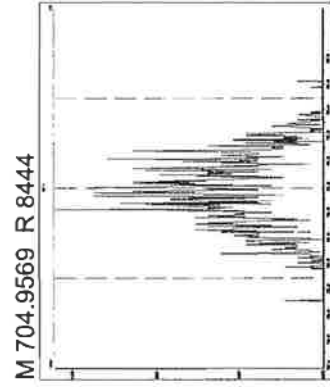
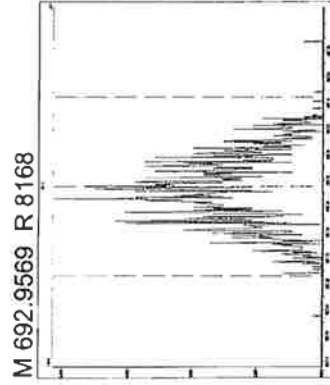
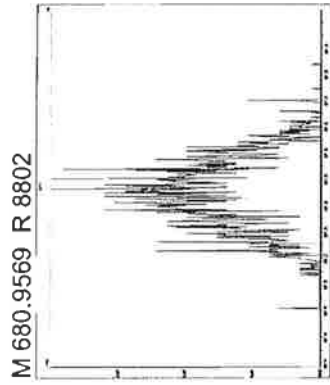
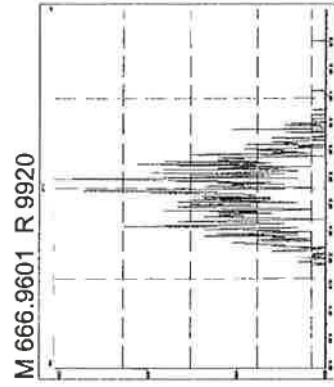
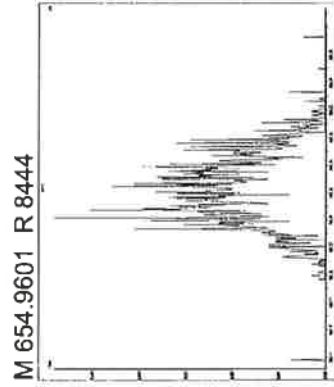
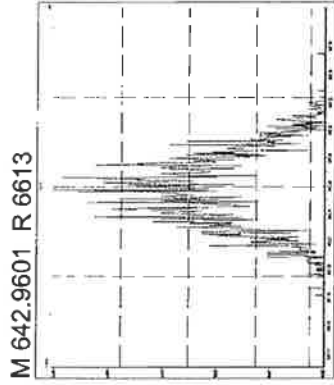
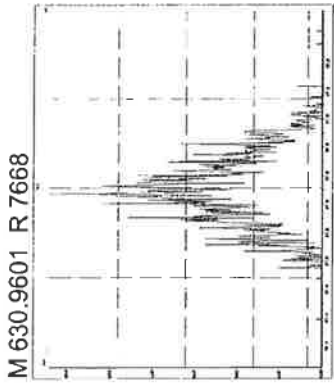
Experiment Calibration Report

MassLynx 4.1 SCN815

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File: 1614full_zb5.exp Reference: pfk.ref Function: 5 @ 400 (ppm)

Printed: Wednesday, November 16, 2016 12:32:05 Pacific Standard Time



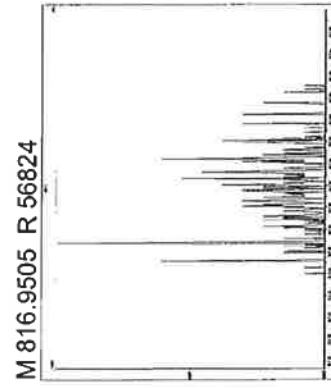
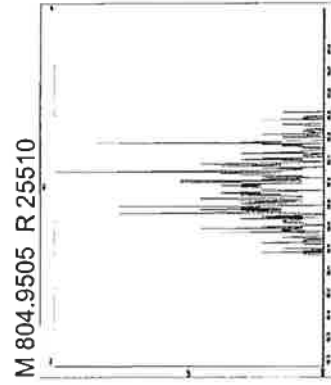
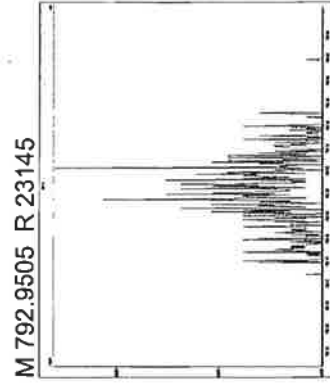
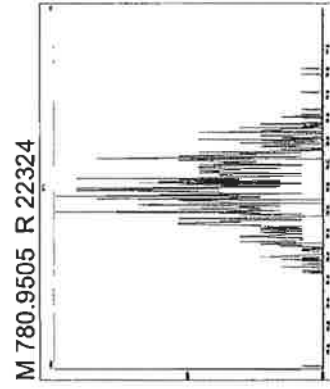
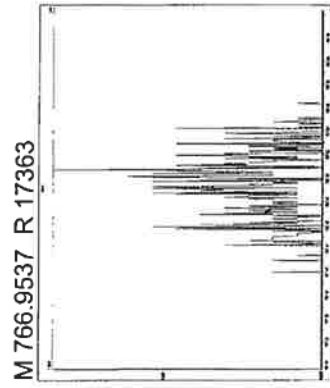
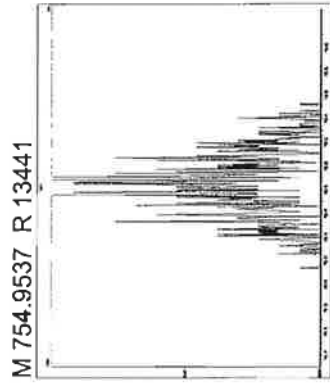
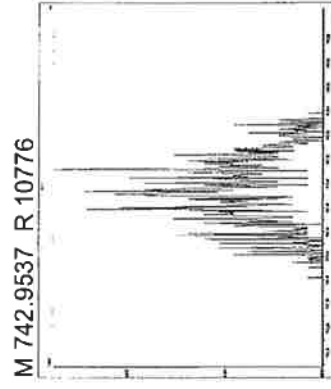
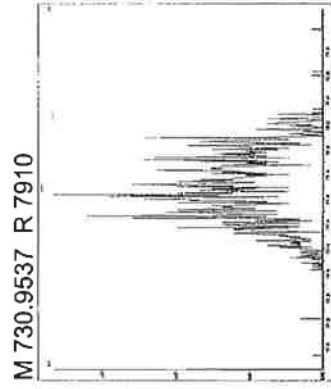
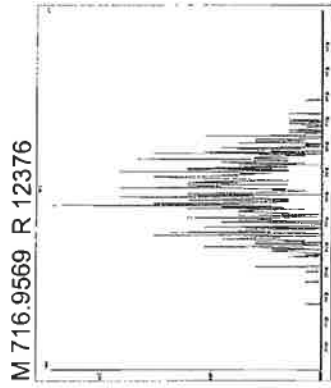
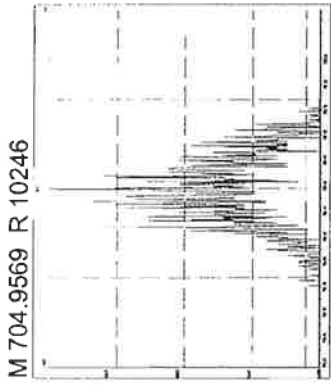
Experiment Calibration Report

MassLynx 4.1 SCN815

Page 1 of 1

File: 1614full_zb5.exp Reference: pfk.ref Function: 6 @ 400 (ppm)

Printed: Wednesday, November 16, 2016 12:33:34 Pacific Standard Time



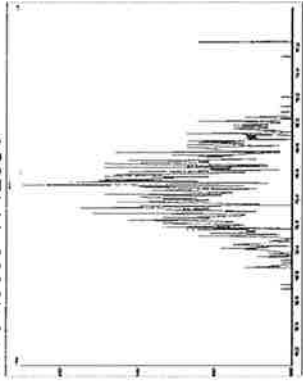
Experiment Calibration Report

MassLynx 4.1 SCN815

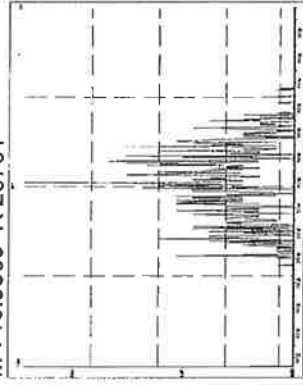
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Printed: Wednesday, November 16, 2016 12:34:48 Pacific Standard Time

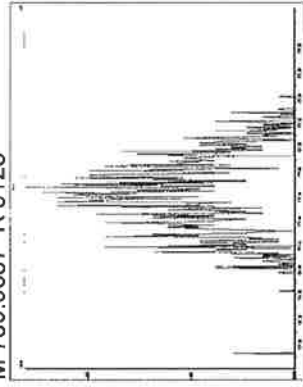
M 704.9569 R 12884



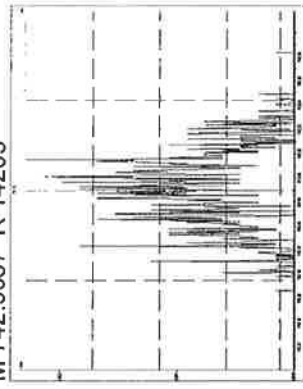
M 716.9569 R 29761



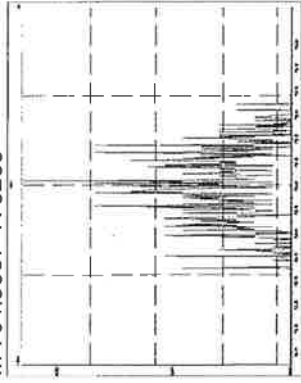
M 730.9537 R 9125



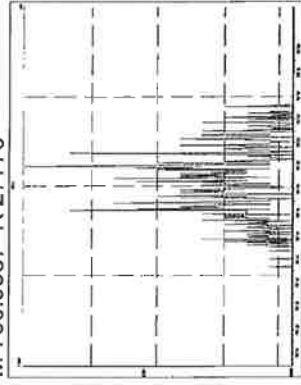
M 742.9537 R 14205



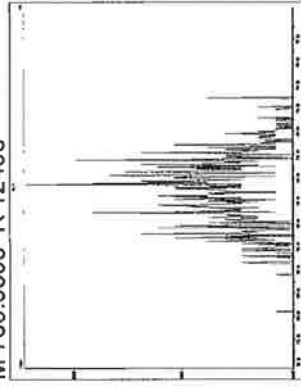
M 754.9537 R 9259



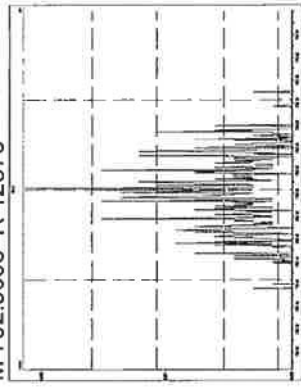
M 766.9537 R 27776



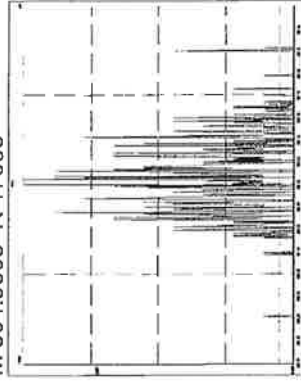
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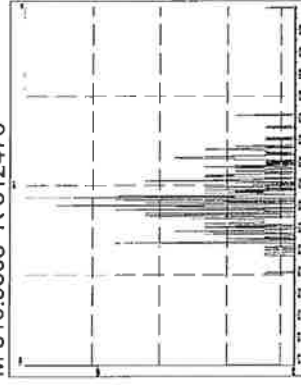
M 792.9505 R 12376



M 804.9505 R 17605



M 816.9505 R 312476



Dataset: Untitled

Last Altered: Thursday, November 17, 2016 07:40:46 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:50:13 Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\lb5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Compound name: BDE-1

Name	ID	Acq.Date	Acq.Time
1	.161116K2_1	16-Nov-16	23:59:18
2	.161116K2_2	17-Nov-16	00:58:44
3	.161116K2_3	17-Nov-16	01:59:41
4	.161116K2_4	17-Nov-16	03:00:37
5	.161116K2_5	17-Nov-16	04:01:33
6	.161116K2_6	17-Nov-16	05:02:30
7	.161116K2_7	17-Nov-16	06:03:27

Quantify Sample Summary Report
Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-1.qld

Last Altered: Thursday, November 17, 2016 07:54:51 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:58:42 Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rtt-11-16-16.mdb 16 Nov 2016 14:30:55
Calibration: U:\vg11.pro\CurveDB\cb5_1614vg11-11-16-16.cdb 16 Nov 2016 13:18:10

Name: 161116K2_2, Date: 17-Nov-2016, Time: 00:58:44, ID: ST161116K2-1 1614 CS3 16G1422, Description: 1614 CS3 16G1422

M
11/18/16
CT 11/18/16

#	Name	Resp	RA	nY	RRF	wfvol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	BDE-1	3.53e5	1.02	NO	0.572	1.000	10.03	10.04	0.937	0.938	9.9031	99.0	0.0455	9.90
2	BDE-2	5.54e5	1.01	NO	0.917	1.000	10.38	10.37	0.970	0.969	9.7034	97.0	0.0284	9.70
3	BDE-3	6.22e5	1.02	NO	1.02	1.000	10.71	10.72	1.001	1.001	9.7988	98.0	0.0256	9.80
4	BDE-10	1.97e5	0.48	NO	0.468	1.000	14.12	14.13	0.846	0.847	10.232	102	0.00799	10.2
5	BDE-7	2.32e5	0.48	NO	0.567	1.000	15.27	15.27	0.915	0.915	9.9430	99.4	0.00660	9.94
6	BDE-8/11	6.42e5	0.49	NO	0.821	1.000	15.84	15.84	0.949	0.949	19.028	95.1	0.00455	19.0
7	BDE-12	3.49e5	0.49	NO	0.883	1.000	16.17	16.17	0.969	0.969	9.6145	96.1	0.00424	9.61
8	BDE-13	3.71e5	0.48	NO	0.931	1.000	16.28	16.28	0.975	0.975	9.7063	97.1	0.00402	9.71
9	BDE-15	4.33e5	0.49	NO	1.05	1.000	16.71	16.71	1.001	1.001	10.066	101	0.00357	10.1
10	BDE-30	1.83e5	1.06	NO	0.711	1.000	18.60	18.59	0.883	0.882	9.6579	96.6	0.00962	9.66
11	BDE-32	2.55e5	1.03	NO	0.982	1.000	19.99	20.01	0.949	0.950	9.7812	97.8	0.00696	9.78
12	BDE-17	2.46e5	1.03	NO	0.953	1.000	20.37	20.34	0.967	0.966	9.7088	97.1	0.00717	9.71
13	BDE-25	1.60e5	1.05	NO	0.653	1.000	20.52	20.49	0.974	0.973	9.2264	92.3	0.0105	9.23
14	BDE-28/33	4.76e5	1.02	NO	0.899	1.000	21.09	21.07	1.001	1.000	19.890	99.5	0.00760	19.9
15	BDE-35/21	3.23e5	1.03	NO	1.26	1.000	21.49	21.50	1.020	1.021	9.5977	96.0	0.00541	9.60
16	BDE-37	3.27e5	1.00	NO	1.30	1.000	21.97	21.99	1.043	1.044	9.4284	94.3	0.00524	9.43
17	BDE-75/51	7.34e5	0.65	NO	0.897	1.000	24.22	24.27	0.945	0.947	38.609	96.5	0.00548	38.6
18	BDE-49	2.82e5	0.64	NO	0.699	1.000	24.55	24.54	0.958	0.958	18.992	95.0	0.00703	19.0
19	BDE-71	2.52e5	0.64	NO	0.625	1.000	24.73	24.72	0.965	0.965	19.050	95.2	0.00787	19.0
20	BDE-47	3.83e5	0.65	NO	0.899	1.000	25.18	25.19	1.000	1.000	20.107	101	0.00547	20.1
21	BDE-79	4.17e5	0.64	NO	0.994	1.000	25.65	25.64	1.019	1.018	19.786	98.9	0.00494	19.8
22	BDE-66	2.39e5	0.64	NO	0.579	1.000	25.87	25.85	0.965	0.964	19.221	96.1	0.00813	19.2
23	BDE-77	4.13e5	0.65	NO	0.950	1.000	26.81	26.82	1.000	1.000	20.231	101	0.00496	20.2
24	BDE-100	3.92e5	1.02	NO	0.999	1.000	28.13	28.15	1.000	1.001	20.032	100	0.0163	20.0
25	BDE-119/120	3.51e5	1.03	NO	0.494	1.000	28.52	28.55	1.014	1.015	36.318	90.8	0.0329	36.3
26	BDE-99	2.71e5	1.02	NO	0.944	1.000	29.09	29.10	1.000	1.001	19.991	100	0.0238	20.0
27	BDE-116	9.02e4	1.04	NO	0.577	1.000	29.46	29.43	0.986	0.985	16.515	82.6	0.0580	16.5
28	BDE-118	1.76e5	1.04	NO	0.950	1.000	29.88	29.89	1.000	1.000	19.548	97.7	0.0352	19.5
29	BDE-85	1.88e5	1.06	NO	1.11	1.000	30.65	30.65	1.026	1.026	17.796	89.0	0.0300	17.8
30	BDE-126	2.78e5	1.03	NO	1.63	1.000	31.04	31.04	1.039	1.039	18.059	90.3	0.0206	18.1
31	BDE-105	1.47e5	1.04	NO	0.894	1.000	31.28	31.28	1.047	1.047	17.338	86.7	0.0374	17.3

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-1.qld

Last Altered: Thursday, November 17, 2016 07:54:51 Pacific Standard Time
Printed: Thursday, November 17, 2016 07:58:42 Pacific Standard Time

Name: 161116K2_2, Date: 17-Nov-2016, Time: 00:58:44, ID: ST161116K2-1 1614 CS3 16G1422, Description: 1614 CS3 16G1422

# Name	Resp	RA	n/y	RRF	w/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32 BDE-155	2.59e5	0.76	NO	0.948	1.000	30.69	30.71	1.000	1.000	19.838	99.2	0.0106	19.8
33 BDE-128/154	3.03e5	0.75	NO	0.795	1.000	31.37	31.38	1.000	1.000	38.367	95.9	0.0173	38.4
34 BDE-153	1.18e5	0.75	NO	0.947	1.000	32.63	32.65	1.000	1.000	19.461	97.3	0.0232	19.5
35 BDE-139	1.30e5	0.75	NO	1.11	1.000	33.03	33.03	1.012	1.012	18.263	91.3	0.0198	18.3
36 BDE-140	1.21e5	0.75	NO	1.05	1.000	33.35	33.34	1.022	1.022	17.947	89.7	0.0210	17.9
37 BDE-138	9.54e4	0.77	NO	0.988	1.000	34.22	34.20	1.001	1.000	19.405	97.0	0.133	19.4
38 BDE-166	5.48e4	0.77	NO	0.677	1.000	34.36	34.34	1.005	1.005	16.282	81.4	0.195	16.3
39 BDE-148/156/169	1.22e5	0.74	NO	0.429	1.000	34.86	34.87	1.000	1.000	39.143	97.9	0.214	39.1
40 BDE-184	1.92e5	1.03	NO	1.19	1.000	35.28	35.29	0.983	0.983	39.403	98.5	0.0199	39.4
41 BDE-183/176	1.42e5	0.99	NO	0.904	1.000	35.90	35.91	1.000	1.000	38.156	95.4	0.0262	38.2
42 BDE-175	1.20e5	1.01	NO	0.821	1.000	36.15	36.15	1.007	1.007	35.609	89.0	0.0288	35.6
43 BDE-191	8.07e4	1.03	NO	0.948	1.000	36.76	36.82	0.987	0.989	35.456	88.6	0.178	35.5
44 BDE-180	7.67e4	1.02	NO	0.840	1.000	37.26	37.26	1.000	1.000	38.052	95.1	0.201	38.1
45 BDE-181/177	6.77e4	1.03	NO	0.809	1.000	37.55	37.55	1.008	1.008	34.849	87.1	0.208	34.8
46 BDE-190/171	1.32e5	1.04	NO	0.741	1.000	37.84	37.83	1.016	1.016	74.000	92.5	0.228	74.0
47 BDE-201	3.87e4	0.78	NO	0.807	1.000	39.16	39.14	0.994	0.994	44.022	110	0.358	44.0
48 BDE-204	3.74e4	0.81	NO	0.844	1.000	39.40	39.41	1.000	1.000	40.725	102	0.342	40.7
49 BDE-197	5.50e4	0.84	NO	0.859	1.000	39.51	39.49	1.001	1.000	39.626	99.1	0.241	39.6
50 BDE-203/200	3.15e4	0.80	NO	0.635	1.000	40.15	40.10	1.017	1.016	30.683	76.7	0.327	30.7
51 BDE-205	1.69e4	0.79	NO	0.965	1.000	41.25	41.28	1.000	1.001	40.123	100	0.925	40.1
52 BDE-208	8.69e4	0.99	NO	1.02	1.000	45.11	45.07	0.987	0.986	96.828	96.8	0.570	96.8
53 BDE-207	7.43e4	1.01	NO	0.873	1.000	45.74	45.71	1.001	1.000	96.315	96.3	0.664	96.3
54 BDE-206	4.96e4	1.01	NO	0.941	1.000	47.41	47.38	1.001	1.000	98.049	98.0	1.18	98.0
55 BDE-209	1.28e4	0.80	NO	1.29	1.000	56.70	56.66	1.001	1.000	101.99	102	3.09	102
56 13C-BDE-3	6.23e6	1.03	NO	2.71	1.000	10.74	10.70	0.419	0.418	94.872	94.9	0.00747	
57 13C-BDE-15	4.11e6	0.52	NO	1.87	1.000	16.71	16.69	0.652	0.651	90.772	90.8	0.00996	
58 13C-BDE-28	2.66e6	1.02	NO	1.17	1.000	21.06	21.07	0.822	0.822	93.516	93.5	0.00921	
59 13C-BDE-47	2.12e6	0.67	NO	0.865	1.000	25.16	25.18	0.982	0.982	101.16	101	0.00938	
60 13C-BDE-77	2.15e6	0.68	NO	0.902	1.000	26.80	26.81	1.046	1.046	98.446	98.4	0.00900	
61 13C-BDE-100	1.96e6	1.03	NO	2.34	1.000	28.10	28.13	0.851	0.852	128.89	129	0.0550	
62 13C-BDE-99	1.44e6	1.04	NO	1.82	1.000	29.06	29.08	0.880	0.881	121.84	122	0.0709	
63 13C-BDE-118	9.47e5	1.04	NO	1.25	1.000	29.85	29.88	0.904	0.905	116.52	117	0.103	
64 13C-BDE-155	1.37e6	0.76	NO	1.68	1.000	30.68	30.69	0.929	0.930	125.82	126	0.0259	
65 13C-BDE-154	9.94e5	0.77	NO	1.24	1.000	31.37	31.37	0.950	0.950	123.10	123	0.0350	

Dataset: U:\vg11.PRO\Results\161116K2\161116K2-1.qld

Last Altered: Thursday, November 17, 2016 07:54:51 Pacific Standard Time
 Printed: Thursday, November 17, 2016 07:58:42 Pacific Standard Time

Name: 161116K2_2, Date: 17-Nov-2016, Time: 00:58:44, ID: ST161116K2-1 1614 CS3 16G1422, Description: 1614 CS3 16G1422

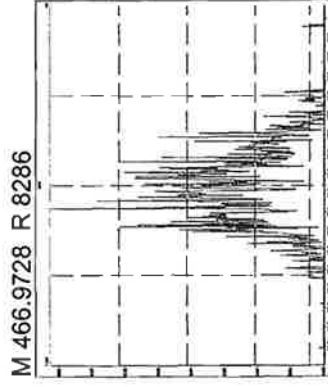
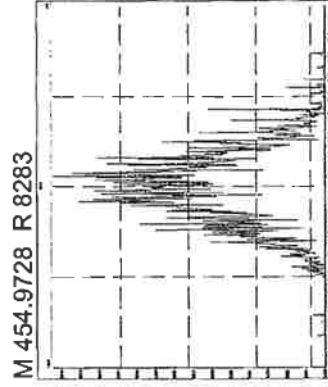
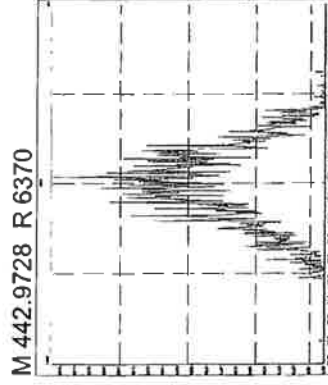
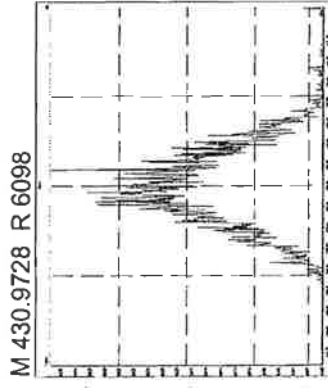
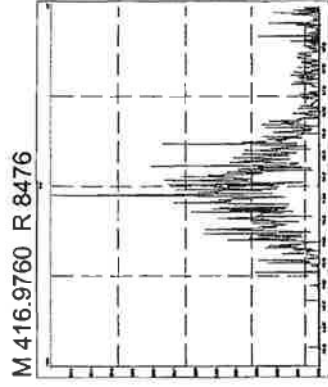
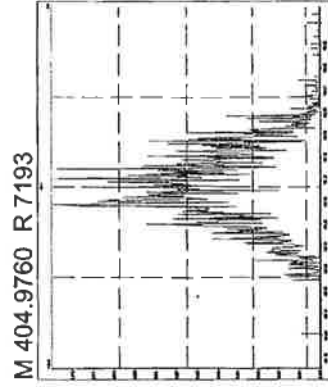
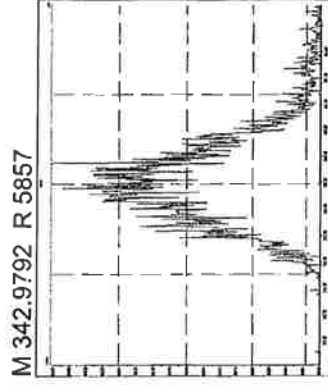
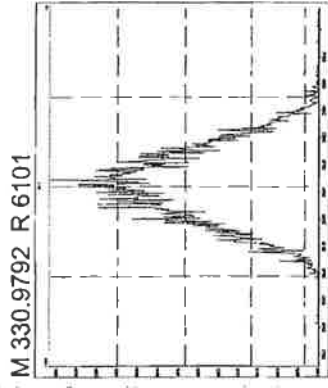
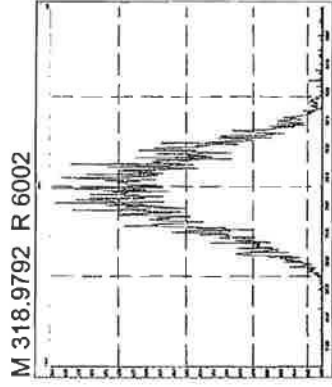
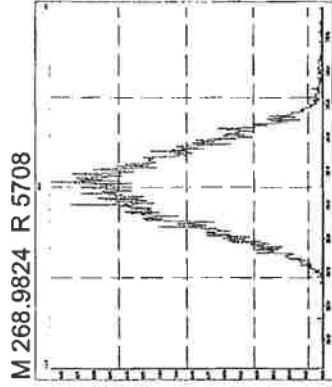
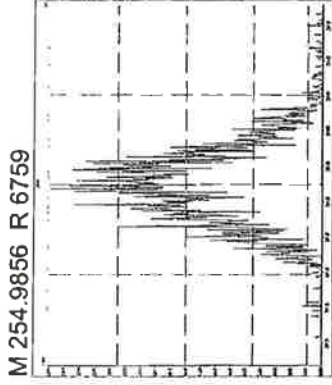
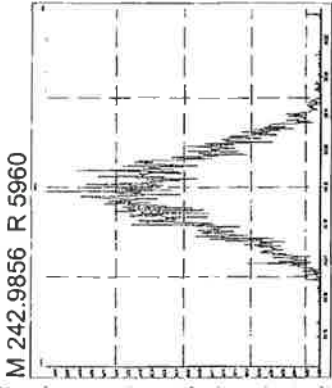
#	Name	Resp	RA	ny	RRF	w/wol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
66	13C-BDE-153	6.39e5	0.78	NO	0.918	1.000	32.63	32.63	0.988	0.988	107.22	107	0.0475	
67	13C-BDE-138	4.98e5	0.77	NO	0.825	1.000	34.21	34.19	1.036	1.035	92.967	93.0	0.204	
68	13C-BDE-169	7.24e5	0.78	NO	1.34	1.000	34.87	34.86	1.056	1.056	83.336	83.3	0.126	
69	13C-BDE-183	4.12e5	1.04	NO	2.50	1.000	35.93	35.90	1.088	1.087	120.64	121	0.0847	
70	13C-BDE-180	2.40e5	1.05	NO	1.57	1.000	37.24	37.25	0.984	0.984	111.59	112	0.608	
71	13C-BDE-204	2.18e5	0.79	NO	0.593	1.000	39.40	39.40	0.983	0.983	208.08	104	0.717	
72	13C-BDE-197	3.23e5	0.82	NO	0.733	1.000	39.45	39.47	0.984	0.985	249.78	125	0.580	
73	13C-BDE-205	8.73e4	0.82	NO	0.285	1.000	41.30	41.25	1.030	1.029	173.33	86.7	1.49	
74	13C-BDE-207	1.77e5	0.99	NO	0.985	1.000	45.66	45.69	1.013	1.014	198.66	99.3	0.956	
75	13C-BDE-206	1.07e5	0.98	NO	0.700	1.000	47.40	47.36	1.052	1.051	169.96	85.0	1.34	
76	13C-BDE-209	3.88e4	0.80	NO	0.249	1.000	56.63	56.64	1.257	1.257	172.73	43.2	2.53	
77	13C-BDE-79	2.42e6	0.68	NO		1.000	25.65	25.62	0.000	0.000	100.00	100	0.00811	
78	13C-BDE-139	6.49e5	0.76	NO		1.000	33.05	33.02	0.000	0.000	100.00	100	0.0436	
79	13C-BDE-190	1.37e5	1.00	NO		1.000	37.86	37.85	0.000	0.000	100.00	100	0.957	
80	13C-BDE-203	1.76e5	0.81	NO		1.000	40.15	40.09	0.000	0.000	100.00	100	0.425	
81	13C-BDE-208	9.03e4	0.99	NO		1.000	45.10	45.05	0.000	0.000	100.00	100	0.942	
82	13C-BDE-126	1.43e6	1.04	NO	2.07	1.000	31.04	31.03	0.940	0.940	106.54	107	0.0623	107

Resolution Check Report

MassLynx 4.1 SCN815

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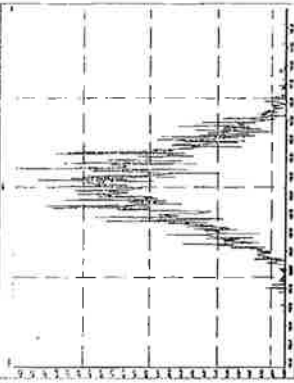


Resolution Check Report

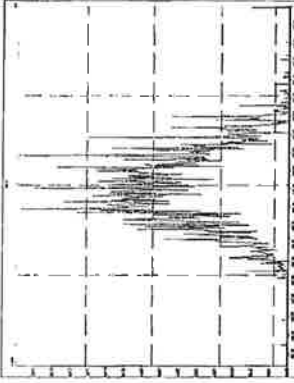
MassLynx 4.1 SCN815

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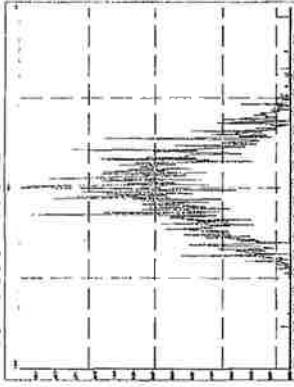
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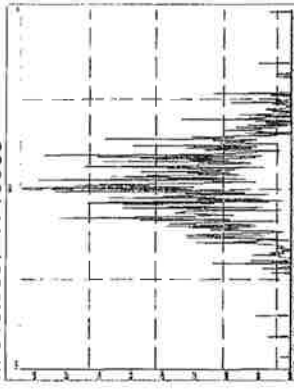
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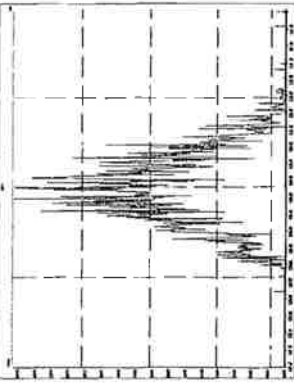
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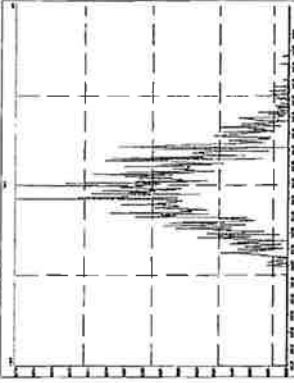
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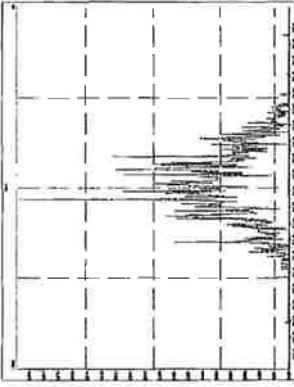
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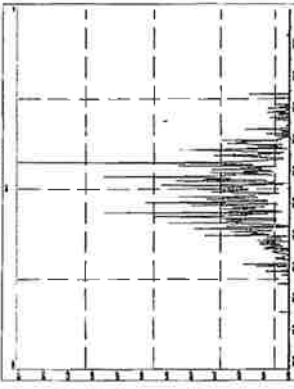
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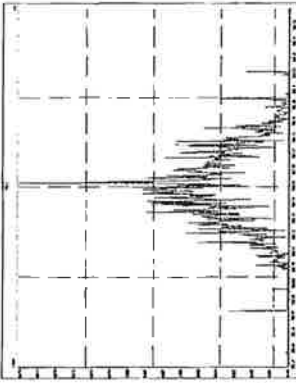
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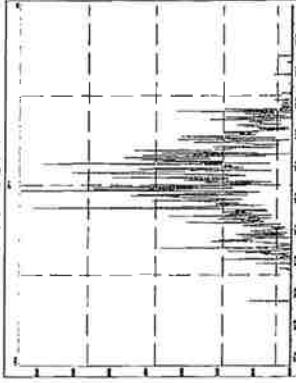
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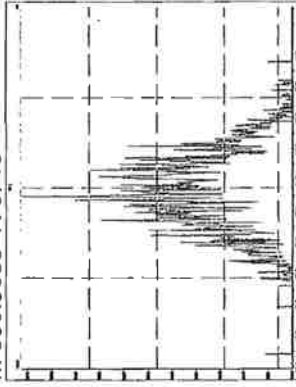
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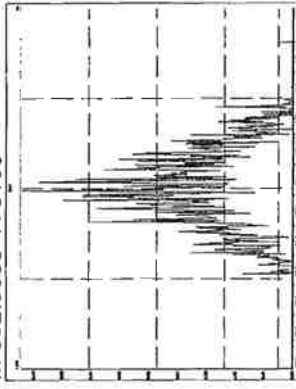
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M 580.9633 R 6710



M 592.9633 R 8108

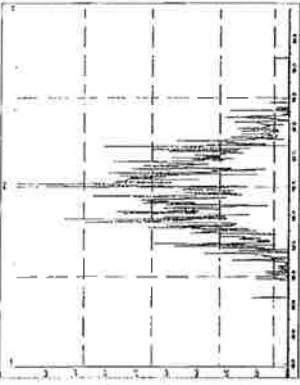


Resolution Check Report

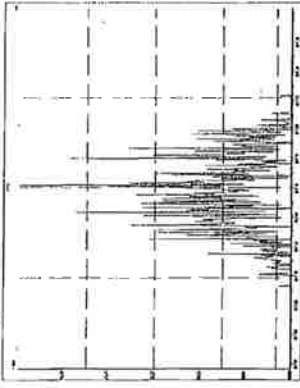
MassLynx 4.1 SCN815

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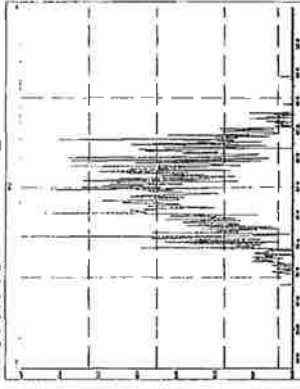
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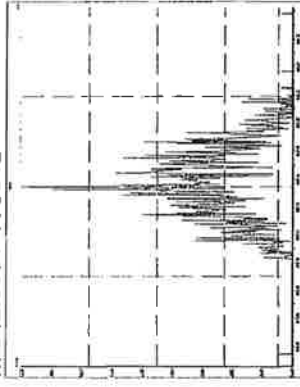
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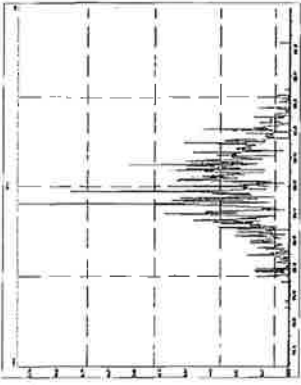
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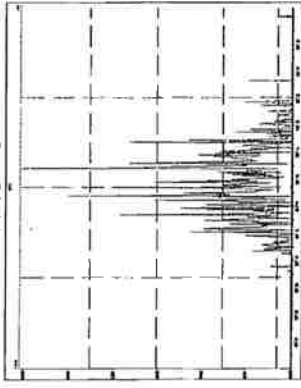
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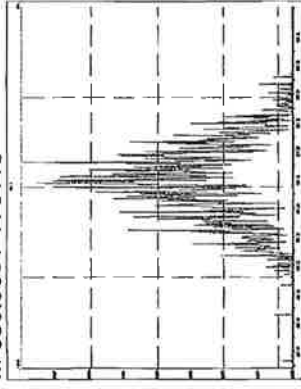
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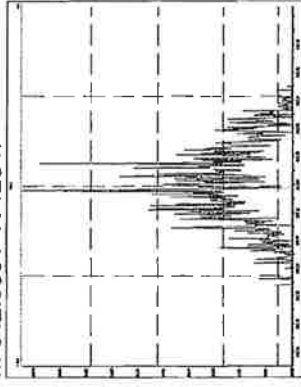
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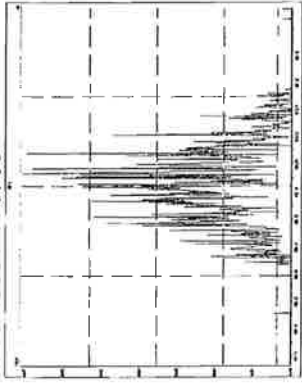
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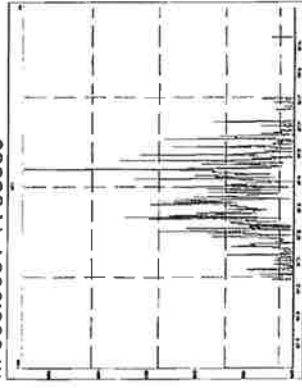
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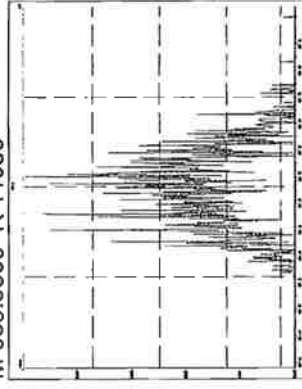
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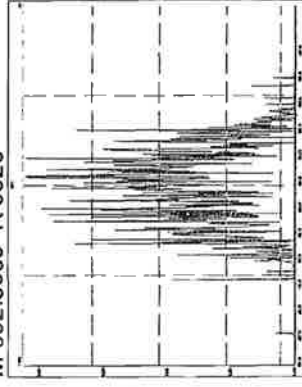
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M 680.9569 R 11030



M 692.9569 R 9926



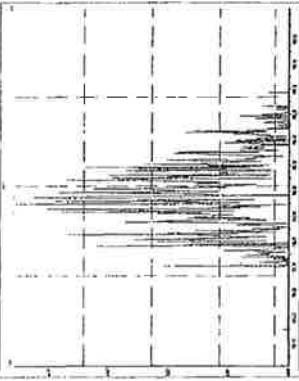
Resolution Check Report

MassLynx 4.1 SCN815

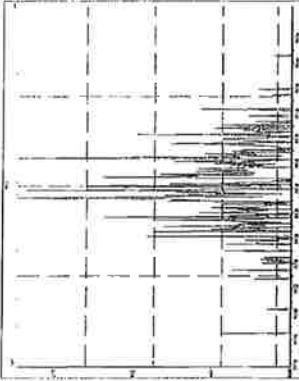
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Printed: Wednesday, November 16, 2016 23:59:16 Pacific Standard Time

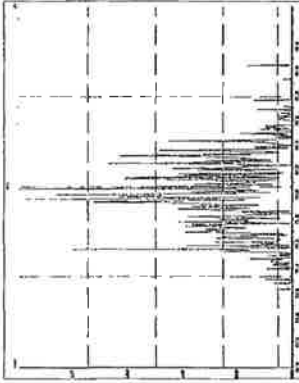
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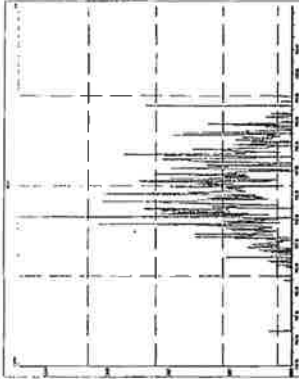
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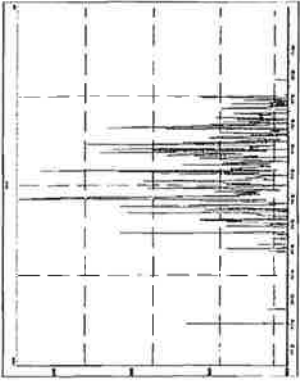
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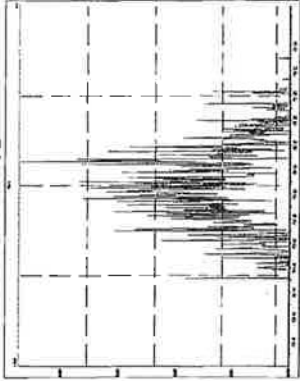
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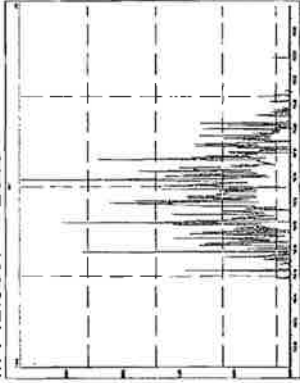
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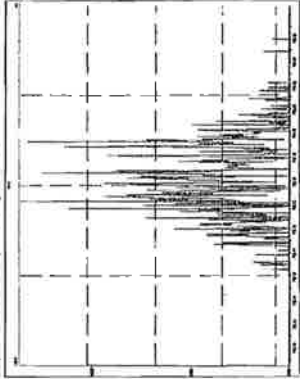
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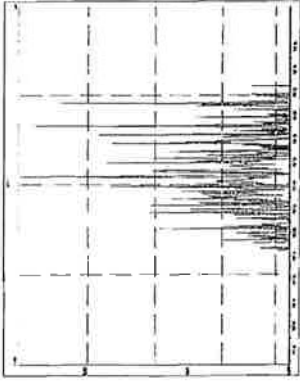
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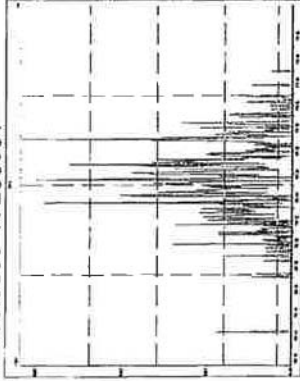
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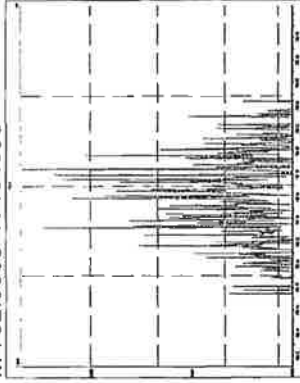
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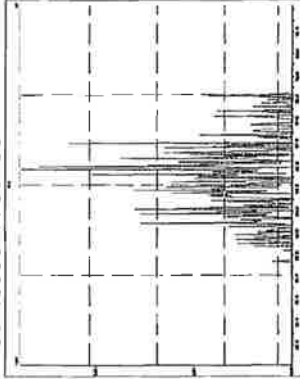
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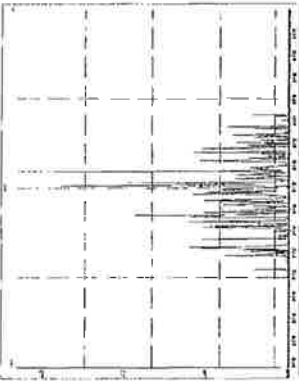
Resolution Check Report

MassLynx 4.1 SCN815

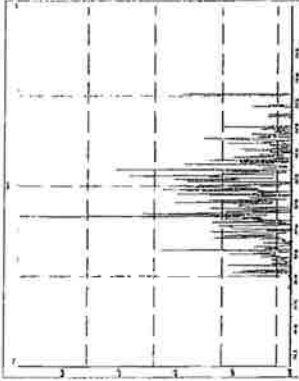
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Printed: Wednesday, November 16, 2016 23:59:16 Pacific Standard Time

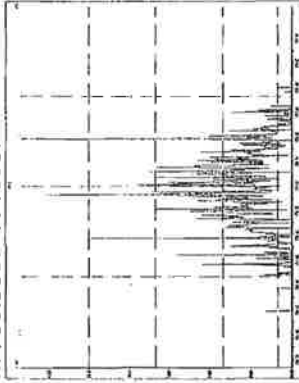
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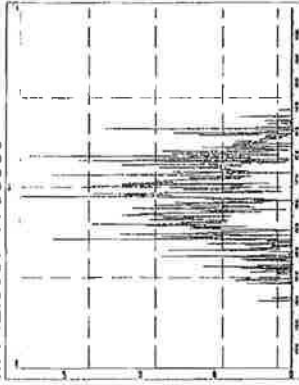
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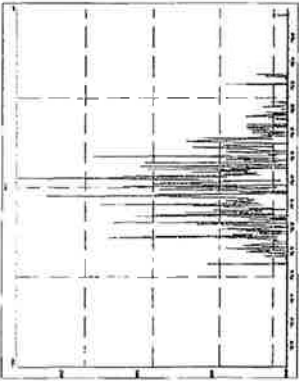
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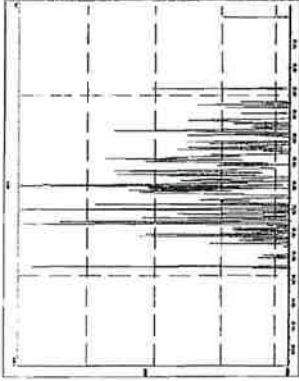
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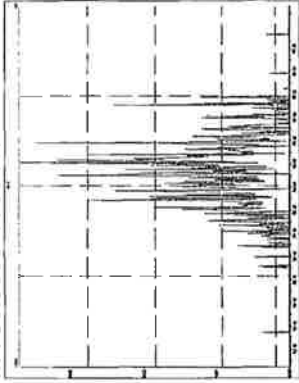
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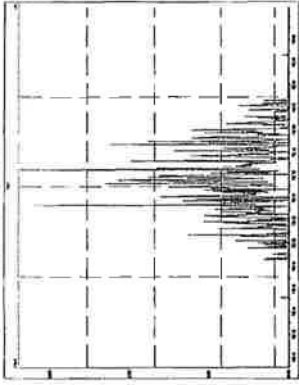
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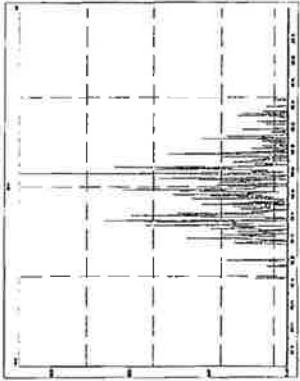
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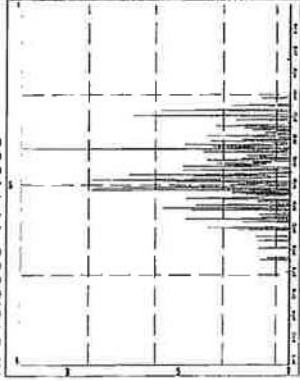
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M 804.9505 R 159722



M 816.9505 R 41666



Process Sheet
 Workorder: **1601354**

Prep Expiration: 08/30/2017
 Client: Teck American Incorporated

Workorder Due: 15-Nov-16 00:00

TAT: 21

Method: 1614 Full List
 Matrix: Tissue
 Client Matrix: Tissue
 Also run: ~~Percent Solids & Percent Lipids~~

Prep Batch: B6K0060

Prep Data Entered: 11/11/16 BSS
Date and Initials

Initial Sequence: SGKCC4

M.T
11/8/16

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601354-01	<input checked="" type="checkbox"/>	EPA-HS-A1	25-Oct-16 09:00	WF-2 C-6	
1601354-02	<input checked="" type="checkbox"/>	EPA-HS-A1 DUP	25-Oct-16 09:00	WF-2 C-6	
1601354-03	<input checked="" type="checkbox"/>	EPA-HS-A1 TRIP	25-Oct-16 09:00	WF-2 C-6	
1601354-04	<input checked="" type="checkbox"/>	EPA-HS-A2	25-Oct-16 09:00	WF-2 C-6	
1601354-05	<input checked="" type="checkbox"/>	EPA-HS-A3	25-Oct-16 09:00	WF-2 C-6	
1601354-06	<input checked="" type="checkbox"/>	EPA-HS-B1	25-Oct-16 09:00	WF-2 C-6	
1601354-07	<input checked="" type="checkbox"/>	EPA-HS-B2	25-Oct-16 09:00	WF-2 C-6	
1601354-08	<input checked="" type="checkbox"/>	EPA-HS-B3	25-Oct-16 09:00	WF-2 C-6	
1601354-09	<input checked="" type="checkbox"/>	EPA-HS-C1	25-Oct-16 09:00	WF-2 C-6	
1601354-10	<input checked="" type="checkbox"/>	EPA-HS-C2	25-Oct-16 09:00	WF-2 C-6	
1601354-11	<input checked="" type="checkbox"/>	EPA-HS-C3	25-Oct-16 09:00	WF-2 C-6	

WO Comments: **PBDEs: Total PBDEs, BDE-47, BDE-99, BDE-153, BDE-209**

Report in ng/kg. ~~Samples received freeze dried, need to add % solids to report in wet weight.~~ *NA*

Vista PM: Martha Maier

Vial Box ID: Duff

Sample Reconciled By: TWD 11/9/16

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal Tissue
Analysis Method: Freeze Dry
Prep Method: None

Service Request: K1611838
Date Collected: 08/30/16 - 09/07/16
Date Received: 10/4/16

Units: Percent
Basis: Wet

Total Solids

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
EPA-HS-A1	K1611838-009	23.9	-	-	1	10/20/16 17:00	
EPA-HS-A1 DUP	K1611838-010	24.4	-	-	1	10/20/16 17:00	
EPA-HS-A1 TRIP	K1611838-011	23.4	-	-	1	10/20/16 17:00	
EPA-HS-A2	K1611838-020	23.7	-	-	1	10/20/16 17:00	
EPA-HS-A3	K1611838-029	24.7	-	-	1	10/20/16 17:00	
EPA-HS-B1	K1611838-038	26.4	-	-	1	10/20/16 17:00	
EPA-HS-B2	K1611838-047	24.6	-	-	1	10/20/16 17:00	
EPA-HS-B3	K1611838-056	23.9	-	-	1	10/20/16 17:00	
EPA-HS-C1	K1611838-065	31.6	-	-	1	10/20/16 17:00	
EPA-HS-C2	K1611838-074	30.1	-	-	1	10/20/16 17:00	
EPA-HS-C3	K1611838-083	28.7	-	-	1	10/20/16 17:00	

PREPARATION BENCH SHEET

Matrix: Tissue

B6K0060

Chemist: TLD

Method: 1614 Full List

Prep Date/Time: 09-Nov-16 07:47

Prepared using: HRMS - Soxhlet

C	VISTA Sample ID	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	Charcoal CHEM/ DATE	RS CHEM/WIT DATE
	B6K0060-BLK1	(10.00)	BSS MD 11/9/16	BSS dm 11/11/16	BSS 11/11/16	N/A	N/A	N/A	BSS MD 11/11/16
	B6K0060-BS1	(10.00)							
	1601354-01	10.02							
	1601354-02	10.00							
	1601354-03	10.00							
	1601354-04	10.05							
	1601354-05	10.05							
	1601354-06	10.04							
	1601354-07	10.05							
	1601354-08	10.01							
	1601354-09 (A)(B)	10.02							
	1601354-10 (A)	10.04							
	1601354-11 (A)	10.01							

IS Name _____ NS Name _____ CRS Name _____ RS Name _____

PCDD/F _____ PCDD/F _____ PCDD/F _____ PCDD/F _____

PCB _____ PCB _____ PCB _____ PCB _____

PAH _____ PAH _____ PAH _____ PAH _____

1614: 16G1216, 25ul 16B1013, 25ul 1614: 16G1217, 25ul 1614: 16G1218, 25ul

Comments: (A) Lipids saturated ABSG column. BSS 11/11/16
 Work (B) de C18 1614 present at final volume; avoided during transferring. BSS 11/11/16

APP: SEFUN, SOX, SDS
 SOLV: 1:1 DCM:Hex
 Other: NA
 Final Volume(s): 50ul
 Cg

Cycle Time
 Start Date/Time: 11/9/16 1430
 Stop Date/Time: 11/16/16 0830

Check Out: Chemist/Date: TLD 11/9/16
 Check In: Chemist/Date: MD 11/7/16
 Balance ID: HRMS-8

Sample ID: Method Blank EPA Method 1614

Matrix: Aqueous ✓	QC Batch: B6K0018	Lab Sample: B6K0018-BLK1
Sample Size: 1.00 L ✓	Date Extracted: 04-Nov-2016 13:08 ✓	Date Analyzed: 11-Nov-16 21:20 Column: ZB-5MS ✓

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
BDE-47	11.5 ✓			J	IS 13C-BDE-3	94.7	25-150	
BDE-99	ND		4.89 ✓		IS 13C-BDE-15	113	25-150	
BDE-153	ND		1.59 ✓		IS 13C-BDE-28	115	25-150	
BDE-209	ND	54.7			IS 13C-BDE-47	108 ✓	30-140	
Total Mono-BDE	ND	3.91			IS 13C-BDE-77	93.6	25-150	
Total Di-BDE	ND	0.442			IS 13C-BDE-100	114	25-150	
Total Tri-BDE	0.774 ✓		0.774		IS 13C-BDE-99	105	25-150	
Total Tetra-BDE	12.3 ✓		12.1		IS 13C-BDE-118	96.9	25-150	
Total Penta-BDE	ND				IS 13C-BDE-155	106	25-150	
Total Hexa-BDE	ND				IS 13C-BDE-154	106	25-150	
Total Hepta-BDE	ND				IS 13C-BDE-153	101	25-150	
Total Octa-BDE	ND				IS 13C-BDE-138	91.8	25-150	
Total Nona-BDE	ND				IS 13C-BDE-169	87.7	25-150	
Total Deca-BDE	ND				IS 13C-BDE-183	115	25-150	
					IS 13C-BDE-180	110	25-150	
					IS 13C-BDE-204	104	25-150	
					IS 13C-BDE-197	103	25-150	
					IS 13C-BDE-205	96.8	25-150	
					IS 13C-BDE-207	98.5	25-150	
					IS 13C-BDE-206	104	25-150	
					IS 13C-BDE-209	96.4	20-200	
					CRS 13C-BDE-126	89.4 ✓	30-135	

only assoc. w/ EBs
no qual

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Quantify Sample Summary Report

Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-17.qld

Last Altered: Monday, November 14, 2016 11:38:16 Pacific Standard Time
 Printed: Monday, November 14, 2016 11:38:39 Pacific Standard Time

CP 11/14/16
11/15/16

Method: Untitled 12 Nov 2016 08:00:44
 Calibration: U:\vg11.pro\CurveDB\db5_1614vg11-11-11-16.cdb 12 Nov 2016 07:50:14

Name: 161111K1_17, Date: 11-Nov-2016, Time: 21:20:12, ID: B6K0018-BLK1 Method Blank 1, Description: Method Blank

#.Name	Resp. IS	Resp.	RA	n/y	RRF	w/Vol	Pred.RT	RT	RRT	Pred.RRT	RRT Fail	Conc.	%Rec	DL	EMPC
1 BDE-1	3.71e6		NO		0.566	1.000	9.78		0.937	YES		6.21			
2 BDE-2	3.71e6		NO		0.897	1.000	10.12		0.970	YES		3.91			
3 BDE-3	3.71e6		NO		0.989	1.000	10.45		1.001	YES		3.55			
4 BDE-10	2.34e6		NO		0.541	1.000	13.84		0.844	YES		0.448			
5 BDE-7	2.34e6		NO		0.594	1.000	14.97		0.913	YES		0.408			
6 BDE-8/11	2.34e6		NO		0.830	1.000	15.56		0.949	YES		0.292			
7 BDE-12	2.34e6		NO		0.909	1.000	15.89		0.969	YES		0.267			
8 BDE-13	2.34e6		NO		0.967	1.000	15.99		0.975	YES		0.251			
9 BDE-15	2.34e6		NO		1.13	1.000	16.41		1.001	YES		0.215			
10 BDE-30	1.05e6		NO		0.970	1.000	18.27		0.881	YES		0.451			
11 BDE-32	1.05e6		NO		1.34	1.000	19.68		0.949	YES		0.327			
12 BDE-17	1.05e6		NO		1.28	1.000	20.06		0.967	YES		0.343			
13 BDE-25	1.05e6		NO		0.833	1.000	20.20		0.974	YES		0.525			
14 BDE-28/33	2.15e2	1.05e6	YES	0.84	1.19	1.000	20.76	20.77	1.001	NO		0.868			0.366 0.77359
15 BDE-35/21	1.05e6		NO		1.72	1.000	21.16		1.020	YES		0.254			
16 BDE-37	1.05e6		NO		1.91	1.000	21.63		1.043	YES		0.229			
17 BDE-75/51	1.21e6		NO		0.788	1.000	23.91		0.945	YES		0.220			
18 BDE-49	9.98e1	1.21e6	YES	0.52	0.571	1.000	24.24	24.23	0.958	NO		0.723			0.303 0.60923
19 BDE-71	1.21e6		NO		0.561	1.000	24.42		0.965	YES		0.308			
20 BDE-47	2.46e3	1.21e6	NO	0.76	0.883	1.000	24.84	24.85	1.000	NO		11.5			0.196 11.533
21 BDE-79	1.21e6		NO		0.947	1.000	25.31		1.019	YES		0.183			
22 BDE-66	1.09e6		NO		0.502	1.000	25.55		0.965	YES		0.385			
23 BDE-77	1.09e6		NO		0.937	1.000	26.47		1.000	YES		0.206			
24 BDE-100	2.40e2	9.27e5	NO	1.10	1.01	1.000	27.80	27.81	1.000	NO		1.27			0.404 1.2741
25 BDE-119/120	9.27e5		NO		0.445	1.000	28.19		1.014	YES		0.920			
26 BDE-99	6.84e2	6.35e5	YES	1.39	0.938	1.000	28.75	28.77	1.001	NO		5.74			0.633 4.8865
27 BDE-116	3.93e5		NO		0.562	1.000	29.12		0.986	YES		1.79			
28 BDE-118	3.93e5		NO		0.936	1.000	29.53		1.000	YES		1.07			
29 BDE-85	3.93e5		NO		1.11	1.000	30.30		1.026	YES		0.902			
30 BDE-126	3.93e5		NO		1.82	1.000	30.68		1.039	YES		0.553			0.553
31 BDE-105	3.93e5		NO		0.913	1.000	30.92		1.047	YES		1.10			Page 83 of 3025

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-17.qld

Last Altered: Monday, November 14, 2016 11:38:16 Pacific Standard Time
 Printed: Monday, November 14, 2016 11:38:39 Pacific Standard Time

Name: 161111K1_17, Date: 11-Nov-2016, Time: 21:20:12, ID: B6K0018-BLK1 Method Blank 1, Description: Method Blank

#	Name	Resp	IS Resp	RA	ny	RRF	wf/wot	Pred	RT	RT	RRT	Pred	RRT	Fail	Conc	%Rec	DL	EMPC
32	BDE-155	7.20e5		0.923	NO		1.000	30.35			1.000			YES			0.306	
33	BDE-128/154	8.88e1	5.35e5	0.51	YES	0.769	1.000	31.03	31.03	1.000	1.000			NO	1.08		0.503	0.84205
34	BDE-153	1.38e2	3.66e5	1.30	YES	0.911	1.000	32.29	32.30	1.000	1.000			NO	2.07		0.623	1.5929
35	BDE-139	3.66e5		1.12	NO		1.000	32.68			1.012			YES			0.509	
36	BDE-140	3.66e5		0.995	NO		1.000	33.00			1.022			YES			0.571	
37	BDE-138	2.57e5		0.990	NO		1.000	33.86			1.001			YES			1.68	
38	BDE-166	2.57e5		0.671	NO		1.000	34.00			1.005			YES			2.47	
39	BDE-148/156/169	4.30e5		0.421	NO		1.000	34.50			1.000			YES			2.29	
40	BDE-184	2.47e5		1.18	NO		1.000	34.93			0.983			YES			0.548	
41	BDE-183/176	2.47e5		0.919	NO		1.000	35.54			1.000			YES			0.705	
42	BDE-175	2.47e5		0.824	NO		1.000	35.79			1.007			YES			0.786	
43	BDE-191	1.36e5		0.889	NO		1.000	36.43			0.987			YES			1.88	
44	BDE-180	1.36e5		0.851	NO		1.000	36.93			1.000			YES			1.96	
45	BDE-181/177	1.36e5		0.828	NO		1.000	37.28			1.010			YES			2.02	
46	BDE-190/171	1.36e5		0.823	NO		1.000	37.50			1.016			YES			2.03	
47	BDE-201	1.78e5		0.759	NO		1.000	38.74			0.994			YES			2.39	
48	BDE-204	1.78e5		0.888	NO		1.000	38.97			1.000			YES			2.04	
49	BDE-197	2.29e5		0.852	NO		1.000	39.07			1.001			YES			1.70	
50	BDE-203/200	2.29e5		0.560	NO		1.000	39.62			1.015			YES			2.58	
51	BDE-205	6.35e4		0.960	NO		1.000	40.69			1.000			YES			6.70	
52	BDE-208	1.35e5		1.02	NO		1.000	44.19			0.987			YES			3.40	
53	BDE-207	1.35e5		0.880	NO		1.000	44.80			1.001			YES			3.96	
54	BDE-206	8.22e4		0.924	NO		1.000	46.32			1.001			YES			6.94	
55	BDE-209	1.63e4		1.31	NO		1.000	55.28			1.001			YES			54.7	
56	13C-BDE-3	3.71e6	1.25e6	1.03	NO	3.13	1.000	10.45	10.44	0.413	0.413			NO	4740	94.7	1.09	
57	13C-BDE-15	2.34e6	1.25e6	0.53	NO	1.66	1.000	16.40	16.40	0.648	0.648			NO	5620	112	1.37	
58	13C-BDE-28	1.05e6	1.25e6	0.94	NO	0.729	1.000	20.75	20.74	0.820	0.820			NO	5760	115	1.46	
59	13C-BDE-47	1.21e6	1.25e6	0.67	NO	0.899	1.000	24.87	24.84	0.982	0.982			NO	5380	108	1.07	
60	13C-BDE-77	1.08e6	1.25e6	0.67	NO	0.922	1.000	26.46	26.47	1.046	1.046			NO	4680	93.6	1.05	
61	13C-BDE-100	9.27e5	4.00e5	1.02	NO	2.04	1.000	27.80	27.80	0.851	0.851			NO	5680	114	4.42	
62	13C-BDE-99	6.35e5	4.00e5	1.03	NO	1.51	1.000	28.75	28.75	0.880	0.880			NO	5260	105	5.97	
63	13C-BDE-118	3.93e5	4.00e5	1.02	NO	1.02	1.000	29.53	29.53	0.904	0.904			NO	4840	96.9	8.88	
64	13C-BDE-155	7.20e5	4.00e5	0.76	NO	1.71	1.000	30.35	30.35	0.929	0.929			NO	5280	106	1.24	
65	13C-BDE-154	5.35e5	4.00e5	0.76	NO	1.26	1.000	31.03	31.03	0.950	0.950			NO	5310	106	1.24	

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-17.qld

Last Altered: Monday, November 14, 2016 11:38:16 Pacific Standard Time
Printed: Monday, November 14, 2016 11:38:39 Pacific Standard Time

Name: 161111K1_17, Date: 11-Nov-2016, Time: 21:20:12, ID: B6K0018-BLK1 Method Blank 1, Description: Method Blank

#.Name	Resp. [S]	RA	n/y	RRF	w/vol	Pred.RT	RT	RRT	Pred.RRT	RRT Fail	Conc.	%Rec	DL	EMPC
66	3.66e5	4.00e5	0.76	NO	0.902	1.000	32.27	32.29	0.988	0.988	NO	5070	101	2.35
67	2.57e5	4.00e5	0.75	NO	0.701	1.000	33.84	33.83	1.036	1.036	NO	4590	91.8	17.4
68	4.30e5	4.00e5	0.77	NO	1.23	1.000	34.50	34.50	1.056	1.056	NO	4390	87.7	9.97
69	2.47e5	8.58e4	1.02	NO	2.51	1.000	35.54	35.54	1.088	1.088	NO	5740	115	5.37
70	1.36e5	8.58e4	1.04	NO	1.44	1.000	36.90	36.91	0.984	0.984	NO	5490	110	58.6
71	1.78e5	1.35e5	0.82	NO	0.634	1.000	38.97	38.97	0.984	0.984	NO	10400	104	50.4
72	2.29e5	1.35e5	0.80	NO	0.824	1.000	39.03	39.03	0.985	0.985	NO	10200	102	38.8
73	6.35e4	1.35e5	0.82	NO	0.242	1.000	40.68	40.69	1.027	1.027	NO	9680	96.8	132
74	1.35e5	6.93e4	1.00	NO	0.991	1.000	44.76	44.76	1.013	1.013	NO	9850	98.5	50.8
75	8.22e4	6.93e4	1.02	NO	0.569	1.000	46.28	46.28	1.048	1.048	NO	10400	104	88.5
76	1.63e4	6.93e4	0.77	NO	0.0611	1.000	55.25	55.22	1.250	1.251	NO	19300	96.4	601
77	1.25e6	1.25e6	0.66	NO		1.000	25.30	25.30	0.000	0.000	NO	5000	100	0.964
78	4.00e5	4.00e5	0.76	NO		1.000	32.67	32.67	0.000	0.000	NO	5000	100	2.12
79	8.58e4	8.58e4	1.03	NO		1.000	37.51	37.50	0.000	0.000	NO	5000	100	84.3
80	1.35e5	1.35e5	0.82	NO		1.000	39.62	39.61	0.000	0.000	NO	5000	100	31.9
81	6.93e4	6.93e4	1.02	NO		1.000	44.18	44.17	0.000	0.000	NO	5000	100	50.4
82	6.86e5	4.00e5	1.02	NO	1.92	1.000	30.67	30.67	0.939	0.939	NO	4470	89.4	4.70
														4469.1

Sample ID: OPR

EPA Method 1614

Matrix:	Aqueous	QC Batch:	B6K0018	Lab Sample:	B6K0018-BSJ		
Sample Size:	1.00 L	Date Extracted:	04-Nov-2016 13:08	Date Analyzed:	11-Nov-16 18:24 Column: ZB-5MS		
Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
BDE-47	1040	1000	104	50 - 150	IS 13C-BDE-3	83.3	30 - 140
BDE-99	1040	1000	104	50 - 150	IS 13C-BDE-15	100	30 - 140
BDE-153	1030	1000	103	50 - 150	IS 13C-BDE-28	104	30 - 140
BDE-209	5360	5000	107	50 - 150	IS 13C-BDE-47	99.6	30 - 140
					IS 13C-BDE-77	89.7	30 - 140
					IS 13C-BDE-100	110	30 - 140
					IS 13C-BDE-99	107	30 - 140
					IS 13C-BDE-118	101	30 - 140
					IS 13C-BDE-155	113	30 - 140
					IS 13C-BDE-154	112	30 - 140
					IS 13C-BDE-153	98.9	30 - 140
					IS 13C-BDE-138	87.4	30 - 140
					IS 13C-BDE-169	85.3	30 - 140
					IS 13C-BDE-183	106	30 - 140
					IS 13C-BDE-180	99.0	30 - 140
					IS 13C-BDE-204	97.2	30 - 140
					IS 13C-BDE-197	99.1	30 - 140
					IS 13C-BDE-205	91.5	20 - 200
					IS 13C-BDE-207	94.3	30 - 140
					IS 13C-BDE-206	95.5	30 - 140
					IS 13C-BDE-209	83.6	20 - 200
					CRS 13C-BDE-126	99.0	40 - 125

LCL-UCL - Lower control limit - upper control limit

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-14.qld

Last Altered: Monday, November 14, 2016 11:40:05 Pacific Standard Time
 Printed: Monday, November 14, 2016 11:40:16 Pacific Standard Time

Method: Untitled 12 Nov 2016 08:00:44
 Calibration: U:\vg11.pro\CurveDB\ldb5_1614vg11-11-11-16.cdb 12 Nov 2016 07:50:14

Name: 161111K1_14, Date: 11-Nov-2016, Time: 18:24:25, ID: B6K0018-BS1 OPR 1, Description: OPR

CP 11/14/16
W 11/15/16

# Name	Resp	IS Resp	RA	n/y	RRF	w/Vol	Pred RT	RT	RRT	Pred RRT	RRT Fail	Conc	%Rec	DL	EMPC
1 BDE-1	1.77e5	3.32e6	0.99	NO	0.566	1.000	9.79	9.78	0.937	0.937	NO	471		7.71	471.14
2 BDE-2	3.02e5	3.32e6	1.01	NO	0.897	1.000	10.13	10.12	0.969	0.970	NO	507		4.86	506.81
3 BDE-3	3.21e5	3.32e6	1.01	NO	0.989	1.000	10.45	10.46	1.001	1.001	NO	490		4.41	489.81
4 BDE-10	9.78e4	2.12e6	0.48	NO	0.541	1.000	13.84	13.85	0.844	0.844	NO	426		0.834	426.05
5 BDE-7	1.21e5	2.12e6	0.48	NO	0.594	1.000	14.98	14.99	0.914	0.913	NO	480		0.759	479.76
6 BDE-8/11	3.60e5	2.12e6	0.48	NO	0.830	1.000	15.57	15.56	0.948	0.949	NO	1020		0.543	1021.0
7 BDE-12	1.97e5	2.12e6	0.49	NO	0.909	1.000	15.89	15.88	0.968	0.969	NO	509		0.496	509.47
8 BDE-13	2.13e5	2.12e6	0.48	NO	0.967	1.000	15.99	15.99	0.975	0.975	NO	518		0.466	518.21
9 BDE-15	2.48e5	2.12e6	0.49	NO	1.13	1.000	16.42	16.42	1.001	1.001	NO	518		0.400	517.96
10 BDE-30	9.92e4	9.64e5	1.06	NO	0.970	1.000	18.28	18.29	0.881	0.881	NO	530		1.08	530.40
11 BDE-32	1.42e5	9.64e5	1.06	NO	1.34	1.000	19.70	19.69	0.949	0.949	NO	552		0.783	551.80
12 BDE-17	1.36e5	9.64e5	1.09	NO	1.28	1.000	20.07	20.04	0.966	0.967	NO	552		0.821	551.76
13 BDE-25	8.67e4	9.64e5	1.07	NO	0.833	1.000	20.21	20.21	0.974	0.974	NO	540		1.26	540.05
14 BDE-28/33	2.43e5	9.64e5	1.06	NO	1.19	1.000	20.77	20.77	1.001	1.001	NO	1060		0.878	1057.9
15 BDE-35/21	1.68e5	9.64e5	1.07	NO	1.72	1.000	21.17	21.19	1.021	1.020	NO	508		0.610	508.00
16 BDE-37	1.79e5	9.64e5	1.06	NO	1.91	1.000	21.65	21.68	1.044	1.043	NO	486		0.548	486.21
17 BDE-75/51	4.04e5	1.14e6	0.64	NO	0.788	1.000	23.92	23.94	0.946	0.945	NO	2250		0.530	2248.2
18 BDE-49	1.43e5	1.14e6	0.65	NO	0.571	1.000	24.25	24.24	0.958	0.958	NO	1100		0.731	1101.2
19 BDE-71	1.33e5	1.14e6	0.64	NO	0.561	1.000	24.43	24.39	0.964	0.965	NO	1040		0.743	1040.6
20 BDE-47	2.10e5	1.14e6	0.64	NO	0.883	1.000	24.85	24.86	1.001	1.000	NO	1040		0.472	1042.7
21 BDE-79	2.15e5	1.14e6	0.66	NO	0.947	1.000	25.32	25.33	1.019	1.019	NO	997		0.441	996.63
22 BDE-66	1.18e5	1.05e6	0.63	NO	0.502	1.000	25.56	25.52	0.964	0.965	NO	1110		0.933	1111.8
23 BDE-77	2.05e5	1.05e6	0.65	NO	0.937	1.000	26.48	26.50	1.000	1.000	NO	1040		0.500	1040.0
24 BDE-100	1.84e5	8.79e5	1.01	NO	1.01	1.000	27.80	27.82	1.001	1.000	NO	1030		1.75	1033.5
25 BDE-119/120	1.55e5	8.79e5	1.03	NO	0.445	1.000	28.19	28.22	1.015	1.014	NO	1980		3.99	1983.4
26 BDE-99	1.23e5	6.30e5	1.03	NO	0.938	1.000	28.76	28.78	1.001	1.000	NO	1040		2.63	1036.8
27 BDE-116	4.38e4	4.01e5	1.05	NO	0.562	1.000	29.13	29.08	0.984	0.986	NO	975		6.95	974.53
28 BDE-118	7.63e4	4.01e5	1.03	NO	0.936	1.000	29.54	29.55	1.000	1.000	NO	1020		4.17	1017.7
29 BDE-85	9.21e4	4.01e5	0.98	NO	1.11	1.000	30.31	30.32	1.026	1.026	NO	1030		3.51	1032.9
30 BDE-126	1.39e5	4.01e5	1.02	NO	1.82	1.000	30.69	30.70	1.039	1.039	NO	958		2.15	958.21
31	7.45e4	4.01e5	1.04	NO	0.913	1.000	30.93	30.95	1.048	1.047	NO	1020		8.28	1019.0

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-14.qld

Last Altered: Monday, November 14, 2016 11:40:05 Pacific Standard Time
Printed: Monday, November 14, 2016 11:40:16 Pacific Standard Time

Name: 161111K1_14, Date: 11-Nov-2016, Time: 18:24:25, ID: B6K0018-BS1 OPR 1, Description: OPR

#-Name	Resp.	IS Resp.	RA	n/y	RRF	wVol	Pred.RT	RT	RRT-Pred	RRT-Fail	Conc.	%Rec	DL	EMPC
32 BDE-155	1.42e5	7.49e5	0.76	NO	0.923	1.000	30.36	30.37	1.000	1.000	NO	1030	0.809	1025.6
33 BDE-128/154	1.73e5	5.53e5	0.75	NO	0.769	1.000	31.04	31.05	1.000	1.000	NO	2030	1.34	2027.4
34 BDE-153	6.55e4	3.48e5	0.73	NO	0.911	1.000	32.30	32.31	1.000	1.000	NO	1030	1.75	1033.3
35 BDE-139	7.60e4	3.48e5	0.74	NO	1.12	1.000	32.69	32.69	1.012	1.012	NO	978	1.43	978.33
36 BDE-140	7.23e4	3.48e5	0.75	NO	0.995	1.000	33.01	33.00	1.022	1.022	NO	1040	1.60	1043.5
37 BDE-138	4.78e4	2.39e5	0.80	NO	0.990	1.000	33.87	33.85	1.000	1.001	NO	1010	13.2	1009.2
38 BDE-166	3.04e4	2.39e5	0.79	NO	0.671	1.000	34.01	34.00	1.005	1.005	NO	946	19.4	946.45
39 BDE-148/156/169	6.97e4	4.08e5	0.76	NO	0.421	1.000	34.51	34.53	1.001	1.000	NO	2030	18.5	2032.5
40 BDE-184	1.22e5	2.34e5	1.04	NO	1.18	1.000	34.94	34.93	0.983	0.983	NO	2190	2.25	2191.4
41 BDE-183/176	8.97e4	2.34e5	1.02	NO	0.919	1.000	35.55	35.56	1.000	1.000	NO	2080	2.90	2081.7
42 BDE-175	7.95e4	2.34e5	1.06	NO	0.824	1.000	35.80	35.80	1.007	1.007	NO	2060	3.23	2057.4
43 BDE-191	4.90e4	1.25e5	1.00	NO	0.889	1.000	36.44	36.48	0.988	0.987	NO	2200	25.2	2202.4
44 BDE-180	4.33e4	1.25e5	1.04	NO	0.851	1.000	36.94	36.94	1.000	1.000	NO	2030	26.3	2031.2
45 BDE-181/177	4.27e4	1.25e5	1.01	NO	0.828	1.000	37.29	37.23	1.008	1.010	NO	2060	27.1	2059.6
46 BDE-190/171	8.59e4	1.25e5	1.00	NO	0.823	1.000	37.52	37.51	1.016	1.016	NO	4160	27.2	4164.7
47 BDE-201	2.62e4	1.58e5	0.81	NO	0.759	1.000	38.75	38.75	0.994	0.994	NO	2180	23.5	2183.5
48 BDE-204	2.78e4	1.58e5	0.81	NO	0.888	1.000	38.98	38.99	1.000	1.000	NO	1980	20.0	1984.6
49 BDE-197	3.49e4	2.09e5	0.81	NO	0.852	1.000	39.09	39.07	1.000	1.001	NO	1960	16.9	1955.6
50 BDE-203/200	2.27e4	2.09e5	0.83	NO	0.560	1.000	39.64	39.63	1.015	1.015	NO	1930	25.7	1934.5
51 BDE-205	1.10e4	5.67e4	0.86	NO	0.960	1.000	40.69	40.71	1.000	1.000	NO	2020	67.9	2017.1
52 BDE-208	6.47e4	1.21e5	0.98	NO	1.02	1.000	44.20	44.21	0.987	0.987	NO	5220	33.1	5218.8
53 BDE-207	5.38e4	1.21e5	1.03	NO	0.880	1.000	44.82	44.79	1.000	1.001	NO	5050	38.5	5046.1
54 BDE-206	3.28e4	7.05e4	1.05	NO	0.924	1.000	46.34	46.31	1.000	1.001	NO	5040	69.7	5042.7
55 BDE-209	4.65e3	1.33e4	0.85	NO	1.31	1.000	55.28	55.24	1.000	1.001	NO	5360	273	5362.9
56 13C-BDE-3	3.32e6	1.27e6	1.02	NO	3.13	1.000	10.45	10.44	0.413	0.413	NO	4160	83.3	1.23
57 13C-BDE-15	2.12e6	1.27e6	0.53	NO	1.66	1.000	16.40	16.40	0.648	0.648	NO	5020	100	1.20
58 13C-BDE-28	9.64e5	1.27e6	0.94	NO	0.729	1.000	20.76	20.75	0.820	0.820	NO	5200	104	1.59
59 13C-BDE-47	1.14e6	1.27e6	0.68	NO	0.899	1.000	24.98	24.85	0.982	0.983	NO	4980	99.6	1.22
60 13C-BDE-77	1.05e6	1.27e6	0.68	NO	0.922	1.000	26.48	26.48	1.046	1.046	NO	4490	89.7	1.19
61 13C-BDE-100	8.79e5	3.90e5	1.03	NO	2.04	1.000	27.81	27.80	0.851	0.851	NO	5520	110	5.12
62 13C-BDE-99	6.30e5	3.90e5	1.03	NO	1.51	1.000	28.75	28.76	0.880	0.880	NO	5350	107	6.93
63 13C-BDE-118	4.01e5	3.90e5	1.04	NO	1.02	1.000	29.54	29.54	0.904	0.904	NO	5060	101	10.3
64 13C-BDE-155	7.49e5	3.90e5	0.76	NO	1.71	1.000	30.36	30.36	0.929	0.929	NO	5630	113	1.77
65 13C-BDE-154	5.53e5	3.90e5	0.76	NO	1.26	1.000	31.04	31.04	0.950	0.950	NO	5620	112	Page 88 of 3025

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-14.qld

Last Altered: Monday, November 14, 2016 11:40:05 Pacific Standard Time
 Printed: Monday, November 14, 2016 11:40:16 Pacific Standard Time

Name: 161111K1_14, Date: 11-Nov-2016, Time: 18:24:25, ID: B6K0018-BS1 OPR 1, Description: OPR

# Name	Resp	IS Resp	RA	n/y	RRF	w/vol	Pred RT	RT	RRT	Pred RRT	RRT-Fail	Conc	%Rec	DL	EMPC
66	66 13C-BDE-153	3.48e5	3.90e5	0.75	NO	0.902	1.000	32.28	32.30	0.988	0.988	NO	4950	98.9	3.34
67	67 13C-BDE-138	2.39e5	3.90e5	0.75	NO	0.701	1.000	33.85	33.84	1.036	1.036	NO	4370	87.4	14.0
68	68 13C-BDE-169	4.08e5	3.90e5	0.75	NO	1.23	1.000	34.51	34.51	1.056	1.056	NO	4260	85.3	8.01
69	69 13C-BDE-183	2.34e5	8.79e4	1.04	NO	2.51	1.000	35.55	35.55	1.088	1.088	NO	5310	106	7.13
70	70 13C-BDE-180	1.25e5	8.79e4	1.01	NO	1.44	1.000	36.91	36.92	0.984	0.984	NO	4950	99.0	52.0
71	71 13C-BDE-204	1.58e5	1.28e5	0.82	NO	0.634	1.000	38.98	38.98	0.984	0.984	NO	9720	97.2	38.5
72	72 13C-BDE-197	2.09e5	1.28e5	0.82	NO	0.824	1.000	39.05	39.06	0.986	0.986	NO	9910	99.1	29.6
73	73 13C-BDE-205	5.67e4	1.28e5	0.83	NO	0.242	1.000	40.69	40.69	1.027	1.027	NO	9150	91.5	101
74	74 13C-BDE-207	1.21e5	6.48e4	1.02	NO	0.991	1.000	44.77	44.77	1.013	1.013	NO	9430	94.3	60.2
75	75 13C-BDE-206	7.05e4	6.48e4	0.99	NO	0.569	1.000	46.30	46.29	1.048	1.048	NO	9550	95.5	105
76	76 13C-BDE-209	1.33e4	6.48e4	0.87	NO	0.0611	1.000	55.27	55.22	1.250	1.251	NO	16700	83.6	506
77	77 13C-BDE-79	1.27e6	1.27e6	0.67	NO		1.000	25.30	25.31	0.000	0.000	NO	5000	100	1.09
78	78 13C-BDE-139	3.90e5	3.90e5	0.76	NO		1.000	32.67	32.68	0.000	0.000	NO	5000	100	3.02
79	79 13C-BDE-190	8.79e4	8.79e4	1.00	NO		1.000	37.51	37.51	0.000	0.000	NO	5000	100	74.8
80	80 13C-BDE-203	1.28e5	1.28e5	0.78	NO		1.000	39.62	39.62	0.000	0.000	NO	5000	100	24.4
81	81 13C-BDE-208	6.48e4	6.48e4	1.01	NO		1.000	44.18	44.18	0.000	0.000	NO	5000	100	59.7
82	82 13C-BDE-126	7.42e5	3.90e5	1.02	NO	1.92	1.000	30.68	30.69	0.939	0.939	NO	4950	99.0	5.45

Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Saturday, November 12, 2016 7:55:19 AM Pacific Standard Time
 Printed: Saturday, November 12, 2016 7:55:44 AM Pacific Standard Time

Method: U:\vg11.pro\MethDB\1614_rrt-11-11-16.mdb 12 Nov 2016 08:00:44
 Calibration: U:\vg11.PRO\CurveDB\5_1614vg11-11-11-16.cdb 12 Nov 2016 07:50:14

Compound name: BDE-1

Name	ID	Acq. Date	Acq. Time
16111K1_1	ST161110K1-1 1614 CS1 1660404 1614201	11-Nov-16	05:43:50
16111K1_2	ST161110K1-2 1614 CS2 1660405 1661421	11-Nov-16	06:41:05
16111K1_3	ST161110K1-3 1614 CS4 1660407 1661423	11-Nov-16	07:39:41
16111K1_4	ST161110K1-4 1614 CS5 1660408 1661423	11-Nov-16	08:38:18
16111K1_5	ST161110K1-5 1614 CS3 1660406 1661422	11-Nov-16	09:36:54
16111K1_6	SS161110K1-1 1614 SS 1660402 1661414	11-Nov-16	10:35:31
16111K1_7	B6K0018-BS1 OPR 1	11-Nov-16	11:34:07
16111K1_8	B6K0023-BS1 OPR 1	11-Nov-16	12:32:43
16111K1_9	SOLVENT BLANK	11-Nov-16	13:31:21
16111K1_10	B6K0018-BLK1 Method Blank 1	11-Nov-16	14:29:56
16111K1_11	ST16111K1-6 1614 CS5 1660408 1661413	11-Nov-16	15:30:02
16111K1_12	ST16111K1-7 1614 CS3 1660406 1661422	11-Nov-16	16:27:14
16111K1_13	SS16111K1-2 1614 SS 1660402 1661414	11-Nov-16	17:25:49
16111K1_14	B6K0018-BS1 OPR 1	11-Nov-16	18:24:25
16111K1_15	B6K0023-BS1 OPR 1	11-Nov-16	19:23:01
16111K1_16	SOLVENT BLANK	11-Nov-16	20:21:36
16111K1_17	B6K0018-BLK1 Method Blank 1	11-Nov-16	21:20:12
16111K1_18	B6K0023-BLK1 Method Blank 1	11-Nov-16	22:18:48
16111K1_19	1601306-01 FB (101316) 1.0189	11-Nov-16	23:17:22
16111K1_20	1601354-12 Homogenization Blank 10/17/16 1...	12-Nov-16	00:15:56
16111K1_21	1601354-13 Homogenization Blank 10/19/16 1...	12-Nov-16	01:14:31
16111K1_22	1601354-14 Homogenization Blank 10/18/16 1...	12-Nov-16	02:13:05
16111K1_23	1601306-03 PEP-67 1.1	12-Nov-16	03:11:39

11/12/16

CS5 bad injection, RI along w/ CS3/SS on 16111K1-11-16 11/12/16

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
 Printed: Saturday, November 12, 2016 7:51:25 AM Pacific Standard Time

Scanned KC 11-14-16

Method: U:\vg11.pro\MethDB\1614_rtt-11-11-16.mdb 11 Nov 2016 15:46:31
 Calibration: U:\vg11.PRO\CurveDB\5_1614vg11-11-11-16.cdb 12 Nov 2016 07:50:14

Compound name: BDE-1
 Response Factor: 0.565667
 RRF SD: 0.019002, Relative SD: 2.10375
 Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	1.00	1.06	NO	9.78	4.16e4	7.52e6	0.979	0.554
2	161111K1_2	5.00	1.01	NO	9.78	2.33e5	8.36e6	4.93	0.558
3	161111K1_3	20.0	1.01	NO	9.78	1.23e6	1.07e7	20.4	0.576
4	161111K1_11	50.0	0.99	NO	9.78	6.77e5	2.33e6	51.4	0.581
5	161111K1_12	10.0	1.02	NO	9.78	2.96e5	5.30e6	9.89	0.560

AP/MS
 CT 11/14/16

RSD = 20 ✓

Compound name: BDE-2
 Response Factor: 0.897383
 RRF SD: 0.0280572, Relative SD: 3.12656
 Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	1.00	1.04	NO	10.11	6.44e4	7.52e6	0.954	0.856
2	161111K1_2	5.00	1.03	NO	10.12	3.76e5	8.36e6	5.01	0.899
3	161111K1_3	20.0	1.01	NO	10.11	1.98e6	1.07e7	20.7	0.928
4	161111K1_11	50.0	0.97	NO	10.10	1.07e6	2.33e6	51.1	0.917
5	161111K1_12	10.0	1.03	NO	10.11	4.70e5	5.30e6	9.88	0.886

Compound name: BDE-3
 Response Factor: 0.989048
 RRF SD: 0.0273632, Relative SD: 2.76662
 Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_354	1.00	1.00	NO	10.46	7.35e4	7.52e6	0.988	0.977

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
Printed: Saturday, November 12, 2016 7:51:25 AM Pacific Standard Time

Compound name: BDE-3

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
2	16111K1_2	5.00	1.06	NO	10.46	4.03e5	8.36e6	4.87	0.964
3	16111K1_3	20.0	1.02	NO	10.45	2.19e6	1.07e7	20.8	1.03
4	16111K1_11	50.0	1.00	NO	10.45	1.17e6	2.33e6	51.0	1.01
5	16111K1_12	10.0	1.04	NO	10.45	5.13e5	5.30e6	9.80	0.969

Compound name: BDE-10

Response Factor: 0.540773
RRF SD: 0.0336575, Relative SD: 6.22396
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	16111K1_1	1.00	0.50	NO	13.85	2.02e4	4.02e6	0.931	0.503
2	16111K1_2	5.00	0.48	NO	13.85	1.15e5	4.51e6	4.71	0.509
3	16111K1_3	20.0	0.50	NO	13.84	6.60e5	5.66e6	21.5	0.583
4	16111K1_11	50.0	0.49	NO	13.84	3.62e5	1.30e6	51.5	0.557
5	16111K1_12	10.0	0.48	NO	13.84	1.46e5	2.65e6	10.2	0.551

Compound name: BDE-7

Response Factor: 0.594291
RRF SD: 0.0382676, Relative SD: 6.4392
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	16111K1_1	1.00	0.47	NO	14.99	2.21e4	4.02e6	0.925	0.550
2	16111K1_2	5.00	0.46	NO	14.99	1.27e5	4.51e6	4.72	0.561
3	16111K1_3	20.0	0.49	NO	14.98	7.18e5	5.66e6	21.3	0.634
4	16111K1_11	50.0	0.49	NO	14.98	4.09e5	1.30e6	52.9	0.629
5	16111K1_12	10.0	0.47	NO	14.98	1.59e5	2.65e6	10.1	0.597

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-cr.v.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
 Printed: Saturday, November 12, 2016 7:51:25 AM Pacific Standard Time

Compound name: BDE-8/11

Response Factor: 0.82955
 RRF SD: 0.0546803, Relative SD: 6.59156
 Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	2.00	0.50	NO	15.56	6.09e4	4.02e6	1.83	0.758
2 161111K1_2	10.0	0.48	NO	15.56	3.55e5	4.51e6	9.50	0.788
3 161111K1_3	40.0	0.51	NO	15.56	1.99e6	5.66e6	42.4	0.880
4 161111K1_11	100	0.50	NO	15.55	1.14e6	1.30e6	106	0.879
5 161111K1_12	20.0	0.49	NO	15.56	4.47e5	2.65e6	20.3	0.842

Compound name: BDE-12

Response Factor: 0.908834
 RRF SD: 0.0574901, Relative SD: 6.3257
 Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	1.00	0.49	NO	15.88	3.37e4	4.02e6	0.925	0.840
2 161111K1_2	5.00	0.48	NO	15.88	1.95e5	4.51e6	4.75	0.864
3 161111K1_3	20.0	0.51	NO	15.88	1.10e6	5.66e6	21.4	0.975
4 161111K1_11	50.0	0.49	NO	15.87	6.21e5	1.30e6	52.6	0.955
5 161111K1_12	10.0	0.48	NO	15.88	2.42e5	2.65e6	10.0	0.910

Compound name: BDE-13

Response Factor: 0.967081
 RRF SD: 0.0631207, Relative SD: 6.52692
 Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	1.00	0.49	NO	15.99	3.54e4	4.02e6	0.911	0.881
2 161111K1_2	5.00	0.49	NO	15.99	2.10e5	4.51e6	4.81	0.930
3 161111K1_3	20.0	0.50	NO	15.99	1.17e6	5.66e6	21.3	1.03
4 161111K1_11	50.0	0.50	NO	15.98	6.64e5	1.30e6	52.8	1.02

MassLynx 4.1 SCN815

Quantify Compound Summary Report
Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-cr.v.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
Printed: Saturday, November 12, 2016 7:51:25 AM Pacific Standard Time

Compound name: BDE-13

#	Name	Std. Conc.	RA	n/y	RT	Resp.	IS Resp.	Conc.	RRF
5	161111K1_12	10.0	0.49	NO	15.99	2.58e5	2.65e6	10.0	0.971

Compound name: BDE-15

Response Factor: 1.12636
RRF SD: 0.0722169, Relative SD: 6.41153
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp.	IS Resp.	Conc.	RRF
1	161111K1_1	1.00	0.49	NO	16.42	4.10e4	4.02e6	0.907	1.02
2	161111K1_2	5.00	0.48	NO	16.42	2.46e5	4.51e6	4.84	1.09
3	161111K1_3	20.0	0.50	NO	16.42	1.36e6	5.66e6	21.3	1.20
4	161111K1_11	50.0	0.50	NO	16.41	7.66e5	1.30e6	52.3	1.18
5	161111K1_12	10.0	0.49	NO	16.42	3.02e5	2.65e6	10.1	1.14

Compound name: BDE-30

Response Factor: 0.969831
RRF SD: 0.0639404, Relative SD: 6.59294
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp.	IS Resp.	Conc.	RRF
1	161111K1_1	1.00	1.12	NO	18.29	1.52e4	1.71e6	0.912	0.884
2	161111K1_2	5.00	1.06	NO	18.29	8.89e4	1.92e6	4.79	0.929
3	161111K1_3	20.0	1.06	NO	18.29	5.14e5	2.45e6	21.6	1.05
4	161111K1_11	50.0	1.06	NO	18.27	3.19e5	6.35e5	51.8	1.00
5	161111K1_12	10.0	1.09	NO	18.29	1.09e5	1.11e6	10.2	0.986

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: BDE-32

Response Factor: 1.33747

RRF SD: 0.0999798, Relative SD: 7.47529

Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	1.00	1.11	NO	19.69	2.06e4	1.71e6	0.897	1.20
2	5.00	1.06	NO	19.69	1.23e5	1.92e6	4.80	1.28
3	20.0	1.06	NO	19.69	7.19e5	2.45e6	21.9	1.46
4	50.0	1.06	NO	19.68	4.34e5	6.35e5	51.1	1.37
5	10.0	1.06	NO	19.69	1.52e5	1.11e6	10.3	1.37

Compound name: BDE-17

Response Factor: 1.27596

RRF SD: 0.104795, Relative SD: 8.21301

Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	1.00	1.11	NO	20.04	1.93e4	1.71e6	0.881	1.12
2	5.00	1.08	NO	20.04	1.17e5	1.92e6	4.79	1.22
3	20.0	1.06	NO	20.03	6.83e5	2.45e6	21.8	1.39
4	50.0	1.07	NO	20.03	4.25e5	6.35e5	52.4	1.34
5	10.0	1.05	NO	20.03	1.44e5	1.11e6	10.2	1.30

Compound name: BDE-25

Response Factor: 0.833016

RRF SD: 0.0519965, Relative SD: 6.24196

Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	1.00	1.05	NO	20.19	1.34e4	1.71e6	0.936	0.780
2	5.00	1.06	NO	20.19	7.57e4	1.92e6	4.74	0.790
3	20.0	1.07	NO	20.19	4.43e5	2.45e6	21.6	0.902
4	50.0	1.05	NO	20.19	2.76e5	6.35e5	52.2	0.870

Work Order: 1604334

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: BDE-25

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	10.0	1.10	NO	20.19	9.13e4	1.11e6	9.89	0.824

Compound name: BDE-28/33

Response Factor: 1.1932
 RRF SD: 0.0970104, Relative SD: 8.13031
 Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	1.09	NO	20.77	3.64e4	1.71e6	1.78	1.06
2	161111K1_2	10.0	1.06	NO	20.75	2.23e5	1.92e6	9.75	1.16
3	161111K1_3	40.0	1.05	NO	20.75	1.27e6	2.45e6	43.4	1.29
4	161111K1_11	100	1.06	NO	20.75	8.15e5	6.35e5	108	1.28
5	161111K1_12	20.0	1.06	NO	20.75	2.58e5	1.11e6	19.5	1.17

Compound name: BDE-35/21

Response Factor: 1.71823
 RRF SD: 0.149319, Relative SD: 8.6903
 Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	1.00	1.06	NO	21.19	2.64e4	1.71e6	0.898	1.54
2	161111K1_2	5.00	1.05	NO	21.19	1.58e5	1.92e6	4.81	1.65
3	161111K1_3	20.0	1.06	NO	21.19	8.96e5	2.45e6	21.2	1.83
4	161111K1_11	50.0	1.07	NO	21.18	6.08e5	6.35e5	55.7	1.91
5	161111K1_12	10.0	1.05	NO	21.19	1.84e5	1.11e6	9.64	1.66

Quantify Compound Summary Report MassLynx 4.1 SCN815

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Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: BDE-37

Response Factor: 1.91194

RRF SD: 0.222182, Relative SD: 11.6208

Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	1.00	1.06	NO	21.68	2.77e4	1.71e6	0.845	1.61
2	161111K1_2	5.00	1.08	NO	21.68	1.76e5	1.92e6	4.81	1.84
3	161111K1_3	20.0	1.05	NO	21.68	1.00e6	2.45e6	21.4	2.04
4	161111K1_11	50.0	1.06	NO	21.66	6.99e5	6.35e5	57.6	2.20
5	161111K1_12	10.0	1.05	NO	21.68	2.06e5	1.11e6	9.74	1.86

Compound name: BDE-75/51

Response Factor: 0.787757

RRF SD: 0.0641226, Relative SD: 8.1399

Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	4.00	0.66	NO	23.94	6.03e4	2.03e6	3.77	0.743
2	161111K1_2	20.0	0.65	NO	23.96	3.64e5	2.49e6	18.5	0.730
3	161111K1_3	80.0	0.66	NO	23.94	2.15e6	3.58e6	76.3	0.751
4	161111K1_11	200	0.66	NO	23.94	1.26e6	7.28e5	219	0.863
5	161111K1_12	40.0	0.65	NO	23.94	4.33e5	1.27e6	43.3	0.852

Compound name: BDE-49

Response Factor: 0.571126

RRF SD: 0.0310259, Relative SD: 5.4324

Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	0.65	NO	24.24	2.20e4	2.03e6	1.90	0.541
2	161111K1_2	10.0	0.64	NO	24.24	1.35e5	2.49e6	9.50	0.542
3	161111K1_3	40.0	0.65	NO	24.23	8.17e5	3.58e6	39.9	0.570
4	161111K1_11	100	0.66	NO	24.23	4.47e5	7.28e5	108	0.614

Quantify Compound Summary Report MassLynx 4.1 SCN815
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Compound name: BDE-49

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	20.0	0.63	NO	24.23	1.49e5	1.27e6	20.6	0.587

Compound name: BDE-71

Response Factor: 0.561419
 RRF SD: 0.0199797, Relative SD: 3.55878
 Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	0.66	NO	24.39	2.25e4	2.03e6	1.98	0.556
2	161111K1_2	10.0	0.64	NO	24.39	1.34e5	2.49e6	9.55	0.536
3	161111K1_3	40.0	0.66	NO	24.39	8.14e5	3.58e6	40.5	0.568
4	161111K1_11	100	0.65	NO	24.38	4.30e5	7.28e5	105	0.591
5	161111K1_12	20.0	0.65	NO	24.39	1.41e5	1.27e6	19.8	0.556

Compound name: BDE-47

Response Factor: 0.883108
 RRF SD: 0.0721464, Relative SD: 8.16961
 Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	0.66	NO	24.86	3.17e4	2.03e6	1.77	0.781
2	161111K1_2	10.0	0.64	NO	24.86	2.12e5	2.49e6	9.65	0.852
3	161111K1_3	40.0	0.67	NO	24.86	1.36e6	3.58e6	43.1	0.951
4	161111K1_11	100	0.65	NO	24.85	6.93e5	7.28e5	108	0.952
5	161111K1_12	20.0	0.65	NO	24.86	2.23e5	1.27e6	19.9	0.879

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Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: BDE-79
 Response Factor: 0.946696
 RRF SD: 0.0614712, Relative SD: 6.49324
 Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.67	NO	25.33	3.46e4	2.03e6	1.80	0.853
2	10.0	0.65	NO	25.33	2.40e5	2.49e6	10.2	0.964
3	40.0	0.65	NO	25.33	1.46e6	3.58e6	43.2	1.02
4	100	0.66	NO	25.31	6.97e5	7.28e5	101	0.958
5	20.0	0.65	NO	25.33	2.38e5	1.27e6	19.8	0.936

Compound name: BDE-66
 Response Factor: 0.502359
 RRF SD: 0.064809, Relative SD: 12.9009
 Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.68	NO	25.52	1.86e4	2.16e6	1.71	0.431
2	10.0	0.64	NO	25.52	1.32e5	2.94e6	8.94	0.449
3	40.0	0.66	NO	25.52	7.95e5	3.58e6	44.2	0.555
4	100	0.64	NO	25.51	3.85e5	6.63e5	115	0.580
5	20.0	0.65	NO	25.52	1.25e5	1.26e6	19.8	0.497

Compound name: BDE-77
 Response Factor: 0.936811
 RRF SD: 0.0707903, Relative SD: 7.55652
 Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
 Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	2.00	0.65	NO	26.50	3.63e4	2.16e6	1.80	0.841
2	10.0	0.65	NO	26.50	2.66e5	2.94e6	9.67	0.906
3	40.0	0.66	NO	26.50	1.42e6	3.58e6	42.3	0.990
4	100	0.66	NO	26.50	6.77e5	6.63e5	109	1.02

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: BDE-77

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	20.0	0.64	NO	26.50	2.33e5	1.26e6	19.8	0.927

Compound name: BDE-100

Response Factor: 1.01422
 RRF SD: 0.0903111, Relative SD: 8.9045
 Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	1.04	NO	27.82	3.11e4	1.73e6	1.78	0.900
2	161111K1_2	10.0	1.03	NO	27.82	2.17e5	2.25e6	9.51	0.965
3	161111K1_3	40.0	1.03	NO	27.81	1.22e6	2.81e6	42.9	1.09
4	161111K1_11	100	1.04	NO	27.81	6.69e5	5.97e5	111	1.12
5	161111K1_12	20.0	1.03	NO	27.81	2.23e5	1.12e6	19.7	0.997

Compound name: BDE-119/120

Response Factor: 0.445111
 RRF SD: 0.0448301, Relative SD: 10.0717
 Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	4.00	1.07	NO	28.22	2.74e4	1.73e6	3.55	0.396
2	161111K1_2	20.0	1.04	NO	28.22	1.91e5	2.25e6	19.1	0.424
3	161111K1_3	80.0	1.03	NO	28.22	1.10e6	2.81e6	87.9	0.489
4	161111K1_11	200	1.02	NO	28.21	5.92e5	5.97e5	223	0.496
5	161111K1_12	40.0	1.04	NO	28.22	1.88e5	1.12e6	37.8	0.420

Quantify Compound Summary Report MassLynx 4.1 SCN815

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Compound name: BDE-99

Response Factor: 0.938126

RRF SD: 0.0899301, Relative SD: 9.58615

Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	2.00	1.02	NO	28.77	2.11e4	1.28e6	1.75	0.820
2 161111K1_2	10.0	1.02	NO	28.78	1.49e5	1.66e6	9.54	0.895
3 161111K1_3	40.0	1.02	NO	28.78	8.67e5	2.14e6	43.1	1.01
4 161111K1_11	100	1.03	NO	28.77	4.53e5	4.35e5	111	1.04
5 161111K1_12	20.0	1.03	NO	28.77	1.50e5	8.14e5	19.7	0.922

Compound name: BDE-116

Response Factor: 0.561647

RRF SD: 0.0511839, Relative SD: 9.11318

Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	2.00	1.05	NO	29.08	9.42e3	8.82e5	1.90	0.534
2 161111K1_2	10.0	1.02	NO	29.09	5.91e4	1.14e6	9.22	0.518
3 161111K1_3	40.0	1.04	NO	29.08	3.53e5	1.46e6	43.0	0.603
4 161111K1_11	100	1.06	NO	29.08	1.77e5	2.82e5	112	0.630
5 161111K1_12	20.0	1.01	NO	29.08	5.64e4	5.38e5	18.7	0.524

Compound name: BDE-118

Response Factor: 0.936242

RRF SD: 0.0969652, Relative SD: 10.3569

Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	2.00	1.08	NO	29.55	1.46e4	8.82e5	1.76	0.826
2 161111K1_2	10.0	1.05	NO	29.56	9.96e4	1.14e6	9.32	0.872
3 161111K1_3	40.0	1.03	NO	29.55	5.90e5	1.46e6	43.1	1.01
4 161111K1_11	100	1.05	NO	29.55	2.99e5	2.82e5	113	1.06

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Compound name: BDE-118

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	20.0	1.02	NO	29.56	9.83e4	5.38e5	19.5	0.913

Compound name: BDE-85

Response Factor: 1.11325
 RRF SD: 0.105846, Relative SD: 9.50783
 Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	0.99	NO	30.32	1.80e4	8.82e5	1.83	1.02
2	161111K1_2	10.0	1.03	NO	30.32	1.16e5	1.14e6	9.12	1.02
3	161111K1_3	40.0	1.02	NO	30.32	6.87e5	1.46e6	42.2	1.17
4	161111K1_11	100	1.04	NO	30.31	3.56e5	2.82e5	113	1.26
5	161111K1_12	20.0	1.03	NO	30.31	1.18e5	5.38e5	19.7	1.10

Compound name: BDE-126

Response Factor: 1.81607
 RRF SD: 0.15687, Relative SD: 8.63785
 Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	1.03	NO	30.70	2.84e4	8.82e5	1.77	1.61
2	161111K1_2	10.0	1.03	NO	30.70	1.99e5	1.14e6	9.58	1.74
3	161111K1_3	40.0	1.03	NO	30.70	1.11e6	1.46e6	42.0	1.90
4	161111K1_11	100	1.04	NO	30.69	5.70e5	2.82e5	111	2.02
5	161111K1_12	20.0	1.02	NO	30.70	1.94e5	5.38e5	19.8	1.80

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Compound name: BDE-105

Response Factor: 0.912642
 RRF SD: 0.0865007, Relative SD: 9.47806
 Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	1.11	NO	30.94	1.51e4	8.82e5	1.87	0.855
2	161111K1_2	10.0	1.07	NO	30.95	9.57e4	1.14e6	9.19	0.839
3	161111K1_3	40.0	1.07	NO	30.95	5.70e5	1.46e6	42.7	0.975
4	161111K1_11	100	1.07	NO	30.94	2.91e5	2.82e5	113	1.03
5	161111K1_12	20.0	1.03	NO	30.94	9.27e4	5.38e5	18.9	0.861

Compound name: BDE-155

Response Factor: 0.923143
 RRF SD: 0.0828875, Relative SD: 8.97883
 Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	2.00	0.76	NO	30.37	2.36e4	1.48e6	1.76	0.810
2	161111K1_2	10.0	0.75	NO	30.37	1.62e5	1.82e6	9.62	0.888
3	161111K1_3	40.0	0.77	NO	30.37	9.39e5	2.38e6	42.8	0.988
4	161111K1_11	100	0.76	NO	30.36	5.13e5	5.04e5	110	1.02
5	161111K1_12	20.0	0.75	NO	30.37	1.71e5	9.38e5	19.7	0.911

Compound name: BDE-128/154

Response Factor: 0.769307
 RRF SD: 0.0760237, Relative SD: 9.8821
 Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	4.00	0.78	NO	31.05	2.91e4	1.07e6	3.53	0.679
2	161111K1_2	20.0	0.75	NO	31.05	1.96e5	1.35e6	18.9	0.728
3	161111K1_3	80.0	0.76	NO	31.05	1.18e6	1.80e6	85.3	0.820
4	161111K1_11	200	0.76	NO	31.04	6.40e5	3.68e5	226	0.871

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Compound name: BDE-128/154

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
5	16111K1_12	40.0	0.74	NO	31.05	2.07e5	6.89e5	39.0	0.749

Compound name: BDE-153

Response Factor: 0.911134
 RRF SD: 0.0965202, Relative SD: 10.5934
 Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
1	16111K1_1	2.00	0.77	NO	32.31	1.31e4	8.12e5	1.77	0.807
2	16111K1_2	10.0	0.74	NO	32.31	8.49e4	1.00e6	9.30	0.847
3	16111K1_3	40.0	0.76	NO	32.31	5.09e5	1.29e6	43.3	0.986
4	16111K1_11	100	0.75	NO	32.30	2.52e5	2.43e5	114	1.04
5	16111K1_12	20.0	0.74	NO	32.31	8.50e4	4.84e5	19.3	0.878

Compound name: BDE-139

Response Factor: 1.11562
 RRF SD: 0.107072, Relative SD: 9.59753
 Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
1	16111K1_1	2.00	0.77	NO	32.69	1.61e4	8.12e5	1.78	0.994
2	16111K1_2	10.0	0.75	NO	32.69	1.05e5	1.00e6	9.43	1.05
3	16111K1_3	40.0	0.76	NO	32.69	6.19e5	1.29e6	43.0	1.20
4	16111K1_11	100	0.75	NO	32.68	3.05e5	2.43e5	112	1.25
5	16111K1_12	20.0	0.75	NO	32.69	1.05e5	4.84e5	19.4	1.08

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-cr.v.qld

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Compound name: BDE-140

Response Factor: 0.995376

RRF SD: 0.0701683, Relative SD: 7.04943

Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161111K1_1	2.00	0.73	NO	33.00	1.49e4	8.12e5	1.85	0.919
2	161111K1_2	10.0	0.76	NO	33.00	9.62e4	1.00e6	9.64	0.959
3	161111K1_3	40.0	0.77	NO	33.00	5.72e5	1.29e6	44.5	1.11
4	161111K1_11	100	0.76	NO	32.99	2.42e5	2.43e5	99.8	0.994
5	161111K1_12	20.0	0.73	NO	33.00	9.65e4	4.84e5	20.0	0.997

Compound name: BDE-138

Response Factor: 0.990091

RRF SD: 0.104421, Relative SD: 10.5466

Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161111K1_1	2.00	0.76	NO	33.85	1.15e4	6.55e5	1.78	0.881
2	161111K1_2	10.0	0.76	NO	33.86	7.43e4	8.06e5	9.31	0.921
3	161111K1_3	40.0	0.78	NO	33.86	4.34e5	1.02e6	43.0	1.07
4	161111K1_11	100	0.77	NO	33.84	2.02e5	1.79e5	114	1.13
5	161111K1_12	20.0	0.80	NO	33.85	6.94e4	3.65e5	19.2	0.951

Compound name: BDE-166

Response Factor: 0.670578

RRF SD: 0.0687639, Relative SD: 10.2544

Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161111K1_1	2.00	0.80	NO	33.99	8.19e3	6.55e5	1.86	0.625
2	161111K1_2	10.0	0.79	NO	34.00	4.90e4	8.06e5	9.07	0.608
3	161111K1_3	40.0	0.77	NO	34.00	2.98e5	1.02e6	43.7	0.732
4	161111K1_11	100	0.78	NO	33.99	1.36e5	1.79e5	113	0.757

Work Order: 160134

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: BDE-166

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	20.0	0.76	NO	34.00	4.60e4	3.65e5	18.8	0.631

Compound name: BDE-148/156/169

Response Factor: 0.420647
RRF SD: 0.0367068, Relative SD: 8.72628
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	4.00	0.78	NO	34.52	1.77e4	1.19e6	3.54	0.372
2	161111K1_2	20.0	0.76	NO	34.53	1.13e5	1.39e6	19.3	0.406
3	161111K1_3	80.0	0.77	NO	34.52	5.06e5	1.45e6	83.3	0.438
4	161111K1_11	200	0.76	NO	34.52	3.14e5	3.34e5	224	0.471
5	161111K1_12	40.0	0.76	NO	34.52	1.18e5	7.06e5	39.7	0.417

Compound name: BDE-184

Response Factor: 1.18298
RRF SD: 0.150325, Relative SD: 12.7074
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	4.00	1.06	NO	34.93	2.57e4	6.38e5	3.40	1.01
2	161111K1_2	20.0	1.04	NO	34.94	1.69e5	7.81e5	18.3	1.08
3	161111K1_3	80.0	1.02	NO	34.94	1.04e6	1.02e6	86.0	1.27
4	161111K1_11	200	1.04	NO	34.93	5.31e5	1.92e5	234	1.39
5	161111K1_12	40.0	1.02	NO	34.94	1.79e5	3.84e5	39.5	1.17

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-cr.v.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: BDE-183/176

Response Factor: 0.918726

RRF SD: 0.0898924, Relative SD: 9.78446

Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	161111K1_1	4.00	1.04	NO	35.56	2.07e4	6.38e5	3.54	0.813
2	161111K1_2	20.0	1.02	NO	35.57	1.36e5	7.81e5	18.9	0.869
3	161111K1_3	80.0	1.03	NO	35.57	8.08e5	1.02e6	86.3	0.991
4	161111K1_11	200	1.02	NO	35.56	3.95e5	1.92e5	224	1.03
5	161111K1_12	40.0	1.04	NO	35.56	1.37e5	3.84e5	38.8	0.890

Compound name: BDE-175

Response Factor: 0.824141

RRF SD: 0.0997509, Relative SD: 12.1036

Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	161111K1_1	4.00	1.08	NO	35.80	1.83e4	6.38e5	3.47	0.715
2	161111K1_2	20.0	1.00	NO	35.81	1.18e5	7.81e5	18.3	0.753
3	161111K1_3	80.0	1.03	NO	35.81	7.18e5	1.02e6	85.5	0.881
4	161111K1_11	200	1.03	NO	35.79	3.69e5	1.92e5	234	0.963
5	161111K1_12	40.0	1.04	NO	35.80	1.24e5	3.84e5	39.3	0.809

Compound name: BDE-191

Response Factor: 0.888701

RRF SD: 0.12842, Relative SD: 14.4503

Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	161111K1_1	4.00	1.00	NO	36.48	1.18e4	3.87e5	3.43	0.763
2	161111K1_2	20.0	1.01	NO	36.49	7.21e4	4.60e5	17.6	0.784
3	161111K1_3	80.0	1.01	NO	36.49	4.53e5	5.76e5	88.6	0.984
4	161111K1_11	200	1.03	NO	36.48	2.20e5	1.04e5	238	1.06
5	161111K1_12	40.0	1.04	NO	36.48	1.18e4	3.87e5	3.43	0.763

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: BDE-191

#-Name	Std. Conc	RA	n/y	RT. Resp	IS Resp	Conc.	RRF		
5	161111K1_12	40.0	1.03	NO	36.48	7.46e4	2.18e5	38.4	0.854

Compound name: BDE-180

Response Factor: 0.85128
RRF SD: 0.092054, Relative SD: 10.8136
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: RF

#-Name	Std. Conc	RA	n/y	RT. Resp	IS Resp	Conc.	RRF		
1	161111K1_1	4.00	0.97	NO	36.94	1.17e4	3.87e5	3.55	0.755
2	161111K1_2	20.0	1.04	NO	36.94	7.21e4	4.60e5	18.4	0.784
3	161111K1_3	80.0	1.02	NO	36.95	4.28e5	5.76e5	87.2	0.928
4	161111K1_11	200	1.02	NO	36.92	2.01e5	1.04e5	227	0.967
5	161111K1_12	40.0	1.02	NO	36.94	7.19e4	2.18e5	38.7	0.823

Compound name: BDE-181/177

Response Factor: 0.827963
RRF SD: 0.106176, Relative SD: 12.8238
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: RF

#-Name	Std. Conc	RA	n/y	RT. Resp	IS Resp	Conc.	RRF		
1	161111K1_1	4.00	1.00	NO	37.23	1.10e4	3.87e5	3.45	0.713
2	161111K1_2	20.0	1.03	NO	37.23	7.00e4	4.60e5	18.4	0.761
3	161111K1_3	80.0	1.03	NO	37.23	4.22e5	5.76e5	88.6	0.917
4	161111K1_11	200	1.02	NO	37.22	2.00e5	1.04e5	232	0.962
5	161111K1_12	40.0	1.03	NO	37.23	6.87e4	2.18e5	38.0	0.787

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: BDE-190/171

Response Factor: 0.82338

RRF SD: 0.112381, Relative SD: 13.6488

Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	8.00	1.04	NO	37.51	2.14e4	3.87e5	6.72	0.692
2	40.0	1.01	NO	37.52	1.39e5	4.60e5	36.6	0.753
3	160	1.02	NO	37.51	8.57e5	5.76e5	181	0.930
4	400	1.01	NO	37.50	3.95e5	1.04e5	461	0.950
5	80.0	1.02	NO	37.51	1.38e5	2.18e5	77.0	0.792

Compound name: BDE-201

Response Factor: 0.758729

RRF SD: 0.115119, Relative SD: 15.1726

Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	4.00	0.76	NO	38.75	6.37e3	4.92e5	3.42	0.648
2	20.0	0.77	NO	38.76	3.99e4	6.12e5	17.2	0.652
3	80.0	0.79	NO	38.75	2.49e5	7.20e5	91.1	0.864
4	200	0.81	NO	38.74	1.20e5	1.35e5	235	0.892
5	40.0	0.77	NO	38.75	4.19e4	2.84e5	38.9	0.737

Compound name: BDE-204

Response Factor: 0.887934

RRF SD: 0.1005, Relative SD: 11.3184

Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)

Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	4.00	0.78	NO	38.99	7.74e3	4.92e5	3.55	0.787
2	20.0	0.77	NO	39.00	4.96e4	6.12e5	18.2	0.810
3	80.0	0.78	NO	39.00	2.85e5	7.20e5	89.2	0.991
4	200	0.77	NO	38.99	1.35e5	1.35e5	225	0.999

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-cr.v.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: BDE-204

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	40.0	0.80	NO	38.99	4.85e4	2.84e5	38.4	0.853

Compound name: BDE-197

Response Factor: 0.852197
 RRF SD: 0.090292, Relative SD: 10.5952
 Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	4.00	0.79	NO	39.07	9.60e3	6.26e5	3.60	0.766
2	161111K1_2	20.0	0.81	NO	39.08	5.83e4	7.37e5	18.6	0.790
3	161111K1_3	80.0	0.82	NO	39.07	3.78e5	1.02e6	87.1	0.927
4	161111K1_11	200	0.82	NO	39.06	1.63e5	1.68e5	228	0.969
5	161111K1_12	40.0	0.80	NO	39.07	6.31e4	3.91e5	37.9	0.807

Compound name: BDE-203/200

Response Factor: 0.560498
 RRF SD: 0.0492356, Relative SD: 8.78426
 Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	4.00	0.86	NO	39.63	6.64e3	6.26e5	3.78	0.530
2	161111K1_2	20.0	0.80	NO	39.64	4.03e4	7.37e5	19.5	0.547
3	161111K1_3	80.0	0.79	NO	39.65	2.55e5	1.02e6	89.3	0.626
4	161111K1_11	200	0.80	NO	39.63	9.98e4	1.68e5	212	0.595
5	161111K1_12	40.0	0.80	NO	39.63	3.95e4	3.91e5	36.0	0.505

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: BDE-205

Response Factor: 0.960284
RRF SD: 0.0792897, Relative SD: 8.25689

Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	4.00	0.80	NO	40.72	3.89e3	2.10e5	3.85	0.924
2	20.0	0.78	NO	40.73	2.03e4	2.35e5	17.9	0.862
3	80.0	0.78	NO	40.73	1.26e5	3.09e5	84.7	1.02
4	200	0.78	NO	40.71	4.66e4	4.38e4	221	1.06
5	40.0	0.81	NO	40.71	1.89e4	1.01e5	39.0	0.937

Compound name: BDE-208

Response Factor: 1.02355
RRF SD: 0.150788, Relative SD: 14.7319

Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	10.0	1.03	NO	44.21	1.91e4	4.34e5	8.61	0.882
2	50.0	1.04	NO	44.21	1.15e5	4.97e5	45.2	0.924
3	200	1.01	NO	44.21	7.26e5	6.88e5	206	1.06
4	500	1.00	NO	44.20	3.02e5	9.55e4	618	1.27
5	100	0.99	NO	44.20	1.10e5	2.23e5	96.7	0.989

Compound name: BDE-207

Response Factor: 0.880126
RRF SD: 0.105433, Relative SD: 11.9793

Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	10.0	1.05	NO	44.81	1.68e4	4.34e5	8.79	0.773
2	50.0	0.99	NO	44.81	9.94e4	4.97e5	45.4	0.799
3	200	1.00	NO	44.81	6.48e5	6.88e5	214	0.942
4	500	1.00	NO	44.79	2.46e5	9.55e4	585	1.03

Work Order: 1607354

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: BDE-207

#.Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
5	161111K1_12	100	0.99	NO	44.79	9.57e4	2.23e5	97.4	0.857

Compound name: BDE-206

Response Factor: 0.923563
RRF SD: 0.0840667, Relative SD: 9.10243
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: RF

#.Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161111K1_1	10.0	1.03	NO	46.33	1.11e4	2.62e5	9.18	0.848
2	161111K1_2	50.0	1.00	NO	46.33	5.95e4	2.81e5	45.8	0.846
3	161111K1_3	200	1.02	NO	46.34	3.72e5	3.79e5	213	0.982
4	161111K1_11	500	0.99	NO	46.31	1.43e5	5.51e4	561	1.04
5	161111K1_12	100	1.01	NO	46.31	5.81e4	1.28e5	98.0	0.905

Compound name: BDE-209

Response Factor: 1.30883
RRF SD: 0.075808, Relative SD: 5.79206
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: RF

#.Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161111K1_1	10.0	0.78	NO	55.26	2.05e3	5.77e4	10.9	1.42
2	161111K1_2	50.0	0.80	NO	55.26	9.45e3	6.22e4	46.5	1.22
3	161111K1_3	200	0.82	NO	55.26	5.40e4	8.27e4	199	1.30
4	161111K1_11	500	0.82	NO	55.26	1.91e4	1.15e4	508	1.33
5	161111K1_12	100	0.86	NO	55.26	8.37e3	2.63e4	97.2	1.27

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: 13C-BDE-3

Response Factor: 3.13133
 RRF SD: 0.448867, Relative SD: 14.3347
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	1.02	NO	10.44	7.52e6	2.27e6	106	3.31
2	161111K1_2	100	1.02	NO	10.44	8.36e6	2.97e6	89.8	2.81
3	161111K1_3	100	1.03	NO	10.44	1.07e7	4.04e6	84.4	2.64
4	161111K1_11	100	1.03	NO	10.44	2.33e6	7.51e5	99.0	3.10
5	161111K1_12	100	1.02	NO	10.44	5.30e6	1.40e6	121	3.79

Compound name: 13C-BDE-15

Response Factor: 1.6633
 RRF SD: 0.200284, Relative SD: 12.0414
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	0.54	NO	16.40	4.02e6	2.27e6	106	1.77
2	161111K1_2	100	0.53	NO	16.40	4.51e6	2.97e6	91.3	1.52
3	161111K1_3	100	0.53	NO	16.40	5.66e6	4.04e6	84.3	1.40
4	161111K1_11	100	0.53	NO	16.40	1.30e6	7.51e5	104	1.73
5	161111K1_12	100	0.53	NO	16.40	2.65e6	1.40e6	114	1.90

Compound name: 13C-BDE-28

Response Factor: 0.729192
 RRF SD: 0.100154, Relative SD: 13.7349
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	0.94	NO	20.75	1.71e6	2.27e6	104	0.755
2	161111K1_2	100	0.96	NO	20.75	1.92e6	2.97e6	88.4	0.645
3	161111K1_3	100	0.98	NO	20.75	2.45e6	4.04e6	83.4	0.608
4	161111K1_11	100	0.95	NO	20.74	6.35e5	7.51e5	116	0.846

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-cr.v.qld

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Compound name: 13C-BDE-28

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	100	0.93	NO	20.75	1.11e6	1.40e6	109	0.793

Compound name: 13C-BDE-47

Response Factor: 0.899073
 RRF SD: 0.0466498, Relative SD: 5.18866
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	0.68	NO	24.85	2.03e6	2.27e6	99.3	0.893
2	161111K1_2	100	0.66	NO	24.85	2.49e6	2.97e6	93.3	0.839
3	161111K1_3	100	0.67	NO	24.85	3.58e6	4.04e6	98.6	0.887
4	161111K1_11	100	0.67	NO	24.85	7.28e5	7.51e5	108	0.968
5	161111K1_12	100	0.67	NO	24.85	1.27e6	1.40e6	101	0.908

Compound name: 13C-BDE-77

Response Factor: 0.921685
 RRF SD: 0.0464268, Relative SD: 5.03716
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	0.68	NO	26.48	2.16e6	2.27e6	103	0.950
2	161111K1_2	100	0.68	NO	26.48	2.94e6	2.97e6	107	0.989
3	161111K1_3	100	0.67	NO	26.48	3.58e6	4.04e6	96.2	0.887
4	161111K1_11	100	0.68	NO	26.48	6.63e5	7.51e5	95.8	0.883
5	161111K1_12	100	0.69	NO	26.48	1.26e6	1.40e6	97.5	0.899

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: 13C-BDE-100

Response Factor: 2.04059
 RRF SD: 0.131383, Relative SD: 6.43846
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	100	1.02	NO	27.80	1.73e6	9.19e5	92.2	1.88
2 161111K1_2	100	1.03	NO	27.81	2.25e6	1.12e6	98.9	2.02
3 161111K1_3	100	1.02	NO	27.80	2.81e6	1.42e6	96.6	1.97
4 161111K1_11	100	1.02	NO	27.80	5.97e5	2.68e5	109	2.22
5 161111K1_12	100	1.02	NO	27.80	1.12e6	5.30e5	103	2.11

Compound name: 13C-BDE-99

Response Factor: 1.50965
 RRF SD: 0.0803425, Relative SD: 5.32194
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	100	1.02	NO	28.76	1.28e6	9.19e5	92.6	1.40
2 161111K1_2	100	1.02	NO	28.77	1.66e6	1.12e6	98.7	1.49
3 161111K1_3	100	1.03	NO	28.75	2.14e6	1.42e6	99.7	1.50
4 161111K1_11	100	1.05	NO	28.75	4.35e5	2.68e5	107	1.62
5 161111K1_12	100	1.02	NO	28.76	8.14e5	5.30e5	102	1.54

Compound name: 13C-BDE-118

Response Factor: 1.0151
 RRF SD: 0.0332377, Relative SD: 3.27432
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1 161111K1_1	100	1.04	NO	29.54	8.82e5	9.19e5	94.6	0.960
2 161111K1_2	100	1.02	NO	29.55	1.14e6	1.12e6	101	1.02
3 161111K1_3	100	1.03	NO	29.54	1.46e6	1.42e6	101	1.03
4 161111K1_11	100	1.03	NO	29.54	2.82e5	2.68e5	103	1.05

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: 13C-BDE-118

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	100	1.03	NO	29.54	5.38e5	5.30e5	100	1.02

Compound name: 13C-BDE-155

Response Factor: 1.70573
 RRF SD: 0.117789, Relative SD: 6.90549
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	0.76	NO	30.36	1.46e6	9.19e5	92.9	1.58
2	161111K1_2	100	0.77	NO	30.36	1.82e6	1.12e6	95.6	1.63
3	161111K1_3	100	0.77	NO	30.36	2.38e6	1.42e6	97.7	1.67
4	161111K1_11	100	0.77	NO	30.35	5.04e5	2.68e5	110	1.88
5	161111K1_12	100	0.77	NO	30.36	9.38e5	5.30e5	104	1.77

Compound name: 13C-BDE-154

Response Factor: 1.26111
 RRF SD: 0.0796111, Relative SD: 6.31277
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	0.76	NO	31.03	1.07e6	9.19e5	92.6	1.17
2	161111K1_2	100	0.76	NO	31.04	1.35e6	1.12e6	95.6	1.21
3	161111K1_3	100	0.77	NO	31.04	1.80e6	1.42e6	100	1.26
4	161111K1_11	100	0.77	NO	31.03	3.68e5	2.68e5	109	1.37
5	161111K1_12	100	0.78	NO	31.04	6.89e5	5.30e5	103	1.30

Quantify Compound Summary Report MassLynx 4.1 SCN815

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Dataset: U:\vg11.PRO\Results\161111K1\161111K1-cr.v.qld

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Compound name: 13C-BDE-153

Response Factor: 0.901571

RRF SD: 0.0115322, Relative SD: 1.27912

Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	100	0.77	NO	32.30	8.12e5	9.19e5	98.0	0.884
2	100	0.78	NO	32.30	1.00e6	1.12e6	99.5	0.897
3	100	0.77	NO	32.30	1.29e6	1.42e6	100	0.906
4	100	0.78	NO	32.29	2.43e5	2.68e5	101	0.906
5	100	0.77	NO	32.30	4.84e5	5.30e5	101	0.914

Compound name: 13C-BDE-138

Response Factor: 0.700943

RRF SD: 0.0228563, Relative SD: 3.26079

Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	100	0.77	NO	33.84	6.55e5	9.19e5	102	0.713
2	100	0.77	NO	33.84	8.06e5	1.12e6	103	0.722
3	100	0.77	NO	33.85	1.02e6	1.42e6	102	0.715
4	100	0.76	NO	33.83	1.79e5	2.68e5	95.1	0.667
5	100	0.77	NO	33.84	3.65e5	5.30e5	98.2	0.688

Compound name: 13C-BDE-169

Response Factor: 1.22527

RRF SD: 0.123716, Relative SD: 10.097

Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)

Curve type: RF

#-Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp.	Conc.	RRF
1	100	0.76	NO	34.51	1.19e6	9.19e5	106	1.29
2	100	0.78	NO	34.52	1.39e6	1.12e6	101	1.24
3	100	0.78	NO	34.51	1.45e6	1.42e6	82.8	1.01
4	100	0.76	NO	34.50	3.34e5	2.68e5	102	1.24

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: 13C-BDE-169

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
5	161111K1_12	100	0.75	NO	34.51	7.06e5	5.30e5	109	1.33

Compound name: 13C-BDE-183

Response Factor: 2.50982
RRF SD: 0.187714, Relative SD: 7.4792
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
1	161111K1_1	100	1.04	NO	35.55	6.38e5	2.68e5	94.9	2.38
2	161111K1_2	100	1.02	NO	35.56	7.81e5	3.21e5	96.8	2.43
3	161111K1_3	100	1.04	NO	35.56	1.02e6	4.38e5	92.8	2.33
4	161111K1_11	100	1.03	NO	35.55	1.92e5	6.91e4	111	2.78
5	161111K1_12	100	1.04	NO	35.55	3.84e5	1.46e5	105	2.63

Compound name: 13C-BDE-180

Response Factor: 1.43899
RRF SD: 0.0763191, Relative SD: 5.30367
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

#-Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF	
1	161111K1_1	100	1.03	NO	36.92	3.87e5	2.68e5	100	1.44
2	161111K1_2	100	1.05	NO	36.92	4.60e5	3.21e5	99.4	1.43
3	161111K1_3	100	1.01	NO	36.94	5.76e5	4.38e5	91.5	1.32
4	161111K1_11	100	1.05	NO	36.91	1.04e5	6.91e4	105	1.51
5	161111K1_12	100	1.02	NO	36.92	2.18e5	1.46e5	104	1.50

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: 13C-BDE-204

Response Factor: 0.633883
 RRF SD: 0.0518676, Relative SD: 8.18251
 Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	200	0.81	NO	38.98	4.92e5	4.11e5	189	0.598
2	161111K1_2	200	0.81	NO	38.99	6.12e5	4.76e5	203	0.644
3	161111K1_3	200	0.80	NO	38.99	7.20e5	6.33e5	179	0.569
4	161111K1_11	200	0.80	NO	38.98	1.35e5	9.61e4	221	0.702
5	161111K1_12	200	0.80	NO	38.98	2.84e5	2.16e5	207	0.657

Compound name: 13C-BDE-197

Response Factor: 0.8236
 RRF SD: 0.0623766, Relative SD: 7.57365
 Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	200	0.83	NO	39.06	6.26e5	4.11e5	185	0.762
2	161111K1_2	200	0.81	NO	39.06	7.37e5	4.76e5	188	0.775
3	161111K1_3	200	0.82	NO	39.06	1.02e6	6.33e5	195	0.804
4	161111K1_11	200	0.81	NO	39.04	1.68e5	9.61e4	212	0.873
5	161111K1_12	200	0.82	NO	39.06	3.91e5	2.16e5	220	0.904

Compound name: 13C-BDE-205

Response Factor: 0.241844
 RRF SD: 0.0109678, Relative SD: 4.53505
 Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	200	0.83	NO	40.69	2.10e5	4.11e5	212	0.256
2	161111K1_2	200	0.82	NO	40.71	2.35e5	4.76e5	205	0.247
3	161111K1_3	200	0.81	NO	40.71	3.09e5	6.33e5	202	0.244
4	161111K1_11	200	0.79	NO	40.69	4.38e4	9.61e4	189	0.228

Work Order: 1601334

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-cr.v.qld

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Compound name: 13C-BDE-205

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
5	161111K1_12	200	0.79	NO	40.71	1.01e5	2.16e5	193	0.234

Compound name: 13C-BDE-207

Response Factor: 0.991463
 RRF SD: 0.0335674, Relative SD: 3.38565
 Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161111K1_1	200	1.02	NO	44.77	4.34e5	2.18e5	201	0.998
2	161111K1_2	200	1.01	NO	44.79	4.97e5	2.47e5	203	1.01
3	161111K1_3	200	1.02	NO	44.79	6.88e5	3.37e5	206	1.02
4	161111K1_11	200	1.02	NO	44.77	9.55e4	5.11e4	188	0.934
5	161111K1_12	200	0.99	NO	44.77	2.23e5	1.12e5	201	0.997

Compound name: 13C-BDE-206

Response Factor: 0.5694
 RRF SD: 0.0224961, Relative SD: 3.95085
 Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
 Curve type: RF

# Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF	
1	161111K1_1	200	1.02	NO	46.31	2.62e5	2.18e5	211	0.602
2	161111K1_2	200	1.02	NO	46.31	2.81e5	2.47e5	200	0.570
3	161111K1_3	200	1.02	NO	46.31	3.79e5	3.37e5	198	0.563
4	161111K1_11	200	1.01	NO	46.29	5.51e4	5.11e4	189	0.539
5	161111K1_12	200	1.01	NO	46.29	1.28e5	1.12e5	202	0.574

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

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Compound name: 13C-BDE-209

Response Factor: 0.061145
 RRF SD: 0.00390247, Relative SD: 6.38233
 Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161111K1_1	400	0.82	NO	55.24	5.77e4	2.18e5	434	0.0664
2	161111K1_2	400	0.84	NO	55.24	6.22e4	2.47e5	412	0.0630
3	161111K1_3	400	0.79	NO	55.24	8.27e4	3.37e5	402	0.0615
4	161111K1_11	400	0.87	NO	55.22	1.15e4	5.11e4	368	0.0562
5	161111K1_12	400	0.81	NO	55.24	2.63e4	1.12e5	384	0.0588

Compound name: 13C-BDE-79

Response Factor: 1
 RRF SD: 0, Relative SD: 0
 Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161111K1_1	100	0.67	NO	25.31	2.27e6	2.27e6	100	1.00
2	161111K1_2	100	0.67	NO	25.31	2.97e6	2.97e6	100	1.00
3	161111K1_3	100	0.67	NO	25.31	4.04e6	4.04e6	100	1.00
4	161111K1_11	100	0.66	NO	25.30	7.51e5	7.51e5	100	1.00
5	161111K1_12	100	0.68	NO	25.31	1.40e6	1.40e6	100	1.00

Compound name: 13C-BDE-139

Response Factor: 1
 RRF SD: 0, Relative SD: 0
 Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc	RA	n/y	RT	Resp	IS Resp	Conc	RRF
1	161111K1_1	100	0.77	NO	32.68	9.19e5	9.19e5	100	1.00
2	161111K1_2	100	0.77	NO	32.68	1.12e6	1.12e6	100	1.00
3	161111K1_3	100	0.76	NO	32.68	1.42e6	1.42e6	100	1.00
4	161111K1_11	100	0.75	NO	32.67	2.68e5	2.68e5	100	1.00

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld
 Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
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Compound name: 13C-BDE-139

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
5	161111K1_12	100	0.75	NO	32.68	5.30e5	5.30e5	100	1.00

Compound name: 13C-BDE-190

Response Factor: 1
 RRF SD: 1.57009e-016, Relative SD: 1.57009e-014
 Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	1.05	NO	37.51	2.68e5	2.68e5	100	1.00
2	161111K1_2	100	1.04	NO	37.52	3.21e5	3.21e5	100	1.00
3	161111K1_3	100	1.06	NO	37.52	4.38e5	4.38e5	100	1.00
4	161111K1_11	100	1.04	NO	37.51	6.91e4	6.91e4	100	1.00
5	161111K1_12	100	1.04	NO	37.51	1.46e5	1.46e5	100	1.00

Compound name: 13C-BDE-203

Response Factor: 1
 RRF SD: 0, Relative SD: 0
 Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
 Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	0.82	NO	39.63	4.11e5	4.11e5	100	1.00
2	161111K1_2	100	0.82	NO	39.63	4.76e5	4.76e5	100	1.00
3	161111K1_3	100	0.81	NO	39.63	6.33e5	6.33e5	100	1.00
4	161111K1_11	100	0.81	NO	39.62	9.61e4	9.61e4	100	1.00
5	161111K1_12	100	0.81	NO	39.62	2.16e5	2.16e5	100	1.00

Quantify Compound Summary Report MassLynx 4.1 SCN815

Vista Analytical Laboratory VG-11

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:50:17 AM Pacific Standard Time
 Printed: Saturday, November 12, 2016 7:51:25 AM Pacific Standard Time

Compound name: 13C-BDE-208

Response Factor: 1

RRF SD: 1.24127e-016, Relative SD: 1.24127e-014

Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	1.03	NO	44.20	2.18e5	2.18e5	100	1.00
2	161111K1_2	100	1.01	NO	44.20	2.47e5	2.47e5	100	1.00
3	161111K1_3	100	1.02	NO	44.20	3.37e5	3.37e5	100	1.00
4	161111K1_11	100	0.99	NO	44.18	5.11e4	5.11e4	100	1.00
5	161111K1_12	100	1.01	NO	44.18	1.12e5	1.12e5	100	1.00

Compound name: 13C-BDE-126

Response Factor: 1.91943

RRF SD: 0.0597125, Relative SD: 3.11095

Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc.	RA	n/y	RT	Resp	IS Resp	Conc.	RRF
1	161111K1_1	100	1.02	NO	30.68	1.69e6	9.19e5	96.0	1.84
2	161111K1_2	100	1.03	NO	30.69	2.14e6	1.12e6	99.9	1.92
3	161111K1_3	100	1.02	NO	30.69	2.71e6	1.42e6	98.9	1.90
4	161111K1_11	100	1.02	NO	30.68	5.39e5	2.68e5	105	2.01
5	161111K1_12	100	1.03	NO	30.68	1.02e6	5.30e5	100	1.93

Quantify Sample Summary Report
Vista Analytical Laboratory

MassLynx 4.1 SCN815

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:52:59 AM Pacific Standard Time
Printed: Saturday, November 12, 2016 7:53:05 AM Pacific Standard Time

Method: Untitled 11 Nov 2016 15:46:31

Calibration: U:\vg11.PRO\CurveDB\5_1614vg11-11-11-16.cdb 12 Nov 2016 07:50:14

Name: 161111K1_12, Date: 11-Nov-2016, Time: 16:27:14, ID: ST161111K1-7 1614 CS3 16G0406, Description: 1614 CS3 16G0406

CP
16G-1422
for 11/14/16

#-Name	Resp	IS Resp	RA	rrf	RRF	wVal	Pred RT	RT	RRT	Pred RRT	RRT Fail	Conc	%Rec	DL	EMPC
1	BDE-1	2.96e5	5.30e6	1.02	NO	0.566	1.000	9.79	9.78	0.937	NO	0.937	98.9	0.125	9.8942
2	BDE-2	4.70e5	5.30e6	1.03	NO	0.897	1.000	10.13	10.11	0.968	NO	0.968	98.8	0.0787	9.8778
3	BDE-3	5.13e5	5.30e6	1.04	NO	0.989	1.000	10.45	10.45	1.001	NO	1.001	98.0	0.0714	9.7984
4	BDE-10	1.46e5	2.65e6	0.48	NO	0.541	1.000	13.84	13.84	0.844	NO	0.844	10.2	0.0151	10.195
5	BDE-7	1.59e5	2.65e6	0.47	NO	0.594	1.000	14.98	14.98	0.913	NO	0.913	10.1	0.0137	10.053
6	BDE-8/11	4.47e5	2.65e6	0.49	NO	0.830	1.000	15.57	15.56	0.948	NO	0.948	10.2	0.00982	20.308
7	BDE-12	2.42e5	2.65e6	0.48	NO	0.909	1.000	15.89	15.88	0.968	NO	0.968	10.0	0.00897	10.013
8	BDE-13	2.58e5	2.65e6	0.49	NO	0.967	1.000	15.99	15.99	0.975	NO	0.975	10.0	0.00843	10.042
9	BDE-15	3.02e5	2.65e6	0.49	NO	1.13	1.000	16.42	16.42	1.001	NO	1.001	10.1	0.00724	10.115
10	BDE-30	1.09e5	1.11e6	1.09	NO	0.970	1.000	18.28	18.29	0.881	NO	0.881	10.2	0.0193	10.163
11	BDE-32	1.52e5	1.11e6	1.06	NO	1.34	1.000	19.70	19.69	0.949	NO	0.949	10.3	0.0140	10.259
12	BDE-17	1.44e5	1.11e6	1.05	NO	1.28	1.000	20.07	20.03	0.965	NO	0.965	10.2	0.0146	10.210
13	BDE-25	9.13e4	1.11e6	1.10	NO	0.833	1.000	20.21	20.19	0.973	NO	0.973	9.89	0.0224	9.8918
14	BDE-28/33	2.58e5	1.11e6	1.06	NO	1.19	1.000	20.77	20.75	1.000	NO	1.000	19.5	0.0157	19.528
15	BDE-35/21	1.84e5	1.11e6	1.05	NO	1.72	1.000	21.17	21.19	1.021	NO	1.021	9.64	0.0109	9.6355
16	BDE-37	2.06e5	1.11e6	1.05	NO	1.91	1.000	21.65	21.68	1.044	NO	1.044	9.74	0.00977	9.7370
17	BDE-75/51	4.33e5	1.27e6	0.65	NO	0.788	1.000	23.92	23.94	0.946	NO	0.946	43.3	0.0114	43.262
18	BDE-49	1.49e5	1.27e6	0.63	NO	0.571	1.000	24.25	24.23	0.957	NO	0.957	20.6	0.0157	20.567
19	BDE-71	1.41e5	1.27e6	0.65	NO	0.561	1.000	24.43	24.39	0.964	NO	0.964	19.8	0.0160	19.804
20	BDE-47	2.23e5	1.27e6	0.65	NO	0.883	1.000	24.85	24.86	1.001	NO	1.001	19.9	0.0102	19.901
21	BDE-79	2.38e5	1.27e6	0.65	NO	0.947	1.000	25.32	25.33	1.019	NO	1.019	19.8	0.00949	19.775
22	BDE-66	1.25e5	1.26e6	0.65	NO	0.502	1.000	25.56	25.52	0.964	NO	0.964	19.8	0.0178	19.792
23	BDE-77	2.33e5	1.26e6	0.64	NO	0.937	1.000	26.48	26.50	1.000	NO	1.000	19.8	0.00956	19.782
24	BDE-100	2.23e5	1.12e6	1.03	NO	1.01	1.000	27.80	27.81	1.000	NO	1.000	19.7	0.0330	19.656
25	BDE-119/120	1.88e5	1.12e6	1.04	NO	0.445	1.000	28.19	28.22	1.015	NO	1.015	37.8	0.0753	37.780
26	BDE-99	1.50e5	8.14e5	1.03	NO	0.938	1.000	28.76	28.77	1.000	NO	1.000	19.7	0.0497	19.653
27	BDE-116	5.64e4	5.38e5	1.01	NO	0.562	1.000	29.13	29.08	0.984	NO	0.984	18.7	0.127	18.662
28	BDE-118	9.83e4	5.38e5	1.02	NO	0.936	1.000	29.54	29.56	1.001	NO	1.001	19.5	0.0762	19.502
29	BDE-85	1.18e5	5.38e5	1.03	NO	1.11	1.000	30.31	30.31	1.026	NO	1.026	19.7	0.0641	19.676
30	BDE-126	1.94e5	5.38e5	1.02	NO	1.82	1.000	30.69	30.70	1.039	NO	1.039	19.8	0.0393	19.841
31	BDE-105	9.27e4	5.38e5	1.03	NO	0.913	1.000	30.93	30.94	1.047	NO	1.047	18.9	0.0782	18.673

Quantify Sample Summary Report

MassLynx 4.1 SCN815

Vista Analytical Laboratory

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:52:59 AM Pacific Standard Time

Printed: Saturday, November 12, 2016 7:53:05 AM Pacific Standard Time

Name: 161111K1_12, Date: 11-Nov-2016, Time: 16:27:14, ID: ST161111K1-7 1614 CS3 1600#06, Description: 1614 CS3 1600#06

16G-1472

16G-1472

#	Name	Resp.	IS Resp.	RA	Qty	RRF	wf/vol	Pred.RT	RT	RRT	Pred.RRT	RRT Fail	Conc.	%Rec	DL	EMPC
32	BDE-155	1.71e5	9.38e5	0.75	NO	0.923	1.000	30.36	30.37	1.000	1.000	NO	19.7	98.7	0.0190	19.734
33	BDE-128/154	2.07e5	6.89e5	0.74	NO	0.769	1.000	31.04	31.05	1.000	1.000	NO	39.0	97.4	0.0308	38.962
34	BDE-153	8.50e4	4.84e5	0.74	NO	0.911	1.000	32.30	32.31	1.000	1.000	NO	19.3	96.4	0.0370	19.279
35	BDE-139	1.05e5	4.84e5	0.75	NO	1.12	1.000	32.69	32.69	1.012	1.012	NO	19.4	96.9	0.0302	19.383
36	BDE-140	9.65e4	4.84e5	0.73	NO	0.995	1.000	33.01	33.00	1.022	1.022	NO	20.0	100	0.0339	20.030
37	BDE-138	6.94e4	3.65e5	0.80	NO	0.990	1.000	33.87	33.85	1.000	1.001	NO	19.2	96.1	0.183	19.216
38	BDE-166	4.60e4	3.65e5	0.76	NO	0.671	1.000	34.01	34.00	1.005	1.005	NO	18.8	94.1	0.270	18.810
39	BDE-148/158/169	1.18e5	7.06e5	0.76	NO	0.421	1.000	34.51	34.52	1.000	1.000	NO	39.7	99.1	0.222	39.656
40	BDE-184	1.79e5	3.84e5	1.02	NO	1.18	1.000	34.94	34.94	0.983	0.983	NO	39.5	98.8	0.0243	39.539
41	BDE-183/176	1.37e5	3.84e5	1.04	NO	0.919	1.000	35.55	35.56	1.000	1.000	NO	38.8	96.9	0.0313	38.763
42	BDE-175	1.24e5	3.84e5	1.04	NO	0.824	1.000	35.80	35.80	1.007	1.007	NO	39.3	98.2	0.0349	39.275
43	BDE-191	7.46e4	2.18e5	1.03	NO	0.889	1.000	36.44	36.48	0.988	0.987	NO	38.4	96.1	0.321	38.443
44	BDE-180	7.19e4	2.18e5	1.02	NO	0.851	1.000	36.94	36.94	1.000	1.000	NO	38.7	96.6	0.335	38.655
45	BDE-181/177	6.87e4	2.18e5	1.03	NO	0.828	1.000	37.29	37.23	1.008	1.010	NO	38.0	95.0	0.344	38.010
46	BDE-190/171	1.38e5	2.18e5	1.02	NO	0.823	1.000	37.52	37.51	1.016	1.016	NO	77.0	96.2	0.346	76.956
47	BDE-201	4.19e4	2.84e5	0.77	NO	0.759	1.000	38.75	38.75	0.994	0.994	NO	38.9	97.2	0.338	38.869
48	BDE-204	4.85e4	2.84e5	0.80	NO	0.888	1.000	38.98	38.99	1.000	1.000	NO	38.4	96.0	0.289	38.412
49	BDE-197	6.31e4	3.91e5	0.80	NO	0.852	1.000	39.09	39.07	1.000	1.001	NO	37.9	94.7	0.243	37.898
50	BDE-203/200	3.95e4	3.91e5	0.80	NO	0.560	1.000	39.64	39.63	1.015	1.015	NO	36.0	90.1	0.370	36.021
51	BDE-205	1.89e4	1.01e5	0.81	NO	0.960	1.000	40.71	40.71	1.000	1.000	NO	39.0	97.5	0.934	39.013
52	BDE-208	1.10e5	2.23e5	0.99	NO	1.02	1.000	44.20	44.20	0.987	0.987	NO	96.7	96.7	0.460	96.670
53	BDE-207	9.57e4	2.23e5	0.99	NO	0.880	1.000	44.82	44.79	1.000	1.001	NO	97.4	97.4	0.535	97.426
54	BDE-206	5.81e4	1.28e5	1.01	NO	0.924	1.000	46.34	46.31	1.000	1.001	NO	98.0	98.0	0.982	97.975
55	BDE-209	8.37e3	2.63e4	0.86	NO	1.31	1.000	55.30	55.26	1.000	1.001	NO	97.2	97.2	3.62	97.209
56	13C-BDE-3	5.30e6	1.40e6	1.02	NO	3.13	1.000	10.45	10.44	0.413	0.413	NO	121	121	0.0236	
57	13C-BDE-15	2.65e6	1.40e6	0.53	NO	1.66	1.000	16.40	16.40	0.648	0.648	NO	114	114	0.0303	
58	13C-BDE-28	1.11e6	1.40e6	0.93	NO	0.729	1.000	20.76	20.75	0.820	0.820	NO	109	109	0.0350	
59	13C-BDE-47	1.27e6	1.40e6	0.67	NO	0.899	1.000	24.88	24.85	0.982	0.983	NO	101	101	0.0233	
60	13C-BDE-77	1.26e6	1.40e6	0.69	NO	0.922	1.000	26.48	26.48	1.046	1.046	NO	97.5	97.5	0.0227	
61	13C-BDE-100	1.12e6	5.30e5	1.02	NO	2.04	1.000	27.81	27.80	0.851	0.851	NO	103	103	0.0762	
62	13C-BDE-99	8.14e5	5.30e5	1.02	NO	1.51	1.000	28.75	28.76	0.880	0.880	NO	102	102	0.103	
63	13C-BDE-118	5.38e5	5.30e5	1.03	NO	1.02	1.000	29.54	29.54	0.904	0.904	NO	100	100	0.153	
64	13C-BDE-155	9.38e5	5.30e5	0.77	NO	1.71	1.000	30.36	30.36	0.929	0.929	NO	104	104	0.0226	
65	13C-BDE-154	6.89e5	5.30e5	0.78	NO	1.26	1.000	31.04	31.04	0.950	0.950	NO	103	103	0.0306	

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-crv.qld

Last Altered: Saturday, November 12, 2016 7:52:59 AM Pacific Standard Time
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Name: 161111K1_12, Date: 11-Nov-2016, Time: 16:27:14, ID: ST161111K1-7 1614 CS3 1669496, Description: 1614 CS3 1669496

1661472 ✓

#	Name	Resp	IS Resp	RA	n/y	RRF	w/vol	Pred.RT	RT	RRT	Pred.RRT	RRT Fail	Conc.	%Rec	DL	EMPC
66	66 13C-BDE-153	4.84e5	5.30e5	0.77	NO	0.902	1.000	32.28	32.30	0.988	0.988	NO	101	101	0.0428	
67	67 13C-BDE-138	3.65e5	5.30e5	0.77	NO	0.701	1.000	33.85	33.84	1.036	1.036	NO	98.2	98.2	0.278	
68	68 13C-BDE-169	7.06e5	5.30e5	0.75	NO	1.23	1.000	34.51	34.51	1.056	1.056	NO	109	109	0.159	
69	69 13C-BDE-183	3.84e5	1.46e5	1.04	NO	2.51	1.000	35.55	35.55	1.088	1.088	NO	105	105	0.0972	
70	70 13C-BDE-180	2.18e5	1.46e5	1.02	NO	1.44	1.000	36.91	36.92	0.984	0.984	NO	104	104	0.893	
71	71 13C-BDE-204	2.84e5	2.16e5	0.80	NO	0.634	1.000	38.98	38.98	0.984	0.984	NO	207	104	0.618	
72	72 13C-BDE-197	3.91e5	2.16e5	0.82	NO	0.824	1.000	39.05	39.06	0.986	0.986	NO	220	110	0.476	
73	73 13C-BDE-205	1.01e5	2.16e5	0.79	NO	0.242	1.000	40.69	40.71	1.027	1.027	NO	193	96.6	1.62	
74	74 13C-BDE-207	2.23e5	1.12e5	0.99	NO	0.991	1.000	44.77	44.77	1.013	1.013	NO	201	101	0.798	
75	75 13C-BDE-206	1.28e5	1.12e5	1.01	NO	0.569	1.000	46.30	46.29	1.048	1.048	NO	202	101	1.39	
76	76 13C-BDE-209	2.63e4	1.12e5	0.81	NO	0.0611	1.000	55.27	55.24	1.250	1.251	NO	384	96.1	7.32	
77	77 13C-BDE-79	1.40e6	1.40e6	0.68	NO		1.000	25.30	25.31	0.000	0.000	NO	100	100	0.0210	
78	78 13C-BDE-139	5.30e5	5.30e5	0.75	NO		1.000	32.67	32.68	0.000	0.000	NO	100	100	0.0386	
79	79 13C-BDE-190	1.46e5	1.46e5	1.04	NO		1.000	37.51	37.51	0.000	0.000	NO	100	100	1.29	
80	80 13C-BDE-203	2.16e5	2.16e5	0.81	NO		1.000	39.62	39.62	0.000	0.000	NO	100	100	0.392	
81	81 13C-BDE-208	1.12e5	1.12e5	1.01	NO		1.000	44.18	44.18	0.000	0.000	NO	100	100	0.792	
82	82 13C-BDE-126	1.02e6	5.30e5	1.03	NO	1.92	1.000	30.68	30.68	0.939	0.939	NO	100	100	0.0810	100.47

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-13.qld

Ⓢ Not in SS

Last Altered: Sunday, November 13, 2016 07:13:39 Pacific Standard Time
Printed: Sunday, November 13, 2016 07:14:18 Pacific Standard Time

P. 11/13/16
ICK14/14
CT 11/14/16

Method: U:\vg11.pro\MethDB\1614_rrt-11-11-16.mdb 12 Nov 2016 08:00:44

Calibration: U:\vg11.pro\CurveDB\1614vg11-11-16.cdb 12 Nov 2016 07:50:14

Name: 161111K1_13, Date: 11-Nov-2016, Time: 17:25:49, ID: SS161111K1-2 1614 SS 160902, Description: 1614 SS 160902, Task: ICAL161111K1

# Name	Resp	IS:Area	RA	n/y	RRF	w/vol	RT	RRT	Pred.RRT	CheckRRT	Conc.	%Rec	DL	EMPC
1 BDE-1	2.35e6	4.90e6	1.02	NO	0.566	1.000	9.78	0.937	0.937	NO	84.64750-150	84.6	0.128	84.6
2 BDE-2	3.80e6	4.90e6	1.02	NO	0.897	1.000	10.12	0.969	0.970	NO	86.477	86.5	0.0805	86.5
3 BDE-3	4.16e6	4.90e6	1.01	NO	0.989	1.000	10.46	1.001	1.001	NO	85.840	85.8	0.0731	85.8
4 BDE-10	1.27e6	2.55e6	0.50	NO	0.541	1.000	13.85	0.844	0.844	NO	92.084	92.1	0.0255	92.1
5 BDE-7	1.31e6	2.55e6	0.50	NO	0.594	1.000	14.99	0.914	0.913	NO	86.349	86.3	0.0232	86.3
6 BDE-8/11	3.82e6	2.55e6	0.51	NO	0.830	1.000	15.56	0.949	0.949	NO	180.86/100-300	181	0.0167	181
7 BDE-12	2.23e6	2.55e6	0.51	NO	0.909	1.000	15.88	0.968	0.969	NO	96.46/50-150	96.5	0.0152	96.5
8 BDE-13	2.21e6	2.55e6	0.51	NO	0.967	1.000	15.99	0.975	0.975	NO	89.899	89.9	0.0143	89.9
9 BDE-15	2.59e6	2.55e6	0.51	NO	1.13	1.000	16.42	1.001	1.001	NO	90.126	90.1	0.0123	90.1
10 BDE-30	1.01e6	1.14e6	1.06	NO	0.970	1.000	18.29	0.881	0.881	NO	91.111	91.1	0.0259	91.1
11 BDE-32	1.45e6	1.14e6	1.07	NO	1.34	1.000	19.70	0.949	0.949	NO	95.086	95.1	0.0188	95.1
12 BDE-17	1.33e6	1.14e6	1.05	NO	1.28	1.000	20.03	0.965	0.967	NO	91.136	91.1	0.0197	91.1
13 BDE-25	8.85e5	1.14e6	1.05	NO	0.833	1.000	20.19	0.973	0.974	NO	93.080	93.1	0.0301	93.1
14 BDE-28/33	2.49e6	1.14e6	1.06	NO	1.19	1.000	20.77	1.001	1.001	NO	182.94/100-300	183	0.0210	183
15 BDE-35/21	1.70e6	1.14e6	1.04	NO	1.72	1.000	21.19	1.021	1.020	NO	86.693	86.7	0.0146	86.7
16 BDE-37	1.90e6	1.14e6	1.07	NO	1.91	1.000	21.68	1.044	1.043	NO	86.903	86.9	0.0131	86.9
17 BDE-75/51	9.12e5	1.35e6	0.66	NO	0.788	1.000	23.88	0.943	0.945	NO	85.491	85.5	0.0118	85.5
18 BDE-49	7.38e5	1.35e6	0.66	NO	0.571	1.000	24.23	0.957	0.958	NO	95.397	95.4	0.0162	95.4
19 BDE-71	7.03e5	1.35e6	0.65	NO	0.561	1.000	24.39	0.964	0.965	NO	92.474	92.5	0.0165	92.5
20 BDE-47	1.18e6	1.35e6	0.66	NO	0.883	1.000	24.86	1.001	1.000	NO	99.001	99.0	0.0105	99.0
21 BDE-79		1.35e6		NO	0.947	1.000			1.019	YES		0.00979		
22 BDE-66	5.60e5	1.17e6	0.66	NO	0.502	1.000	25.52	0.964	0.965	NO	95.584	95.6	0.0215	95.6
23 BDE-77	9.75e5	1.17e6	0.66	NO	0.937	1.000	26.50	1.000	1.000	NO	89.252	89.3	0.0115	89.3
24 BDE-100	1.54e6	1.04e6	1.03	NO	1.01	1.000	27.82	1.001	1.000	NO	146.3775-225	146	0.0660	146
25 BDE-119/120	8.12e5	1.04e6	1.03	NO	0.445	1.000	28.21	1.015	1.014	NO	175.95	176	0.150	176
26 BDE-99	1.01e6	7.42e5	1.03	NO	0.938	1.000	28.77	1.000	1.000	NO	145.58	146	0.0963	146
27 BDE-116	4.39e5	4.77e5	1.04	NO	0.562	1.000	29.08	0.984	0.986	NO	163.90	164	0.250	164
28 BDE-118	6.26e5	4.77e5	1.03	NO	0.936	1.000	29.55	1.000	1.000	NO	140.16	140	0.150	140
29 BDE-85	7.54e5	4.77e5	1.03	NO	1.11	1.000	30.32	1.026	1.026	NO	141.95	142	0.126	142
30 BDE-126	1.19e6	4.77e5	1.03	NO	1.82	1.000	30.71	1.039	1.039	NO	137.65	138	0.0772	138
31		4.77e5		NO	0.913	1.000		1.047	1.047	YES		0.154		0.154

Quantify Sample Summary Report
Vista Analytical Laboratory

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-13.qld

Last Altered: Sunday, November 13, 2016 07:13:39 Pacific Standard Time
Printed: Sunday, November 13, 2016 07:14:18 Pacific Standard Time

Admiss

Name: 161111K1_13, Date: 11-Nov-2016, Time: 17:25:49, ID: SS161111K1-2 1614 SS 1669992, Description: 1614 SS 1669992, Task: ICAL161111K1K1

16K1414

16K1414

# Name	Resp	IS Area	RA	py	RRF	w/vol	RT	RRT	Pred.RRT	CheckRRT	Conc	%Rec	DL	EMPC
32 BDE-155	1.34e6	8.15e5	0.76	NO	0.923	1.000	30.37	1.000	1.000	NO	178.07	100-200	0.0178	178
33 BDE-128/154	1.14e6	5.67e5	0.77	NO	0.769	1.000	31.05	1.000	1.000	NO	262.06		0.0306	262
34 BDE-153	7.85e5	3.85e5	0.78	NO	0.911	1.000	32.31	1.000	1.000	NO	223.99		0.0371	224
35 BDE-139		3.85e5		NO	1.12	1.000			1.012	YES			0.0303	
36 BDE-140		3.85e5		NO	0.995	1.000			1.022	YES			0.0340	
37 BDE-138	6.20e5	3.03e5	0.78	NO	0.990	1.000	33.85	1.000	1.001	NO	206.73		0.299	207
38 BDE-166	4.22e5	3.03e5	0.79	NO	0.671	1.000	33.99	1.004	1.005	NO	207.69		0.442	208
39 BDE-148/156/169		6.13e5		NO	0.421	1.000			1.000	YES			0.353	
40 BDE-184		2.87e5		NO	1.18	1.000			0.983	YES			0.0443	
41 BDE-183/176	7.28e5	2.87e5	1.03	NO	0.919	1.000	35.56	1.000	1.000	NO	275.83	125-375	0.0571	276
42 BDE-175		2.87e5		NO	0.824	1.000			1.007	YES			0.0636	
43 BDE-191		1.78e5		NO	0.889	1.000			0.987	YES			0.0588	
44 BDE-180		1.78e5		NO	0.851	1.000			1.000	YES			0.0614	
45 BDE-181/177	4.04e5	1.78e5	1.03	NO	0.828	1.000	37.23	1.008	1.010	NO	274.64		0.0631	275
46 BDE-190/171	2.88e5	1.78e5	1.04	NO	0.823	1.000	37.53	1.016	1.016	NO	196.76		0.0635	197
47 BDE-201		2.36e5		NO	0.759	1.000			0.994	YES			0.0325	
48 BDE-204		2.36e5		NO	0.888	1.000			1.000	YES			0.0278	
49 BDE-197		2.86e5		NO	0.852	1.000			1.001	YES			0.0240	
50 BDE-203/200		2.86e5		NO	0.560	1.000			1.015	YES			0.0364	
51 BDE-205		7.62e4		NO	0.960	1.000			1.000	YES			0.0973	
52 BDE-208		1.41e5		NO	1.02	1.000			0.987	YES			0.0714	
53 BDE-207		1.41e5		NO	0.880	1.000			1.001	YES			0.0830	
54 BDE-206		7.80e4		NO	0.924	1.000			1.001	YES			0.167	
55 BDE-209		2.07e4		NO	1.31	1.000			1.001	YES			0.766	
56 13C-BDE-3	4.90e6	1.29e6	1.03	NO	3.13	1.000	10.44	0.413	0.413	NO	121.03		0.0234	121
57 13C-BDE-15	2.55e6	1.29e6	0.53	NO	1.66	1.000	16.40	0.648	0.648	NO	118.40		0.0301	118
58 13C-BDE-28	1.14e6	1.29e6	0.94	NO	0.729	1.000	20.75	0.820	0.820	NO	120.97		0.0398	121
59 13C-BDE-47	1.35e6	1.29e6	0.68	NO	0.899	1.000	24.85	0.982	0.983	NO	116.38		0.0257	116
60 13C-BDE-77	1.17e6	1.29e6	0.67	NO	0.922	1.000	26.48	1.046	1.046	NO	97.846		0.0250	97.8
61 13C-BDE-100	1.04e6	3.89e5	1.03	NO	2.04	1.000	27.80	0.851	0.851	NO	132.50		0.122	132
62 13C-BDE-99	7.42e5	3.89e5	1.03	NO	1.51	1.000	28.76	0.880	0.880	NO	128.16		0.166	128
63 13C-BDE-118	4.77e5	3.89e5	1.04	NO	1.02	1.000	29.54	0.904	0.904	NO	122.70		0.246	123
64 13C-BDE-155	8.15e5	3.89e5	0.76	NO	1.71	1.000	30.36	0.929	0.929	NO	124.67		0.0472	125
65 13C-BDE-154	5.67e5	3.89e5	0.76	NO	1.26	1.000	31.04	0.950	0.950	NO	117.41		0.0638	117

Quantify Sample Summary Report
 Vista Analytical Laboratory

Dataset: U:\vg11.PRO\Results\161111K1\161111K1-13.qld

Last Altered: Sunday, November 13, 2016 07:13:39 Pacific Standard Time
 Printed: Sunday, November 13, 2016 07:14:18 Pacific Standard Time

Name: 161111K1_13, Date: 11-Nov-2016, Time: 17:25:49, ID: SS161111K1-2 1614 SS 166992, Description: 1614 SS 166992, Task: ICAL161111K1

16K/14/14

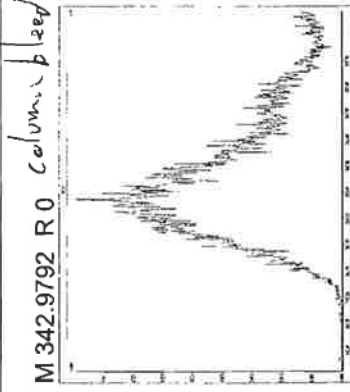
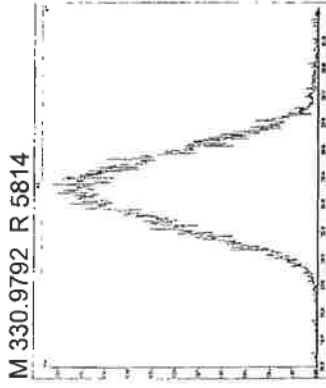
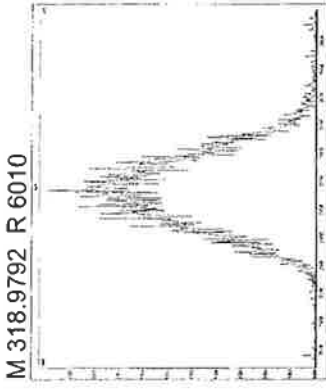
# Name	Resp	IS Area	RA	n/y	RRF	WtVol	RT	RRT	Pred.RRT	CheckRRT	Conc.	%Rec	DL	EMPC
66 13C-BDE-153	3.85e5	3.83e5	0.77	NO	0.902	1.000	32.30	0.988	0.988	NO	111.32	111	0.0892	
67 13C-BDE-138	3.03e5	3.83e5	0.77	NO	0.701	1.000	33.84	1.036	1.036	NO	112.69	113	0.347	
68 13C-BDE-169	6.13e5	3.83e5	0.75	NO	1.23	1.000	34.51	1.056	1.056	NO	130.60	131	0.198	
69 13C-BDE-183	2.87e5	1.32e5	1.03	NO	2.51	1.000	35.55	1.088	1.088	NO	86.589	86.6	0.0925	
70 13C-BDE-180	1.78e5	1.32e5	1.03	NO	1.44	1.000	36.92	0.984	0.984	NO	93.533	93.5	0.793	
71 13C-BDE-204	2.36e5	1.70e5	0.80	NO	0.634	1.000	38.98	0.984	0.984	NO	218.90	109	0.659	
72 13C-BDE-197	2.86e5	1.70e5	0.82	NO	0.824	1.000	39.04	0.985	0.985	NO	204.30	102	0.507	
73 13C-BDE-205	7.62e4	1.70e5	0.80	NO	0.242	1.000	40.70	1.027	1.027	NO	185.41	92.7	1.73	
74 13C-BDE-207	1.41e5	7.35e4	1.02	NO	0.991	1.000	44.76	1.013	1.013	NO	194.02	97.0	0.967	
75 13C-BDE-206	7.80e4	7.35e4	1.02	NO	0.569	1.000	46.28	1.047	1.048	NO	186.34	93.2	1.68	
76 13C-BDE-209	2.07e4	7.35e4	0.79	NO	0.0611	1.000	55.22	1.250	1.251	NO	460.10	115	7.91	
77 13C-BDE-79	1.29e6	1.29e6	0.67	NO		1.000	25.31	0.000	0.000	NO	100.00	100	0.0231	
78 13C-BDE-139	3.83e5	3.83e5	0.75	NO		1.000	32.68	0.000	0.000	NO	100.00	100	0.0805	
79 13C-BDE-190	1.32e5	1.32e5	1.00	NO		1.000	37.52	0.000	0.000	NO	100.00	100	1.14	
80 13C-BDE-203	1.70e5	1.70e5	0.83	NO		1.000	39.62	0.000	0.000	NO	100.00	100	0.417	
81 13C-BDE-208	7.35e4	7.35e4	0.99	NO		1.000	44.18	0.000	0.000	NO	100.00	100	0.959	
82 13C-BDE-126	9.04e5	3.83e5	1.02	NO	1.92	1.000	30.68	0.939	0.939	NO	122.90	123	0.130	

Experiment Calibration Report

MassLynx 4.1 SCN815

File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 2 @ 400 (ppm)

Printed: Friday, November 11, 2016 05:37:33 Pacific Standard Time

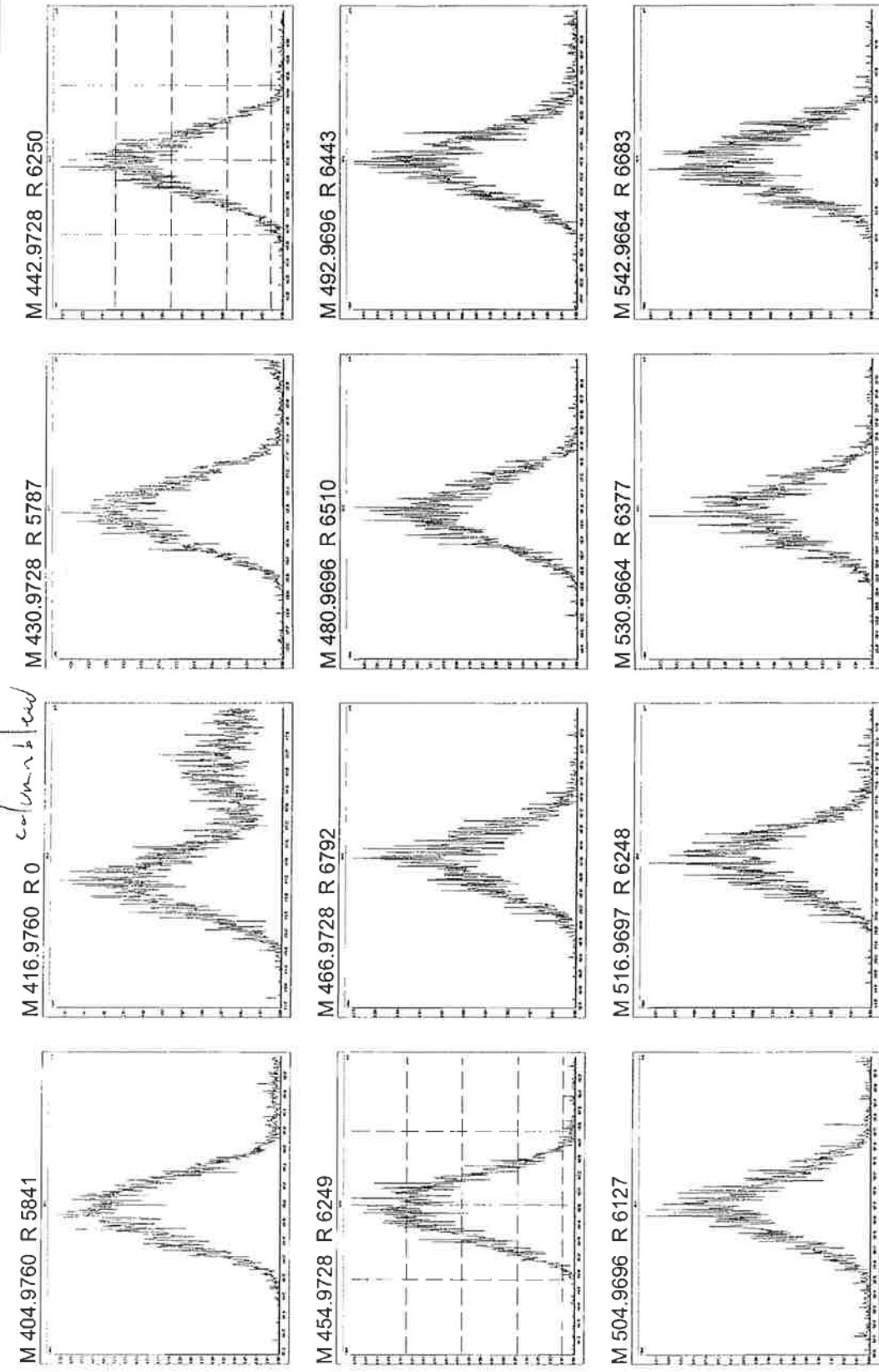


Experiment Calibration Report

MassLynx 4.1 SCN815

File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 3 @ 400 (ppm)

Printed: Friday, November 11, 2016 05:37:59 Pacific Standard Time



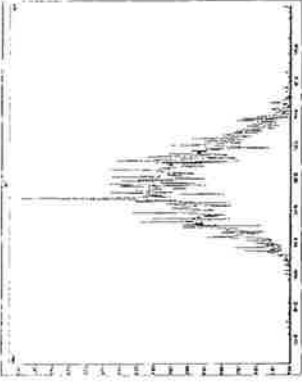
Experiment Calibration Report

MassLynx 4.1 SCN815

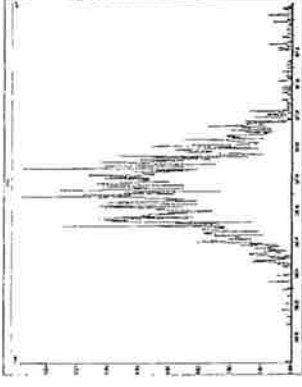
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M 554.9664 R 6983



M 566.9664 R 6982



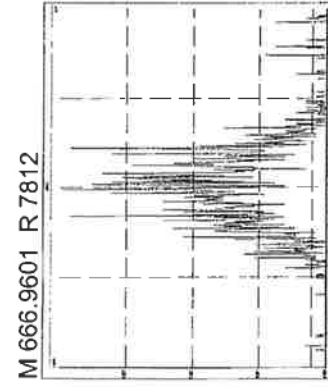
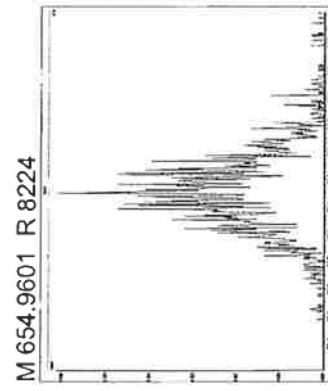
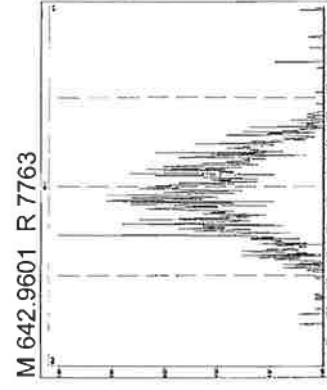
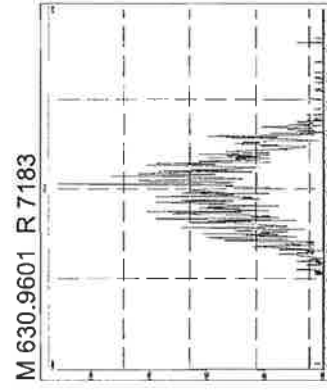
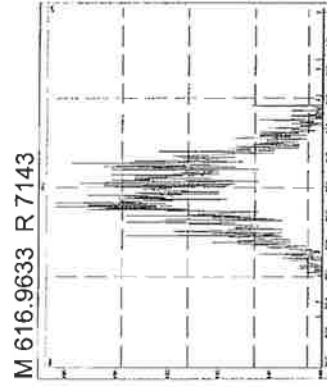
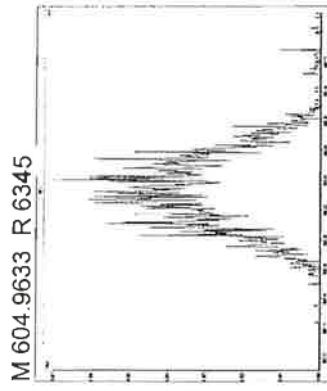
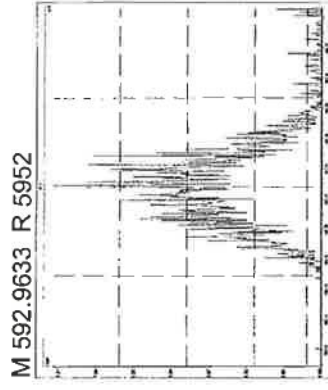
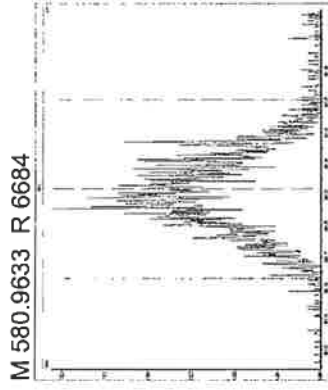
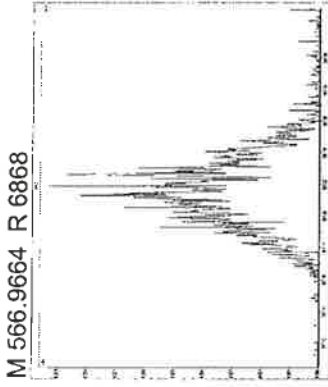
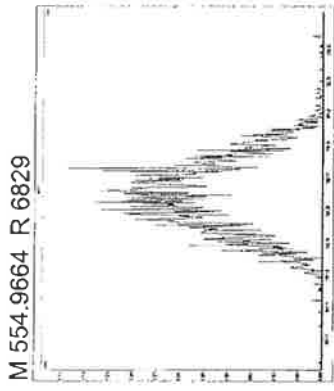
Experiment Calibration Report

MassLynx 4.1 SCN815

Page 1 of 1

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Printed: Friday, November 11, 2016 05:38:22 Pacific Standard Time



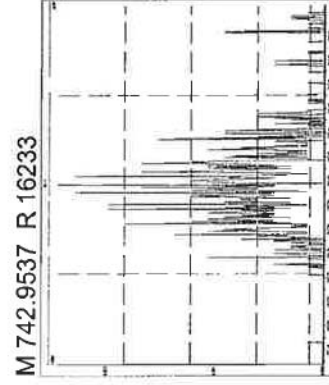
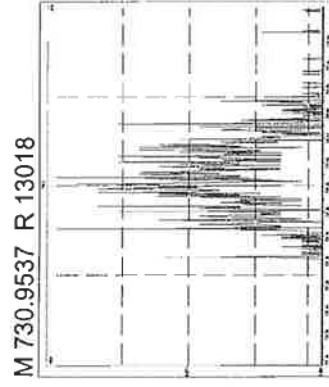
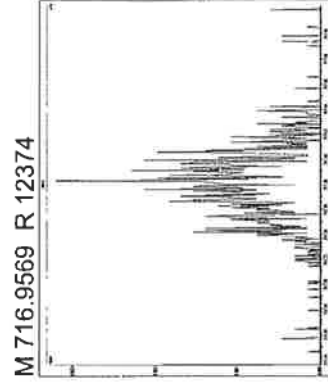
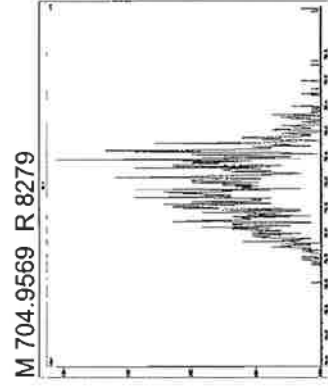
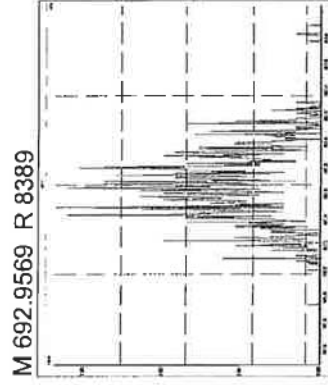
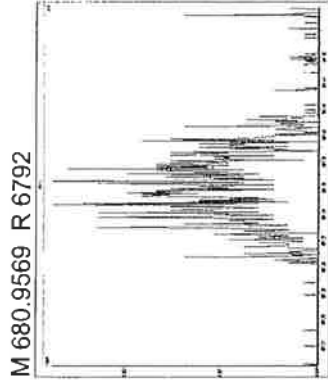
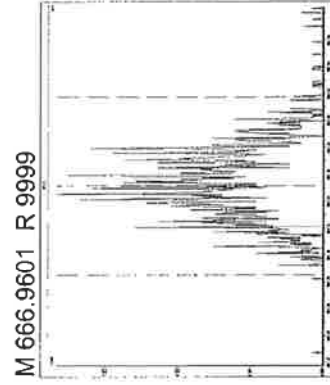
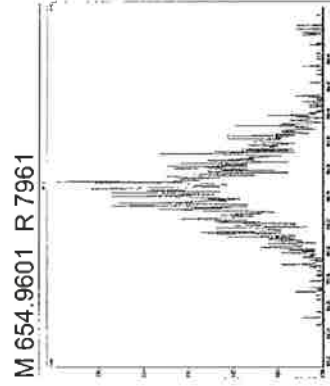
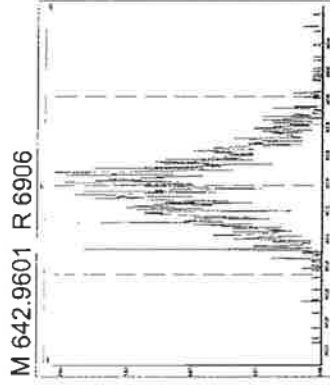
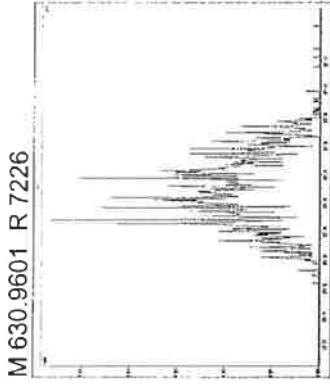
Experiment Calibration Report

MassLynx 4.1 SCN815

Page 1 of 1

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Printed: Friday, November 11, 2016 05:39:04 Pacific Standard Time



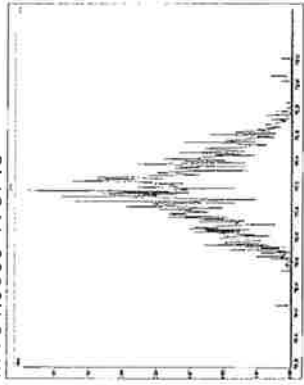
Experiment Calibration Report

MassLynx 4.1 SCN815

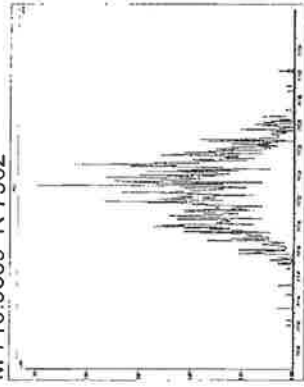
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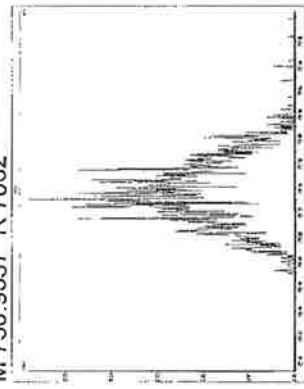
M 704.9569 R 6719



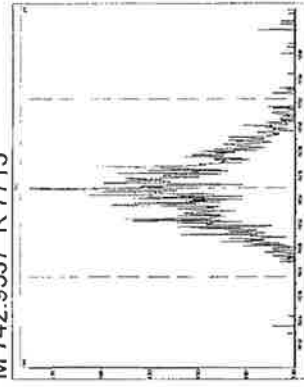
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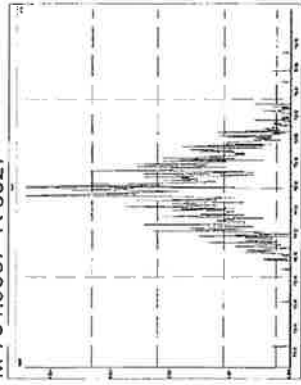
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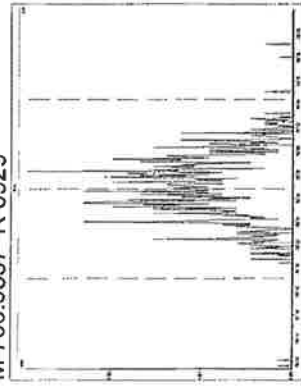
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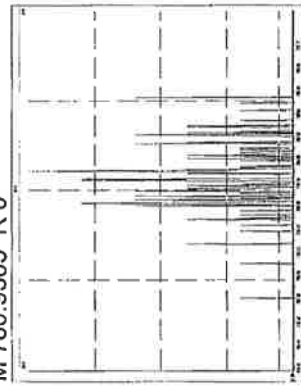
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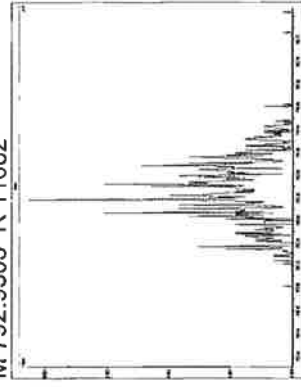
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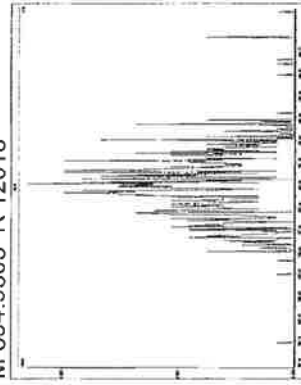
M 780.9505 R 0



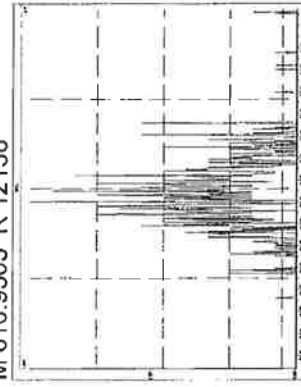
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M 804.9505 R 12018



M 816.9505 R 12136



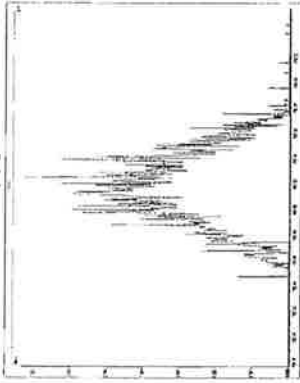
Experiment Calibration Report

MassLynx 4.1 SCN815

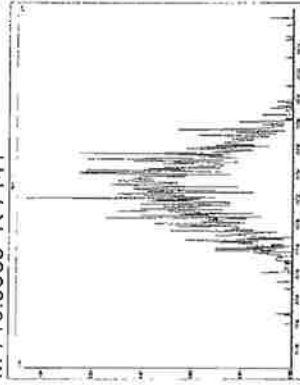
File: Experiment: 1614full_zb5.exp Reference: pfk.ref Function: 7 @ 400 (ppm)

Printed: Friday, November 11, 2016 05:41:15 Pacific Standard Time

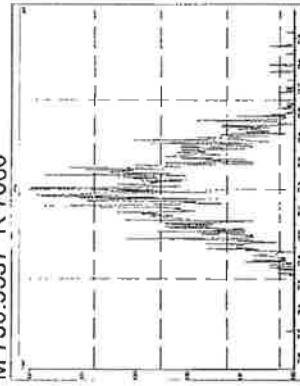
M 704.9569 R 7668



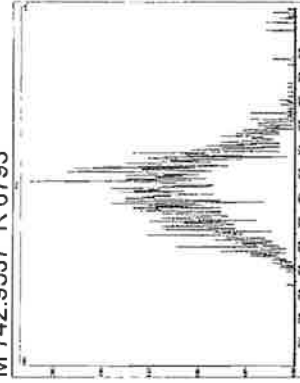
M 716.9569 R 7141



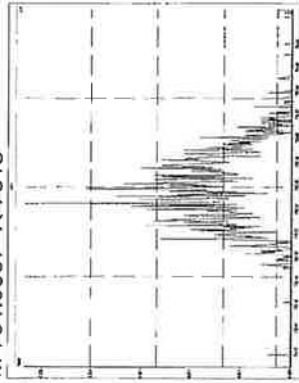
M 730.9537 R 7060



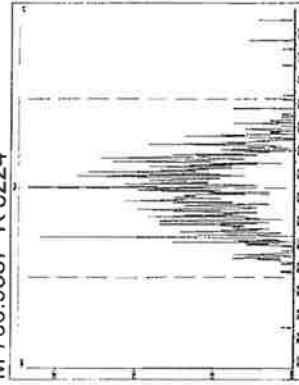
M 742.9537 R 6793



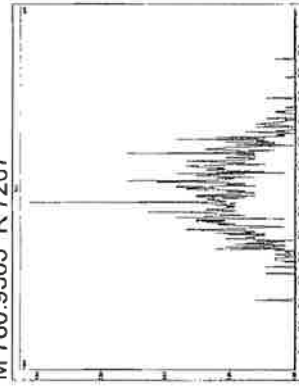
M 754.9537 R 7813



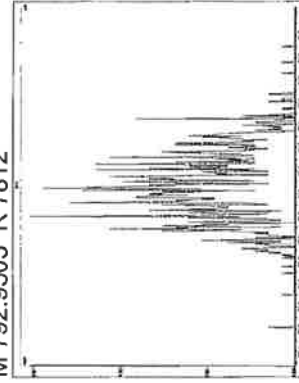
M 766.9537 R 8224



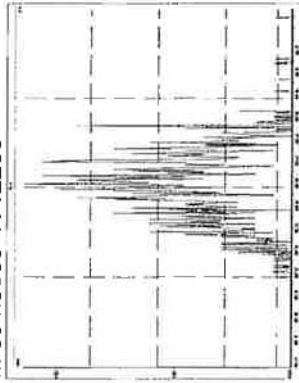
M 780.9505 R 7267



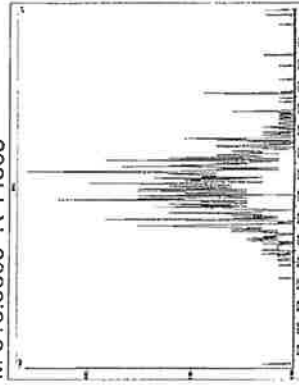
M 792.9505 R 7812



M 804.9505 R 12256



M 816.9505 R 14368



Process Sheet
Workorder: 1601354

Prep Expiration: 10/17/2017
 Client: Teck American Incorporated

Workorder Due: 15-Nov-16 00:00

TAT: 21

Method: **1614 Full List**
 Matrix: **Aqueous**
 Client Matrix: Aqueous
 Also run: **Percent Solids**

Prep Batch: B6K0018

Prep Data Entered: 11/8/16 BSS
Date and Initials

Initial Sequence: S6K0032

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601354-12	<input checked="" type="checkbox"/>	Homogenization Blank 10/17/16	25-Oct-16 09:00	WR-2 D-6	
1601354-13	<input checked="" type="checkbox"/>	Homogenization Blank 10/19/16	25-Oct-16 09:00	WR-2 D-6	
1601354-14	<input checked="" type="checkbox"/>	Homogenization Blank 10/18/16	25-Oct-16 09:00	WR-2 D-6	

"B"
↓

WO Comments: PBDEs: Total PBDEs, BDE-47, BDE-99, BDE-153, BDE-209

Vista PM: Martha Maier

Vial Box ID: Icarus

Sample Reconciled By: TW 11/3/16

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 1614 Full List

B6K0018

Chemist: A. Clarke

Prep Date/Time: 04-Nov-16 13:08

Prepared using: HRMS - Separatory Funnel

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/DATE	CRS CHEM/DATE	AP CHEM/DATE	ABSG CHEM/DATE	AA CHEM/DATE	Florisil CHEM/DATE	RS CHEM/DATE
<input type="checkbox"/>	B6K0018-BLK1	N/A	N/A	(1.000)	AC On 11/4/16	BSS On 11/8/16	N/A	BSS 11/8/16	N/A	N/A	BSS 11/4/16
<input type="checkbox"/>	B6K0018-BST	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1601306-01	1529.95	511.05	1.01890	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1601354-12	1543.11	510.75	1.03236	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1601354-13	1515.46	514.20	1.00126	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1601354-14	1548.16	511.68	1.03648	↓	↓	↓	↓	↓	↓	↓

Ⓢ Small amount of sample lost due to leaky separatory funnel. On 11/7/16

IS Name	NS Name	CRS Name	RS Name
PCDD/F	PCDD/F	PCDD/F	PCDD/F
PCB	PCB	PCB	PCB
PAH	PAH	PAH	PAH
1614 16G1216 25µL	16B1013 25µL	16H: 16G1217, 25µL	16H: 16G1218, 25µL
APP: <u>SEFUND</u>	SOX	SDS	Check Out: <u>AM 11/4/16</u>
SOLV: <u>DCM</u>	Other: <u>NA</u>	Final Volume(s): <u>50µL</u>	Check In: <u>empty</u>
Start Date/Time: <u>NA</u>	Stop Date/Time: <u>NA</u>	Balance ID: <u>HRMS-9</u>	

Comments: Assume 1 g = 1 mL

Percent Moisture/ Percent Solids

D2216-90 BATCH ID B6K0019

Analyst: **TAD**
 Analyte:
 Dried at 110°C +/- 5°C
 Test Code: %Moist/%Solids
 Units: %

Inst: **HRMS-9**
 Date/Time IN: **11/3/16 0820**
 Date/Time OUT: **11/16/16 1500**

Particle Size	SampleID	Sample	Initial and Date:		Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	pH Before	pH After	Acid Added	Cl.	Visual Inspection
			Pan	Date										
	1601306-01	"A"	1.28	11/3/16	1.28	1.28			5	NA	NA	0	Clear	
	1601354-12	"B"	1.29	11/3/16	1.29	1.29			5	NA	NA	0	Clear	
	1601354-13	"B"	1.30	11/3/16	1.30	1.30			5	NA	NA	0	Clear	
	1601354-14	"B"	1.30	11/3/16	1.30	1.30			5	NA	NA	0	Clear	

Sample ID: Method Blank **EPA Method 1668A**

Matrix: Tissue Sample Size: 10.0 g	QC Batch: B6K0046 Date Extracted: 07-Nov-2016 14:16	Lab Sample: B6K0046-BLK1 Date Analyzed: 09-Nov-16 15:01 Column: ZB-1
---------------------------------------	--	---

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	ND	0.152			PCB-44	ND	0.0891		
PCB-2	ND	0.149			PCB-45	ND	0.0816		
PCB-3	ND	0.144			PCB-46	ND	0.0872		
PCB-4/10	ND	0.122			PCB-47	0.199			J
PCB-5/8	ND	0.0907			PCB-48/75	ND	0.0633		
PCB-6	ND	0.0954			PCB-50	ND	0.0819		
PCB-7/9	ND	0.0913			PCB-51	ND	0.0730		
PCB-11	0.673				PCB-52/69	ND	0.0658		
PCB-12/13	ND	0.0750			PCB-53	ND	0.0738		
PCB-14	ND	0.0649			PCB-54	ND	0.0685		
PCB-15	ND	0.0665			PCB-55	ND	0.0531		
PCB-16/32	ND	0.0815			PCB-56/60	ND	0.0542		
PCB-17	ND	0.0923			PCB-57	ND	0.0533		
PCB-18	ND	0.0999			PCB-58	ND	0.0515		
PCB-19	ND	0.120			PCB-61/70	ND	0.0527		
PCB-20/21/33	ND	0.0524			PCB-62	ND	0.0618		
PCB-22	ND	0.0541			PCB-63	ND	0.0497		
PCB-23	ND	0.0654			PCB-65	ND	0.0659		
PCB-24/27	ND	0.0709			PCB-66/76	ND	0.0523		
PCB-25	ND	0.0607			PCB-67	ND	0.0544		
PCB-26	ND	0.0581			PCB-68	ND	0.0550		
PCB-28	ND	0.0694			PCB-73	ND	0.0592		
PCB-29	ND	0.0596			PCB-74	ND	0.0509		
PCB-30	ND	0.0787			PCB-77	ND	0.0486		
PCB-31	ND	0.0703			PCB-78	ND	0.0553		
PCB-34	ND	0.0581			PCB-79	ND	0.0527		
PCB-35	ND	0.0475			PCB-80	ND	0.0472		
PCB-36	ND	0.0467			PCB-81	ND	0.0511		
PCB-37	ND	0.0445			PCB-82	ND	0.168		
PCB-38	ND	0.0482			PCB-83	ND	0.114		
PCB-39	ND	0.0440			PCB-84/92	ND	0.144		
PCB-40	ND	0.0971			PCB-85/116	ND	0.134		
PCB-41/64/71/72	ND	0.0627			PCB-86	ND	0.188		
PCB-42/59	ND	0.0662			PCB-87/117/125	ND	0.122		
PCB-43/49	ND	0.0673			PCB-88/91	ND	0.148		

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: Method Blank		EPA Method 1668A							
Matrix: Tissue	QC Batch: B6K0046	Lab Sample: B6K0046-BLK1							
Sample Size: 10.0 g	Date Extracted: 07-Nov-2016 14:16	Date Analyzed: 09-Nov-16 15:01	Column: ZB-1						
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	ND	0.151			PCB-136	ND	0.0827		
PCB-90/101	ND	0.102			PCB-137	ND	0.0828		
PCB-93	ND	0.153			PCB-138/163/164	ND	0.102		
PCB-94	ND	0.155			PCB-139/149	0.133			J
PCB-95/98/102	ND	0.139			PCB-140	ND	0.117		
PCB-96	ND	0.117			PCB-141	ND	0.0850		
PCB-97	ND	0.147			PCB-144	ND	0.106		
PCB-99	ND	0.132			PCB-145	ND	0.0857		
PCB-100	ND	0.131			PCB-146/165	ND	0.0824		
PCB-103	ND	0.132			PCB-147	ND	0.122		
PCB-104	ND	0.103			PCB-148	ND	0.120		
PCB-105	ND	0.0933			PCB-150	ND	0.0853		
PCB-106/118	ND	0.100			PCB-151	ND	0.114		
PCB-107/109	ND	0.102			PCB-152	ND	0.0823		
PCB-108/112	ND	0.134			PCB-153	ND	0.106		
PCB-110	ND	0.110			PCB-154	ND	0.108		
PCB-111/115	ND	0.104			PCB-155	ND	0.0780		
PCB-113	ND	0.114			PCB-156	ND	0.0628		
PCB-114	ND	0.0927			PCB-157	ND	0.0663		
PCB-119	ND	0.103			PCB-158/160	ND	0.0683		
PCB-120	ND	0.101			PCB-159	ND	0.0618		
PCB-121	ND	0.105			PCB-166	ND	0.0662		
PCB-122	ND	0.105			PCB-167	ND	0.0657		
PCB-123	ND	0.101			PCB-168	ND	0.0638		
PCB-124	ND	0.105			PCB-169	ND	0.0651		
PCB-126	ND	0.101			PCB-170	ND	0.0598		
PCB-127	ND	0.101			PCB-171	ND	0.0560		
PCB-128/162	ND	0.0748			PCB-172	ND	0.0611		
PCB-129	ND	0.0996			PCB-173	ND	0.0688		
PCB-130	ND	0.0981			PCB-174	ND	0.0627		
PCB-131	ND	0.0995			PCB-175	ND	0.0652		
PCB-132/161	ND	0.0789			PCB-176	ND	0.0471		
PCB-133/142	ND	0.103			PCB-177	ND	0.0653		
PCB-134/143	ND	0.0987			PCB-178	ND	0.0612		
PCB-135	ND	0.119			PCB-179	ND	0.0505		

DL - Sample specific estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.
See individual congeners for qualifiers.

EPA Method 1668A

Sample ID: Method Blank

Matrix: Tissue Sample Size: 10.0 g		QC Batch: B6K0046 Date Extracted: 07-Nov-2016 14:16		Lab Sample: B6K0046-BLK1 Date Analyzed: 09-Nov-16 15:01 Column: ZB-1					
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	ND	0.0572			Total octaCB	ND		0.0439	✓
PCB-181	ND	0.0580			Total nonaCB	ND	0.0585		
PCB-182/187	ND	0.108			DecaCB	ND	0.0643		
PCB-183	ND	0.0534			Total PCB	1.00			
PCB-184	ND	0.0509							
PCB-185	ND	0.0594							
PCB-186	ND	0.0470							
PCB-188	ND	0.0459							
PCB-189	ND	0.0411							
PCB-190	ND	0.0443							
PCB-191	ND	0.0449							
PCB-192	ND	0.0469							
PCB-193	ND	0.0453							
PCB-194	ND		0.0439	✓					
PCB-195	ND	0.0636							
PCB-196/203	ND	0.146							
PCB-197	ND	0.105							
PCB-198	ND	0.158							
PCB-199	ND	0.159							
PCB-200	ND	0.114							
PCB-201	ND	0.110							
PCB-202	ND	0.118							
PCB-204	ND	0.117							
PCB-205	ND	0.0433							
PCB-206	ND	0.0585							
PCB-207	ND	0.0320							
PCB-208	ND	0.0169							
PCB-209	ND	0.0643							
Total monoCB	ND	0.152							
Total diCB	0.673								
Total triCB	ND	0.120							
Total tetraCB	0.199								
Total pentaCB	ND	0.188							
Total hexaCB	0.133								
Total heptaCB	ND	0.108							

EMPC - Estimated maximum possible concentration
DL - Sample specific estimated detection limit
LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.
See individual congeners for qualifiers.

Sample ID: Method Blank		EPA Method 1668A					
Matrix: Tissue	QC Batch: B6K0046	Lab Sample: B6K0046-BLK1					
Sample Size: 10.0 g	Date Extracted: 07-Nov-2016 14:16	Date Analyzed: 09-Nov-16 15:01	Column: ZB-1				
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	35.4	15-150		13C-PCB-157	93.5	25-150	
13C-PCB-3	39.7	15-150		13C-PCB-159	96.9	25-150	
13C-PCB-4	53.4	25-150		13C-PCB-167	96.2	25-150	
13C-PCB-11	73.3	25-150		13C-PCB-169	96.7	25-150	
13C-PCB-9	57.9	25-150		13C-PCB-170	77.8	25-150	
13C-PCB-19	43.1	25-150		13C-PCB-180	79.3	25-150	
13C-PCB-28	87.6	25-150		13C-PCB-188	76.7	25-150	
13C-PCB-32	53.3	25-150		13C-PCB-189	75.6	25-150	
13C-PCB-37	105	25-150		13C-PCB-194	108	25-150	
13C-PCB-47	78.8	25-150		13C-PCB-202	65.6	25-150	
13C-PCB-52	80.4	25-150		13C-PCB-206	105	25-150	
13C-PCB-54	69.2	25-150		13C-PCB-208	128	25-150	
13C-PCB-70	91.3	25-150		13C-PCB-209	78.1	25-150	
13C-PCB-77	95.5	25-150		CRS 13C-PCB-79	94.3	30-135	
13C-PCB-80	91.3	25-150		13C-PCB-178	80.6	30-135	
13C-PCB-81	93.0	25-150					
13C-PCB-95	90.0	25-150					
13C-PCB-97	94.4	25-150					
13C-PCB-101	94.4	25-150					
13C-PCB-104	88.6	25-150					
13C-PCB-105	93.2	25-150					
13C-PCB-114	98.5	25-150					
13C-PCB-118	95.2	25-150					
13C-PCB-123	101	25-150					
13C-PCB-126	89.4	25-150					
13C-PCB-127	92.8	25-150					
13C-PCB-138	96.2	25-150					
13C-PCB-141	98.3	25-150					
13C-PCB-153	97.1	25-150					
13C-PCB-155	82.8	25-150					
13C-PCB-156	97.5	25-150					

EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.
See individual congeners for qualifiers.

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	*	*	n NotF	1.06	*		2300	2.5	0.152	*	0.997-1.007	
Mono	PCB-2	*	*	n NotF	0.99	*		2300	2.5	0.149	*	0.983-0.993	
Mono	PCB-3	*	*	n NotF	1.02	*		2300	2.5	0.144	*	0.996-1.006	
Di	PCB-4/10	*	*	n NotF	1.41	*		2800	2.5	0.122	*	0.997-1.007	
Di	PCB-7/9	*	*	n NotF	1.13	*		2800	2.5	0.0913	*	0.864-0.872	
Di	PCB-6	*	*	n NotF	1.08	*		2800	2.5	0.0954	*	0.888-0.897	
Di	PCB-5/8	*	*	n NotF	1.14	*		2800	2.5	0.0907	*	0.905-0.915	
Di	PCB-14	*	*	n NotF	1.32	*		2800	2.5	0.0649	*	0.948-0.958	
Di	PCB-11	6.18e+05	1.35	Y 25:15	1.18	0.6733		*	2.5	*	1.001	0.995-1.005	
Di	PCB-12/13	*	*	n NotF	1.14	*		2800	2.5	0.0750	*	1.011-1.021	
Di	PCB-15	*	*	n NotF	1.29	*		2800	2.5	0.0665	*	1.023-1.031	
Tri	PCB-19	*	*	n NotF	1.23	*		2420	2.5	0.120	*	0.996-1.006	
Tri	PCB-30	*	*	n NotF	1.88	*		2420	2.5	0.0787	*	1.033-1.043	
Tri	PCB-18	*	*	n NotF	0.90	*		2420	2.5	0.0999	*	0.949-0.959	
Tri	PCB-17	*	*	n NotF	0.98	*		2420	2.5	0.0923	*	0.956-0.966	
Tri	PCB-24/27	*	*	n NotF	1.27	*		2420	2.5	0.0709	*	0.977-0.987	
Tri	PCB-16/32	*	*	n NotF	1.07	*		5870	1.0	0.0815	*	0.996-1.006	
Tri	PCB-34	*	*	n NotF	0.97	*		1880	2.5	0.0581	*	0.955-0.965	
Tri	PCB-23	*	*	n NotF	0.86	*		1880	2.5	0.0654	*	0.958-0.968	
Tri	PCB-29	*	*	n NotF	0.95	*		1880	2.5	0.0596	*	0.967-0.977	
Tri	PCB-26	*	*	n NotF	0.97	*		1880	2.5	0.0581	*	0.974-0.984	
Tri	PCB-25	*	*	n NotF	0.93	*		1880	2.5	0.0607	*	0.980-0.990	
Tri	PCB-31	*	*	n NotF	1.09	*		6350	1.0	0.0703	*	0.992-1.002	
Tri	PCB-28	*	*	n NotF	1.10	*		6350	1.0	0.0694	*	0.996-1.006	
Tri	PCB-20/21/33	*	*	n NotF	1.08	*		1880	2.5	0.0524	*	1.016-1.026	
Tri	PCB-22	*	*	n NotF	1.04	*		1880	2.5	0.0541	*	1.032-1.042	
Tri	PCB-36	*	*	n NotF	1.18	*		1880	2.5	0.0467	*	0.929-0.939	
Tri	PCB-39	*	*	n NotF	1.25	*		1880	2.5	0.0440	*	0.943-0.953	
Tri	PCB-38	*	*	n NotF	1.15	*		1880	2.5	0.0482	*	0.967-0.977	
Tri	PCB-35	*	*	n NotF	1.16	*		1880	2.5	0.0475	*	0.982-0.992	
Tri	PCB-37	*	*	n NotF	1.24	*		1880	2.5	0.0445	*	0.996-1.006	
Tetra	PCB-54	*	*	n NotF	1.07	*		2550	2.5	0.0685	*	0.996-1.006	
Tetra	PCB-50	*	*	n NotF	0.90	*		2550	2.5	0.0819	*	1.037-1.047	
Tetra	PCB-53	*	*	n NotF	1.17	*		2550	2.5	0.0738	*	0.941-0.951	
Tetra	PCB-51	*	*	n NotF	1.18	*		2550	2.5	0.0730	*	0.952-0.962	
Tetra	PCB-45	*	*	n NotF	1.06	*		2550	2.5	0.0816	*	0.965-0.975	
Tetra	PCB-46	*	*	n NotF	0.99	*		2550	2.5	0.0872	*	0.981-0.991	

Integrations by:
 Analyst: MM
 Date: 11/17/16

Reviewed by: CT
 Date: 11/17/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Tetra	PCB-52/69	*	n NotFl	1.31	*	*	2550	2.5	0.0658	*	*	0.996-1.006	
Tetra	PCB-73	*	n NotFl	1.45	*	*	2550	2.5	0.0592	*	*	0.999-1.009	
Tetra	PCB-43/49	*	n NotFl	1.28	*	*	2550	2.5	0.0673	*	*	1.005-1.015	
Tetra	PCB-47	1.57e+05	Y 32:03	1.22	0.1988	*	*	2.5	*	*	1.001	0.996-1.006	
Tetra	PCB-48/75	*	n NotFl	1.32	*	*	2550	2.5	0.0633	*	*	0.999-1.009	
Tetra	PCB-65	*	n NotFl	1.27	*	*	2550	2.5	0.0659	*	*	1.007-1.017	
Tetra	PCB-62	*	n NotFl	1.36	*	*	2550	2.5	0.0618	*	*	1.011-1.021	
Tetra	PCB-44	*	n NotFl	0.94	*	*	2550	2.5	0.0891	*	*	1.020-1.030	
Tetra	PCB-42/59	*	n NotFl	1.27	*	*	2550	2.5	0.0662	*	*	1.027-1.037	
Tetra	PCB-41/64/71/72	*	n NotFl	1.34	*	*	2550	2.5	0.0627	*	*	1.045-1.055	
Tetra	PCB-68	*	n NotFl	1.53	*	*	2550	2.5	0.0550	*	*	1.053-1.063	
Tetra	PCB-40	*	n NotFl	0.86	*	*	2550	2.5	0.0971	*	*	1.061-1.071	
Tetra	PCB-57	*	n NotFl	1.12	*	*	2550	2.5	0.0533	*	*	0.965-0.975	
Tetra	PCB-67	*	n NotFl	1.10	*	*	2550	2.5	0.0544	*	*	0.974-0.984	
Tetra	PCB-58	*	n NotFl	1.16	*	*	2550	2.5	0.0515	*	*	0.977-0.987	
Tetra	PCB-63	*	n NotFl	1.20	*	*	2550	2.5	0.0497	*	*	0.981-0.991	
Tetra	PCB-74	*	n NotFl	1.17	*	*	2550	2.5	0.0509	*	*	0.989-0.999	
Tetra	PCB-61/70	*	n NotFl	1.13	*	*	2550	2.5	0.0527	*	*	0.995-1.005	
Tetra	PCB-76/66	*	n NotFl	1.14	*	*	2550	2.5	0.0523	*	*	1.000-1.010	
Tetra	PCB-80	*	n NotFl	1.31	*	*	2550	2.5	0.0472	*	*	0.995-1.005	
Tetra	PCB-55	*	n NotFl	1.16	*	*	2550	2.5	0.0531	*	*	1.004-1.014	
Tetra	PCB-56/60	*	n NotFl	1.14	*	*	2550	2.5	0.0542	*	*	1.018-1.028	
Tetra	PCB-79	*	n NotFl	1.17	*	*	2550	2.5	0.0527	*	*	1.048-1.058	
Tetra	PCB-78	*	n NotFl	1.11	*	*	2550	2.5	0.0553	*	*	0.982-0.992	
Tetra	PCB-81	*	n NotFl	1.20	*	*	2550	2.5	0.0511	*	*	0.995-1.005	
Tetra	PCB-77	*	n NotFl	1.24	*	*	2550	2.5	0.0486	*	*	0.995-1.005	
Penta	PCB-104	*	n NotFl	1.31	*	*	2250	2.5	0.103	*	*	0.996-1.006	
Penta	PCB-96	*	n NotFl	1.15	*	*	2250	2.5	0.117	*	*	1.034-1.044	
Penta	PCB-103	*	n NotFl	1.03	*	*	2250	2.5	0.132	*	*	1.051-1.061	
Penta	PCB-100	*	n NotFl	1.03	*	*	2250	2.5	0.131	*	*	1.061-1.071	
Penta	PCB-94	*	n NotFl	1.18	*	*	2250	2.5	0.155	*	*	0.980-0.990	
Penta	PCB-95/98/102	*	n NotFl	1.31	*	*	2250	2.5	0.139	*	*	0.994-1.004	
Penta	PCB-93	*	n NotFl	1.19	*	*	2250	2.5	0.153	*	*	0.998-1.008	
Penta	PCB-88/91	*	n NotFl	1.23	*	*	2250	2.5	0.148	*	*	1.006-1.016	
Penta	PCB-121	*	n NotFl	1.74	*	*	2250	2.5	0.105	*	*	1.009-1.019	
Penta	PCB-84/92	*	n NotFl	1.16	*	*	2250	2.5	0.144	*	*	0.985-0.995	
Penta	PCB-89	*	n NotFl	1.11	*	*	2250	2.5	0.151	*	*	0.990-1.000	

Analyst: JN
 Date: 11/24/16

Client ID: Method Blank
 Lab ID: B6K0046-BLKL

Filename: 161109E1 S:4 Acq: 9-NOV-16 15:01:28
 GC Column ID: ZB-1 ICal: PCBVGB-4-19-16 wt/vol:10.000

ConCal: ST161109E1-1
 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	*	n NotFt	1.27	*			4350	1.0	0.102	*	0.995-1.005	
Penta	PCB-113	*	n NotFt	1.47	*			2250	2.5	0.114	*	1.002-1.012	
Penta	PCB-99	*	n NotFt	1.26	*			2250	2.5	0.132	*	1.004-1.014	
Penta	PCB-119	*	n NotFt	1.87	*			2250	2.5	0.103	*	0.982-0.992	
Penta	PCB-108/112	*	n NotFt	1.44	*			2250	2.5	0.134	*	0.986-0.996	
Penta	PCB-83	*	n NotFt	1.70	*			2250	2.5	0.114	*	0.990-1.000	
Penta	PCB-97	*	n NotFt	1.31	*			2250	2.5	0.147	*	0.995-1.005	
Penta	PCB-86	*	n NotFt	1.02	*			2250	2.5	0.188	*	0.999-1.009	
Penta	PCB-87/117/125	*	n NotFt	1.59	*			2250	2.5	0.122	*	1.002-1.012	
Penta	PCB-111/115	*	n NotFt	1.85	*			2250	2.5	0.104	*	1.006-1.016	
Penta	PCB-85/116	*	n NotFt	1.44	*			2250	2.5	0.134	*	1.010-1.020	
Penta	PCB-120	*	n NotFt	1.91	*			2250	2.5	0.101	*	1.016-1.026	
Penta	PCB-110	*	n NotFt	1.76	*			2250	2.5	0.110	*	1.019-1.029	
Penta	PCB-82	*	n NotFt	0.81	*			2250	2.5	0.168	*	0.971-0.981	
Penta	PCB-124	*	n NotFt	1.30	*			2250	2.5	0.105	*	0.988-0.998	
Penta	PCB-107/109	*	n NotFt	1.34	*			2250	2.5	0.102	*	0.991-1.001	
Penta	PCB-123	*	n NotFt	1.35	*			2250	2.5	0.101	*	0.995-1.005	
Penta	PCB-106/118	*	n NotFt	1.34	*			2250	2.5	0.100	*	0.996-1.006	
Penta	PCB-114	*	n NotFt	1.17	*			2380	2.5	0.0927	*	0.995-1.005	
Penta	PCB-122	*	n NotFt	1.03	*			2380	2.5	0.105	*	0.999-1.009	
Penta	PCB-105	*	n NotFt	1.23	*			2380	2.5	0.0933	*	0.995-1.005	
Penta	PCB-127	*	n NotFt	1.06	*			2380	2.5	0.101	*	0.995-1.005	
Penta	PCB-126	*	n NotFt	1.16	*			2380	2.5	0.101	*	0.995-1.005	
Hexa	PCB-155	*	n NotFt	1.26	*			1500	2.5	0.0780	*	0.966-1.006	
Hexa	PCB-150	*	n NotFt	1.15	*			1500	2.5	0.0853	*	1.030-1.040	
Hexa	PCB-152	*	n NotFt	1.19	*			1500	2.5	0.0823	*	1.043-1.053	
Hexa	PCB-145	*	n NotFt	1.14	*			1500	2.5	0.0857	*	1.055-1.065	
Hexa	PCB-136	*	n NotFt	1.18	*			1500	2.5	0.0827	*	1.063-1.073	
Hexa	PCB-148	*	n NotFt	0.82	*			1500	2.5	0.120	*	1.066-1.076	
Hexa	PCB-154	*	n NotFt	0.91	*			1500	2.5	0.108	*	1.079-1.089	
Hexa	PCB-151	*	n NotFt	0.86	*			1500	2.5	0.114	*	1.097-1.107	
Hexa	PCB-135	*	n NotFt	0.82	*			1500	2.5	0.119	*	1.101-1.113	
Hexa	PCB-144	*	n NotFt	0.92	*			1500	2.5	0.106	*	1.105-1.116	
Hexa	PCB-147	*	n NotFt	0.81	*			1500	2.5	0.122	*	1.108-1.120	
Hexa	PCB-139/149	5.14e+04	1.11 Y 41:31	0.91	*	0.1328		*	2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	*	n NotFt	0.83	*			1500	2.5	0.117	*	1.120-1.132	
Hexa	PCB-134/143	*	n NotFt	0.89	*			2270	2.5	0.0987	*	0.970-0.980	

Analyst: MS
 Date: 11/16/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Hexa	PCB-133/142	*	* n NotFl	0.86	*	*	2270	2.5	0.103	*	0.977-0.987		
Hexa	PCB-131	*	* n NotFl	0.89	*	*	2270	2.5	0.0995	*	0.981-0.991		
Hexa	PCB-146/165	*	* n NotFl	1.07	*	*	2270	2.5	0.0824	*	0.986-0.996		
Hexa	PCB-132/161	*	* n NotFl	1.12	*	*	2270	2.5	0.0789	*	0.992-1.002		
Hexa	PCB-153	*	* n NotFl	1.15	*	*	7850	1.0	0.106	*	0.996-1.006		
Hexa	PCB-168	*	* n NotFl	1.38	*	*	2270	2.5	0.0638	*	1.000-1.010		
Hexa	PCB-141	*	* n NotFl	1.20	*	*	2270	2.5	0.0850	*	0.995-1.005		
Hexa	PCB-137	*	* n NotFl	1.23	*	*	2270	2.5	0.0828	*	1.004-1.014		
Hexa	PCB-130	*	* n NotFl	1.04	*	*	2270	2.5	0.0981	*	1.006-1.016		
Hexa	PCB-138/163/164	*	* n NotFl	1.30	*	*	7850	1.0	0.102	*	0.996-1.006		
Hexa	PCB-158/160	*	* n NotFl	1.41	*	*	2270	2.5	0.0683	*	1.001-1.011		
Hexa	PCB-129	*	* n NotFl	0.97	*	*	2270	2.5	0.0996	*	1.007-1.017		
Hexa	PCB-166	*	* n NotFl	1.19	*	*	2270	2.5	0.0662	*	0.988-0.998		
Hexa	PCB-159	*	* n NotFl	1.28	*	*	2270	2.5	0.0618	*	0.995-1.005		
Hexa	PCB-128/162	*	* n NotFl	1.06	*	*	2270	2.5	0.0748	*	1.002-1.012		
Hexa	PCB-167	*	* n NotFl	1.22	*	*	2270	2.5	0.0657	*	0.995-1.005		
Hexa	PCB-156	*	* n NotFl	1.27	*	*	2270	2.5	0.0628	*	0.995-1.005		
Hexa	PCB-157	*	* n NotFl	1.24	*	*	2270	2.5	0.0663	*	0.995-1.005		
Hexa	PCB-169	*	* n NotFl	1.18	*	*	2270	2.5	0.0651	*	0.995-1.005		
Hepta	PCB-188	*	* n NotFl	1.59	*	*	1810	2.5	0.0459	*	0.996-1.006		
Hepta	PCB-184	*	* n NotFl	1.44	*	*	1810	2.5	0.0509	*	1.006-1.016		
Hepta	PCB-179	*	* n NotFl	1.45	*	*	1810	2.5	0.0505	*	1.024-1.034		
Hepta	PCB-176	*	* n NotFl	1.56	*	*	1810	2.5	0.0471	*	1.035-1.045		
Hepta	PCB-186	*	* n NotFl	1.56	*	*	1810	2.5	0.0470	*	1.049-1.059		
Hepta	PCB-178	*	* n NotFl	1.20	*	*	1810	2.5	0.0612	*	1.061-1.071		
Hepta	PCB-175	*	* n NotFl	1.12	*	*	1810	2.5	0.0652	*	1.069-1.079		
Hepta	PCB-182/187	*	* n NotFl	1.24	*	*	8270	1.0	0.108	*	1.073-1.083		
Hepta	PCB-183	*	* n NotFl	1.37	*	*	1810	2.5	0.0534	*	1.080-1.090		
Hepta	PCB-185	*	* n NotFl	1.60	*	*	1810	2.5	0.0594	*	0.950-0.960		
Hepta	PCB-174	*	* n NotFl	1.51	*	*	1810	2.5	0.0627	*	0.958-0.968		
Hepta	PCB-181	*	* n NotFl	1.64	*	*	1810	2.5	0.0580	*	0.960-0.970		
Hepta	PCB-177	*	* n NotFl	1.45	*	*	1810	2.5	0.0653	*	0.963-0.973		
Hepta	PCB-171	*	* n NotFl	1.69	*	*	1810	2.5	0.0560	*	0.969-0.979		
Hepta	PCB-173	*	* n NotFl	1.38	*	*	1810	2.5	0.0688	*	0.978-0.988		
Hepta	PCB-172	*	* n NotFl	1.55	*	*	1810	2.5	0.0611	*	0.987-0.997		
Hepta	PCB-192	*	* n NotFl	2.02	*	*	1810	2.5	0.0469	*	0.991-1.001		
Hepta	PCB-180	*	* n NotFl	1.66	*	*	1810	2.5	0.0572	*	0.995-1.005		

Analyst: MS
 Date: 11/2/16

Type	Name	Resp	RA	RT	RRP	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Hepta	PCB-193	*	n	Not F _i	2.09	*		1810	2.5	0.0453	*	0.999-1.009	
Hepta	PCB-191	*	n	Not F _i	2.11	*		1810	2.5	0.0449	*	1.005-1.015	
Hepta	PCB-170	*	n	Not F _i	1.72	*		1810	2.5	0.0598	*	0.995-1.005	
Hepta	PCB-190	*	n	Not F _i	2.32	*		1810	2.5	0.0443	*	0.999-1.009	
Hepta	PCB-189	*	n	Not F _i	1.73	*		1810	2.5	0.0411	*	0.995-1.005	
Octa	PCB-202	*	n	Not F _i	1.08	*		2070	2.5	0.118	*	0.995-1.005	
Octa	PCB-201	*	n	Not F _i	1.16	*		2070	2.5	0.110	*	1.005-1.015	
Octa	PCB-204	*	n	Not F _i	1.09	*		2070	2.5	0.117	*	1.009-1.019	
Octa	PCB-197	*	n	Not F _i	1.21	*		2070	2.5	0.105	*	1.015-1.025	
Octa	PCB-200	*	n	Not F _i	1.12	*		2070	2.5	0.114	*	1.034-1.044	
Octa	PCB-198	*	n	Not F _i	0.81	*		2070	2.5	0.158	*	1.062-1.072	
Octa	PCB-199	*	n	Not F _i	0.80	*		2070	2.5	0.159	*	1.064-1.074	
Octa	PCB-196/203	*	n	Not F _i	0.87	*		2070	2.5	0.146	*	1.070-1.080	
Octa	PCB-195	*	n	Not F _i	1.10	*		1690	2.5	0.0636	*	0.979-0.989	
Octa	PCB-194	2.13e+04	1.40	n	34:05	0.04392		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	*	n	Not F _i	1.62	*		1690	2.5	0.0433	*	1.001-1.010	
Nona	PCB-208	*	n	Not F _i	1.11	*		1850	1.0	0.0169	*	0.995-1.005	
Nona	PCB-207	*	n	Not F _i	1.11	*		1390	2.5	0.0320	*	1.001-1.011	
Nona	PCB-206	*	n	Not F _i	0.95	*		1390	2.5	0.0585	*	0.995-1.005	
Deca	PCB-209	*	n	Not F _i	1.34	*		3300	1.0	0.0643	*	0.995-1.005	

Analyst: (M)

Date: 11/2/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	*	* n	NotFnd	1.02	*
Total Di-PCB	6.18e+05	1.35 Y	25:15	1.18	0.673291
Total Tri-PCB	*	* n	NotFnd	1.21	*
Total Tetra-PCB	1.57e+05	0.70 Y	32:03	1.07	Sum:0.00000
Total Penta-PCB	*	* n	NotFnd	1.29	*
Total Hexa-PCB	5.14e+04	1.11 Y	41:31	0.98	Sum:0.00000
Total Hepta-PCB	*	* n	NotFnd	1.13	Sum:0.132777
Total Octa-PCB	*	* n	NotFnd	1.53	*
Total Nona-PCB	*	* n	NotFnd	1.34	Sum:0.00000
Total Deca-PCB	*	* n	NotFnd	1.06	*
Total PCB					Conc:1.04882400000

Integrations
 by
 Analyst: MM
 Date: 11/12/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	8.83e+07	3.19	1.09	16:04	0.620	0.619-0.625	70.8	70.8	35.4		13C-PCB-79	2.04e+08	0.79	Y	1.01	37:49	1.029	1.024-1.033	189	94.3	
13C-PCB-3	1.04e+08	3.21	1.15	18:42	0.721	0.718-0.726	79.4	79.4	39.7		13C-PCB-178	6.56e+07	0.45	Y	0.64	45:38	0.985	0.980-0.989	161	80.6	
13C-PCB-4	7.28e+07	1.58	0.59	20:03	0.773	0.770-0.778	107	107	53.4												
13C-PCB-9	1.24e+08	1.59	0.94	21:50	0.842	0.839-0.847	116	116	57.9												
13C-PCB-11	1.56e+08	1.56	0.93	25:14	0.973	0.968-0.978	147	147	73.3												
13C-PCB-19	6.21e+07	1.07	0.63	24:13	0.933	0.929-0.939	86.2	86.2	43.1												
13C-PCB-28	1.51e+08	1.05	1.14	29:06	1.000	0.999-1.009	175	175	87.6												
13C-PCB-32	1.11e+08	1.08	0.91	27:08	1.046	1.041-1.051	107	107	53.3												
13C-PCB-37	1.66e+08	1.02	1.05	32:58	1.133	1.131-1.143	210	210	105												
13C-PCB-47	1.30e+08	0.79	0.77	32:01	0.871	0.867-0.875	158	158	78.8												
13C-PCB-52	1.25e+08	0.79	0.72	31:31	0.857	0.853-0.861	161	161	80.4												
13C-PCB-54	1.40e+08	0.79	0.95	27:58	0.761	0.757-0.765	138	138	69.2												
13C-PCB-70	1.90e+08	0.80	0.97	35:32	0.967	0.961-0.971	183	183	91.3												
13C-PCB-77	1.91e+08	0.79	0.93	39:38	1.078	1.073-1.083	191	191	95.5												
13C-PCB-80	1.92e+08	0.81	0.98	35:57	0.978	0.973-0.983	183	183	91.3												
13C-PCB-81	1.90e+08	0.79	0.95	39:03	1.062	1.057-1.067	186	186	93.0												
13C-PCB-95	7.76e+07	1.60	0.70	35:50	0.913	0.908-0.918	180	180	90.0	RS											
13C-PCB-97	7.77e+07	1.61	0.67	38:48	0.989	0.984-0.994	189	189	94.4												
13C-PCB-101	8.63e+07	1.60	0.75	37:31	0.956	0.951-0.961	189	189	94.4												
13C-PCB-104	1.03e+08	1.58	0.95	32:40	0.833	0.828-0.836	177	177	88.6												
13C-PCB-105	1.35e+08	1.55	1.14	43:04	0.929	0.924-0.934	186	186	93.2												
13C-PCB-114	1.41e+08	1.57	1.12	42:12	0.911	0.905-0.915	197	197	98.5												
13C-PCB-118	1.09e+08	1.62	0.93	41:33	1.059	1.054-1.064	190	190	95.2												
13C-PCB-123	1.09e+08	1.61	0.88	41:22	1.054	1.049-1.059	202	202	101												
13C-PCB-126	1.32e+08	1.54	1.16	45:17	0.977	0.972-0.982	179	179	89.4												
13C-PCB-127	1.48e+08	1.54	1.25	43:24	0.936	0.931-0.941	186	186	92.8												
13C-PCB-138	1.37e+08	1.28	1.11	44:48	0.967	0.961-0.971	192	192	96.2												
13C-PCB-141	1.32e+08	1.28	1.05	43:57	0.948	0.943-0.953	197	197	98.3												
13C-PCB-153	1.50e+08	1.29	1.21	43:13	0.933	0.927-0.937	194	194	97.1												
13C-PCB-155	8.52e+07	1.27	0.84	37:03	0.944	0.939-0.949	166	166	82.8												
13C-PCB-156	1.63e+08	1.29	1.31	48:02	1.037	1.032-1.042	195	195	97.5												
13C-PCB-157	1.62e+08	1.30	1.35	48:19	1.042	1.037-1.047	187	187	93.5												
13C-PCB-159	1.65e+08	1.30	1.33	46:04	0.994	0.989-0.999	194	194	96.9												
13C-PCB-167	1.65e+08	1.27	1.34	46:45	1.009	1.004-1.014	192	192	96.2												
13C-PCB-169	1.64e+08	1.29	1.33	50:30	1.084	1.084-1.094	193	193	96.7												
13C-PCB-170	6.03e+07	0.46	0.61	50:55	1.099	1.091-1.103	156	156	77.8												
13C-PCB-180	6.78e+07	0.46	0.67	49:20	1.064	1.059-1.069	159	159	79.3												
13C-PCB-188	9.16e+07	0.46	0.94	42:51	0.925	0.919-0.929	153	153	76.7												
13C-PCB-189	7.65e+07	0.44	0.79	52:30	1.133	1.124-1.136	151	151	75.6												
13C-PCB-194	7.57e+07	0.90	0.72	54:04	0.995	0.990-1.000	216	216	108												
13C-PCB-202	7.90e+07	0.90	0.94	48:15	1.041	1.036-1.046	131	131	65.6												
13C-PCB-206	8.23e+07	0.78	0.80	55:38	1.024	1.020-1.301	210	210	105												
13C-PCB-208	1.25e+08	0.78	1.00	53:19	0.981	0.977-0.987	256	256	128												
13C-PCB-209	6.47e+07	1.20	0.85	56:56	1.048	1.045-1.055	156	156	78.1												

Analyst: M
Date: 11/12/16

Sample ID: OPR

EPA Method 1668A

Matrix: Tissue
 Sample Size: 10.0 g

QC Batch: B6K0046
 Date Extracted: 07-Nov-2016 14:16

Lab Sample: B6K0046-BS1
 Date Analyzed: 09-Nov-16 12:51 Column: ZB-1

Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PCB-1	138	100	138	50 - 150	IS 13C-PCB-1	36.6	15 - 140
PCB-3	132	100	132	50 - 150	IS 13C-PCB-3	41.3	15 - 140
PCB-4/10	203	200	102	50 - 150	IS 13C-PCB-4	57.0	30 - 140
PCB-15	93.7	100	93.7	50 - 150	IS 13C-PCB-11	80.3	30 - 140
PCB-19	119	100	119	50 - 150	IS 13C-PCB-9	64.3	30 - 140
PCB-37	82.6	100	82.6	50 - 150	IS 13C-PCB-19	47.5	30 - 140
PCB-54	101	100	101	50 - 150	IS 13C-PCB-28	87.6	30 - 140
PCB-77	97.7	100	97.7	50 - 150	IS 13C-PCB-32	59.4	30 - 140
PCB-81	101	100	101	50 - 150	IS 13C-PCB-37	118	30 - 140
PCB-104	99.9	100	99.9	50 - 150	IS 13C-PCB-47	84.5	30 - 140
PCB-105	92.3	100	92.3	50 - 150	IS 13C-PCB-52	80.6	30 - 140
PCB-106/118	192	200	95.9	50 - 150	IS 13C-PCB-54	71.0	30 - 140
PCB-114	98.9	100	98.9	50 - 150	IS 13C-PCB-70	93.4	30 - 140
PCB-123	91.0	100	91.0	50 - 150	IS 13C-PCB-77	101	30 - 140
PCB-126	91.9	100	91.9	50 - 150	IS 13C-PCB-80	96.5	30 - 140
PCB-155	91.4	100	91.4	50 - 150	IS 13C-PCB-81	97.8	30 - 140
PCB-156	95.7	100	95.7	50 - 150	IS 13C-PCB-95	89.8	30 - 140
PCB-157	97.3	100	97.3	50 - 150	IS 13C-PCB-97	98.3	30 - 140
PCB-167	94.9	100	94.9	50 - 150	IS 13C-PCB-101	94.3	30 - 140
PCB-169	95.3	100	95.3	50 - 150	IS 13C-PCB-104	85.9	30 - 140
PCB-188	94.8	100	94.8	50 - 150	IS 13C-PCB-105	94.1	30 - 140
PCB-189	94.6	100	94.6	50 - 150	IS 13C-PCB-114	100	30 - 140
PCB-202	93.6	100	93.6	50 - 150	IS 13C-PCB-118	99.9	30 - 140
PCB-205	79.4	100	79.4	50 - 150	IS 13C-PCB-123	104	30 - 140
PCB-206	87.9	100	87.9	50 - 150	IS 13C-PCB-126	92.3	30 - 140
PCB-208	87.0	100	87.0	50 - 150	IS 13C-PCB-127	96.3	30 - 140
PCB-209	92.2	100	92.2	50 - 150	IS 13C-PCB-138	98.3	30 - 140
					IS 13C-PCB-141	98.7	30 - 140
					IS 13C-PCB-153	98.8	30 - 140
					IS 13C-PCB-155	83.1	30 - 140
					IS 13C-PCB-156	98.8	30 - 140
					IS 13C-PCB-157	95.5	30 - 140
					IS 13C-PCB-159	98.2	30 - 140
					IS 13C-PCB-167	97.9	30 - 140
					IS 13C-PCB-169	101	30 - 140
					IS 13C-PCB-170	79.0	30 - 140
					IS 13C-PCB-180	81.2	30 - 140
					IS 13C-PCB-188	78.4	30 - 140
					IS 13C-PCB-189	77.7	30 - 140
					IS 13C-PCB-194	106	30 - 140

Sample ID: OPR

EPA Method 1668A


Matrix: Tissue Sample Size: 10.0 g	QC Batch: B6K0046 Date Extracted: 07-Nov-2016 14:16	Lab Sample: B6K0046-BS1 Date Analyzed: 09-Nov-16 12:51 Column: ZB-1
Amt Found (pg/g)	Spike Amt	%R
Analyte	Labeled Standard	%R ✓
	IS 13C-PCB-202	65.5
	IS 13C-PCB-206	102
	IS 13C-PCB-208	124
	IS 13C-PCB-209	73.8
	CRS 13C-PCB-79	96.2 ✓
	CRS 13C-PCB-178	79.4
		LCL-UCL
		30 - 140
		30 - 140
		30 - 140
		30 - 140
		25 - 125
		25 - 125

LCL-UCL - Lower control limit - upper control limit

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	9.82e+07	3.08	Y	1.06	16:05	1.001	0.997-1.007	68.7943	PCB-52/69	2.54e+08	0.78	Y	1.308	31:33	1.001	0.996-1.006	102.832
PCB-2	1.10e+08	3.09	Y	0.99	18:29	0.988	0.983-0.993	69.7833	PCB-73	1.27e+08	0.78	Y	1.454	31:40	1.005	0.999-1.009	46.3016
PCB-3	1.07e+08	3.06	Y	1.02	18:43	1.001	0.996-1.006	66.0959	PCB-43/49	2.23e+08	0.79	Y	1.279	31:50	1.010	1.005-1.015	92.6197
									PCB-47	1.16e+08	0.78	Y	1.222	32:02	1.001	0.996-1.006	45.4646
PCB-4/10	1.64e+08	1.56	Y	1.41	20:06	1.003	0.997-1.007	101.750	PCB-48/75	2.78e+08	0.79	Y	1.324	32:09	1.004	0.999-1.009	100.255
PCB-7/9	2.20e+08	1.57	Y	1.13	21:54	0.868	0.864-0.872	95.7938	PCB-65	1.26e+08	0.89	Y	1.273	32:25	1.012	1.007-1.017	47.2670
PCB-6	1.12e+08	1.57	Y	1.08	22:32	0.893	0.888-0.897	50.9731	PCB-62	1.37e+08	0.70	Y	1.358	32:32	1.016	1.011-1.021	48.2944
PCB-5/8	2.34e+08	1.56	Y	1.14	22:57	0.909	0.905-0.915	101.331	PCB-44	9.81e+07	0.78	Y	0.941	32:50	1.025	1.020-1.030	49.8281
PCB-14	1.48e+08	1.57	Y	1.32	24:03	0.953	0.948-0.958	44.4742	PCB-42/59	2.63e+08	0.78	Y	1.267	33:04	1.032	1.027-1.037	99.2361
PCB-11	1.32e+08	1.56	Y	1.18	25:15	1.001	0.995-1.005	44.7286	PCB-41/64/71/72	5.57e+08	0.79	Y	1.338	33:39	1.051	1.045-1.055	198.796
PCB-12/13	2.68e+08	1.56	Y	1.14	25:39	1.016	1.011-1.021	93.1880	PCB-68	1.64e+08	0.78	Y	1.526	33:54	1.059	1.053-1.063	51.3606
PCB-15	1.52e+08	1.56	Y	1.29	25:57	1.028	1.023-1.031	46.8443	PCB-40	9.10e+07	0.79	Y	0.864	34:07	1.065	1.061-1.071	50.3380
PCB-19	7.41e+07	1.06	Y	1.23	24:14	1.001	0.996-1.006	59.5795	PCB-57	1.59e+08	0.78	Y	1.119	34:29	0.971	0.965-0.975	48.5231
PCB-30	1.30e+08	1.06	Y	1.88	25:08	1.038	1.033-1.043	68.4795	PCB-67	1.62e+08	0.79	Y	1.097	34:47	0.979	0.974-0.984	50.4833
PCB-18	9.06e+07	1.06	Y	0.90	25:53	0.954	0.949-0.959	55.2219	PCB-58	1.63e+08	0.79	Y	1.157	34:54	0.982	0.977-0.987	48.1272
PCB-17	9.92e+07	1.06	Y	0.98	26:03	0.960	0.956-0.966	55.8759	PCB-63	1.70e+08	0.79	Y	1.199	35:03	0.987	0.981-0.991	48.6095
PCB-24/27	2.69e+08	1.06	Y	1.27	26:38	0.981	0.977-0.987	116.666	PCB-74	1.74e+08	0.80	Y	1.172	35:20	0.995	0.989-0.999	50.6898
PCB-16/32	2.22e+08	1.06	Y	1.07	27:09	1.000	0.996-1.006	113.568	PCB-61/70	3.23e+08	0.79	Y	1.132	35:31	1.000	0.995-1.005	97.5227
PCB-34	1.16e+08	1.00	Y	0.97	27:56	0.960	0.955-0.965	51.2243	PCB-76/66	3.48e+08	0.79	Y	1.141	35:44	1.006	1.000-1.010	104.298
PCB-23	1.23e+08	1.02	Y	0.86	28:02	0.963	0.958-0.968	61.1810	PCB-80	1.99e+08	0.79	Y	1.305	35:59	1.001	0.995-1.005	50.0205
PCB-29	1.24e+08	1.02	Y	0.95	28:17	0.972	0.967-0.977	55.9662	PCB-55	1.83e+08	0.80	Y	1.160	36:17	1.009	1.004-1.014	51.5587
PCB-26	1.24e+08	1.01	Y	0.97	28:29	0.979	0.974-0.984	54.8382	PCB-56/60	3.28e+08	0.78	Y	1.137	36:47	1.023	1.018-1.028	94.5367
PCB-25	1.19e+08	1.04	Y	0.93	28:39	0.984	0.980-0.990	55.0943	PCB-79	1.73e+08	0.79	Y	1.169	37:51	1.052	1.048-1.058	48.3757
PCB-31	1.21e+08	1.01	Y	1.09	29:01	0.997	0.992-1.002	47.9526	PCB-78	1.70e+08	0.79	Y	1.110	38:33	0.987	0.982-0.992	50.8037
PCB-28	1.14e+08	1.02	Y	1.10	29:07	1.001	0.996-1.006	44.5197	PCB-81	1.83e+08	0.78	Y	1.201	39:04	1.000	0.995-1.005	50.5572
PCB-20/21/33	3.57e+08	1.02	Y	1.08	29:43	1.021	1.016-1.026	142.192	PCB-77	1.85e+08	0.79	Y	1.237	39:40	1.000	0.995-1.005	48.8644
PCB-22	1.20e+08	1.02	Y	1.04	30:10	1.037	1.032-1.042	49.5022	PCB-104	9.88e+07	1.59	Y	1.305	32:41	1.000	0.996-1.006	49.9714
PCB-36	1.19e+08	1.01	Y	1.18	30:47	0.934	0.929-0.939	34.9443	PCB-96	8.62e+07	1.62	Y	1.153	33:56	1.039	1.034-1.044	49.3196
PCB-39	1.28e+08	1.00	Y	1.25	31:15	0.948	0.943-0.953	35.5382	PCB-103	8.25e+07	1.60	Y	1.027	34:29	1.055	1.051-1.061	53.0034
PCB-38	1.24e+08	1.01	Y	1.15	32:02	0.972	0.967-0.977	37.6072	PCB-100	8.19e+07	1.58	Y	1.029	34:51	1.067	1.061-1.071	52.5340
PCB-35	1.30e+08	1.02	Y	1.16	32:32	0.987	0.982-0.992	38.6717	PCB-94	6.94e+07	1.63	Y	1.178	35:19	0.986	0.980-0.990	50.1048
PCB-37	1.48e+08	1.01	Y	1.24	33:00	1.001	0.996-1.006	41.3030	PCB-95/98/102	2.29e+08	1.60	Y	1.306	35:48	0.999	0.994-1.004	149.332
PCB-54	1.17e+08	0.79	Y	1.07	27:60	1.001	0.996-1.006	50.4182	PCB-93	7.22e+07	1.56	Y	1.192	35:56	1.003	0.998-1.008	51.5320
PCB-50	9.53e+07	0.79	Y	0.90	29:10	1.043	1.037-1.047	48.9543	PCB-88/91	1.41e+08	1.59	Y	1.232	36:13	1.011	1.006-1.016	97.1700
PCB-53	1.01e+08	0.78	Y	1.17	29:49	0.946	0.941-0.951	46.0062	PCB-121	1.13e+08	1.60	Y	1.737	36:20	1.014	1.009-1.019	55.1587
PCB-51	1.05e+08	0.79	Y	1.18	30:09	0.957	0.952-0.962	47.4365	PCB-84/92	1.49e+08	1.60	Y	1.158	37:10	0.991	0.985-0.995	98.7058
PCB-45	9.48e+07	0.80	Y	1.06	30:35	0.970	0.965-0.975	47.6728	PCB-89	7.16e+07	1.59	Y	1.107	37:20	0.995	0.990-1.000	49.4519
PCB-46	8.73e+07	0.78	Y	0.99	31:04	0.986	0.981-0.991	46.9166									

Integrations by Analyst: W
 Reviewed by Analyst: CT
 Date: 11/17/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-90/101	1.66e+08	1.60 Y	1.27	37:31	1.000	0.995-1.005	100.178	102.911	PCB-133/142	2.12e+08	1.25 Y	0.86	42:27	0.982	0.977-0.987	102.911	
PCB-113	9.45e+07	1.59 Y	1.47	37:46	1.007	1.002-1.012	49.2394	49.0922	PCB-131	1.04e+08	1.26 Y	0.89	42:36	0.986	0.981-0.991	49.0922	
PCB-99	8.22e+07	1.62 Y	1.26	37:52	1.009	1.004-1.014	49.7526	100.656	PCB-146/165	2.58e+08	1.25 Y	1.07	42:49	0.991	0.986-0.996	100.656	
PCB-119	1.09e+08	1.58 Y	1.87	38:19	0.987	0.982-0.992	47.3905	96.6040	PCB-132/161	2.59e+08	1.25 Y	1.12	43:04	0.996	0.992-1.002	96.6040	
PCB-108/112	1.69e+08	1.59 Y	1.44	38:28	0.991	0.986-0.996	95.8558	46.2929	PCB-153	1.28e+08	1.26 Y	1.15	43:14	1.000	0.996-1.006	46.2929	
PCB-83	1.04e+08	1.62 Y	1.70	38:38	0.996	0.990-1.000	49.6365	47.8136	PCB-168	1.59e+08	1.24 Y	1.38	43:27	1.005	1.000-1.010	47.8136	
PCB-97	7.99e+07	1.59 Y	1.31	38:50	1.001	0.995-1.005	49.5520	47.2940	PCB-141	1.18e+08	1.25 Y	1.20	43:58	1.000	0.995-1.005	47.2940	
PCB-86	5.96e+07	1.56 Y	1.02	38:59	1.005	0.999-1.009	47.3511	49.4835	PCB-137	1.27e+08	1.23 Y	1.23	44:22	1.009	1.004-1.014	49.4835	
B-87/117/125	2.83e+08	1.61 Y	1.59	39:06	1.008	1.002-1.012	145.066	48.2454	PCB-130	1.04e+08	1.26 Y	1.04	44:27	1.011	1.006-1.016	48.2454	
PCB-111/115	2.28e+08	1.59 Y	1.85	39:16	1.012	1.006-1.016	100.260	145.848	PCB-138/163/164	4.19e+08	1.25 Y	1.30	44:50	1.001	0.996-1.006	145.848	
PCB-85/116	1.62e+08	1.59 Y	1.44	39:23	1.015	1.010-1.020	91.6112	96.2280	PCB-158/160	2.99e+08	1.25 Y	1.41	45:04	1.006	1.001-1.011	96.2280	
PCB-120	1.19e+08	1.58 Y	1.91	39:37	1.021	1.016-1.026	50.5465	46.7850	PCB-129	9.98e+07	1.25 Y	0.97	45:18	1.011	1.007-1.017	46.7850	
PCB-110	9.68e+07	1.61 Y	1.76	39:46	1.025	1.019-1.029	44.7393	48.3153	PCB-166	1.52e+08	1.25 Y	1.19	45:46	0.993	0.988-0.998	48.3153	
PCB-82	6.38e+07	1.58 Y	0.81	40:23	0.976	0.971-0.981	45.7097	47.2824	PCB-159	1.59e+08	1.25 Y	1.28	46:06	1.001	0.995-1.005	47.2824	
PCB-124	1.08e+08	1.57 Y	1.30	41:04	0.993	0.988-0.998	48.2883	95.6959	PCB-128/162	2.66e+08	1.23 Y	1.06	46:23	1.007	1.002-1.012	95.6959	
PCB-107/109	2.20e+08	1.61 Y	1.34	41:13	0.996	0.991-1.001	95.9570	47.4654	PCB-167	1.54e+08	1.24 Y	1.22	46:46	1.000	0.995-1.005	47.4654	
PCB-123	1.05e+08	1.60 Y	1.35	41:23	1.000	0.995-1.005	45.5229	47.8315	PCB-156	1.58e+08	1.24 Y	1.27	48:04	1.001	0.995-1.005	47.8315	
PCB-106/118	2.22e+08	1.59 Y	1.34	41:36	1.001	0.996-1.006	95.9177	48.6413	PCB-157	1.57e+08	1.24 Y	1.24	48:20	1.000	0.995-1.005	48.6413	
PCB-114	1.31e+08	1.56 Y	1.17	42:13	1.000	0.995-1.005	49.4421	47.6338	PCB-169	1.51e+08	1.25 Y	1.18	50:32	1.001	0.995-1.005	47.6338	
PCB-122	1.13e+08	1.58 Y	1.03	42:21	1.004	0.999-1.009	48.4664	47.3820	PCB-188	1.12e+08	1.07 Y	1.59	42:53	1.000	0.996-1.006	47.3820	
PCB-105	1.23e+08	1.60 Y	1.23	43:04	1.000	0.995-1.005	46.1421	48.0400	PCB-184	1.02e+08	1.06 Y	1.44	43:19	1.011	1.006-1.016	48.0400	
PCB-127	1.16e+08	1.58 Y	1.06	43:25	1.000	0.995-1.005	45.3174	49.1725	PCB-179	1.05e+08	1.07 Y	1.45	44:06	1.029	1.024-1.034	49.1725	
PCB-126	1.14e+08	1.61 Y	1.16	45:18	1.000	0.995-1.005	45.9254	48.9835	PCB-176	1.13e+08	1.07 Y	1.56	44:34	1.040	1.035-1.045	48.9835	
PCB-155	7.46e+07	1.26 Y	1.26	37:05	1.001	0.966-1.006	45.7002	48.8256	PCB-186	1.12e+08	1.07 Y	1.56	45:10	1.054	1.049-1.059	48.8256	
PCB-150	7.10e+07	1.28 Y	1.15	38:20	1.034	1.030-1.040	47.6453	46.3255	PCB-178	8.20e+07	1.07 Y	1.20	45:40	1.066	1.061-1.071	46.3255	
PCB-152	7.09e+07	1.28 Y	1.19	38:48	1.047	1.043-1.053	45.8252	50.9513	PCB-175	8.45e+07	1.07 Y	1.12	46:01	1.074	1.069-1.079	50.9513	
PCB-145	6.73e+07	1.27 Y	1.14	39:16	1.059	1.055-1.065	45.3434	94.3280	PCB-182/187	1.73e+08	1.07 Y	1.24	46:11	1.078	1.073-1.083	94.3280	
PCB-136	7.17e+07	1.28 Y	1.18	39:35	1.068	1.063-1.073	46.6590	49.5234	PCB-183	1.00e+08	1.07 Y	1.37	46:30	1.085	1.080-1.090	49.5234	
PCB-148	5.13e+07	1.28 Y	0.82	39:42	1.071	1.066-1.076	48.1924	47.3573	PCB-185	8.27e+07	1.06 Y	1.60	47:09	0.956	0.950-0.960	47.3573	
PCB-154	5.78e+07	1.26 Y	0.91	40:11	1.084	1.079-1.089	49.0323	44.0201	PCB-174	7.29e+07	1.05 Y	1.51	47:31	0.963	0.958-0.968	44.0201	
PCB-151	5.42e+07	1.26 Y	0.86	40:49	1.101	1.097-1.107	48.7872	47.9680	PCB-181	8.59e+07	1.08 Y	1.64	47:37	0.965	0.960-0.970	47.9680	
PCB-135	5.02e+07	1.29 Y	0.82	41:01	1.107	1.101-1.113	46.9307	46.5553	PCB-177	7.40e+07	1.07 Y	1.45	47:47	0.969	0.963-0.973	46.5553	
PCB-144	5.94e+07	1.26 Y	0.92	41:08	1.110	1.105-1.116	49.5135	44.6477	PCB-171	8.27e+07	1.07 Y	1.69	48:05	0.975	0.969-0.979	44.6477	
PCB-147	5.04e+07	1.29 Y	0.81	41:16	1.114	1.108-1.120	48.1857	45.7667	PCB-173	6.90e+07	1.06 Y	1.38	48:30	0.983	0.978-0.988	45.7667	
PCB-139/149	1.13e+08	1.27 Y	0.91	41:32	1.121	1.115-1.127	95.5417	46.4099	PCB-172	7.88e+07	1.05 Y	1.55	48:57	0.992	0.987-0.997	46.4099	
PCB-140	5.27e+07	1.26 Y	0.83	41:43	1.126	1.120-1.132	48.5982	45.8369	PCB-192	1.02e+08	1.07 Y	2.02	49:08	0.996	0.991-1.001	45.8369	
PCB-134/143	2.13e+08	1.27 Y	0.89	42:09	0.975	0.970-0.980	99.5741	44.7738	PCB-180	8.13e+07	1.08 Y	1.66	49:21	1.000	0.995-1.005	44.7738	

Integrations
by
Analyst: 
Date: 11/11/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RT	RRF	Conc
PCB-193	1.07e+08	1.06 Y	2.09	49:33	1.005	0.999-1.009	46.6576	46.6576	Total Mono-PCB	3.15e+08	3.08 Y	16:05	1.02	204.674
PCB-191	1.09e+08	1.07 Y	2.11	49:49	1.010	1.005-1.015	47.3457	47.3457	Total Di-PCB	1.44e+09	1.56 Y	20:06	1.18	582.332
PCB-170	7.75e+07	1.08 Y	1.72	50:56	1.000	0.995-1.005	46.6744	46.6744	Total Tri-PCB	8.95e+08	1.06 Y	24:14	1.21	469.461
PCB-190	1.05e+08	1.07 Y	2.32	51:07	1.004	0.999-1.009	46.7449	46.7449	Total Tetra-PCB	2.01e+09	1.00 Y	27:56	1.07	764.510
PCB-189	1.02e+08	1.06 Y	1.73	52:31	1.000	0.995-1.005	47.2773	47.2773	Total Penta-PCB	5.88e+09	0.79 Y	27:60	1.20	2037.37
PCB-202	6.31e+07	0.93 Y	1.08	48:17	1.000	0.995-1.005	46.8177	46.8177	Total Hexa-PCB	3.67e+09	1.59 Y	32:41	1.29	2012.28
PCB-201	7.18e+07	0.90 Y	1.16	48:46	1.010	1.005-1.015	49.7565	49.7565	Total Hepta-PCB	6.26e+08	1.56 Y	42:13	1.13	246.760
PCB-204	6.43e+07	0.91 Y	1.09	48:55	1.014	1.009-1.019	47.1901	47.1901	Total Octa-PCB	8.44e+08	1.26 Y	37:05	0.98	665.955
PCB-197	7.63e+07	0.90 Y	1.21	49:13	1.020	1.015-1.025	50.4569	50.4569	Total Nona-PCB	3.73e+09	1.27 Y	42:09	1.13	1372.90
PCB-200	6.78e+07	0.90 Y	1.12	50:07	1.039	1.034-1.044	48.8325	48.8325	Total Deca-PCB	2.22e+09	1.07 Y	42:53	1.53	1137.29
PCB-198	4.98e+07	0.91 Y	0.81	51:34	1.068	1.062-1.072	49.4332	49.4332		5.44e+08	0.93 Y	48:17	1.00	435.557
PCB-199	4.81e+07	0.92 Y	0.80	51:41	1.071	1.064-1.074	48.2242	48.2242		2.08e+08	0.88 Y	53:11	1.34	129.321
PCB-196/203	1.03e+08	0.92 Y	0.87	51:58	1.077	1.070-1.080	94.6825	94.6825		2.49e+08	1.32 Y	53:20	1.06	131.215
PCB-195	6.33e+07	0.88 Y	1.10	53:11	0.984	0.979-0.989	47.0537	47.0537		6.25e+07	1.17 Y	56:58	1.34	46.1211
PCB-194	6.32e+07	0.89 Y	1.28	54:05	1.000	0.995-1.005	40.4398	40.4398						
PCB-205	7.84e+07	0.90 Y	1.62	54:21	1.005	1.001-1.010	39.6868	39.6868						
PCB-208	9.71e+07	1.32 Y	1.11	53:20	1.000	0.995-1.005	43.4860	43.4860						
PCB-207	9.72e+07	1.32 Y	1.11	53:39	1.006	1.001-1.011	43.7981	43.7981						
PCB-206	5.52e+07	1.31 Y	0.95	55:38	1.000	0.995-1.005	43.9313	43.9313						
PCB-209	6.25e+07	1.17 Y	1.34	56:58	1.000	0.995-1.005	46.1211	46.1211						

Total PCB Conc: 10207.9961920

Integrations
 by
 Analyst: (M)
 Date: 11/11/16

Client ID: OPR Lab ID: B6K0046-BS1
 Filename: 161109E1 S:2 Acq: 9-NOV-16 12:51:15 ConCal: ST161109E1-1
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:1.1:0.000 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	REC	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	1.35e+08	3.23	Y	1.09	16:04	0.620	0.619-0.625	36.6	36.6												
13C-PCB-3	1.60e+08	3.24	Y	1.15	18:42	0.721	0.718-0.726	41.3	41.3	13C-PCB-79	3.13e+08	0.81	Y	1.01	37:49	1.029	1.024-1.033	96.2	96.2		
13C-PCB-4	1.15e+08	1.58	Y	0.59	20:03	0.773	0.770-0.778	57.0	57.0	13C-PCB-178	1.02e+08	0.45	Y	0.64	45:39	0.985	0.980-0.989	79.4	79.4		
13C-PCB-9	2.03e+08	1.58	Y	0.94	21:51	0.842	0.839-0.847	64.3	64.3												
13C-PCB-11	2.51e+08	1.54	Y	0.93	25:14	0.973	0.968-0.978	80.3	80.3	PS vs. IS											
13C-PCB-19	1.01e+08	1.08	Y	0.63	24:13	0.933	0.929-0.939	47.5	47.5												
13C-PCB-28	2.33e+08	1.02	Y	1.14	29:06	1.000	0.999-1.009	87.6	87.6	13C-PCB-79	3.13e+08	0.81	Y	1.06	37:49	0.969	0.963-0.973	98.4	98.4		
13C-PCB-32	1.82e+08	1.09	Y	0.91	27:08	1.046	1.041-1.051	59.4	59.4	13C-PCB-178	1.02e+08	0.45	Y	0.95	45:39	0.925	0.920-0.930	97.8	97.8		
13C-PCB-37	2.88e+08	1.04	Y	1.05	32:58	1.133	1.131-1.143	118	118												
13C-PCB-47	2.09e+08	0.79	Y	0.77	32:01	0.871	0.867-0.875	84.5	84.5												
13C-PCB-52	1.86e+08	0.80	Y	0.72	31:31	0.857	0.853-0.861	80.6	80.6												
13C-PCB-54	2.17e+08	0.80	Y	0.95	27:58	0.761	0.757-0.765	71.0	71.0												
13C-PCB-70	2.92e+08	0.80	Y	0.97	35:32	0.967	0.961-0.971	93.4	93.4												
13C-PCB-77	3.06e+08	0.81	Y	0.93	39:38	1.078	1.073-1.083	101	101												
13C-PCB-80	3.05e+08	0.80	Y	0.98	35:58	0.978	0.973-0.983	96.5	96.5												
13C-PCB-81	3.01e+08	0.80	Y	0.95	39:03	1.062	1.057-1.067	97.8	97.8	RS											
13C-PCB-95	1.18e+08	1.60	Y	0.70	35:50	0.913	0.908-0.918	89.8	89.8												
13C-PCB-97	1.23e+08	1.62	Y	0.67	38:48	0.989	0.984-0.994	98.3	98.3	13C-PCB-15	3.37e+08	1.55	Y	1.00	25:56	1.00					
13C-PCB-101	1.31e+08	1.56	Y	0.75	37:31	0.956	0.951-0.961	94.3	94.3	13C-PCB-31	2.33e+08	1.02	Y	1.00	29:06	1.00					
13C-PCB-104	1.52e+08	1.59	Y	0.95	32:40	0.833	0.828-0.836	85.9	85.9	13C-PCB-60	3.23e+08	0.81	Y	1.00	36:46	1.00					
13C-PCB-114	2.26e+08	1.55	Y	1.12	42:12	0.911	0.905-0.915	100	100	13C-PCB-111	1.86e+08	1.60	Y	1.00	39:15	1.00					
13C-PCB-118	1.73e+08	1.60	Y	0.93	41:33	1.059	1.054-1.064	99.9	99.9	13C-PCB-128	2.01e+08	1.29	Y	1.00	46:21	1.00					
13C-PCB-123	1.71e+08	1.59	Y	0.88	41:22	1.054	1.049-1.059	104	104	13C-PCB-205	1.61e+08	0.89	Y	1.00	54:20	1.00					
13C-PCB-126	2.15e+08	1.55	Y	1.16	45:17	0.977	0.972-0.982	92.3	92.3												
13C-PCB-127	2.42e+08	1.55	Y	1.25	43:24	0.936	0.931-0.941	96.3	96.3												
13C-PCB-138	2.20e+08	1.28	Y	1.11	44:48	0.967	0.961-0.971	98.3	98.3												
13C-PCB-141	2.09e+08	1.31	Y	1.05	43:57	0.948	0.943-0.953	98.7	98.7												
13C-PCB-153	2.40e+08	1.28	Y	1.21	43:13	0.933	0.927-0.937	98.8	98.8												
13C-PCB-155	1.30e+08	1.27	Y	0.84	37:04	0.944	0.939-0.949	83.1	83.1												
13C-PCB-156	2.60e+08	1.27	Y	1.31	48:02	1.037	1.032-1.042	98.8	98.8												
13C-PCB-157	2.60e+08	1.28	Y	1.35	48:19	1.042	1.037-1.047	95.5	95.5												
13C-PCB-159	2.63e+08	1.30	Y	1.33	46:04	0.994	0.989-0.999	98.2	98.2												
13C-PCB-167	2.65e+08	1.30	Y	1.34	46:46	1.009	1.004-1.014	97.9	97.9												
13C-PCB-169	2.69e+08	1.27	Y	1.33	50:30	1.090	1.084-1.094	101	101												
13C-PCB-170	9.66e+07	0.45	Y	0.61	50:55	1.099	1.091-1.103	79.0	79.0												
13C-PCB-180	1.09e+08	0.45	Y	0.67	49:20	1.064	1.059-1.069	81.2	81.2												
13C-PCB-188	1.48e+08	0.46	Y	0.94	42:51	0.925	0.919-0.929	78.4	78.4												
13C-PCB-189	1.24e+08	0.46	Y	0.79	52:30	1.133	1.124-1.136	77.7	77.7												
13C-PCB-194	1.22e+08	0.89	Y	0.72	54:04	0.995	0.990-1.000	106	106												
13C-PCB-202	1.24e+08	0.90	Y	0.94	48:16	1.041	1.036-1.046	65.5	65.5												
13C-PCB-206	1.32e+08	0.78	Y	0.80	55:37	1.024	1.020-1.301	102	102												
13C-PCB-208	2.01e+08	0.77	Y	1.00	53:19	0.981	0.977-0.987	124	124												
13C-PCB-209	1.01e+08	1.22	Y	0.85	56:57	1.048	1.045-1.055	73.8	73.8												

Analyst: MS
 Date: 11/11/16

Sample ID: EPA-HS-A1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-01			
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046			
Date Collected:	30-Aug-2016 15:17	%Lipids:	5.77	Date Analyzed:	09-Nov-16 16:06 Column: ZB-1			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	ND		0.0468	PCB-44	17.3			
PCB-2	ND	0.143		PCB-45	1.53			
PCB-3	ND	0.139		PCB-46	ND		0.371	
PCB-4/10	ND		0.267	PCB-47	15.2			B
PCB-5/8	1.20			PCB-48/75	2.72			
PCB-6	ND	0.119		PCB-50	ND		0.0987	
PCB-7/9	ND	0.114		PCB-51	0.495			
PCB-11	1.27			PCB-52/69	55.6			
PCB-12/13	ND	0.0821		PCB-53	3.18			
PCB-14	ND	0.0711		PCB-54	0.0275			J
PCB-15	ND	0.231		PCB-55	0.829			
PCB-16/32	2.53			PCB-56/60	11.1			
PCB-17	0.946			PCB-57	0.201			J
PCB-18	9.24			PCB-58	0.196			J
PCB-19	0.558			PCB-61/70	31.8			
PCB-20/21/33	0.731			PCB-62	ND		0.0836	
PCB-22	2.12			PCB-63	2.61		0.0892	
PCB-23	ND	0.0929		PCB-65	ND			
PCB-24/27	0.574			PCB-66/76	39.9			
PCB-25	0.136			PCB-67	0.156			J
PCB-26	0.880			PCB-68	1.37			
PCB-28	18.4			PCB-73	ND		0.0849	
PCB-29	ND	0.0846		PCB-74	28.3			
PCB-30	ND	0.0327		PCB-77	1.20			
PCB-31	9.91			PCB-78	ND		0.0729	
PCB-34	0.0883			PCB-79	3.85			
PCB-35	ND	0.0673		PCB-80	ND		0.0627	
PCB-36	ND	0.0662		PCB-81	0.483			J
PCB-37	0.325			PCB-82	2.43			
PCB-38	0.393			PCB-83	ND		0.0695	
PCB-39	ND	0.0625		PCB-84/92	68.8			
PCB-40	0.291			PCB-85/116	49.2			
PCB-41/64/71/72	23.9			PCB-86	ND		0.115	
PCB-42/59	2.94			PCB-87/117/125	64.0			
PCB-43/49	25.3			PCB-88/91	22.9			

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.

See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-A1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-01			
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046			
Date Collected:	30-Aug-2016 15:17	%Lipids:	5.77	Date Analyzed:	09-Nov-16 16:06			
				Column:	ZB-1			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	ND	0.0961		PCB-136	25.4			
PCB-90/101	231			PCB-137	18.2			
PCB-93	ND	0.0980		PCB-138/163/164	592			
PCB-94	0.546			PCB-139/149	315			B
PCB-95/98/102	130			PCB-140	2.38			
PCB-96	0.357			PCB-141	67.0			
PCB-97	23.7			PCB-144	12.7			
PCB-99	162			PCB-145	ND	0.0639		
PCB-100	1.11			PCB-146/165	101			
PCB-103	2.17			PCB-147	9.71			
PCB-104	ND	0.0695		PCB-148	0.451			J
PCB-105	85.5			PCB-150	0.352			J
PCB-106/118	170			PCB-151	111			
PCB-107/109	26.3			PCB-152	0.154			
PCB-108/112	6.57			PCB-153	592			
PCB-110	199			PCB-154	7.31			
PCB-111/115	4.42			PCB-155	0.593			
PCB-113	ND	0.0725		PCB-156	37.2			
PCB-114	4.78			PCB-157	8.19			
PCB-119	8.71			PCB-158/160	47.2			
PCB-120	1.20			PCB-159	ND	0.161		
PCB-121	ND	0.0673		PCB-166	2.04			
PCB-122	ND	0.266		PCB-167	2.05			
PCB-123	2.61			PCB-168	0.816			
PCB-124	3.14			PCB-169	0.968			
PCB-126	0.597			PCB-170	104			
PCB-127	ND	0.253		PCB-171	33.7			
PCB-128/162	71.9			PCB-172	22.3			
PCB-129	8.28			PCB-173	1.68			
PCB-130	32.4			PCB-174	112			
PCB-131	ND	0.255		PCB-175	4.94			
PCB-132/161	63.6			PCB-176	13.1			
PCB-133/142	13.4			PCB-177	93.1			
PCB-134/143	11.4			PCB-178	37.4			
PCB-135	48.6			PCB-179	57.1			

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-01				
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 15:17	%Lipids:	5.77	Date Analyzed:	09-Nov-16 16:06				
				Column:	ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	282				Total octaCB	327			
PCB-181	ND	0.0991			Total nonaCB	49.1			
PCB-182/187	335				DecaCB	8.68			
PCB-183	74.4				Total PCB	5430			
PCB-184	1.20								
PCB-185	18.5								
PCB-186	ND	0.0749							
PCB-188	0.409			J					
PCB-189	3.83								
PCB-190	28.9								
PCB-191	4.46								
PCB-192	ND	0.0800							
PCB-193	20.7								
PCB-194	48.0								
PCB-195	27.7								
PCB-196/203	96.8								
PCB-197	3.26								
PCB-198	3.72								
PCB-199	98.8								
PCB-200	8.38								
PCB-201	10.2								
PCB-202	27.6								
PCB-204	ND	0.112							
PCB-205	2.82								
PCB-206	34.7								
PCB-207	3.64								
PCB-208	10.8								
PCB-209	8.68								
Total monoCB	ND		0.0468						
Total diCB	2.46		2.73						
Total triCB	46.8								
Total tetraCB	270		271						
Total pentaCB	1270								
Total hexaCB	2200								
Total heptaCB	1250								

EMPC - Estimated maximum possible concentration
 DL - Sample specific estimated detection limit
 LCL-UCL- Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-01		
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046		
Date Collected:	30-Aug-2016 15:17	%Lipids:	5.77	Date Analyzed:	09-Nov-16 16:06 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	50.9	15-150		13C-PCB-170	77.4	25-150	
13C-PCB-3	51.6	15-150		13C-PCB-180	79.3	25-150	
13C-PCB-4	72.2	25-150		13C-PCB-188	79.9	25-150	
13C-PCB-11	91.8	25-150		13C-PCB-189	74.2	25-150	
13C-PCB-9	81.1	25-150		13C-PCB-194	107	25-150	
13C-PCB-19	49.5	25-150		13C-PCB-202	62.2	25-150	
13C-PCB-28	87.6	25-150		13C-PCB-206	106	25-150	
13C-PCB-32	58.4	25-150		13C-PCB-208	132	25-150	
13C-PCB-37	98.7	25-150		13C-PCB-209	74.2	25-150	
13C-PCB-47	87.6	25-150		CRS 13C-PCB-79	105	30-135	
13C-PCB-52	84.3	25-150		13C-PCB-178	81.8	30-135	
13C-PCB-54	84.3	25-150					
13C-PCB-70	95.1	25-150					
13C-PCB-77	102	25-150					
13C-PCB-80	96.4	25-150					
13C-PCB-81	103	25-150					
13C-PCB-95	92.6	25-150					
13C-PCB-97	97.8	25-150					
13C-PCB-101	96.1	25-150					
13C-PCB-104	86.1	25-150					
13C-PCB-105	99.5	25-150					
13C-PCB-114	103	25-150					
13C-PCB-118	97.2	25-150					
13C-PCB-123	101	25-150					
13C-PCB-126	94.5	25-150					
13C-PCB-127	95.1	25-150					
13C-PCB-138	101	25-150					
13C-PCB-141	99.2	25-150					
13C-PCB-153	102	25-150					
13C-PCB-155	84.7	25-150					
13C-PCB-156	99.7	25-150					
13C-PCB-157	96.4	25-150					
13C-PCB-159	99.5	25-150					
13C-PCB-167	100	25-150					
13C-PCB-169	94.0	25-150					

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

Results are reported in wet weight.
See individual congeners for qualifiers.

Client ID: EPA-HS-A1 Lab ID: 1601354-01
Filename: 161109E1 GC Column ID: ZB71
S:5 Acq: 9-NOV-16 16:06:34 ConcAl: ST161109E1-1
Ical: PCBVG8-4-19-16 wt/vol: 10.120 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	3.91e+04	1.74	n	16:06	1.06	0.04578	*	2.5	*	1.002	0.997-1.007	
Mono	PCB-2	*	*	n	NotF	0.99	*	3600	2.5	0.143	*	0.983-0.993	
Mono	PCB-3	*	*	n	NotF	1.02	*	3600	2.5	0.139	*	0.996-1.006	
D ₁	PCB-4/10	2.30e+05	0.93	n	20:04	1.41	0.2668	*	2.5	*	1.001	0.997-1.007	
Di	PCB-7/9	*	*	n	NotF	1.13	*	15500	1.0	0.114	*	0.864-0.872	
Di	PCB-6	*	*	n	NotF	1.08	*	15500	1.0	0.119	*	0.888-0.897	
Di	PCB-5/8	1.47e+06	1.71	Y	22:56	1.14	1.200	*	2.5	*	0.908	0.905-0.915	
Di	PCB-14	*	*	n	NotF	1.32	*	4600	2.5	0.0711	*	0.948-0.958	
Di	PCB-11	1.80e+06	1.67	Y	25:16	1.18	1.265	*	2.5	*	1.001	0.995-1.005	
Di	PCB-12/13	*	*	n	NotF	1.14	*	4600	2.5	0.0821	*	1.011-1.021	
Di	PCB-15	*	*	n	NotF	1.29	*	36500	1.0	0.231	*	1.023-1.031	
Tri	PCB-19	3.05e+05	1.06	Y	24:14	1.23	0.5582	*	2.5	*	1.001	0.996-1.006	
Tri	PCB-30	*	*	n	NotF	1.88	*	1400	2.5	0.0327	*	1.033-1.043	
Tri	PCB-18	6.27e+06	1.04	Y	25:33	0.90	9.239	*	2.5	*	0.953	0.949-0.959	
Tri	PCB-17	6.95e+05	1.14	Y	26:03	0.98	0.9456	*	2.5	*	0.960	0.956-0.966	
Tri	PCB-24/27	5.49e+05	1.12	Y	26:37	1.27	0.5742	*	2.5	*	0.980	0.977-0.987	
Tri	PCB-16/32	2.05e+06	1.03	Y	27:10	1.07	2.526	*	2.5	*	1.001	0.996-1.006	
Tri	PCB-34	9.23e+04	1.19	Y	27:56	0.97	0.08834	*	2.5	*	0.960	0.955-0.965	
Tri	PCB-23	*	*	n	NotF	0.86	*	3420	2.5	0.0929	*	0.958-0.968	
Tri	PCB-29	*	*	n	NotF	0.95	*	3420	2.5	0.0846	*	0.967-0.977	
Tri	PCB-26	9.20e+05	1.00	Y	28:30	0.97	0.8801	*	2.5	*	0.979	0.974-0.984	
Tri	PCB-25	1.36e+05	0.95	Y	28:40	0.93	0.1359	*	2.5	*	0.985	0.980-0.990	
Tri	PCB-31	1.16e+07	0.99	Y	29:01	1.09	9.906	*	2.5	*	0.997	0.992-1.002	
Tri	PCB-28	2.17e+07	1.00	Y	29:08	1.10	18.37	*	2.5	*	1.001	0.996-1.006	
Tri	PCB-20/21/33	8.47e+05	0.99	Y	29:46	1.08	0.7309	*	2.5	*	1.023	1.016-1.026	
Tri	PCB-22	2.38e+06	0.98	Y	30:11	1.04	2.118	*	2.5	*	1.037	1.032-1.042	
Tri	PCB-36	*	*	n	NotF	1.18	*	3420	2.5	0.0662	*	0.929-0.939	
Tri	PCB-39	*	*	n	NotF	1.25	*	3420	2.5	0.0625	*	0.943-0.953	
Tri	PCB-38	5.00e+05	1.14	Y	32:04	1.15	0.3930	*	2.5	*	0.972	0.967-0.977	
Tri	PCB-35	*	*	n	NotF	1.16	*	3420	2.5	0.0673	*	0.982-0.992	
Tri	PCB-37	4.48e+05	1.12	Y	32:59	1.24	0.3248	*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-54	2.98e+04	0.73	Y	27:58	1.07	0.02752	*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-50	*	*	n	NotF	0.90	*	4280	2.5	0.0987	*	1.037-1.047	
Tetra	PCB-53	2.86e+06	0.81	Y	29:49	1.17	3.177	*	2.5	*	0.946	0.941-0.951	
Tetra	PCB-51	4.50e+05	0.76	Y	30:09	1.18	0.4946	*	2.5	*	0.956	0.952-0.962	
Tetra	PCB-45	1.25e+06	0.81	Y	30:35	1.06	1.533	*	2.5	*	0.970	0.965-0.975	
Tetra	PCB-46	2.83e+05	0.61	n	31:05	0.99	0.3713	*	2.5	*	0.986	0.981-0.991	

Integrations by: MJ
Analyst: MJ
Date: 11/17/16
Date: 11/17/16

Reviewed by: CT

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	5.61e+07	0.78	Y 31:33	1.31	55.61	*	4280	2.5	*	1.001	0.996-1.006	
Tetra	PCB-73	*	n NotF	1.45	*						*	0.999-1.009	
Tetra	PCB-43/49	2.50e+07	0.79	Y 31:51	1.28	25.34	*		2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	1.58e+07	0.77	Y 32:04	1.22	15.25	*		2.5	*	1.001	0.996-1.006	
Tetra	PCB-48/75	3.06e+06	0.75	Y 32:11	1.32	2.720	*		2.5	*	1.004	0.999-1.009	
Tetra	PCB-65	*	n NotF	1.27	*			4280	2.5	*		1.007-1.017	
Tetra	PCB-62	*	n NotF	1.36	*			4280	2.5	*		1.011-1.021	
Tetra	PCB-44	1.38e+07	0.78	Y 32:50	0.94	17.33	*		2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	3.16e+06	0.78	Y 33:04	1.27	2.938	*		2.5	*	1.032	1.027-1.037	
Tetra	PCB-41/64/71/72	2.71e+07	0.80	Y 33:40	1.34	23.91	*		2.5	*	1.051	1.045-1.055	
Tetra	PCB-68	1.77e+06	0.71	Y 33:57	1.53	1.369	*		2.5	*	1.060	1.053-1.063	
Tetra	PCB-40	2.13e+05	0.67	Y 34:09	0.86	0.2906	*		2.5	*	1.066	1.061-1.071	
Tetra	PCB-57	2.62e+05	0.84	Y 34:29	1.12	0.2012	*		2.5	*	0.970	0.965-0.975	
Tetra	PCB-67	2.00e+05	0.69	Y 34:47	1.10	0.1564	*		2.5	*	0.978	0.974-0.984	
Tetra	PCB-58	2.64e+05	0.75	Y 34:54	1.16	0.1957	*		2.5	*	0.982	0.977-0.987	
Tetra	PCB-63	3.65e+06	0.80	Y 35:03	1.20	2.612	*		2.5	*	0.986	0.981-0.991	
Tetra	PCB-74	3.86e+07	0.78	Y 35:20	1.17	28.26	*		2.5	*	0.994	0.989-0.999	
Tetra	PCB-61/70	4.19e+07	0.78	Y 35:34	1.13	31.77	*		2.5	*	1.001	0.995-1.005	
Tetra	PCB-76/66	5.29e+07	0.77	Y 35:47	1.14	39.85	*		2.5	*	1.007	1.000-1.010	
Tetra	PCB-80	*	n NotF	1.31	*			4280	2.5	*		0.995-1.005	
Tetra	PCB-55	1.15e+06	0.70	Y 36:16	1.16	0.8290	*		2.5	*	1.008	1.004-1.014	
Tetra	PCB-56/60	1.50e+07	0.79	Y 36:48	1.14	11.05	*		2.5	*	1.023	1.018-1.028	
Tetra	PCB-79	5.37e+06	0.82	Y 37:53	1.17	3.845	*		2.5	*	1.053	1.048-1.058	
Tetra	PCB-78	*	n NotF	1.11	*			4280	2.5	*		0.982-0.992	
Tetra	PCB-81	7.22e+05	0.72	Y 39:04	1.20	0.4830	*		2.5	*	1.000	0.995-1.005	
Tetra	PCB-77	1.79e+06	0.85	Y 39:40	1.24	1.198	*		2.5	*	1.000	0.995-1.005	
Penta	PCB-104	*	n NotF	1.31	*			1790	2.5	*		0.996-1.006	
Penta	PCB-96	2.57e+05	1.52	Y 33:59	1.15	0.3570	*		2.5	*	1.040	1.034-1.044	
Penta	PCB-103	1.39e+06	1.56	Y 34:30	1.03	2.174	*		2.5	*	1.055	1.051-1.061	
Penta	PCB-100	7.09e+05	1.62	Y 34:51	1.03	1.105	*		2.5	*	1.066	1.061-1.071	
Penta	PCB-94	3.20e+05	1.78	Y 35:19	1.18	0.5456	*		2.5	*	0.985	0.980-0.990	
Penta	PCB-95/98/102	8.43e+07	1.59	Y 35:51	1.31	129.8	*		2.5	*	1.000	0.994-1.004	
Penta	PCB-93	*	n NotF	1.19	*			1790	2.5	*		0.998-1.008	
Penta	PCB-88/91	1.40e+07	1.62	Y 36:15	1.23	22.90	*		2.5	*	1.011	1.006-1.016	
Penta	PCB-121	*	n NotF	1.74	*			1790	2.5	*		1.009-1.019	
Penta	PCB-84/92	4.36e+07	1.61	Y 37:09	1.16	68.83	*		2.5	*	0.990	0.985-0.995	
Penta	PCB-89	*	n NotF	1.11	*			1790	2.5	*		0.990-1.000	

Analyst: MM
 Date: 11/14/16

Client ID: EPA-HS-A1
Lab ID: 1601354-01

Filename: 161109E1 S:5 Acq: 9-NOV-16 16:06:34
GC Column: ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.120
ConCal: ST161109E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	1.60e+08	1.60	Y 37:32	1.27	231.3			2.5	*	1.000	0.995-1.005	
Penta	PCB-113	*	n NotF	1.47	*			1790	2.5	*	0.0725	1.002-1.012	
Penta	PCB-99	1.12e+08	1.59	Y 37:53	1.26	161.6			2.5	*	1.009	1.004-1.014	
Penta	PCB-119	8.18e+06	1.58	Y 38:20	1.87	8.707			2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	4.73e+06	1.54	Y 38:30	1.44	6.565			2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	n NotF	1.70	*			1790	2.5	*	0.0695	0.990-1.000	
Penta	PCB-97	1.56e+07	1.60	Y 38:51	1.31	23.71			2.5	*	1.001	0.995-1.005	
Penta	PCB-86	*	n NotF	1.02	*			1790	2.5	*	0.115	0.999-1.009	
Penta	PCB-87/117/125	5.10e+07	1.58	Y 39:08	1.59	64.00			2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	4.10e+06	1.70	Y 39:16	1.85	4.416			2.5	*	1.011	1.006-1.016	
Penta	PCB-85/116	3.55e+07	1.60	Y 39:22	1.44	49.24			2.5	*	1.014	1.010-1.020	
Penta	PCB-120	1.15e+06	1.39	Y 39:37	1.91	1.196			2.5	*	1.020	1.016-1.026	
Penta	PCB-110	1.76e+08	1.61	Y 39:46	1.76	199.0			2.5	*	1.024	1.019-1.029	
Penta	PCB-82	1.34e+06	1.70	Y 40:24	0.81	2.433			2.5	*	0.976	0.971-0.981	
Penta	PCB-124	2.76e+06	1.61	Y 41:04	1.30	3.136			2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	2.39e+07	1.58	Y 41:15	1.34	26.33			2.5	*	0.997	0.991-1.001	
Penta	PCB-123	2.39e+06	1.61	Y 41:24	1.35	2.609			2.5	*	1.000	0.995-1.005	
Penta	PCB-106/118	1.57e+08	1.59	Y 41:34	1.34	169.8			2.5	*	1.000	0.996-1.006	
Penta	PCB-114	5.00e+06	1.55	Y 42:13	1.17	4.780			2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	n NotF	1.03	*			7500	2.5	*	0.266	0.999-1.009	
Penta	PCB-105	9.25e+07	1.55	Y 43:05	1.23	85.47			2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	n NotF	1.06	*			7500	2.5	*	0.253	0.995-1.005	
Penta	PCB-126	5.87e+05	1.74	Y 45:19	1.16	0.5972			2.5	*	1.000	0.995-1.005	
Hexa	PCB-155	4.05e+05	1.41	Y 37:05	1.26	0.5932			2.5	*	1.000	0.966-1.006	
Hexa	PCB-150	2.19e+05	1.09	Y 38:21	1.15	0.3516			2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	9.98e+04	1.41	Y 38:48	1.19	0.1544			2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	*	n NotF	1.14	*			3400	1.0	*	0.0639	1.055-1.065	
Hexa	PCB-136	1.63e+07	1.24	Y 39:35	1.18	25.40			2.5	*	1.068	1.063-1.073	
Hexa	PCB-148	2.01e+05	1.12	Y 39:43	0.82	0.4514			2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	3.60e+06	1.17	Y 40:11	0.91	7.306			2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	5.15e+07	1.27	Y 40:49	0.86	110.9			2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	2.17e+07	1.26	Y 41:02	0.82	48.58			2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	6.36e+06	1.26	Y 41:09	0.92	12.68			2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	4.25e+06	1.28	Y 41:16	0.81	9.706			2.5	*	1.113	1.108-1.120	
Hexa	PCB-139/149	1.55e+08	1.25	Y 41:32	0.91	314.6			2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	1.08e+06	1.26	Y 41:43	0.83	2.380			2.5	*	1.125	1.120-1.132	
Hexa	PCB-134/143	9.68e+06	1.28	Y 42:11	0.89	11.39			2.5	*	0.976	0.970-0.980	

Analyst: AM
Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	1.09e+07	1.22	Y 42:27	0.86	13.36			2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	n NotF	0.89	*			7200	2.5	0.255	*	0.981-0.991	
Hexa	PCB-146/165	1.03e+08	1.24	Y 42:51	1.07	101.0			2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	6.77e+07	1.22	Y 43:06	1.12	63.61			2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	6.47e+08	1.24	Y 43:16	1.15	592.0			2.5	*	1.001	0.996-1.006	
Hexa	PCB-168	1.07e+06	1.23	Y 43:28	1.38	0.8159			2.5	*	1.005	1.000-1.010	
Hexa	PCB-141	6.48e+07	1.24	Y 43:59	1.20	67.03			2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	1.81e+07	1.22	Y 44:21	1.23	18.23			2.5	*	1.009	1.004-1.014	
Hexa	PCB-130	2.71e+07	1.24	Y 44:28	1.04	32.42			2.5	*	1.011	1.006-1.016	
Hexa	PCB-138/163/164	6.70e+08	1.24	Y 44:50	1.30	591.5			2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	5.80e+07	1.23	Y 45:03	1.41	47.24			2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	6.97e+06	1.26	Y 45:19	0.97	8.282			2.5	*	1.012	1.007-1.017	
Hexa	PCB-166	2.49e+06	1.23	Y 45:47	1.19	2.036			2.5	*	0.993	0.988-0.998	
Hexa	PCB-159	*	n NotF	1.28	*			7200	2.5	0.161	*	0.995-1.005	
Hexa	PCB-128/162	7.79e+07	1.26	Y 46:22	1.06	71.90			2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	2.61e+06	1.18	Y 46:47	1.22	2.045			2.5	*	1.000	0.995-1.005	
Hexa	PCB-156	4.78e+07	1.23	Y 48:05	1.27	37.24			2.5	*	1.001	0.995-1.005	
Hexa	PCB-157	1.03e+07	1.30	Y 48:21	1.24	8.186			2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	1.11e+06	1.16	Y 50:32	1.18	0.9683			2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	3.78e+05	1.20	Y 42:54	1.59	0.4092			2.5	*	1.001	0.996-1.006	
Hepta	PCB-184	1.00e+06	1.08	Y 43:19	1.44	1.200			2.5	*	1.010	1.006-1.016	
Hepta	PCB-179	4.80e+07	1.06	Y 44:06	1.45	57.07			2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	1.18e+07	1.08	Y 44:34	1.56	13.07			2.5	*	1.040	1.035-1.045	
Hepta	PCB-186	*	n NotF	1.56	*			3600	2.5	0.0749	*	1.049-1.059	
Hepta	PCB-178	2.60e+07	1.09	Y 45:40	1.20	37.45			2.5	*	1.065	1.061-1.071	
Hepta	PCB-175	3.22e+06	1.18	Y 46:00	1.12	4.938			2.5	*	1.073	1.069-1.079	
Hepta	PCB-182/187	2.41e+08	1.07	Y 46:10	1.24	334.7			2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	5.92e+07	1.06	Y 46:30	1.37	74.39			2.5	*	1.085	1.080-1.090	
Hepta	PCB-185	1.21e+07	1.07	Y 47:09	1.60	18.49			2.5	*	0.955	0.950-0.960	
Hepta	PCB-174	6.97e+07	1.07	Y 47:31	1.51	111.9			2.5	*	0.963	0.958-0.968	
Hepta	PCB-181	*	n NotF	1.64	*			3600	2.5	0.0991	*	0.960-0.970	
Hepta	PCB-177	5.57e+07	1.06	Y 47:47	1.45	93.15			2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	2.35e+07	1.04	Y 48:05	1.69	33.73			2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	9.54e+05	1.07	Y 48:30	1.38	1.682			2.5	*	0.983	0.978-0.988	
Hepta	PCB-172	1.43e+07	1.08	Y 48:58	1.55	22.33			2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	n NotF	2.02	*			3600	2.5	0.0800	*	0.991-1.001	
Hepta	PCB-180	1.93e+08	1.06	Y 49:22	1.66	282.3			2.5	*	1.000	0.995-1.005	

Analyst: MM

Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	1.78e+07	1.10	Y 49:34	2.09	20.69		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	3.88e+06	1.00	Y 49:49	2.11	4.464		*	2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	6.49e+07	1.07	Y 50:56	1.72	103.6		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	2.44e+07	1.06	Y 51:07	2.32	28.91		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	3.03e+06	1.04	Y 52:32	1.73	3.834		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-202	1.36e+07	0.97	Y 48:17	1.08	27.60		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	5.39e+06	0.89	Y 48:46	1.16	10.21		*	2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	n Not F	1.09				2260	2.5	0.112	*	1.009-1.019	
Octa	PCB-197	1.80e+06	0.86	Y 49:14	1.21	3.257		*	2.5	*	1.020	1.015-1.025	
Octa	PCB-200	4.26e+06	0.94	Y 50:07	1.12	8.383		*	2.5	*	1.038	1.034-1.044	
Octa	PCB-198	1.37e+06	0.86	Y 51:34	0.81	3.718		*	2.5	*	1.068	1.062-1.072	
Octa	PCB-199	3.60e+07	0.92	Y 51:41	0.80	98.76		*	2.5	*	1.071	1.064-1.074	
Octa	PCB-196/203	3.85e+07	0.92	Y 51:58	0.87	96.79		*	2.5	*	1.077	1.070-1.080	
Octa	PCB-195	1.32e+07	0.89	Y 53:11	1.10	27.72		*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	2.67e+07	0.88	Y 54:04	1.28	48.04		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	1.98e+06	0.91	Y 54:20	1.62	2.822		*	2.5	*	1.005	1.001-1.010	
Nona	PCB-208	8.98e+06	1.36	Y 53:20	1.11	10.78		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	3.01e+06	1.30	Y 53:39	1.11	3.641		*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	1.59e+07	1.35	Y 55:37	0.95	34.72		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	4.16e+06	1.24	Y 56:57	1.34	8.682		*	2.5	*	1.000	0.995-1.005	

Analyst: MM
 Date: 11/14/16

Name	Resp	RA	* n	RT	RRF	Conc
Total Mono-PCB	*			NotFnd	1.02	*
Total Di-PCB	3.28e+06	1.71	Y	22:56	1.18	2.46459
Total Tri-PCB	9.87e+06	1.06	Y	24:14	1.21	13.8424
Total Tetra-PCB	3.86e+07	1.19	Y	27:56	1.07	32.9501
Total Penta-PCB	3.13e+08	0.73	Y	27:58	1.20	270.451
Total Hexa-PCB	9.00e+08	1.52	Y	33:59	1.29	1179.76
Total Hepta-PCB	9.81e+07	1.55	Y	42:13	1.13	90.8466
Total Octa-PCB	2.61e+08	1.41	Y	37:05	0.98	533.054
Total Nona-PCB	1.83e+09	1.28	Y	42:11	1.13	1669.30
Total Deca-PCB	8.73e+08	1.20	Y	42:54	1.53	1248.27
				48:17	1.00	248.710
				53:11	1.34	78.5757
				53:20	1.06	49.1414
				56:57	1.34	8.68195
						Sum:1270.61
						Sum:2202.36
						Sum:327.286

Total PCB Conc:5426.73758900

Integrations
 by MM
 Analyst: MM
 Date: 11/14/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.56e+08	3.19	1.09	16:05	0.620	0.619-0.625	101	50.9	50.9											
13C-PCB-3	1.66e+08	3.22	1.15	18:42	0.721	0.718-0.726	102	51.6	51.6	13C-PCB-79	2.65e+08	0.79	Y	1.01	37:50	1.029	1.024-1.033	208	105	
13C-PCB-4	1.21e+08	1.61	0.59	20:03	0.773	0.770-0.778	143	72.2	72.2	13C-PCB-178	7.99e+07	0.46	Y	0.64	45:39	0.985	0.980-0.989	162	81.8	
13C-PCB-9	2.13e+08	1.57	0.54	21:51	0.842	0.839-0.847	160	81.1	81.1											
13C-PCB-11	2.39e+08	1.57	0.93	25:15	0.973	0.968-0.978	181	91.8	91.8	PS vs. IS										
13C-PCB-19	8.76e+07	1.06	0.63	24:13	0.933	0.929-0.939	97.9	49.5	49.5											
13C-PCB-28	2.12e+08	1.03	1.14	29:06	1.004	0.999-1.009	187	94.6	94.6	13C-PCB-79	2.65e+08	0.79	Y	1.06	37:50	0.969	0.963-0.973	201	102	
13C-PCB-32	1.49e+08	1.09	0.91	27:09	1.046	1.041-1.051	115	58.4	58.4	13C-PCB-178	7.99e+07	0.46	Y	0.95	45:39	0.925	0.920-0.930	204	103	
13C-PCB-37	2.20e+08	1.04	1.05	32:59	1.138	1.131-1.143	211	107	107											
13C-PCB-47	1.68e+08	0.80	0.77	31:32	0.871	0.867-0.875	173	87.6	87.6											
13C-PCB-52	1.52e+08	0.80	0.72	31:32	0.857	0.853-0.861	167	84.3	84.3											
13C-PCB-54	1.99e+08	0.80	0.95	27:58	0.761	0.757-0.765	167	84.3	84.3											
13C-PCB-70	2.30e+08	0.79	0.97	35:33	0.967	0.961-0.971	188	95.1	95.1											
13C-PCB-77	2.39e+08	0.81	0.93	39:39	1.078	1.073-1.083	202	102	102											
13C-PCB-80	2.36e+08	0.79	0.98	35:58	0.978	0.973-0.983	190	96.4	96.4											
13C-PCB-81	2.46e+08	0.79	0.95	39:03	1.062	1.057-1.067	204	103	103											
13C-PCB-95	9.83e+07	1.59	0.70	35:51	0.913	0.908-0.918	183	92.6	92.6	RS										
13C-PCB-97	9.91e+07	1.62	0.67	38:50	0.989	0.984-0.994	193	97.8	97.8											
13C-PCB-101	1.08e+08	1.60	0.75	37:32	0.956	0.951-0.961	190	96.1	96.1	13C-PCB-15	2.81e+08	1.58	Y	1.00	25:57	1.00	0.963-0.973	201	102	
13C-PCB-104	1.23e+08	1.58	0.95	32:41	0.833	0.828-0.836	170	86.1	86.1	13C-PCB-31	1.97e+08	1.04	Y	1.00	28:60	1.00	0.963-0.973	201	102	
13C-PCB-105	1.73e+08	1.54	1.14	43:04	0.929	0.924-0.934	197	99.5	99.5	13C-PCB-60	2.50e+08	0.79	Y	1.00	36:47	1.00	0.963-0.973	201	102	
13C-PCB-114	1.77e+08	1.54	1.12	42:13	0.911	0.905-0.915	203	103	103	13C-PCB-111	1.51e+08	1.60	Y	1.00	39:16	1.00	0.963-0.973	201	102	
13C-PCB-118	1.36e+08	1.59	0.93	41:34	1.059	1.054-1.064	192	97.2	97.2	13C-PCB-128	1.53e+08	1.28	Y	1.00	46:21	1.00	0.963-0.973	201	102	
13C-PCB-123	1.34e+08	1.59	0.88	41:23	1.054	1.049-1.059	199	101	101	13C-PCB-205	1.12e+08	0.90	Y	1.00	54:19	1.00	0.963-0.973	201	102	
13C-PCB-126	1.68e+08	1.53	1.16	45:18	0.977	0.972-0.982	187	94.5	94.5											
13C-PCB-127	1.82e+08	1.52	1.25	43:25	0.936	0.931-0.941	188	95.1	95.1											
13C-PCB-138	1.72e+08	1.27	1.11	44:48	0.966	0.961-0.971	199	101	101											
13C-PCB-141	1.60e+08	1.29	1.05	43:58	0.949	0.943-0.953	196	99.2	99.2											
13C-PCB-153	1.88e+08	1.28	1.21	43:14	0.933	0.927-0.937	201	102	102											
13C-PCB-155	1.07e+08	1.28	0.84	37:04	0.944	0.939-0.949	167	84.7	84.7											
13C-PCB-156	2.00e+08	1.29	1.31	48:03	1.037	1.032-1.042	197	99.7	99.7											
13C-PCB-157	2.00e+08	1.29	1.35	48:20	1.043	1.037-1.047	191	96.4	96.4											
13C-PCB-159	2.03e+08	1.29	1.33	46:06	0.994	0.989-0.999	197	99.5	99.5											
13C-PCB-167	2.06e+08	1.29	1.34	46:46	1.009	1.004-1.014	198	100	100											
13C-PCB-169	1.91e+08	1.28	1.33	50:31	1.090	1.084-1.094	186	94.0	94.0											
13C-PCB-170	7.20e+07	0.45	0.61	50:56	1.099	1.091-1.103	153	77.4	77.4											
13C-PCB-180	8.14e+07	0.46	0.67	49:21	1.065	1.059-1.069	157	79.3	79.3											
13C-PCB-188	1.15e+08	0.46	0.94	42:52	0.925	0.919-0.929	158	79.9	79.9											
13C-PCB-189	9.00e+07	0.45	0.79	52:31	1.133	1.124-1.136	147	74.2	74.2											
13C-PCB-194	8.55e+07	0.91	0.72	54:03	0.995	0.990-1.000	211	107	107											
13C-PCB-202	8.99e+07	0.91	0.94	48:16	1.041	1.036-1.046	123	62.2	62.2											
13C-PCB-206	9.51e+07	0.78	0.80	55:37	1.024	1.020-1.031	209	106	106											
13C-PCB-208	1.48e+08	0.77	1.00	53:19	0.982	0.977-0.987	261	132	132											
13C-PCB-209	7.05e+07	1.22	0.85	56:56	1.048	1.045-1.055	147	74.2	74.2											

Analyst: MJ
 Date: 11/14/16

Sample ID: EPA-HS-A1 DUP

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-02			
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046			
Date Collected:	30-Aug-2016 15:17	%Lipids:	5.27	Date Analyzed:	09-Nov-16 17:11			
				Column:	ZB-1			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	0.141			PCB-44	15.2			
PCB-2	ND	0.0868		PCB-45	1.28			
PCB-3	0.114			PCB-46	0.510			
PCB-4/10	ND	0.0887		PCB-47	13.9			B
PCB-5/8	1.27			PCB-48/75	2.18			
PCB-6	ND	0.0645		PCB-50	ND	0.100		
PCB-7/9	ND	0.0617		PCB-51	0.529			
PCB-11	2.33			PCB-52/69	48.7			
PCB-12/13	ND	0.0596		PCB-53	2.60			
PCB-14	ND	0.0516		PCB-54	ND	0.0837		
PCB-15	ND	0.295		PCB-55	0.798			
PCB-16/32	2.59			PCB-56/60	10.1			
PCB-17	0.983			PCB-57	0.212			J
PCB-18	9.29			PCB-58	0.195			J
PCB-19	0.609			PCB-61/70	27.9			
PCB-20/21/33	0.672			PCB-62	ND	0.0827		
PCB-22	1.88			PCB-63	2.40			
PCB-23	ND	0.0947		PCB-65	ND	0.0882		
PCB-24/27	0.599			PCB-66/76	34.1			
PCB-25	0.134			PCB-67	0.153			J
PCB-26	0.663			PCB-68	1.25			
PCB-28	16.4			PCB-73	ND	0.0813		
PCB-29	ND	0.0862		PCB-74	26.5			
PCB-30	ND	0.0468		PCB-77	1.09			
PCB-31	9.05			PCB-78	ND	0.0755		
PCB-34	ND		0.0446	PCB-79	3.40			
PCB-35	ND	0.0723		PCB-80	0.123			J
PCB-36	ND	0.0711		PCB-81	0.431			J
PCB-37	0.324			PCB-82	2.14			
PCB-38	0.388			PCB-83	ND	0.102		
PCB-39	ND	0.0671		PCB-84/92	60.5			
PCB-40	0.345			PCB-85/116	42.1			
PCB-41/64/71/72	20.1			PCB-86	ND	0.169		
PCB-42/59	2.66			PCB-87/117/125	55.5			
PCB-43/49	23.1			PCB-88/91	19.5			

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCUL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A1 DUP

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-02			
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046			
Date Collected:	30-Aug-2016 15:17	%Lipids:	5.27	Date Analyzed:	09-Nov-16 17:11 Column: ZB-1			
Date Received:	25-Oct-2016 9:00			Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	ND	0.147		PCB-136	22.7			
PCB-90/101	205			PCB-137	19.3			
PCB-93	ND	0.148		PCB-138/163/164	493			
PCB-94	0.552 ✓			PCB-139/149	277			B
PCB-95/98/102	108			PCB-140	2.28			
PCB-96	0.316			PCB-141	59.2			
PCB-97	20.8			PCB-144	11.3			
PCB-99	141			PCB-145	ND		0.0719	
PCB-100	0.865			PCB-146/165	85.9			
PCB-103	1.63			PCB-147	9.58			
PCB-104	ND	0.101		PCB-148	0.508			J
PCB-105	69.8			PCB-150	0.272			
PCB-106/118	142			PCB-151	99.4			
PCB-107/109	21.9			PCB-152	0.169			J
PCB-108/112	5.85			PCB-153	505			
PCB-110	169			PCB-154	6.37			
PCB-111/115	3.87			PCB-155	0.534			
PCB-113	ND	0.111		PCB-156	31.8			
PCB-114	4.12			PCB-157	7.14			
PCB-119	7.44			PCB-158/160	40.4			
PCB-120	0.867			PCB-159	ND		0.0466	
PCB-121	ND			PCB-166	1.44			
PCB-122	ND	0.102		PCB-167	1.65			
PCB-123	2.23	0.316		PCB-168	0.441			J
PCB-124	2.67			PCB-169	0.863			
PCB-126	0.517 ✓			PCB-170	93.3			
PCB-127	ND	0.301		PCB-171	29.7			
PCB-128/162	59.6			PCB-172	20.5			
PCB-129	7.00			PCB-173	1.49			
PCB-130	24.2			PCB-174	91.4			
PCB-131	ND	0.0692		PCB-175	4.99			
PCB-132/161	53.1			PCB-176	11.8 ✓			
PCB-133/142	10.9			PCB-177	81.4			
PCB-134/143	9.68			PCB-178	34.9			
PCB-135	42.7			PCB-179	51.0			

EMPC - Estimated maximum possible concentration
 DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A1 DUP

EPA Method 1668A

Client Data

Name: Teck American Incorporated
 Project: Upper Columbia River
 Date Collected: 30-Aug-2016 15:17

Sample Data

Matrix: Tissue
 Sample Size: 10.0 g
 %Lipids: 5.27

Laboratory Data

Lab Sample: 1601354-02 Date Received: 25-Oct-2016 9:00
 QC Batch: B6K0046 Date Extracted: 07-Nov-2016 14:16
 Date Analyzed: 09-Nov-16 17:11 Column: ZB-1

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	262				Total octaCB	288			
PCB-181	ND	0.0624			Total nonaCB	43.0			
PCB-182/187	306				DecaCB	7.48			
PCB-183	71.7				Total PCB	4730			
PCB-184	1.12								
PCB-185	16.1								
PCB-186	ND	0.0489							
PCB-188	0.395			J					
PCB-189	3.63								
PCB-190	25.2								
PCB-191	4.14								
PCB-192	ND	0.0504							
PCB-193	18.3								
PCB-194	42.5								
PCB-195	24.6								
PCB-196/203	85.5								
PCB-197	2.88								
PCB-198	3.01								
PCB-199	87.2								
PCB-200	7.22								
PCB-201	9.37								
PCB-202	23.2								
PCB-204	ND	0.0931							
PCB-205	2.71								
PCB-206	30.4								
PCB-207	3.37								
PCB-208	9.15								
PCB-209	7.48								
Total monoCB	0.254								
Total diCB	3.60								
Total triCB	43.6								
Total tetraCB	240								
Total pentaCB	1090								
Total hexaCB	1880								
Total heptaCB	1130								

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

Results are reported in wet weight.

See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-A1 DUP

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-02		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046		
Date Collected:	30-Aug-2016 15:17	%Lipids:	5.27	Date Analyzed:	09-Nov-16 17:11 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	41.6	15 -150		13C-PCB-170	71.0	25 -150	
13C-PCB-3	45.9	15 -150		13C-PCB-180	71.9	25 -150	
13C-PCB-4	66.7	25 -150		13C-PCB-188	67.7	25 -150	
13C-PCB-11	85.1	25 -150		13C-PCB-189	70.7	25 -150	
13C-PCB-9	75.7	25 -150		13C-PCB-194	93.2	25 -150	
13C-PCB-19	45.8	25 -150		13C-PCB-202	56.4	25 -150	
13C-PCB-28	87.6	25 -150		13C-PCB-206	102	25 -150	
13C-PCB-32	48.8	25 -150		13C-PCB-208	121	25 -150	
13C-PCB-37	97.0	25 -150		13C-PCB-209	69.6	25 -150	
13C-PCB-47	82.1	25 -150		CRS 13C-PCB-79	96.4	30 -135	
13C-PCB-52	80.4	25 -150		13C-PCB-178	74.6	30 -135	
13C-PCB-54	75.7	25 -150					
13C-PCB-70	86.7	25 -150					
13C-PCB-77	92.7	25 -150					
13C-PCB-80	89.6	25 -150					
13C-PCB-81	93.0	25 -150					
13C-PCB-95	85.8	25 -150					
13C-PCB-97	90.6	25 -150					
13C-PCB-101	87.4	25 -150					
13C-PCB-104	80.7	25 -150					
13C-PCB-105	85.1	25 -150					
13C-PCB-114	89.3	25 -150					
13C-PCB-118	88.8	25 -150					
13C-PCB-123	95.6	25 -150					
13C-PCB-126	80.7	25 -150					
13C-PCB-127	82.8	25 -150					
13C-PCB-138	91.3	25 -150					
13C-PCB-141	89.7	25 -150					
13C-PCB-153	92.1	25 -150					
13C-PCB-155	73.6	25 -150					
13C-PCB-156	92.1	25 -150					
13C-PCB-157	89.4	25 -150					
13C-PCB-159	90.4	25 -150					
13C-PCB-167	91.5	25 -150					
13C-PCB-169	89.1	25 -150					

DU - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.

See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	9.06e+04	2.76	Y 16:05	1.06	0.1406			2.5	*	1.001	0.997-1.007	
Mono	PCB-2	*	*	n NotF	0.99	*		4620	1.0	0.0868	*	0.983-0.993	
Mono	PCB-3	8.18e+04	2.92	Y 18:43	1.02	0.1138			2.5	*	1.001	0.996-1.006	
Di	PCB-4/10	*	*	n NotF	1.41	*		2900	2.5	0.0887	*	0.997-1.007	
Di	PCB-7/9	*	*	n NotF	1.13	*		2900	2.5	0.0617	*	0.864-0.872	
Di	PCB-6	*	*	n NotF	1.08	*		2900	2.5	0.0645	*	0.888-0.897	
Di	PCB-5/8	1.38e+06	1.67	Y 22:56	1.14	1.274			2.5	*	0.909	0.905-0.915	
Di	PCB-14	*	*	n NotF	1.32	*		2900	2.5	0.0516	*	0.948-0.958	
Di	PCB-11	2.91e+06	1.43	Y 25:15	1.18	2.326			2.5	*	1.000	0.995-1.005	
Di	PCB-12/13	*	*	n NotF	1.14	*		2900	2.5	0.0596	*	1.011-1.021	
Di	PCB-15	*	*	n NotF	1.29	*		40400	1.0	0.295	*	1.023-1.031	
Tri	PCB-19	2.91e+05	0.99	Y 24:14	1.23	0.6090			2.5	*	1.001	0.996-1.006	
Tri	PCB-30	*	*	n NotF	1.88	*		1780	2.5	0.0468	*	1.033-1.043	
Tri	PCB-18	4.98e+06	1.08	Y 25:53	0.90	9.287			2.5	*	0.954	0.949-0.959	
Tri	PCB-17	5.71e+05	1.05	Y 26:03	0.98	0.9829			2.5	*	0.960	0.956-0.966	
Tri	PCB-24/27	4.53e+05	1.05	Y 26:37	1.27	0.5989			2.5	*	0.981	0.977-0.987	
Tri	PCB-16/32	1.66e+06	1.09	Y 27:09	1.07	2.594			2.5	*	1.000	0.996-1.006	
Tri	PCB-34	3.97e+04	0.57	n NotF	0.97	0.04461	R		2.5	*	0.960	0.955-0.965	
Tri	PCB-23	*	*	n NotF	0.86	*		2990	2.5	0.0947	*	0.958-0.968	
Tri	PCB-29	*	*	n NotF	0.95	*		2990	2.5	0.0862	*	0.967-0.977	
Tri	PCB-26	5.90e+05	1.08	Y 28:30	0.97	0.6627			2.5	*	0.979	0.974-0.984	
Tri	PCB-25	1.14e+05	1.11	Y 28:40	0.93	0.1344			2.5	*	0.985	0.980-0.990	
Tri	PCB-31	8.99e+06	0.97	Y 29:01	1.09	9.048			2.5	*	0.997	0.992-1.002	
Tri	PCB-28	1.65e+07	1.02	Y 29:08	1.10	16.41			2.5	*	1.001	0.996-1.006	
Tri	PCB-20/21/33	6.64e+05	0.92	Y 29:46	1.08	0.6716			2.5	*	1.023	1.016-1.026	
Tri	PCB-22	1.80e+06	0.95	Y 30:11	1.04	1.880			2.5	*	1.037	1.032-1.042	
Tri	PCB-36	*	*	n NotF	1.18	*		2990	2.5	0.0711	*	0.929-0.939	
Tri	PCB-39	*	*	n NotF	1.25	*		2990	2.5	0.0671	*	0.943-0.953	
Tri	PCB-38	4.13e+05	1.13	Y 32:04	1.15	0.3876			2.5	*	0.972	0.967-0.977	
Tri	PCB-35	*	*	n NotF	1.16	*		2990	2.5	0.0723	*	0.982-0.992	
Tri	PCB-37	3.74e+05	0.98	Y 32:59	1.24	0.3244			2.5	*	1.000	0.996-1.006	
Tetra	PCB-54	*	*	n NotF	1.07	*		3780	2.5	0.0837	*	0.996-1.006	
Tetra	PCB-50	*	*	n NotF	0.90	*		3780	2.5	0.100	*	1.037-1.047	
Tetra	PCB-53	2.14e+06	0.78	Y 29:49	1.17	2.601			2.5	*	0.946	0.941-0.951	
Tetra	PCB-51	4.40e+05	0.79	Y 30:09	1.18	0.5287			2.5	*	0.956	0.952-0.962	
Tetra	PCB-45	9.57e+05	0.75	Y 30:35	1.06	1.284			2.5	*	0.970	0.965-0.975	
Tetra	PCB-46	3.56e+05	0.67	Y 31:05	0.99	0.5104			2.5	*	0.986	0.981-0.991	

Integrations by:

Analyst: MY

Date: 11/14/16

Date: 11/26/16

Reviewed by: CT

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Pac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	4.49e+07	0.78	Y 31:33	1.31	48.66			2.5	*	1.001	0.996-1.006	
Tetra	PCB-73	*	n NotF	1.45				3780	2.5	*		0.999-1.009	
Tetra	PCB-43/49	2.09e+07	0.77	Y 31:50	1.28	23.14			2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	1.30e+07	0.77	Y 32:03	1.22	13.90			2.5	*	1.000	0.996-1.006	
Tetra	PCB-48/75	2.20e+06	0.74	Y 32:11	1.32	2.178			2.5	*	1.005	0.999-1.009	
Tetra	PCB-65	*	n NotF	1.27				3780	2.5	*		1.007-1.017	
Tetra	PCB-62	*	n NotF	1.36				3780	2.5	*		1.011-1.021	
Tetra	PCB-44	1.09e+07	0.76	Y 32:50	0.94	15.16			2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	2.57e+06	0.80	Y 33:04	1.27	2.658			2.5	*	1.032	1.027-1.037	
Tetra	PCB-41/64/71/72	2.06e+07	0.77	Y 33:40	1.34	20.14			2.5	*	1.051	1.045-1.055	
Tetra	PCB-68	1.45e+06	0.78	Y 33:56	1.53	1.249			2.5	*	1.059	1.053-1.063	
Tetra	PCB-40	2.28e+05	0.72	Y 34:08	0.86	0.3453			2.5	*	1.065	1.061-1.071	
Tetra	PCB-57	2.41e+05	0.86	Y 34:29	1.12	0.2117			2.5	*	0.970	0.965-0.975	
Tetra	PCB-67	1.71e+05	0.67	Y 34:47	1.10	0.1531			2.5	*	0.979	0.974-0.984	
Tetra	PCB-58	2.30e+05	0.75	Y 34:54	1.16	0.1950			2.5	*	0.982	0.977-0.987	
Tetra	PCB-63	2.93e+06	0.75	Y 35:03	1.20	2.398			2.5	*	0.986	0.981-0.991	
Tetra	PCB-74	3.16e+07	0.80	Y 35:20	1.17	26.48			2.5	*	0.994	0.989-0.999	
Tetra	PCB-61/70	3.22e+07	0.77	Y 35:33	1.13	27.94			2.5	*	1.000	0.995-1.005	
Tetra	PCB-76/66	3.97e+07	0.81	Y 35:45	1.14	34.13			2.5	*	1.006	1.000-1.010	
Tetra	PCB-80	1.71e+05	0.87	Y 35:59	1.31	0.1228			2.5	*	1.001	0.995-1.005	
Tetra	PCB-55	9.86e+05	0.84	Y 36:15	1.16	0.7979			2.5	*	1.008	1.004-1.014	
Tetra	PCB-56/60	1.22e+07	0.77	Y 36:47	1.14	10.05			2.5	*	1.023	1.018-1.028	
Tetra	PCB-79	4.23e+06	0.74	Y 37:53	1.17	3.395			2.5	*	1.053	1.048-1.058	
Tetra	PCB-78	*	n NotF	1.11				3780	2.5	*		0.982-0.992	
Tetra	PCB-81	5.56e+05	0.68	Y 39:04	1.20	0.4310			2.5	*	1.000	0.995-1.005	
Tetra	PCB-77	1.42e+06	0.85	Y 39:38	1.24	1.094			2.5	*	1.000	0.995-1.005	
Penta	PCB-104	*	n NotF	1.31				2350	2.5	*		0.996-1.006	
Penta	PCB-96	2.06e+05	1.44	Y 33:59	1.15	0.3160			2.5	*	1.040	1.034-1.044	
Penta	PCB-103	9.45e+05	1.40	Y 34:30	1.03	1.631			2.5	*	1.056	1.051-1.061	
Penta	PCB-100	5.02e+05	1.60	Y 34:51	1.03	0.8651			2.5	*	1.066	1.061-1.071	
Penta	PCB-94	2.89e+05	1.51	Y 35:19	1.18	0.5523			2.5	*	0.986	0.980-0.990	
Penta	PCB-95/98/102	6.29e+07	1.59	Y 35:51	1.31	108.1			2.5	*	1.001	0.994-1.004	
Penta	PCB-93	*	n NotF	1.19				2350	2.5	*		0.998-1.008	
Penta	PCB-88/91	1.07e+07	1.59	Y 36:15	1.23	19.52			2.5	*	1.012	1.006-1.016	
Penta	PCB-121	*	n NotF	1.74				2350	2.5	*		1.009-1.019	
Penta	PCB-84/92	3.36e+07	1.58	Y 37:09	1.16	60.48			2.5	*	0.990	0.985-0.995	
Penta	PCB-89	*	n NotF	1.11				2350	2.5	*		0.990-1.000	

Analyst: MS
 Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	1.25e+08	1.59	Y 37:32	1.27	204.9	*	2350	2.5	0.111	1.000	0.995-1.005	
Penta	PCB-113	*	*	n NotF	1.47	*	*	*	*	*	*	1.002-1.012	
Penta	PCB-99	8.53e+07	1.60	Y 37:51	1.26	140.7	*	*	2.5	*	1.009	1.004-1.014	
Penta	PCB-115	6.25e+06	1.59	Y 38:20	1.87	7.441	*	*	2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	3.77e+06	1.67	Y 38:30	1.44	5.850	*	2350	2.5	0.102	0.992	0.986-0.996	
Penta	PCB-83	*	*	n NotF	1.70	*	*	*	*	*	*	0.990-1.000	
Penta	PCB-97	1.23e+07	1.55	Y 38:51	1.31	20.81	*	2350	2.5	0.169	1.001	0.995-1.005	
Penta	PCB-86	*	*	n NotF	1.02	*	*	*	*	*	*	0.999-1.009	
Penta	PCB-87/117/125	3.95e+07	1.60	Y 39:08	1.59	55.50	*	2350	2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	3.21e+06	1.50	Y 39:16	1.85	3.865	*	*	2.5	*	1.011	1.006-1.016	
Penta	PCB-85/116	2.72e+07	1.60	Y 39:22	1.44	42.12	*	*	2.5	*	1.014	1.010-1.020	
Penta	PCB-120	7.44e+05	1.68	Y 39:36	1.91	0.8670	*	*	2.5	*	1.020	1.016-1.026	
Penta	PCB-110	1.34e+08	1.60	Y 39:46	1.76	169.0	*	*	2.5	*	1.024	1.019-1.029	
Penta	PCB-82	1.08e+06	1.62	Y 40:24	0.81	2.135	*	*	2.5	*	0.976	0.971-0.981	
Penta	PCB-124	2.16e+06	1.55	Y 41:04	1.30	2.668	*	*	2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	1.83e+07	1.60	Y 41:15	1.34	21.93	*	*	2.5	*	0.997	0.991-1.001	
Penta	PCB-123	1.87e+06	1.75	Y 41:24	1.35	2.227	*	7700	2.5	0.316	1.000	0.995-1.005	
Penta	PCB-106/118	1.16e+08	1.59	Y 41:34	1.34	141.9	*	*	2.5	*	1.000	0.996-1.006	
Penta	PCB-114	3.80e+06	1.64	Y 42:13	1.17	4.121	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	*	n NotF	1.03	*	*	7700	2.5	*	*	0.999-1.009	
Penta	PCB-105	6.56e+07	1.57	Y 43:05	1.23	69.76	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	*	n NotF	1.06	*	*	7700	2.5	0.301	*	0.995-1.005	
Penta	PCB-126	4.40e+05	1.60	Y 45:19	1.16	0.5167	*	*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-155	3.06e+05	1.20	Y 37:05	1.26	0.5343	*	*	2.5	*	1.001	0.966-1.006	
Hexa	PCB-150	1.42e+05	1.37	Y 38:21	1.15	0.2722	*	*	2.5	*	1.035	1.030-1.040	
Hexa	PCB-152	9.18e+04	1.38	Y 38:48	1.19	0.1694	*	*	2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	*	*	n NotF	1.14	*	*	3240	1.0	0.0719	*	1.055-1.065	
Hexa	PCB-136	1.23e+07	1.26	Y 39:35	1.18	22.74	*	*	2.5	*	1.068	1.063-1.073	
Hexa	PCB-148	1.89e+05	1.12	Y 39:43	0.82	0.5079	*	*	2.5	*	1.072	1.066-1.076	
Hexa	PCB-154	2.63e+06	1.24	Y 40:11	0.91	6.367	*	*	2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	3.87e+07	1.27	Y 40:49	0.86	99.42	*	*	2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	1.60e+07	1.24	Y 41:02	0.82	42.75	*	*	2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	4.73e+06	1.35	Y 41:09	0.92	11.25	*	*	2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	3.51e+06	1.20	Y 41:16	0.81	9.579	*	*	2.5	*	1.113	1.108-1.120	
Hexa	PCB-139/149	1.15e+08	1.25	Y 41:31	0.91	276.8	*	*	2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	8.68e+05	1.21	Y 41:43	0.83	2.285	*	*	2.5	*	1.126	1.120-1.132	
Hexa	PCB-134/143	7.57e+06	1.31	Y 42:11	0.89	9.679	*	*	2.5	*	0.976	0.970-0.980	

Analyst: MS
 Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	8.19e+06	1.27	Y 42:27	0.86	10.87			2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*		n NotF	0.89	*		1800	2.5	0.0692	*	0.981-0.991	
Hexa	PCB-146/165	8.05e+07	1.25	Y 42:51	1.07	85.90			2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	5.20e+07	1.21	Y 43:06	1.12	53.07			2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	5.07e+08	1.24	Y 43:15	1.15	504.6			2.5	*	1.000	0.996-1.006	
Hexa	PCB-168	5.34e+05	1.08	Y 43:28	1.38	0.4412			2.5	*	1.005	1.000-1.010	
Hexa	PCB-141	5.25e+07	1.28	Y 43:59	1.20	59.20			2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	1.76e+07	1.23	Y 44:23	1.23	19.31			2.5	*	1.009	1.004-1.014	
Hexa	PCB-130	1.86e+07	1.23	Y 44:28	1.04	24.16			2.5	*	1.011	1.006-1.016	
Hexa	PCB-138/163/164	5.14e+08	1.24	Y 44:50	1.30	493.0			2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	4.56e+07	1.23	Y 45:03	1.41	40.40			2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	5.42e+06	1.27	Y 45:19	0.97	6.995			2.5	*	1.012	1.007-1.017	
Hexa	PCB-166	1.63e+06	1.22	Y 45:47	1.19	1.442			2.5	*	0.993	0.988-0.998	
Hexa	PCB-159	*		n NotF	1.28	*		1800	2.5	0.0466	*	0.995-1.005	
Hexa	PCB-128/162	5.97e+07	1.23	Y 46:23	1.06	59.64			2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	1.96e+06	1.25	Y 46:47	1.22	1.653			2.5	*	1.000	0.995-1.005	
Hexa	PCB-156	3.83e+07	1.24	Y 48:05	1.27	31.79			2.5	*	1.001	0.995-1.005	
Hexa	PCB-157	8.43e+06	1.24	Y 48:21	1.24	7.139			2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	9.51e+05	1.21	Y 50:33	1.18	0.8629			2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	3.14e+05	1.00	Y 42:52	1.59	0.3951			2.5	*	1.000	0.996-1.006	
Hepta	PCB-184	8.04e+05	0.99	Y 43:19	1.44	1.120			2.5	*	1.010	1.006-1.016	
Hepta	PCB-179	3.70e+07	1.04	Y 44:06	1.45	51.01			2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	9.17e+06	1.05	Y 44:33	1.56	11.81			2.5	*	1.039	1.035-1.045	
Hepta	PCB-186	*		n NotF	1.56	*		2000	2.5	0.0489	*	1.049-1.059	
Hepta	PCB-178	2.09e+07	1.07	Y 45:40	1.20	34.89			2.5	*	1.065	1.061-1.071	
Hepta	PCB-175	2.80e+06	1.04	Y 46:00	1.12	4.991			2.5	*	1.073	1.069-1.079	
Hepta	PCB-182/187	1.89e+08	1.06	Y 46:10	1.24	305.5			2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	4.91e+07	1.06	Y 46:30	1.37	71.70			2.5	*	1.085	1.080-1.090	
Hepta	PCB-185	9.72e+06	1.03	Y 47:09	1.60	16.05			2.5	*	0.955	0.950-0.960	
Hepta	PCB-174	5.25e+07	1.07	Y 47:31	1.51	91.44			2.5	*	0.963	0.958-0.968	
Hepta	PCB-181	*		n NotF	1.64	*		2000	2.5	0.0624	*	0.960-0.970	
Hepta	PCB-177	4.49e+07	1.05	Y 47:47	1.45	81.40			2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	1.91e+07	1.04	Y 48:05	1.59	29.70			2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	7.76e+05	1.06	Y 48:30	1.38	1.485			2.5	*	0.983	0.978-0.988	
Hepta	PCB-172	1.21e+07	1.05	Y 48:58	1.55	20.52			2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*		n NotF	2.02	*		2000	2.5	0.0504	*	0.991-1.001	
Hepta	PCB-180	1.65e+08	1.07	Y 49:22	1.66	262.4			2.5	*	1.000	0.995-1.005	

Analyst: MS
 Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	1.46e+07	1.06	Y 49:34	2.09	18.32		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	3.32e+06	1.02	Y 49:49	2.11	4.141		*	2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	5.45e+07	1.08	Y 50:57	1.72	93.32		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	1.98e+07	1.07	Y 51:07	2.32	25.16		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	2.78e+06	1.05	Y 52:32	1.73	3.634		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-202	1.05e+07	0.97	Y 48:17	1.08	23.18		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	4.55e+06	0.94	Y 48:46	1.16	9.365		*	2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n Not F	1.09	*	1660	2.5	*	0.0931	*	1.009-1.019	
Octa	PCB-197	1.47e+06	0.92	Y 49:14	1.21	2.879		*	2.5	*	1.020	1.015-1.025	
Octa	PCB-200	3.38e+06	0.95	Y 50:08	1.12	7.220		*	2.5	*	1.039	1.034-1.044	
Octa	PCB-198	1.02e+06	0.85	Y 51:34	0.61	3.013		*	2.5	*	1.068	1.062-1.072	
Octa	PCB-199	2.93e+07	0.95	Y 51:42	0.80	87.20		*	2.5	*	1.071	1.064-1.074	
Octa	PCB-196/203	3.13e+07	0.94	Y 51:58	0.87	85.53		*	2.5	*	1.077	1.070-1.080	
Octa	PCB-195	1.10e+07	0.89	Y 53:11	1.10	24.62		*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	2.21e+07	0.86	Y 54:05	1.28	42.47		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	1.78e+06	0.90	Y 54:20	1.62	2.714		*	2.5	*	1.005	1.001-1.010	
Nona	PCB-208	7.46e+06	1.30	Y 53:20	1.11	9.152		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	2.73e+06	1.32	Y 53:39	1.11	3.375		*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	1.44e+07	1.30	Y 55:39	0.95	30.44		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	3.60e+06	1.15	Y 56:58	1.34	7.483		*	2.5	*	1.000	0.995-1.005	

Analyst: MS
 Date: 11/14/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	1.72e+05	2.76 Y	16:05	1.02	0.254440
Total Di-PCB	4.29e+06	1.67 Y	22:56	1.18	3.59993
Total Tri-PCB	7.95e+06	0.99 Y	24:14	1.21	14.0720
Total Tri-PCB	2.95e+07	1.08 Y	28:30	1.07	29.5213
Total Tetra-PCB	2.47e+08	0.78 Y	29:49	1.20	239.750
Total Penta-PCB	6.85e+08	1.44 Y	33:59	1.29	1013.44
Total Penta-PCB	6.99e+07	1.64 Y	42:13	1.13	74.3986
Total Hexa-PCB	1.94e+08	1.20 Y	37:05	0.98	472.725
Total Hexa-PCB	1.42e+09	1.31 Y	42:11	1.13	1410.19
Total Hepta-PCB	7.08e+08	1.00 Y	42:52	1.53	1129.00
Total Octa-PCB	8.15e+07	0.97 Y	48:17	1.00	218.386
Total Octa-PCB	3.49e+07	0.89 Y	53:11	1.34	69.8101
Total Nona-PCB	2.46e+07	1.30 Y	53:20	1.06	42.9644
Total Deca-PCB	3.60e+06	1.15 Y	56:58	1.34	7.48333

Total PCB Conc: 4725.63784000

Integrations
 by Analyst: VM
 Date: 11/14/16

Client ID: EPA-HS-AI DUP Lab ID: 1601354-02 File name: 161109E1 S:6 Acq: 9-NOV-16 17:11:41 ConCal: ST161109E1-1 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.00µ EndCAL: NA

Table with columns: Name, Resp, RA, RRF, RT, RRT, LCL, UCL, Conc, Rec, CRS vs. RS, Name, Resp, RA, RRF, RT, RRT, LCL, UCL, Conc, Rec. Includes sub-sections for 'CRS vs. RS' and 'PS vs. IS'.

Analyst: (M) Date: 11/14/16

Sample ID: EPA-HS-A1 TRIP

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-03			
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	BGK0046			
Date Collected:	30-Aug-2016 15:17	%Lipids:	4.96	Date Analyzed:	09-Nov-16 18:16			
				Column:	ZB-1			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	ND	0.172		PCB-44	12.2			
PCB-2	ND	0.162		PCB-45	1.13			
PCB-3	ND	0.157		PCB-46	0.318			J
PCB-4/10	ND	0.327		PCB-47	11.4			B
PCB-5/8	1.12			PCB-48/75	1.92			
PCB-6	ND	0.240		PCB-50	ND	0.0601		
PCB-7/9	ND	0.0987		PCB-51	0.351			J
PCB-11	1.49			PCB-52/69	41.5			
PCB-12/13	ND	0.0903		PCB-53	2.09			
PCB-14	ND	0.0782		PCB-54	ND	0.0244		
PCB-15	ND	0.269		PCB-55	0.720			
PCB-16/32	2.40			PCB-56/60	7.96			
PCB-17	0.911			PCB-57	0.162			J
PCB-18	7.75			PCB-58	0.153			J
PCB-19	0.478			PCB-61/70	24.1			
PCB-20/21/33	0.630			PCB-62	ND	0.0498		
PCB-22	1.55			PCB-63	2.04			
PCB-23	ND	0.0841		PCB-65	ND	0.0531		
PCB-24/27	0.572			PCB-66/76	28.8			
PCB-25	0.166			PCB-67	ND	0.117		
PCB-26	0.633			PCB-68	0.989			
PCB-28	13.3			PCB-73	ND	0.0475		
PCB-29	ND	0.0765		PCB-74	21.6			
PCB-30	ND	0.0611		PCB-77	0.891			
PCB-31	7.09			PCB-78	ND	0.0453		
PCB-34	ND		0.0553	PCB-79	3.12			
PCB-35	ND	0.0638		PCB-80	ND	0.0361		
PCB-36	ND	0.0627		PCB-81	0.434			J
PCB-37	0.228			PCB-82	1.72			
PCB-38	0.389			PCB-83	ND	0.0746		
PCB-39	ND	0.0592		PCB-84/92	51.6			
PCB-40	ND		0.187	PCB-85/116	36.1			
PCB-41/64/71/72	16.5			PCB-86	ND	0.124		
PCB-42/59	2.20			PCB-87/117/125	47.3			
PCB-43/49	18.8			PCB-88/91	17.7			

EMPC - Estimated maximum possible concentration
 DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A1 TRIP

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-03				
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 15:17	%Lipids:	4.96	Date Analyzed:	09-Nov-16 18:16 Column: ZB-1				
Date Received:	25-Oct-2016 9:00			Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	ND	0.105			PCB-136	19.6			
PCB-90/101	171				PCB-137	13.5			
PCB-93	ND	0.112			PCB-138/163/164	432			
PCB-94	0.389			J	PCB-139/149	238			B
PCB-95/98/102	98.8				PCB-140	1.89			
PCB-96	0.262			J	PCB-141	49.1			
PCB-97	17.6				PCB-144	9.86			
PCB-99	121				PCB-145	ND	0.0850		
PCB-100	0.717				PCB-146/165	74.1			
PCB-103	ND		1.31		PCB-147	7.47			
PCB-104	ND	0.0773			PCB-148	0.427			J
PCB-105	61.0				PCB-150	ND		0.198	
PCB-106/118	129				PCB-151	87.0			
PCB-107/109	19.9				PCB-152	0.141			J
PCB-108/112	5.06				PCB-153	451			
PCB-110	148				PCB-154	5.61			
PCB-111/115	3.32				PCB-155	0.492			
PCB-113	ND	0.0793			PCB-156	27.7			
PCB-114	3.61				PCB-157	6.22			
PCB-119	6.61				PCB-158/160	35.6			
PCB-120	0.671				PCB-159	ND	0.229		
PCB-121	ND	0.0766			PCB-166	1.45			
PCB-122	ND	0.300			PCB-167	1.36			
PCB-123	1.90				PCB-168	0.502			
PCB-124	2.61				PCB-169	0.735			
PCB-126	0.377			J	PCB-170	81.2			
PCB-127	ND	0.296			PCB-171	25.3			
PCB-128/162	51.4				PCB-172	17.2			
PCB-129	6.41				PCB-173	1.41			
PCB-130	23.8				PCB-174	78.7			
PCB-131	ND	0.359			PCB-175	3.67			
PCB-132/161	45.0				PCB-176	9.74			
PCB-133/142	9.71				PCB-177	68.6			
PCB-134/143	8.57				PCB-178	29.2			
PCB-135	37.4				PCB-179	43.3			

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

Results are reported in wet weight. See individual congeners for qualifiers.

Sample ID: EPA-HS-A1 TRIP

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-03				
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 15:17	%Lipids:	4.96	Date Analyzed:	09-Nov-16 18:16				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
				Column:	ZB-1				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	222				Total octaCB	249			
PCB-181	ND	0.277			Total nonaCB	36.4			
PCB-182/187	256				DecaCB	6.69			
PCB-183	59.4				Total PCB	4080			
PCB-184	0.997								
PCB-185	13.7								
PCB-186	ND	0.215							
PCB-188	0.356			J					
PCB-189	3.16								
PCB-190	22.5								
PCB-191	3.42								
PCB-192	ND	0.224							
PCB-193	15.9								
PCB-194	35.3								
PCB-195	19.7								
PCB-196/203	75.2								
PCB-197	2.46								
PCB-198	2.83								
PCB-199	76.8								
PCB-200	6.34								
PCB-201	8.24								
PCB-202	20.5								
PCB-204	ND	0.0821							
PCB-205	1.95								
PCB-206	25.6								
PCB-207	2.80								
PCB-208	8.02								
PCB-209	6.69								
Total monoCB	ND	0.172							
Total diCB	2.61								
Total triCB	36.1		36.2						
Total tetraCB	199		200						
Total pentaCB	946		948						
Total hexaCB	1650								
Total heptaCB	956								

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A1 TRIP

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-03		
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046		
Date Collected:	30-Aug-2016 15:17	%Lipids:	4.96	Date Analyzed:	09-Nov-16 18:16 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	36.0	15 -150		13C-PCB-170	69.8	25 -150	
13C-PCB-3	41.9	15 -150		13C-PCB-180	71.0	25 -150	
13C-PCB-4	60.4	25 -150		13C-PCB-188	67.4	25 -150	
13C-PCB-11	80.9	25 -150		13C-PCB-189	67.9	25 -150	
13C-PCB-9	68.5	25 -150		13C-PCB-194	101	25 -150	
13C-PCB-19	36.1	25 -150		13C-PCB-202	52.8	25 -150	
13C-PCB-28	87.6	25 -150		13C-PCB-206	104	25 -150	
13C-PCB-32	42.9	25 -150		13C-PCB-208	124	25 -150	
13C-PCB-37	97.0	25 -150		13C-PCB-209	73.0	25 -150	
13C-PCB-47	77.9	25 -150		CRS 13C-PCB-79	99.2	30 -135	
13C-PCB-52	77.8	25 -150		13C-PCB-178	75.5	30 -135	
13C-PCB-54	72.7	25 -150					
13C-PCB-70	85.9	25 -150					
13C-PCB-77	88.3	25 -150					
13C-PCB-80	88.9	25 -150					
13C-PCB-81	87.1	25 -150					
13C-PCB-95	79.4	25 -150					
13C-PCB-97	86.5	25 -150					
13C-PCB-101	85.0	25 -150					
13C-PCB-104	76.5	25 -150					
13C-PCB-105	75.3	25 -150					
13C-PCB-114	83.0	25 -150					
13C-PCB-118	83.3	25 -150					
13C-PCB-123	88.3	25 -150					
13C-PCB-126	79.6	25 -150					
13C-PCB-127	74.5	25 -150					
13C-PCB-138	88.2	25 -150					
13C-PCB-141	87.3	25 -150					
13C-PCB-153	88.6	25 -150					
13C-PCB-155	69.9	25 -150					
13C-PCB-156	89.9	25 -150					
13C-PCB-157	86.9	25 -150					
13C-PCB-159	88.1	25 -150					
13C-PCB-167	87.9	25 -150					
13C-PCB-169	89.6	25 -150					

DL - Sample specific: estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Type	Name	Resp	RA	RT	RF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	*	n	Not F	1.06	*		3400	2.5	0.172	*	0.997-1.007	
Mono	PCB-2	*	n	Not F	0.99	*		3400	2.5	0.162	*	0.983-0.993	
Mono	PCB-3	*	n	Not F	1.02	*		3400	2.5	0.157	*	0.996-1.006	
Di	PCB-4/10	*	n	Not F	1.41	*		27300	1.0	0.327	*	0.997-1.007	
Di	PCB-7/9	*	n	Not F	1.13	*		4700	2.5	0.0987	*	0.864-0.872	
Di	PCB-6	*	n	Not F	1.08	*		27300	1.0	0.240	*	0.888-0.897	
Di	PCB-5/8	1.22e+06	1.76	Y	22:56	1.118		*	2.5	*	0.908	0.805-0.915	
Di	PCB-14	*	n	Not F	1.32	*		4700	2.5	0.0782	*	0.948-0.958	
Di	PCB-11	1.98e+06	1.53	Y	25:15	1.494		*	2.5	*	1.000	0.995-1.005	
Di	PCB-12/13	*	n	Not F	1.14	*		4700	2.5	0.0903	*	1.011-1.021	
Di	PCB-15	*	n	Not F	1.29	*		39500	1.0	0.269	*	1.023-1.031	
Tri	PCB-19	2.00e+05	0.95	Y	24:14	0.4782		*	2.5	*	1.001	0.996-1.006	
Tri	PCB-30	*	n	Not F	1.88	*		2000	2.5	0.0611	*	1.033-1.043	
Tri	PCB-18	4.07e+06	1.02	Y	25:53	7.751		*	2.5	*	0.954	0.949-0.959	
Tri	PCB-17	5.19e+05	1.11	Y	26:03	0.9115		*	2.5	*	0.960	0.956-0.966	
Tri	PCB-24/27	4.23e+05	1.15	Y	26:38	0.5716		*	2.5	*	0.981	0.977-0.987	
Tri	PCB-16/32	1.51e+06	1.11	Y	27:09	2.402		*	2.5	*	1.000	0.996-1.006	
Tri	PCB-34	4.44e+04	1.24	n	27:57	0.06535	R	*	2.5	*	0.960	0.955-0.965	
Tri	PCB-23	*	n	Not F	0.86	*		2430	2.5	0.0841	*	0.958-0.968	
Tri	PCB-29	*	n	Not F	0.95	*		2430	2.5	0.0765	*	0.967-0.977	
Tri	PCB-26	5.08e+05	1.05	Y	28:30	0.6331		*	2.5	*	0.979	0.974-0.984	
Tri	PCB-25	1.27e+05	0.90	Y	28:40	0.1657		*	2.5	*	0.985	0.980-0.990	
Tri	PCB-31	6.35e+06	0.89	Y	29:01	7.088		*	2.5	*	0.997	0.992-1.002	
Tri	PCB-28	1.21e+07	0.94	Y	29:08	13.32		*	2.5	*	1.001	0.996-1.006	
Tri	PCB-20/21/33	5.61e+05	0.93	Y	29:46	0.6299		*	2.5	*	1.023	1.016-1.026	
Tri	PCB-22	1.33e+06	0.98	Y	30:11	1.548		*	2.5	*	1.037	1.032-1.042	
Tri	PCB-36	*	n	Not F	1.18	*		2430	2.5	0.0627	*	0.929-0.939	
Tri	PCB-39	*	n	Not F	1.25	*		2430	2.5	0.0592	*	0.943-0.953	
Tri	PCB-38	3.73e+05	1.09	Y	32:03	0.3889		*	2.5	*	0.972	0.967-0.977	
Tri	PCB-35	*	n	Not F	1.16	*		2430	2.5	0.0638	*	0.982-0.992	
Tri	PCB-37	2.37e+05	0.92	Y	33:00	0.2281		*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-54	*	n	Not F	1.07	*		2870	1.0	0.0244	*	0.996-1.006	
Tetra	PCB-50	*	n	Not F	0.90	*		2360	2.5	0.0601	*	1.037-1.047	
Tetra	PCB-53	1.81e+06	0.81	Y	29:49	2.089		*	2.5	*	0.946	0.941-0.951	
Tetra	PCB-51	3.08e+05	0.70	Y	30:09	0.3510		*	2.5	*	0.956	0.952-0.962	
Tetra	PCB-45	8.89e+05	0.75	Y	30:35	1.133		*	2.5	*	0.970	0.965-0.975	
Tetra	PCB-46	2.33e+05	0.78	Y	31:05	0.3178		*	2.5	*	0.986	0.981-0.991	

Integrations by:
 Analyst: M
 Date: 11/14/16
 Date: 11/18/16

Reviewed by: CT

Type	Name	Resp	RA	RT	RRP	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	4.04e+07	0.77	Y 31:32	1.31	41.51		*	2.5	*	1.000	0.996-1.006	0.999-1.009
Tetra	PCB-73	*	n NotFl	1.45	*			2360	2.5	0.0475	*	1.005-1.015	1.000-1.006
Tetra	PCB-43/49	1.79e+07	0.77	Y 31:50	1.28	18.79		*	2.5	*	1.010	0.996-1.006	0.999-1.009
Tetra	PCB-47	1.10e+07	0.80	Y 32:03	1.22	11.44		*	2.5	*	1.000	0.999-1.009	1.005-1.015
Tetra	PCB-48/75	2.00e+06	0.77	Y 32:11	1.32	1.916		*	2.5	*	1.005	0.999-1.009	1.005-1.015
Tetra	PCB-65	*	n NotFl	1.27	*			2360	2.5	0.0531	*	1.007-1.017	0.999-1.009
Tetra	PCB-62	*	n NotFl	1.36	*			2360	2.5	0.0498	*	1.011-1.021	1.007-1.017
Tetra	PCB-44	9.03e+06	0.81	Y 32:50	0.94	12.18		*	2.5	*	1.025	1.020-1.030	1.007-1.017
Tetra	PCB-42/59	2.20e+06	0.75	Y 33:04	1.27	2.199		*	2.5	*	1.032	1.027-1.037	1.007-1.017
Tetra	PCB-41/64/71/72	1.74e+07	0.78	Y 33:40	1.34	16.50		*	2.5	*	1.051	1.045-1.055	1.007-1.017
Tetra	PCB-68	1.19e+06	0.76	Y 33:56	1.53	0.9890		*	2.5	*	1.059	1.053-1.063	1.007-1.017
Tetra	PCB-40	1.28e+05	1.02	n 34:08	0.86	0.1873	R	*	2.5	*	1.065	1.061-1.071	1.007-1.017
Tetra	PCB-57	1.99e+05	0.83	Y 34:29	1.12	0.1615		*	2.5	*	0.970	0.965-0.975	0.965-0.975
Tetra	PCB-67	1.42e+05	0.60	n 34:46	1.10	0.1174		*	2.5	*	0.978	0.974-0.984	0.974-0.984
Tetra	PCB-58	1.95e+05	0.85	Y 34:54	1.16	0.1530		*	2.5	*	0.982	0.977-0.987	0.977-0.987
Tetra	PCB-63	2.69e+06	0.76	Y 35:03	1.20	2.038		*	2.5	*	0.985	0.981-0.991	0.981-0.991
Tetra	PCB-74	2.78e+07	0.78	Y 35:20	1.17	21.60		*	2.5	*	0.994	0.989-0.999	0.989-0.999
Tetra	PCB-61/70	3.00e+07	0.79	Y 35:33	1.13	24.13		*	2.5	*	1.000	0.995-1.005	0.995-1.005
Tetra	PCB-76/66	3.62e+07	0.78	Y 35:45	1.14	28.83		*	2.5	*	1.006	1.000-1.010	1.000-1.010
Tetra	PCB-80	*	n NotFl	1.31	*			2360	2.5	0.0361	*	0.995-1.005	0.995-1.005
Tetra	PCB-55	9.61e+05	0.82	Y 36:16	1.16	0.7195		*	2.5	*	1.008	1.004-1.014	1.004-1.014
Tetra	PCB-56/60	1.04e+07	0.73	Y 36:47	1.14	7.964		*	2.5	*	1.023	1.018-1.028	1.018-1.028
Tetra	PCB-79	4.20e+06	0.80	Y 37:53	1.17	3.122		*	2.5	*	1.053	1.048-1.058	1.048-1.058
Tetra	PCB-78	*	n NotFl	1.11	*			2360	2.5	0.0453	*	0.982-0.992	0.982-0.992
Tetra	PCB-81	5.71e+05	0.80	Y 39:04	1.20	0.4336		*	2.5	*	1.000	0.995-1.005	0.995-1.005
Tetra	PCB-77	1.20e+06	0.88	Y 39:38	1.24	0.8909		*	2.5	*	1.000	0.995-1.005	0.995-1.005
Penta	PCB-104	*	n NotFl	1.31	*			1890	2.5	0.0773	*	0.996-1.006	0.996-1.006
Penta	PCB-96	1.84e+05	1.33	Y 33:59	1.15	0.2623		*	2.5	*	1.040	1.034-1.044	1.034-1.044
Penta	PCB-103	8.16e+05	1.83	n 34:30	1.03	1.306	R	*	2.5	*	1.056	1.051-1.061	1.051-1.061
Penta	PCB-100	4.49e+05	1.69	Y 34:51	1.03	0.7169		*	2.5	*	1.066	1.061-1.071	1.061-1.071
Penta	PCB-94	2.15e+05	1.65	Y 35:19	1.18	0.3891		*	2.5	*	0.985	0.980-0.990	0.980-0.990
Penta	PCB-95/98/102	6.05e+07	1.60	Y 35:51	1.31	98.84		*	2.5	*	1.000	0.994-1.004	0.994-1.004
Penta	PCB-93	*	n NotFl	1.19	*			1890	2.5	0.112	*	0.998-1.008	0.998-1.008
Penta	PCB-88/91	1.02e+07	1.53	Y 36:15	1.23	17.73		*	2.5	*	1.011	1.006-1.016	1.006-1.016
Penta	PCB-121	*	n NotFl	1.74	*			1890	2.5	0.0766	*	1.009-1.019	1.009-1.019
Penta	PCB-84/92	3.18e+07	1.60	Y 37:10	1.16	51.62		*	2.5	*	0.990	0.985-0.995	0.985-0.995
Penta	PCB-89	*	n NotFl	1.11	*			1890	2.5	0.105	*	0.990-1.000	0.990-1.000

Analyst: MM
 Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	1.15e+08	1.58	Y 37:32	1.27	171.3	*	1890	2.5	*	1.000	0.995-1.005	
Penta	PCB-113	*	n NotF	1.47	*	*	*	1890	2.5	0.0793	*	1.002-1.012	
Penta	PCB-99	8.11e+07	1.57	Y 37:52	1.26	120.7	*	*	2.5	*	1.009	1.004-1.014	
Penta	PCB-119	6.04e+06	1.62	Y 38:20	1.87	6.605	*	*	2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	3.55e+06	1.45	Y 38:30	1.44	5.060	*	*	2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	n NotF	1.70	*	*	*	1890	2.5	0.0746	*	0.990-1.000	
Penta	PCB-97	1.13e+07	1.54	Y 38:51	1.31	17.63	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-86	*	n NotF	1.02	*	*	*	1890	2.5	0.124	*	0.999-1.009	
Penta	PCB-87/117/125	3.66e+07	1.59	Y 39:08	1.59	47.25	*	*	2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	3.00e+06	1.65	Y 39:16	1.85	3.323	*	*	2.5	*	1.011	1.006-1.016	
Penta	PCB-85/116	2.54e+07	1.61	Y 39:22	1.44	36.15	*	*	2.5	*	1.014	1.010-1.020	
Penta	PCB-120	6.27e+05	1.70	Y 39:36	1.91	0.6713	*	*	2.5	*	1.020	1.016-1.026	
Penta	PCB-110	1.27e+08	1.58	Y 39:46	1.76	147.7	*	*	2.5	*	1.024	1.019-1.029	
Penta	PCB-82	9.17e+05	1.47	Y 40:24	0.81	1.724	*	*	2.5	*	0.976	0.971-0.981	
Penta	PCB-124	2.22e+06	1.45	Y 41:04	1.30	2.614	*	*	2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	1.74e+07	1.59	Y 41:15	1.34	19.87	*	*	2.5	*	0.997	0.991-1.001	
Penta	PCB-123	1.67e+06	1.58	Y 41:24	1.35	1.898	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-105/118	1.13e+08	1.59	Y 41:34	1.34	129.3	*	*	2.5	*	1.000	0.996-1.006	
Penta	PCB-114	3.42e+06	1.53	Y 42:13	1.17	3.610	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	n NotF	1.03	*	*	*	7600	2.5	0.300	*	0.999-1.009	
Penta	PCB-105	5.61e+07	1.59	Y 43:05	1.23	61.02	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	n NotF	1.06	*	*	*	7600	2.5	0.296	*	0.995-1.005	
Penta	PCB-126	3.51e+05	1.55	Y 45:19	1.16	0.3771	*	*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-155	3.04e+05	1.24	Y 37:05	1.26	0.4917	*	*	2.5	*	1.001	0.966-1.006	
Hexa	PCB-150	1.12e+05	1.65	Y 38:20	1.15	0.1982	*	*	2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	*	n NotF	1.19	*	*0.1405 ^B	*	*	2.5	*	*	1.043-1.053	
Hexa	PCB-145	*	n NotF	1.14	*	*	*	1630	2.5	0.0850	*	1.055-1.065	
Hexa	PCB-136	1.14e+07	1.23	Y 39:35	1.18	19.63	*	*	2.5	*	1.068	1.063-1.073	
Hexa	PCB-148	1.72e+05	1.29	Y 39:42	0.82	0.4271	*	*	2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	2.51e+06	1.23	Y 40:11	0.91	5.612	*	*	2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	3.67e+07	1.28	Y 40:49	0.86	87.03	*	*	2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	1.52e+07	1.29	Y 41:02	0.82	37.35	*	*	2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	4.49e+06	1.20	Y 41:09	0.92	9.864	*	*	2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	2.97e+06	1.29	Y 41:16	0.81	7.468	*	*	2.5	*	1.113	1.108-1.120	
Hexa	PCB-139/149	1.07e+08	1.28	Y 41:32	0.91	237.9	*	*	2.5	*	1.121	1.115-1.127	
Hexa	PCB-140	7.77e+05	1.39	Y 41:43	0.83	1.889	*	*	2.5	*	1.126	1.120-1.132	
Hexa	PCB-134/143	7.13e+06	1.27	Y 42:11	0.89	8.573	*	*	2.5	*	0.976	0.970-0.980	

Analyst: ML
 Date: 11/14/16

Client ID: EPA-HS-AL TRIP
 Lab ID: 1601354-03

Filename: 161109E1
 GC Column ID: ZB-1

S:7 Acq: 9-NOV-16 18:16:47
 ICal: PCBVG8-4-19-16 wt/vol:0.180

ConCal: ST161109E1-1
 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	7.78e+06	1.22	Y 42:27	0.86	9.715	*	2.5	*	0.982	0.977-0.987		
Hexa	PCB-131	*	n	NotFt	0.89	*	0.359	9800	2.5	*	0.981-0.991		
Hexa	PCB-146/165	7.38e+07	1.22	Y 42:51	1.07	74.11	*	2.5	*	0.991	0.986-0.996		
Hexa	PCB-132/161	4.68e+07	1.21	Y 43:06	1.12	45.00	*	2.5	*	0.997	0.992-1.002		
Hexa	PCB-153	4.82e+08	1.24	Y 43:16	1.15	450.9	*	2.5	*	1.001	0.996-1.006		
Hexa	PCB-168	6.45e+05	1.42	Y 43:28	1.38	0.5019	*	2.5	*	1.005	1.000-1.010		
Hexa	PCB-141	4.69e+07	1.25	Y 43:59	1.20	49.08	*	2.5	*	1.000	0.995-1.005		
Hexa	PCB-137	1.32e+07	1.23	Y 44:21	1.23	13.48	*	2.5	*	1.009	1.004-1.014		
Hexa	PCB-130	1.97e+07	1.25	Y 44:28	1.04	23.84	*	2.5	*	1.011	1.006-1.016		
Hexa	PCB-138/163/164	4.81e+08	1.24	Y 44:50	1.30	432.2	*	2.5	*	1.000	0.996-1.006		
Hexa	PCB-158/160	4.29e+07	1.25	Y 45:03	1.41	35.55	*	2.5	*	1.005	1.001-1.011		
Hexa	PCB-129	5.30e+06	1.28	Y 45:19	0.97	6.409	*	2.5	*	1.011	1.007-1.017		
Hexa	PCB-166	1.76e+06	1.21	Y 45:47	1.19	1.450	*	2.5	*	0.993	0.988-0.998		
Hexa	PCB-159	*	n	NotFt	1.28	*	0.229	9800	2.5	*	0.995-1.005		
Hexa	PCB-128/162	5.54e+07	1.26	Y 46:23	1.06	51.41	*	2.5	*	1.006	1.002-1.012		
Hexa	PCB-167	1.71e+06	1.13	Y 46:47	1.22	1.361	*	2.5	*	1.000	0.995-1.005		
Hexa	PCB-156	3.60e+07	1.26	Y 48:05	1.27	27.70	*	2.5	*	1.001	0.995-1.005		
Hexa	PCB-157	7.90e+06	1.32	Y 48:21	1.24	6.221	*	2.5	*	1.000	0.995-1.005		
Hexa	PCB-169	9.00e+05	1.25	Y 50:33	1.18	0.7353	*	2.5	*	1.000	0.995-1.005		
Hepta	PCB-188	3.12e+05	1.11	Y 42:52	1.59	0.3560	*	2.5	*	1.000	0.996-1.006		
Hepta	PCB-184	7.88e+05	1.08	Y 43:20	1.44	0.9966	*	2.5	*	1.011	1.006-1.016		
Hepta	PCB-179	3.46e+07	1.06	Y 44:06	1.45	43.34	*	2.5	*	1.029	1.024-1.034		
Hepta	PCB-176	8.32e+06	1.08	Y 44:34	1.56	9.739	*	2.5	*	1.040	1.035-1.045		
Hepta	PCB-186	*	n	NotFt	1.56	*	0.215	9680	2.5	*	1.049-1.059		
Hepta	PCB-178	1.92e+07	1.04	Y 45:40	1.20	29.22	*	2.5	*	1.065	1.061-1.071		
Hepta	PCB-175	2.27e+06	1.11	Y 46:00	1.12	3.672	*	2.5	*	1.073	1.069-1.079		
Hepta	PCB-182/187	1.74e+08	1.07	Y 46:10	1.24	255.8	*	2.5	*	1.077	1.073-1.083		
Hepta	PCB-183	4.48e+07	1.05	Y 46:30	1.37	59.37	*	2.5	*	1.085	1.080-1.090		
Hepta	PCB-185	9.03e+06	1.07	Y 47:09	1.60	13.67	*	2.5	*	0.955	0.950-0.960		
Hepta	PCB-174	4.93e+07	1.05	Y 47:31	1.51	78.66	*	2.5	*	0.963	0.958-0.968		
Hepta	PCB-181	*	n	NotFt	1.64	*	0.277	9680	2.5	*	0.960-0.970		
Hepta	PCB-177	4.13e+07	1.06	Y 47:47	1.45	68.56	*	2.5	*	0.968	0.963-0.973		
Hepta	PCB-171	1.77e+07	1.06	Y 48:05	1.69	25.27	*	2.5	*	0.974	0.969-0.979		
Hepta	PCB-173	8.03e+05	0.95	Y 48:30	1.38	1.408	*	2.5	*	0.983	0.978-0.988		
Hepta	PCB-172	1.10e+07	1.10	Y 48:58	1.55	17.18	*	2.5	*	0.992	0.987-0.997		
Hepta	PCB-192	*	n	NotFt	2.02	*	0.224	9680	2.5	*	0.991-1.001		
Hepta	PCB-180	1.53e+08	1.07	Y 49:22	1.66	222.2	*	2.5	*	1.000	0.995-1.005		

Analyst: MS
 Date: 11/14/16

Client ID: EPA-HS-A1 TRIP
 Lab ID: 1601354-03

Filename: 161109E1 S:7 Acq: 9-NOV-16 18:16:47
 GC Column ID: ZB-1 ICal: PCBVGB-4-19-16 wt/vol:10.180

ConCal: ST161109E1-1
 EndCAL: NA

Type	Name	Resp	RA	RT	RRP	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	1.38e+07	1.05	Y 49:34	2.09	15.95			* 2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	2.99e+06	1.04	Y 49:49	2.11	3.419			* 2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	5.15e+07	1.06	Y 50:57	1.72	81.16			* 2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	1.93e+07	1.07	Y 51:07	2.32	22.47			* 2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	2.57e+06	1.13	Y 52:32	1.73	3.162			* 2.5	*	1.000	0.995-1.005	
Octa	PCB-202	9.61e+06	0.91	Y 48:17	1.08	20.47			* 2.5	*	1.000	0.995-1.005	
Octa	PCB-201	4.15e+06	0.98	Y 48:46	1.16	8.241			* 2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n Not F _q	1.09	*		1510	2.5	0.0821	*	1.009-1.019	
Octa	PCB-197	1.29e+06	0.99	Y 49:14	1.21	2.457			* 2.5	*	1.020	1.015-1.025	
Octa	PCB-200	3.07e+06	0.97	Y 50:08	1.12	6.337			* 2.5	*	1.039	1.034-1.044	
Octa	PCB-198	9.34e+05	0.84	Y 51:34	0.81	2.833			* 2.5	*	1.068	1.062-1.072	
Octa	PCB-199	2.67e+07	0.93	Y 51:41	0.80	76.77			* 2.5	*	1.071	1.064-1.074	
Octa	PCB-196/203	2.85e+07	0.92	Y 51:58	0.87	75.16			* 2.5	*	1.077	1.070-1.080	
Octa	PCB-195	1.00e+07	0.89	Y 53:11	1.10	19.72			* 2.5	*	0.983	0.979-0.989	
Octa	PCB-194	2.09e+07	0.89	Y 54:05	1.28	35.25			* 2.5	*	1.000	0.995-1.005	
Octa	PCB-205	1.46e+06	0.85	Y 54:21	1.62	1.947			* 2.5	*	1.005	1.001-1.010	
Nona	PCB-208	7.04e+06	1.30	Y 53:21	1.11	8.015			* 2.5	*	1.000	0.995-1.005	
Nona	PCB-207	2.44e+06	1.31	Y 53:40	1.11	2.798			* 2.5	*	1.006	1.001-1.011	
Nona	PCB-206	1.30e+07	1.32	Y 55:39	0.95	25.61			* 2.5	*	1.000	0.995-1.005	
Deca	PCB-209	3.54e+06	1.21	Y 56:59	1.34	6.685			* 2.5	*	1.000	0.995-1.005	

Analyst: MJ
 Date: 11/14/16

Client ID: EPA-HS-A1 TRLP
 Lab ID: 1601354-03
 Filename: 161109E1 S:7 Acq: 9-NOV-16 18:16:47 ConCal: ST161109E1-1
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt./vol: 10.1800 EndCAL: NA

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	*	* n	NotPnd	1.02	*
Total Di-PCB	3.20e+06	1.76 Y	22:56	1.18	2.61277
Total Tri-PCB	6.72e+06	0.95 Y	24:14	1.21	12.1145
Total Tetra-PCB	2.16e+07	1.05 Y	28:30	1.07	23.9987 Sum:36.1133
Total Penta-PCB	2.19e+08	0.81 Y	29:49	1.20	199.445
Total Hexa-PCB	6.48e+08	1.33 Y	33:59	1.29	881.256
Total Hepta-PCB	5.99e+07	1.53 Y	42:13	1.13	65.0069 Sum:946.263
Total Octa-PCB	1.81e+08	1.24 Y	37:05	0.98	407.661
Total Nona-PCB	1.33e+09	1.27 Y	42:11	1.13	1238.31 Sum:1545.97 1646.11
Total Deca-PCB	6.56e+08	1.11 Y	42:52	1.53	955.691
Total Mono-PCB	7.43e+07	0.91 Y	48:17	1.00	192.264
Total Di-PCB	3.24e+07	0.89 Y	53:11	1.34	56.9248 Sum:249.189
Total Tri-PCB	2.24e+07	1.30 Y	53:21	1.06	36.4262
Total Tetra-PCB	3.54e+06	1.21 Y	56:59	1.34	6.68515

Total PCB Conc: 4080.28712800
 4080.2877

Integrations
 by
 Analyst: MM
 Date: 11/14/16

Client ID: EPA-HS-AI TR-P
Lab ID: 1601354-03
Filename: 161109E1 S:7 Acq: 9-NOV-16 18:16:47 ConCal: ST161109E1-1
GC Column ID: Z3-1 ICal: PCBVG8-4-19-16 wt/vol:10.18% EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	1.15e+08	3.30	1.09	16:04	0.619	0.619-0.625	70.7	36.0	36.0		13C-PCB-79	2.59e+08	0.79	Y	1.01	37:50	1.029	1.024-1.033	195	99.2	
13C-PCB-3	1.41e+08	3.26	1.15	18:42	0.721	0.718-0.726	82.4	41.9	41.9		13C-PCB-178	8.23e+07	0.46	Y	0.64	45:39	0.985	0.980-0.989	148	75.5	
13C-PCB-4	1.06e+08	1.64	0.59	20:51	0.773	0.770-0.778	119	60.4	60.4												
13C-PCB-9	1.89e+08	1.57	0.94	21:03	0.842	0.833-0.847	135	68.5	68.5												
13C-PCB-11	2.21e+08	1.57	0.93	25:15	0.973	0.968-0.978	159	80.9	80.9	PS vs. IS											
13C-PCB-19	6.68e+07	1.08	0.63	24:13	0.933	0.929-0.939	70.9	36.1	36.1		13C-PCB-79	2.59e+08	0.79	Y	1.06	37:50	0.969	0.963-0.973	224	114	
13C-PCB-28	1.62e+08	1.00	1.14	29:06	1.004	0.999-1.009	160	81.6	81.6		13C-PCB-178	8.23e+07	0.46	Y	0.95	45:39	0.925	0.920-0.930	209	106	
13C-PCB-32	1.15e+08	1.06	0.91	27:09	1.046	1.041-1.051	84.3	42.9	42.9												
13C-PCB-37	1.65e+08	1.00	1.05	32:59	1.138	1.131-1.143	177	90.3	90.3												
13C-PCB-47	1.55e+08	0.78	0.77	32:02	0.871	0.867-0.875	153	77.9	77.9												
13C-PCB-52	1.46e+08	0.78	0.72	31:32	0.857	0.853-0.861	153	77.8	77.8												
13C-PCB-54	1.79e+08	0.80	0.95	27:58	0.761	0.757-0.765	143	72.7	72.7												
13C-PCB-70	2.16e+08	0.80	0.97	35:33	0.967	0.961-0.971	169	85.9	85.9												
13C-PCB-77	2.14e+08	0.80	0.93	39:39	1.078	1.073-1.083	173	88.3	88.3												
13C-PCB-80	2.26e+08	0.80	0.98	35:58	0.978	0.973-0.983	175	88.9	88.9												
13C-PCB-81	2.15e+08	0.78	0.95	39:03	1.062	1.057-1.067	171	87.1	87.1												
13C-PCB-95	9.21e+07	1.59	0.70	35:51	0.913	0.908-0.918	156	79.4	79.4	RS											
13C-PCB-97	9.58e+07	1.60	0.67	38:49	0.989	0.984-0.994	170	86.5	86.5		13C-PCB-15	2.94e+08	1.58	Y	1.00	25:56			196		
13C-PCB-101	1.05e+08	1.59	0.75	37:32	0.956	0.951-0.961	167	85.0	85.0		13C-PCB-31	1.74e+08	1.02	Y	1.00	28:60			196		
13C-PCB-104	1.20e+08	1.62	0.95	32:41	0.832	0.828-0.836	150	76.5	76.5		13C-PCB-60	2.60e+08	0.79	Y	1.00	36:47			196		
13C-PCB-105	1.47e+08	1.51	1.14	43:04	0.929	0.924-0.934	148	75.3	75.3		13C-PCB-111	1.65e+08	1.62	Y	1.00	39:16			196		
13C-PCB-114	1.59e+08	1.54	1.12	42:13	0.911	0.905-0.915	163	83.0	83.0		13C-PCB-128	1.71e+08	1.27	Y	1.00	46:22			196		
13C-PCB-118	1.28e+08	1.63	0.93	41:34	1.059	1.054-1.064	164	83.3	83.3		13C-PCB-205	1.25e+08	0.90	Y	1.00	54:20			196		
13C-PCB-123	1.28e+08	1.58	0.88	41:23	1.054	1.049-1.059	173	88.3	88.3												
13C-PCB-126	1.58e+08	1.50	1.16	45:18	0.977	0.972-0.982	156	79.6	79.6												
13C-PCB-127	1.59e+08	1.51	1.25	43:25	0.936	0.931-0.941	146	74.5	74.5												
13C-PCB-138	1.68e+08	1.26	1.11	44:49	0.967	0.961-0.971	173	88.2	88.2												
13C-PCB-141	1.57e+08	1.30	1.05	43:58	0.948	0.943-0.953	172	87.3	87.3												
13C-PCB-153	1.83e+08	1.29	1.21	43:14	0.933	0.927-0.937	174	88.6	88.6												
13C-PCB-155	9.68e+07	1.29	0.84	37:04	0.944	0.939-0.949	137	69.9	69.9												
13C-PCB-156	2.01e+08	1.28	1.31	48:03	1.037	1.032-1.042	177	89.9	89.9												
13C-PCB-157	2.01e+08	1.30	1.35	48:20	1.042	1.037-1.047	171	86.9	86.9												
13C-PCB-159	2.00e+08	1.28	1.33	46:06	0.994	0.989-0.999	173	88.1	88.1												
13C-PCB-167	2.02e+08	1.28	1.34	46:47	1.009	1.004-1.014	173	87.9	87.9												
13C-PCB-169	2.03e+08	1.27	1.33	50:32	1.090	1.084-1.094	176	89.6	89.6												
13C-PCB-170	7.25e+07	0.46	0.61	50:56	1.099	1.091-1.103	137	69.8	69.8												
13C-PCB-180	8.13e+07	0.46	0.67	49:21	1.064	1.059-1.069	140	71.0	71.0												
13C-PCB-188	1.08e+08	0.45	0.94	42:52	0.925	0.919-0.929	132	67.4	67.4												
13C-PCB-189	9.21e+07	0.45	0.79	52:31	1.133	1.124-1.136	133	67.9	67.9												
13C-PCB-194	9.07e+07	0.88	0.72	54:05	0.995	0.990-1.000	199	101	101												
13C-PCB-202	8.52e+07	0.89	0.94	48:16	1.041	1.036-1.046	104	52.8	52.8												
13C-PCB-206	1.05e+08	0.78	0.80	55:38	1.024	1.020-1.301	205	104	104												
13C-PCB-208	1.55e+08	0.78	1.00	53:20	0.981	0.977-0.987	244	124	124												
13C-PCB-209	7.73e+07	1.21	0.85	56:59	1.049	1.045-1.055	143	73.0	73.0												

Analyst: M
Date: 11/14/16

Sample ID: EPA-HS-A2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-04				
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	BGK0046				
Date Collected:	31-Aug-2016 13:58	%Lipids:	6.25	Date Analyzed:	09-Nov-16 19:21 Column: ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	0.147				PCB-44	25.7			
PCB-2	ND	0.217		J	PCB-45	1.94			
PCB-3	ND		0.109		PCB-46	0.621			
PCB-4/10	0.480			J	PCB-47	19.1			B
PCB-5/8	1.97				PCB-48/75	4.13			
PCB-6	ND		0.400		PCB-50	0.0627			J
PCB-7/9	ND	0.127			PCB-51	0.654			
PCB-11	1.51			B	PCB-52/69	73.6			
PCB-12/13	ND	0.145			PCB-53	3.44			
PCB-14	ND	0.0615			PCB-54	ND		0.0325	
PCB-15	ND	0.445			PCB-55	1.21			
PCB-16/32	4.15				PCB-56/60	14.3			
PCB-17	2.13				PCB-57	0.263			J
PCB-18	14.4				PCB-58	0.252			J
PCB-19	0.910				PCB-61/70	43.9			
PCB-20/21/33	1.54				PCB-62	ND	0.141		
PCB-22	2.62				PCB-63	3.36			
PCB-23	ND	0.133		J	PCB-65	ND	0.151		
PCB-24/27	0.962				PCB-66/76	50.1			
PCB-25	0.446			J	PCB-67	0.272			J
PCB-26	1.34				PCB-68	1.69			
PCB-28	20.4				PCB-73	ND	0.134		
PCB-29	ND	0.121			PCB-74	34.6			
PCB-30	ND	0.0780			PCB-77	1.75			
PCB-31	10.5				PCB-78	ND	0.121		
PCB-34	0.126			J	PCB-79	5.24			
PCB-35	ND	0.0897			PCB-80	0.136			J
PCB-36	ND	0.0882			PCB-81	0.702			
PCB-37	0.378			J	PCB-82	6.31			
PCB-38	0.620				PCB-83	ND	0.0994		
PCB-39	ND	0.0832			PCB-84/92	96.7			
PCB-40	0.671				PCB-85/116	60.2			
PCB-41/64/71/72	29.2				PCB-86	ND	0.165		
PCB-42/59	4.67				PCB-87/117/125	91.1			
PCB-43/49	31.3				PCB-88/91	30.6			

DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-04				
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046				
Date Collected:	31-Aug-2016 13:58	%Lipids:	6.25	Date Analyzed:	09-Nov-16 19:21				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
				Column:	ZB-1				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	0.560				PCB-136	35.5			
PCB-90/101	327				PCB-137	26.9			
PCB-93	ND	0.141			PCB-138/163/164	776			B
PCB-94	ND		0.746		PCB-139/149	448			
PCB-95/98/102	168				PCB-140	3.34			
PCB-96	0.533				PCB-141	86.3			
PCB-97	45.0				PCB-144	17.5			
PCB-99	213				PCB-145	ND	0.0940		
PCB-100	1.56				PCB-146/165	139			
PCB-103	2.75				PCB-147	14.5			
PCB-104	ND	0.0976			PCB-148	0.861			
PCB-105	103				PCB-150	0.475			J
PCB-106/118	220				PCB-151	161			
PCB-107/109	36.8				PCB-152	0.227			J
PCB-108/112	10.2				PCB-153	832			
PCB-110	271				PCB-154	10.3			
PCB-111/115	6.64				PCB-155	0.704			
PCB-113	ND	0.102			PCB-156	51.4			
PCB-114	6.66				PCB-157	11.3			
PCB-119	11.5				PCB-158/160	63.0			
PCB-120	1.52				PCB-159	ND	0.0881		
PCB-121	ND	0.0966			PCB-166	2.44			
PCB-122	ND	0.170			PCB-167	2.75			
PCB-123	3.00				PCB-168	0.734			
PCB-124	4.45				PCB-169	0.946			
PCB-126	0.766				PCB-170	158			
PCB-127	ND	0.162			PCB-171	48.4			
PCB-128/162	90.3				PCB-172	33.6			
PCB-129	12.6				PCB-173	2.79			
PCB-130	37.3				PCB-174	138			
PCB-131	ND	0.142			PCB-175	8.12			
PCB-132/161	97.6				PCB-176	18.7			
PCB-133/142	19.1				PCB-177	129			
PCB-134/143	17.3				PCB-178	60.5			
PCB-135	65.4				PCB-179	86.8			

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-04				
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046				
Date Collected:	31-Aug-2016 13:58	%Lipids:	6.25	Date Analyzed:	09-Nov-16 19:21 Column: ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	444				Total octaCB	475			
PCB-181	ND	0.106			Total nonaCB	66.6			
PCB-182/187	518				DecaCB	11.1			
PCB-183	124				Total PCB	7600			
PCB-184	1.47								
PCB-185	24.4								
PCB-186	ND	0.0883							
PCB-188	0.538								
PCB-189	6.25								
PCB-190	42.1								
PCB-191	6.79								
PCB-192	ND	0.0858							
PCB-193	32.7								
PCB-194	71.5								
PCB-195	37.5								
PCB-196/203	140								
PCB-197	4.76								
PCB-198	5.30								
PCB-199	147								
PCB-200	10.7								
PCB-201	14.6								
PCB-202	40.0								
PCB-204	ND	0.104							
PCB-205	3.84								
PCB-206	47.5								
PCB-207	5.11								
PCB-208	14.0								
PCB-209	11.1								
Total monoCB	0.147		0.255						
Total diCB	3.96		4.36						
Total triCB	60.5								
Total tetraCB	353								
Total pentaCB	1720								
Total hexaCB	5020								
Total heptaCB	1880								

EMPC - Estimated maximum possible concentration
DL - Sample specific estimated detection limit
LCL-UCL - Lower control limit - upper control limit
Results are reported in wet weight.
See individual congeners for qualifiers.

Sample ID: EPA-HS-A2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-04		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046		
Date Collected:	31-Aug-2016 13:58	%Lipids:	6.25	Date Analyzed:	09-Nov-16 19:21 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	38.5	15 -150		13C-PCB-170	67.9	25 -150	
13C-PCB-3	42.5	15 -150		13C-PCB-180	71.3	25 -150	
13C-PCB-4	68.2	25 -150		13C-PCB-188	64.3	25 -150	
13C-PCB-11	87.9	25 -150		13C-PCB-189	67.6	25 -150	
13C-PCB-9	75.2	25 -150		13C-PCB-194	101	25 -150	
13C-PCB-19	37.8	25 -150		13C-PCB-202	52.4	25 -150	
13C-PCB-28	67.8	25 -150		13C-PCB-206	109	25 -150	
13C-PCB-32	43.8	25 -150		13C-PCB-208	135	25 -150	
13C-PCB-37	94.3	25 -150		13C-PCB-209	75.1	25 -150	
13C-PCB-47	78.3	25 -150		13C-PCB-79	93.4	30 -135	
13C-PCB-52	79.3	25 -150		13C-PCB-178	68.5	30 -135	
13C-PCB-54	74.5	25 -150					
13C-PCB-70	86.9	25 -150					
13C-PCB-77	91.6	25 -150					
13C-PCB-80	89.1	25 -150					
13C-PCB-81	89.3	25 -150					
13C-PCB-95	82.7	25 -150					
13C-PCB-97	91.1	25 -150					
13C-PCB-101	88.6	25 -150					
13C-PCB-104	77.8	25 -150					
13C-PCB-105	80.4	25 -150					
13C-PCB-114	85.9	25 -150					
13C-PCB-118	93.3	25 -150					
13C-PCB-123	95.4	25 -150					
13C-PCB-126	78.7	25 -150					
13C-PCB-127	77.2	25 -150					
13C-PCB-138	90.9	25 -150					
13C-PCB-141	90.9	25 -150					
13C-PCB-153	90.4	25 -150					
13C-PCB-155	71.0	25 -150					
13C-PCB-156	90.3	25 -150					
13C-PCB-157	88.2	25 -150					
13C-PCB-159	90.2	25 -150					
13C-PCB-167	90.3	25 -150					
13C-PCB-169	88.9	25 -150					

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.
See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Table with columns: Type, Name, Resp, RA, RT, RRF, Conc, Qual, noise, Fac, DL, RRT, LCL, UCL. Rows include PCB-1 through PCB-37 and PCB-54 through PCB-55.

Integrations by: Analyst: M Date: 11/14/16 Reviewed by: Date: 11/16/16

Client ID: EPA-HS-A2
Lab ID: 1601354-04

Filename: 161109E1 S:8 Acq: 9-NOV-16 19:21:54
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.020

ConCal: ST161109E1-1
EngCAL: NA

Type	Name	Resp	RA	RT	RRP	Conc	Qual	noise	Pac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	7.06e+07	0.77	Y 31:33	1.31	73.58	*	6440	2.5	0.134	1.001	0.996-1.006	0.999-1.009
Tetra	PCB-73	*	n	NotF	1.45	*	*	6440	2.5	*	*	1.005-1.015	1.001
Tetra	PCB-43/49	2.94e+07	0.77	Y 31:51	1.28	31.35	*	6440	2.5	*	1.004	0.996-1.006	0.999-1.009
Tetra	PCB-47	1.78e+07	0.79	Y 32:04	1.22	19.06	*	6440	2.5	0.151	*	1.007-1.017	1.011-1.021
Tetra	PCB-48/75	4.19e+06	0.75	Y 32:11	1.32	4.129	*	6440	2.5	0.141	*	1.020-1.030	1.027-1.037
Tetra	PCB-65	*	n	NotF	1.27	*	*	6440	2.5	*	1.025	1.045-1.055	1.051
Tetra	PCB-62	*	n	NotF	1.36	*	*	6440	2.5	*	1.059	1.053-1.063	1.066
Tetra	PCB-44	1.85e+07	0.78	Y 32:50	0.94	25.71	*	6440	2.5	*	0.971	0.965-0.975	0.974-0.984
Tetra	PCB-42/59	4.54e+06	0.77	Y 33:04	1.27	4.673	*	6440	2.5	*	0.982	0.977-0.987	0.981-0.991
Tetra	PCB-41/64/71/72	2.99e+07	0.77	Y 33:40	1.34	29.20	*	6440	2.5	*	0.994	0.989-0.999	0.995-1.005
Tetra	PCB-68	1.98e+06	0.84	Y 33:56	1.53	1.690	*	6440	2.5	*	1.001	1.000-1.010	1.004-1.014
Tetra	PCB-40	4.44e+05	0.72	Y 34:09	0.86	0.6708	*	6440	2.5	*	1.006	1.018-1.028	1.048-1.058
Tetra	PCB-57	3.16e+05	0.83	Y 34:30	1.12	0.2629	*	6440	2.5	0.121	*	0.982-0.992	0.995-1.005
Tetra	PCB-67	3.21e+05	0.83	Y 34:47	1.10	0.2718	*	6440	2.5	*	1.000	0.995-1.005	0.995-1.005
Tetra	PCB-58	3.13e+05	0.83	Y 34:54	1.16	0.2518	*	6440	2.5	*	1.008	0.982-0.992	0.995-1.005
Tetra	PCB-63	4.33e+06	0.79	Y 35:04	1.20	3.360	*	6440	2.5	*	1.023	1.018-1.028	1.048-1.058
Tetra	PCB-74	4.36e+07	0.76	Y 35:21	1.17	34.64	*	6440	2.5	*	1.053	0.982-0.992	0.995-1.005
Tetra	PCB-61/70	5.34e+07	0.77	Y 35:34	1.13	43.86	*	6440	2.5	*	1.000	0.982-0.992	0.995-1.005
Tetra	PCB-76/66	6.15e+07	0.76	Y 35:46	1.14	50.11	*	6440	2.5	*	1.006	0.996-1.006	0.996-1.006
Tetra	PCB-80	1.97e+05	0.81	Y 36:00	1.31	0.1357	*	6440	2.5	*	1.001	1.000-1.010	1.004-1.014
Tetra	PCB-55	1.56e+06	0.83	Y 36:16	1.16	1.208	*	6440	2.5	*	1.008	1.004-1.014	1.004-1.014
Tetra	PCB-56/60	1.81e+07	0.76	Y 36:48	1.14	14.29	*	6440	2.5	*	1.023	1.018-1.028	1.048-1.058
Tetra	PCB-79	6.83e+06	0.79	Y 37:53	1.17	5.236	*	6440	2.5	*	1.053	0.982-0.992	0.995-1.005
Tetra	PCB-78	*	n	NotF	1.11	*	*	6440	2.5	0.121	*	0.982-0.992	0.995-1.005
Tetra	PCB-81	9.15e+05	0.77	Y 39:04	1.20	0.7021	*	6440	2.5	*	1.000	0.995-1.005	0.995-1.005
Tetra	PCB-77	2.37e+06	0.88	Y 39:39	1.24	1.755	*	6440	2.5	*	1.000	0.995-1.005	0.995-1.005
Penta	PCB-104	*	n	NotF	1.31	*	*	2350	2.5	0.0976	*	0.996-1.006	0.996-1.006
Penta	PCB-96	3.52e+05	1.34	Y 33:59	1.15	0.5333	*	2350	2.5	*	1.040	1.034-1.044	1.034-1.044
Penta	PCB-103	1.62e+06	1.58	Y 34:30	1.03	2.753	*	2350	2.5	*	1.055	1.051-1.061	1.051-1.061
Penta	PCB-100	9.21e+05	1.62	Y 34:51	1.03	1.562	*	2350	2.5	*	1.066	1.061-1.071	1.061-1.071
Penta	PCB-94	3.97e+05	1.17	Y 35:19	1.18	0.7460	R	2350	2.5	*	0.985	0.980-0.990	0.980-0.990
Penta	PCB-95/98/102	9.93e+07	1.60	Y 35:52	1.31	168.4	*	2350	2.5	*	1.001	0.994-1.004	0.994-1.004
Penta	PCB-93	*	n	NotF	1.19	*	*	2350	2.5	0.141	*	0.998-1.008	0.998-1.008
Penta	PCB-88/91	1.70e+07	1.56	Y 36:16	1.23	30.60	*	2350	2.5	*	1.012	1.006-1.016	1.006-1.016
Penta	PCB-121	*	n	NotF	1.74	*	*	2350	2.5	0.0966	*	1.009-1.019	1.009-1.019
Penta	PCB-84/92	5.74e+07	1.58	Y 37:09	1.16	96.67	*	2350	2.5	*	0.990	0.985-0.995	0.985-0.995
Penta	PCB-89	3.18e+05	1.41	Y 37:21	1.11	0.5601	*	2350	2.5	*	0.995	0.990-1.000	0.990-1.000

Analyst: MJ
Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	2.12e+08	1.60	Y 37:33	1.27	326.7	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-113	*	*	n NotF	1.47	*	*	2350	2.5	0.102	*	1.002-1.012	
Penta	PCB-99	1.38e+08	1.60	Y 37:53	1.26	212.8	*	*	2.5	*	1.009	1.004-1.014	
Penta	PCB-119	1.03e+07	1.60	Y 38:20	1.87	11.54	*	*	2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	6.97e+06	1.54	Y 38:30	1.44	10.20	*	*	2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	*	n NotF	1.70	*	*	2350	2.5	0.0994	*	0.990-1.000	
Penta	PCB-97	2.81e+07	1.57	Y 38:51	1.31	45.00	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-86	*	*	n NotF	1.02	*	*	2350	2.5	0.165	*	0.999-1.009	
Penta	PCB-87/117/125	6.88e+07	1.60	Y 39:08	1.59	91.15	*	*	2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	5.84e+06	1.53	Y 39:17	1.85	6.636	*	*	2.5	*	1.012	1.006-1.016	
Penta	PCB-85/116	4.12e+07	1.57	Y 39:24	1.44	60.21	*	*	2.5	*	1.015	1.010-1.020	
Penta	PCB-120	1.38e+06	1.65	Y 39:37	1.91	1.519	*	*	2.5	*	1.020	1.016-1.026	
Penta	PCB-110	2.27e+08	1.60	Y 39:47	1.76	270.8	*	*	2.5	*	1.025	1.019-1.029	
Penta	PCB-82	3.36e+06	1.59	Y 40:24	0.81	6.315	*	*	2.5	*	0.976	0.971-0.981	
Penta	PCB-124	3.78e+06	1.62	Y 41:04	1.30	4.455	*	*	2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	3.22e+07	1.58	Y 41:15	1.34	36.75	*	*	2.5	*	0.997	0.991-1.001	
Penta	PCB-123	2.64e+06	1.66	Y 41:24	1.35	2.996	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-106/118	1.99e+08	1.59	Y 41:35	1.34	219.9	*	*	2.5	*	1.000	0.996-1.006	
Penta	PCB-114	6.35e+06	1.62	Y 42:14	1.17	6.658	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	*	n NotF	1.03	*	*	4300	2.5	0.170	*	0.999-1.009	
Penta	PCB-105	9.82e+07	1.58	Y 43:05	1.23	102.8	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	*	n NotF	1.06	*	*	4300	2.5	0.162	*	0.995-1.005	
Penta	PCB-126	6.84e+05	1.58	Y 45:19	1.16	0.7655	*	*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-155	4.09e+05	1.24	Y 37:06	1.26	0.7040	*	*	2.5	*	1.001	0.966-1.006	
Hexa	PCB-150	2.53e+05	1.26	Y 38:21	1.15	0.4754	*	*	2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	1.25e+05	1.16	Y 38:49	1.19	0.2267	*	*	2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	*	*	n NotF	1.14	*	*	1720	2.5	0.0940	*	1.055-1.065	
Hexa	PCB-136	1.94e+07	1.26	Y 39:35	1.18	35.50	*	*	2.5	*	1.068	1.063-1.073	
Hexa	PCB-148	3.26e+05	1.16	Y 39:43	0.82	0.8608	*	*	2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	4.31e+06	1.32	Y 40:11	0.91	10.26	*	*	2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	6.37e+07	1.27	Y 40:50	0.86	160.8	*	*	2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	2.49e+07	1.27	Y 41:02	0.82	65.42	*	*	2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	7.47e+06	1.20	Y 41:09	0.92	17.46	*	*	2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	5.41e+06	1.23	Y 41:17	0.81	14.50	*	*	2.5	*	1.113	1.108-1.120	
Hexa	PCB-139/149	1.89e+08	1.26	Y 41:32	0.91	447.8	*	*	2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	1.29e+06	1.34	Y 41:43	0.83	3.344	*	*	2.5	*	1.125	1.120-1.132	
Hexa	PCB-134/143	1.43e+07	1.26	Y 42:11	0.89	17.32	*	*	2.5	*	0.976	0.970-0.980	

Analyst: *MS*
 Date: *11/14/16*

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	1.51e+07	1.21	Y 42:28	0.86	19.07	*	3900	2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	n NotF	0.89						0.142	*	0.981-0.991	
Hexa	PCB-146/155	1.37e+08	1.24	Y 42:51	1.07	138.9	*		2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	1.01e+08	1.28	Y 43:07	1.12	97.61	*		2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	8.81e+08	1.23	Y 43:15	1.15	831.6	*		2.5	*	1.000	0.996-1.006	
Hexa	PCB-168	9.35e+05	1.35	Y 43:28	1.38	0.7337	*		2.5	*	1.005	1.000-1.010	
Hexa	PCB-141	8.34e+07	1.23	Y 43:59	1.20	86.26	*		2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	2.67e+07	1.22	Y 44:23	1.23	26.89	*		2.5	*	1.009	1.004-1.014	
Hexa	PCB-130	3.12e+07	1.25	Y 44:28	1.04	37.27	*		2.5	*	1.011	1.006-1.016	
Hexa	PCB-138/163/164	8.66e+08	1.24	Y 44:50	1.30	776.3	*		2.5	*	1.000	0.996-1.006	
Hexa	PCB-158/160	7.60e+07	1.19	Y 45:04	1.41	62.95	*		2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	1.04e+07	1.21	Y 45:19	0.97	12.59	*		2.5	*	1.011	1.007-1.017	
Hexa	PCB-166	2.96e+06	1.26	Y 45:47	1.19	2.444	*		2.5	*	0.993	0.988-0.998	
Hexa	PCB-159	*	n NotF	1.28				3900	2.5	0.0881	*	0.995-1.005	
Hexa	PCB-128/162	9.68e+07	1.24	Y 46:23	1.06	90.33	*		2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	3.45e+06	1.07	Y 46:48	1.22	2.750	*		2.5	*	1.000	0.995-1.005	
Hexa	PCB-156	6.53e+07	1.22	Y 48:06	1.27	51.41	*		2.5	*	1.001	0.995-1.005	
Hexa	PCB-157	1.42e+07	1.29	Y 48:21	1.24	11.31	*		2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	1.12e+06	1.25	Y 50:34	1.18	0.9458	*		2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	4.36e+05	1.06	Y 42:54	1.59	0.5375	*		2.5	*	1.001	0.996-1.006	
Hepta	PCB-184	1.08e+06	1.05	Y 43:20	1.44	1.468	*		2.5	*	1.011	1.006-1.016	
Hepta	PCB-179	6.41e+07	1.06	Y 44:06	1.45	86.78	*		2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	1.48e+07	1.09	Y 44:34	1.56	18.69	*		2.5	*	1.040	1.035-1.045	
Hepta	PCB-186	*	n NotF	1.56				3800	2.5	0.0883	*	1.049-1.059	
Hepta	PCB-178	3.69e+07	1.07	Y 45:40	1.20	60.48	*		2.5	*	1.065	1.061-1.071	
Hepta	PCB-175	4.64e+06	1.20	Y 46:01	1.12	8.122	*		2.5	*	1.073	1.069-1.079	
Hepta	PCB-182/187	3.27e+08	1.07	Y 46:10	1.24	517.7	*		2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	8.68e+07	1.06	Y 46:31	1.37	124.2	*		2.5	*	1.085	1.080-1.090	
Hepta	PCB-185	1.57e+07	1.06	Y 47:10	1.60	24.40	*		2.5	*	0.956	0.950-0.960	
Hepta	PCB-174	8.42e+07	1.06	Y 47:32	1.51	137.7	*		2.5	*	0.963	0.958-0.968	
Hepta	PCB-181	*	n NotF	1.64				3800	2.5	0.106	*	0.960-0.970	
Hepta	PCB-177	7.57e+07	1.07	Y 47:48	1.45	129.0	*		2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	3.31e+07	1.06	Y 48:06	1.69	48.44	*		2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	1.55e+06	1.06	Y 48:31	1.38	2.787	*		2.5	*	0.983	0.978-0.988	
Hepta	PCB-172	2.10e+07	1.08	Y 48:59	1.55	33.57	*		2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	n NotF	2.02				3800	2.5	0.0858	*	0.991-1.001	
Hepta	PCB-180	2.97e+08	1.06	Y 49:22	1.66	444.0	*		2.5	*	1.000	0.995-1.005	

Analyst: (M)
 Date: 11/14/16

Client ID: EPA-HS-A2
 Lab ID: 1601354-04

Filename: 161109E1 S:8 Acq: 9-NOV-16 19:21:54
 GC Column: ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.020

ConCal: ST161109E1-1
 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	2.77e+07	1.06	Y 49:35	2.09	32.72		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	5.79e+06	1.08	Y 49:50	2.11	6.790		*	2.5	*	1.010	1.005-1.015	
Hepta	PCB-170	9.46e+07	1.08	Y 50:57	1.72	157.7		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	3.41e+07	1.07	Y 51:08	2.32	42.08		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	4.90e+06	1.01	Y 52:33	1.73	6.246		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-202	1.81e+07	0.92	Y 48:18	1.08	39.96		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	7.08e+06	1.00	Y 48:47	1.16	14.59		*	2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n NCF _n	1.09			1950	2.5	0.104	*	1.009-1.019	
Octa	PCB-197	2.42e+06	0.92	Y 49:14	1.21	4.761		*	2.5	*	1.020	1.015-1.025	
Octa	PCB-200	5.01e+06	0.91	Y 50:08	1.12	10.73		*	2.5	*	1.038	1.034-1.044	
Octa	PCB-198	1.79e+06	0.82	Y 51:35	0.81	5.296		*	2.5	*	1.068	1.062-1.072	
Octa	PCB-199	4.93e+07	0.92	Y 51:42	0.80	146.9		*	2.5	*	1.071	1.064-1.074	
Octa	PCB-196/203	5.12e+07	0.91	Y 51:59	0.87	140.1		*	2.5	*	1.077	1.070-1.080	
Octa	PCB-195	1.73e+07	0.87	Y 53:12	1.10	37.54		*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	3.83e+07	0.89	Y 54:06	1.28	71.46		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	2.60e+06	0.83	Y 54:22	1.62	3.839		*	2.5	*	1.005	1.001-1.010	
Nona	PCB-208	1.21e+07	1.28	Y 53:21	1.11	13.98		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	4.40e+06	1.27	Y 53:40	1.11	5.112		*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	2.28e+07	1.31	Y 55:40	0.95	47.46		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	5.51e+06	1.20	Y 56:59	1.34	11.13		*	2.5	*	1.000	0.995-1.005	

Analyst: M
 Date: 11/14/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	9.21e+04	2.69 Y	16:05	1.02	0.146657
Total Di-PCB	4.67e+06	1.39 Y	20:04	1.18	3.96050
Total Tri-PCB	1.20e+07	1.00 Y	24:14	1.21	22.5246
Total Tetra-PCB	2.73e+07	0.98 Y	27:57	1.07	37.9451
Total Penta-PCB	3.77e+08	0.74 Y	29:10	1.20	352.857
Total Hexa-PCB	1.16e+09	1.34 Y	33:59	1.29	1608.08
Total Hepta-PCB	1.05e+08	1.62 Y	42:14	1.13	110.257
Total Octa-PCB	3.16e+08	1.24 Y	37:06	0.98	757.379
Total Nona-PCB	2.43e+09	1.26 Y	42:11	1.13	2266.70
Total Deca-PCB	1.35e+08	0.92 Y	48:18	1.00	1883.52
Total Mono-PCB	9.21e+04	2.69 Y	16:05	1.02	0.146657
Total Di-PCB	4.67e+06	1.39 Y	20:04	1.18	3.96050
Total Tri-PCB	1.20e+07	1.00 Y	24:14	1.21	22.5246
Total Tetra-PCB	2.73e+07	0.98 Y	27:57	1.07	37.9451
Total Penta-PCB	3.77e+08	0.74 Y	29:10	1.20	352.857
Total Hexa-PCB	1.16e+09	1.34 Y	33:59	1.29	1608.08
Total Hepta-PCB	1.05e+08	1.62 Y	42:14	1.13	110.257
Total Octa-PCB	3.16e+08	1.24 Y	37:06	0.98	757.379
Total Nona-PCB	2.43e+09	1.26 Y	42:11	1.13	2266.70
Total Deca-PCB	1.35e+08	0.92 Y	48:18	1.00	1883.52
Sum					60.4697
Sum					1718.34
Sum					3024.08
Sum					475.178

Total PCB Conc: 7597.51747600

Integrations
 by (M)
 Analyst:
 Date: 11/14/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.18e+08	3.36	1.09	16:04	0.619	0.619-0.625	76.8	38.5	38.5											
13C-PCB-3	1.37e+08	3.23	1.15	18:42	0.721	0.718-0.726	84.8	42.5	42.5		13C-PCB-79	2.40e+08	0.78	1.01	37:50	1.029	1.024-1.033	187	93.4	93.4
13C-PCB-4	1.14e+08	1.63	0.59	20:03	0.772	0.770-0.778	136	68.2	68.2		13C-PCB-178	7.37e+07	0.45	0.64	45:40	0.985	0.980-0.989	137	68.5	68.5
13C-PCB-9	1.99e+08	1.53	0.94	21:51	0.842	0.839-0.847	150	75.2	75.2											
13C-PCB-11	2.30e+08	1.58	0.93	25:15	0.973	0.968-0.978	175	87.9	87.9											
13C-PCB-19	6.70e+07	1.07	0.63	24:13	0.933	0.929-0.939	75.4	37.8	37.8											
13C-PCB-28	1.31e+08	1.02	1.14	29:07	1.004	0.999-1.009	135	67.8	67.8		13C-PCB-79	2.40e+08	0.78	1.06	37:50	0.969	0.963-0.973	209	105	105
13C-PCB-32	1.12e+08	1.07	0.91	27:09	1.046	1.041-1.051	87.4	43.8	43.8		13C-PCB-178	7.37e+07	0.45	0.95	45:40	0.925	0.920-0.930	192	96.0	96.0
13C-PCB-37	1.68e+08	1.03	1.05	32:59	1.137	1.131-1.143	188	94.3	94.3											
13C-PCB-47	1.53e+08	0.79	0.77	32:03	0.871	0.867-0.875	156	78.3	78.3											
13C-PCB-52	1.46e+08	0.79	0.72	31:32	0.857	0.853-0.861	158	79.3	79.3											
13C-PCB-54	1.80e+08	0.78	0.95	27:58	0.761	0.757-0.765	149	74.5	74.5											
13C-PCB-70	2.15e+08	0.79	0.97	35:33	0.967	0.961-0.971	174	86.9	86.9											
13C-PCB-77	2.18e+08	0.79	0.93	39:39	1.078	1.073-1.083	183	91.6	91.6											
13C-PCB-80	2.23e+08	0.80	0.98	35:59	0.978	0.973-0.983	178	89.1	89.1											
13C-PCB-81	2.17e+08	0.77	0.95	39:04	1.062	1.057-1.067	178	89.3	89.3											
13C-PCB-95	9.01e+07	1.62	0.70	35:51	0.913	0.908-0.918	165	82.7	82.7											
13C-PCB-97	9.49e+07	1.62	0.67	38:49	0.989	0.984-0.994	182	91.1	91.1											
13C-PCB-101	1.02e+08	1.60	0.75	37:32	0.956	0.951-0.961	177	88.6	88.6		13C-PCB-15	2.82e+08	1.58	1.00	25:57	200	200	200	200	200
13C-PCB-104	1.14e+08	1.61	0.95	32:41	0.832	0.828-0.836	155	77.8	77.8		13C-PCB-31	1.70e+08	1.00	1.00	29:01	200	200	200	200	200
13C-PCB-105	1.54e+08	1.52	1.14	43:05	0.929	0.924-0.934	161	80.4	80.4		13C-PCB-60	2.55e+08	0.79	1.00	36:47	200	200	200	200	200
13C-PCB-114	1.63e+08	1.52	1.12	42:13	0.911	0.905-0.915	172	85.9	85.9		13C-PCB-111	1.55e+08	1.58	1.00	39:16	200	200	200	200	200
13C-PCB-118	1.34e+08	1.64	0.93	41:34	1.059	1.054-1.064	186	93.3	93.3		13C-PCB-128	1.69e+08	1.27	1.00	46:22	200	200	200	200	200
13C-PCB-123	1.30e+08	1.57	0.88	41:23	1.054	1.049-1.059	190	95.4	95.4		13C-PCB-205	1.15e+08	0.88	1.00	54:21	200	200	200	200	200
13C-PCB-126	1.54e+08	1.54	1.16	45:19	0.977	0.972-0.982	157	78.7	78.7											
13C-PCB-127	1.63e+08	1.49	1.25	43:25	0.937	0.931-0.941	154	77.2	77.2											
13C-PCB-138	1.71e+08	1.28	1.11	44:49	0.967	0.961-0.971	181	90.9	90.9											
13C-PCB-141	1.61e+08	1.29	1.05	43:58	0.948	0.943-0.953	181	90.9	90.9											
13C-PCB-153	1.84e+08	1.29	1.21	43:14	0.933	0.927-0.937	180	90.4	90.4											
13C-PCB-155	9.24e+07	1.28	0.84	37:05	0.944	0.939-0.949	142	71.0	71.0											
13C-PCB-156	1.99e+08	1.30	1.31	48:05	1.037	1.032-1.042	180	90.3	90.3											
13C-PCB-157	2.02e+08	1.32	1.35	48:21	1.043	1.037-1.047	176	88.2	88.2											
13C-PCB-159	2.02e+08	1.29	1.33	46:06	0.995	0.989-0.999	180	90.2	90.2											
13C-PCB-167	2.05e+08	1.28	1.34	46:47	1.009	1.004-1.014	180	90.3	90.3											
13C-PCB-169	1.99e+08	1.27	1.33	50:33	1.090	1.084-1.094	177	88.9	88.9											
13C-PCB-170	6.97e+07	0.46	0.61	50:57	1.099	1.091-1.103	136	67.9	67.9											
13C-PCB-180	8.06e+07	0.45	0.67	49:22	1.065	1.059-1.069	142	71.3	71.3											
13C-PCB-188	1.02e+08	0.47	0.94	42:52	0.925	0.919-0.929	128	64.3	64.3											
13C-PCB-189	9.05e+07	0.46	0.79	52:32	1.133	1.124-1.136	135	67.6	67.6											
13C-PCB-194	8.35e+07	0.88	0.72	54:05	0.995	0.990-1.000	201	101	101											
13C-PCB-202	8.34e+07	0.90	0.94	48:17	1.042	1.036-1.046	105	52.4	52.4											
13C-PCB-206	1.01e+08	0.78	0.80	55:40	1.024	1.020-1.301	217	109	109											
13C-PCB-208	1.55e+08	0.77	1.00	53:20	0.981	0.977-0.987	269	135	135											
13C-PCB-209	7.35e+07	1.21	0.85	56:58	1.048	1.045-1.055	150	75.1	75.1											

Analyst: *MS*
 Date: *11/14/16*

Sample ID: EPA-HS-A3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-05			
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046			
Date Collected:	30-Aug-2016 12:10	%Lipids:	3.54	Date Analyzed:	09-Nov-16 20:26 Column: ZB-1			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	0.119			PCB-44	14.3			
PCB-2	ND	0.0864		PCB-45	1.18			
PCB-3	ND	0.132		PCB-46	0.440			J
PCB-4/10	ND	0.328		PCB-47	10.3			B
PCB-5/8	1.21			PCB-48/75	2.43			
PCB-6	ND		0.112	PCB-50	ND		0.0931	
PCB-7/9	ND	0.0991		PCB-51	0.507			
PCB-11	1.33			PCB-52/69	38.5			
PCB-12/13	ND	0.0485		PCB-53	2.11			
PCB-14	ND	0.0420		PCB-54	ND		0.0779	
PCB-15	ND	0.252		PCB-55	ND			0.641
PCB-16/32	3.20			PCB-56/60	7.54			
PCB-17	1.52			PCB-57	0.135			J
PCB-18	9.46			PCB-58	0.124			J
PCB-19	0.599			PCB-61/70	22.4			
PCB-20/21/33	0.946			PCB-62	ND		0.0753	
PCB-22	1.81			PCB-63	1.76			
PCB-23	ND	0.101		PCB-65	ND		0.0803	
PCB-24/27	0.678			PCB-66/76	24.2			
PCB-25	0.171			PCB-67	ND		0.105	
PCB-26	0.757			PCB-68	0.931			
PCB-28	10.8			PCB-73	ND		0.0771	
PCB-29	ND	0.0918		PCB-74	19.1			
PCB-30	ND	0.0640		PCB-77	0.546			
PCB-31	8.87			PCB-78	ND		0.0668	
PCB-34	ND	0.0772		PCB-79	3.13			
PCB-35	ND	0.0736		PCB-80	ND		0.0552	
PCB-36	ND	0.0723		PCB-81	0.392			J
PCB-37	0.188			PCB-82	3.31			
PCB-38	0.390			PCB-83	ND		0.0809	
PCB-39	ND	0.0683		PCB-84/92	53.0			
PCB-40	ND		0.333	PCB-85/116	36.5			
PCB-41/64/71/72	17.2			PCB-86	ND		0.134	
PCB-42/59	3.00			PCB-87/117/125	50.1			
PCB-43/49	19.3			PCB-88/91	16.5			

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-A3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-05				
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 12:10	%Lipids:	3.54	Date Analyzed:	09-Nov-16 20:26 Column: ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	ND	0.116			PCB-136	20.8			
PCB-90/101	188				PCB-137	18.9			
PCB-93	ND	0.117			PCB-138/163/164	509			
PCB-94	0.429			J	PCB-139/149	264			B
PCB-95/98/102	90.0				PCB-140	1.84			
PCB-96	0.263			J	PCB-141	68.3			
PCB-97	23.6				PCB-144	11.0			
PCB-99	128				PCB-145	ND	0.0689		
PCB-100	0.818				PCB-146/165	87.9			
PCB-103	1.49				PCB-147	8.07			
PCB-104	ND	0.0820			PCB-148	0.552			J
PCB-105	61.0				PCB-150	0.286			
PCB-106/118	113				PCB-151	95.3			
PCB-107/109	20.7				PCB-152	0.181			J
PCB-108/112	5.02				PCB-153	591			
PCB-110	154				PCB-154	5.52			J
PCB-111/115	3.57				PCB-155	0.426			
PCB-113	ND	0.0874			PCB-156	35.0			
PCB-114	4.03				PCB-157	7.43			
PCB-119	6.43				PCB-158/160	44.3			
PCB-120	0.765				PCB-159	ND	0.101		
PCB-121	ND	0.0803			PCB-166	1.40			
PCB-122	ND	0.214			PCB-167	1.30			
PCB-123	1.93				PCB-168	0.597			
PCB-124	2.62				PCB-169	0.604			
PCB-126	0.514				PCB-170	128			
PCB-127	ND	0.204			PCB-171	37.0			
PCB-128/162	52.2				PCB-172	27.8			
PCB-129	7.47				PCB-173	1.82			
PCB-130	23.6				PCB-174	113			
PCB-131	ND	0.159			PCB-175	5.88			
PCB-132/161	53.9				PCB-176	11.8			
PCB-133/142	11.4				PCB-177	92.2			
PCB-134/143	9.62				PCB-178	39.5			
PCB-135	40.2				PCB-179	50.3			

DL - Sample specific: estimated detection limit

LCL-UCL - Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-A3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-05			
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046			
Date Collected:	30-Aug-2016 12:10	%Lipids:	3.54	Date Analyzed:	09-Nov-16 20:26			
				Column:	ZB-1			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	402			Total octaCB	365			
PCB-181	ND	0.0674		Total nonaCB	45.3			
PCB-182/187	323			DecaCB	7.01			
PCB-183	98.8			Total PCB	5000			
PCB-184	0.812							
PCB-185	19.6							
PCB-186	ND	0.0544						
PCB-188	0.320							
PCB-189	4.75							
PCB-190	29.7							
PCB-191	5.62							
PCB-192	ND	0.0545						
PCB-193	21.8							
PCB-194	59.9							
PCB-195	29.2							
PCB-196/203	115							
PCB-197	3.02							
PCB-198	4.00							
PCB-199	107							
PCB-200	7.70							
PCB-201	10.5							
PCB-202	24.4							
PCB-204	ND	0.0804						
PCB-205	3.14							
PCB-206	33.0							
PCB-207	3.38							
PCB-208	8.88							
PCB-209	7.01							
Total monoCB	0.119							
Total diCB	2.55		2.66					
Total triCB	39.4							
Total tetraCB	190		191					
Total pentaCB	966							
Total hexaCB	1970							
Total heptaCB	1410							

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit
Results are reported in wet weight.
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EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-A3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-05		
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046		
Date Collected:	30-Aug-2016 12:10	%Lipids:	3.54	Date Analyzed:	09-Nov-16 20:26 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	39.5	15 -150		13C-PCB-170	75.0	25 -150	
13C-PCB-3	44.6	15 -150		13C-PCB-180	75.0	25 -150	
13C-PCB-4	73.3	25 -150		13C-PCB-188	69.7	25 -150	
13C-PCB-11	90.2	25 -150		13C-PCB-189	73.2	25 -150	
13C-PCB-9	79.4	25 -150		13C-PCB-194	101	25 -150	
13C-PCB-19	38.2	25 -150		13C-PCB-202	55.3	25 -150	
13C-PCB-28	76.3	25 -150		13C-PCB-206	111	25 -150	
13C-PCB-32	42.2	25 -150		13C-PCB-208	144	25 -150	
13C-PCB-37	92.5	25 -150		13C-PCB-209	82.8	25 -150	
13C-PCB-47	89.2	25 -150		CRS 13C-PCB-79	106	30 -135	
13C-PCB-52	85.3	25 -150		13C-PCB-178	77.2	30 -135	
13C-PCB-54	82.0	25 -150					
13C-PCB-70	96.8	25 -150					
13C-PCB-77	104	25 -150					
13C-PCB-80	97.7	25 -150					
13C-PCB-81	99.9	25 -150					
13C-PCB-95	89.4	25 -150					
13C-PCB-97	95.6	25 -150					
13C-PCB-101	91.5	25 -150					
13C-PCB-104	82.6	25 -150					
13C-PCB-105	85.4	25 -150					
13C-PCB-114	86.7	25 -150					
13C-PCB-118	93.7	25 -150					
13C-PCB-123	100	25 -150					
13C-PCB-126	77.6	25 -150					
13C-PCB-127	82.4	25 -150					
13C-PCB-138	95.9	25 -150					
13C-PCB-141	94.5	25 -150					
13C-PCB-153	95.4	25 -150					
13C-PCB-155	76.1	25 -150					
13C-PCB-156	97.8	25 -150					
13C-PCB-157	96.4	25 -150					
13C-PCB-159	96.5	25 -150					
13C-PCB-167	96.4	25 -150					
13C-PCB-169	94.8	25 -150					

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

Results are reported in wet weight.
See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	7.96e+04	3.14	Y 16:05	1.06	0.1194	*	2.5	*	1.001	0.997-1.007	0.997-1.007	0.997-1.007
Mono	PCB-2	*	n	NotF	0.99	*	*	4740	1.0	0.0864	*	0.983-0.993	0.983-0.993
Mono	PCB-3	*	n	NotF	1.02	*	*	7470	1.0	0.132	*	0.996-1.006	0.996-1.006
Di	PCB-4/10	*	n	NotF	1.41	*	*	32800	1.0	0.328	*	0.997-1.007	0.997-1.007
Di	PCB-7/9	*	n	NotF	1.13	*	*	13500	1.0	0.0991	*	0.864-0.872	0.864-0.872
Di	PCB-6	1.32e+05	0.45	n 22:33	1.08	0.1118	*	2.5	*	0.893	0.888-0.897	0.888-0.897	0.888-0.897
Di	PCB-5/8	1.50e+06	1.66	Y 22:56	1.14	1.212	*	2.5	*	0.909	0.905-0.915	0.905-0.915	0.905-0.915
Di	PCB-14	*	n	NotF	1.32	*	*	2700	2.5	0.0420	*	0.948-0.958	0.948-0.958
Di	PCB-11	1.92e+06	1.66	Y 25:16	1.18	1.334	*	2.5	*	1.001	0.995-1.005	0.995-1.005	0.995-1.005
Di	PCB-12/13	*	n	NotF	1.14	*	*	2700	2.5	0.0485	*	1.011-1.021	1.011-1.021
Di	PCB-15	*	n	NotF	1.29	*	*	39500	1.0	0.252	*	1.023-1.031	1.023-1.031
Tri	PCB-19	2.60e+05	1.04	Y 24:14	1.23	0.5986	*	2.5	*	1.001	0.996-1.006	0.996-1.006	0.996-1.006
Tri	PCB-30	*	n	NotF	1.88	*	*	2200	2.5	0.0640	*	1.033-1.043	1.033-1.043
Tri	PCB-18	4.78e+06	1.06	Y 25:53	0.90	9.463	*	2.5	*	0.953	0.949-0.959	0.949-0.959	0.949-0.959
Tri	PCB-17	8.31e+05	1.09	Y 26:03	0.98	1.519	*	2.5	*	0.960	0.956-0.966	0.956-0.966	0.956-0.966
Tri	PCB-24/27	4.83e+05	1.15	Y 26:37	1.27	0.6782	*	2.5	*	0.980	0.977-0.987	0.977-0.987	0.977-0.987
Tri	PCB-16/32	1.93e+06	1.16	Y 27:09	1.07	3.196	*	2.5	*	1.000	0.996-1.006	0.996-1.006	0.996-1.006
Tri	PCB-34	*	n	NotF	0.97	*	*	5650	1.0	0.0772	*	0.955-0.965	0.955-0.965
Tri	PCB-23	*	n	NotF	0.86	*	*	2620	2.5	0.101	*	0.958-0.968	0.958-0.968
Tri	PCB-29	*	n	NotF	0.95	*	*	2620	2.5	0.0918	*	0.967-0.977	0.967-0.977
Tri	PCB-26	5.17e+05	0.90	Y 28:31	0.97	0.7566	*	2.5	*	0.980	0.974-0.984	0.974-0.984	0.974-0.984
Tri	PCB-25	1.12e+05	0.90	Y 28:40	0.93	0.1715	*	2.5	*	0.985	0.980-0.990	0.980-0.990	0.980-0.990
Tri	PCB-31	6.77e+06	0.92	Y 29:01	1.09	8.875	*	2.5	*	0.997	0.992-1.002	0.992-1.002	0.992-1.002
Tri	PCB-28	8.36e+06	0.92	Y 29:07	1.10	10.82	*	2.5	*	1.000	0.996-1.006	0.996-1.006	0.996-1.006
Tri	PCB-20/21/33	7.17e+05	0.98	Y 29:46	1.08	0.9459	*	2.5	*	1.023	1.016-1.026	1.016-1.026	1.016-1.026
Tri	PCB-22	1.33e+06	0.93	Y 30:11	1.04	1.808	*	2.5	*	1.037	1.032-1.042	1.032-1.042	1.032-1.042
Tri	PCB-36	*	n	NotF	1.18	*	*	2620	2.5	0.0723	*	0.929-0.939	0.929-0.939
Tri	PCB-39	*	n	NotF	1.25	*	*	2620	2.5	0.0683	*	0.943-0.953	0.943-0.953
Tri	PCB-38	3.49e+05	1.03	Y 32:03	1.15	0.3900	*	2.5	*	0.972	0.967-0.977	0.967-0.977	0.967-0.977
Tri	PCB-35	*	n	NotF	1.16	*	*	2620	2.5	0.0736	*	0.982-0.992	0.982-0.992
Tri	PCB-37	1.82e+05	0.95	Y 33:00	1.24	0.1879	*	2.5	*	1.001	0.996-1.006	0.996-1.006	0.996-1.006
Tetra	PCB-54	*	n	NotF	1.07	*	*	3830	2.5	0.0779	*	0.996-1.006	0.996-1.006
Tetra	PCB-50	*	n	NotF	0.90	*	*	3830	2.5	0.0931	*	1.037-1.047	1.037-1.047
Tetra	PCB-53	1.86e+06	0.74	Y 29:49	1.17	2.106	*	2.5	*	0.946	0.941-0.951	0.941-0.951	0.941-0.951
Tetra	PCB-51	4.52e+05	0.70	Y 30:10	1.18	0.5074	*	2.5	*	0.957	0.952-0.962	0.952-0.962	0.952-0.962
Tetra	PCB-45	9.44e+05	0.71	Y 30:36	1.06	1.184	*	2.5	*	0.971	0.965-0.975	0.965-0.975	0.965-0.975
Tetra	PCB-46	3.28e+05	0.71	Y 31:04	0.99	0.4398	*	2.5	*	0.986	0.981-0.991	0.981-0.991	0.981-0.991

Integrations by:
 Analyst: MM
 Date: 11/14/16
 Date: 11/10/16

Reviewed by: CT

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	3.81e+07	0.77	Y 31:32	1.31	38.55		*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-73	*	n NotF	1.45				3830	2.5	0.0771	*	0.999-1.009	
Tetra	PCB-43/49	1.86e+07	0.76	Y 31:51	1.28	19.27		*	2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	1.06e+07	0.78	Y 32:03	1.22	10.34		*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-48/75	2.70e+06	0.78	Y 32:10	1.32	2.435		*	2.5	*	1.004	0.999-1.009	
Tetra	PCB-65	*	n NotF	1.27				3830	2.5	0.0803	*	1.007-1.017	
Tetra	PCB-62	*	n NotF	1.36				3830	2.5	0.0753	*	1.011-1.021	
Tetra	PCB-44	1.13e+07	0.78	Y 32:51	0.94	14.34		*	2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	3.18e+06	0.81	Y 33:05	1.27	3.003		*	2.5	*	1.033	1.027-1.037	
Tetra	PCB-41/64/71/72	1.93e+07	0.77	Y 33:40	1.34	17.25		*	2.5	*	1.051	1.045-1.055	
Tetra	PCB-68	1.19e+06	0.74	Y 33:56	1.53	0.9311	R	*	2.5	*	1.059	1.053-1.063	
Tetra	PCB-40	2.41e+05	0.54	n 34:08	0.86	0.3334		*	2.5	*	1.066	1.061-1.071	
Tetra	PCB-57	1.73e+05	0.81	Y 34:30	1.12	0.1350	R	*	2.5	*	0.970	0.965-0.975	
Tetra	PCB-67	1.33e+05	1.00	n 34:48	1.10	0.1054		*	2.5	*	0.979	0.974-0.984	
Tetra	PCB-58	1.65e+05	0.67	Y 34:55	1.16	0.1245		*	2.5	*	0.982	0.977-0.987	
Tetra	PCB-63	2.43e+06	0.73	Y 35:04	1.20	1.765		*	2.5	*	0.986	0.981-0.991	
Tetra	PCB-74	2.57e+07	0.76	Y 35:21	1.17	19.13		*	2.5	*	0.994	0.989-0.999	
Tetra	PCB-61/70	2.91e+07	0.77	Y 35:33	1.13	22.42		*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-76/66	3.17e+07	0.78	Y 35:46	1.14	24.25		*	2.5	*	1.006	1.000-1.010	
Tetra	PCB-80	*	n NotF	1.31				3830	2.5	0.0552	*	0.995-1.005	
Tetra	PCB-55	8.72e+05	0.93	n 36:15	1.16	0.6415	R	*	2.5	*	1.008	1.004-1.014	
Tetra	PCB-56/60	1.00e+07	0.78	Y 36:47	1.14	7.536		*	2.5	*	1.023	1.018-1.028	
Tetra	PCB-79	4.28e+06	0.81	Y 37:52	1.17	3.125		*	2.5	*	1.053	1.048-1.058	
Tetra	PCB-78	*	n NotF	1.11				3830	2.5	0.0668	*	0.982-0.992	
Tetra	PCB-81	5.47e+05	0.75	Y 39:05	1.20	0.3918		*	2.5	*	1.001	0.995-1.005	
Tetra	PCB-77	8.04e+05	0.74	Y 39:41	1.24	0.5456		*	2.5	*	1.001	0.995-1.005	
Penta	PCB-104	*	n NotF	1.31				2160	2.5	0.0820	*	0.996-1.006	
Penta	PCB-96	1.94e+05	1.45	Y 33:58	1.15	0.2628		*	2.5	*	1.039	1.034-1.044	
Penta	PCB-103	9.82e+05	1.44	Y 34:30	1.03	1.491		*	2.5	*	1.056	1.051-1.061	
Penta	PCB-100	5.40e+05	1.60	Y 34:51	1.03	0.8179		*	2.5	*	1.066	1.061-1.071	
Penta	PCB-94	2.60e+05	1.37	Y 35:20	1.18	0.4291		*	2.5	*	0.986	0.980-0.990	
Penta	PCB-95/98/102	6.05e+07	1.58	Y 35:52	1.31	89.97		*	2.5	*	1.001	0.994-1.004	
Penta	PCB-93	*	n NotF	1.19				2160	2.5	0.117	*	0.998-1.008	
Penta	PCB-86/91	1.05e+07	1.60	Y 36:15	1.23	16.52		*	2.5	*	1.011	1.006-1.016	
Penta	PCB-121	*	n NotF	1.74				2160	2.5	0.0803	*	1.009-1.019	
Penta	PCB-84/92	3.43e+07	1.61	Y 37:10	1.16	53.01		*	2.5	*	0.990	0.985-0.995	
Penta	PCB-89	*	n NotF	1.11				2160	2.5	0.116	*	0.990-1.000	

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Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	1.33e+08	1.59	Y 37:33	1.27	188.4	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-113	*	n NotFh	1.47	*			2160	2.5	0.0674	*	1.002-1.012	
Penta	PCB-99	9.00e+07	1.58	Y 37:52	1.26	127.7	*	*	2.5	*	1.009	1.004-1.014	
Penta	PCB-119	6.33e+06	1.52	Y 38:19	1.87	6.427	*	*	2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	3.79e+06	1.64	Y 38:30	1.44	5.017	*	*	2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	n NotFh	1.70	*			2160	2.5	0.0809	*	0.990-1.000	
Penta	PCB-97	1.63e+07	1.52	Y 38:50	1.31	23.64	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-86	*	n NotFh	1.02	*			2160	2.5	0.134	*	0.999-1.009	
Penta	PCB-87/117/125	4.18e+07	1.59	Y 39:07	1.59	50.12	*	*	2.5	*	1.007	1.002-1.012	
Penta	PCB-111/115	3.47e+06	1.58	Y 39:16	1.85	3.565	*	*	2.5	*	1.011	1.006-1.016	
Penta	PCB-85/116	2.76e+07	1.59	Y 39:23	1.44	36.48	*	*	2.5	*	1.014	1.010-1.020	
Penta	PCB-120	7.69e+05	1.50	Y 39:37	1.91	0.7645	*	*	2.5	*	1.020	1.016-1.026	
Penta	PCB-110	1.42e+08	1.58	Y 39:47	1.76	153.7	*	*	2.5	*	1.025	1.019-1.029	
Penta	PCB-82	1.95e+06	1.53	Y 40:23	0.81	3.310	*	*	2.5	*	0.976	0.971-0.981	
Penta	PCB-124	2.46e+07	1.54	Y 41:04	1.30	2.624	*	*	2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	2.00e+07	1.60	Y 41:15	1.34	20.68	*	*	2.5	*	0.997	0.991-1.001	
Penta	PCB-123	1.88e+06	1.56	Y 41:23	1.35	1.930	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-106/118	1.08e+08	1.58	Y 41:35	1.34	113.3	*	*	2.5	*	1.000	0.996-1.006	
Penta	PCB-114	3.99e+06	1.63	Y 42:14	1.17	4.032	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	n NotFh	1.03	*			5860	2.5	0.214	*	0.999-1.009	
Penta	PCB-105	6.36e+07	1.57	Y 43:06	1.23	60.98	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-127	*	n NotFh	1.06	*			5860	2.5	0.204	*	0.995-1.005	
Penta	PCB-126	4.66e+05	1.50	Y 45:20	1.16	0.5144	*	*	2.5	*	1.001	0.995-1.005	
Hexa	PCB-155	2.80e+05	1.15	Y 37:05	1.26	0.4264	*	*	2.5	*	1.000	0.966-1.006	
Hexa	PCB-150	1.72e+05	1.14	Y 38:20	1.15	0.2861	*	*	2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	1.12e+05	1.11	Y 38:49	1.19	0.1806	*	*	2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	*	n NotFh	1.14	*			3620	1.0	0.0689	*	1.055-1.065	
Hexa	PCB-136	1.29e+07	1.23	Y 39:34	1.18	20.76	*	*	2.5	*	1.067	1.063-1.073	
Hexa	PCB-148	2.36e+05	1.32	Y 39:42	0.82	0.5516	*	*	2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	2.62e+06	1.12	Y 40:12	0.91	5.521	*	*	2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	4.26e+07	1.27	Y 40:49	0.86	95.31	*	*	2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	1.73e+07	1.29	Y 41:03	0.82	40.16	*	*	2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	5.31e+06	1.34	Y 41:10	0.92	11.00	*	*	2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	3.40e+06	1.13	Y 41:17	0.81	8.065	*	*	2.5	*	1.114	1.108-1.120	
Hexa	PCB-139/149	1.26e+08	1.26	Y 41:31	0.91	264.4	*	*	2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	8.04e+05	1.32	Y 41:44	0.83	1.842	*	*	2.5	*	1.126	1.120-1.132	
Hexa	PCB-134/143	8.60e+06	1.24	Y 42:10	0.89	9.618	*	*	2.5	*	0.975	0.970-0.980	

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Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Hexa	PCB-133/142	9.80e+06	1.24	Y 42:27	0.86	11.38			2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	n NotF	0.89				4800	2.5	*		0.981-0.991	
Hexa	PCB-146/165	9.42e+07	1.23	Y 42:52	1.07	87.95			2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	6.03e+07	1.24	Y 43:07	1.12	53.90			2.5	*	1.000	0.992-1.002	
Hexa	PCB-153	6.79e+08	1.24	Y 43:16	1.15	590.9			2.5	*	1.000	0.996-1.006	
Hexa	PCB-168	8.26e+05	1.14	Y 43:29	1.38	0.5972			2.5	*	1.005	1.000-1.010	
Hexa	PCB-141	7.05e+07	1.21	Y 44:00	1.20	68.27			2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	2.00e+07	1.23	Y 44:23	1.23	18.85			2.5	*	1.009	1.004-1.014	
Hexa	PCB-130	2.11e+07	1.25	Y 44:29	1.04	23.59			2.5	*	1.011	1.006-1.016	
Hexa	PCB-138/163/164	6.16e+08	1.24	Y 44:51	1.30	509.0			2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	5.81e+07	1.23	Y 45:04	1.41	44.32			2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	6.71e+06	1.27	Y 45:20	0.97	7.465			2.5	*	1.012	1.007-1.017	
Hexa	PCB-166	1.86e+06	1.17	Y 45:47	1.19	1.399			2.5	*	0.993	0.988-0.998	
Hexa	PCB-159	*	n NotF	1.28				4800	2.5	*		0.995-1.005	
Hexa	PCB-128/162	6.15e+07	1.22	Y 46:23	1.06	52.15			2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	1.79e+06	1.12	Y 46:48	1.22	1.300			2.5	*	1.000	0.995-1.005	
Hexa	PCB-156	4.95e+07	1.24	Y 48:05	1.27	35.03			2.5	*	1.000	0.995-1.005	
Hexa	PCB-157	1.05e+07	1.30	Y 48:21	1.24	7.429			2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	7.81e+05	1.27	Y 50:33	1.18	0.6039			2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	2.89e+05	1.15	Y 42:53	1.59	0.3199			2.5	*	1.000	0.996-1.006	
Hepta	PCB-184	6.63e+05	1.06	Y 43:19	1.44	0.8123			2.5	*	1.010	1.006-1.016	
Hepta	PCB-179	4.15e+07	1.05	Y 44:07	1.45	50.35			2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	1.04e+07	1.13	Y 44:35	1.56	11.81			2.5	*	1.040	1.035-1.045	
Hepta	PCB-186	*	n NotF	1.56				2590	2.5	*		1.049-1.059	
Hepta	PCB-178	2.68e+07	1.06	Y 45:41	1.20	39.47			2.5	*	1.066	1.061-1.071	
Hepta	PCB-175	3.74e+06	1.03	Y 46:00	1.12	5.876			2.5	*	1.073	1.069-1.079	
Hepta	PCB-182/187	2.27e+08	1.06	Y 46:11	1.24	323.2			2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	7.69e+07	1.07	Y 46:30	1.37	98.79			2.5	*	1.085	1.080-1.090	
Hepta	PCB-185	1.36e+07	1.07	Y 47:10	1.60	19.56			2.5	*	0.956	0.950-0.960	
Hepta	PCB-174	7.46e+07	1.07	Y 47:32	1.51	112.9			2.5	*	0.963	0.958-0.968	
Hepta	PCB-181	*	n NotF	1.64				2590	2.5	*		0.960-0.970	
Hepta	PCB-177	5.85e+07	1.06	Y 47:48	1.45	92.15			2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	2.74e+07	1.08	Y 48:05	1.69	37.05			2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	1.09e+06	1.10	Y 48:31	1.38	1.816			2.5	*	0.983	0.978-0.988	
Hepta	PCB-172	1.88e+07	1.06	Y 48:58	1.55	27.79			2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	n NotF	2.02				2590	2.5	*		0.991-1.001	
Hepta	PCB-180	2.91e+08	1.07	Y 49:23	1.66	401.6			2.5	*	1.001	0.995-1.005	

Analyst: M
 Date: 11/14/16

Client ID: EEA-HS-A3
 Lab ID: 1601354-05

Filename: 161109E1 S:9 Acq: 9-NOV-16 20:26:59
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol.10.120

ConCal: ST161109E1-1
 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	1.99e+07	1.06	Y 49:34	2.09	21.80	*	2.5	*	*	1.004	0.999-1.009	
Hepta	PCB-191	5.18e+06	1.08	Y 49:49	2.11	5.618	*	2.5	*	*	1.009	1.005-1.015	
Hepta	PCB-170	8.73e+07	1.07	Y 50:57	1.72	128.2	*	2.5	*	*	1.000	0.995-1.005	
Hepta	PCB-190	2.73e+07	1.07	Y 51:08	2.32	29.65	*	2.5	*	*	1.004	0.999-1.009	
Hepta	PCB-189	4.16e+06	1.05	Y 52:32	1.73	4.751	*	2.5	*	*	1.000	0.995-1.005	
Octa	PCB-202	1.20e+07	0.92	Y 48:18	1.08	24.45	*	2.5	*	*	1.000	0.995-1.005	
Octa	PCB-201	5.55e+06	0.91	Y 48:47	1.16	10.54	*	2.5	*	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n NotF	1.09	*	1600	2.5	0.0804	*	*	1.009-1.019	
Octa	PCB-197	1.67e+06	0.93	Y 49:14	1.21	3.024	*	2.5	*	*	1.020	1.015-1.025	
Octa	PCB-200	3.90e+06	0.89	Y 50:09	1.12	7.702	*	2.5	*	*	1.039	1.034-1.044	
Octa	PCB-198	1.47e+06	0.91	Y 51:34	0.81	3.997	*	2.5	*	*	1.068	1.062-1.072	
Octa	PCB-199	3.91e+07	0.92	Y 51:41	0.80	107.4	*	2.5	*	*	1.071	1.064-1.074	
Octa	PCB-196/203	4.57e+07	0.91	Y 51:59	0.87	115.2	*	2.5	*	*	1.077	1.070-1.080	
Octa	PCB-195	1.41e+07	0.88	Y 53:12	1.10	29.21	*	2.5	*	*	0.984	0.979-0.989	
Octa	PCB-194	3.36e+07	0.88	Y 54:05	1.28	59.94	*	2.5	*	*	1.000	0.995-1.005	
Octa	PCB-205	2.23e+06	0.91	Y 54:21	1.62	3.140	*	2.5	*	*	1.005	1.001-1.010	
Nona	PCB-208	8.63e+06	1.32	Y 53:21	1.11	8.877	*	2.5	*	*	1.000	0.995-1.005	
Nona	PCB-207	3.25e+06	1.33	Y 53:40	1.11	3.378	*	2.5	*	*	1.006	1.001-1.011	
Nona	PCB-206	1.69e+07	1.33	Y 55:39	0.95	33.03	*	2.5	*	*	1.000	0.995-1.005	
Deca	PCB-209	4.00e+06	1.18	Y 56:59	1.34	7.010	*	2.5	*	*	1.000	0.995-1.005	

Analyst: MJ
 Date: 11/14/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	7.96e+04	3.14 Y	16:05	1.02	0.119443
Total Di-PCB	3.42e+06	1.56 Y	22:56	1.18	2.54679
Total Tri-PCB	8.28e+06	1.04 Y	24:14	1.21	15.4542
Total Tetra-PCB	1.83e+07	0.90 Y	28:31	1.07	23.9533
Total Penta-PCB	2.13e+08	0.74 Y	29:49	1.20	189.767
Total Hexa-PCB	7.07e+08	1.45 Y	33:58	1.29	900.109
Total Hepta-PCB	6.80e+07	1.63 Y	42:14	1.13	65.5241
Total Octa-PCB	2.12e+08	1.15 Y	37:05	0.98	448.487
Total Nona-PCB	1.77e+09	1.24 Y	42:10	1.13	1523.81
Total Deca-PCB	1.02e+09	1.15 Y	42:53	1.53	1413.54
Total Mono-PCB	1.09e+08	0.92 Y	48:18	1.00	272.308
Total Di-PCB	4.99e+07	0.88 Y	53:12	1.34	92.2883
Total Tri-PCB	2.88e+07	1.32 Y	53:21	1.06	45.2843
Total Tetra-PCB	4.00e+06	1.18 Y	56:59	1.34	7.00963
					Sum:39.4075
					Sum:965.633
					Sum:1972.29
					Sum:364.596

Total PCB Conc:5001.39186700

Integrations
 by Analyst: ML
 Date: 11/14/16

Client ID: EPA-HS-A3
 Lab ID: 1601354-05
 File name: 161109E1 S:9 Acq: 9-NOV-16 20:26:59
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.12q
 ConCal: ST161109E1-1
 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.24e+08	3.27 Y	1.09	16:04	0.619	0.619-0.625	78.0	39.5	13C-PCB-79	2.57e+08	0.79 Y	1.01	37:51	1.029	1.024-1.033	209	106			
13C-PCB-3	1.47e+08	3.26 Y	1.15	18:42	0.721	0.718-0.726	88.1	44.6	13C-PCB-178	8.47e+07	0.45 Y	0.64	45:39	0.985	0.980-0.989	153	77.2			
13C-PCB-4	1.26e+08	1.61 Y	0.59	20:03	0.772	0.770-0.778	145	73.3	PS vs. IS											
13C-PCB-9	2.15e+08	1.59 Y	0.94	21:51	0.842	0.839-0.847	157	79.4												
13C-PCB-11	2.42e+08	1.59 Y	0.93	25:15	0.973	0.968-0.978	178	90.2												
13C-PCB-19	6.95e+07	1.08 Y	0.63	24:13	0.933	0.929-0.939	75.5	38.2												
13C-PCB-28	1.39e+08	0.98 Y	1.14	29:07	1.004	0.999-1.009	151	76.3												
13C-PCB-32	1.11e+08	1.09 Y	0.91	27:09	1.046	1.041-1.051	83.5	42.2												
13C-PCB-37	1.55e+08	1.00 Y	1.05	32:59	1.137	1.131-1.143	183	92.5												
13C-PCB-47	1.65e+08	0.80 Y	0.77	32:02	0.871	0.867-0.875	176	89.2												
13C-PCB-52	1.49e+08	0.78 Y	0.72	31:31	0.857	0.853-0.861	169	85.3												
13C-PCB-54	1.87e+08	0.78 Y	0.95	27:59	0.761	0.757-0.765	162	82.0												
13C-PCB-70	2.27e+08	0.79 Y	0.97	35:33	0.967	0.961-0.971	191	96.8												
13C-PCB-77	2.35e+08	0.79 Y	0.93	39:39	1.078	1.073-1.083	206	104												
13C-PCB-80	2.31e+08	0.78 Y	0.98	35:58	0.978	0.973-0.983	193	97.7												
13C-PCB-81	2.30e+08	0.78 Y	0.95	39:04	1.062	1.057-1.067	198	99.9												
13C-PCB-95	1.02e+08	1.61 Y	0.70	35:50	0.913	0.908-0.918	177	89.4												
13C-PCB-97	1.04e+08	1.63 Y	0.67	38:50	0.989	0.984-0.994	189	95.6												
13C-PCB-101	1.10e+08	1.59 Y	0.75	37:32	0.956	0.951-0.961	181	91.5												
13C-PCB-104	1.27e+08	1.58 Y	0.95	32:41	0.832	0.828-0.836	163	82.6												
13C-PCB-105	1.67e+08	1.53 Y	1.14	43:04	0.929	0.924-0.934	169	85.4												
13C-PCB-114	1.67e+08	1.49 Y	1.12	42:13	0.911	0.905-0.915	171	86.7												
13C-PCB-118	1.41e+08	1.59 Y	0.93	41:34	1.059	1.054-1.064	185	93.7												
13C-PCB-123	1.43e+08	1.61 Y	0.88	41:23	1.054	1.049-1.059	198	100												
13C-PCB-126	1.54e+08	1.53 Y	1.16	45:19	0.977	0.972-0.982	153	77.6												
13C-PCB-127	1.77e+08	1.53 Y	1.25	43:25	0.936	0.931-0.941	163	82.4												
13C-PCB-138	1.84e+08	1.29 Y	1.11	44:49	0.966	0.961-0.971	190	95.9												
13C-PCB-141	1.71e+08	1.28 Y	1.05	43:59	0.949	0.943-0.953	187	94.5												
13C-PCB-153	1.98e+08	1.27 Y	1.21	43:15	0.933	0.927-0.937	188	95.4												
13C-PCB-155	1.03e+08	1.28 Y	0.84	37:04	0.944	0.939-0.949	150	76.1												
13C-PCB-156	2.20e+08	1.29 Y	1.31	48:04	1.037	1.032-1.042	193	97.8												
13C-PCB-157	2.25e+08	1.31 Y	1.35	48:20	1.042	1.037-1.047	191	96.4												
13C-PCB-159	2.21e+08	1.27 Y	1.33	46:06	0.994	0.989-0.999	191	96.5												
13C-PCB-167	2.23e+08	1.28 Y	1.34	46:47	1.009	1.004-1.014	191	96.4												
13C-PCB-169	2.16e+08	1.28 Y	1.33	50:32	1.090	1.084-1.094	187	94.8												
13C-PCB-170	7.83e+07	0.47 Y	0.61	50:56	1.099	1.091-1.103	148	75.0												
13C-PCB-180	8.63e+07	0.46 Y	0.67	49:21	1.064	1.059-1.069	148	75.0												
13C-PCB-188	1.12e+08	0.47 Y	0.94	42:52	0.925	0.919-0.929	138	69.7												
13C-PCB-189	9.98e+07	0.46 Y	0.79	52:31	1.133	1.124-1.136	145	73.2												
13C-PCB-194	8.65e+07	0.90 Y	0.72	54:04	0.995	0.990-1.000	199	101												
13C-PCB-202	8.97e+07	0.90 Y	0.94	48:17	1.041	1.036-1.046	109	55.3												
13C-PCB-206	1.06e+08	0.77 Y	0.80	55:38	1.024	1.020-1.301	219	111												
13C-PCB-208	1.73e+08	0.77 Y	1.00	53:20	0.982	0.977-0.987	285	144												
13C-PCB-209	8.39e+07	1.22 Y	0.85	56:58	1.048	1.045-1.055	164	82.8												

Analyst: MM
 Date: 11/14/16

Sample ID: EPA-HS-B1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-06			
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046			
Date Collected:	31-Aug-2016 10:47	%Lipids:	6.16	Date Analyzed:	09-Nov-16 21:32 Column: ZB-1			
Date Received:	25-Oct-2016 9:00			Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	ND	0.310		PCB-44	24.7			
PCB-2	ND	0.124		PCB-45	2.06			
PCB-3	ND		0.0656	PCB-46	0.588			
PCB-4/10	ND	0.512		PCB-47	17.4			B
PCB-5/8	1.59			PCB-48/75	3.51			
PCB-6	ND	0.266		PCB-50	ND	0.196		
PCB-7/9	ND	0.145		PCB-51	0.602			
PCB-11	1.51			PCB-52/69	71.1			
PCB-12/13	ND	0.130		PCB-53	3.48			
PCB-14	ND	0.112		PCB-54	ND	0.164		
PCB-15	ND	0.372		PCB-55	1.17			
PCB-16/32	3.85			PCB-56/60	12.6			
PCB-17	1.62			PCB-57	0.292			J
PCB-18	14.1			PCB-58	0.221			J
PCB-19	0.840			PCB-61/70	40.3			
PCB-20/21/33	1.04			PCB-62	ND	0.158		
PCB-22	2.21			PCB-63	2.94			
PCB-23	ND	0.180		PCB-65	ND	0.169		
PCB-24/27	0.937			PCB-66/76	42.6			
PCB-25	0.210			PCB-67	0.188			J
PCB-26	0.993			PCB-68	1.54			
PCB-28	19.4			PCB-73	ND	0.155		
PCB-29	ND	0.164		PCB-74	31.6			
PCB-30	ND	0.0895		PCB-77	0.960			
PCB-31	10.4			PCB-78	ND	0.147		
PCB-34	0.102			PCB-79	4.71			
PCB-35	ND	0.127		PCB-80	ND	0.123		
PCB-36	ND	0.125		PCB-81	0.887			
PCB-37	0.227			PCB-82	4.55			
PCB-38	0.588			PCB-83	ND	0.121		
PCB-39	ND	0.118		PCB-84/92	87.1			
PCB-40	0.624			PCB-85/116	53.7			
PCB-41/64/71/72	27.8			PCB-86	ND	0.201		
PCB-42/59	4.06			PCB-87/117/125	82.6			
PCB-43/49	33.7			PCB-88/91	28.9			

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-B1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-06				
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046				
Date Collected:	31-Aug-2016 10:47	%Lipids:	6.16	Date Analyzed:	09-Nov-16 21:32 Column: ZB-1				
Date Received:	25-Oct-2016 9:00			Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	0.374				PCB-136	36.8			
PCB-90/101	292			J	PCB-137	19.5			
PCB-93	ND	0.165			PCB-138/163/164	610			
PCB-94	0.815				PCB-139/149	418			B
PCB-95/98/102	163				PCB-140	3.16			
PCB-96	0.509				PCB-141	67.7			
PCB-97	42.2				PCB-144	17.0			
PCB-99	177				PCB-145	ND	0.0786		
PCB-100	1.50				PCB-146/165	101			
PCB-103	2.52				PCB-147	12.1			
PCB-104	ND	0.114			PCB-148	0.597			J
PCB-105	84.0				PCB-150	0.479			
PCB-106/118	185				PCB-151	146			
PCB-107/109	29.8				PCB-152	0.237			J
PCB-108/112	9.87				PCB-153	583			
PCB-110	263				PCB-154	8.16			
PCB-111/115	4.61				PCB-155	0.652			
PCB-113	ND	0.123			PCB-156	37.9			
PCB-114	5.46				PCB-157	8.98			
PCB-119	10.1				PCB-158/160	49.5			
PCB-120	0.999				PCB-159	ND	0.0576		
PCB-121	ND	0.113			PCB-166	1.80			
PCB-122	ND	0.183			PCB-167	1.74			
PCB-123	3.19				PCB-168	0.532			
PCB-124	4.07				PCB-169	0.792			
PCB-126	0.594				PCB-170	111			
PCB-127	ND	0.176			PCB-171	38.1			
PCB-128/162	73.7				PCB-172	22.7			
PCB-129	10.7				PCB-173	2.44			
PCB-130	31.8				PCB-174	117			
PCB-131	ND	0.0975			PCB-175	5.68			
PCB-132/161	87.1				PCB-176	15.6			
PCB-133/142	15.0				PCB-177	104			
PCB-134/143	16.6				PCB-178	42.9			
PCB-135	62.4				PCB-179	69.8			

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.
See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-B1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-06			
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046			
Date Collected:	31-Aug-2016 10:47	%Lipids:	6.16	Date Analyzed:	09-Nov-16 21:32			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
				Column:	ZB-1			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	296			Total octaCB	348			
PCB-181	ND	0.0838		Total nonaCB	48.8			
PCB-182/187	371			DecaCB	9.11			
PCB-183	82.2			Total PCB	6120			
PCB-184	1.11							
PCB-185	19.8							
PCB-186	ND	0.0686						
PCB-188	0.525							
PCB-189	3.98							
PCB-190	31.0							
PCB-191	4.54							
PCB-192	ND	0.0677						
PCB-193	22.5							
PCB-194	42.8							
PCB-195	27.5							
PCB-196/203	104							
PCB-197	3.58							
PCB-198	4.38							
PCB-199	113							
PCB-200	8.93							
PCB-201	11.6							
PCB-202	29.4							
PCB-204	ND	0.128						
PCB-205	2.76							
PCB-206	34.3							
PCB-207	3.52							
PCB-208	11.1							
PCB-209	9.11							
Total monoCB	ND		0.0656					
Total diCB	3.10							
Total triCB	56.6							
Total tetraCB	330							
Total pentaCB	1540							
Total hexaCB	2420							
Total heptaCB	1360							

DL - Sample specific; estimated detection limit

LCL-UCL- Lower control limit - upper control limit

Results are reported in wet weight.

See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-B1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-06		
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046		
Date Collected:	31-Aug-2016 10:47	%Lipids:	6.16	Date Analyzed:	09-Nov-16 21:32 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	40.9	15-150		13C-PCB-170	74.7	25-150	
13C-PCB-3	46.4	15-150		13C-PCB-180	77.5	25-150	
13C-PCB-4	69.8	25-150		13C-PCB-188	73.3	25-150	
13C-PCB-11	91.5	25-150		13C-PCB-189	72.0	25-150	
13C-PCB-9	80.9	25-150		13C-PCB-194	100	25-150	
13C-PCB-19	36.5	25-150		13C-PCB-202	53.9	25-150	
13C-PCB-28	73.3	25-150		13C-PCB-206	111	25-150	
13C-PCB-32	44.5	25-150		13C-PCB-208	137	25-150	
13C-PCB-37	97.5	25-150		13C-PCB-209	77.8	25-150	
13C-PCB-47	86.9	25-150		CRS 13C-PCB-79	99.3	30-135	
13C-PCB-52	83.9	25-150		13C-PCB-178	77.8	30-135	
13C-PCB-54	79.6	25-150					
13C-PCB-70	93.5	25-150					
13C-PCB-77	97.8	25-150					
13C-PCB-80	93.8	25-150					
13C-PCB-81	95.6	25-150					
13C-PCB-95	89.4	25-150					
13C-PCB-97	94.7	25-150					
13C-PCB-101	93.5	25-150					
13C-PCB-104	83.3	25-150					
13C-PCB-105	82.6	25-150					
13C-PCB-114	85.1	25-150					
13C-PCB-118	98.0	25-150					
13C-PCB-123	100	25-150					
13C-PCB-126	76.1	25-150					
13C-PCB-127	76.3	25-150					
13C-PCB-138	95.8	25-150					
13C-PCB-141	95.5	25-150					
13C-PCB-153	97.5	25-150					
13C-PCB-155	71.7	25-150					
13C-PCB-156	98.8	25-150					
13C-PCB-157	97.9	25-150					
13C-PCB-159	98.6	25-150					
13C-PCB-167	98.4	25-150					
13C-PCB-169	95.1	25-150					

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.
See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Client ID: EPA-HS-B1
Lab ID: 1601354-06

Filename: 161109E1
GC Column ID: ZB-7

S:10 Acq: 9-NOV-16 21:32:05
ICal: PCBVG8-4-19-16 wt/vol: 10.180

ConCal: ST161109E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	*	*	n	NotF	1.06	*	5140	2.5	0.310	*	0.997-1.007	
Mono	PCB-2	*	*	n	NotF	0.99	*	5480	1.0	0.124	*	0.983-0.993	
Mono	PCB-3	3.96e+04	1.63	n	18:44	1.02	R		*	0.06555	*	0.996-1.006	
Di	PCB-4/10	*	*	n	NotF	1.41	*	36600	1.0	0.512	*	0.997-1.007	
Di	PCB-7/9	*	*	n	NotF	1.13	*	15300	1.0	0.145	*	0.864-0.872	
Di	PCB-6	*	*	n	NotF	1.08	*	26800	1.0	0.266	*	0.888-0.897	
Di	PCB-5/8	1.53e+06	1.64	Y	22:58	1.14			2.5		0.909	0.905-0.915	
Di	PCB-14	*	*	n	NotF	1.32	*	5700	2.5	0.112	*	0.948-0.958	
Di	PCB-11	1.69e+06	1.57	Y	25:17	1.18			2.5		1.001	0.995-1.005	
Di	PCB-12/13	*	*	n	NotF	1.14	*	5700	2.5	0.130	*	1.011-1.021	
Di	PCB-15	*	*	n	NotF	1.29	*	46100	1.0	0.372	*	1.023-1.031	
Tri	PCB-19	2.67e+05	1.15	Y	24:15	1.23			2.5		1.001	0.996-1.006	
Tri	PCB-30	*	*	n	NotF	1.88	*	2190	2.5	0.0895	*	1.033-1.043	
Tri	PCB-18	5.77e+06	1.07	Y	25:55	0.90			2.5		0.954	0.949-0.959	
Tri	PCB-17	7.15e+05	1.10	Y	26:05	0.98			2.5		0.960	0.956-0.966	
Tri	PCB-24/27	5.39e+05	1.00	Y	26:38	1.27			2.5		0.980	0.977-0.987	
Tri	PCB-16/32	1.88e+06	1.06	Y	27:11	1.07			2.5		1.001	0.996-1.006	
Tri	PCB-34	5.21e+04	1.17	Y	27:58	0.97			2.5		0.960	0.955-0.965	
Tri	PCB-23	*	*	n	NotF	0.86	*	3740	2.5	0.180	*	0.958-0.968	
Tri	PCB-29	*	*	n	NotF	0.95	*	3740	2.5	0.164	*	0.967-0.977	
Tri	PCB-26	5.06e+05	0.89	Y	28:31	0.97			2.5		0.979	0.974-0.984	
Tri	PCB-25	1.02e+05	1.09	Y	28:41	0.93			2.5		0.985	0.980-0.990	
Tri	PCB-31	5.91e+06	0.89	Y	29:02	1.09			2.5		0.997	0.992-1.002	
Tri	PCB-28	1.12e+07	0.92	Y	29:09	1.10			2.5		1.001	0.996-1.006	
Tri	PCB-20/21/33	5.86e+05	0.88	Y	29:48	1.08			2.5		1.023	1.016-1.026	
Tri	PCB-22	1.21e+06	0.91	Y	30:13	1.04			2.5		1.037	1.032-1.042	
Tri	PCB-36	*	*	n	NotF	1.18	*	3740	2.5	0.125	*	0.929-0.939	
Tri	PCB-39	*	*	n	NotF	1.25	*	3740	2.5	0.118	*	0.943-0.953	
Tri	PCB-38	4.30e+05	0.95	Y	32:05	1.15			2.5		0.972	0.967-0.977	
Tri	PCB-35	*	*	n	NotF	1.16	*	3740	2.5	0.127	*	0.982-0.992	
Tri	PCB-37	1.80e+05	0.93	Y	33:01	1.24			2.5		1.000	0.996-1.006	
Tetra	PCB-54	*	*	n	NotF	1.07	*	6190	2.5	0.164	*	0.996-1.006	
Tetra	PCB-50	*	*	n	NotF	0.90	*	6190	2.5	0.196	*	1.037-1.047	
Tetra	PCB-53	2.38e+06	0.78	Y	29:50	1.17			2.5		0.945	0.941-0.951	
Tetra	PCB-51	4.16e+05	0.75	Y	30:10	1.18			2.5		0.956	0.952-0.962	
Tetra	PCB-45	1.28e+06	0.72	Y	30:36	1.06			2.5		0.970	0.965-0.975	
Tetra	PCB-46	3.40e+05	0.79	Y	31:06	0.99			2.5		0.986	0.981-0.991	

Integrations by:

Analyst: MJ

Date: 11/14/16

Date: 11/18/16

Reviewed by: CT

Client ID: EPA-HS-B1 Lab ID: 1601354-06
 File name: 161109E1 S:10 Acq: 9-NOV-16 21:32:05 ConCal: ST161109E1-1
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.180 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Tetra	PCB-52/69	5.45e+07	0.77	Y 31:34	1.31	71.07	*	6190	2.5	*	1.000	0.996-1.006	
Tetra	PCB-73	*	n NotFl	1.45	*					0.155	*	0.999-1.009	
Tetra	PCB-43/49	2.53e+07	0.75	Y 31:53	1.28	33.72	*	6190	2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	1.37e+07	0.77	Y 32:05	1.22	17.44	*	6190	2.5	*	1.001	0.996-1.006	
Tetra	PCB-48/75	2.99e+06	0.72	Y 32:12	1.32	3.512	*	6190	2.5	*	1.004	0.999-1.009	
Tetra	PCB-65	*	n NotFl	1.27	*					0.169	*	1.007-1.017	
Tetra	PCB-62	*	n NotFl	1.36	*					0.158	*	1.011-1.021	
Tetra	PCB-44	1.49e+07	0.78	Y 32:52	0.94	24.66	*	6190	2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	3.31e+06	0.76	Y 33:05	1.27	4.063	*	6190	2.5	*	1.032	1.027-1.037	
Tetra	PCB-41/64/71/72	2.39e+07	0.79	Y 33:42	1.34	27.79	*	6190	2.5	*	1.051	1.045-1.055	
Tetra	PCB-68	1.51e+06	0.83	Y 33:58	1.53	1.541	*	6190	2.5	*	1.059	1.053-1.063	
Tetra	PCB-40	3.47e+05	0.70	Y 34:09	0.86	0.6244	*	6190	2.5	*	1.065	1.061-1.071	
Tetra	PCB-57	2.85e+05	0.75	Y 34:31	1.12	0.2915	*	6190	2.5	*	0.970	0.965-0.975	
Tetra	PCB-67	1.80e+05	0.68	Y 34:49	1.10	0.1878	*	6190	2.5	*	0.979	0.974-0.984	
Tetra	PCB-58	2.23e+05	0.72	Y 34:56	1.16	0.2208	*	6190	2.5	*	0.982	0.977-0.987	
Tetra	PCB-63	3.09e+05	0.81	Y 35:05	1.20	2.942	*	6190	2.5	*	0.986	0.981-0.991	
Tetra	PCB-74	3.24e+07	0.77	Y 35:23	1.17	31.60	*	6190	2.5	*	0.995	0.989-0.999	
Tetra	PCB-61/70	3.99e+07	0.77	Y 35:35	1.13	40.31	*	6190	2.5	*	1.000	0.995-1.005	
Tetra	PCB-76/66	4.26e+07	0.77	Y 35:48	1.14	42.63	*	6190	2.5	*	1.006	1.000-1.010	
Tetra	PCB-80	*	n NotFl	1.31	*					0.123	*	0.995-1.005	
Tetra	PCB-55	1.21e+06	0.74	Y 36:17	1.16	1.172	*	6190	2.5	*	1.008	1.004-1.014	
Tetra	PCB-56/60	1.27e+07	0.79	Y 36:49	1.14	12.55	*	6190	2.5	*	1.023	1.018-1.028	
Tetra	PCB-79	4.89e+06	0.78	Y 37:54	1.17	4.711	*	6190	2.5	*	1.053	1.048-1.058	
Tetra	PCB-78	*	n NotFl	1.11	*					0.147	*	0.982-0.992	
Tetra	PCB-81	9.37e+05	0.67	Y 39:07	1.20	0.8872	*	6190	2.5	*	1.001	0.995-1.005	
Tetra	PCB-77	1.05e+06	0.81	Y 39:42	1.24	0.9598	*	6190	2.5	*	1.001	0.995-1.005	
Penta	PCB-104	*	n NotFl	1.31	*					0.114	*	0.996-1.006	
Penta	PCB-96	2.83e+05	1.39	Y 34:00	1.15	0.5093	*	2350	2.5	*	1.040	1.034-1.044	
Penta	PCB-103	1.25e+06	1.60	Y 34:32	1.03	2.521	*	2350	2.5	*	1.056	1.051-1.061	
Penta	PCB-100	7.46e+05	1.62	Y 34:52	1.03	1.503	*	2350	2.5	*	1.066	1.061-1.071	
Penta	PCB-94	3.69e+05	1.40	Y 35:21	1.18	0.8154	*	2350	2.5	*	0.986	0.980-0.990	
Penta	PCB-95/98/102	8.17e+07	1.58	Y 35:52	1.31	163.0	*	2350	2.5	*	1.000	0.994-1.004	
Penta	PCB-93	*	n NotFl	1.19	*					0.165	*	0.998-1.008	
Penta	PCB-88/91	1.37e+07	1.56	Y 36:17	1.23	28.90	*	2350	2.5	*	1.012	1.006-1.016	
Penta	PCB-121	*	n NotFl	1.74	*					0.113	*	1.009-1.019	
Penta	PCB-84/92	4.29e+07	1.58	Y 37:11	1.16	87.06	*	2350	2.5	*	0.990	0.985-0.995	
Penta	PCB-89	1.76e+05	1.60	Y 37:22	1.11	0.3741	*	2350	2.5	*	0.995	0.990-1.000	

Analyst: MJ
 Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DU	RRT	LCL	UCL
Penta	PCB-90/101	1.57e+08	1.58	Y 37:35	1.27	292.1	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-113	*	*	n NotFñ	1.47	*	*	2350	2.5	0.123	*	1.002-1.012	
Penta	PCB-99	9.53e+07	1.60	Y 37:54	1.26	177.5	*	*	2.5	*	1.009	1.004-1.014	
Penta	PCB-119	7.36e+06	1.52	Y 38:21	1.87	10.12	*	*	2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	5.51e+06	1.56	Y 38:31	1.44	9.867	*	*	2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	*	n NotFñ	1.70	*	*	2350	2.5	0.121	*	0.990-1.000	
Penta	PCB-97	2.15e+07	1.55	Y 38:52	1.31	42.19	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-86	*	*	n NotFñ	1.02	*	*	2350	2.5	0.201	*	0.999-1.009	
Penta	PCB-87/117/125	5.09e+07	1.61	Y 39:09	1.59	82.62	*	*	2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	3.31e+06	1.59	Y 39:17	1.85	4.606	*	*	2.5	*	1.011	1.006-1.016	
Penta	PCB-85/116	3.00e+07	1.58	Y 39:24	1.44	53.69	*	*	2.5	*	1.014	1.010-1.020	
Penta	PCB-120	7.42e+05	1.56	Y 39:38	1.91	0.9990	*	*	2.5	*	1.020	1.016-1.026	
Penta	PCB-110	1.80e+08	1.58	Y 39:49	1.76	263.0	*	*	2.5	*	1.025	1.019-1.029	
Penta	PCB-82	2.00e+06	1.59	Y 40:25	0.81	4.548	*	*	2.5	*	0.976	0.971-0.981	
Penta	PCB-124	2.85e+06	1.65	Y 41:05	1.30	4.066	*	*	2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	2.16e+07	1.56	Y 41:16	1.34	29.83	*	*	2.5	*	0.997	0.991-1.001	
Penta	PCB-123	2.33e+06	1.65	Y 41:25	1.35	3.194	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-106/118	1.38e+08	1.57	Y 41:37	1.34	184.5	*	*	2.5	*	1.001	0.996-1.006	
Penta	PCB-114	3.88e+06	1.64	Y 42:16	1.17	5.460	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-122	*	*	n NotFñ	1.03	*	*	3500	2.5	0.183	*	0.999-1.009	
Penta	PCB-105	6.21e+07	1.58	Y 43:06	1.23	84.04	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	*	n NotFñ	1.06	*	*	3500	2.5	0.176	*	0.995-1.005	
Penta	PCB-126	3.87e+05	1.61	Y 45:21	1.16	0.5942	*	*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-155	3.01e+05	1.23	Y 37:07	1.26	0.6517	*	*	2.5	*	1.001	0.966-1.006	
Hexa	PCB-150	2.02e+05	1.16	Y 38:22	1.15	0.4792	*	*	2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	1.04e+05	1.35	Y 38:51	1.19	0.2372	*	*	2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	*	*	n NotFñ	1.14	*	*	2870	1.0	0.0786	*	1.055-1.065	
Hexa	PCB-136	1.60e+07	1.23	Y 39:36	1.18	36.78	*	*	2.5	*	1.067	1.063-1.073	
Hexa	PCB-148	1.80e+05	1.30	Y 39:45	0.82	0.5973	*	*	2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	2.72e+06	1.24	Y 40:13	0.91	8.163	*	*	2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	4.60e+07	1.25	Y 40:51	0.86	146.2	*	*	2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	1.89e+07	1.26	Y 41:04	0.82	62.41	*	*	2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	5.76e+06	1.32	Y 41:11	0.92	16.97	*	*	2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	3.58e+06	1.25	Y 41:18	0.81	12.09	*	*	2.5	*	1.113	1.108-1.120	
Hexa	PCB-139/149	1.40e+08	1.26	Y 41:33	0.91	418.5	*	*	2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	9.70e+05	1.31	Y 41:45	0.83	3.163	*	*	2.5	*	1.125	1.120-1.132	
Hexa	PCB-134/143	1.11e+07	1.24	Y 42:12	0.89	16.56	*	*	2.5	*	0.975	0.970-0.980	

Analyst: MM
 Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	9.69e+06	1.22	Y 42:29	0.86	15.00			2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	n NotF		0.89			2150	2.5	*	*	0.981-0.991	
Hexa	PCB-146/165	8.11e+07	1.23	Y 42:53	1.07	100.9			2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	7.31e+07	1.22	Y 43:09	1.12	87.06			2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	5.02e+08	1.23	Y 43:17	1.15	582.9			2.5	*	1.001	0.996-1.006	
Hexa	PCB-168	5.52e+05	1.20	Y 43:30	1.38	0.5322			2.5	*	1.006	1.000-1.010	
Hexa	PCB-141	5.18e+07	1.25	Y 44:01	1.20	67.67			2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	1.53e+07	1.19	Y 44:24	1.23	19.48			2.5	*	1.009	1.004-1.014	
Hexa	PCB-130	2.11e+07	1.24	Y 44:30	1.04	31.83			2.5	*	1.011	1.006-1.016	
Hexa	PCB-138/163/164	5.40e+08	1.23	Y 44:52	1.30	609.6			2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	4.75e+07	1.21	Y 45:06	1.41	49.45			2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	7.04e+06	1.24	Y 45:21	0.97	10.68			2.5	*	1.011	1.007-1.017	
Hexa	PCB-166	1.80e+06	1.36	Y 45:48	1.19	1.801			2.5	*	0.993	0.988-0.998	
Hexa	PCB-159	*	n NotF		1.28			2150	2.5	*	*	0.995-1.005	
Hexa	PCB-128/162	6.51e+07	1.22	Y 46:24	1.06	73.66			2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	1.80e+06	1.26	Y 46:50	1.22	1.739			2.5	*	1.001	0.995-1.005	
Hexa	PCB-156	3.97e+07	1.24	Y 48:06	1.27	37.91			2.5	*	1.000	0.995-1.005	
Hexa	PCB-157	9.41e+06	1.34	Y 48:22	1.24	8.983			2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	7.54e+05	1.25	Y 50:34	1.18	0.7924			2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	3.66e+05	0.97	Y 42:54	1.59	0.5246			2.5	*	1.000	0.996-1.006	
Hepta	PCB-184	6.97e+05	1.09	Y 43:21	1.44	1.107			2.5	*	1.011	1.006-1.016	
Hepta	PCB-179	4.43e+07	1.06	Y 44:08	1.45	69.76			2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	1.06e+07	1.11	Y 44:35	1.56	15.63			2.5	*	1.039	1.035-1.045	
Hepta	PCB-186	*	n NotF		1.56			2450	2.5	*	*	1.049-1.059	
Hepta	PCB-178	2.25e+07	1.07	Y 45:41	1.20	42.88			2.5	*	1.065	1.061-1.071	
Hepta	PCB-175	2.79e+06	0.96	Y 46:02	1.12	5.680			2.5	*	1.073	1.069-1.079	
Hepta	PCB-182/187	2.01e+08	1.07	Y 46:11	1.24	371.0			2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	4.94e+07	1.07	Y 46:32	1.37	82.22			2.5	*	1.085	1.080-1.090	
Hepta	PCB-185	1.05e+07	1.08	Y 47:12	1.60	19.84			2.5	*	0.956	0.950-0.960	
Hepta	PCB-174	5.88e+07	1.06	Y 47:32	1.51	117.3			2.5	*	0.963	0.958-0.968	
Hepta	PCB-181	*	n NotF		1.64			2450	2.5	*	*	0.960-0.970	
Hepta	PCB-177	5.02e+07	1.05	Y 47:49	1.45	104.3			2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	2.13e+07	1.09	Y 48:07	1.69	38.13			2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	1.11e+06	1.11	Y 48:33	1.38	2.440			2.5	*	0.983	0.978-0.988	
Hepta	PCB-172	1.17e+07	1.05	Y 48:59	1.55	22.73			2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	n NotF		2.02			2450	2.5	*	*	0.991-1.001	
Hepta	PCB-180	1.63e+08	1.06	Y 49:23	1.66	296.3			2.5	*	1.000	0.995-1.005	

Analyst: MW
 Date: 11/14/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	1.56e+07	1.10	Y 49:36	2.09	22.51		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	3.17e+06	1.08	Y 49:51	2.11	4.537		*	2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	5.54e+07	1.06	Y 50:58	1.72	111.4		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	2.09e+07	1.06	Y 51:09	2.32	31.04		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	2.51e+06	1.06	Y 52:33	1.73	3.983		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-202	1.03e+07	0.92	Y 48:19	1.08	29.42		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	4.37e+06	0.94	Y 48:48	1.16	11.63		*	2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n NotF	1.09	*		1840	2.5	0.128	*	1.009-1.019	
Octa	PCB-197	1.41e+06	0.83	Y 49:15	1.21	3.578		*	2.5	*	1.020	1.015-1.025	
Octa	PCB-200	3.23e+06	0.94	Y 50:10	1.12	8.932		*	2.5	*	1.039	1.034-1.044	
Octa	PCB-198	1.15e+06	1.02	Y 51:35	0.81	4.384		*	2.5	*	1.068	1.062-1.072	
Octa	PCB-199	2.92e+07	0.93	Y 51:43	0.80	112.5		*	2.5	*	1.071	1.064-1.074	
Octa	PCB-196/203	2.95e+07	0.93	Y 51:59	0.87	104.2		*	2.5	*	1.076	1.070-1.080	
Octa	PCB-195	9.98e+06	0.89	Y 53:13	1.10	27.54		*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	1.80e+07	0.86	Y 54:07	1.28	42.76		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	1.47e+06	0.90	Y 54:23	1.62	2.755		*	2.5	*	1.005	1.001-1.010	
Nona	PCB-208	7.72e+06	1.30	Y 53:22	1.11	11.07		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	2.44e+06	1.31	Y 53:42	1.11	3.517		*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	1.32e+07	1.28	Y 55:41	0.95	34.26		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	3.70e+06	1.25	Y 57:00	1.34	9.106		*	2.5	*	1.000	0.995-1.005	

Analyst: MJ

Date: 11/14/16

Client ID: EPA-HS-B1
Lab ID: 1601354-06

Filename: 161109E1 S:10 Acq: 9-NOV-16 21:32:05 ConCal: ST161109E1-1
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 10.1800 EndCAL: NA

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	*	* n	NotFnd	1.02	*
Total Di-PCB	3.22e+06	1.64 Y	22:58	1.18	3.09596
Total Tri-PCB	9.17e+06	1.15 Y	24:15	1.21	21.3879
Total Tetra-PCB	2.02e+07	1.17 Y	27:58	1.07	35.1968
Total Penta-PCB	2.84e+08	0.78 Y	29:50	1.20	329.583
Total Hexa-PCB	8.59e+08	1.39 Y	34:00	1.29	1447.61
Total Hepta-PCB	6.64e+07	1.64 Y	42:16	1.13	90.0906
Total Octa-PCB	2.35e+08	1.23 Y	37:07	0.98	706.260
Total Nona-PCB	1.48e+09	1.24 Y	42:12	1.13	1716.48
Total Deca-PCB	7.46e+08	0.97 Y	42:54	1.53	1363.41
Total Mono-PCB	7.92e+07	0.92 Y	48:19	1.00	274.649
Total Di-PCB	2.95e+07	0.89 Y	53:13	1.34	73.0588
Total Tri-PCB	2.34e+07	1.30 Y	53:22	1.06	48.8483
Total Tetra-PCB	3.70e+06	1.25 Y	57:00	1.34	9.10633

Total PCB Conc: 6118.84933600

Integrations
by MS
Analyst: MS
Date: 11/14/16

Client ID: EPA-HS-B1
Lab ID: 1601354-06
Filename: 161109E1 S:10 Acq: 9-NOV-16 21:32:05 ConCal: ST161109E1-1
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.18% EngCal: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	9.79e+07	3.29	1.09	16:05	0.620	0.619-0.625	80.3	40.9	40.9											
13C-PCB-3	1.17e+08	3.25	1.15	18:43	0.721	0.718-0.726	91.1	46.4	46.4		13C-PCB-79	1.90e+08	0.80	Y	1.01	37:52	1.029	1.024-1.033	195	99.3
13C-PCB-4	9.14e+07	1.63	0.59	20:04	0.773	0.770-0.778	137	69.8	69.8		13C-PCB-178	6.22e+07	0.44	Y	0.64	45:41	0.985	0.980-0.989	153	77.8
13C-PCB-9	1.67e+08	1.59	0.94	21:52	0.842	0.839-0.847	159	80.9	80.9											
13C-PCB-11	1.87e+08	1.56	0.93	25:16	0.973	0.968-0.978	180	91.5	91.5	PS vs. IS										
13C-PCB-19	5.06e+07	1.09	0.63	24:14	0.933	0.923-0.939	71.8	36.5	36.5											
13C-PCB-28	1.03e+08	1.01	1.14	29:08	1.003	0.999-1.009	144	73.3	73.3		13C-PCB-79	1.90e+08	0.80	Y	1.06	37:52	0.969	0.963-0.973	204	104
13C-PCB-32	8.90e+07	1.11	0.91	27:10	1.046	1.041-1.051	87.5	44.5	44.5		13C-PCB-178	6.22e+07	0.44	Y	0.95	45:41	0.925	0.920-0.930	197	100
13C-PCB-37	1.26e+08	1.02	1.05	33:01	1.137	1.131-1.143	191	97.5	97.5											
13C-PCB-47	1.26e+08	0.76	0.77	32:04	0.871	0.867-0.875	171	86.9	86.9											
13C-PCB-52	1.15e+08	0.77	0.72	31:33	0.857	0.853-0.861	165	83.9	83.9											
13C-PCB-54	1.43e+08	0.79	0.95	27:60	0.761	0.757-0.765	156	79.6	79.6											
13C-PCB-70	1.72e+08	0.79	0.97	35:34	0.967	0.961-0.971	184	93.5	93.5											
13C-PCB-77	1.73e+08	0.79	0.93	39:41	1.078	1.073-1.083	192	97.8	97.8											
13C-PCB-80	1.74e+08	0.80	0.98	35:60	0.978	0.973-0.983	184	93.8	93.8											
13C-PCB-81	1.73e+08	0.79	0.95	39:05	1.062	1.057-1.067	188	95.6	95.6											
13C-PCB-95	7.54e+07	1.60	0.70	35:52	0.913	0.908-0.918	176	89.4	89.4	RS										
13C-PCB-97	7.63e+07	1.62	0.67	38:51	0.989	0.984-0.994	186	94.7	94.7											
13C-PCB-101	8.36e+07	1.57	0.75	37:33	0.956	0.951-0.961	184	93.5	93.5		13C-PCB-15	2.20e+08	1.59	Y	1.00	25:58	196			
13C-PCB-104	9.47e+07	1.59	0.95	32:42	0.832	0.828-0.836	164	83.3	83.3		13C-PCB-31	1.23e+08	1.00	Y	1.00	29:02	196			
13C-PCB-105	1.18e+08	1.50	1.14	43:06	0.929	0.924-0.934	182	82.6	82.6		13C-PCB-60	1.90e+08	0.79	Y	1.00	36:48	196			
13C-PCB-114	1.19e+08	1.47	1.12	42:14	0.911	0.905-0.915	167	85.1	85.1		13C-PCB-111	1.20e+08	1.57	Y	1.00	39:17	196			
13C-PCB-118	1.09e+08	1.61	0.93	41:36	1.059	1.054-1.064	193	98.0	98.0		13C-PCB-128	1.25e+08	1.26	Y	1.00	46:23	196			
13C-PCB-123	1.06e+08	1.59	0.88	41:24	1.054	1.049-1.059	197	100	100		13C-PCB-205	8.99e+07	0.89	Y	1.00	54:22	196			
13C-PCB-126	1.10e+08	1.48	1.16	45:20	0.977	0.972-0.982	149	76.1	76.1											
13C-PCB-127	1.19e+08	1.51	1.25	43:27	0.937	0.931-0.941	150	76.3	76.3											
13C-PCB-138	1.34e+08	1.28	1.11	44:50	0.967	0.961-0.971	188	95.8	95.8											
13C-PCB-141	1.26e+08	1.27	1.05	44:00	0.949	0.943-0.953	188	95.5	95.5											
13C-PCB-153	1.48e+08	1.29	1.21	43:16	0.933	0.927-0.937	192	97.5	97.5											
13C-PCB-155	7.22e+07	1.28	0.84	37:06	0.944	0.939-0.949	141	71.7	71.7											
13C-PCB-156	1.62e+08	1.28	1.31	48:06	1.037	1.032-1.042	194	98.8	98.8											
13C-PCB-157	1.66e+08	1.28	1.35	48:22	1.043	1.037-1.047	192	97.9	97.9											
13C-PCB-159	1.64e+08	1.28	1.33	46:08	0.995	0.989-0.999	194	98.6	98.6											
13C-PCB-167	1.66e+08	1.28	1.34	46:48	1.009	1.004-1.014	193	98.4	98.4											
13C-PCB-169	1.58e+08	1.28	1.33	50:34	1.090	1.084-1.094	187	95.1	95.1											
13C-PCB-170	5.69e+07	0.46	0.61	50:57	1.098	1.091-1.103	147	74.7	74.7											
13C-PCB-180	6.50e+07	0.47	0.67	49:23	1.065	1.059-1.069	152	77.5	77.5											
13C-PCB-188	8.60e+07	0.46	0.94	42:54	0.925	0.919-0.929	144	73.3	73.3											
13C-PCB-189	7.15e+07	0.45	0.79	52:33	1.133	1.124-1.136	142	72.0	72.0											
13C-PCB-194	6.46e+07	0.91	0.72	54:06	0.995	0.990-1.000	197	100	100											
13C-PCB-202	6.36e+07	0.93	0.94	48:18	1.041	1.036-1.046	106	53.9	53.9											
13C-PCB-206	7.99e+07	0.78	0.80	55:40	1.024	1.020-1.031	217	111	111											
13C-PCB-208	1.23e+08	0.77	1.00	53:22	0.981	0.977-0.987	268	137	137											
13C-PCB-209	5.93e+07	1.22	0.85	56:59	1.048	1.045-1.055	153	77.8	77.8											

Analyst: M
Date: 11/14/16

Sample ID: EPA-HS-B2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-07				
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 14:46	%Lipids:	5.14	Date Analyzed:	09-Nov-16 22:37 Column: ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	ND		0.116		PCB-44	25.3			
PCB-2	ND	0.162			PCB-45	1.76			
PCB-3	ND		0.100		PCB-46	0.513			
PCB-4/10	ND	0.563			PCB-47	18.0			B
PCB-5/8	1.41				PCB-48/75	3.32			
PCB-6	ND	0.234			PCB-50	ND	0.251		
PCB-7/9	ND	0.132			PCB-51	0.500			
PCB-11	1.55			B	PCB-52/69	100			
PCB-12/13	ND	0.102			PCB-53	3.40			
PCB-14	ND	0.0882			PCB-54	ND	0.210		
PCB-15	ND	0.310			PCB-55	1.63			
PCB-16/32	3.05				PCB-56/60	13.2			
PCB-17	1.42				PCB-57	0.268			J
PCB-18	11.9				PCB-58	0.206			J
PCB-19	0.689				PCB-61/70	44.3			
PCB-20/21/33	0.735			J	PCB-62	ND	0.205		
PCB-22	1.35				PCB-63	3.38			
PCB-23	ND	0.122		J	PCB-65	ND	0.219		
PCB-24/27	0.756				PCB-66/76	49.0			
PCB-25	0.170			J	PCB-67	0.181			J
PCB-26	0.642				PCB-68	1.47			
PCB-28	16.9				PCB-73	ND	0.204		
PCB-29	ND	0.111			PCB-74	40.3			
PCB-30	ND	0.0692			PCB-77	0.813			
PCB-31	7.76				PCB-78	ND	0.190		
PCB-34	ND	0.108			PCB-79	6.45			
PCB-35	ND	0.0992			PCB-80	ND	0.149		
PCB-36	ND	0.0975			PCB-81	0.730			
PCB-37	0.173			J	PCB-82	5.06			
PCB-38	0.681				PCB-83	ND	0.142		
PCB-39	ND	0.0920			PCB-84/92	128			
PCB-40	0.484			J	PCB-85/116	77.3			
PCB-41/64/71/72	29.8				PCB-86	ND	0.235		
PCB-42/59	3.24				PCB-87/117/125	129			
PCB-43/49	36.8				PCB-88/91	42.5			

DL - Sample specific estimated detection limit LCL-UCL - Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-B2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-07			
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046			
Date Collected:	30-Aug-2016 14:46	%Lipids:	5.14	Date Analyzed:	09-Nov-16 22:37			
				Column:	ZB-1			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	0.475			PCB-136	43.0			
PCB-90/101	435			PCB-137	37.5			
PCB-93	ND	0.199		PCB-138/163/164	823			B
PCB-94	1.07			PCB-139/149	450			
PCB-95/98/102	250			PCB-140	3.66			
PCB-96	0.832			PCB-141	97.0			
PCB-97	51.9			PCB-144	17.0			
PCB-99	257			PCB-145	ND		0.0911	
PCB-100	1.53			PCB-146/165	127			
PCB-103	3.14			PCB-147	15.6			
PCB-104	ND	0.138		PCB-148	0.684			
PCB-105	133			PCB-150	ND		0.460	
PCB-106/118	250			PCB-151	157			
PCB-107/109	41.2			PCB-152	0.348			J
PCB-108/112	14.3			PCB-153	766			
PCB-110	384			PCB-154	9.03			
PCB-111/115	6.86			PCB-155	0.550			
PCB-113	ND	0.153		PCB-156	63.2			
PCB-114	8.70			PCB-157	14.4			
PCB-119	11.9			PCB-158/160	76.3			
PCB-120	1.09			PCB-159	ND		0.342	
PCB-121	ND	0.136		PCB-166	2.87			
PCB-122	ND	0.245		PCB-167	2.18			
PCB-123	3.73			PCB-168	0.885			
PCB-124	4.68			PCB-169	0.700			
PCB-126	1.04			PCB-170	156			
PCB-127	ND	0.240		PCB-171	48.9			
PCB-128/162	106			PCB-172	32.6			
PCB-129	17.8			PCB-173	2.68			
PCB-130	39.1			PCB-174	130			
PCB-131	ND	0.512		PCB-175	7.19			
PCB-132/161	111			PCB-176	16.7			
PCB-133/142	19.3			PCB-177	122			
PCB-134/143	22.1			PCB-178	51.9			
PCB-135	75.2			PCB-179	78.3			

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.

See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-B2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-07				
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 14:46	%Lipids:	5.14	Date Analyzed:	09-Nov-16 22:37				
				Column:	ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	431				Total octaCB	471			
PCB-181	ND	0.0599			Total nonaCB	92.0			
PCB-182/187	432				DecaCB	13.4			
PCB-183	111				Total PCB	8070			
PCB-184	0.986								
PCB-185	23.2								
PCB-186	ND	0.0478							
PCB-188	0.436			J					
PCB-189	5.75								
PCB-190	36.4								
PCB-191	7.31								
PCB-192	ND	0.0484							
PCB-193	27.8								
PCB-194	64.5								
PCB-195	31.5								
PCB-196/203	148								
PCB-197	3.87								
PCB-198	5.66								
PCB-199	149								
PCB-200	11.4								
PCB-201	15.0								
PCB-202	38.8								
PCB-204	ND	0.150							
PCB-205	3.35								
PCB-206	66.7								
PCB-207	6.53								
PCB-208	18.8								
PCB-209	13.4								
Total monoCB	ND		0.216						
Total diCB	2.97								
Total triCB	46.2								
Total tetraCB	385								
Total pentaCB	2240								
Total hexaCB	3100								
Total heptaCB	1720								

DL - Sample specific estimated detection limit. LCL-UCL - Lower control limit - upper control limit. Results are reported in wet weight. See individual congeners for qualifiers.

Sample ID: EPA-HS-B2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-07		
Project:	Upper Columbia River	Sample Size:	10.2 g	QC Batch:	B6K0046		
Date Collected:	30-Aug-2016 14:46	%Lipids:	5.14	Date Analyzed:	09-Nov-16 22:37 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	41.7	15 -150		13C-PCB-170	68.1	25 -150	
13C-PCB-3	43.9	15 -150		13C-PCB-180	70.5	25 -150	
13C-PCB-4	68.4	25 -150		13C-PCB-188	67.7	25 -150	
13C-PCB-11	88.5	25 -150		13C-PCB-189	68.0	25 -150	
13C-PCB-9	77.6	25 -150		13C-PCB-194	104	25 -150	
13C-PCB-19	35.2	25 -150		13C-PCB-202	51.4	25 -150	
13C-PCB-28	72.0	25 -150		13C-PCB-206	108	25 -150	
13C-PCB-32	40.0	25 -150		13C-PCB-208	140	25 -150	
13C-PCB-37	81.2	25 -150		13C-PCB-209	73.0	25 -150	
13C-PCB-47	88.6	25 -150		CRS	101	30 -135	
13C-PCB-52	87.1	25 -150		13C-PCB-79	75.6	30 -135	
13C-PCB-54	82.6	25 -150		13C-PCB-178			
13C-PCB-70	95.8	25 -150					
13C-PCB-77	101	25 -150					
13C-PCB-80	99.6	25 -150					
13C-PCB-81	95.7	25 -150					
13C-PCB-95	86.5	25 -150					
13C-PCB-97	93.6	25 -150					
13C-PCB-101	89.5	25 -150					
13C-PCB-104	81.6	25 -150					
13C-PCB-105	75.6	25 -150					
13C-PCB-114	82.1	25 -150					
13C-PCB-118	92.9	25 -150					
13C-PCB-123	94.0	25 -150					
13C-PCB-126	72.5	25 -150					
13C-PCB-127	74.1	25 -150					
13C-PCB-138	92.5	25 -150					
13C-PCB-141	91.5	25 -150					
13C-PCB-153	94.5	25 -150					
13C-PCB-155	74.2	25 -150					
13C-PCB-156	94.2	25 -150					
13C-PCB-157	94.7	25 -150					
13C-PCB-159	92.8	25 -150					
13C-PCB-167	92.6	25 -150					
13C-PCB-169	89.3	25 -150					

DL - Sample specific: estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

Results are reported in wet weight.
See individual congeners for qualifiers.

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	8.51e+04	2.26	n 16:06	1.06	0.1158	*	3600	2.5	0.162	1.001	0.997-1.007	0.983-0.993
Mono	PCB-2	*	*	n NotF	0.99	*	*	*	2.5	*	1.001	0.996-1.006	
Mono	PCB-3	7.81e+04	1.97	n 18:44	1.02	0.1001	*	53900	1.0	0.563	*	0.997-1.007	0.864-0.872
Di	PCB-4/10	*	*	n NotF	1.41	*	*	18200	1.0	0.132	*	0.888-0.897	0.905-0.915
Di	PCB-7/9	*	*	n NotF	1.13	*	*	30800	1.0	0.234	*	0.948-0.958	0.995-1.005
Di	PCB-6	*	*	n NotF	1.08	*	*	5900	2.5	0.0882	*	1.011-1.021	1.023-1.031
Di	PCB-5/8	1.79e+06	1.51	Y 22:57	1.14	1.415	*	5900	2.5	0.102	*	0.996-1.006	
Di	PCB-14	*	*	n NotF	1.32	*	*	5900	2.5	0.310	*		
Di	PCB-11	2.29e+06	1.49	Y 25:17	1.18	1.551	*	5900	2.5		*		
Di	PCB-12/13	*	*	n NotF	1.14	*	*	50600	1.0		*		
Di	PCB-15	*	*	n NotF	1.29	*	*				*		
Tri	PCB-19	2.87e+05	1.10	Y 24:15	1.23	0.6895	*	2240	2.5	0.0692	1.001	0.996-1.006	1.033-1.043
Tri	PCB-30	*	*	n NotF	1.88	*	*	0.954	2.5	*	0.954	0.949-0.959	0.956-0.966
Tri	PCB-18	5.97e+06	1.09	Y 25:55	0.90	11.93	*	0.960	2.5	*	0.960	0.977-0.987	0.996-1.006
Tri	PCB-17	7.72e+05	1.07	Y 26:05	0.98	1.425	*	1.001	2.5	*	1.001	0.996-1.006	0.955-0.965
Tri	PCB-24/27	5.33e+05	1.02	Y 26:38	1.27	0.7558	*	3470	2.5	0.108	*	0.958-0.968	0.967-0.977
Tri	PCB-16/32	1.82e+06	1.07	Y 27:11	1.07	3.053	*	3470	2.5	0.122	*	0.980-0.990	0.992-1.002
Tri	PCB-34	*	*	n NotF	0.97	*	*	3470	2.5	0.111	*	0.996-1.006	1.016-1.026
Tri	PCB-23	*	*	n NotF	0.86	*	*	3470	2.5		*	0.929-0.939	0.943-0.953
Tri	PCB-29	*	*	n NotF	0.95	*	*	3470	2.5		*	0.967-0.977	0.974-0.984
Tri	PCB-26	4.66e+05	0.99	Y 28:31	0.97	0.6423	*	0.979	2.5	*	0.979	0.980-0.990	0.985
Tri	PCB-25	1.18e+05	0.97	Y 28:42	0.93	0.1701	*	0.985	2.5	*	0.985	0.992-1.002	0.996
Tri	PCB-31	6.28e+06	0.98	Y 29:02	1.05	7.758	*	1.000	2.5	*	1.000	0.996-1.006	1.000
Tri	PCB-28	1.38e+07	0.90	Y 29:09	1.10	16.85	*	1.023	2.5	*	1.023	1.016-1.026	1.032-1.042
Tri	PCB-20/21/33	5.92e+05	0.96	Y 29:49	1.08	0.7348	*	1.036	2.5	*	1.036	0.996-1.006	0.996-1.006
Tri	PCB-22	1.06e+06	0.94	Y 30:12	1.04	1.354	*	0.0975	2.5	0.0920	*	0.943-0.953	0.967-0.977
Tri	PCB-36	*	*	n NotF	1.18	*	*	3470	2.5		*	0.982-0.992	0.996-1.006
Tri	PCB-39	*	*	n NotF	1.25	*	*	3470	2.5		*	0.996-1.006	1.037-1.047
Tri	PCB-38	6.02e+05	1.03	Y 32:05	1.15	0.6809	*	0.946	2.5	*	0.946	0.941-0.951	0.952-0.962
Tri	PCB-35	*	*	n NotF	1.16	*	*	0.957	2.5	*	0.957	0.965-0.975	0.970
Tri	PCB-37	1.66e+05	1.03	Y 33:01	1.24	0.1732	*	0.970	2.5	*	0.970	0.981-0.991	0.986
Tetra	PCB-54	*	*	n NotF	1.07	*	*	10100	2.5	0.210	*	0.996-1.006	1.037-1.047
Tetra	PCB-50	*	*	n NotF	0.90	*	*	10100	2.5	0.251	*	0.941-0.951	0.952-0.962
Tetra	PCB-53	3.04e+06	0.77	Y 29:50	1.17	3.400	*	0.970	2.5	*	0.970	0.965-0.975	0.981-0.991
Tetra	PCB-51	4.52e+05	0.73	Y 30:11	1.18	0.5004	*	0.986	2.5	*	0.986	0.996-1.006	1.037-1.047
Tetra	PCB-45	1.42e+06	0.73	Y 30:36	1.06	1.758	*	0.996	2.5	*	0.996	0.996-1.006	1.037-1.047
Tetra	PCB-46	3.88e+05	0.87	Y 31:06	0.99	0.5134	*	0.996	2.5	*	0.996	0.996-1.006	1.037-1.047

Integrations by:
 Analyst: MN
 Date: 11/15/16
 Date: 11/18/16

Reviewed by: OT

Client ID: EPA-HS-B2
Lab ID: 1601354-07

Filename: 161109E1 S:11 Acq: 9-NOV-16 22:37:09
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.150

ConCal: ST161109E1-1
EndCAL: NA

Type	Name	Resp	RA	RI	RRF	Conc	Qual	noise	Pac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	1.01e+08	0.76	Y 31:34	1.31	100.4	*	*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-73	*	n NotFñ	1.45				10100	2.5	0.204	*	0.999-1.009	
Tetra	PCB-43/49	3.61e+07	0.76	Y 31:52	1.28	36.78	*	*	2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	1.82e+07	0.80	Y 32:05	1.22	18.04	*	*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-48/75	3.63e+06	0.80	Y 32:12	1.32	3.318	*	*	2.5	*	1.004	0.999-1.009	
Tetra	PCB-65	*	n NotFñ	1.27				10100	2.5	0.219	*	1.007-1.017	
Tetra	PCB-62	*	n NotFñ	1.36				10100	2.5	0.205	*	1.011-1.021	
Tetra	PCB-44	1.97e+07	0.77	Y 32:52	0.94	25.31	*	*	2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	3.39e+06	0.76	Y 33:05	1.27	3.244	*	*	2.5	*	1.032	1.027-1.037	
Tetra	PCB-41/64/71/72	3.29e+07	0.76	Y 33:42	1.34	29.77	*	*	2.5	*	1.051	1.045-1.055	
Tetra	PCB-68	1.85e+06	0.79	Y 33:57	1.53	1.472	*	*	2.5	*	1.059	1.053-1.063	
Tetra	PCB-40	3.45e+05	0.81	Y 34:10	0.86	0.4841	*	*	2.5	*	1.066	1.061-1.071	
Tetra	PCB-57	3.38e+05	0.82	Y 34:32	1.12	0.2677	*	*	2.5	*	0.971	0.965-0.975	
Tetra	PCB-67	2.24e+05	0.79	Y 34:50	1.10	0.1808	*	*	2.5	*	0.979	0.974-0.984	
Tetra	PCB-58	2.69e+05	0.80	Y 34:57	1.16	0.2059	*	*	2.5	*	0.983	0.977-0.987	
Tetra	PCB-63	4.57e+06	0.74	Y 35:06	1.20	3.381	*	*	2.5	*	0.987	0.981-0.991	
Tetra	PCB-74	5.32e+07	0.77	Y 35:23	1.17	40.30	*	*	2.5	*	0.995	0.989-0.999	
Tetra	PCB-61/70	5.66e+07	0.77	Y 35:35	1.13	44.32	*	*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-76/66	6.31e+07	0.76	Y 35:48	1.14	49.02	*	*	2.5	*	1.007	1.000-1.010	
Tetra	PCB-80	*	n NotFñ	1.31				10100	2.5	0.149	*	0.995-1.005	
Tetra	PCB-55	2.24e+06	0.82	Y 36:17	1.16	1.626	*	*	2.5	*	1.008	1.004-1.014	
Tetra	PCB-56/60	1.78e+07	0.76	Y 36:49	1.14	13.18	*	*	2.5	*	1.023	1.018-1.028	
Tetra	PCB-79	8.95e+06	0.83	Y 37:54	1.17	6.454	*	*	2.5	*	1.053	1.048-1.058	
Tetra	PCB-78	*	n NotFñ	1.11				10100	2.5	0.190	*	0.982-0.992	
Tetra	PCB-81	9.71e+05	0.73	Y 39:05	1.20	0.7304	*	*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-77	1.15e+06	0.84	Y 39:42	1.24	0.8126	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-104	*	n NotFñ	1.31				3650	2.5	0.138	*	0.996-1.006	
Penta	PCB-96	6.12e+05	1.47	Y 34:00	1.15	0.8324	*	*	2.5	*	1.039	1.034-1.044	
Penta	PCB-103	2.06e+06	1.60	Y 34:32	1.03	3.142	*	*	2.5	*	1.056	1.051-1.061	
Penta	PCB-100	1.00e+06	1.57	Y 34:53	1.03	1.532	*	*	2.5	*	1.067	1.061-1.071	
Penta	PCB-94	6.32e+05	1.54	Y 35:20	1.18	1.071	*	*	2.5	*	0.985	0.980-0.990	
Penta	PCB-95/98/102	1.63e+08	1.59	Y 35:53	1.31	249.6	*	*	2.5	*	1.000	0.994-1.004	
Penta	PCB-93	*	n NotFñ	1.19				3650	2.5	0.199	*	0.998-1.008	
Penta	PCB-88/91	2.62e+07	1.58	Y 36:17	1.23	42.48	*	*	2.5	*	1.012	1.006-1.016	
Penta	PCB-121	*	n NotFñ	1.74				3650	2.5	0.136	*	1.009-1.019	
Penta	PCB-84/92	8.12e+07	1.58	Y 37:12	1.16	127.6	*	*	2.5	*	0.991	0.985-0.995	
Penta	PCB-89	2.89e+05	1.46	Y 37:22	1.11	0.4749	*	*	2.5	*	0.995	0.990-1.000	

Analyst: M
Date: 11/15/16

Client ID: EEA-HS-B2
Lab ID: 1601354-07

Filename: 161109E1 S:11 Acq: 9-NOV-16 22:37:09
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.150

ConCal: ST161109E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	3.03e+08	1.59	Y 37:35	1.27	435.4			2.5	*	1.001	0.995-1.005	
Penta	PCB-113	*	n NotF _h	1.47				3650	2.5	0.153	*	1.002-1.012	
Penta	PCB-99	1.78e+08	1.58	Y 37:54	1.26	257.0			2.5	*	1.009	1.004-1.014	
Penta	PCB-119	1.16e+07	1.54	Y 38:21	1.87	11.92			2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	1.06e+07	1.63	Y 38:31	1.44	14.30			2.5	*	0.991	0.986-0.996	
Penta	PCB-83	*	n NotF _h	1.70				3650	2.5	0.142	*	0.990-1.000	
Penta	PCB-97	3.53e+07	1.62	Y 38:52	1.31	51.89			2.5	*	1.000	0.995-1.005	
Penta	PCB-86	*	n NotF _h	1.02				3650	2.5	0.235	*	0.999-1.009	
Penta	PCB-87/117/125	1.06e+08	1.58	Y 39:09	1.59	129.0			2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	6.57e+06	1.60	Y 39:18	1.85	6.856			2.5	*	1.011	1.006-1.016	
Penta	PCB-85/116	5.76e+07	1.58	Y 39:25	1.44	77.35			2.5	*	1.014	1.010-1.020	
Penta	PCB-120	1.08e+06	1.72	Y 39:37	1.91	1.090			2.5	*	1.020	1.016-1.026	
Penta	PCB-110	3.51e+08	1.58	Y 39:49	1.76	384.3			2.5	*	1.025	1.019-1.029	
Penta	PCB-82	2.81e+06	1.65	Y 40:25	0.81	5.062			2.5	*	0.976	0.971-0.981	
Penta	PCB-124	4.16e+06	1.63	Y 41:06	1.30	4.684			2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	3.76e+07	1.60	Y 41:16	1.34	41.15			2.5	*	0.996	0.991-1.001	
Penta	PCB-123	3.43e+06	1.49	Y 41:25	1.35	3.729			2.5	*	1.000	0.995-1.005	
Penta	PCB-106/118	2.38e+08	1.59	Y 41:37	1.34	249.7			2.5	*	1.001	0.996-1.006	
Penta	PCB-114	8.11e+06	1.61	Y 42:15	1.17	8.704			2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	n NotF _h	1.03				6020	2.5	0.245	*	0.999-1.009	
Penta	PCB-105	1.22e+08	1.57	Y 43:07	1.23	132.7			2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	n NotF _h	1.06				6020	2.5	0.240	*	0.995-1.005	
Penta	PCB-126	8.72e+05	1.65	Y 45:22	1.16	1.037			2.5	*	1.001	0.995-1.005	
Hexa	PCB-155	3.54e+05	1.06	Y 37:07	1.26	0.5496			2.5	*	1.000	0.966-1.006	
Hexa	PCB-150	2.71e+05	0.98	n 38:22	1.15	0.4602	R		2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	2.12e+05	1.23	Y 38:51	1.19	0.3478			2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	5.34e+04	1.56	n 39:17	1.14	0.09110	R		2.5	*	1.059	1.055-1.065	
Hexa	PCB-136	2.61e+07	1.30	Y 39:36	1.18	42.97			2.5	*	1.067	1.063-1.073	
Hexa	PCB-148	2.88e+05	1.27	Y 39:44	0.82	0.6843			2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	4.21e+06	1.27	Y 40:12	0.91	9.031			2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	6.87e+07	1.29	Y 40:51	0.86	156.6			2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	3.18e+07	1.24	Y 41:04	0.82	75.21			2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	8.04e+06	1.27	Y 41:12	0.92	16.97			2.5	*	1.111	1.105-1.116	
Hexa	PCB-147	6.43e+06	1.35	Y 41:18	0.81	15.56			2.5	*	1.113	1.108-1.120	
Hexa	PCB-139/149	2.10e+08	1.26	Y 41:33	0.91	449.8			2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	1.57e+06	1.29	Y 41:46	0.83	3.659			2.5	*	1.126	1.120-1.132	
Hexa	PCB-134/143	1.95e+07	1.25	Y 42:12	0.89	22.09			2.5	*	0.975	0.970-0.980	

Analyst: MJ
Date: 11/15/16

Client ID: EPA-HS-B2 Lab ID: 1601354-07
Filename: 161109E1 S:11 Acq: 9-NOV-16 22:37:09
GC Column ID: ZB-1 ICal: PCBVG8-4-15-16 wt/vol:10.150
ConCal: ST161109E1-1
EndCAL: NA

Table with columns: Type, Name, Resp, RA, RT, RRF, Conc, Qual, noise, Fac, DL, RRF, LCL, UCL. Rows include PCB-133/142, PCB-131, PCB-146/165, PCB-132/161, PCB-153, PCB-168, PCB-141, PCB-137, PCB-130, PCB-138/163/164, PCB-158/160, PCB-129, PCB-166, PCB-159, PCB-128/162, PCB-167, PCB-156, PCB-157, PCB-169, PCB-188, PCB-184, PCB-179, PCB-176, PCB-186, PCB-178, PCB-175, PCB-182/187, PCB-183, PCB-185, PCB-174, PCB-181, PCB-177, PCB-171, PCB-173, PCB-172, PCB-192, PCB-180.

Analyst: MM
Date: 11/15/16

Client ID: EPA-HS-B2
Lab ID: 1601354-07

Filename: 161109E1 S:11 Acq: 9-NOV-16 22:37:09
GC Column ID: ZB-1 ICAL: PCBVG8-4-19-16 wt/vol:10.150

ConCal: ST161109E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	2.38e+07	1.09	Y 49:36	2.09	27.84		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	6.30e+06	1.09	Y 49:51	2.11	7.310		*	2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	9.60e+07	1.07	Y 50:58	1.72	155.9		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	3.03e+07	1.08	Y 51:10	2.32	36.43		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	4.64e+06	1.07	Y 52:34	1.73	5.747		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-202	1.76e+07	0.90	Y 48:20	1.08	38.83		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	7.30e+06	0.95	Y 48:49	1.16	15.01		*	2.5	*	1.011	1.005-1.015	
Octa	PCB-204	*	* n	NotFm	1.09	*	2740	2.5	0.150	*	*	1.009-1.019	
Octa	PCB-197	1.97e+06	0.87	Y 49:16	1.21	3.874		*	2.5	*	1.020	1.015-1.025	
Octa	PCB-200	5.36e+06	0.92	Y 50:10	1.12	11.45		*	2.5	*	1.038	1.034-1.044	
Octa	PCB-198	1.92e+06	0.98	Y 51:36	0.81	5.658		*	2.5	*	1.068	1.062-1.072	
Octa	PCB-199	5.01e+07	0.92	Y 51:43	0.80	149.0		*	2.5	*	1.071	1.064-1.074	
Octa	PCB-196/203	5.43e+07	0.92	Y 52:01	0.87	148.2		*	2.5	*	1.077	1.070-1.080	
Octa	PCB-195	1.48e+07	0.90	Y 53:13	1.10	31.47		*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	3.54e+07	0.86	Y 54:07	1.28	64.47		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	2.32e+06	0.92	Y 54:23	1.62	3.350		*	2.5	*	1.005	1.001-1.010	
Nona	PCB-208	1.69e+07	1.30	Y 53:22	1.11	18.83		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	5.80e+06	1.32	Y 53:42	1.11	6.526		*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	3.14e+07	1.31	Y 55:41	0.95	66.65		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	6.38e+06	1.18	Y 57:01	1.34	13.41		*	2.5	*	1.000	0.995-1.005	

Analyst: MS
Date: 11/15/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	*				*
Total Di-PCB	4.07e+06	1.51 Y	22:57	1.18	2.96551
Total Tri-PCB	9.38e+06	1.10 Y	24:15	1.21	17.8497
Total Tetra-PCB	2.31e+07	0.99 Y	28:31	1.07	28.3662
Total Penta-PCB	4.31e+08	0.77 Y	29:50	1.20	385.456
Total Hexa-PCB	1.62e+09	1.47 Y	34:00	1.29	2100.17
Total Hepta-PCB	1.31e+08	1.61 Y	42:15	1.13	142.404
Total Octa-PCB	3.58e+08	1.06 Y	37:07	0.98	771.370
Total Nona-PCB	2.63e+09	1.25 Y	42:12	1.13	2327.09
Total Deca-PCB	1.17e+09	1.05 Y	42:55	1.53	1721.83
Total Mono-PCB	1.39e+08	0.90 Y	48:20	1.00	371.979
Total Di-PCB	5.25e+07	0.90 Y	53:13	1.34	99.2892
Total Tri-PCB	5.40e+07	1.30 Y	53:22	1.06	92.0057
Total Tetra-PCB	6.38e+06	1.18 Y	57:01	1.34	13.4078
Sum:					2242.57
Sum:					3098.46
Sum:					471.268
Sum:					92.0057
Sum:					13.4078

Total PCB Conc: 8074.95027400

Integrations
 by (M)
 Analyst: _____
 Date: 11/15/16

Client ID: EPA-HS-B2 Lab ID: 1601354-07
Filename: 161109EI S:11 Acq: 9-NOV-16 22:37:09
GC Column: ID: ZB-1 Ical: PCBVG8-4-19-16 wt/vol:10.15%
ConCal: ST161109EI-1
EndCAL: NA

Conc vs. RS
PS vs. IS

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	1.37e+08	3.23	Y	1:09	16:05	0.620	0.619	0.625	82.1	41.7	13C-PCB-79	2.42e+08	0.78	Y	1:01	37:52	1.029	1.024	1.033	198	101
13C-PCB-3	1.51e+08	3.31	Y	1:15	18:43	0.721	0.718	0.726	86.5	43.9	13C-PCB-178	8.22e+07	0.47	Y	0:64	45:41	0.985	0.980	0.989	149	75.6
13C-PCB-4	1.22e+08	1.63	Y	0:59	20:03	0.772	0.770	0.778	135	68.4											
13C-PCB-9	2.18e+08	1.59	Y	0:94	21:52	0.842	0.839	0.847	153	77.6											
13C-PCB-11	2.47e+08	1.57	Y	0:93	25:16	0.973	0.968	0.978	174	88.5											
13C-PCB-19	6.66e+07	1.10	Y	0:63	24:14	0.933	0.929	0.939	69.3	35.2											
13C-PCB-28	1.47e+08	0.99	Y	1:14	29:08	1.004	0.999	1.009	142	72.0											
13C-PCB-32	1.09e+08	1.10	Y	0:91	27:10	1.046	1.041	1.051	78.9	40.0											
13C-PCB-37	1.52e+08	1.01	Y	1:05	33:01	1.137	1.131	1.143	160	81.2											
13C-PCB-47	1.63e+08	0.78	Y	0:77	32:04	0.871	0.867	0.875	175	88.6											
13C-PCB-52	1.51e+08	0.79	Y	0:72	31:33	0.857	0.853	0.861	172	87.1											
13C-PCB-54	1.87e+08	0.78	Y	0:95	27:60	0.761	0.757	0.765	163	82.6											
13C-PCB-70	2.22e+08	0.78	Y	0:97	35:34	0.967	0.961	0.971	189	95.8											
13C-PCB-77	2.26e+08	0.80	Y	0:93	39:41	1.078	1.073	1.083	199	101											
13C-PCB-80	2.34e+08	0.78	Y	0:98	36:00	0.978	0.973	0.983	196	99.6											
13C-PCB-81	2.18e+08	0.78	Y	0:95	39:05	1.062	1.057	1.067	189	95.7											
13C-PCB-95	9.87e+07	1.59	Y	0:70	35:52	0.913	0.908	0.918	170	86.5											
13C-PCB-97	1.02e+08	1.63	Y	0:67	38:51	0.989	0.984	0.994	185	93.6											
13C-PCB-101	1.08e+08	1.60	Y	0:75	37:33	0.956	0.951	0.961	176	89.5											
13C-PCB-104	1.26e+08	1.58	Y	0:95	32:42	0.832	0.828	0.836	161	81.6											
13C-PCB-105	1.47e+08	1.49	Y	1:14	43:06	0.929	0.924	0.934	149	75.6											
13C-PCB-114	1.57e+08	1.54	Y	1:12	42:15	0.911	0.905	0.915	162	82.1											
13C-PCB-118	1.40e+08	1.61	Y	0:93	41:35	1.058	1.054	1.064	183	92.9											
13C-PCB-123	1.35e+08	1.60	Y	0:88	41:25	1.054	1.049	1.059	185	94.0											
13C-PCB-126	1.43e+08	1.51	Y	1:16	45:20	0.977	0.972	0.982	143	72.5											
13C-PCB-127	1.58e+08	1.51	Y	1:25	43:27	0.937	0.931	0.941	146	74.1											
13C-PCB-138	1.76e+08	1.27	Y	1:11	44:50	0.966	0.961	0.971	182	92.5											
13C-PCB-141	1.64e+08	1.27	Y	1:05	44:00	0.949	0.943	0.953	180	91.5											
13C-PCB-153	1.95e+08	1.30	Y	1:21	43:16	0.933	0.927	0.937	186	94.5											
13C-PCB-155	1.01e+08	1.30	Y	0:84	37:06	0.944	0.939	0.949	146	74.2											
13C-PCB-156	2.10e+08	1.28	Y	1:31	48:06	1.037	1.032	1.042	186	94.2											
13C-PCB-157	2.19e+08	1.31	Y	1:35	48:22	1.043	1.037	1.047	187	94.7											
13C-PCB-159	2.10e+08	1.28	Y	1:33	46:08	0.994	0.989	0.999	183	92.8											
13C-PCB-167	2.12e+08	1.27	Y	1:34	46:48	1.009	1.004	1.014	183	92.6											
13C-PCB-169	2.02e+08	1.28	Y	1:33	50:34	1.090	1.084	1.094	176	89.3											
13C-PCB-170	7.05e+07	0.47	Y	0:61	50:58	1.099	1.091	1.103	134	68.1											
13C-PCB-180	8.04e+07	0.47	Y	0:67	49:23	1.065	1.059	1.069	139	70.5											
13C-PCB-188	1.08e+08	0.47	Y	0:94	42:54	0.925	0.919	0.929	133	67.7											
13C-PCB-189	9.19e+07	0.46	Y	0:79	52:33	1.133	1.124	1.136	134	68.0											
13C-PCB-194	8.43e+07	0.89	Y	0:72	54:06	0.995	0.990	1.000	206	104											
13C-PCB-202	8.26e+07	0.93	Y	0:94	48:19	1.041	1.036	1.046	101	51.4											
13C-PCB-206	9.77e+07	0.78	Y	0:80	55:41	1.024	1.020	1.030	213	108											
13C-PCB-208	1.58e+08	0.78	Y	1:00	53:22	0.982	0.977	0.987	277	140											
13C-PCB-209	6.97e+07	1.22	Y	0:85	57:00	1.049	1.045	1.055	144	73.0											

Analyst: *MW*
Date: 11/15/16

Sample ID: EPA-HS-B3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-08				
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 10:39	%Lipids:	6.22	Date Analyzed:	10-Nov-16 17:42				
				Column:	ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	0.110				PCB-44	30.1			
PCB-2	ND	0.186		J	PCB-45	2.78			
PCB-3	0.0956			J	PCB-46	0.827			
PCB-4/10	ND	0.483			PCB-47	20.4			B
PCB-5/8	1.65				PCB-48/75	4.89			
PCB-6	ND	0.281			PCB-50	ND	0.235		
PCB-7/9	ND	0.152			PCB-51	0.816			
PCB-11	1.21			B	PCB-52/69	83.3			
PCB-12/13	ND	0.0647			PCB-53	4.09			
PCB-14	ND	0.0560			PCB-54	ND	0.197		
PCB-15	ND	0.251			PCB-55	1.07			
PCB-16/32	3.24				PCB-56/60	15.2			
PCB-17	1.69				PCB-57	0.345			J
PCB-18	10.6				PCB-58	0.282			J
PCB-19	0.648				PCB-61/70	48.2			
PCB-20/21/33	2.18				PCB-62	ND	0.205		
PCB-22	3.68				PCB-63	3.45			
PCB-23	ND	0.118			PCB-65	ND	0.219		
PCB-24/27	0.805			J	PCB-66/76	52.1			
PCB-25	0.411			J	PCB-67	0.275			
PCB-26	2.01				PCB-68	1.86			
PCB-28	25.3				PCB-73	ND	0.195		
PCB-29	ND	0.0803			PCB-74	35.4			
PCB-30	ND	0.0541			PCB-77	ND	1.53		
PCB-31	18.2				PCB-78	ND	0.172		
PCB-34	0.146			J	PCB-79	4.15			
PCB-35	ND	0.0910			PCB-80	ND	0.179		
PCB-36	ND	0.0895			PCB-81	0.561			
PCB-37	0.350			J	PCB-82	6.37			
PCB-38	0.505				PCB-83	ND	0.105		
PCB-39	ND	0.0843			PCB-84/92	82.9			
PCB-40	1.23				PCB-85/116	51.9			
PCB-41/64/71/72	33.5				PCB-86	ND	0.175		
PCB-42/59	6.92				PCB-87/117/125	80.1			
PCB-43/49	40.0				PCB-88/91	27.5			

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

Results are reported in wet weight.
See individual congeners for qualifiers.

Sample ID: EPA-HS-B3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-08				
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 10:39	%Lipids:	6.22	Date Analyzed:	10-Nov-16 17:42 Column: ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	0.408			J	PCB-136	36.5			
PCB-90/101	270				PCB-137	19.0			
PCB-93	ND	0.147			PCB-138/163/164	655			
PCB-94	0.646				PCB-139/149	383			B
PCB-95/98/102	154				PCB-140	2.98			
PCB-96	0.551				PCB-141	73.8			
PCB-97	43.3				PCB-144	13.4			
PCB-99	165				PCB-145	ND	0.0802		
PCB-100	1.22				PCB-146/165	106			
PCB-103	2.61				PCB-147	11.5			
PCB-104	ND	0.102			PCB-148	0.538			
PCB-105	99.9				PCB-150	0.441			J
PCB-106/118	185				PCB-151	139			
PCB-107/109	29.3				PCB-152	0.221			J
PCB-108/112	9.28				PCB-153	620			
PCB-110	258				PCB-154	8.46			
PCB-111/115	4.78				PCB-155	0.593			
PCB-113	ND	0.113			PCB-156	40.9			
PCB-114	6.31				PCB-157	9.60			
PCB-119	10.3				PCB-158/160	50.2			
PCB-120	1.20				PCB-159	ND		0.288	
PCB-121	ND	0.101			PCB-166	2.16			
PCB-122	ND	0.434			PCB-167	1.85			
PCB-123	3.59				PCB-168	0.811			
PCB-124	3.52				PCB-169	0.898			
PCB-126	0.696				PCB-170	109			
PCB-127	ND	0.421			PCB-171	36.6			
PCB-128/162	80.3				PCB-172	22.1			
PCB-129	11.1				PCB-173	2.56			
PCB-130	35.4				PCB-174	119			
PCB-131	ND	0.435			PCB-175	5.21			
PCB-132/161	90.1				PCB-176	15.7			
PCB-133/142	15.5				PCB-177	98.8			
PCB-134/143	18.0				PCB-178	41.9			
PCB-135	56.9				PCB-179	70.2			

EMPC - Estimated maximum possible concentration
 DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
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 See individual congeners for qualifiers.

Sample ID: EPA-HS-B3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-08
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046
Date Collected:	30-Aug-2016 10:39	%Lipids:	6.22	Date Analyzed:	10-Nov-16 17:42
				Date Received:	25-Oct-2016 9:00
				Date Extracted:	07-Nov-2016 14:16
				Column:	ZB-1

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	285				Total octaCB	353			
PCB-181	ND	0.463			Total nonaCB	60.3			
PCB-182/187	368				DecaCB	9.60			
PCB-183	80.9				Total PCB	6210			
PCB-184	1.11								
PCB-185	19.1								
PCB-186	ND	0.363							
PCB-188	0.418			J					
PCB-189	4.01								
PCB-190	30.4								
PCB-191	4.69								
PCB-192	ND	0.374							
PCB-193	22.6								
PCB-194	52.9								
PCB-195	28.4								
PCB-196/203	101								
PCB-197	3.21								
PCB-198	3.99								
PCB-199	111								
PCB-200	9.45								
PCB-201	11.3								
PCB-202	29.8								
PCB-204	ND	0.0902							
PCB-205	3.23								
PCB-206	42.5								
PCB-207	4.64								
PCB-208	13.2								
PCB-209	9.60								
Total monoCB	0.206								
Total diCB	2.86								
Total triCB	69.8								
Total tetraCB	392		393						
Total pentaCB	1500								
Total hexaCB	2480								
Total heptaCB	1340								

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Sample ID: EPA-HS-B3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-08		
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046		
Date Collected:	30-Aug-2016 10:39	%Lipids:	6.22	Date Analyzed:	10-Nov-16 17:42 Column: ZB-1		
Date Received:	25-Oct-2016 9:00			Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	43.3	15 -150		13C-PCB-170	82.5	25 -150	
13C-PCB-3	50.5	15 -150		13C-PCB-180	84.2	25 -150	
13C-PCB-4	65.6	25 -150		13C-PCB-188	80.8	25 -150	
13C-PCB-11	87.9	25 -150		13C-PCB-189	81.1	25 -150	
13C-PCB-9	76.0	25 -150		13C-PCB-194	100	25 -150	
13C-PCB-19	55.3	25 -150		13C-PCB-202	73.8	25 -150	
13C-PCB-28	78.4	25 -150		13C-PCB-206	86.8	25 -150	
13C-PCB-32	63.8	25 -150		13C-PCB-208	102	25 -150	
13C-PCB-37	89.5	25 -150		13C-PCB-209	56.2	25 -150	
13C-PCB-47	84.7	25 -150		CRS 13C-PCB-79	94.4	30 -135	
13C-PCB-52	83.5	25 -150		13C-PCB-178	85.2	30 -135	
13C-PCB-54	78.2	25 -150					
13C-PCB-70	87.3	25 -150					
13C-PCB-77	95.4	25 -150					
13C-PCB-80	90.7	25 -150					
13C-PCB-81	95.6	25 -150					
13C-PCB-95	87.6	25 -150					
13C-PCB-97	91.0	25 -150					
13C-PCB-101	90.8	25 -150					
13C-PCB-104	83.5	25 -150					
13C-PCB-105	103	25 -150					
13C-PCB-114	109	25 -150					
13C-PCB-118	92.3	25 -150					
13C-PCB-123	97.4	25 -150					
13C-PCB-126	101	25 -150					
13C-PCB-127	103	25 -150					
13C-PCB-138	97.2	25 -150					
13C-PCB-141	94.5	25 -150					
13C-PCB-153	95.8	25 -150					
13C-PCB-155	87.9	25 -150					
13C-PCB-156	95.4	25 -150					
13C-PCB-157	95.7	25 -150					
13C-PCB-159	93.9	25 -150					
13C-PCB-167	95.9	25 -150					
13C-PCB-169	93.7	25 -150					

DL - Sample specific estimated detection limit
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 See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Mono	PCB-1	7.64e+04	2.72	Y 16:05	1.06	0.1104			* 2.5	*	1.001	0.997-1.007	
Mono	PCB-2	*	*	n NotFt	0.99	*		4390	2.5	0.186	*	0.983-0.993	
Mono	PCB-3	7.78e+04	2.77	Y 18:42	1.02	0.09561			* 2.5	*	1.000	0.996-1.006	
Di	PCB-4/10	*	*	n NotFt	1.41	*		41500	1.0	0.483	*	0.997-1.007	
Di	PCB-7/9	*	*	n NotFt	1.13	*		19000	1.0	0.152	*	0.864-0.872	
Di	PCB-6	*	*	n NotFt	1.08	*		33500	1.0	0.281	*	0.888-0.897	
Di	PCB-5/8	1.85e+06	1.79	Y 22:56	1.14	1.648			* 2.5	0.909	*	0.905-0.915	
Di	PCB-14	*	*	n NotFt	1.32	*		3400	2.5	0.0560	*	0.948-0.958	
Di	PCB-11	1.61e+06	1.55	Y 25:16	1.18	1.209			* 2.5	1.001	*	0.995-1.005	
Di	PCB-12/13	*	*	n NotFt	1.14	*		3400	2.5	0.0647	*	1.011-1.021	
Di	PCB-15	*	*	n NotFt	1.29	*		37200	1.0	0.251	*	1.023-1.031	
Tri	PCB-19	3.85e+05	1.12	Y 24:14	1.23	0.6483			* 2.5	*	1.001	0.996-1.006	
Tri	PCB-30	*	*	n NotFt	1.88	*		2520	2.5	0.0581	*	1.033-1.043	
Tri	PCB-18	7.64e+06	1.04	Y 25:53	0.90	10.58			* 2.5	*	0.953	0.949-0.959	
Tri	PCB-17	1.32e+06	0.97	Y 26:03	0.98	1.692			* 2.5	*	0.960	0.956-0.966	
Tri	PCB-24/27	8.19e+05	1.10	Y 26:37	1.27	0.8054			* 2.5	*	0.980	0.977-0.987	
Tri	PCB-16/32	2.79e+06	1.09	Y 27:09	1.07	3.239			* 2.5	*	1.000	0.996-1.006	
Tri	PCB-34	1.42e+05	1.15	Y 27:58	0.97	0.1461			* 2.5	*	0.961	0.955-0.965	
Tri	PCB-23	*	*	n NotFt	0.86	*		4140	2.5	0.118	*	0.958-0.968	
Tri	PCB-29	*	*	n NotFt	0.95	*		7720	1.0	0.0803	*	0.967-0.977	
Tri	PCB-26	1.95e+06	1.00	Y 28:31	0.97	2.009			* 2.5	*	0.980	0.974-0.984	
Tri	PCB-25	3.81e+05	1.00	Y 28:40	0.93	0.4106			* 2.5	*	0.985	0.980-0.990	
Tri	PCB-31	1.97e+07	1.00	Y 29:01	1.09	18.24			* 2.5	*	0.997	0.992-1.002	
Tri	PCB-28	2.77e+07	1.02	Y 29:07	1.10	25.27			* 2.5	*	1.000	0.996-1.006	
Tri	PCB-20/21/33	2.35e+06	0.99	Y 29:46	1.08	2.182			* 2.5	*	1.023	1.016-1.026	
Tri	PCB-22	3.84e+06	1.04	Y 30:11	1.04	3.683			* 2.5	*	1.037	1.032-1.042	
Tri	PCB-36	*	*	n NotFt	1.18	*		4140	2.5	0.0895	*	0.929-0.939	
Tri	PCB-39	*	*	n NotFt	1.25	*		4140	2.5	0.0843	*	0.943-0.953	
Tri	PCB-38	6.03e+05	1.16	Y 32:04	1.15	0.5049			* 2.5	*	0.972	0.967-0.977	
Tri	PCB-35	*	*	n NotFt	1.16	*		4140	2.5	0.0910	*	0.982-0.992	
Tri	PCB-37	4.53e+05	1.04	Y 33:00	1.24	0.3498			* 2.5	*	1.000	0.996-1.006	
Tetra	PCB-54	*	*	n NotFt	1.07	*		8420	2.5	0.197	*	0.996-1.006	
Tetra	PCB-50	*	*	n NotFt	0.90	*		8420	2.5	0.235	*	1.037-1.047	
Tetra	PCB-53	3.22e+06	0.77	Y 29:49	1.17	4.088			* 2.5	*	0.945	0.941-0.951	
Tetra	PCB-51	6.51e+05	0.87	Y 30:10	1.18	0.8162			* 2.5	*	0.957	0.952-0.962	
Tetra	PCB-45	1.98e+06	0.80	Y 30:36	1.06	2.781			* 2.5	*	0.970	0.965-0.975	
Tetra	PCB-46	5.52e+05	0.82	Y 31:05	0.99	0.8272			* 2.5	*	0.986	0.981-0.991	

Integrations by:

Analyst: MM

Date: 11/15/16

Date: 11/16/16

Reviewed by: CT

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	7.37e+07	0.78	Y 31:32	1.31	83.32		*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-73	*	*	n NotF	1.45			8420	2.5	0.195	*	0.999-1.009	
Tetra	PCB-43/49	3.46e+07	0.78	Y 31:51	1.28	40.04		*	2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	1.81e+07	0.79	Y 32:03	1.22	20.45		*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-48/75	4.70e+06	0.83	Y 32:11	1.32	4.893		*	2.5	*	1.004	0.999-1.009	
Tetra	PCB-65	*	*	n NotF	1.27			8420	2.5	0.219	*	1.007-1.017	
Tetra	PCB-62	*	*	n NotF	1.36			8420	2.5	0.205	*	1.011-1.021	
Tetra	PCB-44	2.06e+07	0.78	Y 32:51	0.94	30.14		*	2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	6.35e+06	0.77	Y 33:05	1.27	6.917		*	2.5	*	1.032	1.027-1.037	
Tetra	PCB-41/64/71/72	3.25e+07	0.80	Y 33:40	1.34	33.52		*	2.5	*	1.051	1.045-1.055	
Tetra	PCB-68	2.05e+06	0.80	Y 33:57	1.53	1.855		*	2.5	*	1.059	1.053-1.063	
Tetra	PCB-40	7.68e+05	0.80	Y 34:08	0.86	1.226		*	2.5	*	1.065	1.061-1.071	
Tetra	PCB-57	3.65e+05	0.84	Y 34:30	1.12	0.3454		*	2.5	*	0.970	0.965-0.975	
Tetra	PCB-67	2.85e+05	0.68	Y 34:48	1.10	0.2745		*	2.5	*	0.979	0.974-0.984	
Tetra	PCB-58	3.09e+05	0.89	Y 34:55	1.16	0.2824		*	2.5	*	0.982	0.977-0.987	
Tetra	PCB-63	3.91e+06	0.78	Y 35:04	1.20	3.449		*	2.5	*	0.986	0.981-0.991	
Tetra	PCB-74	3.92e+07	0.77	Y 35:21	1.17	35.35		*	2.5	*	0.994	0.989-0.999	
Tetra	PCB-61/70	5.15e+07	0.79	Y 35:33	1.13	48.15		*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-76/66	5.62e+07	0.78	Y 35:46	1.14	52.14		*	2.5	*	1.006	1.000-1.010	
Tetra	PCB-80	*	*	n NotF	1.31			25400	1.0	0.179	*	0.995-1.005	
Tetra	PCB-55	1.23e+06	0.84	Y 36:15	1.16	1.071		*	2.5	*	1.008	1.004-1.014	
Tetra	PCB-56/60	1.72e+07	0.78	Y 36:47	1.14	15.20		*	2.5	*	1.023	1.018-1.028	
Tetra	PCB-79	4.82e+06	0.77	Y 37:52	1.17	4.149		*	2.5	*	1.053	1.048-1.058	
Tetra	PCB-78	*	*	n NotF	1.11			8420	2.5	0.172	*	0.982-0.992	
Tetra	PCB-81	6.86e+05	0.74	Y 39:04	1.20	0.5612		*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-77	1.89e+06	1.01	n 39:39	1.24	1.531		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-104	*	*	n NotF	1.31			2430	2.5	0.102	*	0.996-1.006	
Penta	PCB-96	3.64e+05	1.56	Y 33:59	1.15	0.5507		*	2.5	*	1.040	1.034-1.044	
Penta	PCB-103	1.53e+06	1.46	Y 34:30	1.03	2.606		*	2.5	*	1.055	1.051-1.061	
Penta	PCB-100	7.21e+05	1.48	Y 34:51	1.03	1.222		*	2.5	*	1.066	1.061-1.071	
Penta	PCB-94	3.40e+05	1.59	Y 35:20	1.18	0.6465		*	2.5	*	0.986	0.980-0.990	
Penta	PCB-95/98/102	8.96e+07	1.58	Y 35:52	1.31	153.8		*	2.5	*	1.001	0.994-1.004	
Penta	PCB-93	*	*	n NotF	1.19			2430	2.5	0.147	*	0.998-1.008	
Penta	PCB-88/91	1.51e+07	1.57	Y 36:15	1.23	27.50		*	2.5	*	1.011	1.006-1.016	
Penta	PCB-121	*	*	n NotF	1.74			2430	2.5	0.101	*	1.009-1.019	
Penta	PCB-84/92	4.70e+07	1.59	Y 37:10	1.16	82.91		*	2.5	*	0.990	0.985-0.995	
Penta	PCB-89	2.21e+05	1.43	Y 37:20	1.11	0.4078		*	2.5	*	0.995	0.990-1.000	

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Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	1.67e+08	1.58	Y 37:33	1.27	269.9	*	2430	2.5	*	1.001	0.995-1.005	
Penta	PCB-113	*	*	n NotF _h	1.47	*	*	2430	2.5	0.113	*	1.002-1.012	
Penta	PCB-99	1.02e+08	1.57	Y 37:52	1.26	165.2	*	*	2.5	*	1.009	1.004-1.014	
Penta	PCB-119	8.57e+06	1.64	Y 38:20	1.87	10.35	*	*	2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	5.90e+06	1.52	Y 38:30	1.44	9.277	*	*	2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	*	n NotF _h	1.70	*	*	2430	2.5	0.105	*	0.990-1.000	
Penta	PCB-97	2.52e+07	1.58	Y 38:50	1.31	43.32	*	2430	2.5	0.175	1.000	0.995-1.005	
Penta	PCB-86	*	*	n NotF _h	1.02	*	*	2430	2.5	*	*	0.999-1.009	
Penta	PCB-87/117/125	5.63e+07	1.60	Y 39:07	1.59	80.13	*	*	2.5	*	1.007	1.002-1.012	
Penta	PCB-111/115	3.92e+06	1.71	Y 39:16	1.85	4.784	*	*	2.5	*	1.011	1.006-1.016	
Penta	PCB-85/116	3.30e+07	1.56	Y 39:23	1.44	51.91	*	*	2.5	*	1.014	1.010-1.020	
Penta	PCB-120	1.02e+06	1.38	Y 39:37	1.91	1.204	*	*	2.5	*	1.020	1.016-1.026	
Penta	PCB-110	2.01e+08	1.59	Y 39:47	1.76	257.6	*	*	2.5	*	1.025	1.019-1.029	
Penta	PCB-82	3.22e+06	1.61	Y 40:24	0.81	6.366	*	*	2.5	*	0.976	0.971-0.981	
Penta	PCB-124	2.84e+06	1.66	Y 41:04	1.30	3.516	*	*	2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	2.44e+07	1.58	Y 41:15	1.34	29.26	*	*	2.5	*	0.997	0.991-1.001	
Penta	PCB-123	3.01e+06	1.65	Y 41:25	1.35	3.589	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-106/118	1.54e+08	1.60	Y 41:35	1.34	184.9	*	*	2.5	*	1.000	0.996-1.006	
Penta	PCB-114	5.91e+06	1.56	Y 42:14	1.17	6.309	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	*	n NotF _h	1.03	*	*	11000	2.5	0.434	*	0.999-1.009	
Penta	PCB-105	9.47e+07	1.56	Y 43:06	1.23	99.94	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-127	*	*	n NotF _h	1.06	*	*	11000	2.5	0.421	*	0.995-1.005	
Penta	PCB-126	6.16e+05	1.51	Y 45:20	1.16	0.6961	*	*	2.5	*	1.001	0.995-1.005	
Hexa	PCB-155	3.98e+05	1.38	Y 37:05	1.26	0.5932	*	*	2.5	*	1.000	0.966-1.006	
Hexa	PCB-150	2.70e+05	1.12	Y 38:20	1.15	0.4412	*	*	2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	1.41e+05	1.29	Y 38:50	1.19	0.2215	*	*	2.5	*	1.048	1.043-1.053	
Hexa	PCB-145	*	*	n NotF _h	1.14	*	*	1700	2.5	0.0802	*	1.055-1.065	
Hexa	PCB-136	2.31e+07	1.28	Y 39:35	1.18	36.53	*	*	2.5	*	1.068	1.063-1.073	
Hexa	PCB-148	2.35e+05	1.35	Y 39:43	0.82	0.5380	*	*	2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	4.10e+06	1.27	Y 40:12	0.91	8.459	*	*	2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	6.35e+07	1.27	Y 40:49	0.86	139.0	*	*	2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	2.50e+07	1.28	Y 41:03	0.82	56.87	*	*	2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	6.63e+06	1.27	Y 41:10	0.92	13.44	*	*	2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	4.93e+06	1.24	Y 41:17	0.81	11.46	*	*	2.5	*	1.114	1.108-1.120	
Hexa	PCB-139/149	1.86e+08	1.26	Y 41:31	0.91	382.8	*	*	2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	1.33e+06	1.26	Y 41:44	0.83	2.977	*	*	2.5	*	1.126	1.120-1.132	
Hexa	PCB-134/143	1.22e+07	1.28	Y 42:10	0.89	18.03	*	*	2.5	*	0.975	0.970-0.980	

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Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	1.01e+07	1.25	Y 42:27	0.86	15.49	*	10000	2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	n	NotF	0.89	*				0.435	*	0.981-0.991	
Hexa	PCB-146/165	8.62e+07	1.27	Y 42:52	1.07	106.4	*				0.991	0.985-0.996	
Hexa	PCB-132/161	7.62e+07	1.25	Y 43:07	1.12	90.07	*				0.997	0.992-1.002	
Hexa	PCB-153	5.39e+08	1.27	Y 43:16	1.15	619.9	*				1.000	0.996-1.006	
Hexa	PCB-168	8.48e+05	1.21	Y 43:28	1.38	0.8108	*				1.005	1.000-1.010	
Hexa	PCB-141	5.74e+07	1.26	Y 44:00	1.20	73.85	*				1.000	0.995-1.005	
Hexa	PCB-137	1.52e+07	1.22	Y 44:22	1.23	19.04	*				1.009	1.004-1.014	
Hexa	PCB-130	2.38e+07	1.26	Y 44:29	1.04	35.37	*				1.011	1.006-1.016	
Hexa	PCB-138/163/164	6.05e+08	1.26	Y 44:51	1.30	654.9	*				1.001	0.996-1.006	
Hexa	PCB-158/160	5.02e+07	1.25	Y 45:04	1.41	50.19	*				1.006	1.001-1.011	
Hexa	PCB-129	7.59e+06	1.26	Y 45:20	0.97	11.06	*				1.012	1.007-1.017	
Hexa	PCB-166	2.11e+06	1.33	Y 45:48	1.19	2.164	*				0.993	0.988-0.998	
Hexa	PCB-159	*	n	NotF	1.28	*		10000	2.5	0.288	*	0.995-1.005	
Hexa	PCB-128/162	6.94e+07	1.25	Y 46:22	1.06	80.26	*				1.006	1.002-1.012	
Hexa	PCB-167	1.91e+06	1.15	Y 46:48	1.22	1.851	*				1.000	0.995-1.005	
Hexa	PCB-156	4.24e+07	1.26	Y 48:05	1.27	40.89	*				1.000	0.995-1.005	
Hexa	PCB-157	1.01e+07	1.33	Y 48:21	1.24	9.599	*				1.000	0.995-1.005	
Hexa	PCB-169	8.65e+05	1.38	Y 50:33	1.18	0.8975	*				1.000	0.995-1.005	
Hepta	PCB-188	3.30e+05	1.14	Y 42:53	1.59	0.4175	*				1.000	0.996-1.006	
Hepta	PCB-184	7.94e+05	1.01	Y 43:19	1.44	1.113	*				1.010	1.006-1.016	
Hepta	PCB-179	5.05e+07	1.03	Y 44:06	1.45	70.23	*				1.029	1.024-1.034	
Hepta	PCB-176	1.21e+07	1.06	Y 44:34	1.56	15.72	*				1.040	1.035-1.045	
Hepta	PCB-186	*	n	NotF	1.56	*		14900	2.5	0.363	*	1.049-1.059	
Hepta	PCB-178	2.49e+07	1.04	Y 45:41	1.20	41.88	*				1.066	1.061-1.071	
Hepta	PCB-175	2.90e+06	1.02	Y 46:00	1.12	5.214	*				1.073	1.069-1.079	
Hepta	PCB-182/187	2.26e+08	1.05	Y 46:11	1.24	368.2	*				1.077	1.073-1.083	
Hepta	PCB-183	5.50e+07	1.06	Y 46:30	1.37	80.89	*				1.085	1.080-1.090	
Hepta	PCB-185	1.12e+07	1.06	Y 47:10	1.60	19.09	*				0.956	0.950-0.960	
Hepta	PCB-174	6.63e+07	1.06	Y 47:32	1.51	118.7	*				0.963	0.958-0.968	
Hepta	PCB-181	*	n	NotF	1.64	*		14900	2.5	0.463	*	0.960-0.970	
Hepta	PCB-177	5.30e+07	1.06	Y 47:48	1.45	98.79	*				0.968	0.963-0.973	
Hepta	PCB-171	2.29e+07	1.05	Y 48:05	1.69	36.62	*				0.974	0.969-0.979	
Hepta	PCB-173	1.30e+06	1.00	Y 48:31	1.38	2.558	*				0.983	0.978-0.988	
Hepta	PCB-172	1.26e+07	1.07	Y 48:58	1.55	22.07	*				0.992	0.987-0.997	
Hepta	PCB-152	*	n	NotF	2.02	*		14900	2.5	0.374	*	0.991-1.001	
Hepta	PCB-180	1.74e+08	1.04	Y 49:23	1.66	284.9	*				1.001	0.995-1.005	

Analyst: MJ
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Client ID: 3PA-HS-B3 Lab ID: 1601354-08
Filename: 161110E1 S:8 Acq:10-NOV-16 17:42:42
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.050
ConCal: ST161110E1-1
EngCal: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	ncise	Pac	DL	RRT	LCL	UCL
Hepta	PCB-193	1.75e+07	1.02	Y 49:34	2.09	22.60		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	3.66e+06	1.04	Y 49:49	2.11	4.689		*	2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	6.13e+07	1.04	Y 50:57	1.72	108.6		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	2.32e+07	1.07	Y 51:08	2.32	30.44		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	2.92e+06	1.09	Y 52:32	1.73	4.011		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-202	1.47e+07	0.87	Y 48:18	1.08	29.75		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	5.96e+06	0.92	Y 48:47	1.16	11.26		*	2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n Not R _n	1.09	*	1820	2.5	*	0.0902	*	1.009-1.019	
Octa	PCB-197	1.78e+06	1.00	Y 49:15	1.21	3.212		*	2.5	*	1.020	1.015-1.025	
Octa	PCB-200	4.81e+06	0.94	Y 50:08	1.12	9.447		*	2.5	*	1.038	1.034-1.044	
Octa	PCB-198	1.47e+06	0.79	Y 51:34	0.81	3.993		*	2.5	*	1.068	1.062-1.072	
Octa	PCB-199	4.05e+07	0.90	Y 51:41	0.80	110.6		*	2.5	*	1.071	1.064-1.074	
Octa	PCB-196/203	4.01e+07	0.91	Y 51:59	0.87	100.5		*	2.5	*	1.077	1.070-1.080	
Octa	PCB-195	1.42e+07	0.87	Y 53:12	1.10	28.42		*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	3.08e+07	0.88	Y 54:04	1.28	52.89		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	2.38e+06	0.82	Y 54:20	1.62	3.230		*	2.5	*	1.005	1.001-1.010	
Nona	PCB-208	9.52e+06	1.38	Y 53:21	1.11	13.17		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	3.33e+06	1.36	Y 53:39	1.11	4.641		*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	1.78e+07	1.30	Y 55:38	0.95	42.54		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	3.90e+06	1.19	Y 56:59	1.34	9.603		*	2.5	*	1.000	0.995-1.005	

Analyst: MS
Date: 11/15/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	1.54e+05	2.72 Y	16:05	1.02	0.206011
Total Di-PCB	3.45e+06	1.79 Y	22:56	1.18	2.85767
Total Tri-PCB	1.30e+07	1.12 Y	24:14	1.21	16.9689
Total Tri-PCB	5.71e+07	1.15 Y	27:58	1.07	52.8007
Total Tetra-PCB	3.75e+08	0.77 Y	29:49	1.20	391.848
Total Penta-PCB	9.46e+08	1.56 Y	33:59	1.29	1391.00
Total Penta-PCB	1.01e+08	1.56 Y	42:14	1.13	106.950
Total Hexa-PCB	3.15e+08	1.38 Y	37:05	0.98	653.351
Total Hexa-PCB	1.61e+09	1.28 Y	42:10	1.13	1830.86
Total Hepta-PCB	8.23e+08	1.14 Y	42:53	1.53	1336.79
Total Octa-PCB	1.09e+08	0.87 Y	48:18	1.00	268.810
Total Octa-PCB	4.75e+07	0.87 Y	53:12	1.34	84.5318
Total Nona-PCB	3.07e+07	1.38 Y	53:21	1.06	60.3460
Total Deca-PCB	3.90e+06	1.19 Y	56:59	1.34	9.60298
					Sum:69.7696
					Sum:1497.95
					Sum:2484.21
					Sum:353.342

Total PCB Conc:6208.44962300

Integrations
by
Analyst: MM
Date: 11/15/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS	vs.	RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.30e+08	3.28	Y	16:04	0.619	0.619-0.625	86.3	43.3	13C-PCB-79	2.12e+08	0.82	Y	1.01	37:51	1.029	1.024-1.033	188	94.4				
13C-PCB-3	1.59e+08	3.24	Y	18:42	0.721	0.718-0.726	101	50.5	13C-PCB-178	7.08e+07	0.46	Y	0.64	45:39	0.985	0.980-0.989	169	85.2				
13C-PCB-4	1.07e+08	1.54	Y	20:02	0.772	0.770-0.778	130	65.6	PS vs. IS													
13C-PCB-9	1.96e+08	1.50	Y	21:51	0.842	0.839-0.847	151	76.0														
13C-PCB-11	2.24e+08	1.51	Y	25:15	0.973	0.968-0.978	175	87.9														
13C-PCB-19	9.58e+07	1.05	Y	24:13	0.933	0.929-0.939	110	55.3														
13C-PCB-28	1.98e+08	1.04	Y	29:07	1.004	0.999-1.009	156	78.4														
13C-PCB-32	1.59e+08	1.06	Y	27:09	1.046	1.041-1.051	127	63.8														
13C-PCB-37	2.08e+08	1.05	Y	32:59	1.137	1.131-1.143	178	89.5														
13C-PCB-47	1.44e+08	0.81	Y	32:03	0.871	0.867-0.875	169	84.7														
13C-PCB-52	1.34e+08	0.81	Y	31:32	0.857	0.853-0.861	166	83.5														
13C-PCB-54	1.65e+08	0.80	Y	27:59	0.761	0.757-0.765	156	78.2														
13C-PCB-70	1.88e+08	0.81	Y	35:33	0.967	0.961-0.971	174	87.3														
13C-PCB-77	1.98e+08	0.83	Y	39:39	1.078	1.073-1.083	190	95.4														
13C-PCB-80	1.98e+08	0.81	Y	35:58	0.978	0.973-0.983	180	90.7														
13C-PCB-81	2.03e+08	0.82	Y	39:04	1.062	1.057-1.067	190	95.6														
13C-PCB-95	8.87e+07	1.57	Y	35:50	0.913	0.908-0.918	174	87.6														
13C-PCB-97	8.80e+07	1.60	Y	38:50	0.989	0.984-0.994	181	91.0														
13C-PCB-101	9.75e+07	1.61	Y	37:32	0.956	0.951-0.961	181	90.8														
13C-PCB-104	1.14e+08	1.56	Y	32:41	0.832	0.828-0.836	166	83.5														
13C-PCB-105	1.53e+08	1.57	Y	43:04	0.929	0.924-0.934	205	103														
13C-PCB-114	1.59e+08	1.55	Y	42:13	0.911	0.905-0.915	217	109														
13C-PCB-118	1.24e+08	1.62	Y	41:34	1.059	1.054-1.064	184	92.3														
13C-PCB-123	1.24e+08	1.58	Y	41:23	1.054	1.049-1.059	194	97.4														
13C-PCB-126	1.52e+08	1.55	Y	45:19	0.977	0.972-0.982	200	101														
13C-PCB-127	1.67e+08	1.58	Y	43:25	0.936	0.931-0.941	205	103														
13C-PCB-138	1.41e+08	1.25	Y	44:49	0.966	0.961-0.971	193	97.2														
13C-PCB-141	1.29e+08	1.29	Y	43:59	0.949	0.943-0.953	188	94.5														
13C-PCB-153	1.51e+08	1.28	Y	43:15	0.933	0.927-0.937	191	95.8														
13C-PCB-155	1.06e+08	1.27	Y	37:04	0.944	0.939-0.949	175	87.9														
13C-PCB-156	1.62e+08	1.27	Y	48:04	1.037	1.032-1.042	190	95.4														
13C-PCB-157	1.69e+08	1.30	Y	48:20	1.042	1.037-1.047	190	95.7														
13C-PCB-159	1.63e+08	1.29	Y	46:06	0.994	0.989-0.999	187	93.9														
13C-PCB-167	1.68e+08	1.28	Y	46:47	1.009	1.004-1.014	191	95.9														
13C-PCB-169	1.62e+08	1.27	Y	50:32	1.090	1.084-1.094	186	93.7														
13C-PCB-170	6.53e+07	0.47	Y	50:56	1.099	1.091-1.103	164	82.5														
13C-PCB-180	7.34e+07	0.47	Y	49:21	1.065	1.059-1.069	167	84.2														
13C-PCB-188	9.86e+07	0.44	Y	42:52	0.925	0.919-0.929	161	80.8														
13C-PCB-189	8.37e+07	0.45	Y	52:31	1.133	1.124-1.136	161	81.1														
13C-PCB-194	9.05e+07	0.90	Y	54:04	0.995	0.990-1.000	199	100.0														
13C-PCB-202	9.08e+07	0.90	Y	48:17	1.041	1.036-1.046	147	73.8														
13C-PCB-206	8.79e+07	0.79	Y	55:38	1.024	1.020-1.301	173	86.8														
13C-PCB-208	1.29e+08	0.78	Y	53:20	0.981	0.977-0.987	203	102														
13C-PCB-209	6.02e+07	1.23	Y	56:58	1.048	1.045-1.055	112	56.2														

Analyst: M
Date: 11/15/16

Sample ID: EPA-HS-C1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-09			
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046			
Date Collected:	07-Sep-2016 14:05	%Lipids:	15.4	Date Analyzed:	10-Nov-16 18:47			
				Column:	ZB-1			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	0.156			PCB-44	47.6			
PCB-2	0.148			PCB-45	4.86			
PCB-3	0.161			PCB-46	1.71			
PCB-4/10	ND	1.03		PCB-47	35.5			B
PCB-5/8	3.34			PCB-48/75	6.32			
PCB-6	ND	0.490		PCB-50	0.129			J
PCB-7/9	ND	0.246		PCB-51	1.18			
PCB-11	2.13			PCB-52/69	148			
PCB-12/13	ND	0.128		PCB-53	8.08			
PCB-14	ND	0.111		PCB-54	ND	0.0896		
PCB-15	ND	0.552		PCB-55	1.77			
PCB-16/32	5.03			PCB-56/60	26.2			
PCB-17	2.63			PCB-57	0.612			
PCB-18	20.4			PCB-58	0.469			
PCB-19	1.29			PCB-61/70	97.0			J
PCB-20/21/33	2.79			PCB-62	ND	0.158		
PCB-22	5.78			PCB-63	6.00			
PCB-23	ND	0.247		PCB-65	ND	0.168		
PCB-24/27	1.49			PCB-66/76	96.9			
PCB-25	0.608			PCB-67	0.623			
PCB-26	3.02			PCB-68	3.03			
PCB-28	42.5			PCB-73	ND	0.137		
PCB-29	ND	0.225		PCB-74	61.5			
PCB-30	ND	0.0619		PCB-77	3.31			
PCB-31	33.6			PCB-78	ND	0.125		
PCB-34	ND		0.252	PCB-79	7.32			
PCB-35	ND	0.172		PCB-80	0.273			J
PCB-36	ND	0.169		PCB-81	1.46			
PCB-37	1.15			PCB-82	8.82			
PCB-38	0.979			PCB-83	ND	0.168		
PCB-39	ND			PCB-84/92	143			
PCB-40	1.04	0.136		PCB-85/116	78.2			
PCB-41/64/71/72	56.8			PCB-86	ND		0.278	
PCB-42/59	9.88			PCB-87/117/125	132			
PCB-43/49	68.5			PCB-88/91	44.6			

EMPC - Estimated maximum possible concentration
 DL - Sample specific estimated detection limit
 LCL-UCL- Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-C1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-09			
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046			
Date Collected:	07-Sep-2016 14:05	%Lipids:	15.4	Date Analyzed:	10-Nov-16 18:47			
				Column:	ZB-1			
				Date Received:	25-Oct-2016 9:00			
				Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	0.819			PCB-136	62.5			
PCB-90/101	412			PCB-137	37.7			
PCB-93	ND	0.232		PCB-138/163/164	1070			B
PCB-94	1.21			PCB-139/149	652			
PCB-95/98/102	282			PCB-140	4.61			
PCB-96	1.21			PCB-141	105			
PCB-97	81.7			PCB-144	23.1			
PCB-99	278			PCB-145	0.150			J
PCB-100	2.76			PCB-146/165	150			
PCB-103	5.78			PCB-147	18.2			
PCB-104	ND	0.197		PCB-148	1.04			
PCB-105	204			PCB-150	0.756			
PCB-106/118	384			PCB-151	208			
PCB-107/109	54.0			PCB-152	0.360			J
PCB-108/112	17.3			PCB-153	815			
PCB-110	429			PCB-154	12.8			
PCB-111/115	10.1			PCB-155	0.918			
PCB-113	ND	0.183		PCB-156	80.0			
PCB-114	12.7			PCB-157	18.1			
PCB-119	16.4			PCB-158/160	80.9			
PCB-120	1.21			PCB-159	ND		0.517	
PCB-121	ND	0.159		PCB-166	3.21			
PCB-122	ND	0.509		PCB-167	5.00			
PCB-123	6.48			PCB-168	1.17			
PCB-124	8.03			PCB-169	1.15			
PCB-126	1.72			PCB-170	159			
PCB-127	ND	0.481		PCB-171	57.9			
PCB-128/162	144			PCB-172	30.9			
PCB-129	23.2			PCB-173	3.73			
PCB-130	52.9			PCB-174	173			
PCB-131	ND	0.788		PCB-175	7.64			
PCB-132/161	172			PCB-176	25.5			
PCB-133/142	25.0			PCB-177	153			
PCB-134/143	34.1			PCB-178	63.2			
PCB-135	106			PCB-179	110			

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
Results are reported in wet weight.
See individual congeners for qualifiers.

Sample ID: EPA-HS-C1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-09				
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046				
Date Collected:	07-Sep-2016 14:05	%Lipids:	15.4	Date Analyzed:	10-Nov-16 18:47				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
				Column:	ZB-1				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	376				Total octaCB	499			
PCB-181	ND	0.144			Total nonaCB	84.9			
PCB-182/187	485				DecaCB	14.5			
PCB-183	109				Total PCB	9820			
PCB-184	1.49								
PCB-185	25.9								
PCB-186	ND	0.116							
PCB-188	0.697								
PCB-189	5.35								
PCB-190	45.3								
PCB-191	6.83								
PCB-192	ND	0.116							
PCB-193	31.2								
PCB-194	65.3								
PCB-195	44.0								
PCB-196/203	140								
PCB-197	5.12								
PCB-198	6.71								
PCB-199	155								
PCB-200	14.2								
PCB-201	17.8								
PCB-202	46.8								
PCB-204	ND	0.107							
PCB-205	4.19								
PCB-206	58.3								
PCB-207	6.94								
PCB-208	19.6								
PCB-209	14.5								
Total monoCB	0.465								
Total diCB	5.47								
Total triCB	121								
Total tetraCB	696								
Total pentaCB	2620								
Total hexaCB	3910								
Total heptaCB	1870								

DL - Sample specific: estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-C1

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-09		
Project:	Upper Columbia River	Sample Size:	10.1 g	QC Batch:	B6K0046		
Date Collected:	07-Sep-2016 14:05	%Lipids:	15.4	Date Analyzed:	10-Nov-16 18:47		
				Column:	ZB-1		
Date Received:	25-Oct-2016 9:00	Date Extracted:	07-Nov-2016 14:16				
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	45.4	15 -150		13C-PCB-170	80.0	25 -150	
13C-PCB-3	44.8	15 -150		13C-PCB-180	80.5	25 -150	
13C-PCB-4	68.7	25 -150		13C-PCB-188	76.8	25 -150	
13C-PCB-11	87.7	25 -150		13C-PCB-189	76.5	25 -150	
13C-PCB-9	75.9	25 -150		13C-PCB-194	98.6	25 -150	
13C-PCB-19	54.9	25 -150		13C-PCB-202	67.0	25 -150	
13C-PCB-28	65.8	25 -150		13C-PCB-206	87.2	25 -150	
13C-PCB-32	57.1	25 -150		13C-PCB-208	109	25 -150	
13C-PCB-37	79.6	25 -150		13C-PCB-209	61.0	25 -150	
13C-PCB-47	80.4	25 -150		CRS 13C-PCB-79	91.8	30 -135	
13C-PCB-52	79.6	25 -150		13C-PCB-178	85.4	30 -135	
13C-PCB-54	77.6	25 -150					
13C-PCB-70	88.7	25 -150					
13C-PCB-77	90.2	25 -150					
13C-PCB-80	89.2	25 -150					
13C-PCB-81	90.2	25 -150					
13C-PCB-95	84.6	25 -150					
13C-PCB-97	89.9	25 -150					
13C-PCB-101	85.3	25 -150					
13C-PCB-104	61.4	25 -150					
13C-PCB-105	94.4	25 -150					
13C-PCB-114	97.9	25 -150					
13C-PCB-118	91.3	25 -150					
13C-PCB-123	94.3	25 -150					
13C-PCB-126	91.2	25 -150					
13C-PCB-127	93.3	25 -150					
13C-PCB-138	89.3	25 -150					
13C-PCB-141	88.1	25 -150					
13C-PCB-153	89.7	25 -150					
13C-PCB-155	83.8	25 -150					
13C-PCB-156	90.8	25 -150					
13C-PCB-157	91.9	25 -150					
13C-PCB-159	90.1	25 -150					
13C-PCB-167	87.9	25 -150					
13C-PCB-169	86.8	25 -150					

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.

See individual congeners for qualifiers.

EMI/C - Estimated maximum possible concentration

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	ICL	UCL
Mono	PCB-1	1.01e+05	3.54	Y 16:07	1.06	0.1559	*	83900	1.0	1.03	*	0.997-1.007	
Mono	PCB-2	9.20e+04	2.94	Y 18:30	0.99	0.1477	*	25800	1.0	0.246	*	0.864-0.872	
Mono	PCB-3	1.04e+05	2.93	Y 18:44	1.02	0.1611	*	49100	1.0	0.490	*	0.888-0.897	
Di	PCB-4/10	*	*	n NotFt	1.41	*	*	5200	2.5	0.111	*	0.905-0.915	
Di	PCB-7/9	*	*	n NotFt	1.13	*	*	5200	2.5	0.128	*	0.948-0.958	
Di	PCB-6	*	*	n NotFt	1.08	*	*	5200	2.5	0.128	*	0.995-1.005	
Di	PCB-5/8	3.32e+06	1.39	Y 22:59	1.14	3.338	*	63000	1.0	0.552	*	1.011-1.021	
Di	PCB-14	*	*	n NotFt	1.32	*	*				*	1.023-1.031	
Di	PCB-11	2.51e+06	1.38	Y 25:18	1.18	2.129	*				*		
Di	PCB-12/13	*	*	n NotFt	1.14	*	*				*		
Di	PCB-15	*	*	n NotFt	1.29	*	*				*		
Tri	PCB-19	6.75e+05	1.10	Y 24:16	1.23	1.286	*	2380	2.5	0.0619	*	0.996-1.006	
Tri	PCB-30	*	*	n NotFt	1.88	*	*				*	1.033-1.043	
Tri	PCB-18	1.17e+07	1.04	Y 25:56	0.90	20.41	*				*	0.949-0.959	
Tri	PCB-17	1.64e+06	1.06	Y 26:07	0.98	2.628	*				*	0.956-0.966	
Tri	PCB-24/27	1.21e+06	0.97	Y 26:41	1.27	1.492	*				*	0.977-0.987	
Tri	PCB-16/32	3.45e+06	1.01	Y 27:12	1.07	5.032	*				*	0.996-1.006	
Tri	PCB-34	1.65e+05	1.32	n 28:01	0.97	0.2516	*	5390	2.5	0.247	*	0.955-0.965	
Tri	PCB-23	*	*	n NotFt	0.86	*	*	5390	2.5	0.225	*	0.958-0.968	
Tri	PCB-29	*	*	n NotFt	0.95	*	*	5390	2.5	0.225	*	0.967-0.977	
Tri	PCB-26	1.98e+06	0.97	Y 28:35	0.97	3.015	*				*	0.974-0.984	
Tri	PCB-25	3.82e+05	1.00	Y 28:44	0.93	0.6076	*				*	0.980-0.990	
Tri	PCB-31	2.47e+07	0.97	Y 29:05	1.09	33.59	*				*	0.992-1.002	
Tri	PCB-28	3.16e+07	1.03	Y 29:12	1.10	42.48	*				*	0.996-1.006	
Tri	PCB-20/21/33	2.04e+06	0.92	Y 29:51	1.08	2.793	*				*	1.016-1.026	
Tri	PCB-22	4.08e+06	0.98	Y 30:16	1.04	5.775	*				*	1.032-1.042	
Tri	PCB-36	*	*	n NotFt	1.18	*	*	5390	2.5	0.169	*	0.929-0.939	
Tri	PCB-39	*	*	n NotFt	1.25	*	*	11500	1.0	0.136	*	0.943-0.953	
Tri	PCB-38	8.41e+05	1.06	Y 32:08	1.15	0.9792	*				*	0.967-0.977	
Tri	PCB-35	*	*	n NotFt	1.16	*	*	5390	2.5	0.172	*	0.982-0.992	
Tri	PCB-37	1.07e+06	1.03	Y 33:05	1.24	1.150	*				*	0.996-1.006	
Tetra	PCB-54	*	*	n NotFt	1.07	*	*	7580	1.0	0.0896	*	0.996-1.006	
Tetra	PCB-50	8.16e+04	0.70	Y 29:13	0.90	0.1288	*				*	1.037-1.047	
Tetra	PCB-53	5.22e+06	0.78	Y 29:53	1.17	8.079	*				*	0.941-0.951	
Tetra	PCB-51	7.74e+05	0.69	Y 30:14	1.18	1.184	*				*	0.952-0.962	
Tetra	PCB-45	2.84e+06	0.79	Y 30:40	1.06	4.855	*				*	0.965-0.975	
Tetra	PCB-46	9.34e+05	0.71	Y 31:08	0.99	1.708	*				*	0.981-0.991	

Integrations by:
 Analyst: (M)
 Date: 11/15/16
 Date: 11/21/16

Reviewed by: CT

Client ID: EPA-HS-CL Lab ID: 1601354-09
Filename: 161110E1 S:9 Acq:10-NOV-16 18:47:48
GC Column ID: ZB-1 ICal: PCV8-4-19-16 wt/vol:10.140
ConCal: ST161110E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	ICL	UCL
Tetra	PCB-52/69	1.07e+08	0.77	Y 31:36	1.31	148.1	*	4600	2.5	0.137	*	0.996-1.006	1.000
Tetra	PCB-73	*	*	n NotFt	1.45	*	*	4600	2.5	*	*	0.999-1.009	*
Tetra	PCB-43/49	4.86e+07	0.78	Y 31:55	1.28	68.53	*	*	2.5	*	1.010	1.005-1.015	1.001
Tetra	PCB-47	2.57e+07	0.76	Y 32:08	1.22	35.52	*	*	2.5	*	1.005	0.996-1.006	1.005
Tetra	PCB-48/75	4.95e+06	0.77	Y 32:16	1.32	6.318	*	4600	2.5	0.168	*	0.999-1.009	*
Tetra	PCB-65	*	*	n NotFt	1.27	*	*	4600	2.5	0.158	*	1.007-1.017	*
Tetra	PCB-62	*	*	n NotFt	1.36	*	*	4600	2.5	*	*	1.011-1.021	*
Tetra	PCB-44	2.65e+07	0.78	Y 32:54	0.94	47.58	*	*	2.5	*	1.025	1.020-1.030	1.031
Tetra	PCB-42/59	7.41e+06	0.78	Y 33:07	1.27	9.883	*	*	2.5	*	1.031	1.027-1.037	1.050
Tetra	PCB-41/64/71/72	4.50e+07	0.78	Y 33:44	1.34	56.81	*	*	2.5	*	1.060	1.045-1.055	1.066
Tetra	PCB-68	2.73e+06	0.76	Y 34:02	1.53	3.025	*	*	2.5	*	0.979	1.053-1.063	0.983
Tetra	PCB-40	5.30e+05	0.69	Y 34:13	0.86	1.037	*	*	2.5	*	0.987	1.061-1.071	0.981
Tetra	PCB-57	5.66e+05	0.84	Y 34:34	1.12	0.6124	*	*	2.5	*	0.995	0.965-0.975	1.000
Tetra	PCB-67	5.65e+05	0.71	Y 34:52	1.10	0.6233	*	*	2.5	*	1.001	0.974-0.984	1.006
Tetra	PCB-58	4.48e+05	0.83	Y 34:59	1.16	0.4689	*	*	2.5	*	1.008	0.977-0.987	1.001
Tetra	PCB-63	5.94e+06	0.77	Y 35:08	1.20	6.003	*	*	2.5	*	1.022	0.981-0.991	1.022
Tetra	PCB-74	5.95e+07	0.81	Y 35:25	1.17	61.48	*	*	2.5	*	1.000	0.989-0.999	1.006
Tetra	PCB-61/70	9.07e+07	0.80	Y 35:37	1.13	97.02	*	*	2.5	*	1.001	0.995-1.005	1.008
Tetra	PCB-76/66	9.13e+07	0.77	Y 35:50	1.14	96.90	*	*	2.5	*	1.001	1.000-1.010	1.008
Tetra	PCB-80	2.99e+05	0.76	Y 36:05	1.31	0.2729	*	*	2.5	*	1.053	0.995-1.005	1.022
Tetra	PCB-55	1.72e+06	0.80	Y 36:19	1.16	1.770	*	*	2.5	*	1.000	1.004-1.014	1.022
Tetra	PCB-56/60	2.50e+07	0.79	Y 36:51	1.14	26.16	*	*	2.5	*	1.000	1.018-1.028	1.000
Tetra	PCB-79	7.18e+06	0.81	Y 37:56	1.17	7.316	*	4600	2.5	0.125	*	1.048-1.058	1.000
Tetra	PCB-78	*	*	n NotFt	1.11	*	*	4600	2.5	*	*	0.982-0.992	1.000
Tetra	PCB-81	1.45e+06	0.78	Y 39:08	1.20	1.460	*	*	2.5	*	1.000	0.995-1.005	1.001
Tetra	PCB-77	3.32e+06	0.74	Y 39:45	1.24	3.314	*	*	2.5	*	1.001	0.995-1.005	1.001
Penta	PCB-104	*	*	n NotFt	1.31	*	*	3260	2.5	0.197	*	0.996-1.006	*
Penta	PCB-96	5.56e+05	1.36	Y 34:02	1.15	1.210	*	*	2.5	*	1.039	1.034-1.044	1.056
Penta	PCB-103	2.36e+06	1.58	Y 34:34	1.03	5.779	*	*	2.5	*	1.066	1.051-1.061	1.066
Penta	PCB-100	1.13e+06	1.50	Y 34:55	1.03	2.765	*	*	2.5	*	0.986	1.061-1.071	0.986
Penta	PCB-94	5.79e+05	1.65	Y 35:23	1.18	1.208	*	*	2.5	*	1.000	0.980-0.990	1.000
Penta	PCB-95/98/102	1.50e+08	1.57	Y 35:54	1.31	282.3	*	*	2.5	*	1.011	0.994-1.004	1.011
Penta	PCB-93	*	*	n NotFt	1.19	*	*	3260	2.5	0.232	*	0.998-1.008	*
Penta	PCB-88/91	2.23e+07	1.56	Y 36:18	1.23	44.59	*	*	2.5	*	1.000	1.006-1.016	1.009
Penta	PCB-121	*	*	n NotFt	1.74	*	*	3260	2.5	0.159	*	1.009-1.019	0.990
Penta	PCB-84/92	7.20e+07	1.59	Y 37:13	1.16	143.1	*	*	2.5	*	0.990	0.985-0.995	0.994
Penta	PCB-89	3.94e+05	1.58	Y 37:23	1.11	0.8185	*	*	2.5	*	0.994	0.990-1.000	0.994

Analyst: MW
Date: 11/15/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	2.27e+08	1.57	Y 37:37	1.27	411.7	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-113	*	*	n NotF _H	1.47	*	*	3260	2.5	0.183	*	1.002-1.012	
Penta	PCB-99	1.52e+08	1.58	Y 37:56	1.26	278.0	*	*	2.5	*	1.009	1.004-1.014	
Penta	PCB-119	1.27e+07	1.53	Y 38:23	1.87	16.38	*	*	2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	1.02e+07	1.50	Y 38:34	1.44	17.26	*	*	2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	*	n NotF _H	1.70	*	*	3260	2.5	0.168	*	0.990-1.000	
Penta	PCB-97	4.43e+07	1.58	Y 38:54	1.31	81.73	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-86	*	*	n NotF _H	1.02	*	*	3260	2.5	0.278	*	0.999-1.009	
Penta	PCB-87/117/125	8.63e+07	1.60	Y 39:11	1.59	131.7	*	*	2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	7.73e+06	1.59	Y 39:20	1.85	10.12	*	*	2.5	*	1.012	1.006-1.016	
Penta	PCB-85/116	4.64e+07	1.56	Y 39:27	1.44	78.17	*	*	2.5	*	1.015	1.010-1.020	
Penta	PCB-120	9.57e+05	1.72	Y 39:38	1.91	1.212	*	*	2.5	*	1.019	1.016-1.026	
Penta	PCB-110	3.12e+08	1.58	Y 39:50	1.76	428.9	*	*	2.5	*	1.024	1.019-1.029	
Penta	PCB-82	4.08e+06	1.69	Y 40:27	0.81	8.816	*	*	2.5	*	0.976	0.971-0.981	
Penta	PCB-124	5.93e+07	1.63	Y 41:08	1.30	8.032	*	*	2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	4.11e+07	1.60	Y 41:18	1.34	54.01	*	*	2.5	*	0.996	0.991-1.001	
Penta	PCB-123	4.97e+06	1.54	Y 41:27	1.35	6.478	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-106/118	2.99e+08	1.57	Y 41:39	1.34	384.0	*	*	2.5	*	1.001	0.996-1.006	
Penta	PCB-114	9.90e+06	1.61	Y 42:18	1.17	12.65	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-122	*	*	n NotF _H	1.03	*	*	10000	2.5	0.509	*	0.999-1.009	
Penta	PCB-105	1.64e+08	1.60	Y 43:09	1.23	204.0	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	*	n NotF _H	1.06	*	*	10000	2.5	0.481	*	0.995-1.005	
Penta	PCB-126	1.28e+06	1.49	Y 45:23	1.16	1.722	*	*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-155	5.54e+05	1.24	Y 37:09	1.26	0.9177	*	*	2.5	*	1.000	0.966-1.006	
Hexa	PCB-150	4.17e+05	1.36	Y 38:24	1.15	0.7564	*	*	2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	2.06e+05	1.14	Y 38:52	1.19	0.3605	*	*	2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	8.26e+04	1.28	Y 39:19	1.14	0.1503	*	*	2.5	*	1.059	1.055-1.065	
Hexa	PCB-136	3.56e+07	1.27	Y 39:38	1.18	62.52	*	*	2.5	*	1.067	1.063-1.073	
Hexa	PCB-148	4.08e+05	1.26	Y 39:46	0.82	1.035	*	*	2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	5.58e+06	1.28	Y 40:15	0.91	12.78	*	*	2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	8.57e+07	1.23	Y 40:53	0.86	208.4	*	*	2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	4.21e+07	1.26	Y 41:06	0.82	106.4	*	*	2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	1.03e+07	1.37	Y 41:13	0.92	23.11	*	*	2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	7.04e+06	1.22	Y 41:21	0.81	18.17	*	*	2.5	*	1.114	1.108-1.120	
Hexa	PCB-139/149	2.85e+08	1.27	Y 41:35	0.91	651.8	*	*	2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	1.85e+06	1.27	Y 41:47	0.83	4.613	*	*	2.5	*	1.125	1.120-1.132	
Hexa	PCB-134/143	2.01e+07	1.26	Y 42:14	0.89	34.09	*	*	2.5	*	0.975	0.970-0.980	

Analyst: SM
 Date: 11/15/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	1.42e+07	1.30	Y 42:32	0.86	24.98			2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	n NotFh		0.89			15000	2.5	*	*	0.981-0.991	
Hexa	PCB-146/165	1.06e+08	1.26	Y 42:55	1.07	150.1			2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	1.27e+08	1.25	Y 43:10	1.12	172.2			2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	6.17e+08	1.26	Y 43:19	1.15	815.5			2.5	*	1.000	0.996-1.006	
Hexa	PCB-168	1.07e+06	1.29	Y 43:32	1.38	1.174			2.5	*	1.005	1.000-1.010	
Hexa	PCB-141	7.08e+07	1.27	Y 44:03	1.20	105.0			2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	2.61e+07	1.25	Y 44:26	1.23	37.67			2.5	*	1.009	1.004-1.014	
Hexa	PCB-130	3.09e+07	1.26	Y 44:32	1.04	52.85			2.5	*	1.011	1.006-1.016	
Hexa	PCB-138/163/164	8.41e+08	1.25	Y 44:54	1.30	1067			2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	6.92e+07	1.27	Y 45:08	1.41	80.92			2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	1.36e+07	1.28	Y 45:23	0.97	23.19			2.5	*	1.011	1.007-1.017	
Hexa	PCB-166	2.60e+06	1.19	Y 45:50	1.19	3.215			2.5	*	0.993	0.988-0.998	
Hexa	PCB-159	*	n NotFh		1.28			15000	2.5	0.517	*	0.995-1.005	
Hexa	PCB-128/162	1.11e+08	1.25	Y 46:26	1.06	144.5			2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	4.40e+06	1.26	Y 46:52	1.22	4.995			2.5	*	1.001	0.995-1.005	
Hexa	PCB-156	7.35e+07	1.25	Y 48:09	1.27	80.01			2.5	*	1.000	0.995-1.005	
Hexa	PCB-157	1.70e+07	1.30	Y 48:24	1.24	18.12			2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	9.54e+05	1.32	Y 50:36	1.18	1.150			2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	4.87e+05	1.02	Y 42:56	1.59	0.6973			2.5	*	1.000	0.996-1.006	
Hepta	PCB-184	9.39e+05	1.00	Y 43:24	1.44	1.490			2.5	*	1.011	1.006-1.016	
Hepta	PCB-179	7.00e+07	1.05	Y 44:09	1.45	110.1			2.5	*	1.028	1.024-1.034	
Hepta	PCB-176	1.74e+07	1.06	Y 44:36	1.56	25.54			2.5	*	1.039	1.035-1.045	
Hepta	PCB-186	*	n NotFh		1.56			4000	2.5	0.116	*	1.049-1.059	
Hepta	PCB-178	3.32e+07	1.05	Y 45:44	1.20	63.20			2.5	*	1.065	1.061-1.071	
Hepta	PCB-175	3.76e+06	0.91	Y 46:03	1.12	7.637			2.5	*	1.073	1.069-1.079	
Hepta	PCB-182/187	2.63e+08	1.04	Y 46:14	1.24	484.8			2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	6.58e+07	1.05	Y 46:33	1.37	109.5			2.5	*	1.084	1.080-1.090	
Hepta	PCB-185	1.36e+07	1.06	Y 47:13	1.60	25.89			2.5	*	0.956	0.950-0.960	
Hepta	PCB-174	8.60e+07	1.06	Y 47:35	1.51	173.1			2.5	*	0.963	0.958-0.968	
Hepta	PCB-181	*	n NotFh		1.64			4000	2.5	0.144	*	0.960-0.970	
Hepta	PCB-177	7.32e+07	1.04	Y 47:51	1.45	153.4			2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	3.22e+07	1.07	Y 48:08	1.69	57.92			2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	1.69e+06	1.15	Y 48:33	1.38	3.727			2.5	*	0.983	0.978-0.988	
Hepta	PCB-172	1.57e+07	1.02	Y 49:01	1.55	30.86			2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	n NotFh		2.02			4000	2.5	0.116	*	0.991-1.001	
Hepta	PCB-180	2.05e+08	1.05	Y 49:26	1.66	376.1			2.5	*	1.001	0.995-1.005	

Analyst: MJ
 Date: 11/15/16

Client ID: EPA-HS-C1
Lab ID: 1601354-09

Filename: 161110E1 S:9 Acq:10-NOV-16 18:47:48
GC Column ID: ZB-1 ICal: PCVGS-4-19-16 wt/vol:10.140

ConCal: ST161110E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Pac	DL	RRT	LCL	UCL
Hepta	PCB-193	2.14e+07	1.06	Y 49:37	2.09	31.17		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	4.74e+06	1.07	Y 49:53	2.11	6.829		*	2.5	*	1.010	1.005-1.015	
Hepta	PCB-170	8.10e+07	1.05	Y 50:59	1.72	159.3		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	3.11e+07	1.07	Y 51:11	2.32	45.28		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	3.42e+06	1.04	Y 52:34	1.73	5.349		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-202	1.95e+07	0.88	Y 48:21	1.08	46.79		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	7.96e+06	0.89	Y 48:50	1.16	17.81		*	2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n Not F _q	1.09	*	1750	2.5	0.107	*	*	1.009-1.019	
Octa	PCB-197	2.39e+06	0.90	Y 49:17	1.21	5.116		*	2.5	*	1.020	1.015-1.025	
Octa	PCB-200	6.11e+06	0.89	Y 50:11	1.12	14.23		*	2.5	*	1.038	1.034-1.044	
Octa	PCB-198	2.09e+06	0.92	Y 51:36	0.81	6.715		*	2.5	*	1.068	1.062-1.072	
Octa	PCB-199	4.78e+07	0.89	Y 51:44	0.80	154.8		*	2.5	*	1.070	1.064-1.074	
Octa	PCB-196/203	4.72e+07	0.90	Y 52:00	0.87	140.4		*	2.5	*	1.076	1.070-1.080	
Octa	PCB-195	1.79e+07	0.89	Y 53:13	1.10	43.98		*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	3.08e+07	0.87	Y 54:07	1.28	65.30		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	2.50e+06	0.89	Y 54:23	1.62	4.187		*	2.5	*	1.005	1.001-1.010	
Nona	PCB-208	1.24e+07	1.31	Y 53:22	1.11	19.65		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	4.36e+06	1.37	Y 53:42	1.11	6.935		*	2.5	*	1.007	1.001-1.011	
Nona	PCB-206	2.02e+07	1.34	Y 55:41	0.95	58.32		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	5.25e+06	1.18	Y 56:59	1.34	14.48		*	2.5	*	1.000	0.995-1.005	

Analyst: (M)
Date: 11/15/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	2.96e+05	3.54 Y	16:07	1.02	0.464681
Total Di-PCB	5.83e+06	1.39 Y	22:59	1.18	5.46693
Total Tri-PCB	1.87e+07	1.10 Y	24:16	1.21	30.8513
Total Tri-PCB	6.66e+07	0.97 Y	28:35	1.07	90.3900
Total Tetra-PCB	5.66e+08	0.70 Y	29:13	1.20	696.178
Total Penta-PCB	1.50e+09	1.36 Y	34:02	1.29	2398.38
Total Penta-PCB	1.76e+08	1.61 Y	42:18	1.13	218.347
Total Hexa-PCB	4.75e+08	1.24 Y	37:09	0.98	1091.02
Total Hexa-PCB	2.15e+09	1.26 Y	42:14	1.13	2816.16
Total Hepta-PCB	1.02e+09	1.02 Y	42:56	1.53	1871.98
Total Octa-PCB	1.33e+08	0.88 Y	48:21	1.00	385.880
Total Octa-PCB	5.12e+07	0.89 Y	53:13	1.34	113.463
Total Nona-PCB	3.70e+07	1.31 Y	53:22	1.06	84.9001
Total Deca-PCB	5.25e+06	1.18 Y	56:59	1.34	14.4776

Total PCB Conc: 9818.21620400

Integrations
 by (M)
 Analyst: _____
 Date: 11/15/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRP	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	1.20e+08	3.35	Y	1.09	16:06	0.619	0.619-0.625	89.6	45.4		13C-PCB-79	1.75e+08	0.81	Y	1.01	37:55	1.029	1.024-1.033	181	91.8	
13C-PCB-3	1.25e+08	3.28	Y	1.15	18:44	0.720	0.718-0.726	88.4	44.8		13C-PCB-178	6.54e+07	0.45	Y	0.64	45:42	0.985	0.980-0.989	168	85.4	
13C-PCB-4	9.92e+07	1.52	Y	0.59	20:53	0.772	0.770-0.778	136	68.7		PS vs. IS										
13C-PCB-9	1.73e+08	1.53	Y	0.94	21:53	0.842	0.839-0.847	150	75.9												
13C-PCB-11	1.97e+08	1.52	Y	0.93	25:18	0.973	0.968-0.978	173	87.7												
13C-PCB-19	8.39e+07	1.08	Y	0.63	24:15	0.933	0.929-0.939	108	54.9												
13C-PCB-28	1.33e+08	1.04	Y	1.14	29:12	1.004	0.999-1.009	130	65.8												
13C-PCB-32	1.26e+08	1.08	Y	0.91	27:12	1.046	1.041-1.051	113	57.1												
13C-PCB-37	1.48e+08	1.04	Y	1.05	33:03	1.136	1.131-1.143	157	79.6												
13C-PCB-47	1.17e+08	0.79	Y	0.77	32:07	0.872	0.867-0.875	159	80.4												
13C-PCB-52	1.09e+08	0.80	Y	0.72	31:36	0.858	0.853-0.861	157	79.6												
13C-PCB-54	1.39e+08	0.80	Y	0.95	28:02	0.761	0.757-0.765	153	77.6												
13C-PCB-70	1.63e+08	0.80	Y	0.97	35:36	0.967	0.961-0.971	175	88.7												
13C-PCB-77	1.60e+08	0.81	Y	0.93	39:43	1.078	1.073-1.083	178	90.2												
13C-PCB-80	1.66e+08	0.80	Y	0.98	36:02	0.978	0.973-0.983	176	89.2												
13C-PCB-81	1.63e+08	0.80	Y	0.95	39:08	1.062	1.057-1.067	178	90.2												
13C-PCB-95	8.02e+07	1.61	Y	0.70	35:53	0.912	0.908-0.918	167	84.6												
13C-PCB-97	8.14e+07	1.59	Y	0.67	38:53	0.988	0.984-0.994	177	89.9												
13C-PCB-101	8.57e+07	1.58	Y	0.75	37:36	0.956	0.951-0.961	168	85.3												
13C-PCB-104	7.86e+07	1.57	Y	0.95	32:45	0.832	0.828-0.836	121	61.4												
13C-PCB-105	1.29e+08	1.56	Y	1.14	43:08	0.929	0.924-0.934	186	94.4												
13C-PCB-114	1.32e+08	1.54	Y	1.12	42:17	0.911	0.905-0.915	193	97.9												
13C-PCB-118	1.14e+08	1.61	Y	0.93	41:38	1.058	1.054-1.064	180	91.3												
13C-PCB-123	1.12e+08	1.63	Y	0.88	41:27	1.054	1.049-1.059	186	94.3												
13C-PCB-126	1.27e+08	1.56	Y	1.16	45:22	0.978	0.972-0.982	180	91.2												
13C-PCB-127	1.40e+08	1.54	Y	1.25	43:29	0.937	0.931-0.941	184	93.3												
13C-PCB-138	1.19e+08	1.28	Y	1.11	44:52	0.967	0.961-0.971	176	89.3												
13C-PCB-141	1.11e+08	1.27	Y	1.05	44:02	0.949	0.943-0.953	174	88.1												
13C-PCB-153	1.30e+08	1.27	Y	1.21	43:18	0.933	0.927-0.937	177	89.7												
13C-PCB-155	9.48e+07	1.29	Y	0.84	37:08	0.944	0.939-0.949	165	83.8												
13C-PCB-156	1.42e+08	1.30	Y	1.31	48:08	1.037	1.032-1.042	179	90.8												
13C-PCB-157	1.50e+08	1.31	Y	1.35	48:24	1.043	1.037-1.047	181	91.9												
13C-PCB-159	1.44e+08	1.29	Y	1.33	46:10	0.995	0.989-0.999	178	90.1												
13C-PCB-167	1.42e+08	1.26	Y	1.34	46:51	1.009	1.004-1.014	173	87.9												
13C-PCB-169	1.39e+08	1.28	Y	1.33	50:36	1.090	1.084-1.094	171	86.8												
13C-PCB-170	5.83e+07	0.47	Y	0.61	50:59	1.098	1.091-1.103	158	80.0												
13C-PCB-180	6.47e+07	0.46	Y	0.67	49:24	1.064	1.059-1.069	159	80.5												
13C-PCB-188	8.64e+07	0.46	Y	0.94	42:56	0.925	0.919-0.929	152	76.8												
13C-PCB-189	7.28e+07	0.45	Y	0.79	52:34	1.132	1.124-1.136	151	76.5												
13C-PCB-194	7.26e+07	0.88	Y	0.72	54:06	0.995	0.990-1.000	194	98.6												
13C-PCB-202	7.59e+07	0.91	Y	0.94	48:20	1.041	1.036-1.046	132	67.0												
13C-PCB-206	7.19e+07	0.79	Y	0.80	55:40	1.024	1.020-1.301	172	87.2												
13C-PCB-208	1.12e+08	0.78	Y	1.00	53:21	0.981	0.977-0.987	215	109												
13C-PCB-209	5.32e+07	1.22	Y	0.85	56:58	1.048	1.045-1.055	120	61.0												

Analyst: *MJ*
 Date: *11/5/16*

Sample ID: EPA-HS-C2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-10				
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 13:10	%Lipids:	12.1	Date Analyzed:	10-Nov-16 19:52 Column: ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	ND		0.147		PCB-44	55.6			
PCB-2	0.100			J	PCB-45	4.86			
PCB-3	0.134			J	PCB-46	1.43			
PCB-4/10	ND	0.721			PCB-47	46.0			B
PCB-5/8	2.63				PCB-48/75	6.38			
PCB-6	ND	0.299			PCB-50	ND		0.108	
PCB-7/9	ND	0.168			PCB-51	1.36			
PCB-11	1.49			B	PCB-52/69	162			
PCB-12/13	ND	0.107			PCB-53	8.93			
PCB-14	ND	0.0929			PCB-54	0.0857			J
PCB-15	ND	0.591			PCB-55	2.41			
PCB-16/32	5.02				PCB-56/60	29.9			
PCB-17	2.01				PCB-57	0.724			
PCB-18	19.6				PCB-58	0.671			
PCB-19	1.17				PCB-61/70	93.1			
PCB-20/21/33	2.00				PCB-62	ND	0.114		
PCB-22	4.90				PCB-63	7.77			
PCB-23	ND	0.257			PCB-65	ND	0.122		
PCB-24/27	1.37				PCB-66/76	113			
PCB-25	0.327			J	PCB-67	0.416			J
PCB-26	2.54				PCB-68	3.97			
PCB-28	49.8				PCB-73	ND	0.0943		
PCB-29	ND	0.234			PCB-74	78.1			
PCB-30	ND	0.0672			PCB-77	2.52			
PCB-31	28.1				PCB-78	ND	0.0906		
PCB-34	0.249			J	PCB-79	9.93			
PCB-35	ND	0.171			PCB-80	0.263			J
PCB-36	ND	0.168			PCB-81	1.99			
PCB-37	0.663				PCB-82	7.85			
PCB-38	1.41				PCB-83	ND	0.167		
PCB-39	0.116			J	PCB-84/92	170			
PCB-40	0.837				PCB-85/116	106			
PCB-41/64/71/72	67.0				PCB-86	ND	0.277		
PCB-42/59	8.98				PCB-87/117/125	155			
PCB-43/49	76.2				PCB-88/91	57.8			

EMPC - Estimated maximum possible concentration
 DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-C2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data				
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-10			
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046			
Date Collected:	30-Aug-2016 13:10	%Lipids:	12.1	Date Analyzed:	10-Nov-16 19:52 Column: ZB-1			
Date Received:	25-Oct-2016 9:00			Date Extracted:	07-Nov-2016 14:16			
Analyte	Conc. (pg/g)	DL	EMPC	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	0.893			PCB-136	76.8			
PCB-90/101	520			PCB-137	49.3			
PCB-93	ND	0.247		PCB-138/163/164	1380			B
PCB-94	1.62			PCB-139/149	801			
PCB-95/98/102	330			PCB-140	6.06			
PCB-96	1.29			PCB-141	154			
PCB-97	76.8			PCB-144	33.1			
PCB-99	356			PCB-145	0.183			J
PCB-100	3.21			PCB-146/165	213			
PCB-103	6.12			PCB-147	22.1			
PCB-104	ND	0.198		PCB-148	1.20			
PCB-105	225			PCB-150	0.963			
PCB-106/118	382			PCB-151	276			
PCB-107/109	63.9			PCB-152	0.473			J
PCB-108/112	19.5			PCB-153	1270			
PCB-110	501			PCB-154	16.6			
PCB-111/115	11.5			PCB-155	1.11			
PCB-113	ND	0.179		PCB-156	97.0			
PCB-114	14.5			PCB-157	21.3			
PCB-119	20.8			PCB-158/160	111			
PCB-120	1.08			PCB-159	ND		0.294	
PCB-121	ND	0.170		PCB-166	3.72			
PCB-122	ND	0.409		PCB-167	3.83			
PCB-123	7.75			PCB-168	1.34			
PCB-124	7.27			PCB-169	1.51			
PCB-126	1.56			PCB-170	246			
PCB-127	ND	0.382		PCB-171	81.5			
PCB-128/162	172			PCB-172	50.0			
PCB-129	22.4			PCB-173	4.61			
PCB-130	62.3			PCB-174	238			
PCB-131	ND	0.503		PCB-175	12.2			
PCB-132/161	183			PCB-176	32.1			
PCB-133/142	31.5			PCB-177	207			
PCB-134/143	35.5			PCB-178	85.7			
PCB-135	127			PCB-179	136			

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

Results are reported in wet weight.

See individual congeners for qualifiers.

Sample ID: EPA-HS-C2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-10				
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046				
Date Collected:	30-Aug-2016 13:10	%Lipids:	12.1	Date Analyzed:	10-Nov-16 19:52 Column: ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	677				Total octaCB	737			
PCB-181	ND	0.133			Total nonaCB	109			
PCB-182/187	718				DecaCB	16.6			
PCB-183	184				Total PCB	12800			
PCB-184	1.98								
PCB-185	39.4								
PCB-186	ND	0.104							
PCB-188	0.782								
PCB-189	8.32								
PCB-190	61.0								
PCB-191	10.9								
PCB-192	ND	0.107							
PCB-193	45.2								
PCB-194	109								
PCB-195	57.6								
PCB-196/203	216								
PCB-197	7.54								
PCB-198	8.18								
PCB-199	229								
PCB-200	19.0								
PCB-201	24.8								
PCB-202	61.2								
PCB-204	0.205			J					
PCB-205	5.75								
PCB-206	75.7								
PCB-207	8.99								
PCB-208	24.0								
PCB-209	16.6								
Total monoCB	0.235		0.382						
Total diCB	4.12								
Total triCB	119								
Total tetraCB	784								
Total pentaCB	3050								
Total hexaCB	5180								
Total heptaCB	2840								

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

Results are reported in wet weight.
See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-C2

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-10		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046		
Date Collected:	30-Aug-2016 13:10	%Lipids:	12.1	Date Analyzed:	10-Nov-16 19:52 Column: ZB-1		
Date Received:	25-Oct-2016 9:00			Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	43.7	15 -150		13C-PCB-170	79.6	25 -150	
13C-PCB-3	47.3	15 -150		13C-PCB-180	79.7	25 -150	
13C-PCB-4	70.0	25 -150		13C-PCB-188	76.1	25 -150	
13C-PCB-11	90.1	25 -150		13C-PCB-189	76.1	25 -150	
13C-PCB-9	78.1	25 -150		13C-PCB-194	102	25 -150	
13C-PCB-19	53.8	25 -150		13C-PCB-202	61.6	25 -150	
13C-PCB-28	68.0	25 -150		13C-PCB-206	86.1	25 -150	
13C-PCB-32	58.1	25 -150		13C-PCB-208	108	25 -150	
13C-PCB-37	82.4	25 -150		13C-PCB-209	58.7	25 -150	
13C-PCB-47	87.6	25 -150		CRS 13C-PCB-79	101	30 -135	
13C-PCB-52	89.8	25 -150		13C-PCB-178	82.6	30 -135	
13C-PCB-54	89.6	25 -150					
13C-PCB-70	93.3	25 -150					
13C-PCB-77	101	25 -150					
13C-PCB-80	95.1	25 -150					
13C-PCB-81	97.7	25 -150					
13C-PCB-95	85.0	25 -150					
13C-PCB-97	91.5	25 -150					
13C-PCB-101	88.9	25 -150					
13C-PCB-104	69.5	25 -150					
13C-PCB-105	93.8	25 -150					
13C-PCB-114	98.4	25 -150					
13C-PCB-118	90.4	25 -150					
13C-PCB-123	94.1	25 -150					
13C-PCB-126	91.6	25 -150					
13C-PCB-127	91.3	25 -150					
13C-PCB-138	91.6	25 -150					
13C-PCB-141	92.3	25 -150					
13C-PCB-153	91.9	25 -150					
13C-PCB-155	80.8	25 -150					
13C-PCB-156	92.7	25 -150					
13C-PCB-157	92.6	25 -150					
13C-PCB-159	93.6	25 -150					
13C-PCB-167	92.2	25 -150					
13C-PCB-169	89.2	25 -150					

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.
See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	9.00e+04	2.53	n	16:07	1.06			2.5	*	1.001	0.997-1.007	
Mono	PCB-2	6.49e+04	2.98	y	18:30	0.99	R		2.5	*	0.988	0.983-0.993	
Mono	PCB-3	8.96e+04	3.11	y	18:45	1.02			2.5	*	1.001	0.996-1.006	
Di	PCB-4/10	*	*	n	NotFt	1.41		56800	1.0	0.721	*	0.997-1.007	
Di	PCB-7/9	*	*	n	NotFt	1.13		18800	1.0	0.168	*	0.864-0.872	
Di	PCB-6	*	*	n	NotFt	1.08		31900	1.0	0.299	*	0.888-0.897	
Di	PCB-5/8	2.66e+05	1.43	y	22:59	1.14			2.5	*	0.909	0.905-0.915	
Di	PCB-14	*	*	n	NotFt	1.32		4600	2.5	0.0929	*	0.948-0.958	
Di	PCB-11	1.77e+06	1.69	y	25:19	1.18		4600	2.5	0.107	*	0.995-1.005	
Di	PCB-12/13	*	*	n	NotFt	1.14		71400	1.0	0.591	*	1.011-1.021	
Di	PCB-15	*	*	n	NotFt	1.29			1.0		*	1.023-1.031	
Tri	PCB-19	5.94e+05	1.01	y	24:16	1.23			2.5	*	1.001	0.996-1.006	
Tri	PCB-30	*	*	n	NotFt	1.88		2510	2.5	0.0672	*	1.033-1.043	
Tri	PCB-18	1.13e+07	1.03	y	25:56	0.90			2.5	*	0.954	0.949-0.959	
Tri	PCB-17	1.26e+06	1.00	y	26:06	0.98			2.5	*	0.960	0.956-0.966	
Tri	PCB-24/27	1.11e+06	1.08	y	26:40	1.27			2.5	*	0.980	0.977-0.987	
Tri	PCB-16/32	3.45e+06	1.07	y	27:12	1.07			2.5	*	1.000	0.996-1.006	
Tri	PCB-34	1.52e+05	0.99	y	28:01	0.97			2.5	*	0.960	0.955-0.965	
Tri	PCB-23	*	*	n	NotFt	0.86		5300	2.5	0.257	*	0.958-0.968	
Tri	PCB-29	*	*	n	NotFt	0.95		5300	2.5	0.234	*	0.967-0.977	
Tri	PCB-26	1.55e+06	1.05	y	28:34	0.97			2.5	*	0.979	0.974-0.984	
Tri	PCB-25	1.90e+05	0.99	y	28:44	0.93			2.5	*	0.985	0.980-0.990	
Tri	PCB-31	1.91e+07	0.97	y	29:04	1.09			2.5	*	0.996	0.992-1.002	
Tri	PCB-28	3.43e+07	1.00	y	29:11	1.10			2.5	*	1.000	0.996-1.006	
Tri	PCB-20/21/33	1.35e+06	0.91	y	29:50	1.08			2.5	*	1.022	1.016-1.026	
Tri	PCB-22	3.21e+06	1.03	y	30:15	1.04			2.5	*	1.037	1.032-1.042	
Tri	PCB-36	*	*	n	NotFt	1.18		5300	2.5	0.168	*	0.929-0.939	
Tri	PCB-39	1.01e+05	1.00	y	31:21	1.25			2.5	*	0.949	0.943-0.953	
Tri	PCB-38	1.12e+06	1.07	y	32:07	1.15			2.5	*	0.972	0.967-0.977	
Tri	PCB-35	*	*	n	NotFt	1.16		5300	2.5	0.171	*	0.982-0.992	
Tri	PCB-37	5.73e+05	1.07	y	33:03	1.24			2.5	*	1.000	0.996-1.006	
Tetra	PCB-54	6.62e+04	0.68	y	28:03	1.07			2.5	*	1.001	0.996-1.006	
Tetra	PCB-50	6.95e+04	1.03	n	29:13	0.90	R		2.5	*	1.043	1.037-1.047	
Tetra	PCB-53	5.75e+06	0.76	y	29:52	1.17			2.5	*	0.945	0.941-0.951	
Tetra	PCB-51	8.83e+05	0.78	y	30:13	1.18			2.5	*	0.956	0.952-0.962	
Tetra	PCB-45	2.83e+05	0.77	y	30:39	1.06			2.5	*	0.970	0.965-0.975	
Tetra	PCB-46	7.81e+05	0.79	y	31:08	0.99			2.5	*	0.985	0.981-0.991	

Integrations by:
 Analyst: M
 Date: 11/16/16
 Date: 11/16/16

Reviewed by: CT

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	1.17e+08	0.78	Y 31:37	1.31	161.8	*	3300	2.5	*	1.001	0.996-1.006	
Tetra	PCB-73	*	*	n NotFt	1.45	*	*	3300	2.5	0.0943	*	0.999-1.009	
Tetra	PCB-43/49	5.38e+07	0.78	Y 31:55	1.28	76.19	*	*	2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	3.20e+07	0.79	Y 32:07	1.22	45.96	*	*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-48/75	4.81e+06	0.76	Y 32:15	1.32	6.380	*	*	2.5	*	1.005	0.999-1.009	
Tetra	PCB-65	*	*	n NotFt	1.27	*	*	3300	2.5	0.122	*	1.007-1.017	
Tetra	PCB-62	*	*	n NotFt	1.36	*	*	3300	2.5	0.114	*	1.011-1.021	
Tetra	PCB-44	2.98e+07	0.77	Y 32:54	0.94	55.58	*	*	2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	6.48e+06	0.76	Y 33:08	1.27	8.975	*	*	2.5	*	1.032	1.027-1.037	
Tetra	PCB-41/64/71/72	5.11e+07	0.77	Y 33:43	1.34	66.99	*	*	2.5	*	1.050	1.045-1.055	
Tetra	PCB-68	3.45e+06	0.81	Y 34:01	1.53	3.973	*	*	2.5	*	1.060	1.053-1.063	
Tetra	PCB-40	4.12e+05	0.80	Y 34:12	0.86	0.8367	*	*	2.5	*	1.065	1.061-1.071	
Tetra	PCB-57	6.21e+05	0.71	Y 34:33	1.12	0.7237	*	*	2.5	*	0.970	0.965-0.975	
Tetra	PCB-67	3.50e+05	0.72	Y 34:51	1.10	0.4162	*	*	2.5	*	0.979	0.974-0.984	
Tetra	PCB-58	5.96e+05	0.81	Y 34:58	1.16	0.6711	*	*	2.5	*	0.982	0.977-0.987	
Tetra	PCB-63	7.15e+06	0.79	Y 35:07	1.20	7.773	*	*	2.5	*	0.986	0.981-0.991	
Tetra	PCB-74	7.02e+07	0.78	Y 35:24	1.17	78.06	*	*	2.5	*	0.994	0.989-0.999	
Tetra	PCB-61/70	8.09e+07	0.78	Y 35:38	1.13	93.11	*	*	2.5	*	1.001	0.995-1.005	
Tetra	PCB-76/66	9.89e+07	0.78	Y 35:49	1.14	112.9	*	*	2.5	*	1.006	1.000-1.010	
Tetra	PCB-80	2.71e+05	0.82	Y 36:05	1.31	0.2628	*	*	2.5	*	1.001	0.995-1.005	
Tetra	PCB-55	2.21e+06	0.82	Y 36:18	1.16	2.412	*	*	2.5	*	1.007	1.004-1.014	
Tetra	PCB-56/60	2.69e+07	0.77	Y 36:50	1.14	29.93	*	*	2.5	*	1.022	1.018-1.028	
Tetra	PCB-75	9.19e+06	0.83	Y 37:56	1.17	9.929	*	*	2.5	*	1.053	1.048-1.058	
Tetra	PCB-78	*	*	n NotFt	1.11	*	*	3300	2.5	0.0906	*	0.982-0.992	
Tetra	PCB-81	1.89e+06	0.76	Y 39:08	1.20	1.992	*	*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-77	2.48e+06	0.75	Y 39:44	1.24	2.515	*	*	2.5	*	1.000	0.995-1.005	
Penta	PCB-104	*	*	n NotFt	1.31	*	*	3380	2.5	0.198	*	0.996-1.006	
Penta	PCB-96	6.35e+05	1.62	Y 34:02	1.15	1.286	*	*	2.5	*	1.039	1.034-1.044	
Penta	PCB-103	2.69e+06	1.66	Y 34:34	1.03	6.117	*	*	2.5	*	1.056	1.051-1.061	
Penta	PCB-100	1.41e+06	1.59	Y 34:54	1.03	3.205	*	*	2.5	*	1.066	1.061-1.071	
Penta	PCB-94	7.41e+05	1.51	Y 35:23	1.18	1.619	*	*	2.5	*	0.986	0.980-0.990	
Penta	PCB-95/98/102	1.67e+08	1.58	Y 35:55	1.31	329.9	*	*	2.5	*	1.001	0.994-1.004	
Penta	PCB-93	*	*	n NotFt	1.19	*	*	3380	2.5	0.247	*	0.998-1.008	
Penta	PCB-88/91	2.77e+07	1.58	Y 36:18	1.23	57.79	*	*	2.5	*	1.011	1.006-1.016	
Penta	PCB-121	*	*	n NotFt	1.74	*	*	3380	2.5	0.170	*	1.009-1.019	
Penta	PCB-84/92	8.49e+07	1.56	Y 37:13	1.16	170.2	*	*	2.5	*	0.990	0.985-0.995	
Penta	PCB-89	4.26e+05	1.41	Y 37:23	1.11	0.8929	*	*	2.5	*	0.994	0.990-1.000	

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Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Penta	PCB-90/101	2.84e+08	1.58	Y 37:36	1.27	520.0			2.5	*	1.000	0.995-1.005	
Penta	PCB-113	*	n NotFt	1.47				3380	2.5	0.179	*	1.002-1.012	
Penta	PCB-99	1.93e+08	1.58	Y 37:56	1.26	355.8			2.5	*	1.009	1.004-1.014	
Penta	PCB-119	1.56e+07	1.59	Y 38:23	1.87	20.81			2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	1.12e+07	1.58	Y 38:34	1.44	19.52			2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	n NotFt	1.70				3380	2.5	0.167	*	0.990-1.000	
Penta	PCB-97	4.03e+07	1.62	Y 38:54	1.31	76.78			2.5	*	1.000	0.995-1.005	
Penta	PCB-86	*	n NotFt	1.02				3380	2.5	0.277	*	0.999-1.009	
Penta	PCB-87/117/125	9.82e+07	1.58	Y 39:11	1.59	154.8			2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	8.48e+06	1.66	Y 39:19	1.85	11.45			2.5	*	1.011	1.006-1.016	
Penta	PCB-85/116	6.10e+07	1.56	Y 39:26	1.44	106.1			2.5	*	1.014	1.010-1.020	
Penta	PCB-120	8.25e+05	1.75	Y 39:38	1.91	1.079			2.5	*	1.019	1.016-1.026	
Penta	PCB-110	3.52e+08	1.57	Y 39:50	1.76	500.7			2.5	*	1.024	1.019-1.029	
Penta	PCB-82	3.45e+06	1.61	Y 40:27	0.81	7.850			2.5	*	0.976	0.971-0.981	
Penta	PCB-124	5.10e+06	1.67	Y 41:07	1.30	7.269			2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	4.61e+07	1.67	Y 41:19	1.34	63.86			2.5	*	0.997	0.991-1.001	
Penta	PCB-123	5.64e+06	1.67	Y 41:28	1.35	7.750			2.5	*	1.001	0.995-1.005	
Penta	PCB-106/118	2.80e+08	1.58	Y 41:39	1.34	382.2			2.5	*	1.000	0.996-1.006	
Penta	PCB-114	1.11e+07	1.53	Y 42:17	1.17	14.50			2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	n NotFt	1.03				8000	2.5	0.409	*	0.999-1.009	
Penta	PCB-105	1.76e+08	1.58	Y 43:09	1.23	225.3			2.5	*	1.001	0.995-1.005	
Penta	PCB-127	*	n NotFt	1.06				8000	2.5	0.382	*	0.995-1.005	
Penta	PCB-126	1.13e+06	1.73	Y 45:23	1.16	1.559			2.5	*	1.000	0.995-1.005	
Hexa	PCB-155	6.15e+05	1.29	Y 37:08	1.26	1.110			2.5	*	1.000	0.966-1.006	
Hexa	PCB-150	4.88e+05	1.11	Y 38:23	1.15	0.9630			2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	2.49e+05	1.34	Y 38:52	1.19	0.4735			2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	9.20e+04	1.32	Y 39:19	1.14	0.1825			2.5	*	1.059	1.055-1.065	
Hexa	PCB-136	4.01e+07	1.26	Y 39:37	1.18	76.80			2.5	*	1.067	1.063-1.073	
Hexa	PCB-148	4.34e+05	1.29	Y 39:46	0.82	1.202			2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	6.64e+06	1.34	Y 40:15	0.91	16.57			2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	1.04e+08	1.28	Y 40:52	0.86	275.7			2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	4.62e+07	1.25	Y 41:06	0.82	127.3			2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	1.35e+07	1.27	Y 41:13	0.92	33.14			2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	7.84e+06	1.28	Y 41:21	0.81	22.07			2.5	*	1.114	1.108-1.120	
Hexa	PCB-139/149	3.21e+08	1.26	Y 41:36	0.91	800.9			2.5	*	1.121	1.115-1.127	
Hexa	PCB-140	2.23e+06	1.42	Y 41:47	0.83	6.063			2.5	*	1.126	1.120-1.132	
Hexa	PCB-134/143	2.08e+07	1.24	Y 42:13	0.89	35.47			2.5	*	0.975	0.970-0.980	

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Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	1.78e+07	1.23	Y 42:31	0.86	31.48			2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	n	NotF	0.89	*		9500	2.5	0.503	*	0.981-0.991	
Hexa	PCB-146/165	1.50e+08	1.26	Y 42:55	1.07	213.0			2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	1.34e+08	1.24	Y 43:10	1.12	182.5			2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	9.55e+08	1.26	Y 43:19	1.15	1267			2.5	*	1.000	0.996-1.006	
Hexa	PCB-168	1.21e+06	1.23	Y 43:32	1.38	1.338			2.5	*	1.005	1.000-1.010	
Hexa	PCB-141	1.06e+08	1.26	Y 44:03	1.20	153.8			2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	3.47e+07	1.23	Y 44:26	1.23	49.31			2.5	*	1.009	1.004-1.014	
Hexa	PCB-130	3.70e+07	1.27	Y 44:32	1.04	62.29			2.5	*	1.011	1.006-1.016	
Hexa	PCB-138/163/164	1.09e+09	1.26	Y 44:54	1.30	1385			2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	9.43e+07	1.26	Y 45:07	1.41	110.7			2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	1.31e+07	1.27	Y 45:23	0.97	22.43			2.5	*	1.012	1.007-1.017	
Hexa	PCB-166	3.27e+06	1.29	Y 45:51	1.19	3.721			2.5	*	0.993	0.988-0.998	
Hexa	PCB-159	*	n	NotF	1.28	*		9500	2.5	0.294	*	0.995-1.005	
Hexa	PCB-128/162	1.34e+08	1.24	Y 46:26	1.06	172.0			2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	3.44e+06	1.20	Y 46:52	1.22	3.832			2.5	*	1.000	0.995-1.005	
Hexa	PCB-156	8.85e+07	1.26	Y 48:08	1.27	97.03			2.5	*	1.000	0.995-1.005	
Hexa	PCB-157	1.96e+07	1.33	Y 48:24	1.24	21.29			2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	1.25e+06	1.27	Y 50:36	1.18	1.507			2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	5.25e+05	1.15	Y 42:56	1.59	0.7816			2.5	*	1.000	0.996-1.006	
Hepta	PCB-184	1.20e+06	1.08	Y 43:23	1.44	1.977			2.5	*	1.011	1.006-1.016	
Hepta	PCB-179	8.34e+07	1.06	Y 44:09	1.45	136.4			2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	2.10e+07	1.04	Y 44:37	1.56	32.08			2.5	*	1.039	1.035-1.045	
Hepta	PCB-186	*	n	NotF	1.56	*		3550	2.5	0.104	*	1.049-1.059	
Hepta	PCB-178	4.33e+07	1.05	Y 45:44	1.20	85.73			2.5	*	1.065	1.061-1.071	
Hepta	PCB-175	5.76e+06	1.19	Y 46:03	1.12	12.17			2.5	*	1.073	1.069-1.079	
Hepta	PCB-182/187	3.75e+08	1.05	Y 46:14	1.24	718.5			2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	1.06e+08	1.04	Y 46:33	1.37	183.9			2.5	*	1.084	1.080-1.090	
Hepta	PCB-185	1.99e+07	1.04	Y 47:13	1.60	39.43			2.5	*	0.956	0.950-0.960	
Hepta	PCB-174	1.14e+08	1.05	Y 47:35	1.51	237.5			2.5	*	0.963	0.958-0.968	
Hepta	PCB-181	*	n	NotF	1.64	*		3550	2.5	0.133	*	0.960-0.970	
Hepta	PCB-177	9.52e+07	1.06	Y 47:51	1.45	207.4			2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	4.36e+07	1.06	Y 48:08	1.69	81.50			2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	2.01e+06	1.11	Y 48:34	1.38	4.609			2.5	*	0.983	0.978-0.988	
Hepta	PCB-172	2.45e+07	1.07	Y 49:01	1.55	50.04			2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	n	NotF	2.02	*		3550	2.5	0.107	*	0.991-1.001	
Hepta	PCB-180	3.55e+08	1.06	Y 49:26	1.66	677.3			2.5	*	1.000	0.995-1.005	

Analyst: M
 Date: 11/16/16

Client ID: EPA-HS-C2
Lab ID: 1601354-10

Filename: 161110E1 S:10 Acq:10-NOV-16 19:52:54
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.030

ConCal: ST161110E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	2.99e+07	1.06	Y 49:37	2.09	45.25	*	2.5	*	1.004	*	0.999-1.009	
Hepta	PCB-191	7.30e+06	1.05	Y 49:52	2.11	10.94	*	2.5	*	1.009	*	1.005-1.015	
Hepta	PCB-170	1.21e+08	1.08	Y 50:59	1.72	245.8	*	2.5	*	1.000	*	0.995-1.005	
Hepta	PCB-190	4.05e+07	1.03	Y 51:11	2.32	60.99	*	2.5	*	1.004	*	0.999-1.009	
Hepta	PCB-189	5.15e+06	1.06	Y 52:34	1.73	8.322	*	2.5	*	1.000	*	0.995-1.005	
Octa	PCB-202	2.28e+07	0.88	Y 48:21	1.08	61.21	*	2.5	*	1.000	*	0.995-1.005	
Octa	PCB-201	9.91e+06	0.91	Y 48:50	1.16	24.84	*	2.5	*	1.010	*	1.005-1.015	
Octa	PCB-204	7.70e+04	0.87	Y 49:00	1.09	0.2047	*	2.5	*	1.014	*	1.009-1.019	
Octa	PCB-197	3.15e+06	0.89	Y 49:18	1.21	7.539	*	2.5	*	1.020	*	1.015-1.025	
Octa	PCB-200	7.30e+06	0.91	Y 50:11	1.12	19.03	*	2.5	*	1.038	*	1.034-1.044	
Octa	PCB-198	2.28e+06	0.84	Y 51:36	0.81	8.182	*	2.5	*	1.068	*	1.062-1.072	
Octa	PCB-199	6.31e+07	0.89	Y 51:44	0.80	228.8	*	2.5	*	1.070	*	1.064-1.074	
Octa	PCB-196/203	6.48e+07	0.90	Y 52:01	0.87	215.7	*	2.5	*	1.076	*	1.070-1.080	
Octa	PCB-195	2.44e+07	0.88	Y 53:14	1.10	57.57	*	2.5	*	0.984	*	0.979-0.989	
Octa	PCB-194	5.35e+07	0.89	Y 54:08	1.28	108.5	*	2.5	*	1.000	*	0.995-1.005	
Octa	PCB-205	3.58e+06	0.89	Y 54:24	1.62	5.748	*	2.5	*	1.005	*	1.001-1.010	
Nona	PCB-208	1.51e+07	1.28	Y 53:23	1.11	24.01	*	2.5	*	1.000	*	0.995-1.005	
Nona	PCB-207	5.62e+06	1.37	Y 53:42	1.11	8.987	*	2.5	*	1.006	*	1.001-1.011	
Nona	PCB-206	2.60e+07	1.31	Y 55:41	0.95	75.74	*	2.5	*	1.000	*	0.995-1.005	
Deca	PCB-209	5.81e+06	1.19	Y 57:01	1.34	16.57	*	2.5	*	1.000	*	0.995-1.005	

Analyst: VM
Date: 11/16/16

Client ID: EPA-HS-C2 Lab ID: 1601354-10
Filename: 161110E1 S:10 Acq:10-NOV-16 19:52:54 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 10.0300
ConCal: ST161110E1-1 EndCAL: NA

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	1.55e+05	2.98	18:30	1.02	0.234652
Total Di-PCB	4.43e+06	1.43	22:59	1.18	4.11999
Total Tri-PCB	1.77e+07	1.01	24:16	1.21	29.2251
Total Tetra-PCB	6.17e+07	0.99	28:01	1.07	90.1110
Total Penta-PCB	1.69e+09	1.62	34:02	1.29	2807.00
Total Hexa-PCB	1.88e+08	1.53	42:17	1.13	241.376
Total Hepta-PCB	5.44e+08	1.29	37:08	0.98	1362.49
Total Octa-PCB	2.90e+09	1.24	42:13	1.13	3813.52
Total Nona-PCB	1.49e+09	1.15	42:56	1.53	2840.57
Total Deca-PCB	1.73e+08	0.88	48:21	1.00	565.463
Total Mono-PCB	8.14e+07	1.28	53:14	1.34	171.820
Total Di-PCB	4.67e+07	1.28	53:23	1.06	108.732
Total Tri-PCB	5.81e+06	1.19	57:01	1.34	16.5674

Total PCB Conc: 12835.5541880

Integrations
by Analyst: (M)
Date: 11/16/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.15e+08	3.35	Y	1.09	16:06	0.619	0.619-0.625	87.1	43.7											
13C-PCB-3	1.31e+08	3.31	Y	1.15	18:44	0.721	0.718-0.726	94.3	47.3		13C-PCB-79	1.73e+08	0.81	Y	1.01	37:54	1.029	1.024-1.033	202	101
13C-PCB-4	1.01e+08	1.54	Y	0.59	20:04	0.772	0.770-0.778	140	70.0		13C-PCB-178	6.22e+07	0.45	Y	0.64	45:43	0.985	0.980-0.989	165	82.6
13C-PCB-9	1.77e+08	1.53	Y	0.94	21:53	0.842	0.839-0.847	156	78.1											
13C-PCB-11	2.02e+08	1.52	Y	0.93	25:17	0.973	0.968-0.978	180	90.1	PS vs. IS										
13C-PCB-19	8.18e+07	1.09	Y	0.63	24:15	0.933	0.929-0.938	107	53.8											
13C-PCB-28	1.25e+08	1.01	Y	1.14	29:11	1.004	0.999-1.009	136	68.0		13C-PCB-79	1.73e+08	0.81	Y	1.06	37:54	0.969	0.963-0.973	207	104
13C-PCB-32	1.27e+08	1.08	Y	0.91	27:12	1.046	1.041-1.051	116	58.1		13C-PCB-178	6.22e+07	0.45	Y	0.95	45:43	0.925	0.920-0.930	207	104
13C-PCB-37	1.39e+08	1.02	Y	1.05	33:03	1.137	1.131-1.143	164	82.4											
13C-PCB-47	1.14e+08	0.80	Y	0.77	32:06	0.872	0.867-0.875	175	87.6											
13C-PCB-52	1.10e+08	0.80	Y	0.72	31:36	0.858	0.853-0.861	179	89.8											
13C-PCB-54	1.44e+08	0.79	Y	0.95	28:01	0.761	0.757-0.765	179	89.6											
13C-PCB-70	1.53e+08	0.81	Y	0.97	35:36	0.967	0.961-0.971	186	93.3											
13C-PCB-77	1.59e+08	0.81	Y	0.93	39:43	1.078	1.073-1.083	201	101											
13C-PCB-80	1.58e+08	0.80	Y	0.98	36:02	0.978	0.973-0.983	190	95.1											
13C-PCB-81	1.57e+08	0.80	Y	0.95	39:07	1.062	1.057-1.067	195	97.7											
13C-PCB-95	7.75e+07	1.58	Y	0.70	35:53	0.913	0.908-0.918	169	85.0	RS										
13C-PCB-97	7.97e+07	1.59	Y	0.67	38:53	0.989	0.984-0.994	183	91.5		13C-PCB-15	2.42e+08	1.52	Y	1.00	25:60	199			
13C-PCB-101	8.59e+07	1.57	Y	0.75	37:35	0.956	0.951-0.961	177	88.9		13C-PCB-31	1.61e+08	1.02	Y	1.00	29:04	199			
13C-PCB-104	8.55e+07	1.56	Y	0.95	32:44	0.833	0.828-0.836	139	69.5		13C-PCB-60	1.69e+08	0.81	Y	1.00	36:50	199			
13C-PCB-105	1.26e+08	1.57	Y	1.14	43:08	0.929	0.924-0.934	187	93.8		13C-PCB-111	1.30e+08	1.56	Y	1.00	39:19	199			
13C-PCB-114	1.30e+08	1.57	Y	1.12	42:17	0.911	0.905-0.915	186	98.4		13C-PCB-128	1.18e+08	1.26	Y	1.00	46:25	199			
13C-PCB-118	1.09e+08	1.58	Y	0.93	41:38	1.059	1.054-1.064	180	90.4		13C-PCB-205	1.04e+08	0.90	Y	1.00	54:24	199			
13C-PCB-123	1.08e+08	1.57	Y	0.88	41:26	1.054	1.049-1.059	188	94.1											
13C-PCB-126	1.25e+08	1.57	Y	1.16	45:22	0.977	0.972-0.982	183	91.6											
13C-PCB-127	1.34e+08	1.58	Y	1.25	43:29	0.937	0.931-0.941	182	91.3											
13C-PCB-138	1.20e+08	1.28	Y	1.11	44:52	0.966	0.961-0.971	183	91.6											
13C-PCB-141	1.14e+08	1.30	Y	1.05	44:02	0.949	0.943-0.953	184	92.3											
13C-PCB-153	1.31e+08	1.28	Y	1.21	43:18	0.933	0.927-0.937	183	91.9											
13C-PCB-155	8.80e+07	1.28	Y	0.84	37:07	0.944	0.939-0.949	161	80.8											
13C-PCB-156	1.43e+08	1.29	Y	1.31	48:08	1.037	1.032-1.042	185	92.7											
13C-PCB-157	1.48e+08	1.30	Y	1.35	48:23	1.042	1.037-1.047	185	92.6											
13C-PCB-159	1.47e+08	1.27	Y	1.33	46:10	0.995	0.989-0.999	187	93.6											
13C-PCB-167	1.46e+08	1.27	Y	1.34	46:51	1.009	1.004-1.014	184	92.2											
13C-PCB-169	1.40e+08	1.29	Y	1.33	50:35	1.090	1.084-1.094	178	89.2											
13C-PCB-170	5.71e+07	0.46	Y	0.61	50:59	1.098	1.091-1.103	159	79.6											
13C-PCB-180	6.30e+07	0.45	Y	0.67	49:25	1.064	1.059-1.069	159	79.7											
13C-PCB-188	8.40e+07	0.46	Y	0.94	42:56	0.925	0.919-0.929	152	76.1											
13C-PCB-189	7.12e+07	0.45	Y	0.79	52:34	1.132	1.124-1.136	152	76.1											
13C-PCB-194	7.66e+07	0.90	Y	0.72	54:07	0.995	0.990-1.000	204	102											
13C-PCB-202	6.86e+07	0.91	Y	0.94	48:20	1.041	1.036-1.046	123	61.6											
13C-PCB-206	7.21e+07	0.80	Y	0.80	55:41	1.024	1.020-1.301	172	86.1											
13C-PCB-208	1.13e+08	0.80	Y	1.00	53:22	0.981	0.977-0.987	215	108											
13C-PCB-209	5.20e+07	1.22	Y	0.85	57:00	1.048	1.045-1.055	117	58.7											

Analyst: MS
 Date: 11/16/16

Sample ID: EPA-HS-C3

EPA Method 168A

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-11
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046
Date Collected:	07-Sep-2016 10:11	%Lipids:	12.1	Date Analyzed:	10-Nov-16 20:38
				Column:	ZB-1
				Date Received:	25-Oct-2016 9:00
				Date Extracted:	07-Nov-2016 14:16

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-1	ND	0.293			PCB-44	41.5			
PCB-2	0.128				PCB-45	3.77			
PCB-3	ND		0.0780	J	PCB-46	1.33			
PCB-4/10	ND		0.404		PCB-47	30.1			B
PCB-5/8	2.68				PCB-48/75	5.95			
PCB-6	ND	0.298			PCB-50	0.0893			J
PCB-7/9	ND	0.203			PCB-51	1.15			
PCB-11	1.52			B	PCB-52/69	126			
PCB-12/13	ND	0.0987			PCB-53	6.61			
PCB-14	ND	0.0854			PCB-54	0.0710			J
PCB-15	ND	0.495			PCB-55	1.73			
PCB-16/32	4.11				PCB-56/60	21.8			
PCB-17	1.72				PCB-57	0.571			
PCB-18	16.3				PCB-58	0.529			
PCB-19	1.13				PCB-61/70	78.0			
PCB-20/21/33	1.63				PCB-62	ND	0.116		
PCB-22	4.28				PCB-63	5.40			
PCB-23	ND	0.179			PCB-65	ND	0.124		
PCB-24/27	1.32				PCB-66/76	79.4			
PCB-25	0.401			J	PCB-67	0.508			
PCB-26	2.11				PCB-68	2.83			
PCB-28	33.4				PCB-73	ND	0.105		
PCB-29	ND				PCB-74	52.3			
PCB-30	ND	0.163			PCB-77	2.62			
PCB-31	21.6	0.0658			PCB-78	ND	0.0919		
PCB-34	0.205			J	PCB-79	6.73			
PCB-35	ND	0.129			PCB-80	ND	0.0817		
PCB-36	ND	0.127			PCB-81	0.829			
PCB-37	0.587				PCB-82	5.87			
PCB-38	0.874				PCB-83	ND	0.177		
PCB-39	0.0978			J	PCB-84/92	126			
PCB-40	0.700				PCB-85/116	72.1			
PCB-41/64/71/72	50.5				PCB-86	ND	0.295		
PCB-42/59	8.78				PCB-87/117/125	115			
PCB-43/49	62.1				PCB-88/91	41.1			

DL - Sample specific; estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-C3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-11				
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046				
Date Collected:	07-Sep-2016 10:11	%Lipids:	12.1	Date Analyzed:	10-Nov-16 20:58 Column: ZB-1				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-89	0.518				PCB-136	56.6			
PCB-90/101	371				PCB-137	27.0			
PCB-93	ND	0.254			PCB-138/163/164	942			B
PCB-94	1.10				PCB-139/149	603			
PCB-95/98/102	242				PCB-140	4.54			
PCB-96	0.916				PCB-141	98.8			
PCB-97	57.6				PCB-144	22.2			
PCB-99	235				PCB-145	0.149			J
PCB-100	2.33				PCB-146/165	139			
PCB-103	4.62				PCB-147	15.8			
PCB-104	ND	0.197			PCB-148	1.08			
PCB-105	151				PCB-150	0.699			
PCB-106/118	283				PCB-151	207			
PCB-107/109	43.5				PCB-152	0.332			J
PCB-108/112	14.1				PCB-153	781			
PCB-110	381				PCB-154	11.9			
PCB-111/115	4.75				PCB-155	0.948			
PCB-113	ND	0.195			PCB-156	64.1			
PCB-114	9.70				PCB-157	14.8			
PCB-119	14.6				PCB-158/160	71.1			
PCB-120	0.923				PCB-159	ND		0.355	
PCB-121	ND	0.175			PCB-166	2.85			
PCB-122	ND	0.417			PCB-167	2.88			
PCB-123	5.07				PCB-168	0.948			
PCB-124	5.93				PCB-169	1.14			
PCB-126	1.37				PCB-170	156			
PCB-127	ND	0.296			PCB-171	53.4			
PCB-128/162	117				PCB-172	30.7			
PCB-129	16.7				PCB-173	3.64			
PCB-130	48.9				PCB-174	168			
PCB-131	ND	0.556			PCB-175	7.58			
PCB-132/161	140				PCB-176	23.0			
PCB-133/142	22.2				PCB-177	144			
PCB-134/143	27.6				PCB-178	59.6			
PCB-135	93.4				PCB-179	98.8			

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration
 Results are reported in wet weight.
 See individual congeners for qualifiers.

Sample ID: EPA-HS-C3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-11				
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046				
Date Collected:	07-Sep-2016 10:11	%Lipids:	12.1	Date Analyzed:	10-Nov-16 20:58				
				Date Received:	25-Oct-2016 9:00				
				Date Extracted:	07-Nov-2016 14:16				
				Column:	ZB-1				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
PCB-180	390				Total octaCB	477			
PCB-181	ND	0.0713			Total nonaCB	76.5			
PCB-182/187	487				DecaCB	13.7			
PCB-183	108				Total PCB	8820			
PCB-184	1.44								
PCB-185	25.3								
PCB-186	ND	0.0571							
PCB-188	0.627								
PCB-189	5.45								
PCB-190	41.8								
PCB-191	6.57								
PCB-192	ND	0.0576							
PCB-193	31.4								
PCB-194	66.3								
PCB-195	40.1								
PCB-196/203	134								
PCB-197	5.21								
PCB-198	5.69								
PCB-199	149								
PCB-200	13.7								
PCB-201	15.7								
PCB-202	44.6								
PCB-204	ND	0.111							
PCB-205	3.59								
PCB-206	52.3								
PCB-207	6.42								
PCB-208	17.8								
PCB-209	13.7								
Total monoCB	0.128		0.206						
Total diCB	4.19		4.60						
Total triCB	89.8								
Total tetraCB	592								
Total pentaCB	2190								
Total hexaCB	3540								
Total heptaCB	1840								

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

Results are reported in wet weight.

See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

Sample ID: EPA-HS-C3

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Tissue	Lab Sample:	1601354-11		
Project:	Upper Columbia River	Sample Size:	10.0 g	QC Batch:	B6K0046		
Date Collected:	07-Sep-2016 10:11	%Lipids:	12.1	Date Analyzed:	10-Nov-16 20:58 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	07-Nov-2016 14:16		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	42.9	15 -150		13C-PCB-170	77.3	25 -150	
13C-PCB-3	45.3	15 -150		13C-PCB-180	78.5	25 -150	
13C-PCB-4	69.1	25 -150		13C-PCB-188	77.8	25 -150	
13C-PCB-11	89.5	25 -150		13C-PCB-189	75.7	25 -150	
13C-PCB-9	79.4	25 -150		13C-PCB-194	100	25 -150	
13C-PCB-19	54.4	25 -150		13C-PCB-202	63.4	25 -150	
13C-PCB-28	84.1	25 -150		13C-PCB-206	85.3	25 -150	
13C-PCB-32	58.7	25 -150		13C-PCB-208	111	25 -150	
13C-PCB-37	97.1	25 -150		13C-PCB-209	57.7	25 -150	
13C-PCB-47	83.3	25 -150		CRS 13C-PCB-79	93.9	30 -135	
13C-PCB-52	84.1	25 -150		13C-PCB-178	80.3	30 -135	
13C-PCB-54	81.9	25 -150					
13C-PCB-70	88.8	25 -150					
13C-PCB-77	97.4	25 -150					
13C-PCB-80	91.8	25 -150					
13C-PCB-81	99.4	25 -150					
13C-PCB-95	84.3	25 -150					
13C-PCB-97	90.1	25 -150					
13C-PCB-101	86.0	25 -150					
13C-PCB-104	72.0	25 -150					
13C-PCB-105	90.0	25 -150					
13C-PCB-114	99.8	25 -150					
13C-PCB-118	92.6	25 -150					
13C-PCB-123	95.5	25 -150					
13C-PCB-126	90.7	25 -150					
13C-PCB-127	90.3	25 -150					
13C-PCB-138	90.5	25 -150					
13C-PCB-141	90.3	25 -150					
13C-PCB-153	91.6	25 -150					
13C-PCB-155	80.5	25 -150					
13C-PCB-156	92.0	25 -150					
13C-PCB-157	91.7	25 -150					
13C-PCB-159	91.0	25 -150					
13C-PCB-167	89.7	25 -150					
13C-PCB-169	87.6	25 -150					

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

Results are reported in wet weight.
See individual congeners for qualifiers.

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Mono	PCB-1	*	* n	NotF	1.06	*		5660	2.5	0.293	*	0.997-1.007	
Mono	PCB-2	8.35e+04	2.78	Y	18:31	0.99		*	2.5	*	0.988	0.983-0.993	
Mono	PCB-3	5.25e+04	2.20	n	18:45	1.02	R	*	2.5	*	1.001	0.996-1.006	
Di	PCB-4/10	2.99e+05	0.73	n	20:06	1.41	R	*	2.5	*	1.001	0.997-1.007	
Di	PCB-7/9	*	* n	NotF	1.13	*		24200	1.0	0.203	*	0.864-0.872	
Di	PCB-6	*	* n	NotF	1.08	*		34000	1.0	0.298	*	0.888-0.897	
Di	PCB-5/8	2.89e+06	1.62	Y	22:59	1.14		*	2.5	*	0.909	0.905-0.915	
Di	PCB-14	*	* n	NotF	1.32	*		4540	2.5	0.0854	*	0.948-0.958	
Di	PCB-11	1.89e+06	1.46	Y	25:18	1.18		*	2.5	*	1.000	0.995-1.005	
Di	PCB-12/13	*	* n	NotF	1.14	*		4540	2.5	0.0987	*	1.011-1.021	
Di	PCB-15	*	* n	NotF	1.29	*		64200	1.0	0.495	*	1.023-1.031	
Tri	PCB-19	6.07e+05	1.09	Y	24:16	1.23		*	2.5	*	1.001	0.996-1.006	
Tri	PCB-30	*	* n	NotF	1.88	*		2740	2.5	0.0658	*	1.033-1.043	
Tri	PCB-18	9.99e+06	1.04	Y	25:56	0.90		*	2.5	*	0.953	0.949-0.959	
Tri	PCB-17	1.14e+06	1.02	Y	26:06	0.98		*	2.5	*	0.960	0.956-0.966	
Tri	PCB-24/27	1.14e+06	1.10	Y	26:40	1.27		*	2.5	*	0.980	0.977-0.987	
Tri	PCB-16/32	3.00e+06	1.06	Y	27:12	1.07		*	2.5	*	1.000	0.996-1.006	
Tri	PCB-34	1.45e+05	1.11	Y	28:00	0.97		*	2.5	*	0.960	0.955-0.965	
Tri	PCB-23	*	* n	NotF	0.86	*		4380	2.5	0.179	*	0.958-0.968	
Tri	PCB-29	*	* n	NotF	0.95	*		4380	2.5	0.163	*	0.967-0.977	
Tri	PCB-26	1.49e+05	0.96	Y	28:34	0.97		*	2.5	*	0.979	0.974-0.984	
Tri	PCB-25	2.71e+05	0.92	Y	28:43	0.93		*	2.5	*	0.985	0.980-0.990	
Tri	PCB-31	1.71e+07	0.95	Y	29:05	1.09		*	2.5	*	0.997	0.992-1.002	
Tri	PCB-28	2.67e+07	0.95	Y	29:12	1.10		*	2.5	*	1.001	0.996-1.006	
Tri	PCB-20/21/33	1.28e+06	1.04	Y	29:50	1.08		*	2.5	*	1.023	1.016-1.026	
Tri	PCB-22	3.25e+06	0.99	Y	30:14	1.04		*	2.5	*	1.037	1.032-1.042	
Tri	PCB-36	*	* n	NotF	1.16	*		4380	2.5	0.127	*	0.929-0.939	
Tri	PCB-39	9.44e+04	1.06	Y	31:20	1.25		*	2.5	*	0.949	0.943-0.953	
Tri	PCB-38	7.71e+05	1.12	Y	32:07	1.15		*	2.5	*	0.972	0.967-0.977	
Tri	PCB-35	*	* n	NotF	1.16	*		4380	2.5	0.129	*	0.982-0.992	
Tri	PCB-37	5.62e+05	0.94	Y	33:03	1.24		*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-54	5.75e+04	0.72	Y	28:03	1.07		*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-50	6.05e+04	0.87	Y	29:14	0.90		*	2.5	*	1.043	1.037-1.047	
Tetra	PCB-53	4.57e+06	0.77	Y	29:52	1.17		*	2.5	*	0.945	0.941-0.951	
Tetra	PCB-51	8.05e+05	0.86	Y	30:13	1.18		*	2.5	*	0.957	0.952-0.962	
Tetra	PCB-45	2.36e+06	0.76	Y	30:39	1.06		*	2.5	*	0.970	0.965-0.975	
Tetra	PCB-46	7.79e+05	0.77	Y	31:08	0.99		*	2.5	*	0.986	0.981-0.991	

Integrations by:
 Analyst: M)
 Date: 11/16/16
 Date: 11/21/16

Reviewed by: CI

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	9.79e+07	0.77	Y 31:36	1.31	126.4	*	3900	2.5	*	1.000	0.996-1.006	
Tetra	PCB-73	*	*	n NotFh	1.45	*	*	3900	2.5	0.105	*	0.999-1.009	
Tetra	PCB-43/49	4.70e+07	0.78	Y 31:54	1.28	62.06	*	*	2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	2.28e+07	0.79	Y 32:07	1.22	30.07	*	*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-48/75	4.88e+06	0.83	Y 32:15	1.32	5.945	*	*	2.5	*	1.005	0.999-1.009	
Tetra	PCB-65	*	*	n NotFh	1.27	*	*	3900	2.5	0.124	*	1.007-1.017	
Tetra	PCB-62	*	*	n NotFh	1.36	*	*	3900	2.5	0.116	*	1.011-1.021	
Tetra	PCB-44	2.42e+07	0.78	Y 32:53	0.94	41.54	*	*	2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	6.90e+06	0.77	Y 33:07	1.27	8.776	*	*	2.5	*	1.032	1.027-1.037	
Tetra	PCB-41/64/71/72	4.19e+07	0.77	Y 33:43	1.34	50.49	*	*	2.5	*	1.051	1.045-1.055	
Tetra	PCB-68	2.68e+06	0.87	Y 34:00	1.53	2.827	*	*	2.5	*	1.059	1.053-1.063	
Tetra	PCB-40	3.75e+05	0.86	Y 34:12	0.86	0.7000	*	*	2.5	*	1.066	1.061-1.071	
Tetra	PCB-57	5.34e+05	0.87	Y 34:33	1.12	0.5706	*	*	2.5	*	0.971	0.965-0.975	
Tetra	PCB-67	4.67e+05	0.74	Y 34:51	1.10	0.5085	*	*	2.5	*	0.979	0.974-0.984	
Tetra	PCB-58	5.13e+05	0.75	Y 34:57	1.16	0.5295	*	*	2.5	*	0.982	0.977-0.987	
Tetra	PCB-63	5.42e+06	0.78	Y 35:07	1.20	5.403	*	*	2.5	*	0.987	0.981-0.991	
Tetra	PCB-74	5.13e+07	0.76	Y 35:24	1.17	52.28	*	*	2.5	*	0.995	0.989-0.999	
Tetra	PCB-61/70	7.39e+07	0.78	Y 35:37	1.13	78.01	*	*	2.5	*	1.001	0.995-1.005	
Tetra	PCB-76/66	7.58e+07	0.77	Y 35:49	1.14	79.37	*	*	2.5	*	1.006	1.000-1.010	
Tetra	PCB-80	*	*	n NotFh	1.31	*	*	3900	2.5	0.0817	*	0.995-1.005	
Tetra	PCB-55	1.75e+06	0.78	Y 36:19	1.16	1.729	*	*	2.5	*	1.008	1.004-1.014	
Tetra	PCB-56/60	2.16e+07	0.78	Y 36:51	1.14	21.76	*	*	2.5	*	1.023	1.018-1.028	
Tetra	PCB-79	6.88e+06	0.84	Y 37:55	1.17	6.730	*	*	2.5	*	1.052	1.048-1.058	
Tetra	PCB-78	*	*	n NotFh	1.11	*	*	3900	2.5	0.0919	*	0.982-0.992	
Tetra	PCB-81	9.16e+05	0.71	Y 39:07	1.20	0.8291	*	*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-77	2.86e+06	0.84	Y 39:45	1.24	2.615	*	*	2.5	*	1.001	0.995-1.005	
Penta	PCB-104	*	*	n NotFh	1.31	*	*	4040	2.5	0.197	*	0.996-1.006	
Penta	PCB-96	5.30e+05	1.67	Y 34:01	1.15	0.9163	*	*	2.5	*	1.039	1.034-1.044	
Penta	PCB-103	2.38e+06	1.64	Y 34:33	1.03	4.619	*	*	2.5	*	1.055	1.051-1.061	
Penta	PCB-100	1.20e+06	1.57	Y 34:55	1.03	2.329	*	*	2.5	*	1.067	1.061-1.071	
Penta	PCB-94	5.64e+05	1.45	Y 35:22	1.18	1.099	*	*	2.5	*	0.985	0.980-0.990	
Penta	PCB-95/98/102	1.38e+08	1.57	Y 35:55	1.31	242.4	*	*	2.5	*	1.001	0.994-1.004	
Penta	PCB-93	*	*	n NotFh	1.19	*	*	4040	2.5	0.254	*	0.998-1.008	
Penta	PCB-88/91	2.20e+07	1.58	Y 36:19	1.23	41.06	*	*	2.5	*	1.012	1.006-1.016	
Penta	PCB-121	*	*	n NotFh	1.74	*	*	4040	2.5	0.175	*	1.009-1.019	
Penta	PCB-84/92	6.85e+07	1.58	Y 37:13	1.16	125.8	*	*	2.5	*	0.990	0.985-0.995	
Penta	PCB-89	2.70e+05	1.70	Y 37:24	1.11	0.5184	*	*	2.5	*	0.995	0.990-1.000	

Analyst: *MM*
 Date: *11/16/16*

Client ID: EPA-HS-C3
 Lab ID: 1601354-11
 Filename: 16111051
 S:11 Acq:10-NOV-16 20:58:03
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.020
 ContCal: ST161110E1-1
 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	2.21e+08	1.57	Y 37:36	1.27	371.3	*	4040	2.5	*	1.000	0.995-1.005	
Penta	PCB-113	1.40e+08	*	n NotFt	1.47	*	*	4040	2.5	0.195	*	1.002-1.012	
Penta	PCB-119	1.22e+07	1.56	Y 37:55	1.26	235.1	*		2.5	*	1.009	1.004-1.014	
Penta	PCB-108/112	9.01e+06	1.59	Y 38:23	1.87	14.62	*		2.5	*	0.987	0.982-0.992	
Penta	PCB-83	*	1.62	Y 38:33	1.44	14.10	*		2.5	*	0.991	0.986-0.996	
Penta	PCB-97	3.37e+07	*	n NotFt	1.70	*	*	4040	2.5	0.177	*	0.990-1.000	
Penta	PCB-86	*	1.60	Y 38:53	1.31	57.64	*		2.5	*	1.000	0.995-1.005	
Penta	PCB-87/117/125	8.13e+07	*	n NotFt	1.02	*	*	4040	2.5	0.295	*	0.999-1.009	
Penta	PCB-111/115	3.91e+06	1.60	Y 39:10	1.59	115.1	*		2.5	*	1.007	1.002-1.012	
Penta	PCB-85/116	4.61e+07	1.68	Y 39:18	1.85	4.748	*		2.5	*	1.011	1.006-1.016	
Penta	PCB-120	7.86e+05	1.57	Y 39:26	1.44	72.05	*		2.5	*	1.014	1.010-1.020	
Penta	PCB-110	2.99e+08	1.63	Y 39:39	1.91	0.9233	*		2.5	*	1.020	1.016-1.026	
Penta	PCB-82	2.96e+06	1.57	Y 39:50	1.76	381.3	*		2.5	*	1.024	1.019-1.029	
Penta	PCB-124	4.77e+06	1.54	Y 40:27	0.81	5.874	*		2.5	*	0.976	0.971-0.981	
Penta	PCB-107/109	3.61e+07	1.42	Y 41:08	1.30	5.934	*		2.5	*	0.992	0.988-0.998	
Penta	PCB-123	4.23e+06	1.57	Y 41:19	1.34	43.55	*		2.5	*	0.997	0.991-1.001	
Penta	PCB-106/118	2.40e+08	1.59	Y 41:27	1.35	5.067	*		2.5	*	1.000	0.995-1.005	
Penta	PCB-114	8.68e+06	1.56	Y 41:38	1.34	282.9	*		2.5	*	1.000	0.996-1.006	
Penta	PCB-122	*	1.52	Y 42:17	1.17	9.705	*		2.5	*	1.000	0.995-1.005	
Penta	PCB-105	1.30e+08	*	n NotFt	1.03	*	*	10000	2.5	0.417	*	0.999-1.009	
Penta	PCB-127	*	1.57	Y 43:09	1.23	150.9	*		2.5	*	1.000	0.995-1.005	
Penta	PCB-126	1.14e+06	*	n NotFt	1.06	*	*	17200	1.0	0.296	*	0.995-1.005	
Penta	PCB-126	1.14e+06	1.50	Y 45:23	1.16	1.372	*		2.5	*	1.000	0.995-1.005	
Hexa	PCB-155	5.91e+05	1.16	Y 37:09	1.26	0.9476	*		2.5	*	1.001	0.966-1.006	
Hexa	PCB-150	3.98e+05	1.18	Y 38:24	1.15	0.6990	*		2.5	*	1.034	1.030-1.040	
Hexa	PCB-152	1.96e+05	1.36	Y 38:52	1.19	0.3324	*		2.5	*	1.047	1.043-1.053	
Hexa	PCB-145	8.47e+04	1.38	Y 39:20	1.14	0.1493	*		2.5	*	1.059	1.055-1.065	
Hexa	PCB-136	3.33e+07	1.27	Y 39:38	1.18	56.64	*		2.5	*	1.067	1.063-1.073	
Hexa	PCB-148	4.41e+05	1.21	Y 39:46	0.82	1.084	*		2.5	*	1.071	1.066-1.076	
Hexa	PCB-154	5.38e+06	1.24	Y 40:14	0.91	11.94	*		2.5	*	1.084	1.079-1.089	
Hexa	PCB-151	8.79e+07	1.25	Y 40:53	0.86	207.1	*		2.5	*	1.101	1.097-1.107	
Hexa	PCB-135	3.82e+07	1.27	Y 41:05	0.82	93.39	*		2.5	*	1.107	1.101-1.113	
Hexa	PCB-144	1.02e+07	1.27	Y 41:13	0.92	22.22	*		2.5	*	1.110	1.105-1.116	
Hexa	PCB-147	6.31e+06	1.26	Y 41:20	0.81	15.77	*		2.5	*	1.113	1.108-1.120	
Hexa	PCB-139/149	2.72e+08	1.27	Y 41:35	0.91	603.4	*		2.5	*	1.120	1.115-1.127	
Hexa	PCB-140	1.88e+06	1.26	Y 41:47	0.83	4.539	*		2.5	*	1.125	1.120-1.132	
Hexa	PCB-134/143	1.86e+07	1.30	Y 42:14	0.89	27.55	*		2.5	*	0.975	0.970-0.980	

Analyst: MS
 Date: 11/16/16

Client ID: BPA-HS-C3
Lab ID: 1601354-11

Filename: 161110E1 S:11 Acq:10-NOV-16 20:58:03
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:10.020

ConCal: ST161110E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	1.44e+07	1.29	Y 42:31	0.86	22.22			2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	n NotF	0.89				12800	2.5	0.556	*	0.981-0.991	
Hexa	PCB-146/165	1.13e+08	1.26	Y 42:55	1.07	139.3			2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	1.18e+08	1.24	Y 43:10	1.12	139.6			2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	6.77e+08	1.27	Y 43:18	1.15	780.5			2.5	*	1.000	0.996-1.006	
Hexa	PCB-168	9.89e+05	1.11	Y 43:32	1.38	0.9476			2.5	*	1.005	1.000-1.010	
Hexa	PCB-141	7.66e+07	1.26	Y 44:02	1.20	98.76			2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	2.15e+07	1.21	Y 44:25	1.23	27.00			2.5	*	1.009	1.004-1.014	
Hexa	PCB-130	3.28e+07	1.25	Y 44:31	1.04	48.92			2.5	*	1.011	1.006-1.016	
Hexa	PCB-138/163/164	8.44e+08	1.26	Y 44:54	1.30	941.7			2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	6.91e+07	1.25	Y 45:07	1.41	71.12			2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	1.11e+07	1.26	Y 45:23	0.97	16.70			2.5	*	1.011	1.007-1.017	
Hexa	PCB-166	2.81e+06	1.32	Y 45:51	1.19	2.852			2.5	*	0.993	0.988-0.998	
Hexa	PCB-159	*	n NotF	1.28				12800	2.5	0.355	*	0.995-1.005	
Hexa	PCB-128/162	1.02e+08	1.27	Y 46:26	1.06	117.1			2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	2.90e+06	1.20	Y 46:51	1.22	2.880			2.5	*	1.000	0.995-1.005	
Hexa	PCB-156	6.69e+07	1.26	Y 48:09	1.27	64.11			2.5	*	1.001	0.995-1.005	
Hexa	PCB-157	1.55e+07	1.34	Y 48:24	1.24	14.79			2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	1.07e+06	1.41	Y 50:37	1.18	1.142			2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	4.97e+05	1.15	Y 42:56	1.59	0.6268			2.5	*	1.000	0.996-1.006	
Hepta	PCB-184	1.03e+06	1.11	Y 43:23	1.44	1.443			2.5	*	1.011	1.006-1.016	
Hepta	PCB-179	7.14e+07	1.06	Y 44:09	1.45	98.81			2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	1.78e+07	1.06	Y 44:37	1.56	23.00			2.5	*	1.040	1.035-1.045	
Hepta	PCB-186	*	n NotF	1.56				2300	2.5	0.0571	*	1.049-1.059	
Hepta	PCB-178	3.55e+07	1.07	Y 45:44	1.20	59.56			2.5	*	1.066	1.061-1.071	
Hepta	PCB-175	4.24e+06	0.96	Y 46:04	1.12	7.583			2.5	*	1.073	1.069-1.079	
Hepta	PCB-182/187	3.01e+08	1.05	Y 46:14	1.24	487.4			2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	7.37e+07	1.06	Y 46:34	1.37	107.9			2.5	*	1.085	1.080-1.090	
Hepta	PCB-185	1.45e+07	1.06	Y 47:13	1.60	25.26			2.5	*	0.956	0.950-0.960	
Hepta	PCB-174	9.15e+07	1.06	Y 47:35	1.51	168.4			2.5	*	0.963	0.958-0.968	
Hepta	PCB-181	*	n NotF	1.64				2300	2.5	0.0713	*	0.960-0.970	
Hepta	PCB-177	7.49e+07	1.04	Y 47:51	1.45	143.6			2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	3.24e+07	1.03	Y 48:09	1.69	53.38			2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	1.80e+06	1.02	Y 48:34	1.38	3.641			2.5	*	0.983	0.978-0.988	
Hepta	PCB-172	1.71e+07	1.07	Y 49:02	1.55	30.70			2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	n NotF	2.02				2300	2.5	0.0576	*	0.991-1.001	
Hepta	PCB-180	2.32e+08	1.05	Y 49:26	1.66	389.9			2.5	*	1.000	0.995-1.005	

Analyst: MS
Date: 11/16/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RET	LCL	UCL
Hepta	PCB-193	2.36e+07	1.06	Y 49:38	2.09	31.44		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	4.99e+06	1.02	Y 49:53	2.11	6.575		*	2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	8.58e+07	1.04	Y 51:00	1.72	155.6		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	3.11e+07	1.05	Y 51:10	2.32	41.75		*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	3.87e+06	1.07	Y 52:35	1.73	5.446		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-202	1.97e+07	0.92	Y 48:20	1.08	44.59		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	7.44e+06	0.95	Y 48:50	1.16	15.70		*	2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n NotF _h	1.09	*	2060	2.5	0.111	*	*	1.009-1.019	
Octa	PCB-197	2.58e+06	0.95	Y 49:17	1.21	5.210		*	2.5	*	1.020	1.015-1.025	
Octa	PCB-200	6.26e+06	0.91	Y 50:11	1.12	13.74		*	2.5	*	1.038	1.034-1.044	
Octa	PCB-198	1.88e+06	0.96	Y 51:37	0.81	5.689		*	2.5	*	1.068	1.062-1.072	
Octa	PCB-199	4.86e+07	0.89	Y 51:44	0.80	148.6		*	2.5	*	1.070	1.064-1.074	
Octa	PCB-196/203	4.77e+07	0.90	Y 52:01	0.87	133.8		*	2.5	*	1.076	1.070-1.080	
Octa	PCB-195	1.80e+07	0.90	Y 53:13	1.10	40.14		*	2.5	*	0.983	0.979-0.989	
Octa	PCB-194	3.45e+07	0.89	Y 54:07	1.28	66.25		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	2.36e+06	0.93	Y 54:23	1.62	3.589		*	2.5	*	1.005	1.001-1.010	
Nona	PCB-208	1.25e+07	1.29	Y 53:22	1.11	17.76		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	4.48e+06	1.33	Y 53:42	1.11	6.420		*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	1.92e+07	1.29	Y 55:41	0.95	52.31		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	5.12e+06	1.14	Y 56:60	1.34	13.72		*	2.5	*	1.000	0.995-1.005	

Analyst: MM
 Date: 11/16/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	8.35e+04	2.78	Y 18:31	1.02	0.127915
Total Di-PCB	4.78e+06	1.62	Y 22:59	1.18	4.19281
Total Tri-PCB	1.59e+07	1.09	Y 24:16	1.21	24.5970
Total Tetra-PCB	5.16e+07	1.11	Y 28:00	1.07	65.1895
Total Penta-PCB	4.99e+08	0.72	Y 28:03	1.20	592.138
Total Hexa-PCB	1.37e+09	1.67	Y 34:01	1.29	2029.05
Total Hepta-PCB	1.40e+08	1.52	Y 42:17	1.13	161.962
Total Octa-PCB	4.57e+08	1.16	Y 37:09	0.98	1018.19
Total Nona-PCB	2.19e+09	1.30	Y 42:14	1.13	2517.15
Total Deca-PCB	1.12e+09	1.15	Y 42:56	1.53	1842.02
Total Mono-PCB	8.35e+04	2.78	Y 18:31	1.02	0.127915
Total Di-PCB	4.78e+06	1.62	Y 22:59	1.18	4.19281
Total Tri-PCB	1.59e+07	1.09	Y 24:16	1.21	24.5970
Total Tetra-PCB	5.16e+07	1.11	Y 28:00	1.07	65.1895
Total Penta-PCB	4.99e+08	0.72	Y 28:03	1.20	592.138
Total Hexa-PCB	1.37e+09	1.67	Y 34:01	1.29	2029.05
Total Hepta-PCB	1.40e+08	1.52	Y 42:17	1.13	161.962
Total Octa-PCB	4.57e+08	1.16	Y 37:09	0.98	1018.19
Total Nona-PCB	2.19e+09	1.30	Y 42:14	1.13	2517.15
Total Deca-PCB	1.12e+09	1.15	Y 42:56	1.53	1842.02
Sum:89.7865					
Sum:2191.01					
Sum:3535.34					
Sum:477.314					
Sum:76.4899					
Sum:13.7182					

Total PCB Conc:8822.62374100

Integrations
 by (M)
 Analyst:
 Date: 11/16/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.19e+08	3.42	Y	1.09	16:06	0.620	0.619-0.625	85.7	42.9											
13C-PCB-3	1.32e+08	3.35	Y	1.15	18:44	0.721	0.718-0.726	90.5	45.3	13C-PCB-79	1.84e+08	0.81	Y	1.01	37:54	1.029	1.024-1.033	187	93.9	
13C-PCB-4	1.05e+08	1.53	Y	0.59	20:05	0.772	0.770-0.778	138	69.1	13C-PCB-178	6.98e+07	0.45	Y	0.64	45:43	0.985	0.980-0.989	160	80.3	
13C-PCB-9	1.89e+08	1.50	Y	0.94	21:53	0.842	0.839-0.847	158	79.4											
13C-PCB-11	2.11e+08	1.51	Y	0.93	25:17	0.973	0.968-0.978	179	89.5	PS vs. IS										
13C-PCB-19	8.72e+07	1.08	Y	0.63	24:15	0.933	0.928-0.939	109	54.4											
13C-PCB-28	1.45e+08	0.95	Y	1.14	29:10	1.003	0.999-1.009	168	84.1	13C-PCB-79	1.84e+08	0.81	Y	1.06	37:54	0.969	0.963-0.973	189	94.5	
13C-PCB-32	1.36e+08	1.05	Y	0.91	27:12	1.046	1.041-1.051	117	58.7	13C-PCB-178	6.98e+07	0.45	Y	0.95	45:43	0.925	0.920-0.930	204	102	
13C-PCB-37	1.54e+08	1.04	Y	1.05	33:02	1.136	1.131-1.143	194	97.1											
13C-PCB-47	1.24e+08	0.80	Y	0.77	32:05	0.871	0.867-0.875	166	83.3	RS										
13C-PCB-52	1.18e+08	0.80	Y	0.72	31:35	0.858	0.853-0.861	168	84.1	13C-PCB-15	2.55e+08	1.52	Y	1.00	25:59	200				
13C-PCB-54	1.50e+08	0.81	Y	0.95	28:01	0.761	0.757-0.765	164	81.9	13C-PCB-31	1.51e+08	1.05	Y	1.00	29:04	200				
13C-PCB-70	1.67e+08	0.82	Y	0.97	35:36	0.967	0.961-0.971	177	88.8	13C-PCB-60	1.94e+08	0.80	Y	1.00	36:50	200				
13C-PCB-77	1.77e+08	0.82	Y	0.93	39:42	1.078	1.073-1.083	194	97.4	13C-PCB-111	1.47e+08	1.58	Y	1.00	39:20	200				
13C-PCB-81	1.84e+08	0.81	Y	0.95	39:07	1.062	1.057-1.067	198	99.4	13C-PCB-128	1.36e+08	1.28	Y	1.00	46:25	200				
13C-PCB-95	8.69e+07	1.59	Y	0.70	35:54	0.913	0.908-0.918	168	84.3	13C-PCB-205	1.13e+08	0.89	Y	1.00	54:23	200				
13C-PCB-97	8.88e+07	1.58	Y	0.67	38:53	0.989	0.984-0.994	180	90.1											
13C-PCB-101	9.40e+07	1.54	Y	0.75	37:35	0.956	0.951-0.961	172	86.0											
13C-PCB-104	1.00e+08	1.59	Y	0.95	32:44	0.832	0.828-0.836	144	72.0											
13C-PCB-105	1.40e+08	1.55	Y	1.14	43:08	0.929	0.924-0.934	180	90.0											
13C-PCB-114	1.53e+08	1.56	Y	1.12	42:17	0.911	0.905-0.915	199	99.8											
13C-PCB-118	1.26e+08	1.62	Y	0.93	41:38	1.059	1.054-1.064	185	92.6											
13C-PCB-123	1.24e+08	1.55	Y	0.88	41:27	1.054	1.049-1.059	191	95.5											
13C-PCB-126	1.43e+08	1.58	Y	1.16	45:22	0.977	0.972-0.982	181	90.7											
13C-PCB-127	1.54e+08	1.56	Y	1.25	43:29	0.937	0.931-0.941	180	90.3											
13C-PCB-138	1.37e+08	1.28	Y	1.11	44:52	0.967	0.961-0.971	181	90.5											
13C-PCB-141	1.29e+08	1.29	Y	1.05	44:02	0.949	0.943-0.953	180	90.3											
13C-PCB-153	1.51e+08	1.27	Y	1.21	43:18	0.933	0.927-0.937	183	91.6											
13C-PCB-155	9.91e+07	1.29	Y	0.84	37:08	0.944	0.939-0.949	161	80.5											
13C-PCB-156	1.64e+08	1.29	Y	1.31	48:07	1.037	1.032-1.042	184	92.0											
13C-PCB-157	1.69e+08	1.30	Y	1.35	48:24	1.043	1.037-1.047	183	91.7											
13C-PCB-159	1.65e+08	1.27	Y	1.33	46:10	0.994	0.989-0.999	182	91.0											
13C-PCB-167	1.64e+08	1.28	Y	1.34	46:51	1.009	1.004-1.014	179	89.7											
13C-PCB-169	1.59e+08	1.27	Y	1.33	50:35	1.090	1.084-1.094	175	87.6											
13C-PCB-170	6.40e+07	0.46	Y	0.61	50:59	1.098	1.091-1.103	154	77.3											
13C-PCB-180	7.17e+07	0.46	Y	0.67	49:25	1.065	1.059-1.069	157	78.5											
13C-PCB-188	9.93e+07	0.46	Y	0.94	42:55	0.925	0.919-0.929	155	77.8											
13C-PCB-189	8.18e+07	0.45	Y	0.79	52:33	1.132	1.124-1.136	151	75.7											
13C-PCB-194	8.10e+07	0.90	Y	0.72	54:07	0.995	0.990-1.000	200	100.0											
13C-PCB-202	8.15e+07	0.89	Y	0.94	48:20	1.041	1.036-1.046	126	63.4											
13C-PCB-206	7.73e+07	0.79	Y	0.80	55:40	1.024	1.020-1.030	170	85.3											
13C-PCB-208	1.26e+08	0.78	Y	1.00	53:22	0.981	0.977-0.987	222	111											
13C-PCB-209	5.53e+07	1.21	Y	0.85	56:59	1.048	1.045-1.055	115	57.7											

Analyst: *[Signature]*
 Date: 11/16/16

Sample ID: Homogenization Blank 10/19/16

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-13				
Project:	Upper Columbia River	Sample Size:	0.986 L	QC Batch:	B6K0073				
Date Collected:	19-Oct-2016 9:30			Date Analyzed:	12-Nov-16 00:55 Column: ZB-1				
Date Received:	25-Oct-2016 9:00			Date Extracted:	11-Nov-2016 8:18				
Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	ND	1.12			PCB-44	1.15			J
PCB-2	ND	1.16			PCB-45	ND	0.704		
PCB-3	ND	1.13			PCB-46	ND	0.753		
PCB-4/10	ND	1.37			PCB-47	3.55			J, B
PCB-5/8	ND	1.03			PCB-48/75	ND	0.485		
PCB-6	ND	1.08			PCB-50	ND	0.614		
PCB-7/9	ND	1.03			PCB-51	0.989			J
PCB-11	4.83			J	PCB-52/69	1.31			J
PCB-12/13	ND	0.964			PCB-53	ND	0.637		
PCB-14	ND	0.835			PCB-54	ND	0.514		
PCB-15	ND	0.856			PCB-55	ND	0.408		
PCB-16/32	1.44			J	PCB-56/60	ND	0.417		
PCB-17	ND	0.656			PCB-57	ND	0.428		
PCB-18	ND		1.33		PCB-58	ND	0.414		
PCB-19	ND	0.702			PCB-61/70	ND		0.675	
PCB-20/21/33	ND		0.849		PCB-62	ND	0.473		
PCB-22	ND	0.455			PCB-63	ND	0.400		
PCB-23	ND	0.634			PCB-65	ND	0.505		
PCB-24/27	ND	0.469			PCB-66/76	ND	0.502		
PCB-25	ND	0.588			PCB-67	ND	0.437		
PCB-26	ND	0.563			PCB-68	ND	0.722		
PCB-28	ND		0.702		PCB-73	ND	0.511		
PCB-29	ND	0.577			PCB-74	ND	0.489		
PCB-30	ND	0.461			PCB-77	ND	0.406		
PCB-31	ND		0.620		PCB-78	ND	0.432		
PCB-34	ND	0.563			PCB-79	ND	0.405		
PCB-35	ND	0.447			PCB-80	ND	0.363		
PCB-36	ND	0.439			PCB-81	ND	0.399		
PCB-37	ND	0.418			PCB-82	ND	1.50		
PCB-38	ND	0.453			PCB-83	ND	0.987		
PCB-39	ND	0.414			PCB-84/92	ND	1.37		
PCB-40	ND	0.744			PCB-85/116	ND	1.17		
PCB-41/64/71/72	0.943			J	PCB-86	ND	1.64		
PCB-42/59	ND	0.507			PCB-87/117/125	ND	1.06		
PCB-43/49	ND		0.513		PCB-88/91	ND	1.38		

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

See individual congeners for qualifiers.

Handwritten: DL ⇒ 29/9
10-3

Handwritten: no impact on tissue samples

EMPC - Estimated maximum possible concentration

Sample ID: Homogenization Blank 10/19/16

EPA Method 1668A

Client Data		Sample Data		Laboratory Data					
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-13				
Project:	Upper Columbia River	Sample Size:	0.986 L	QC Batch:	B6K0073				
Date Collected:	19-Oct-2016 9:30			Date Analyzed:	12-Nov-16 00:55 Column: ZB-1				
Date Received:	25-Oct-2016 9:00			Date Extracted:	11-Nov-2016 8:18				
Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.43			PCB-136	ND	1.08		
PCB-90/101	ND	0.848			PCB-137	ND	0.566		
PCB-93	ND	1.43			PCB-138/163/164	0.609			J
PCB-94	ND	1.44			PCB-139/149	ND	1.40		
PCB-95/98/102	ND	0.923			PCB-140	ND	1.53		
PCB-96	ND	1.16			PCB-141	ND	0.581		
PCB-97	ND	1.28			PCB-144	ND	1.38		
PCB-99	ND	1.25			PCB-145	ND	1.11		
PCB-100	ND	1.30			PCB-146/165	ND	0.558		
PCB-103	ND	1.30			PCB-147	ND	1.58		
PCB-104	ND	1.02			PCB-148	ND	1.56		
PCB-105	ND	0.533			PCB-150	ND	1.11		
PCB-106/118	ND	0.579			PCB-151	ND	1.49		
PCB-107/109	ND	0.914			PCB-152	ND	1.07		
PCB-108/112	ND	1.17			PCB-153	ND	0.520		
PCB-110	ND		0.454		PCB-154	ND	1.40		
PCB-111/115	ND	0.906			PCB-155	ND	1.01		
PCB-113	ND	1.08			PCB-156	ND	0.440		
PCB-114	ND	0.536			PCB-157	ND	0.454		
PCB-119	ND	0.895			PCB-158/160	ND	0.475		
PCB-120	ND	0.876			PCB-159	ND	0.429		
PCB-121	ND	0.979			PCB-166	ND	0.460		
PCB-122	ND	0.607			PCB-167	ND	0.449		
PCB-123	ND	0.907			PCB-168	ND	0.432		
PCB-124	ND	0.941			PCB-169	ND	0.490		
PCB-126	ND	0.561			PCB-170	ND	0.396		
PCB-127	ND	0.568			PCB-171	ND	0.382		
PCB-128/162	ND	0.520			PCB-172	ND	0.416		
PCB-129	ND	0.693			PCB-173	ND	0.469		
PCB-130	ND	0.671			PCB-174	ND	0.427		
PCB-131	ND	0.674			PCB-175	ND	0.402		
PCB-132/161	ND	0.534			PCB-176	ND	0.290		
PCB-133/142	ND	0.694			PCB-177	ND	0.444		
PCB-134/143	ND	0.668			PCB-178	ND	0.377		
PCB-135	ND	1.55			PCB-179	ND	0.311		

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers.

Sample ID: Homogenization Blank 10/19/16

EPA Method 1668A

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-13
Project:	Upper Columbia River	Sample Size:	0.986 L	QC Batch:	B6K0073
Date Collected:	19-Oct-2016 9:30			Date Analyzed:	12-Nov-16 00:55 Column: ZB-1
Date Received:	25-Oct-2016 9:00			Date Extracted:	11-Nov-2016 8:18

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	ND	0.389			Total octaCB	ND	1.21		
PCB-181	ND	0.395			Total nonaCB	ND	0.563		
PCB-182/187	ND	0.364			DecaCB	6.32			
PCB-183	ND	0.329			Total PCB	21.1			
PCB-184	ND	0.314							
PCB-185	ND	0.405							
PCB-186	ND	0.290							
PCB-188	ND	0.283							
PCB-189	ND	0.281							
PCB-190	ND	0.294							
PCB-191	ND	0.306							
PCB-192	ND	0.319							
PCB-193	ND	0.308							
PCB-194	ND	0.353							
PCB-195	ND	0.616							
PCB-196/203	ND	1.11							
PCB-197	ND	0.797							
PCB-198	ND	1.20							
PCB-199	ND	1.21							
PCB-200	ND	0.868							
PCB-201	ND	0.855							
PCB-202	ND	0.894							
PCB-204	ND	0.885							
PCB-205	ND	0.419							
PCB-206	ND	0.563							
PCB-207	ND	0.308							
PCB-208	ND	0.306							
PCB-209	6.32								
Total monoCB	ND	1.16							
Total diCB	4.83								
Total triCB	1.44		4.94						
Total tetraCB	7.94		9.13						
Total pentaCB	ND		0.454						
Total hexaCB	0.609								
Total heptaCB	ND	0.469							

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit
See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration.

Sample ID: Homogenization Blank 10/19/16

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-13		
Project:	Upper Columbia River	Sample Size:	0.986 L	QC Batch:	B6K0073		
Date Collected:	19-Oct-2016 9:30			Date Analyzed:	12-Nov-16 00:55 Column: ZB-1		
Date Received:	25-Oct-2016 9:00			Date Extracted:	11-Nov-2016 8:18		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	54.5	15 -150		13C-PCB-170	67.1	25 -150	
13C-PCB-3	56.8	15 -150		13C-PCB-180	68.3	25 -150	
13C-PCB-4	71.4	25 -150		13C-PCB-188	72.8	25 -150	
13C-PCB-11	85.6	25 -150		13C-PCB-189	63.8	25 -150	
13C-PCB-9	75.3	25 -150		13C-PCB-194	96.7	25 -150	
13C-PCB-19	66.4	25 -150		13C-PCB-202	46.6	25 -150	
13C-PCB-28	79.1	25 -150		13C-PCB-206	101	25 -150	
13C-PCB-32	71.7	25 -150		13C-PCB-208	128	25 -150	
13C-PCB-37	96.3	25 -150		13C-PCB-209	72.6	25 -150	
13C-PCB-47	82.4	25 -150		CRS 13C-PCB-79	98.2	30 -135	
13C-PCB-52	76.4	25 -150		13C-PCB-178	74.7	30 -135	
13C-PCB-54	74.7	25 -150					
13C-PCB-70	93.4	25 -150					
13C-PCB-77	95.2	25 -150					
13C-PCB-80	93.0	25 -150					
13C-PCB-81	96.5	25 -150					
13C-PCB-95	88.9	25 -150					
13C-PCB-97	95.6	25 -150					
13C-PCB-101	92.7	25 -150					
13C-PCB-104	80.6	25 -150					
13C-PCB-105	90.5	25 -150					
13C-PCB-114	92.6	25 -150					
13C-PCB-118	97.6	25 -150					
13C-PCB-123	99.1	25 -150					
13C-PCB-126	88.3	25 -150					
13C-PCB-127	88.8	25 -150					
13C-PCB-138	97.8	25 -150					
13C-PCB-141	97.4	25 -150					
13C-PCB-153	98.4	25 -150					
13C-PCB-155	65.8	25 -150					
13C-PCB-156	95.6	25 -150					
13C-PCB-157	91.7	25 -150					
13C-PCB-159	97.5	25 -150					
13C-PCB-167	96.9	25 -150					
13C-PCB-169	89.7	25 -150					

DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers.

Client ID: Homogenization Blank 13 File Name: 161111E2 S:7 Acq:12-NOV-16 00:55:06 ✓ ConCal: ST161111E2-1
Lab ID: 1601354-13 GC Column ID: ZB1 ICAL: PCBVG8-4-19-16 wt/vol: 0.986 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	*	n	NotFh	1.06	*		3200	2.5	1.12	*	0.997-1.007	
Mono	PCB-2	*	n	NotFh	0.99	*		3200	2.5	1.16	*	0.983-0.993	
Mono	PCB-3	*	n	NotFh	1.02	*		3200	2.5	1.13	*	0.996-1.006	
Di	PCB-4/10	*	n	NotFh	1.41	*		5300	2.5	1.37	*	0.997-1.007	
Di	PCB-7/9	*	n	NotFh	1.13	*		5300	2.5	1.03	*	0.864-0.872	
Di	PCB-6	*	n	NotFh	1.08	*		5300	2.5	1.08	*	0.888-0.897	
Di	PCB-5/8	*	n	NotFh	1.14	*		13300	1.0	1.03	*	0.905-0.915	
Di	PCB-14	*	n	NotFh	1.32	*		5300	2.5	0.835	*	0.948-0.958	
Di	PCB-11	6.45e+05	1.67	Y	25:15	1.18	4.830	*	2.5	*	1.001	0.995-1.005	
Di	PCB-12/13	*	n	NotFh	1.14	*		5300	2.5	0.964	*	1.011-1.021	
Di	PCB-15	*	n	NotFh	1.29	*		5300	2.5	0.856	*	1.023-1.031	
Tri	PCB-19	*	n	NotFh	1.23	*		2690	2.5	0.702	*	0.996-1.006	
Tri	PCB-30	*	n	NotFh	1.88	*		2690	2.5	0.461	*	1.033-1.043	
Tri	PCB-18	1.12e+05	1.41	n	25:53	0.90	1.333	*	2.5	*	0.954	0.949-0.959	
Tri	PCB-17	*	n	NotFh	0.98	*		7240	1.0	0.656	*	0.956-0.966	
Tri	PCB-24/27	*	n	NotFh	1.27	*		2690	2.5	0.469	*	0.977-0.987	
Tri	PCB-16/32	1.44e+05	1.15	Y	27:08	1.07	1.439	*	2.5	*	1.000	0.996-1.006	
Tri	PCB-34	*	n	NotFh	0.97	*		2160	2.5	0.563	*	0.955-0.965	
Tri	PCB-23	*	n	NotFh	0.86	*		2160	2.5	0.634	*	0.958-0.968	
Tri	PCB-29	*	n	NotFh	0.95	*		2160	2.5	0.577	*	0.967-0.977	
Tri	PCB-26	*	n	NotFh	0.97	*		2160	2.5	0.563	*	0.974-0.984	
Tri	PCB-25	*	n	NotFh	0.93	*		2160	2.5	0.588	*	0.980-0.990	
Tri	PCB-31	6.23e+04	0.73	n	29:00	1.09	0.6196	*	2.5	*	0.996	0.992-1.002	
Tri	PCB-28	7.14e+04	1.64	n	29:07	1.10	0.7016	*	2.5	*	1.000	0.996-1.006	
Tri	PCB-20/21/33	8.48e+04	1.27	n	29:44	1.08	0.8492	*	2.5	*	1.022	1.016-1.026	
Tri	PCB-22	*	n	NotFh	1.04	*		4700	1.0	0.455	*	1.032-1.042	
Tri	PCB-36	*	n	NotFh	1.18	*		2160	2.5	0.439	*	0.929-0.939	
Tri	PCB-39	*	n	NotFh	1.25	*		2160	2.5	0.414	*	0.943-0.953	
Tri	PCB-38	*	n	NotFh	1.15	*		2160	2.5	0.453	*	0.967-0.977	
Tri	PCB-35	*	n	NotFh	1.16	*		2160	2.5	0.447	*	0.982-0.992	
Tri	PCB-37	*	n	NotFh	1.24	*		2160	2.5	0.418	*	0.996-1.006	
Tetra	PCB-54	*	n	NotFh	1.07	*		2610	2.5	0.514	*	0.996-1.006	
Tetra	PCB-50	*	n	NotFh	0.90	*		2610	2.5	0.614	*	1.037-1.047	
Tetra	PCB-53	*	n	NotFh	1.17	*		2610	2.5	0.637	*	0.941-0.951	
Tetra	PCB-51	8.83e+04	0.76	Y	30:09	1.18	0.9890	*	2.5	*	0.957	0.952-0.962	
Tetra	PCB-45	*	n	NotFh	1.06	*		2610	2.5	0.704	*	0.965-0.975	
Tetra	PCB-46	*	n	NotFh	0.99	*		2610	2.5	0.753	*	0.981-0.991	

Integrations by:
Analyst: WU
Date: 11/21/16
Date: 11/21/16

Reviewed by:

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	1.30e+05	0.73	Y 31:32	1.31	1.312		*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-73	*	*	n NotFñ	1.45	*					*	0.999-1.009	
Tetra	PCB-43/49	4.96e+04	0.55	n 31:50	1.28	0.5128	R	2610	2.5	0.511	1.010	1.005-1.015	
Tetra	PCB-47	3.75e+05	0.74	Y 32:03	1.22	3.549		2610	2.5	0.581	1.001	0.996-1.006	
Tetra	PCB-48/75	*	*	n NotFñ	1.32	*		*	2.5	*	*	0.999-1.009	
Tetra	PCB-65	*	*	n NotFñ	1.27	*		2610	2.5	0.485	*	1.007-1.017	
Tetra	PCB-62	*	*	n NotFñ	1.36	*		2610	2.5	0.505	*	1.011-1.021	
Tetra	PCB-44	9.34e+04	0.69	Y 32:51	0.94	1.148		2610	2.5	0.473	*	1.020-1.030	
Tetra	PCB-42/59	*	*	n NotFñ	1.27	*		*	2.5	*	1.026	1.027-1.037	
Tetra	PCB-41/64/71/72	1.09e+05	0.66	Y 33:39	1.34	0.9433		2610	2.5	0.507	*	1.045-1.055	
Tetra	PCB-68	*	*	n NotFñ	1.53	*		11200	1.0	0.722	*	1.053-1.063	
Tetra	PCB-40	*	*	n NotFñ	0.86	*		2610	2.5	0.744	*	1.061-1.071	
Tetra	PCB-57	*	*	n NotFñ	1.12	*		2610	2.5	0.428	*	0.965-0.975	
Tetra	PCB-67	*	*	n NotFñ	1.10	*		2610	2.5	0.437	*	0.974-0.984	
Tetra	PCB-58	*	*	n NotFñ	1.16	*		2610	2.5	0.414	*	0.977-0.987	
Tetra	PCB-63	*	*	n NotFñ	1.20	*		2610	2.5	0.400	*	0.981-0.991	
Tetra	PCB-74	*	*	n NotFñ	1.17	*		7800	1.0	0.489	*	0.989-0.999	
Tetra	PCB-61/70	9.46e+04	1.27	n 35:34	1.13	0.6752	R	*	2.5	*	1.001	0.995-1.005	
Tetra	PCB-76/66	*	*	n NotFñ	1.14	*		7800	1.0	0.502	*	1.000-1.010	
Tetra	PCB-80	*	*	n NotFñ	1.31	*		2610	2.5	0.363	*	0.995-1.005	
Tetra	PCB-55	*	*	n NotFñ	1.16	*		2610	2.5	0.408	*	1.004-1.014	
Tetra	PCB-56/60	*	*	n NotFñ	1.14	*		2610	2.5	0.417	*	1.018-1.028	
Tetra	PCB-79	*	*	n NotFñ	1.17	*		2610	2.5	0.405	*	1.048-1.058	
Tetra	PCB-78	*	*	n NotFñ	1.11	*		2610	2.5	0.432	*	0.982-0.992	
Tetra	PCB-81	*	*	n NotFñ	1.20	*		2610	2.5	0.399	*	0.995-1.005	
Tetra	PCB-77	*	*	n NotFñ	1.24	*		2610	2.5	0.406	*	0.995-1.005	
Penta	PCB-104	*	*	n NotFñ	1.31	*		2280	2.5	1.02	*	0.996-1.006	
Penta	PCB-96	*	*	n NotFñ	1.15	*		2280	2.5	1.16	*	1.034-1.044	
Penta	PCB-103	*	*	n NotFñ	1.03	*		2280	2.5	1.30	*	1.051-1.061	
Penta	PCB-100	*	*	n NotFñ	1.03	*		2280	2.5	1.30	*	1.061-1.071	
Penta	PCB-94	*	*	n NotFñ	1.18	*		2280	2.5	1.44	*	0.980-0.990	
Penta	PCB-95/98/102	*	*	n NotFñ	1.31	*		4050	1.0	0.923	*	0.994-1.004	
Penta	PCB-93	*	*	n NotFñ	1.19	*		2280	2.5	1.43	*	0.998-1.008	
Penta	PCB-88/91	*	*	n NotFñ	1.23	*		2280	2.5	1.38	*	1.006-1.016	
Penta	PCB-121	*	*	n NotFñ	1.74	*		2280	2.5	0.979	*	1.009-1.019	
Penta	PCB-84/92	*	*	n NotFñ	1.16	*		2280	2.5	1.37	*	0.985-0.995	
Penta	PCB-89	*	*	n NotFñ	1.11	*		2280	2.5	1.43	*	0.990-1.000	

Analyst: AW
 Date: 11/19/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	ICL	UCL
Penta	PCB-90/101	* n NotFt	1.27					3870	1.0	0.868	*	0.995-1.005	
Penta	PCB-113	* n NotFt	1.47					2280	2.5	1.08	*	1.002-1.012	
Penta	PCB-99	* n NotFt	1.26					2280	2.5	1.25	*	1.004-1.014	
Penta	PCB-119	* n NotFt	1.87					2280	2.5	0.895	*	0.982-0.992	
Penta	PCB-108/112	* n NotFt	1.44					2280	2.5	1.17	*	0.986-0.996	
Penta	PCB-83	* n NotFt	1.70					2280	2.5	0.987	*	0.990-1.000	
Penta	PCB-97	* n NotFt	1.31					2280	2.5	1.28	*	0.995-1.005	
Penta	PCB-86	* n NotFt	1.02					2280	2.5	1.64	*	0.999-1.009	
Penta	PCB-87/117/125	* n NotFt	1.59					2280	2.5	1.06	*	1.002-1.012	
Penta	PCB-111/115	* n NotFt	1.85					2280	2.5	0.906	*	1.006-1.016	
Penta	PCB-85/116	* n NotFt	1.44					2280	2.5	1.17	*	1.010-1.020	
Penta	PCB-120	* n NotFt	1.91					2280	2.5	0.876	*	1.016-1.026	
Penta	PCB-110	3.67e+04	1.05	39:48	1.76	0.4541	R	2280	2.5	*	1.025	1.019-1.029	
Penta	PCB-82	* n NotFt	0.81					2280	2.5	1.50	*	0.971-0.981	
Penta	PCB-124	* n NotFt	1.30					2280	2.5	0.941	*	0.988-0.998	
Penta	PCB-107/109	* n NotFt	1.34					2280	2.5	0.914	*	0.991-1.001	
Penta	PCB-123	* n NotFt	1.35					2280	2.5	0.907	*	0.995-1.005	
Penta	PCB-106/118	* n NotFt	1.34					3760	1.0	0.579	*	0.996-1.006	
Penta	PCB-114	* n NotFt	1.17					1780	2.5	0.536	*	0.995-1.005	
Penta	PCB-122	* n NotFt	1.03					1780	2.5	0.607	*	0.999-1.009	
Penta	PCB-105	* n NotFt	1.23					1780	2.5	0.533	*	0.995-1.005	
Penta	PCB-127	* n NotFt	1.06					1780	2.5	0.568	*	0.995-1.005	
Penta	PCB-126	* n NotFt	1.16					1780	2.5	0.561	*	0.995-1.005	
Hexa	PCB-155	* n NotFt	1.26					1740	2.5	1.01	*	0.966-1.006	
Hexa	PCB-150	* n NotFt	1.15					1740	2.5	1.11	*	1.030-1.040	
Hexa	PCB-152	* n NotFt	1.19					1740	2.5	1.07	*	1.043-1.053	
Hexa	PCB-145	* n NotFt	1.14					1740	2.5	1.11	*	1.055-1.065	
Hexa	PCB-136	* n NotFt	1.18					1740	2.5	1.08	*	1.063-1.073	
Hexa	PCB-148	* n NotFt	0.82					1740	2.5	1.56	*	1.066-1.076	
Hexa	PCB-154	* n NotFt	0.91					1740	2.5	1.40	*	1.079-1.089	
Hexa	PCB-151	* n NotFt	0.86					1740	2.5	1.49	*	1.097-1.107	
Hexa	PCB-135	* n NotFt	0.82					1740	2.5	1.55	*	1.101-1.113	
Hexa	PCB-144	* n NotFt	0.92					1740	2.5	1.38	*	1.105-1.116	
Hexa	PCB-147	* n NotFt	0.81					1740	2.5	1.58	*	1.108-1.120	
Hexa	PCB-139/149	* n NotFt	0.91					1740	2.5	1.40	*	1.115-1.127	
Hexa	PCB-140	* n NotFt	0.83					1740	2.5	1.53	*	1.120-1.132	
Hexa	PCB-134/143	* n NotFt	0.89					2170	2.5	0.668	*	0.970-0.980	

Analyst: MJ
 Date: 11/16/16

Client ID: Homogenization Blank 1
 Lab ID: 1601354-13
 File Name: 161111E2 S:7 Acq:12-NOV-16 00:55:06
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 0.986
 ConCal: ST161111E2-1
 EndCal: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	*	*	n NotF	0.86	*		2170	2.5	0.594	*	0.977-0.987	
Hexa	PCB-131	*	*	n NotF	0.89	*		2170	2.5	0.674	*	0.981-0.991	
Hexa	PCB-146/165	*	*	n NotF	1.07	*		2170	2.5	0.558	*	0.986-0.996	
Hexa	PCB-132/161	*	*	n NotF	1.12	*		2170	2.5	0.534	*	0.992-1.002	
Hexa	PCB-153	*	*	n NotF	1.15	*		2170	2.5	0.520	*	0.996-1.006	
Hexa	PCB-168	*	*	n NotF	1.38	*		2170	2.5	0.432	*	1.000-1.010	
Hexa	PCB-141	*	*	n NotF	1.20	*		2170	2.5	0.581	*	0.995-1.005	
Hexa	PCB-137	*	*	n NotF	1.23	*		2170	2.5	0.566	*	1.004-1.014	
Hexa	PCB-130	*	*	n NotF	1.04	*		2170	2.5	0.671	*	1.006-1.016	
Hexa	PCB-138/163/164	7.62e+04	1.06	Y 44:50	1.30	0.6090		*	2.5	*	1.000	0.996-1.006	
Hexa	PCB-158/160	*	*	n NotF	1.41	*		2170	2.5	0.475	*	1.001-1.011	
Hexa	PCB-129	*	*	n NotF	0.97	*		2170	2.5	0.693	*	1.007-1.017	
Hexa	PCB-166	*	*	n NotF	1.19	*		2170	2.5	0.460	*	0.988-0.998	
Hexa	PCB-159	*	*	n NotF	1.28	*		2170	2.5	0.429	*	0.995-1.005	
Hexa	PCB-128/162	*	*	n NotF	1.06	*		2170	2.5	0.520	*	1.002-1.012	
Hexa	PCB-167	*	*	n NotF	1.22	*		2170	2.5	0.449	*	0.995-1.005	
Hexa	PCB-156	*	*	n NotF	1.27	*		2170	2.5	0.440	*	0.995-1.005	
Hexa	PCB-157	*	*	n NotF	1.24	*		2170	2.5	0.454	*	0.995-1.005	
Hexa	PCB-169	*	*	n NotF	1.18	*		2170	2.5	0.490	*	0.995-1.005	
Hepta	PCB-188	*	*	n NotF	1.59	*		1440	2.5	0.283	*	0.996-1.006	
Hepta	PCB-184	*	*	n NotF	1.44	*		1440	2.5	0.314	*	1.006-1.016	
Hepta	PCB-179	*	*	n NotF	1.45	*		1440	2.5	0.311	*	1.024-1.034	
Hepta	PCB-176	*	*	n NotF	1.56	*		1440	2.5	0.290	*	1.035-1.045	
Hepta	PCB-186	*	*	n NotF	1.56	*		1440	2.5	0.290	*	1.049-1.059	
Hepta	PCB-178	*	*	n NotF	1.20	*		1440	2.5	0.377	*	1.061-1.071	
Hepta	PCB-175	*	*	n NotF	1.12	*		1440	2.5	0.402	*	1.069-1.079	
Hepta	PCB-182/187	*	*	n NotF	1.24	*		1440	2.5	0.364	*	1.073-1.083	
Hepta	PCB-183	*	*	n NotF	1.37	*		1440	2.5	0.329	*	1.080-1.090	
Hepta	PCB-185	*	*	n NotF	1.60	*		1440	2.5	0.405	*	0.950-0.960	
Hepta	PCB-174	*	*	n NotF	1.51	*		1440	2.5	0.427	*	0.958-0.968	
Hepta	PCB-181	*	*	n NotF	1.64	*		1440	2.5	0.395	*	0.960-0.970	
Hepta	PCB-177	*	*	n NotF	1.45	*		1440	2.5	0.444	*	0.963-0.973	
Hepta	PCB-171	*	*	n NotF	1.69	*		1440	2.5	0.382	*	0.969-0.979	
Hepta	PCB-173	*	*	n NotF	1.38	*		1440	2.5	0.469	*	0.978-0.988	
Hepta	PCB-172	*	*	n NotF	1.55	*		1440	2.5	0.416	*	0.987-0.997	
Hepta	PCB-192	*	*	n NotF	2.02	*		1440	2.5	0.319	*	0.991-1.001	
Hepta	PCB-180	*	*	n NotF	1.66	*		1440	2.5	0.389	*	0.995-1.005	

Analyst: (VA)
 Date: 11/9/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	*	n	Not F	2.09	*		1440	2.5	0.308	*	0.999-1.009	
Hepta	PCB-191	*	n	Not F	2.11	*		1440	2.5	0.306	*	1.005-1.015	
Hepta	PCB-170	*	n	Not F	1.72	*		1440	2.5	0.396	*	0.995-1.005	
Hepta	PCB-190	*	n	Not F	2.32	*		1440	2.5	0.294	*	0.999-1.009	
Hepta	PCB-189	*	n	Not F	1.73	*		1440	2.5	0.281	*	0.995-1.005	
Octa	PCB-202	*	n	Not F	1.08	*		1550	2.5	0.894	*	0.995-1.005	
Octa	PCB-201	*	n	Not F	1.16	*		1550	2.5	0.835	*	1.005-1.015	
Octa	PCB-204	*	n	Not F	1.09	*		1550	2.5	0.885	*	1.009-1.019	
Octa	PCB-197	*	n	Not F	1.21	*		1550	2.5	0.797	*	1.015-1.025	
Octa	PCB-200	*	n	Not F	1.12	*		1550	2.5	0.868	*	1.034-1.044	
Octa	PCB-198	*	n	Not F	0.81	*		1550	2.5	1.20	*	1.062-1.072	
Octa	PCB-199	*	n	Not F	0.80	*		1550	2.5	1.21	*	1.064-1.074	
Octa	PCB-196/203	*	n	Not F	0.87	*		1550	2.5	1.11	*	1.070-1.080	
Octa	PCB-195	*	n	Not F	1.10	*		1860	2.5	0.616	*	0.979-0.989	
Octa	PCB-194	*	n	Not F	1.28	*		3100	1.0	0.353	*	0.995-1.005	
Octa	PCB-205	*	n	Not F	1.62	*		1860	2.5	0.419	*	1.001-1.010	
Nona	PCB-208	*	n	Not F	1.11	*		1710	2.5	0.306	*	0.995-1.005	
Nona	PCB-207	*	n	Not F	1.11	*		1710	2.5	0.308	*	1.001-1.011	
Nona	PCB-206	*	n	Not F	0.95	*		1710	2.5	0.563	*	0.995-1.005	
Deca	PCB-209	3.31e+05	1.27	Y	56:58	1.34	6.317	*	2.5	*	1.000	0.995-1.005	

Analyst: MM
 Date: 11/19/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	* * n	NotFnd	1.02	*	
Total Di-PCB	6.45e+05	1.67 Y	25:15	1.18	4.82955
Total Tri-PCB	1.44e+05	1.15 Y	27:08	1.21	1.43902
Total Tetra-PCB	7.95e+05	0.76 Y	30:09	1.07	7.94089
Total Penta-PCB	* * n	NotFnd	1.29	*	
Total Hexa-PCB	* * n	NotFnd	1.13	*	Sum:0.00000
Total Hepta-PCB	7.62e+04	1.06 Y	44:50	1.13	0.608962
Total Octa-PCB	* * n	NotFnd	1.53	*	
Total Nona-PCB	* * n	NotFnd	1.34	*	Sum:0.00000
Total Deca-PCB	3.31e+05	1.27 Y	56:58	1.34	6.31712

Total PCB Conc:26.2810610000

Integrations
 by
 Analyst: MM
 Date: 11/19/16

Client ID: Homogenization Blank 10/19/16
 Lab ID: 1601354-13

Filename: 161111E2 S:7
 GC Column ID: ZB-1 iCal: PCBVG8-4-19-16
 Acq:12-NOV-16 00:55:06
 wt/vol:0.9862
 ConCal: STL161111E2-1
 EngCAL: NA

CRS vs. RS

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.72e+08	3.25	Y	1.09	16:04	0.620	0.619-0.625	1110	54.5
13C-PCB-3	1.88e+08	3.22	Y	1.15	18:42	0.721	0.718-0.726	1150	56.8
13C-PCB-4	1.23e+08	1.53	Y	0.59	20:03	0.773	0.770-0.778	1450	71.4
13C-PCB-9	2.04e+08	1.51	Y	0.94	21:50	0.842	0.839-0.847	1530	75.3
13C-PCB-11	2.30e+08	1.52	Y	0.93	25:14	0.973	0.968-0.978	1740	85.6
13C-PCB-19	1.21e+08	1.07	Y	0.63	24:13	0.933	0.929-0.939	1350	66.4
13C-PCB-28	1.88e+08	1.03	Y	1.14	29:06	1.004	0.999-1.009	1600	79.1
13C-PCB-32	1.89e+08	1.09	Y	0.91	27:09	1.046	1.041-1.051	1450	71.7
13C-PCB-37	2.10e+08	1.04	Y	1.05	32:58	1.137	1.131-1.143	1950	96.3
13C-PCB-47	1.75e+08	0.80	Y	0.77	32:02	0.871	0.867-0.875	1670	82.4
13C-PCB-52	1.53e+08	0.80	Y	0.72	31:31	0.857	0.853-0.861	1550	76.4
13C-PCB-54	1.96e+08	0.81	Y	0.95	27:58	0.761	0.757-0.765	1510	74.7
13C-PCB-70	2.51e+08	0.81	Y	0.97	35:33	0.966	0.961-0.971	1890	93.4
13C-PCB-77	2.47e+08	0.80	Y	0.93	39:39	1.078	1.073-1.083	1930	95.2
13C-PCB-80	2.53e+08	0.80	Y	0.98	35:58	0.978	0.973-0.983	1880	93.0
13C-PCB-81	2.55e+08	0.80	Y	0.95	39:03	1.062	1.057-1.067	1960	96.5
13C-PCB-95	9.08e+07	1.65	Y	0.70	35:50	0.913	0.908-0.918	1800	88.9
13C-PCB-97	9.32e+07	1.63	Y	0.67	38:50	0.989	0.984-0.994	1940	95.6
13C-PCB-101	1.00e+08	1.67	Y	0.75	37:32	0.956	0.951-0.961	1880	92.7
13C-PCB-104	1.11e+08	1.61	Y	0.95	32:40	0.832	0.828-0.836	1640	80.6
13C-PCB-105	1.84e+08	1.54	Y	1.14	43:04	0.929	0.924-0.934	1840	90.5
13C-PCB-114	1.86e+08	1.57	Y	1.12	42:13	0.911	0.905-0.915	1880	92.6
13C-PCB-118	1.32e+08	1.63	Y	0.93	41:34	1.059	1.054-1.064	1980	97.6
13C-PCB-123	1.27e+08	1.63	Y	0.88	41:23	1.054	1.049-1.059	2010	99.1
13C-PCB-126	1.83e+08	1.55	Y	1.16	45:18	0.977	0.972-0.982	1790	88.3
13C-PCB-127	1.98e+08	1.53	Y	1.25	43:25	0.936	0.931-0.941	1800	88.8
13C-PCB-138	1.95e+08	1.30	Y	1.11	44:49	0.967	0.961-0.971	1980	97.8
13C-PCB-141	1.83e+08	1.28	Y	1.05	43:58	0.948	0.943-0.953	1980	97.4
13C-PCB-153	2.12e+08	1.29	Y	1.21	43:15	0.933	0.927-0.937	1990	98.4
13C-PCB-155	8.02e+07	1.25	Y	0.84	37:04	0.944	0.939-0.949	1330	65.8
13C-PCB-156	2.23e+08	1.30	Y	1.31	48:04	1.037	1.032-1.042	1940	95.6
13C-PCB-157	2.22e+08	1.27	Y	1.35	48:20	1.042	1.037-1.047	1860	91.7
13C-PCB-159	2.32e+08	1.27	Y	1.33	46:06	0.994	0.989-0.999	1980	97.5
13C-PCB-167	2.33e+08	1.26	Y	1.34	46:46	1.009	1.004-1.014	1970	96.9
13C-PCB-169	2.13e+08	1.27	Y	1.33	50:32	1.090	1.084-1.094	1820	89.7
13C-PCB-170	7.29e+07	0.47	Y	0.61	50:56	1.058	1.051-1.063	1360	67.1
13C-PCB-180	8.18e+07	0.47	Y	0.67	49:21	1.064	1.059-1.069	1380	68.3
13C-PCB-188	1.22e+08	0.46	Y	0.94	42:52	0.925	0.919-0.929	1480	72.8
13C-PCB-189	9.04e+07	0.46	Y	0.79	52:31	1.133	1.124-1.136	1290	63.8
13C-PCB-194	8.90e+07	0.89	Y	0.72	54:04	0.995	0.990-1.000	1960	96.7
13C-PCB-202	7.87e+07	0.91	Y	0.94	48:16	1.041	1.036-1.046	945	46.6
13C-PCB-206	1.05e+08	0.79	Y	0.80	55:38	1.024	1.020-1.031	2060	101
13C-PCB-208	1.64e+08	0.77	Y	1.00	53:19	0.981	0.977-0.987	2590	128
13C-PCB-209	7.91e+07	1.22	Y	0.85	56:57	1.048	1.045-1.055	1470	72.6

PS vs. IS

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-79	2.75e+08	0.81	Y	1.06	37:51	0.969	0.963-0.973	2060	102
13C-PCB-178	8.52e+07	0.47	Y	0.95	45:39	0.925	0.920-0.930	2220	109

RS

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-15	2.89e+08	1.51	Y	1.00	25:56	2030			
13C-PCB-31	2.08e+08	1.03	Y	1.00	28:60	2030			
13C-PCB-60	2.78e+08	0.80	Y	1.00	36:47	2030			
13C-PCB-111	1.45e+08	1.63	Y	1.00	39:16	2030			
13C-PCB-128	1.79e+08	1.29	Y	1.00	46:22	2030			
13C-PCB-205	1.28e+08	0.88	Y	1.00	54:20	2030			

Analyst: MS
 Date: 11/19/16

Sample ID: Homogenization Blank 10/18/16

EPA Method 1668A

Client Data			Sample Data			Laboratory Data			
Name: Teck American Incorporated	Matrix: Aqueous	Lab Sample: 1601354-14	Date Received: 25-Oct-2016	9:00					
Project: Upper Columbia River	Sample Size: 0.948 L	QC Batch: B6K0073	Date Extracted: 11-Nov-2016	8:18					
Date Collected: 18-Oct-2016 10:35		Date Analyzed: 12-Nov-16 02:00	Column: ZB-1						
Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	ND	1.26			PCB-44	1.37			J
PCB-2	ND	1.27			PCB-45	ND	0.652		
PCB-3	ND	1.23			PCB-46	ND	0.697		
PCB-4/10	ND	1.56			PCB-47	9.09			B
PCB-5/8	ND	1.45			PCB-48/75	ND	0.497		
PCB-6	ND	1.46			PCB-50	ND	0.616		
PCB-7/9	ND	1.39			PCB-51	2.07			J
PCB-11	ND	8.00			PCB-52/69	1.61			J
PCB-12/13	ND	1.38			PCB-53	ND	0.590		
PCB-14	ND	1.20			PCB-54	ND	0.516		
PCB-15	ND	1.23			PCB-55	ND	0.398		
PCB-16/32	ND		1.65		PCB-56/60	ND	0.406		
PCB-17	ND	0.629			PCB-57	ND	0.439		
PCB-18	ND		1.40		PCB-58	ND	0.425		
PCB-19	ND	0.758			PCB-61/70	0.765			J
PCB-20/21/33	ND	0.630			PCB-62	ND	0.485		
PCB-22	ND	0.445			PCB-63	ND	0.410		
PCB-23	ND	0.746			PCB-65	ND	0.517		
PCB-24/27	ND	0.534			PCB-66/76	ND	0.431		
PCB-25	ND	0.692			PCB-67	ND	0.448		
PCB-26	ND	0.662			PCB-68	1.94			J
PCB-28	ND		0.715		PCB-73	ND	0.473		
PCB-29	ND	0.679			PCB-74	ND	0.419		
PCB-30	ND	0.498			PCB-77	ND	0.406		
PCB-31	ND		0.752		PCB-78	ND	0.436		
PCB-34	ND	0.662			PCB-79	ND	0.395		
PCB-35	ND	0.513			PCB-80	ND	0.354		
PCB-36	ND	0.504			PCB-81	ND	0.403		
PCB-37	ND	0.480			PCB-82	ND	1.96		
PCB-38	ND	0.520			PCB-83	ND	1.32		
PCB-39	ND	0.476			PCB-84/92	ND	1.75		
PCB-40	ND	0.762			PCB-85/116	ND	1.56		
PCB-41/64/71/72	1.06			J	PCB-86	ND	2.19		
PCB-42/59	ND	0.520			PCB-87/117/125	ND	1.41		
PCB-43/49	ND		0.483		PCB-88/91	ND	1.79		

EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

See individual congeners for qualifiers.

no impact

Sample ID: Homogenization Blank 10/18/16

EPA Method 1668A

Client Data		Sample Data		Laboratory Data	
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-14
Project:	Upper Columbia River	Sample Size:	0.948 L	QC Batch:	B6K0073
Date Collected:	18-Oct-2016 10:35			Date Analyzed:	12-Nov-16 02:00 Column: ZB-1
Date Received:	25-Oct-2016 9:00			Date Extracted:	11-Nov-2016 8:18

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.83			PCB-136	ND	1.22		
PCB-90/101	ND	0.942			PCB-137	ND	0.627		
PCB-93	ND	1.85			PCB-138/163/164	0.774			J
PCB-94	ND	1.87			PCB-139/149	ND	0.907		
PCB-95/98/102	ND		0.925		PCB-140	ND	1.73		
PCB-96	ND	1.48			PCB-141	ND	0.643		
PCB-97	ND	1.71			PCB-144	ND	1.57		
PCB-99	ND	1.61			PCB-145	ND	1.27		
PCB-100	ND	1.66			PCB-146/165	ND	0.637		
PCB-103	ND	1.67			PCB-147	ND	1.80		
PCB-104	ND	1.31			PCB-148	ND	1.77		
PCB-105	ND	0.663			PCB-150	ND	1.26		
PCB-106/118	ND	1.21			PCB-151	ND	1.69		
PCB-107/109	ND	1.19			PCB-152	ND	1.22		
PCB-108/112	ND	1.56			PCB-153	ND	0.544		
PCB-110	1.21			J	PCB-154	ND	1.59		
PCB-111/115	ND	1.21			PCB-155	ND	1.15		
PCB-113	ND	1.38			PCB-156	ND	0.494		
PCB-114	ND	0.696			PCB-157	ND	0.500		
PCB-119	ND	1.20			PCB-158/160	ND	0.526		
PCB-120	ND	1.17			PCB-159	ND	0.455		
PCB-121	ND	1.27			PCB-166	ND	0.488		
PCB-122	ND	0.787			PCB-167	ND	0.486		
PCB-123	ND	1.18			PCB-168	ND	0.494		
PCB-124	ND	1.23			PCB-169	ND	0.517		
PCB-126	ND	0.669			PCB-170	ND	0.513		
PCB-127	ND	0.698			PCB-171	ND	0.490		
PCB-128/162	ND	0.551			PCB-172	ND	0.535		
PCB-129	ND	0.767			PCB-173	ND	0.602		
PCB-130	ND	0.743			PCB-174	ND	0.548		
PCB-131	ND	0.770			PCB-175	ND	0.539		
PCB-132/161	ND	0.559			PCB-176	ND	0.389		
PCB-133/142	ND	0.793			PCB-177	ND	0.571		
PCB-134/143	ND	0.764			PCB-178	ND	0.505		
PCB-135	ND	1.76			PCB-179	ND	0.417		

DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers.

EMPC - Estimated maximum possible concentration

EMPC - Estimated maximum possible concentration

Sample ID: Homogenization Blank 10/18/16

EPA Method 1668A

Client Data
 Name: Teck American Incorporated
 Project: Upper Columbia River
 Date Collected: 18-Oct-2016 10:35

Sample Data
 Matrix: Aqueous
 Sample Size: 0.948 L

Laboratory Data
 Lab Sample: 1601354-14
 QC Batch: B6K0073
 Date Analyzed: 12-Nov-16 02:00
 Date Received: 25-Oct-2016 9:00
 Date Extracted: 11-Nov-2016 8:18
 Column: ZB-1

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	ND	0.399			Total octaCB	ND		0.558	
PCB-181	ND	0.507			Total nonaCB	ND	0.493		
PCB-182/187	ND	0.488			DecaCB	ND	0.592		
PCB-183	ND	0.441			Total PCB	19.9			
PCB-184	ND	0.421							
PCB-185	ND	0.520							
PCB-186	ND	0.388							
PCB-188	ND	0.380							
PCB-189	ND	0.344							
PCB-190	ND	0.380							
PCB-191	ND	0.393							
PCB-192	ND	0.410							
PCB-193	ND	0.396							
PCB-194	ND								
PCB-195	ND	0.504	0.558 ✓						
PCB-196/203	ND	1.21							
PCB-197	ND	0.867							
PCB-198	ND	1.30							
PCB-199	ND	1.31							
PCB-200	ND	0.944							
PCB-201	ND	0.908							
PCB-202	ND	0.973							
PCB-204	ND	0.962							
PCB-205	ND	0.343							
PCB-206	ND	0.493							
PCB-207	ND	0.264							
PCB-208	ND	0.161							
PCB-209	ND	0.592							
Total monoCB	ND	1.27							
Total diCB	ND	8.00							
Total triCB	ND	4.52							
Total tetraCB	17.9	18.4							
Total pentaCB	1.21	2.13							
Total hexaCB	0.774								
Total heptaCB	ND	0.602							

EMPC - Estimated maximum possible concentration
 DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers.

Sample ID: Homogenization Blank 10/18/16

EPA Method 1668A

Client Data		Sample Data		Laboratory Data			
Name:	Teck American Incorporated	Matrix:	Aqueous	Lab Sample:	1601354-14		
Project:	Upper Columbia River	Sample Size:	0.948 L	QC Batch:	B6K0073		
Date Collected:	18-Oct-2016 10:35			Date Analyzed:	12-Nov-16 02:00 Column: ZB-1		
				Date Received:	25-Oct-2016 9:00		
				Date Extracted:	11-Nov-2016 8:18		
Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	55.0	15 -150		13C-PCB-170	67.8	25 -150	
13C-PCB-3	59.6	15 -150		13C-PCB-180	69.0	25 -150	
13C-PCB-4	73.3	25 -150		13C-PCB-188	71.0	25 -150	
13C-PCB-11	86.7	25 -150		13C-PCB-189	67.2	25 -150	
13C-PCB-9	77.9	25 -150		13C-PCB-194	97.3	25 -150	
13C-PCB-19	69.2	25 -150		13C-PCB-202	45.9	25 -150	
13C-PCB-28	72.1	25 -150		13C-PCB-206	98.4	25 -150	
13C-PCB-32	70.6	25 -150		13C-PCB-208	124	25 -150	
13C-PCB-37	95.1	25 -150		13C-PCB-209	70.1	25 -150	
13C-PCB-47	85.6	25 -150		CRS 13C-PCB-79	94.2	30 -135	
13C-PCB-52	82.5	25 -150		13C-PCB-178	72.1	30 -135	
13C-PCB-54	76.7	25 -150					
13C-PCB-70	94.4	25 -150					
13C-PCB-77	97.5	25 -150					
13C-PCB-80	95.9	25 -150					
13C-PCB-81	97.5	25 -150					
13C-PCB-95	88.3	25 -150					
13C-PCB-97	94.0	25 -150					
13C-PCB-101	92.9	25 -150					
13C-PCB-104	80.9	25 -150					
13C-PCB-105	89.5	25 -150					
13C-PCB-114	90.1	25 -150					
13C-PCB-118	95.8	25 -150					
13C-PCB-123	99.3	25 -150					
13C-PCB-126	89.8	25 -150					
13C-PCB-127	87.8	25 -150					
13C-PCB-138	95.4	25 -150					
13C-PCB-141	95.6	25 -150					
13C-PCB-153	95.2	25 -150					
13C-PCB-155	65.6	25 -150					
13C-PCB-156	94.8	25 -150					
13C-PCB-157	91.7	25 -150					
13C-PCB-159	98.0	25 -150					
13C-PCB-167	96.1	25 -150					
13C-PCB-169	92.0	25 -150					

DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers.

Client ID: Homogenization Blank 14
Lab ID: 1601354-14
Filename: 161111E2
GC Column ID: ZB-7
S: 8
Acq: 12-NOV-16 02:00:12
Ical: PCBVG8-4-19-16 wt/vol: 0.948
ConCal: ST161111E2-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	*	n	NotF	1.06	*		3050	2.5	1.26	*	0.997-1.007	
Mono	PCB-2	*	n	NotF	0.99	*		3050	2.5	1.27	*	0.983-0.993	
Mono	PCB-3	*	n	NotF	1.02	*		3050	2.5	1.23	*	0.996-1.006	
Di	PCB-4/10	*	n	NotF	1.41	*		13400	1.0	1.56	*	0.997-1.007	
Di	PCB-7/9	*	n	NotF	1.13	*		6300	2.5	1.39	*	0.864-0.872	
Di	PCB-6	*	n	NotF	1.08	*		6300	2.5	1.46	*	0.888-0.897	
Di	PCB-5/8	*	n	NotF	1.14	*		16500	1.0	1.45	*	0.905-0.915	
Di	PCB-14	*	n	NotF	1.32	*		6300	2.5	1.20	*	0.948-0.958	
Di	PCB-11	*	n	NotF	1.18	*		93900	1.0	8.00	*	0.995-1.005	
Di	PCB-12/13	*	n	NotF	1.14	*		6300	2.5	1.38	*	1.011-1.021	
Di	PCB-15	*	n	NotF	1.29	*		6300	2.5	1.23	*	1.023-1.031	
Tri	PCB-19	*	n	NotF	1.23	*		2500	2.5	0.758	*	0.996-1.006	
Tri	PCB-30	*	n	NotF	1.88	*		2500	2.5	0.498	*	1.033-1.043	
Tri	PCB-18	9.71e+04	1.77	n	25:53	0.90	R	*	2.5	*	0.954	0.949-0.959	
Tri	PCB-17	*	n	NotF	0.98	*		5670	1.0	0.629	*	0.956-0.966	
Tri	PCB-24/27	*	n	NotF	1.27	*		2500	2.5	0.534	*	0.977-0.987	
Tri	PCB-16/32	1.37e+05	0.86	n	27:08	1.07	R	*	2.5	*	1.000	0.996-1.006	
Tri	PCB-14	*	n	NotF	0.97	*		2120	2.5	0.662	*	0.955-0.965	
Tri	PCB-23	*	n	NotF	0.86	*		2120	2.5	0.746	*	0.958-0.968	
Tri	PCB-29	*	n	NotF	0.95	*		2120	2.5	0.679	*	0.967-0.977	
Tri	PCB-26	*	n	NotF	0.97	*		2120	2.5	0.662	*	0.974-0.984	
Tri	PCB-25	*	n	NotF	0.93	*		2120	2.5	0.692	*	0.980-0.990	
Tri	PCB-31	5.89e+04	0.81	n	29:00	1.09	R	*	2.5	*	0.997	0.992-1.002	
Tri	PCB-28	5.68e+04	1.58	n	29:07	1.10	R	*	2.5	*	1.001	0.996-1.006	
Tri	PCB-20/21/33	*	n	NotF	1.08	*		5600	1.0	0.630	*	1.016-1.026	
Tri	PCB-22	*	n	NotF	1.04	*		3830	1.0	0.445	*	1.032-1.042	
Tri	PCB-36	*	n	NotF	1.18	*		2120	2.5	0.504	*	0.929-0.939	
Tri	PCB-39	*	n	NotF	1.25	*		2120	2.5	0.476	*	0.943-0.953	
Tri	PCB-38	*	n	NotF	1.15	*		2120	2.5	0.520	*	0.967-0.977	
Tri	PCB-35	*	n	NotF	1.16	*		2120	2.5	0.513	*	0.982-0.992	
Tri	PCB-37	*	n	NotF	1.24	*		2120	2.5	0.480	*	0.996-1.006	
Tetra	PCB-54	*	n	NotF	1.07	*		2260	2.5	0.516	*	0.996-1.006	
Tetra	PCB-50	*	n	NotF	0.90	*		2260	2.5	0.616	*	1.037-1.047	
Tetra	PCB-53	*	n	NotF	1.17	*		2260	2.5	0.590	*	0.941-0.951	
Tetra	PCB-51	1.69e+05	0.70	Y	30:08	1.18	2.073	*	2.5	*	0.956	0.952-0.962	
Tetra	PCB-45	*	n	NotF	1.06	*		2260	2.5	0.652	*	0.965-0.975	
Tetra	PCB-46	*	n	NotF	0.99	*		2260	2.5	0.697	*	0.981-0.991	

Integrations by:
Analyst: MM
Date: 11/9/16

Reviewed by: CT Date: 11/24/16

Type	Name	Resp	RA	RT	RRP	Conc	Qual	noise	Pac	DL	RRP	LCL	UCL
Tetra	PCB-52/69	1.46e+05	0.84	Y 31:32	1.31	1.608			* 2.5	*	1.000	0.996-1.006	
Tetra	PCB-73	*	*	n NotF	1.45	*				0.473	*	0.999-1.009	
Tetra	PCB-43/49	4.28e+04	1.07	n 31:50	1.28	0.4830	R	2260	2.5		1.010	1.005-1.015	
Tetra	PCB-47	8.44e+05	0.87	Y 32:02	1.22	9.092			* 2.5	*	1.000	0.996-1.006	
Tetra	PCB-48/75	*	*	n NotF	1.32	*					*	0.999-1.009	
Tetra	PCB-65	*	*	n NotF	1.27	*		2260	2.5	0.497	*	1.007-1.017	
Tetra	PCB-62	*	*	n NotF	1.36	*		2260	2.5	0.517	*	1.011-1.021	
Tetra	PCB-44	9.82e+04	0.74	Y 32:49	0.94	1.373		2260	2.5	0.485	*	1.020-1.030	
Tetra	PCB-42/59	*	*	n NotF	1.27	*					1.025	1.027-1.037	
Tetra	PCB-41/64/71/72	1.08e+05	0.78	Y 33:39	1.34	1.062		2260	2.5	0.520	*	1.045-1.055	
Tetra	PCB-68	2.25e+05	0.69	Y 33:54	1.53	1.944			* 2.5	*	1.051	1.045-1.055	
Tetra	PCB-40	*	*	n NotF	0.86	*					1.059	1.053-1.063	
Tetra	PCB-57	*	*	n NotF	1.12	*		2260	2.5	0.762	*	1.061-1.071	
Tetra	PCB-67	*	*	n NotF	1.10	*		2260	2.5	0.439	*	0.965-0.975	
Tetra	PCB-58	*	*	n NotF	1.16	*		2260	2.5	0.448	*	0.974-0.984	
Tetra	PCB-63	*	*	n NotF	1.20	*		2260	2.5	0.425	*	0.977-0.987	
Tetra	PCB-74	*	*	n NotF	1.17	*		2260	2.5	0.410	*	0.981-0.991	
Tetra	PCB-61/70	9.17e+04	0.78	Y 35:33	1.13	0.7650		2260	2.5	0.419	*	0.989-0.999	
Tetra	PCB-76/66	*	*	n NotF	1.14	*					1.000	0.995-1.005	
Tetra	PCB-80	*	*	n NotF	1.31	*		2260	2.5	0.431	*	1.000-1.010	
Tetra	PCB-55	*	*	n NotF	1.16	*		2260	2.5	0.354	*	0.995-1.005	
Tetra	PCB-56/60	*	*	n NotF	1.14	*		2260	2.5	0.398	*	1.004-1.014	
Tetra	PCB-79	*	*	n NotF	1.17	*		2260	2.5	0.406	*	1.018-1.028	
Tetra	PCB-78	*	*	n NotF	1.11	*		2260	2.5	0.395	*	1.048-1.058	
Tetra	PCB-81	*	*	n NotF	1.20	*		2260	2.5	0.436	*	0.982-0.992	
Tetra	PCB-77	*	*	n NotF	1.24	*		2260	2.5	0.403	*	0.995-1.005	
Penta	PCB-104	*	*	n NotF	1.31	*					*	0.996-1.006	
Penta	PCB-96	*	*	n NotF	1.15	*		2590	2.5	1.31	*	0.996-1.006	
Penta	PCB-103	*	*	n NotF	1.03	*		2590	2.5	1.48	*	1.034-1.044	
Penta	PCB-100	*	*	n NotF	1.03	*		2590	2.5	1.67	*	1.051-1.061	
Penta	PCB-94	*	*	n NotF	1.18	*		2590	2.5	1.66	*	1.061-1.071	
Penta	PCB-95/98/102	4.59e+04	1.89	n 35:51	1.31	0.9247	R	2590	2.5	1.87	*	0.980-0.990	
Penta	PCB-93	*	*	n NotF	1.19	*					1.000	0.994-1.004	
Penta	PCB-88/91	*	*	n NotF	1.23	*		2590	2.5	1.85	*	0.998-1.008	
Penta	PCB-121	*	*	n NotF	1.74	*		2590	2.5	1.79	*	1.006-1.016	
Penta	PCB-84/92	*	*	n NotF	1.16	*		2590	2.5	1.27	*	1.009-1.019	
Penta	PCB-89	*	*	n NotF	1.11	*		2590	2.5	1.75	*	0.985-0.995	
Penta								2590	2.5	1.83	*	0.990-1.000	

Analyst: M
 Date: 11/19/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	*	n	NotF	1.27	*		3810	1.0	0.942	*	0.995-1.005	
Penta	PCB-113	*	n	NotF	1.47	*		2590	2.5	1.38	*	1.002-1.012	
Penta	PCB-99	*	n	NotF	1.26	*		2590	2.5	1.61	*	1.004-1.014	
Penta	PCB-119	*	n	NotF	1.87	*		2590	2.5	1.20	*	0.982-0.992	
Penta	PCB-108/112	*	n	NotF	1.44	*		2590	2.5	1.56	*	0.986-0.996	
Penta	PCB-83	*	n	NotF	1.70	*		2590	2.5	1.32	*	0.990-1.000	
Penta	PCB-97	*	n	NotF	1.31	*		2590	2.5	1.71	*	0.995-1.005	
Penta	PCB-86	*	n	NotF	1.02	*		2590	2.5	2.19	*	0.999-1.009	
Penta	PCB-87/117/125	*	n	NotF	1.59	*		2590	2.5	1.41	*	1.002-1.012	
Penta	PCB-111/115	*	n	NotF	1.85	*		2590	2.5	1.21	*	1.006-1.016	
Penta	PCB-85/116	*	n	NotF	1.44	*		2590	2.5	1.56	*	1.010-1.020	
Penta	PCB-120	*	n	NotF	1.91	*		2590	2.5	1.17	*	1.016-1.026	
Penta	PCB-110	6.23e+04	1.73	Y	39:47	1.76		*	2.5	*	1.025	1.019-1.029	
Penta	PCB-82	*	n	NotF	0.81	*		2590	2.5	1.96	*	0.971-0.981	
Penta	PCB-124	*	n	NotF	1.30	*		2590	2.5	1.23	*	0.988-0.998	
Penta	PCB-107/109	*	n	NotF	1.34	*		2590	2.5	1.19	*	0.991-1.001	
Penta	PCB-123	*	n	NotF	1.35	*		2590	2.5	1.18	*	0.995-1.005	
Penta	PCB-106/118	*	n	NotF	1.34	*		2590	2.5	1.21	*	0.996-1.006	
Penta	PCB-114	*	n	NotF	1.17	*		1920	2.5	0.696	*	0.995-1.005	
Penta	PCB-122	*	n	NotF	1.03	*		1920	2.5	0.787	*	0.999-1.009	
Penta	PCB-105	*	n	NotF	1.23	*		1920	2.5	0.663	*	0.995-1.005	
Penta	PCB-127	*	n	NotF	1.06	*		1920	2.5	0.698	*	0.995-1.005	
Penta	PCB-126	*	n	NotF	1.16	*		1920	2.5	0.669	*	0.995-1.005	
Hexa	PCB-155	*	n	NotF	1.26	*		1740	2.5	1.15	*	0.966-1.006	
Hexa	PCB-150	*	n	NotF	1.15	*		1740	2.5	1.26	*	1.030-1.040	
Hexa	PCB-152	*	n	NotF	1.19	*		1740	2.5	1.22	*	1.043-1.053	
Hexa	PCB-145	*	n	NotF	1.14	*		1740	2.5	1.27	*	1.055-1.065	
Hexa	PCB-136	*	n	NotF	1.18	*		1740	2.5	1.22	*	1.063-1.073	
Hexa	PCB-148	*	n	NotF	0.82	*		1740	2.5	1.77	*	1.066-1.076	
Hexa	PCB-154	*	n	NotF	0.91	*		1740	2.5	1.59	*	1.079-1.089	
Hexa	PCB-151	*	n	NotF	0.86	*		1740	2.5	1.69	*	1.097-1.107	
Hexa	PCB-135	*	n	NotF	0.82	*		1740	2.5	1.76	*	1.101-1.113	
Hexa	PCB-144	*	n	NotF	0.92	*		1740	2.5	1.57	*	1.105-1.116	
Hexa	PCB-147	*	n	NotF	0.81	*		1740	2.5	1.80	*	1.108-1.120	
Hexa	PCB-139/149	*	n	NotF	0.91	*		2480	1.0	0.907	*	1.115-1.127	
Hexa	PCB-140	*	n	NotF	0.83	*		1740	2.5	1.73	*	1.120-1.132	
Hexa	PCB-134/143	*	n	NotF	0.89	*		2050	2.5	0.764	*	0.970-0.980	

Analyst: MJ
 Date: 11/19/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	Noise	Fac	DL	RRF	LCL	UCL
Hexa	PCB-133/142	*	n	Not F _h	0.86	*		2050	2.5	0.793	*	0.977-0.987	
Hexa	PCB-131	*	n	Not F _h	0.89	*		2050	2.5	0.770	*	0.981-0.991	
Hexa	PCB-146/165	*	n	Not F _h	1.07	*		2050	2.5	0.637	*	0.986-0.996	
Hexa	PCB-132/161	*	n	Not F _h	1.12	*		4700	1.0	0.559	*	0.992-1.002	
Hexa	PCB-153	*	n	Not F _h	1.15	*		4700	1.0	0.544	*	0.996-1.006	
Hexa	PCB-168	*	n	Not F _h	1.38	*		2050	2.5	0.494	*	1.000-1.010	
Hexa	PCB-141	*	n	Not F _h	1.20	*		2050	2.5	0.643	*	0.995-1.005	
Hexa	PCB-137	*	n	Not F _h	1.23	*		2050	2.5	0.627	*	1.004-1.014	
Hexa	PCB-130	*	n	Not F _h	1.04	*		2050	2.5	0.743	*	1.006-1.016	
Hexa	PCB-138/163/164	8.13e+04	1.10	Y	44:51	1.30	0.7735	*	2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	*	n	Not F _h	1.41	*		2050	2.5	0.526	*	1.001-1.011	
Hexa	PCB-129	*	n	Not F _h	0.97	*		2050	2.5	0.767	*	1.007-1.017	
Hexa	PCB-166	*	n	Not F _h	1.19	*		2050	2.5	0.488	*	0.988-0.998	
Hexa	PCB-159	*	n	Not F _h	1.28	*		2050	2.5	0.455	*	0.995-1.005	
Hexa	PCB-128/162	*	n	Not F _h	1.06	*		2050	2.5	0.551	*	1.002-1.012	
Hexa	PCB-167	*	n	Not F _h	1.22	*		2050	2.5	0.486	*	0.995-1.005	
Hexa	PCB-156	*	n	Not F _h	1.27	*		2050	2.5	0.494	*	0.995-1.005	
Hexa	PCB-157	*	n	Not F _h	1.24	*		2050	2.5	0.500	*	0.995-1.005	
Hexa	PCB-169	*	n	Not F _h	1.18	*		2050	2.5	0.517	*	0.995-1.005	
Hepta	PCB-188	*	n	Not F _h	1.59	*		1600	2.5	0.380	*	0.996-1.006	
Hepta	PCB-184	*	n	Not F _h	1.44	*		1600	2.5	0.421	*	1.006-1.016	
Hepta	PCB-179	*	n	Not F _h	1.45	*		1600	2.5	0.417	*	1.024-1.034	
Hepta	PCB-176	*	n	Not F _h	1.56	*		1600	2.5	0.389	*	1.035-1.045	
Hepta	PCB-186	*	n	Not F _h	1.56	*		1600	2.5	0.388	*	1.049-1.059	
Hepta	PCB-178	*	n	Not F _h	1.20	*		1600	2.5	0.505	*	1.061-1.071	
Hepta	PCB-175	*	n	Not F _h	1.12	*		1600	2.5	0.539	*	1.069-1.079	
Hepta	PCB-182/187	*	n	Not F _h	1.24	*		1600	2.5	0.488	*	1.073-1.083	
Hepta	PCB-183	*	n	Not F _h	1.37	*		1600	2.5	0.441	*	1.080-1.090	
Hepta	PCB-185	*	n	Not F _h	1.60	*		1600	2.5	0.520	*	0.950-0.960	
Hepta	PCB-174	*	n	Not F _h	1.51	*		1600	2.5	0.548	*	0.958-0.968	
Hepta	PCB-181	*	n	Not F _h	1.64	*		1600	2.5	0.507	*	0.960-0.970	
Hepta	PCB-177	*	n	Not F _h	1.45	*		1600	2.5	0.571	*	0.963-0.973	
Hepta	PCB-171	*	n	Not F _h	1.69	*		1600	2.5	0.490	*	0.969-0.979	
Hepta	PCB-173	*	n	Not F _h	1.38	*		1600	2.5	0.602	*	0.978-0.988	
Hepta	PCB-172	*	n	Not F _h	1.55	*		1600	2.5	0.535	*	0.987-0.997	
Hepta	PCB-192	*	n	Not F _h	2.02	*		1600	2.5	0.410	*	0.991-1.001	
Hepta	PCB-180	*	n	Not F _h	1.66	*		3200	1.0	0.399	*	0.995-1.005	

Analyst: MM
 Date: 11/19/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	ICL	UCL
Hepta	PCB-193	*	* n NotF _h	2.09	*	*	1600	2.5	0.396	*	*	0.999-1.009	
Hepta	PCB-191	*	* n NotF _h	2.11	*	*	1600	2.5	0.393	*	*	1.005-1.015	
Hepta	PCB-170	*	* n NotF _h	1.72	*	*	1600	2.5	0.513	*	*	0.995-1.005	
Hepta	PCB-190	*	* n NotF _h	2.32	*	*	1600	2.5	0.380	*	*	0.999-1.009	
Hepta	PCB-189	*	* n NotF _h	1.73	*	*	1600	2.5	0.344	*	*	0.995-1.005	
Octa	PCB-202	*	* n NotF _h	1.08	*	*	1460	2.5	0.973	*	*	0.995-1.005	
Octa	PCB-201	*	* n NotF _h	1.16	*	*	1460	2.5	0.908	*	*	1.005-1.015	
Octa	PCB-204	*	* n NotF _h	1.09	*	*	1460	2.5	0.962	*	*	1.009-1.019	
Octa	PCB-197	*	* n NotF _h	1.21	*	*	1460	2.5	0.867	*	*	1.015-1.025	
Octa	PCB-200	*	* n NotF _h	1.12	*	*	1460	2.5	0.944	*	*	1.034-1.044	
Octa	PCB-198	*	* n NotF _h	0.81	*	*	1460	2.5	1.30	*	*	1.062-1.072	
Octa	PCB-199	*	* n NotF _h	0.80	*	*	1460	2.5	1.31	*	*	1.064-1.074	
Octa	PCB-196/203	*	* n NotF _h	0.87	*	*	1460	2.5	1.21	*	*	1.070-1.080	
Octa	PCB-195	*	* n NotF _h	1.10	*	*	1360	2.5	0.504	*	*	0.979-0.989	
Octa	PCB-194	2.85e+04	1.11 n 54:04	1.28	*	0.5575	R	*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	*	* n NotF _h	1.62	*	*	1360	2.5	0.343	*	*	1.001-1.010	
Nona	PCB-208	*	* n NotF _h	1.11	*	*	2000	1.0	0.161	*	*	0.995-1.005	
Nona	PCB-207	*	* n NotF _h	1.11	*	*	1300	2.5	0.264	*	*	1.001-1.011	
Nona	PCB-206	*	* n NotF _h	0.95	*	*	1300	2.5	0.493	*	*	0.995-1.005	
Deca	PCB-209	*	* n NotF _h	1.34	*	*	1200	2.5	0.592	*	*	0.995-1.005	

Analyst: MJ
 Date: 11/19/16

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	*	* n	NotFnd	1.02	*
Total Di-PCB	*	* n	NotFnd	1.18	*
Total Tri-PCB	*	* n	NotFnd	1.21	*
Total Tri-PCB	*	* n	NotFnd	1.07	* Sum:0.00000
Total Tetra-PCB	1.68e+06	0.70 Y	30:08	1.20	17.9176
Total Penta-PCB	8.23e+04	1.73 Y	39:47	1.29	1.20956
Total Penta-PCB	*	* n	NotFnd	1.13	* Sum:1.20956
Total Hexa-PCB	*	* n	NotFnd	0.98	*
Total Hexa-PCB	8.13e+04	1.10 Y	44:51	1.13	0.773550 Sum:0.773550
Total Hepta-PCB	*	* n	NotFnd	1.53	*
Total Octa-PCB	*	* n	NotFnd	1.00	*
Total Octa-PCB	*	* n	NotFnd	1.34	* Sum:0.00000
Total Nona-PCB	*	* n	NotFnd	1.06	*
Total Deca-PCB	*	* n	NotFnd	1.34	*

Total PCB Conc:26.3857730000

Integrations
 by
 Analyst: (M)
 Date: 11/19/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	1.52e+08	3.26	Y	1.09	16:04	0.620	0.619-0.625	1160	55.0		13C-PCB-79	2.32e+08	0.80	Y	1.01	37:50	1.029	1.024-1.033	1990	94.2	
13C-PCB-3	1.73e+08	3.26	Y	1.15	18:42	0.721	0.718-0.726	1260	59.6		13C-PCB-178	7.37e+07	0.46	Y	0.64	45:39	0.985	0.980-0.989	1520	72.1	
13C-PCB-4	1.11e+08	1.51	Y	0.59	20:02	0.773	0.770-0.778	1550	73.3		PS vs. IS										
13C-PCB-9	1.85e+08	1.51	Y	0.94	21:51	0.842	0.839-0.847	1640	77.9												
13C-PCB-11	2.04e+08	1.52	Y	0.93	25:14	0.973	0.968-0.978	1830	86.7												
13C-PCB-19	1.10e+08	1.09	Y	0.63	24:12	0.933	0.929-0.939	1460	69.2												
13C-PCB-28	1.52e+08	1.02	Y	1.14	29:06	1.003	0.999-1.009	1520	72.1		13C-PCB-79	2.32e+08	0.80	Y	1.06	37:50	0.969	0.963-0.973	2040	96.7	
13C-PCB-32	1.63e+08	1.11	Y	0.91	27:08	1.046	1.041-1.051	1490	70.6		13C-PCB-178	7.37e+07	0.46	Y	0.95	45:39	0.925	0.920-0.930	2210	105	
13C-PCB-37	1.84e+08	1.03	Y	1.05	32:58	1.137	1.131-1.143	2010	95.1												
13C-PCB-47	1.60e+08	0.81	Y	0.77	32:01	0.871	0.867-0.875	1810	85.6												
13C-PCB-52	1.46e+08	0.79	Y	0.72	31:31	0.857	0.853-0.861	1740	82.5												
13C-PCB-54	1.77e+08	0.80	Y	0.95	27:58	0.761	0.757-0.765	1620	76.7												
13C-PCB-70	2.23e+08	0.80	Y	0.97	35:32	0.966	0.961-0.971	1990	94.4												
13C-PCB-77	2.23e+08	0.81	Y	0.93	39:39	1.078	1.073-1.083	2060	97.5												
13C-PCB-80	2.30e+08	0.79	Y	0.98	35:58	0.978	0.973-0.983	2020	95.9												
13C-PCB-81	2.27e+08	0.80	Y	0.95	39:03	1.062	1.057-1.067	2060	97.5												
13C-PCB-95	8.02e+07	1.63	Y	0.70	35:50	0.913	0.908-0.918	1860	88.3												
13C-PCB-97	8.15e+07	1.63	Y	0.67	38:49	0.989	0.984-0.994	1980	94.0												
13C-PCB-101	8.94e+07	1.66	Y	0.75	37:31	0.956	0.951-0.961	1960	92.9		13C-PCB-15	2.54e+08	1.51	Y	1.00	25:56		2110			
13C-PCB-104	9.90e+07	1.60	Y	0.95	32:40	0.832	0.828-0.836	1710	80.9		13C-PCB-31	1.85e+08	1.00	Y	1.00	28:60		2110			
13C-PCB-105	1.63e+08	1.55	Y	1.14	43:04	0.929	0.924-0.934	1890	89.5		13C-PCB-60	2.45e+08	0.80	Y	1.00	36:46		2110			
13C-PCB-114	1.62e+08	1.56	Y	1.12	42:13	0.911	0.905-0.915	1900	90.1		13C-PCB-111	1.29e+08	1.63	Y	1.00	39:16		2110			
13C-PCB-118	1.15e+08	1.64	Y	0.93	41:33	1.058	1.054-1.064	2020	95.8		13C-PCB-128	1.60e+08	1.29	Y	1.00	46:22		2110			
13C-PCB-123	1.13e+08	1.62	Y	0.88	41:23	1.054	1.049-1.059	2100	99.3		13C-PCB-205	1.20e+08	0.88	Y	1.00	54:20		2110			
13C-PCB-126	1.66e+08	1.54	Y	1.16	45:18	0.977	0.972-0.982	1890	89.8												
13C-PCB-127	1.76e+08	1.55	Y	1.25	43:25	0.937	0.931-0.941	1850	87.8												
13C-PCB-138	1.70e+08	1.26	Y	1.11	44:48	0.966	0.961-0.971	2010	95.4												
13C-PCB-141	1.61e+08	1.28	Y	1.05	43:58	0.949	0.943-0.953	2020	95.6												
13C-PCB-153	1.84e+08	1.27	Y	1.21	43:14	0.933	0.927-0.937	2010	95.2												
13C-PCB-155	7.12e+07	1.29	Y	0.84	37:04	0.944	0.939-0.949	1390	65.6												
13C-PCB-156	1.99e+08	1.29	Y	1.31	48:03	1.037	1.032-1.042	2000	94.8												
13C-PCB-157	1.99e+08	1.27	Y	1.35	48:20	1.042	1.037-1.047	1940	91.7												
13C-PCB-159	2.09e+08	1.27	Y	1.33	46:06	0.994	0.989-0.999	2070	98.0												
13C-PCB-167	2.07e+08	1.27	Y	1.34	46:46	1.009	1.004-1.014	2030	96.1												
13C-PCB-169	1.96e+08	1.26	Y	1.33	50:31	1.090	1.084-1.094	1940	92.0												
13C-PCB-170	6.60e+07	0.47	Y	0.61	50:55	1.098	1.091-1.103	1430	67.8												
13C-PCB-180	7.40e+07	0.46	Y	0.67	49:20	1.064	1.059-1.069	1460	69.0												
13C-PCB-188	1.06e+08	0.46	Y	0.94	42:51	0.924	0.919-0.929	1500	71.0												
13C-PCB-189	8.54e+07	0.46	Y	0.79	52:31	1.133	1.124-1.136	1420	67.2												
13C-PCB-194	8.40e+07	0.90	Y	0.72	54:04	0.995	0.990-1.000	2050	97.3												
13C-PCB-202	6.94e+07	0.94	Y	0.94	48:16	1.041	1.036-1.046	969	45.9												
13C-PCB-206	9.51e+07	0.79	Y	0.80	55:38	1.024	1.020-1.031	2080	98.4												
13C-PCB-208	1.49e+08	0.78	Y	1.00	53:19	0.981	0.977-0.987	2620	124												
13C-PCB-209	7.16e+07	1.22	Y	0.85	56:56	1.048	1.045-1.055	1480	70.1												

Analyst: MS
 Date: 11/19/16

Sample ID: Method Blank **EPA Method 1668A**

Matrix: Aqueous Lab Sample: B6K0073-BLK1
 Sample Size: 1.00 L Date Analyzed: 11-Nov-16 23:50 Column: ZB-1

Analyte	Conc. (pg/L)		DL		EMPC	Qualifiers	Analyte	Conc. (pg/L)		DL		EMPC	Qualifiers
	Sample	Lab	Sample	Lab				Sample	Lab	Sample	Lab		
PCB-1	1.12	ND					PCB-44	ND	0.888			0.888	
PCB-2	ND	ND				J	PCB-45	ND	0.857			0.857	
PCB-3	ND	ND	1.25		0.934		PCB-46	ND	0.916			0.916	
PCB-4/10	ND	ND	1.30				PCB-47	2.38					J
PCB-5/8	ND	ND	0.966				PCB-48/75	ND	0.631			0.631	
PCB-6	ND	ND	1.02				PCB-50	ND	0.725			0.725	
PCB-7/9	ND	ND	0.990				PCB-51	ND	0.767			0.767	
PCB-11	ND	ND			8.37		PCB-52/69	ND	0.836			0.836	
PCB-12/13	ND	ND	0.931				PCB-53	ND	0.775			0.775	
PCB-14	ND	ND	0.806				PCB-54	ND	0.606			0.606	
PCB-15	ND	ND	0.826				PCB-55	ND	0.499			0.499	
PCB-16/32	ND	ND	0.904				PCB-56/60	ND	0.509			0.509	
PCB-17	ND	ND	0.800				PCB-57	ND	0.515			0.515	
PCB-18	ND	ND	1.08				PCB-58	ND	0.498			0.498	
PCB-19	ND	ND	0.915				PCB-61/70	ND	0.521			0.521	
PCB-20/21/33	ND	ND	0.614				PCB-62	ND	0.616			0.616	
PCB-22	ND	ND	0.635				PCB-63	ND	0.481			0.481	
PCB-23	ND	ND	0.768				PCB-65	ND	0.657			0.657	
PCB-24/27	ND	ND	0.615				PCB-66/76	ND	0.505			0.505	
PCB-25	ND	ND	0.712				PCB-67	ND	0.526			0.526	
PCB-26	ND	ND	0.681				PCB-68	ND	0.548			0.548	
PCB-28	ND	ND	0.603				PCB-73	ND	0.622			0.622	
PCB-29	ND	ND	0.699				PCB-74	ND	0.492			0.492	
PCB-30	ND	ND	0.600				PCB-77	ND	0.481			0.481	
PCB-31	ND	ND	0.611				PCB-78	ND	0.523			0.523	
PCB-34	ND	ND	0.681				PCB-79	ND	0.495			0.495	
PCB-35	ND	ND	0.524				PCB-80	ND	0.443			0.443	
PCB-36	ND	ND	0.516				PCB-81	ND	0.483			0.483	
PCB-37	ND	ND	0.491				PCB-82	ND	1.90			1.90	
PCB-38	ND	ND	0.532				PCB-83	ND	1.25			1.25	
PCB-39	ND	ND	0.487				PCB-84/92	ND	1.82			1.82	
PCB-40	ND	ND	0.968				PCB-85/116	ND	1.48			1.48	
PCB-41/64/71/72	ND	ND	0.625				PCB-86	ND	2.08			2.08	
PCB-42/59	ND	ND	0.660				PCB-87/117/125	ND	1.34			1.34	
PCB-43/49	ND	ND	0.707				PCB-88/91	ND	1.85			1.85	

DL - Sample specific: estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers.

only assoc. w/ EBS, 1 no qual

Sample ID: Method Blank **EPA Method 1668A**

Matrix: Aqueous	QC Batch: B6K0073	Lab Sample: B6K0073-BLK1
Sample Size: 1.00 L	Date Extracted: 11-Nov-2016 8:18	Date Analyzed: 11-Nov-16 23:50 Column: ZB-1

Analyte	Conc. (pg/L)		DL		Analyte	Conc. (pg/L)		DL		Qualifiers
	EMPC	DL	EMPC	DL		EMPC	DL	EMPC	DL	
PCB-89	ND	1.90	1.90	1.90	PCB-136	ND	1.30	1.30	1.30	
PCB-90/101	ND	1.15	1.15	1.15	PCB-137	ND	0.646	0.646	0.646	
PCB-93	ND	1.91	1.91	1.91	PCB-138/163/164	ND	0.566	0.566	0.566	
PCB-94	ND	1.94	1.94	1.94	PCB-139/149	ND	1.69	1.69	1.69	
PCB-95/98/102	ND	1.75	1.75	1.75	PCB-140	ND	1.84	1.84	1.84	
PCB-96	ND	1.50	1.50	1.50	PCB-141	ND	0.663	0.663	0.663	
PCB-97	ND	1.62	1.62	1.62	PCB-144	ND	1.66	1.66	1.66	
PCB-99	ND	1.67	1.67	1.67	PCB-145	ND	1.34	1.34	1.34	
PCB-100	ND	1.68	1.68	1.68	PCB-146/165	ND	0.611	0.611	0.611	
PCB-103	ND	1.68	1.68	1.68	PCB-147	ND	1.90	1.90	1.90	
PCB-104	ND	1.32	1.32	1.32	PCB-148	ND	1.87	1.87	1.87	
PCB-105	ND	0.675	0.675	0.675	PCB-150	ND	1.34	1.34	1.34	
PCB-106/118	ND	1.19	1.19	1.19	PCB-151	ND	1.79	1.79	1.79	
PCB-107/109	ND	1.15	1.15	1.15	PCB-152	ND	1.29	1.29	1.29	
PCB-108/112	ND	1.48	1.48	1.48	PCB-153	ND	0.631	0.631	0.631	
PCB-110	ND	1.21	1.21	1.21	PCB-154	ND	1.69	1.69	1.69	
PCB-111/115	ND	1.15	1.15	1.15	PCB-155	ND	1.22	1.22	1.22	
PCB-113	ND	1.43	1.43	1.43	PCB-156	ND	0.490	0.490	0.490	
PCB-114	ND	0.684	0.684	0.684	PCB-157	ND	0.506	0.506	0.506	
PCB-119	ND	1.14	1.14	1.14	PCB-158/160	ND	0.522	0.522	0.522	
PCB-120	ND	1.11	1.11	1.11	PCB-159	ND	0.464	0.464	0.464	
PCB-121	ND	1.31	1.31	1.31	PCB-166	ND	0.497	0.497	0.497	
PCB-122	ND	0.774	0.774	0.774	PCB-167	ND	0.495	0.495	0.495	
PCB-123	ND	1.15	1.15	1.15	PCB-168	ND	0.473	0.473	0.473	
PCB-124	ND	1.19	1.19	1.19	PCB-169	ND	0.532	0.532	0.532	
PCB-126	ND	0.698	0.698	0.698	PCB-170	ND	0.551	0.551	0.551	
PCB-127	ND	0.706	0.706	0.706	PCB-171	ND	0.534	0.534	0.534	
PCB-128/162	ND	0.561	0.561	0.561	PCB-172	ND	0.583	0.583	0.583	
PCB-129	ND	0.762	0.762	0.762	PCB-173	ND	0.656	0.656	0.656	
PCB-130	ND	0.766	0.766	0.766	PCB-174	ND	0.597	0.597	0.597	
PCB-131	ND	0.738	0.738	0.738	PCB-175	ND	0.543	0.543	0.543	
PCB-132/161	ND	0.585	0.585	0.585	PCB-176	ND	0.392	0.392	0.392	
PCB-133/142	ND	0.760	0.760	0.760	PCB-177	ND	0.622	0.622	0.622	
PCB-134/143	ND	0.732	0.732	0.732	PCB-178	ND	0.509	0.509	0.509	
PCB-135	ND	1.86	1.86	1.86	PCB-179	ND	0.420	0.420	0.420	

DL - Sample specific estimated detection limit
 EMPC - Estimated maximum possible concentration
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers.

Sample ID: Method Blank **EPA Method 1668A**

Matrix: Aqueous	QC Batch: B6K0073	Lab Sample: B6K0073-BLK1
Sample Size: 1.00 L	Date Extracted: 11-Nov-2016 8:18	Date Analyzed: 11-Nov-16 23:50 Column: ZB-1

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	ND	0.545			Total octaCB	0.469			
PCB-181	ND	0.553			Total nonaCB	ND	0.522		
PCB-182/187	ND	0.492			DecaCB	ND	0.641		
PCB-183	ND	0.444			Total PCB	3.97			
PCB-184	ND	0.424							
PCB-185	ND	0.566							
PCB-186	ND	0.391							
PCB-188	ND	0.383							
PCB-189	ND	0.380							
PCB-190	ND	0.408							
PCB-191	ND	0.428							
PCB-192	ND	0.447							
PCB-193	ND	0.432							
PCB-194	0.469			J					
PCB-195	ND	0.588							
PCB-196/203	ND	1.41							
PCB-197	ND	1.02							
PCB-198	ND	1.52							
PCB-199	ND	1.54							
PCB-200	ND	1.10							
PCB-201	ND	1.06							
PCB-202	ND	1.14							
PCB-204	ND	1.13							
PCB-205	ND	0.400							
PCB-206	ND	0.522							
PCB-207	ND	0.289							
PCB-208	ND	0.287							
PCB-209	ND	0.641							
Total monoCB	1.12		2.05						
Total diCB	ND		8.37						
Total triCB	ND	1.08		J					
Total tetraCB	2.38		3.74						
Total pentaCB	ND	2.08							
Total hexaCB	ND	1.90							
Total heptaCB	ND	0.656							

EMPC - Estimated maximum possible concentration
 DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers.

Sample ID: Method Blank **EPA Method 1668A**

Matrix: Aqueous	QC Batch: B6K0073	Lab Sample: B6K0073-BLK1
Sample Size: 1.00 L	Date Extracted: 11-Nov-2016 8:18	Date Analyzed: 11-Nov-16 23:50 Column: ZB-1

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	53.8	15-150		13C-PCB-157	83.0	25-150	
13C-PCB-3	57.1	15-150		13C-PCB-159	89.4	25-150	
13C-PCB-4	70.2	25-150		13C-PCB-167	88.1	25-150	
13C-PCB-11	82.7	25-150		13C-PCB-169	82.1	25-150	
13C-PCB-9	74.3	25-150		13C-PCB-170	61.0	25-150	
13C-PCB-19	65.8	25-150		13C-PCB-180	62.4	25-150	
13C-PCB-28	74.3	25-150		13C-PCB-188	67.4	25-150	
13C-PCB-32	67.6	25-150		13C-PCB-189	59.6	25-150	
13C-PCB-37	89.9	25-150		13C-PCB-194	93.3	25-150	
13C-PCB-47	70.8	25-150		13C-PCB-202	43.4	25-150	
13C-PCB-52	70.0	25-150		13C-PCB-206	94.8	25-150	
13C-PCB-54	70.0	25-150		13C-PCB-208	120	25-150	
13C-PCB-70	85.8	25-150		13C-PCB-209	69.8	25-150	
13C-PCB-77	89.6	25-150		CRS 13C-PCB-79	83.4	30-135	
13C-PCB-80	85.0	25-150		13C-PCB-178	66.9	30-135	
13C-PCB-81	87.4	25-150					
13C-PCB-95	80.8	25-150					
13C-PCB-97	88.1	25-150					
13C-PCB-101	85.0	25-150					
13C-PCB-104	76.0	25-150					
13C-PCB-105	82.0	25-150					
13C-PCB-114	83.0	25-150					
13C-PCB-118	88.9	25-150					
13C-PCB-123	93.4	25-150					
13C-PCB-126	81.7	25-150					
13C-PCB-127	79.1	25-150					
13C-PCB-138	88.5	25-150					
13C-PCB-141	86.1	25-150					
13C-PCB-153	88.7	25-150					
13C-PCB-155	61.0	25-150					
13C-PCB-156	86.7	25-150					

DL - Sample specific estimated detection limit
 LCL-UCL - Lower control limit - upper control limit
 See individual congeners for qualifiers

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRF	LCL	UCL
Mono	PCB-1	8.74e+04	3.40	Y 16:05	1.06	1.121			2.5	*	1.001	0.997-1.007	
Mono	PCB-2	7.55e+04	2.45	n 18:29	0.99	0.9344	R		2.5	*	0.988	0.983-0.993	
Mono	PCB-3	*	n	NotFt	1.02	*		7690	1.0	1.25	*	0.996-1.006	
Di	PCB-4/10	*	n	NotFt	1.41	*		4400	2.5	1.30	*	0.997-1.007	
Di	PCB-7/9	*	n	NotFt	1.13	*		4400	2.5	0.990	*	0.864-0.872	
Di	PCB-6	*	n	NotFt	1.08	*		10800	1.0	1.02	*	0.888-0.897	
Di	PCB-5/8	*	n	NotFt	1.14	*		10800	1.0	0.966	*	0.905-0.915	
Di	PCB-14	*	n	NotFt	1.32	*		4400	2.5	0.806	*	0.948-0.958	
Di	PCB-11	9.49e+05	1.12	n 25:16	1.18	8.372	R		2.5	*	1.001	0.995-1.005	
Di	PCB-12/13	*	n	NotFt	1.14	*		4400	2.5	0.931	*	1.011-1.021	
Di	PCB-15	*	n	NotFt	1.29	*		4400	2.5	0.826	*	1.023-1.031	
Tri	PCB-19	*	n	NotFt	1.23	*		2970	2.5	0.915	*	0.996-1.006	
Tri	PCB-30	*	n	NotFt	1.88	*		2970	2.5	0.600	*	1.033-1.043	
Tri	PCB-18	*	n	NotFt	0.90	*		9240	1.0	1.08	*	0.949-0.959	
Tri	PCB-17	*	n	NotFt	0.98	*		2970	2.5	0.800	*	0.956-0.966	
Tri	PCB-24/27	*	n	NotFt	1.27	*		2970	2.5	0.615	*	0.977-0.987	
Tri	PCB-16/32	*	n	NotFt	1.07	*		9240	1.0	0.904	*	0.996-1.006	
Tri	PCB-34	*	n	NotFt	0.97	*		2210	2.5	0.681	*	0.955-0.965	
Tri	PCB-23	*	n	NotFt	0.86	*		2210	2.5	0.768	*	0.958-0.968	
Tri	PCB-29	*	n	NotFt	0.95	*		2210	2.5	0.699	*	0.967-0.977	
Tri	PCB-26	*	n	NotFt	0.97	*		2210	2.5	0.681	*	0.974-0.984	
Tri	PCB-25	*	n	NotFt	0.93	*		2210	2.5	0.712	*	0.980-0.990	
Tri	PCB-31	*	n	NotFt	1.09	*		2210	2.5	0.611	*	0.992-1.002	
Tri	PCB-28	*	n	NotFt	1.10	*		2210	2.5	0.603	*	0.996-1.006	
Tri	PCB-20/21/33	*	n	NotFt	1.08	*		2210	2.5	0.614	*	1.016-1.026	
Tri	PCB-22	*	n	NotFt	1.04	*		2210	2.5	0.635	*	1.032-1.042	
Tri	PCB-36	*	n	NotFt	1.18	*		2210	2.5	0.516	*	0.929-0.939	
Tri	PCB-39	*	n	NotFt	1.25	*		2210	2.5	0.487	*	0.943-0.953	
Tri	PCB-38	*	n	NotFt	1.15	*		2210	2.5	0.532	*	0.967-0.977	
Tri	PCB-35	*	n	NotFt	1.16	*		2210	2.5	0.524	*	0.982-0.992	
Tri	PCB-37	*	n	NotFt	1.24	*		2210	2.5	0.491	*	0.996-1.006	
Tetra	PCB-54	*	n	NotFt	1.07	*		2680	2.5	0.606	*	0.996-1.006	
Tetra	PCB-50	*	n	NotFt	0.90	*		2680	2.5	0.725	*	1.037-1.047	
Tetra	PCB-53	*	n	NotFt	1.17	*		2680	2.5	0.775	*	0.941-0.951	
Tetra	PCB-51	*	n	NotFt	1.18	*		2680	2.5	0.767	*	0.952-0.962	
Tetra	PCB-45	*	n	NotFt	1.06	*		2680	2.5	0.857	*	0.965-0.975	
Tetra	PCB-46	*	n	NotFt	0.99	*		2680	2.5	0.916	*	0.981-0.991	

Integrations by:

Analyst: MY

Date: 11/10/16

Date: 4/18/16

Reviewed by: CT

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	7.01e+04	0.56	n 31:32	1.31	0.8362	R	*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-73	*	*	n NotF	1.45	*		2680	2.5	0.622	*	0.999-1.009	
Tetra	PCB-43/49	*	*	n NotF	1.28	*		2680	2.5	0.707	*	1.005-1.015	
Tetra	PCB-47	2.00e+05	0.78	Y 32:03	1.22	2.380		*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-48/75	*	*	n NotF	1.32	*		2680	2.5	0.631	*	0.999-1.009	
Tetra	PCB-65	*	*	n NotF	1.27	*		2680	2.5	0.657	*	1.007-1.017	
Tetra	PCB-62	*	*	n NotF	1.36	*		2680	2.5	0.616	*	1.011-1.021	
Tetra	PCB-44	*	*	n NotF	0.94	*		2680	2.5	0.888	*	1.020-1.030	
Tetra	PCB-42/59	*	*	n NotF	1.27	*		2680	2.5	0.660	*	1.027-1.037	
Tetra	PCB-41/64/71/72	*	*	n NotF	1.34	*		2680	2.5	0.625	*	1.045-1.055	
Tetra	PCB-68	*	*	n NotF	1.53	*		2680	2.5	0.548	*	1.053-1.063	
Tetra	PCB-40	*	*	n NotF	0.86	*		2680	2.5	0.968	*	1.061-1.071	
Tetra	PCB-57	*	*	n NotF	1.12	*		2680	2.5	0.515	*	0.965-0.975	
Tetra	PCB-67	*	*	n NotF	1.10	*		2680	2.5	0.526	*	0.974-0.984	
Tetra	PCB-58	*	*	n NotF	1.16	*		2680	2.5	0.498	*	0.977-0.987	
Tetra	PCB-63	*	*	n NotF	1.20	*		2680	2.5	0.481	*	0.981-0.991	
Tetra	PCB-74	*	*	n NotF	1.17	*		2680	2.5	0.492	*	0.989-0.999	
Tetra	PCB-61/70	6.20e+04	1.24	n 35:33	1.13	0.5208	R	*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-76/66	*	*	n NotF	1.14	*		2680	2.5	0.505	*	1.000-1.010	
Tetra	PCB-80	*	*	n NotF	1.31	*		2680	2.5	0.443	*	0.995-1.005	
Tetra	PCB-55	*	*	n NotF	1.16	*		2680	2.5	0.499	*	1.004-1.014	
Tetra	PCB-56/60	*	*	n NotF	1.14	*		2680	2.5	0.509	*	1.018-1.028	
Tetra	PCB-79	*	*	n NotF	1.17	*		2680	2.5	0.495	*	1.048-1.058	
Tetra	PCB-78	*	*	n NotF	1.11	*		2680	2.5	0.523	*	0.982-0.992	
Tetra	PCB-81	*	*	n NotF	1.20	*		2680	2.5	0.483	*	0.995-1.005	
Tetra	PCB-77	*	*	n NotF	1.24	*		2680	2.5	0.481	*	0.995-1.005	
Penta	PCB-104	*	*	n NotF	1.31	*		2460	2.5	1.32	*	0.996-1.006	
Penta	PCB-96	*	*	n NotF	1.15	*		2460	2.5	1.50	*	1.034-1.044	
Penta	PCB-103	*	*	n NotF	1.03	*		2460	2.5	1.68	*	1.051-1.061	
Penta	PCB-100	*	*	n NotF	1.03	*		2460	2.5	1.68	*	1.061-1.071	
Penta	PCB-94	*	*	n NotF	1.18	*		2460	2.5	1.94	*	0.980-0.990	
Penta	PCB-95/98/102	*	*	n NotF	1.31	*		2460	2.5	1.75	*	0.994-1.004	
Penta	PCB-93	*	*	n NotF	1.19	*		2460	2.5	1.91	*	0.998-1.008	
Penta	PCB-88/91	*	*	n NotF	1.23	*		2460	2.5	1.85	*	1.006-1.016	
Penta	PCB-121	*	*	n NotF	1.74	*		2460	2.5	1.31	*	1.009-1.019	
Penta	PCB-84/92	*	*	n NotF	1.16	*		2460	2.5	1.82	*	0.985-0.995	
Penta	PCB-89	*	*	n NotF	1.11	*		2460	2.5	1.90	*	0.990-1.000	

Analyst: M
 Date: 11/16/16

Type	Name	Resp	RA	RT	RRF	Conc	Qual	ncise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	*	n NotF	1.27	*	4260	1.0	1.15	*	0.995-1.005			
Penta	PCB-113	*	n NotF	1.47	*	2460	2.5	1.43	*	1.002-1.012			
Penta	PCB-99	*	n NotF	1.26	*	2460	2.5	1.67	*	1.004-1.014			
Penta	PCB-119	*	n NotF	1.87	*	2460	2.5	1.14	*	0.982-0.992			
Penta	PCB-108/112	*	n NotF	1.44	*	2460	2.5	1.48	*	0.986-0.996			
Penta	PCB-83	*	n NotF	1.70	*	2460	2.5	1.25	*	0.990-1.000			
Penta	PCB-97	*	n NotF	1.31	*	2460	2.5	1.62	*	0.995-1.005			
Penta	PCB-86	*	n NotF	1.02	*	2460	2.5	2.08	*	0.999-1.009			
Penta	PCB-87/117/125	*	n NotF	1.59	*	2460	2.5	1.34	*	1.002-1.012			
Penta	PCB-111/115	*	n NotF	1.85	*	2460	2.5	1.15	*	1.006-1.016			
Penta	PCB-85/116	*	n NotF	1.44	*	2460	2.5	1.48	*	1.010-1.020			
Penta	PCB-120	*	n NotF	1.91	*	2460	2.5	1.11	*	1.016-1.026			
Penta	PCB-110	*	n NotF	1.76	*	2460	2.5	1.21	*	1.019-1.029			
Penta	PCB-82	*	n NotF	0.81	*	2460	2.5	1.90	*	0.971-0.981			
Penta	PCB-124	*	n NotF	1.30	*	2460	2.5	1.19	*	0.988-0.998			
Penta	PCB-107/109	*	n NotF	1.34	*	2460	2.5	1.15	*	0.991-1.001			
Penta	PCB-123	*	n NotF	1.35	*	2460	2.5	1.15	*	0.995-1.005			
Penta	PCB-106/118	*	n NotF	1.34	*	2460	2.5	1.19	*	0.996-1.006			
Penta	PCB-114	*	n NotF	1.17	*	1870	2.5	0.684	*	0.995-1.005			
Penta	PCB-122	*	n NotF	1.03	*	1870	2.5	0.774	*	0.999-1.009			
Penta	PCB-105	*	n NotF	1.23	*	1870	2.5	0.675	*	0.995-1.005			
Penta	PCB-127	*	n NotF	1.06	*	1870	2.5	0.706	*	0.995-1.005			
Penta	PCB-126	*	n NotF	1.16	*	1870	2.5	0.698	*	0.995-1.005			
Hexa	PCB-155	*	n NotF	1.26	*	1720	2.5	1.22	*	0.966-1.006			
Hexa	PCB-150	*	n NotF	1.15	*	1720	2.5	1.34	*	1.030-1.040			
Hexa	PCB-152	*	n NotF	1.19	*	1720	2.5	1.29	*	1.043-1.053			
Hexa	PCB-145	*	n NotF	1.14	*	1720	2.5	1.34	*	1.055-1.065			
Hexa	PCB-136	*	n NotF	1.18	*	1720	2.5	1.30	*	1.063-1.073			
Hexa	PCB-148	*	n NotF	0.82	*	1720	2.5	1.87	*	1.066-1.076			
Hexa	PCB-154	*	n NotF	0.91	*	1720	2.5	1.69	*	1.079-1.089			
Hexa	PCB-151	*	n NotF	0.86	*	1720	2.5	1.79	*	1.097-1.107			
Hexa	PCB-135	*	n NotF	0.82	*	1720	2.5	1.86	*	1.101-1.113			
Hexa	PCB-144	*	n NotF	0.92	*	1720	2.5	1.66	*	1.105-1.116			
Hexa	PCB-147	*	n NotF	0.81	*	1720	2.5	1.90	*	1.108-1.120			
Hexa	PCB-139/149	*	n NotF	0.91	*	1720	2.5	1.69	*	1.115-1.127			
Hexa	PCB-140	*	n NotF	0.83	*	1720	2.5	1.84	*	1.120-1.132			
Hexa	PCB-134/143	*	n NotF	0.89	*	1980	2.5	0.732	*	0.970-0.980			

Analyst: ML
 Date: 11/16/16

Client ID: Method Blank
 Lab ID: B6K0073-BLKL

Filename: 161111E2 S:6 Acq:11-NOV-16 23:50:02
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.000

ConCal: ST161111E2-1
 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	*	n	Not F	0.86	*		1980	2.5	0.760	*	0.977-0.987	
Hexa	PCB-131	*	n	Not F	0.89	*		1980	2.5	0.738	*	0.981-0.991	
Hexa	PCB-146/165	*	n	Not F	1.07	*		1980	2.5	0.611	*	0.986-0.996	
Hexa	PCB-132/161	*	n	Not F	1.12	*		1980	2.5	0.585	*	0.992-1.002	
Hexa	PCB-153	*	n	Not F	1.15	*		5500	1.0	0.631	*	0.996-1.006	
Hexa	PCB-168	*	n	Not F	1.38	*		1980	2.5	0.473	*	1.000-1.010	
Hexa	PCB-141	*	n	Not F	1.20	*		1980	2.5	0.663	*	0.995-1.005	
Hexa	PCB-137	*	n	Not F	1.23	*		1980	2.5	0.646	*	1.004-1.014	
Hexa	PCB-130	*	n	Not F	1.04	*		1980	2.5	0.766	*	1.006-1.016	
Hexa	PCB-138/163/164	*	n	Not F	1.30	*		1980	2.5	0.566	*	0.996-1.006	
Hexa	PCB-158/160	*	n	Not F	1.41	*		1980	2.5	0.522	*	1.001-1.011	
Hexa	PCB-129	*	n	Not F	0.97	*		1980	2.5	0.762	*	1.007-1.017	
Hexa	PCB-166	*	n	Not F	1.19	*		1980	2.5	0.497	*	0.988-0.998	
Hexa	PCB-159	*	n	Not F	1.28	*		1980	2.5	0.464	*	0.995-1.005	
Hexa	PCB-128/162	*	n	Not F	1.06	*		1980	2.5	0.561	*	1.002-1.012	
Hexa	PCB-167	*	n	Not F	1.22	*		1980	2.5	0.495	*	0.995-1.005	
Hexa	PCB-156	*	n	Not F	1.27	*		1980	2.5	0.490	*	0.995-1.005	
Hexa	PCB-157	*	n	Not F	1.24	*		1980	2.5	0.506	*	0.995-1.005	
Hexa	PCB-169	*	n	Not F	1.18	*		1980	2.5	0.532	*	0.995-1.005	
Hepta	PCB-188	*	n	Not F	1.59	*		1660	2.5	0.383	*	0.996-1.006	
Hepta	PCB-184	*	n	Not F	1.44	*		1660	2.5	0.424	*	1.006-1.016	
Hepta	PCB-179	*	n	Not F	1.45	*		1660	2.5	0.420	*	1.024-1.034	
Hepta	PCB-176	*	n	Not F	1.56	*		1660	2.5	0.392	*	1.035-1.045	
Hepta	PCB-186	*	n	Not F	1.56	*		1660	2.5	0.391	*	1.049-1.059	
Hepta	PCB-178	*	n	Not F	1.20	*		1660	2.5	0.509	*	1.061-1.071	
Hepta	PCB-175	*	n	Not F	1.12	*		1660	2.5	0.543	*	1.069-1.079	
Hepta	PCB-182/187	*	n	Not F	1.24	*		1660	2.5	0.492	*	1.073-1.083	
Hepta	PCB-183	*	n	Not F	1.37	*		1660	2.5	0.444	*	1.080-1.090	
Hepta	PCB-185	*	n	Not F	1.60	*		1660	2.5	0.566	*	0.950-0.960	
Hepta	PCB-174	*	n	Not F	1.51	*		1660	2.5	0.597	*	0.958-0.968	
Hepta	PCB-181	*	n	Not F	1.64	*		1660	2.5	0.553	*	0.960-0.970	
Hepta	PCB-177	*	n	Not F	1.45	*		1660	2.5	0.622	*	0.963-0.973	
Hepta	PCB-171	*	n	Not F	1.69	*		1660	2.5	0.534	*	0.969-0.979	
Hepta	PCB-173	*	n	Not F	1.38	*		1660	2.5	0.656	*	0.978-0.988	
Hepta	PCB-172	*	n	Not F	1.55	*		1660	2.5	0.583	*	0.987-0.997	
Hepta	PCB-192	*	n	Not F	2.02	*		1660	2.5	0.447	*	0.991-1.001	
Hepta	PCB-180	*	n	Not F	1.66	*		1660	2.5	0.545	*	0.995-1.005	

Analyst: MM
 Date: 11/16/16

Client ID: Method Blank
 Lab ID: B6K0073-ELK1

Filename: 161111E2 S:6 Acq:11-NOV-16 23:50:02
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.000

ConCal: ST161111E2-1
 EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	*	n	NotF	2.09	*		1660	2.5	0.432	*	0.999-1.009	
Hepta	PCB-191	*	n	NotF	2.11	*		1660	2.5	0.428	*	1.005-1.015	
Hepta	PCB-170	*	n	NotF	1.72	*		1660	2.5	0.551	*	0.995-1.005	
Hepta	PCB-190	*	n	NotF	2.32	*		1660	2.5	0.408	*	0.999-1.009	
Hepta	PCB-189	*	n	NotF	1.73	*		1660	2.5	0.380	*	0.995-1.005	
Octa	PCB-202	*	n	NotF	1.08	*		1720	2.5	1.14	*	0.995-1.005	
Octa	PCB-201	*	n	NotF	1.16	*		1720	2.5	1.06	*	1.005-1.015	
Octa	PCB-204	*	n	NotF	1.09	*		1720	2.5	1.13	*	1.009-1.019	
Octa	PCB-197	*	n	NotF	1.21	*		1720	2.5	1.02	*	1.015-1.025	
Octa	PCB-200	*	n	NotF	1.12	*		1720	2.5	1.10	*	1.034-1.044	
Octa	PCB-198	*	n	NotF	0.81	*		1720	2.5	1.52	*	1.062-1.072	
Octa	PCB-199	*	n	NotF	0.80	*		1720	2.5	1.54	*	1.064-1.074	
Octa	PCB-196/203	*	n	NotF	0.87	*		1720	2.5	1.41	*	1.070-1.080	
Octa	PCB-195	*	n	NotF	1.10	*		1670	2.5	0.588	*	0.979-0.989	
Octa	PCB-194	2.45e+04	0.84	Y	54.04	1.28	0.4688	*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	*	n	NotF	1.62	*		1670	2.5	0.400	*	1.001-1.010	
Nona	PCB-208	*	n	NotF	1.11	*		1440	2.5	0.287	*	0.995-1.005	
Nona	PCB-207	*	n	NotF	1.11	*		1440	2.5	0.289	*	1.001-1.011	
Nona	PCB-206	*	n	NotF	0.95	*		1440	2.5	0.522	*	0.995-1.005	
Deca	PCB-209	*	n	NotF	1.34	*		1460	2.5	0.641	*	0.995-1.005	

Analyst: M
 Date: 11/16/16

Client ID: Method Blank
Lab ID: B6K0073-BLX1

Filename: 161111E2 S:6 Acq:11-NOV-16 23:50:02 ConCal: ST161111E2-1
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.0000 EndCAL: NA

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	8.74e+04	3.40 Y	16:05	1.02	1.12051
Total Di-PCB	*	* n	NotFnd	1.18	*
Total Tri-PCB	*	* n	NotFnd	1.21	*
Total Tetra-PCB	*	* n	NotFnd	1.07	* Sum:0.00000
Total Penta-PCB	2.00e+05	0.78 Y	32:03	1.20	2.38000
Total Hexa-PCB	*	* n	NotFnd	1.29	*
Total Hepta-PCB	*	* n	NotFnd	1.13	* Sum:0.00000
Total Octa-PCB	*	* n	NotFnd	0.98	*
Total Nona-PCB	*	* n	NotFnd	1.13	* Sum:0.00000
Total Deca-PCB	*	* n	NotFnd	1.53	*
Total Mono-PCB	2.45e+04	0.84 Y	54:04	1.00	* Sum:0.468839
Total Di-PCB	*	* n	NotFnd	1.34	*
Total Tri-PCB	*	* n	NotFnd	1.06	*
Total Tetra-PCB	*	* n	NotFnd	1.34	*

Total PCB Conc:14.6323690000

Integrations
by
Analyst: (M)
Date: 11/16/16

Client ID: Method Blank Lab ID: B6K0073-BLKI
Filename: i61111E2 S:6 Acq:11-NOV-16 23:50:02 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:1.0000
ConCal: STI61111E2-1 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.47e+08	3.25	Y	1.09	16:04	0.620	0.619-0.625	1080	53.8		13C-PCB-79	2.13e+08	0.82	Y	1.01	37:51	1.029	1.024-1.033	1670	83.4
13C-PCB-3	1.64e+08	3.24	Y	1.15	18:42	0.721	0.718-0.726	1140	57.1		13C-PCB-178	6.88e+07	0.46	Y	0.64	45:39	0.985	0.980-0.989	1340	66.9
13C-PCB-4	1.05e+08	1.53	Y	0.59	20:03	0.773	0.770-0.778	1400	70.2		PS vs. IS									
13C-PCB-9	1.74e+08	1.50	Y	0.94	21:51	0.842	0.839-0.847	1490	74.3											
13C-PCB-11	1.92e+08	1.51	Y	0.93	25:14	0.973	0.968-0.978	1650	82.7											
13C-PCB-19	1.04e+08	1.10	Y	0.63	24:13	0.933	0.929-0.939	1320	65.8											
13C-PCB-28	1.58e+08	1.03	Y	1.14	29:06	1.004	0.999-1.009	1490	74.3											
13C-PCB-32	1.54e+08	1.09	Y	0.91	27:09	1.046	1.041-1.051	1350	67.6											
13C-PCB-37	1.75e+08	1.01	Y	1.05	32:59	1.137	1.131-1.143	1800	89.9											
13C-PCB-47	1.28e+08	0.80	Y	0.72	31:31	0.857	0.853-0.861	1400	70.0											
13C-PCB-54	1.68e+08	0.80	Y	0.95	27:59	0.761	0.757-0.765	1400	70.0											
13C-PCB-70	2.10e+08	0.81	Y	0.97	35:33	0.966	0.961-0.971	1720	85.8											
13C-PCB-77	2.12e+08	0.81	Y	0.93	39:39	1.078	1.073-1.083	1790	89.6											
13C-PCB-80	2.11e+08	0.81	Y	0.98	35:58	0.978	0.973-0.983	1700	85.0											
13C-PCB-81	2.11e+08	0.79	Y	0.95	39:03	1.062	1.057-1.067	1750	87.4											
13C-PCB-95	7.20e+07	1.64	Y	0.70	35:50	0.913	0.908-0.918	1620	80.8	RS										
13C-PCB-97	7.50e+07	1.63	Y	0.67	38:50	0.989	0.984-0.994	1760	88.1											
13C-PCB-101	8.03e+07	1.69	Y	0.75	37:31	0.956	0.951-0.961	1700	85.0											
13C-PCB-104	9.13e+07	1.62	Y	0.95	32:40	0.832	0.828-0.836	1520	76.0											
13C-PCB-105	1.50e+08	1.54	Y	1.14	43:04	0.929	0.924-0.934	1640	82.0											
13C-PCB-114	1.50e+08	1.56	Y	1.12	42:13	0.911	0.905-0.915	1660	83.0											
13C-PCB-118	1.05e+08	1.64	Y	0.93	41:34	1.059	1.054-1.064	1780	88.9											
13C-PCB-123	1.04e+08	1.61	Y	0.88	41:23	1.054	1.049-1.059	1870	93.4											
13C-PCB-126	1.52e+08	1.58	Y	1.16	45:18	0.977	0.972-0.982	1630	81.7											
13C-PCB-127	1.59e+08	1.52	Y	1.25	43:25	0.936	0.931-0.941	1580	79.1											
13C-PCB-138	1.59e+08	1.28	Y	1.11	44:48	0.966	0.961-0.971	1770	88.5											
13C-PCB-141	1.46e+08	1.28	Y	1.05	43:59	0.949	0.943-0.953	1720	86.1											
13C-PCB-153	1.73e+08	1.26	Y	1.21	43:15	0.933	0.927-0.937	1770	88.7											
13C-PCB-155	6.49e+07	1.29	Y	0.84	37:04	0.944	0.939-0.949	1320	61.0											
13C-PCB-156	1.83e+08	1.28	Y	1.31	48:04	1.037	1.032-1.042	1730	86.7											
13C-PCB-157	1.81e+08	1.28	Y	1.35	48:20	1.042	1.037-1.047	1660	83.0											
13C-PCB-159	1.92e+08	1.25	Y	1.33	46:06	0.994	0.989-0.999	1790	89.4											
13C-PCB-167	1.91e+08	1.27	Y	1.34	46:46	1.009	1.004-1.014	1760	88.1											
13C-PCB-169	1.76e+08	1.27	Y	1.33	50:32	1.090	1.084-1.094	1640	82.1											
13C-PCB-170	5.97e+07	0.46	Y	0.61	50:56	1.098	1.091-1.103	1220	61.0											
13C-PCB-180	6.74e+07	0.46	Y	0.67	49:21	1.064	1.059-1.069	1250	62.4											
13C-PCB-188	1.02e+08	0.47	Y	0.94	42:52	0.925	0.919-0.929	1350	67.4											
13C-PCB-189	7.62e+07	0.46	Y	0.79	52:31	1.133	1.124-1.136	1190	59.6											
13C-PCB-194	8.13e+07	0.89	Y	0.72	54:04	0.995	0.990-1.000	1870	93.3											
13C-PCB-202	6.59e+07	0.80	Y	0.94	48:16	1.041	1.036-1.046	867	43.4											
13C-PCB-206	9.25e+07	0.79	Y	0.80	55:38	1.024	1.020-1.301	1900	94.8											
13C-PCB-208	1.46e+08	0.78	Y	1.00	53:19	0.981	0.977-0.987	2390	120											
13C-PCB-209	7.21e+07	1.19	Y	0.85	56:57	1.048	1.045-1.055	1400	69.8											

Analyst:
Date: 11/16/14

Sample ID: OPR

EPA Method 1668A

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B6K0073
Date Extracted: 11-Nov-2016 8:18

Lab Sample: B6K0073-BS1
Date Analyzed: 11-Nov-16 20:34 Column: ZB-1

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PCB-1	1190	1000	119	50 - 150	IS 13C-PCB-1	52.7	15 - 140
PCB-3	1210	1000	121	50 - 150	IS 13C-PCB-3	54.5	15 - 140
PCB-4/10	1730	2000	86.6	50 - 150	IS 13C-PCB-4	70.2	30 - 140
PCB-15	838	1000	83.8	50 - 150	IS 13C-PCB-11	82.2	30 - 140
PCB-19	1030	1000	103	50 - 150	IS 13C-PCB-9	74.1	30 - 140
PCB-37	815	1000	81.5	50 - 150	IS 13C-PCB-19	65.0	30 - 140
PCB-54	984	1000	98.4	50 - 150	IS 13C-PCB-28	76.4	30 - 140
PCB-77	955	1000	95.5	50 - 150	IS 13C-PCB-32	68.3	30 - 140
PCB-81	1010	1000	101	50 - 150	IS 13C-PCB-37	90.8	30 - 140
PCB-104	995	1000	99.5	50 - 150	IS 13C-PCB-47	69.5	30 - 140
PCB-105	893	1000	89.3	50 - 150	IS 13C-PCB-52	67.1	30 - 140
PCB-106/118	2020	2000	101	50 - 150	IS 13C-PCB-54	70.7	30 - 140
PCB-114	940	1000	94.0	50 - 150	IS 13C-PCB-70	89.2	30 - 140
PCB-123	975	1000	97.5	50 - 150	IS 13C-PCB-77	93.0	30 - 140
PCB-126	872	1000	87.2	50 - 150	IS 13C-PCB-80	86.9	30 - 140
PCB-155	963	1000	96.3	50 - 150	IS 13C-PCB-81	92.6	30 - 140
PCB-156	953	1000	95.3	50 - 150	IS 13C-PCB-95	80.7	30 - 140
PCB-157	960	1000	96.0	50 - 150	IS 13C-PCB-97	86.5	30 - 140
PCB-167	943	1000	94.3	50 - 150	IS 13C-PCB-101	85.3	30 - 140
PCB-169	958	1000	95.8	50 - 150	IS 13C-PCB-104	69.9	30 - 140
PCB-188	964	1000	96.4	50 - 150	IS 13C-PCB-105	82.8	30 - 140
PCB-189	990	1000	99.0	50 - 150	IS 13C-PCB-114	83.8	30 - 140
PCB-202	988	1000	98.8	50 - 150	IS 13C-PCB-118	91.5	30 - 140
PCB-205	743	1000	74.3	50 - 150	IS 13C-PCB-123	92.1	30 - 140
PCB-206	843	1000	84.3	50 - 150	IS 13C-PCB-126	81.9	30 - 140
PCB-208	846	1000	84.6	50 - 150	IS 13C-PCB-127	82.3	30 - 140
PCB-209	939	1000	93.9	50 - 150	IS 13C-PCB-138	87.8	30 - 140
					IS 13C-PCB-141	86.9	30 - 140
					IS 13C-PCB-153	90.0	30 - 140
					IS 13C-PCB-155	61.3	30 - 140
					IS 13C-PCB-156	89.3	30 - 140
					IS 13C-PCB-157	86.9	30 - 140
					IS 13C-PCB-159	87.9	30 - 140
					IS 13C-PCB-167	88.3	30 - 140
					IS 13C-PCB-169	85.6	30 - 140
					IS 13C-PCB-170	62.4	30 - 140
					IS 13C-PCB-180	64.8	30 - 140
					IS 13C-PCB-188	66.5	30 - 140
					IS 13C-PCB-189	60.1	30 - 140
					IS 13C-PCB-194	94.2	30 - 140

Sample ID: OPR

EPA Method 1668A

Matrix: Aqueous Sample Size: 1.00 L	QC Batch: B6K0073 Date Extracted: 11-Nov-2016 8:18	Lab Sample: B6K0073-BS1 Date Analyzed: 11-Nov-16 20:34 Column: ZB-1		
Analyte	Amt Found (pg/L)	Labeled Standard	%R	LCL-UCL
		IS 13C-PCB-202	45.3	30 - 140
		IS 13C-PCB-206	99.6	30 - 140
		IS 13C-PCB-208	125	30 - 140
		IS 13C-PCB-209	68.2	30 - 140
		CRS 13C-PCB-79	92.6	25 - 125
		CRS 13C-PCB-178	67.8	25 - 125

LCL-UCL - Lower control limit - upper control limit

Client ID: OPR
Lab ID: B6K0073-B51

Filename: 161111E2 S:3
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16

Acq: 11-NOV-16 20:34:44
wt/vol: 1.0000 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	8.11e+07	3.08	1.06	16:04	1.001	0.997	1.007	59.4454	PCB-52/59	1.33e+08	0.78	1.308	31:33	1.001	0.996	1.006	99.0771
PCB-2	8.83e+07	3.08	0.99	18:28	0.988	0.983	0.993	64.0491	PCB-73	7.57e+07	0.78	1.454	31:40	1.005	0.999	1.009	50.6406
PCB-3	8.62e+07	3.08	1.02	18:42	1.001	0.996	1.006	60.6231	PCB-43/49	1.24e+08	0.79	1.279	31:50	1.010	1.005	1.015	94.0985
									PCB-47	6.94e+07	0.78	1.222	32:01	1.001	0.996	1.006	50.3864
PCB-4/10	1.14e+08	1.53	1.41	20:05	1.003	0.997	1.007	86.5588	PCB-48/75	1.51e+08	0.79	1.324	32:08	1.004	0.999	1.009	100.962
PCB-7/9	1.45e+08	1.57	1.13	21:52	0.867	0.864	0.872	82.3460	PCB-65	7.31e+07	0.79	1.273	32:24	1.012	1.007	1.017	50.8785
PCB-6	7.21e+07	1.55	1.08	22:31	0.893	0.888	0.897	42.8093	PCB-62	7.55e+07	0.79	1.358	32:31	1.016	1.011	1.021	49.2730
PCB-5/8	1.51e+08	1.55	1.14	22:56	0.909	0.905	0.915	85.5161	PCB-44	5.43e+07	0.81	0.941	32:49	1.025	1.020	1.030	51.1489
PCB-14	9.18e+07	1.55	1.32	24:03	0.954	0.948	0.958	40.6426	PCB-42/59	1.50e+08	0.79	1.267	33:03	1.033	1.027	1.037	105.083
PCB-11	8.09e+07	1.57	1.18	25:14	1.000	0.995	1.005	40.1789	PCB-41/64/71/72	3.57e+08	0.79	1.338	33:38	1.051	1.045	1.055	236.165
PCB-12/13	1.61e+08	1.55	1.14	25:38	1.016	1.011	1.021	82.4763	PCB-68	1.00e+08	0.80	1.526	33:54	1.059	1.053	1.063	58.1318
PCB-15	9.24e+07	1.54	1.29	25:56	1.028	1.023	1.031	41.9248	PCB-40	5.68e+07	0.79	0.864	34:06	1.066	1.061	1.071	58.3192
PCB-19	5.81e+07	1.06	1.23	24:13	1.001	0.996	1.006	51.2517	PCB-57	9.72e+07	0.79	1.119	34:28	0.970	0.965	0.975	47.4760
PCB-30	9.57e+07	1.06	1.88	25:07	1.038	1.033	1.043	55.4682	PCB-67	9.07e+07	0.76	1.097	34:46	0.979	0.974	0.984	45.1993
PCB-18	6.71e+07	1.05	0.90	25:52	0.954	0.949	0.959	53.5125	PCB-58	1.07e+08	0.80	1.157	34:54	0.982	0.977	0.987	50.5402
PCB-17	7.36e+07	1.06	0.98	26:03	0.960	0.956	0.966	54.2117	PCB-63	1.02e+08	0.79	1.199	35:03	0.987	0.981	0.991	46.6503
PCB-24/27	1.95e+08	1.06	1.27	26:37	0.981	0.977	0.987	110.441	PCB-74	1.02e+08	0.78	1.172	35:20	0.995	0.989	0.999	47.5133
PCB-16/32	1.61e+08	1.06	1.07	27:08	1.000	0.996	1.006	108.022	PCB-61/70	2.02e+08	0.78	1.132	35:31	0.999	0.995	1.005	97.3489
PCB-34	6.65e+07	1.01	0.97	27:56	0.960	0.955	0.965	49.8187	PCB-76/66	2.11e+08	0.78	1.141	35:43	1.005	1.000	1.010	101.230
PCB-23	5.94e+07	1.01	0.86	28:02	0.964	0.958	0.968	50.0902	PCB-80	1.17e+08	0.79	1.305	35:58	1.001	0.995	1.005	49.4426
PCB-29	6.55e+07	1.01	0.95	28:16	0.972	0.967	0.977	50.3325	PCB-55	1.10e+08	0.79	1.160	36:17	1.009	1.004	1.014	52.7267
PCB-26	6.83e+07	1.01	0.97	28:29	0.979	0.974	0.984	51.1218	PCB-56/60	1.92e+08	0.78	1.137	36:47	1.023	1.018	1.028	93.7944
PCB-25	5.64e+07	1.00	0.93	28:38	0.984	0.980	0.990	44.1556	PCB-79	1.10e+08	0.79	1.169	37:50	1.053	1.048	1.058	52.1946
PCB-31	6.23e+07	1.00	1.09	29:00	0.997	0.992	1.002	41.8361	PCB-78	1.07e+08	0.78	1.110	38:32	0.987	0.982	0.992	51.4969
PCB-28	6.39e+07	1.01	1.10	29:06	1.000	0.996	1.006	42.3747	PCB-81	1.14e+08	0.77	1.201	39:04	1.000	0.995	1.005	50.6958
PCB-20/21/33	1.76e+08	0.99	1.08	29:43	1.022	1.016	1.026	118.556	PCB-77	1.09e+08	0.79	1.237	39:39	1.001	0.995	1.005	47.7664
PCB-22	6.61e+07	1.01	1.04	30:09	1.037	1.032	1.042	46.1020	PCB-104	4.81e+07	1.59	1.305	32:40	1.000	0.996	1.006	49.7373
PCB-36	6.41e+07	1.01	1.18	30:46	0.934	0.929	0.939	36.2415	PCB-96	4.72e+07	1.60	1.153	33:56	1.039	1.034	1.044	55.2771
PCB-39	7.14e+07	1.01	1.25	31:15	0.948	0.943	0.953	38.0445	PCB-103	4.47e+07	1.60	1.027	34:29	1.056	1.051	1.061	58.7218
PCB-38	6.48e+07	1.00	1.15	32:01	0.972	0.967	0.977	37.7871	PCB-100	4.52e+07	1.61	1.029	34:50	1.066	1.061	1.071	59.2321
PCB-35	6.42e+07	1.00	1.16	32:32	0.987	0.982	0.992	36.9006	PCB-94	3.85e+07	1.60	1.178	35:18	0.985	0.980	0.990	51.5749
PCB-37	7.57e+07	1.01	1.24	32:58	1.000	0.996	1.006	40.7380	PCB-95/98/102	1.36e+08	1.59	1.306	35:48	0.999	0.994	1.004	163.589
PCB-54	7.49e+07	0.77	1.07	27:58	1.001	0.996	1.006	49.2081	PCB-93	3.00e+07	1.70	1.192	35:56	1.003	0.998	1.008	39.6685
PCB-50	5.70e+07	0.78	0.90	29:09	1.043	1.037	1.047	44.7551	PCB-86/91	8.20e+07	1.62	1.232	36:13	1.011	1.006	1.016	104.972
PCB-53	5.77e+07	0.80	1.17	29:48	0.946	0.941	0.951	48.0609	PCB-121	5.97e+07	1.63	1.737	36:19	1.014	1.009	1.019	54.2318
PCB-51	6.42e+07	0.77	1.18	30:09	0.957	0.952	0.962	52.9182	PCB-84/92	8.24e+07	1.62	1.158	37:08	0.990	0.985	0.995	100.278
PCB-45	5.35e+07	0.80	1.06	30:34	0.970	0.965	0.975	49.3291	PCB-89	3.98e+07	1.61	1.107	37:20	0.995	0.990	1.000	50.5706
PCB-46	5.13e+07	0.78	0.99	31:04	0.986	0.981	0.991	50.5096									

Integrations
by Analyst: MM
Date: 11/16/16

Reviewed by Analyst: CT
Date: 11/18/16

Client ID: OPR
Lab ID: B6X0073-R51
Filename: 161111E2 S:3 Acq:11-NOV-16 20:34:44
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.0000 EndCAL: NA
ConCal: ST161111E2-1

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-90/101	9.42e+07	1.59 Y	1.27	37:31	1.000	0.995-1.005	104.711	104.711	PCB-133/142	1.36e+08	1.24 Y	0.86	42:27	0.982	0.977-0.987	99.2642	
PCB-113	5.54e+07	1.63 Y	1.47	37:46	1.007	1.002-1.012	53.2038	53.2038	PCB-131	6.84e+07	1.23 Y	0.89	42:36	0.986	0.981-0.991	48.3405	
PCB-99	4.53e+07	1.61 Y	1.26	37:51	1.009	1.004-1.014	50.4962	50.4962	PCB-146/165	1.66e+08	1.26 Y	1.07	42:50	0.991	0.986-0.996	97.4249	
PCB-111/115	6.35e+07	1.58 Y	1.87	38:19	0.987	0.982-0.992	52.2468	52.2468	PCB-132/161	1.68e+08	1.24 Y	1.12	43:04	0.996	0.992-1.002	93.9283	
PCB-108/112	9.94e+07	1.61 Y	1.44	38:28	0.991	0.985-0.996	106.538	106.538	PCB-153	8.40e+07	1.26 Y	1.15	43:14	1.000	0.996-1.006	45.8001	
PCB-83	5.98e+07	1.63 Y	1.70	38:38	0.996	0.990-1.000	54.1623	54.1623	PCB-168	1.01e+08	1.25 Y	1.38	43:27	1.005	1.000-1.010	45.9590	
PCB-97	4.45e+07	1.62 Y	1.31	38:49	1.000	0.995-1.005	52.1948	52.1948	PCB-141	7.57e+07	1.24 Y	1.20	43:58	1.000	0.995-1.005	47.1472	
PCB-86	3.62e+07	1.63 Y	1.02	38:57	1.004	0.999-1.009	54.5186	54.5186	PCB-137	8.11e+07	1.24 Y	1.23	44:21	1.009	1.004-1.014	49.2329	
B-87/117/125	1.59e+08	1.60 Y	1.59	39:05	1.007	1.002-1.012	154.133	154.133	PCB-130	6.68e+07	1.26 Y	1.04	44:27	1.011	1.006-1.016	48.0709	
PCB-111/115	9.13e+08	1.62 Y	1.85	39:16	1.012	1.006-1.016	110.839	110.839	PCB-138/163/164	2.71e+08	1.25 Y	1.30	44:50	1.001	0.996-1.006	144.609	
PCB-85/116	9.15e+07	1.64 Y	1.44	39:22	1.014	1.010-1.020	98.0509	98.0509	PCB-158/162	2.01e+08	1.24 Y	1.41	45:04	1.006	1.001-1.011	98.8940	
PCB-120	6.91e+07	1.60 Y	1.91	39:37	1.021	1.016-1.026	55.5863	55.5863	PCB-129	6.54e+07	1.23 Y	0.97	45:18	1.011	1.007-1.017	47.0020	
PCB-110	5.60e+07	1.62 Y	1.76	39:46	1.025	1.019-1.029	48.9597	48.9597	PCB-166	9.97e+07	1.24 Y	1.19	45:46	0.993	0.988-0.998	48.6034	
PCB-82	3.61e+07	1.62 Y	0.81	40:23	0.976	0.971-0.981	48.8388	48.8388	PCB-159	1.04e+08	1.25 Y	1.28	46:05	1.000	0.995-1.005	47.4007	
PCB-124	6.21e+07	1.60 Y	1.30	41:05	0.993	0.988-0.998	52.6635	52.6635	PCB-128/162	1.76e+08	1.22 Y	1.06	46:23	1.007	1.002-1.012	96.7891	
PCB-107/109	1.29e+08	1.62 Y	1.34	41:13	0.996	0.991-1.001	106.353	106.353	PCB-167	1.04e+08	1.24 Y	1.22	46:46	1.000	0.995-1.005	47.1538	
PCB-123	5.37e+07	1.62 Y	1.35	41:23	1.001	0.995-1.005	48.7705	48.7705	PCB-156	1.01e+08	1.24 Y	1.27	48:03	1.000	0.995-1.005	47.6649	
PCB-106/118	1.29e+08	1.62 Y	1.34	41:35	1.001	0.996-1.006	101.167	101.167	PCB-157	1.03e+08	1.26 Y	1.24	48:20	1.001	0.995-1.005	47.9863	
PCB-114	7.59e+07	1.52 Y	1.17	42:13	1.000	0.995-1.005	46.9825	46.9825	PCB-169	9.46e+07	1.26 Y	1.18	50:31	1.000	0.995-1.005	47.9002	
PCB-122	6.53e+07	1.52 Y	1.03	42:21	1.004	0.999-1.009	45.7217	45.7217	PCB-188	7.04e+07	1.06 Y	1.59	42:52	1.000	0.996-1.006	48.2137	
PCB-105	7.63e+07	1.54 Y	1.23	43:04	1.000	0.995-1.005	44.6380	44.6380	PCB-184	6.47e+07	1.07 Y	1.44	43:19	1.011	1.006-1.016	49.1100	
PCB-127	6.97e+07	1.56 Y	1.06	43:25	1.001	0.995-1.005	43.6419	43.6419	PCB-179	6.78e+07	1.09 Y	1.45	44:06	1.029	1.024-1.034	51.0344	
PCB-126	7.04e+07	1.55 Y	1.16	45:18	1.000	0.995-1.005	43.5943	43.5943	PCB-176	7.20e+07	1.07 Y	1.56	44:34	1.040	1.035-1.045	50.5244	
PCB-155	3.48e+07	1.29 Y	1.26	37:05	1.001	0.966-1.006	48.1589	48.1589	PCB-186	7.16e+07	1.06 Y	1.56	45:10	1.054	1.049-1.059	50.1206	
PCB-150	3.40e+07	1.27 Y	1.15	38:20	1.034	1.030-1.040	51.4666	51.4666	PCB-178	5.23e+07	1.05 Y	1.20	45:40	1.066	1.061-1.071	47.6944	
PCB-152	3.38e+07	1.30 Y	1.19	38:48	1.047	1.043-1.053	49.3670	49.3670	PCB-175	5.38e+07	1.09 Y	1.12	46:01	1.074	1.069-1.079	52.3370	
PCB-145	3.19e+07	1.30 Y	1.14	39:15	1.059	1.055-1.065	48.5613	48.5613	PCB-182/187	1.12e+08	1.08 Y	1.24	46:11	1.078	1.073-1.083	98.6897	
PCB-136	3.56e+07	1.28 Y	1.18	39:35	1.068	1.063-1.073	52.3598	52.3598	PCB-183	5.96e+07	1.08 Y	1.37	46:30	1.085	1.080-1.090	47.3924	
PCB-148	2.39e+07	1.30 Y	0.82	39:41	1.071	1.066-1.076	50.5747	50.5747	PCB-185	5.23e+07	1.09 Y	1.60	47:09	0.956	0.950-0.960	51.3979	
PCB-154	2.81e+07	1.31 Y	0.91	40:11	1.084	1.079-1.089	53.8024	53.8024	PCB-174	4.62e+07	1.08 Y	1.51	47:30	0.963	0.958-0.968	47.8278	
PCB-151	2.66e+07	1.30 Y	0.86	40:49	1.101	1.097-1.107	54.1236	54.1236	PCB-181	5.49e+07	1.06 Y	1.64	47:37	0.965	0.960-0.970	52.6488	
PCB-135	2.52e+07	1.27 Y	0.82	41:01	1.107	1.101-1.113	53.2887	53.2887	PCB-177	4.80e+07	1.07 Y	1.45	47:47	0.969	0.963-0.973	51.7248	
PCB-144	2.95e+07	1.29 Y	0.92	41:08	1.110	1.105-1.116	55.4374	55.4374	PCB-171	5.33e+07	1.07 Y	1.69	48:04	0.975	0.969-0.979	49.3901	
PCB-147	2.40e+07	1.29 Y	0.81	41:16	1.114	1.108-1.120	51.8793	51.8793	PCB-173	4.46e+07	1.07 Y	1.38	48:30	0.983	0.978-0.988	50.7661	
PCB-139/149	5.46e+07	1.29 Y	0.91	41:32	1.121	1.115-1.127	104.349	104.349	PCB-172	5.03e+07	1.07 Y	1.55	48:57	0.992	0.987-0.997	50.7967	
PCB-140	2.52e+07	1.29 Y	0.83	41:43	1.126	1.120-1.132	52.5600	52.5600	PCB-192	6.32e+07	1.06 Y	2.02	49:08	0.996	0.991-1.001	48.9023	
PCB-134/143	1.37e+08	1.25 Y	0.89	42:08	0.975	0.970-0.980	95.8430	95.8430	PCB-180	5.08e+07	1.08 Y	1.66	49:21	1.000	0.995-1.005	48.0589	

Integrations

by Analyst: *MS*


Date: *11/16/16*

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RT	RRF	Conc
PCB-193	6.56e+07	1.07 Y	2.09	49:33	1.005	0.999-1.009	49.8343	49.8343	Total Mono-PCB	2.56e+08	3.08 Y	16:04	1.02	184.118
PCB-191	6.74e+07	1.07 Y	2.11	49:49	1.010	1.005-1.015	49.9924	49.9924	Total Di-PCB	9.16e+08	1.53 Y	20:05	1.18	506.026
PCB-170	4.69e+07	1.05 Y	1.72	50:56	1.000	0.995-1.005	48.9812	48.9812	Total Tri-PCB	6.51e+08	1.06 Y	24:13	1.21	432.908
PCB-190	6.34e+07	1.07 Y	2.32	51:07	1.004	0.999-1.009	49.0549	49.0549	Total Tri-PCB	1.06e+09	1.01 Y	27:56	1.07	705.184
PCB-189	6.00e+07	1.06 Y	1.73	52:31	1.000	0.995-1.005	49.4788	49.4788	Total Tetra-PCB	3.59e+09	0.77 Y	27:58	1.20	2159.55
PCB-202	3.36e+07	0.93 Y	1.08	48:17	1.001	0.995-1.005	49.3988	49.3988	Total Penta-PCB	2.08e+09	1.59 Y	32:40	1.29	2145.52
PCB-201	3.74e+07	0.92 Y	1.16	48:46	1.011	1.005-1.015	51.3207	51.3207	Total Penta-PCB	3.84e+08	1.52 Y	42:13	1.13	241.272
PCB-204	3.31e+07	0.93 Y	1.09	48:55	1.014	1.009-1.019	48.1461	48.1461	Total Hexa-PCB	4.07e+08	1.29 Y	37:05	0.98	726.029
PCB-197	3.69e+07	0.95 Y	1.21	49:13	1.020	1.015-1.025	48.2734	48.2734	Total Hexa-PCB	2.43e+09	1.25 Y	42:08	1.13	1357.66
PCB-200	3.36e+07	0.94 Y	1.12	50:07	1.039	1.034-1.044	47.9479	47.9479	Total Hepta-PCB	1.40e+09	1.06 Y	42:52	1.53	1203.21
PCB-198	2.43e+07	0.92 Y	0.81	51:34	1.069	1.062-1.072	47.7927	47.7927	Total Octa-PCB	1.13e+08	0.89 Y	53:10	1.34	122.294
PCB-199	2.37e+07	0.92 Y	0.80	51:41	1.071	1.064-1.074	47.0517	47.0517	Total Octa-PCB	1.13e+08	0.89 Y	53:10	1.34	122.294
PCB-196/203	5.11e+07	0.90 Y	0.87	51:58	1.077	1.070-1.080	92.9565	92.9565	Total Nona-PCB	1.55e+08	1.30 Y	53:19	1.06	126.472
PCB-195	3.47e+07	0.89 Y	1.10	53:10	0.984	0.979-0.989	44.9781	44.9781	Total Deca-PCB	3.79e+07	1.18 Y	56:57	1.34	46.9583
PCB-194	3.42e+07	0.88 Y	1.28	54:04	1.000	0.995-1.005	38.0448	38.0448						
PCB-205	4.22e+07	0.89 Y	1.62	54:19	1.005	1.001-1.010	37.1387	37.1387						
PCB-208	6.11e+07	1.30 Y	1.11	53:19	1.000	0.995-1.005	42.2973	42.2973						
PCB-207	6.03e+07	1.31 Y	1.11	53:39	1.006	1.001-1.011	42.0184	42.0184						
PCB-206	3.32e+07	1.32 Y	0.95	55:37	1.000	0.995-1.005	42.1558	42.1558						
PCB-209	3.79e+07	1.18 Y	1.34	56:57	1.000	0.995-1.005	46.9583	46.9583						

Total PCB Conc: 10293.95567090

Integrations
 by
 Analyst: *[Signature]*
 Date: 11/16/16

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	1.29e+08	3.24	1.09	16:03	0.619	0.619-0.625	52.7	52.7	52.7		13C-PCB-79	1.98e+08	0.80	Y	1.01	37:49	1.029	1.024-1.033	92.6	92.6	
13C-PCB-3	1.40e+08	3.24	1.15	18:41	0.721	0.718-0.726	54.5	54.5	54.5		13C-PCB-178	6.36e+07	0.46	Y	0.64	45:38	0.985	0.980-0.989	67.8	67.8	
13C-PCB-4	9.36e+07	1.54	0.59	20:01	0.772	0.770-0.778	70.2	70.2	70.2		PS vs. IS										
13C-PCB-9	1.56e+08	1.53	0.94	21:50	0.842	0.839-0.847	74.1	74.1	74.1												
13C-PCB-11	1.71e+08	1.52	0.93	25:13	0.973	0.968-0.978	82.2	82.2	82.2												
13C-PCB-19	9.18e+07	1.08	0.63	24:12	0.933	0.929-0.939	65.0	65.0	65.0												
13C-PCB-28	1.37e+08	1.02	1.14	29:05	1.004	0.999-1.009	76.4	76.4	76.4												
13C-PCB-32	1.39e+08	1.09	0.91	27:08	1.046	1.041-1.051	68.3	68.3	68.3												
13C-PCB-37	1.50e+08	1.02	1.05	32:57	1.137	1.131-1.143	90.8	90.8	90.8												
13C-PCB-47	1.13e+08	0.80	0.77	32:00	0.871	0.867-0.875	69.5	69.5	69.5												
13C-PCB-52	1.03e+08	0.79	0.72	31:31	0.857	0.853-0.861	67.1	67.1	67.1												
13C-PCB-54	1.42e+08	0.80	0.95	27:57	0.760	0.757-0.765	70.7	70.7	70.7												
13C-PCB-70	1.83e+08	0.81	0.97	35:32	0.966	0.961-0.971	89.2	89.2	89.2												
13C-PCB-77	1.84e+08	0.81	0.93	39:38	1.078	1.073-1.083	93.0	93.0	93.0												
13C-PCB-80	1.81e+08	0.80	0.98	35:57	0.978	0.973-0.983	86.9	86.9	86.9												
13C-PCB-81	1.87e+08	0.80	0.95	39:03	1.062	1.057-1.067	92.6	92.6	92.6												
13C-PCB-95	6.34e+07	1.64	0.70	35:50	0.913	0.908-0.918	80.7	80.7	80.7												
13C-PCB-97	6.49e+07	1.62	0.67	38:48	0.989	0.984-0.994	86.5	86.5	86.5												
13C-PCB-101	7.10e+07	1.65	0.75	37:31	0.986	0.951-0.961	85.3	85.3	85.3												
13C-PCB-104	7.41e+07	1.64	0.95	32:40	0.832	0.828-0.836	69.9	69.9	69.9												
13C-PCB-105	1.39e+08	1.56	1.14	43:04	0.929	0.924-0.934	82.8	82.8	82.8												
13C-PCB-114	1.38e+08	1.55	1.12	42:12	0.911	0.905-0.915	83.8	83.8	83.8												
13C-PCB-118	9.51e+07	1.65	0.93	41:33	1.059	1.054-1.064	91.5	91.5	91.5												
13C-PCB-123	9.07e+07	1.67	0.88	41:22	1.054	1.049-1.059	92.1	92.1	92.1												
13C-PCB-126	1.39e+08	1.54	1.16	45:18	0.977	0.972-0.982	81.9	81.9	81.9												
13C-PCB-127	1.51e+08	1.53	1.25	43:24	0.936	0.931-0.941	82.3	82.3	82.3												
13C-PCB-138	1.44e+08	1.27	1.11	44:48	0.967	0.961-0.971	87.8	87.8	87.8												
13C-PCB-141	1.34e+08	1.28	1.05	43:57	0.948	0.943-0.953	86.9	86.9	86.9												
13C-PCB-153	1.60e+08	1.27	1.21	43:13	0.933	0.927-0.937	90.0	90.0	90.0												
13C-PCB-155	5.75e+07	1.29	0.84	37:03	0.944	0.939-0.949	61.3	61.3	61.3												
13C-PCB-156	1.72e+08	1.27	1.31	48:02	1.037	1.032-1.042	89.3	89.3	89.3												
13C-PCB-157	1.73e+08	1.29	1.35	48:18	1.042	1.037-1.047	86.9	86.9	86.9												
13C-PCB-159	1.72e+08	1.28	1.33	46:05	0.994	0.989-0.999	87.9	87.9	87.9												
13C-PCB-167	1.75e+08	1.25	1.34	46:46	1.009	1.004-1.014	88.3	88.3	88.3												
13C-PCB-169	1.67e+08	1.27	1.33	50:30	1.090	1.084-1.094	85.6	85.6	85.6												
13C-PCB-170	5.57e+07	0.48	0.61	50:55	1.099	1.091-1.103	62.4	62.4	62.4												
13C-PCB-180	6.38e+07	0.46	0.67	49:20	1.064	1.059-1.069	64.8	64.8	64.8												
13C-PCB-188	9.16e+07	0.47	0.94	42:51	0.925	0.919-0.929	66.5	66.5	66.5												
13C-PCB-189	7.00e+07	0.45	0.79	52:29	1.133	1.124-1.136	60.1	60.1	60.1												
13C-PCB-194	7.00e+07	0.89	0.72	54:03	0.995	0.990-1.000	94.2	94.2	94.2												
13C-PCB-202	6.29e+07	0.91	0.94	48:15	1.041	1.036-1.046	45.3	45.3	45.3												
13C-PCB-206	8.29e+07	0.79	0.80	55:36	1.024	1.020-1.030	99.6	99.6	99.6												
13C-PCB-208	1.30e+08	0.79	1.00	53:18	0.981	0.977-0.987	125	125	125												
13C-PCB-209	6.00e+07	1.22	0.85	56:56	1.048	1.045-1.055	68.2	68.2	68.2												

Analyst: 
 Date: 11/16/16

Vista Analytical Laboratory - Injection Log Run file: 160419E1 Instrument ID: VG-8 GC Column ID: Z8-1

Data file S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
160419E1 1	ST160419E1-1	MAS	19-APR-16	09:55:23	NA	NA
160419E1 2	ST160419E1-2	MAS	19-APR-16	11:00:35	NA	NA
160419E1 3	ST160419E1-3	MAS	19-APR-16	12:05:45	NA	NA
160419E1 4	ST160419E1-4	MAS	19-APR-16	13:11:01	NA	NA
160419E1 5	ST160419E1-5	MAS	19-APR-16	14:16:11	NA	NA
160419E1 6	ST160419E1-6	MAS	19-APR-16	15:21:22	NA	NA
160419E1 7	SOLVENT BLANK	MAS	19-APR-16	16:26:33	NA	NA
160419E1 8	ST160419E1-7	MAS	19-APR-16	17:31:44	NA	NA
160419E1 9	SS160419E1-1	MAS	19-APR-16	18:36:54	NA	NA

* CSO remake and re injected as ST160420E2-1
 ** Re injected as ST160419E1-7 due to interference's in the Di's

Vista Analytical Laboratory - Injection Log Run file: 160420E2 Instrument ID: VG-8 GC Column ID: ZB-1

Data file S#	Sample ID	Analyst	Acq date	Acq time	CCal	Ecal
160420E2 1	ST160420E2-1	MAS	20-APR-16	14:32:46	NA	NA

Vista Analytical Laboratory
Inst. ID. VG-8

Initial Calibration RRF Summary (ICAL)
Run: 160419E1
Analyte: PCB

Data filename: 160420E2

Name	Mean RRF	%RSD	Samp#						RRF#6
			1	2	8	4	5	6	
PCB-1	1.06	7.95 %	0.25	1.0	2.5	50	400	1000	
PCB-2	0.99	4.72 %	1.19	1.12	1.06	0.98	0.97	1.05	
PCB-3	1.02	8.05 %	1.00	1.00	1.03	0.92	0.94	1.02	
PCB-4	1.02	8.05 %	1.14	1.08	1.02	0.93	0.94	0.99	
PCB-5	1.41	12.74 %	1.75	1.46	1.38	1.28	1.26	1.34	
PCB-6	1.13	7.75 %	1.26	1.19	1.16	1.05	1.03	1.10	
PCB-7	1.08	7.57 %	1.24	1.07	1.05	1.04	1.02	1.07	
PCB-8	1.14	6.57 %	1.26	1.17	1.14	1.08	1.05	1.12	
PCB-9	1.32	9.05 %	1.54	1.30	1.34	1.23	1.21	1.29	
PCB-10	1.18	10.78 %	1.39	1.27	1.15	1.08	1.05	1.12	
PCB-11	1.14	8.08 %	1.31	1.16	1.13	1.07	1.05	1.14	
PCB-12	1.29	7.79 %	1.48	1.29	1.24	1.24	1.18	1.29	
PCB-13	1.23	6.02 %	1.33	1.27	1.29	1.15	1.14	1.23	
PCB-14	1.88	4.44 %	1.92	1.92	1.94	1.75	1.80	1.95	
PCB-15	0.90	7.65 %	0.93	0.97	0.98	0.82	0.83	0.88	
PCB-16	0.98	6.91 %	1.04	1.01	1.04	0.89	0.90	0.97	
PCB-17	1.27	5.14 %	1.30	1.30	1.36	1.19	1.20	1.28	
PCB-18	1.07	7.66 %	1.19	1.08	1.14	1.00	0.98	1.04	
PCB-19	0.97	16.90 %	1.30	0.88	0.93	0.92	0.86	0.95	
PCB-20	0.86	26.42 %	1.30	0.92	0.71	0.75	0.79	0.72	
PCB-21	0.95	13.91 %	1.21	0.88	0.85	0.90	0.95	0.90	
PCB-22	0.97	20.81 %	1.33	0.90	0.81	0.87	0.84	1.09	
PCB-23	0.93	17.84 %	1.24	0.92	0.79	0.80	0.85	0.98	
PCB-24	1.09	19.24 %	1.40	1.26	0.90	0.88	1.00	1.07	
PCB-25	1.10	14.25 %	1.38	1.06	1.10	1.04	0.90	1.11	
PCB-26	1.08	4.30 %	1.16	1.09	1.05	1.04	1.09	1.04	
PCB-27	1.04	10.36 %	1.25	1.03	0.93	1.00	1.01	1.04	
PCB-28	1.18	10.35 %	1.40	1.23	1.14	1.05	1.12	1.14	
PCB-29	1.25	9.96 %	1.49	1.27	1.23	1.14	1.16	1.22	
PCB-30	1.15	11.11 %	1.36	1.24	1.08	1.10	1.05	1.05	
PCB-31	1.16	9.05 %	1.33	1.22	1.17	1.06	1.06	1.13	
PCB-32	1.24	12.20 %	1.50	1.33	1.15	1.15	1.10	1.22	
PCB-33	1.07	10.06 %	1.23	1.17	1.08	0.99	0.96	1.01	
PCB-34	0.90	6.78 %	0.99	0.91	0.93	0.83	0.84	0.89	
PCB-35	1.17	7.14 %	1.31	1.21	1.18	1.08	1.10	1.12	
PCB-36	1.18	8.54 %	1.37	1.19	1.15	1.11	1.09	1.17	
PCB-37	1.06	7.57 %	1.20	1.05	1.08	0.97	0.99	1.04	
PCB-38	0.99	11.57 %	1.22	0.94	0.96	0.91	0.93	0.96	
PCB-39	1.31	5.79 %	1.40	1.37	1.32	1.34	1.23	1.32	
PCB-40	1.45	7.01 %	1.60	1.55	1.46	1.34	1.36	1.41	
PCB-41	1.28	8.63 %	1.46	1.35	1.28	1.25	1.16	1.19	
PCB-42	1.22	10.16 %	1.45	1.21	1.23	1.14	1.08	1.21	

RSD ≤ 20 for isotope dilution
≤ 35 for internal std

ms 5/6/16

DB 6/23/16

PCB-48/75	1.32	6.94 %	1.47	1.39	1.32	1.24	1.24	1.29
PCB-65	1.27	8.44 %	1.45	1.31	1.29	1.19	1.13	1.27
PCB-62	1.36	6.97 %	1.46	1.46	1.38	1.24	1.26	1.34
PCB-44	0.94	9.00 %	1.00	1.04	1.00	0.85	0.83	0.93
PCB-42/59	1.27	7.99 %	1.41	1.33	1.28	1.17	1.14	1.27
PCB-41/64/71/72	1.34	5.56 %	1.44	1.36	1.38	1.24	1.26	1.35
PCB-68	1.53	6.91 %	1.66	1.61	1.54	1.41	1.40	1.52
PCB-40	0.86	7.02 %	0.92	0.87	0.94	0.80	0.79	0.86
PCB-57	1.12	7.13 %	1.21	1.20	1.16	1.04	1.02	1.08
PCB-67	1.10	8.33 %	1.26	1.13	1.10	1.02	1.03	1.03
PCB-58	1.16	5.49 %	1.17	1.19	1.24	1.12	1.06	1.17

PCB-63	1.20	7.28	1.30	1.29	1.23	1.13	1.09	1.15
PCB-74	1.17	7.57	1.24	1.30	1.18	1.07	1.10	1.13
PCB-61/70	1.13	6.67	1.23	1.19	1.17	1.08	1.02	1.11
PCB-76/66	1.14	5.30	1.22	1.20	1.15	1.08	1.08	1.12
PCB-80	1.31	8.22	1.48	1.36	1.34	1.20	1.20	1.26
PCB-55	1.16	4.97	1.13	1.19	1.24	1.09	1.11	1.20
PCB-56/60	1.14	7.08	1.26	1.16	1.17	1.05	1.04	1.14
PCB-79	1.17	6.06	1.18	1.26	1.23	1.10	1.08	1.17
PCB-78	1.11	6.26	1.21	1.15	1.14	1.05	1.03	1.07
PCB-81	1.20	6.32	1.25	1.31	1.22	1.13	1.11	1.17
PCB-77	1.24	7.08	1.32	1.33	1.28	1.15	1.13	1.20
PCB-104	1.31	6.68	1.27	1.43	1.38	1.22	1.21	1.31
PCB-96	1.15	5.41	1.24	1.18	1.16	1.08	1.08	1.18
PCB-103	1.03	5.10	0.98	1.07	1.05	0.97	1.00	1.10
PCB-100	1.03	4.52	1.04	1.04	1.05	0.97	0.98	1.09
PCB-94	1.18	6.68	1.17	1.22	1.28	1.10	1.08	1.21
PCB-95/98/102	1.31	4.88	1.32	1.33	1.39	1.24	1.22	1.34
PCB-93	1.19	9.63	1.31	1.32	1.24	1.09	1.05	1.15
PCB-88/91	1.23	8.16	1.34	1.24	1.31	1.14	1.09	1.28
PCB-121	1.74	6.04	1.70	1.89	1.83	1.63	1.63	1.74
PCB-84/92	1.16	5.10	1.21	1.22	1.18	1.09	1.09	1.16
PCB-89	1.11	8.04	1.22	1.16	1.17	1.03	1.00	1.06
PCB-90/101	1.27	4.57	1.28	1.33	1.32	1.21	1.19	1.27
PCB-113	1.47	5.67	1.49	1.51	1.57	1.39	1.34	1.50
PCB-99	1.26	9.69	1.42	1.41	1.25	1.16	1.16	1.18
PCB-119	1.87	5.93	2.00	1.91	1.94	1.72	1.75	1.92
PCB-108/112	1.44	4.87	1.47	1.49	1.48	1.34	1.36	1.49
PCB-83	1.70	4.99	1.74	1.77	1.77	1.58	1.60	1.72
PCB-97	1.31	5.69	1.39	1.39	1.33	1.23	1.22	1.32
PCB-86	1.02	9.41	0.89	1.03	1.16	1.00	0.97	1.10
PCB-87/117/125	1.59	4.17	1.61	1.64	1.63	1.49	1.52	1.63
PCB-111/115	1.85	7.84	2.02	2.02	1.86	1.70	1.69	1.83
PCB-85/116	1.44	4.36	1.45	1.42	1.53	1.36	1.39	1.48
PCB-120	1.91	7.62	2.14	1.98	1.92	1.74	1.77	1.94
PCB-110	1.76	9.19	1.99	1.84	1.86	1.61	1.58	1.69
PCB-82	0.81	7.43	0.88	0.84	0.87	0.75	0.74	0.80
PCB-124	1.30	5.67	1.21	1.32	1.39	1.23	1.27	1.37
PCB-107/109	1.34	3.07	1.35	1.39	1.35	1.27	1.31	1.36
PCB-123	1.35	7.82	1.41	1.45	1.45	1.22	1.22	1.34
PCB-106/118	1.34	6.90	1.47	1.41	1.37	1.27	1.22	1.31
PCB-114	1.17	11.28	1.41	1.23	1.12	1.07	1.08	1.12
PCB-122	1.03	9.44	1.18	1.07	1.07	0.97	0.89	1.02
PCB-105	1.23	11.80	1.49	1.29	1.11	1.18	1.10	1.23
PCB-127	1.06	8.69	1.21	1.12	1.02	1.02	0.95	1.03
PCB-126	1.16	8.17	1.33	1.21	1.12	1.11	1.07	1.12
PCB-155	1.26	7.43	1.39	1.34	1.25	1.16	1.15	1.24
PCB-150	1.15	4.25	1.15	1.15	1.20	1.08	1.11	1.20
PCB-152	1.19	7.77	1.35	1.19	1.22	1.11	1.10	1.17
PCB-145	1.14	7.43	1.30	1.11	1.14	1.06	1.08	1.16
PCB-136	1.18	4.82	1.18	1.18	1.28	1.13	1.13	1.21

PCB-148	0.82	5.90	0.80	0.88	0.80	0.77	0.79	0.88
PCB-154	0.91	5.80	0.96	0.89	0.94	0.85	0.84	0.95
PCB-151	0.86	4.19	0.89	0.86	0.85	0.82	0.81	0.90
PCB-135	0.82	5.54	0.80	0.81	0.88	0.78	0.79	0.88
PCB-144	0.92	5.49	1.00	0.96	0.90	0.87	0.88	0.93
PCB-147	0.81	5.30	0.78	0.81	0.82	0.76	0.78	0.88
PCB-139/149	0.91	4.17	0.91	0.92	0.94	0.86	0.86	0.95
PCB-140	0.83	6.61	0.90	0.85	0.87	0.77	0.76	0.85
PCB-134/143	0.89	5.66	0.94	0.93	0.93	0.81	0.86	0.88
PCB-133/142	0.86	4.08	0.84	0.88	0.91	0.82	0.84	0.88
PCB-131	0.89	7.94	0.94	0.93	0.97	0.81	0.82	0.84

PCB-146/165	1.07	5.86 %	1.09	1.13	1.10	0.97	1.02	1.11
PCB-132/161	1.12	7.45 %	1.25	1.18	1.08	1.03	1.05	1.11
PCB-153	1.15	11.63 %	1.35	1.25	1.15	1.02	1.01	1.10
PCB-166	1.38	6.66 %	1.49	1.47	1.42	1.27	1.28	1.36
PCB-141	1.20	9.40 %	1.40	1.24	1.19	1.11	1.08	1.17
PCB-137	1.23	5.28 %	1.31	1.20	1.26	1.15	1.17	1.27
PCB-130	1.04	8.46 %	1.17	1.12	1.01	0.96	0.97	0.99
PCB-138/153/164	1.30	4.95 %	1.37	1.36	1.32	1.21	1.24	1.31
PCB-158/160	1.41	5.30 %	1.49	1.48	1.44	1.31	1.33	1.42
PCB-129	0.97	5.85 %	1.01	1.02	1.00	0.88	0.92	0.97
PCB-166	1.19	5.58 %	1.23	1.25	1.26	1.13	1.10	1.18
PCB-159	1.28	6.65 %	1.40	1.32	1.33	1.20	1.17	1.25
PCB-128/162	1.06	5.79 %	1.13	1.12	1.07	1.00	0.98	1.05
PCB-167	1.22	8.19 %	1.33	1.34	1.24	1.12	1.11	1.20
PCB-156	1.27	7.25 %	1.37	1.36	1.32	1.17	1.17	1.24
PCB-157	1.24	7.77 %	1.32	1.37	1.25	1.14	1.13	1.22
PCB-169	1.18	6.79 %	1.26	1.26	1.21	1.10	1.09	1.17
PCB-188	1.59	7.13 %	1.63	1.76	1.67	1.50	1.46	1.54
PCB-184	1.44	8.54 %	1.64	1.49	1.48	1.34	1.30	1.39
PCB-179	1.45	5.67 %	1.47	1.52	1.57	1.39	1.34	1.42
PCB-176	1.56	5.98 %	1.57	1.68	1.64	1.49	1.45	1.50
PCB-186	1.56	4.81 %	1.64	1.64	1.60	1.48	1.48	1.52
PCB-178	1.20	10.61 %	1.30	1.38	1.24	1.09	1.07	1.11
PCB-175	1.12	5.47 %	1.20	1.17	1.16	1.04	1.06	1.11
PCB-182/187	1.24	5.85 %	1.30	1.33	1.27	1.16	1.17	1.20
PCB-183	1.37	6.31 %	1.45	1.44	1.45	1.34	1.26	1.29
PCB-185	1.60	3.78 %	1.65	1.60	1.62	1.53	1.51	1.66
PCB-174	1.51	9.58 %	1.60	1.69	1.59	1.33	1.35	1.52
PCB-181	1.64	6.67 %	1.84	1.57	1.67	1.58	1.53	1.63
PCB-177	1.45	6.43 %	1.59	1.49	1.49	1.35	1.34	1.45
PCB-171	1.69	6.58 %	1.85	1.71	1.76	1.56	1.57	1.70
PCB-173	1.38	8.04 %	1.55	1.36	1.46	1.26	1.27	1.38
PCB-172	1.55	4.89 %	1.61	1.53	1.62	1.45	1.48	1.61
PCB-192	2.02	5.36 %	2.13	2.07	2.11	1.88	1.90	2.05
PCB-180	1.66	9.12 %	1.84	1.79	1.72	1.50	1.48	1.62
PCB-193	2.09	5.36 %	2.25	2.15	2.13	1.96	1.96	2.12
PCB-191	2.11	3.93 %	2.12	2.18	2.18	2.00	2.02	2.18
PCB-170	1.72	7.00 %	1.81	1.87	1.78	1.58	1.59	1.69
PCB-190	2.32	5.01 %	2.44	2.41	2.39	2.15	2.21	2.34
PCB-189	1.73	5.86 %	1.77	1.88	1.76	1.63	1.61	1.72
PCB-202	1.08	9.30 %	1.22	1.18	1.06	0.99	0.97	1.08
PCB-201	1.16	10.04 %	1.34	1.17	1.21	1.02	1.05	1.18
PCB-204	1.09	4.98 %	1.14	1.07	1.15	1.02	1.05	1.14
PCB-197	1.21	7.05 %	1.35	1.24	1.19	1.12	1.14	1.25
PCB-200	1.12	6.30 %	1.17	1.22	1.13	1.03	1.05	1.10
PCB-198	0.81	4.77 %	0.81	0.82	0.83	0.75	0.78	0.86
PCB-199	0.80	5.64 %	0.80	0.86	0.80	0.73	0.78	0.84
PCB-196/203	0.87	5.64 %	0.84	0.88	0.88	0.81	0.87	0.96
PCB-195	1.10	4.95 %	1.08	1.19	1.12	1.05	1.05	1.13
PCB-194	1.28	11.67 %	1.54	1.37	1.27	1.16	1.14	1.22

PCB-205	1.62	7.35 %	1.80	1.71	1.62	1.52	1.48	1.59
PCB-208	1.11	8.22 %	1.18	1.24	1.14	1.03	1.01	1.08
PCB-207	1.11	5.55 %	1.18	1.12	1.15	1.03	1.03	1.12
PCB-206	0.95	6.72 %	1.03	1.01	0.96	0.88	0.87	0.94
PCB-209	1.34	7.05 %	1.46	1.45	1.35	1.26	1.23	1.32
Total Mono-PCB	1.02	6.49 %	1.11	1.07	1.04	0.94	0.95	1.02
Total Di-PCB	1.18	8.69 %	1.36	1.21	1.17	1.10	1.08	1.15
Total Tri-PCB	1.21	5.84 %	1.28	1.25	1.29	1.13	1.13	1.21

Total Tri-PCB	1.07	11.70 %	1.32	1.09	0.99	0.99	1.00	1.05
Total Tetra-PCB	1.20	6.75 %	1.32	1.24	1.22	1.12	1.11	1.18
Total Penta-PCB	1.29	4.93 %	1.32	1.35	1.34	1.21	1.21	1.32
Total Hexa-PCB	0.98	4.56 %	1.02	0.99	1.00	0.92	0.93	1.01
Total Hepta-PCB	1.13	6.02 %	1.21	1.19	1.16	1.05	1.06	1.13
Total Octa-PCB	1.53	5.78 %	1.63	1.61	1.59	1.44	1.42	1.51
Total Nona-PCB	1.00	5.49 %	1.06	1.03	1.01	0.92	0.95	1.04
Total Deca-PCB	1.34	7.39 %	1.47	1.42	1.33	1.24	1.22	1.31
Total Tri-PCB	1.06	6.55 %	1.14	1.13	1.09	0.99	0.98	1.05
Total Tetra-PCB	1.34	7.05 %	1.46	1.45	1.35	1.26	1.23	1.32
13C-PCB-1	1.09	4.58 %	1.02	1.15	1.15	1.06	1.10	1.06
13C-PCB-3	1.15	3.93 %	1.07	1.19	1.18	1.14	1.16	1.14
13C-PCB-4	0.59	5.00 %	0.65	0.60	0.59	0.60	0.58	0.56
13C-PCB-9	0.94	3.29 %	0.98	0.95	0.94	0.94	0.92	0.89
13C-PCB-11	0.93	1.44 %	0.93	0.94	0.93	0.93	0.92	0.90
13C-PCB-19	0.63	4.37 %	0.65	0.66	0.64	0.59	0.62	0.61
13C-PCB-32	0.91	2.22 %	0.91	0.93	0.90	0.87	0.92	0.91
13C-PCB-28	1.14	5.88 %	1.05	1.20	1.21	1.16	1.16	1.07
13C-PCB-37	1.05	7.52 %	0.91	1.04	1.10	1.12	1.10	1.02
13C-PCB-54	0.95	10.30 %	1.13	0.94	0.93	0.91	0.90	0.86
13C-PCB-52	0.72	3.64 %	0.75	0.74	0.74	0.71	0.71	0.68
13C-PCB-47	0.77	3.51 %	0.80	0.76	0.77	0.76	0.77	0.72
13C-PCB-70	0.97	2.57 %	1.01	0.97	0.97	0.96	0.97	0.93
13C-PCB-80	0.98	3.18 %	1.01	0.99	0.98	0.99	0.98	0.92
13C-PCB-81	0.95	1.88 %	0.92	0.94	0.95	0.97	0.97	0.95
13C-PCB-77	0.93	2.52 %	0.90	0.92	0.94	0.97	0.95	0.93
13C-PCB-104	0.95	5.89 %	1.03	0.96	0.99	0.92	0.93	0.86
13C-PCB-95	0.70	3.54 %	0.73	0.71	0.71	0.69	0.71	0.66
13C-PCB-101	0.75	2.17 %	0.76	0.75	0.76	0.73	0.74	0.72
13C-PCB-97	0.67	2.73 %	0.69	0.67	0.69	0.68	0.67	0.64
13C-PCB-123	0.88	2.34 %	0.89	0.91	0.90	0.88	0.86	0.86
13C-PCB-118	0.93	1.18 %	0.92	0.95	0.93	0.92	0.94	0.92
13C-PCB-114	1.12	6.12 %	1.23	1.12	1.05	1.13	1.15	1.04
13C-PCB-105	1.14	4.79 %	1.22	1.14	1.05	1.15	1.14	1.12
13C-PCB-127	1.25	5.11 %	1.31	1.30	1.16	1.29	1.22	1.20
13C-PCB-126	1.16	2.64 %	1.15	1.17	1.11	1.19	1.18	1.13
13C-PCB-155	0.84	6.11 %	0.92	0.87	0.86	0.80	0.81	0.79
13C-PCB-153	1.21	1.95 %	1.25	1.21	1.20	1.22	1.19	1.18
13C-PCB-141	1.05	2.02 %	1.05	1.06	1.08	1.06	1.03	1.02
13C-PCB-138	1.11	1.67 %	1.09	1.13	1.12	1.13	1.12	1.09
13C-PCB-159	1.33	0.92 %	1.32	1.33	1.32	1.32	1.35	1.32
13C-PCB-167	1.34	1.50 %	1.33	1.37	1.35	1.37	1.34	1.32
13C-PCB-156	1.31	2.14 %	1.26	1.32	1.29	1.32	1.34	1.30
13C-PCB-157	1.35	2.08 %	1.33	1.38	1.34	1.37	1.39	1.32
13C-PCB-169	1.33	4.33 %	1.23	1.36	1.33	1.39	1.35	1.30
13C-PCB-188	0.94	2.02 %	0.94	0.93	0.93	0.90	0.95	0.96
13C-PCB-180	0.67	1.72 %	0.66	0.68	0.68	0.66	0.68	0.65
13C-PCB-170	0.61	2.25 %	0.59	0.62	0.62	0.61	0.61	0.60
13C-PCB-189	0.79	2.21 %	0.76	0.80	0.80	0.79	0.81	0.80
13C-PCB-202	0.94	2.34 %	0.93	0.97	0.96	0.92	0.95	0.92

13C-PCB-194	0.72	1.87	0.71	0.71	0.73	0.71	0.74	0.71
13C-PCB-208	1.00	4.64	0.93	1.02	1.02	0.98	1.06	1.01
13C-PCB-206	0.80	4.01	0.75	0.82	0.82	0.78	0.84	0.81
13C-PCB-209	0.85	4.06	0.80	0.86	0.87	0.81	0.90	0.86
13C-PCB-15	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-31	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-60	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-111	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-128	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-205	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00

13C-PCB-79	1.01	0.86	1.01	1.00	1.01	1.02	1.01	0.99
13C-PCB-178	0.64	1.56	0.63	0.65	0.64	0.62	0.63	0.64
13C-PCB-79	1.06	1.87	1.10	1.06	1.06	1.05	1.04	1.04
13C-PCB-178	0.95	1.63	0.95	0.96	0.94	0.95	0.94	0.98

Filename: 160420E2 S: 1 Acquired: 20-APR-16 14:32:46
 Run: 160419E1 Analyte: PCB ICal: PCBVG8-4-19-16 Results:
 Sample text: ST160420E2-1 PCB CS0 16D2005

TYP	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono PCB-1	0.25	7.14e+05	3.08 Y	16:03	-	1.19
2	Mono PCB-2	0.25	6.28e+05	3.03 Y	18:27	-	1.00
3	Mono PCB-3	0.25	7.16e+05	2.67 Y	18:41	-	1.14
4	Di PCB-4/10	0.50	1.33e+06	1.41 Y	20:04	-	1.75
5	Di PCB-7/9	0.50	1.46e+06	1.56 Y	21:52	-	1.26
6	Di PCB-6	0.25	7.19e+05	1.39 Y	22:31	-	1.24
7	Di PCB-5/8	0.50	1.46e+06	1.45 Y	22:56	-	1.26
8	Di PCB-14	0.25	8.49e+05	1.44 Y	24:02	-	1.54
9	Di PCB-11	0.25	7.63e+05	1.43 Y	25:14	-	1.39
10	Di PCB-12/13	0.50	1.44e+06	1.36 Y	25:37	-	1.31
11	Di PCB-15	0.25	8.13e+05	1.52 Y	25:56	-	1.48
12	Tri PCB-19	0.25	5.11e+05	0.99 Y	24:12	-	1.33
13	Tri PCB-30	0.25	7.39e+05	1.07 Y	25:06	-	1.92
14	Tri PCB-18	0.25	4.95e+05	1.13 Y	25:51	-	0.93
15	Tri PCB-17	0.25	5.57e+05	0.94 Y	26:02	-	1.04
16	Tri PCB-24/27	0.50	1.39e+06	1.04 Y	26:36	-	1.30
17	Tri PCB-16/32	0.50	1.28e+06	1.11 Y	27:07	-	1.19
18	Tri PCB-34	0.25	7.11e+05	1.08 Y	27:55	-	1.30
19	Tri PCB-23	0.25	7.10e+05	1.19 Y	28:01	-	1.30
20	Tri PCB-29	0.25	6.60e+05	1.12 Y	28:15	-	1.21
21	Tri PCB-26	0.25	7.29e+05	1.10 Y	28:29	-	1.33
22	Tri PCB-25	0.25	6.75e+05	1.16 Y	28:38	-	1.24
23	Tri PCB-31	0.25	7.67e+05	1.12 Y	29:00	-	1.40
24	Tri PCB-28	0.25	7.54e+05	1.04 Y	29:05	-	1.38
25	Tri PCB-20/21/33	0.75	1.90e+06	1.09 Y	29:43	-	1.16
26	Tri PCB-22	0.25	6.84e+05	1.04 Y	30:10	-	1.25
27	Tri PCB-36	0.25	6.64e+05	1.02 Y	30:46	-	1.40
28	Tri PCB-39	0.25	7.05e+05	1.09 Y	31:15	-	1.49
29	Tri PCB-38	0.25	6.45e+05	1.05 Y	32:01	-	1.36
30	Tri PCB-35	0.25	6.32e+05	1.09 Y	32:33	-	1.33
31	Tri PCB-37	0.25	7.12e+05	1.07 Y	32:59	-	1.50
32	Tetra PCB-54	0.25	6.57e+05	0.69 Y	27:58	-	1.23
33	Tetra PCB-50	0.25	5.28e+05	0.75 Y	29:09	-	0.99
34	Tetra PCB-53	0.25	4.62e+05	0.83 Y	29:47	-	1.31
35	Tetra PCB-51	0.25	4.85e+05	0.88 Y	30:08	-	1.37
36	Tetra PCB-45	0.25	4.23e+05	0.81 Y	30:34	-	1.20
37	Tetra PCB-46	0.25	4.30e+05	0.84 Y	31:04	-	1.22
38	Tetra PCB-52/69	0.50	9.92e+05	0.81 Y	31:32	-	1.40
39	Tetra PCB-73	0.25	5.64e+05	0.84 Y	31:39	-	1.60
40	Tetra PCB-43/49	0.50	1.03e+06	0.84 Y	31:49	-	1.46

41	Tetra	PCB-47	0.25	5.45e-05	0.82 Y	32:01	1.45
42	Tetra	PCB-48/75	0.50	1.11e-06	0.77 Y	32:08	1.47
43	Tetra	PCB-65	0.25	5.44e+05	0.87 Y	32:23	1.45
44	Tetra	PCB-62	0.25	5.51e+05	0.68 Y	32:30	1.46
45	Tetra	PCB-44	0.25	3.77e+05	0.85 Y	32:49	1.00
46	Tetra	PCB-42/59	0.50	1.06e+06	0.73 Y	33:03	1.41
47	Tetra	PCB-41/64/71/72	1.00	2.17e+06	0.77 Y	33:38	1.44
48	Tetra	PCB-68	0.25	6.26e+05	0.74 Y	33:54	1.66
49	Tetra	PCB-40	0.25	3.46e+05	0.88 Y	34:06	0.92
50	Tetra	PCB-57	0.25	5.72e+05	0.68 Y	34:28	1.21
51	Tetra	PCB-67	0.25	5.95e+05	0.80 Y	34:46	1.26

52	Tetra	PCB-58	0.25	5.55e+05	0.78	Y	34:53	1.17
53	Tetra	PCB-63	0.25	6.14e+05	0.67	Y	35:02	1.30
54	Tetra	PCB-74	0.25	5.86e+05	0.74	Y	35:20	1.24
55	Tetra	PCB-61/70	0.50	1.16e+06	0.75	Y	35:31	1.23
56	Tetra	PCB-76/66	0.50	1.16e+06	0.68	Y	35:43	1.22
57	Tetra	PCB-80	0.25	6.99e+05	0.78	Y	35:58	1.48
58	Tetra	PCB-55	0.25	5.34e+05	0.71	Y	36:17	1.13
59	Tetra	PCB-56/60	0.50	1.19e+06	0.72	Y	36:47	1.26
60	Tetra	PCB-79	0.25	5.59e+05	0.81	Y	37:50	1.18
61	Tetra	PCB-78	0.25	5.23e+05	0.72	Y	38:32	1.21
62	Tetra	PCB-81	0.25	5.42e+05	0.85	Y	39:04	1.25
63	Tetra	PCB-77	0.25	5.58e+05	0.82	Y	39:41	1.32
64	Penta	PCB-104	0.25	4.53e+05	1.58	Y	32:40	1.27
65	Penta	PCB-96	0.25	4.41e+05	1.68	Y	33:56	1.24
66	Penta	PCB-103	0.25	3.48e+05	1.38	Y	34:29	0.98
67	Penta	PCB-100	0.25	3.70e+05	1.67	Y	34:50	1.04
68	Penta	PCB-94	0.25	2.99e+05	1.32	Y	35:18	1.17
69	Penta	PCB-95/98/102	0.75	1.01e+06	1.54	Y	35:48	1.32
70	Penta	PCB-93	0.25	3.33e+05	1.70	Y	35:56	1.31
71	Penta	PCB-88/91	0.50	6.85e+05	1.50	Y	36:13	1.34
72	Penta	PCB-121	0.25	4.33e+05	1.63	Y	36:19	1.70
73	Penta	PCB-84/92	0.50	6.41e+05	1.35	Y	37:09	1.21
74	Penta	PCB-89	0.25	3.24e+05	1.78	Y	37:20	1.22
75	Penta	PCB-90/101	0.50	6.81e+05	1.57	Y	37:31	1.28
76	Penta	PCB-113	0.25	3.94e+05	1.32	Y	37:46	1.49
77	Penta	PCB-99	0.25	3.77e+05	1.76	Y	37:52	1.42
78	Penta	PCB-119	0.25	4.78e+05	1.65	Y	38:19	2.00
79	Penta	PCB-108/112	0.50	7.04e+05	1.40	Y	38:28	1.47
80	Penta	PCB-83	0.25	4.18e+05	1.35	Y	38:38	1.74
81	Penta	PCB-97	0.25	3.34e+05	1.42	Y	38:49	1.39
82	Penta	PCB-86	0.25	2.12e+05	1.52	Y	38:57	0.89
83	Penta	PCB-87/117/125	0.75	1.16e+06	1.54	Y	39:05	1.61
84	Penta	PCB-111/115	0.50	9.66e+05	1.66	Y	39:16	2.02
85	Penta	PCB-85/116	0.50	6.95e+05	1.49	Y	39:24	1.45
86	Penta	PCB-120	0.25	5.12e+05	1.48	Y	39:38	2.14
87	Penta	PCB-110	0.25	4.77e+05	1.66	Y	39:46	1.99
88	Penta	PCB-82	0.25	2.72e+05	1.40	Y	40:24	0.88
89	Penta	PCB-124	0.25	3.73e+05	1.45	Y	41:05	1.21
90	Penta	PCB-107/109	0.50	8.34e+05	1.43	Y	41:13	1.35
91	Penta	PCB-123	0.25	4.33e+05	1.56	Y	41:23	1.41
92	Penta	PCB-106/118	0.50	9.38e+05	1.39	Y	41:35	1.47
93	Penta	PCB-114	0.25	4.83e+05	1.44	Y	42:13	1.41
94	Penta	PCB-122	0.25	4.02e+05	1.70	Y	42:22	1.18
95	Penta	PCB-105	0.25	5.06e+05	1.52	Y	43:05	1.49
96	Penta	PCB-127	0.25	4.41e+05	1.61	Y	43:26	1.21
97	Penta	PCB-126	0.25	4.23e+05	1.66	Y	45:19	1.33
98	Hexa	PCB-155	0.25	4.41e+05	1.21	Y	37:04	1.39
99	Hexa	PCB-150	0.25	3.66e+05	1.31	Y	38:20	1.15
100	Hexa	PCB-152	0.25	4.31e+05	1.19	Y	38:48	1.35
101	Hexa	PCB-145	0.25	4.14e+05	1.30	Y	39:14	1.30

102	Hexa	PCB-136	0.25	3.75e+05	1.13 Y	39:34	-	1.18
103	Hexa	PCB-148	0.25	2.54e-05	1.26 Y	39:41	-	0.80
104	Hexa	PCB-154	0.25	3.07e+05	1.24 Y	40:10	-	0.96
105	Hexa	PCB-151	0.25	2.82e+05	1.33 Y	40:49	-	0.89
106	Hexa	PCB-135	0.25	2.55e+05	1.15 Y	41:01	-	0.80
107	Hexa	PCB-144	0.25	3.19e+05	1.23 Y	41:08	-	1.00
108	Hexa	PCB-147	0.25	2.48e+05	1.18 Y	41:16	-	0.78
109	Hexa	PCB-139/149	0.50	5.83e+05	1.17 Y	41:32	-	0.91
110	Hexa	PCB-140	0.25	2.87e+05	1.17 Y	41:42	-	0.90
111	Hexa	PCB-134/143	0.50	6.54e+05	1.19 Y	42:10	-	0.94
112	Hexa	PCB-133/142	0.50	5.79e+05	1.14 Y	42:27	-	0.84

113	Hexa	PCB-131	0.25	3.27e+05	1.28 Y	42:36	-	0.94
114	Hexa	PCB-146/165	0.50	7.53e+05	1.14 Y	42:50	-	1.09
115	Hexa	PCB-132/161	0.50	8.67e+05	1.24 Y	43:04	-	1.25
116	Hexa	PCB-153	0.25	4.68e+05	1.11 Y	43:14	-	1.35
117	Hexa	PCB-168	0.25	5.16e+05	1.25 Y	43:27	-	1.49
118	Hexa	PCB-141	0.25	4.06e+05	1.26 Y	43:59	-	1.40
119	Hexa	PCB-137	0.25	3.83e+05	1.37 Y	44:21	-	1.31
120	Hexa	PCB-130	0.25	3.40e+05	1.11 Y	44:27	-	1.17
121	Hexa	PCB-138/163/164	0.75	1.24e+06	1.20 Y	44:50	-	1.37
122	Hexa	PCB-158/160	0.50	9.03e+05	1.28 Y	45:04	-	1.49
123	Hexa	PCB-129	0.25	3.07e+05	1.25 Y	45:19	-	1.01
124	Hexa	PCB-166	0.25	4.52e+05	1.33 Y	45:46	-	1.23
125	Hexa	PCB-159	0.25	5.11e+05	1.19 Y	46:05	-	1.40
126	Hexa	PCB-128/162	0.50	8.25e+05	1.37 Y	46:23	-	1.13
127	Hexa	PCB-167	0.25	4.91e+05	1.29 Y	46:47	-	1.33
128	Hexa	PCB-156	0.25	4.82e+05	1.31 Y	48:03	-	1.37
129	Hexa	PCB-157	0.25	4.85e+05	1.34 Y	48:21	-	1.32
130	Hexa	PCB-169	0.25	4.36e+05	1.17 Y	50:33	-	1.28
131	Hepta	PCB-188	0.25	4.27e+05	1.09 Y	42:52	-	1.63
132	Hepta	PCB-184	0.25	4.29e+05	1.05 Y	43:19	-	1.64
133	Hepta	PCB-179	0.25	3.86e+05	0.95 Y	44:05	-	1.47
134	Hepta	PCB-176	0.25	4.10e+05	1.11 Y	44:33	-	1.57
135	Hepta	PCB-186	0.25	4.29e+05	1.18 Y	45:10	-	1.64
136	Hepta	PCB-178	0.25	3.39e+05	1.10 Y	45:39	-	1.30
137	Hepta	PCB-175	0.25	3.13e+05	1.00 Y	46:00	-	1.20
138	Hepta	PCB-182/187	0.50	6.82e+05	1.17 Y	46:10	-	1.30
139	Hepta	PCB-183	0.25	3.78e+05	1.06 Y	46:30	-	1.45
140	Hepta	PCB-185	0.25	3.05e+05	1.08 Y	47:09	-	1.65
141	Hepta	PCB-174	0.25	2.96e+05	1.18 Y	47:30	-	1.60
142	Hepta	PCB-181	0.25	3.39e+05	1.02 Y	47:37	-	1.84
143	Hepta	PCB-177	0.25	2.94e+05	1.00 Y	47:46	-	1.59
144	Hepta	PCB-171	0.25	3.42e+05	1.17 Y	48:05	-	1.85
145	Hepta	PCB-173	0.25	2.86e+05	1.13 Y	48:30	-	1.55
146	Hepta	PCB-172	0.25	2.98e+05	0.95 Y	48:57	-	1.61
147	Hepta	PCB-192	0.25	3.94e+05	0.94 Y	49:08	-	2.13
148	Hepta	PCB-180	0.25	3.40e+05	0.94 Y	49:21	-	1.84
149	Hepta	PCB-193	0.25	4.15e+05	1.17 Y	49:34	-	2.25
150	Hepta	PCB-191	0.25	3.92e+05	1.04 Y	49:49	-	2.12
151	Hepta	PCB-170	0.25	2.95e+05	0.94 Y	50:56	-	1.81
152	Hepta	PCB-190	0.25	3.97e+05	1.19 Y	51:07	-	2.44
153	Hepta	PCB-189	0.25	3.72e+05	0.90 Y	52:32	-	1.77
154	Octa	PCB-202	0.25	3.16e+05	0.79 Y	48:16	-	1.22
155	Octa	PCB-201	0.25	3.48e+05	0.80 Y	48:45	-	1.34
156	Octa	PCB-204	0.25	2.96e+05	0.89 Y	48:54	-	1.14
157	Octa	PCB-197	0.25	3.51e+05	0.96 Y	49:13	-	1.35
158	Octa	PCB-200	0.25	3.03e+05	0.87 Y	50:07	-	1.17
159	Octa	PCB-198	0.25	2.11e+05	0.78 Y	51:35	-	0.81
160	Octa	PCB-199	0.25	2.08e+05	0.99 Y	51:41	-	0.80
161	Octa	PCB-196/203	0.50	4.38e+05	0.96 Y	51:58	-	0.84
162	Octa	PCB-195	0.25	2.55e+05	0.96 Y	53:11	-	1.08

163	Octa												
		PCB-194	0.25	3.61e+05	1.00 Y	54:05	-	1.54					
164	Octa	PCB-205	0.25	4.23e+05	0.97 Y	54:21	-	1.80					
165	Nona	PCB-208	0.25	3.63e+05	1.16 Y	53:21	-	1.18					
166	Nona	PCB-207	0.25	3.61e+05	1.16 Y	53:40	-	1.18					
167	Nona	PCB-206	0.25	2.55e+05	1.32 Y	55:39	-	1.03					
168	Deca	PCB-209	0.25	3.87e+05	1.27 Y	56:58	-	1.46					
169	Tot	Total Mono-PCB	0.00				-	1.11					
170	Tot	Total Di-PCB	0.00				-	1.36					

172	Tot ¶	Total Tri-PCB	0.00	- n	-	1.28	
172	Tot ¶	Total Tri-PCB	0.00	- n	-	1.32	
173	Tot ¶	Total Tetra-PCB	0.00	- n	-	1.32	
174	Tot ¶	Total Penta-PCB	0.00	- n	-	1.32	
175	Tot ¶	Total Penta-PCB	0.00	- n	-	1.32	
176	Tot ¶	Total Hexa-PCB	0.00	- n	-	1.02	
177	Tot ¶	Total Hexa-PCB	0.00	- n	-	1.21	
178	Tot ¶	Total Hepta-PCB	0.00	- n	-	1.63	
179	Tot ¶	Total Octa-PCB	0.00	- n	-	1.06	
180	Tot ¶	Total Octa-PCB	0.00	- n	-	1.47	
181	Tot ¶	Total Nona-PCB	0.00	- n	-	1.14	
182	Tot ¶	Total Deca-PCB	0.25	3.87e+05	1.27 Y	56:58	1.46
183	Mono¶	13C-PCB-1	100.00	2.41e+08	3.20 Y	16:02	1.02
184	Mono¶	13C-PCB-3	100.00	2.51e+08	3.21 Y	18:40	1.07
185	Di-IS	13C-PCB-4	100.00	1.52e+08	1.58 Y	20:01	0.65
186	Di-IS	13C-PCB-9	100.00	2.31e+08	1.59 Y	21:49	0.98
187	Di-IS	13C-PCB-11	100.00	2.20e+08	1.56 Y	25:13	0.93
188	Tri-¶	13C-PCB-19	100.00	1.54e+08	1.07 Y	24:11	0.65
189	Tri-¶	13C-PCB-32	100.00	2.14e+08	1.05 Y	27:07	0.91
190	Tri-¶	13C-PCB-28	100.00	2.19e+08	1.05 Y	29:05	1.05
191	Tri-¶	13C-PCB-37	100.00	1.90e+08	1.03 Y	32:58	0.91
192	Tetra¶	13C-PCB-54	100.00	2.13e+08	0.79 Y	27:57	1.13
193	Tetra¶	13C-PCB-52	100.00	1.41e+08	0.77 Y	31:30	0.75
194	Tetra¶	13C-PCB-47	100.00	1.51e+08	0.77 Y	32:00	0.80
195	Tetra¶	13C-PCB-70	100.00	1.89e+08	0.79 Y	35:32	1.01
196	Tetra¶	13C-PCB-80	100.00	1.90e+08	0.79 Y	35:57	1.01
197	Tetra¶	13C-PCB-81	100.00	1.73e+08	0.78 Y	39:04	0.92
198	Tetra¶	13C-PCB-77	100.00	1.69e+08	0.79 Y	39:39	0.90
199	Penta¶	13C-PCB-104	100.00	1.42e+08	1.57 Y	32:40	1.03
200	Penta¶	13C-PCB-95	100.00	1.02e+08	1.58 Y	35:50	0.73
201	Penta¶	13C-PCB-101	100.00	1.06e+08	1.61 Y	37:31	0.76
202	Penta¶	13C-PCB-97	100.00	9.59e+07	1.59 Y	38:48	0.69
203	Penta¶	13C-PCB-123	100.00	1.23e+08	1.54 Y	41:23	0.89
204	Penta¶	13C-PCB-118	100.00	1.27e+08	1.62 Y	41:33	0.92
205	Penta¶	13C-PCB-114	100.00	1.36e+08	1.61 Y	42:13	1.23
206	Penta¶	13C-PCB-105	100.00	1.36e+08	1.61 Y	43:05	1.22
207	Penta¶	13C-PCB-127	100.00	1.46e+08	1.57 Y	43:25	1.31
208	Penta¶	13C-PCB-126	100.00	1.28e+08	1.61 Y	45:19	1.15
209	Hexa¶	13C-PCB-155	100.00	1.27e+08	1.26 Y	37:03	0.92
210	Hexa¶	13C-PCB-153	100.00	1.39e+08	1.27 Y	43:14	1.25
211	Hexa¶	13C-PCB-141	100.00	1.16e+08	1.27 Y	43:58	1.05
212	Hexa	13C-PCB-138	100.00	1.21e+08	1.27 Y	44:48	1.09
213	Hexa¶	13C-PCB-159	100.00	1.47e+08	1.28 Y	46:05	1.32
214	Hexa¶	13C-PCB-167	100.00	1.48e+08	1.27 Y	46:46	1.33
215	Hexa¶	13C-PCB-156	100.00	1.41e+08	1.26 Y	48:03	1.26
216	Hexa¶	13C-PCB-157	100.00	1.47e+08	1.28 Y	48:20	1.33
217	Hexa¶	13C-PCB-169	100.00	1.37e+08	1.28 Y	50:33	1.23
218	Hept¶	13C-PCB-188	100.00	1.05e+08	0.46 Y	42:51	0.94
219	Hept¶	13C-PCB-180	100.00	7.39e+07	0.47 Y	49:20	0.66
220	Hept¶	13C-PCB-170	100.00	6.51e+07	0.46 Y	50:56	0.59
221	Hept¶	13C-PCB-189	100.00	8.44e+07	0.45 Y	52:32	0.76

222	Octa η	13C-PCB-202	100.00	1.94e+08	0.92 Y	48:16	-	0.93
223	Octa η	13C-PCB-194	100.00	9.41e+07	0.92 Y	54:05	-	0.71
224	Non η	13C-PCB-208	100.00	1.22e+08	0.79 Y	53:20	-	0.93
225	Non η	13C-PCB-206	100.00	9.93e+07	0.76 Y	55:38	-	0.75
226	Deca η	13C-PCB-209	100.00	1.06e+08	1.20 Y	56:57	-	0.80
227	DI-RS	13C-PCB-15	100.00	2.35e+08	1.57 Y	25:55	-	1.00
228	Tri- η	13C-PCB-31	100.00	2.09e+08	1.04 Y	28:59	-	1.00
229	Tetra η	13C-PCB-60	100.00	1.87e+08	0.79 Y	36:46	-	1.00
230	Penta	13C-PCB-111	100.00	1.39e+08	1.58 Y	39:14	-	1.00
231	Hexa η	13C-PCB-128	100.00	1.11e+08	1.29 Y	46:21	-	1.00

232	Octa	13C-PCB-205	100.00	1.32e+08	0.91 Y	54:21	-	1.00
233	CRS	13C-PCB-79	100.00	1.89e+08	0.79 Y	37:50	-	1.01
234	CRS	13C-PCB-178	100.00	7.02e+07	0.45 Y	45:38	-	0.63
235	PS	13C-PCB-79	100.00	1.89e+08	0.79 Y	37:50	-	1.10
236	PS	13C-PCB-178	100.00	7.02e+07	0.45 Y	45:38	-	0.95

Filename: 160419E1 S: 2 Acquired: 19-APR-16 11:00:35
 Run: 160419E1 Analyte: PCB ICal: PCBVG8-4-19-16 Results:
 Sample text: ST160419E1-2 PCB CS1 16C1710

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	1.00	2.76e+06	2.96 Y	16:04	1.12
2	Mono	PCB-2	1.00	2.57e+06	3.04 Y	18:29	1.00
3	Mono	PCB-3	1.00	2.76e+06	3.00 Y	18:43	1.08
4	Di	PCB-4/10	2.00	3.75e+06	1.53 Y	20:06	1.46
5	Di	PCB-7/9	2.00	4.84e+06	1.51 Y	21:53	1.19
6	Di	PCB-6	1.00	2.18e+06	1.64 Y	22:33	1.07
7	Di	PCB-5/8	2.00	4.76e+06	1.58 Y	22:57	1.17
8	Di	PCB-14	1.00	2.65e+06	1.55 Y	24:04	1.30
9	Di	PCB-11	1.00	2.58e+06	1.41 Y	25:15	1.27
10	Di	PCB-12/13	2.00	4.70e+06	1.56 Y	25:39	1.16
11	Di	PCB-15	1.00	2.63e+06	1.45 Y	25:58	1.29
12	Tri	PCB-19	1.00	1.82e+06	1.10 Y	24:14	1.27
13	Tri	PCB-30	1.00	2.74e+06	1.04 Y	25:08	1.92
14	Tri	PCB-18	1.00	1.96e+06	1.06 Y	25:53	0.97
15	Tri	PCB-17	1.00	2.04e+06	1.09 Y	26:03	1.01
16	Tri	PCB-24/27	2.00	5.24e+06	1.02 Y	26:38	1.30
17	Tri	PCB-16/32	2.00	4.36e+06	1.07 Y	27:08	1.08
18	Tri	PCB-34	1.00	1.77e+06	1.03 Y	27:57	0.88
19	Tri	PCB-23	1.00	1.85e+06	1.08 Y	28:02	0.92
20	Tri	PCB-29	1.00	1.77e+06	1.03 Y	28:17	0.88
21	Tri	PCB-26	1.00	1.81e+06	1.16 Y	28:30	0.90
22	Tri	PCB-25	1.00	1.86e+06	1.12 Y	28:40	0.92
23	Tri	PCB-31	1.00	2.54e+06	1.07 Y	29:00	1.26
24	Tri	PCB-28	1.00	2.12e+06	1.08 Y	29:07	1.06
25	Tri	PCB-20/21/33	3.00	6.54e+06	1.10 Y	29:45	1.09
26	Tri	PCB-22	1.00	2.06e+06	0.98 Y	30:11	1.03
27	Tri	PCB-36	1.00	2.14e+06	1.04 Y	30:48	1.23
28	Tri	PCB-39	1.00	2.21e+06	1.12 Y	31:17	1.27
29	Tri	PCB-38	1.00	2.15e+06	1.11 Y	32:02	1.24
30	Tri	PCB-35	1.00	2.13e+06	1.04 Y	32:34	1.22
31	Tri	PCB-37	1.00	2.31e+06	1.12 Y	33:00	1.33
32	Tetra	PCB-54	1.00	2.10e+06	0.80 Y	27:60	1.17
33	Tetra	PCB-50	1.00	1.63e+06	0.72 Y	29:10	0.91
34	Tetra	PCB-53	1.00	1.69e+06	0.77 Y	29:49	1.21
35	Tetra	PCB-51	1.00	1.67e+06	0.75 Y	30:09	1.19
36	Tetra	PCB-45	1.00	1.47e+06	0.77 Y	30:35	1.05
37	Tetra	PCB-46	1.00	1.32e+06	0.81 Y	31:05	0.94
38	Tetra	PCB-52/69	2.00	3.83e+06	0.78 Y	31:33	1.37
39	Tetra	PCB-73	1.00	2.17e+06	0.78 Y	31:40	1.55
40	Tetra	PCB-43/49	2.00	3.77e+06	0.74 Y	31:50	1.35
41	Tetra	PCB-47	1.00	1.76e+06	0.79 Y	32:02	1.21

42	Tetra	PCB-46/75	2.00	4.04e+06	0.78 Y	32:09	-	1.39
43	Tetra	PCB-65	1.00	1.90e+06	0.74 Y	32:25	-	1.31
44	Tetra	PCB-62	1.00	2.12e+06	0.74 Y	32:32	-	1.46
45	Tetra	PCB-44	1.00	1.51e+06	0.78 Y	32:50	-	1.04
46	Tetra	PCB-42/59	2.00	3.86e+06	0.77 Y	33:03	-	1.33
47	Tetra	PCB-41/64/71/72	4.00	7.88e+06	0.80 Y	33:39	-	1.36
48	Tetra	PCB-68	1.00	2.34e+06	0.78 Y	33:55	-	1.61
49	Tetra	PCB-40	1.00	1.26e+06	0.80 Y	34:07	-	0.87
50	Tetra	PCB-57	1.00	2.22e+06	0.79 Y	34:29	-	1.20
51	Tetra	PCB-67	1.00	2.10e+06	0.74 Y	34:48	-	1.13
52	Tetra	PCB-58	1.00	2.20e+06	0.79 Y	34:55	-	1.19

53	Tetra	PCB-63	1.00	2.38e+06	0.78 Y	35:04	1.29
54	Tetra	PCB-74	1.00	2.41e+06	0.80 Y	35:21	1.30
55	Tetra	PCB-61/70	2.00	4.39e+06	0.79 Y	35:32	1.19
56	Tetra	PCB-76/66	2.00	4.43e+06	0.77 Y	35:45	1.20
57	Tetra	PCB-80	1.00	2.57e+06	0.70 Y	35:59	1.36
58	Tetra	PCB-55	1.00	2.25e+06	0.78 Y	36:18	1.19
59	Tetra	PCB-56/60	2.00	4.38e+06	0.82 Y	36:47	1.16
60	Tetra	PCB-79	1.00	2.39e+06	0.77 Y	37:52	1.26
61	Tetra	PCB-78	1.00	2.07e+06	0.78 Y	38:34	1.15
62	Tetra	PCB-81	1.00	2.36e+06	0.80 Y	39:05	1.31
63	Tetra	PCB-77	1.00	2.34e+06	0.82 Y	39:41	1.33
64	Penta	PCB-104	1.00	1.78e+06	1.52 Y	32:42	1.43
65	Penta	PCB-96	1.00	1.47e+06	1.50 Y	33:57	1.18
66	Penta	PCB-103	1.00	1.33e+06	1.58 Y	34:30	1.07
67	Penta	PCB-100	1.00	1.30e+06	1.54 Y	34:50	1.04
68	Penta	PCB-94	1.00	1.13e+06	1.47 Y	35:19	1.22
69	Penta	PCB-95/98/102	3.00	3.70e+06	1.54 Y	35:48	1.33
70	Penta	PCB-93	1.00	1.22e+06	1.48 Y	35:56	1.32
71	Penta	PCB-88/91	2.00	2.29e+06	1.54 Y	36:13	1.24
72	Penta	PCB-121	1.00	1.75e+06	1.59 Y	36:20	1.89
73	Penta	PCB-84/92	2.00	2.40e+06	1.57 Y	37:09	1.22
74	Penta	PCB-89	1.00	1.13e+06	1.58 Y	37:20	1.16
75	Penta	PCB-90/101	2.00	2.61e+06	1.56 Y	37:32	1.33
76	Penta	PCB-113	1.00	1.48e+06	1.64 Y	37:46	1.51
77	Penta	PCB-99	1.00	1.38e+06	1.47 Y	37:52	1.41
78	Penta	PCB-119	1.00	1.67e+06	1.58 Y	38:19	1.91
79	Penta	PCB-108/112	2.00	2.61e+06	1.60 Y	38:28	1.49
80	Penta	PCB-83	1.00	1.55e+06	1.63 Y	38:39	1.77
81	Penta	PCB-97	1.00	1.21e+06	1.55 Y	38:50	1.39
82	Penta	PCB-86	1.00	8.98e+05	1.63 Y	38:58	1.03
83	Penta	PCB-87/117/125	3.00	4.30e+06	1.57 Y	39:06	1.64
84	Penta	PCB-111/115	2.00	3.52e+06	1.51 Y	39:16	2.02
85	Penta	PCB-85/116	2.00	2.49e+06	1.59 Y	39:23	1.42
86	Penta	PCB-120	1.00	1.73e+06	1.78 Y	39:38	1.98
87	Penta	PCB-110	1.00	1.61e+06	1.50 Y	39:47	1.84
88	Penta	PCB-82	1.00	9.95e+05	1.59 Y	40:24	0.84
89	Penta	PCB-124	1.00	1.56e+06	1.58 Y	41:05	1.32
90	Penta	PCB-107/109	2.00	3.29e+06	1.56 Y	41:13	1.39
91	Penta	PCB-123	1.00	1.72e+06	1.38 Y	41:23	1.45
92	Penta	PCB-106/118	2.00	3.48e+06	1.56 Y	41:36	1.41
93	Penta	PCB-114	1.00	1.44e+06	1.44 Y	42:14	1.23
94	Penta	PCB-122	1.00	1.26e+06	1.55 Y	42:22	1.07
95	Penta	PCB-105	1.00	1.54e+06	1.40 Y	43:06	1.29
96	Penta	PCB-127	1.00	1.53e+06	1.60 Y	43:26	1.12
97	Penta	PCB-126	1.00	1.49e+06	1.53 Y	45:20	1.21
98	Hexa	PCB-155	1.00	1.51e+06	1.28 Y	37:05	1.34
99	Hexa	PCB-150	1.00	1.30e+06	1.34 Y	38:20	1.15
100	Hexa	PCB-152	1.00	1.35e+06	1.20 Y	38:49	1.19
101	Hexa	PCB-145	1.00	1.25e+06	1.12 Y	39:16	1.11
102	Hexa	PCB-136	1.00	1.33e+06	1.21 Y	39:35	1.18

114	Hexa	PCB-146/165	2.00	2.84e+06	1.17 Y	42:49	-	1.13
115	Hexa	PCB-132/161	2.00	2.97e+06	1.24 Y	43:04	-	1.18
116	Hexa	PCB-153	1.00	1.58e+06	1.29 Y	43:15	-	1.25
117	Hexa	PCB-168	1.00	1.85e+06	1.40 Y	43:28	-	1.47
118	Hexa	PCB-141	1.00	1.38e+06	1.20 Y	43:59	-	1.24
119	Hexa	PCB-137	1.00	1.34e+06	1.28 Y	44:22	-	1.20
120	Hexa	PCB-130	1.00	1.25e+06	1.18 Y	44:28	-	1.12
121	Hexa	PCB-138/163/164	3.00	4.83e+06	1.20 Y	44:51	-	1.36
122	Hexa	PCB-158/160	2.00	3.50e+06	1.26 Y	45:05	-	1.48
123	Hexa	PCB-129	1.00	1.21e+06	1.29 Y	45:20	-	1.02
124	Hexa	PCB-166	1.00	1.74e+06	1.25 Y	45:46	-	1.25
125	Hexa	PCB-159	1.00	1.84e+06	1.32 Y	46:06	-	1.32
126	Hexa	PCB-128/162	2.00	3.12e+06	1.24 Y	46:23	-	1.12
127	Hexa	PCB-167	1.00	1.92e+06	1.15 Y	46:48	-	1.34
128	Hexa	PCB-156	1.00	1.88e+06	1.29 Y	48:04	-	1.36
129	Hexa	PCB-157	1.00	1.98e+06	1.17 Y	48:20	-	1.37
130	Hexa	PCB-169	1.00	1.79e+06	1.14 Y	50:33	-	1.26
131	Hepta	PCB-188	1.00	1.71e+06	1.02 Y	42:53	-	1.76
132	Hepta	PCB-184	1.00	1.44e+06	1.08 Y	43:20	-	1.49
133	Hepta	PCB-179	1.00	1.47e+06	1.04 Y	44:06	-	1.52
134	Hepta	PCB-176	1.00	1.63e+06	1.07 Y	44:34	-	1.68
135	Hepta	PCB-186	1.00	1.59e+06	1.03 Y	45:11	-	1.64
136	Hepta	PCB-178	1.00	1.34e+06	1.06 Y	45:39	-	1.38
137	Hepta	PCB-175	1.00	1.13e+06	1.06 Y	46:00	-	1.17
138	Hepta	PCB-182/187	2.00	2.59e+06	1.05 Y	46:11	-	1.33
139	Hepta	PCB-183	1.00	1.40e+06	1.07 Y	46:29	-	1.44
140	Hepta	PCB-185	1.00	1.14e+06	1.08 Y	47:10	-	1.60
141	Hepta	PCB-174	1.00	1.20e+06	1.07 Y	47:32	-	1.69
142	Hepta	PCB-181	1.00	1.11e+06	1.04 Y	47:37	-	1.57
143	Hepta	PCB-177	1.00	1.06e+06	0.96 Y	47:48	-	1.49
144	Hepta	PCB-171	1.00	1.22e+06	0.99 Y	48:05	-	1.71
145	Hepta	PCB-173	1.00	9.63e+05	1.07 Y	48:31	-	1.36
146	Hepta	PCB-172	1.00	1.09e+06	1.14 Y	48:57	-	1.53
147	Hepta	PCB-192	1.00	1.47e+06	1.02 Y	49:09	-	2.07
148	Hepta	PCB-180	1.00	1.27e+06	1.11 Y	49:21	-	1.79
149	Hepta	PCB-193	1.00	1.52e+06	0.95 Y	49:33	-	2.15
150	Hepta	PCB-191	1.00	1.55e+06	1.10 Y	49:49	-	2.18
151	Hepta	PCB-170	1.00	1.22e+06	1.05 Y	50:56	-	1.87
152	Hepta	PCB-190	1.00	1.57e+06	0.99 Y	51:08	-	2.41
153	Hepta	PCB-189	1.00	1.58e+06	1.14 Y	52:32	-	1.88
154	Octa	PCB-202	1.00	1.20e+06	0.86 Y	48:17	-	1.18
155	Octa	PCB-201	1.00	1.19e+06	0.87 Y	48:46	-	1.17
156	Octa	PCB-204	1.00	1.09e+06	0.89 Y	48:56	-	1.07
157	Octa	PCB-197	1.00	1.26e+06	0.89 Y	49:14	-	1.24
158	Octa	PCB-200	1.00	1.24e+06	0.87 Y	50:08	-	1.22
159	Octa	PCB-198	1.00	8.30e+05	0.85 Y	51:34	-	0.82
160	Octa	PCB-199	1.00	8.76e+05	0.86 Y	51:41	-	0.86
161	Octa	PCB-196/203	2.00	1.78e+06	0.89 Y	51:59	-	0.88
162	Octa	PCB-195	1.00	9.47e+05	0.94 Y	53:12	-	1.19
163	Octa	PCB-194	1.00	1.09e+06	0.96 Y	54:05	-	1.37

164	Octa		PCB-205	1.00	1.36e+06	0.87 Y	54:21	-	1.71
165	Nona		PCB-208	1.00	1.43e+06	1.26 Y	53:21	-	1.24
166	Nona		PCB-207	1.00	1.29e+06	1.43 Y	53:40	-	1.12
167	Nona		PCB-206	1.00	9.32e+05	1.28 Y	55:39	-	1.01
168	Deca		PCB-209	1.00	1.40e+06	1.15 Y	56:57	-	1.45
169	Tot		Total Mono-PCB	0.00	-	- n	-	-	1.07
170	Tot		Total Di-PCB	0.00	-	- n	-	-	1.21
171	Tot		Total Tri-PCB	0.00	-	- n	-	-	1.25

172	Tot ♀	Total Tri-PCB	0.00	-	-	-	-	1.09
173	Tot ♀	Total Tetra-PCB	0.00	-	-	-	-	1.24
174	Tot ♀	Total Penta-PCB	0.00	-	-	-	-	1.35
175	Tot ♀	Total Penta-PCB	0.00	-	-	-	-	1.18
176	Tot ♀	Total Hexa-PCB	0.00	-	-	-	-	0.99
177	Tot ♀	Total Hexa-PCB	0.00	-	-	-	-	1.19
178	Tot ♀	Total Hepta-PCB	0.00	-	-	-	-	1.61
179	Tot ♀	Total Octa-PCB	0.00	-	-	-	-	1.03
180	Tot ♀	Total Octa-PCB	0.00	-	-	-	-	1.42
181	Tot ♀	Total Nona-PCB	0.00	-	-	-	-	1.13
182	Tot ♀	Total Deca-PCB	1.00	1.40e+06	1.15 Y	56:57	-	1.45
183	Mon♂	13C-PCB-1	100.00	2.46e+08	3.13 Y	16:03	-	1.15
184	Mon♂	13C-PCB-3	100.00	2.57e+08	3.13 Y	18:42	-	1.19
185	Di-IS	13C-PCB-4	100.00	1.28e+08	1.57 Y	20:03	-	0.60
186	Di-IS	13C-PCB-9	100.00	2.04e+08	1.53 Y	21:51	-	0.95
187	Di-IS	13C-PCB-11	100.00	2.03e+08	1.53 Y	25:14	-	0.94
188	Tri-♀	13C-PCB-19	100.00	1.43e+08	1.04 Y	24:13	-	0.66
189	Tri-♀	13C-PCB-32	100.00	2.01e+08	1.05 Y	27:08	-	0.93
190	Tri-♀	13C-PCB-28	100.00	2.01e+08	1.05 Y	29:06	-	1.20
191	Tri-♀	13C-PCB-37	100.00	1.74e+08	0.83 Y	32:59	-	1.04
192	Tetra♀	13C-PCB-54	100.00	1.80e+08	1.03 Y	27:58	-	0.94
193	Tetra♀	13C-PCB-52	100.00	1.40e+08	0.78 Y	31:31	-	0.74
194	Tetra♀	13C-PCB-47	100.00	1.45e+08	0.79 Y	32:02	-	0.76
195	Tetra♀	13C-PCB-70	100.00	1.85e+08	0.80 Y	35:32	-	0.97
196	Tetra♀	13C-PCB-80	100.00	1.89e+08	0.79 Y	35:58	-	0.99
197	Tetra♀	13C-PCB-81	100.00	1.80e+08	0.79 Y	39:04	-	0.94
198	Tetra♀	13C-PCB-77	100.00	1.76e+08	0.81 Y	39:40	-	0.92
199	Penta♀	13C-PCB-104	100.00	1.25e+08	1.57 Y	32:40	-	0.96
200	Penta♀	13C-PCB-95	100.00	9.25e+07	1.58 Y	35:50	-	0.71
201	Penta♀	13C-PCB-101	100.00	9.80e+07	1.56 Y	37:31	-	0.75
202	Penta♀	13C-PCB-97	100.00	8.73e+07	1.57 Y	38:49	-	0.67
203	Penta♀	13C-PCB-123	100.00	1.18e+08	1.56 Y	41:22	-	0.91
204	Penta♀	13C-PCB-118	100.00	1.23e+08	1.59 Y	41:34	-	0.95
205	Penta♀	13C-PCB-114	100.00	1.18e+08	1.61 Y	42:13	-	1.12
206	Penta♀	13C-PCB-105	100.00	1.19e+08	1.59 Y	43:04	-	1.14
207	Penta♀	13C-PCB-127	100.00	1.36e+08	1.57 Y	43:25	-	1.30
208	Penta♀	13C-PCB-126	100.00	1.23e+08	1.57 Y	45:19	-	1.17
209	Hexa♀	13C-PCB-155	100.00	1.13e+08	1.29 Y	37:04	-	0.87
210	Hexa♀	13C-PCB-153	100.00	1.26e+08	1.26 Y	43:14	-	1.21
211	Hexa♀	13C-PCB-141	100.00	1.11e+08	1.27 Y	43:58	-	1.06
212	Hexa	13C-PCB-138	100.00	1.18e+08	1.29 Y	44:49	-	1.13
213	Hexa♀	13C-PCB-159	100.00	1.39e+08	1.26 Y	46:06	-	1.33
214	Hexa♀	13C-PCB-167	100.00	1.43e+08	1.26 Y	46:46	-	1.37
215	Hexa♀	13C-PCB-156	100.00	1.38e+08	1.28 Y	48:04	-	1.32
216	Hexa♀	13C-PCB-157	100.00	1.44e+08	1.26 Y	48:20	-	1.38
217	Hexa♀	13C-PCB-169	100.00	1.43e+08	1.27 Y	50:33	-	1.36
218	Hept♀	13C-PCB-188	100.00	9.70e+07	0.46 Y	42:52	-	0.93
219	Hept♀	13C-PCB-180	100.00	7.10e+07	0.45 Y	49:20	-	0.68
220	Hept♀	13C-PCB-170	100.00	6.52e+07	0.46 Y	50:56	-	0.62
221	Hept♀	13C-PCB-189	100.00	8.38e+07	0.45 Y	52:31	-	0.80
222	Octa♀	13C-PCB-202	100.00	1.02e+08	0.89 Y	48:16	-	0.97

223	Octa η	13C-PCB-194	100.00	7.96e+07	0.92 Y	54:04	-	0.71
224	Non η	13C-PCB-208	100.00	1.15e+08	0.77 Y	53:20	-	1.02
225	Non η	13C-PCB-206	100.00	9.20e+07	0.78 Y	55:38	-	0.82
226	Deca η	13C-PCB-209	100.00	9.67e+07	1.20 Y	56:56	-	0.86
227	DI-RS	13C-PCB-15	100.00	2.15e+08	1.53 Y	25:57	-	1.00
228	Tri- η	13C-PCB-31	100.00	1.68e+08	1.05 Y	28:60	-	1.00
229	Tetr η	13C-PCB-60	100.00	1.90e+08	0.78 Y	36:47	-	1.00
230	Penta	13C-PCB-111	100.00	1.30e+08	1.58 Y	39:15	-	1.00
231	Hexa η	13C-PCB-128	100.00	1.05e+08	1.26 Y	46:22	-	1.00
232	Octa η	13C-PCB-205	100.00	1.13e+08	0.91 Y	54:20	-	1.00

233	CRS	13C-PCB-79	100.00	1.90e+08	0.80 Y	37:51	1.00
234	CRS	13C-PCB-178	100.00	6.83e+07	0.46 Y	45:39	0.65
235	PS	13C-PCB-79	100.00	1.90e+08	0.80 Y	37:51	1.06
236	PS	13C-PCB-178	100.00	6.83e+07	0.46 Y	45:39	0.96

Filename: 160419E1 S: 8 Acquired: 19-APR-16 17:31:44
 Run: 160419E1 Analyte: PCB ICal: PCBV98-4-19-16
 Sample text: ST160419E1-7 PCB CS2 16C1705 Results:

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono PCB-1	2.50	6.06e+06	3.00 Y	16:04	-	1.06
2	Mono PCB-2	2.50	6.08e+06	2.89 Y	18:29	-	1.03
3	Mono PCB-3	2.50	6.01e+06	3.04 Y	18:43	-	1.02
4	Di PCB-4/10	5.00	8.08e+06	1.53 Y	20:06	-	1.38
5	Di PCB-7/9	5.00	1.09e+07	1.53 Y	21:53	-	1.16
6	Di PCB-6	2.50	4.93e+06	1.58 Y	22:33	-	1.05
7	Di PCB-5/8	5.00	1.07e+07	1.53 Y	22:57	-	1.14
8	Di PCB-14	2.50	6.22e+06	1.48 Y	24:04	-	1.34
9	Di PCB-11	2.50	5.35e+06	1.61 Y	25:15	-	1.15
10	Di PCB-12/13	5.00	1.05e+07	1.54 Y	25:39	-	1.13
11	Di PCB-15	2.50	5.76e+06	1.65 Y	25:58	-	1.24
12	Tri PCB-19	2.50	4.07e+06	1.05 Y	24:14	-	1.29
13	Tri PCB-30	2.50	6.15e+06	1.03 Y	25:08	-	1.94
14	Tri PCB-18	2.50	4.36e+06	1.01 Y	25:53	-	0.98
15	Tri PCB-17	2.50	4.66e+06	1.03 Y	26:03	-	1.04
16	Tri PCB-24/27	5.00	1.21e+07	1.06 Y	26:38	-	1.36
17	Tri PCB-16/32	5.00	1.02e+07	1.05 Y	27:09	-	1.14
18	Tri PCB-34	2.50	3.95e+06	1.10 Y	27:57	-	0.93
19	Tri PCB-23	2.50	3.01e+06	1.07 Y	28:03	-	0.71
20	Tri PCB-29	2.50	3.61e+06	1.12 Y	28:18	-	0.85
21	Tri PCB-26	2.50	3.44e+06	1.15 Y	28:30	-	0.81
22	Tri PCB-25	2.50	3.35e+06	1.10 Y	28:40	-	0.79
23	Tri PCB-31	2.50	3.83e+06	1.12 Y	29:01	-	0.90
24	Tri PCB-28	2.50	4.70e+06	1.02 Y	29:06	-	1.10
25	Tri PCB-20/21/33	7.50	1.35e+07	1.08 Y	29:44	-	1.05
26	Tri PCB-22	2.50	3.98e+06	1.08 Y	30:11	-	0.93
27	Tri PCB-36	2.50	4.41e+06	1.09 Y	30:49	-	1.14
28	Tri PCB-39	2.50	4.77e+06	1.11 Y	31:17	-	1.23
29	Tri PCB-38	2.50	4.16e+06	1.09 Y	32:03	-	1.08
30	Tri PCB-35	2.50	4.52e+06	1.10 Y	32:34	-	1.17
31	Tri PCB-37	2.50	4.44e+06	1.11 Y	33:01	-	1.15
32	Tetra PCB-54	2.50	4.46e+06	0.79 Y	27:59	-	1.08
33	Tetra PCB-50	2.50	3.84e+06	0.75 Y	29:10	-	0.93
34	Tetra PCB-53	2.50	3.92e+06	0.74 Y	29:49	-	1.18
35	Tetra PCB-51	2.50	3.80e+06	0.79 Y	30:10	-	1.15
36	Tetra PCB-45	2.50	3.57e+06	0.77 Y	30:35	-	1.08
37	Tetra PCB-46	2.50	3.19e+06	0.80 Y	31:05	-	0.96
38	Tetra PCB-52/69	5.00	8.78e+06	0.76 Y	31:34	-	1.32
39	Tetra PCB-73	2.50	4.86e+06	0.79 Y	31:41	-	1.46
40	Tetra PCB-43/49	5.00	8.50e+06	0.76 Y	31:50	-	1.28
41	Tetra PCB-47	2.50	4.24e+06	0.76 Y	32:03	-	1.23

42	Tetra	PCB-48/75	5.00	9.06e+06	0.80 Y	32:09	-	1.32
43	Tetra	PCB-65	2.50	4.44e+06	0.81 Y	32:25	-	1.29
44	Tetra	PCB-62	2.50	4.75e+06	0.81 Y	32:32	-	1.38
45	Tetra	PCB-44	2.50	3.43e+06	0.74 Y	32:50	-	1.00
46	Tetra	PCB-42/59	5.00	8.80e+06	0.77 Y	33:04	-	1.28
47	Tetra	PCB-41/64/71/72	10.00	1.90e+07	0.79 Y	33:39	-	1.38
48	Tetra	PCB-68	2.50	5.30e+06	0.77 Y	33:55	-	1.54
49	Tetra	PCB-40	2.50	3.24e+06	0.73 Y	34:08	-	0.94
50	Tetra	PCB-57	2.50	4.98e+06	0.76 Y	34:29	-	1.16
51	Tetra	PCB-67	2.50	4.74e+06	0.85 Y	34:48	-	1.10
52	Tetra	PCB-58	2.50	5.34e+06	0.69 Y	34:55	-	1.24

53	Tetra	PCB-63	2.50	5.31e+06	0.76 Y	35:04	1.23
54	Tetra	PCB-74	2.50	5.09e+06	0.75 Y	35:21	1.18
55	Tetra	PCB-61/70	5.00	1.01e+07	0.77 Y	35:32	1.17
56	Tetra	PCB-76/66	5.00	9.90e+06	0.79 Y	35:44	1.15
57	Tetra	PCB-80	2.50	5.84e+06	0.78 Y	35:59	1.34
58	Tetra	PCB-55	2.50	5.40e+06	0.75 Y	36:18	1.24
59	Tetra	PCB-56/60	5.00	1.02e+07	0.76 Y	36:48	1.17
60	Tetra	PCB-79	2.50	5.35e+06	0.78 Y	37:52	1.23
61	Tetra	PCB-78	2.50	4.83e+06	0.82 Y	38:34	1.14
62	Tetra	PCB-81	2.50	5.13e+06	0.87 Y	39:05	1.22
63	Tetra	PCB-77	2.50	5.34e+06	0.80 Y	39:41	1.28
64	Penta	PCB-104	2.50	4.23e+06	1.58 Y	32:41	1.38
65	Penta	PCB-96	2.50	3.57e+06	1.67 Y	33:57	1.16
66	Penta	PCB-103	2.50	3.21e+06	1.64 Y	34:30	1.05
67	Penta	PCB-100	2.50	3.22e+06	1.60 Y	34:51	1.05
68	Penta	PCB-94	2.50	2.81e+06	1.56 Y	35:19	1.28
69	Penta	PCB-95/98/102	7.50	9.12e+06	1.52 Y	35:49	1.39
70	Penta	PCB-93	2.50	2.72e+06	1.56 Y	35:56	1.24
71	Penta	PCB-88/91	5.00	5.75e+06	1.60 Y	36:14	1.31
72	Penta	PCB-121	2.50	4.01e+06	1.51 Y	36:21	1.83
73	Penta	PCB-84/92	5.00	5.57e+06	1.53 Y	37:09	1.18
74	Penta	PCB-89	2.50	2.76e+06	1.48 Y	37:21	1.17
75	Penta	PCB-90/101	5.00	6.23e+06	1.55 Y	37:32	1.32
76	Penta	PCB-113	2.50	3.71e+06	1.59 Y	37:47	1.57
77	Penta	PCB-99	2.50	2.95e+06	1.61 Y	37:53	1.25
78	Penta	PCB-119	2.50	4.14e+06	1.63 Y	38:20	1.94
79	Penta	PCB-108/112	5.00	6.33e+06	1.57 Y	38:29	1.48
80	Penta	PCB-83	2.50	3.77e+06	1.54 Y	38:38	1.77
81	Penta	PCB-97	2.50	2.83e+06	1.45 Y	38:51	1.33
82	Penta	PCB-86	2.50	2.48e+06	1.47 Y	38:59	1.16
83	Penta	PCB-87/117/125	7.50	1.05e+07	1.54 Y	39:07	1.63
84	Penta	PCB-111/115	5.00	7.95e+06	1.56 Y	39:16	1.86
85	Penta	PCB-85/116	5.00	6.52e+06	1.53 Y	39:24	1.53
86	Penta	PCB-120	2.50	4.09e+06	1.52 Y	39:38	1.92
87	Penta	PCB-110	2.50	3.97e+06	1.58 Y	39:46	1.86
88	Penta	PCB-82	2.50	2.43e+06	1.50 Y	40:24	0.87
89	Penta	PCB-124	2.50	3.90e+06	1.55 Y	41:05	1.39
90	Penta	PCB-107/109	5.00	7.52e+06	1.62 Y	41:14	1.35
91	Penta	PCB-123	2.50	4.05e+06	1.55 Y	41:24	1.45
92	Penta	PCB-106/118	5.00	7.87e+06	1.55 Y	41:37	1.37
93	Penta	PCB-114	2.50	2.88e+06	1.59 Y	42:14	1.12
94	Penta	PCB-122	2.50	2.77e+06	1.54 Y	42:22	1.07
95	Penta	PCB-105	2.50	2.88e+06	1.56 Y	43:06	1.11
96	Penta	PCB-127	2.50	2.92e+06	1.56 Y	43:27	1.02
97	Penta	PCB-126	2.50	3.06e+06	1.54 Y	45:20	1.12
98	Hexa	PCB-155	2.50	3.36e+06	1.26 Y	37:06	1.25
99	Hexa	PCB-150	2.50	3.23e+06	1.21 Y	38:21	1.20
100	Hexa	PCB-152	2.50	3.26e+06	1.23 Y	38:49	1.22
101	Hexa	PCB-145	2.50	3.07e+06	1.25 Y	39:16	1.14
102	Hexa	PCB-136	2.50	3.43e+06	1.17 Y	39:36	1.28

103	Hexa	PCB-148	2.50	2.14e+06	1.18 Y	39:42	=	0.80
104	Hexa	PCB-154	2.50	2.53e+06	1.18 Y	40:11	=	0.94
105	Hexa	PCB-151	2.50	2.28e+06	1.18 Y	40:50	=	0.85
106	Hexa	PCB-135	2.50	2.37e+06	1.21 Y	41:02	=	0.88
107	Hexa	PCB-144	2.50	2.42e+06	1.33 Y	41:09	=	0.90
108	Hexa	PCB-147	2.50	2.19e+06	1.30 Y	41:17	=	0.82
109	Hexa	PCB-139/149	5.00	5.03e+06	1.25 Y	41:33	=	0.94
110	Hexa	PCB-140	2.50	2.34e+06	1.20 Y	41:43	=	0.87
111	Hexa	PCB-134/143	5.00	5.51e+06	1.16 Y	42:10	=	0.93
112	Hexa	PCB-133/142	5.00	5.37e+06	1.21 Y	42:27	=	0.91
113	Hexa	PCB-131	2.50	2.87e+06	1.26 Y	42:36	=	0.97

114	Hexa	PCB-146/165	5.00	6.52e+06	1.20 Y	42:50	-	1.10
115	Hexa	PCB-132/161	5.00	6.40e+06	1.19 Y	43:05	-	1.08
116	Hexa	PCB-153	2.50	3.40e+06	1.21 Y	43:14	-	1.15
117	Hexa	PCB-168	2.50	4.19e+06	1.20 Y	43:28	-	1.42
118	Hexa	PCB-141	2.50	3.15e+06	1.30 Y	43:59	-	1.19
119	Hexa	PCB-137	2.50	3.34e+06	1.13 Y	44:21	-	1.26
120	Hexa	PCB-130	2.50	2.68e+06	1.24 Y	44:28	-	1.01
121	Hexa	PCB-138/163/164	7.50	1.09e+07	1.25 Y	44:50	-	1.32
122	Hexa	PCB-158/160	5.00	7.90e+06	1.17 Y	45:05	-	1.44
123	Hexa	PCB-129	2.50	2.76e+06	1.24 Y	45:19	-	1.00
124	Hexa	PCB-166	2.50	4.12e+06	1.24 Y	45:47	-	1.26
125	Hexa	PCB-159	2.50	4.35e+06	1.19 Y	46:07	-	1.33
126	Hexa	PCB-128/162	5.00	6.96e+06	1.27 Y	46:23	-	1.07
127	Hexa	PCB-167	2.50	4.12e+06	1.17 Y	46:47	-	1.24
128	Hexa	PCB-156	2.50	4.18e+06	1.19 Y	48:05	-	1.32
129	Hexa	PCB-157	2.50	4.13e+06	1.20 Y	48:21	-	1.25
130	Hexa	PCB-169	2.50	3.96e+06	1.21 Y	50:33	-	1.21
131	Hepta	PCB-188	2.50	3.85e+06	1.05 Y	42:53	-	1.67
132	Hepta	PCB-184	2.50	3.39e+06	1.02 Y	43:20	-	1.48
133	Hepta	PCB-179	2.50	3.60e+06	1.00 Y	44:06	-	1.57
134	Hepta	PCB-176	2.50	3.77e+06	1.09 Y	44:34	-	1.64
135	Hepta	PCB-186	2.50	3.67e+06	1.03 Y	45:11	-	1.60
136	Hepta	PCB-178	2.50	2.85e+06	1.10 Y	45:40	-	1.24
137	Hepta	PCB-175	2.50	2.67e+06	1.10 Y	46:01	-	1.16
138	Hepta	PCB-182/187	5.00	5.83e+06	1.01 Y	46:11	-	1.27
139	Hepta	PCB-183	2.50	3.34e+06	1.06 Y	46:30	-	1.45
140	Hepta	PCB-185	2.50	2.72e+06	1.11 Y	47:09	-	1.62
141	Hepta	PCB-174	2.50	2.68e+06	1.11 Y	47:31	-	1.59
142	Hepta	PCB-181	2.50	2.81e+06	1.07 Y	47:38	-	1.67
143	Hepta	PCB-177	2.50	2.51e+06	1.05 Y	47:47	-	1.49
144	Hepta	PCB-171	2.50	2.96e+06	1.07 Y	48:05	-	1.76
145	Hepta	PCB-173	2.50	2.45e+06	1.03 Y	48:30	-	1.46
146	Hepta	PCB-172	2.50	2.73e+06	1.08 Y	48:57	-	1.62
147	Hepta	PCB-192	2.50	3.55e+06	1.04 Y	49:09	-	2.11
148	Hepta	PCB-180	2.50	2.90e+06	1.05 Y	49:22	-	1.72
149	Hepta	PCB-193	2.50	3.59e+06	1.10 Y	49:34	-	2.13
150	Hepta	PCB-191	2.50	3.67e+06	1.11 Y	49:49	-	2.18
151	Hepta	PCB-170	2.50	2.71e+06	1.03 Y	50:57	-	1.78
152	Hepta	PCB-190	2.50	3.63e+06	1.11 Y	51:08	-	2.39
153	Hepta	PCB-189	2.50	3.52e+06	1.02 Y	52:33	-	1.78
154	Octa	PCB-202	2.50	2.51e+06	0.93 Y	48:17	-	1.06
155	Octa	PCB-201	2.50	2.86e+06	0.84 Y	48:46	-	1.21
156	Octa	PCB-204	2.50	2.72e+06	0.88 Y	48:55	-	1.15
157	Octa	PCB-197	2.50	2.83e+06	0.86 Y	49:14	-	1.19
158	Octa	PCB-200	2.50	2.68e+06	0.93 Y	50:08	-	1.13
159	Octa	PCB-198	2.50	1.96e+06	0.87 Y	51:35	-	0.83
160	Octa	PCB-199	2.50	1.89e+06	0.85 Y	51:42	-	0.80
161	Octa	PCB-196/203	5.00	4.19e+06	0.87 Y	51:59	-	0.88
162	Octa	PCB-195	2.50	2.21e+06	0.92 Y	53:12	-	1.12
163	Octa	PCB-194	2.50	2.50e+06	0.86 Y	54:05	-	1.27

164	Octa	PCB-205	2.50	3.19e+06	0.92 Y	54:21	-	1.62
165	Nona	PCB-208	2.50	3.15e+06	1.32 Y	53:21	-	1.14
166	Nona	PCB-207	2.50	3.20e+06	1.36 Y	53:40	-	1.15
167	Nona	PCB-206	2.50	2.15e+06	1.38 Y	55:38	-	0.96
168	Deca	PCB-209	2.50	3.19e+06	1.18 Y	56:58	-	1.35
169	Tot	Total Mono-PCB	0.00	-	- n	-	-	1.04
170	Tot	Total Di-PCB	0.00	-	- n	-	-	1.17
171	Tot	Total Tri-PCB	0.00	-	- n	-	-	1.29

172	Tot ¶	Total Tri-PCB	0.00	-	-	n	-	0.99
173	Tot ¶	Total Tetra-PCB	0.00	-	-	n	-	1.22
174	Tot ¶	Total Penta-PCB	0.00	-	-	n	-	1.34
175	Tot ¶	Total Penta-PCB	0.00	-	-	n	-	1.09
176	Tot ¶	Total Hexa-PCB	0.00	-	-	n	-	1.00
177	Tot ¶	Total Hexa-PCB	0.00	-	-	n	-	1.16
178	Tot ¶	Total Hepta-PCB	0.00	-	-	n	-	1.59
179	Tot ¶	Total Octa-PCB	0.00	-	-	n	-	1.01
180	Tot ¶	Total Octa-PCB	0.00	-	-	n	-	1.33
181	Tot ¶	Total Nona-PCB	0.00	-	-	n	-	1.09
182	Tot ¶	Total Deca-PCB	2.50	3.19e+06	1.18 Y	56:58	-	1.35
183	Mon¶¶	13C-PCB-1	100.00	2.28e+08	3.10 Y	16:04	-	1.15
184	Mon¶¶	13C-PCB-3	100.00	2.35e+08	3.12 Y	18:42	-	1.18
185	Di-IS	13C-PCB-4	100.00	1.17e+08	1.57 Y	20:03	-	0.59
186	Di-IS	13C-PCB-9	100.00	1.88e+08	1.54 Y	21:51	-	0.94
187	Di-IS	13C-PCB-11	100.00	1.85e+08	1.54 Y	25:15	-	0.93
188	Tri-¶	13C-PCB-19	100.00	1.27e+08	1.03 Y	24:13	-	0.64
189	Tri-¶	13C-PCB-32	100.00	1.79e+08	1.04 Y	27:09	-	0.90
190	Tri-¶	13C-PCB-28	100.00	1.71e+08	1.05 Y	29:06	-	1.21
191	Tri-¶	13C-PCB-37	100.00	1.55e+08	1.04 Y	32:59	-	1.10
192	Tetr¶¶	13C-PCB-54	100.00	1.66e+08	0.82 Y	27:58	-	0.93
193	Tetr¶¶	13C-PCB-52	100.00	1.33e+08	0.78 Y	31:32	-	0.74
194	Tetr¶¶	13C-PCB-47	100.00	1.38e+08	0.80 Y	32:01	-	0.77
195	Tetr¶¶	13C-PCB-70	100.00	1.72e+08	0.81 Y	35:33	-	0.97
196	Tetr¶¶	13C-PCB-80	100.00	1.75e+08	0.80 Y	35:58	-	0.98
197	Tetr¶¶	13C-PCB-81	100.00	1.69e+08	0.78 Y	39:04	-	0.95
198	Tetr¶¶	13C-PCB-77	100.00	1.67e+08	0.80 Y	39:40	-	0.94
199	Pent¶¶	13C-PCB-104	100.00	1.23e+08	1.56 Y	32:40	-	0.99
200	Pent¶¶	13C-PCB-95	100.00	8.76e+07	1.56 Y	35:51	-	0.71
201	Pent¶¶	13C-PCB-101	100.00	9.46e+07	1.60 Y	37:32	-	0.76
202	Pent¶¶	13C-PCB-97	100.00	8.54e+07	1.60 Y	38:49	-	0.69
203	Pent¶¶	13C-PCB-123	100.00	1.12e+08	1.59 Y	41:23	-	0.90
204	Pent¶¶	13C-PCB-118	100.00	1.15e+08	1.58 Y	41:34	-	0.93
205	Pent¶¶	13C-PCB-114	100.00	1.03e+08	1.61 Y	42:13	-	1.05
206	Pent¶¶	13C-PCB-105	100.00	1.04e+08	1.60 Y	43:05	-	1.05
207	Pent¶¶	13C-PCB-127	100.00	1.14e+08	1.60 Y	43:26	-	1.16
208	Pent¶¶	13C-PCB-126	100.00	1.10e+08	1.59 Y	45:19	-	1.11
209	Hexa¶¶	13C-PCB-155	100.00	1.07e+08	1.27 Y	37:04	-	0.86
210	Hexa¶¶	13C-PCB-153	100.00	1.18e+08	1.26 Y	43:14	-	1.20
211	Hexa¶¶	13C-PCB-141	100.00	1.06e+08	1.31 Y	43:58	-	1.08
212	Hexa	13C-PCB-138	100.00	1.10e+08	1.26 Y	44:49	-	1.12
213	Hexa¶¶	13C-PCB-159	100.00	1.30e+08	1.25 Y	46:05	-	1.32
214	Hexa¶¶	13C-PCB-167	100.00	1.33e+08	1.25 Y	46:47	-	1.35
215	Hexa¶¶	13C-PCB-156	100.00	1.27e+08	1.29 Y	48:03	-	1.29
216	Hexa¶¶	13C-PCB-157	100.00	1.32e+08	1.26 Y	48:20	-	1.34
217	Hexa¶¶	13C-PCB-169	100.00	1.31e+08	1.26 Y	50:32	-	1.33
218	Hept¶¶	13C-PCB-188	100.00	9.19e+07	0.45 Y	42:52	-	0.93
219	Hept¶¶	13C-PCB-180	100.00	6.73e+07	0.45 Y	49:21	-	0.68
220	Hept¶¶	13C-PCB-170	100.00	6.08e+07	0.46 Y	50:56	-	0.62
221	Hept¶¶	13C-PCB-189	100.00	7.89e+07	0.44 Y	52:32	-	0.80
222	Octa¶¶	13C-PCB-202	100.00	9.49e+07	0.91 Y	48:16	-	0.96

223	Octa η	13C-PCB-194	100.00	7.90e+07	0.91 Y	54:04	0.73
224	Non η	13C-PCB-208	100.00	1.11e+08	0.78 Y	53:20	1.02
225	Non η	13C-PCB-206	100.00	8.93e+07	0.78 Y	55:38	0.82
226	Deca η	13C-PCB-209	100.00	9.41e+07	1.19 Y	56:57	0.87
227	DI-RS	13C-PCB-15	100.00	1.99e+08	1.55 Y	25:57	1.00
228	Tri- η	13C-PCB-31	100.00	1.41e+08	1.06 Y	28:60	1.00
229	Tetr η	13C-PCB-60	100.00	1.78e+08	0.79 Y	36:47	1.00
230	Penta	13C-PCB-111	100.00	1.24e+08	1.56 Y	39:16	1.00
231	Hexa η	13C-PCB-128	100.00	9.85e+07	1.26 Y	46:22	1.00
232	Octa η	13C-PCB-205	100.00	1.09e+08	0.91 Y	54:20	1.00

233	CRS	13C-PCB-79	100.00	1.79e+08	0.80 Y	37:51	1.01
234	CRS	13C-PCB-178	100.00	6.33e+07	0.46 Y	45:39	0.64
235	PS	13C-PCB-79	100.00	1.79e+08	0.80 Y	37:51	1.06
236	PS	13C-PCB-178	100.00	6.33e+07	0.46 Y	45:39	0.94

Filename: 160419E1 S: 4 Acquired: 19-APR-16 13:11:01
 Run: 160419E1 Analyte: PCB ICal: PCBVG9-4-19-16
 Sample text: ST160419E1-4 PCB CS3 16C1706 Results:

Typ	Name	Amount	Resp	RA	RT	RF	RRP
1	Mono	PCB-1	50.00	1.12e+08	2.97 Y	16:05	0.98
2	Mono	PCB-2	50.00	1.13e+08	3.00 Y	18:30	0.92
3	Mono	PCB-3	50.00	1.15e+08	3.01 Y	18:44	0.93
4	Di	PCB-4/10	100.00	1.66e+08	1.53 Y	20:07	1.28
5	Di	PCB-7/9	100.00	2.12e+08	1.57 Y	21:54	1.05
6	Di	PCB-6	50.00	1.05e+08	1.59 Y	22:33	1.04
7	Di	PCB-5/8	100.00	2.19e+08	1.58 Y	22:58	1.08
8	Di	PCB-14	50.00	1.24e+08	1.58 Y	24:04	1.23
9	Di	PCB-11	50.00	1.09e+08	1.58 Y	25:16	1.08
10	Di	PCB-12/13	100.00	2.15e+08	1.57 Y	25:40	1.07
11	Di	PCB-15	50.00	1.25e+08	1.59 Y	25:58	1.24
12	Tri	PCB-19	50.00	7.41e+07	1.05 Y	24:15	1.15
13	Tri	PCB-30	50.00	1.13e+08	1.05 Y	25:09	1.75
14	Tri	PCB-18	50.00	7.72e+07	1.04 Y	25:54	0.82
15	Tri	PCB-17	50.00	8.43e+07	1.05 Y	26:04	0.89
16	Tri	PCB-24/27	100.00	2.25e+08	1.04 Y	26:39	1.19
17	Tri	PCB-16/32	100.00	1.90e+08	1.05 Y	27:09	1.00
18	Tri	PCB-34	50.00	8.57e+07	1.09 Y	27:58	0.92
19	Tri	PCB-23	50.00	6.94e+07	1.12 Y	28:03	0.75
20	Tri	PCB-29	50.00	8.40e+07	1.12 Y	28:18	0.90
21	Tri	PCB-26	50.00	8.10e+07	1.09 Y	28:31	0.87
22	Tri	PCB-25	50.00	7.49e+07	1.10 Y	28:41	0.80
23	Tri	PCB-31	50.00	8.21e+07	1.09 Y	29:01	0.88
24	Tri	PCB-28	50.00	9.68e+07	1.10 Y	29:08	1.04
25	Tri	PCB-20/21/33	150.00	2.91e+08	1.09 Y	29:45	1.04
26	Tri	PCB-22	50.00	9.31e+07	1.08 Y	30:12	1.00
27	Tri	PCB-36	50.00	9.42e+07	1.09 Y	30:48	1.05
28	Tri	PCB-39	50.00	1.02e+08	1.10 Y	31:17	1.14
29	Tri	PCB-38	50.00	9.83e+07	1.08 Y	32:03	1.10
30	Tri	PCB-35	50.00	9.48e+07	1.11 Y	32:35	1.06
31	Tri	PCB-37	50.00	1.03e+08	1.11 Y	33:01	1.15
32	Tetra	PCB-54	50.00	8.42e+07	0.80 Y	28:00	0.99
33	Tetra	PCB-50	50.00	7.07e+07	0.79 Y	29:10	0.83
34	Tetra	PCB-53	50.00	7.22e+07	0.78 Y	29:50	1.08
35	Tetra	PCB-51	50.00	7.43e+07	0.79 Y	30:10	1.11
36	Tetra	PCB-45	50.00	6.50e+07	0.79 Y	30:36	0.97
37	Tetra	PCB-46	50.00	6.08e+07	0.79 Y	31:05	0.91
38	Tetra	PCB-52/69	100.00	1.65e+08	0.78 Y	31:34	1.23
39	Tetra	PCB-73	50.00	8.96e+07	0.79 Y	31:41	1.34
40	Tetra	PCB-43/49	100.00	1.66e+08	0.78 Y	31:51	1.25
41	Tetra	PCB-47	50.00	8.21e+07	0.77 Y	32:03	1.14

42	Tetra	PCB-48/75	100.00	1.78e+08	0.79 Y	32:10	-	1.24
43	Tetra	PCB-65	50.00	8.55e+07	0.76 Y	32:26	-	1.19
44	Tetra	PCB-62	50.00	8.91e+07	0.78 Y	32:33	-	1.24
45	Tetra	PCB-44	50.00	6.13e+07	0.79 Y	32:51	-	0.85
46	Tetra	PCB-42/59	100.00	1.68e+08	0.78 Y	33:05	-	1.17
47	Tetra	PCB-41/64/71/72	200.00	3.57e+08	0.78 Y	33:40	-	1.24
48	Tetra	PCB-68	50.00	1.01e+08	0.78 Y	33:56	-	1.41
49	Tetra	PCB-40	50.00	5.76e+07	0.79 Y	34:08	-	0.80
50	Tetra	PCB-57	50.00	9.44e+07	0.78 Y	34:30	-	1.04
51	Tetra	PCB-67	50.00	9.26e+07	0.85 Y	34:49	-	1.02
52	Tetra	PCB-58	50.00	1.01e+08	0.71 Y	34:56	-	1.12

53	Tetra	PCB-63	50.00	1.02e+08	0.79 Y	35:05	1.13
54	Tetra	PCB-74	50.00	9.64e+07	0.77 Y	35:22	1.07
55	Tetra	PCB-61/70	100.00	1.96e+08	0.78 Y	35:32	1.08
56	Tetra	PCB-76/66	100.00	1.96e+08	0.78 Y	35:45	1.08
57	Tetra	PCB-80	50.00	1.12e+08	0.78 Y	35:60	1.20
58	Tetra	PCB-55	50.00	1.02e+08	0.78 Y	36:19	1.09
59	Tetra	PCB-56/60	100.00	1.96e+08	0.77 Y	36:48	1.05
60	Tetra	PCB-79	50.00	1.03e+08	0.78 Y	37:53	1.10
61	Tetra	PCB-78	50.00	9.56e+07	0.77 Y	38:34	1.05
62	Tetra	PCB-81	50.00	1.03e+08	0.78 Y	39:06	1.13
63	Tetra	PCB-77	50.00	1.04e+08	0.79 Y	39:41	1.15
64	Penta	PCB-104	50.00	7.19e+07	1.56 Y	32:42	1.22
65	Penta	PCB-96	50.00	6.35e+07	1.58 Y	33:58	1.08
66	Penta	PCB-103	50.00	5.71e+07	1.58 Y	34:31	0.97
67	Penta	PCB-100	50.00	5.70e+07	1.56 Y	34:51	0.97
68	Penta	PCB-94	50.00	4.86e+07	1.56 Y	35:20	1.10
69	Penta	PCB-95/98/102	150.00	1.65e+08	1.56 Y	35:49	1.24
70	Penta	PCB-93	50.00	4.82e+07	1.59 Y	35:57	1.09
71	Penta	PCB-88/91	100.00	1.01e+08	1.57 Y	36:14	1.14
72	Penta	PCB-121	50.00	7.24e+07	1.61 Y	36:21	1.63
73	Penta	PCB-84/92	100.00	1.02e+08	1.56 Y	37:10	1.09
74	Penta	PCB-89	50.00	4.82e+07	1.57 Y	37:21	1.03
75	Penta	PCB-90/101	100.00	1.13e+08	1.58 Y	37:33	1.21
76	Penta	PCB-113	50.00	6.49e+07	1.58 Y	37:48	1.39
77	Penta	PCB-99	50.00	5.41e+07	1.59 Y	37:53	1.16
78	Penta	PCB-119	50.00	7.43e+07	1.56 Y	38:21	1.72
79	Penta	PCB-108/112	100.00	1.15e+08	1.56 Y	38:30	1.34
80	Penta	PCB-83	50.00	6.84e+07	1.59 Y	38:40	1.58
81	Penta	PCB-97	50.00	5.30e+07	1.58 Y	38:51	1.23
82	Penta	PCB-86	50.00	4.30e+07	1.58 Y	38:59	1.00
83	Penta	PCB-87/117/125	150.00	1.92e+08	1.57 Y	39:07	1.49
84	Penta	PCB-111/115	100.00	1.47e+08	1.54 Y	39:17	1.70
85	Penta	PCB-85/116	100.00	1.17e+08	1.59 Y	39:24	1.36
86	Penta	PCB-120	50.00	7.50e+07	1.58 Y	39:39	1.74
87	Penta	PCB-110	50.00	6.93e+07	1.59 Y	39:47	1.61
88	Penta	PCB-82	50.00	4.26e+07	1.58 Y	40:24	0.75
89	Penta	PCB-124	50.00	6.96e+07	1.56 Y	41:05	1.23
90	Penta	PCB-107/109	100.00	1.44e+08	1.57 Y	41:14	1.27
91	Penta	PCB-123	50.00	6.92e+07	1.57 Y	41:25	1.22
92	Penta	PCB-106/118	100.00	1.50e+08	1.59 Y	41:37	1.27
93	Penta	PCB-114	50.00	6.43e+07	1.53 Y	42:15	1.07
94	Penta	PCB-122	50.00	5.86e+07	1.52 Y	42:23	0.97
95	Penta	PCB-105	50.00	7.24e+07	1.54 Y	43:07	1.18
96	Penta	PCB-127	50.00	7.05e+07	1.57 Y	43:26	1.02
97	Penta	PCB-126	50.00	7.03e+07	1.57 Y	45:21	1.11
98	Hexa	PCB-155	50.00	5.91e+07	1.26 Y	37:06	1.16
99	Hexa	PCB-150	50.00	5.47e+07	1.25 Y	38:22	1.08
100	Hexa	PCB-152	50.00	5.63e+07	1.27 Y	38:50	1.11
101	Hexa	PCB-145	50.00	5.40e+07	1.26 Y	39:17	1.06
102	Hexa	PCB-136	50.00	5.72e+07	1.24 Y	39:36	1.13

103	Hexa	PCB-146	50.00	3.91e+07	1.27 Y	39:43	0.77
104	Hexa	PCB-154	50.00	4.34e+07	1.25 Y	40:12	0.85
105	Hexa	PCB-151	50.00	4.19e+07	1.26 Y	40:50	0.82
106	Hexa	PCB-135	50.00	3.95e+07	1.26 Y	41:03	0.78
107	Hexa	PCB-144	50.00	4.40e+07	1.35 Y	41:10	0.87
108	Hexa	PCB-147	50.00	3.89e+07	1.20 Y	41:18	0.76
109	Hexa	PCB-139/149	100.00	8.79e+07	1.25 Y	41:33	0.86
110	Hexa	PCB-140	50.00	3.92e+07	1.27 Y	41:45	0.77
111	Hexa	PCB-134/143	100.00	1.06e+08	1.24 Y	42:11	0.81
112	Hexa	PCB-133/142	100.00	1.06e+08	1.22 Y	42:29	0.82
113	Hexa	PCB-131	50.00	5.23e+07	1.25 Y	42:38	0.81

114	Hexa	PCB-146/165	100.00	1.25e+08	1.21 Y	42:52	0.97
115	Hexa	PCB-132/161	100.00	1.34e+08	1.22 Y	43:06	1.03
116	Hexa	PCB-153	50.00	6.62e+07	1.23 Y	43:16	1.02
117	Hexa	PCB-168	50.00	8.25e+07	1.26 Y	43:29	1.27
118	Hexa	PCB-141	50.00	6.28e+07	1.23 Y	44:01	1.11
119	Hexa	PCB-137	50.00	6.48e+07	1.23 Y	44:23	1.15
120	Hexa	PCB-130	50.00	5.40e+07	1.24 Y	44:30	0.96
121	Hexa	PCB-138/163/164	150.00	2.18e+08	1.23 Y	44:52	1.21
122	Hexa	PCB-158/160	100.00	1.58e+08	1.23 Y	45:07	1.31
123	Hexa	PCB-129	50.00	5.30e+07	1.22 Y	45:21	0.88
124	Hexa	PCB-166	50.00	8.01e+07	1.25 Y	45:48	1.13
125	Hexa	PCB-159	50.00	8.48e+07	1.22 Y	46:07	1.20
126	Hexa	PCB-128/162	100.00	1.42e+08	1.23 Y	46:25	1.00
127	Hexa	PCB-167	50.00	8.17e+07	1.24 Y	46:49	1.12
128	Hexa	PCB-156	50.00	8.26e+07	1.23 Y	48:06	1.17
129	Hexa	PCB-157	50.00	8.29e+07	1.24 Y	48:22	1.14
130	Hexa	PCB-169	50.00	8.13e+07	1.22 Y	50:34	1.10
131	Hepta	PCB-188	50.00	7.25e+07	1.06 Y	42:54	1.50
132	Hepta	PCB-184	50.00	6.46e+07	1.05 Y	43:21	1.34
133	Hepta	PCB-179	50.00	6.71e+07	1.05 Y	44:07	1.39
134	Hepta	PCB-176	50.00	7.17e+07	1.06 Y	44:35	1.49
135	Hepta	PCB-186	50.00	7.14e+07	1.05 Y	45:12	1.48
136	Hepta	PCB-178	50.00	5.26e+07	1.04 Y	45:41	1.09
137	Hepta	PCB-175	50.00	5.04e+07	1.06 Y	46:01	1.04
138	Hepta	PCB-182/187	100.00	1.12e+08	1.05 Y	46:12	1.16
139	Hepta	PCB-183	50.00	6.47e+07	1.05 Y	46:31	1.34
140	Hepta	PCB-185	50.00	5.39e+07	1.06 Y	47:11	1.53
141	Hepta	PCB-174	50.00	4.67e+07	1.04 Y	47:32	1.33
142	Hepta	PCB-181	50.00	5.55e+07	1.06 Y	47:38	1.58
143	Hepta	PCB-177	50.00	4.75e+07	1.05 Y	47:49	1.35
144	Hepta	PCB-171	50.00	5.49e+07	1.06 Y	48:06	1.56
145	Hepta	PCB-173	50.00	4.44e+07	1.06 Y	48:32	1.26
146	Hepta	PCB-172	50.00	5.10e+07	1.05 Y	48:58	1.45
147	Hepta	PCB-192	50.00	6.62e+07	1.06 Y	49:10	1.88
148	Hepta	PCB-180	50.00	5.26e+07	1.05 Y	49:23	1.50
149	Hepta	PCB-193	50.00	6.89e+07	1.05 Y	49:35	1.96
150	Hepta	PCB-191	50.00	7.04e+07	1.06 Y	49:50	2.00
151	Hepta	PCB-170	50.00	5.12e+07	1.06 Y	50:57	1.58
152	Hepta	PCB-190	50.00	6.98e+07	1.06 Y	51:09	2.15
153	Hepta	PCB-189	50.00	6.82e+07	1.05 Y	52:33	1.63
154	Octa	PCB-202	50.00	4.83e+07	0.88 Y	48:18	0.99
155	Octa	PCB-201	50.00	4.99e+07	0.87 Y	48:47	1.02
156	Octa	PCB-204	50.00	5.01e+07	0.87 Y	48:56	1.02
157	Octa	PCB-197	50.00	5.48e+07	0.88 Y	49:15	1.12
158	Octa	PCB-200	50.00	5.07e+07	0.87 Y	50:09	1.03
159	Octa	PCB-198	50.00	3.68e+07	0.88 Y	51:36	0.75
160	Octa	PCB-199	50.00	3.60e+07	0.88 Y	51:43	0.73
161	Octa	PCB-196/203	100.00	7.95e+07	0.87 Y	51:60	0.81
162	Octa	PCB-195	50.00	4.56e+07	0.91 Y	53:12	1.05
163	Octa	PCB-194	50.00	5.05e+07	0.91 Y	54:05	1.16

164	Octa	PCB-205	50.00	6.63e+07	0.91 Y	54:21	1.52
165	Nona	PCB-208	50.00	6.15e+07	1.33 Y	53:21	1.03
166	Nona	PCB-207	50.00	6.14e+07	1.34 Y	53:40	1.03
167	Nona	PCB-206	50.00	4.21e+07	1.33 Y	55:38	0.88
168	Deca	PCB-209	50.00	6.26e+07	1.18 Y	56:57	1.26
169	Tot	Total Mono-PCB	0.00	-	- n	-	0.94
170	Tot	Total Di-PCB	0.00	-	- n	-	1.10
171	Tot	Total Tri-PCB	0.00	-	- n	-	1.13

172	Tot ♀	Total Tri-PCB	0.00	-	-	-	-	-	0.99
173	Tot ♀	Total Tetra-PCB	0.00	-	-	-	-	-	1.12
174	Tot ♀	Total Penta-PCB	0.00	-	-	-	-	-	1.21
175	Tot ♀	Total Penta-PCB	0.00	-	-	-	-	-	1.07
176	Tot ♀	Total Hexa-PCB	0.00	-	-	-	-	-	0.92
177	Tot ♀	Total Hexa-PCB	0.00	-	-	-	-	-	1.05
178	Tot ♀	Total Hepta-PCB	0.00	-	-	-	-	-	1.44
179	Tot ♀	Total Octa-PCB	0.00	-	-	-	-	-	0.92
180	Tot ♀	Total Octa-PCB	0.00	-	-	-	-	-	1.24
181	Tot ♀	Total Nona-PCB	0.00	-	-	-	-	-	0.99
182	Tot ♀	Total Deca-PCB	50.00	6.26e+07	1.18 Y	56:57	-	-	1.26
183	Mon♂	13C-PCB-1	100.00	2.30e+08	3.16 Y	16:04	-	-	1.06
184	Mon♂	13C-PCB-3	100.00	2.47e+08	3.18 Y	18:43	-	-	1.14
185	Di-IS	13C-PCB-4	100.00	1.30e+08	1.57 Y	20:03	-	-	0.60
186	Di-IS	13C-PCB-9	100.00	2.03e+08	1.54 Y	21:52	-	-	0.94
187	Di-IS	13C-PCB-11	100.00	2.01e+08	1.56 Y	25:15	-	-	0.93
188	Tri-♀	13C-PCB-19	100.00	1.29e+08	1.05 Y	24:13	-	-	0.59
189	Tri-♀	13C-PCB-32	100.00	1.89e+08	1.05 Y	27:09	-	-	0.87
190	Tri-♀	13C-PCB-28	100.00	1.86e+08	1.06 Y	29:07	-	-	1.16
191	Tri-♀	13C-PCB-37	100.00	1.79e+08	1.04 Y	33:00	-	-	1.12
192	Tetra♀	13C-PCB-54	100.00	1.70e+08	0.82 Y	27:59	-	-	0.91
193	Tetra♀	13C-PCB-52	100.00	1.34e+08	0.80 Y	31:32	-	-	0.71
194	Tetra♀	13C-PCB-47	100.00	1.44e+08	0.78 Y	32:02	-	-	0.76
195	Tetra♀	13C-PCB-70	100.00	1.81e+08	0.80 Y	35:33	-	-	0.96
196	Tetra♀	13C-PCB-80	100.00	1.86e+08	0.80 Y	35:58	-	-	0.99
197	Tetra♀	13C-PCB-81	100.00	1.82e+08	0.80 Y	39:05	-	-	0.97
198	Tetra♀	13C-PCB-77	100.00	1.81e+08	0.79 Y	39:41	-	-	0.97
199	Penta♀	13C-PCB-104	100.00	1.18e+08	1.57 Y	32:41	-	-	0.92
200	Penta♀	13C-PCB-95	100.00	8.86e+07	1.59 Y	35:51	-	-	0.69
201	Penta♀	13C-PCB-101	100.00	9.34e+07	1.61 Y	37:33	-	-	0.73
202	Penta♀	13C-PCB-97	100.00	8.64e+07	1.58 Y	38:50	-	-	0.68
203	Penta♀	13C-PCB-123	100.00	1.13e+08	1.55 Y	41:23	-	-	0.88
204	Penta♀	13C-PCB-118	100.00	1.18e+08	1.56 Y	41:35	-	-	0.92
205	Penta♀	13C-PCB-114	100.00	1.21e+08	1.56 Y	42:14	-	-	1.13
206	Penta♀	13C-PCB-105	100.00	1.23e+08	1.62 Y	43:06	-	-	1.15
207	Penta♀	13C-PCB-127	100.00	1.38e+08	1.57 Y	43:26	-	-	1.29
208	Penta♀	13C-PCB-126	100.00	1.27e+08	1.56 Y	45:20	-	-	1.19
209	Hexa♀	13C-PCB-155	100.00	1.02e+08	1.28 Y	37:04	-	-	0.80
210	Hexa♀	13C-PCB-153	100.00	1.30e+08	1.27 Y	43:15	-	-	1.22
211	Hexa♀	13C-PCB-141	100.00	1.13e+08	1.26 Y	43:59	-	-	1.06
212	Hexa	13C-PCB-138	100.00	1.20e+08	1.29 Y	44:50	-	-	1.13
213	Hexa♀	13C-PCB-159	100.00	1.41e+08	1.24 Y	46:06	-	-	1.32
214	Hexa♀	13C-PCB-167	100.00	1.46e+08	1.25 Y	46:47	-	-	1.37
215	Hexa♀	13C-PCB-156	100.00	1.41e+08	1.27 Y	48:05	-	-	1.32
216	Hexa♀	13C-PCB-157	100.00	1.46e+08	1.28 Y	48:21	-	-	1.37
217	Hexa♀	13C-PCB-169	100.00	1.48e+08	1.28 Y	50:33	-	-	1.39
218	Hepta♀	13C-PCB-188	100.00	9.65e+07	0.46 Y	42:53	-	-	0.90
219	Hepta♀	13C-PCB-180	100.00	7.03e+07	0.45 Y	49:21	-	-	0.66
220	Hepta♀	13C-PCB-170	100.00	6.50e+07	0.47 Y	50:56	-	-	0.61
221	Hepta♀	13C-PCB-189	100.00	8.39e+07	0.45 Y	52:32	-	-	0.79
222	Octa♀	13C-PCB-202	100.00	9.80e+07	0.92 Y	48:17	-	-	0.92

223	Octa η	13C-PCB-194	100.00	8.70e-07	0.93 Y	54:04	0.71
224	Non η	13C-PCB-206	100.00	1.19e+08	0.79 Y	53:20	0.98
225	Non η	13C-PCB-206	100.00	9.52e+07	0.79 Y	55:37	0.78
226	Deca η	13C-PCB-209	100.00	9.93e+07	1.21 Y	56:56	0.81
227	DI-RS	13C-PCB-15	100.00	2.17e+08	1.55 Y	25:57	1.00
228	Tri- η	13C-PCB-31	100.00	1.60e+08	1.07 Y	29:00	1.00
229	Tetra η	13C-PCB-60	100.00	1.88e+08	0.78 Y	36:47	1.00
230	Penta	13C-PCB-111	100.00	1.28e+08	1.58 Y	39:16	1.00
231	Hexa η	13C-PCB-128	100.00	1.07e+08	1.28 Y	46:22	1.00
232	Octa η	13C-PCB-205	100.00	1.22e+08	0.91 Y	54:21	1.00

233	CRS	13C-PCB-79	100.00	1.91e+08	0.80 Y	37:52	-	1.02
234	CRS	13C-PCB-178	100.00	6.65e+07	0.45 Y	45:39	-	0.62
235	PS	13C-PCB-79	100.00	1.91e+08	0.80 Y	37:52	-	1.05
236	PS	13C-PCB-178	100.00	6.65e+07	0.45 Y	45:39	-	0.95

Filename: 160419E1 S: 5 Acquired: 19-APR-16 14:16:11
 Run: 160419E1 Analyte: PCB ICal: PCBV08-4-19-16
 sample text: ST160419E1-5 PCB CS4 16C1707 Results:

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	400.00	9.47e+08	2.98 Y	16:05	0.97
2	Mono	PCB-2	400.00	9.70e+08	3.00 Y	18:29	0.94
3	Mono	PCB-3	400.00	9.67e+08	2.98 Y	18:44	0.94
4	Di	PCB-4/10	800.00	1.31e+09	1.54 Y	20:06	1.26
5	Di	PCB-7/9	800.00	1.69e+09	1.57 Y	21:54	1.03
6	Di	PCB-6	400.00	8.35e+08	1.58 Y	22:33	1.02
7	Di	PCB-5/8	800.00	1.73e+09	1.56 Y	22:58	1.05
8	Di	PCB-14	400.00	9.93e+08	1.57 Y	24:04	1.21
9	Di	PCB-11	400.00	8.67e+08	1.58 Y	25:16	1.05
10	Di	PCB-12/13	800.00	1.73e+09	1.57 Y	25:40	1.05
11	Di	PCB-15	400.00	9.76e+08	1.55 Y	25:58	1.18
12	Tri	PCB-19	400.00	6.31e+08	1.04 Y	24:15	1.14
13	Tri	PCB-30	400.00	9.92e+08	1.04 Y	25:08	1.80
14	Tri	PCB-18	400.00	6.80e+08	1.04 Y	25:53	0.83
15	Tri	PCB-17	400.00	7.38e+08	1.04 Y	26:04	0.90
16	Tri	PCB-24/27	800.00	1.95e+09	1.04 Y	26:38	1.20
17	Tri	PCB-16/32	800.00	1.60e+09	1.04 Y	27:09	0.98
18	Tri	PCB-34	400.00	6.27e+08	1.07 Y	27:57	0.86
19	Tri	PCB-23	400.00	5.77e+08	1.10 Y	28:03	0.79
20	Tri	PCB-29	400.00	6.96e+08	1.10 Y	28:18	0.95
21	Tri	PCB-26	400.00	6.13e+08	1.09 Y	28:30	0.84
22	Tri	PCB-25	400.00	6.24e+08	1.09 Y	28:41	0.85
23	Tri	PCB-31	400.00	7.28e+08	1.07 Y	29:01	1.00
24	Tri	PCB-28	400.00	6.59e+08	1.07 Y	29:08	0.90
25	Tri	PCB-20/21/33	1200.00	2.39e+09	1.08 Y	29:44	1.09
26	Tri	PCB-22	400.00	7.40e+08	1.10 Y	30:12	1.01
27	Tri	PCB-36	400.00	7.82e+08	1.10 Y	30:48	1.12
28	Tri	PCB-39	400.00	8.09e+08	1.08 Y	31:16	1.16
29	Tri	PCB-38	400.00	7.32e+08	1.10 Y	32:03	1.05
30	Tri	PCB-35	400.00	7.39e+08	1.08 Y	32:35	1.06
31	Tri	PCB-37	400.00	7.64e+08	1.07 Y	33:01	1.10
32	Tetra	PCB-54	400.00	6.93e+08	0.80 Y	28:00	0.96
33	Tetra	PCB-50	400.00	6.01e+08	0.79 Y	29:11	0.84
34	Tetra	PCB-53	400.00	6.26e+08	0.77 Y	29:50	1.10
35	Tetra	PCB-51	400.00	6.19e+08	0.78 Y	30:10	1.09
36	Tetra	PCB-45	400.00	5.63e+08	0.77 Y	30:36	0.99
37	Tetra	PCB-46	400.00	5.26e+08	0.78 Y	31:05	0.93
38	Tetra	PCB-52/69	800.00	1.37e+09	0.78 Y	31:34	1.21
39	Tetra	PCB-73	400.00	7.73e+08	0.79 Y	31:41	1.36
40	Tetra	PCB-43/49	800.00	1.31e+09	0.78 Y	31:51	1.16
41	Tetra	PCB-47	400.00	6.64e+08	0.77 Y	32:03	1.08

42	Tetra	PCB-48/75	800.00	1.52e+09	0.78 Y	32:10	1.24
43	Tetra	PCB-65	400.00	6.96e+08	0.77 Y	32:26	1.13
44	Tetra	PCB-62	400.00	7.77e+08	0.78 Y	32:32	1.26
45	Tetra	PCB-44	400.00	5.11e+08	0.79 Y	32:51	0.83
46	Tetra	PCB-42/59	800.00	1.40e+09	0.78 Y	33:04	1.14
47	Tetra	PCB-41/64/71/72	1600.00	3.10e+09	0.77 Y	33:40	1.26
48	Tetra	PCB-68	400.00	8.61e+08	0.77 Y	33:55	1.40
49	Tetra	PCB-40	400.00	4.86e+08	0.77 Y	34:08	0.79
50	Tetra	PCB-57	400.00	7.89e+08	0.78 Y	34:30	1.02
51	Tetra	PCB-67	400.00	7.93e+08	0.77 Y	34:49	1.03
52	Tetra	PCB-58	400.00	8.13e+08	0.78 Y	34:56	1.06

53	Tetra	PCB-63	400.00	8.41e+08	0.77 Y	35:05	-	1.09
54	Tetra	PCB-74	400.00	8.51e+08	0.78 Y	35:22	-	1.10
55	Tetra	PCB-61/70	800.00	1.58e+09	0.77 Y	35:32	-	1.02
56	Tetra	PCB-76/66	800.00	1.66e+09	0.77 Y	35:45	-	1.08
57	Tetra	PCB-80	400.00	9.35e+08	0.78 Y	35:59	-	1.20
58	Tetra	PCB-55	400.00	8.68e+08	0.77 Y	36:19	-	1.11
59	Tetra	PCB-56/60	800.00	1.62e+09	0.78 Y	36:48	-	1.04
60	Tetra	PCB-79	400.00	8.43e+08	0.78 Y	37:52	-	1.08
61	Tetra	PCB-78	400.00	8.00e+08	0.77 Y	38:34	-	1.03
62	Tetra	PCB-81	400.00	8.61e+08	0.77 Y	39:06	-	1.11
63	Tetra	PCB-77	400.00	8.60e+08	0.78 Y	39:41	-	1.13
64	Penta	PCB-104	400.00	6.30e+08	1.56 Y	32:43	-	1.21
65	Penta	PCB-96	400.00	5.61e+08	1.57 Y	33:58	-	1.08
66	Penta	PCB-103	400.00	5.18e+08	1.57 Y	34:31	-	1.00
67	Penta	PCB-100	400.00	5.09e+08	1.56 Y	34:51	-	0.98
68	Penta	PCB-94	400.00	4.28e+08	1.57 Y	35:19	-	1.08
69	Penta	PCB-95/98/102	1200.00	1.45e+09	1.55 Y	35:49	-	1.22
70	Penta	PCB-93	400.00	4.15e+08	1.63 Y	35:57	-	1.05
71	Penta	PCB-88/91	800.00	8.64e+08	1.55 Y	36:14	-	1.09
72	Penta	PCB-121	400.00	6.48e+08	1.58 Y	36:21	-	1.63
73	Penta	PCB-84/92	800.00	8.96e+08	1.57 Y	37:10	-	1.09
74	Penta	PCB-89	400.00	4.11e+08	1.56 Y	37:21	-	1.00
75	Penta	PCB-90/101	800.00	9.79e+08	1.57 Y	37:32	-	1.19
76	Penta	PCB-113	400.00	5.54e+08	1.55 Y	37:47	-	1.34
77	Penta	PCB-99	400.00	4.78e+08	1.60 Y	37:53	-	1.16
78	Penta	PCB-119	400.00	6.48e+08	1.57 Y	38:20	-	1.75
79	Penta	PCB-108/112	800.00	1.01e+09	1.58 Y	38:29	-	1.36
80	Penta	PCB-83	400.00	5.92e+08	1.56 Y	38:39	-	1.60
81	Penta	PCB-97	400.00	4.52e+08	1.57 Y	38:51	-	1.22
82	Penta	PCB-86	400.00	3.60e+08	1.55 Y	38:59	-	0.97
83	Penta	PCB-87/117/125	1200.00	1.69e+09	1.56 Y	39:07	-	1.52
84	Penta	PCB-111/115	800.00	1.25e+09	1.56 Y	39:17	-	1.69
85	Penta	PCB-85/116	800.00	1.03e+09	1.58 Y	39:24	-	1.39
86	Penta	PCB-120	400.00	6.56e+08	1.55 Y	39:39	-	1.77
87	Penta	PCB-110	400.00	5.83e+08	1.58 Y	39:47	-	1.58
88	Penta	PCB-82	400.00	3.53e+08	1.57 Y	40:24	-	0.74
89	Penta	PCB-124	400.00	6.07e+08	1.55 Y	41:05	-	1.27
90	Penta	PCB-107/109	800.00	1.25e+09	1.58 Y	41:14	-	1.31
91	Penta	PCB-123	400.00	5.83e+08	1.58 Y	41:24	-	1.22
92	Penta	PCB-106/118	800.00	1.27e+09	1.57 Y	41:37	-	1.22
93	Penta	PCB-114	400.00	5.34e+08	1.54 Y	42:14	-	1.08
94	Penta	PCB-122	400.00	4.40e+08	1.53 Y	42:23	-	0.89
95	Penta	PCB-105	400.00	5.37e+08	1.50 Y	43:06	-	1.10
96	Penta	PCB-127	400.00	4.98e+08	1.53 Y	43:27	-	0.95
97	Penta	PCB-126	400.00	5.43e+08	1.57 Y	45:20	-	1.07
98	Hexa	PCB-155	400.00	5.17e+08	1.25 Y	37:06	-	1.15
99	Hexa	PCB-150	400.00	4.97e+08	1.24 Y	38:21	-	1.11
100	Hexa	PCB-152	400.00	4.92e+08	1.25 Y	38:50	-	1.10
101	Hexa	PCB-145	400.00	4.85e+08	1.24 Y	39:17	-	1.08
102	Hexa	PCB-136	400.00	5.03e+08	1.24 Y	39:36	-	1.13

103	Hexa	PCB-148	400.00	3.54e+08	1.25 Y	39:43	-	0.79
104	Hexa	PCB-154	400.00	3.77e+08	1.24 Y	40:12	-	0.84
105	Hexa	PCB-151	400.00	3.61e+08	1.25 Y	40:50	-	0.81
106	Hexa	PCB-135	400.00	3.54e+08	1.23 Y	41:03	-	0.79
107	Hexa	PCB-144	400.00	3.95e+08	1.33 Y	41:10	-	0.88
108	Hexa	PCB-147	400.00	3.49e+08	1.17 Y	41:17	-	0.78
109	Hexa	PCB-139//149	800.00	7.72e+08	1.24 Y	41:33	-	0.86
110	Hexa	PCB-140	400.00	3.42e+08	1.25 Y	41:44	-	0.76
111	Hexa	PCB-134/143	800.00	8.82e+08	1.22 Y	42:10	-	0.85
112	Hexa	PCB-133/142	800.00	8.54e+08	1.22 Y	42:27	-	0.84
113	Hexa	PCB-131	400.00	4.20e+08	1.22 Y	42:36	-	0.82

114	Hexa	PCB-146/165	800.00	1.04e+09	1.22 Y	42:50	-	1.02
115	Hexa	PCB-132/161	800.00	1.07e+09	1.23 Y	43:05	-	1.05
116	Hexa	PCB-153	400.00	5.16e+08	1.23 Y	43:16	-	1.01
117	Hexa	PCB-168	400.00	6.55e+08	1.22 Y	43:28	-	1.28
118	Hexa	PCB-141	400.00	4.80e+08	1.23 Y	44:00	-	1.08
119	Hexa	PCB-137	400.00	5.21e+08	1.21 Y	44:23	-	1.17
120	Hexa	PCB-130	400.00	4.29e+08	1.24 Y	44:29	-	0.97
121	Hexa	PCB-138/163/164	1200.00	1.79e+09	1.23 Y	44:51	-	1.24
122	Hexa	PCB-158/160	800.00	1.28e+09	1.22 Y	45:06	-	1.33
123	Hexa	PCB-129	400.00	4.42e+08	1.22 Y	45:19	-	0.92
124	Hexa	PCB-166	400.00	6.40e+08	1.23 Y	45:47	-	1.10
125	Hexa	PCB-159	400.00	6.83e+08	1.22 Y	46:07	-	1.17
126	Hexa	PCB-128/162	800.00	1.14e+09	1.22 Y	46:24	-	0.98
127	Hexa	PCB-167	400.00	6.36e+08	1.21 Y	46:47	-	1.11
128	Hexa	PCB-156	400.00	6.74e+08	1.23 Y	48:05	-	1.17
129	Hexa	PCB-157	400.00	6.76e+08	1.24 Y	48:21	-	1.13
130	Hexa	PCB-169	400.00	6.29e+08	1.23 Y	50:33	-	1.09
131	Hepta	PCB-188	400.00	5.93e+08	1.05 Y	42:54	-	1.46
132	Hepta	PCB-184	400.00	5.29e+08	1.05 Y	43:20	-	1.30
133	Hepta	PCB-179	400.00	5.47e+08	1.05 Y	44:07	-	1.34
134	Hepta	PCB-176	400.00	5.90e+08	1.06 Y	44:34	-	1.45
135	Hepta	PCB-186	400.00	6.02e+08	1.06 Y	45:11	-	1.48
136	Hepta	PCB-178	400.00	4.35e+08	1.05 Y	45:40	-	1.07
137	Hepta	PCB-175	400.00	4.33e+08	1.05 Y	46:01	-	1.06
138	Hepta	PCB-182/187	800.00	9.50e+08	1.06 Y	46:12	-	1.17
139	Hepta	PCB-183	400.00	5.13e+08	1.06 Y	46:31	-	1.26
140	Hepta	PCB-185	400.00	4.39e+08	1.05 Y	47:10	-	1.51
141	Hepta	PCB-174	400.00	3.92e+08	1.05 Y	47:31	-	1.35
142	Hepta	PCB-181	400.00	4.45e+08	1.06 Y	47:38	-	1.53
143	Hepta	PCB-177	400.00	3.91e+08	1.05 Y	47:48	-	1.34
144	Hepta	PCB-171	400.00	4.56e+08	1.05 Y	48:06	-	1.57
145	Hepta	PCB-173	400.00	3.66e+08	1.05 Y	48:31	-	1.27
146	Hepta	PCB-172	400.00	4.28e+08	1.04 Y	48:58	-	1.48
147	Hepta	PCB-192	400.00	5.50e+08	1.05 Y	49:10	-	1.90
148	Hepta	PCB-180	400.00	4.30e+08	1.05 Y	49:22	-	1.48
149	Hepta	PCB-193	400.00	5.70e+08	1.05 Y	49:34	-	1.96
150	Hepta	PCB-191	400.00	5.86e+08	1.05 Y	49:50	-	2.02
151	Hepta	PCB-170	400.00	4.18e+08	1.04 Y	50:57	-	1.59
152	Hepta	PCB-190	400.00	5.80e+08	1.05 Y	51:09	-	2.21
153	Hepta	PCB-189	400.00	5.60e+08	1.05 Y	52:33	-	1.61
154	Octa	PCB-202	400.00	3.98e+08	0.87 Y	48:18	-	0.97
155	Octa	PCB-201	400.00	4.28e+08	0.87 Y	48:46	-	1.05
156	Octa	PCB-204	400.00	4.27e+08	0.88 Y	49:56	-	1.05
157	Octa	PCB-197	400.00	4.65e+08	0.87 Y	49:14	-	1.14
158	Octa	PCB-200	400.00	4.27e+08	0.87 Y	50:09	-	1.05
159	Octa	PCB-198	400.00	3.19e+08	0.87 Y	51:35	-	0.78
160	Octa	PCB-199	400.00	3.17e+08	0.88 Y	51:42	-	0.78
161	Octa	PCB-196/203	800.00	7.09e+08	0.87 Y	51:59	-	0.87
162	Octa	PCB-195	400.00	3.54e+08	0.90 Y	53:13	-	1.05
163	Octa	PCB-194	400.00	3.85e+08	0.91 Y	54:06	-	1.14

164	Octa	PCB-205	400.00	5.00e+08	0.91 Y	54:22	1.48
165	Nona	PCB-208	400.00	4.89e+08	1.32 Y	53:21	1.01
166	Nona	PCB-207	400.00	5.02e+08	1.33 Y	53:41	1.03
167	Nona	PCB-206	400.00	3.35e+08	1.32 Y	55:39	0.87
168	Deca	PCB-209	400.00	5.02e+08	1.18 Y	56:58	1.23
169	Tot	Total Mono-PCB	0.00	-	- n	-	0.95
170	Tot	Total Di-PCB	0.00	-	- n	-	1.08
171	Tot	Total Tri-PCB	0.00	-	- n	-	1.13

172	Tot ♀	Total Tri-PCB	0.00	- n	-	1.00
173	Tot ♀	Total Tetra-PCB	0.00	- n	-	1.11
174	Tot ♀	Total Penta-PCB	0.00	- n	-	1.21
175	Tot ♀	Total Hexa-PCB	0.00	- n	-	1.02
176	Tot ♀	Total Hepta-PCB	0.00	- n	-	0.93
177	Tot ♀	Total Octa-PCB	0.00	- n	-	1.06
178	Tot ♀	Total Nona-PCB	0.00	- n	-	1.42
179	Tot ♀	Total Deca-PCB	0.00	- n	-	0.95
180	Tot ♀	Total Tri-PCB	0.00	- n	-	1.22
181	Tot ♀	Total Tetra-PCB	0.00	- n	-	0.98
182	Tot ♀	Total Penta-PCB	400.00	5.02e+08	1.18 Y	56:58
183	Mon♂	13C-PCB-1	100.00	2.45e+08	3.12 Y	16:04
184	Mon♂	13C-PCB-3	100.00	2.58e+08	3.13 Y	18:43
185	Di-IS	13C-PCB-4	100.00	1.30e+08	1.57 Y	20:03
186	Di-IS	13C-PCB-9	100.00	2.05e+08	1.54 Y	21:51
187	Di-IS	13C-PCB-11	100.00	2.06e+08	1.53 Y	25:15
188	Tri-♀	13C-PCB-19	100.00	1.38e+08	1.02 Y	24:13
189	Tri-♀	13C-PCB-32	100.00	2.04e+08	1.05 Y	27:09
190	Tri-♀	13C-PCB-28	100.00	1.83e+08	1.08 Y	29:07
191	Tri-♀	13C-PCB-37	100.00	1.74e+08	1.04 Y	32:60
192	Tetra♀	13C-PCB-54	100.00	1.80e+08	0.82 Y	27:59
193	Tetra♀	13C-PCB-52	100.00	1.42e+08	0.80 Y	31:32
194	Tetra♀	13C-PCB-47	100.00	1.54e+08	0.79 Y	32:02
195	Tetra♀	13C-PCB-70	100.00	1.93e+08	0.79 Y	35:33
196	Tetra♀	13C-PCB-80	100.00	1.95e+08	0.80 Y	35:59
197	Tetra♀	13C-PCB-81	100.00	1.93e+08	0.79 Y	39:04
198	Tetra♀	13C-PCB-77	100.00	1.90e+08	0.79 Y	39:40
199	Penta♀	13C-PCB-104	100.00	1.30e+08	1.58 Y	32:41
200	Penta♀	13C-PCB-95	100.00	9.93e+07	1.57 Y	35:51
201	Penta♀	13C-PCB-101	100.00	1.03e+08	1.60 Y	37:32
202	Penta♀	13C-PCB-97	100.00	9.24e+07	1.60 Y	38:50
203	Penta♀	13C-PCB-123	100.00	1.19e+08	1.58 Y	41:23
204	Penta♀	13C-PCB-118	100.00	1.31e+08	1.57 Y	41:35
205	Penta♀	13C-PCB-114	100.00	1.23e+08	1.58 Y	42:13
206	Penta♀	13C-PCB-105	100.00	1.22e+08	1.59 Y	43:05
207	Penta♀	13C-PCB-127	100.00	1.31e+08	1.60 Y	43:26
208	Penta♀	13C-PCB-126	100.00	1.27e+08	1.58 Y	45:19
209	Hexa♀	13C-PCB-155	100.00	1.12e+08	1.28 Y	37:05
210	Hexa♀	13C-PCB-153	100.00	1.28e+08	1.24 Y	43:15
211	Hexa♀	13C-PCB-141	100.00	1.11e+08	1.27 Y	43:59
212	Hexa	13C-PCB-138	100.00	1.20e+08	1.26 Y	44:49
213	Hexa♀	13C-PCB-159	100.00	1.45e+08	1.27 Y	46:06
214	Hexa♀	13C-PCB-167	100.00	1.44e+08	1.29 Y	46:47
215	Hexa♀	13C-PCB-156	100.00	1.45e+08	1.28 Y	48:04
216	Hexa♀	13C-PCB-157	100.00	1.49e+08	1.27 Y	48:20
217	Hexa♀	13C-PCB-169	100.00	1.45e+08	1.26 Y	50:33
218	Hept♀	13C-PCB-188	100.00	1.02e+08	0.46 Y	42:52
219	Hept♀	13C-PCB-180	100.00	7.26e+07	0.46 Y	49:21
220	Hept♀	13C-PCB-170	100.00	6.55e+07	0.46 Y	50:56
221	Hept♀	13C-PCB-189	100.00	8.68e+07	0.45 Y	52:32
222	Octa♀	13C-PCB-202	100.00	1.02e+08	0.91 Y	48:16

223	Octa	13C-PCB-194	100.00	8.45e+07	0.92 Y	54:05	-	0.74
224	Non	13C-PCB-208	100.00	1.21e+08	0.77 Y	53:20	-	1.06
225	Non	13C-PCB-206	100.00	9.59e+07	0.76 Y	55:38	-	0.84
226	Deca	13C-PCB-209	100.00	1.02e+08	1.20 Y	56:58	-	0.90
227	DI-RS	13C-PCB-15	100.00	2.23e+08	1.56 Y	25:57	-	1.00
228	Tri	13C-PCB-31	100.00	1.58e+08	1.06 Y	29:00	-	1.00
229	Tetra	13C-PCB-60	100.00	1.99e+08	0.79 Y	36:48	-	1.00
230	Penta	13C-PCB-111	100.00	1.39e+08	1.58 Y	39:16	-	1.00
231	Hexa	13C-PCB-128	100.00	1.07e+08	1.26 Y	46:22	-	1.00
232	Octa	13C-PCB-205	100.00	1.14e+08	0.93 Y	54:21	-	1.00

233	CRS	13C-PCB-79	100.00	2.02e+08	0.78 Y	37:51	-	1.01
234	CRS	13C-PCB-178	100.00	6.81e+07	0.45 Y	45:39	-	0.63
235	FS	13C-PCB-79	100.00	2.02e+08	0.78 Y	37:51	-	1.04
236	FS	13C-PCB-178	100.00	6.81e+07	0.45 Y	45:39	-	0.94

Filename: 160419E1 S: 6 Acquired: 19-APR-16 15:21:22
 Run: 160419E1 Analyte: PCB ICAL: PCBVG8-4-19-16 Results:
 Sample text: ST160419E1-6 PCB CS5 16C1708

Typ	Name	Amount	Resp	RA	RT	RP	RRF
1	Mono	PCB-1	1000.00	2.49e+09	2.99 Y	16:05	1.05
2	Mono	PCB-2	1000.00	2.59e+09	3.00 Y	18:29	1.02
3	Mono	PCB-3	1000.00	2.52e+09	2.96 Y	18:43	0.99
4	Di	PCB-4/10	2000.00	3.33e+09	1.53 Y	20:06	1.34
5	Di	PCB-7/9	2000.00	4.38e+09	1.58 Y	21:54	1.10
6	Di	PCB-6	1000.00	2.13e+09	1.58 Y	22:33	1.07
7	Di	PCB-5/8	2000.00	4.46e+09	1.58 Y	22:58	1.12
8	Di	PCB-14	1000.00	2.61e+09	1.58 Y	24:04	1.29
9	Di	PCB-11	1000.00	2.26e+09	1.58 Y	25:16	1.12
10	Di	PCB-12/13	2000.00	4.62e+09	1.57 Y	25:39	1.14
11	Di	PCB-15	1000.00	2.61e+09	1.58 Y	25:58	1.29
12	Tri	PCB-19	1000.00	1.67e+09	1.04 Y	24:14	1.23
13	Tri	PCB-30	1000.00	2.65e+09	1.04 Y	25:08	1.95
14	Tri	PCB-18	1000.00	1.81e+09	1.04 Y	25:54	0.88
15	Tri	PCB-17	1000.00	1.97e+09	1.04 Y	26:04	0.97
16	Tri	PCB-24/27	2000.00	5.22e+09	1.04 Y	26:39	1.28
17	Tri	PCB-16/32	2000.00	4.26e+09	1.04 Y	27:09	1.04
18	Tri	PCB-34	1000.00	1.80e+09	1.07 Y	27:58	0.95
19	Tri	PCB-23	1000.00	1.36e+09	1.11 Y	28:03	0.72
20	Tri	PCB-29	1000.00	1.70e+09	1.08 Y	28:18	0.90
21	Tri	PCB-26	1000.00	2.06e+09	1.09 Y	28:31	1.09
22	Tri	PCB-25	1000.00	1.85e+09	1.09 Y	28:41	0.98
23	Tri	PCB-31	1000.00	2.02e+09	1.08 Y	29:01	1.07
24	Tri	PCB-28	1000.00	2.11e+09	1.08 Y	29:08	1.11
25	Tri	PCB-20/21/33	3000.00	5.92e+09	1.09 Y	29:45	1.04
26	Tri	PCB-22	1000.00	1.97e+09	1.09 Y	30:12	1.04
27	Tri	PCB-36	1000.00	2.05e+09	1.09 Y	30:48	1.14
28	Tri	PCB-39	1000.00	2.19e+09	1.09 Y	31:17	1.22
29	Tri	PCB-38	1000.00	1.88e+09	1.09 Y	32:03	1.05
30	Tri	PCB-35	1000.00	2.03e+09	1.07 Y	32:35	1.13
31	Tri	PCB-37	1000.00	2.19e+09	1.07 Y	33:01	1.22
32	Tetra	PCB-54	1000.00	1.81e+09	0.79 Y	27:60	1.01
33	Tetra	PCB-50	1000.00	1.60e+09	0.78 Y	29:10	0.89
34	Tetra	PCB-53	1000.00	1.61e+09	0.78 Y	29:50	1.12
35	Tetra	PCB-51	1000.00	1.67e+09	0.77 Y	30:10	1.17
36	Tetra	PCB-45	1000.00	1.49e+09	0.78 Y	30:36	1.04
37	Tetra	PCB-46	1000.00	1.38e+09	0.78 Y	31:05	0.96
38	Tetra	PCB-52/69	2000.00	3.77e+09	0.78 Y	31:34	1.32
39	Tetra	PCB-73	1000.00	2.02e+09	0.78 Y	31:41	1.41
40	Tetra	PCB-43/49	2000.00	3.41e+09	0.78 Y	31:51	1.19
41	Tetra	PCB-47	1000.00	1.83e+09	0.77 Y	32:03	1.21

42	Tetra	PCB-48/75	2000.00	3.89e+09	0.79 Y	32:10	1.29
43	Tetra	PCB-65	1000.00	1.92e-09	0.78 Y	32:26	1.27
44	Tetra	PCB-62	1000.00	2.02e+09	0.78 Y	32:33	1.34
45	Tetra	PCB-44	1000.00	1.40e+09	0.78 Y	32:51	0.93
46	Tetra	PCB-42/59	2000.00	3.82e+09	0.78 Y	33:05	1.27
47	Tetra	PCB-41/64/71/72	4000.00	8.16e+09	0.78 Y	33:40	1.35
48	Tetra	PCB-68	1000.00	2.29e+09	0.78 Y	33:56	1.52
49	Tetra	PCB-40	1000.00	1.29e+09	0.78 Y	34:08	0.86
50	Tetra	PCB-57	1000.00	2.11e+09	0.78 Y	34:30	1.08
51	Tetra	PCB-67	1000.00	2.02e+09	0.77 Y	34:48	1.03
52	Tetra	PCB-58	1000.00	2.27e+09	0.81 Y	34:55	1.17

53	Tetra	PCB-63	1000.00	2.25e+09	0.76 Y	35:05	-	1.15
54	Tetra	PCB-74	1000.00	2.21e+09	0.78 Y	35:22	-	1.13
55	Tetra	PCB-61/70	2000.00	4.33e+09	0.78 Y	35:32	-	1.11
56	Tetra	PCB-76/66	2000.00	4.35e+09	0.78 Y	35:45	-	1.12
57	Tetra	PCB-80	1000.00	2.43e+09	0.79 Y	35:60	-	1.26
58	Tetra	PCB-55	1000.00	2.32e+09	0.78 Y	36:19	-	1.20
59	Tetra	PCB-56/60	2000.00	4.42e+09	0.77 Y	36:48	-	1.14
60	Tetra	PCB-79	1000.00	2.25e+09	0.78 Y	37:52	-	1.17
61	Tetra	PCB-78	1000.00	2.13e+09	0.78 Y	38:34	-	1.07
62	Tetra	PCB-81	1000.00	2.35e+09	0.77 Y	39:06	-	1.17
63	Tetra	PCB-77	1000.00	2.34e+09	0.78 Y	39:41	-	1.20
64	Penta	PCB-104	1000.00	1.69e+09	1.56 Y	32:42	-	1.31
65	Penta	PCB-96	1000.00	1.52e+09	1.57 Y	33:58	-	1.18
66	Penta	PCB-103	1000.00	1.42e+09	1.56 Y	34:30	-	1.10
67	Penta	PCB-100	1000.00	1.41e+09	1.57 Y	34:51	-	1.09
68	Penta	PCB-94	1000.00	1.19e+09	1.57 Y	35:20	-	1.21
69	Penta	PCB-95/98/102	3000.00	3.94e+09	1.59 Y	35:49	-	1.34
70	Penta	PCB-93	1000.00	1.13e+09	1.51 Y	35:57	-	1.15
71	Penta	PCB-88/91	2000.00	2.51e+09	1.55 Y	36:14	-	1.28
72	Penta	PCB-121	1000.00	1.71e+09	1.59 Y	36:21	-	1.74
73	Penta	PCB-84/92	2000.00	2.50e+09	1.56 Y	37:10	-	1.16
74	Penta	PCB-89	1000.00	1.15e+09	1.57 Y	37:21	-	1.06
75	Penta	PCB-90/101	2000.00	2.74e+09	1.56 Y	37:33	-	1.27
76	Penta	PCB-113	1000.00	1.62e+09	1.55 Y	37:48	-	1.50
77	Penta	PCB-99	1000.00	1.27e+09	1.59 Y	37:53	-	1.18
78	Penta	PCB-119	1000.00	1.83e+09	1.56 Y	38:20	-	1.92
79	Penta	PCB-108/112	2000.00	2.83e+09	1.56 Y	38:30	-	1.49
80	Penta	PCB-83	1000.00	1.64e+09	1.58 Y	38:39	-	1.72
81	Penta	PCB-97	1000.00	1.26e+09	1.56 Y	38:51	-	1.32
82	Penta	PCB-86	1000.00	1.05e+09	1.58 Y	38:59	-	1.10
83	Penta	PCB-87/117/125	3000.00	4.66e+09	1.56 Y	39:07	-	1.63
84	Penta	PCB-111/115	2000.00	3.49e+09	1.54 Y	39:16	-	1.83
85	Penta	PCB-85/116	2000.00	2.82e+09	1.57 Y	39:24	-	1.48
86	Penta	PCB-120	1000.00	1.85e+09	1.56 Y	39:39	-	1.94
87	Penta	PCB-110	1000.00	1.61e+09	1.57 Y	39:47	-	1.69
88	Penta	PCB-82	1000.00	1.02e+09	1.56 Y	40:24	-	0.80
89	Penta	PCB-124	1000.00	1.74e+09	1.56 Y	41:05	-	1.37
90	Penta	PCB-107/109	2000.00	3.47e+09	1.57 Y	41:14	-	1.36
91	Penta	PCB-123	1000.00	1.71e+09	1.57 Y	41:25	-	1.34
92	Penta	PCB-106/118	2000.00	3.61e+09	1.57 Y	41:37	-	1.31
93	Penta	PCB-114	1000.00	1.32e+09	1.53 Y	42:15	-	1.12
94	Penta	PCB-122	1000.00	1.21e+09	1.53 Y	42:23	-	1.02
95	Penta	PCB-105	1000.00	1.57e+09	1.55 Y	43:07	-	1.23
96	Penta	PCB-127	1000.00	1.40e+09	1.54 Y	43:26	-	1.03
97	Penta	PCB-126	1000.00	1.45e+09	1.54 Y	45:21	-	1.12
98	Hexa	PCB-155	1000.00	1.46e+09	1.25 Y	37:06	-	1.24
99	Hexa	PCB-150	1000.00	1.41e+09	1.25 Y	38:22	-	1.20
100	Hexa	PCB-152	1000.00	1.37e+09	1.25 Y	38:50	-	1.17
101	Hexa	PCB-145	1000.00	1.37e+09	1.23 Y	39:17	-	1.16
102	Hexa	PCB-136	1000.00	1.42e+09	1.37 Y	39:36	-	1.21

103	Hexa	PCB-148	1000.00	1.03e+09	1.09 Y	39:42	0.88
104	Hexa	PCB-154	1000.00	1.12e+09	1.24 Y	40:12	0.95
105	Hexa	PCB-151	1000.00	1.06e+09	1.25 Y	40:50	0.90
106	Hexa	PCB-135	1000.00	1.03e+09	1.24 Y	41:03	0.88
107	Hexa	PCB-144	1000.00	1.10e+09	1.26 Y	41:10	0.93
108	Hexa	PCB-147	1000.00	1.04e+09	1.26 Y	41:17	0.88
109	Hexa	PCB-139/149	2000.00	2.24e+09	1.25 Y	41:33	0.95
110	Hexa	PCB-140	1000.00	9.97e+08	1.26 Y	41:44	0.85
111	Hexa	PCB-134/143	2000.00	2.36e+09	1.21 Y	42:10	0.88
112	Hexa	PCB-133/142	2000.00	2.37e+09	1.21 Y	42:27	0.88
113	Hexa	PCB-131	1000.00	1.13e+09	1.21 Y	42:37	0.84

114	Hexa	PCB-146/165	2000.00	3.00e+09	1.23 Y	42:51	1.11
115	Hexa	PCB-132/161	2000.00	3.00e+09	1.26 Y	43:06	1.11
116	Hexa	PCB-153	1000.00	1.48e+09	1.17 Y	43:16	1.10
117	Hexa	PCB-168	1000.00	1.83e+09	1.23 Y	43:29	1.36
118	Hexa	PCB-141	1000.00	1.36e+09	1.23 Y	44:00	1.17
119	Hexa	PCB-137	1000.00	1.48e+09	1.21 Y	44:22	1.27
120	Hexa	PCB-130	1000.00	1.16e+09	1.24 Y	44:29	0.99
121	Hexa	PCB-138/163/164	3000.00	4.90e+09	1.22 Y	44:51	1.31
122	Hexa	PCB-158/160	2000.00	3.53e+09	1.22 Y	45:06	1.42
123	Hexa	PCB-129	1000.00	1.21e+09	1.23 Y	45:20	0.97
124	Hexa	PCB-166	1000.00	1.78e+09	1.23 Y	45:46	1.18
125	Hexa	PCB-159	1000.00	1.89e+09	1.22 Y	46:07	1.25
126	Hexa	PCB-128/162	2000.00	3.16e+09	1.22 Y	46:23	1.05
127	Hexa	PCB-167	1000.00	1.80e+09	1.22 Y	46:48	1.20
128	Hexa	PCB-156	1000.00	1.84e+09	1.22 Y	48:05	1.24
129	Hexa	PCB-157	1000.00	1.84e+09	1.23 Y	48:21	1.22
130	Hexa	PCB-169	1000.00	1.73e+09	1.24 Y	50:33	1.17
131	Hepta	PCB-188	1000.00	1.65e+09	1.05 Y	42:54	1.54
132	Hepta	PCB-184	1000.00	1.52e+09	1.05 Y	43:21	1.39
133	Hepta	PCB-179	1000.00	1.55e+09	1.05 Y	44:07	1.42
134	Hepta	PCB-176	1000.00	1.64e+09	1.05 Y	44:35	1.50
135	Hepta	PCB-186	1000.00	1.67e+09	1.05 Y	45:11	1.52
136	Hepta	PCB-178	1000.00	1.21e+09	1.05 Y	45:41	1.11
137	Hepta	PCB-175	1000.00	1.21e+09	1.05 Y	46:01	1.11
138	Hepta	PCB-182/187	2000.00	2.63e+09	1.05 Y	46:12	1.20
139	Hepta	PCB-183	1000.00	1.41e+09	1.05 Y	46:30	1.29
140	Hepta	PCB-185	1000.00	1.24e+09	1.06 Y	47:10	1.66
141	Hepta	PCB-174	1000.00	1.14e+09	1.04 Y	47:32	1.52
142	Hepta	PCB-181	1000.00	1.21e+09	1.06 Y	47:38	1.63
143	Hepta	PCB-177	1000.00	1.08e+09	1.05 Y	47:48	1.45
144	Hepta	PCB-171	1000.00	1.27e+09	1.05 Y	48:05	1.70
145	Hepta	PCB-173	1000.00	1.03e+09	1.05 Y	48:31	1.38
146	Hepta	PCB-172	1000.00	1.20e+09	1.05 Y	48:58	1.61
147	Hepta	PCB-182	1000.00	1.53e+09	1.05 Y	49:10	2.05
148	Hepta	PCB-180	1000.00	1.20e+09	1.05 Y	49:21	1.62
149	Hepta	PCB-193	1000.00	1.58e+09	1.05 Y	49:34	2.12
150	Hepta	PCB-191	1000.00	1.62e+09	1.05 Y	49:49	2.18
151	Hepta	PCB-170	1000.00	1.15e+09	1.05 Y	50:57	1.69
152	Hepta	PCB-190	1000.00	1.59e+09	1.04 Y	51:08	2.34
153	Hepta	PCB-189	1000.00	1.57e+09	1.06 Y	52:32	1.72
154	Octa	PCB-202	1000.00	1.13e+09	0.88 Y	48:18	1.08
155	Octa	PCB-201	1000.00	1.24e+09	0.88 Y	48:47	1.18
156	Octa	PCB-204	1000.00	1.20e+09	0.88 Y	48:56	1.14
157	Octa	PCB-197	1000.00	1.31e+09	0.88 Y	49:14	1.25
158	Octa	PCB-200	1000.00	1.16e+09	0.88 Y	50:08	1.10
159	Octa	PCB-198	1000.00	9.05e+08	0.94 Y	51:35	0.86
160	Octa	PCB-199	1000.00	8.80e+08	0.81 Y	51:42	0.84
161	Octa	PCB-196/203	2000.00	2.01e+09	0.88 Y	51:59	0.96
162	Octa	PCB-195	1000.00	9.78e+08	0.91 Y	53:12	1.13
163	Octa	PCB-194	1000.00	1.06e+09	0.91 Y	54:05	1.22

164	Octa	PCB-205	1000.00	1.38E+09	0.91 Y	54:21	-	1.59
165	Nona	PCB-208	1000.00	1.33E+09	1.33 Y	53:21	-	1.08
166	Nona	PCB-207	1000.00	1.38E+09	1.33 Y	53:40	-	1.12
167	Nona	PCB-206	1000.00	9.29E+08	1.32 Y	55:39	-	0.94
168	Deca	PCB-209	1000.00	1.39E+09	1.18 Y	56:58	-	1.32
169	Tot	Total Mono-PCB	0.00	-	- n	-	-	1.02
170	Tot	Total Di-PCB	0.00	-	- n	-	-	1.15
171	Tot	Total Tri-PCB	0.00	-	- n	-	-	1.21

172	Tot	0.00	Total Tri-PCB	0.00	-	-	-	1.05
173	Tot	0.00	Total Tetra-PCB	0.00	-	-	-	1.18
174	Tot	0.00	Total Penta-PCB	0.00	-	-	-	1.32
175	Tot	0.00	Total Penta-PCB	0.00	-	-	-	1.10
176	Tot	0.00	Total Hexa-PCB	0.00	-	-	-	1.01
177	Tot	0.00	Total Hexa-PCB	0.00	-	-	-	1.13
178	Tot	0.00	Total Hepta-PCB	0.00	-	-	-	1.51
179	Tot	0.00	Total Octa-PCB	0.00	-	-	-	1.04
180	Tot	0.00	Total Octa-PCB	0.00	-	-	-	1.31
181	Tot	0.00	Total Nona-PCB	0.00	-	-	-	1.05
182	Tot	1000.00	Total Deca-PCB	1.39e+09	1.18 Y	56:58	-	1.32
183	Mon	100.00	13C-PCB-1	2.36e+08	3.12 Y	16:04	-	1.06
184	Mon	100.00	13C-PCB-3	2.54e+08	3.10 Y	18:42	-	1.14
185	Di-IS	100.00	13C-PCB-4	1.24e+08	1.56 Y	20:03	-	0.56
186	Di-IS	100.00	13C-PCB-9	1.99e+08	1.52 Y	21:51	-	0.89
187	Di-IS	100.00	13C-PCB-11	2.02e+08	1.53 Y	25:15	-	0.90
188	Tri-η	100.00	13C-PCB-19	1.36e+08	1.04 Y	24:13	-	0.61
189	Tri-η	100.00	13C-PCB-32	2.04e+08	1.04 Y	27:09	-	0.91
190	Tri-η	100.00	13C-PCB-28	1.89e+08	1.04 Y	29:07	-	1.07
191	Tri-η	100.00	13C-PCB-37	1.80e+08	1.04 Y	32:60	-	1.02
192	Tetra	100.00	13C-PCB-54	1.80e+08	0.83 Y	27:59	-	0.86
193	Tetra	100.00	13C-PCB-52	1.43e+08	0.79 Y	31:32	-	0.68
194	Tetra	100.00	13C-PCB-47	1.51e+08	0.80 Y	32:02	-	0.72
195	Tetra	100.00	13C-PCB-70	1.95e+08	0.80 Y	35:33	-	0.93
196	Tetra	100.00	13C-PCB-80	1.93e+08	0.81 Y	35:58	-	0.92
197	Tetra	100.00	13C-PCB-81	2.00e+08	0.78 Y	39:05	-	0.95
198	Tetra	100.00	13C-PCB-77	1.94e+08	0.79 Y	39:40	-	0.93
199	Penta	100.00	13C-PCB-104	1.29e+08	1.56 Y	32:41	-	0.86
200	Penta	100.00	13C-PCB-95	9.84e+07	1.59 Y	35:51	-	0.66
201	Penta	100.00	13C-PCB-101	1.08e+08	1.60 Y	37:32	-	0.72
202	Penta	100.00	13C-PCB-97	9.53e+07	1.57 Y	38:50	-	0.64
203	Penta	100.00	13C-PCB-123	1.27e+08	1.58 Y	41:23	-	0.86
204	Penta	100.00	13C-PCB-118	1.38e+08	1.59 Y	41:35	-	0.92
205	Penta	100.00	13C-PCB-114	1.19e+08	1.63 Y	42:14	-	1.04
206	Penta	100.00	13C-PCB-105	1.27e+08	1.58 Y	43:05	-	1.12
207	Penta	100.00	13C-PCB-127	1.36e+08	1.58 Y	43:25	-	1.20
208	Penta	100.00	13C-PCB-126	1.29e+08	1.57 Y	45:19	-	1.13
209	Hexa	100.00	13C-PCB-155	1.18e+08	1.27 Y	37:04	-	0.79
210	Hexa	100.00	13C-PCB-153	1.35e+08	1.26 Y	43:15	-	1.18
211	Hexa	100.00	13C-PCB-141	1.16e+08	1.27 Y	43:59	-	1.02
212	Hexa	100.00	13C-PCB-138	1.24e+08	1.27 Y	44:49	-	1.09
213	Hexa	100.00	13C-PCB-159	1.51e+08	1.26 Y	46:06	-	1.32
214	Hexa	100.00	13C-PCB-167	1.50e+08	1.27 Y	46:47	-	1.32
215	Hexa	100.00	13C-PCB-156	1.48e+08	1.27 Y	48:04	-	1.30
216	Hexa	100.00	13C-PCB-157	1.51e+08	1.28 Y	48:20	-	1.32
217	Hexa	100.00	13C-PCB-169	1.48e+08	1.27 Y	50:32	-	1.30
218	Hept	100.00	13C-PCB-188	1.09e+08	0.46 Y	42:53	-	0.96
219	Hept	100.00	13C-PCB-180	7.46e+07	0.46 Y	49:20	-	0.65
220	Hept	100.00	13C-PCB-170	6.81e+07	0.45 Y	50:56	-	0.60
221	Hept	100.00	13C-PCB-189	9.09e+07	0.45 Y	52:32	-	0.80
222	Octa	100.00	13C-PCB-202	1.05e+08	0.91 Y	48:17	-	0.92

223	Octa η	13C-PCB-194	100.00	8.66e+07	0.91 Y	54:04	-	0.71
224	Non η	13C-PCB-208	100.00	1.23e+08	0.78 Y	53:20	-	1.01
225	Non η	13C-PCB-206	100.00	9.93e+07	0.78 Y	55:38	-	0.81
226	Deca η	13C-PCB-209	100.00	1.05e+08	1.18 Y	56:58	-	0.86
227	DI-RS	13C-PCB-15	100.00	2.23e+08	1.55 Y	25:57	-	1.00
228	Tri- η	13C-PCB-31	100.00	1.77e+08	1.06 Y	29:00	-	1.00
229	Tetr η	13C-PCB-60	100.00	2.10e+08	0.78 Y	36:47	-	1.00
230	Penta	13C-PCB-111	100.00	1.49e+08	1.59 Y	39:16	-	1.00
231	Hexa η	13C-PCB-128	100.00	1.14e+08	1.26 Y	46:22	-	1.00
232	Octa η	13C-PCB-205	100.00	1.22e+08	0.90 Y	54:21	-	1.00

233	CRS	13C-PCB-79	100.00	2.09E+08	0.79 Y	37:51	-	0.99
234	CRS	13C-PCB-178	100.00	7.31E+07	0.45 Y	45:39	-	0.64
235	PS	13C-PCB-79	100.00	2.09E+08	0.79 Y	37:51	-	1.04
236	PS	13C-PCB-178	100.00	7.31E+07	0.45 Y	45:39	-	0.98

Client ID: PCB SSS 16C1713
Lab ID: S8160419E1-1

Filename: 160419E1 S:9 Acq:19-APR-16 18:36:54
GC Column ID: ZB-1 Ical: PCBV38-4-19-16 wt/vol: 1.0000 EndCAL: NA

ConCal: NA
EndCAL: NA

70-30% ✓

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	2.65e+08	3.00	1.06	16:05	1.001	0.996-1.006	91.7436	91.7436	PCB-52/69	8.87e+07	0.78	Y	1.308	31:33	1.001	0.996-1.006	42.8250
PCB-2	*	n	0.99	NotFnd	*	0.983-0.993	*	*	PCB-73	*	n	1.454	NotFnd	*	0.999-1.009	*	*
PCB-3	2.69e+08	2.98	1.02	18:43	1.001	0.996-1.006	94.0061	94.0061	PCB-43/49	8.66e+07	0.78	Y	1.279	31:51	1.010	1.005-1.015	42.7918
PCB-4/10	3.41e+08	1.53	1.41	20:06	1.003	0.998-1.008	170.181	170.181	PCB-47	*	n	1.222	NotFnd	*	0.995-1.005	*	*
PCB-7/9	2.22e+08	1.57	1.13	21:52	0.866	0.863-0.871	86.3178	86.3178	PCB-48/75	*	n	1.324	NotFnd	*	0.999-1.009	*	*
PCB-6	*	n	1.08	NotFnd	*	0.888-0.897	*	*	PCB-65	*	n	1.273	NotFnd	*	1.007-1.017	*	*
PCB-5/8	2.31e+08	1.57	1.14	22:56	0.909	0.905-0.915	89.5749	89.5749	PCB-62	*	n	1.358	NotFnd	*	1.011-1.021	*	*
PCB-14	*	n	1.32	NotFnd	*	0.948-0.958	*	*	PCB-44	7.11e+07	0.78	Y	0.941	32:50	1.025	1.020-1.030	46.0636
PCB-11	2.21e+08	1.57	1.18	25:15	1.000	0.996-1.006	83.7572	83.7572	PCB-42/59	*	n	1.267	NotFnd	*	1.028-1.038	*	*
PCB-12/13	2.15e+08	1.58	1.14	25:41	1.018	1.011-1.021	83.7363	83.7363	PCB-41/64/71/72	*	n	1.338	NotFnd	*	1.046-1.056	*	*
PCB-15	2.33e+08	1.57	1.29	25:58	1.029	1.023-1.033	80.7376	80.7376	PCB-68	*	n	1.526	NotFnd	*	1.054-1.064	*	*
PCB-19	8.71e+07	1.05	1.23	24:14	1.001	0.996-1.006	47.1279	47.1279	PCB-40	*	n	0.864	NotFnd	*	1.061-1.071	*	*
PCB-30	*	n	1.88	NotFnd	*	1.033-1.043	*	*	PCB-57	9.88e+07	0.79	Y	1.119	34:29	0.970	0.965-0.975	43.0090
PCB-18	8.78e+07	1.04	0.90	25:53	0.954	0.949-0.959	44.9162	44.9162	PCB-67	*	n	1.097	NotFnd	*	0.974-0.984	*	*
PCB-17	*	n	0.98	NotFnd	*	0.955-0.965	*	*	PCB-58	*	n	1.157	NotFnd	*	0.977-0.987	*	*
PCB-24/27	*	n	1.27	NotFnd	*	0.976-0.986	*	*	PCB-63	*	n	1.199	NotFnd	*	0.981-0.991	*	*
PCB-16/32	*	n	1.07	NotFnd	*	0.995-1.005	*	*	PCB-74	1.04e+08	0.78	Y	1.172	35:21	0.994	0.989-0.999	43.4520
PCB-34	*	n	0.97	NotFnd	*	0.955-0.965	*	*	PCB-61/70	1.07e+08	0.78	Y	1.132	35:33	1.000	0.994-1.004	46.0780
PCB-23	*	n	0.86	NotFnd	*	0.958-0.968	*	*	PCB-76/66	1.05e+08	0.78	Y	1.141	35:46	1.006	1.000-1.010	44.7043
PCB-29	*	n	0.95	NotFnd	*	0.967-0.977	*	*	PCB-80	*	n	1.305	NotFnd	*	0.996-1.006	*	*
PCB-26	*	n	0.97	NotFnd	*	0.974-0.984	*	*	PCB-55	*	n	1.160	NotFnd	*	1.004-1.014	*	*
PCB-25	*	n	0.93	NotFnd	*	0.980-0.990	*	*	PCB-56/60	*	n	1.137	NotFnd	*	1.018-1.028	*	*
PCB-31	9.38e+07	1.07	1.09	29:01	0.997	0.992-1.002	44.6752	44.6752	PCB-79	1.04e+08	0.79	Y	1.169	37:52	1.053	1.048-1.058	42.7100
PCB-28	9.66e+07	1.10	1.10	29:07	1.000	0.996-1.006	45.4551	45.4551	PCB-78	9.31e+07	0.79	Y	1.110	38:33	0.987	0.982-0.992	41.9568
PCB-20/21/33	8.85e+07	1.08	1.08	29:46	1.022	1.017-1.027	42.4053	42.4053	PCB-81	1.06e+08	0.79	Y	1.201	39:05	1.000	0.995-1.005	44.0004
PCB-22	*	n	1.04	NotFnd	*	1.032-1.042	*	*	PCB-77	1.02e+08	0.79	Y	1.237	39:41	1.000	0.995-1.005	42.2702
PCB-36	*	n	1.18	NotFnd	*	0.928-0.938	*	*	PCB-104	8.28e+07	1.55	Y	1.305	32:42	1.001	0.995-1.005	43.3129
PCB-39	*	n	1.25	NotFnd	*	0.943-0.953	*	*	PCB-96	*	n	1.153	NotFnd	*	1.034-1.044	*	*
PCB-38	8.10e+07	1.10	1.15	32:02	0.971	0.966-0.976	36.8041	36.8041	PCB-103	*	n	1.027	NotFnd	*	1.051-1.061	*	*
PCB-35	9.24e+07	1.11	1.16	32:34	0.987	0.982-0.992	41.3891	41.3891	PCB-100	*	n	1.029	NotFnd	*	1.061-1.071	*	*
PCB-37	9.51e+07	1.10	1.24	33:00	1.000	0.995-1.005	39.8534	39.8534	PCB-94	*	n	1.178	NotFnd	*	0.980-0.990	*	*
PCB-54	9.58e+07	0.80	1.07	27:59	1.000	0.996-1.006	45.5287	45.5287	PCB-95/98/102	6.05e+07	1.58	Y	1.306	35:52	1.001	0.994-1.004	43.6104
PCB-50	*	n	0.90	NotFnd	*	1.037-1.047	*	*	PCB-93	6.05e+07	1.58	Y	1.192	35:52	1.001	0.998-1.008	47.7735
PCB-53	*	n	1.17	NotFnd	*	0.940-0.950	*	*	PCB-88/91	*	n	1.232	NotFnd	*	1.006-1.016	*	*
PCB-51	*	n	1.18	NotFnd	*	0.952-0.962	*	*	PCB-121	*	n	1.737	NotFnd	*	1.009-1.019	*	*
PCB-45	*	n	1.06	NotFnd	*	0.965-0.975	*	*	PCB-84/92	*	n	1.158	NotFnd	*	0.985-0.995	*	*
PCB-46	*	n	0.99	NotFnd	*	0.981-0.991	*	*	PCB-89	*	n	1.107	NotFnd	*	0.990-1.000	*	*

Integrations
by Analyst: MS
Date: 5/6/16

Reviewed by Analyst: JTB
Date: 5/6/16

Client ID: PCB SSS 16C1713 File Name: 160419E1 S:9 Acq:19-APR-16 18:36:54 ConCal: NA
Lab ID: SS160419E1-1 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.0000 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-90/101	6.49e+07	1.57 Y	1.27	37:33	1.001	0.995-1.005	45.4063	45.4063	PCB-133/142	*	n	0.86	NotFnd	*	0.977-0.987	*	
PCB-113	*	n	1.47	NotFnd	*	1.002-1.012	*	*	PCB-131	*	n	0.82	NotFnd	*	0.981-0.991	*	
PCB-99	6.59e+07	1.57 Y	1.26	37:52	1.009	1.004-1.014	46.2966	46.2966	PCB-146/165	*	n	1.07	NotFnd	*	0.986-0.996	*	
PCB-119	*	n	1.87	NotFnd	*	0.983-0.993	*	*	PCB-132/161	*	n	1.12	NotFnd	*	0.992-1.002	*	
PCB-108/112	*	n	1.44	NotFnd	*	0.986-0.996	*	6.85e+07	PCB-153	6.85e+07	1.23 Y	1.15	43:15	1.000	0.996-1.005	43.3041	
PCB-83	*	n	1.70	NotFnd	*	0.991-1.001	*	*	PCB-168	*	n	1.36	NotFnd	*	1.000-1.010	*	
PCB-97	*	n	1.31	NotFnd	*	0.995-1.005	*	*	PCB-141	*	n	1.20	NotFnd	*	0.996-1.006	*	
PCB-86	*	n	1.02	NotFnd	*	0.999-1.009	*	*	PCB-137	*	n	1.23	NotFnd	*	1.004-1.014	*	
B-87/117/125	5.67e+07	1.55 Y	1.59	39:07	1.007	1.002-1.012	35.5873	35.5873	PCB-130	*	n	1.04	NotFnd	*	1.007-1.017	*	
PCB-111/115	7.60e+07	1.56 Y	1.85	39:16	1.011	1.007-1.017	40.9279	40.9279	PCB-138/163/164	6.72e+07	1.24 Y	1.30	44:50	1.001	0.996-1.006	38.3012	
PCB-85/116	*	n	1.44	NotFnd	*	1.010-1.020	*	*	PCB-158/160	*	n	1.41	NotFnd	*	1.001-1.011	*	
PCB-120	*	n	1.91	NotFnd	*	1.016-1.026	*	*	PCB-129	*	n	0.97	NotFnd	*	1.007-1.017	*	
PCB-110	7.67e+07	1.57 Y	1.76	39:47	1.025	1.019-1.029	43.4270	43.4270	PCB-166	*	n	1.19	NotFnd	*	0.988-0.998	*	
PCB-82	*	n	0.81	NotFnd	*	0.971-0.981	*	*	PCB-159	*	n	1.28	NotFnd	*	0.995-1.005	*	
PCB-124	*	n	1.30	NotFnd	*	0.988-0.998	*	8.05e+07	PCB-128/162	8.05e+07	1.22 Y	1.06	46:25	1.007	1.002-1.012	49.6806	
PCB-107/109	*	n	1.34	NotFnd	*	0.991-1.001	*	8.84e+07	PCB-167	8.84e+07	1.22 Y	1.22	46:48	1.001	0.995-1.005	44.7403	
PCB-123	7.64e+07	1.60 Y	1.35	41:23	1.000	0.996-1.006	43.9984	43.9984	PCB-156	7.94e+07	1.22 Y	1.27	48:04	1.000	0.995-1.005	40.1440	
PCB-106/118	7.99e+07	1.58 Y	1.34	41:35	1.001	0.996-1.006	44.9485	44.9485	PCB-157	8.98e+07	1.22 Y	1.24	48:20	1.000	0.995-1.005	45.2524	
PCB-114	5.82e+07	1.56 Y	1.17	42:14	1.000	0.995-1.005	39.5398	39.5398	PCB-169	8.33e+07	1.22 Y	1.18	50:33	1.000	0.995-1.005	44.0698	
PCB-122	*	n	1.03	NotFnd	*	0.999-1.009	*	*	PCB-188	7.70e+07	1.05 Y	1.59	42:53	1.000	0.995-1.005	44.5107	
PCB-105	6.01e+07	1.51 Y	1.23	43:06	1.001	0.995-1.005	38.6658	38.6658	PCB-184	*	n	1.44	NotFnd	*	1.006-1.016	*	
PCB-127	*	n	1.06	NotFnd	*	0.995-1.005	45.9189	45.9189	PCB-179	*	n	1.45	NotFnd	*	1.024-1.034	*	
PCB-126	7.14e+07	1.51 Y	1.16	45:20	1.000	0.995-1.005	43.0060	43.0060	PCB-176	*	n	1.56	NotFnd	*	1.035-1.045	*	
PCB-155	6.98e+07	1.24 Y	1.26	37:06	1.001	0.966-1.006	43.0060	43.0060	PCB-186	*	n	1.56	NotFnd	*	1.049-1.059	*	
PCB-150	*	n	1.15	NotFnd	*	1.030-1.040	*	5.64e+07	PCB-178	5.64e+07	1.07 Y	1.20	45:40	1.065	1.060-1.070	43.4127	
PCB-152	*	n	1.19	NotFnd	*	1.042-1.052	*	6.15e+07	PCB-182/187	6.15e+07	1.06 Y	1.24	46:10	1.077	1.072-1.082	45.7373	
PCB-145	*	n	1.14	NotFnd	*	1.054-1.064	*	*	PCB-183	*	n	1.37	NotFnd	*	1.079-1.089	*	
PCB-136	*	n	1.18	NotFnd	*	1.063-1.073	*	*	PCB-185	*	n	1.60	NotFnd	*	0.951-0.961	*	
PCB-148	*	n	0.82	NotFnd	*	1.066-1.076	*	5.49e+07	PCB-174	5.49e+07	1.05 Y	1.51	47:31	0.963	0.958-0.968	45.1428	
PCB-154	*	n	0.91	NotFnd	*	1.079-1.089	*	*	PCB-181	*	n	1.64	NotFnd	*	0.960-0.970	*	
PCB-151	*	n	0.86	NotFnd	*	1.095-1.107	*	*	PCB-177	*	n	1.45	NotFnd	*	0.963-0.973	*	
PCB-135	*	n	0.82	NotFnd	*	1.101-1.113	*	*	PCB-171	*	n	1.45	NotFnd	*	0.969-0.979	*	
PCB-144	*	n	0.92	NotFnd	*	1.105-1.116	*	*	PCB-173	*	n	1.38	NotFnd	*	0.978-0.988	*	
PCB-147	*	n	0.81	NotFnd	*	1.108-1.120	*	4.85e+07	PCB-172	4.85e+07	1.25 Y	0.91	41:31	1.120	1.115-1.127	41.2896	
PCB-139/149	4.85e+07	1.25 Y	0.91	41:31	1.120	1.115-1.127	41.2896	41.2896	PCB-192	*	n	2.02	NotFnd	*	0.991-1.001	*	
PCB-140	*	n	0.83	NotFnd	*	1.120-1.132	*	6.59e+07	PCB-180	6.59e+07	1.06 Y	1.66	49:22	1.001	0.996-1.006	49.4396	
PCB-134/143	*	n	0.89	NotFnd	*	0.970-0.980	*	*									

Integrations
by
Analyst: M
Date: 5/6/16

Client ID: PCB SSS 16C1713
Lab ID: SS160419E1-1
Filename: 160419E1 S:9 Acq:19-APR-16 18:36:54
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.0000
ConCal: NA
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	Conc
PCB-193	*	n	2.09	NotFnd	*	0.999-1.009	*		Total Mono-PCB	5.34e+08	3.00	Y	16:05	185.750
PCB-191	*	n	2.11	NotFnd	*	1.005-1.015	*		Total Di-PCB	1.46e+09	1.53	Y	20:06	594.304
PCB-170	5.33e+07	1.05	1.72	50:56	1.000	0.995-1.005	42.1536		Total Tri-PCB	1.75e+08	1.05	Y	24:14	92.0441
PCB-190	*	n	2.32	NotFnd	*	0.999-1.009	*		Total Tetra-PCB	5.47e+08	1.07	Y	29:01	250.582
PCB-189	7.09e+07	1.05	1.73	52:32	1.000	0.995-1.005	43.5376		Total Penta-PCB	1.16e+09	0.80	Y	27:59	525.390
PCB-202	5.85e+07	0.87	1.08	48:18	1.000	0.995-1.005	47.6476		Total Hexa-PCB	6.40e+08	1.55	Y	32:42	391.678
PCB-201	*	n	1.16	NotFnd	*	1.005-1.015	*		Total Hepta-PCB	1.90e+08	1.56	Y	42:14	124.124
PCB-204	*	n	1.09	NotFnd	*	1.009-1.019	*		Total Octa-PCB	1.18e+08	1.24	Y	37:06	84.2956
PCB-197	*	n	1.21	NotFnd	*	1.015-1.025	*		Total Nona-PCB	5.57e+08	1.23	Y	43:15	305.492
PCB-200	5.59e+07	0.88	1.12	50:08	1.039	1.034-1.044	44.2454		Total Deca-PCB	4.40e+08	1.05	Y	42:53	313.934
PCB-198	*	n	0.81	NotFnd	*	1.064-1.074	*			1.59e+08	0.87	Y	48:18	136.663
PCB-199	*	n	0.80	NotFnd	*	1.066-1.076	*			1.69e+08	0.91	Y	53:12	135.493
PCB-196/203	4.43e+07	0.89	0.87	51:59	1.077	1.072-1.082	44.7373			1.07e+08	1.33	Y	53:21	86.1357
PCB-195	4.87e+07	0.91	1.10	53:12	0.984	0.979-0.989	47.2215			6.09e+07	1.18	Y	56:57	41.0682
PCB-194	5.13e+07	0.90	1.28	54:05	1.000	0.995-1.005	42.7611							
PCB-205	6.67e+07	0.90	1.62	54:21	1.005	1.000-1.010	44.0152							
PCB-206	6.09e+07	1.33	1.11	53:21	1.000	0.995-1.005	40.8973							
PCB-207	*	n	1.11	NotFnd	*	1.001-1.011	*							
PCB-206	4.59e+07	1.31	0.95	55:38	1.000	0.995-1.005	44.8920							
PCB-209	6.09e+07	1.18	1.34	56:57	1.000	0.995-1.005	41.0682							

Total PCB Conc:3308.69172600

Integrations
by
Analyst: M)
Date: 5/6/16

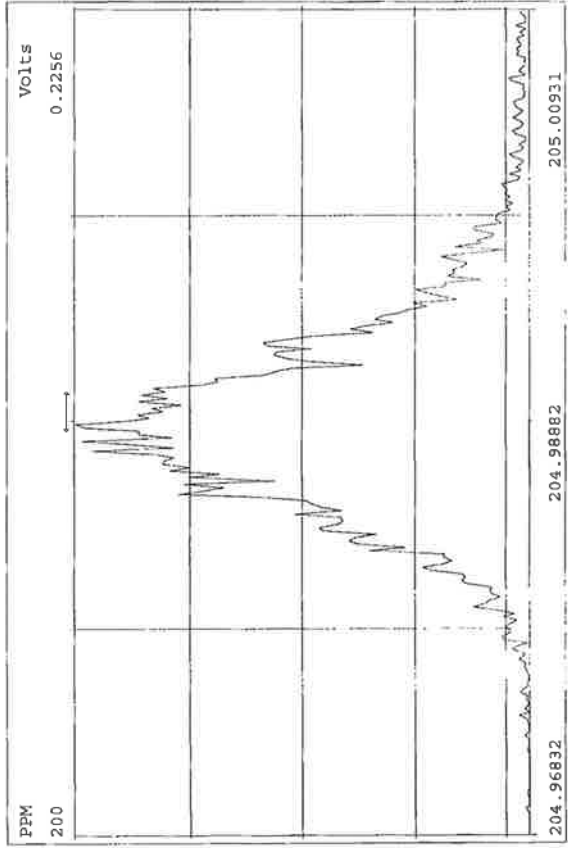
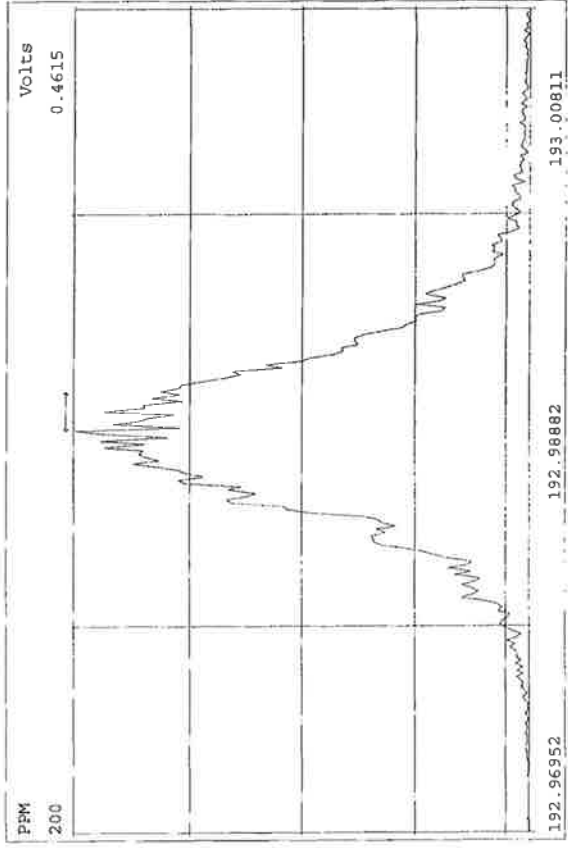
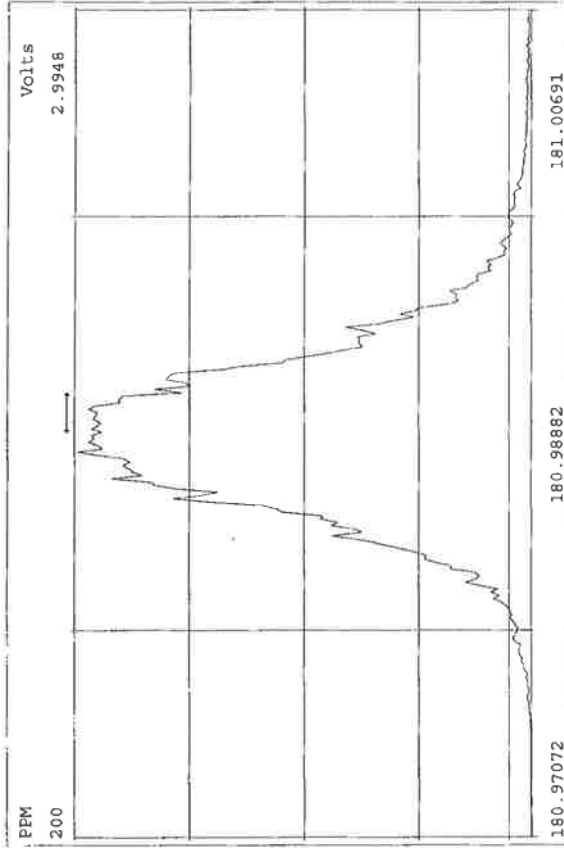
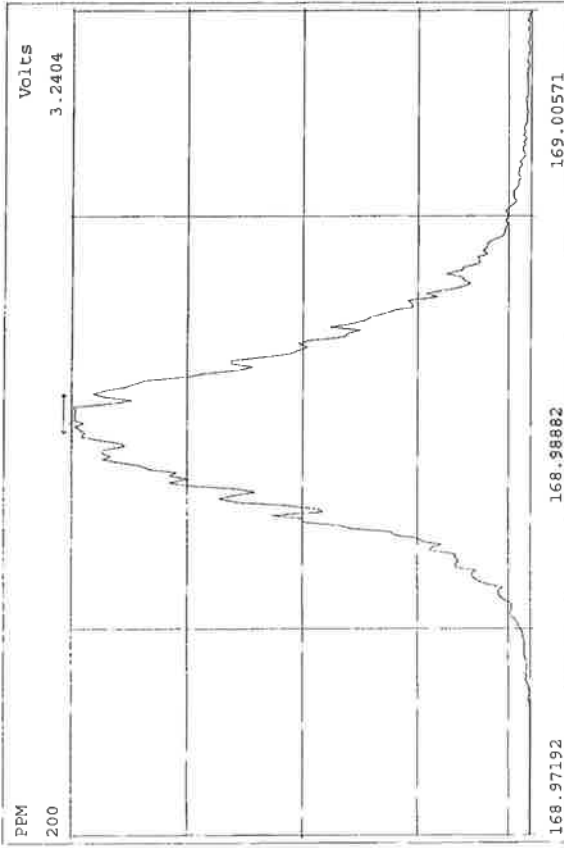
50-150%

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	2.72e+08	3.12	Y	1.09	16:04	0.619	0.616-0.622	104	104		13C-PCB-79	2.13e+08	0.81	Y	1.01	37:51	1.029	1.024-1.034	102	102
13C-PCB-3	2.62e+08	3.11	Y	1.15	18:42	0.721	0.717-0.725	102	102		13C-PCB-178	7.76e+07	0.46	Y	0.64	45:39	0.985	0.980-0.990	102	102
13C-PCB-4	1.42e+08	1.58	Y	0.59	20:03	0.773	0.769-0.777	98.9	98.9		PS vs. IS									
13C-PCB-9	2.27e+08	1.54	Y	0.94	21:51	0.842	0.838-0.846	100	100											
13C-PCB-11	2.24e+08	1.53	Y	0.93	25:14	0.973	0.968-0.978	100	100											
13C-PCB-19	1.50e+08	1.02	Y	0.63	24:13	0.933	0.928-0.938	98.5	98.5											
13C-PCB-28	1.93e+08	1.06	Y	1.14	29:07	1.004	0.999-1.009	84.6	84.6											
13C-PCB-32	2.17e+08	1.06	Y	0.91	27:08	1.046	1.041-1.051	98.9	98.9											
13C-PCB-37	1.92e+08	1.04	Y	1.05	32:60	1.138	1.132-1.144	91.7	91.7											
13C-PCB-47	1.64e+08	0.80	Y	0.77	32:02	0.871	0.867-0.875	103	103											
13C-PCB-52	1.58e+08	0.80	Y	0.72	31:31	0.857	0.853-0.861	105	105											
13C-PCB-54	1.96e+08	0.82	Y	0.95	27:59	0.761	0.757-0.765	99.4	99.4											
13C-PCB-70	2.05e+08	0.81	Y	0.97	35:33	0.966	0.962-0.972	102	102											
13C-PCB-77	1.95e+08	0.81	Y	0.93	39:40	1.078	1.074-1.084	99.9	99.9											
13C-PCB-80	2.08e+08	0.80	Y	0.98	35:58	0.978	0.973-0.983	102	102											
13C-PCB-81	2.00e+08	0.80	Y	0.95	39:04	1.062	1.057-1.067	101	101											
13C-PCB-95	1.06e+08	1.54	Y	0.70	35:51	0.913	0.908-0.918	105	105											
13C-PCB-97	1.00e+08	1.59	Y	0.67	38:50	0.989	0.984-0.994	104	104											
13C-PCB-101	1.13e+08	1.57	Y	0.75	37:32	0.956	0.951-0.961	105	105											
13C-PCB-104	1.46e+08	1.59	Y	0.95	32:41	0.832	0.828-0.836	107	107											
13C-PCB-105	1.26e+08	1.59	Y	1.14	43:05	0.929	0.924-0.934	93.2	93.2											
13C-PCB-114	1.26e+08	1.59	Y	1.12	42:13	0.911	0.906-0.916	94.4	94.4											
13C-PCB-118	1.32e+08	1.55	Y	0.93	41:34	1.059	1.054-1.064	98.9	98.9											
13C-PCB-123	1.29e+08	1.59	Y	0.88	41:23	1.054	1.049-1.059	101	101											
13C-PCB-126	1.34e+08	1.56	Y	1.16	45:19	0.977	0.973-0.983	97.6	97.6											
13C-PCB-127	1.34e+08	1.59	Y	1.25	43:25	0.937	0.932-0.942	90.6	90.6											
13C-PCB-138	1.35e+08	1.27	Y	1.11	44:49	0.966	0.962-0.972	102	102											
13C-PCB-141	1.24e+08	1.28	Y	1.05	43:58	0.948	0.943-0.953	99.4	99.4											
13C-PCB-153	1.38e+08	1.25	Y	1.21	43:14	0.932	0.928-0.938	96.1	96.1											
13C-PCB-155	1.29e+08	1.27	Y	0.84	37:04	0.944	0.939-0.949	107	107											
13C-PCB-156	1.56e+08	1.27	Y	1.31	48:04	1.037	1.032-1.042	100	100											
13C-PCB-157	1.60e+08	1.28	Y	1.35	48:20	1.042	1.038-1.048	99.6	99.6											
13C-PCB-159	1.53e+08	1.29	Y	1.33	46:06	0.994	0.989-0.999	97.1	97.1											
13C-PCB-167	1.62e+08	1.27	Y	1.34	46:47	1.009	1.004-1.014	101	101											
13C-PCB-169	1.60e+08	1.26	Y	1.33	50:32	1.090	1.085-1.095	101	101											
13C-PCB-170	7.35e+07	0.45	Y	0.61	50:56	1.099	1.093-1.105	102	102											
13C-PCB-180	8.03e+07	0.46	Y	0.67	49:20	1.064	1.059-1.069	101	101											
13C-PCB-188	1.09e+08	0.46	Y	0.94	42:52	0.924	0.920-0.930	97.6	97.6											
13C-PCB-189	9.40e+07	0.46	Y	0.79	52:32	1.133	1.127-1.139	99.9	99.9											
13C-PCB-194	9.35e+07	0.92	Y	0.72	54:04	0.995	0.990-1.000	98.9	98.9											
13C-PCB-202	1.13e+08	0.91	Y	0.94	48:16	1.041	1.036-1.046	101	101											
13C-PCB-206	1.08e+08	0.78	Y	0.80	55:37	1.024	1.019-1.029	102	102											
13C-PCB-208	1.34e+08	0.78	Y	1.00	53:20	0.982	0.977-0.987	101	101											
13C-PCB-209	1.10e+08	0.19	Y	0.85	56:56	1.048	1.043-1.053	98.6	98.6											

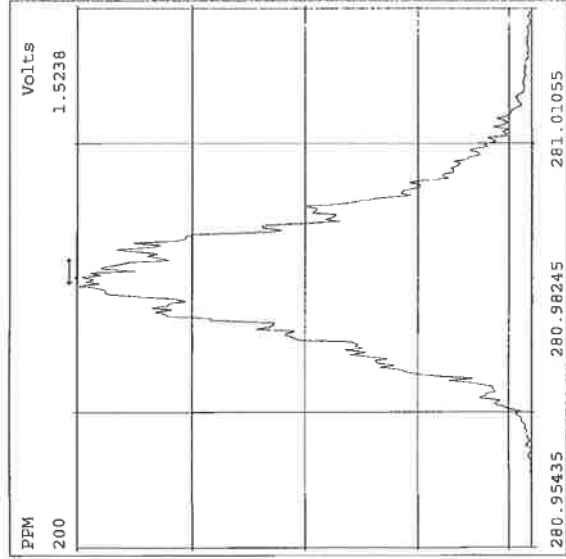
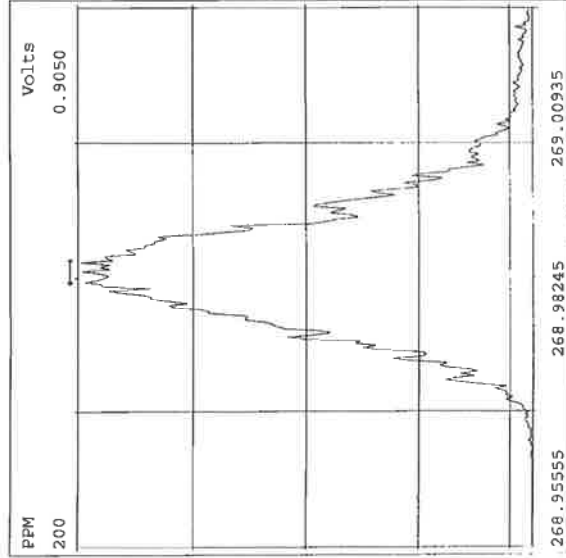
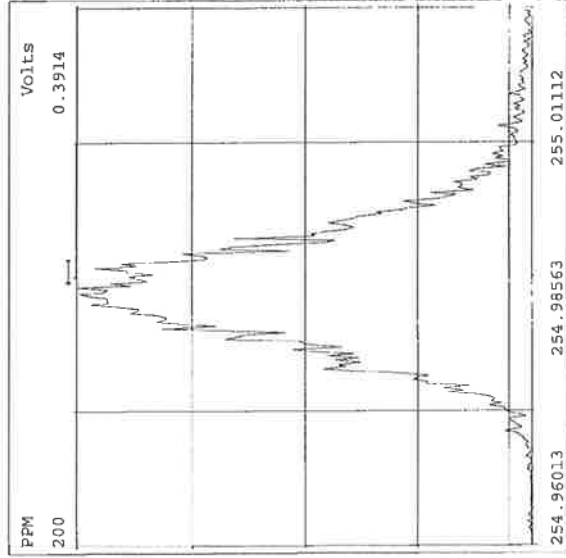
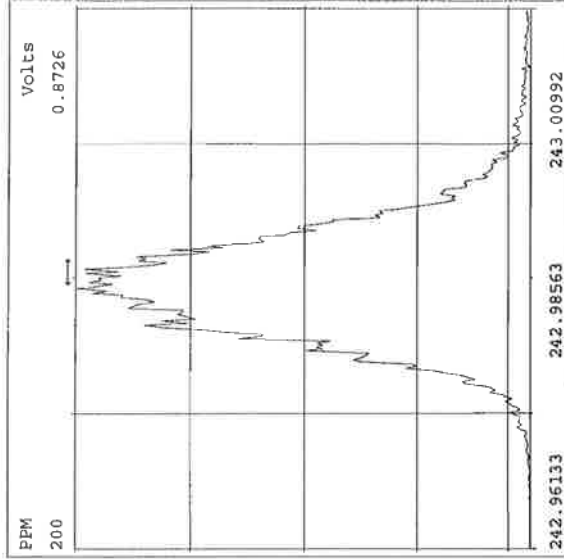
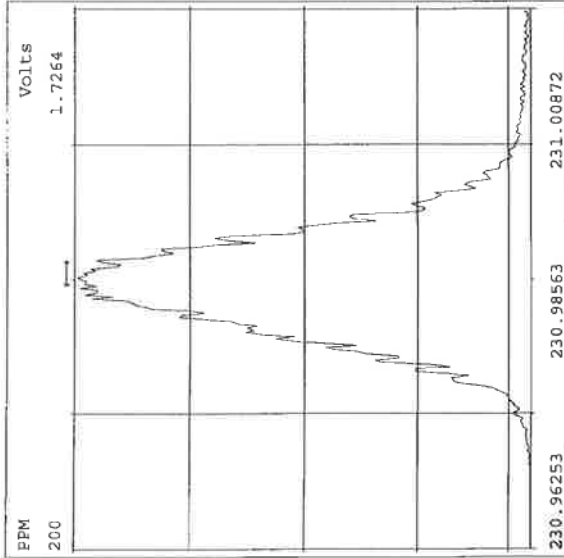
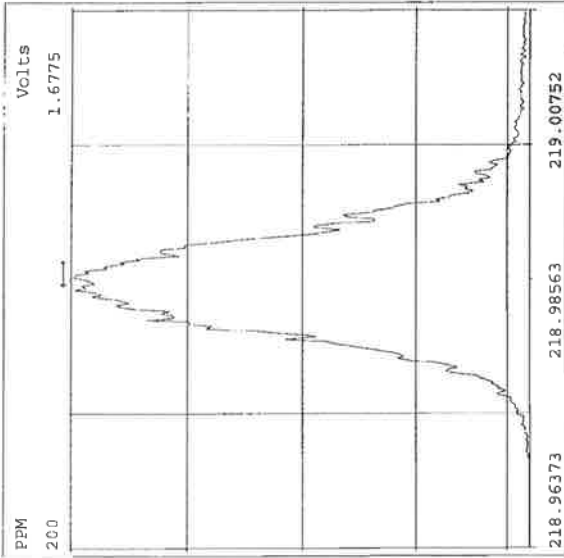
Analyst: (M)

Date: 5/6/16

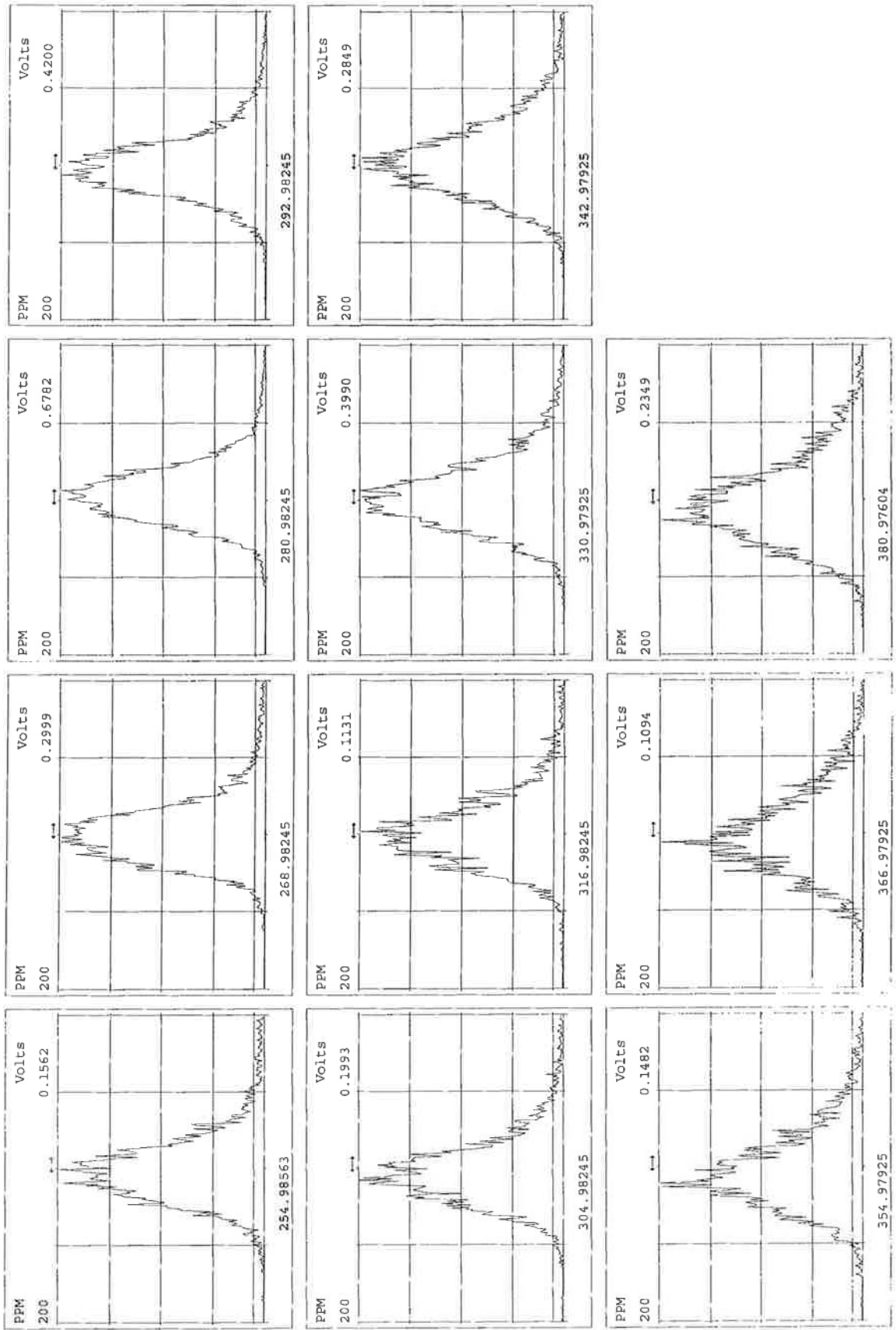
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Experiment: PCB_ZB1 Function: 1 Reference: FFK



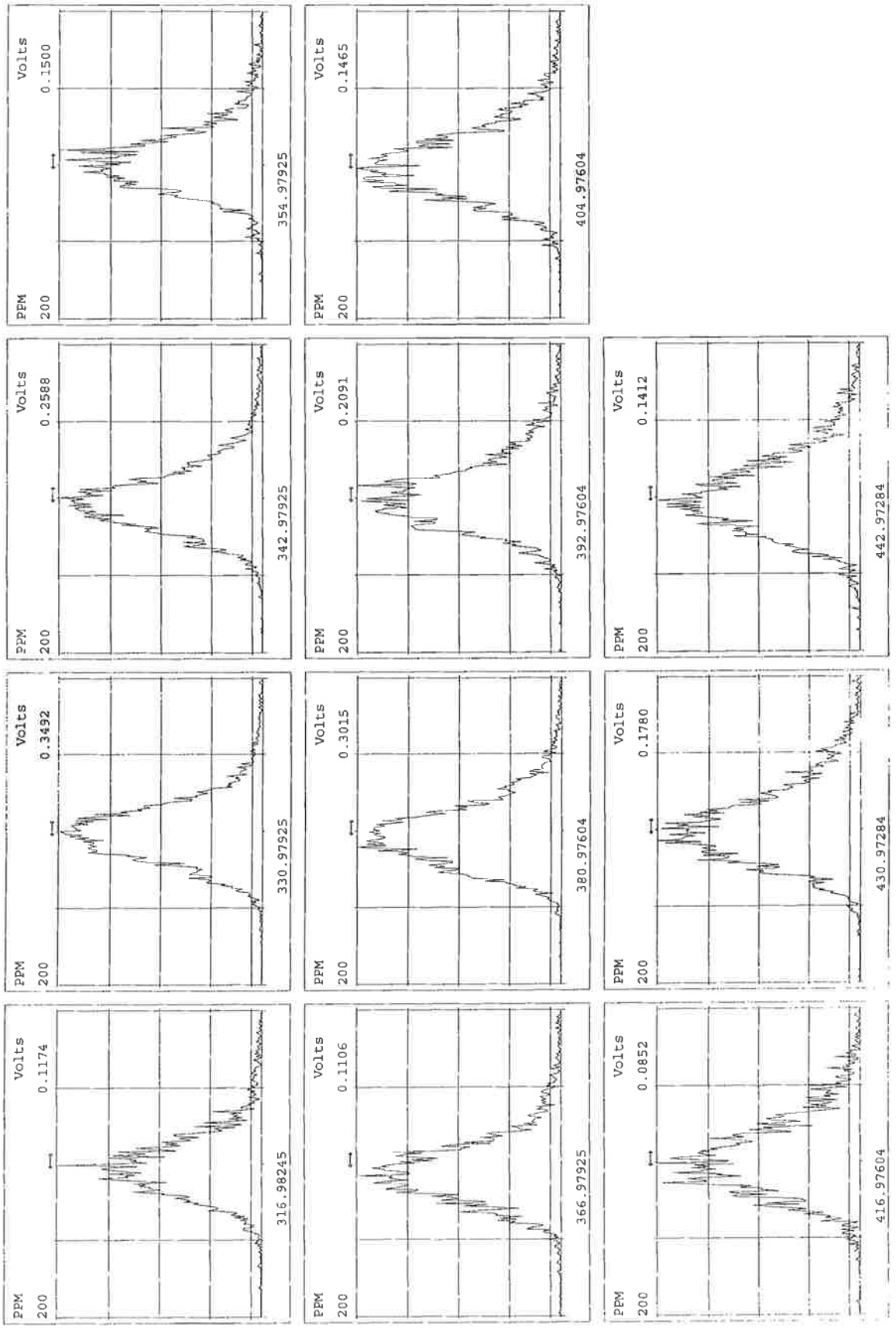
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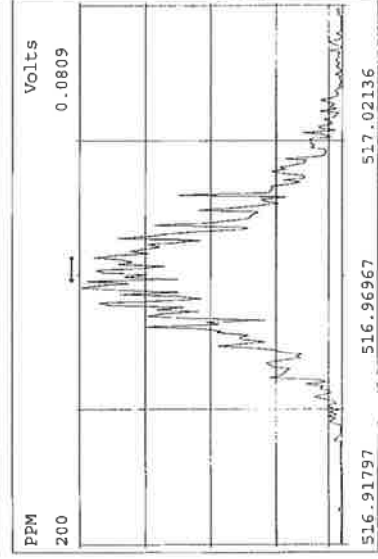
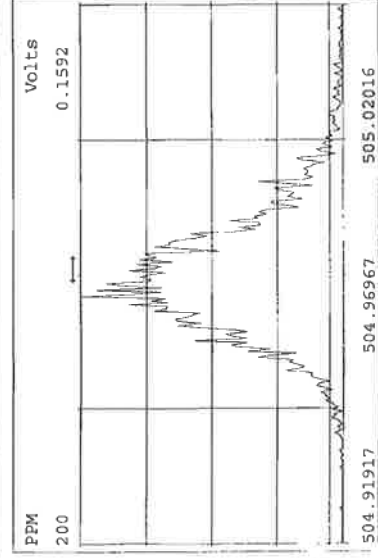
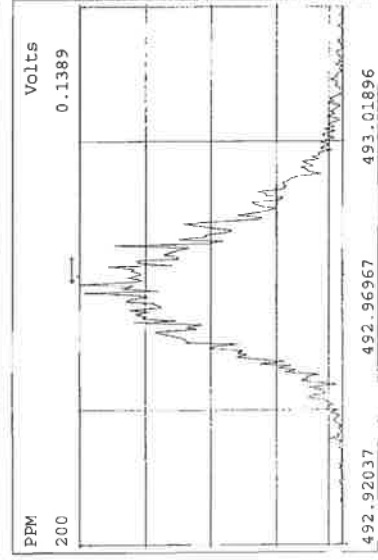
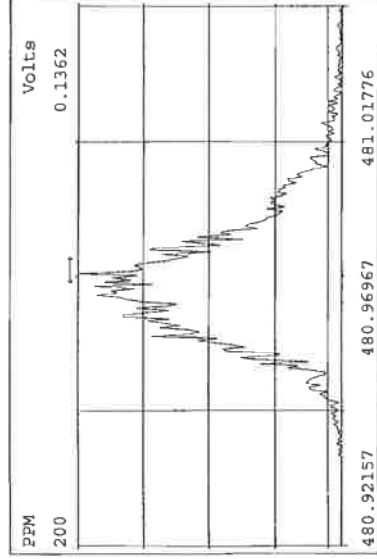
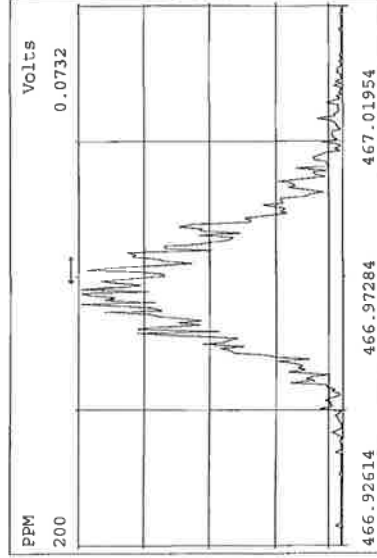
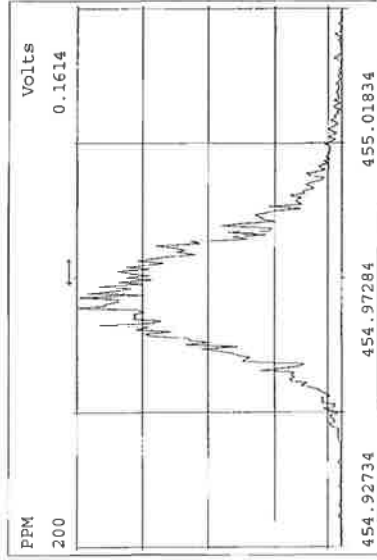
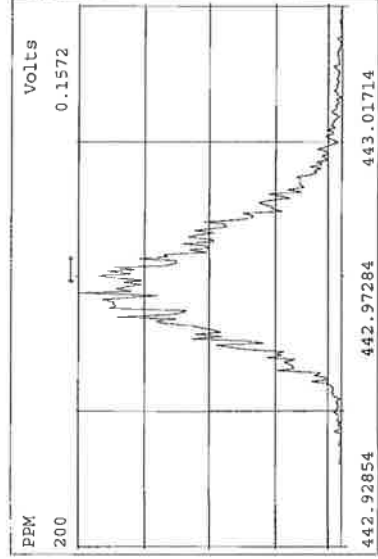
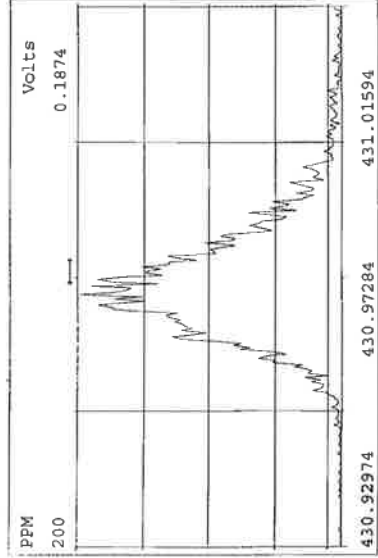
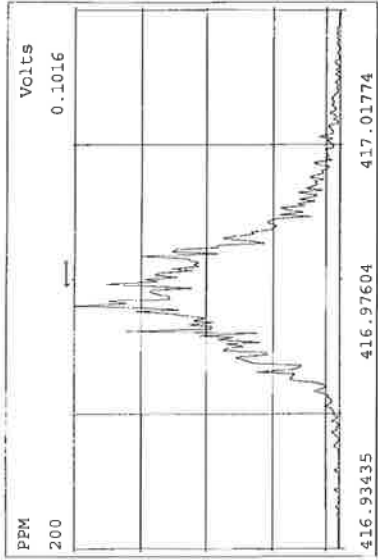
Peak Locate Examination:19-APR-2016:09:54 File:160419E1
Experiment:PCB_ZB1 Function:3 Reference:PFK



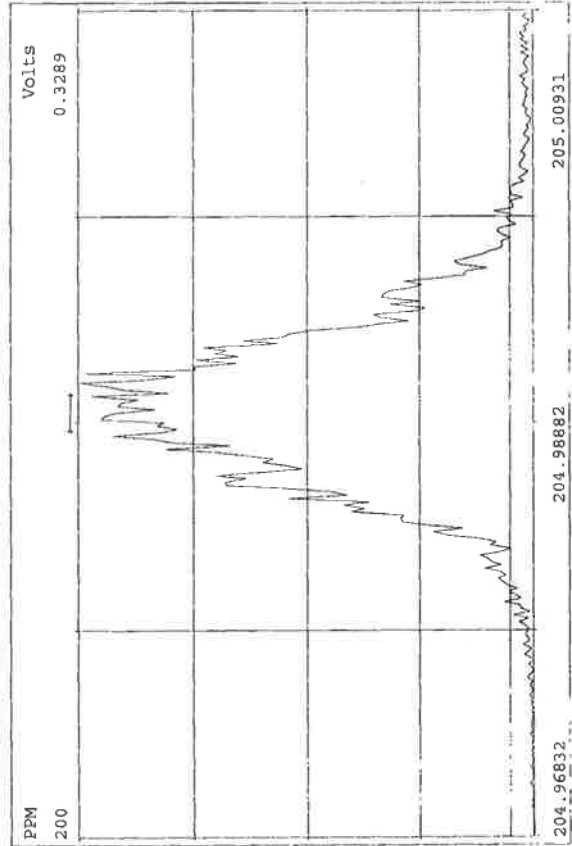
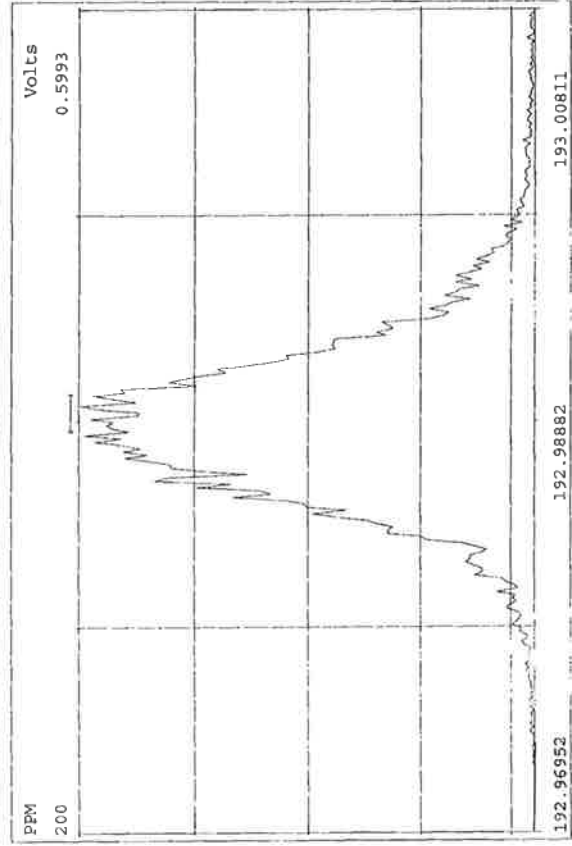
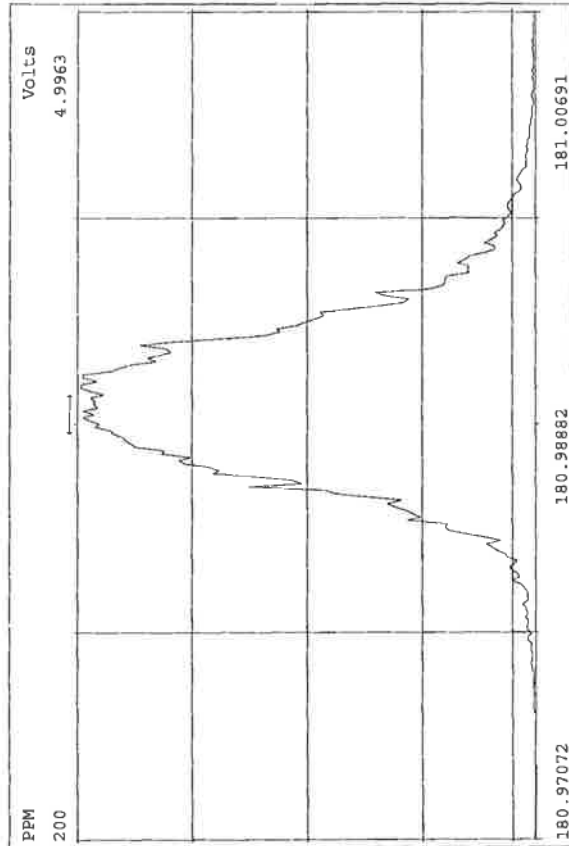
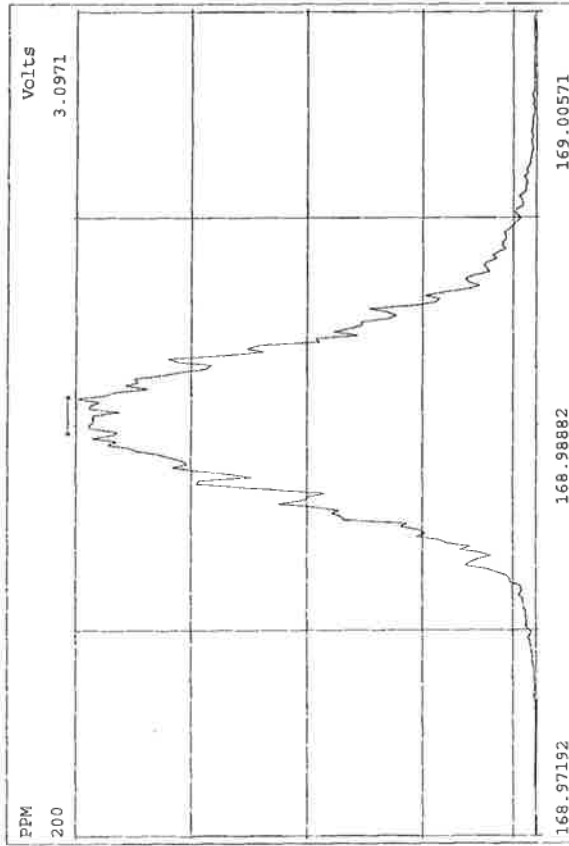
Peak Locate Examination:19-APR-2016:09:54 File:160419E1
Experiment:PCB_ZBI Function:4 Reference:PFK



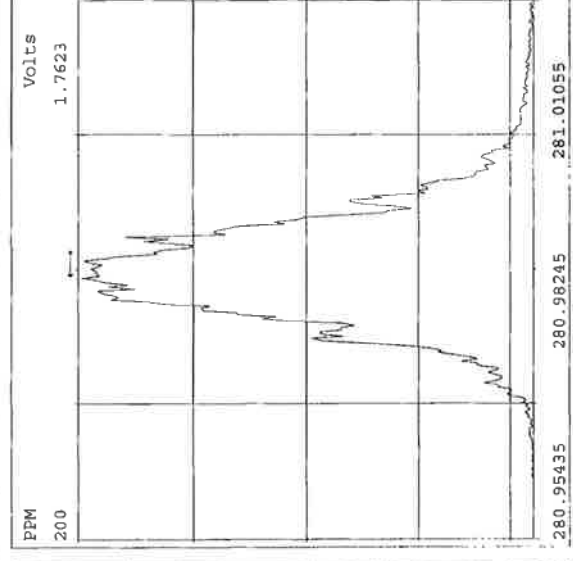
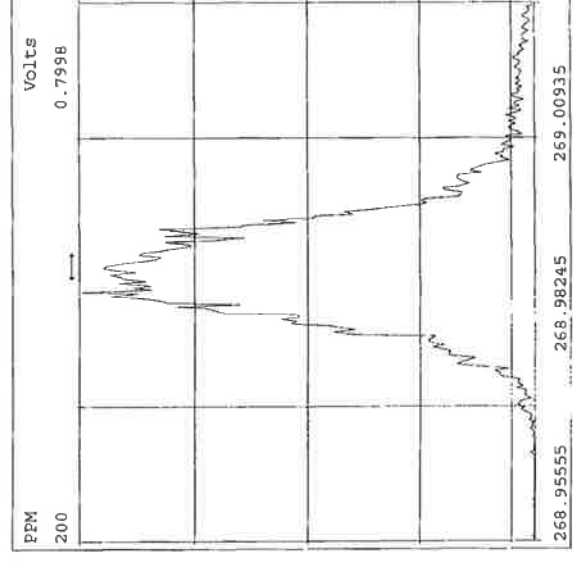
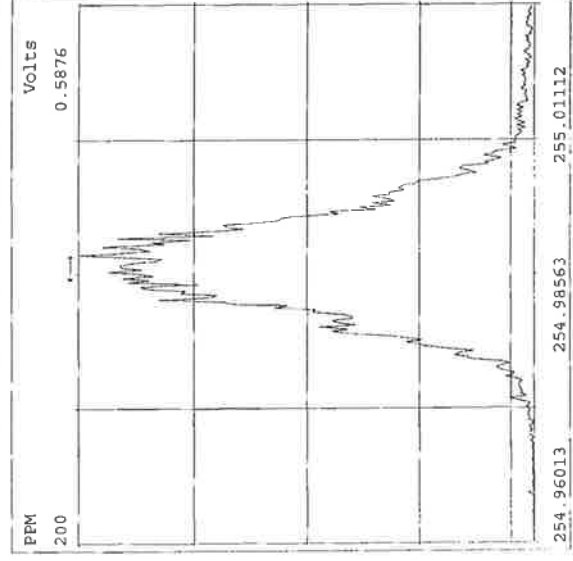
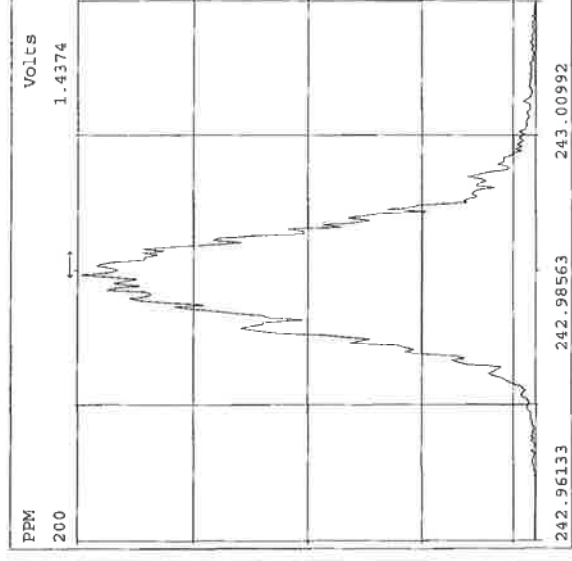
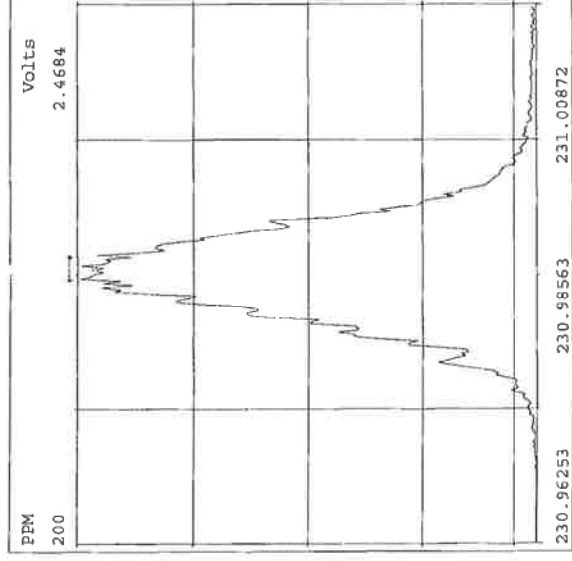
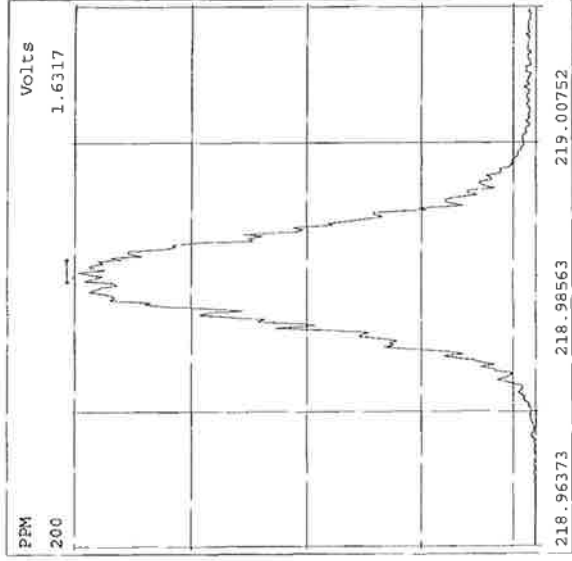
Peak Locate Examination:19-APR-2016:09:55 File:160419E1
Experiment:PCB_Z31 Function:5 Reference:PFK



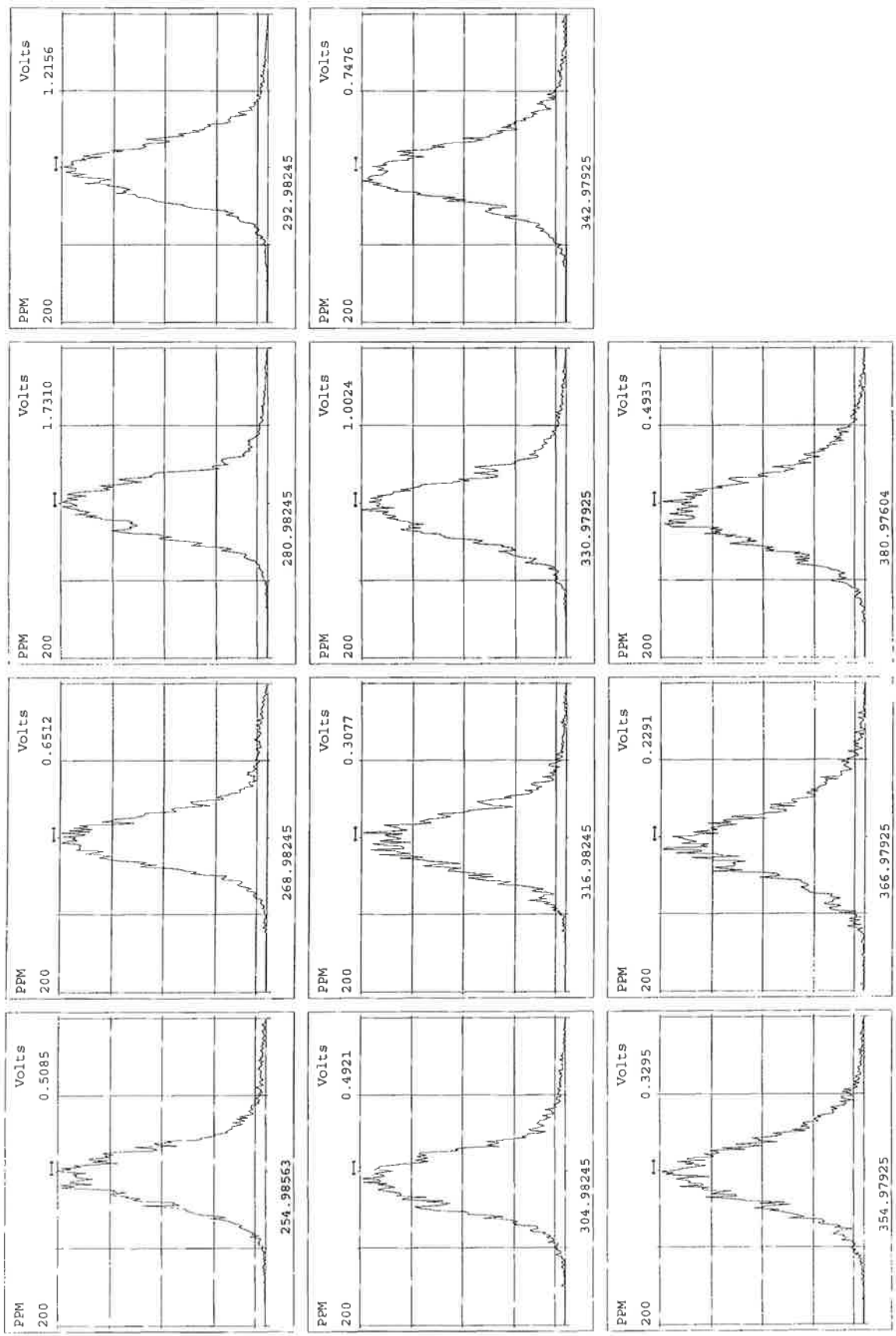
Peak Locate Examination: 20-APR-2016:14:30 File: 160420E2
Experiment: PCB_ZB1 Function: 1 Reference: PFK



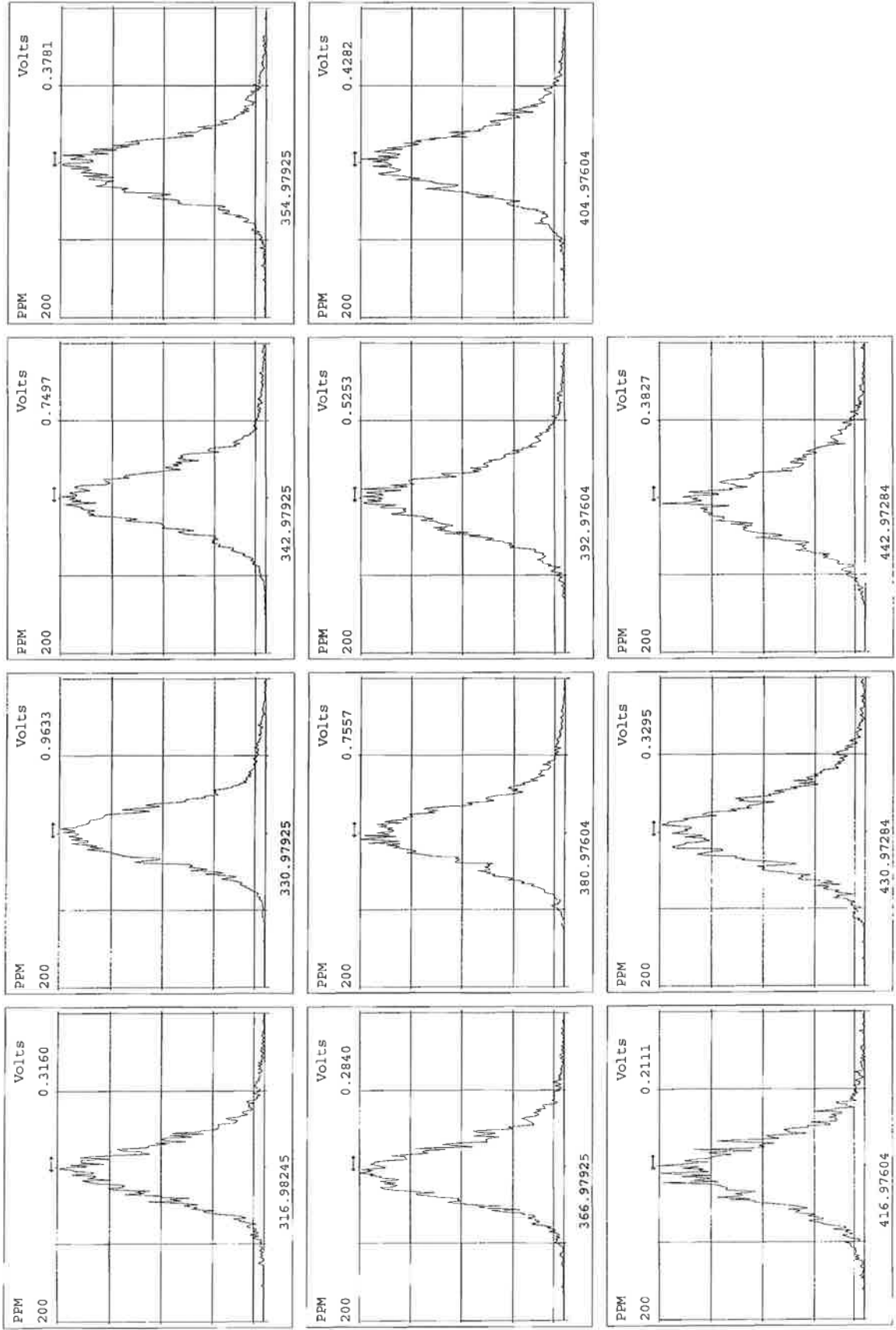
Peak Locate Examination:20-APR-2016:14:30 File:160420E2
Experiment:PCB_ZBI Function:2 Reference:PFK



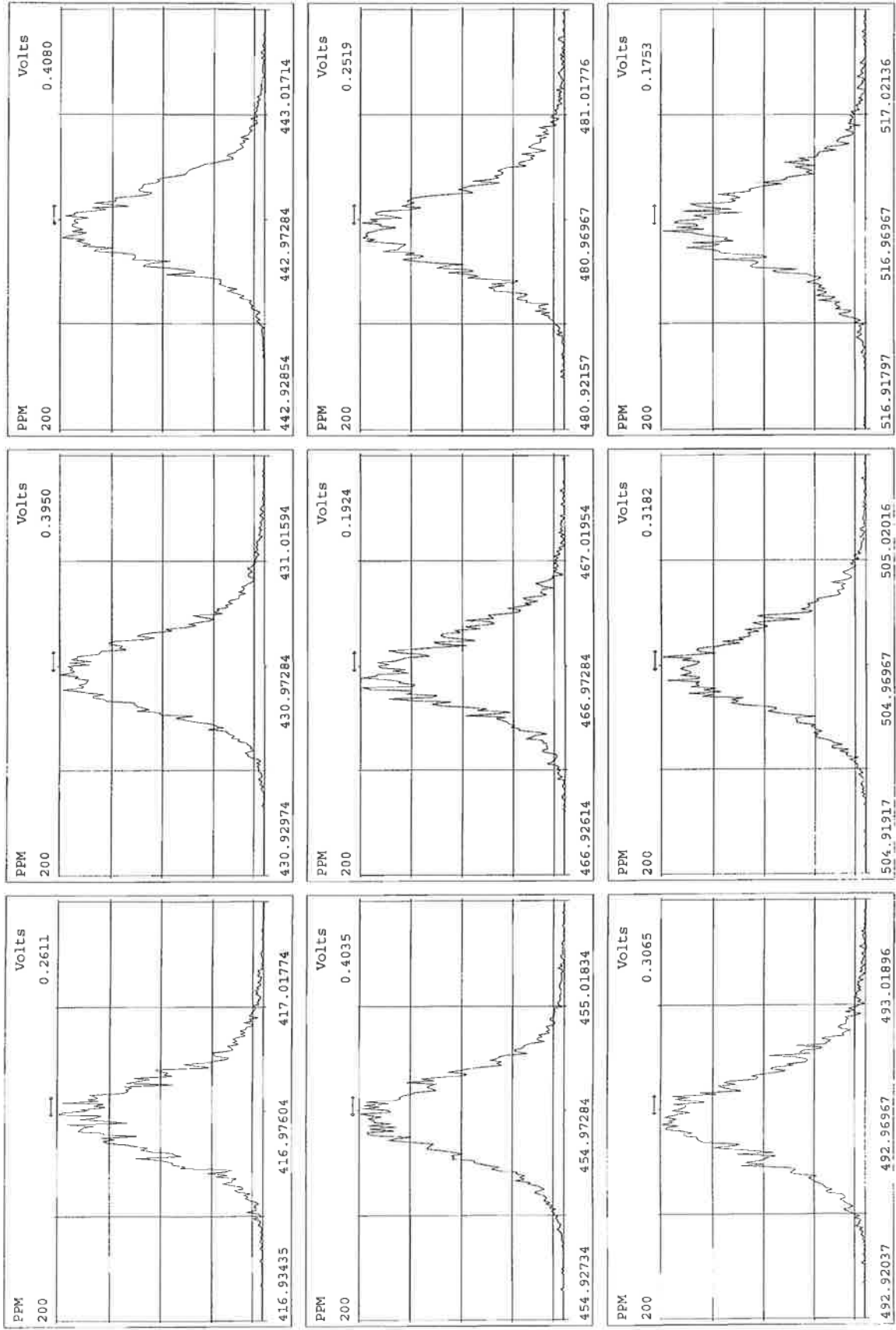
Peak Locate Examination:20-APR-2016:14:30 File:160420E2
Experiment:PCB_ZB1 Function:3 Reference:PFK



Peak Locate Examination:20-APR-2016:14:32 File:160420E2
Experiment:PCB_ZEI Function:4 Reference:PFK



Peak Locate Examination: 20-APR-2016:14:32 File: 160420E2
 Experiment: PCB_ZB1 Function: 5 Reference: PFK



Vista Analytical Laboratory - Injection Log Run file: 161109E1 Instrument ID: VG-8 GC Column ID: ZB-1

Data file #	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
161109E1 1	ST161109E1-1	DB	9-NOV-16	11:46:09	ST161109E1-1	NA
161109E1 2	B6K0046-B51	DB	9-NOV-16	12:51:15	ST161109E1-1	NA
161109E1 3	SOLVENT BLANK	DB	9-NOV-16	13:56:22	ST161109E1-1	NA
161109E1 4	B6K0046-BLK1	DB	9-NOV-16	15:01:28	ST161109E1-1	NA
161109E1 5	1601354-01	DB	9-NOV-16	16:06:34	ST161109E1-1	NA
161109E1 6	1601354-02	DB	9-NOV-16	17:11:41	ST161109E1-1	NA
161109E1 7	1601354-03	DB	9-NOV-16	18:16:47	ST161109E1-1	NA
161109E1 8	1601354-04	DB	9-NOV-16	19:21:54	ST161109E1-1	NA
161109E1 9	1601354-05	DB	9-NOV-16	20:26:59	ST161109E1-1	NA
161109E1 10	1601354-06	DB	9-NOV-16	21:32:05	ST161109E1-1	NA
161109E1 11	1601354-07	DB	9-NOV-16	22:37:09	ST161109E1-1	NA
161109E1 12	SOLVENT BLANK	DB	9-NOV-16	23:42:17	ST161109E1-1	NA

NATIVE 1668A CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161109E1-1 Instrument ID: VG-8

Initial Calibration Date: 4-19-16 ICal ID: PCBVG8-4-19-16 GC Column ID: 2B-1

VER Data Filename: 161109E1 S#1 Analysis Date: 9-NOV-16 Time: 11:46:09

ANALYTES	ION ABUND. RATIO		QC LIMITS		PASS	CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS		PASS	CONC. FOUND	CONC. RANGE (ng/mL)
	ABUND. RATIO	LIMITS	ABUND. RATIO	LIMITS						ABUND. RATIO	LIMITS			
PCB-1	3.11	2.66-3.60	Y	60.7	35.0-65.0	Y	PCB-52/69	0.79	0.65-0.89	Y	102.8	70.0-130		
PCB-2	3.12	2.66-3.60	Y	60.6	35.0-65.0	Y	PCB-73	0.80	0.65-0.89	Y	48.3	35.0-65.0		
PCB-3	3.09	2.66-3.60	Y	60.3	35.0-65.0	Y	PCB-43/49	0.80	0.65-0.89	Y	91.1	70.0-130		
PCB-4/10	1.55	1.33-1.79	Y	93.0	70.0-130	Y	PCB-47	0.79	0.65-0.89	Y	44.6	35.0-65.0		
PCB-7/9	1.57	1.33-1.79	Y	87.7	70.0-130	Y	PCB-48/75	0.80	0.65-0.89	Y	104.8	70.0-130		
PCB-6	1.57	1.33-1.79	Y	45.3	35.0-65.0	Y	PCB-65	0.79	0.65-0.89	Y	54.3	35.0-65.0		
PCB-5/8	1.57	1.33-1.79	Y	89.6	70.0-130	Y	PCB-62	0.80	0.65-0.89	Y	47.5	35.0-65.0		
PCB-14	1.56	1.33-1.79	Y	43.3	35.0-65.0	Y	PCB-44	0.80	0.65-0.89	Y	50.7	35.0-65.0		
PCB-11	1.57	1.33-1.79	Y	42.7	35.0-65.0	Y	PCB-42/59	0.80	0.65-0.89	Y	103.2	70.0-130		
PCB-12/13	1.55	1.33-1.79	Y	88.9	70.0-130	Y	PCB-41/64/71/72	0.79	0.65-0.89	Y	203.8	140-260		
PCB-15	1.56	1.33-1.79	Y	44.2	35.0-65.0	Y	PCB-68	0.78	0.65-0.89	Y	52.8	35.0-65.0		
PCB-19	1.06	0.88-1.20	Y	54.2	35.0-65.0	Y	PCB-40	0.79	0.65-0.89	Y	50.8	35.0-65.0		
PCB-30	1.06	0.88-1.20	Y	58.3	35.0-65.0	Y	PCB-57	0.79	0.65-0.89	Y	48.9	35.0-65.0		
PCB-18	1.05	0.88-1.20	Y	56.2	35.0-65.0	Y	PCB-67	0.79	0.65-0.89	Y	49.8	35.0-65.0		
PCB-17	1.07	0.88-1.20	Y	55.8	35.0-65.0	Y	PCB-58	0.79	0.65-0.89	Y	49.9	35.0-65.0		
PCB-24/27	1.07	0.88-1.20	Y	117.5	70.0-130	Y	PCB-63	0.79	0.65-0.89	Y	49.5	35.0-65.0		
PCB-16/32	1.06	0.88-1.20	Y	111.2	70.0-130	Y	PCB-74	0.78	0.65-0.89	Y	52.1	35.0-65.0		
PCB-34	1.03	0.88-1.20	Y	52.7	35.0-65.0	Y	PCB-61/70	0.79	0.65-0.89	Y	100.4	70.0-130		
PCB-23	1.05	0.88-1.20	Y	59.6	35.0-65.0	Y	PCB-76/66	0.79	0.65-0.89	Y	103.0	70.0-130		
PCB-29	1.02	0.88-1.20	Y	56.4	35.0-65.0	Y	PCB-80	0.80	0.65-0.89	Y	49.8	35.0-65.0		
PCB-26	1.04	0.88-1.20	Y	53.3	35.0-65.0	Y	PCB-55	0.79	0.65-0.89	Y	52.1	35.0-65.0		
PCB-25	1.03	0.88-1.20	Y	51.5	35.0-65.0	Y	PCB-56/60	0.79	0.65-0.89	Y	100.2	70.0-130		
PCB-31	1.01	0.88-1.20	Y	48.5	35.0-65.0	Y	PCB-79	0.78	0.65-0.89	Y	52.2	35.0-65.0		
PCB-28	1.03	0.88-1.20	Y	45.6	35.0-65.0	Y	PCB-78	0.79	0.65-0.89	Y	52.9	35.0-65.0		
PCB-20/21/33	1.02	0.88-1.20	Y	138.3	105-195	Y	PCB-81	0.79	0.65-0.89	Y	51.4	35.0-65.0		
PCB-22	1.02	0.88-1.20	Y	47.2	35.0-65.0	Y	PCB-77	0.79	0.65-0.89	Y	50.7	35.0-65.0		
PCB-36	1.02	0.88-1.20	Y	38.9	35.0-65.0	Y	PCB-104	1.60	1.32-1.78	Y	48.2	35.0-65.0		
PCB-39	1.03	0.88-1.20	Y	39.8	35.0-65.0	Y	PCB-96	1.63	1.32-1.78	Y	48.9	35.0-65.0		
PCB-38	1.03	0.88-1.20	Y	40.8	35.0-65.0	Y	PCB-103	1.59	1.32-1.78	Y	51.0	35.0-65.0		
PCB-35	1.03	0.88-1.20	Y	40.7	35.0-65.0	Y	PCB-100	1.60	1.32-1.78	Y	51.6	35.0-65.0		
PCB-37	1.03	0.88-1.20	Y	42.8	35.0-65.0	Y	PCB-94	1.63	1.32-1.78	Y	50.6	35.0-65.0		
PCB-54	0.79	0.65-0.89	Y	49.6	35.0-65.0	Y	PCB-95/98/102	1.61	1.32-1.78	Y	153.7	105-195		
PCB-50	0.79	0.65-0.89	Y	47.6	35.0-65.0	Y	PCB-93	1.55	1.32-1.78	Y	43.1	35.0-65.0		
PCB-53	0.79	0.65-0.89	Y	46.9	35.0-65.0	Y	PCB-88/91	1.60	1.32-1.78	Y	104.9	70.0-130		
PCB-51	0.79	0.65-0.89	Y	47.0	35.0-65.0	Y	PCB-121	1.63	1.32-1.78	Y	47.4	35.0-65.0		
PCB-45	0.79	0.65-0.89	Y	48.9	35.0-65.0	Y								
PCB-46	0.79	0.65-0.89	Y	47.5	35.0-65.0	Y								

Analyst: *DB*

Date: 11/10/16

NATIVE PCB CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161109E1-1 Instrument ID: VG-8

Initial Calibration Date: 4-19-16 Ical ID: PCBVG8-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161109E1 SH1 Analysis Date: 9-NOV-16 Time: 11:46:09

ANALYTES	ION QC		CONC. FOUND	CONC. RANGE (ng/mL)	PASS	ANALYTES	ION QC	CONC. FOUND	CONC. RANGE (ng/mL)	PASS
	ABUND. RATIO	LIMITS								
PCB-84/92	1.61	1.32-1.78	99.2	70.0-130	Y	PCB-140	1.27	1.05-1.43	48.2	35.0-65.0
PCB-89	1.58	1.32-1.78	48.8	35.0-65.0	Y	PCB-134/143	1.26	1.05-1.43	102.6	70.0-130
PCB-90/101	1.58	1.32-1.78	98.7	70.0-130	Y	PCB-133/142	1.27	1.05-1.43	106.8	70.0-130
PCB-113	1.59	1.32-1.78	48.7	35.0-65.0	Y	PCB-131	1.26	1.05-1.43	49.3	35.0-65.0
PCB-99	1.62	1.32-1.78	50.2	35.0-65.0	Y	PCB-146/165	1.26	1.05-1.43	101.7	70.0-130
PCB-119	1.60	1.32-1.78	50.2	35.0-65.0	Y	PCB-132/161	1.26	1.05-1.43	97.8	70.0-130
PCB-106/112	1.64	1.32-1.78	97.4	70.0-130	Y	PCB-153	1.25	1.05-1.43	48.2	35.0-65.0
PCB-83	1.55	1.32-1.78	50.0	35.0-65.0	Y	PCB-168	1.26	1.05-1.43	47.9	35.0-65.0
PCB-97	1.59	1.32-1.78	49.6	35.0-65.0	Y	PCB-141	1.25	1.05-1.43	48.1	35.0-65.0
PCB-86	1.64	1.32-1.78	56.0	35.0-65.0	Y	PCB-137	1.25	1.05-1.43	48.3	35.0-65.0
PCB-87/117/125	1.60	1.32-1.78	145.1	105-195	Y	PCB-130	1.27	1.05-1.43	51.1	35.0-65.0
PCB-111/115	1.61	1.32-1.78	99.2	70.0-130	Y	PCB-138/163/164	1.26	1.05-1.43	149.8	105-195
PCB-85/116	1.61	1.32-1.78	94.1	70.0-130	Y	PCB-158/160	1.27	1.05-1.43	102.7	70.0-130
PCB-120	1.59	1.32-1.78	50.1	35.0-65.0	Y	PCB-129	1.26	1.05-1.43	48.7	35.0-65.0
PCB-110	1.59	1.32-1.78	45.8	35.0-65.0	Y	PCB-166	1.24	1.05-1.43	48.0	35.0-65.0
PCB-82	1.61	1.32-1.78	47.5	35.0-65.0	Y	PCB-159	1.24	1.05-1.43	47.5	35.0-65.0
PCB-124	1.57	1.32-1.78	48.0	35.0-65.0	Y	PCB-128/162	1.25	1.05-1.43	95.8	70.0-130
PCB-107/109	1.60	1.32-1.78	99.7	70.0-130	Y	PCB-167	1.25	1.05-1.43	49.4	35.0-65.0
PCB-123	1.59	1.32-1.78	46.5	35.0-65.0	Y	PCB-156	1.25	1.05-1.43	48.2	35.0-65.0
PCB-106/118	1.62	1.32-1.78	99.0	70.0-130	Y	PCB-157	1.25	1.05-1.43	49.9	35.0-65.0
PCB-114	1.56	1.32-1.78	48.9	35.0-65.0	Y	PCB-169	1.25	1.05-1.43	48.6	35.0-65.0
PCB-122	1.58	1.32-1.78	47.9	35.0-65.0	Y	PCB-188	1.07	0.89-1.21	46.4	35.0-65.0
PCB-105	1.56	1.32-1.78	46.2	35.0-65.0	Y	PCB-184	1.07	0.89-1.21	47.2	35.0-65.0
PCB-127	1.59	1.32-1.78	45.6	35.0-65.0	Y	PCB-179	1.06	0.89-1.21	48.9	35.0-65.0
PCB-126	1.58	1.32-1.78	45.0	35.0-65.0	Y	PCB-176	1.06	0.89-1.21	47.6	35.0-65.0
PCB-155	1.28	1.05-1.43	45.9	35.0-65.0	Y	PCB-182/187	1.07	0.89-1.21	93.4	70.0-130
PCB-150	1.28	1.05-1.43	47.4	35.0-65.0	Y	PCB-183	1.08	0.89-1.21	46.8	35.0-65.0
PCB-152	1.26	1.05-1.43	45.8	35.0-65.0	Y	PCB-185	1.05	0.89-1.21	48.3	35.0-65.0
PCB-145	1.25	1.05-1.43	45.5	35.0-65.0	Y	PCB-174	1.05	0.89-1.21	48.8	35.0-65.0
PCB-136	1.28	1.05-1.43	45.6	35.0-65.0	Y	PCB-181	1.07	0.89-1.21	45.0	35.0-65.0
PCB-148	1.28	1.05-1.43	49.4	35.0-65.0	Y	PCB-177	1.05	0.89-1.21	46.7	35.0-65.0
PCB-154	1.27	1.05-1.43	48.8	35.0-65.0	Y	PCB-171	1.08	0.89-1.21	45.9	35.0-65.0
PCB-151	1.28	1.05-1.43	49.7	35.0-65.0	Y	PCB-173	1.06	0.89-1.21	46.7	35.0-65.0
PCB-135	1.26	1.05-1.43	52.6	35.0-65.0	Y	PCB-172	1.06	0.89-1.21	47.9	35.0-65.0
PCB-144	1.27	1.05-1.43	45.3	35.0-65.0	Y					
PCB-147	1.26	1.05-1.43	48.5	35.0-65.0	Y					
PCB-139/149	1.27	1.05-1.43	93.9	70.0-130	Y					

Analyst: *DB*

Date: 11/10/16

NATIVE PCB CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161109E1-1 Instrument ID: VG-8

Initial Calibration Date: 4-19-16 Ical ID: PCBVG8-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161109E1 S#1 Analysis Date: 9-NOV-16 Time: 11:46:09

ANALYTES	ION	QC	ASUND. RATIO	LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
PCB-192	1.07	0.89-1.21	Y	47.2	35.0-65.0		
PCB-180	1.07	0.89-1.21	Y	46.0	35.0-65.0		
PCB-193	1.07	0.89-1.21	Y	47.9	35.0-65.0		
PCB-191	1.09	0.89-1.21	Y	48.2	35.0-65.0		
PCB-170	1.06	0.89-1.21	Y	47.0	35.0-65.0		
PCB-190	1.07	0.89-1.21	Y	47.6	35.0-65.0		
PCB-189	1.06	0.89-1.21	Y	47.9	35.0-65.0		
PCB-202	0.92	0.76-1.02	Y	46.6	35.0-65.0		
PCB-201	0.90	0.76-1.02	Y	48.8	35.0-65.0		
PCB-204	0.92	0.76-1.02	Y	48.0	35.0-65.0		
PCB-197	0.92	0.76-1.02	Y	48.8	35.0-65.0		
PCB-200	0.93	0.76-1.02	Y	47.9	35.0-65.0		
PCB-198	0.92	0.76-1.02	Y	50.9	35.0-65.0		
PCB-199	0.92	0.76-1.02	Y	48.1	35.0-65.0		
PCB-196/203	0.91	0.76-1.02	Y	96.2	70.0-130		
PCB-195	0.90	0.76-1.02	Y	45.6	35.0-65.0		
PCB-194	0.88	0.76-1.02	Y	40.7	35.0-65.0		
PCB-205	0.89	0.75-1.02	Y	39.4	35.0-65.0		
PCB-208	1.32	1.14-1.54	Y	44.3	35.0-65.0		
PCB-207	1.32	1.14-1.54	Y	45.4	35.0-65.0		
PCB-206	1.32	1.14-1.54	Y	43.9	35.0-65.0		
PCB-209	1.18	0.99-1.34	Y	46.6	35.0-65.0		

Analyst: DB

Date: 11/10/16

LABELED 1668A CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161109E1-1 Instrument ID: VG-8
 Initial Calibration Date: 4-19-16 ICal ID: PCBV68-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161109E1 SH1 Analysis Date: 9-NOV-16 Time: 11:46:09

LABELED IS	ION ABUND.		QC LIMITS	PASS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)	LABELLED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
	RATIO	RANGE										
13C-PCB-1	3.22	2.66-3.60	Y	Y	67.2	50.0-150	13C-PCB-169	1.28	1.05-1.43	Y	105.0	50 - 150
13C-PCB-3	3.22	2.66-3.60	Y	Y	71.0	50.0-150	13C-PCB-188	0.46	0.38-0.52	Y	84.1	50 - 150
13C-PCB-4	1.55	1.33-1.79	Y	Y	87.9	50.0-150	13C-PCB-180	0.45	0.38-0.52	Y	84.6	50 - 150
13C-PCB-9	1.54	1.33-1.79	Y	Y	93.3	50.0-150	13C-PCB-170	0.45	0.38-0.52	Y	83.1	50 - 150
13C-PCB-11	1.52	1.33-1.79	Y	Y	99.6	50.0-150	13C-PCB-189	0.45	0.38-0.52	Y	83.4	50 - 150
13C-PCB-19	1.07	0.88-1.20	Y	Y	68.9	50.0-150	13C-PCB-202	0.91	0.76-1.02	Y	71.1	50 - 150
13C-PCB-32	1.08	0.88-1.20	Y	Y	71.8	50.0-150	13C-PCB-194	0.90	0.76-1.02	Y	109.1	50 - 150
13C-PCB-28	1.05	0.88-1.20	Y	Y	87.6	50.0-150	13C-PCB-208	0.78	0.65-0.89	Y	123.5	50 - 150
13C-PCB-37	1.03	0.88-1.20	Y	Y	104.1	50.0-150	13C-PCB-206	0.77	0.65-0.89	Y	104.9	50 - 150
13C-PCB-54	0.80	0.65-0.89	Y	Y	86.9	50.0-150	13C-PCB-209	1.20	0.99-1.33	Y	80.3	50 - 150
13C-PCB-52	0.78	0.65-0.89	Y	Y	91.1	50.0-150						
13C-PCB-47	0.80	0.65-0.89	Y	Y	90.9	50.0-150						
13C-PCB-70	0.81	0.65-0.89	Y	Y	99.3	50.0-150						
13C-PCB-80	0.80	0.65-0.89	Y	Y	99.5	50.0-150						
13C-PCB-81	0.81	0.65-0.89	Y	Y	106.5	50.0-150						
13C-PCB-77	0.82	0.65-0.89	Y	Y	107.1	50.0-150						
13C-PCB-104	1.58	1.32-1.78	Y	Y	94.2	50.0-150						
13C-PCB-95	1.63	1.32-1.78	Y	Y	95.9	50.0-150						
13C-PCB-101	1.61	1.32-1.78	Y	Y	98.7	50.0-150						
13C-PCB-97	1.61	1.32-1.78	Y	Y	101.1	50.0-150						
13C-PCB-123	1.59	1.32-1.78	Y	Y	105.2	50.0-150						
13C-PCB-118	1.61	1.32-1.78	Y	Y	101.2	50.0-150						
13C-PCB-114	1.58	1.32-1.78	Y	Y	111.3	50.0-150						
13C-PCB-105	1.56	1.32-1.78	Y	Y	106.3	50.0-150						
13C-PCB-127	1.55	1.32-1.78	Y	Y	102.7	50.0-150						
13C-PCB-126	1.56	1.32-1.78	Y	Y	105.1	50.0-150						
13C-PCB-155	1.29	1.05-1.43	Y	Y	86.8	50.0-150						
13C-PCB-153	1.29	1.05-1.43	Y	Y	103.5	50.0-150						
13C-PCB-141	1.29	1.05-1.43	Y	Y	102.9	50.0-150						
13C-PCB-138	1.28	1.05-1.43	Y	Y	101.6	50.0-150						
13C-PCB-159	1.27	1.05-1.43	Y	Y	104.6	50.0-150						
13C-PCB-167	1.28	1.05-1.43	Y	Y	102.1	50.0-150						
13C-PCB-156	1.29	1.05-1.43	Y	Y	106.1	50.0-150						
13C-PCB-157	1.27	1.05-1.43	Y	Y	101.7	50.0-150						

CRS vs. RS

PS vs. IS

Analyst: DB
 Date: 11/10/16

Client ID: PCB CS3 1610203
Lab ID: ST161109E1-1
Filename: 161109E1 S:1 Acq: 9-NOV-16 11:46:09 ConCal: ST161109E1-1
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.0000 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	1.29e+08	3.11	1.06	16:04	1.001	0.997-1.007	60.6805	102.755	PCB-52/69	2.29e+08	0.79	1.308	31:32	1.001	0.996-1.006	102.755	
PCB-2	1.33e+08	3.12	0.99	18:28	0.988	0.983-0.993	60.5957	48.2976	PCB-73	1.20e+08	0.80	1.454	31:40	1.005	0.999-1.009	48.2976	
PCB-3	1.37e+08	3.09	1.02	18:42	1.001	0.996-1.006	60.3409	91.1160	PCB-43/49	1.99e+08	0.80	1.279	31:49	1.010	1.005-1.015	91.1160	
								44.5552	PCB-47	9.79e+07	0.79	1.222	32:01	1.000	0.996-1.006	44.5552	
PCB-4/10	1.88e+08	1.55	1.41	20:05	1.003	0.997-1.007	93.0164	104.846	PCB-48/75	2.50e+08	0.80	1.324	32:08	1.004	0.999-1.009	104.846	
PCB-7/9	2.37e+08	1.57	1.13	21:52	0.867	0.864-0.872	87.6534	54.3224	PCB-65	1.24e+08	0.79	1.273	32:24	1.012	1.007-1.017	54.3224	
PCB-6	1.17e+08	1.57	1.08	22:31	0.893	0.888-0.897	45.3016	47.5183	PCB-62	1.16e+08	0.80	1.358	32:31	1.016	1.011-1.021	47.5183	
PCB-5/8	2.44e+08	1.57	1.14	22:56	0.910	0.905-0.915	89.5573	50.7000	PCB-44	8.58e+07	0.80	0.941	32:49	1.025	1.020-1.030	50.7000	
PCB-14	1.45e+08	1.56	1.32	24:02	0.953	0.948-0.958	43.2764	103.151	PCB-42/59	2.35e+08	0.80	1.267	33:03	1.032	1.027-1.037	103.151	
PCB-11	1.27e+08	1.57	1.18	25:14	1.001	0.995-1.005	42.6500	203.841	PCB-41/64/71/72	4.91e+08	0.79	1.338	33:58	1.051	1.045-1.055	203.841	
PCB-12/13	2.57e+08	1.55	1.14	25:38	1.017	1.011-1.021	88.9312	52.8221	PCB-68	1.45e+08	0.78	1.526	33:54	1.059	1.053-1.063	52.8221	
PCB-15	1.44e+08	1.56	1.29	25:56	1.029	1.023-1.031	44.1530	50.7503	PCB-40	7.89e+07	0.79	0.864	34:06	1.066	1.061-1.071	50.7503	
PCB-19	7.95e+07	1.06	1.23	24:13	1.001	0.996-1.006	54.2123	48.8851	PCB-57	1.35e+08	0.79	1.119	34:28	0.971	0.965-0.975	48.8851	
PCB-30	1.30e+08	1.06	1.88	25:07	1.038	1.033-1.043	58.3066	49.8170	PCB-67	1.34e+08	0.79	1.097	34:46	0.979	0.974-0.984	49.8170	
PCB-18	9.04e+07	1.05	0.90	25:52	0.954	0.949-0.959	56.2106	49.9302	PCB-58	1.42e+08	0.79	1.157	34:53	0.982	0.977-0.987	49.9302	
PCB-17	9.72e+07	1.07	0.98	26:02	0.960	0.956-0.966	55.8281	49.4741	PCB-63	1.46e+08	0.79	1.199	35:02	0.987	0.981-0.991	49.4741	
PCB-24/27	2.66e+08	1.07	1.27	26:37	0.981	0.977-0.987	117.483	52.1138	PCB-74	1.50e+08	0.78	1.172	35:19	0.995	0.989-0.999	52.1138	
PCB-16/32	2.13e+08	1.06	1.07	27:07	1.000	0.996-1.006	111.207	100.374	PCB-61/70	2.80e+08	0.79	1.132	35:30	1.000	0.995-1.005	100.374	
PCB-34	1.17e+08	1.03	0.97	27:55	0.960	0.955-0.965	52.7165	103.004	PCB-76/66	2.89e+08	0.79	1.141	35:43	1.006	1.000-1.010	103.004	
PCB-23	1.17e+08	1.05	0.86	28:01	0.963	0.958-0.968	59.6305	49.7628	PCB-80	1.64e+08	0.80	1.305	35:58	1.001	0.995-1.005	49.7628	
PCB-29	1.22e+08	1.02	0.95	28:15	0.971	0.967-0.977	56.3656	52.1138	PCB-55	1.53e+08	0.79	1.160	36:16	1.009	1.004-1.014	52.1138	
PCB-26	1.18e+08	1.04	0.97	28:29	0.979	0.974-0.984	53.3205	100.190	PCB-56/60	2.87e+08	0.79	1.137	36:46	1.023	1.018-1.028	100.190	
PCB-25	1.09e+08	1.03	0.93	28:38	0.984	0.980-0.990	51.4502	52.1632	PCB-79	1.54e+08	0.78	1.169	37:50	1.053	1.048-1.058	52.1632	
PCB-31	1.20e+08	1.01	1.09	29:00	0.997	0.992-1.002	48.5356	52.8802	PCB-78	1.54e+08	0.79	1.110	38:31	0.987	0.982-0.992	52.8802	
PCB-28	1.14e+08	1.03	1.10	29:05	1.000	0.996-1.006	45.6238	51.3708	PCB-81	1.62e+08	0.79	1.201	39:03	1.000	0.995-1.005	51.3708	
PCB-22	1.12e+08	1.02	1.04	29:43	1.022	1.016-1.026	138.308	50.6716	PCB-77	1.62e+08	0.79	1.237	39:38	1.000	0.995-1.005	50.6716	
PCB-36	1.14e+08	1.02	1.18	30:47	0.934	0.929-0.939	38.8686	48.2465	PCB-104	8.34e+07	1.60	1.305	32:40	1.000	0.996-1.006	48.2465	
PCB-39	1.24e+08	1.03	1.25	31:14	0.948	0.943-0.953	39.8497	48.9352	PCB-96	7.47e+07	1.63	1.153	33:55	1.039	1.034-1.044	48.9352	
PCB-38	1.16e+08	1.03	1.15	32:00	0.971	0.967-0.977	40.8001	50.9704	PCB-103	6.93e+07	1.59	1.027	34:28	1.056	1.051-1.061	50.9704	
PCB-35	1.18e+08	1.03	1.16	32:32	0.987	0.982-0.992	40.6924	51.5590	PCB-100	7.03e+07	1.60	1.029	34:50	1.067	1.061-1.071	51.5590	
PCB-37	1.32e+08	1.03	1.24	32:58	1.000	0.996-1.006	42.8385	50.6298	PCB-94	5.97e+07	1.63	1.178	35:18	0.986	0.980-0.990	50.6298	
PCB-54	1.13e+08	0.79	1.07	27:58	1.001	0.996-1.006	49.5852	153.711	PCB-95/98/102	2.01e+08	1.61	1.192	35:47	0.999	0.994-1.004	153.711	
PCB-50	9.09e+07	0.79	0.90	29:09	1.043	1.037-1.047	47.6214	43.1454	PCB-93	5.15e+07	1.55	1.136	35:55	1.003	0.998-1.008	43.1454	
PCB-53	9.33e+07	0.79	1.17	29:48	0.946	0.941-0.951	46.8971	104.924	PCB-88/91	1.29e+08	1.60	1.232	36:12	1.011	1.006-1.016	104.924	
PCB-51	9.45e+07	0.79	1.18	30:08	0.957	0.952-0.962	46.9774	47.4277	PCB-121	8.24e+07	1.63	1.737	36:20	1.014	1.009-1.019	47.4277	
PCB-45	8.79e+07	0.79	1.06	30:34	0.971	0.965-0.975	48.8844	99.2156	PCB-84/92	1.25e+08	1.61	1.158	37:08	0.990	0.985-0.995	99.2156	
PCB-46	7.99e+07	0.79	0.99	31:04	0.986	0.981-0.991	47.5079	48.8263	PCB-89	5.90e+07	1.58	1.107	37:19	0.995	0.990-1.000	48.8263	

Integrations
by Analyst: DB
Date: 11/10/16

Reviewed by Analyst: _____
Date: _____

Client ID: PCB CS3 16I0203
 Lab ID: ST161109E1-1
 File name: 161109E1 S:1 Acq: 9-NOV-16 11:46:09
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.0000 EndCAL: NA

ConCal: ST161109E1-1

Name	Resp	RA	RRF	RT	UCL	Conc	Name	Resp	RA	RRF	RT	UCL	Conc
PCB-90/101	1.37e+08	1.58	1.27	37:30	1.000	98.7431	PCB-133/142	1.82e+08	1.27	0.86	42:26	0.982	106.823
PCB-113	7.80e+07	1.59	1.47	37:45	1.007	48.7110	PCB-131	8.67e+07	1.26	0.89	42:35	0.985	49.2825
PCB-99	6.91e+07	1.62	1.26	37:50	1.009	50.1569	PCB-146/165	2.16e+08	1.26	1.07	42:49	0.991	101.736
PCB-119	9.48e+07	1.60	1.87	38:18	0.987	50.2095	PCB-132/161	2.17e+08	1.26	1.12	43:03	0.996	97.8205
PCB-108/112	1.41e+08	1.64	1.44	38:28	0.991	97.3781	PCB-153	1.10e+08	1.25	1.15	43:13	1.000	48.2225
PCB-83	8.56e+07	1.55	1.70	38:37	0.995	49.9706	PCB-168	1.32e+08	1.26	1.38	43:26	1.005	47.9441
PCB-97	6.56e+07	1.59	1.31	38:48	1.000	49.5864	PCB-141	9.89e+07	1.25	1.20	43:57	1.000	48.0687
PCB-86	5.77e+07	1.64	1.02	38:58	1.004	55.9514	PCB-137	1.02e+08	1.25	1.23	44:20	1.009	48.3060
B-87/117/125	2.32e+08	1.60	1.59	39:05	1.007	145.109	PCB-130	9.10e+07	1.27	1.04	44:26	1.011	51.0945
PCB-111/115	1.85e+08	1.61	1.85	39:15	1.012	99.1666	PCB-138/163/164	3.51e+08	1.26	1.30	44:49	1.001	149.756
PCB-85/116	1.36e+08	1.61	1.44	39:21	1.014	94.1101	PCB-158/160	2.61e+08	1.27	1.41	45:03	1.006	102.659
PCB-120	9.65e+07	1.59	1.91	39:37	1.021	50.0516	PCB-129	8.48e+07	1.26	0.97	45:18	1.012	48.7081
PCB-110	8.12e+07	1.59	1.76	39:45	1.024	45.7598	PCB-166	1.27e+08	1.24	1.19	45:45	0.993	48.0140
PCB-82	5.33e+07	1.61	0.81	40:23	0.976	47.5068	PCB-159	1.35e+08	1.24	1.28	46:04	1.000	47.5342
PCB-124	8.59e+07	1.57	1.30	41:04	0.993	47.9707	PCB-128/162	2.24e+08	1.25	1.06	46:22	1.007	95.7884
PCB-107/109	1.84e+08	1.60	1.34	41:12	0.996	99.7285	PCB-167	1.32e+08	1.25	1.22	46:45	1.000	49.3936
PCB-123	8.64e+07	1.59	1.35	41:22	1.000	46.5400	PCB-156	1.35e+08	1.25	1.27	48:02	1.000	48.2243
PCB-106/118	1.86e+08	1.62	1.34	41:34	1.001	99.0400	PCB-157	1.35e+08	1.25	1.24	48:19	1.000	49.9024
PCB-114	1.13e+08	1.56	1.17	42:12	1.000	48.8621	PCB-169	1.27e+08	1.25	1.18	50:30	1.000	48.5746
PCB-122	9.83e+07	1.58	1.03	42:20	1.004	47.8945	PCB-188	9.26e+07	1.07	1.59	42:52	1.001	46.3696
PCB-105	1.10e+08	1.56	1.23	43:04	1.000	46.1852	PCB-184	8.50e+07	1.07	1.44	43:19	1.011	47.1920
PCB-127	9.84e+07	1.59	1.06	43:24	1.000	45.6064	PCB-179	8.89e+07	1.06	1.45	44:05	1.029	48.9184
PCB-126	1.01e+08	1.58	1.16	45:17	1.000	44.9596	PCB-176	9.27e+07	1.07	1.56	44:33	1.040	47.6021
PCB-155	6.24e+07	1.28	1.26	37:04	1.001	45.9284	PCB-186	9.31e+07	1.06	1.56	45:09	1.054	47.6702
PCB-150	5.88e+07	1.28	1.15	38:20	1.035	47.3511	PCB-178	6.92e+07	1.08	1.20	45:39	1.066	46.1574
PCB-144	5.89e+07	1.26	1.19	38:48	1.047	45.7804	PCB-175	6.84e+07	1.07	1.12	45:60	1.074	48.6242
PCB-145	5.63e+07	1.25	1.14	39:15	1.059	45.5386	PCB-182/187	1.45e+08	1.07	1.24	46:10	1.078	93.3830
PCB-136	5.83e+07	1.28	1.18	39:34	1.068	45.5825	PCB-183	8.05e+07	1.08	1.37	46:29	1.085	46.8076
PCB-148	4.37e+07	1.28	0.82	39:41	1.071	49.3712	PCB-185	6.94e+07	1.05	1.60	47:08	0.956	48.2918
PCB-154	4.79e+07	1.27	0.91	40:10	1.084	48.8042	PCB-174	6.66e+07	1.05	1.51	47:30	0.963	48.7942
PCB-151	4.60e+07	1.28	0.86	40:48	1.101	49.7134	PCB-181	6.63e+07	1.07	1.64	47:36	0.965	48.9751
PCB-135	4.69e+07	1.26	0.82	41:01	1.107	52.6193	PCB-177	6.12e+07	1.05	1.45	47:46	0.969	46.7465
PCB-144	4.52e+07	1.27	0.92	41:08	1.110	45.2714	PCB-171	7.00e+07	1.08	1.69	48:04	0.975	45.8956
PCB-147	4.32e+07	1.26	0.81	41:15	1.114	48.4736	PCB-173	5.80e+07	1.06	1.38	48:29	0.983	46.7075
PCB-139/149	9.24e+07	1.27	0.91	41:31	1.121	93.9201	PCB-172	6.70e+07	1.06	1.55	48:56	0.992	47.9052
PCB-140	4.35e+07	1.27	0.83	41:42	1.126	48.1905	PCB-192	8.61e+07	1.07	2.02	49:08	0.996	47.1816
PCB-134/143	1.82e+08	1.26	0.89	42:09	0.975	102.626	PCB-180	6.87e+07	1.07	1.56	49:21	1.001	45.9581

Integrations
 by DB
 Analyst: DB
 Date: 11/10/16

Client ID: PCB CS3 1610203
Lab ID: STL61109E1-1

Filename: 161109E1 S:1 Acq: 9-NOV-16 11:46:09
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16

ConCal: STL61109E1-1
wt/vol: 1.0000 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	Conc
PCB-193	9.04e+07	1.07 Y	2.09	49:33	1.005	0.999-1.009	47.9112	47.9112	Total Mono-PCB	3.99e+08	3.11 Y	1.02	16:04	181.617
PCB-191	9.18e+07	1.09 Y	2.11	49:48	1.010	1.005-1.015	48.2326	48.2326	Total Di-PCB	1.47e+09	1.55 Y	1.18	20:05	537.294
PCB-170	6.49e+07	1.06 Y	1.72	50:55	1.000	0.995-1.005	47.0233	47.0233	Total Tri-PCB	8.77e+08	1.06 Y	1.21	24:13	453.248
PCB-190	8.88e+07	1.07 Y	2.32	51:06	1.004	0.999-1.009	47.6038	47.6038	Total Tetra-PCB	5.28e+09	0.79 Y	1.07	27:55	768.754
PCB-189	8.73e+07	1.06 Y	1.73	52:31	1.000	0.995-1.005	47.9251	47.9251	Total Penta-PCB	3.07e+09	1.60 Y	1.29	27:58	2123.33
PCB-202	5.39e+07	0.92 Y	1.08	48:16	1.000	0.995-1.005	46.6079	46.6079	Total Hexa-PCB	5.54e+08	1.56 Y	1.13	32:40	2026.67
PCB-201	6.05e+07	0.90 Y	1.16	48:45	1.010	1.003-1.015	48.8462	48.8462	Total Hepta-PCB	7.03e+08	1.28 Y	0.98	42:12	248.386
PCB-204	5.60e+07	0.92 Y	1.09	48:54	1.014	1.009-1.019	47.9646	47.9646	Total Octa-PCB	3.17e+09	1.26 Y	1.13	37:04	666.545
PCB-197	6.32e+07	0.92 Y	1.21	49:13	1.020	1.015-1.025	48.7508	48.7508	Total Nona-PCB	1.86e+09	1.07 Y	1.53	42:09	1406.19
PCB-200	5.71e+07	0.93 Y	1.12	50:07	1.039	1.034-1.044	47.9267	47.9267	Total Deca-PCB	4.65e+08	0.92 Y	1.00	42:52	1139.75
PCB-198	4.40e+07	0.92 Y	0.81	51:34	1.069	1.062-1.072	50.9245	50.9245	Total Mono-PCB	1.88e+08	0.90 Y	1.34	48:16	435.247
PCB-199	4.11e+07	0.91 Y	0.80	51:41	1.071	1.064-1.074	48.0664	48.0664	Total Di-PCB	2.26e+08	1.32 Y	1.06	53:11	126.854
PCB-195	5.63e+07	0.90 Y	1.10	53:11	0.984	0.979-0.989	45.5869	45.5869	Total Tri-PCB	6.11e+07	1.18 Y	1.34	53:20	133.614
PCB-194	5.84e+07	0.88 Y	1.28	54:04	1.000	0.995-1.005	40.7140	40.7140	Total Tetra-PCB	1.18 Y	1.18 Y	1.34	56:55	46.6301
PCB-205	7.15e+07	0.89 Y	1.62	54:19	1.005	1.001-1.010	39.3865	39.3865	Total Penta-PCB	3.07e+09	1.60 Y	1.29	27:58	2123.33
PCB-208	8.72e+07	1.32 Y	1.11	53:20	1.000	0.995-1.005	44.2747	44.2747	Total Hexa-PCB	5.54e+08	1.56 Y	1.13	32:40	2026.67
PCB-207	8.88e+07	1.32 Y	1.11	53:39	1.006	1.001-1.011	45.3907	45.3907	Total Hepta-PCB	7.03e+08	1.28 Y	0.98	37:04	666.545
PCB-206	5.03e+07	1.32 Y	0.95	55:37	1.000	0.995-1.005	43.9489	43.9489	Total Octa-PCB	3.17e+09	1.26 Y	1.13	42:09	1406.19
PCB-209	6.11e+07	1.18 Y	1.34	56:55	1.000	0.995-1.005	46.6301	46.6301	Total Hepta-PCB	1.86e+09	1.07 Y	1.53	42:52	1139.75

Total PCB Conc:10219.34955550

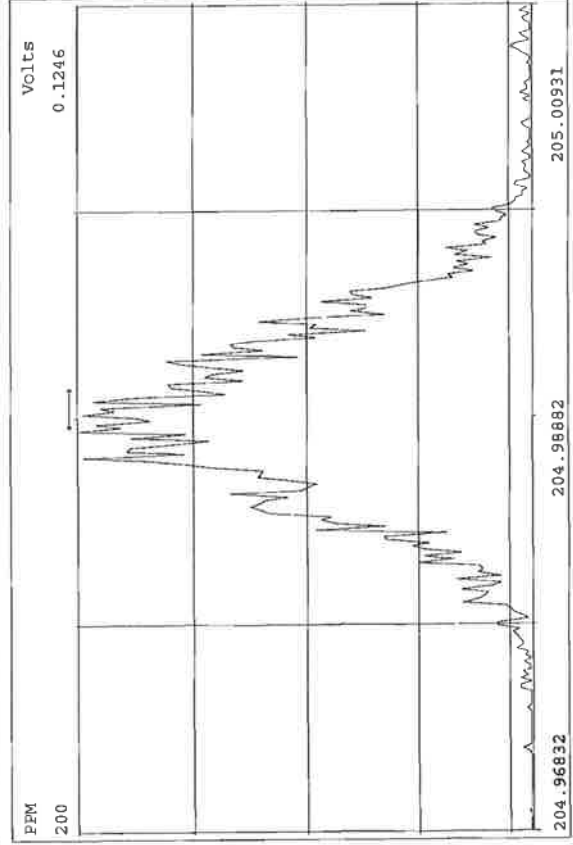
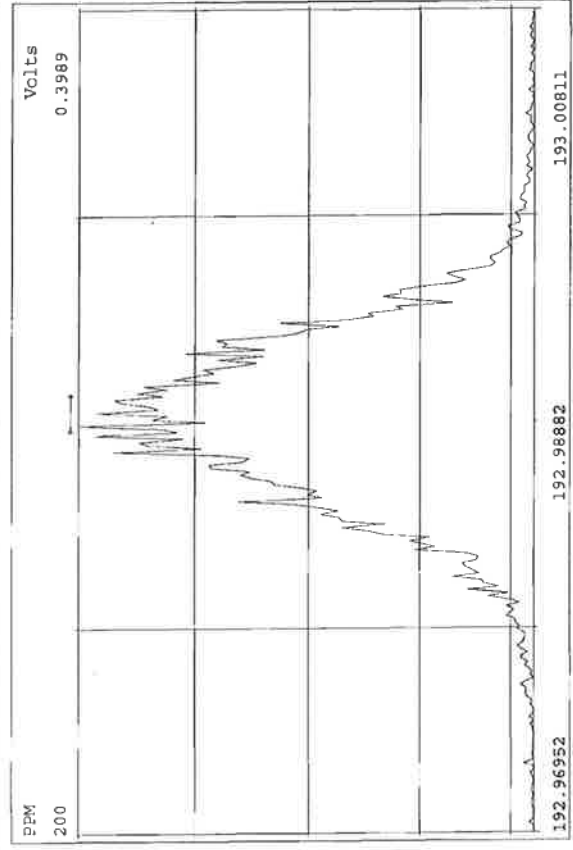
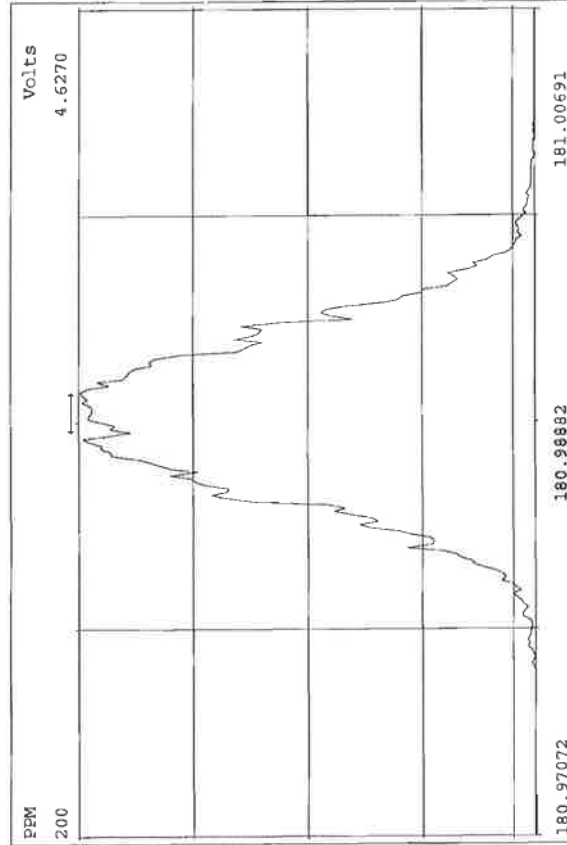
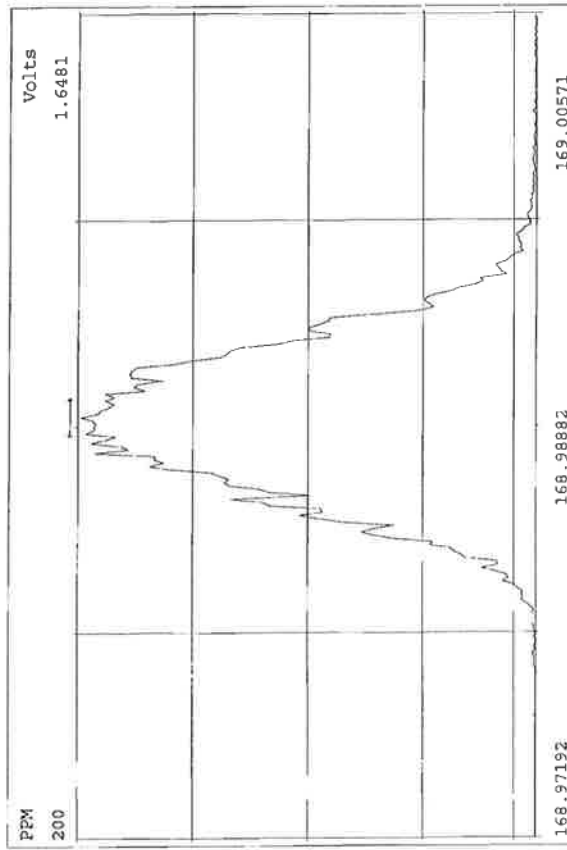
Integrations
by *DB*
Analyst: *DB*
Date: 11/10/16

Client ID: PCB CS3 16I0203 Lab ID: ST161109E1-1
File name: 161109E1 S:1 Acq: 9-NOV-16 11:46:09 ConCal: ST161109E1-1
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:1.0000 EndCAL: NA

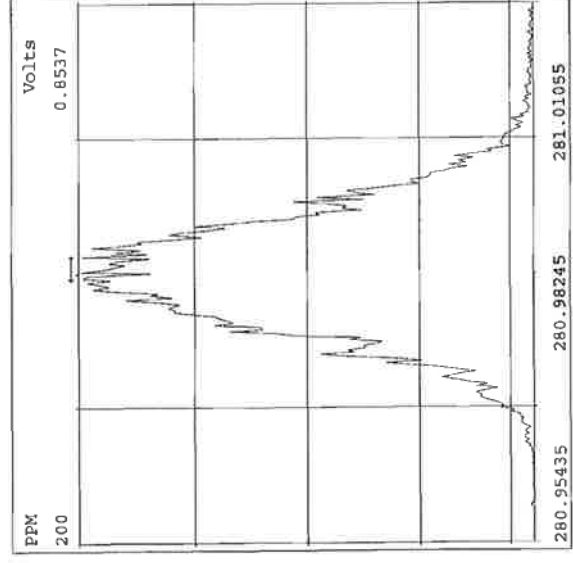
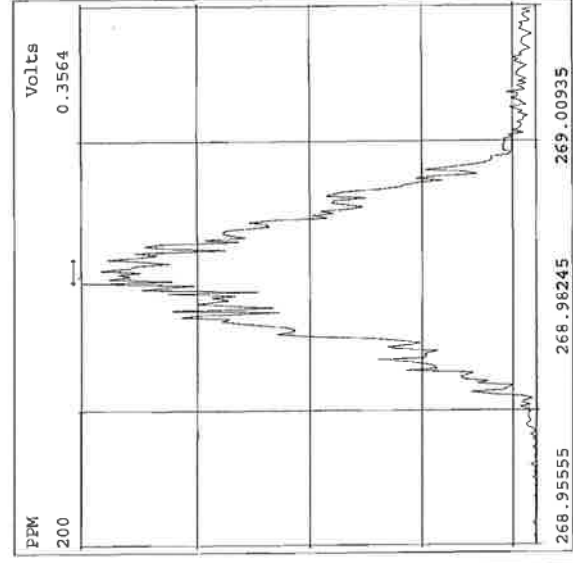
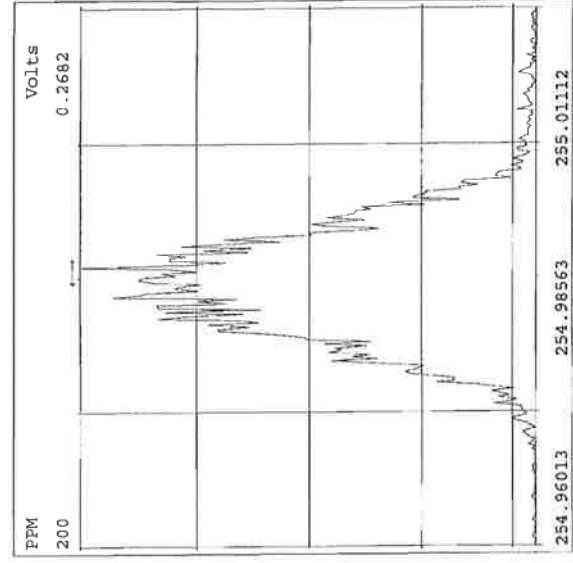
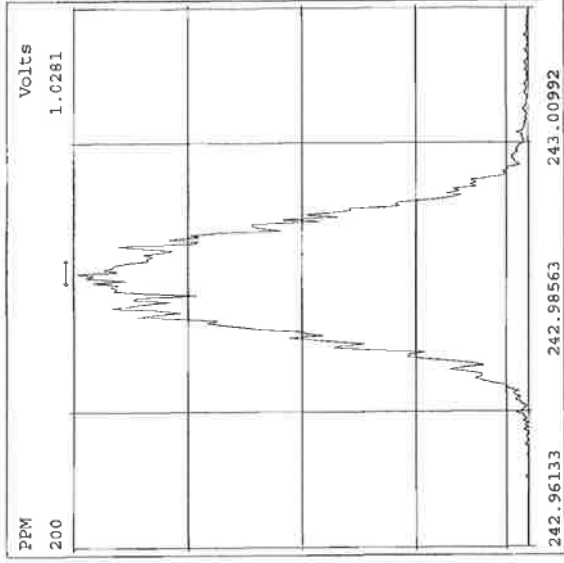
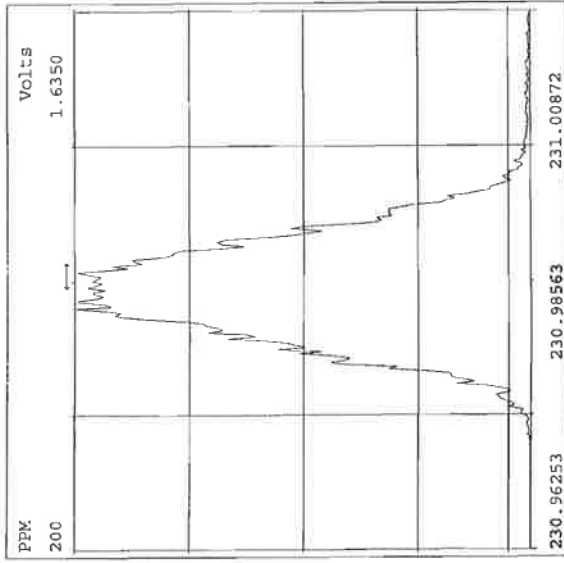
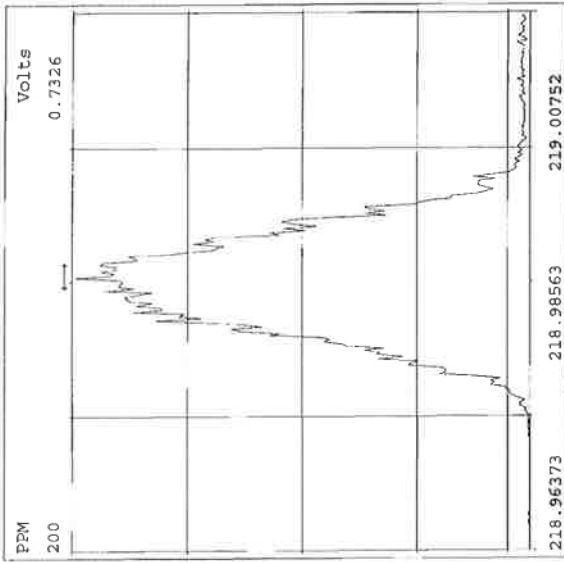
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13C-PCB-1	2.00e+08	3.22	1.09	16:03	0.619	0.619-0.625	67.2	67.2	67.2		13C-PCB-79	2.66e+08	0.80	Y	1.01	37:49	1.029	1.024-1.033	102	102	
13C-PCB-3	2.23e+08	3.22	1.15	18:41	0.721	0.718-0.726	71.0	71.0	71.0		13C-PCB-178	8.39e+07	0.45	Y	0.64	45:38	0.985	0.980-0.989	82.7	82.7	
13C-PCB-4	1.43e+08	1.55	0.59	20:01	0.773	0.770-0.778	87.9	87.9	87.9												
13C-PCB-9	2.39e+08	1.54	0.94	21:49	0.842	0.839-0.847	93.3	93.3	93.3												
13C-PCB-11	2.53e+08	1.52	0.93	25:13	0.973	0.968-0.978	99.6	99.6	99.6												
13C-PCB-19	1.15e+08	1.07	0.63	24:11	0.933	0.929-0.939	68.9	68.9	68.9												
13C-PCB-28	2.28e+08	1.05	1.14	29:05	1.000	0.999-1.009	87.6	87.6	87.6												
13C-PCB-32	1.78e+08	1.08	0.91	27:07	1.046	1.041-1.051	71.8	71.8	71.8												
13C-PCB-37	2.49e+08	1.03	1.05	32:57	1.133	1.131-1.143	104	104	104												
13C-PCB-47	1.80e+08	0.80	0.77	32:00	0.871	0.867-0.875	90.9	90.9	90.9												
13C-PCB-52	1.70e+08	0.78	0.72	31:30	0.857	0.853-0.861	91.1	91.1	91.1												
13C-PCB-54	2.13e+08	0.80	0.95	27:57	0.761	0.757-0.765	86.9	86.9	86.9												
13C-PCB-70	2.46e+08	0.81	0.97	35:31	0.566	0.561-0.571	98.3	98.3	98.3												
13C-PCB-77	2.55e+08	0.82	0.93	39:37	1.078	1.073-1.083	107	107	107												
13C-PCB-80	2.52e+08	0.80	0.98	35:57	0.978	0.973-0.983	99.5	99.5	99.5												
13C-PCB-81	2.62e+08	0.81	0.95	39:02	1.062	1.057-1.067	107	107	107												
13C-PCB-95	1.00e+08	1.63	0.70	35:49	0.913	0.908-0.918	95.9	95.9	95.9												
13C-PCB-97	1.01e+08	1.61	0.67	38:48	0.989	0.984-0.994	101	101	101												
13C-PCB-101	1.09e+08	1.61	0.75	37:30	0.956	0.951-0.961	99.7	99.7	99.7												
13C-PCB-104	1.33e+08	1.58	0.95	32:39	0.832	0.828-0.836	94.2	94.2	94.2												
13C-PCB-105	1.92e+08	1.56	1.14	43:03	0.929	0.924-0.934	106	106	106												
13C-PCB-114	1.98e+08	1.58	1.12	42:11	0.911	0.905-0.915	111	111	111												
13C-PCB-118	1.40e+08	1.61	0.93	41:32	1.059	1.054-1.064	101	101	101												
13C-PCB-123	1.38e+08	1.59	0.88	41:21	1.054	1.049-1.059	105	105	105												
13C-PCB-126	1.93e+08	1.56	1.16	45:16	0.977	0.972-0.982	105	105	105												
13C-PCB-127	2.04e+08	1.55	1.25	43:23	0.937	0.931-0.941	103	103	103												
13C-PCB-138	1.80e+08	1.28	1.11	44:47	0.967	0.961-0.971	102	102	102												
13C-PCB-141	1.72e+08	1.29	1.05	43:57	0.949	0.943-0.953	103	103	103												
13C-PCB-153	1.99e+08	1.29	1.21	43:13	0.933	0.927-0.937	103	103	103												
13C-PCB-155	1.08e+08	1.29	0.84	37:03	0.944	0.939-0.949	86.8	86.8	86.8												
13C-PCB-156	2.20e+08	1.29	1.31	48:02	1.037	1.032-1.042	106	106	106												
13C-PCB-157	2.19e+08	1.27	1.35	48:18	1.043	1.037-1.047	102	102	102												
13C-PCB-159	2.21e+08	1.27	1.33	46:04	0.994	0.989-0.999	105	105	105												
13C-PCB-167	2.18e+08	1.28	1.34	46:45	1.009	1.004-1.014	102	102	102												
13C-PCB-169	2.22e+08	1.28	1.33	50:29	1.090	1.084-1.094	105	105	105												
13C-PCB-170	8.03e+07	0.45	0.61	50:54	1.059	1.051-1.063	83.1	83.1	83.1												
13C-PCB-180	9.01e+07	0.45	0.67	49:19	1.064	1.059-1.069	84.6	84.6	84.6												
13C-PCB-188	1.25e+08	0.46	0.94	42:50	0.925	0.919-0.929	84.1	84.1	84.1												
13C-PCB-185	1.05e+08	0.45	0.79	52:30	1.133	1.124-1.136	83.4	83.4	83.4												
13C-PCB-194	1.12e+08	0.90	0.72	54:03	0.995	0.990-1.000	109	109	109												
13C-PCB-202	1.07e+08	0.91	0.94	48:15	1.042	1.036-1.046	71.1	71.1	71.1												
13C-PCB-206	1.20e+08	0.77	0.80	55:36	1.024	1.020-1.301	105	105	105												
13C-PCB-208	1.77e+08	0.78	1.00	53:19	0.982	0.977-0.987	124	124	124												
13C-PCB-209	9.75e+07	1.20	0.85	56:54	1.048	1.045-1.055	80.3	80.3	80.3												

Analyst: DB
Date: 11/10/16

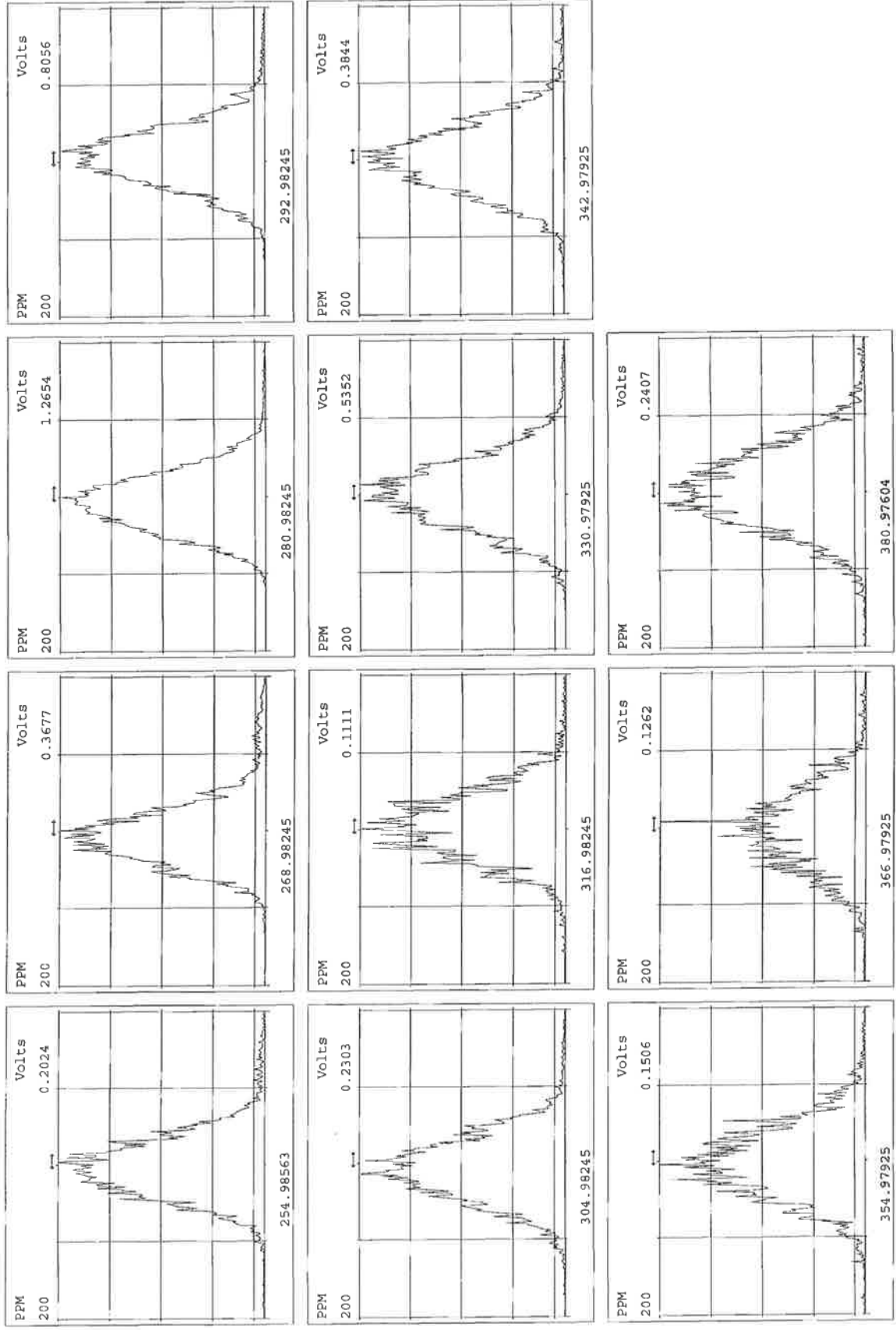
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Experiment:FCB_ZB1 Function:1 Reference:PFK



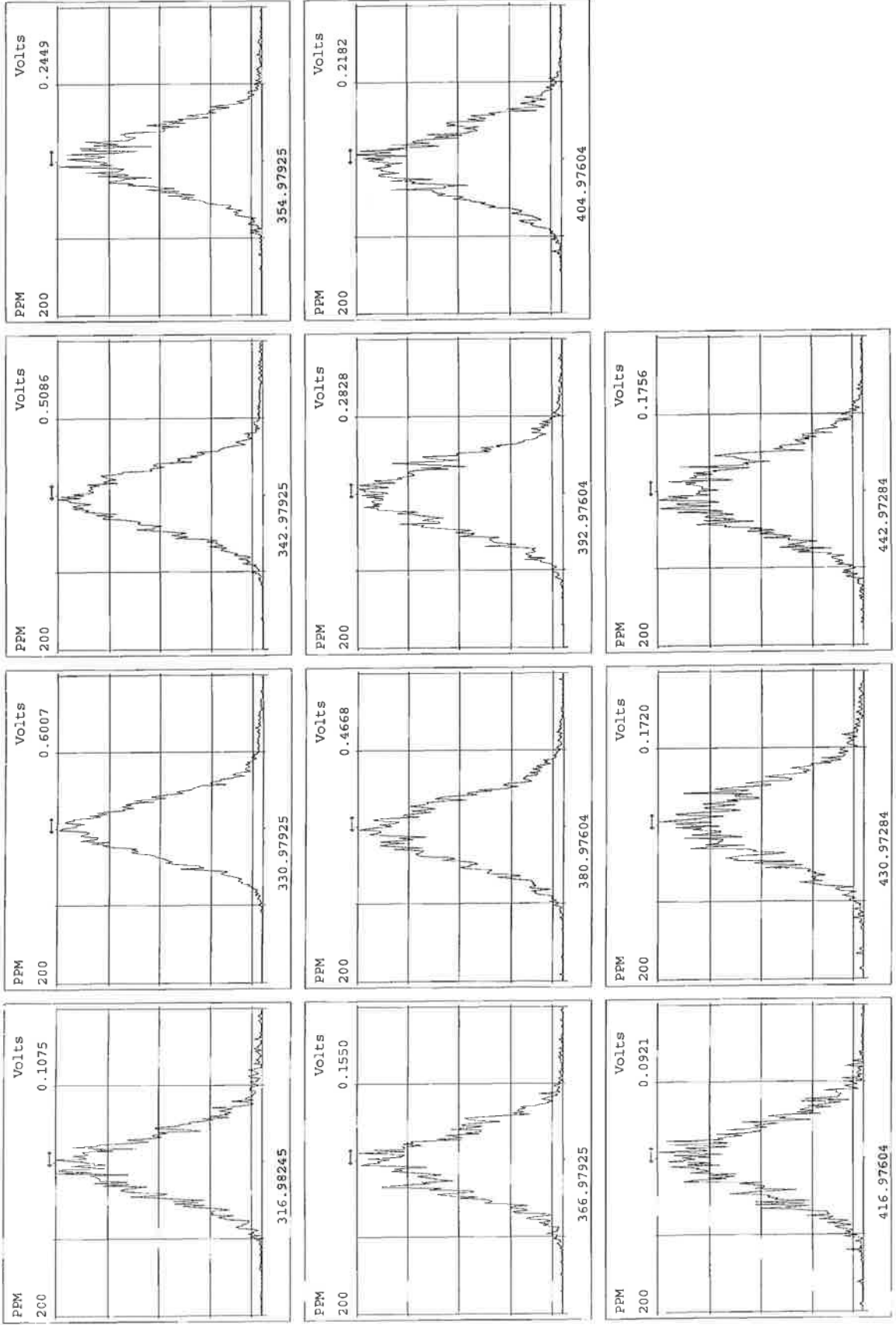
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Experiment:PCB_ZB1 Function:2 Reference:PFK



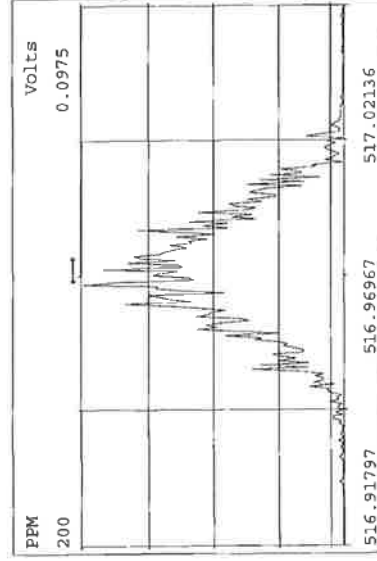
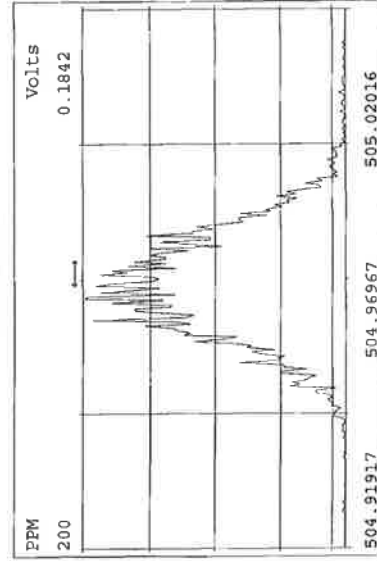
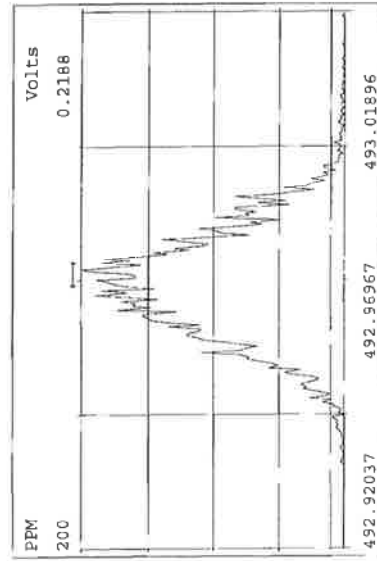
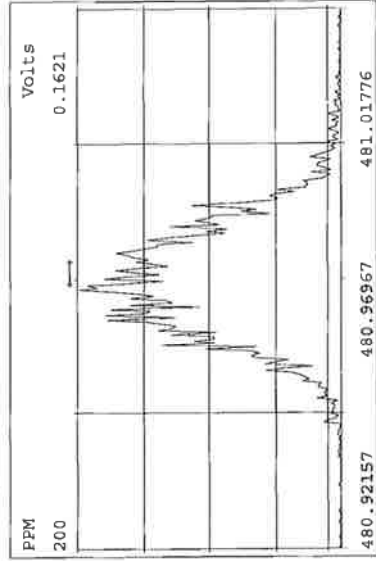
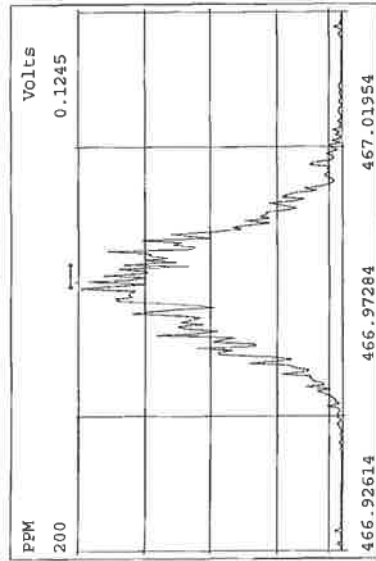
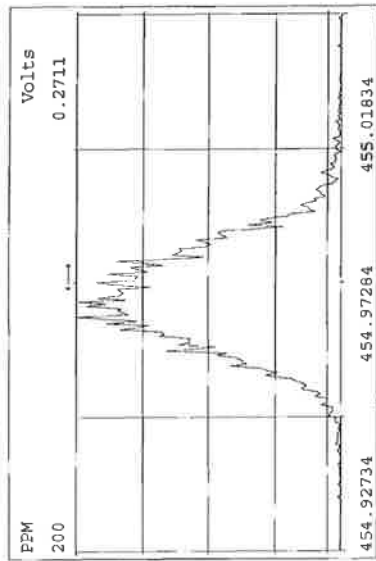
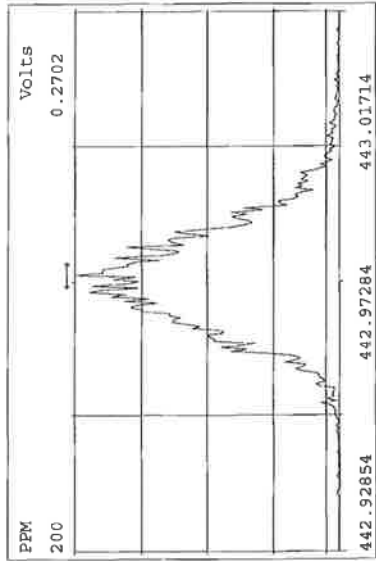
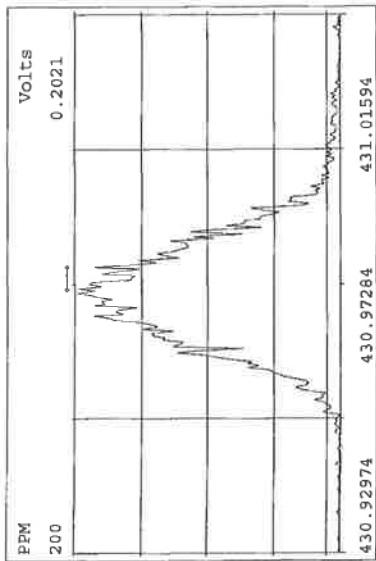
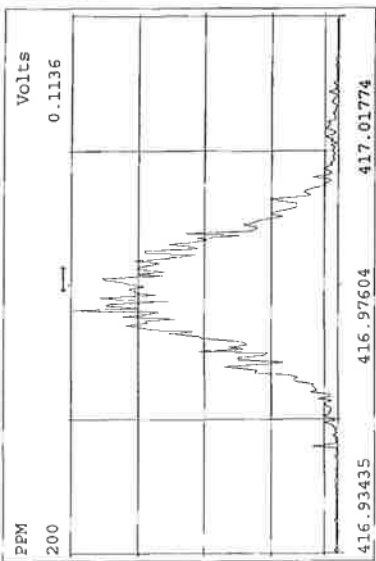
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Experiment:PCB_ZBI Function:3 Reference:PFX



Peak Locate Examination: 9-NOV-2016:11:45 File:161109E1
Experiment:PCB_ZB1 Function:4 Reference:PFK



Peak Locate Examination: 9-NOV-2016:11:45 File:161109E1
 Experiment:PCB_ZB1 Function:5 Reference:PPK



Vista Analytical Laboratory - Injection Log Run file: 161110E1 Instrument ID: VG-8 GC Column ID: ZB-1

Data file S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
161110E1 1	ST161110E1-1	MAS	10-NOV-16	10:06:57	ST161110E1-1	NA
161110E1 2	B6K0040-BS1	MAS	10-NOV-16	11:12:03	ST161110E1-1	NA
161110E1 3	SOLVENT BLANK	MAS	10-NOV-16	12:17:10	ST161110E1-1	NA
161110E1 4	B6K0040-BLK1	MAS	10-NOV-16	13:22:17	ST161110E1-1	NA
161110E1 5	1601366-01	MAS	10-NOV-16	14:27:23	ST161110E1-1	NA
161110E1 6	1601366-02	MAS	10-NOV-16	15:32:30	ST161110E1-1	NA
161110E1 7	1601366-03	MAS	10-NOV-16	16:37:36	ST161110E1-1	NA
161110E1 8	1601354-08	MAS	10-NOV-16	17:42:42	ST161110E1-1	NA
161110E1 9	1601354-09	MAS	10-NOV-16	18:47:48	ST161110E1-1	NA
161110E1 10	1601354-10	MAS	10-NOV-16	19:52:54	ST161110E1-1	NA
161110E1 11	1601354-11	MAS	10-NOV-16	20:58:03	ST161110E1-1	NA
161110E1 12	SOLVENT BLANK	MAS	10-NOV-16	22:03:11	ST161110E1-1	NA

NATIVE 1668A CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161110E1-1 Instrument ID: VG-8
Initial Calibration Date: 4-19-16 ICal ID: PCBV88-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161110E1 SH1 Analysis Date: 10-NOV-16 Time: 10:06:57

ANALYTES	ION QC		PASS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)	ANALYTES	ION QC	PASS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)	
	ABUND. RATIO	LIMITS									ABUND. RATIO
PCB-1	3.09	2.66-3.60	Y	61.2	35.0-65.0	PCB-52/69	0.80	0.65-0.89	Y	106.6	70.0-130
PCB-2	3.11	2.66-3.60	Y	64.1	35.0-65.0	PCB-73	0.79	0.65-0.89	Y	50.6	35.0-65.0
PCB-3	3.10	2.66-3.60	Y	62.4	35.0-65.0	PCB-43/49	0.80	0.65-0.89	Y	93.7	70.0-130
PCB-4/10	1.56	1.33-1.79	Y	84.6	70.0-130	PCB-47	0.78	0.65-0.89	Y	46.4	35.0-65.0
PCB-7/9	1.57	1.33-1.79	Y	82.4	70.0-130	PCB-48/75	0.79	0.65-0.89	Y	107.1	70.0-130
PCB-6	1.56	1.33-1.79	Y	42.2	35.0-65.0	PCB-65	0.79	0.65-0.89	Y	54.9	35.0-65.0
PCB-5/8	1.57	1.33-1.79	Y	84.8	70.0-130	PCB-62	0.80	0.65-0.89	Y	48.3	35.0-65.0
PCB-14	1.58	1.33-1.79	Y	41.2	35.0-65.0	PCB-44	0.79	0.65-0.89	Y	50.6	35.0-65.0
PCB-11	1.58	1.33-1.79	Y	40.3	35.0-65.0	PCB-42/59	0.79	0.65-0.89	Y	103.2	70.0-130
PCB-12/13	1.56	1.33-1.79	Y	83.2	70.0-130	PCB-41/64/71/72	0.79	0.65-0.89	Y	210.5	140-260
PCB-15	1.57	1.33-1.79	Y	42.4	35.0-65.0	PCB-68	0.79	0.65-0.89	Y	52.6	35.0-65.0
PCB-19	1.05	0.88-1.20	Y	48.4	35.0-65.0	PCB-40	0.79	0.65-0.89	Y	53.3	35.0-65.0
PCB-30	1.06	0.88-1.20	Y	50.9	35.0-65.0	PCB-57	0.79	0.65-0.89	Y	52.7	35.0-65.0
PCB-18	1.05	0.88-1.20	Y	48.5	35.0-65.0	PCB-67	0.78	0.65-0.89	Y	52.8	35.0-65.0
PCB-17	1.05	0.88-1.20	Y	49.2	35.0-65.0	PCB-58	0.81	0.65-0.89	Y	52.7	35.0-65.0
PCB-24/27	1.05	0.88-1.20	Y	99.8	70.0-130	PCB-63	0.79	0.65-0.89	Y	52.4	35.0-65.0
PCB-16/32	1.05	0.88-1.20	Y	98.3	70.0-130	PCB-74	0.79	0.65-0.89	Y	53.4	35.0-65.0
PCB-34	1.03	0.88-1.20	Y	52.3	35.0-65.0	PCB-61/70	0.79	0.65-0.89	Y	103.2	70.0-130
PCB-23	1.03	0.88-1.20	Y	60.8	35.0-65.0	PCB-76/66	0.79	0.65-0.89	Y	107.1	70.0-130
PCB-29	1.03	0.88-1.20	Y	55.7	35.0-65.0	PCB-80	0.80	0.65-0.89	Y	51.9	35.0-65.0
PCB-26	1.04	0.88-1.20	Y	54.1	35.0-65.0	PCB-55	0.79	0.65-0.89	Y	53.3	35.0-65.0
PCB-25	1.03	0.88-1.20	Y	51.3	35.0-65.0	PCB-56/60	0.79	0.65-0.89	Y	100.9	70.0-130
PCB-31	1.03	0.88-1.20	Y	51.2	35.0-65.0	PCB-79	0.80	0.65-0.89	Y	51.7	35.0-65.0
PCB-28	1.04	0.88-1.20	Y	47.5	35.0-65.0	PCB-78	0.79	0.65-0.89	Y	54.0	35.0-65.0
PCB-20/21/33	1.05	0.88-1.20	Y	140.4	105-195	PCB-81	0.80	0.65-0.89	Y	53.3	35.0-65.0
PCB-22	1.04	0.88-1.20	Y	49.3	35.0-65.0	PCB-77	0.80	0.65-0.89	Y	52.0	35.0-65.0
PCB-36	1.04	0.88-1.20	Y	41.8	35.0-65.0	PCB-104	1.57	1.32-1.78	Y	46.6	35.0-65.0
PCB-39	1.04	0.88-1.20	Y	42.0	35.0-65.0	PCB-96	1.60	1.32-1.78	Y	46.8	35.0-65.0
PCB-38	1.04	0.88-1.20	Y	42.0	35.0-65.0	PCB-103	1.60	1.32-1.78	Y	47.8	35.0-65.0
PCB-35	1.05	0.88-1.20	Y	43.1	35.0-65.0	PCB-100	1.59	1.32-1.78	Y	47.8	35.0-65.0
PCB-37	1.04	0.88-1.20	Y	45.3	35.0-65.0	PCB-94	1.59	1.32-1.78	Y	47.5	35.0-65.0
PCB-54	0.79	0.65-0.89	Y	50.2	35.0-65.0	PCB-95/98/102	1.57	1.32-1.78	Y	144.3	105-195
PCB-50	0.80	0.65-0.89	Y	49.4	35.0-65.0	PCB-93	1.66	1.32-1.78	Y	42.6	35.0-65.0
PCB-53	0.79	0.65-0.89	Y	50.8	35.0-65.0	PCB-88/91	1.57	1.32-1.78	Y	97.3	70.0-130
PCB-51	0.79	0.65-0.89	Y	51.4	35.0-65.0	PCB-121	1.61	1.32-1.78	Y	44.6	35.0-65.0
PCB-45	0.80	0.65-0.89	Y	50.7	35.0-65.0						
PCB-46	0.78	0.65-0.89	Y	51.4	35.0-65.0						

Analyst: MM
Date: 11/10/16

NATIVE PCB CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161110E1-1 Instrument ID: VG-8

Initial Calibration Date: 4-19-16 Ical ID: PCBVG8-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161110E1 S#1 Analysis Date: 10-NOV-16 Time: 10:06:57

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
PCB-84/92	1.59	1.32-1.78	Y	94.0	70.0-130	PCB-140	1.26	1.05-1.43	Y	44.4	35.0-65.0
PCB-89	1.56	1.32-1.78	Y	47.2	35.0-65.0	PCB-134/143	1.25	1.05-1.43	Y	102.9	70.0-130
PCB-90/101	1.58	1.32-1.78	Y	95.0	70.0-130	PCB-133/142	1.25	1.05-1.43	Y	105.6	70.0-130
PCB-113	1.58	1.32-1.78	Y	45.1	35.0-65.0	PCB-131	1.27	1.05-1.43	Y	47.7	35.0-65.0
PCB-99	1.60	1.32-1.78	Y	50.6	35.0-65.0	PCB-146/165	1.25	1.05-1.43	Y	101.7	70.0-130
PCB-119	1.61	1.32-1.78	Y	47.9	35.0-65.0	PCB-132/161	1.25	1.05-1.43	Y	97.4	70.0-130
PCB-108/112	1.56	1.32-1.78	Y	93.6	70.0-130	PCB-153	1.27	1.05-1.43	Y	49.2	35.0-65.0
PCB-83	1.58	1.32-1.78	Y	46.9	35.0-65.0	PCB-168	1.27	1.05-1.43	Y	49.1	35.0-65.0
PCB-97	1.58	1.32-1.78	Y	48.0	35.0-65.0	PCB-141	1.27	1.05-1.43	Y	48.7	35.0-65.0
PCB-86	1.59	1.32-1.78	Y	51.8	35.0-65.0	PCB-137	1.24	1.05-1.43	Y	46.8	35.0-65.0
PCB-87/117/125	1.58	1.32-1.78	Y	140.8	105-195	PCB-130	1.28	1.05-1.43	Y	51.7	35.0-65.0
PCB-111/115	1.58	1.32-1.78	Y	95.5	70.0-130	PCB-138/163/164	1.28	1.05-1.43	Y	151.5	105-195
PCB-85/116	1.60	1.32-1.78	Y	91.1	70.0-130	PCB-158/160	1.25	1.05-1.43	Y	99.9	70.0-130
PCB-120	1.57	1.32-1.78	Y	47.3	35.0-65.0	PCB-129	1.27	1.05-1.43	Y	49.9	35.0-65.0
PCB-110	1.60	1.32-1.78	Y	44.3	35.0-65.0	PCB-166	1.26	1.05-1.43	Y	49.7	35.0-65.0
PCB-82	1.56	1.32-1.78	Y	45.5	35.0-65.0	PCB-159	1.26	1.05-1.43	Y	49.4	35.0-65.0
PCB-124	1.74	1.32-1.78	Y	48.6	35.0-65.0	PCB-128/162	1.27	1.05-1.43	Y	99.0	70.0-130
PCB-107/109	1.50	1.32-1.78	Y	92.3	70.0-130	PCB-167	1.27	1.05-1.43	Y	49.9	35.0-65.0
PCB-123	1.60	1.32-1.78	Y	45.8	35.0-65.0	PCB-156	1.25	1.05-1.43	Y	50.1	35.0-65.0
PCB-106/118	1.57	1.32-1.78	Y	92.1	70.0-130	PCB-157	1.27	1.05-1.43	Y	49.8	35.0-65.0
PCB-114	1.56	1.32-1.78	Y	49.6	35.0-65.0	PCB-169	1.29	1.05-1.43	Y	49.8	35.0-65.0
PCB-122	1.56	1.32-1.78	Y	48.7	35.0-65.0	PCB-188	1.05	0.89-1.21	Y	44.0	35.0-65.0
PCB-105	1.58	1.32-1.78	Y	48.2	35.0-65.0	PCB-184	1.05	0.89-1.21	Y	45.4	35.0-65.0
PCB-127	1.57	1.32-1.78	Y	47.0	35.0-65.0	PCB-179	1.06	0.89-1.21	Y	45.5	35.0-65.0
PCB-126	1.56	1.32-1.78	Y	46.2	35.0-65.0	PCB-176	1.04	0.89-1.21	Y	44.9	35.0-65.0
PCB-155	1.27	1.05-1.43	Y	44.4	35.0-65.0	PCB-186	1.05	0.89-1.21	Y	44.6	35.0-65.0
PCB-150	1.27	1.05-1.43	Y	45.2	35.0-65.0	PCB-178	1.05	0.89-1.21	Y	42.6	35.0-65.0
PCB-152	1.27	1.05-1.43	Y	43.5	35.0-65.0	PCB-175	1.06	0.89-1.21	Y	45.1	35.0-65.0
PCB-145	1.26	1.05-1.43	Y	44.0	35.0-65.0	PCB-182/187	1.05	0.89-1.21	Y	87.1	70.0-130
PCB-136	1.28	1.05-1.43	Y	43.2	35.0-65.0	PCB-183	1.05	0.89-1.21	Y	42.0	35.0-65.0
PCB-148	1.28	1.05-1.43	Y	47.7	35.0-65.0	PCB-185	1.04	0.89-1.21	Y	46.5	35.0-65.0
PCB-154	1.28	1.05-1.43	Y	45.9	35.0-65.0	PCB-174	1.05	0.89-1.21	Y	44.3	35.0-65.0
PCB-151	1.28	1.05-1.43	Y	47.8	35.0-65.0	PCB-181	1.06	0.89-1.21	Y	46.9	35.0-65.0
PCB-135	1.27	1.05-1.43	Y	42.4	35.0-65.0	PCB-177	1.07	0.89-1.21	Y	45.8	35.0-65.0
PCB-144	1.26	1.05-1.43	Y	42.4	35.0-65.0	PCB-171	1.05	0.89-1.21	Y	44.9	35.0-65.0
PCB-147	1.26	1.05-1.43	Y	45.0	35.0-65.0	PCB-173	1.05	0.89-1.21	Y	45.2	35.0-65.0
PCB-139/149	1.28	1.05-1.43	Y	90.1	70.0-130	PCB-172	1.08	0.89-1.21	Y	46.0	35.0-65.0

Analyst: M
Date: 11/10/16



NATIVE PCB CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: S1161110E1-1 Instrument ID: VG-8
 Initial Calibration Date: 4-19-16 ICal ID: PCBVG8-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161110E1 SH1 Analysis Date: 10-NOV-16 Time: 10:06:57

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
PCB-192	1.06	0.89-1.21	Y	43.9	35.0-65.0
PCB-180	1.05	0.89-1.21	Y	44.7	35.0-65.0
PCB-193	1.05	0.89-1.21	Y	45.5	35.0-65.0
PCB-191	1.05	0.89-1.21	Y	45.9	35.0-65.0
PCB-170	1.06	0.89-1.21	Y	45.2	35.0-65.0
PCB-190	1.05	0.89-1.21	Y	44.7	35.0-65.0
PCB-189	1.03	0.89-1.21	Y	45.9	35.0-65.0
PCB-202	0.89	0.76-1.02	Y	44.9	35.0-65.0
PCB-201	0.88	0.76-1.02	Y	45.3	35.0-65.0
PCB-204	0.90	0.76-1.02	Y	44.9	35.0-65.0
PCB-197	0.91	0.76-1.02	Y	45.4	35.0-65.0
PCB-200	0.89	0.76-1.02	Y	44.5	35.0-65.0
PCB-198	0.98	0.76-1.02	Y	44.5	35.0-65.0
PCB-199	0.83	0.76-1.02	Y	43.8	35.0-65.0
PCB-196/203	0.92	0.76-1.02	Y	86.8	70.0-130
PCB-195	0.87	0.76-1.02	Y	45.5	35.0-65.0
PCB-194	0.91	0.76-1.02	Y	41.2	35.0-65.0
PCB-205	0.88	0.76-1.02	Y	41.0	35.0-65.0
PCB-208	1.32	1.14-1.54	Y	46.8	35.0-65.0
PCB-207	1.32	1.14-1.54	Y	46.8	35.0-65.0
PCB-206	1.34	1.14-1.54	Y	47.9	35.0-65.0
PCB-209	1.20	0.99-1.34	Y	46.6	35.0-65.0

Analyst: MM
 Date: 11/10/16

LABELED 1668A CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161110E1-1 Instrument ID: VG-8
 Initial Calibration Date: 4-19-16 ICal ID: PCBVG8-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161110E1 SH1 Analysis Date: 10-NOV-16 Time: 10:06:57

LABELLED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)	LABELLED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C-PCB-1	3.20	2.66-3.60	Y	67.5	50.0-150	13C-PCB-169	1.28	1.05-1.43	Y	98.2	50 - 150
13C-PCB-3	3.22	2.66-3.60	Y	69.2	50.0-150	13C-PCB-188	0.47	0.38-0.52	Y	97.4	50 - 150
13C-PCB-4	1.51	1.33-1.79	Y	91.2	50.0-150	13C-PCB-180	0.46	0.38-0.52	Y	91.7	50 - 150
13C-PCB-9	1.50	1.33-1.79	Y	94.5	50.0-150	13C-PCB-170	0.47	0.38-0.52	Y	90.8	50 - 150
13C-PCB-11	1.48	1.33-1.79	Y	100.4	50.0-150	13C-PCB-189	0.45	0.38-0.52	Y	85.3	50 - 150
13C-PCB-19	1.06	0.88-1.20	Y	74.4	50.0-150	13C-PCB-202	0.91	0.76-1.02	Y	91.4	50 - 150
13C-PCB-32	1.06	0.88-1.20	Y	77.3	50.0-150	13C-PCB-194	0.92	0.76-1.02	Y	104.9	50 - 150
13C-PCB-28	1.04	0.88-1.20	Y	84.6	50.0-150	13C-PCB-208	0.78	0.65-0.89	Y	118.1	50 - 150
13C-PCB-37	1.04	0.88-1.20	Y	98.1	50.0-150	13C-PCB-206	0.80	0.65-0.89	Y	96.0	50 - 150
13C-PCB-54	0.80	0.65-0.89	Y	100.1	50.0-150	13C-PCB-209	1.19	0.99-1.33	Y	77.8	50 - 150
13C-PCB-52	0.81	0.65-0.89	Y	100.8	50.0-150						
13C-PCB-47	0.80	0.65-0.89	Y	102.1	50.0-150						
13C-PCB-70	0.82	0.65-0.89	Y	102.2	50.0-150						
13C-PCB-80	0.82	0.65-0.89	Y	103.7	50.0-150						
13C-PCB-81	0.81	0.65-0.89	Y	101.9	50.0-150						
13C-PCB-77	0.81	0.65-0.89	Y	103.6	50.0-150						
13C-PCB-104	1.62	1.32-1.78	Y	102.4	50.0-150						
13C-PCB-95	1.62	1.32-1.78	Y	101.0	50.0-150						
13C-PCB-101	1.59	1.32-1.78	Y	101.3	50.0-150						
13C-PCB-97	1.61	1.32-1.78	Y	101.2	50.0-150						
13C-PCB-123	1.62	1.32-1.78	Y	103.2	50.0-150						
13C-PCB-118	1.56	1.32-1.78	Y	101.6	50.0-150						
13C-PCB-114	1.55	1.32-1.78	Y	121.5	50.0-150						
13C-PCB-105	1.53	1.32-1.78	Y	118.3	50.0-150						
13C-PCB-127	1.54	1.32-1.78	Y	119.3	50.0-150						
13C-PCB-126	1.56	1.32-1.78	Y	117.8	50.0-150						
13C-PCB-155	1.26	1.05-1.43	Y	104.0	50.0-150						
13C-PCB-153	1.27	1.05-1.43	Y	107.5	50.0-150						
13C-PCB-141	1.28	1.05-1.43	Y	104.8	50.0-150						
13C-PCB-138	1.29	1.05-1.43	Y	103.8	50.0-150						
13C-PCB-159	1.28	1.05-1.43	Y	102.2	50.0-150						
13C-PCB-167	1.27	1.05-1.43	Y	100.1	50.0-150						
13C-PCB-156	1.28	1.05-1.43	Y	101.5	50.0-150						
13C-PCB-157	1.28	1.05-1.43	Y	102.0	50.0-150						

Analyst: MM
 Date: 11/10/16

Client ID: PCB CS3 16T0203 Lab ID: ST161110E1-1
File Name: 161110E1 S:1 Acq:10-NOV-16 10:06:57 ConCal: ST161110E1-1
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.0000 EndCal: NA

Table with columns: Name, Resp, RA, RRF, RT, RRT, LCL, UCL, Conc. Rows include PCB-1 through PCB-46 with various numerical values.

Integrations by Analyst: MS Date: 11/10/16
Reviewed by Analyst: Date:

Client ID: PCB CS3 16T0203 Lab ID: ST161110E1-1
File Name: 161110E1 S:1 Acq:10-NOV-16 10:06:57 Conc Cal: ST161110E1-1
GC Column ID: ZB-1 I Cal: PCBVG8-4-19-16 wt/vol: 1.0000 End Cal: NA

Table with columns: Name, Resp, RA, RRF, RT, RRT, LCL, UCL, Conc, Name, Resp, RA, RRF, RT, RRT, LCL, UCL, Conc. The table lists various PCB compounds and their associated data points across multiple rows.

Integrations by Analyst: VMJ Date: 11/10/16

Client ID: PCB CS3 1670203
 Lab ID: ST1161110E1-1
 File Name: 161110E1 S:1
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16
 Acq: 10-NOV-16 10:06:57
 wt/vol: 1.0000
 ConCal: ST1161110E1-1
 EndCal: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-193	6.36e+07	1.05 Y	2.09	49:33	1.004	0.999-1.009	45.5149	45.5149
PCB-191	6.46e+07	1.05 Y	2.11	49:48	1.010	1.005-1.015	45.8752	45.8752
PCB-170	4.65e+07	1.06 Y	1.72	50:55	1.000	0.995-1.005	45.1509	45.1509
PCB-190	6.21e+07	1.05 Y	2.32	51:06	1.004	0.999-1.009	44.6593	44.6593
PCB-189	5.84e+07	1.03 Y	1.73	52:31	1.000	0.995-1.005	45.9211	45.9211
PCB-202	4.56e+07	0.89 Y	1.08	48:16	1.000	0.995-1.005	44.9356	44.9356
PCB-201	4.92e+07	0.88 Y	1.16	48:45	1.010	1.005-1.015	45.2650	45.2650
PCB-204	4.60e+07	0.90 Y	1.09	48:54	1.014	1.009-1.019	44.8842	44.8842
PCB-197	5.17e+07	0.91 Y	1.21	49:13	1.020	1.015-1.025	45.3853	45.3853
PCB-200	4.65e+07	0.89 Y	1.12	50:07	1.039	1.034-1.044	44.4678	44.4678
PCB-198	3.38e+07	0.98 Y	0.81	51:34	1.069	1.062-1.072	44.5386	44.5386
PCB-199	3.29e+07	0.83 Y	0.80	51:41	1.071	1.064-1.074	43.8210	43.8210
PCB-196/203	7.10e+07	0.92 Y	0.87	51:57	1.077	1.070-1.080	86.7653	86.7653
PCB-195	3.95e+07	0.87 Y	1.10	53:11	0.984	0.979-0.989	45.5426	45.5426
PCB-194	4.15e+07	0.91 Y	1.28	54:04	1.000	0.995-1.005	41.1777	41.1777
PCB-205	5.23e+07	0.88 Y	1.62	54:20	1.005	1.001-1.010	41.0040	41.0040
PCB-208	6.45e+07	1.32 Y	1.11	53:19	1.000	0.995-1.005	46.8334	46.8334
PCB-207	6.40e+07	1.32 Y	1.11	53:39	1.006	1.001-1.011	46.7593	46.7593
PCB-206	3.66e+07	1.34 Y	0.95	55:37	1.000	0.995-1.005	47.8587	47.8587
PCB-209	4.33e+07	1.20 Y	1.34	56:55	1.000	0.995-1.005	46.6115	46.6115

Name	Resp	RA	RRF	RT	Conc
Total Mono-PCB	3.60e+08	3.09 Y	16:03	1.02	187.692
Total Di-PCB	1.24e+09	1.56 Y	20:04	1.18	504.913
Total Tri-PCB	7.30e+08	1.05 Y	24:13	1.21	395.162
Total Tetra-PCB	4.16e+09	0.79 Y	27:55	1.07	790.715
Total Penta-PCB	2.39e+09	1.57 Y	32:40	1.29	2180.99
Total Hexa-PCB	6.38e+08	1.27 Y	37:04	0.98	1932.27
Total Hepta-PCB	2.20e+09	1.25 Y	42:09	1.13	252.857
Total Octa-PCB	3.77e+08	0.89 Y	48:16	1.00	629.489
Total Nona-PCB	1.33e+08	0.87 Y	53:11	1.34	1415.59
Total Deca-PCB	4.33e+07	1.20 Y	56:55	1.34	629.489
Total Mono-PCB	3.60e+08	3.09 Y	16:03	1.02	187.692
Total Di-PCB	1.24e+09	1.56 Y	20:04	1.18	504.913
Total Tri-PCB	7.30e+08	1.05 Y	24:13	1.21	395.162
Total Tetra-PCB	4.16e+09	0.79 Y	27:55	1.07	790.715
Total Penta-PCB	2.39e+09	1.57 Y	32:40	1.29	2180.99
Total Hexa-PCB	6.38e+08	1.27 Y	37:04	0.98	1932.27
Total Hepta-PCB	2.20e+09	1.25 Y	42:09	1.13	252.857
Total Octa-PCB	3.77e+08	0.89 Y	48:16	1.00	629.489
Total Nona-PCB	1.33e+08	0.87 Y	53:11	1.34	1415.59
Total Deca-PCB	4.33e+07	1.20 Y	56:55	1.34	629.489

Total PCB Conc: 10023.6930580

Integrations
 by
 Analyst: *MS*
 Date: *11/10/16*

Client ID: PCB CS3 16T0203
Lab ID: ST161110E1-1

Filename: 161110E1 S:1 Acq:10-NOV-16 10:06:57
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:1.0000

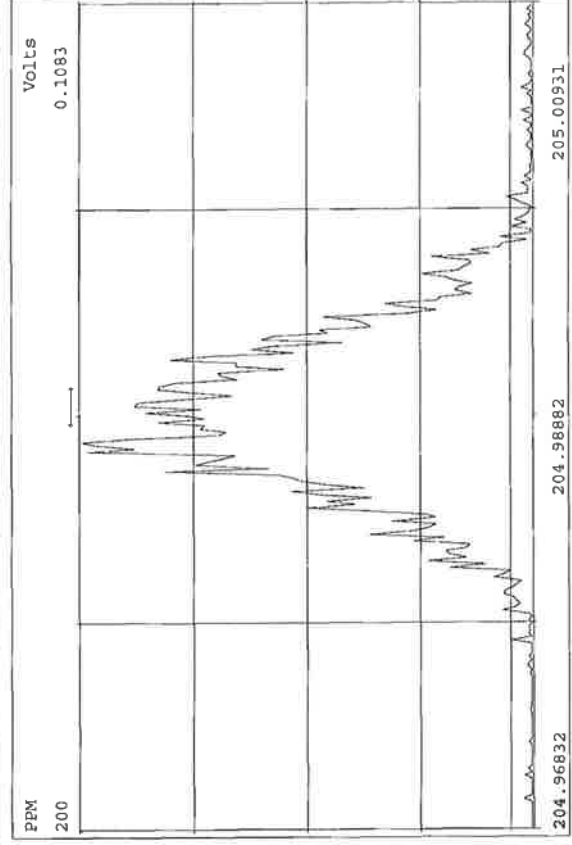
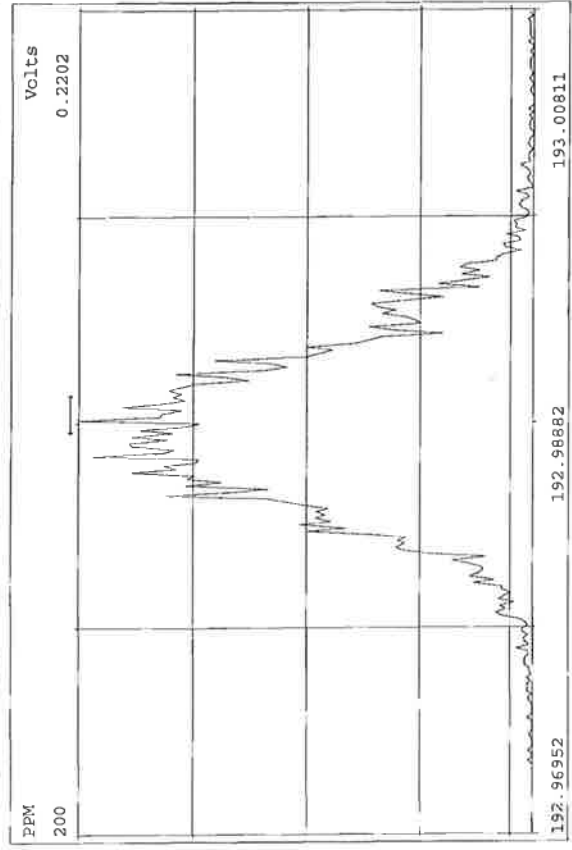
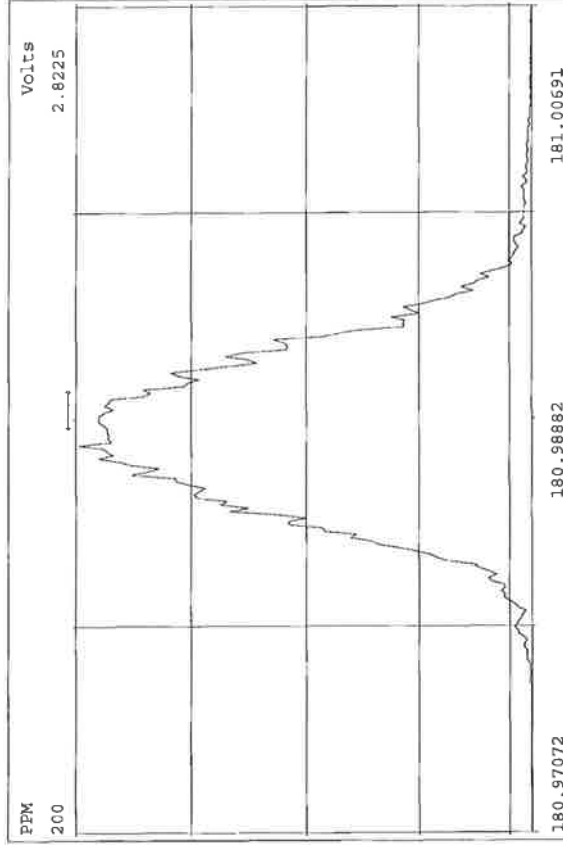
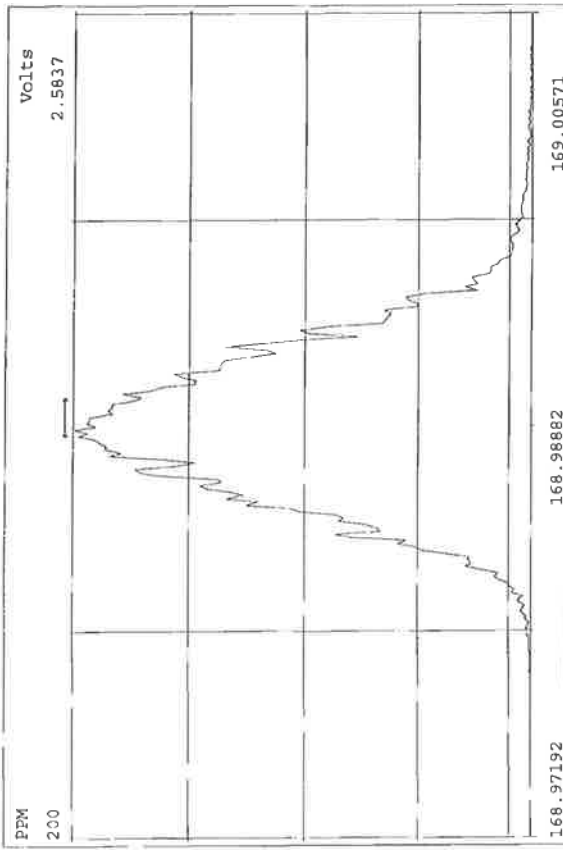
ConCal: ST161110E1-1
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	1.79e+08	3.20	Y	1.09	16:02	0.619	0.619-0.625	67.5	67.5		13C-PCB-79	1.86e+08	0.82	Y	1.01	37:49	1.029	1.024-1.033	100	100	
13C-PCB-3	1.93e+08	3.22	Y	1.15	18:40	0.720	0.718-0.726	69.2	69.2		13C-PCB-178	6.50e+07	0.45	Y	0.64	45:38	0.995	0.980-0.989	93.8	93.8	
13C-PCB-4	1.32e+08	1.51	Y	0.59	20:01	0.772	0.770-0.778	91.2	91.2		PS vs. IS										
13C-PCB-9	2.11e+08	1.50	Y	0.94	21:49	0.842	0.839-0.847	94.5	94.5												
13C-PCB-11	2.26e+08	1.48	Y	0.93	25:13	0.973	0.968-0.978	100	100												
13C-PCB-19	1.14e+08	1.06	Y	0.63	24:11	0.933	0.929-0.939	74.4	74.4												
13C-PCB-28	1.95e+08	1.04	Y	1.14	29:05	1.004	0.999-1.009	84.6	84.6												
13C-PCB-32	1.71e+08	1.06	Y	0.91	27:07	1.046	1.041-1.051	77.3	77.3												
13C-PCB-37	2.08e+08	1.04	Y	1.05	32:57	1.137	1.131-1.143	98.1	98.1												
13C-PCB-47	1.44e+08	0.80	Y	0.72	32:00	0.871	0.867-0.875	102	102												
13C-PCB-52	1.35e+08	0.81	Y	0.72	31:30	0.857	0.853-0.861	101	101												
13C-PCB-54	1.74e+08	0.80	Y	0.95	27:57	0.761	0.757-0.765	100	100												
13C-PCB-70	1.82e+08	0.82	Y	0.97	35:31	0.966	0.961-0.971	102	102												
13C-PCB-77	1.78e+08	0.81	Y	0.93	39:37	1.078	1.073-1.083	104	104												
13C-PCB-80	1.87e+08	0.82	Y	0.98	35:57	0.978	0.973-0.983	104	104												
13C-PCB-81	1.79e+08	0.81	Y	0.95	39:02	1.062	1.057-1.067	102	102												
13C-PCB-95	8.44e+07	1.62	Y	0.70	35:49	0.913	0.908-0.918	101	101												
13C-PCB-97	8.08e+07	1.61	Y	0.67	38:48	0.989	0.984-0.994	101	101												
13C-PCB-101	8.98e+07	1.59	Y	0.75	37:30	0.956	0.951-0.961	101	101												
13C-PCB-104	1.15e+08	1.62	Y	0.95	32:39	0.832	0.828-0.836	102	102												
13C-PCB-105	1.46e+08	1.53	Y	1.14	43:03	0.929	0.924-0.934	118	118												
13C-PCB-114	1.48e+08	1.55	Y	1.12	42:12	0.910	0.905-0.915	122	122												
13C-PCB-118	1.12e+08	1.56	Y	0.93	41:32	1.059	1.054-1.064	102	102												
13C-PCB-123	1.08e+08	1.62	Y	0.88	41:22	1.054	1.049-1.059	103	103												
13C-PCB-126	1.48e+08	1.56	Y	1.16	45:17	0.977	0.972-0.982	118	118												
13C-PCB-127	1.62e+08	1.54	Y	1.25	43:23	0.936	0.931-0.941	119	119												
13C-PCB-138	1.25e+08	1.29	Y	1.11	44:47	0.966	0.961-0.971	104	104												
13C-PCB-141	1.20e+08	1.28	Y	1.05	43:57	0.948	0.943-0.953	105	105												
13C-PCB-153	1.41e+08	1.27	Y	1.21	43:13	0.933	0.927-0.937	108	108												
13C-PCB-155	1.04e+08	1.26	Y	0.84	37:03	0.944	0.939-0.949	104	104												
13C-PCB-156	1.44e+08	1.28	Y	1.31	48:02	1.037	1.032-1.042	102	102												
13C-PCB-157	1.50e+08	1.28	Y	1.35	48:18	1.042	1.037-1.047	102	102												
13C-PCB-159	1.48e+08	1.28	Y	1.33	46:04	0.994	0.989-0.999	102	102												
13C-PCB-167	1.46e+08	1.27	Y	1.34	46:45	1.009	1.004-1.014	100	100												
13C-PCB-169	1.42e+08	1.28	Y	1.33	50:30	1.090	1.084-1.094	98.2	98.2												
13C-PCB-170	5.99e+07	0.47	Y	0.61	50:54	1.099	1.091-1.103	90.8	90.8												
13C-PCB-180	6.67e+07	0.46	Y	0.67	49:19	1.064	1.059-1.069	91.7	91.7												
13C-PCB-188	9.91e+07	0.47	Y	0.94	42:50	0.924	0.919-0.929	97.4	97.4												
13C-PCB-189	7.35e+07	0.45	Y	0.79	52:30	1.133	1.124-1.136	85.3	85.3												
13C-PCB-194	7.87e+07	0.92	Y	0.72	54:03	0.995	0.990-1.000	105	105												
13C-PCB-202	9.37e+07	0.91	Y	0.94	48:15	1.041	1.036-1.046	91.4	91.4												
13C-PCB-206	8.06e+07	0.80	Y	0.80	55:36	1.024	1.020-1.301	96.0	96.0												
13C-PCB-208	1.24e+08	0.78	Y	1.00	53:19	0.981	0.977-0.987	118	118												
13C-PCB-209	6.91e+07	1.19	Y	0.85	56:54	1.047	1.045-1.055	77.8	77.8												

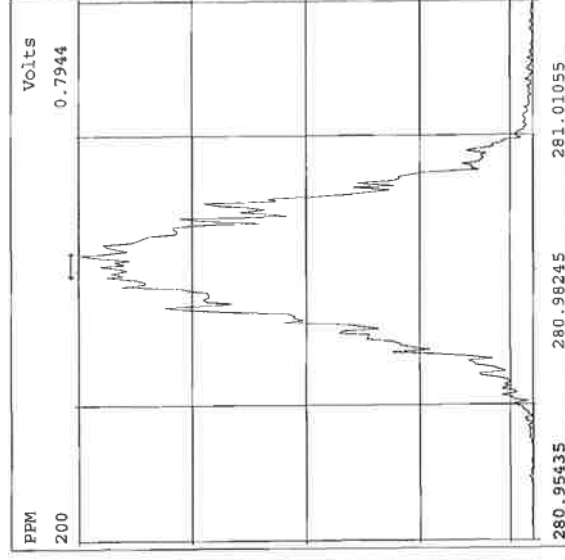
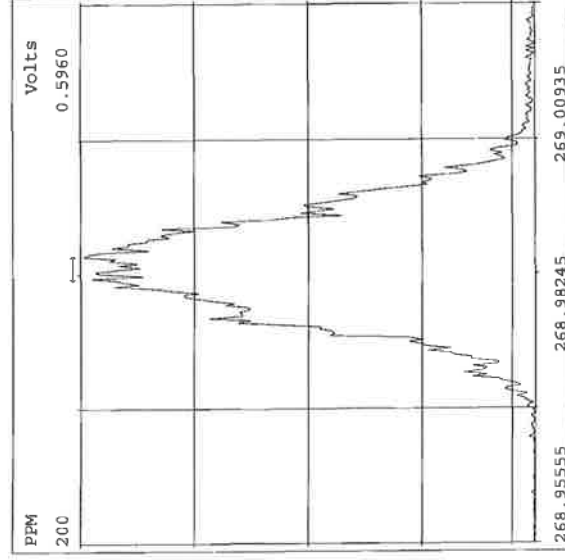
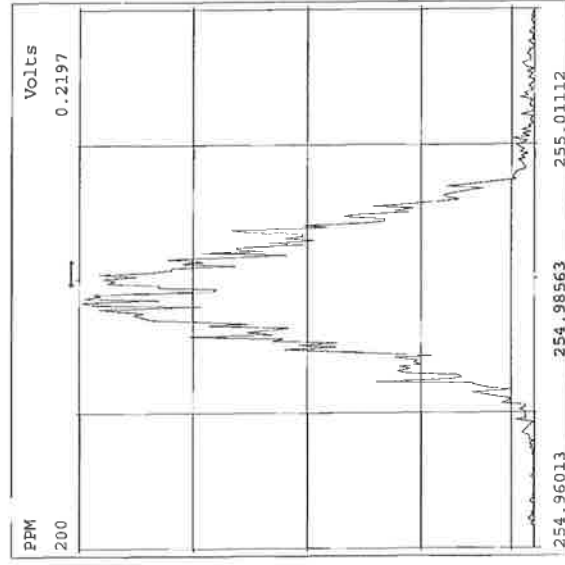
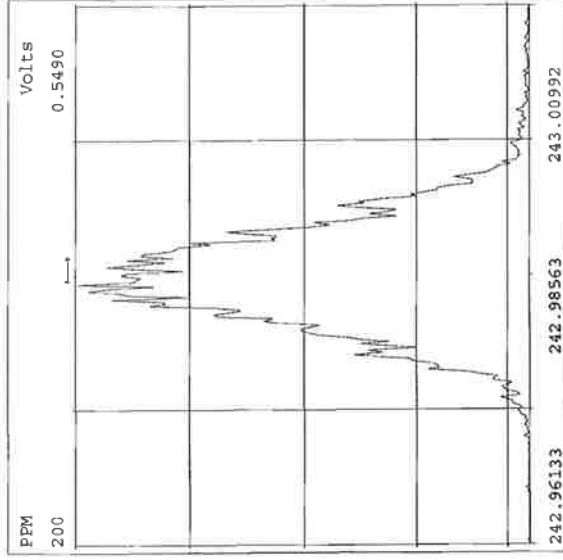
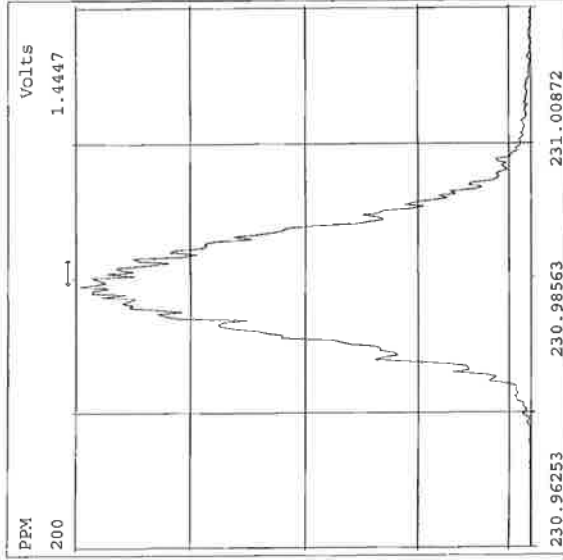
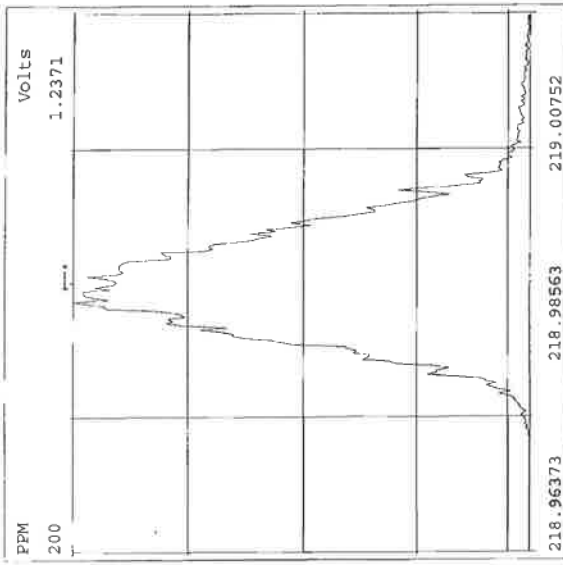
RS

Analyst: MS
Date: 11/10/16

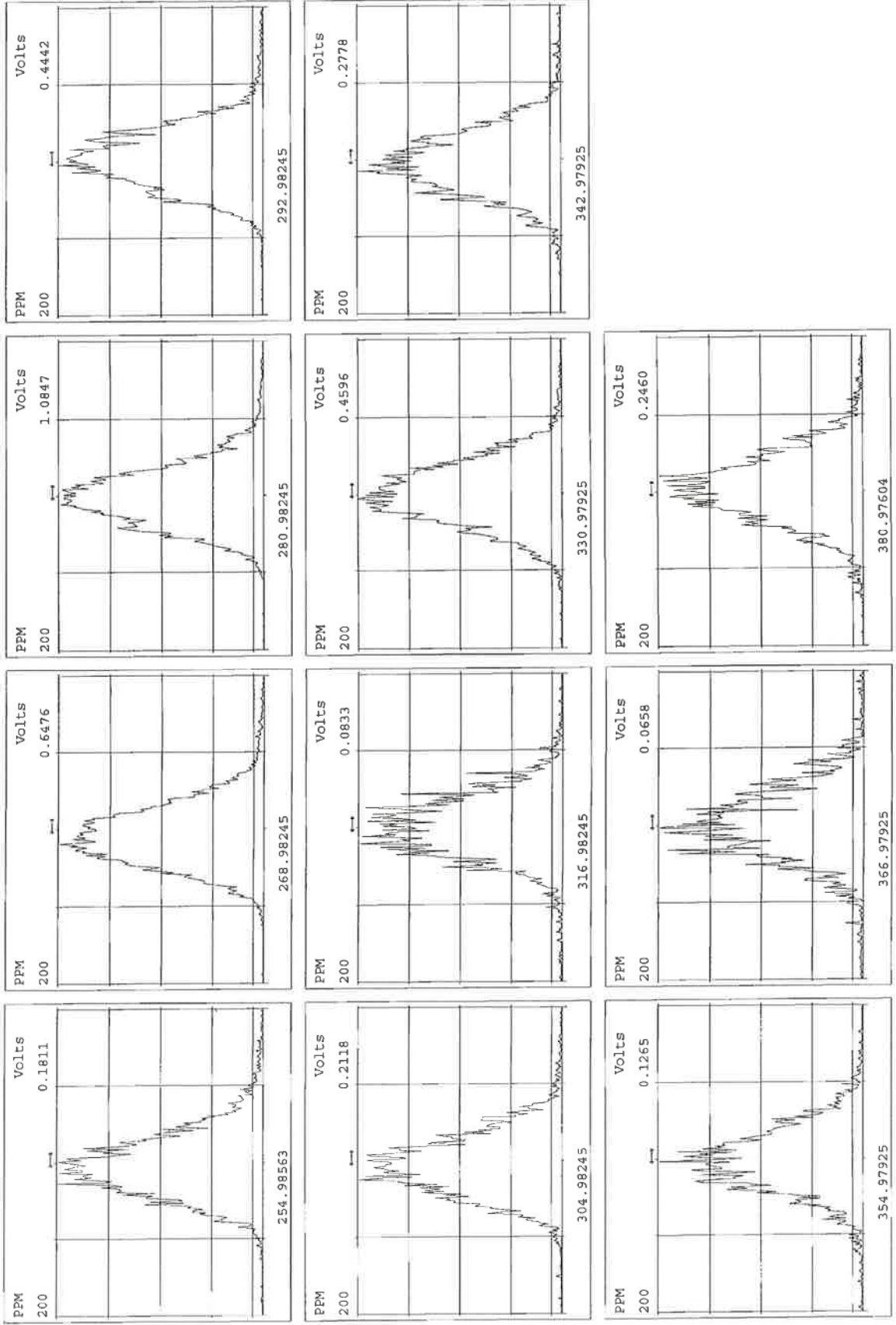
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Experiment:PCB_ZB1 Function:1 Reference:PFK



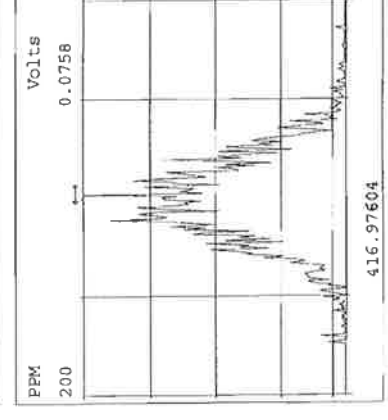
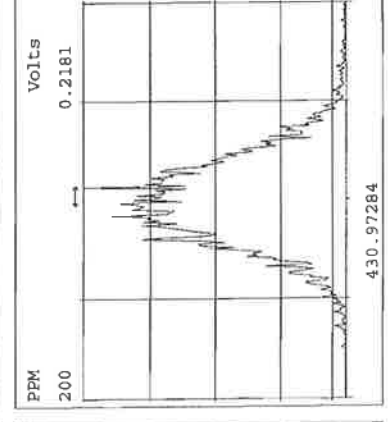
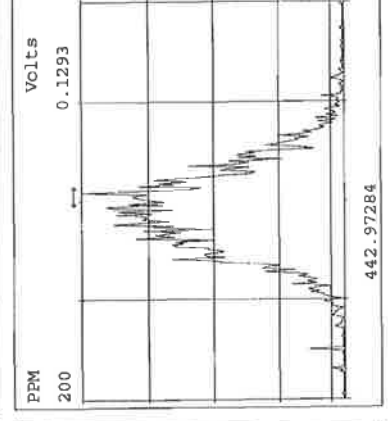
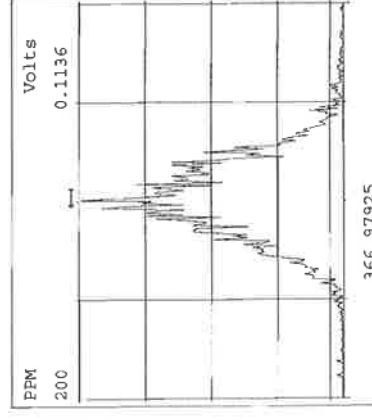
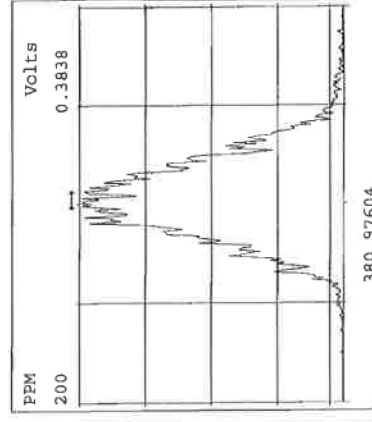
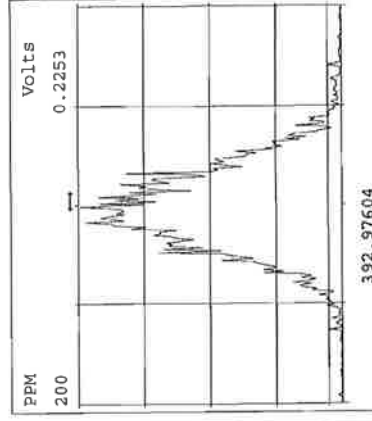
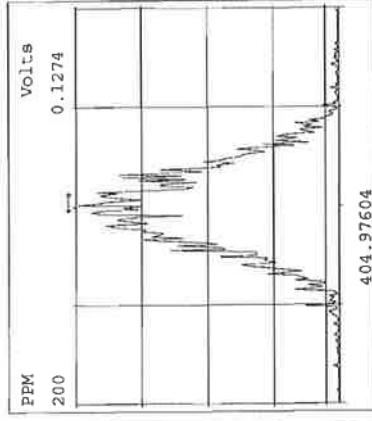
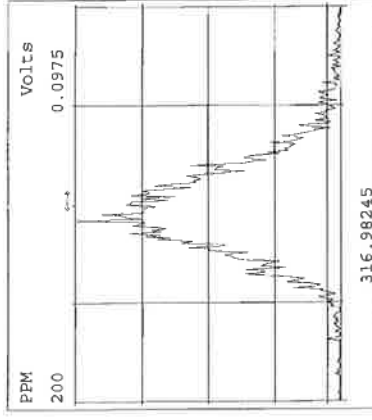
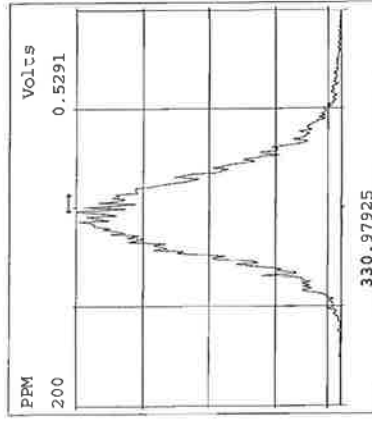
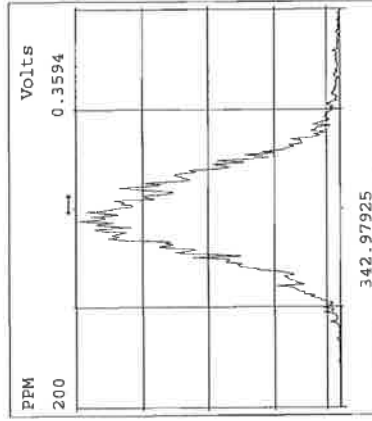
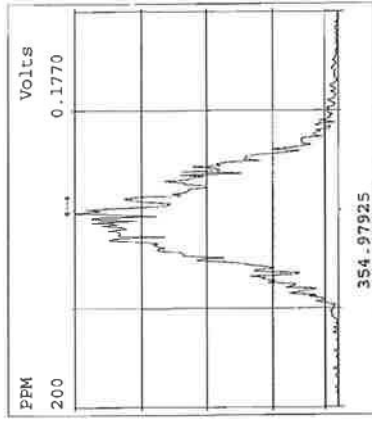
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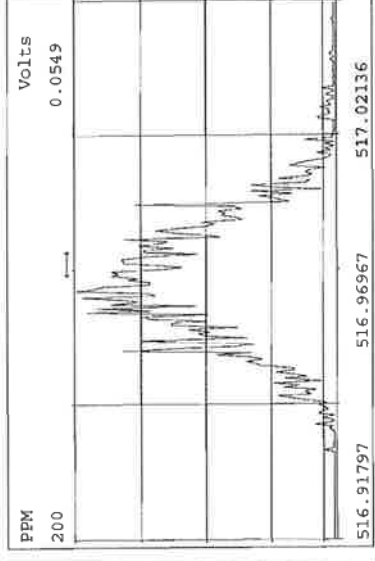
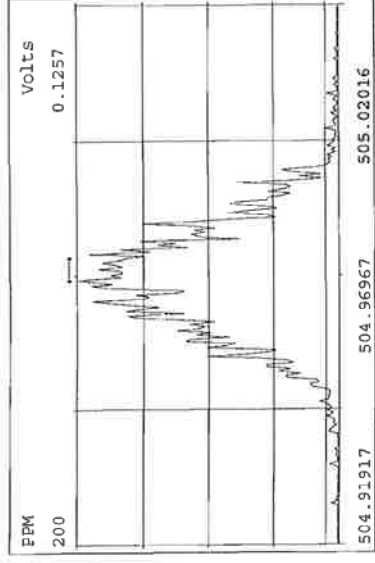
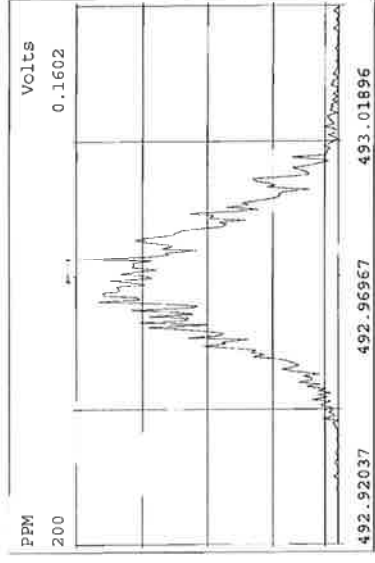
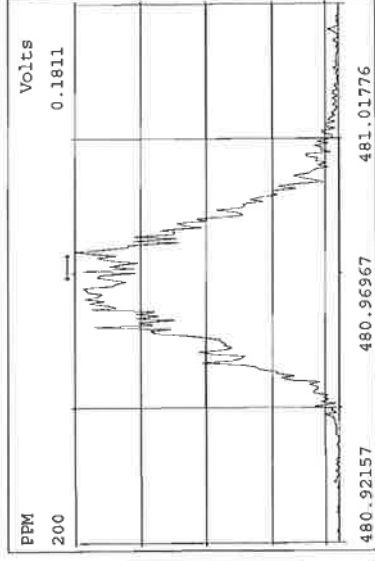
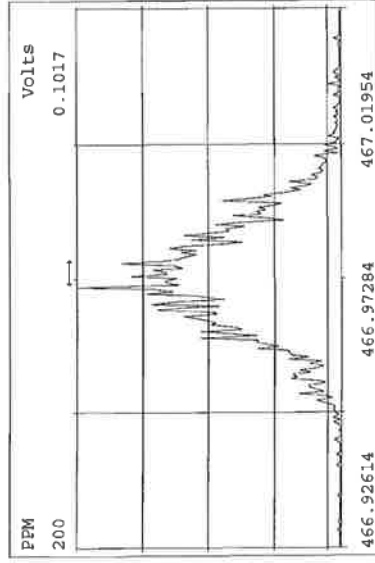
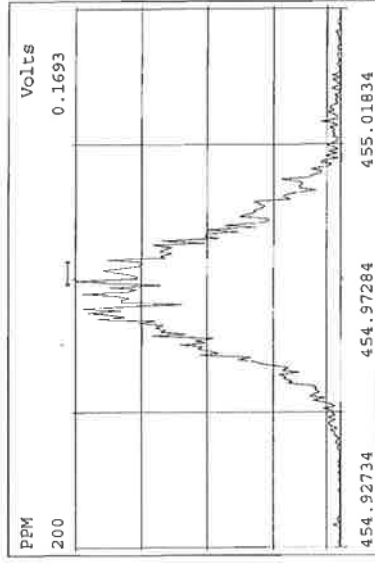
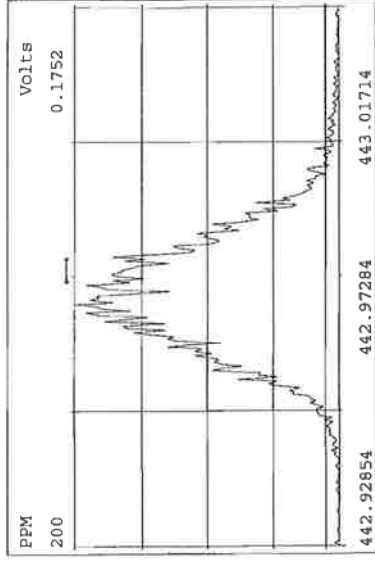
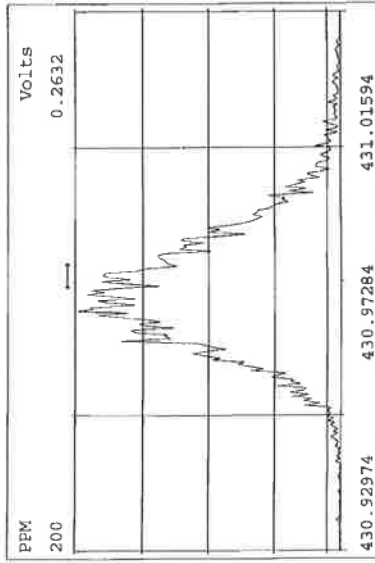
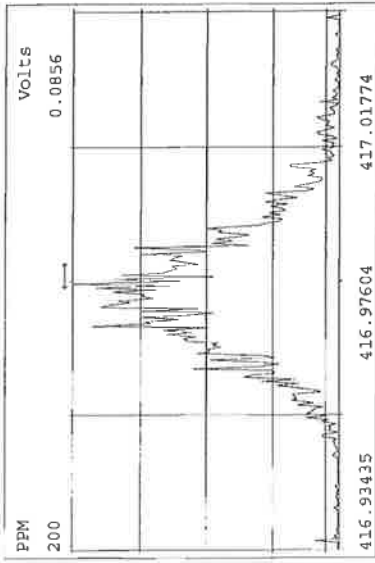
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Peak Locate Examination:10-NOV-2016:10:06 File:161110E1
Experiment:PCB_ZB1 Function:4 Reference:PFK



Peak Locate Examination:10-NOV-2016:10:06 File:161110E1
 Experiment:PCB_ZBI Function:5 Reference:PFK



Vista Analytical Laboratory - Injection Log Run file: 161111E2 Instrument ID: VG-8 GC Column ID: ZB-1

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
161111E2	1	ST161111E2-1	MAS	11-NOV-16	18:24:32	ST161111E2-1	ST161112E2-1
161111E2	2	B6K0062-BS1	MAS	11-NOV-16	19:29:38	ST161111E2-1	ST161112E2-1
161111E2	3	B6K0073-BS1	MAS	11-NOV-16	20:34:44	ST161111E2-1	ST161112E2-1
161111E2	4	SOLVENT BLANK	MAS	11-NOV-16	21:39:52	ST161111E2-1	ST161112E2-1
161111E2	5	B6K0062-BLK1	MAS	11-NOV-16	22:44:56	ST161111E2-1	ST161112E2-1
161111E2	6	B6K0073-BLK1	MAS	11-NOV-16	23:50:02	ST161111E2-1	ST161112E2-1
161111E2	7	1601354-13	MAS	12-NOV-16	00:55:06	ST161111E2-1	ST161112E2-1
161111E2	8	1601354-14	MAS	12-NOV-16	02:00:12	ST161111E2-1	ST161112E2-1
161111E2	9	1601324-03	MAS	12-NOV-16	03:05:16	ST161111E2-1	ST161112E2-1
161111E2	10	1601324-01	MAS	12-NOV-16	04:10:22	ST161111E2-1	ST161112E2-1
161111E2	11	1601324-02	MAS	12-NOV-16	05:15:30	ST161111E2-1	ST161112E2-1
161111E2	12	SOLVENT BLANK	MAS	12-NOV-16	06:20:38	ST161111E2-1	ST161112E2-1
161112E1	1	ST161112E1-1	MAS	12-NOV-16	13:03:27	ST161111E2-1	ST161112E2-1

NATIVE 1668A CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161111E2-1 Instrument ID: VG-8
Initial Calibration Date: 4-19-16 Ical ID: PCBVG8-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161111E2 S#1 Analysis Date: 11-NOV-16 Time: 18:24:32

ANALYTES	ION ABUND. RATIO		QC LIMITS		PASS	ANALYTES	CONC. RANGE (ng/mL)		CONC. FOUND	CONC. RANGE (ng/mL)	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
	ABUND. RATIO	QC LIMITS	ABUND. RATIO	QC LIMITS			CONC. FOUND	CONC. RANGE (ng/mL)					
PCB-1	3.09	2.66-3.60	Y	59.6	Y	PCB-52/69	100.6	70.0-130	Y	100.6	70.0-130		
PCB-2	3.11	2.66-3.60	Y	61.6	Y	PCB-73	45.5	35.0-65.0	Y	45.5	35.0-65.0		
PCB-3	3.07	2.66-3.60	Y	59.9	Y	PCB-43/49	87.8	70.0-130	Y	87.8	70.0-130		
PCB-4/10	1.56	1.33-1.79	Y	87.8	Y	PCB-47	45.9	35.0-65.0	Y	45.9	35.0-65.0		
PCB-7/9	1.55	1.33-1.79	Y	82.6	Y	PCB-48/75	101.3	70.0-130	Y	101.3	70.0-130		
PCB-6	1.56	1.33-1.79	Y	42.4	Y	PCB-65	53.5	35.0-65.0	Y	53.5	35.0-65.0		
PCB-5/8	1.55	1.33-1.79	Y	83.0	Y	PCB-62	47.5	35.0-65.0	Y	47.5	35.0-65.0		
PCB-14	1.55	1.33-1.79	Y	41.8	Y	PCB-44	47.2	35.0-65.0	Y	47.2	35.0-65.0		
PCB-11	1.57	1.33-1.79	Y	40.6	Y	PCB-42/59	95.2	70.0-130	Y	95.2	70.0-130		
PCB-12/13	1.57	1.33-1.79	Y	83.1	Y	PCB-41/64/71/72	198.8	140-260	Y	198.8	140-260		
PCB-15	1.56	1.33-1.79	Y	42.2	Y	PCB-68	49.3	35.0-65.0	Y	49.3	35.0-65.0		
PCB-19	1.05	0.88-1.20	Y	52.7	Y	PCB-40	47.3	35.0-65.0	Y	47.3	35.0-65.0		
PCB-30	1.06	0.88-1.20	Y	55.5	Y	PCB-57	49.3	35.0-65.0	Y	49.3	35.0-65.0		
PCB-18	1.06	0.88-1.20	Y	52.1	Y	PCB-67	49.6	35.0-65.0	Y	49.6	35.0-65.0		
PCB-17	1.05	0.88-1.20	Y	52.4	Y	PCB-58	48.4	35.0-65.0	Y	48.4	35.0-65.0		
PCB-24/27	1.05	0.88-1.20	Y	107.0	Y	PCB-63	51.6	35.0-65.0	Y	51.6	35.0-65.0		
PCB-16/32	1.05	0.88-1.20	Y	104.0	Y	PCB-74	98.3	70.0-130	Y	98.3	70.0-130		
PCB-34	1.01	0.88-1.20	Y	52.4	Y	PCB-61/70	102.8	70.0-130	Y	102.8	70.0-130		
PCB-23	1.02	0.88-1.20	Y	60.6	Y	PCB-76/66	52.0	35.0-65.0	Y	52.0	35.0-65.0		
PCB-29	0.99	0.88-1.20	Y	55.0	Y	PCB-80	52.3	35.0-65.0	Y	52.3	35.0-65.0		
PCB-26	1.01	0.88-1.20	Y	52.0	Y	PCB-55	98.2	70.0-130	Y	98.2	70.0-130		
PCB-25	1.01	0.88-1.20	Y	52.7	Y	PCB-56/60	53.9	35.0-65.0	Y	53.9	35.0-65.0		
PCB-31	0.99	0.88-1.20	Y	51.3	Y	PCB-79	56.2	35.0-65.0	Y	56.2	35.0-65.0		
PCB-28	1.02	0.88-1.20	Y	44.3	Y	PCB-78	54.9	35.0-65.0	Y	54.9	35.0-65.0		
PCB-20/21/33	1.00	0.88-1.20	Y	135.3	Y	PCB-81	51.6	35.0-65.0	Y	51.6	35.0-65.0		
PCB-22	1.00	0.88-1.20	Y	44.7	Y	PCB-77	50.1	35.0-65.0	Y	50.1	35.0-65.0		
PCB-36	1.01	0.88-1.20	Y	41.8	Y	PCB-104	47.9	35.0-65.0	Y	47.9	35.0-65.0		
PCB-39	1.01	0.88-1.20	Y	39.4	Y	PCB-96	47.4	35.0-65.0	Y	47.4	35.0-65.0		
PCB-38	1.02	0.88-1.20	Y	40.7	Y	PCB-103	46.6	35.0-65.0	Y	46.6	35.0-65.0		
PCB-35	1.00	0.88-1.20	Y	41.5	Y	PCB-100	51.1	35.0-65.0	Y	51.1	35.0-65.0		
PCB-37	1.01	0.88-1.20	Y	42.5	Y	PCB-94	151.5	105-195	Y	151.5	105-195		
PCB-54	0.77	0.65-0.89	Y	48.3	Y	PCB-95/98/102	49.6	35.0-65.0	Y	49.6	35.0-65.0		
PCB-50	0.77	0.65-0.89	Y	43.2	Y	PCB-93	93.2	70.0-130	Y	93.2	70.0-130		
PCB-53	0.78	0.65-0.89	Y	48.9	Y	PCB-88/91	53.7	35.0-65.0	Y	53.7	35.0-65.0		
PCB-51	0.78	0.65-0.89	Y	45.6	Y	PCB-121							
PCB-45	0.78	0.65-0.89	Y	47.7	Y								
PCB-46	0.78	0.65-0.89	Y	50.1	Y								

Analyst: M

Date: 11/2/16

NATIVE PCB CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161111E2-1 Instrument ID: VG-8

Initial Calibration Date: 4-19-16 ICal ID: PCBVG8-4-19-16 GC Column ID: ZB-1

VER Data Filename: 16111E2 S#1 Analysis Date: 11-NOV-16 Time: 18:24:32

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
PCB-84/92	1.59	1.32-1.78	Y	99.9	70.0-130	PCB-140	1.26	1.05-1.43	Y	48.9	35.0-65.0
PCB-89	1.63	1.32-1.78	Y	49.9	35.0-65.0	PCB-134/143	1.24	1.05-1.43	Y	100.9	70.0-130
PCB-90/101	1.58	1.32-1.78	Y	102.7	70.0-130	PCB-133/142	1.26	1.05-1.43	Y	105.2	70.0-130
PCB-113	1.59	1.32-1.78	Y	49.6	35.0-65.0	PCB-131	1.19	1.05-1.43	Y	48.8	35.0-65.0
PCB-99	1.64	1.32-1.78	Y	53.4	35.0-65.0	PCB-146/165	1.23	1.05-1.43	Y	102.0	70.0-130
PCB-119	1.62	1.32-1.78	Y	54.0	35.0-65.0	PCB-132/161	1.26	1.05-1.43	Y	100.3	70.0-130
PCB-108/112	1.61	1.32-1.78	Y	102.5	70.0-130	PCB-153	1.25	1.05-1.43	Y	49.2	35.0-65.0
PCB-83	1.60	1.32-1.78	Y	52.6	35.0-65.0	PCB-168	1.24	1.05-1.43	Y	49.8	35.0-65.0
PCB-97	1.57	1.32-1.78	Y	51.9	35.0-65.0	PCB-141	1.27	1.05-1.43	Y	51.4	35.0-65.0
PCB-86	1.62	1.32-1.78	Y	47.2	35.0-65.0	PCB-137	1.23	1.05-1.43	Y	50.9	35.0-65.0
PCB-87/117/125	1.63	1.32-1.78	Y	160.0	105-195	PCB-130	1.26	1.05-1.43	Y	51.8	35.0-65.0
PCB-111/115	1.53	1.32-1.78	Y	106.8	70.0-130	PCB-138/163/164	1.26	1.05-1.43	Y	157.3	105-195
PCB-85/116	1.58	1.32-1.78	Y	96.3	70.0-130	PCB-158/160	1.26	1.05-1.43	Y	104.4	70.0-130
PCB-120	1.58	1.32-1.78	Y	53.4	35.0-65.0	PCB-129	1.25	1.05-1.43	Y	50.7	35.0-65.0
PCB-110	1.61	1.32-1.78	Y	48.9	35.0-65.0	PCB-166	1.26	1.05-1.43	Y	51.6	35.0-65.0
PCB-82	1.62	1.32-1.78	Y	50.4	35.0-65.0	PCB-159	1.26	1.05-1.43	Y	51.0	35.0-65.0
PCB-124	1.58	1.32-1.78	Y	50.8	35.0-65.0	PCB-128/162	1.25	1.05-1.43	Y	101.8	70.0-130
PCB-107/109	1.61	1.32-1.78	Y	103.1	70.0-130	PCB-167	1.25	1.05-1.43	Y	50.7	35.0-65.0
PCB-123	1.59	1.32-1.78	Y	48.5	35.0-65.0	PCB-156	1.27	1.05-1.43	Y	49.5	35.0-65.0
PCB-106/118	1.61	1.32-1.78	Y	101.6	70.0-130	PCB-157	1.26	1.05-1.43	Y	50.2	35.0-65.0
PCB-114	1.53	1.32-1.78	Y	48.8	35.0-65.0	PCB-169	1.25	1.05-1.43	Y	48.2	35.0-65.0
PCB-122	1.57	1.32-1.78	Y	48.8	35.0-65.0	PCB-188	1.07	0.89-1.21	Y	48.7	35.0-65.0
PCB-105	1.56	1.32-1.78	Y	46.2	35.0-65.0	PCB-184	1.08	0.89-1.21	Y	49.2	35.0-65.0
PCB-127	1.52	1.32-1.78	Y	45.3	35.0-65.0	PCB-179	1.06	0.89-1.21	Y	50.6	35.0-65.0
PCB-126	1.56	1.32-1.78	Y	44.7	35.0-65.0	PCB-176	1.06	0.89-1.21	Y	50.0	35.0-65.0
PCB-155	1.26	1.05-1.43	Y	47.5	35.0-65.0	PCB-186	1.06	0.89-1.21	Y	50.0	35.0-65.0
PCB-150	1.30	1.05-1.43	Y	50.7	35.0-65.0	PCB-178	1.06	0.89-1.21	Y	46.5	35.0-65.0
PCB-152	1.29	1.05-1.43	Y	48.5	35.0-65.0	PCB-175	1.07	0.89-1.21	Y	50.3	35.0-65.0
PCB-145	1.27	1.05-1.43	Y	49.2	35.0-65.0	PCB-182/187	1.08	0.89-1.21	Y	96.6	70.0-130
PCB-136	1.29	1.05-1.43	Y	49.7	35.0-65.0	PCB-183	1.06	0.89-1.21	Y	47.9	35.0-65.0
PCB-148	1.25	1.05-1.43	Y	51.2	35.0-65.0	PCB-185	1.05	0.89-1.21	Y	49.1	35.0-65.0
PCB-154	1.29	1.05-1.43	Y	51.2	35.0-65.0	PCB-174	1.05	0.89-1.21	Y	45.1	35.0-65.0
PCB-151	1.30	1.05-1.43	Y	51.1	35.0-65.0	PCB-181	1.09	0.89-1.21	Y	49.1	35.0-65.0
PCB-135	1.27	1.05-1.43	Y	47.6	35.0-65.0	PCB-177	1.08	0.89-1.21	Y	48.0	35.0-65.0
PCB-144	1.28	1.05-1.43	Y	51.5	35.0-65.0	PCB-171	1.05	0.89-1.21	Y	47.2	35.0-65.0
PCB-147	1.32	1.05-1.43	Y	48.0	35.0-65.0	PCB-173	1.06	0.89-1.21	Y	47.2	35.0-65.0
PCB-139/149	1.27	1.05-1.43	Y	96.1	70.0-130	PCB-172	1.07	0.89-1.21	Y	49.2	35.0-65.0

Analyst: (M)

Date: 11/2/16



NATIVE PCB CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST161111E2-1 Instrument ID: VG-8
Initial Calibration Date: 4-19-16 ICAL ID: PCBVG8-4-19-16 GC Column ID: ZB-1

VER Data Filename: 161111E2 S#1 Analysis Date: 11-NOV-16 Time: 18:24:32

ANALYTES	ION	QC	ABUND. LIMITS		PASS	CONC.	
			RATIO	RATIO		FOUND	RANGE (ng/mL)
PCB-192	1.06	0.89-1.21	Y	47.8	35.0-65.0		
PCB-180	1.06	0.89-1.21	Y	47.1	35.0-65.0		
PCB-193	1.07	0.89-1.21	Y	48.9	35.0-65.0		
PCB-191	1.06	0.89-1.21	Y	49.4	35.0-65.0		
PCB-170	1.07	0.89-1.21	Y	50.1	35.0-65.0		
PCB-190	1.08	0.89-1.21	Y	50.0	35.0-65.0		
PCB-189	1.07	0.89-1.21	Y	50.7	35.0-65.0		
PCB-202	0.92	0.76-1.02	Y	50.7	35.0-65.0		
PCB-201	0.91	0.76-1.02	Y	54.0	35.0-65.0		
PCB-204	0.94	0.76-1.02	Y	50.5	35.0-65.0		
PCB-197	0.92	0.76-1.02	Y	51.3	35.0-65.0		
PCB-200	0.93	0.76-1.02	Y	51.2	35.0-65.0		
PCB-198	0.91	0.76-1.02	Y	49.2	35.0-65.0		
PCB-199	0.92	0.76-1.02	Y	51.5	35.0-65.0		
PCB-196/203	0.92	0.76-1.02	Y	99.2	70.0-130		
PCB-195	0.89	0.76-1.02	Y	44.8	35.0-65.0		
PCB-194	0.87	0.76-1.02	Y	38.7	35.0-65.0		
PCB-205	0.90	0.76-1.02	Y	39.8	35.0-65.0		
PCB-208	1.32	1.14-1.54	Y	43.2	35.0-65.0		
PCB-207	1.32	1.14-1.54	Y	44.0	35.0-65.0		
PCB-206	1.31	1.14-1.54	Y	43.6	35.0-65.0		
PCB-209	1.19	0.99-1.34	Y	48.6	35.0-65.0		

Analyst: VM
Date: 11/2/16

LABELED 1668A CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory

Lab ID: ST161111E2-1

Instrument ID: VG-8

Initial Calibrator Date: 4-19-16

ICal ID: PCBVG8-4-19-16

GC Column ID: ZB-1

VER Data Filename: 161111E2 S#1 Analysis Date: 11-NOV-16 Time: 18:24:32

LABELED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)	Labeled IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C-PCB-1	3.25	2.66-3.60	Y	75.9	50.0-150	13C-PCB-169	1.27	1.05-1.43	Y	101.6	50 - 150
13C-PCB-3	3.22	2.66-3.60	Y	77.8	50.0-150	13C-PCB-188	0.47	0.38-0.52	Y	81.7	50 - 150
13C-PCB-4	1.53	1.33-1.79	Y	96.0	50.0-150	13C-PCB-180	0.47	0.38-0.52	Y	81.5	50 - 150
13C-PCB-9	1.52	1.33-1.79	Y	98.4	50.0-150	13C-PCB-170	0.48	0.38-0.52	Y	77.6	50 - 150
13C-PCB-11	1.51	1.33-1.79	Y	100.0	50.0-150	13C-PCB-189	0.46	0.38-0.52	Y	76.1	50 - 150
13C-PCB-19	1.07	0.88-1.20	Y	80.2	50.0-150	13C-PCB-202	0.89	0.76-1.02	Y	57.1	50 - 150
13C-PCB-32	1.08	0.88-1.20	Y	85.2	50.0-150	13C-PCB-194	0.87	0.76-1.02	Y	101.5	50 - 150
13C-PCB-28	1.01	0.88-1.20	Y	78.3	50.0-150	13C-PCB-208	0.78	0.65-0.89	Y	135.8	50 - 150
13C-PCB-37	1.03	0.88-1.20	Y	87.9	50.0-150	13C-PCB-206	0.79	0.65-0.89	Y	106.8	50 - 150
13C-PCB-54	0.80	0.65-0.89	Y	118.6	50.0-150	13C-PCB-209	1.22	0.99-1.33	Y	74.3	50 - 150
13C-PCB-52	0.79	0.65-0.89	Y	112.6	50.0-150						
13C-PCB-47	0.79	0.65-0.89	Y	109.2	50.0-150						
13C-PCB-70	0.80	0.65-0.89	Y	107.3	50.0-150						
13C-PCB-80	0.82	0.65-0.89	Y	105.7	50.0-150						
13C-PCB-81	0.81	0.65-0.89	Y	107.7	50.0-150						
13C-PCB-77	0.82	0.65-0.89	Y	110.3	50.0-150						
13C-PCB-104	1.62	1.32-1.78	Y	108.0	50.0-150						
13C-PCB-95	1.60	1.32-1.78	Y	97.2	50.0-150						
13C-PCB-101	1.66	1.32-1.78	Y	95.3	50.0-150	CRS vs. RS					
13C-PCB-97	1.62	1.32-1.78	Y	97.2	50.0-150						
13C-PCB-123	1.64	1.32-1.78	Y	98.9	50.0-150	13C-PCB-79	0.81	0.65-0.89	Y	106.8	60 - 130
13C-PCB-118	1.68	1.32-1.78	Y	98.1	50.0-150	13C-PCB-178	0.46	0.38-0.52	Y	78.8	60 - 130
13C-PCB-114	1.59	1.32-1.78	Y	105.7	50.0-150	PS vs. IS					
13C-PCB-105	1.58	1.32-1.78	Y	105.5	50.0-150						
13C-PCB-127	1.55	1.32-1.78	Y	103.0	50.0-150						
13C-PCB-126	1.55	1.32-1.78	Y	104.9	50.0-150						
13C-PCB-155	1.26	1.05-1.43	Y	76.6	50.0-150						
13C-PCB-153	1.27	1.05-1.43	Y	106.3	50.0-150						
13C-PCB-141	1.30	1.05-1.43	Y	101.5	50.0-150	13C-PCB-79	0.81	0.65-0.89	Y	99.1	60 - 130
13C-PCB-138	1.26	1.05-1.43	Y	103.9	50.0-150	13C-PCB-178	0.46	0.38-0.52	Y	96.7	60 - 130
13C-PCB-159	1.27	1.05-1.43	Y	103.7	50.0-150						
13C-PCB-167	1.28	1.05-1.43	Y	104.7	50.0-150						
13C-PCB-156	1.30	1.05-1.43	Y	104.6	50.0-150						
13C-PCB-157	1.28	1.05-1.43	Y	101.7	50.0-150						

Analyst: M
 Date: 11/21/16

Client ID: PCB CS3 16I0203
Lab ID: ST161111E2-1
Filenam: 161111E2 S:1 Acq:11-NOV-16 18:24:32
GC Column: ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol: 1.0000 EndCAL: ST161112E1-1

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	1.19e+08	3.09	1.06	16:04	1.001	0.997-1.007	59.5506	100.634	PCB-52/69	1.79e+08	0.79	1.308	31:33	1.001	0.996-1.006	100.634	
PCB-2	1.24e+08	3.11	0.99	18:28	0.988	0.983-0.993	61.6440	45.5381	PCB-73	9.02e+07	0.79	1.454	31:40	1.005	0.999-1.009	45.5381	
PCB-3	1.24e+08	3.07	1.02	18:42	1.001	0.996-1.006	59.8867	87.7511	PCB-43/49	1.53e+08	0.77	1.279	31:50	1.010	1.005-1.015	87.7511	
PCB-4/10	1.62e+08	1.56	1.41	20:05	1.003	0.997-1.007	87.7523	45.9275	PCB-47	7.84e+07	0.78	1.222	32:02	1.000	0.996-1.006	45.9275	
PCB-7/9	1.97e+08	1.55	1.13	21:52	0.867	0.864-0.872	82.5773	101.335	PCB-48/75	1.87e+08	0.79	1.324	32:09	1.004	0.999-1.009	101.335	
PCB-6	9.67e+07	1.56	1.08	22:31	0.893	0.888-0.897	42.3608	53.5435	PCB-65	9.52e+07	0.78	1.273	32:25	1.012	1.007-1.017	53.5435	
PCB-5/8	1.99e+08	1.55	1.14	22:57	0.910	0.905-0.915	83.0470	47.4525	PCB-62	9.00e+07	0.79	1.358	32:31	1.016	1.011-1.021	47.4525	
PCB-14	1.17e+08	1.55	1.32	24:02	0.953	0.948-0.958	41.7695	47.2365	PCB-44	6.21e+07	0.79	0.941	32:49	1.025	1.020-1.030	47.2365	
PCB-11	1.02e+08	1.57	1.18	25:14	1.000	0.995-1.005	40.6441	95.2125	PCB-42/59	1.68e+08	0.79	1.267	33:03	1.032	1.027-1.037	95.2125	
PCB-12/13	2.02e+08	1.57	1.14	25:38	1.016	1.011-1.021	83.1207	198.837	PCB-41/64/71/72	3.72e+08	0.79	1.338	33:38	1.051	1.045-1.055	198.837	
PCB-15	1.15e+08	1.56	1.29	25:56	1.028	1.023-1.031	42.1776	49.2966	PCB-68	1.05e+08	0.79	1.526	33:53	1.059	1.053-1.063	49.2966	
PCB-19	7.52e+07	1.05	1.23	24:13	1.001	0.996-1.006	52.7110	47.2600	PCB-40	5.70e+07	0.79	0.864	34:06	1.065	1.061-1.071	47.2600	
PCB-18	3.31e+07	1.06	1.88	25:07	1.038	1.033-1.043	55.5408	49.3374	PCB-57	9.58e+07	0.80	1.119	34:28	0.971	0.965-0.975	49.3374	
PCB-17	9.05e+07	1.05	0.90	25:52	0.954	0.949-0.959	52.0689	49.6058	PCB-67	9.44e+07	0.77	1.097	34:47	0.979	0.974-0.984	49.6058	
PCB-24/27	2.41e+08	1.05	1.27	26:37	0.981	0.977-0.987	107.005	49.0362	PCB-58	9.85e+07	0.79	1.157	34:54	0.982	0.977-0.987	49.0362	
PCB-16/32	1.98e+08	1.05	1.07	27:08	1.000	0.996-1.006	103.951	48.4396	PCB-63	1.01e+08	0.79	1.199	35:03	0.987	0.981-0.991	48.4396	
PCB-34	8.16e+07	1.01	0.97	27:55	0.960	0.955-0.965	52.3853	51.6042	PCB-74	1.05e+08	0.79	1.172	35:20	0.995	0.989-0.999	51.6042	
PCB-23	8.38e+07	1.02	0.86	28:01	0.963	0.958-0.968	60.6500	98.2847	PCB-61/70	1.93e+08	0.80	1.132	35:31	1.000	0.995-1.005	98.2847	
PCB-29	8.35e+07	0.99	0.95	28:16	0.972	0.967-0.977	55.0044	102.753	PCB-76/66	2.03e+08	0.79	1.441	35:44	1.006	1.000-1.010	102.753	
PCB-26	8.11e+07	1.01	0.97	28:30	0.980	0.974-0.984	52.0417	51.9544	PCB-80	1.17e+08	0.79	1.305	35:58	1.000	0.995-1.005	51.9544	
PCB-25	7.85e+07	1.01	0.93	28:39	0.985	0.980-0.990	52.6890	52.2666	PCB-55	1.05e+08	0.79	1.160	36:17	1.009	1.004-1.014	52.2666	
PCB-31	8.92e+07	0.99	1.09	29:00	0.997	0.992-1.002	51.3077	98.2053	PCB-56/60	1.93e+08	0.79	1.137	36:46	1.023	1.018-1.028	98.2053	
PCB-28	7.80e+07	1.02	1.10	29:06	1.000	0.996-1.006	44.3393	53.8557	PCB-79	1.09e+08	0.79	1.169	37:51	1.053	1.048-1.058	53.8557	
PCB-20/21/33	2.34e+08	1.00	1.08	29:43	1.022	1.016-1.026	135.278	56.2118	PCB-78	1.07e+08	0.78	1.110	38:32	0.987	0.982-0.992	56.2118	
PCB-22	7.47e+07	1.00	1.04	30:10	1.037	1.032-1.042	44.6875	54.8884	PCB-81	1.13e+08	0.79	1.201	39:04	1.000	0.995-1.005	54.8884	
PCB-36	8.14e+07	1.01	1.18	30:47	0.934	0.929-0.939	41.7866	51.5528	PCB-77	1.10e+08	0.81	1.237	39:39	1.000	0.995-1.005	51.5528	
PCB-39	8.13e+07	1.01	1.25	31:14	0.948	0.943-0.953	39.4064	50.1305	PCB-104	6.55e+07	1.56	1.305	32:41	1.001	0.996-1.006	50.1305	
PCB-38	7.68e+07	1.02	1.15	32:01	0.971	0.967-0.977	40.6827	47.9029	PCB-96	5.53e+07	1.59	1.153	33:56	1.039	1.034-1.044	47.9029	
PCB-35	7.94e+07	1.00	1.16	32:33	0.987	0.982-0.992	41.4611	47.4420	PCB-103	4.87e+07	1.61	1.027	34:29	1.056	1.051-1.061	47.4420	
PCB-37	8.68e+07	1.01	1.24	32:59	1.001	0.996-1.006	42.4778	46.6374	PCB-100	4.80e+07	1.63	1.029	34:50	1.067	1.061-1.071	46.6374	
PCB-54	9.70e+07	0.77	1.07	27:59	1.001	0.996-1.006	48.2611	51.1310	PCB-94	4.02e+07	1.61	1.178	35:19	0.986	0.980-0.990	51.1310	
PCB-50	7.28e+07	0.77	0.90	29:09	1.043	1.037-1.047	43.2437	151.485	PCB-95/98/102	1.32e+08	1.62	1.192	35:55	1.003	0.994-1.004	151.485	
PCB-53	7.77e+07	0.78	1.17	29:48	0.946	0.941-0.951	48.8818	49.6157	PCB-93	3.95e+07	1.61	1.192	35:55	1.003	0.998-1.008	49.6157	
PCB-51	7.32e+07	0.78	1.18	30:08	0.957	0.952-0.962	45.5532	93.1533	PCB-88/91	7.66e+07	1.59	1.232	36:12	1.011	1.006-1.016	93.1533	
PCB-45	6.85e+07	0.78	1.06	30:34	0.970	0.965-0.975	47.6909	53.6992	PCB-121	6.23e+07	1.61	1.737	36:19	1.014	1.009-1.019	53.6992	
PCB-46	6.73e+07	0.78	0.99	31:04	0.986	0.981-0.991	50.0886	99.9120	PCB-84/92	8.03e+07	1.59	1.158	37:09	0.990	0.985-0.995	99.9120	
								49.9081	PCB-89	3.84e+07	1.63	1.107	37:19	0.995	0.990-1.000	49.9081	

Integrations
by
Analyst: (M)
Date: 11/21/16

Reviewed
by
Analyst: _____
Date: _____

Client ID: PCB CS3 1610203
 Lab ID: ST161111E2-1

Filename: 161111E2 S:1
 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16

Acq:11-NOV-16 18:24:32
 wt/vol: 1.0000 EndCAL: ST161112E1-1

Name	Resp	RA	RRF	RT	RFT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RFT	LCL	UCL	Conc
PCB-90/101	9.03e+07	1.58	1.27	37:31	1.000	0.995-1.005	102.694	102.694	PCB-133/142	1.39e+08	1.26	0.86	42:26	0.982	0.977-0.987	105.170	
PCB-113	5.06e+07	1.59	1.47	37:45	1.006	1.002-1.012	49.6357	49.6357	PCB-131	6.66e+07	1.19	0.89	42:36	0.986	0.981-0.991	48.7827	
PCB-99	4.68e+07	1.64	1.26	37:51	1.009	1.004-1.014	53.3771	53.3771	PCB-146/165	1.69e+08	1.23	1.07	42:50	0.991	0.986-0.996	101.987	
PCB-119	6.45e+07	1.62	1.87	38:18	0.987	0.982-0.992	54.0178	54.0178	PCB-132/161	1.73e+08	1.26	1.12	43:03	0.996	0.992-1.002	100.287	
PCB-108/112	9.39e+07	1.61	1.44	38:27	0.991	0.986-0.996	102.465	102.465	PCB-153	8.69e+07	1.25	1.15	43:14	1.000	0.996-1.006	49.1549	
PCB-83	5.70e+07	1.60	1.70	38:38	0.996	0.990-1.000	52.6006	52.6006	PCB-168	1.06e+08	1.24	1.38	43:27	1.005	1.000-1.010	49.7853	
PCB-97	4.35e+07	1.57	1.31	38:49	1.000	0.995-1.005	51.9353	51.9353	PCB-141	7.88e+07	1.27	1.20	43:58	1.000	0.995-1.005	51.4439	
PCB-86	3.08e+07	1.62	1.02	38:58	1.004	0.999-1.009	47.2316	47.2316	PCB-137	8.00e+07	1.23	1.23	44:21	1.009	1.004-1.014	50.9236	
B-87/117/125	1.62e+08	1.63	1.59	39:05	1.007	1.002-1.012	159.989	159.989	PCB-130	6.87e+07	1.26	1.04	44:27	1.011	1.006-1.016	51.8179	
PCB-111/115	1.26e+08	1.53	1.85	39:15	1.011	1.006-1.016	106.848	106.848	PCB-138/163/164	2.84e+08	1.26	1.30	44:50	1.001	0.996-1.006	157.343	
PCB-85/116	8.84e+07	1.58	1.44	39:22	1.014	1.010-1.020	96.3427	96.3427	PCB-158/160	2.04e+08	1.26	1.41	45:04	1.006	1.001-1.011	104.382	
PCB-120	6.52e+07	1.58	1.91	39:38	1.021	1.016-1.026	53.4419	53.4419	PCB-129	6.81e+07	1.25	0.97	45:18	1.011	1.007-1.017	50.7271	
PCB-110	5.49e+07	1.61	1.76	39:46	1.025	1.019-1.029	48.8739	48.8739	PCB-166	1.02e+08	1.26	1.19	45:45	0.993	0.988-0.998	51.5811	
PCB-82	3.50e+07	1.62	1.81	40:23	0.976	0.971-0.981	50.3660	50.3660	PCB-159	1.08e+08	1.26	1.28	46:05	1.000	0.995-1.005	50.9875	
PCB-124	5.63e+07	1.58	1.30	41:04	0.993	0.988-0.998	50.8054	50.8054	PCB-128/162	1.78e+08	1.25	1.06	46:22	1.006	1.002-1.012	101.811	
PCB-107/109	1.18e+08	1.61	1.34	41:12	0.996	0.991-1.001	103.089	103.089	PCB-167	1.05e+08	1.25	1.22	46:45	1.000	0.995-1.005	50.7113	
PCB-123	5.58e+07	1.59	1.35	41:22	1.000	0.995-1.005	48.5061	48.5061	PCB-156	1.03e+08	1.27	1.27	48:03	1.000	0.995-1.005	49.4807	
PCB-106/118	1.21e+08	1.61	1.34	41:35	1.001	0.996-1.006	101.561	101.561	PCB-157	1.03e+08	1.26	1.24	48:19	1.000	0.995-1.005	50.1858	
PCB-114	8.13e+07	1.53	1.17	42:13	1.001	0.995-1.005	48.8483	48.8483	PCB-169	9.22e+07	1.25	1.18	50:31	1.000	0.995-1.005	48.2114	
PCB-122	7.18e+07	1.57	1.03	42:21	1.004	0.999-1.009	48.7989	48.7989	PCB-188	7.13e+07	1.07	1.59	42:52	1.000	0.996-1.006	48.7253	
PCB-105	8.21e+07	1.56	1.23	43:05	1.001	0.995-1.005	46.2076	46.2076	PCB-184	6.49e+07	1.08	1.44	43:19	1.011	1.006-1.016	49.1652	
PCB-127	7.39e+07	1.52	1.06	43:24	1.000	0.995-1.005	45.2650	45.2650	PCB-179	6.74e+07	1.06	1.45	44:05	1.029	1.024-1.034	50.5548	
PCB-126	7.55e+07	1.56	1.16	45:18	1.000	0.995-1.005	44.6940	44.6940	PCB-176	7.14e+07	1.06	1.56	44:33	1.040	1.035-1.045	50.0245	
PCB-155	3.75e+07	1.26	1.26	37:04	1.001	0.966-1.006	47.5081	47.5081	PCB-186	7.15e+07	1.06	1.56	45:09	1.054	1.049-1.059	49.9597	
PCB-150	3.66e+07	1.30	1.15	38:20	1.035	1.030-1.040	50.7090	50.7090	PCB-178	5.11e+07	1.06	1.20	45:39	1.066	1.061-1.071	46.5039	
PCB-152	3.63e+07	1.29	1.19	38:48	1.047	1.043-1.053	48.5078	48.5078	PCB-175	5.18e+07	1.07	1.12	45:60	1.074	1.069-1.079	50.2765	
PCB-145	3.53e+07	1.27	1.14	39:15	1.059	1.055-1.065	49.1899	49.1899	PCB-182/187	1.10e+08	1.08	1.24	46:10	1.078	1.073-1.083	96.5783	
PCB-136	3.70e+07	1.29	1.18	39:34	1.068	1.063-1.073	49.7310	49.7310	PCB-183	6.03e+07	1.06	1.37	46:29	1.085	1.080-1.090	47.8642	
PCB-148	2.63e+07	1.25	0.82	39:41	1.071	1.066-1.076	51.1737	51.1737	PCB-185	5.13e+07	1.05	1.60	47:08	0.956	0.950-0.960	49.0774	
PCB-154	2.92e+07	1.29	0.91	40:10	1.084	1.079-1.089	51.1680	51.1680	PCB-174	4.48e+07	1.05	1.51	47:30	0.963	0.958-0.968	45.1324	
PCB-151	2.75e+07	1.30	0.86	40:48	1.101	1.097-1.107	51.0978	51.0978	PCB-181	5.27e+07	1.09	1.64	47:36	0.965	0.960-0.970	49.1436	
PCB-135	2.46e+07	1.27	0.82	41:01	1.107	1.101-1.113	47.5900	47.5900	PCB-177	4.57e+07	1.08	1.45	47:46	0.969	0.963-0.973	48.0060	
PCB-144	2.99e+07	1.28	0.92	41:08	1.110	1.105-1.116	51.4879	51.4879	PCB-171	5.23e+07	1.05	1.69	48:04	0.975	0.969-0.979	47.1888	
PCB-147	2.43e+07	1.32	0.81	41:16	1.114	1.108-1.120	48.0168	48.0168	PCB-173	4.26e+07	1.06	1.38	48:29	0.983	0.978-0.988	47.2482	
PCB-139/149	5.49e+07	1.27	0.91	41:31	1.121	1.115-1.127	96.1248	96.1248	PCB-172	5.00e+07	1.07	1.55	48:56	0.992	0.987-0.997	49.1784	
PCB-140	2.56e+07	1.26	0.83	41:43	1.126	1.120-1.132	48.9204	48.9204	PCB-192	6.33e+07	1.06	2.02	49:08	0.996	0.991-1.001	47.7724	
PCB-134/143	1.39e+08	1.24	0.89	42:08	0.975	0.970-0.980	100.904	100.904	PCB-180	5.12e+07	1.06	1.66	49:20	1.000	0.995-1.005	47.1337	

Integrations

by

Analyst: (M)

Date: 11/12/16

Client ID: PCB CS3 1610203
Lab ID: ST161111E2-1
Filename: 161111E2 S:1 Acq:11-NOV-16 18:24:32
GC Column ID: ZB-1 ICal: PCBVG8-4-19-16
ConCal: ST161111E2-1
w/vol: 1.0000 EndCal: ST161111E21-1

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RT	RRF	Conc
PCB-193	6.71e+07	1.07 Y	2.09	49:33	1.005	0.999-1.009	48.9357		Total Mono-PCB	3.68e+08	3.09 Y	16:04	1.02	181.081
PCB-191	6.83e+07	1.06 Y	2.11	49:48	1.010	1.005-1.015	49.3536		Total Di-PCB	1.20e+09	1.56 Y	20:05	1.18	506.663
PCB-170	4.87e+07	1.07 Y	1.72	50:55	1.000	0.995-1.005	50.0890		Total Tri-PCB	8.08e+08	1.05 Y	24:13	1.21	423.673
PCB-190	6.57e+07	1.08 Y	2.32	51:07	1.004	0.999-1.009	49.9867		Total Tetra-PCB	1.32e+09	1.01 Y	27:55	1.07	772.143
PCB-189	6.35e+07	1.07 Y	1.73	52:31	1.000	0.995-1.005	50.6856		Total Penta-PCB	3.88e+09	0.77 Y	27:59	1.20	2094.21
PCB-202	3.54e+07	0.92 Y	1.08	48:16	1.000	0.995-1.005	50.6603		Total Hexa-PCB	2.05e+09	1.56 Y	32:41	1.29	2079.09
PCB-201	4.04e+07	0.91 Y	1.16	48:45	1.010	1.005-1.015	53.9535		Total Hepta-PCB	4.10e+08	1.53 Y	42:13	1.13	249.242
PCB-204	3.57e+07	0.94 Y	1.09	48:54	1.014	1.009-1.019	50.4783		Total Octa-PCB	4.25e+08	1.26 Y	37:04	0.98	691.225
PCB-197	4.02e+07	0.92 Y	1.21	49:13	1.020	1.015-1.025	51.2694		Total Nona-PCB	2.48e+09	1.24 Y	42:08	1.13	1443.39
PCB-198	3.69e+07	0.93 Y	1.12	50:07	1.039	1.034-1.044	51.1867		Total Deca-PCB	1.40e+09	1.07 Y	42:52	1.53	1176.89
PCB-199	2.57e+07	0.92 Y	0.81	51:33	1.068	1.062-1.072	49.1842		Total PCB	2.97e+08	0.92 Y	48:16	1.00	457.419
PCB-196/203	5.60e+07	0.92 Y	0.80	51:40	1.071	1.064-1.074	51.5126			1.37e+08	0.89 Y	53:11	1.34	125.722
PCB-195	4.06e+07	0.89 Y	1.10	53:11	0.984	0.979-0.989	44.7568			1.92e+08	1.32 Y	53:20	1.06	133.170
PCB-194	4.08e+07	0.87 Y	1.28	54:04	1.000	0.995-1.005	38.6562			4.66e+07	1.19 Y	56:57	1.34	48.5854
PCB-205	5.30e+07	0.90 Y	1.62	54:19	1.005	1.001-1.010	39.7562							
PCB-208	7.40e+07	1.32 Y	1.11	53:20	1.000	0.995-1.005	43.2123							
PCB-207	7.48e+07	1.32 Y	1.11	53:39	1.006	1.001-1.011	43.9855							
PCB-206	4.01e+07	1.31 Y	0.95	55:37	1.000	0.995-1.005	43.6173							
PCB-209	4.66e+07	1.19 Y	1.34	56:57	1.000	0.995-1.005	48.5854							

Total PCB Conc:10288.2242230

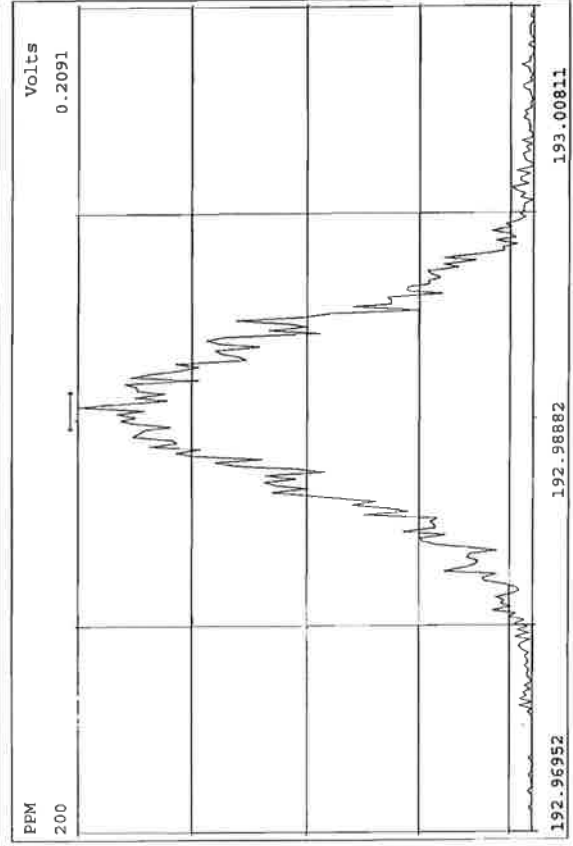
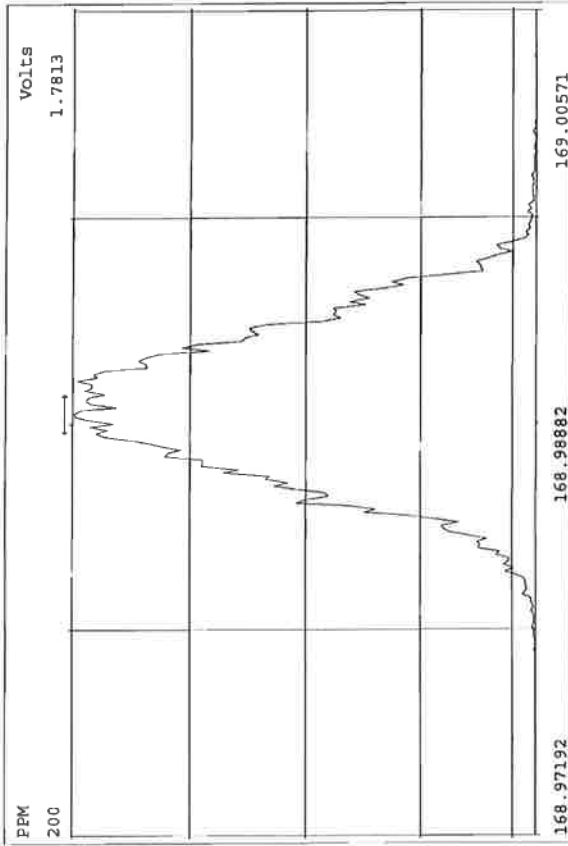
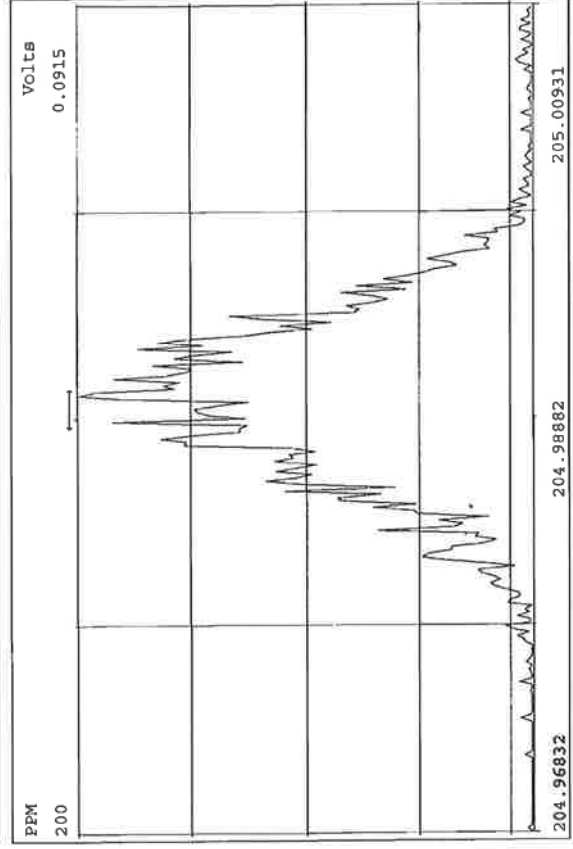
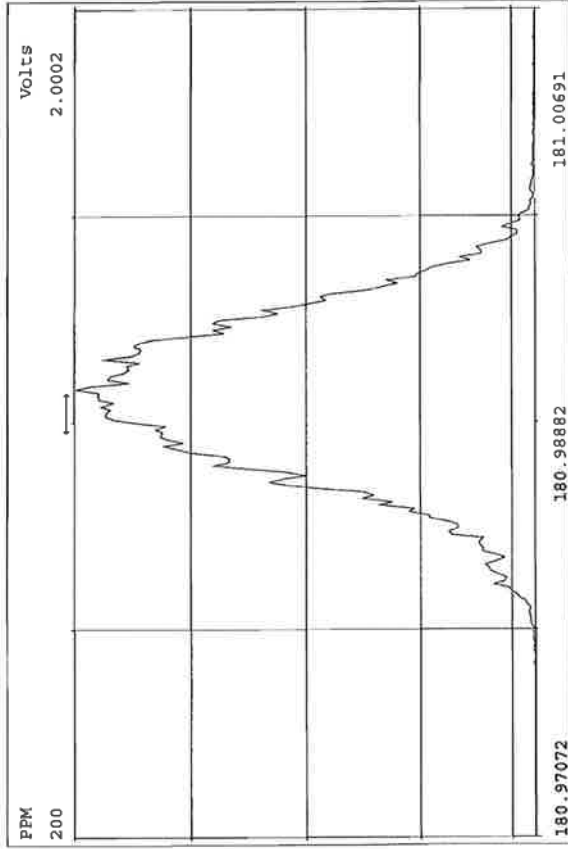
Integrations
by
Analyst: VA
Date: 11/24/16

Client ID: PCB CS3 16I0203 Lab ID: ST161111E2-1
Filename: 161111E2 S:1 Acq:11-NOV-16 18:24:32 GC Column ID: ZB-1 ICal: PCBVG8-4-19-16 wt/vol:1.0000
ConCal: ST161111E2-1 EndCal: ST161111E1-1

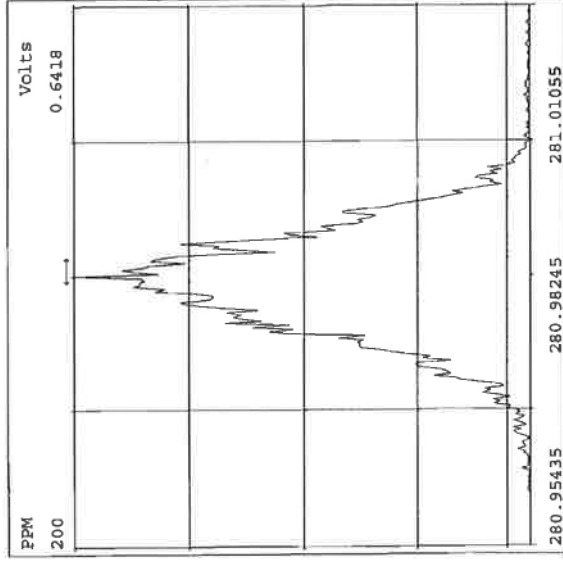
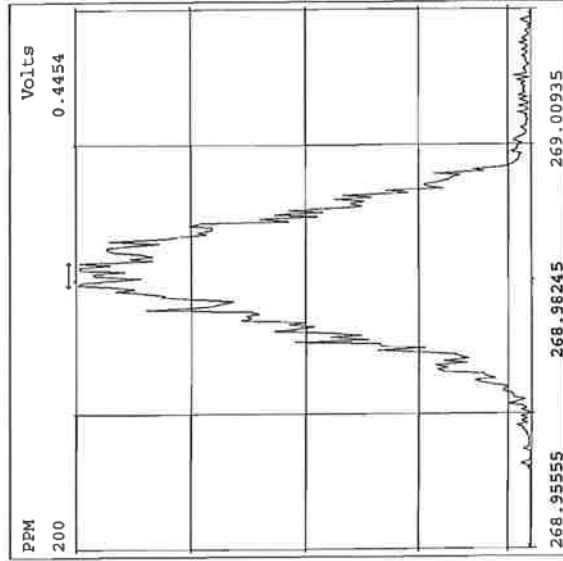
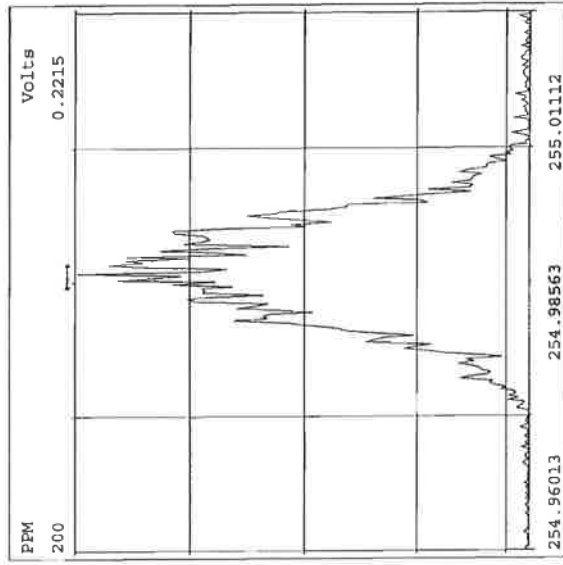
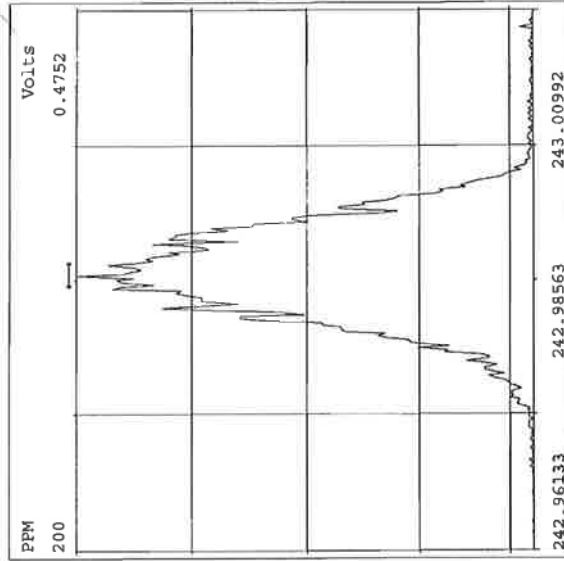
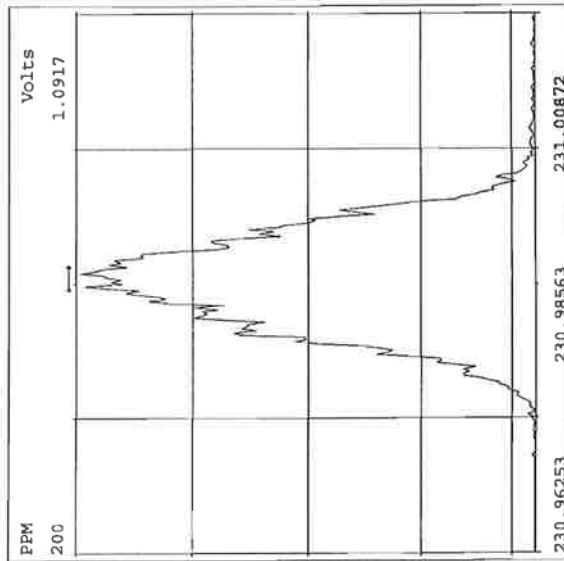
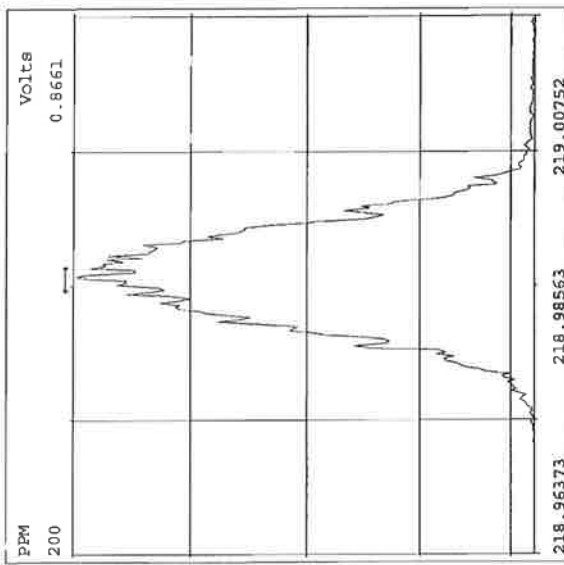
Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-1	1.89e+08	3.25	Y	1.09	16:03	0.619	0.619-0.625	75.9	75.9		13C-PCB-79	1.80e+08	0.81	Y	1.01	37:49	1.029	1.024-1.033	107	107	
13C-PCB-3	2.04e+08	3.22	Y	1.15	18:41	0.721	0.718-0.726	77.8	77.8		13C-PCB-178	6.03e+07	0.46	Y	0.64	45:38	0.985	0.980-0.989	78.8	78.8	
13C-PCB-4	1.31e+08	1.53	Y	0.59	20:01	0.772	0.770-0.778	96.0	96.0		PS vs. IS										
13C-PCB-9	2.11e+08	1.52	Y	0.94	21:50	0.842	0.839-0.847	98.4	98.4												
13C-PCB-11	2.12e+08	1.51	Y	0.93	25:13	0.973	0.968-0.978	100	100												
13C-PCB-19	1.16e+08	1.07	Y	0.63	24:12	0.933	0.929-0.939	80.2	80.2												
13C-PCB-28	1.60e+08	1.01	Y	1.14	29:05	1.004	0.999-1.009	78.3	78.3												
13C-PCB-32	1.77e+08	1.08	Y	0.91	27:08	1.046	1.041-1.051	85.2	85.2												
13C-PCB-37	1.65e+08	1.03	Y	1.05	32:58	1.137	1.131-1.143	87.9	87.9												
13C-PCB-47	1.40e+08	0.79	Y	0.77	32:01	0.871	0.867-0.875	109	109												
13C-PCB-52	1.36e+08	0.79	Y	0.72	31:30	0.857	0.853-0.861	113	113												
13C-PCB-54	1.87e+08	0.80	Y	0.95	27:58	0.761	0.757-0.765	119	119												
13C-PCB-70	1.74e+08	0.80	Y	0.97	35:31	0.967	0.961-0.971	107	107												
13C-PCB-77	1.72e+08	0.82	Y	0.93	39:38	1.078	1.073-1.083	110	110												
13C-PCB-80	1.73e+08	0.82	Y	0.98	35:57	0.978	0.973-0.983	106	106												
13C-PCB-81	1.71e+08	0.81	Y	0.95	39:02	1.062	1.057-1.067	108	108												
13C-PCB-95	6.68e+07	1.60	Y	0.70	35:49	0.913	0.908-0.918	97.2	97.2												
13C-PCB-97	6.38e+07	1.62	Y	0.67	38:48	0.989	0.984-0.994	97.2	97.2												
13C-PCB-101	6.94e+07	1.66	Y	0.75	37:31	0.956	0.951-0.961	95.3	95.3												
13C-PCB-104	1.00e+08	1.62	Y	0.95	32:40	0.832	0.828-0.836	108	108												
13C-PCB-105	1.44e+08	1.58	Y	1.14	43:03	0.929	0.924-0.934	106	106												
13C-PCB-114	1.42e+08	1.59	Y	1.12	42:11	0.911	0.905-0.915	106	106												
13C-PCB-118	8.92e+07	1.68	Y	0.93	41:33	1.059	1.054-1.064	98.1	98.1												
13C-PCB-123	8.53e+07	1.64	Y	0.88	41:22	1.054	1.049-1.059	98.9	98.9												
13C-PCB-126	1.46e+08	1.55	Y	1.16	45:17	0.977	0.972-0.982	105	105												
13C-PCB-127	1.54e+08	1.55	Y	1.25	43:24	0.937	0.931-0.941	103	103												
13C-PCB-138	1.39e+08	1.26	Y	1.11	44:47	0.967	0.961-0.971	104	104												
13C-PCB-141	1.28e+08	1.30	Y	1.05	43:57	0.949	0.943-0.953	102	102												
13C-PCB-153	1.54e+08	1.27	Y	1.21	43:13	0.933	0.927-0.937	106	106												
13C-PCB-155	6.28e+07	1.26	Y	0.84	37:03	0.944	0.939-0.949	76.6	76.6												
13C-PCB-156	1.64e+08	1.30	Y	1.31	48:02	1.037	1.032-1.042	105	105												
13C-PCB-157	1.65e+08	1.28	Y	1.35	48:18	1.042	1.037-1.047	102	102												
13C-PCB-159	1.65e+08	1.27	Y	1.33	46:04	0.994	0.989-0.999	104	104												
13C-PCB-167	1.69e+08	1.28	Y	1.34	46:45	1.009	1.004-1.014	105	105												
13C-PCB-169	1.62e+08	1.27	Y	1.33	50:30	1.090	1.084-1.094	102	102												
13C-PCB-170	5.66e+07	0.48	Y	0.61	50:54	1.099	1.091-1.103	77.6	77.6												
13C-PCB-180	6.55e+07	0.47	Y	0.67	49:19	1.064	1.059-1.069	81.5	81.5												
13C-PCB-188	9.18e+07	0.47	Y	0.94	42:51	0.925	0.919-0.929	81.7	81.7												
13C-PCB-189	7.23e+07	0.46	Y	0.79	52:30	1.133	1.124-1.136	76.1	76.1												
13C-PCB-194	8.23e+07	0.87	Y	0.72	54:03	0.995	0.990-1.000	102	102												
13C-PCB-202	6.46e+07	0.89	Y	0.94	48:15	1.041	1.036-1.046	57.1	57.1												
13C-PCB-206	9.69e+07	0.79	Y	0.80	55:36	1.024	1.020-1.031	107	107												
13C-PCB-208	1.54e+08	0.78	Y	1.00	53:19	0.982	0.977-0.987	136	136												
13C-PCB-209	7.13e+07	1.22	Y	0.85	56:56	1.048	1.045-1.055	74.3	74.3												

Analyst: MM
Date: 11/2/16

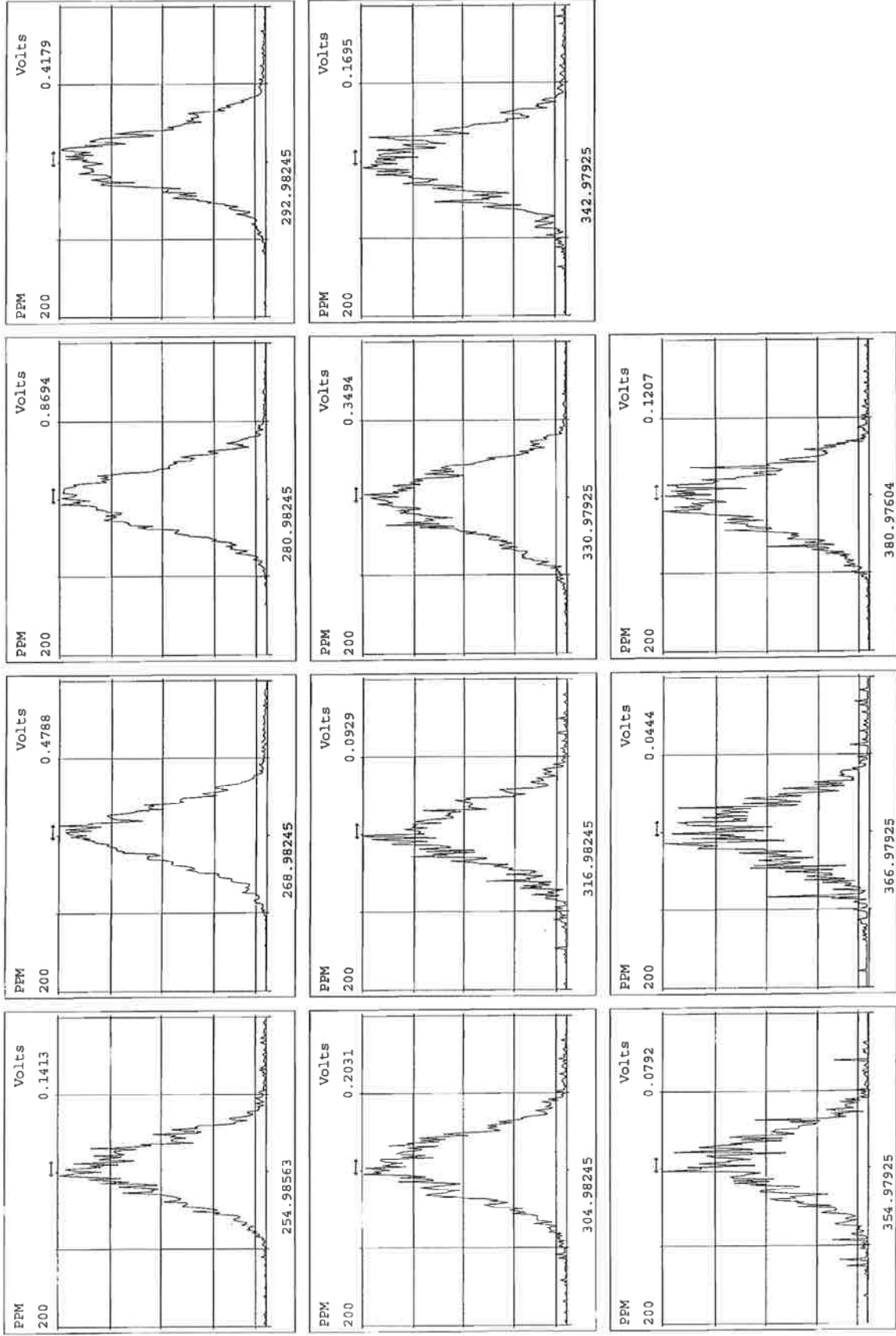
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Experiment:FCB_ZB1 Function:1 Reference:PFK



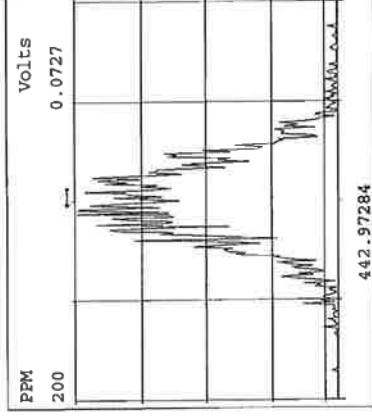
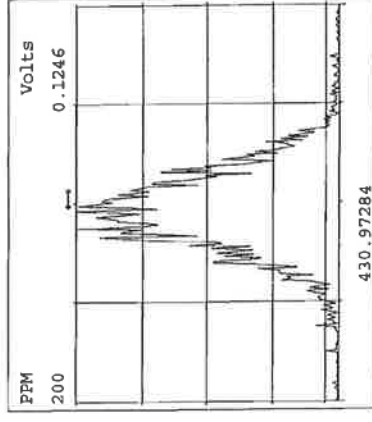
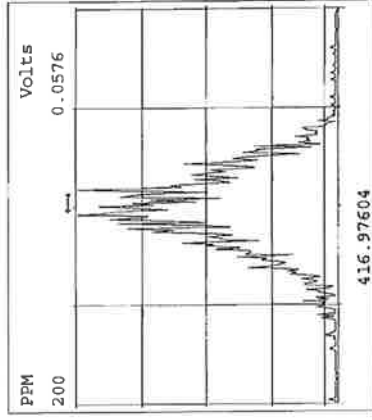
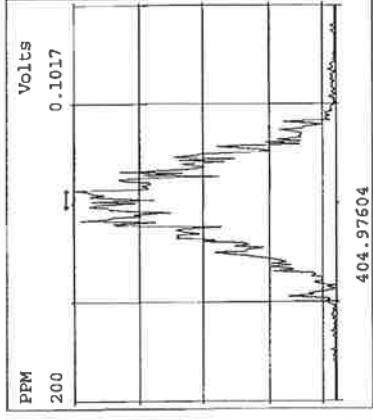
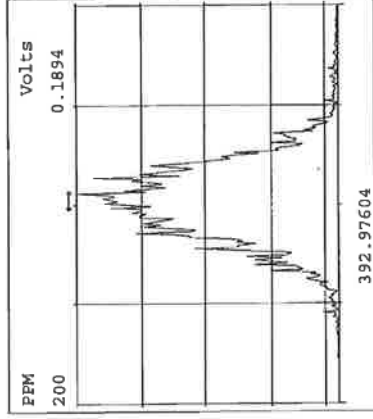
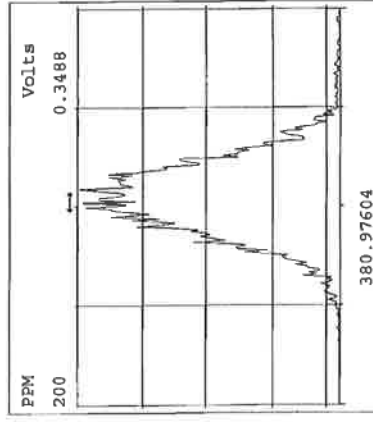
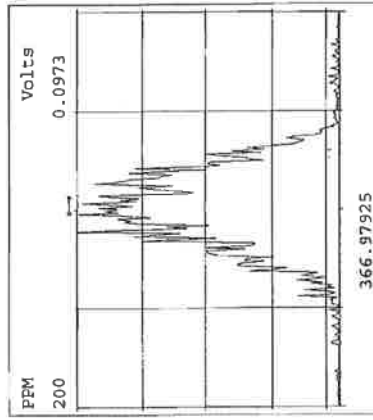
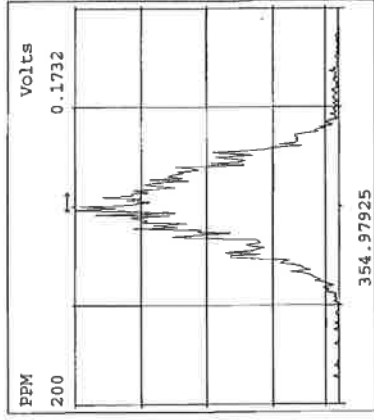
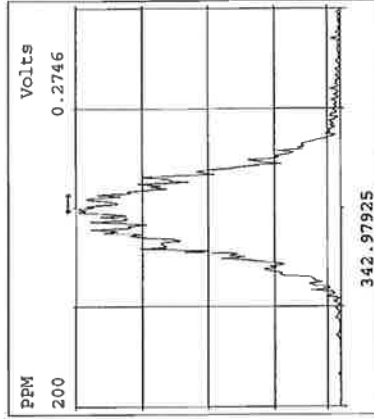
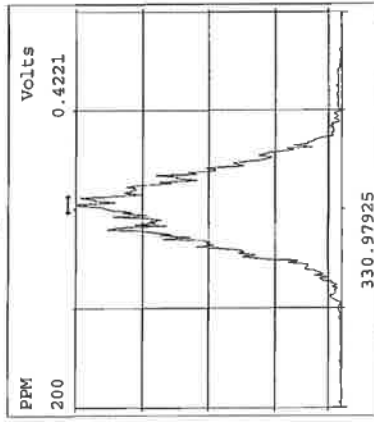
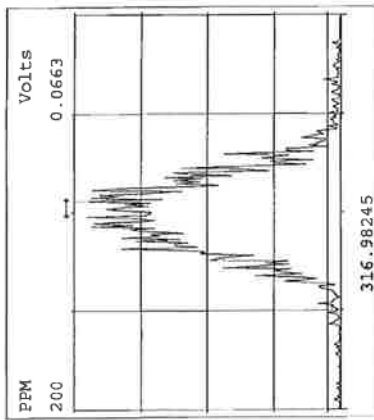
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Experiment:PCB_ZB1 Function:2 Reference:PFK



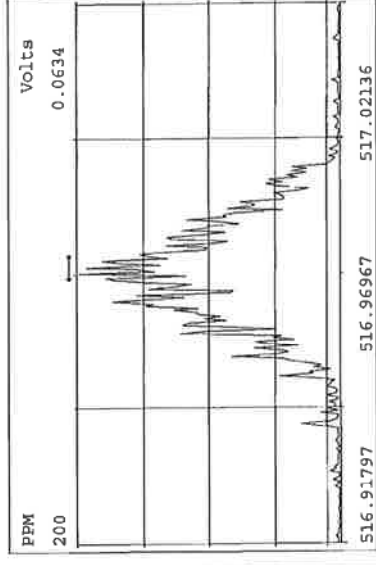
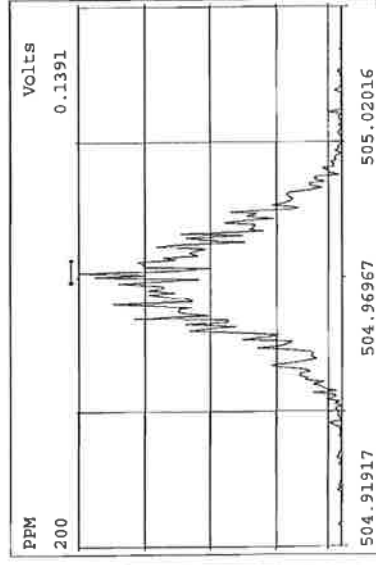
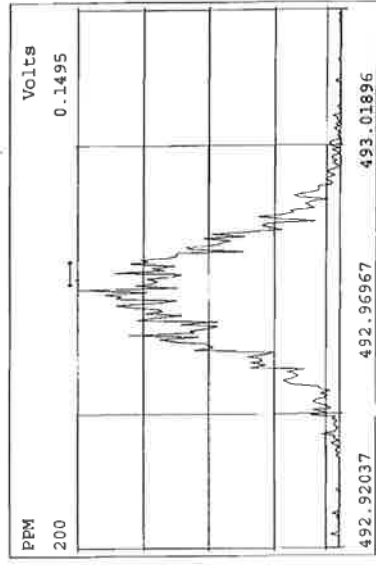
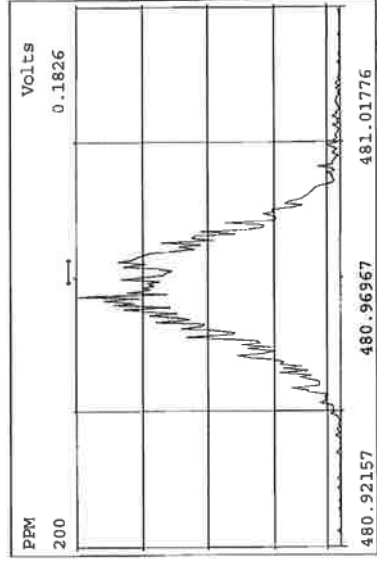
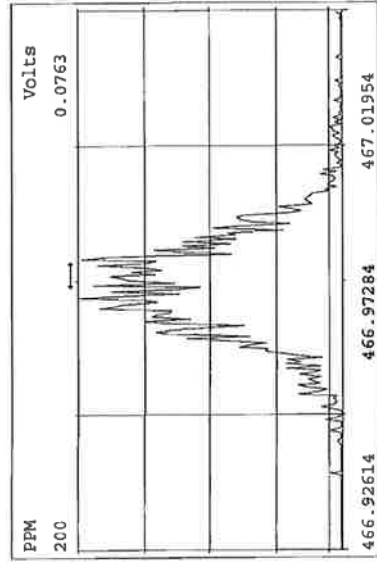
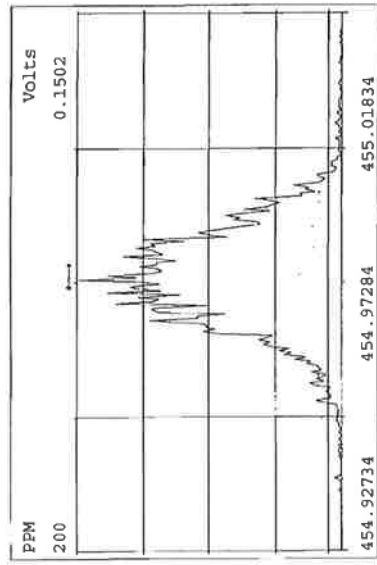
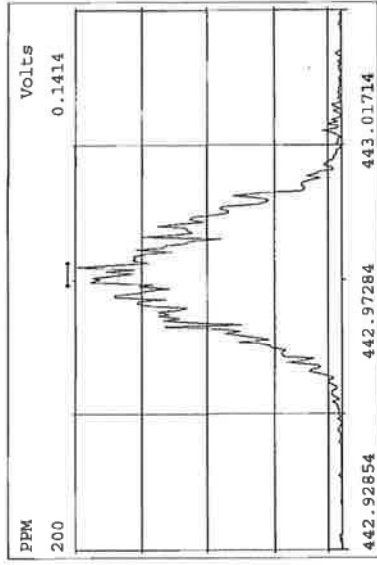
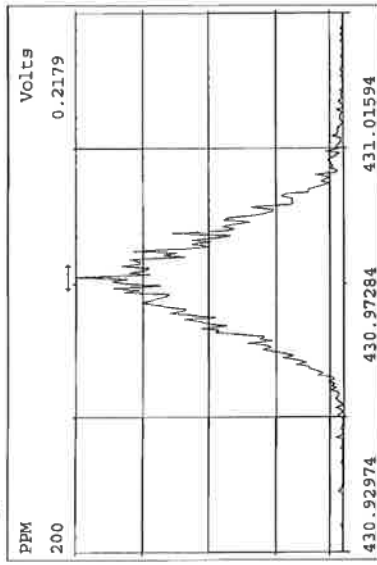
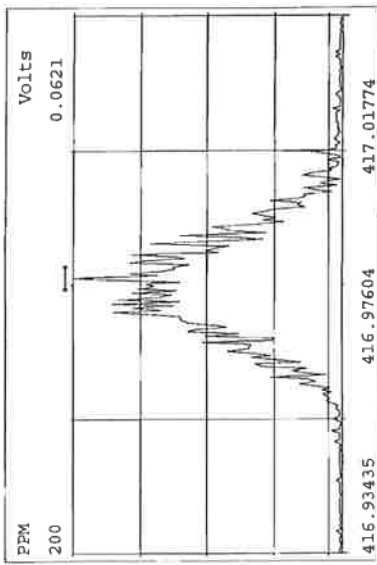
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Experiment:PCB_ZBI Function:3 Reference:PFK



Peak Locate Examination: 11-NOV-2016: 18:22 File: RES_CHECK
Experiment: PCB_ZB1 Function: 4 Reference: PFK



Peak Locate Examination:11-NOV-2016:18:23 File:RES_CHECK
 Experiment:PCB_ZB1 Function:5 Reference:PFK



Process Sheet
 Workorder: **1601354**

Prep Expiration: 08/30/2017
 Client: Teck American Incorporated

Workorder Due: 15-Nov-16 00:00

TAT: 21

Method: **1668A Full List**
 Matrix: **Tissue**
 Client Matrix: Tissue
 Also run: ~~Percent Solids & Percent Lipids~~

Prep Batch: BGK0046

Prep Data Entered: 11/01/16 dm
Date and Initials

Initial Sequence: SLK0025

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601354-01	<input checked="" type="checkbox"/>	EPA-HS-A1	25-Oct-16 09:00	WF-2 C-6	
1601354-02	<input checked="" type="checkbox"/>	EPA-HS-A1 DUP	25-Oct-16 09:00	WF-2 C-6	
1601354-03	<input checked="" type="checkbox"/>	EPA-HS-A1 TRIP	25-Oct-16 09:00	WF-2 C-6	
1601354-04	<input checked="" type="checkbox"/>	EPA-HS-A2	25-Oct-16 09:00	WF-2 C-6	
1601354-05	<input checked="" type="checkbox"/>	EPA-HS-A3	25-Oct-16 09:00	WF-2 C-6	
1601354-06	<input checked="" type="checkbox"/>	EPA-HS-B1	25-Oct-16 09:00	WF-2 C-6	
1601354-07	<input checked="" type="checkbox"/>	EPA-HS-B2	25-Oct-16 09:00	WF-2 C-6	
1601354-08	<input checked="" type="checkbox"/>	EPA-HS-B3	25-Oct-16 09:00	WF-2 C-6	
1601354-09	<input checked="" type="checkbox"/>	EPA-HS-C1	25-Oct-16 09:00	WF-2 C-6	
1601354-10	<input checked="" type="checkbox"/>	EPA-HS-C2	25-Oct-16 09:00	WF-2 C-6	
1601354-11	<input checked="" type="checkbox"/>	EPA-HS-C3	25-Oct-16 09:00	WF-2 C-6	

WO Comments: **PBDEs: Total PBDEs, BDE-47, BDE-99, BDE-153, BDE-209**

~~Report in ng/kg. Samples received freeze dried, need to add % solids to report in wet weight.~~ nmw

Vista PM: Martha Maier

Vial Box ID: ICARUS

Sample Reconciled By: Brenden Schenk 11/7/16

PREPARATION BENCH SHEET

Matrix: Tissue

Method: 1668A Full List

B6K0046

Chemist: BSS

Prep Date/Time: 07-Nov-16 14:16

Prepared using: HRMS - Soxhlet

C	VISTA Sample ID	Sample Amt. (g)	IS/NS CHEM/DATE	IS/NS CHEM/DATE	IS/NS CHEM/DATE	AA CHEM/DATE	Floristil CHEM/DATE	Charcoal CHEM/DATE	RS CHEM/DATE
<input type="checkbox"/>	B6K0046-BLK1 (A)	(10.00)	BSS JS 11/07/16	PS OXS 11/07/16	PS OXS 11/07/16	NA	NA	NA	On JS 11/07/16
<input type="checkbox"/>	B6K0046-BS1	↓							
<input type="checkbox"/>	1601354-01	10.12							
<input type="checkbox"/>	1601354-02	10.00							
<input type="checkbox"/>	1601354-03	10.18							
<input type="checkbox"/>	1601354-04	10.02							
<input type="checkbox"/>	1601354-05	10.12							
<input type="checkbox"/>	1601354-06	10.18							
<input type="checkbox"/>	1601354-07	10.15							
<input type="checkbox"/>	1601354-08	10.05							
<input type="checkbox"/>	1601354-09	10.14							
<input type="checkbox"/>	1601354-10	10.03							
<input type="checkbox"/>	1601354-11	10.02							

IS Name	NS Name	RS Name	APP: SEFUN SOX SDS	Check Out: Chemist/Date:
PCDD/F	PCDD/F	PCDD/F	SOLV: 1:1 DCM/hexane	BSS 11/07/16
PCB	PCB 16F1401, 10 µg	PCB 16F1403, 10 µg	Other: N/A	Check In: Chemist/Date: BSS 11/07/16
PAH	PAH	PAH	Final Volume(s): 20µL	Balance ID: HRMS-9
			Start Date/Time: 11/07/16	
			Stop Date/Time: 10/21	

Comments: (A) Approached dryness on rotovap before ABS6 column. On 11/07/16

Process Sheet

Workorder: **1601354**

Prep Expiration: 10/17/2017

Client: Teck American Incorporated

Workorder Due: 15-Nov-16 00:00

TAT: 21

Method: **1668A Full List**

Matrix: **Aqueous**

Client Matrix: Aqueous

Also run: **Percent Solids**

Prep Batch: BGK0073

Prep Data Entered: 11/15/16 DM
Date and Initials

Initial Sequence: SBK0038

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601354-12	<input type="checkbox"/>	Homogenization Blank 10/17/16	25-Oct-16 09:00	WR-2 D-6	INS 11/11/16
1601354-13 "C"	<input type="checkbox"/>	Homogenization Blank 10/19/16	25-Oct-16 09:00	WR-2 D-6	
1601354-14 "C"	<input type="checkbox"/>	Homogenization Blank 10/18/16	25-Oct-16 09:00	WR-2 D-6	

Ⓐ All -12 samples used up INS 11/11/16

Ⓑ Sample Names "K1611838 Homogenization Blank", dates elsewhere on label INS 11/11/16

WO Comments: ~~PBDEs, Total PBDEs, BDE-47, BDE-99, BDE-153, BDE-209~~

Vista PM:Martha Maier

Vial Box ID: ICARUS

Sample Reconciled By: INS 11/11/16

Percent Moisture/ Percent Solids

D2216-90 BATCH ID B6K0079

Analyst: INJ **Test Code:** %Moist/%Solids
Analyte: Dried at 110°C+/-5°C **Units:** %

HRMS-9

Date/Time IN: 11/11/16 9:40
Date/Time OUT: 11/15/16 9:32

Particle Size	SampleID	Sample Type	E		F	G	H		I		K	M		N	O	P	Q
			Initial and Date:	Pan Tare Wt. (gms)			Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal		pH Before	pH After				
na	1601354-13RE1	Sample	1.2800	1.2800	8.9400	1.2800	0.0000	0.00	5	2	10	0	0	clear			
na	1601354-14RE1	Sample	1.2900	1.2900	11.8200	1.3000	0.0100	0.09	5	2	10	0	0	clear			
na	B6K0073-BLK	QC	na	na	na	na	na	na	na	5	2	10	0	na			
na	B6K0073-BS1	QC	na	na	na	na	na	na	na	5	2	10	0	na			

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 1668A Full List

B6K0073

Chemist: G M Endreole

Prep Date/Time: 11-Nov-16 08:18

Prepared using: HRMS - Separatory Funnel

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/DATE	IS/NS CHEM/DATE	IS/NS CHEM/DATE	AP CHEM/DATE	ABSG CHEM/DATE	AA CHEM/DATE	Florisil CHEM/DATE	RS CHEM/DATE
<input type="checkbox"/>	B6K0073-BLK1	NA	NA	(1.000)	Dr INJ 11/11/16	Dr INJ 11/11/16	Dr INJ 11/11/16	NA	Dr 11/11/16	NA	NA	Dr TD 11/11/16
<input type="checkbox"/>	B6K0073-BS1	NA	NA	↓	↓	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1601354-12	NA	NA	↓	↓	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1601354-13	1561.59	515.37	0.99622	Dr INJ 11/11/16	Dr INJ 11/11/16	Dr INJ 11/11/16	NA	Dr 11/11/16	NA	NA	Dr TD 11/11/16
<input type="checkbox"/>	1601354-14	1461.88	514.21	0.94767	↓	↓	↓	↓	↓	↓	↓	↓

ⓐ Small amount lost due to leaky separatory funnel. Dr 11/11/16

IS Name	NS Name	RS Name	Cycle Time	APP: (SEFUN) SOX SDS	Check Out: Chemist/Date: INJ 11/11/16
PCDD/F	PCDD/F	PCDD/F	Start Date/Time	SOLV: DM	Check In: Chemist/Date: Empty
PCB 16F1402, 102	PCB 16F1402, 102	PCB 16F1402, 102	Stop Date/Time	Other: NA	Balance ID: HRMS-9
PAH	PAH	PAH	Final Volume(s)	Final Volume(s): 20L	

Comments: Assume 1 g = 1 mL

Vista Work Order No. 1601354
Case Narrative

Sample Condition on Receipt:

Eleven tissue samples and three aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. This report was amended for the following:

- 1) report the EDL for Total Mono-BDE for sample "EPA-HS-A3" as it was inadvertently omitted from the original report;
- 2) report the EDL/EMPC/result in the Method Blank for Method 1614 (B6K0018-BLK1); and
- 2) report NDs to the MRL.

Analytical Notes:

EPA Method 1613B

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-5MS GC column.

Holding Times

These samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1614

These samples were extracted and analyzed for selected PBDE congeners and homologue totals by EPA Method 1614 using a ZB-5MS GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the method quantitation limit. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

EPA Method 1668A

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668A using a ZB-1 GC column.

Analytical Notes

Sample 'Homogenization Blank 10/17/16' was not analyzed for Method 1668A due to limited sample volume.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1601354-08	EPA-HS-B3	EPA Method 1614	13C-BDE-183	H	151
1601354-09	EPA-HS-C1	EPA Method 1614	13C-BDE-77	H	23.9
1601354-09	EPA-HS-C1	EPA Method 1614	13C-BDE-100	H	194
1601354-09	EPA-HS-C1	EPA Method 1614	13C-BDE-99	H	182
1601354-09	EPA-HS-C1	EPA Method 1614	13C-BDE-118	H	157
1601354-09	EPA-HS-C1	EPA Method 1614	13C-BDE-155	H	168
1601354-09	EPA-HS-C1	EPA Method 1614	13C-BDE-154	H	152
1601354-09	EPA-HS-C1	EPA Method 1614	13C-BDE-126	H	139
1601354-10	EPA-HS-C2	EPA Method 1614	13C-BDE-100	H	176
1601354-10	EPA-HS-C2	EPA Method 1614	13C-BDE-99	H	174
1601354-10	EPA-HS-C2	EPA Method 1614	13C-BDE-155	H	157
1601354-10	EPA-HS-C2	EPA Method 1614	13C-BDE-126	H	137

H = Recovery was outside laboratory acceptance criteria.

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1601354-01	EPA-HS-A1	30-Aug-16 15:17	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-02	EPA-HS-A1 DUP	30-Aug-16 15:17	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-03	EPA-HS-A1 TRIP	30-Aug-16 15:17	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-04	EPA-HS-A2	31-Aug-16 13:58	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-05	EPA-HS-A3	30-Aug-16 12:10	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-06	EPA-HS-B1	31-Aug-16 10:47	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-07	EPA-HS-B2	30-Aug-16 14:46	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-08	EPA-HS-B3	30-Aug-16 10:39	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-09	EPA-HS-C1	07-Sep-16 14:05	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-10	EPA-HS-C2	30-Aug-16 13:10	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-11	EPA-HS-C3	07-Sep-16 10:11	25-Oct-16 09:00	Clear Glass Jar, 250mL
1601354-12	Homogenization Blank 10/17/16	17-Oct-16 10:35	25-Oct-16 09:00	Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L
1601354-13	Homogenization Blank 10/19/16	19-Oct-16 09:30	25-Oct-16 09:00	Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L
1601354-14	Homogenization Blank 10/18/16	18-Oct-16 10:35	25-Oct-16 09:00	Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L

ALS Environmental Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Jeff Coronado

Project Number: K1611838
 Project Manager: Jeff Coronado
 QAP: LAB QAP

1601354

-39.6°C, 0.5°C, 1.1°C

Lab Code	Sample ID	# of Cont.	Matrix	Sample			Misc Out 1 None	Misc Out 2 None
				Date	Time	Lab ID		
K1611838-009	EPA-HS-A1	1	Animal Tissue	8/30/16	1517	Vista	X	
K1611838-010	EPA-HS-A1 DUP	1	Animal Tissue	8/30/16	1517	Vista	X	
K1611838-011	EPA-HS-A1 TRIP	1	Animal Tissue	8/30/16	1517	Vista	X	
K1611838-020	EPA-HS-A2	1	Animal Tissue	8/31/16	1358	Vista	X	
K1611838-029	EPA-HS-A3	1	Animal Tissue	8/30/16	1210	Vista	X	
K1611838-038	EPA-HS-B1	1	Animal Tissue	8/31/16	1047	Vista	X	
K1611838-047	EPA-HS-B2	1	Animal Tissue	8/30/16	1446	Vista	X	
K1611838-056	EPA-HS-B3	1	Animal Tissue	8/30/16	1039	Vista	X	
K1611838-065	EPA-HS-C1	1	Animal Tissue	9/7/16	1405	Vista	X	
K1611838-074	EPA-HS-C2	1	Animal Tissue	8/30/16	1310	Vista	X	
K1611838-083	EPA-HS-C3	1	Animal Tissue	9/7/16	1011	Vista	X	
K1611838-084	Homogenization Blank	2	Water	10/7/16	1035	Vista		X

<p>Special Instructions/Comments Please provide the electronic (PDF and EDD) report to the following e-mail address: Address: Data@aisglobal.com</p> <p style="font-size: 1.2em; font-weight: bold;">Samples are being relinquished to Vista</p>	<p>Turnaround Requirements RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 STANDARD</p> <p>Requested FAX Date: _____ Requested Report Date: 10/27/16</p>	<p>Report Requirements I. Results Only _____ II. Results + QC Summaries _____ III. Results + QC and Calibration Summaries _____ IV. Data Validation Report with Raw Data _____</p> <p>PQL MDL J <u>Y</u> EDD <u>Y</u></p>	<p>Invoice Information</p> <p>PO# 51K1611838 Bill to _____</p>
<p>Relinquished By: <u>[Signature]</u> 10/24/16</p>		<p>Received By: <u>[Signature]</u> 10/25/16</p>	
<p>H - Test is On Hold P - Test is Authorized for Prep Only</p>		<p>Airbill Number: _____</p>	

ALS Environmental Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Jeff Coronado

Project Number: K1611838
 Project Manager: Jeff Coronado
 QAP: LAB QAP

1601354

Lab Code	Sample ID	# of Cont.	Matrix	Sample		Lab ID	Misc Out 1 None	Misc Out 2 None
				Date	Time			
K1611838-085	Homogenization Blank	6	Water	10/19/16	0930	Vista		X
K1611838-086	Homogenization Blank	6	Water	10/18/16	1035	Vista		X

Test Comments

Misc Out 1 - None

K1611838-009,10,11,20,29,38,47,56,65,7
 Organics testing being relinquished to Vista

4,83

Misc Out 2 - None

4L to Vista (PBDE,Dioxin,PCB Congeners)

Special Instructions/Comments Please provide the electronic (PDF and EDD) report to the following e-mail address: ALSData@alsglobal.com <i>Samples are being relinquished to Vista</i>	Turnaround Requirements RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 STANDARD Requested FAX Date: _____ Requested Report Date: 10/27/16	Report Requirements I. Results Only _____ II. Results + QC Summaries _____ III. Results + QC and Calibration Summaries _____ IV. Data Validation Report with Raw Data _____ PQL MDL J <u>Y</u> EDD <u>Y</u>	Invoice Information PO# 51K1611838 Bill to _____

Relinquished By: *[Signature]*

10/24/16

Received By: *[Signature]*

Airbill Number: 10/25/16 0928

SAMPLE LOG-IN CHECKLIST



Vista Project #:

1601354

TAT

Std

Samples Arrival:	Date/Time 10/25/16 0900	Initials: LBBB	Location: WF-2
Logged In:	Date/Time 10/26/16 0938	Initials: LBBB MWS	Location: WF-2
Delivered By:	FedEx	UPS	On Trac
Preservation:	Ice	Blue Ice	Dry Ice
Temp °C: -39.0 (uncorrected)	Time:	Thermometer ID: IR-1	DT-1
Temp °C: -39.6 (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill 1 of 3	Trk # 644792807962		
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?	<input checked="" type="checkbox"/>		
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?			<input checked="" type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma	Yes No NA
Shipping Container	Vista	Client	Retain Return Dispose

Comments: *clear glass jars

* sample: EPA-HS-21 DUP; cap broken ✓
EPA-HS-B2; cap broken ✓
~~EPA~~

sample labels: K1611838 - 09009

- 010
- 011
- 020
- 029
- 038
- 047
- 056
- 065
- 074
- 083

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1601354 TAT Std

Samples Arrival:	Date/Time 10/25/16 0900	Initials: JBB	Location: WR-2
Logged In:	Date/Time 10/26/16 0938	Initials: MMS JBB	Location: WR-2
Delivered By:	FedEx	UPS	On Trac
Preservation:	Ice	Blue Ice	Dry Ice
Temp °C: 0.8 (uncorrected)	Time: 0935	Thermometer ID: IR-1	
Temp °C: 0.5 (corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill 2 of 3	✓		
Trk # 6447 9288 7973	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma	Yes No NA
Shipping Container	Vista	Client	Retain Return Dispose

Comments: sample labels: Homogenization Blank K1611838 - 084

- 086
- 086
- 086
- 086
- 086
- 086
- 086

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1601354 TAT Std

Samples Arrival:	Date/Time 10/25/16 0900	Initials: BAB	Location: WR-2
			Shelf/Rack: NA
Logged In:	Date/Time 10/26/16 0938	Initials: MWS BAB	Location: WR-2
			Shelf/Rack: D-6
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input checked="" type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 1.4 ✓ (uncorrected)	Time: 0941	Thermometer ID: IR-1	
Temp °C: 1.1 (corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill 3 of 3	Trk # 6447 9280 7984	✓	
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma	Yes No NA
Shipping Container	Vista	Client	Retain Return Dispose

Comments: sample labels: Homogenization Blank K1611838 -085
 -084
 -085
 -085
 -085
 -085
 -085
 -085

Tom Weinmann

From: Enos Dave SPOK <Dave.Enos@teck.com>
Sent: Wednesday, November 16, 2016 4:21 PM
To: Tom Weinmann
Cc: McCaig Kris SPOK; Kessel Cristy SPOK
Subject: FW: Vista Work Order #1601354; Upper Columbia River

Dave Enos, LHG, RG
Manager, Dormant Properties
Teck American Incorporated
501 N Riverpoint Blvd, Suite 300
Spokane, WA 99202
Direct Phone: +1.509.623.4505
Office: 509.747.6111
Mobile Phone: 509.795.9599
Fax: 509.459.4400
eMail: Dave.Enos@teck.com
www.teck.com

From: Karen Lopez [<mailto:klopez@vista-analytical.com>]
Sent: Wednesday, November 16, 2016 8:35 AM
To: Enos Dave SPOK; Jeff Coronado; McCaig Kris SPOK; Kessel Cristy SPOK
Cc: Martha Maier
Subject: RE: Vista Work Order #1601354; Upper Columbia River

Dave,

The matrix was consumed performing the other analyses.

Please let us know if you need anything else.

Thank you,
Karen

From: Enos Dave SPOK [<mailto:Dave.Enos@teck.com>]
Sent: Tuesday, November 15, 2016 10:12 AM
To: Karen Lopez; Jeff Coronado; McCaig Kris SPOK; Kessel Cristy SPOK
Cc: Martha Maier
Subject: RE: Vista Work Order #1601354; Upper Columbia River

Karen: can Vista analyze the sample with the matrix provided if we accept dilution and increased detection limits for Method 1668A, or was the matrix consumed performing other analyses?

Thank you.

Dave Enos, LHG, RG
Manager, Dormant Properties
Teck American Incorporated
501 N Riverpoint Blvd, Suite 300

Spokane, WA 99202
Direct Phone: +1.509.623.4505
Office: 509.747.6111
Mobile Phone: 509.795.9599
Fax: 509.459.4400
eMail: Dave.Enos@teck.com
www.teck.com

From: Karen Lopez [<mailto:klopez@vista-analytical.com>]
Sent: Tuesday, November 15, 2016 8:52 AM
To: Jeff Coronado; Enos Dave SPOK; McCaig Kris SPOK; Kessel Cristy SPOK
Cc: Martha Maier
Subject: RE: Vista Work Order #1601354; Upper Columbia River

Jeff/Dave,

The analysis for Method 1668A cannot be performed for sample Homogenization Blank 10/17/16 since there is no additional volume for sample. Please let us know if you have any questions.

Thank you,
Karen

From: Jeff Coronado [<mailto:Jeff.Coronado@alsglobal.com>]
Sent: Friday, November 11, 2016 10:09 AM
To: Karen Lopez; Dave.Enos@teck.com; Kris.McCaig@teck.com; cristy.kessel@teck.com
Cc: Martha Maier
Subject: RE: Vista Work Order #1601354; Upper Columbia River

Hi Karen,

Only two liters of blank was created for you on that first day of homogenization, so there is no additional volume remaining. After we received word back from you regarding your volume requirements we created additional blank volume on the subsequent days of processing. We caught off guard at volume required for your testing.

Can you modify your extraction volumes to accommodate the reduced sample size? Also, bear in mind that each blank is associated to the processing of 200 grams of sample. Accounting for this mass results in our detection limits in the rinse blanks being an order of magnitude or more lower than our standard tissue limits when back calculated to a weight basis.

Jeff

Jeff Coronado
Metals Department Manager, Environmental
Kelso Laboratory



T +1 360 577 7222 D +1 360 501 3330
F +1 360 636 1068
jeff.coronado@alsglobal.com
1317 South 13th Avenue
Kelso, WA 98626

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From: Karen Lopez [<mailto:klopez@vista-analytical.com>]
Sent: Friday, November 11, 2016 9:15 AM
To: Jeff Coronado; Dave.Enos@teck.com; Kris.McCaig@teck.com; cristy.kessel@teck.com
Cc: mmaier@vista-analytical.com
Subject: FW: Vista Work Order #1601354; Upper Columbia River

Hello Jeff,

It appears that we only received two bottles for sample Homogenization Blank 10/17/16. Would it be possible to send additional bottles for this sample?

Thank you,
Karen

From: Karen Lopez
Sent: Monday, October 31, 2016 10:23 AM
To: 'Enos Dave SPOK'; McCaig Kris SPOK; Kessel Cristy SPOK
Cc: Martha Maier
Subject: RE: Vista Work Order #1601354; Upper Columbia River

Dave,

Attached is the updated sample receiving acknowledgement with the omitted T&Cs. The attached version has also been uploaded to Exponent's FTP site. Please let me know if you need anything else.

Thank you,
Karen

From: Enos Dave SPOK [<mailto:Dave.Enos@teck.com>]
Sent: Thursday, October 27, 2016 3:30 PM
To: Karen Lopez; McCaig Kris SPOK; Kessel Cristy SPOK
Cc: Martha Maier
Subject: RE: Vista Work Order #1601354; Upper Columbia River

Karen. Please remove the Terms and Conditions page from this (and future communications) and revise #1601354. We have a negotiated Master Services Agreement between our firms and the Terms and Conditions provided with the sample receiving acknowledgement might conflict with what is in the agreement. Thank you.

Dave Enos, LHG, RG
Manager, Dormant Properties
Teck American Incorporated
501 N Riverpoint Blvd, Suite 300
Spokane, WA 99202
Direct Phone: +1.509.623.4505
Office: 509.747.6111
Mobile Phone: 509.795.9599
Fax: 509.459.4400
eMail: Dave.Enos@teck.com
www.teck.com

From: Karen Lopez [<mailto:klopez@vista-analytical.com>]
Sent: Thursday, October 27, 2016 3:03 PM

To: Enos Dave SPOK; McCaig Kris SPOK; Kessel Cristy SPOK; clin@exponent.com; tweinmann@envstd.com
Cc: mmaier@vista-analytical.com
Subject: Vista Work Order #1601354; Upper Columbia River

All,

Please find attached the sample receiving acknowledgement for Vista Analytical Work Order: 1601354. This document will be uploaded to the Exponent FTP site once instructions are provided.

If you have any questions, please contact me or Martha Maier at 916-673-1520. We appreciate your business.

Thank you,

Karen P. Lopez
Project Manager



Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
Phone: (916) 673-1520
www.vista-analytical.com

A woman-owned, small business enterprise.

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Tom Weinmann

From: Karen Lopez <klopez@vista-analytical.com>
Sent: Tuesday, December 06, 2016 6:52 PM
To: Tom Weinmann
Cc: mmaier@vista-analytical.com; Dave.Enos@teck.com; cristy.kessel@teck.com
Subject: RE: WO 1601354 request
Attachments: Run Log 1668 11-11-16 VG-8.pdf

Thomas,

Attached is the injection log for 1668 with the CCV analyzed on 11/11/16 at 18:24 on instrument VG-8. Please let us know if you need anything else.

Have a good evening!

Best Regards,

Karen P. Lopez
Project Manager



Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
Phone: (916) 673-1520
www.vista-analytical.com

A woman-owned, small business enterprise.

From: Tom Weinmann [<mailto:tweinmann@envstd.com>]
Sent: Tuesday, December 06, 2016 2:09 PM
To: Martha Maier
Cc: Dave.Enos@teck.com; Kessel Cristy SPOK (Cristy.Kessel@teck.com)
Subject: WO 1601354 request

Martha,

Good afternoon. I'm looking at the data package for WO 1601354 (Teck fish tissue samples) and I believe I am missing the injection log for the 1668 analyses associated with the CCV analyzed on 11/11/16 at 18:24 on instrument VG-8. Could you forward the injection log to me when you get a chance? Thanks

Thomas H. Weinmann
Senior Quality Assurance Chemist
Environmental Standards, Inc.
1140 Valley Forge Road • PO Box 810 • Valley Forge, PA 19482
610.935.5577 x428 • www.envstd.com • tweinmann@envstd.com

Vista Analytical Laboratory - Injection Log Run file: 161111E2 Instrument ID: VG-8 GC Column ID: ZB-1

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	BCal
161111E2	1	ST161111E2-1	MAS	11-NOV-16	18:24:32	ST161111E2-1	ST161112E2-1
161111E2	2	B6K0062-BS1	MAS	11-NOV-16	19:29:38	ST161111E2-1	ST161112E2-1
161111E2	3	B6K0073-BS1	MAS	11-NOV-16	20:34:44	ST161111E2-1	ST161112E2-1
161111E2	4	SOLVENT BLANK	MAS	11-NOV-16	21:39:52	ST161111E2-1	ST161112E2-1
161111E2	5	B6K0062-BLK1	MAS	11-NOV-16	22:44:56	ST161111E2-1	ST161112E2-1
161111E2	6	B6K0073-BLK1	MAS	11-NOV-16	23:50:02	ST161111E2-1	ST161112E2-1
161111E2	7	1601354-13	MAS	12-NOV-16	00:55:06	ST161111E2-1	ST161112E2-1
161111E2	8	1601354-14	MAS	12-NOV-16	02:00:12	ST161111E2-1	ST161112E2-1
161111E2	9	1601324-03	MAS	12-NOV-16	03:05:16	ST161111E2-1	ST161112E2-1
161111E2	10	1601324-01	MAS	12-NOV-16	04:10:22	ST161111E2-1	ST161112E2-1
161111E2	11	1601324-02	MAS	12-NOV-16	05:15:30	ST161111E2-1	ST161112E2-1
161111E2	12	SOLVENT BLANK	MAS	12-NOV-16	06:20:38	ST161111E2-1	ST161112E2-1
161112E1	1	ST161112E1-1	MAS	12-NOV-16	13:03:27	ST161111E2-1	ST161112E2-1

B. SAMPLE DELIVERY GROUP K1611838



INORGANIC ANALYSIS SUPPORT DOCUMENTATION

ESI project name: Teck UCR 2016 Tissue Study
 Sample Collection Dates: 8/30 – 10/19/16
 Job Number: 20167549
 Project Manager: Tom Weinmann
 Laboratory: ALS

Reviewed by: THW
 Approved by: STZ
 Completion Date: 12/16

Applicable Sample No's (x) Refer to Table 1 in the Quality Assurance Review

	<u>Sample No.</u>	<u>Lab Control No.</u>
Deliverable: CLP (Full) ()	K1611838	
Level IV (Full) (x)		
Limited ()		
Other:		

The following table indicates criteria that were examined, the identified problems, and support documentation attachments

	Criteria Examined in Detail					Problems Identified					Support Documentation Attachments				
	Check (✓) if Yes or Footnote Letter for Comments Below					Check (✓) if Yes or Footnote Letter for Comments Below					Check (✓) if Yes or Footnote Letter for Comments Below				
	6010C/6020A	1631E/7470A	7742	1632	SM4500-F-C	6010C/6020A	1631E/7470A	7742	1632	SM4500-F-C	6010C/6020A	1631E/7470A	7742	1632	SM4500-F-C
Holding Times	x	x	x	x	x						x	x	x	x	x
Blank Analysis Results	x	x	x	x	x	x					x	x	x	x	x
Matrix Spike (Predigestion) Results	x	x	x	x	x						x	x	x	x	x
Duplicate Analysis: () Field (x) Lab	x		x		x						x		x		x
Quantitation of Results	x	x	x	x	x	x					x	x	x	x	x
Detection Limit/Sensitivity	x	x	x	x	x						x	x	x	x	x
Initial Calibrations	x	x	x	x	x						x	x	x	x	x
Continuing Calibrations	x	x	x	x	x						x	x	x	x	x
Laboratory Control Standard (LCS)	x	x	x	x	x						x	x	x	x	x
ICP Linear Range Analysis	x										x				
ICP Interference Checks	x										x				
ICP Serial Dilutions	x										x				
ICP Post-Digestion Spike	x										x				
GFAA Post Digestion Spikes															
GFAA Duplicate Injections															
ICP Multiple Exposures															
GFAA Standard Additions															
CRDL Standards	x	x	x								x	x	x		
Condition on Receipt	x	x	x	x	x						x	x	x	x	x
Percent Solids															
Others:															

Comments: _____

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

*No impact on tissue
samples from equip
blanks*

Client: Teck American Incorporated Service Request: K1611838
Project No.: NA Date Collected: 10/17/2016
Project Name: UCR - 2016 Sturgeon Tissue Study Date Received: 10/18/2016
Matrix: WATER Units: ug/L
Basis: NA

Sample Name: Homogenization Blank Lab Code: K1611838-084

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	1.0	11/08/16	12/02/16	1.0	J	
Antimony	6020A	0.05	0.02	1.0	11/08/16	12/02/16	0.02	U	
Arsenic	6020A	0.50	0.08	1.0	11/08/16	12/02/16	0.08	J	
Barium	6020A	0.050	0.020	1.0	11/08/16	12/02/16	0.020	U	
Beryllium	6020A	0.020	0.002	1.0	11/08/16	12/02/16	0.002	U	
Boron	6010C	20.0	4.0	1.0	11/08/16	11/09/16	4.0	U	
Cadmium	6020A	0.020	0.009	1.0	11/08/16	12/02/16	0.009	U	
Calcium	6010C	20.0	0.9	1.0	11/08/16	11/09/16	8.0	J	
Chromium	6020A	0.20	0.03	1.0	11/08/16	12/02/16	0.05	J	
Cobalt	6020A	0.020	0.005	1.0	11/08/16	12/02/16	0.005	U	
Copper	6020A	0.10	0.02	1.0	11/08/16	12/02/16	0.06	J	
Iron	6020A	1.0	0.3	1.0	11/08/16	12/02/16	1.9	J	
Lead	6020A	0.020	0.007	1.0	11/08/16	12/02/16	0.007	U	
Magnesium	6010C	5.0	0.3	1.0	11/08/16	11/09/16	1.4	J	
Manganese	6020A	0.050	0.006	1.0	11/08/16	12/02/16	0.041	J	
Mercury	7470A	0.20	0.02	1.0	11/14/16	11/14/16	0.02	U	
Molybdenum	6020A	0.05	0.01	1.0	11/08/16	12/02/16	0.01	J	
Nickel	6020A	0.20	0.04	1.0	11/08/16	12/02/16	0.05	J	
Potassium	6010C	200	60.0	1.0	11/08/16	11/09/16	60.0	U	
Selenium	6020A	1.0	0.2	1.0	11/08/16	12/02/16	0.2	U	
Silicon	6010C	200	20.0	1.0	11/08/16	11/09/16	20.0	U	
Silver	6020A	0.020	0.002	1.0	11/08/16	12/02/16	0.002	U	
Sodium	6010C	200	20.0	1.0	11/08/16	11/09/16	20.0	U	
Sulfur	6010C	40.0	6.0	1.0	11/08/16	11/09/16	6.0	U	
Thallium	6020A	0.020	0.008	1.0	11/08/16	12/02/16	0.008	U	
Tin	6020A	0.10	0.02	1.0	11/08/16	12/02/16	0.02	U	
Uranium	6020A	0.020	0.005	1.0	11/08/16	12/02/16	0.005	U	
Vanadium	6020A	0.20	0.04	1.0	11/08/16	12/02/16	0.04	U	
Zinc	6020A	0.50	0.08	1.0	11/08/16	12/02/16	0.56	J	

EVALUATION OF INORGANIC TRIPLICATE ANALYSIS PRECISION

Precision Objectives*	Aqueous Solid	Analyte > or = 5 X RL		Analyte < 5 X RL	
		RSD < or =	20	Difference < or = RL times	1.0
All Parameters		RSD < or =	30	Difference < or = RL times	1.0

*Enter the project-specific acceptance criteria

Sample Identification #1: EPA-HS-A1 Matrix: Solid
(Aqueous or Solid)

Sample Identification #2: EPA-HS-A1 DUP

Sample Identification #3: EPA-HS-A1 TRIP Units: mg/Kg
(ug/L, mg/L, ug/Kg, or mg/Kg)

ANALYTE	SAMPLE #1		SAMPLE #2		SAMPLE #3		RELATIVE STANDARD DEVIATION	RL	NOTES
	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q	ANALYSIS RESULTS	Q			
Mercury	278		269		283		3	4.8	IN
Calcium	281		361		300		13	3.9	IN
Magnesium	1120		1070		1060		3	0.97	IN
Potassium	17100		16300		16300		3	19.3	IN
Silicon	11.1	J	8.8	J	9.6	J	12	18.1	IN
Sodium	1510		1420		1430		3	19.3	IN
Sulfur	8190		7910		7660		3	4.8	IN
Aluminum	4.1		2.2		2.3		37	1.9	IN
Antimony	0.01	J	0.006	J	0.005	J	38	0.048	IN
Arsenic	0.693		0.714		0.670		3	0.482	IN
Barium	0.105		0.121		0.093		13	0.048	IN
Cadmium	0.007	J	0.005	J	0.005	J	20	0.019	IN
Chromium	0.28		0.21		0.14	J	33	0.19	IN
Cobalt	0.015	J	0.014	J	0.013	J	7	0.019	IN
Copper	0.92		0.94		0.83		7	0.10	IN
Iron	14.3		12.4		11.4		12	0.97	IN
Lead	0.055		0.034		0.051		24	0.019	IN
Manganese	1.26		1.17		1.14		5	0.048	IN
Molybdenum	0.0122	J	0.0143	J	0.0067	J	35	0.0482	IN
Nickel	0.13	J	0.14	J	0.07	J	33	0.19	IN
Silver	0.013	J	0.002	J	0.001	J	125	0.019	IN
Thallium	0.012	J	0.013	J	0.010	J	13	0.019	IN
Tin	0.013	J	0.016	J	0.018	J	16	0.048	IN
Uranium-238	0.001	J	0.001	J	0.019	U	N.C.	0.019	IN
Vanadium	0.02	J	0.01	J	0.01	J	43	0.19	IN
Zinc	12.3		12.9		12.0		4	0.48	IN
Selenium	3.96		4.12		3.80		4	0.39	IN
Fluoride	1.5	J	2.0	J	1.8	J	14	1.8	IN
									NO RL
									NO RL
									NO RL

NOTES:

U) The analyte was not-detected in the sample. The reported numerical value was used for comparison purposes.

RL) Reporting limit equal to the low concentration calibration standard.

N.C.) The RSD was not calculated because at least one result was not-detected.

U*/B) The result was blank qualified. The numerical value will be used for comparison purposes.

COMMENTS:

Metals
- 2a -

Tissue
Samples

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum	100.0	96.4	96	25.0	24.1	96	25.1	100	6020A
Antimony	25.0	25.0	100	25.0	25.1	100	25.0	100	6020A
Arsenic	25.0	24.7	99	25.0	25.1	100	24.4	98	6020A
Barium	100.0	99.1	99	25.0	25.2	101	25.1	100	6020A
Beryllium	2.5	2.5	100	25.0	25.1	100	25.5	102	6020A
Boron	2000	1992	100	250	252	101	252	101	6010C
Cadmium	12.5	12.6	101	25.0	25.1	100	24.7	99	6020A
Calcium	5000	4887	98	500	499	100	504	101	6010C
Calcium	12500	12430	99	10000	9857	99	9884	99	6010C
Chromium	10.0	9.9	99	25.0	25.4	102	25.0	100	6020A
Cobalt	25.0	25.3	101	25.0	25.5	102	25.1	100	6020A
Copper	12.5	12.6	101	25.0	25.6	102	25.3	101	6020A
Iron	50.0	49.4	99	25.0	25.2	101	25.0	100	6020A
Lead	25.0	24.7	99	25.0	25.2	101	25.1	100	6020A
Magnesium	12500	12170	97	10000	10220	102	9981	100	6010C
Magnesium	5000	4868	97	250	251	100	252	101	6010C
Manganese	25.0	24.6	98	25.0	25.5	102	24.9	100	6020A
Molybdenum	25.0	25.2	101	25.0	25.2	101	24.7	99	6020A
Nickel	25.0	25.0	100	25.0	25.4	102	25.1	100	6020A
Potassium	12500	11970	96	10000	10010	100	9986	100	6010C
Selenium	7.50	7.50	100	7.50	7.62	102	7.52	100	7742
Silicon	5000	5109	102	10000	10290	103	10260	103	6010C
Silver	12.5	12.3	98	25.0	25.2	101	24.6	98	6020A
Sodium	12500	12100	97	10000	9996	100	9845	98	6010C
Sulfur	5000	5050	101	1000	1014	101	1006	101	6010C
Thallium	25.0	24.4	98	25.0	25.2	101	25.1	100	6020A
Tin	25.0	23.4	94	25.0	25.2	101	24.9	100	6020A
Uranium	25.0	25.3	101	25.0	25.7	103	25.2	101	6020A
Vanadium	25.0	25.1	100	25.0	25.3	101	24.9	100	6020A
Zinc	25.0	25.0	100	25.0	26.0	104	25.0	100	6020A

90-110

6010C CCV 1-4 bracket samples

6020A CCV 4-6 bracket samples

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum				25.0	24.6	98	24.4	98	6020A
Antimony				25.0	24.8	99	24.8	99	6020A
Arsenic				25.0	25.0	100	24.9	100	6020A
Barium				25.0	24.7	99	25.0	100	6020A
Beryllium				25.0	24.8	99	24.4	98	6020A
Boron				250	252	101	248	99	6010C
Cadmium				25.0	24.7	99	24.8	99	6020A
Calcium				10000	9831	98	9930	99	6010C
Calcium				500	497	99	507	101	6010C
Chromium				25.0	25.2	101	25.1	100	6020A
Cobalt				25.0	25.0	100	24.8	99	6020A
Copper				25.0	25.0	100	24.8	99	6020A
Iron				25.0	24.9	100	24.9	100	6020A
Lead				25.0	24.7	99	25.0	100	6020A
Magnesium				10000	9742	97	9778	98	6010C
Magnesium				250	249	100	250	100	6010C
Manganese				25.0	25.4	102	24.9	100	6020A
Molybdenum				25.0	24.8	99	24.8	99	6020A
Nickel				25.0	24.9	100	24.7	99	6020A
Potassium				10000	9684	97	9786	98	6010C
Selenium				7.50	7.64	102	7.59	101	7742
Silicon				10000	10350	104			6010C
Silver				25.0	24.5	98	24.9	100	6020A
Sodium				10000	9591	96	9663	97	6010C
Sulfur				1000	1015	102	1013	101	6010C
Thallium				25.0	25.0	100	25.3	101	6020A
Tin				25.0	24.7	99	24.9	100	6020A
Uranium				25.0	25.2	101	25.4	102	6020A
Vanadium				25.0	25.3	101	25.1	100	6020A
Zinc				25.0	25.0	100	25.0	100	6020A

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum				25.0	23.9	96	23.9	96	6020A
Antimony				25.0	24.9	100	25.3	101	6020A
Arsenic				25.0	25.1	100	25.6	102	6020A
Barium				25.0	24.9	100	25.4	102	6020A
Beryllium				25.0	24.6	98	24.0	96	6020A
Boron				250	254	102	250	100	6010C
Cadmium				25.0	25.0	100	25.3	101	6020A
Calcium				10000	9938	99	9763	98	6010C
Calcium				500	500	100	494	99	6010C
Chromium				25.0	25.8	103	25.5	102	6020A
Cobalt				25.0	25.5	102	25.3	101	6020A
Copper				25.0	25.6	102	25.5	102	6020A
Iron				25.0	25.4	102	25.4	102	6020A
Lead				25.0	25.3	101	25.2	101	6020A
Magnesium				10000	9724	97	9833	98	6010C
Magnesium				250	247	99	246	98	6010C
Manganese				25.0	25.6	102	25.4	102	6020A
Molybdenum				25.0	25.2	101	25.5	102	6020A
Nickel				25.0	25.2	101	25.1	100	6020A
Potassium				10000	9766	98	9914	99	6010C
Selenium				7.50	7.67	102			7742
Silver				25.0	25.0	100	25.4	102	6020A
Sodium				10000	9600	96	9781	98	6010C
Sulfur				1000	1007	101	984	98	6010C
Thallium				25.0	25.9	104	25.6	102	6020A
Tin				25.0	25.0	100	25.5	102	6020A
Uranium				25.0	25.4	102	25.4	102	6020A
Vanadium				25.0	25.8	103	25.5	102	6020A
Zinc				25.0	26.0	104	25.0	100	6020A

ALS Group USA, Corp.

dba ALS Environmental

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated SDG No.: K1611838
 Contract: _____ Lab Code: ALSK Case No.: _____ SAS No.: _____
 Initial Calibration Source: Inorganic Ventures
 Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICVT1									
	Aluminum	4.6	4.0	115	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Antimony	0.124	0.10	124	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Arsenic	0.97	1.0	97	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Barium	0.092	0.10	92	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Beryllium	0.050	0.04	125	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Cadmium	0.041	0.04	102	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Chromium	0.39	0.4	98	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Cobalt	0.040	0.04	100	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Copper	0.19	0.2	95	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Iron	2.02	2.0	101	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Lead	0.042	0.04	105	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Manganese	0.095	0.10	95	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Molybdenum	0.095	0.10	95	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Nickel	0.40	0.4	100	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Silver	0.039	0.04	98	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Thallium	0.039	0.04	98	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Tin	0.11	0.10	110	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Uranium	0.038	0.04	95	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Vanadium	0.40	0.4	100	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit
	Zinc	1.17	1.0	117	70.0 - 130.0	MS	10/26/2016	14:11	102616Bedit

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Metals

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LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated SDG No.: K1611838
 Contract: _____ Lab Code: ALSK Case No.: _____ SAS No.: _____
 Initial Calibration Source: Inorganic Ventures
 Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCVT1									
	Aluminum	4.8	4.0	120	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Antimony	0.119	0.10	119	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Arsenic	1.01	1.0	101	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Barium	0.104	0.10	104	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Beryllium	0.039	0.04	98	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Cadmium	0.041	0.04	102	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Chromium	0.39	0.4	98	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Cobalt	0.043	0.04	108	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Copper	0.20	0.2	100	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Iron	2.08	2.0	104	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Lead	0.041	0.04	102	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Manganese	0.100	0.10	100	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Molybdenum	0.099	0.10	99	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Nickel	0.39	0.4	98	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Silver	0.040	0.04	100	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Thallium	0.038	0.04	95	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Tin	0.10	0.10	100	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Uranium	0.038	0.04	95	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Vanadium	0.40	0.4	100	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit
	Zinc	1.20	1.0	120	70.0 - 130.0	MS	10/26/2016	15:42	102616Bedit

Metals

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LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

SDG No.: K1611838

Contract: _____

Lab Code: ALSK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCVT2									
	Aluminum	4.4	4.0	110	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Antimony	0.118	0.10	118	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Arsenic	0.99	1.0	99	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Barium	0.109	0.10	109	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Beryllium	0.047 ✓	0.04	118 ✓	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Cadmium	0.042	0.04	105	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Chromium	0.41	0.4	102	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Cobalt	0.042	0.04	105	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Copper	0.22	0.2	110	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Iron	2.09	2.0	104	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Lead	0.042	0.04	105	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Manganese	0.106	0.10	106	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Molybdenum	0.098 ✓	0.10	98 ✓	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Nickel	0.42	0.4	105	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Silver	0.042	0.04	105	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Thallium	0.038	0.04	95	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Tin	0.10	0.10	100	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Uranium	0.039	0.04	98	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Vanadium	0.40	0.4	100	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
	Zinc	1.24	1.0	124	70.0 - 130.0	MS	10/26/2016	16:49	102616Bedit
LLICVI									
	Boron	22.5	20.0	112	70.0 - 130.0	P	11/9/2016	09:19	110916AICP
	Calcium	20.4	20.0	102	70.0 - 130.0	P	11/9/2016	09:19	110916AICP
	Magnesium	4.9 6.0	5.0	98 ✓	70.0 - 130.0	P	11/9/2016	09:19	110916AICP
	Potassium	203.4	200.0	102	70.0 - 130.0	P	11/9/2016	09:19	110916AICP
	Sodium	191.6	200.0	96	70.0 - 130.0	P	11/9/2016	09:19	110916AICP
	Sulfur	38.1	50.0	76	70.0 - 130.0	P	11/9/2016	09:19	110916AICP
		<i>THW 12/12/16</i>							
LLCCVI									
	Boron	19.7	20.0	98	70.0 - 130.0	P	11/9/2016	12:34	110916AICP
	Calcium	20.4	20.0	102	70.0 - 130.0	P	11/9/2016	12:34	110916AICP
	Magnesium	5.0 6.0	5.0	100 ✓	70.0 - 130.0	P	11/9/2016	12:34	110916AICP
	Potassium	185.1	200.0	93	70.0 - 130.0	P	11/9/2016	12:34	110916AICP
	Sodium	212.8	200.0	106	70.0 - 130.0	P	11/9/2016	12:34	110916AICP

Sample Name: LLICV Acquired: 11/9/2016 9:19:15 Type: QC
 Method: 2016B-ICP04(v32) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP16-9-A 0.5/50mL

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0110	.0082	.0207	.0074	.0034	.00093	.0225	.0008
Stddev	.0003	.0006	.0019	.0021	.0003	.00011	.0033	.0003
%RSD	2.646	7.651	9.375	28.41	7.391	12.080	14.62	38.07
#1	.0107	.0086	.0221	.0059	.0032	.00085	.0202	.0006
#2	.0112	.0077	.0193	.0089	.0036	.00101	.0248	.0010

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	F .0348	.0204	.0046	.0025	.0042	.0051	.0161
Stddev	.0000	.0128	.0001	.0004	.0004	.0005	.0003	.0002
%RSD	3.008	36.73	.6444	9.451	15.13	12.26	5.542	1.508
#1	.0011	.0258	.0205	.0043	.0028	.0046	.0049	.0160
#2	.0010	.0439	.0203	.0049	.0022	.0038	.0053	.0163

Check ? Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range .0200
 30.00%

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0126	.0212	-.0208	.0049	F .0029	.00095	.0003	.0038
Stddev	.0024	.0003	.0908	.0001	.0015	.00007	.0015	.0001
%RSD	18.83	1.340	437.5	2.848	52.85	7.2332	461.5	3.790
#1	.0142	.0214	-.0850	.0050	.0040	.00090	.0013	.0039
#2	.0109	.0210	.0435	.0048	.0018	.00100	-.0007	.0037

Check ? Chk Pass Chk Pass None Chk Pass Chk Fail Chk Pass None Chk Pass
 Value
 Range .0050
 -30.00%

Sample Name: LLCCV Acquired: 11/9/2016 12:34:03 Type: QC
 Method: 2016B-ICP04(v32) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

	①			②				
Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0132	.0093	.0235	F .0061	.0034	.00083	.0197	.0008
Stddev	.0023	.0002	.0000	.0013	.0004	.00034	.0011	.0002
%RSD	17.46	1.970	.0221	21.05	12.65	41.589	5.759	21.97
#1	.0148	.0094	.0235	.0052	.0037	.00107	.0205	.0006
#2	.0116	.0092	.0235	.0070	.0031	.00058	.0189	.0009
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	.0100			.0100				
Range	30.00%			-30.00%				

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	F .0288	.0204	.0037	.0016	.0032	.0041	.0167
Stddev	.0000	.0224	.0000	.0003	.0003	.0004	.0003	.0090
%RSD	1.604	77.68	.2346	8.907	21.34	12.46	7.161	54.21
#1	.0012	.0446	.0204	.0035	.0019	.0034	.0039	.0230
#2	.0012	.0130	.0205	.0040	.0014	.0029	.0043	.0103
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0200						
Range		30.00%						

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0119	.0209	.0360	.0050	F .0013	.00085	-.0004	.0038
Stddev	.0006	.0007	.0536	.0002	.0036	.00008	.0005	.0006
%RSD	5.282	3.467	148.9	3.641	279.7	9.7254	131.1	16.54
#1	.0115	.0214	-.0019	.0048	.0039	.00091	.0000	.0042
#2	.0123	.0204	.0739	.0051	-.0013	.00079	-.0008	.0033
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	Chk Pass	None	Chk Pass
Value					.0050			
Range					-30.00%			

Drewn
 @ax
 am 11/9/16

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

SDG No.: K1611838

Contract: _____ Lab Code: ALSK

Case No.: _____ SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV1	Sulfur	35.7	50.0	71	70.0 - 130.0	P	11/9/2016	12:36	110916AICP
LLICV1	Silicon	181.4 ✓	200.0	91 ✓	70.0 - 130.0	P	11/14/2016	09:44	111416AICP
LLCCV1	Silicon	194.8 ✓	200.0	97 ✓	70.0 - 130.0	P	11/14/2016	11:21	111416AICP

Metals

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Selenium	0.2	0.21	105					

Metals

- 3 -

BLANKS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Aluminum	0.4	U	0.4	U	0.4	U	0.4	U	6020A
Antimony	0.008	J	0.006	U	0.006	U	0.008	J	6020A
Arsenic	0.020	U	0.020	U	0.020	U	0.020	U	6020A
Barium	0.020	U	0.020	U	0.020	U	0.020	U	6020A
Beryllium	0.008	U	0.008	U	0.008	U	0.008	U	6020A
Boron	8.0	U	8.0	U	8.0	U	8.0	U	6010C
Cadmium	0.003	U	0.003	U	0.003	U	0.003	U	6020A
Calcium	20.0	U	20.0	U	20.0	U	20.0	U	6010C
Chromium	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Cobalt	0.003	U	0.003	U	0.003	U	0.003	U	6020A
Copper	0.03	U	0.03	U	0.03	U	0.03	U	6020A
Iron	0.09	U	0.09	U	0.09	U	0.09	U	6020A
Lead	0.003	U	0.003	U	0.003	U	0.003	U	6020A
Magnesium	6.00	U	6.00	U	6.00	U	6.00	U	6010C
Manganese	0.010	U	0.010	U	0.010	U	0.010	U	6020A
Molybdenum	0.0060	U	0.0060	U	0.0060	U	0.0060	U	6020A
Nickel	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Potassium	90	U	90	U	90	U	90	U	6010C
Selenium	0.10	U	0.10	U	0.10	U	0.10	U	7742
Silicon	20.0	U	20.0	U	20.0	U	20.0	U	6010C
Silver	0.021	J	0.004	J	0.015	J	0.019	J	6020A
Sodium	20.0	U	20.0	U	21.7	J	20.0	U	6010C
Sulfur	9.0	U	9.0	U	9.0	U	9.0	U	6010C
Thallium	0.003	J	0.002	U	0.002	J	0.002	U	6020A
Tin	0.00	U	0.00	U	0.00	U	0.00	U	6020A
Uranium	0.002	U	0.002	U	0.002	U	0.002	U	6020A
Vanadium	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Zinc	0.08	U	0.08	U	0.08	U	0.08	U	6020A

Sb U* all exc. 83

no impact

6010C CC31-4 bracket samples

6020A CC34-6 bracket samples

Metals

- 3 -

BLANKS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	Continuing Calibration Blank (ug/L)						Method	
		C	1	C	2	C	3		C
Aluminum			0.4	U	0.4	U	0.4	U	6020A
Antimony			0.006	J	0.007	J	0.007	J	6020A
Arsenic			0.020	U	0.020	U	0.020	U	6020A
Barium			0.020	U	0.020	U	0.020	U	6020A
Beryllium			0.008	U	0.008	U	0.008	U	6020A
Boron			8.0	U	8.0	U	8.0	U	6010C
Cadmium			0.003	U	0.003	U	0.003	U	6020A
Calcium			20.0	U	20.0	U	20.0	U	6010C
Chromium			0.02	U	0.02	U	0.02	U	6020A
Cobalt			0.003	U	0.003	U	0.003	U	6020A
Copper			0.03	U	0.03	U	0.03	U	6020A
Iron			0.09	U	0.09	U	0.09	U	6020A
Lead			0.003	U	0.003	J	0.003	U	6020A
Magnesium			6.00	U	6.00	U	6.00	U	6010C
Manganese			0.010	U	0.010	U	0.010	U	6020A
Molybdenum			0.0060	U	0.0060	U	0.0060	U	6020A
Nickel			0.02	U	0.02	U	0.02	U	6020A
Potassium			90	U	90	U	90	U	6010C
Selenium			0.10	U	0.10	U			7742
Silver			0.017	J	0.025	J	0.015	J	6020A
Sodium			27.3	J	34.4	J	58.5	J	6010C
Sulfur			9.0	U	15.5	J	9.0	U	6010C
Thallium			0.002	U	0.002	U	0.002	U	6020A
Tin			0.00	U	0.00	U	0.00	U	6020A
Uranium			0.002	U	0.002	U	0.002	U	6020A
Vanadium			0.02	U	0.02	U	0.02	U	6020A
Zinc			0.08	U	0.08	U	0.08	U	6020A

Ag U* 9,10,11,56,65
others, no impact

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: Teck American Incorporated Service Request: K1611838
 Project No.: NA Date Collected:
 Project Name: UCR - 2016 Sturgeon Tissue Study Date Received:
 Matrix: TISSUE Units: mg/Kg
 Basis: DRY

Sample Name: Method Blank Lab Code: KQ1613523-01

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/16	10/26/16	0.2	J	
Antimony	6020A	0.050	0.003	5.0	10/22/16	10/26/16	0.003	U	
Arsenic	6020A	0.500	0.010	5.0	10/22/16	10/26/16	0.010	U	
Barium	6020A	0.050	0.010	5.0	10/22/16	10/26/16	0.010	U	
Beryllium	6020A	0.020	0.004	5.0	10/22/16	10/26/16	0.004	U	
Boron	6010C	2.0	0.8	1.0	10/22/16	11/09/16	0.8	U	
Cadmium	6020A	0.020	0.002	5.0	10/22/16	10/26/16	0.002	U	
Calcium	6010C	4.0	2.0	1.0	10/22/16	11/09/16	2.0	U	
Chromium	6020A	0.20	0.01	5.0	10/22/16	10/26/16	0.01	U	
Cobalt	6020A	0.020	0.002	5.0	10/22/16	10/26/16	0.002	U	
Copper	6020A	0.10	0.02	5.0	10/22/16	10/26/16	0.02	U	
Iron	6020A	1.00	0.05	5.0	10/22/16	10/26/16	0.05	U	
Lead	6020A	0.020	0.002	5.0	10/22/16	10/26/16	0.002	U	
Magnesium	6010C	1.00	0.60	1.0	10/22/16	11/09/16	0.60	U	
Manganese	6020A	0.050	0.005	5.0	10/22/16	10/26/16	0.005	U	
Molybdenum	6020A	0.0500	0.0030	5.0	10/22/16	10/26/16	0.0030	U	
Nickel	6020A	0.20	0.01	5.0	10/22/16	10/26/16	0.01	U	
Potassium	6010C	20.0	9.0	1.0	10/22/16	11/09/16	9.0	U	
Selenium	7742	0.10	0.05	5.0	10/22/16	11/10/16	0.05	U	
Silver	6020A	0.020	0.001	5.0	10/22/16	10/26/16	0.001	J	
Sodium	6010C	20.0	2.0	1.0	10/22/16	11/09/16	2.0	U	
Sulfur	6010C	5.0	0.9	1.0	10/22/16	11/09/16	0.9	U	
Thallium	6020A	0.020	0.001	5.0	10/22/16	10/26/16	0.001	J	
Tin	6020A	0.050	0.002	5.0	10/22/16	10/26/16	0.002	U	
Uranium	6020A	0.020	0.001	5.0	10/22/16	10/26/16	0.001	U	
Vanadium	6020A	0.20	0.01	5.0	10/22/16	10/26/16	0.01	U	
Zinc	6020A	0.50	0.04	5.0	10/22/16	10/26/16	0.04	U	

Al U* 65,74,83
 Ag see CCR
 TI no impact

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: Teck American Incorporated Service Request: K1611838
Project No.: NA Date Collected:
Project Name: UCR - 2016 Sturgeon Tissue Study Date Received:
Matrix: TISSUE Units: mg/Kg
Basis: DRY

Sample Name: Method Blank Lab Code: KQ1614746-02

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Silicon	6010C	20.0	2.0	1.0	11/10/16	11/14/16	2.0	U	

Comments:

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-04

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Boron			-5	-6				
Calcium	500000	500000	476200	475300	95			
Magnesium	500000	500000	439600	445300	89			
Potassium			-37	12				
Silicon			17	16				
Sodium			8	17				
Sulfur		5000	43	44	1			

low interferences in samples, no impact

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-~~ICP-MS~~-06

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Aluminum	20000.0	20000.0	20200.0	20900.0	104			
Antimony	0.0		0.0	0.0				
Arsenic	0.0	25.0	0.0	24.7	99			
Barium	0.0		0.9	1.0				
Beryllium	0.0		0.0	0.0				
Cadmium	0.0	25.0	0.0	23.8	95			
Chromium	0.0	50.0	1.9	52.8	106			
Cobalt	0.0	50.0	0.7	50.7	101			
Copper	0.0	50.0	0.7	47.1	94			
Iron	50000.00	50000.00	50300.0	50300.0	101			
Lead	0.0		0.1	0.1				
Manganese	0.0	50.0	1.1	52.0	104			
Molybdenum	0.0		53.6	53.1				
Nickel	0.0	50.0	1.5	48.7	97			
Silver	0.0	12.5	0.0	11.1	89			
Thallium	0.0		0.0	0.0				
Tin	0.0		0.1	0.1				
Uranium	0.0		0.0	0.0				
Vanadium	0.0	50.0	0.0	54.0	108			
Zinc	0.0	25.0	1.0	24.4	98			

N/A

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Teck American Incorporated Service Request: K1611838
 Project No.: NA Units: MG/KG
 Project Name: UCR - 2016 Sturgeon Tissue Study Basis: DRY
 Matrix: TISSUE

Sample Name: EPA-HS-A1S

Lab Code: K1611838-009S ✓

Analyte	Control Limit %R	Spike Result	C	Sample Result ✓	C	Spike Added	%R	Q	Method
Aluminum	75 - 125	195.1		4.1		194.8	98		6020A
Antimony	75 - 125	50.191	✓	0.010	J	48.7	103	✓	6020A
Arsenic	75 - 125	20.014		0.693		16.3	119		6020A
Barium	75 - 125	97.947		0.105		97.4	100		6020A
Beryllium	75 - 125	4.931		0.004	U	4.9	101		6020A
Boron	75 - 125	18.1	✓	0.8	U	16.27	111	✓	6010C
Cadmium	75 - 125	5.000		0.007	J	4.9	102		6020A
Calcium	75 - 125	452		281		162.37	105		6010C
Chromium	75 - 125	19.91	✓	0.28		19.5	101	✓	6020A
Cobalt	75 - 125	50.187		0.015	J	48.7	103		6020A
Copper	75 - 125	24.94		0.92		24.4	98		6020A
Iron	75 - 125	108.54		14.25		97.40	97		6020A
Lead	75 - 125	51.282		0.055		48.701	105		6020A
Magnesium		1290	✓	1120		162.37	105	✓	6010C
Manganese	75 - 125	49.798		1.260		48.701	100		6020A
Molybdenum	75 - 125	18.2860		0.0122	J	16.266	112		6020A
Nickel	75 - 125	48.21		0.13	J	48.7	99		6020A
Potassium		17200		17100		74x 162.37	62		6010C
Selenium	75 - 125	23.8	✓	3.96		16.27	122	✓	7742
Silicon	75 - 125	962	✓	11.1	J	961.54	99	✓	6010C
Silver	75 - 125	4.768		0.013	J	4.9	97		6020A
Sodium		1690		1510		162.37	111		6010C
Sulfur		9000		8190		974.03	83		6010C
Thallium	75 - 125	3.379		0.012	J	3.2	105		6020A
Tin	75 - 125	8.487		0.013	J	9.740	87		6020A
Uranium	75 - 125	9.960		0.001	J	9.740	102		6020A
Vanadium	75 - 125	50.44	✓	0.02	J	48.7	104	✓	6020A
Zinc	75 - 125	62.27		12.32		48.70	103		6020A

75-125

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client: Teck American Incorporated Service Request: K1611838
 Project No.: NA Units: UG/L
 Project Name: UCR - 2016 Sturgeon Tissue Study Basis: DRY
 Matrix: WATER

Sample Name: EPA-HS-A1A

Lab Code: K1611838-009A

Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Aluminum	80 - 120	57.3	8.4	50.0	98		6020A
Antimony	80 - 120	53.095	0.021	50.0	106		6020A
Arsenic	80 - 120	57.324	1.437	50.0	112		6020A
Barium	80 - 120	51.397	0.218	50.0	102		6020A
Beryllium	80 - 120	51.241	0.008 U	50.0	102		6020A
Cadmium	80 - 120	52.316	0.015	50.0	105		6020A
Chromium	80 - 120	51.60	0.59	50.0	102		6020A
Cobalt	80 - 120	52.021	0.031	50.0	104		6020A
Copper	80 - 120	51.64	1.90	50.0	99		6020A
Iron	80 - 120	223.96	29.55	200.0	97		6020A
Lead	80 - 120	51.471	0.115	50.0	103		6020A
Manganese	80 - 120	52.668	2.612	50.0	100		6020A
Molybdenum	80 - 120	51.6281	0.0253	50.0	103		6020A
Nickel	80 - 120	49.91	0.28	50.0	99		6020A
Silver	80 - 120	9.662	0.027	10.0	96		6020A
Thallium	80 - 120	50.117	0.024	50.0	100		6020A
Tin	80 - 120	50.982	0.027	50.0	102		6020A
Uranium	80 - 120	51.010	0.003	50.0	102		6020A
Vanadium	80 - 120	51.41	0.04	50.0	103		6020A
Zinc	80 - 120	78.09	25.55	50.0	105		6020A

Metals
- 6 -
DUPLICATES

Client: Teck American Incorporated Service Request: K1611838
Project No.: NA Units: MG/KG
Project Name: UCR - 2016 Sturgeon Tissue Study Basis: DRY
Matrix: TISSUE

Sample Name: EPA-HS-A1D

Lab Code: K1611838-009D ✓

Analyte	Control Limit	Sample (S) ✓ C	Duplicate (D) C	RPD	Q	Method
Aluminum		4.1	3.5	15.8		6020A
Antimony	Δ < RL, no qual	0.010 J	0.006 J	50.0		6020A
Arsenic		0.693	0.701 ✓	1.1 ✓		6020A
Barium		0.105	0.101	3.9		6020A
Beryllium		0.004 U	0.004 U			6020A
Boron		0.8 U	0.8 U			6010C
Cadmium		0.007 J	0.005 J	33.3		6020A
Calcium	20	281	278 ✓	1.1 ✓		6010C
Chromium	Δ < RL, no qual	0.28	0.17 J	48.9		6020A
Cobalt		0.015 J	0.015 J	0.0		6020A
Copper	20	0.92	0.92	0.0		6020A
Iron	20	14.25	13.07	8.6		6020A
Lead		0.055	0.048 ✓	13.6 ✓		6020A
Magnesium	20	1120	1110	0.9		6010C
Manganese	20	1.260	1.193	5.5		6020A
Molybdenum	Δ < RL, no qual	0.0122 J	0.0079 J	42.8		6020A
Nickel		0.13 J	0.09 J	36.4		6020A
Potassium	20	17100	17100	0.0		6010C
Selenium	30	3.96	4.17 ✓	5.2 ✓		7742
Silicon		11.1 J	10.0 ✓ J	10.4 ✓		6010C
Silver	Δ < RL, no qual	0.013 J	0.003 J	125.0		6020A
Sodium	20	1510	1500 ✓	0.7 ✓		6010C
Sulfur	20	8190	8090	1.2		6010C
Thallium		0.012 J	0.010 J	18.2		6020A
Tin		0.013 J	0.015 ✓ J	14.3 ✓		6020A
Uranium	Δ < RL, no qual	0.001 J	0.001 U	200.0		6020A
Vanadium		0.02 J	0.02 J	0.0		6020A
Zinc	20	12.32	12.21	0.9		6020A

≤ 40 ✓

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals
-7-

LABORATORY CONTROL SAMPLE

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Aqueous LCS Source: ALS MIXED

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Aluminum	2000	1840	92					
Antimony	500.0	494.0	99					
Arsenic	167.0	180.0	108					
Barium	1000	979	98					
Beryllium	50.00	48.30	97					
Boron	167	185	111					
Cadmium	50.0	50.1	100					
Calcium	1667	1750	105					
Chromium	200.0	200.0	100					
Cobalt	500.0	514.0	103					
Copper	250.0	250.0	100					
Iron	1000.0	963.0	96					
Lead	500.0	528.0	106					
Magnesium	1667	1740	104					
Manganese	500.0	484.0	97					
Molybdenum	167.0	181.0	108					
Nickel	500.0	492.0	98					
Potassium	1667	1650	99					
Selenium	167	178	107					
Silicon	10000	8170	82					
Silver	50.0	49.4	99					
Sodium	1667	1710	103					
Sulfur	10000	9760	98					
Thallium	33.3	34.2	103					
Tin	100.0	97.9	98					
Uranium	100.0	101.0	101					
Vanadium	500.0	499.0	100					
Zinc	500.0	496.0	99					

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ALS Group USA, Corp.
dba ALS Environmental
QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Tissue

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: 10/22/16
Date Analyzed: 10/26-11/01/16

Standard Reference Material Summary
 Total Metals

Sample Name: Standard Reference Material
Lab Code: K1611838-SRM1
Test Notes: Dorm-4 Solids = 94.5%

Units: mg/Kg (ppm)
Basis: Dry

Source: N.R.C.C. Dorm-4

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	6.8	7.3	107	4.93-8.93	
Cadmium	PSEP Tissue	6020A	0.306	0.317	104	0.233 - 0.385	
Chromium	PSEP Tissue	6020A	1.87	1.81	97	1.37-2.44	
Copper	PSEP Tissue	6020A	15.9	15.7	99	12.0 - 20.2	
Iron	PSEP Tissue	6020A	341	338	99	251-442	
Lead	PSEP Tissue	6020A	0.416	0.392	94	0.290 - 0.563	
Nickel	PSEP Tissue	6020A	1.36	1.30	96	0.912-1.9	
Selenium	PSEP Tissue	7742	3.56	3.68	103	2.58 - 4.68	
Zinc	PSEP Tissue	6020A	52.20	52.5	101	39.2 - 66.5	

ALS Group USA, Corp.
dba ALS Environmental
QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Tissue

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: 10/22/16
Date Analyzed: 10/26-11/01/16

Standard Reference Material Summary
 Total Metals

Sample Name: Standard Reference Material
Lab Code: K1611838-SRM2
Test Notes: Tort-3 Solids = 99.1%

Units: mg/Kg (ppm)
Basis: Dry

Source: N.R.C.C. Tort-3

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	59.5	67.6	114	44.6-76.0	
Cadmium	PSEP Tissue	6020A	42.3	40.4	96	32.4-52.9	
Chromium	PSEP Tissue	6020A	1.95	1.87	96	1.37-2.63	
Copper	PSEP Tissue	6020A	497	460 ✓	93 ✓	380-623	
Iron	PSEP Tissue	6020A	179	158	88	137-224	
Lead	PSEP Tissue	6020A	0.225	0.192	85	0.166-0.292	
Manganese	PSEP Tissue	6020A	15.6	14.2	91	11.7-19.9	
Molybdenum	PSEP Tissue	6020A	3.44	3.34	97	2.66-4.27	
Nickel	PSEP Tissue	6020A	5.3	4.9	92	4.05-6.65	
Selenium	PSEP Tissue	7742	10.9	10.6	97	7.9-14.3	
Vanadium	PSEP Tissue	6020A	9.1	8.7 ✓	96 ✓	7.0-11.4	
Zinc	PSEP Tissue	6020A	136	130	96	104-170	

Metals

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ICP SERIAL DILUTIONS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Units: UG/L

Project Name: UCR - 2016 Sturgeon Tissue Study

Sample Name: EPA-HS-A1L

Lab Code: K1611838-009L ✓

Analyte	Initial Sample Result (I) ✓ C	Serial Dilution Result (S) C	% Difference	Q	M
Aluminum	8.4	<50x 10.3 J	22.6		MS
Antimony	0.021 J	<50x 0.030 U	100.0		MS
Arsenic	1.440	1.340 J	6.9 ✓		MS
Barium	0.218	0.224 J	2.8		MS
Beryllium	0.008 U	0.040 U			MS
Boron	8.0 U	40.0 U			P
Cadmium	0.015 J	<50x 0.015 U	100.0		MS
Calcium	2912.0	2887.0 ✓	0.9 ✓		P
Chromium	0.59	0.58 J	1.7		MS
Cobalt	0.031 J	0.030 J	3.2		MS
Copper	1.90	1.87	1.6		MS
Iron	29.60	28.40 ✓	4.1 ✓		MS
Lead	0.115	0.114 J	0.9		MS
Magnesium	11570 6.0 U	7700 12/13/16 10865.0	6.1 100.0		P
Manganese	2.610	2.560	1.9		MS
Molybdenum	0.0253 J	<50x 0.0335 J	32.4		MS
Nickel	0.28 J	0.27 J	3.6		MS
Potassium	177200.0	166850.0 ✓	5.8 ✓		P
Silicon	123.0 J	<50x 159.0 J	29.3		P
Silver	0.027 J	<50x 0.019 J	29.6		MS
Sodium	15620.0	14665.0	6.1		P
Sulfur	84870.0	84450.0	0.5		P
Thallium	0.024 J	0.024 J	0.0		MS
Tin	0.027 J	0.025 J	7.4 ✓		MS
Uranium	0.003 J	<50x 0.010 U	100.0		MS
Vanadium	0.04 J	<50x 0.10 U	100.0		MS
Zinc	25.60	23.80	7.0		MS

≤ 10 when
initial > 50x DL

Sample Name: K1611838-009 Acquired: 11/9/2016 10:19:45 Type: Unk
 Method: 2016B-ICP04(v32) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: EM 110916A

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0263	.0012	.0076	.0007	-.00017	-.0059	.0000	.0001
#1	.0272	.0018	.0094	.0007	-.00020	-.0060	.0000	.0001
#2	.0253	.0006	.0058	.0007	-.00014	-.0058	.0000	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.912	.0035	.0001	.0094	.0079	.1388	.0053	.0024
#1	2.912	.0028	-.0001	.0090	.0086	.1345	.0064	.0011
#2	2.912	.0042	.0002	.0097	.0073	.1431	.0043	.0037
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.57	.01263	.0000	.0018	>90.00	177.2	.0554	.1317
#1	11.58	.01264	-.0002	.0013	97.38	177.4	.0501	.1348
#2	11.56	.01261	.0003	.0022	97.35	177.0	.0606	.1286
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0090	15.62	.00195	-.0031	.0018	.0025	.0005	.1249
#1	-.0084	15.62	.00194	-.0030	.0029	.0026	.0005	.1252
#2	-.0096	15.61	.00197	-.0032	.0006	.0024	.0006	.1246
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.1238	-.0020	84.87					
#1	.1238	.0042	84.89					
#2	.1238	-.0081	84.85					

Metals

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DETECTION LIMITS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP/ICP-MS ID #:

GFAA ID #:

K-FLAA-02

AA ID #:

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Selenium			0.20	0.10	H

Comments:

Metals

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DETECTION LIMITS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP/ICP-MS ID #:

GFAA ID #:

AA ID #:

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Boron	249.6		20.0	8.0	P
Calcium	393.3		40.0	20.0	P
Magnesium	279.5		10.0	6.0	P
Potassium	766.5		200	90.0	P
Silicon	251.6		200.0	20.0	P
Sodium	589.5		200	20.0	P
Sulfur	182.0		50.0	9.0	P

Comments:

Metals

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DETECTION LIMITS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP/ICP-MS ID #: K-ICP-MS-06

GFAA ID #:

AA ID #:

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Aluminum	27		4.0	0.4	MS
Antimony	123		0.100	0.006	MS
Arsenic	75		1.000	0.020	MS
Barium	137		0.100	0.020	MS
Beryllium	9		0.040	0.008	MS
Cadmium	111		0.040	0.003	MS
Chromium	52		0.40	0.02	MS
Cobalt	59		0.040	0.003	MS
Copper	65		0.20	0.03	MS
Iron	56		2.00	0.09	MS
Lead	208		0.040	0.003	MS
Manganese	55		0.100	0.010	MS
Molybdenum	98		0.1000	0.0060	MS
Nickel	60		0.40	0.02	MS
Silver	107		0.040	0.002	MS
Thallium	205		0.040	0.002	MS
Tin	118		0.100	0.004	MS
Uranium	238		0.040	0.002	MS
Vanadium	51		0.40	0.02	MS
Zinc	66		1.00	0.08	MS

Comments:

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	Cd
Aluminum	394.401	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	217.581	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.042	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000040	0.0000660	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000060	0.0000000	0.0000000	0.0000000	-0.0005700
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000070	-0.0000210	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000110	0.0000000	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	260.569	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	-0.0001610	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Co	Cr	Cu	Mn	Mo
Aluminum	394.401	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	217.581	0.000000	0.000000	0.000000	0.000000	0.000000
Arsenic	189.042	0.000000	-0.0039320	0.000000	0.000000	0.0010640
Barium	455.403	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	234.861	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.678	0.000000	0.000000	0.000000	0.000000	0.000000
Cadmium	226.502	0.000000	0.000000	0.000000	0.000000	-0.0000370
Calcium	393.366	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	0.000000	0.000000	0.000000	0.000000
Cobalt	228.616	0.000000	0.000000	0.000000	0.000000	0.000000
Copper	327.396	0.0003100	0.000000	0.000000	0.000000	0.000000
Iron	259.94	0.0032580	0.000000	0.000000	0.0016660	0.000000
Lead	220.353	0.000000	0.000000	0.0004500	0.000000	-0.0003190
Lithium	670.784	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	285.213	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	260.569	0.000000	0.000000	0.000000	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	0.000000	0.000000	0.000000
Phosphorus	214.914	0.000000	0.000000	0.000000	0.000000	0.000000
Potassium	766.491	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.0	0.000000	0.000000	0.000000	0.000000	0.000000
Silicon	251.611	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Strontium	407.771	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.856	0.000000	0.000000	0.000000	0.000000	0.000000
Tin	189.989	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	336.121	0.000000	0.000000	0.000000	0.000000	0.000000
Vanadium	292.402	0.000000	-0.0055500	0.0005330	-0.0003780	-0.0003270

Comments:

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-04

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ni	Sb	Si	Ti	V
Aluminum	394.401	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	217.581	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.042	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000190	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	-0.0001270
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000000	0.0000000	-0.0012980	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0001410	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	260.569	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0006680	0.0000000	0.0000710	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0005650	0.0000000

Comments:

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-04

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
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Comments:

Metals
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ICP LINEAR RANGES (QUARTERLY)

Client: Teck American Incorporated Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-04

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Boron	15.000	50000	6010C
Calcium	15.000	500000	6010C
Magnesium	15.000	100000	6010C
Potassium	15.000	1000000	6010C
Silicon	15.000	500000	6010C
Sodium	15.000	500000	6010C
Sulfur	15.000	450000	6010C

Comments:

Metals

-12-

ICP LINEAR RANGES (QUARTERLY)

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-MS-06

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum	0.300	45000	6020A
Antimony	0.300	4500	6020A
Arsenic	1.000	4500	6020A
Barium	0.300	9000	6020A
Beryllium	1.000	9000	6020A
Cadmium	1.000	9000	6020A
Chromium	0.300	9000	6020A
Cobalt	0.300	9000	6020A
Copper	0.300	4500	6020A
Iron	0.300	45000	6020A
Lead	0.300	2700	6020A
Manganese	0.300	9000	6020A
Molybdenum	0.300	4500	6020A
Nickel	0.300	4500	6020A
Silver	0.300	900	6020A
Thallium	0.300	2700	6020A
Tin	0.300	4500	6020A
Uranium	0.300	9000	6020A
Vanadium	0.300	9000	6020A
Zinc	0.300	9000	6020A

Comments:

Metals
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PREPARATION LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1611838-009	10/22/2016	0.3110	30.0
K1611838-009D	10/22/2016	0.3070	30.0
K1611838-009S	10/22/2016	0.3080	30.0
K1611838-010	10/22/2016	0.3010	30.0
K1611838-011	10/22/2016	0.3320	30.0
K1611838-020	10/22/2016	0.3020	30.0
K1611838-029	10/22/2016	0.3180	30.0
K1611838-038	10/22/2016	0.3120	30.0
K1611838-047	10/22/2016	0.3050	30.0
K1611838-056	10/22/2016	0.3010	30.0
K1611838-065	10/22/2016	0.3310	30.0
K1611838-074	10/22/2016	0.3200	30.0
K1611838-083	10/22/2016	0.3280	30.0
KQ1613523-01	10/22/2016	0.3000	30.0
KQ1613523-02	10/22/2016	0.300 30.0	30.0
KQ1613523-04	10/22/2016	0.3250	30.0
KQ1613523-05	10/22/2016	0.3090	30.0

TWW
12/12/16

Metals
-13-
PREPARATION LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Method: F

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1611838-009	10/22/2016	0.3110	30.0
K1611838-009D	10/22/2016	0.3070	30.0
K1611838-009S	10/22/2016	0.3080	30.0
K1611838-010	10/22/2016	0.3010	30.0
K1611838-011	10/22/2016	0.3320	30.0
K1611838-020	10/22/2016	0.3020	30.0
K1611838-029	10/22/2016	0.3180	30.0
K1611838-038	10/22/2016	0.3120	30.0
K1611838-047	10/22/2016	0.3050	30.0
K1611838-056	10/22/2016	0.3010	30.0
K1611838-065	10/22/2016	0.3310	30.0
K1611838-074	10/22/2016	0.3200	30.0
K1611838-083	10/22/2016	0.3280	30.0
KQ1613523-01	10/22/2016	0.3000	30.0
KQ1613523-02	10/22/2016	0.300 30.0	30.0
KQ1613523-04	10/22/2016	0.3250	30.0
KQ1613523-05	10/22/2016	0.3090	30.0

TAW
12/12/16

Metals
-13-
PREPARATION LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1611838-009	10/22/2016	0.3110	30.0
K1611838-009D	10/22/2016	0.3070	30.0
K1611838-009S	10/22/2016	0.3080	30.0
K1611838-010	10/22/2016	0.3010	30.0
K1611838-011	10/22/2016	0.3320	30.0
K1611838-020	10/22/2016	0.3020	30.0
K1611838-029	10/22/2016	0.3180	30.0
K1611838-038	10/22/2016	0.3120	30.0
K1611838-047	10/22/2016	0.3050	30.0
K1611838-056	10/22/2016	0.3010	30.0
K1611838-065	10/22/2016	0.3310	30.0
K1611838-074	10/22/2016	0.3200	30.0
K1611838-083	10/22/2016	0.3280	30.0
KQ1613523-01	10/22/2016	0.3000	30.0
KQ1613523-02	10/22/2016	0.300 30.0	30.0
KQ1613523-04	10/22/2016	0.3000	30.0
KQ1613523-05	10/22/2016	0.3000	30.0

TFW
12/12/16

Metals
-13-
PREPARATION LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Si only

Project Name: UCR - 2016 Sturgeon Tissue Study

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1611838-009	11/10/2016	0.3310	30.0
K1611838-009D	11/10/2016	0.3160	30.0
K1611838-009S	11/10/2016	0.3120	30.0
K1611838-010	11/10/2016	0.3200	30.0
K1611838-011	11/10/2016	0.3190	30.0
K1611838-020	11/10/2016	0.3060	30.0
K1611838-029	11/10/2016	0.3030	30.0
K1611838-038	11/10/2016	0.3010	30.0
K1611838-047	11/10/2016	0.3190	30.0
K1611838-056	11/10/2016	0.3070	30.0
K1611838-065	11/10/2016	0.3070	30.0
K1611838-074	11/10/2016	0.3200	30.0
K1611838-083	11/10/2016	0.3060	30.0
KQ1614746-01	11/10/2016	0.300 30.0	30.0
KQ1614746-02	11/10/2016	0.3000	30.0
KQ1614746-03	11/10/2016	0.3000	30.0
KQ1614746-04	11/10/2016	0.3000	30.0

THW
12/12/16

Metals
- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 111016-Sel

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-FLAA-02

Method: H

Start Date: 11/10/2016

End Date: 11/10/2016

Sample No.	D/F	Time	% R	Analytes																													
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N						
CAL BLK	1.0	10:49																										X					
STD 0.2	1.0	10:51																										X					
STD 0.5	1.0	10:53																										X					
STD 1.0	1.0	10:56																										X					
STD 5.0	1.0	10:58																										X					
STD 7.5	1.0	11:00																										X					
STD 10.0	1.0	11:03																										X					
ICV1	1.0	11:05																										X					
ICB1	1.0	11:08																										X					
ZZZZZZ	1.0	11:10																															
LLICV1	1.0	11:12																										X					
CCV1	1.0	11:15																										X					
CCB1	1.0	11:17																										X					
KQ1613523-01	5.0	11:19																										X					
KQ1613523-02	50.0	11:22																										X					
KQ1613523-04	10.0	11:24																															
ZZZZZZ	10.0	11:26																															
KQ1613523-05	50.0	11:28																															
ZZZZZZ	50.0	11:31																															
K1611838-009	20.0	11:33																											X				
ZZZZZZ	20.0	11:36																															
K1611838-009D	20.0	11:38																											X				
ZZZZZZ	20.0	11:40																															
CCV2	1.0	11:43																										X					
CCB2	1.0	11:45																										X					
K1611838-009S	50.0	11:47																										X					
ZZZZZZ	50.0	11:50																															
K1611838-010	20.0	11:52																										X					
ZZZZZZ	20.0	11:54																															
K1611838-011	20.0	11:57																										X					
ZZZZZZ	20.0	11:59																															
K1611838-020	20.0	12:01																										X					

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 111016-Sel

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-FLAA-02

Method: H

Start Date: 11/10/2016

End Date: 11/10/2016

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
ZZZZZZ	20.0	12:04																													
K1611838-029	20.0	12:06																			X										
ZZZZZZ	20.0	12:08																													
CCV3	1.0	12:11																			X										
CCB3	1.0	12:13																			X										
K1611838-038	20.0	12:15																			X										
ZZZZZZ	20.0	12:18																													
K1611838-047	20.0	12:20																			X										
ZZZZZZ	20.0	12:22																													
K1611838-056	20.0	12:25																			X										
ZZZZZZ	20.0	12:27																													
K1611838-065	20.0	12:29																			X										
ZZZZZZ	20.0	12:31																													
K1611838-074	20.0	12:34																			X										
ZZZZZZ	20.0	12:36																													
CCV4	1.0	12:38																			X										
CCB4	1.0	12:41																			X										
K1611838-083	20.0	12:43																			X										
ZZZZZZ	20.0	12:45																													
ZZZZZZ	100.0	12:48																													
ZZZZZZ	100.0	12:50																													
CCV5	1.0	12:52																			X										
CCB5	1.0	12:55																			X										

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 110916AICP04

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 11/9/2016

End Date: 11/9/2016

Sample No.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A G	A L	T L	V L	Z N	C N
BLK	1.0	08:58							X					X				X			X						*
STD A	1.0	09:00							X					X													*
STD B	1.0	09:03												X				X			X						*
ICV1	1.0	09:05							X					X													*
ICV1	1.0	09:08							X					X				X			X						*
ZZZZZ	1.0	09:10																									
ICB1	1.0	09:16							X					X				X			X						*
LLICV1	1.0	09:19							X					X				X			X						*
ZZZZZ	1.0	09:21																									
ZZZZZ	1.0	09:24																									
CCV1	1.0	09:26							X					X				X			X						*
CCV1	1.0	09:29							X					X													*
CCB1	1.0	09:31							X					X				X			X						*
ICS-A1	1.0	09:34							X					X				X			X						*
ICS-AB1	1.0	09:36							X					X				X			X						*
ZZZZZ	1.0	09:43																									
ZZZZZ	1.0	10:07																									
KQ1613523-02	1.0	10:10							X					X				X			X						*
ZZZZZ	1.0	10:12																									
KQ1613523-04	1.0	10:14																									
KQ1613523-05	1.0	10:17																									
K1611838-009	1.0	10:19							X					X				X			X						*
K1611838-009L	5.0	10:22							X					X				X			X						*
K1611838-009D	1.0	10:24							X					X				X			X						*
K1611838-009S	1.0	10:26							X					X				X			X						*
CCV2	1.0	10:29							X					X				X			X						*
CCV2	1.0	10:31							X					X													*
CCB2	1.0	10:34							X					X				X			X						*
KQ1613523-01	1.0	10:38							X					X				X			X						*
ZZZZZ	1.0	10:40																									
K1611838-010	1.0	10:43							X					X				X			X						*
K1611838-011	1.0	10:45							X					X				X			X						*

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 110916AICP04

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 11/9/2016

End Date: 11/9/2016

Sample No.	D/F	Time	% R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S E	A G	N A	T L	V	Z N
K1611838-020	1.0	10:47						X						X				X			X					*
K1611838-029	1.0	10:50						X						X				X			X					*
K1611838-038	1.0	10:52						X						X				X			X					*
K1611838-047	1.0	10:55						X						X				X			X					*
K1611838-056	1.0	10:57						X						X				X			X					*
K1611838-065	1.0	10:59						X						X				X			X					*
CCV3	1.0	11:02						X						X				X			X					*
CCV3	1.0	11:04						X						X												*
CCB3	1.0	11:07						X						X				X			X					*
K1611838-074	1.0	11:09						X						X				X			X					*
K1611838-083	1.0	11:12						X						X				X			X					*
ZZZZZZ	1.0	11:14																								
ZZZZZZ	1.0	11:16																								
ZZZZZZ	1.0	11:19																								
ZZZZZZ	1.0	11:21																								
ZZZZZZ	1.0	11:24																								
ZZZZZZ	1.0	11:26																								
ZZZZZZ	1.0	11:28																								
ZZZZZZ	1.0	11:31																								
CCV4	1.0	11:33						X						X				X			X					*
CCV4	1.0	11:36						X						X												*
CCB4	1.0	11:38						X						X				X			X					*
ZZZZZZ	1.0	11:41																								
ZZZZZZ	1.0	11:43																								
ZZZZZZ	1.0	11:46																								
ZZZZZZ	1.0	11:48																								
ZZZZZZ	1.0	11:50																								
ZZZZZZ	1.0	11:53																								
ZZZZZZ	1.0	11:55																								
ZZZZZZ	1.0	11:57																								
ZZZZZZ	1.0	12:00																								
ZZZZZZ	1.0	12:11																								

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

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ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 110916AICP04

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 11/9/2016

End Date: 11/9/2016

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
CCV5	1.0	12:14							X						X				X			X							*		
CCV5	1.0	12:16							X						X														*		
CCB5	1.0	12:19							X						X				X			X							*		
ZZZZZZ	1.0	12:21																													
CCV6	1.0	12:24							X						X				X			X							*		
CCV6	1.0	12:26							X						X														*		
CCB6	1.0	12:29							X						X				X			X							*		
ZZZZZZ	1.0	12:31																													
LLCCV1	1.0	12:34							X						X				X			X							*		

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
-14-
ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 110916AICP04

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-04
Start Date: 11/9/2016

Method: P
End Date: 11/9/2016

Sample No.	D/F	Time	% R	Analytes																
				B	A	L	M	O	P	P	P	S	S	SN	S	T	U			
				U	I	O	S	D		T	I		R	I						
BLK	1.00	08:58		X								X								
STD A	1.00	09:00		X																
STD B	1.00	09:03										X								
ICV1	1.00	09:05		X								X								
ICV1	1.00	09:08																		
ZZZZZZ	1.00	09:10																		
ICB1	1.00	09:16		X								X								
LLICV1	1.00	09:19		X								X								
ZZZZZZ	1.00	09:21																		
ZZZZZZ	1.00	09:24																		
CCV1	1.00	09:26										X								
CCV1	1.00	09:29		X																
CCB1	1.00	09:31		X								X								
ICS-A1	1.00	09:34		X								X								
ICS-AB1	1.00	09:36		X								X								
ZZZZZZ	1.00	09:43																		
ZZZZZZ	1.00	10:07																		
KQ1613523-02	1.00	10:10		X								X								
ZZZZZZ	1.00	10:12																		
KQ1613523-04	1.00	10:14																		
KQ1613523-05	1.00	10:17																		
K1611838-009	1.00	10:19		X								X								
K1611838-009L	5.00	10:22		X								X								
K1611838-009D	1.00	10:24		X								X								
K1611838-009S	1.00	10:26		X								X								
CCV2	1.00	10:29										X								
CCV2	1.00	10:31		X																
CCB2	1.00	10:34		X								X								
KQ1613523-01	1.00	10:38		X								X								
ZZZZZZ	1.00	10:40																		
K1611838-010	1.00	10:43		X								X								
K1611838-011	1.00	10:45		X								X								
K1611838-020	1.00	10:47		X								X								
K1611838-029	1.00	10:50		X								X								

Metals
- 14 -
ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 110916AICP04

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 11/9/2016

End Date: 11/9/2016

Sample No.	D/F	Time	% R	Analytes																			
				B	A	L	M	O	P	P	P	S	S	SN	S	T	U						
				U	I	I	O	S	D	T	I		R	I									
K1611838-038	1.00	10:52		X								X											
K1611838-047	1.00	10:55		X								X											
K1611838-056	1.00	10:57		X								X											
K1611838-065	1.00	10:59		X								X											
CCV3	1.00	11:02										X											
CCV3	1.00	11:04		X																			
CCB3	1.00	11:07		X								X											
K1611838-074	1.00	11:09		X								X											
K1611838-083	1.00	11:12		X								X											
ZZZZZZ	1.00	11:14																					
ZZZZZZ	1.00	11:16																					
ZZZZZZ	1.00	11:19																					
ZZZZZZ	1.00	11:21																					
ZZZZZZ	1.00	11:24																					
ZZZZZZ	1.00	11:26																					
ZZZZZZ	1.00	11:28																					
ZZZZZZ	1.00	11:31																					
CCV4	1.00	11:33										X											
CCV4	1.00	11:36		X																			
CCB4	1.00	11:38		X								X											
ZZZZZZ	1.00	11:41																					
ZZZZZZ	1.00	11:43																					
ZZZZZZ	1.00	11:46																					
ZZZZZZ	1.00	11:48																					
ZZZZZZ	1.00	11:50																					
ZZZZZZ	1.00	11:53																					
ZZZZZZ	1.00	11:55																					
ZZZZZZ	1.00	11:57																					
ZZZZZZ	1.00	12:00																					
ZZZZZZ	1.00	12:11																					
CCV5	1.00	12:14										X											
CCV5	1.00	12:16		X																			
CCB5	1.00	12:19		X								X											
ZZZZZZ	1.00	12:21																					

Metals
- 14 -
ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 111416AICP04

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-04

Method: P

Start Date: 11/14/2016

End Date: 11/14/2016

Sample No.	D/F	Time	% R	Analytes															
				B	A	L	M	O	P	P	P	S	S	SN	S	T	U		
				U	I	O	S	D	T	I	R	I							
BLK	1.00	09:30								X									
STD A	1.00	09:32																	
STD B	1.00	09:35								X									
ICV1	1.00	09:37								X									
ZZZZZZ	1.00	09:40																	
ICB1	1.00	09:42								X									
LLICV1	1.00	09:44								X									
ZZZZZZ	1.00	09:47																	
ZZZZZZ	1.00	09:49																	
CCV1	1.00	09:52								X									
ZZZZZZ	1.00	09:54																	
CCB1	1.00	09:57								X									
ICS-A1	1.00	09:59								X									
ICS-AB1	1.00	10:02								X									
KQ1614746-02	1.00	10:21								X									
KQ1614746-01	1.00	10:23								X									
KQ1614746-03	1.00	10:26																	
KQ1614746-04	1.00	10:28																	
K1611838-009	1.00	10:30								X									
K1611838-009L	5.00	10:33								X									
K1611838-009D	1.00	10:35								X									
K1611838-009S	1.00	10:38								X									
K1611838-010	1.00	10:40								X									
K1611838-011	1.00	10:43								X									
CCV2	1.00	10:45								X									
CCV2	1.00	10:47																	
CCB2	1.00	10:50								X									
K1611838-020	1.00	10:52								X									
K1611838-029	1.00	10:55								X									
K1611838-038	1.00	10:57								X									
K1611838-047	1.00	11:00								X									
K1611838-056	1.00	11:02								X									
K1611838-065	1.00	11:04								X									
K1611838-074	1.00	11:07								X									

Metals
- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 102616Bedit

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-MS-06

Method: MS

Start Date: 10/26/2016

End Date: 10/26/2016

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
Blank	1.0	13:55		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
25ppb	1.0	13:58		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ICV1	1.0	14:01		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
CCV1	1.0	14:03		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ICB1	1.0	14:06		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
CCB1	1.0	14:09		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
LLICVT1	1.0	14:11		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ZZZZZZ	1.0	14:14																													
ZZZZZZ	1.0	14:17																													
ZZZZZZ	1.0	14:19																													
ICS-A1	1.0	14:22		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ICS-AB1	1.0	14:25		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ZZZZZZ	1.0	14:27																													
ZZZZZZ	1.0	14:30																													
CCV2	1.0	14:33		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
CCB2	1.0	14:35		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ZZZZZZ	1.0	14:38																													
ZZZZZZ	1.0	14:41																													
ZZZZZZ	1.0	14:44																													
ZZZZZZ	1.0	14:46																													
ZZZZZZ	1.0	14:49																													
ZZZZZZ	1.0	14:52																													
ZZZZZZ	5.0	14:54																													
ZZZZZZ	1.0	14:57																													
ZZZZZZ	1.0	14:59																													
ZZZZZZ	1.0	15:02																													
CCV3	1.0	15:05		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
CCB3	1.0	15:07		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ZZZZZZ	1.0	15:10																													
ZZZZZZ	1.0	15:13																													
ZZZZZZ	5.0	15:15																													
ZZZZZZ	1.0	15:18																													

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 102616Bedit

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-MS-06

Method: MS

Start Date: 10/26/2016

End Date: 10/26/2016

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
ZZZZZZ	1.0	15:21																													
ZZZZZZ	1.0	15:23																													
ZZZZZZ	1.0	15:26																													
ZZZZZZ	1.0	15:29																													
ZZZZZZ	1.0	15:31																													
ZZZZZZ	1.0	15:34																													
CCV4	1.0	15:37		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
CCB4	1.0	15:39		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
LLCCVT1	1.0	15:42		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
ZZZZZZ	1.0	15:45																													
KQ1613523-01	5.0	15:47		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
KQ1613523-02	5.0	15:50		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
KQ1613523-04	5.0	15:53																													
KQ1613523-05	5.0	15:55																													
K1611838-009	5.0	15:58		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-009D	5.0	16:01		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-009L	5.0	16:03		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-009A	5.0	16:06		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-009S	5.0	16:08		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
CCV5	1.0	16:11		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
CCB5	1.0	16:14		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-010	5.0	16:16		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-011	5.0	16:19		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-020	5.0	16:22		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-029	5.0	16:25		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-038	5.0	16:27		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-047	5.0	16:30		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-056	5.0	16:33		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-065	5.0	16:35		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-074	5.0	16:38		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
K1611838-083	5.0	16:41		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			
CCV6	1.0	16:44		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*			

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: _____
 Lab Code: ALSK Case No.: _____ NRAS No.: _____ SDG NO.: K1611838
 ICP-MS Instrument ID: K-ICP-MS-06 Start Date: 10/26/2016 End Date: 10/26/2016

Sample No.	Client ID	Time	Internal Standards %RI For:						
			Element Li 6_He Q	Element Ge 72_He Q	Element In115_He Q	Element Lu175_He Q	Element Th232_He Q	Element Q	
Blank	Blank	1355	100	100	100	100	100		
25ppb	25ppb	1358	101	100	101	104	104		
ICV1	ICV	1401	102	100	102	104	103		
CCV1	CCV	1403	99	98	100	103	102		
ICB1	ICB	1406	100	98	100	101	103		
CCB1	CCB	1409	97	96	97	100	101		
LLICVT1	LLICVT1	1411	99	98	101	104	104		
ZZZZZZ	ZZZZZZ	1414							
ZZZZZZ	ZZZZZZ	1417							
ZZZZZZ	ZZZZZZ	1419							
ICS-A1	ICSA	1422	86	84	89	95	93		
ICS-AB1	ICSAB	1425	84	84	89	97	94		
ZZZZZZ	ZZZZZZ	1427							
ZZZZZZ	ZZZZZZ	1430							
CCV2	CCV	1433	92	94	99	102	104		
CCB2	CCB	1435	93	95	98	102	101		
ZZZZZZ	ZZZZZZ	1438							
ZZZZZZ	ZZZZZZ	1441							
ZZZZZZ	ZZZZZZ	1444							
ZZZZZZ	ZZZZZZ	1446							
ZZZZZZ	ZZZZZZ	1449							
ZZZZZZ	ZZZZZZ	1452							
ZZZZZZ	ZZZZZZ	1454							
ZZZZZZ	ZZZZZZ	1457							
ZZZZZZ	ZZZZZZ	1459							
ZZZZZZ	ZZZZZZ	1502							
CCV3	CCV	1505	105	103	105	106	104		
CCB3	CCB	1507	105	102	104	106	104		
ZZZZZZ	ZZZZZZ	1510							
ZZZZZZ	ZZZZZZ	1513							
ZZZZZZ	ZZZZZZ	1515							
ZZZZZZ	ZZZZZZ	1518							
ZZZZZZ	ZZZZZZ	1521							
ZZZZZZ	ZZZZZZ	1523							
ZZZZZZ	ZZZZZZ	1526							
ZZZZZZ	ZZZZZZ	1529							
ZZZZZZ	ZZZZZZ	1531							
ZZZZZZ	ZZZZZZ	1534							
CCV4	CCV	1537	106	104	105	105	103		
CCB4	CCB	1539	105	103	104	104	103		
LLCCVT1	LLCCVT1	1542	105	102	103	104	103		
ZZZZZZ	ZZZZZZ	1545							
KQ1613523-01	Method Blank	1547	104	100	102	101	103		
KQ1613523-02	Lab Control	1550	103	99	101	102	103		

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: _____
 Lab Code: ALSK Case No.: _____ NRAS No.: _____ SDG NO.: K1611838
 ICP-MS Instrument ID: K-ICP-MS-06 Start Date: 10/26/2016 End Date: 10/26/2016

Sample No.	Client ID	Time	Internal Standards %RI For:									
			Element Li 6_He Q	Element Ge 72_He Q	Element In115_He Q	Element Lu175_He Q	Element Th232_He Q	Element Q				
KQ1613523-04	K1611838-SRM1	1553	101	98	97	102	100					
KQ1613523-05	K1611838-SRM2	1555	102	98	98	100	99					
K1611838-009	EPA-HS-A1	1558	104	101	101	102	100					
K1611838-009D	EPA-HS-A1D	1601	105	102	102	103	100					
K1611838-009L	EPA-HS-A1L	1603	106	104	103	103	103					
K1611838-009A	EPA-HS-A1A	1606	105	101	101	101	102					
K1611838-009S	EPA-HS-A1S	1608	107	103	103	103	103					
CCV5	CCV	1611	107	102	105	105	104					
CCB5	CCB	1614	108	104	104	106	106					
K1611838-010	EPA-HS-A1 DUP	1616	106	101	100	103	100					
K1611838-011	EPA-HS-A1 TRIP	1619	107	103	102	103	100					
K1611838-020	EPA-HS-A2	1622	108	103	103	104	102					
K1611838-029	EPA-HS-A3	1625	108	104	103	103	101					
K1611838-038	EPA-HS-B1	1627	109	104	103	103	102					
K1611838-047	EPA-HS-B2	1630	109	106	104	103	102					
K1611838-056	EPA-HS-B3	1633	109	106	104	104	103					
K1611838-065	EPA-HS-C1	1635	109	105	105	106	102					
K1611838-074	EPA-HS-C2	1638	109	106	103	104	101					
K1611838-083	EPA-HS-C3	1641	109	105	104	103	101					
CCV6	CCV	1644	108	102	103	105	104					
CCB6	CCB	1646	107	103	102	103	104					
LLCCVT2	LLCCVT2	1649	106	98	101	102	102					



Sample Report

Sample Table

Sample Name ICSA
 Data File Name 0135MPL.d
 Data Path Name D:\Agilent\ICPMH\1\DATA\BatchTemplate\102616B.b
 Acq Date Time 2016-10-26T14:22:29-07:00
 Sample Type Sample
 Dilution 1
 Comment
 ISTD Ref FileName 003CALB.d
 Sample QC Pass/Fail Pass
 ISTD Pass/Fail Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc	Conc %RSD	CPS	%RSD	QC Flag
Be	9	He	0.005	32.87	2	0.23	
B	10	He	0.224	183.36	13	1.76	
B	11	He	0.035	238.83	56	0.06	
Al	27	He	20178.282	0.81	3203432	0.63	
V	51	He	0.041	14.08	334	0.01	
Cr	52	He	1.907	2.89	20393	0.01	
Cr	53	He	1.910	1.00	2512	0.08	
Mn	55	He	1.066	3.66	4569	0.02	
Fe	56	He	50344.885	0.41	425861468	0.01	
Co	59	He	0.667	0.88	14643	0.00	
Ni	60	He	1.518	2.04	9768	0.02	
Ni	62	He	1.555	5.45	1589	0.10	
Cu	63	He	0.669	1.58	12740	0.01	
Cu	65	He	0.661	0.21	6275	0.01	
Zn	66	He	1.045	3.21	1978	0.05	
As	75	He	0.044	13.14	56	0.08	
Se	77	H2	-0.057	-212.39	2555	0.00	
Se	78	H2	0.013	36.20	24	0.06	
Mo	95	He	53.407	0.97	393987	0.01	
Mo	97	He	53.246	1.05	262690	0.02	
Mo	98	He	53.552	1.02	696686	0.01	
Ag	107	He	0.006	20.71	280	0.00	
Ag	109	He	0.005	20.01	254	0.00	
Cd	111	He	0.027	9.85	84	0.03	
Cd	114	He	0.024	4.25	204	0.01	
Sn	118	He	0.063	16.81	333	0.02	
Sb	121	He	0.026	14.94	127	0.02	
Sb	123	He	0.029	18.14	114	0.03	
Ba	137	He	0.947	1.85	1661	0.06	
Tl	203	He	0.003	26.17	197	0.00	
Tl	205	He	0.004	20.40	488	0.00	
Pb	208	He	0.076	5.08	6542	0.00	
U	238	He	0.002	19.66	257	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	He	352259	2.21	410832	85.74	70	125	
Ge	72	He	1000679	0.60	1196928	83.60	70	125	
In	115	He	883401	1.75	994533	88.83	70	125	
In	115	H2	10164330	3.31	11705724	86.83	70	125	
Lu	175	He	1295944	0.64	1359494	95.33	70	125	
Th	232	He	2133102	1.22	2300681	92.72	70	125	

Sample Report

Sample Table

Sample Name ICSAB
 Data File Name 014SMPL.d
 Data Path Name D:\Agilent\ICPMH\1\DATA\BatchTemplate\102616B.b
 Acq Date Time 2016-10-26T14:25:12-07:00
 Sample Type Sample
 Dilution 1
 Comment
 ISTD Ref FileName 003CALB.d
 Sample QC Pass/Fail Pass
 ISTD Pass/Fail Pass

QC Analyte Table

Name	Mass	Tune Mode	Conc	Conc %RSD	CPS	%RSD	QC Flag
Be	9	He	0.006	86.86	2	0.24	
B	10	He	0.125	57.03	10	1.25	
B	11	He	0.141	70.51	68	0.21	
Al	27	He	20857.885	2.71	3236338	0.64	
V	51	He	54.012	0.32	395421	0.01	
Cr	52	He	52.828	0.44	563455	0.01	
Cr	53	He	52.818	0.99	69063	0.08	
Mn	55	He	51.992	1.14	222000	0.02	
Fe	56	He	50257.546	0.77	425723859	0.01	
Co	59	He	50.711	0.59	1113121	0.00	
Ni	60	He	48.699	0.73	311304	0.02	
Ni	62	He	49.073	1.07	49246	0.10	
Cu	63	He	47.360	0.42	862129	0.01	
Cu	65	He	47.077	0.72	428251	0.01	
Zn	66	He	24.381	0.34	41837	0.06	
As	75	He	24.745	0.59	21366	0.12	
Se	77	H2	24.837	1.61	13152	0.19	
Se	78	H2	24.627	2.71	34524	0.07	
Mo	95	He	52.724	0.53	391203	0.01	
Mo	97	He	52.827	0.31	262131	0.02	
Mo	98	He	53.091	0.67	694672	0.01	
Ag	107	He	11.073	1.29	354204	0.00	
Ag	109	He	11.162	0.91	357065	0.00	
Cd	111	He	23.829	0.33	70913	0.03	
Cd	114	He	23.544	0.70	183143	0.01	
Sn	118	He	0.058	11.01	312	0.02	
Sb	121	He	0.029	11.89	137	0.02	
Sb	123	He	0.027	9.38	108	0.03	
Ba	137	He	0.984	3.28	1735	0.06	
Ti	203	He	0.003	25.49	204	0.00	
Ti	205	He	0.003	18.12	462	0.00	
Pb	208	He	0.075	4.78	6502	0.00	
U	238	He	0.002	22.74	287	0.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	He	344276	0.65	410832	83.80	70	125	
Ge	72	He	1002122	0.46	1196928	83.72	70	125	
In	115	He	888433	0.60	994533	89.33	70	125	
In	115	H2	9963825	2.25	11705724	85.12	70	125	
Lu	175	He	1312067	2.07	1359494	96.51	70	125	
Th	232	He	2157862	0.51	2300681	93.79	70	125	

US EPA Tune Check Sample Report

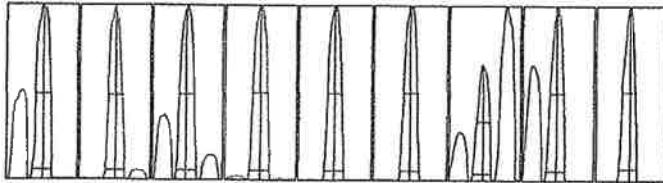
Batch Folder: D:\Agilent\ICPMH\1\DATA\BatchTemplate\102616.b
 Report Comment:
 Instrument Name: G8421A JP16310358

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	16958	2.44	5.00	
9	3690	1.78	5.00	
24	14609	2.63	5.00	
59	28883	2.78	5.00	✓
115	45539	2.48	5.00	
140	45367	2.52	5.00	
208	27747	1.84	5.00	
209	41419	1.11	5.00	
238	50861	1.76	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	17655	16926	16904	16721	16585
9	3616	3778	3737	3653	3668
24	15225	14668	14470	14489	14193
59	30174	29084	28574	28491	28089
115	47416	45744	45084	44807	44646
140	47330	45368	44949	44615	44573
208	28621	27645	27632	27555	27283
209	42136	41549	41329	40927	41157
238	52422	50657	50678	50208	50339

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	26803	7.10	6.9 - 7.1		0.788	0.900	
9	6107	9.05	8.9 - 9.1		0.788	0.900	
24	23323	23.95	23.9 - 24.1		0.825	0.900	
59	46662	59.00	58.9 - 59.1		0.820	0.900	✓
115	77580	115.00	114.9 - 115.1		0.783	0.900	
140	78657	140.00	139.9 - 140.1		0.780	0.900	
208	49047	207.95	207.9 - 208.1		0.791	0.900	
209	73859	208.95	208.9 - 209.1		0.805	0.900	
238	89218	237.95	237.9 - 238.1		0.821	0.900	

X% = 5 Integration Time [sec] = 0.1 Acquisition Time [sec] = 268.4 Y Axis = Linear

Tune Parameters

Plasma Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Carrier Gas	1.03	L/min	S/C Temp		2 °C
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch		Dilution Gas
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas		0.12 L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	10.0	V	Deflect	0.0	V
Extract 2	-190.0	V	Cell Entrance	-40	V	Plate Bias	-55	V
Omega Bias	-90	V	Cell Exit	-60	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	No		H2 Flow	0.0	mL/min	OctP RF	190	V
He Flow	0.0	mL/min	OctP Bias	-18.0	V	Energy Discrimination	5.0	V

Preparation Information Benchsheet

Prep Run: 273966 **Prep Workflow:** MetDigTissMS **Status:** Prepped **Prep Date:** 10/22/2016
Team: Metals **Prep Method:** PSEP Metals **Current Step:** Digestion **12:55**
Analyst: Keith **Rush/NPDES:** N/A **Due Date:** 11/03/2016
Linn **Hold Date:** 02/26/2017

Lab Code	Client ID	Bottle #	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments
KQ1613523-01	Method Blank		0.300 g		30 mL			15% HNO3 Ultrex
KQ1613523-02	Lab Control Sample		0.300 g		30 mL	0.3 mL 0.3 mL 0.05 mL 0.05 mL 0.3 mL 0.05 mL 0.3 mL	82810 173179 175988 176228 176251 176299 176615	15% HNO3 Ultrex
KQ1613523-03	Lab Control Sample		0.300 g		30 mL	0.3 mL	176423	15% HNO3 Ultrex
KQ1613523-04	Standard Reference Material SRM1		0.325 g		30 mL	0.3 g	65838	15% HNO3 Ultrex
KQ1613523-05	Standard Reference Material SRM2		0.309 g		30 mL	0.3 g	65841	15% HNO3 Ultrex
K1611838-009	EPA-HS-A1	.05	0.311 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-009; KQ1613523-06	Duplicate	.05	0.307 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-009; KQ1613523-07	Matrix Spike	.05	0.308 g	Dried & Ground	30 mL	0.3 mL 0.3 mL 0.05 mL 0.05 mL 0.3 mL 0.05 mL 0.3 mL	82810 173179 175988 176228 176251 176299 176615	15% HNO3 Ultrex
K1611838-009; KQ1613523-08	Matrix Spike	.05	0.317 g	Dried & Ground	30 mL	0.3 mL	176423	15% HNO3 Ultrex
K1611838-010	EPA-HS-A1 DUP	.05	0.301 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-011	EPA-HS-A1 TRIP	.05	0.332 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-020	EPA-HS-A2	.05	0.302 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-029	EPA-HS-A3	.05	0.318 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-038	EPA-HS-B1	.05	0.312 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-047	EPA-HS-B2	.05	0.305 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-056	EPA-HS-B3	.05	0.301 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-065	EPA-HS-C1	.05	0.331 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-074	EPA-HS-C2	.05	0.320 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-083	EPA-HS-C3	.05	0.328 g	Dried & Ground	30 mL			15% HNO3 Ultrex

19 Total Samples consisting of 11 Client Samples, 3 Client QC Samples, 5 Batch QC Samples associated with the current Prep Run.

*Silicon
redigest*

Preparation Information Benchsheet

Prep Run: 275596 **Prep Workflow:** MetDigTissMS **Status:** Prepped
Team: Metals **Prep Method:** PSEP Metals **Current Step:** Digestion **Prep Date:** 11/10/2016 16:30
Analyst: Keith Linn **Rush/NPDES:** N/A **Due Date:** 11/03/2016
Hold Date: 02/26/2017

Lab Code	Client ID	Bottle #	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments
KQ1614746-02	Method Blank		0.300 g		30 mL			15% HNO3 Ultrex
KQ1614746-01	Lab Control Sample		0.300 g		30 mL	0.3 mL	84141	15% HNO3 Ultrex
KQ1614746-03	Standard Reference Material		0.314 g		30 mL	0.3 g	65838	15% HNO3 Ultrex
KQ1614746-04	Standard Reference Material		0.331 g		30 mL	0.3 g	65841	15% HNO3 Ultrex
K1611838-009	EPA-HS-A1	.08	0.331 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-009; KQ1614746-05	Duplicate	.08	0.316 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-009; KQ1614746-06	Matrix Spike	.08	0.312 g	Dried & Ground	30 mL	0.3 mL	84141	15% HNO3 Ultrex
K1611838-010	EPA-HS-A1 DUP	.08	0.320 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-011	EPA-HS-A1 TRIP	.08	0.319 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-020	EPA-HS-A2	.08	0.306 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-029	EPA-HS-A3	.08	0.303 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-038	EPA-HS-B1	.08	0.301 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-047	EPA-HS-B2	.08	0.319 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-056	EPA-HS-B3	.08	0.307 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-065	EPA-HS-C1	.08	0.307 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-074	EPA-HS-C2	.08	0.320 g	Dried & Ground	30 mL			15% HNO3 Ultrex
K1611838-083	EPA-HS-C3	.08	0.306 g	Dried & Ground	30 mL			15% HNO3 Ultrex

17 Total Samples consisting of 11 Client Samples, 2 Client QC Samples, 4 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET DORM-4	Spike	65838	1/6/2018	Silicon 1000 ug/mL Si	Spike	84141	3/4/2017
K-MET TORT-3	Spike	65841	1/6/2018				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET 50ml Centrifuge Tube	176553	Digestion	K-MET HNO3 ULTREX	176897

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value
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ALS Environmental
FAA Run Log

Method: (Circle Method Used) 7742 7062 Other: _____ Element: As Se	Service Request # :
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SAMPLE NUMBER	Dilution Factor	Measured (µg/L)	Recoveries (ICV, CCV, CRA, LCS, Matrix Spk.)	Comments
Cal. Blk	-	0.000		Post Spike = 5 ppb
Cal. Std 0.5	-	0.200	*(0.010-50ml)	*Cal. Std = AA1-17-G
Cal. Std 0.5	-	0.500	*(0.025-50ml)	*Cal. Std = AA1-17-G
Cal. Std 1.0	-	1.000	*(0.05-50ml)	
Cal. Std 5.0	-	5.000	*(0.25-50ml)	
Cal. Std 7.5	-	7.500	*(0.375-50ml)	
Cal. Std 10.0	-	10.000	*(0.5-50ml)	
ICV	-	7.503	100%	ICV Std = AA1-17-F
ICB	-	0.064		
LLICV	-	0.270	135%	SC 11/10/16
LLICV	-	0.210	105%	
CCV	-	7.619	102%	
CCB	-	0.060		
KQ1613523-01 5	1/5	0.015		
KQ1613523-02 50	1/50	3.563	107%	
KQ1613523-04 10	1/50 1/10 SP	3.064	103%	Cx= 3.769
KQ1613523-04A 10	1/10	7.128	81.3%	
KQ1613523-05 50	1/50	2.082	97%	Cx= 2.165
KQ1613523-05A 50	1/50	6.891	96.2%	
K1611838-009 20	1/20	2.001		Cx= 2.052
K1611838-009A 20	1/20	6.879	97.6%	
K1611838-009D 20	1/20	2.014	5%	Cx= 2.132
K1611838-009DA 20	1/20	6.738	94.5%	
CCV	-	7.524	100%	
CCB	-	0.043		
K1611838-009S 50	1/50	4.508	122%	Cx= 4.892
K1611838-009SA 50	1/50	9.116	92.2%	
K1611838-010 20	1/20	1.944		Cx= 2.065
K1611838-010A 20	1/20	6.652	94.2%	
K1611838-011 20	1/20	2.102		Cx= 2.103

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D045540)	Soil Spike
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	99.6mg/kg (70-130%)	40ppb (75-125%)
Selenium	10ppb (80-120%)	16ppb (75-125%)	150mg/kg (68-132%)	40ppb (75-125%)
Cx = MSA Corrected Concentration (as per method)				

Analyst 3L	Date: 11/10/16	Page Number: 1
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ALS Environmental
FAA Run Log

Method: (Circle Method Used) 7742 7062 Other: _____ Element: As Se	Service Request # :
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SAMPLE NUMBER	Dilution Factor	Measured (µg/L)	Recoveries (ICV, CCV, CRA, LCS, Matrix Spk.)	Comments
K1911838-011A 20	1/20	7.099	99.9%	Post Spike = 5 ppb
K1611838-020 20	1/20	1.784		Cx= 1.830
K1611838-020A 20	1/20	6.657	97.5%	
K1611838-029 20	1/20	2.125		Cx= 2.200
K1611838-029A 20	1/20	6.954	96.6%	
CCV	-	7.642	102%	
CCB	-	0.071		
K1611838-038 20	1/20	2.257		Cx= 2.323
K1611838-038A 20	1/20	7.117	97.2%	
K1611838-047 20	1/20	2.448		Cx= 2.531
K1611838-047A 20	1/20	7.283	96.7%	
K1611838-056 20	1/20	2.398		Cx= 2.443
K1611838-056A 20	1/20	7.306	98.2%	
K1611838-065 20	1/20	2.079		Cx= 2.098
K1611838-065A 20	1/20	7.035	99.1%	
K1611838-074 20	1/20	1.680		Cx= 1.653
K1611838-074A 20	1/20	6.759	101.6%	
CCV	-	7.591	101%	
CCB	-	0.065		
K1611838-083 20	1/20	1.782		Cx= 1.832
K1611838-083A 20	1/20	6.644	97.2%	
K1611838-009S-100	1/50 x 1/2	2.359	30	
K1611838-009SA-100	1/50 x 1/2	7.283	1110/16	
CCV	-	7.668	102%	
CCB	-	0.064		

True Values/QC Limits:	LCSW	Water Spike	LCSS (ERA D045540)	Soil Spike
Arsenic:	10ppb (80-120%)	16ppb (75-125%)	146.0mg/kg (80-120%)	20ppb (75-125%)
Selenium	10ppb (80-120%)	16ppb (75-125%)	192.0mg/kg (62-147%)	20ppb (75-125%)
Cx = MSA Corrected Concentration (as per method)				

Analyst 3L	Date: 11/10/16	Page Number: 2
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2	{10.0}	0.216	0.813	0.217	11:02:45	Yes
3	{10.0}	0.215	0.799	0.217	11:03:19	Yes
Mean:	{10.0}	0.216				
SD:	0.0	0.0005				
%RSD:	0.0	0.22				
Standard number 6 applied. {10.0}						
Correlation Coef.: 0.999541 Slope: 0.02197 Intercept: 0.00000						

Calibration data for Se 196.03

Equation: Linear Through Zero

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Cal Blk	0.0000	0	0.000	0.00	23.2
Std 0.2	0.0045	0.2	0.206	0.00	13.0
Std 0.5	0.0120	0.5	0.544	0.00	3.8
Std 1.0	0.0238	1.0	1.083	0.00	0.4
Std 5.0	0.1137	5.0	5.177	0.00	0.6
Std 7.5	0.1667	7.5	7.589	0.00	0.5
Std 10.0	0.2159	10.0	9.827	0.00	0.2

Correlation Coef.: 0.999541 Slope: 0.02197 Intercept: 0.00000

Sequence No.: 8

Autosampler Location: 8

Sample ID: ICV

Date Collected: 11/10/2016 11:04:10 AM

Analyst:

Data Type: Original

Replicate Data: ICV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	7.426	7.426	0.163	0.604	0.165			11:04:34	Yes
2	7.553	7.553	0.166	0.618	0.167			11:05:08	Yes
3	7.531	7.531	0.165	0.614	0.167			11:05:42	Yes
Mean:	7.503	7.503	0.165						
SD:	0.068	0.068	0.0015						
%RSD:	0.902	0.902	0.90						

QC value within limits for Se 196.03 Recovery = 100.04% All analyte(s) passed QC.

Sequence No.: 9

Autosampler Location: 1

Sample ID: ICB

Date Collected: 11/10/2016 11:06:33 AM

Analyst:

Data Type: Original

Replicate Data: ICB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
1	0.115	0.115	0.003	0.018	0.004			11:06:54	Yes
2	0.032	0.032	0.001	0.008	0.002			11:07:28	Yes
3	0.046	0.046	0.001	0.009	0.003			11:08:02	Yes
Mean:	0.064	0.064	0.001						
SD:	0.044	0.044	0.0010						
%RSD:	69.40	69.40	69.40						

QC value within limits for Se 196.03 Recovery = Not calculated All analyte(s) passed QC.

Sequence No.: 10

Autosampler Location: 2

Sample ID: LLICV

Date Collected: 11/10/2016 11:08:50 AM

Analyst:

Data Type: Original

Replicate Data: LLICV

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Bkgnd Area	Bkgnd Height	Time	Peak Stored
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Service Request Number(s): K1611838

TISSUE WHOLE BODY HOMOGENIZATION / COMPOSITE

Laboratory ID	Sample Wt. (g)	Tare of Jar (g)	Total Composite Wt. (g)			
K1611838-001	25.045					
K1611838-002	25.123					
K1611838-003	25.107					
K1611838-004	25.116					
K1611838-005	25.155					
K1611838-006	25.059					
K1611838-007	25.151					
K1611838-008	25.065					
K1611838-009		265.064	200.815			
K1611838-001	25.042					
K1611838-002	25.140					
K1611838-003	25.040 ^{25.040}			25.005		
K1611838-004	25.040					
K1611838-005	25.070					
K1611838-006	25.106					
K1611838-007	25.102					
K1611838-008	26.015					
K1611838-010		264.515	186.934			
K1611838-001	25.125					
K1611838-002	25.132					
K1611838-003	25.157					
K1611838-004	25.159					
K1611838-005	25.070					
K1611838-006	25.042					
K1611838-007	25.119					
K1611838-008	25.052					
K1611838-011		265.823	200.856			

Comments:

Balance ID: 46

Date Balance Checked: 10/19/16

Analyst: *Cammy Decker*

Date: 10/19/16 10/19/16

Reviewed: *[Signature]*

Date: 10/26/16

Service Request Number(s): K1611838

TISSUE WHOLE BODY HOMOGENIZATION / COMPOSITE

Laboratory ID	Sample Wt. (g)	Tare of Jar (g)	Total Composite Wt. (g)			
K1611838-012	25.124					
K1611838-013	25.017					
K1611838-014	25.181					
K1611838-015	25.128					
K1611838-016	25.141					
K1611838-017	25.107					
K1611838-018	25.166					
K1611838-019	25.163					
K1611838-020		264.815	201.027			
K1611838-021	25.107					
K1611838-022	25.020					
K1611838-023	25.134					
K1611838-024	25.030					
K1611838-025	25.054					
K1611838-026	25.012					
K1611838-027	25.018					
K1611838-028	25.041					
K1611838-029		264.835	194.722			
K1611838-030	25.010					
K1611838-031	25.122					
K1611838-032	25.021					
K1611838-033	25.007					
K1611838-034	25.001					
K1611838-035	25.091					
K1611838-036	25.019					
K1611838-037	25.023					
K1611838-038		266.219	195.947			

Comments:

Balance ID: 46

Date Balance Checked: 10/19/16

Analyst: *Corey David Wheeler*

Date: 10/19/16 / 10/19/16

Reviewed: *[Signature]*

Date: 10/26/16

Service Request Number(s): K1611838

TISSUE WHOLE BODY HOMOGENIZATION / COMPOSITE

Laboratory ID	Sample Wt. (g)	Tare of Jar (g)	Total Composite Wt. (g)			
K1611838-039	25.067					
K1611838-040	25.064					
K1611838-041	25.063					
K1611838-042	25.046					
K1611838-043	25.123					
K1611838-044	25.113					
K1611838-045	25.062					
K1611838-046	25.030					
K1611838-047		264.995	200.568			
K1611838-048	25.034					
K1611838-049	25.039					
K1611838-050	25.170					
K1611838-051	25.030					
K1611838-052	25.039					
K1611838-053	25.028					
K1611838-054	25.191					
K1611838-055	25.120					
K1611838-056		264.877	200.651			
K1611838-057	25.013					
K1611838-058	25.008					
K1611838-059	25.080					
K1611838-060	25.096					
K1611838-061	25.129					
K1611838-062	25.102					
K1611838-063	25.116					
K1611838-064	25.172					
K1611838-065		266.062	186.405			

Comments:

Balance ID: 416

Date Balance Checked: 10/20/16

Analyst: *Devon White*

Date: 10/20/16 10/20/16

Reviewed: *[Signature]*

Date: 10/26/16

Service Request Number(s): K1611838

TISSUE WHOLE BODY HOMOGENIZATION / COMPOSITE

Laboratory ID	Sample Wt. (g)	Tare of Jar (g)	Total Composite Wt. (g)			
K1611838-066	894					
K1611838-067	472					
K1611838-068	460					
K1611838-069	463					
K1611838-070	912					
K1611838-071	644					
K1611838-072	640					
K1611838-073	913					
K1611838-074		264	201			
K1611838-075	879					
K1611838-076	650					
K1611838-077	868					
K1611838-078	932					
K1611838-079	910					
K1611838-080	644					
K1611838-081	868					
K1611838-082	912					
K1611838-083		264	201			
OB 10/20/14						

Comments:

Balance ID: #2	Date Balance Checked:
Analyst: <i>[Signature]</i>	Date: 10/20/14
Reviewed: <i>[Signature]</i>	Date: 10/26/14

Service Request Number(s): K1611838

TISSUE WHOLE BODY HOMOGENIZATION

Laboratory ID	Tare of Jar (g)	Weight of Sample* (g)	As Rec'd Wt. (g)
K1611838-001	272.801	212.943	217.365
K1611838-002	272.561	211.507	211.928
K1611838-003	272.694	204.411	206.702
K1611838-004	274.738	195.616	199.490
K1611838-005	274.298	187.096	190.799
K1611838-006	270.869	186.561	190.956
K1611838-007	264.620	223.719	227.795
K1611838-008	265.113	212.678	219.867
K1611838-012	264.755	193.352	197.530
K1611838-013	265.191	194.086	196.281
K1611838-014	265.157	186.254	191.469
K1611838-015	265.977	200.868	203.211
K1611838-016	265.060	203.355	206.665
K1611838-017	264.903	194.822	207.533
K1611838-018	264.940	197.228	207.937
K1611838-019	266.241	209.513	212.929
K1611838-021	266.142	46 194.957	195.718
K1611838-022	264.744	200.069	204.105
K1611838-023	266.144	211.585	212.363
K1611838-024	264.751	209.128	209.411
K1611838-025	265.869	207.025	208.880
K1611838-026	264.519	219.913	217.628
K1611838-027	265.569	200.997	202.739
K1611838-028	266.509	220.074	220.162

Comments:

* The weight of sample is after homogenization.

Balance ID: 46	Date Balance Checked:
Analyst: Cassandra Corey <i>[Signature]</i>	Date: 10/18/16
Reviewed: <i>[Signature]</i>	Date: 10/17/16
	Date: 10/26/16

Service Request Number(s): K1611838

TISSUE WHOLE BODY HOMOGENIZATION

Laboratory ID	Tare of Jar (g)		Weight of Sample* (g)		As received wt (g)
K1611838-030	264.804		189.057		192.155
K1611838-031	266.277		206.424		206.918
K1611838-032	264.953		203.981		206.924
K1611838-033	266.114		199.775		203.877
K1611838-034	266.410		219.114		220.922
K1611838-035	265.963		200.132		203.043
K1611838-036	265.583		206.963		211.183
K1611838-037	266.366		212.517		216.402
K1611838-039	266.701		208.336		223.761
K1611838-040	264.786		202.402		202.666
K1611838-041	266.143		183.087		201.265
K1611838-042	266.295		202.675		203.255
K1611838-043	266.332		195.591		204.226
K1611838-044	266.302		214.602		216.381
K1611838-045	265.524		207.914		215.470
K1611838-046	207.914 ²⁶⁶ 266.298		198.036		203.045
K1611838-048	266.307		188.169		195.136
K1611838-049	264.973	**	194.960		201.831
K1611838-050	265.343		191.661		193.404
K1611838-051	266.082		186.169		191.936
K1611838-052	265.863		194.938		195.997
K1611838-053	264.832		203.204		210.897
K1611838-054	261.266		211.229		218.498
K1611838-055	264.917		192.442		199.823

Comments:

* The weight of sample is after homogenization.

Balance ID: 46	Date Balance Checked: 10/18/16
Analyst: <i>Anna C. [Signature]</i>	Date: 10/18/16 10/18/16
Reviewed: <i>[Signature]</i>	Date: 10/26/16

Service Request Number(s): K1611838

TISSUE WHOLE BODY HOMOGENIZATION

Laboratory ID	Tare of Jar (g)	Weight of Sample* (g)	As rec'd wt (g)
K1611838-057 ^a	265.015	307.244	434.092
K1611838-058 ^a	264.868	311.853	423.559
K1611838-059	480.134	384.021	384.545
K1611838-060	476.523	431.986	437.651
K1611838-061	476.358	381.909	385.228
K1611838-062	480.494	415.333	415.674
K1611838-063	477.004	417.183	419.359
K1611838-064	264.784	401.124	362.075
K1611838-066	470.911	428.403	429.766
K1611838-067	264.316	207.393	213.091
K1611838-068	266.064	192.878	198 199.192
K1611838-069	265.210	198.668	202.262
K1611838-070	480.289	431.801	431.286
K1611838-071	265.134	380.397	392.839
K1611838-072	264.922	374.446	376.412
K1611838-073	478.832	433.079	438.463
K1611838-075	480.478	397.772	409.688
K1611838-076	265.060	384.580	393.087
K1611838-077	471.387	395.851	402.887
K1611838-078	478.693	453.317	451.385
K1611838-079	472.851	431.926	432.978
K1611838-080	264.940	378.079	385.069
K1611838-081	475.610	417.359	419.414
K1611838-082	476.115	435.728	442.140

K1611838-57b) 201.701

119.783

58b) 200.509

104.764

Comments:

* The weight of sample is after homogenization.

Balance ID: 46

Date Balance Checked: 10/19/16

Analyst: *Daniel Whalen C. C. C.*

Date: 10/19/16

Reviewed: *[Signature]*

Date: 10/26/16

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal Tissue
Analysis Method: Freeze Dry
Prep Method: None

Service Request: K1611838
Date Collected: 08/30/16 - 09/07/16
Date Received: 10/4/16

Units: Percent
Basis: Wet

Total Solids

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
EPA-HS-A1	K1611838-009	23.9	-	-	1	10/20/16 17:00	
EPA-HS-A1 DUP	K1611838-010	24.4	-	-	1	10/20/16 17:00	
EPA-HS-A1 TRIP	K1611838-011	23.4	-	-	1	10/20/16 17:00	
EPA-HS-A2	K1611838-020	23.7	-	-	1	10/20/16 17:00	
EPA-HS-A3	K1611838-029	24.7	-	-	1	10/20/16 17:00	
EPA-HS-B1	K1611838-038	26.4	-	-	1	10/20/16 17:00	
EPA-HS-B2	K1611838-047	24.6	-	-	1	10/20/16 17:00	
EPA-HS-B3	K1611838-056	23.9	-	-	1	10/20/16 17:00	
EPA-HS-C1	K1611838-065	31.6	-	-	1	10/20/16 17:00	
EPA-HS-C2	K1611838-074	30.1	-	-	1	10/20/16 17:00	
EPA-HS-C3	K1611838-083	28.7	-	-	1	10/20/16 17:00	

Metals
- 2a -

Equip
Blanks

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum	100.0	99.9	100	25.0	25.2	101	25.5	102	6020A
Antimony	25.0	22.9	92	25.0	24.9	100	25.0	100	6020A
Arsenic	25.0	25.6	102	25.0	25.4	102	25.8	103	6020A
Barium	100.0	97.0	97	25.0	24.7	99	25.0	100	6020A
Beryllium	2.5	2.5	100	25.0	24.7	99	25.1	100	6020A
Boron	2000	2031	102	250	255	102	249	100	6010C
Cadmium	12.5	12.6	101	25.0	25.2	101	24.9	100	6020A
Calcium	5000	4957	99	500	503	101	499	100	6010C
Calcium	12500	12430	99	10000	10060	101	10100	101	6010C
Chromium	10.0	10.0	100	25.0	25.0	100	25.9	104	6020A
Cobalt	25.0	25.5	102	25.0	25.0	100	25.7	103	6020A
Copper	12.5	12.3	98	25.0	24.6	98	24.8	99	6020A
Iron	50.0	50.9	102	25.0	24.8	99	26.0	104	6020A
Lead	25.0	24.7	99	25.0	25.5	102	25.6	102	6020A
Magnesium	5000	5017	100	250	251	100	253	101	6010C
Magnesium	12500	12310	98	10000	10060	101	9663	97	6010C
Manganese	25.0	24.9	100	25.0	25.4	102	25.6	102	6020A
Mercury	5.00	4.97	99	5.00	4.95	99	5.01	100	7470A
Molybdenum	25.0	25.1	100	25.0	24.5	98	24.7	99	6020A
Nickel	25.0	25.6	102	25.0	25.2	101	25.5	102	6020A
Potassium	12500	12400	99	10000	10010	100	9724	97	6010C
Selenium	25.0	25.3	101	25.0	26.9	108	25.9	104	6020A
Silicon	5000	5170	103	10000	10070	101	9743	97	6010C
Silver	12.5	12.4	99	25.0	24.6	98	24.6	98	6020A
Sodium	12500	12520	100	10000	10100	101	9793	98	6010C
Sulfur	5000	5056	101	1000	1013	101	998	100	6010C
Thallium	25.0	24.8	99	25.0	25.3	101	26.1	104	6020A
Tin	25.0	23.3	93	25.0	25.0	100	25.0	100	6020A
Uranium	25.0	25.1	100	25.0	25.2	101	25.2	101	6020A
Vanadium	25.0	25.5	102	25.0	25.2	101	25.4	102	6020A
Zinc	25.0	25.4	102	25.0	24.9	100	25.4	102	6020A

Thru
12/3/16

90-110

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Boron				250	254	102			6010C
Calcium				10000	10000	100			6010C
Calcium				500	503	101			6010C
Iron				25.0	26.5	106			6020A
Magnesium				10000	10040	100			6010C
Magnesium				250	253	101			6010C
Potassium				10000	10050	100			6010C
Silicon				10000	10060	101			6010C
Sodium				10000	10130	101			6010C
Sulfur				1000	1020	102			6010C

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

SDG No.: K1611838

Contract: _____ Lab Code: ALSK

Case No.: _____ SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV1									
	Boron	21.0	20.0	105	70.0 - 130.0	P	11/9/2016	10:51	110916AICP
	Calcium	19.7	20.0	98	70.0 - 130.0	P	11/9/2016	10:51	110916AICP
	Magnesium	4.8 ✓	5.0	96 ✓	70.0 - 130.0	P	11/9/2016	10:51	110916AICP
	Potassium	223.7	200.0	112	70.0 - 130.0	P	11/9/2016	10:51	110916AICP
	Silicon	190.3	200.0	95	70.0 - 130.0	P	11/9/2016	10:51	110916AICP
	Sodium	186.1	200.0	93	70.0 - 130.0	P	11/9/2016	10:51	110916AICP
	Sulfur	38.2	40.0	96	70.0 - 130.0	P	11/9/2016	10:51	110916AICP
LLCCV1									
	Boron	19.9	20.0	100	70.0 - 130.0	P	11/9/2016	12:48	110916AICP
	Calcium	20.1	20.0	100	70.0 - 130.0	P	11/9/2016	12:48	110916AICP
	Magnesium	4.9	5.0	98	70.0 - 130.0	P	11/9/2016	12:48	110916AICP
	Potassium	225.4	200.0	113	70.0 - 130.0	P	11/9/2016	12:48	110916AICP
	Silicon	182.6	200.0	91	70.0 - 130.0	P	11/9/2016	12:48	110916AICP
	Sodium	196.0 ✓	200.0	98 ✓	70.0 - 130.0	P	11/9/2016	12:48	110916AICP
	Sulfur	38.8	40.0	97	70.0 - 130.0	P	11/9/2016	12:48	110916AICP

70-130

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated

SDG No.: K1611838

Contract: _____ Lab Code: ALSK

Case No.: _____ SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICVW1									
	Aluminum	2.040	2.000	102	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Antimony	0.040	0.050	80	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Arsenic	0.463 ✓	0.500	93 ✓	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Barium	0.058	0.050	116	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Beryllium	0.020	0.020	100	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Cadmium	0.016	0.020	80	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Chromium	0.209	0.200	104	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Cobalt	0.023	0.020	115	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Copper	0.084	0.100	84	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Iron	0.951	1.000	95	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Lead	0.020	0.020	100	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Manganese	0.047	0.050	94	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Molybdenum	0.047	0.050	94	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Nickel	0.211 ✓	0.200	106 ✓	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Selenium	1.045	1.000	104	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Silver	0.021	0.020	105	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Thallium	0.019	0.020	95	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Tin	0.053	0.050	106	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Uranium	0.019	0.020	95	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Vanadium	0.204	0.200	102	70.0 - 130.0	MS	12/2/2016	15:02	120216a
	Zinc	0.556	0.500	111	70.0 - 130.0	MS	12/2/2016	15:02	120216a

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dba ALS Environmental

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Teck American Incorporated SDG No.: K1611838
 Contract: _____ Lab Code: ALSK Case No.: _____ SAS No.: _____
 Initial Calibration Source: Inorganic Ventures
 Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCVW1									
	Aluminum	2.109	2.000	105	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Antimony	0.052	0.050	104	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Arsenic	0.552	0.500	110	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Barium	0.036	0.050	72	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Beryllium	0.020	0.020	100	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Cadmium	0.022	0.020	110	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Chromium	0.203 ✓	0.200	102 ✓	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Cobalt	0.022	0.020	110	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Copper	0.100	0.100	100	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Iron	1.012	1.000	101	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Lead	0.019	0.020	95	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Manganese	0.049	0.050	98	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Molybdenum	0.048	0.050	96	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Nickel	0.227	0.200	114	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Selenium	1.133	1.000	113	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Silver	0.023	0.020	115	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Thallium	0.019 ✓	0.020	95 ✓	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Tin	0.056	0.050	112	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Uranium	0.017	0.020	85	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Vanadium	0.212	0.200	106	70.0 - 130.0	MS	12/2/2016	16:17	120216a
	Zinc	0.571	0.500	114	70.0 - 130.0	MS	12/2/2016	16:17	120216a
LLCCVW2									
	Iron	1.015 ✓	1.000	102 ✓	70.0 - 130.0	MS	12/2/2016	17:24	120216a

Metals

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	Initial		Final		
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.20	0.22	110					

Metals

- 3 -

BLANKS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Aluminum	0.2	U	0.2	U	0.2	U			6020A
Antimony	0.04	J	0.02	U	0.04	J			6020A
Arsenic	0.08	U	0.08	U	0.08	U			6020A
Barium	0.020	U	0.020	U	0.020	U			6020A
Beryllium	0.003	J	0.002	U	0.002	U			6020A
Boron	4.0	U	4.0	U	4.0	U	4.0	U	6010C
Cadmium	0.009	U	0.009	U	0.009	U			6020A
Calcium	0.9	U	0.9	U	0.9	U	0.9	U	6010C
Chromium	0.03	U	0.03	U	0.03	U			6020A
Cobalt	0.005	U	0.005	U	0.005	U			6020A
Copper	0.02	U	0.02	U	0.02	U			6020A
Iron	0.3	U	0.3	U	0.3	U	0.3	U	6020A
Lead	0.007	U	0.007	U	0.007	U			6020A
Magnesium	0.3	U	0.3	U	0.3	J	0.3	U	6010C
Manganese	0.006	U	0.006	U	0.006	U			6020A
Mercury	0.02	U	0.02	U	0.02	U			7470A
Molybdenum	0.01	U	0.01	U	0.01	U			6020A
Nickel	0.04	U	0.04	U	0.04	U			6020A
Potassium	60.0	U	60.0	U	60.0	U	60.0	U	6010C
Selenium	0.2	U	0.2	U	0.2	U			6020A
Silicon	20.0	U	20.0	U	20.0	U	20.0	U	6010C
Silver	0.006	J	0.002	U	0.011	J			6020A
Sodium	20.0	U	20.0	U	20.0	U	20.0	U	6010C
Sulfur	6.0	U	6.0	U	6.0	U	6.0	U	6010C
Thallium	0.008	U	0.008	U	0.008	U			6020A
Tin	0.02	U	0.02	U	0.02	U			6020A
Uranium	0.005	U	0.005	U	0.005	U			6020A
Vanadium	0.04	U	0.04	U	0.04	U			6020A
Zinc	0.08	U	0.08	U	0.08	U			6020A

only assoc. w/ EBS
no ⊖ bias, no impact

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: Teck American Incorporated Service Request: K1611838
Project No.: NA Date Collected:
Project Name: UCR - 2016 Sturgeon Tissue Study Date Received:
Matrix: WATER Units: ug/L
Basis: NA

Sample Name: Method Blank Lab Code: KQ1614557-03

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Boron	6010C	20.0	4.0	1.0	11/08/16	11/09/16	4.0	U	
Calcium	6010C	20.0	0.9	1.0	11/08/16	11/09/16	1.3	J	
Magnesium	6010C	5.0	0.3	1.0	11/08/16	11/09/16	0.3	U	
Potassium	6010C	200	60.0	1.0	11/08/16	11/09/16	60.0	U	
Silicon	6010C	200	20.0	1.0	11/08/16	11/09/16	20.0	U	
Sodium	6010C	200	20.0	1.0	11/08/16	11/09/16	20.0	U	
Sulfur	6010C	40.0	6.0	1.0	11/08/16	11/09/16	6.0	U	

Comments:

only assoc. w/ ERs
no qual

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Teck American Incorporated Service Request: K1611838
Project No.: NA Date Collected:
Project Name: UCR - 2016 Sturgeon Tissue Study Date Received:
Matrix: WATER Units: ug/L
Basis: NA

Sample Name: Method Blank Lab Code: KQ1614773-01

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Mercury	7470A	0.20	0.02	1.0	11/14/16	11/14/16	0.02	U	

Comments:

Metals

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ICP INTERFERENCE CHECK SAMPLE

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Boron	0.0		19.5	19.9				
Calcium	500000.0	500000.0	474800.0	475700.0	95			
Magnesium	500000.0	500000.0	384200.0	390900.0	78			
Potassium	0.0		-28.8	-18.3				
Silicon	0.0		-7.0	-6.3				
Sodium	0.0		9.5	25.6				
Sulfur	0.0		14.8	12.5				

low interferences in samples, no impact

Metals

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ICP INTERFERENCE CHECK SAMPLE

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-MS-04

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Aluminum	0.0		19458.4	19863.9				
Antimony	0.0		0.0	0.0				
Arsenic	0.0	25.0	0.1	24.9	100			
Barium	0.0		0.9	1.0				
Beryllium	0.0		0.0	0.0				
Cadmium	0.0	25.0	0.0	23.9	96			
Chromium	0.0	50.0	0.7	54.4	109			
Cobalt	0.0	50.0	0.7	52.4	105			
Copper	0.0	50.0	0.6	47.2	94			
Iron	0.0	50000.0	47638.9	49522.4	99			
Lead	0.0		0.1	0.1				
Manganese	0.0	50.0	0.8	48.1	96			
Molybdenum	0.0		53.3	54.8				
Nickel	0.0	50.0	0.5	50.5	101			
Selenium	0.0	25.0	0.1	23.7	95			
Silver	0.0	12.5	0.0	11.3	90			
Thallium	0.0		0.0	0.0				
Tin	0.0		0.1	0.1				
Uranium	0.0		0.0	0.0				
Vanadium	0.0	50.0	0.0	55.1	110			
Zinc	0.0	25.0	0.5	22.7	91			

N/A

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client: Teck American Incorporated Service Request: K1611838
 Project No.: NA Units: UG/L
 Project Name: UCR - 2016 Sturgeon Tissue Study Basis: NA
 Matrix: WATER

Sample Name: Homogenization BlankA

Lab Code: K1611838-086A

Analyte	Control Limit %R	Spike Result	C	Sample Result	✓ C	Spike Added	%R	Q	Method
Aluminum	80 - 120	23.1		0.7		20.0	112		6020A
Antimony	80 - 120	19.72	✓	0.02	U	20.0	99	✓	6020A
Arsenic	80 - 120	21.98		0.08	U	20.0	110		6020A
Barium	80 - 120	21.361		0.020	U	20.0	107		6020A
Beryllium	80 - 120	21.287		0.002	U	20.0	106		6020A
Boron	80 - 120	4722.0	✓	4.0	U	5000	94	✓	6010C
Cadmium	80 - 120	21.555		0.009	U	20.0	108		6020A
Calcium	80 - 120	12320.0		5.6		12500	99		6010C
Chromium	80 - 120	21.36		0.03	U	20.0	107		6020A
Cobalt	80 - 120	21.528		0.005	U	20.0	108		6020A
Copper	80 - 120	21.58	✓	0.02	U	20.0	108	✓	6020A
Iron	80 - 120	86.5		0.9		80.0	107		6020A
Lead	80 - 120	21.772		0.009		20.0	109		6020A
Magnesium	80 - 120	12160.0	✓	0.7		12500	97	✓	6010C
Manganese	80 - 120	21.79		0.03		20.0	109		6020A
Molybdenum	80 - 120	20.85		0.01	U	20.0	104		6020A
Nickel	80 - 120	21.40		0.04		20.0	107		6020A
Potassium	80 - 120	12310.0		60.0		12500	98		6010C
Selenium	80 - 120	21.8		0.2		20.0	109		6020A
Silicon	80 - 120	4973		20		5000	99		6010C
Silver	80 - 120	10.290	✓	0.002		10.0	103	✓	6020A
Sodium	80 - 120	12400.0		20.0		12500	99		6010C
Sulfur	80 - 120	4901.0	✓	6.0		5000	98	✓	6010C
Thallium	80 - 120	21.791		0.008		20.0	109		6020A
Tin	80 - 120	21.3		0.0		20.0	106		6020A
Uranium	80 - 120	21.4799		0.0050		20.0	107		6020A
Vanadium	80 - 120	21.618		0.040	U	20.0	108		6020A
Zinc	80 - 120	22.69	✓	1.11		20.0	108	✓	6020A

TKW
12/13/16

Metals
- 6 -
DUPLICATES

Client: Teck American Incorporated Service Request: K1611838
Project No.: NA Units: UG/L
Project Name: UCR - 2016 Sturgeon Tissue Study Basis: NA
Matrix: WATER

Sample Name: Batch QC1D

Lab Code: K1613089-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	U	0.02	U			7470A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

-7-

LABORATORY CONTROL SAMPLE

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Aqueous LCS Source: ALS MIXED

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Aluminum	100.0	107.3	107					
Antimony	50.0	48.0	96					
Arsenic	50.0	53.3	107					
Barium	100.0	103.8	104					
Beryllium	2.5	2.6	104					
Boron	500	489	98					
Cadmium	25.0	25.8	103					
Calcium	12500	12500	100					
Chromium	10.0	10.6	106					
Cobalt	25.0	26.9	108					
Copper	12.5	13.3	106					
Iron	50.0	54.5	109					
Lead	50.0	51.7	103					
Magnesium	12500	12900	103					
Manganese	25.0	26.2	105					
Mercury	5	4.84	97					
Molybdenum	20.0	20.7	104					
Nickel	25.0	27.0	108					
Potassium	12500	12900	103					
Selenium	50.0	52.7	105					
Silicon	10000	10100	101					
Silver	12.5	13.1	105					
Sodium	12500	13100	105					
Sulfur	10000	9980	100					
Thallium	50.0	51.4	103					
Tin	20.0	20.2	101					
Uranium	25.0	21.3	85					
Vanadium	25.0	26.9	108					
Zinc	25.0	27.0	108					

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Metals

-7-

LABORATORY CONTROL SAMPLE

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Aqueous LCS Source: ALS MIXED

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Aluminum	100.0	107.0	107					
Antimony	50.0	48.8	98					
Arsenic	50.0	54.1	108					
Barium	100.0	105.4	105					
Beryllium	2.5	2.6	104					
Boron	500	493	99					
Cadmium	25.0	26.3	105					
Calcium	12500	12300	98					
Chromium	10.0	10.5	105					
Cobalt	25.0	26.3	105					
Copper	12.5	12.9	103					
Iron	50.0	52.9	106					
Lead	50.0	52.9	106					
Magnesium	12500	13100	105					
Manganese	25.0	25.5	102					
Molybdenum	20.0	21.6	108					
Nickel	25.0	26.6	106					
Potassium	12500	13000	104					
Selenium	50.0	57.6	115					
Silicon	10000	9880	99					
Silver	12.5	13.3	106					
Sodium	12500	13200	106					
Sulfur	10000	9970	100					
Thallium	50.0	53.2	106					
Tin	20.0	20.3	102					
Uranium	25.0	21.0	84					
Vanadium	25.0	26.2	105					
Zinc	25.0	26.4	106					

Metals

- 9 -

ICP SERIAL DILUTIONS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Units: UG/L

Project Name: UCR - 2016 Sturgeon Tissue Study

Sample Name: Homogenization BlankL

Lab Code: K1611838-086L ✓

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	% Difference	Q	M
Aluminum	0.7 J	1.7 J	143		MS
Antimony	0.02 U	0.10 U			MS
Arsenic	0.080 U	0.400 U			MS
Barium	0.02 U	0.10 U			MS
Beryllium	0.002 U	0.010 U			MS
Boron	4.0 U	20.0 U			P
Cadmium	0.009 U	0.045 U			MS
Calcium	5.6 J	19.0 J	239.3		P
Chromium	0.03 U	0.15 U			MS
Cobalt	0.005 U	0.025 U			MS
Copper	0.02 U	0.10 U			MS
Iron	0.9 J	1.7 J	89		MS
Lead	0.009 J	0.035 U	100.0		MS
Magnesium	0.7 J	1.5 U	100.0		P
Manganese	0.03 J	0.03 U	100.0		MS
Molybdenum	0.01 U	0.03 U			MS
Nickel	0.04 U	0.20 U			MS
Potassium	60.0 U	300.0 U			P
Selenium	0.2 U	1.0 U			MS
Silicon	20 U	100 U			P
Silver	0.002 U	0.010 U			MS
Sodium	20.0 U	100.0 U			P
Sulfur	6.0 U	30.0 U			P
Thallium	0.008 U	0.040 U			MS
Tin	0.0 U	0.1 U			MS
Uranium	0.0050 U	0.0250 U			MS
Vanadium	0.040 U	0.200 U			MS
Zinc	1.11	1.18 J	6		MS

All < 50x DL, no impact

Metals

- 10 -

DETECTION LIMITS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP/ICP-MS ID #:

GFAA ID #:

AA ID #:

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.7		0.20	0.02	CV

Comments:

Metals

- 10 -

DETECTION LIMITS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP/ICP-MS ID #:

GFAA ID #:

AA ID #:

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Boron	249.6		20.0	4.0	P
Calcium	393.3		20.0	0.9	P
Magnesium	279.5		5.0	0.3	P
Potassium	766.5		200.0	60.0	P
Silicon	251.6		200	20	P
Sodium	589.5		200.0	20.0	P
Sulfur	182.0		40	6.0	P

Comments:

Metals

- 10 -

DETECTION LIMITS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP/ICP-MS ID #: K-ICP-MS-04

GFAA ID #:

AA ID #:

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Aluminum	27		2.0	0.2	MS
Antimony	123		0.05	0.02	MS
Arsenic	75		0.50	0.08	MS
Barium	137		0.050	0.020	MS
Beryllium	9		0.020	0.002	MS
Cadmium	111		0.020	0.009	MS
Chromium	52		0.20	0.03	MS
Cobalt	59		0.020	0.005	MS
Copper	65		0.10	0.02	MS
Iron	56		1.0	0.3	MS
Lead	208		0.020	0.007	MS
Manganese	55		0.050	0.006	MS
Molybdenum	98		0.05	0.01	MS
Nickel	60		0.20	0.04	MS
Selenium	78		1.0	0.2	MS
Silver	107		0.020	0.002	MS
Thallium	205		0.020	0.008	MS
Tin	118		0.10	0.02	MS
Uranium	238		0.020	0.005	MS
Vanadium	51		0.20	0.04	MS
Zinc	66		0.50	0.08	MS

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	B
Aluminum	394.401	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	217.581	0.0000000	0.0000000	-0.0009010	0.0000000	0.0000000
Arsenic	189.042	0.0000330	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000080	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	-0.0006800	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0001570	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000160	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000780	0.0000000	0.0000590	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000120	0.0000370	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	-0.0007840	0.0000000	0.0006520	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000110	0.0000000	0.0000440	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Zinc	213.856	0.0000000	0.0000000	0.0001170	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Ba	Cd	Co	Cr	Cu
Aluminum	394.401	0.000000	0.000000	0.000000	0.000000	0.000000
Antimony	217.581	0.000000	0.000000	0.000000	0.0004650	-0.0009350
Arsenic	189.042	0.000000	0.000000	0.000000	0.0005140	0.000000
Barium	455.403	0.000000	0.000000	0.000000	0.000000	0.000000
Beryllium	234.861	0.000000	0.000000	0.000000	0.000000	0.000000
Boron	249.678	0.000000	0.000000	0.0025890	0.0003110	0.000000
Cadmium	226.502	0.000000	0.000000	-0.0000110	0.0000330	0.000000
Calcium	393.366	0.000000	0.000000	0.000000	0.000000	0.000000
Chromium	267.716	0.000000	-0.0001480	0.000000	0.000000	0.000000
Cobalt	228.616	-0.0001220	0.000000	0.000000	0.000000	0.000000
Copper	327.396	0.000000	0.000000	0.0002590	0.000000	0.000000
Iron	259.94	0.000000	0.000000	0.000000	0.000000	0.000000
Lead	220.353	0.000000	0.000000	0.0001270	0.000000	0.0003500
Lithium	670.784	0.000000	0.000000	0.000000	0.000000	0.000000
Magnesium	285.213	0.000000	0.000000	0.000000	0.000000	0.000000
Manganese	257.61	0.000000	0.000000	0.000000	0.000000	0.000000
Molybdenum	202.03	0.000000	0.000000	0.000000	0.000000	0.000000
Nickel	231.604	0.000000	0.000000	-0.0001870	0.000000	0.000000
Phosphorus	214.914	0.000000	-0.0015740	0.000000	0.000000	0.0052080
Potassium	766.491	0.000000	0.000000	0.000000	0.000000	0.000000
Selenium	196.0	0.000000	0.000000	0.000000	0.000000	0.000000
Silicon	251.611	0.000000	0.000000	0.000000	0.000000	0.000000
Silver	328.068	0.000000	0.000000	0.000000	0.000000	0.000000
Sodium	589.592	0.000000	0.000000	0.000000	0.000000	0.000000
Strontium	407.771	0.000000	0.000000	0.000000	0.000000	0.000000
Thallium	190.856	0.000000	0.000000	0.0031300	0.0003080	0.000000
Tin	189.989	0.000000	0.000000	0.000000	0.000000	0.000000
Titanium	336.121	0.000000	0.000000	0.0000270	0.000000	0.000000
Vanadium	292.402	0.000000	0.000000	0.000000	-0.0058770	0.000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0010410
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Mn	Mo	Ni	Sb	Si
Aluminum	394.401	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	217.581	-0.0007640	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	189.042	-0.0002720	0.0015570	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	-0.0000630	-0.0004470	-0.0000170	0.0000000	0.0000000
Boron	249.678	0.0000000	-0.0019240	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	-0.0000110	-0.0000150	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000620	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	-0.0012500	0.0001140	0.0000000	0.0000000
Copper	327.396	0.0000000	-0.0002610	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	-0.0002450	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0007250	0.0002650	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	-0.0006320	0.0105360	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0004420	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0731890	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0001350	0.0001470	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0023580	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0006530	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000400	0.0001110	0.0000000	0.0000000
Vanadium	292.402	-0.0011210	-0.0000900	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Zinc	213.856	0.0000000	0.0000000	0.0056230	0.0000000	0.0000000
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Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Analyte	Wave-length (nm)	Interelement Correction Factors for:			
		Ti	V		
Aluminum	394.401	0.0000000	0.0000000		
Antimony	217.581	0.0000000	0.0021710		
Arsenic	189.042	0.0000000	0.0001150		
Barium	455.403	0.0000000	0.0000000		
Beryllium	234.861	0.0000000	0.0000000		
Boron	249.678	0.0000000	-0.0005070		
Cadmium	226.502	0.0001270	0.0000000		
Calcium	393.366	0.0000000	0.0000000		
Chromium	267.716	0.0000000	-0.0000640		
Cobalt	228.616	0.0024440	0.0000000		
Copper	327.396	0.0001170	-0.0000910		
Iron	259.94	0.0000000	0.0000000		
Lead	220.353	0.0000000	0.0000000		
Lithium	670.784	0.0000000	0.0000000		
Magnesium	285.213	0.0000000	0.0000000		
Manganese	257.61	0.0000000	0.0000000		
Molybdenum	202.03	0.0000000	0.0000000		
Nickel	231.604	0.0000000	0.0000000		
Phosphorus	214.914	0.0000000	-0.0020860		
Potassium	766.491	0.0000000	0.0000000		
Selenium	196.0	0.0000000	0.0000000		
Silicon	251.611	0.0000000	0.0000000		
Silver	328.068	0.0000000	0.0000780		
Sodium	589.592	0.0000000	0.0000000		
Strontium	407.771	0.0000000	0.0000000		
Thallium	190.856	-0.0005060	0.0002630		
Tin	189.989	0.0000000	0.0000000		
Titanium	336.121	0.0000000	0.0000000		
Vanadium	292.402	0.0004260	0.0000000		

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Zinc	213.856	0.0000000	0.0000000			
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Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Teck American Incorporated Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-AES-03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Boron	15.000	45000	6010C
Calcium	15.000	900000	6010C
Magnesium	15.000	90000	6010C
Potassium	15.000	450000	6010C
Silicon	15.000	450000	6010C
Sodium	15.000	450000	6010C
Sulfur	15.000	450000	6010C

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Teck American Incorporated Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

ICP ID Number: K-ICP-MS-04

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum	45.000	18000	6020A
Antimony	45.000	3000	6020A
Arsenic	45.000	3000	6020A
Barium	45.000	3000	6020A
Beryllium	45.000	900	6020A
Cadmium	45.000	3000	6020A
Chromium	45.000	3000	6020A
Cobalt	45.000	3000	6020A
Copper	45.000	3000	6020A
Iron	45.000	18000	6020A
Lead	45.000	3000	6020A
Manganese	45.000	3000	6020A
Molybdenum	45.000	3000	6020A
Nickel	45.000	3000	6020A
Selenium	45.000	3000	6020A
Silver	45.000	900	6020A
Thallium	45.000	3000	6020A
Tin	0.000	0	6020A
Uranium	45.000	3000	6020A
Vanadium	45.000	3000	6020A
Zinc	45.000	3000	6020A

Comments:

Metals
-13-
PREPARATION LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Method: CV

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1611838-084	11/14/2016	20.0	20.0
K1611838-085	11/14/2016	20.0	20.0
K1611838-086	11/14/2016	20.0	20.0
K1613089-001D	11/14/2016	20.0	20.0
K1613089-001S	11/14/2016	20.0	20.0
KQ1614773-01	11/14/2016	20.0	20.0
KQ1614773-02	11/14/2016	20.0	20.0

Metals
-13-
PREPARATION LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1611838-084	11/8/2016	25.0	25.0
K1611838-085	11/8/2016	25.0	25.0
K1611838-086	11/8/2016	25.0	25.0
KQ1614557-01	11/8/2016	25.0	25.0
KQ1614557-02	11/8/2016	25.0	25.0
KQ1614557-03	11/8/2016	25.0	25.0
KQ1614557-04	11/8/2016	25.0	25.0
KQ1614557-05	11/8/2016	25.0	25.0

Metals
-13-
PREPARATION LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Project Name: UCR - 2016 Sturgeon Tissue Study

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1611838-084	11/8/2016	25.0	25.0
K1611838-085	11/8/2016	25.0	25.0
K1611838-086	11/8/2016	25.0	25.0
KQ1614558-01	11/8/2016	25.0	25.0
KQ1614558-02	11/8/2016	25.0	25.0
KQ1614558-03	11/8/2016	25.0	25.0

Metals

- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 110916AICP03

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-03

Method: P

Start Date: 11/9/2016

End Date: 11/9/2016

Sample No.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
BLK	1.0	10:30							X					X				X			X						*
STD A	1.0	10:32							X					X													*
STD B	1.0	10:34							X					X				X			X						*
ICV1	1.0	10:37							X					X													*
ICV1	1.0	10:40							X					X				X			X						*
ZZZZZZ	1.0	10:43																									
ICB1	1.0	10:46							X					X				X			X						*
ZZZZZZ	1.0	10:49																									
LLICV1	1.0	10:51							X					X				X			X						*
ZZZZZZ	1.0	10:54																									
CCV1	1.0	10:57							X					X				X			X						*
CCV1	1.0	11:03							X					X													*
CCB1	1.0	11:08							X					X				X			X						*
ICS-A1	1.0	11:10							X					X				X			X						*
ICS-AB1	1.0	11:13							X					X				X			X						*
ZZZZZZ	1.0	11:16																									
KQ1614557-03	1.0	11:42							X					X				X			X						*
KQ1614557-01	1.0	11:44							X					X				X			X						*
KQ1614557-02	1.0	11:46							X					X				X			X						*
KQ1614557-04	1.0	11:49																									*
KQ1614557-05	1.0	11:51																									*
K1611838-084	1.0	11:54							X					X				X			X						*
K1611838-085	1.0	11:57							X					X				X			X						*
K1611838-086	1.0	11:59							X					X				X			X						*
K1611838-086L	5.0	12:02							X					X				X			X						*
CCV2	1.0	12:04							X					X				X			X						*
CCV2	1.0	12:07							X					X													*
CCB2	1.0	12:10							X					X				X			X						*
K1611838-086A	1.0	12:12							X					X				X			X						*
ZZZZZZ	1.0	12:15																									
ZZZZZZ	1.0	12:17																									
ZZZZZZ	1.0	12:20																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 110916AICP03

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-03

Method: P

Start Date: 11/9/2016

End Date: 11/9/2016

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
ZZZZZZ	5.0	12:22																													
ZZZZZZ	1.0	12:25																													
ZZZZZZ	1.0	12:27																													
ZZZZZZ	1.0	12:30																													
ZZZZZZ	1.0	12:32																													
ZZZZZZ	1.0	12:35																													
CCV3	1.0	12:37							X					X					X			X						*			
CCV3	1.0	12:40							X					X														*			
CCB3	1.0	12:42							X					X					X			X						*			
ZZZZZZ	1.0	12:45																													
LLCCV1	1.0	12:48							X					X					X			X						*			

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
-14-
ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 110916AICP03

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-AES-03

Method: P

Start Date: 11/9/2016

End Date: 11/9/2016

Sample No.	D/F	Time	% R	Analytes															
				B U	A I	L I	M O	O S	P D	P P	P T	S I	S S	S N	S R	S T	U		
BLK	1.00	10:30		X								X	X						
STD A	1.00	10:32		X															
STD B	1.00	10:34										X	X						
ICV1	1.00	10:37		X								X	X						
ICV1	1.00	10:40																	
ZZZZZZ	1.00	10:43																	
ICB1	1.00	10:46		X								X	X						
ZZZZZZ	1.00	10:49																	
LLICV1	1.00	10:51		X								X	X						
ZZZZZZ	1.00	10:54																	
CCV1	1.00	10:57										X	X						
CCV1	1.00	11:03		X															
CCB1	1.00	11:08		X								X	X						
ICS-A1	1.00	11:10		X								X	X						
ICS-AB1	1.00	11:13		X								X	X						
ZZZZZZ	1.00	11:16																	
KQ1614557-03	1.00	11:42		X								X	X						
KQ1614557-01	1.00	11:44		X									X						
KQ1614557-02	1.00	11:46		X									X						
KQ1614557-04	1.00	11:49										X							
KQ1614557-05	1.00	11:51										X							
K1611838-084	1.00	11:54		X								X	X						
K1611838-085	1.00	11:57		X								X	X						
K1611838-086	1.00	11:59		X								X	X						
K1611838-086L	5.00	12:02		X								X	X						
CCV2	1.00	12:04										X	X						
CCV2	1.00	12:07		X															
CCB2	1.00	12:10		X								X	X						
K1611838-086A	1.00	12:12		X								X	X						
ZZZZZZ	1.00	12:15																	
ZZZZZZ	1.00	12:17																	
ZZZZZZ	1.00	12:20																	
ZZZZZZ	5.00	12:22																	
ZZZZZZ	1.00	12:25																	

Metals

- 14 -

ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 120216a

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-MS-04

Method: MS

Start Date: 12/2/2016

End Date: 12/2/2016

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N				
Blank	1.0	14:32		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
Standard 1	1.0	14:37		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ICV1	1.0	14:42		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
CCV1	1.0	14:47		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ICB1	1.0	14:52		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
CCB1	1.0	14:57		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
LLICVW1	1.0	15:02		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ICS-A1	1.0	15:07		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ICS-AB1	1.0	15:12		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ZZZZZZ	1.0	15:17																													
KQ1614558-01	1.0	15:22		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
K1611838-084	1.0	15:27		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
K1611838-085	1.0	15:32		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
K1611838-086	1.0	15:37		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
K1611838-086L	5.0	15:42		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
K1611838-086A	1.0	15:47		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
KQ1614558-02	1.0	15:52		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
KQ1614558-03	1.0	15:57		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ZZZZZZ	1.0	16:03																													
CCV2	1.0	16:07		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
CCB2	1.0	16:12		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
LLCCVW1	1.0	16:17		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	*		
ZZZZZZ	1.0	16:22																													
ZZZZZZ	1.0	16:29																													
KQ1614558-01	1.0	17:04												X																	
CCV3	1.0	17:09												X																	
ZZZZZZ	1.0	17:14																													
CCB3	1.0	17:19												X																	
LLCCVW2	1.0	17:24												X																	

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
-14-
ANALYSIS RUN LOG

Client: Teck American Incorporated

Service Request: K1611838

Project No.: NA

Run Number: 120216a

Project Name: UCR - 2016 Sturgeon Tissue Study

Instrument ID Number: K-ICP-MS-04

Method: MS

Start Date: 12/2/2016

End Date: 12/2/2016

Sample No.	D/F	Time	% R	Analytes															
				B	A	L	M	O	P	P	P	S	S	SN	S	T	U		
Blank	1.00	14:32					X							X			X		
Standard 1	1.00	14:37				X								X			X		
ICV1	1.00	14:42				X								X			X		
CCV1	1.00	14:47				X								X			X		
ICB1	1.00	14:52				X								X			X		
CCB1	1.00	14:57				X								X			X		
LLICVW1	1.00	15:02				X								X			X		
ICS-A1	1.00	15:07				X								X			X		
ICS-AB1	1.00	15:12				X								X			X		
ZZZZZZ	1.00	15:17																	
KQ1614558-01	1.00	15:22				X								X			X		
K1611838-084	1.00	15:27				X								X			X		
K1611838-085	1.00	15:32				X								X			X		
K1611838-086	1.00	15:37				X								X			X		
K1611838-086L	5.00	15:42				X								X			X		
K1611838-086A	1.00	15:47				X								X			X		
KQ1614558-02	1.00	15:52				X								X			X		
KQ1614558-03	1.00	15:57				X								X			X		
ZZZZZZ	1.00	16:03																	
CCV2	1.00	16:07				X								X			X		
CCB2	1.00	16:12				X								X			X		
LLCCVW1	1.00	16:17				X								X			X		
ZZZZZZ	1.00	16:22																	
ZZZZZZ	1.00	16:29																	
KQ1614558-01	1.00	17:04																	
CCV3	1.00	17:09																	
ZZZZZZ	1.00	17:14																	
CCB3	1.00	17:19																	
LLCCVW2	1.00	17:24																	

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: _____
 Lab Code: ALSK Case No.: _____ NRAS No.: _____ SDG NO.: K1611838
 ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 12/02/2016 End Date: 12/02/2016

Sample No.	Client ID	Time	Internal Standards %RI For:							
			Element Li-S_6 Q	Element Ge KED1 Q	Element Ge STD Q	Element Ge KED3 Q	Element Ge KED2 Q	Element Sc KED2 Q		
Blank	Blank	1432	100	100	100	100	100	100		
Standard 1	Standard 1	1437	101	100	100	98	100	100		
ICV1	ICV	1442	99	100	97	98	100	100		
CCV1	CCV	1447	100	94	98	98	100	100		
ICB1	ICB	1452	98	99	98	97	100	100		
CCB1	CCB	1457	99	99	98	96	100	99		
LLICVW1	LLICVW1	1502	99	99	97	96	99	98		
ICS-A1	ICSA	1507	94	90	89	88	88	93		
ICS-AB1	ICSAB	1512	94	88	89	89	90	95		
ZZZZZ	ZZZZZ	1517								
KQ1614558-01	Method Blank	1522	101	95	96	98	97	99		
K1611838-084	Homogenization	1527	97	99	95	98	100	100		
K1611838-085	Homogenization	1532	101	99	98	99	99	99		
K1611838-086	Homogenization	1537	98	98	96	98	100	100		
K1611838-086L	Homogenization	1542	101	100	97	96	100	99		
K1611838-086A	Homogenization	1547	100	100	97	99	100	101		
KQ1614558-02	Lab Control	1552	101	101	97	97	99	99		
KQ1614558-03	Duplicate Lab	1557	99	94	97	98	98	98		
ZZZZZ	ZZZZZ	1603								
CCV2	CCV	1607	98	97	95	96	97	98		
CCB2	CCB	1612	97	98	94	96	97	97		
LLCCVW1	LLCCVW1	1617	99	97	95	95	97	96		
ZZZZZ	ZZZZZ	1622								
ZZZZZ	ZZZZZ	1629								
KQ1614558-01	Method Blank	1704				94				
CCV3	CCV	1709				94				
ZZZZZ	ZZZZZ	1714								
CCB3	CCB	1719				95				
LLCCVW2	LLCCVW2	1724				95				



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Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: _____
 Lab Code: ALSK Case No.: _____ NRAS No.: _____ SDG NO.: K1611838
 ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 12/02/2016 End Date: 12/02/2016

Sample No.	Client ID	Time	Internal Standards %RI For:																	
			Element In KED2	Q	Element Lu KED2	Q	Element Th KED2	Q	Element	Q	Element	Q								
Blank	Blank	1432	100		100		100													
Standard 1	Standard 1	1437	98		102		101													
ICV1	ICV	1442	99		101		102													
CCV1	CCV	1447	99		101		101													
ICB1	ICB	1452	99		101		100													
CCB1	CCB	1457	98		102		99													
LLICVW1	LLICVW1	1502	99		100		100													
ICS-A1	ICSA	1507	89		94		92													
ICS-AB1	ICSAB	1512	90		95		95													
ZZZZZZ	ZZZZZZ	1517																		
KQ1614558-01	Method Blank	1522	97		101		99													
K1611838-084	Homogenization	1527	98		101		101													
K1611838-085	Homogenization	1532	97		99		99													
K1611838-086	Homogenization	1537	97		98		99													
K1611838-086L	Homogenization	1542	99		100		100													
K1611838-086A	Homogenization	1547	100		101		101													
KQ1614558-02	Lab Control	1552	100		102		100													
KQ1614558-03	Duplicate Lab	1557	97		100		100													
ZZZZZZ	ZZZZZZ	1603																		
CCV2	CCV	1607	99		99		98													
CCB2	CCB	1612	96		98		97													
LLCCVW1	LLCCVW1	1617	96		98		98													
ZZZZZZ	ZZZZZZ	1622																		
ZZZZZZ	ZZZZZZ	1629																		
KQ1614558-01	Method Blank	1704																		
CCV3	CCV	1709																		
ZZZZZZ	ZZZZZZ	1714																		
CCB3	CCB	1719																		
LLCCVW2	LLCCVW2	1724																		



Daily Performance Report

Sample ID: Daily Performance Check

Sample Date/Time: Friday, December 02, 2016 10:09:05

Sample Description:

Method File: C:\NexIONData\Method\CAS Daily Performance.mth

Dataset File: C:\NexIONData\Dataset\Default\Daily Performance Check.4186

MassCal File: C:\NexIONData\MassCal\Default.tun

Conditions File: C:\NexIONData\Conditions\Default.dac

Dual Detector Mode: Pulse

Acq. Dead Time (ns): 35

Current Dead Time (ns): 35

Torch Z position (mm): 0.00

Summary

Analyte Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
Li 7.0	51100.5	51100.458	993.307	1.9	Standard
Be 9.0	13513.1	13513.057	271.479	2.0	Standard
Mg 24.0	40252.8	40252.780	774.185	1.9	Standard
Co 58.9	30742.1	30742.134	957.531	3.1	Standard
In 114.9	69455.4	69455.375	565.942	0.8	Standard
Pb 208.0	56895.1	56895.129	812.620	1.4	Standard
Bi 209.0	48457.9	48457.938	937.281	1.9	Standard
U 238.1	45546.0	45545.963	507.136	1.1	Standard
[CeO 155.9	757.9	0.011	0.000	2.4	Standard
[> Ce 139.9	68277.3	68277.316	557.176	0.8	Standard
[Ce++ 70.0	1503.5	0.022	0.001	4.4	Standard
Bkgd 220.0	0.0	0.000	0.000		Standard

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity
Li	7	52576.573
Be	9	13651.186
Mg	24	40774.106
Co	59	32211.608
In	115	69103.398
Pb	208	56217.721
Bi	209	48097.499
U	238	45438.816
CeO	156	777.354
Ce	140	68289.498
Ce++	70	1519.414
Bkgd	220	0.000

Repeat 2

Analyte	Mass	Meas. Intensity
Li	7	50430.189
Be	9	13381.598
Mg	24	40017.972
Co	59	30982.227
In	115	69951.511
Pb	208	56163.812
Bi	209	47355.024
U	238	45141.208
CeO	156	784.688
Ce	140	68949.323
Ce++	70	1440.073
Bkgd	220	0.000

Repeat 3

Analyte	Mass	Meas. Intensity
Li	7	51210.290
Be	9	13603.807
Mg	24	41258.159
Co	59	30706.967
In	115	70129.045

Pb	208	57640.243
Bi	209	48906.237
U	238	46357.092
CeO	156	747.353
Ce	140	68425.480
Ce++	70	1446.740
Bkgd	220	0.000

Repeat 4

Analyte	Mass	Meas. Intensity
Li	7	49976.599
Be	9	13114.016
Mg	24	39942.428
Co	59	29750.947
In	115	69294.320
Pb	208	56566.513
Bi	209	48113.552
U	238	45121.814
CeO	156	742.686
Ce	140	67401.965
Ce++	70	1558.085
Bkgd	220	0.000

Repeat 5

Analyte	Mass	Meas. Intensity
Li	7	51308.642
Be	9	13814.676
Mg	24	39271.237
Co	59	30058.924
In	115	68798.599
Pb	208	57887.356
Bi	209	49817.377
U	238	45670.888
CeO	156	737.352
Ce	140	68320.312
Ce++	70	1553.418
Bkgd	220	0.000

Current Conditions File Data

Current Value	Description
0.90	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
16.00	Plasma Gas Flow
-9.50	Deflector Voltage
1600.00	ICP RF Power
-1712.00	Analog Stage Voltage
1200.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-14.50	Cell Rod Offset STD [CRO]
8.00	Discriminator Threshold
-5.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.90	DRC Mode NEB
-6.50	DRC Mode QRO
-1.50	DRC Mode CRO
-10.00	DRC Mode Cell Entrance/Exit Voltage
3.50	Cell Gas A
0.00	Cell Gas B
280.00	Axial Field Voltage
-15.00	KED Mode CRO
-12.00	KED Mode QRO
-4.00	KED Mode Cell Entrance Voltage
-40.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
5.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

CVAA Hg ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471B 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	Cal. Blk.	~	50	~	0.00		0.00
2	Std 0.2	*0.1	50	~	0.20		0.20
3	Std 0.5	*0.25	50	~	0.50		0.50
4	Std 1.0	*0.5	50	~	1.00		1.00
5	Std 5.0	*2.5	50	~	5.00		5.00
6	Std 10.0	*5.0	50	~	10.00		10.00
7	ICV1	**0.25	50	~	4.970		99%
8	ICB1	~	50	~	-0.014		-0.014
9	LLICV	*0.1	50	~	0.223		112%
10	CCV1	*2.5	50	~	4.950		99%
11	CCB1	~	50	~	-0.013		-0.013
12	KQ1614773-01	20	20	~	0.000		0.000
13	KQ1614773-02	20	20	~	4.840		97%
14	K1611838-084	20	20	~	-0.022		-0.022
15	K1611838-085	20	20	~	0.002		0.002
16	K1611838-086	20	20	~	0.014		0.014
17	K1613089-001	20	20	~	0.004		0.004
18	K1613089-001D	20	20	~	0.016		0.016
19	K1613089-001S	20	20	~	4.830		97%
20	K1613090-001	20	20	~	-0.017		-0.017
21	K1613090-001D	20	20	~	0.007		0.007
22	CCV2	~	50	~	5.010		100%
23	CCB2	~	50	~	-0.015		-0.015
24	K1613090-001S	20	20	~	4.830		97%
25	K1613095-001	20	20	~	-0.018		-0.018

Comments:	Cal. Inter. Std* (100ppb) <u>HG2-89-V</u> 2nd Source Inter Std** (1ppm) <u>HG2-89-F</u>
Water Spike level:	5.0 ppb
Method	Spike Level MRL LCS Limit MS Limit RPD Post-Spike @ 5ppb
7470A Water	5.0 µg/L 0.2 µg/L 80-120% 75-125% 20% +/- 20%
245.1 Water	5.0 µg/L 0.2 µg/L 85-115% 70-130% 20% +/- 20%
7470A TCLP	5.0 µg/L 1.0 µg/L 80-120% 75-125% 20% +/- 20%
7471A Soil LCSS	7.1mg/kg 0.02 mg/kg 51-149% 80-120% 20% +/- 20%
7471A Tissue Dorm	0.41 mg/kg 0.02 mg/kg 68-136% 80-120% 20% +/- 20%

Analyst:	Date: 11/14/16	Page Number: 1
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[111416A HG2 WATERS] HG1.XLS

CVAA Hg ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471B 245.1	Service Request #:
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
26	K1613095-001D	20	20	~	0.006		0.006
27	K1613095-001S	20	20	~	5.000		100%
28	K1613805-001 5	5	20	5	-0.017	Cx=-0.024	-0.486
29	K1613805-001A 5	5	20	5	3.500	70%	
30	CCV3	*2.5	50	~	5.190		104%
31	CCB3	~	50	~	-0.016		-0.016
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

Comments:						
Water Spike level:	5.0 ppb					
Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb
7470A Water	5.0 µg/L	0.2 µg/L	80-120%	75-125%	20%	+/- 20%
245.1 Water	5.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	+/- 20%
7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%
7471A Soil LCSS	7.1mg/kg	0.02 mg/kg	51-149%	80-120%	20%	+/- 20%
7471A Tissue Dorm	0.41 mg/kg	0.02 mg/kg	68-136%	80-120%	20%	+/- 20%

Analyst:	Date: 11/14/16	Page Number: 2
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Results

Sample Name	Type	Date/Time	Conc (ppb)	μ Abs	%RSD	Flags
Calibration Blank	STD	11/14/16 11:04:39 am	0.000	-21	142.02	
Replicates			-6.0 -65.0 0.5 -13.7			
Standard #1	STD	11/14/16 11:06:15 am	0.200	809	1.65	
Replicates			805.1 794.2 826.2 810.6			
Standard #2	STD	11/14/16 11:07:52 am	0.500	1906	2.32	
Replicates			1845.0 1905.0 1924.0 1948.6			
Standard #3	STD	11/14/16 11:09:30 am	1.000	3997	2.00	
Replicates			3903.5 3961.9 4041.4 4082.0			
Standard #4	STD	11/14/16 11:11:08 am	5.000	18778	0.29	
Replicates			18768.7 18784.5 18713.9 18845.2			
Standard #5	STD	11/14/16 11:12:46 am	10.000	37812	1.56	
Replicates			36962.8 37870.6 38138.2 38276.4			

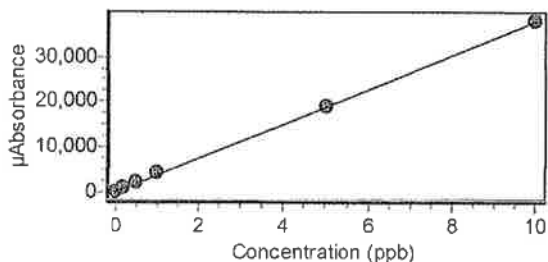
Calibration

Equation: $A = -21.046 + 3780.773C$

R2: 0.99993

SEE: 157.8888

Flags:



ICV1	ICV	11/14/16 11:14:26 am	4.970	18769	2.49	
Replicates			18210.8 18586.0 19012.1 19268.4			
% Recovery			99.40			
ICB1	ICB	11/14/16 11:16:01 am	-0.014	-76	26.09	
Replicates			-52.6 -68.3 -82.5 -98.7			

Preparation Information Benchsheet

Prep Run: 275645 **Prep Workflow:** HgDigAq **Status:** Prepped **Prep Date:** 11/14/2016
Team: Metals **Prep Method:** Method **Current Step:** Digestion 08:00
Analyst: AMCKORNEY **Rush/NPDES:** NPDES **Due Date:** 11/05/2016
Hold Date: 11/14/2016

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1614773-01	Method Blank		20 mL	20 mL			Hg T	
KQ1614773-02	Lab Control Sample		20 mL	20 mL	0.1 mL	177011	Hg T	
K1611838-084	Homogenization Blank	.02	20 mL	20 mL			Hg T	
K1611838-085	Homogenization Blank	.07	20 mL	20 mL			Hg T	
K1611838-086	Homogenization Blank	.02	20 mL	20 mL			Hg T	
K1613089-001	UP-2	.06	20 mL	20 mL			Hg T	
K1613089-001: KQ1614773-03	Duplicate	.06	20 mL	20 mL			Hg T	
K1613089-001: KQ1614773-04	Matrix Spike	.06	20 mL	20 mL	0.1 mL	177011	Hg T	
K1613090-001	WP-2	.23	20 mL	20 mL			Hg T	
K1613090-001: KQ1614773-05	Duplicate	.23	20 mL	20 mL			Hg T	
K1613090-001: KQ1614773-06	Matrix Spike	.23	20 mL	20 mL	0.1 mL	177011	Hg T	
K1613095-001	LLST-2	.11	20 mL	20 mL			Hg T	
K1613095-001: KQ1614773-07	Duplicate	.11	20 mL	20 mL			Hg T	
K1613095-001: KQ1614773-08	Matrix Spike	.11	20 mL	20 mL	0.1 mL	177011	Hg T	
K1613805-001	110916	.06	5 mL	20 mL			Hg T	

15 Total Samples consisting of 7 Client Samples, 6 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires
K-MET Hg Source Standard 1000 ug/L	Spike	177011	12/1/2016

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET K2S2O8 Hg	86934	Digestion	K-MET NaCl Hg	173544
Digestion	K-MET HNO3 Hg	87712	Digestion	K-MET KMnO4 Hg	173545
Digestion	K-MET H2SO4 Hg	89015	Digestion	K-MET SnCl Hg	175145
Digestion	K-MET NH2OH-HCl Hg	173041	Digestion	K-MET 50ml Centrifuge Tube	176553

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value
Digestion	K-BlockDigester-	Corrected Temperature	95 deg C	Digestion	K-BlockDigester-	Thermometer ID 6402541	NONE

	08					08			
Digestion	K-BlockDigester-08	Observed Temperature	95	deg C	Digestion	K-BlockDigester-08	Thermometer Location	19	NONE
Digestion	K-BlockDigester-08	Thermometer Correction factor	0	deg C					

Preparation Steps

<u>Step</u>	<u>Started</u>	<u>Finished</u>	<u>By</u>	<u>Assisted By</u>	<u>Training?</u>	<u>Comments</u>
Digestion	14-NOV-16 08:00	14-NOV-16 10:00	AMCKORNEY		N	

Comments

CAL. STD/CCV SOURCE: HG2-89-V

Review

Reviewed by: 3L Date: 11/14/16

Preparation Information Benchsheet

Prep Run: 275320 **Prep Workflow:** MetDigAqICP **Status:** Prepped **Prep Date:** 11/08/2016
Team: Metals **EPA CLP- **Current Step:** Digestion **11:24**
Analyst: Anna **Prep Method:** METALS **Due Date:** 11/05/2016
 Cheatley **ILM04.0** **Hold Date:** 04/15/2017
Rush/NPDES: N/A**

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1614557-03	Method Blank		25 mL	25 mL			Metals T	1%HNO3,5%HCl
KQ1614557-01	Lab Control Sample		25 mL	25 mL	0.25 mL 0.05 mL 0.125 mL 0.125 mL 0.25 mL	86668 174024 175745 175746 176299	Metals T	1%HNO3,5%HCl
KQ1614557-02	Duplicate Lab Control Sample		25 mL	25 mL	0.25 mL 0.05 mL 0.125 mL 0.125 mL 0.25 mL	86668 174024 175745 175746 176299	Metals T	1%HNO3,5%HCl
KQ1614557-04	Lab Control Sample		25 mL	25 mL	0.25 mL	176423	Metals T	1%HNO3,5%HCl
KQ1614557-05	Duplicate Lab Control Sample		25 mL	25 mL	0.25 mL	176423	Metals T	1%HNO3,5%HCl
K1611838-084	Homogenization Blank	.02	25 mL	25 mL			Metals T	1%HNO3,5%HCl
K1611838-085	Homogenization Blank	.07	25 mL	25 mL			Metals T	1%HNO3,5%HCl
K1611838-086	Homogenization Blank	.02	25 mL	25 mL			Metals T	1%HNO3,5%HCl

8 Total Samples consisting of 3 Client Samples, 0 Client QC Samples, 5 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
Antimony 1000 ug/mL Sb	Spike	174024	7/12/2017	K-MET SS4	Spike	176299	8/15/2017
K-MET QCP-CICV-1	Spike	175746	9/16/2017	Silicon 1000 ug/mL Si	Spike	176423	10/13/2017
K-MET QCP-CICV-3	Spike	175745	9/16/2017	Sulfur 1000 ug/mL S	Spike	86668	12/15/2016

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET HNO3	176450	Digestion	K-MET HCL	176575
Digestion	K-MET 50ml Centrifuge Tube	176553			

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value	
Digestion	K-BlockDigester-05	Corrected Temperature	96	deg C	Digestion	K-BlockDigester-05	Thermometer ID 6402717	NONE
Digestion	K-BlockDigester-05	Correction Factor	0	deg C	Digestion	K-BlockDigester-05	Thermometer Location	19
Digestion	K-BlockDigester-05	Observed Temperature	96	deg C				
		211918066						

Preparation Steps

<u>Step</u>	<u>Started</u>	<u>Finished</u>	<u>By</u>	<u>Assisted By</u>	<u>Training?</u>	<u>Comments</u>
Digestion	08-NOV-16 11:24	08-NOV-16 13:24	Anna Cheatley		N	

Comments

Review

Reviewed by: _____  Date: 11/8/16

Preparation Information Benchsheet

Prep Run: 275325 **Prep Workflow:** MetDigAqMS **Status:** Prepped **Prep Date:** 11/08/2016
Team: Metals **EPA CLP- Current Step:** Digestion **11:24**
Analyst: Anna **Prep Method:** METALS **Due Date:** 11/05/2016
 Cheatley **ILM04.0** **Hold Date:** 04/15/2017
Rush/NPDES: N/A

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1614558-01	Method Blank		25 mL	25 mL			Metals T	1%HNO3 ULTREX
KQ1614558-02	Lab Control Sample		25 mL	25 mL	0.05 mL 0.05 mL 0.25 mL 0.25 mL 0.25 mL	173179 175517 176508 176928 176932	Metals T	1%HNO3 ULTREX
KQ1614558-03	Duplicate Lab Control Sample		25 mL	25 mL	0.05 mL 0.05 mL 0.25 mL 0.25 mL 0.25 mL	173179 175517 176508 176928 176932	Metals T	1%HNO3 ULTREX
K1611838-084	Homogenization Blank	.02	25 mL	25 mL			Metals T	1%HNO3 ULTREX
K1611838-085	Homogenization Blank	.07	25 mL	25 mL			Metals T	1%HNO3 ULTREX
K1611838-086	Homogenization Blank	.02	25 mL	25 mL			Metals T	1%HNO3 ULTREX

6 Total Samples consisting of 3 Client Samples, 0 Client QC Samples, 3 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET Alt 200.8 spiking solution	Spike	173179	12/10/2016	k-met 1/100 QCP-CICV-3	Spike	176508	9/16/2017
K-MET Mo/U 10ppm	Spike	175517	4/29/2017	k-met Sb 5ug/mL Sb	Spike	176932	7/12/2017
k-met 1/100 QCP CICV-1	Spike	176928	9/16/2017				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET 50ml Centrifuge Tube	176553	Digestion	K-MET HNO3 ULTREX	176897

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value
Digestion	K-BlockDigerster-05	Corrected Temperature	96 deg C	Digestion	K-BlockDigerster-05	Thermometer ID 6402717	NONE
Digestion	K-BlockDigerster-05	Correction Factor	0 deg C	Digestion	K-BlockDigerster-05	Thermometer Location	19 NONE
Digestion	K-BlockDigerster-05	Observed Temperature	96 deg C				
		211918066					

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	08-NOV-16 11:24	08-NOV-16 13:24	Anna Cheatley		N	

Comments

Review

Reviewed by: _____ *Z* Date: *11/8/16*

ALS Group USA, Corp.
 dba ALS Environmental
 Analytical Report

Client: Teck American Incorporated
 Project: UCR - 2016 Sturgeon Tissue Study
 Sample Matrix: Animal tissue

Service Request: K1611838
 Date Collected: 08/30/16
 Date Received: 10/04/16

Mercury, Total

Prep Method: METHOD
 Analysis Method: 1631E
 Test Notes:

Units: ng/g
 Basis: Dry

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
EPA-HS-A1	K1611838-009	4.8	0.29	5	10/25/16	10/25/16	278 ✓	
EPA-HS-A1 DUP	K1611838-010	4.7	0.28	5	10/25/16	10/25/16	269 ✓	
EPA-HS-A1 TRIP	K1611838-011	4.6	0.28	5	10/25/16	10/25/16	283 ✓	
EPA-HS-A2	K1611838-020	4.7	0.28	5	10/25/16	10/25/16	242 ✓	
EPA-HS-A3	K1611838-029	4.8	0.29	5	10/25/16	10/25/16	260 ✓	
EPA-HS-B1	K1611838-038	4.5	0.27	5	10/25/16	10/25/16	258 ✓	
EPA-HS-B2	K1611838-047	4.9	0.29	5	10/25/16	10/25/16	309 ✓	
EPA-HS-B3	K1611838-056	4.9	0.30	5	10/25/16	10/25/16	370 ✓	
EPA-HS-C1	K1611838-065	4.7	0.28	5	10/25/16	10/25/16	340 ✓	
EPA-HS-C2	K1611838-074	4.8	0.29	5	10/25/16	10/25/16	343 ✓	
EPA-HS-C3	K1611838-083	4.6	0.28	5	10/25/16	10/25/16	378 ✓	
Method Blank 1	K1611838-MB1	1.0	0.06	1	10/25/16	10/25/16	0.13 -	J
Method Blank 2	K1611838-MB2	1.0	0.06	1	10/25/16	10/25/16	0.09 -	J
Method Blank 3	K1611838-MB3	1.0	0.06	1	10/25/16	10/25/16	0.35 -	J

no impact

REVISED
 2:15 pm, Dec 12, 2016

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal tissue

Service Request: K1611838
Date Collected: 08/30/16
Date Received: 10/04/16
Date Extracted: 10/25/16
Date Analyzed: 10/25/16

Matrix Spike/Duplicate Matrix Spike Summary
 Total Metals

Sample Name: EPA-HS-A1 ✓
Lab Code: K1611838-009MS, K1611838-009MSD
Test Notes:
Units: ng/g
Basis: Dry

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		ALS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Mercury	METHOD	1631E	4.8	244	242	278 ✓	527 ✓	526 ✓	102 ✓	102 ✓	70-130	<1 ✓	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal tissue

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: 10/25/16
Date Analyzed: 10/25/16

Matrix Spike/Duplicate Matrix Spike Summary
 Total Metals

Sample Name: Batch QC Units: ng/g
 Lab Code: K1611597-001MS, K1611597-001MSD Basis: Dry
 Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		ALS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Mercury	METHOD	1631E	4.6	235	231	24.7	261	264	101	104	70-130	1	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Water

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 10/25/16

Ongoing Precision and Recovery (OPR) Sample Summary
 Total Metals

Sample Name: Ongoing Precision and Recovery (Initial) Units: ng/g
 Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	5.00	5.56	111	70-130	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Water

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 10/25/16

Ongoing Precision and Recovery (OPR) Sample Summary
 Total Metals

Sample Name: Ongoing Precision and Recovery (Final) **Units:** ng/g
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	5.00	5.14 ✓	103 ✓	70-130	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Animal tissue

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: 10/25/16
Date Analyzed: 10/25/16

Quality Control Sample (QCS) Summary
 Total Metals

Sample Name: Quality Control Sample
Lab Code:
Test Notes:

Units: ng/g
Basis: Dry

Source: TORT-3

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	292	288 ✓	99 ✓	70-130	

QA Summary Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Calibration									
QA Sample Type	Name/ID	Analyzed Result	Units	Spike Level	% REC	% REC Limit	RSD	RSD Limit	Notes
Calibration	5 pg	4.50	pg	5	90.1	75-125			accept
	10 pg	10.6	pg	10	106	75-125			accept
	25 pg	25.1	pg	25	101	75-125			accept
	100 pg	103	pg	100	103	75-125			accept
	500 pg	505	pg	500	101	75-125			accept
	2500 pg	2,540	pg	2500	101	75-125			accept
	7500 pg	7,450	pg	7500	99.4	75-125			accept
	10000 pg	9,960	pg	10000	99.6	75-125			accept
Calibration Factor		0.0000769	pg/PA				4.90	< 15	accept
Calibration Date		10/25/16							

QA Summary Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Blank Summary							
QA Sample Type	Name/ID	Analyzed Result	Units	Criteria	StDev	StDev Limit	Notes
CB	CB-1	3.90	pg	< 50			accept
	CB-2	3.60	pg	< 50			accept
	CB-3	3.64	pg	< 50			accept
	CB-4	3.41	pg	< 50			accept
Average		3.64	pg	< 25	0.199	< 10	accept
MBA	MB-1	0.249	ng/L	< 0.5			accept
	MB-2	0.0132	ng/L	< 0.5			accept
	MB-3	0.0303	ng/L	< 0.5			accept
	MB-1	0.00198	ng/L	< 0.5			accept
	MB-2	-0.00659	ng/L	< 0.5			accept
	MB-3	0.0931	ng/L	< 0.5			accept
	MB-1	0.0423	ng/L	< 0.5			accept
	MB-2	0.103	ng/L	< 0.5			accept
	MB-3	0.162	ng/L	< 0.5			accept
	MB-1	0.129	ng/L	< 0.5			accept
	MB-2	0.0946	ng/L	< 0.5			accept
	MB-3	0.347	ng/L	< 0.5			accept
	Average		0.105	ng/L		0.106	

Run Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Peak	Peak Area	Analyzed Result (pg)	Final Result (ng/L)	QA Results	Criteria	Notes
1	X	CCB	RINSE		1	55,187	0.602		0.602	< 50	accept
2	Y	CCB	RINSE		1	47,237	-0.00939		-0.00939	< 50	accept
3	X	CB	CB-1		1	50,725	3.90		3.90	< 50	accept
4	Y	CB	CB-2		1	46,909	3.60		3.60	< 50	accept
5	X	CB	CB-3		1	47,384	3.64		3.64	< 50	accept
6	Y	CB	CB-4		1	44,419	3.41		3.41	< 50	accept
7	X	STD	5 pg		1	105,967	4.50		90.1	75-125	accept
8	Y	STD	10 pg		1	185,254	10.6		106	75-125	accept
9	X	STD	25 pg		1	374,566	25.1		101	75-125	accept
10	Y	STD	100 pg		1	1,393,126	103		103	75-125	accept
11	X	STD	500 pg		1	6,620,492	505		101	75-125	accept
12	Y	STD	2500 pg		1	33,061,088	2,540		101	75-125	accept
13	X	STD	7500 pg		1	97,033,504	7,450		99.4	75-125	accept
14	Y	STD	10000 pg		1	129,689,810	9,960		99.6	75-125	accept
15	X	OPR	OPR/VER-1		1	2,009,711	151	6.03	121	77-123	accept
16	Y	QCS	QCS-1		1	1,843,188	138	5.52	110.	77-123	accept
17	X	MBA	MB-1		1	128,209	6.21	0.249	0.249	< 0.5	accept
18	Y	S	K1612598-001		1	262,510	16.5	0.661		< HS	accept
19	X	MS	K1612598-001		1	18,074,210	1,390	55.4	110.	71-125	accept
20	Y	MSD	K1612598-001		1	18,184,844	1,390	55.8	110.	71-125	accept
21	X	S	K1612598-007		1	352,883	23.5	0.939		< HS	accept
22	Y	S	K1612747-003		1	3,624,584	275	55.0		< HS	accept
23	X	S	K1612747-004		1	3,231,889	245	48.9		< HS	accept
24	Y	S	K1612747-008		1	1,261,928	93.3	18.7		< HS	accept
25	X	S	K1612747-012		1	4,623,563	352	70.3		< HS	accept
26	Y	S	K1612747-013		1	5,262,292	401	80.2		< HS	accept
27	X	S	K1612747-017		1	1,935,808	145	29.0		< HS	accept
28	Y	S	K1612747-020		1	1,068,560	78.5	3.14		< HS	accept
29	X	S	K1612747-023		1	948,575	69.3	2.77		< HS	accept
30	Y	MBA	MB-2		1	51,665	0.331	0.0132	0.0132	< 0.5	accept
31	X	S	K1612603-001		1	296,015	19.1	0.764		< HS	accept
32	Y	MS	K1612603-001		1	17,587,099	1,350	53.9	106	71-125	accept
33	X	MSD	K1612603-001		1	17,970,073	1,380	55.1	109	71-125	accept

Run Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Peak	Peak Area	Analyzed Result (pg)	Final Result (ng/L)	QA Results	Criteria	Notes
34	Y	S	K1612603-002		1	415,595	28.3	1.13		< HS	accept
35	X	S	K1612603-003		1	1,240,188	91.7	3.67		< HS	accept
36	Y	S	K1612595-001		1	474,220	32.8	1.31		< HS	accept
37	X	S	K1612601-001		1	164,525	9.00	1.80		< HS	accept
38	Y	S	K1612604-001		1	576,968	40.7	1.63		< HS	accept
39	X	S	K1612604-002		1	522,517	36.5	1.46		< HS	accept
40	Y	S	K1612604-003		1	436,969	29.9	1.20		< HS	accept
41	X	S	K1612604-004		1	325,928	21.4	0.856		< HS	accept
42	Y	S	K1612620-001		1	1,907,119	143	5.72		< HS	accept
43	X	MBA	MB-3		1	57,208	0.757	0.0303	0.0303	< 0.5	accept
44	Y	OPR	OPR/VER-2		1	1,647,708	123	4.92	98.4	77-123	accept
45	X	QCS	QCS-1		1	1,698,320	127	5.08	102	77-123	accept
46	Y	MBA	MB-1		1	48,002	0.0494	0.00198	0.00198	< 0.5	accept
47	X	S	K1612741-004		1	1,710,265	128	5.11		< HS	accept
48	Y	MS	K1612741-004		1	19,379,250	1,490	59.4	109	71-125	accept
49	X	MSD	K1612741-004		1	19,244,260	1,480	59.0	108	71-125	accept
50	Y	S	K1612741-006		1	4,082,395	310.	12.4		< HS	accept
51	X	S	K1612653-001		1	513,477	35.8	7.16		< HS	accept
52	Y	S	K1612653-002		1	126,310	6.07	1.21		< HS	accept
53	X	S	K1612653-003		1	306,098	19.9	0.795		< HS	accept
54	Y	S	K1612653-004		1	146,113	7.59	1.52		< HS	accept
55	X	S	K1612653-005		1	330,364	21.7	4.35		< HS	accept
56	Y	S	K1612653-007		1	193,069	11.2	2.24		< HS	accept
57	X	S	K1612653-008		1	212,456	12.7	0.508		< HS	accept
58	Y	S	K1612743-001		1	157,740	8.48	0.339		< HS	accept
59	X	MBA	MB-2		1	45,214	-0.165	-0.00659	-0.00659	< 0.5	accept
60	Y	S	K1612653-006		1	10,204,002	781	31.2		< HS	accept
61	X	MS	K1612653-006		1	27,525,139	2,110	84.5	106	71-125	accept
62	Y	MSD	K1612653-006		1	26,503,349	2,030	81.3	100.	71-125	accept
63	X	S	K1612743-002		1	199,331	11.7	0.467		< HS	accept
64	Y	S	K1612754-001		1	3,162,195	239	47.9		< HS	accept
65	X	S	K1612754-002		1	567,212	40.0	1.60		< HS	accept
66	Y	S	K1612830-001		1	1,346,916	99.9	3.99		< HS	accept

Run Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Peak	Peak Area	Analyzed Result (pg)	Final Result (ng/L)	QA Results	Criteria	Notes
67	X	S	K1612830-002		1	211,037	12.6	0.503		< HS	accept
68	Y	S	K1612830-003		1	121,850	5.72	0.229		< HS	accept
69	X	S	K1612830-004		1	672,464	48.0	1.92		< HS	accept
70	Y	S	K1612830-005		1	1,235,517	91.3	3.65		< HS	accept
71	X	S	K1612830-006		1	5,320,333	405	16.2		< HS	accept
72	Y	MBA	MB-3		1	77,635	2.33	0.0931	0.0931	< 0.5	accept
73	X	OPR	OPR/VER-3		1	1,697,419	127	5.07	101	77-123	accept
74	Y	QCS	QCS-1		1	1,766,854	132	5.29	106	77-123	accept
75	X	MBA	MB-1		1	61,128	1.06	0.0423	0.0423	< 0.5	accept
76	Y	S	K1612807-001		1	487,415	33.8	1.35		< HS	accept
77	X	MS	K1612807-001		1	16,560,582	1,270	50.8	98.8	71-125	accept
78	Y	MSD	K1612807-001		1	17,246,402	1,320	52.9	103	71-125	accept
79	X	S	K1612807-002		1	8,203,239	627	25.1		< HS	accept
80	Y	S	K1612807-003		1	318,600	20.8	0.834		< HS	accept
81	X	S	K1612746-001		1	320,141	21.0	0.839		< HS	accept
82	Y	S	K1612746-002		1	5,678,490	433	17.3		< HS	accept
83	X	S	K1612746-003		1	4,780,475	364	14.5		< HS	accept
84	Y	S	K1612746-004		1	640,656	45.6	9.12		< HS	accept
85	X	S	K1612746-005		1	18,150,185	1,390	55.6		< HS	accept
86	Y	S	K1612746-006		1	7,006,462	535	21.4		< HS	accept
87	X	S	K1612746-007		1	564,937	39.8	1.59		< HS	accept
88	Y	MBA	MB-2		1	80,859	2.57	0.103	0.103	< 0.5	accept
89	X	S	K1612746-009		1	43,217,367	3,320	133		< HS	accept
90	Y	MS	K1612746-009		1	61,818,893	4,750	190.	114	71-125	accept
91	X	MSD	K1612746-009		1	56,519,121	4,340	174	81.8	71-125	accept
92	Y	S	K1612746-008		1	428,379	29.3	5.86		< HS	accept
93	X	S	K1612746-010		1	321,219	21.0	0.842		< HS	accept
94	Y	S	K1612746-011		1	1,798,994	135	5.38		< HS	accept
95	X	S	K1612746-012		1	577,413	40.7	1.63		< HS	accept
96	Y	S	K1612746-013		1	6,412,752	489	19.6		< HS	accept
97	X	S	K1612746-014		1	5,765,664	439	17.6		< HS	accept
98	Y	S	K1612806-001		1	196,917	11.5	0.460		< HS	accept
99	X	S	K1612806-002		1	7,015,266	535	107		< HS	accept

Run Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method	Peak	Peak Area	Analyzed Result	Final Result	QA Results	Criteria	Notes
				Blank			(pg)	(ng/L)			
100	Y	MBA	MB-3		1	99,992	4.04	0.162	0.162	< 0.5	accept
101	X	OPR	OPR/VER-4		1	1,722,309	129	5.15	103	77-123	accept
102	Y	OPR	OPR-1(SOIL)		1	3,661,884	278	5.56 ✓	111	77-123	accept
103	X	MBA	MB-1		1	131,180	6.44	0.129 ✓	0.129	< 0.5	accept
104	Y	MBA	MB-2		1	108,914	4.73	0.0946 ✓	0.0946	< 0.5	accept
105	X	QCS	QCS-1		1	3,614,355	274	5.48	110.	77-123	accept
106	Y	QCS	TORT-3		1	39,677,694	3,050	288 ✓	98.6	77-123	accept
107	X	S	K1611952-001		1	21,465,962	1,650	31.6		< HS	accept
108	Y	S	K1611952-002		1	5,128,065	390.	7.67		< HS	accept
109	X	MS	K1611952-002		1	69,977,590	5,370	105	99.6	71-125	accept
110	Y	MSD	K1611952-002		1	70,406,694	5,410	107	100.	71-125	accept
111	X	S	K1611952-003		1	6,798,346	519	10.0		< HS	accept
112	Y	S	T1601727-001		1	25,809,567	1,980	38.0		< HS	accept
113	X	S	T1601727-002		1	3,589,426	272	5.29		< HS	accept
114	Y	S	K1611597-001		1	3,465,366	263	24.7		< HS	accept
115	X	MS	K1611597-001		1	36,284,260	2,780	261	101	71-125	accept
116	Y	MSD	K1611597-001		1	37,137,855	2,850	264	104	71-125	accept
117	X	S	K1611617-002		1	7,017,637	536	52.6		< HS	accept
118	Y	S	K1611838-009		1	37,830,450	2,900 ✓	278 ✓		< HS	accept
119	X	MS	K1611838-009		1	70,365,069	5,400 ✓	527 ✓	102	71-125	accept
120	Y	MSD	K1611838-009		1	70,727,232	5,430 ✓	526 ✓	103	71-125	accept
121	X	S	K1611838-010		1	37,730,774	2,900 ✓	269 ✓		< HS	accept
122	Y	S	K1611838-011		1	40,028,766	3,070 ✓	283 ✓		< HS	accept
123	X	OPR	OPR/VER-5		1	1,748,872	131	5.23	105	77-123	accept
124	Y	S	K1611838-020		1	33,337,275	2,560 ✓	242 ✓		< HS	accept
125	X	S	K1611838-029		1	35,313,933	2,710 ✓	260 ✓		< HS	accept
126	Y	S	K1611838-038		1	36,982,268	2,840 ✓	258 ✓		< HS	accept
127	X	S	K1611838-047		1	41,223,003	3,160 ✓	309 ✓		< HS	accept
128	Y	S	K1611838-056		1	48,748,850	3,740 ✓	370 ✓		< HS	accept
129	X	S	K1611838-065		1	47,226,925	3,630 ✓	340 ✓		< HS	accept
130	Y	S	K1611838-074		1	46,817,853	3,590 ✓	343 ✓		< HS	accept
131	X	S	K1611838-083		1	53,561,455	4,110 ✓	378 ✓		< HS	accept
132	Y	S	K1612754-003		1	29,087,608	2,230	744		< HS	accept

Run Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Peak	Peak Area	Analyzed Result (pg)	Final Result (ng/L)	QA Results	Criteria	Notes
133	X	S	K1612754-003		1	6,020,300	520	880.		< HS	reject
134	Y	MBA	MB-3		1	273,125	17.4	0.347	0.347 ✓	< 0.5	accept
135	X	OPR	OPR-2(SOIL)		1	3,388,891	257	5.14 ✓	103	77-123	accept
136	Y	OPR	OPR/VER-6		1	1,781,625	133	5.33	107	77-123	accept

10/25/16

Analyst Comments:
PMT: 527
OFFSET: 3,044
NOISE: 36

QA Summary Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Bias and Precision										
Type	Name/ID	Final Result	Units	Spike Level	Source Result	% REC	% REC Limit	RPD	RPD Limit	Notes
MS	K1612598-001	55.4	ng/L	50.0	0.661	110.	71-125			accept
	K1612603-001	53.9	ng/L	50.0	0.764	106	71-125			accept
	K1612741-004	59.4	ng/L	50.0	5.11	109	71-125			accept
	K1612653-006	84.5	ng/L	50.0	31.2	106	71-125			accept
	K1612807-001	50.8	ng/L	50.0	1.35	98.8	71-125			accept
	K1612746-009	190.	ng/L	50.0	133	114	71-125			accept
	K1611952-002	105	ng/L	97.8	7.67	99.6	71-125			accept
	K1611597-001	261	ng/L	235	24.7	101	71-125			accept
	K1611838-009	527	ng/L	244	278	102	71-125			accept
MSD	K1612598-001	55.8	ng/L	50.0	0.661	110.	71-125	0.612	< 24	accept
	K1612603-001	55.1	ng/L	50.0	0.764	109	71-125	2.16	< 24	accept
	K1612741-004	59.0	ng/L	50.0	5.11	108	71-125	0.701	< 24	accept
	K1612653-006	81.3	ng/L	50.0	31.2	100.	71-125	3.79	< 24	accept
	K1612807-001	52.9	ng/L	50.0	1.35	103	71-125	4.07	< 24	accept
	K1612746-009	174	ng/L	50.0	133	81.8	71-125			accept
	K1611952-002	107	ng/L	99.0	7.67	100.	71-125			accept
	K1611597-001	264	ng/L	231	24.7	104	71-125			accept
	K1611838-009	526	ng/L	242	278	103	71-125			accept
OPR	OPR/VER-1	6.03	ng/L	5		121	77-123			accept
	OPR/VER-2	4.92	ng/L	5.0		98.4	77-123			accept
	OPR/VER-3	5.07	ng/L	5.0		101	77-123			accept
	OPR/VER-4	5.15	ng/L	5.0		103	77-123			accept
	OPR-1(SOIL)	5.56	ng/L	5.0		111	77-123			accept

QA Summary Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Bias and Precision										
Type	Name/ID	Final Result	Units	Spike Level	Source Result	% REC	% REC Limit	RPD	RPD Limit	Notes
OPR	OPR/VER-5	5.23	ng/L	5.0		105	77-123			accept
	OPR-2(SOIL)	5.14	ng/L	5.0		103	77-123			accept
	OPR/VER-6	5.33	ng/L	5.0		107	77-123			accept
QCS	QCS-1	5.48	ng/L	5.0		110.	77-123			accept
	TORT-3	288	ng/L	292		98.6	77-123			accept

Run Information Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Sample Vol/Wt	Dilution Vol (ml)	Analyzed Vol (ml)	Expected Value	Notes
1	X	CCB	RINSE						
2	Y	CCB	RINSE						
3	X	CB	CB-1						
4	Y	CB	CB-2						
5	X	CB	CB-3						
6	Y	CB	CB-4						
7	X	STD	5 pg					5	
8	Y	STD	10 pg					10	
9	X	STD	25 pg					25	
10	Y	STD	100 pg					100	
11	X	STD	500 pg					500	
12	Y	STD	2500 pg					2500	
13	X	STD	7500 pg					7500	
14	Y	STD	10000 pg					10000	
15	X	OPR	OPR/VER-1		25	25	25	5	
16	Y	QCS	QCS-1		25	25	25	5	
17	X	MBA	MB-1		250	250	25		
18	Y	S	K1612598-001		250	250	25		
19	X	MS	K1612598-001		250	250	25	50.0	
20	Y	MSD	K1612598-001		250	250	25	50.0	
21	X	S	K1612598-007		250	250	25		
22	Y	S	K1612747-003		250	250	5.0		
23	X	S	K1612747-004		250	250	5.0		
24	Y	S	K1612747-008		250	250	5.0		
25	X	S	K1612747-012		250	250	5.0		
26	Y	S	K1612747-013		250	250	5.0		
27	X	S	K1612747-017		250	250	5.0		
28	Y	S	K1612747-020		250	250	25		
29	X	S	K1612747-023		250	250	25		
30	Y	MBA	MB-2		250	250	25		
31	X	S	K1612603-001		250	250	25		
32	Y	MS	K1612603-001		250	250	25	50.0	
33	X	MSD	K1612603-001		250	250	25	50.0	

Run Information Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Sample Vol/Wt	Dilution Vol (ml)	Analyzed Vol (ml)	Expected Value	Notes
34	Y	S	K1612603-002		250	250	25		
35	X	S	K1612603-003		250	250	25		
36	Y	S	K1612595-001		250	250	25		
37	X	S	K1612601-001		50	250	25		
38	Y	S	K1612604-001		250	250	25		
39	X	S	K1612604-002		250	250	25		
40	Y	S	K1612604-003		250	250	25		
41	X	S	K1612604-004		250	250	25		
42	Y	S	K1612620-001		250	250	25		
43	X	MBA	MB-3		250	250	25		
44	Y	OPR	OPR/VER-2		25	25	25	5.0	
45	X	QCS	QCS-1		25	25	25	5.0	
46	Y	MBA	MB-1		250	250	25		
47	X	S	K1612741-004		250	250	25		
48	Y	MS	K1612741-004		250	250	25	50.0	
49	X	MSD	K1612741-004		250	250	25	50.0	
50	Y	S	K1612741-006		250	250	25		
51	X	S	K1612653-001		50	250	25		
52	Y	S	K1612653-002		50	250	25		
53	X	S	K1612653-003		250	250	25		
54	Y	S	K1612653-004		50	250	25		
55	X	S	K1612653-005		50	250	25		
56	Y	S	K1612653-007		50	250	25		
57	X	S	K1612653-008		250	250	25		
58	Y	S	K1612743-001		250	250	25		
59	X	MBA	MB-2		250	250	25		
60	Y	S	K1612653-006		250	250	25		
61	X	MS	K1612653-006		250	250	25	50.0	
62	Y	MSD	K1612653-006		250	250	25	50.0	
63	X	S	K1612743-002		250	250	25		
64	Y	S	K1612754-001		250	250	5.0		
65	X	S	K1612754-002		250	250	25		
66	Y	S	K1612830-001		500	500	25		

Run Information Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Sample Vol/Wt	Dilution Vol (ml)	Analyzed Vol (ml)	Expected Value	Notes
67	X	S	K1612830-002		500	500	25		
68	Y	S	K1612830-003		500	500	25		
69	X	S	K1612830-004		500	500	25		
70	Y	S	K1612830-005		500	500	25		
71	X	S	K1612830-006		500	500	25		
72	Y	MBA	MB-3		250	250	25		
73	X	OPR	OPR/VER-3		25	25	25	5.0	
74	Y	QCS	QCS-1		25	25	25	5.0	
75	X	MBA	MB-1		250	250	25		
76	Y	S	K1612807-001		250	250	25		
77	X	MS	K1612807-001		250	250	25	50.0	
78	Y	MSD	K1612807-001		250	250	25	50.0	
79	X	S	K1612807-002		250	250	25		
80	Y	S	K1612807-003		250	250	25		
81	X	S	K1612746-001		250	250	25		
82	Y	S	K1612746-002		250	250	25		
83	X	S	K1612746-003		250	250	25		
84	Y	S	K1612746-004		50	250	25		
85	X	S	K1612746-005		250	250	25		
86	Y	S	K1612746-006		250	250	25		
87	X	S	K1612746-007		250	250	25		
88	Y	MBA	MB-2		250	250	25		
89	X	S	K1612746-009		250	250	25		
90	Y	MS	K1612746-009		250	250	25	50.0	
91	X	MSD	K1612746-009		250	250	25	50.0	
92	Y	S	K1612746-008		50	250	25		
93	X	S	K1612746-010		250	250	25		
94	Y	S	K1612746-011		250	250	25		
95	X	S	K1612746-012		250	250	25		
96	Y	S	K1612746-013		250	250	25		
97	X	S	K1612746-014		250	250	25		
98	Y	S	K1612806-001		250	250	25		
99	X	S	K1612806-002		250	250	5.0		

Run Information Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Sample Vol/Wt	Dilution Vol (ml)	Analyzed Vol (ml)	Expected Value	Notes
100	Y	MBA	MB-3		250	250	25		
101	X	OPR	OPR/VER-4		25	25	25	5.0	
102	Y	OPR	OPR-1(SOIL)		400	40	5.0	5.0	
103	X	MBA	MB-1		400	40	5.0		
104	Y	MBA	MB-2		400	40	5.0		
105	X	QCS	QCS-1		400	40	5.0	5.0	
106	Y	QCS	TORT-3		423	40	1.0	292	
107	X	S	K1611952-001		417	40	5.0		
108	Y	S	K1611952-002		407	40	5.0		
109	X	MS	K1611952-002		409	40	5.0	97.8	
110	Y	MSD	K1611952-002		404	40	5.0	99.0	
111	X	S	K1611952-003		413	40	5.0		
112	Y	S	T1601727-001		417	40	5.0		
113	X	S	T1601727-002		412	40	5.0		
114	Y	S	K1611597-001		425	40	1.0		
115	X	MS	K1611597-001		426	40	1.0	235	
116	Y	MSD	K1611597-001		432	40	1.0	231	
117	X	S	K1611617-002		407	40	1.0		
118	Y	S	K1611838-009		418	40	1.0		
119	X	MS	K1611838-009		410	40	1.0	244	
120	Y	MSD	K1611838-009		413	40	1.0	242	
121	X	S	K1611838-010		430	40	1.0		
122	Y	S	K1611838-011		434	40	1.0		
123	X	OPR	OPR/VER-5		25	25	25	5.0	
124	Y	S	K1611838-020		423	40	1.0		
125	X	S	K1611838-029		417	40	1.0		
126	Y	S	K1611838-038		440	40	1.0		
127	X	S	K1611838-047		409	40	1.0		
128	Y	S	K1611838-056		405	40	1.0		
129	X	S	K1611838-065		426	40	1.0		
130	Y	S	K1611838-074		419	40	1.0		
131	X	S	K1611838-083		435	40	1.0		
132	Y	S	K1612754-003		24.0	40	5.0		

Run Information Report

Batch Number:

Method Number: EPA 1631E

Project Number(s):
Instrument ID: K-AFS-04

Date Analyzed: 10/25/16
Analyst Name: Brian Sheldon

Run	Trap	Type	Name/ID	Method Blank	Sample Vol/Wt	Dilution Vol (ml)	Analyzed Vol (ml)	Expected Value	Notes
133	X	S	K1612754-003		24.0	40	1.0		
134	Y	MBA	MB-3		400	40	5.0		JB 10/21/16
135	X	OPR	OPR-2(SOIL)		400	40	5.0	5.0	
136	Y	OPR	OPR/VER-6		25	25	25	5.0	

Metals Digestion Sheet

StarLims Number: 274829
 Method : 1631EApp. Analysis for : CVAFS

Sample	Matrices	Dry	Wet	Initial Weight (g)	Final Volume (ml)	Matrix
VER-1	Water		x	25ml	25ml	0.5% BrCl
VER-2	Water		x	25ml	25ml	0.5% BrCl
Method Blank		x		0.400	40	0.02N BrCl
Method Blank		x		0.400	40	0.02N BrCl
Method Blank		x		0.400	40	0.02N BrCl
OPR-1		x		0.400	40	0.02N BrCl
QCS-1		x		0.400	40	0.02N BrCl
TORT-3			x	0.427	40	0.02N BrCl
K1611952-001			x	0.429	40	0.02N BrCl
K1611952-002			x	0.427	40	0.02N BrCl
K1611952-003			x	0.427	40	0.02N BrCl
T1601727-001			x	0.445	40	0.02N BrCl
T1601727-002			x	0.427	40	0.02N BrCl
K1611597-001		X	x	0.425	40	0.02N BrCl
K1611617-002		x	x	0.407	40	0.02N BrCl
K1611838-009		x		0.418	40	0.02N BrCl
K1611838-010		x		0.430	40	0.02N BrCl
K1611838-011		x		0.434	40	0.02N BrCl
K1611838-020		x		0.423	40	0.02N BrCl
K1611838-029		x		0.417	40	0.02N BrCl
K1611838-038		x		0.440	40	0.02N BrCl
K1611838-047		x		0.407	40	0.02N BrCl
K1611838-056		x		0.405	40	0.02N BrCl
K1611838-065		x		0.426	40	0.02N BrCl
K1611838-074		x		0.419	40	0.02N BrCl
K1611838-083		x		0.435	40	0.02N BrCl
K1612754-003			x	1.690	40	0.02N BrCl
K1611962-002ms			x	0.425	40	0.02N BrCl
J-002ms			X	0.419	40	0.02N BrCl
K1611838-009ms				0.410	40	0.02N BrCl
J-009ms				0.413	40	0.02N BrCl
K1611597-001ms				0.426	40	0.02N BrCl
J-001ms				0.432	40	0.02N BrCl
OPR-2		x		0.400	40	0.02N BrCl
VER-3	Water		x	25ml	25ml	0.5% BrCl

RE2-77-E (40ppb)

OPR: 0.05ml

BrCl = RE2-73-J

Digestion Acid Mixture: RE2-63-A

1st MS / DMS: 1.0mL
 2nd MS / DMS: 0.1mL

Balance ID: 21B

Comments: TORT-3 Solids: 99.1%

Time Digestion Started: 07:29am

Analyst [Signature] Date 10/25/16

1631Dig.XLS

6/17/2004

Tissue Dry Wt. MRL and MDL Calculations:

Standard MRL = 1.0
 Standard MDL = 0.06
 Standard Dilution = 1
 Standard Sample Mass = 0.40

Weight & Dilution Adjuste

Sample I.D.	Dry Weight	Dilution	MRL	MDL
k1611597-001	0.425	5	4.7	0.28
k1611597-001S	0.426	5	4.7	0.28
k1611597-001SD	0.432	5	4.6	0.28
k1611617-002	0.407	5	4.9	0.29
k1611838-009	0.418	5	4.8	0.29
k1611838-009S	0.410	5	4.9	0.29
k1611838-009SD	0.413	5	4.8	0.29
k1611838-010	0.430	5	4.7	0.28
k1611838-011	0.434	5	4.6	0.28
k1611838-020	0.423	5	4.7	0.28
k1611838-029	0.417	5	4.8	0.29
k1611838-038	0.440	5	4.5	0.27
k1611838-047	0.409	5	4.9	0.29
k1611838-056	0.405	5	4.9	0.30
k1611838-065	0.426	5	4.7	0.28
k1611838-074	0.419	5	4.8	0.29
k1611838-083	0.435	5	4.6	0.28
		1	#DIV/0!	#DIV/0!
		1	#DIV/0!	#DIV/0!
		1	#DIV/0!	#DIV/0!
		1	#DIV/0!	#DIV/0!
		1	#DIV/0!	#DIV/0!
		1	#DIV/0!	#DIV/0!
		1	#DIV/0!	#DIV/0!
Method Blank	0.4000	1	1.0	0.06

ALS Group USA, Corp.
 dba ALS Environmental
 Analytical Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal tissue

Service Request: K1611838
Date Collected: 08/30/16
Date Received: 10/04/16

Fluoride

Prep Method: ALS SOP
 Analysis Method: SM 4500-F-C Modified
 Test Notes:

Units: mg/Kg (ppm)
 Basis: As Received

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
EPA-HS-A1	K1611838-009	1.8	0.9	1	10/20/16	10/21/16	1.5 ✓	J
EPA-HS-A1 DUP	K1611838-010	1.9	1.0	1	10/20/16	10/21/16	2.0 ✓	J
EPA-HS-A1 TRIP	K1611838-011	2.0	1.0	1	10/20/16	10/21/16	1.8 ✓	J
EPA-HS-A2	K1611838-020	1.9	0.9	1	10/20/16	10/21/16	1.7 ✓	J
EPA-HS-A3	K1611838-029	2.0	1.0	1	10/20/16	10/21/16	1.8 ✓	J
EPA-HS-B1	K1611838-038	1.8	0.9	1	10/20/16	10/21/16	1.5 ✓	J
EPA-HS-B2	K1611838-047	1.9	0.9	1	10/20/16	10/21/16	1.7 ✓	J
EPA-HS-B3	K1611838-056	1.9	0.9	1	10/20/16	10/21/16	1.6 ✓	J
EPA-HS-C1	K1611838-065	2.0	1.0	1	10/20/16	10/21/16	1.7 ✓	J
EPA-HS-C2	K1611838-074	1.8	0.9	1	10/20/16	10/21/16	1.7 ✓	J
EPA-HS-C3	K1611838-083	1.9	1.0	1	10/20/16	10/21/16	1.8 ✓	J
Method Blank	K1611838-MB	2.0	1.0	1	10/20/16	10/21/16	ND	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal tissue

Service Request: K1611838
Date Collected: 08/30/16
Date Received: 10/04/16
Date Extracted: 10/20/16
Date Analyzed: 10/21/16

Matrix Spike/Duplicate Matrix Spike Summary
 Inorganic Parameters

Sample Name: EPA-HS-A1 ✓ Units: mg/Kg (ppm)
 Lab Code: K1611838-009MS, K1611838-009DMS Basis: As Received
 Test Notes:

Percent Recovery

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result				CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Fluoride	ALS SOP	SM 4500-F-C Modified	1.8	476	467	1.5 ✓	411 ✓	411 ✓	86 ✓	88 ✓	56-130	<1 ✓	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal tissue

Service Request: K1611838
Date Collected: 08/30/16
Date Received: 10/04/16
Date Extracted: 10/20/16
Date Analyzed: 10/21/16

Duplicate Summary
 Inorganic Parameters

Sample Name: EPA-HS-A1 ✓
Lab Code: K1611838-009DUP
Test Notes:

Units: mg/Kg (ppm)
Basis: As Received

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Fluoride	ALS SOP	SM 4500-F-C Modified	1.8	1.5 ✓	1.7 ✓	1.6	13 ✓	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Animal tissue

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: 10/20/16
Date Analyzed: 10/21/16

Laboratory Control Sample Summary
 Inorganic Parameters

Sample Name: Lab Control Sample
Lab Code: K1611838-LCS
Test Notes:

Units: mg/Kg (ppm)
Basis: As Received

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Fluoride	ALS SOP	SM 4500-F-C Modified	85.0	89.9 ✓	106 ✓	85-115	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Analyzed: 10/21/16

EPA Method
 Units: mg/L (ppm)

CONTINUING CALIBRATION VERIFICATION (CCV)

	True Value	Measured Value	Percent Recovery
CCV 1 Result	5.0	5.11	102
CCV 2 Result	5.0	5.08 ✓	102 ✓
CCV 3 Result	5.0	5.06 ✓	101 ✓
CCV 4 Result	5.0	5.11 ✓	102 ✓
CCV 5 Result	5.0	4.92 ✓	98 ✓

CONTINUING CALIBRATION BLANK (CCB)

	MRL	Blank Value
CCB 1 Result	0.2	ND
CCB 2 Result	0.2	ND
CCB 3 Result	0.2	ND
CCB 4 Result	0.2	ND
CCB 5 Result	0.2	0.13J

no qual

Analytical Results Summary

Instrument Name: K-ISE-01 Analyst: ACHEATLEY Analysis Lot: 519883 Method/Testcode: SM 4500-F-C Modified/F

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	As Received*	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC#	Tier
K1611838-009	Fluoride	N/A		Animal Tissue	0.16 mg/L	1.50 ✓	170 mg/Kg U	1	170	170			10/21/16 09:20:00	N	V
K1611838-010	Fluoride	N/A		Animal Tissue	0.21 mg/L	2.03 ✓	160 mg/Kg U	1	160	160			10/21/16 09:20:00	N	V
K1611838-011	Fluoride	N/A		Animal Tissue	0.19 mg/L	1.82 ✓	170 mg/Kg U	1	170	170			10/21/16 09:20:00	N	V
K1611838-020	Fluoride	N/A		Animal Tissue	0.18 mg/L	1.67 ✓	170 mg/Kg U	1	170	170			10/21/16 09:20:00	N	V
K1611838-029	Fluoride	N/A		Animal Tissue	0.18 mg/L	1.80 ✓	160 mg/Kg U	1	160	160			10/21/16 09:20:00	N	V
K1611838-038	Fluoride	N/A		Animal Tissue	0.18 mg/L	1.54 ✓	150 mg/Kg U	1	150	150			10/21/16 09:20:00	N	V
K1611838-047	Fluoride	N/A		Animal Tissue	0.18 mg/L	1.70 ✓	160 mg/Kg U	1	160	160			10/21/16 09:20:00	N	V
K1611838-056	Fluoride	N/A		Animal Tissue	0.17 mg/L	1.58 ✓	170 mg/Kg U	1	170	170			10/21/16 09:20:00	N	V
K1611838-065	Fluoride	N/A		Animal Tissue	0.18 mg/L	1.72 ✓	130 mg/Kg U	1	130	130			10/21/16 09:20:00	N	V
K1611838-074	Fluoride	N/A		Animal Tissue	0.19 mg/L	1.68 ✓	130 mg/Kg U	1	130	130			10/21/16 09:20:00	N	V
K1611838-083	Fluoride	N/A		Animal Tissue	0.18 mg/L	1.79 ✓	140 mg/Kg U	1	140	140			10/21/16 09:20:00	N	V
KQ1613452-01	Fluoride	DUP	K1611838-009	Animal Tissue	0.17 mg/L	1.65 ✓	170 mg/Kg U	1	170	170	NC		10/21/16 09:20:00	N	V
KQ1613452-02	Fluoride	MS	K1611838-009	Animal Tissue	43.20 mg/L	411.43 ✓	1720 mg/Kg U	1	170	170	86		10/21/16 09:20:00	N	V
KQ1613452-03	Fluoride	DMS	K1611838-009	Animal Tissue	44.00 mg/L	411.21 ✓	1720 mg/Kg U	1	170	170	88	<1	10/21/16 09:20:00	N	V
KQ1613452-04	Fluoride	LCS		Animal Tissue	8.99 mg/L	89.90 ✓	89.9 mg/Kg U	1	40	40	106		10/21/16 09:20:00	N	V
KQ1613452-05	Fluoride	MB		Animal Tissue	0.08 mg/L	0.80	40 mg/Kg U	1	40	40			10/21/16 09:20:00	N	V
KQ1613562-01	Fluoride	CCB		Animal Tissue	0.08 mg/L		40 mg/Kg U	1	40	40			10/21/16 09:20:00	N	V
KQ1613562-02	Fluoride	CCB		Animal Tissue	0.08 mg/L		40 mg/Kg U	1	40	40			10/21/16 09:20:00	N	V
KQ1613562-03	Fluoride	CCB		Animal Tissue	0.10 mg/L		40 mg/Kg U	1	40	40			10/21/16 09:20:00	N	V
KQ1613562-04	Fluoride	CCB		Animal Tissue	0.13 mg/L		40 mg/Kg U	1	40	40			10/21/16 09:20:00	N	V
KQ1613562-05	Fluoride	CCV		Animal Tissue	5.08 mg/L		5.08 mg/L	1					10/21/16 09:20:00	N	V
KQ1613562-06	Fluoride	CCV		Animal Tissue	5.06 mg/L		5.06 mg/L	1					10/21/16 09:20:00	N	V
KQ1613562-07	Fluoride	CCV		Animal Tissue	5.11 mg/L		5.11 mg/L	1					10/21/16 09:20:00	N	V

* Not adjusted for changes in units
indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

ALS ENVIRONMENTAL

Work Order #.:

Fluoride

Analysis Method 340.2/SM 4500-F C

Prep. Method : CAS SOP

Sample Number	Sample Aliquot, mL	Final Vol. mL	Reading mg/L	Dilution	mg/L Sample Reported	%REC
0.2 STD	20	20	0.205	1.00	0.205	
CCV1	20	20	5.11	1.00	5.110	102
CCB1	20	20	0.0895	1.00	0.090	
MB	20	20	0.0889	1.00	0.089	ISE
LCS	20	20	8.84	1.00	8.840	ISE
K1612110-001	20	20	1.86	1.00	1.860	ISE
K1612110-001d	20	20	1.86	1.00	1.860	ISE
K1612110-001ms	20	20	27.8	1.00	27.800	ISE
K1612110-002	20	20	1.65	1.00	1.650	ISE
K1612110-003	20	20	2.13	1.00	2.130	ISE
K1612110-004	20	20	1.85	1.00	1.850	ISE
K1612110-005	20	20	2.17	1.00	2.170	ISE
K1612110-006	20	20	1.56	1.00	1.560	ISE
CCV2	20	20	5.08	1.00	5.080	102
CCB2	20	20	0.0838	1.00	0.084	
K1612239-001	20	20	0.707	1.00	0.707	ISE
K1612392-001	20	20	0.115	1.00	0.115	ISE
K1612392-002	20	20	0.702	1.00	0.702	ISE
K1612320-001	20	20	0.604	1.00	0.604	ISE
K1612762-001	20	20	0.743	1.00	0.743	ISE
K1612284-001	20	20	2.98	1.00	2.980	ISE
K1612284-002	20	20	2.40	1.00	2.400	ISE
MB	10	10	0.0795	1.00	0.080	Extract
LCS	10	10	8.99	1.00	8.990	Extract
K1611838-009	10	10	0.163	1.00	0.163	Extract

Calibration info. 1 STD 1.0 mg/L 2 STD 10.0 mg/L 3 STD 100 mg/L

1-100ppm Slope: -56.4

1ppm F/2-73-C 10ppm F/2-38-L 100ppm F/2-20-N 1000ppm F/2-3-C

CCV=5 ppm F/2-54-K LCS TV=8.52 mg/L ID# F/2-85-B

Instrument ID# K-02-ISE PROBE ID# F/2-99-I

K12110-1ms=0.5mlx1000ppm/20ml=25

Analyzed By:	ac	10/21/2016	9:20:00 AM
Reviewed By:		<i>[Signature]</i>	<i>[Signature]</i>

Revision 1-R:/WET/ANALYSES/FLUOR/FIN SOLUTION_LJMS

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.:

Fluoride

Analysis Method 340.2/SM 4500-F C

Prep. Method : CAS SOP

Sample Number	Sample Aliquot, mL	Final Vol. mL	Reading mg/L	Dilution	mg/L Sample Reported	%REC
CCV3	20	20	5.06	1.00	5.060	101
CCB3	20	20	0.0838	1.00	0.084	
K1611838-009d	10	10	0.173	1.00	0.173	Extract
K1611838-009ms	10	10	43.2	1.00	43.200	Extract
K1611838-009msd	10	10	44.0	1.00	44.000	Extract
K1611838-010	10	10	0.211	1.00	0.211	Extract
K1611838-011	10	10	0.186	1.00	0.186	Extract
K1611838-020	10	10	0.179	1.00	0.179	Extract
K1611838-029	10	10	0.184	1.00	0.184	Extract
K1611838-038	10	10	0.176	1.00	0.176	Extract
K1611838-047	10	10	0.18	1.00	0.180	Extract
K1611838-056	10	10	0.168	1.00	0.168	Extract
CCV4	20	20	5.11	1.00	5.110	102
CCB4	20	20	0.0952	1.00	0.095	
K1611838-065	10	10	0.175	1.00	0.175	Extract
K1611838-074	10	10	0.192	1.00	0.192	Extract
K1611838-083	10	10	0.184	1.00	0.184	Extract
MB	10	10	0.122	1.00	0.122	Extract
LCS	10	10	8.81	1.00	8.810	Extract
K1612284-003	10	10	2.42	1.00	2.420	Extract
K1612284-003d	10	10	2.66	1.00	2.660	Extract
K1612284-003ms	10	10	29.5	1.00	29.500	Extract
K1612284-003msd	10	10	30.2	1.00	30.200	Extract
0.2 STD	20	20	0.202	1.00	0.202	

		DATE	TIME
Analyzed By:	AC	10/21/2016	9:20:00 AM
Reviewed By:			<i>[Signature]</i>

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.:

Fluoride

Analysis Method 340.2/SM 4500-F C

Prep. Method : CAS SOP

Sample Number	Sample Aliquot, mL	Final Vol. mL	Reading mg/L	Dilution	mg/L Sample Reported
CCV5	20	20	4.92	1.00	4.920
CCB5	20	20	0.127	1.00	0.127

%REC

98

E.O.D.

Analyzed By:	AC	DATE	10/21/2016	TIME	9:20:00 AM
Reviewed By:					10/21/16

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Water
Analysis Method: SM 4500-F- C Modified
Prep Method: None

Service Request: K1611838
Date Collected: 10/17/16 - 10/19/16
Date Received: 10/18/16 - 10/20/16

Units: mg/L
Basis: NA

Fluoride

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
Homogenization Blank	K1611838-084	0.02 J ✓	0.20	0.007	1	12/07/16 09:35	
Homogenization Blank	K1611838-085	0.02 J ✓	0.20	0.007	1	12/07/16 09:35	
Homogenization Blank	K1611838-086	0.02 J ✓	0.20	0.007	1	12/07/16 09:35	
Method Blank	K1611838-MB1	0.05 J ✓	0.20	0.007	1	12/07/16 09:35	

no impact

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Water

Service Request: K1611838
Date Collected: N/A
Date Received: N/A
Date Analyzed: 12/7/16
Date Extracted: NA

Matrix Spike Summary
Fluoride

Sample Name: Batch QC
Lab Code: K1614589-001
Analysis Method: SM 4500-F- C Modified
Prep Method: None

Units: mg/L
Basis: NA

Matrix Spike
K1614589-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Fluoride	0.64	26.4	25.0	103	74-128

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Water
Analysis Method: SM 4500-F- C Modified
Prep Method: None

Service Request: K1611838
Date Collected: NA
Date Received: NA

Units: mg/L
Basis: NA

Replicate Sample Summary
Fluoride

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1614589-001DUP	0.20	0.007	0.64	0.65	0.645	2	20	12/07/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 12/8/2016 9:40:40 AM

Superset Reference: 16-0000397507 rev 00

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Water

Service Request: K1611838
Date Analyzed: 12/07/16
Date Extracted: NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: SM 4500-F- C Modified
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 526694

Lab Control Sample
K1611838-LCS2

Duplicate Lab Control Sample
K1611838-DLCS2

Analyte Name	Lab Control Sample			Duplicate Lab Control Sample			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Fluoride	8.64 ✓	8.52	101 ✓	8.62 ✓	8.52	101 ✓	87-117	<1 ✓	20

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study

Service Request: K1611838

Continuing Calibration Verification (CCV) Summary

Fluoride

Analysis Method: SM 4500-F- C Modified

Units: mg/L

	Analysis		Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
	Lot	Lab Code					
CCV1	526694	KQ1615975-14	12/07/16 09:35	5.00	4.95 ✓	99 ✓	90-110
CCV2	526694	KQ1615975-15	12/07/16 09:35	5.00	4.97 ✓	99 ✓	90-110
CCV3	526694	KQ1615975-16	12/07/16 09:35	5.00	4.80	96	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study

Service Request:K1611838

Continuing Calibration Blank (CCB) Summary
Fluoride

Analysis Method: SM 4500-F- C Modified

Units:mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	526694	KQ1615975-11	12/07/16 09:35	0.20	0.007	0.03 ✓	J
CCB2	526694	KQ1615975-12	12/07/16 09:35	0.20	0.007	0.03 ✓	J
CCB3	526694	KQ1615975-13	12/07/16 09:35	0.20	0.007	0.04	J

Analytical Results Summary

Instrument Name: K-ISE-01 Analyst: ACHEATLEY Analysis Lot: 526694 Method/Testcode: SM 4500-F- C Modified/F

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	As Received*	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
K1611838-084	Fluoride	N/A		Water	0.02 mg/L	0.02	0.02 mg/L	J 1	0.007	0.20			12/7/16 09:35:00	N V
K1611838-085	Fluoride	N/A		Water	0.02 mg/L	0.02	0.02 mg/L	J 1	0.007	0.20			12/7/16 09:35:00	N V
K1611838-086	Fluoride	N/A		Water	0.02 mg/L	0.02	0.02 mg/L	J 1	0.007	0.20			12/7/16 09:35:00	N V
K1614589-001	Fluoride	N/A		Drinking Water	0.64 mg/L	0.64	0.64 mg/L	I 1	0.007	0.20			12/7/16 09:35:00	N I
K1614700-001	Fluoride	N/A		Biosolids Solids	58.20 mg/L	5437.18	6030 mg/Kg	2	50	100			12/7/16 13:00:00	N II
K1614700-002	Fluoride	N/A		Biosolids Solids	28.60 mg/L	4929.26	5240 mg/Kg	4	80	180			12/7/16 13:00:00	N II
KQ1615954-01	Fluoride	DUP	K1614700-002	Biosolids Solids	33.20 mg/L	5436.26	5780 mg/Kg	4	70	170	10		12/7/16 13:00:00	N II
KQ1615954-02	Fluoride	MS	K1614700-002	Biosolids Solids	30.90 mg/L	5634.19	5990 mg/Kg	4	80	190	74		12/7/16 13:00:00	N II
KQ1615954-03	Fluoride	DMS	K1614700-002	Biosolids Solids	32.80 mg/L	5997.01	6370 mg/Kg	4	80	190	114	43*	12/7/16 13:00:00	N II
KQ1615954-04	Fluoride	LCS		Biosolids Solids	8.14 mg/L	366.30	366 mg/Kg	I 1	18	45	86		12/7/16 13:00:00	N II
KQ1615954-05	Fluoride	MB		Biosolids Solids	0.05 mg/L	2.38	44 mg/Kg	U 1	18	44			12/7/16 13:00:00	N II
KQ1615975-01	Fluoride	CCB		Biosolids Solids	0.03 mg/L	1.28	40 mg/Kg	U 1	16	40			12/7/16 09:35:00	N II
KQ1615975-02	Fluoride	CCB		Biosolids Solids	0.03 mg/L	1.04	40 mg/Kg	U 1	16	40			12/7/16 09:35:00	N II
KQ1615975-03	Fluoride	CCB		Biosolids Solids	0.04 mg/L	1.56	40 mg/Kg	U 1	16	40			12/7/16 13:00:00	N II
KQ1615975-04	Fluoride	CCV		Biosolids Solids	4.95 mg/L	198.00	4.95 mg/L	I 1					12/7/16 09:35:00	N II
KQ1615975-05	Fluoride	CCV		Biosolids Solids	4.97 mg/L	198.80	4.97 mg/L	I 1					12/7/16 09:35:00	N II
KQ1615975-06	Fluoride	CCV		Biosolids Solids	4.80 mg/L	192.00	4.80 mg/L	I 1					12/7/16 13:00:00	N II
KQ1615975-07	Fluoride	DUP	K1614589-001	Drinking Water	0.65 mg/L	0.65	0.65 mg/L	I 1	0.007	0.20	2		12/7/16 09:35:00	N I
KQ1615975-08	Fluoride	MS	K1614589-001	Drinking Water	26.40 mg/L	26.40	26.4 mg/L	I 1	0.007	0.20	103		12/7/16 09:35:00	N I
KQ1615975-09	Fluoride	LCS		Drinking Water	8.64 mg/L	8.64	8.64 mg/L	I 1	0.007	0.20	101		12/7/16 09:35:00	N I
KQ1615975-10	Fluoride	DI/CS		Drinking Water	8.62 mg/L	8.62	8.62 mg/L	I 1	0.007	0.20	101	<1	12/7/16 09:35:00	N I

* Not adjusted for changes in units
 # indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

ALS ENVIRONMENTAL

Work Order #.:

Fluoride

Analysis Method 340.2/SM 4500-F C

Prep. Method : CAS SOP

Sample Number	Sample Aliquot, mL	Final Vol. mL	Reading mg/L	Dilution	mg/L Sample Reported	%REC
0.2 STD	20	20	0.213	1.00	0.213	107
CCV1	20	20	4.95	1.00	4.950	99
CCB1	20	20	0.0321	1.00	0.032	
MB	20	20	0.0253	1.00	0.025	ISE
LCS	20	20	8.64	1.00	8.640	ISE
LCS D	20	20	8.62	1.00	8.620	ISE
K1611838-084	20	20	0.0172	1.00	0.017	ISE
K1611838-085	20	20	0.0168	1.00	0.017	ISE
K1611838-086	20	20	0.0152	1.00	0.015	ISE
K1614589-001	20	20	0.637	1.00	0.637	ISE
K1614589-001d	20	20	0.652	1.00	0.652	ISE
K1614589-001ms	20	20	26.4	1.00	26.400	ISE
MB	20	20	0.0535	1.00	0.054	Bellack
CCV2	20	20	4.97	1.00	4.970	99
CCB2	20	20	0.026	1.00	0.026	
LCS	20	20	8.14	1.00	8.140	Bellack
K1614700-001	10	20	58.2	2.00	116.400	Bellack
K1614700-002	5	20	28.6	4.00	114.400	Bellack
K1614700-002d	5	20	33.2	4.00	132.800	Bellack
K1614700-002ms	5	20	30.9	4.00	123.600	Bellack
K1614700-002msd	5	20	32.8	4.00	131.200	Bellack
0.2 std	20	20	0.213	1.00	0.213	107
CCV3	20	20	4.8	1.00	4.800	96
CCB3	20	20	0.0386	1.00	0.039	E.O.D

Calibration info. 1 STD 1.0 mg/L 2 STD 10.0 mg/L 3 STD 100 mg/L

1-100ppm Slope: -58.9

1ppm F/2-73-D 10 PPM F/2-38-M 100ppm F/2-20-O 1000 ppm F/2-3-E

CCV=5 ppm F/2-54-L ICV F/2-73-D

LCS TV=8.52mg/L F/2-85-C PROBE ID# F/2-99-J

Instrument ID# K-ISE-01 K1614589-001MS=05MLX1000PPM/20ML=25

Analyzed By: ac DATE 12/7/2016 TIME 9:35:00 AM

Reviewed By: [Signature]

Revision 1-R:/WET/ANALYSES/FLUOR/FIN SOLUTION_LIMS

ALS Group USA, Corp.
 dba ALS Environmental
 Analytical Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal tissue

Service Request: K1611838
Date Collected: 08/30/16
Date Received: 10/04/16

Total Inorganic Arsenic

Prep Method: Method
 Analysis Method: 1632A
 Test Notes:

Units: ug/g
 Basis: Dry

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
EPA-HS-A1	K1611838-009	0.08	0.03	1	11/22/16	11/23/16	ND	✓
EPA-HS-A1 DUP	K1611838-010	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-A1 TRIP	K1611838-011	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-A2	K1611838-020	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-A3	K1611838-029	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-B1	K1611838-038	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-B2	K1611838-047	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-B3	K1611838-056	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-C1	K1611838-065	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-C2	K1611838-074	0.08	0.03	1	11/22/16	11/23/16	ND	
EPA-HS-C3	K1611838-083	0.08	0.03	1	11/22/16	11/23/16	ND	
Method Blank	K1611838-MB1	0.08	0.03	1	11/22/16	11/23/16	ND	
Method Blank	K1611838-MB2	0.08	0.03	1	11/22/16	11/23/16	ND	
Method Blank	K1611838-MB3	0.08	0.03	1	11/22/16	11/23/16	ND	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal tissue

Service Request: K1611838
Date Collected: 08/30/16
Date Received: 10/04/16
Date Extracted: 11/22/16
Date Analyzed: 11/23/16

Total Metals
 Matrix Spike/Duplicate Matrix Spike Summary

Sample Name: EPA-HS-A1 ✓ Units: ug/g
Lab Code: K1611838-009MS, K1611838-009MSD Basis: Dry
Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		Method Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Inorganic Arsenic	Method	1632A	0.32	2.34	2.40	ND ✓	1.49 ✓	2.12 ✓	64 ✓	88 ✓	50-150	35 ✓	

= 40

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Water

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted:
Date Analyzed:

Ongoing Precision and Recovery (OPR) Sample Summary
 Total Metals

Sample Name: Ongoing Precision and Recovery Units: ug/g
Basis: NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	Method	1632A	0.200	0.167 ✓	84 ✓	50-150	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Water

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 11/23/16

Calibration Verification (CALVER) Sample Summary
 Total Metals

Sample Name: CALVER 1

Units: ug/L
 Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	NA	1632A	0.20	0.173	86	80-120	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Water

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 11/23/16

Calibration Verification (CALVER) Sample Summary
 Total Metals

Sample Name: CALVER 2 Units: ug/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	NA	1632A	0.20	0.164 ✓	82 ✓	80-120	

ALS Group USA, Corp.
 dba ALS Environmental
 QA/QC Report

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
LCS Matrix: Water

Service Request: K1611838
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 11/23/16

Calibration Verification (CALVER) Sample Summary
 Total Metals

Sample Name: CALVER 3

Units: ug/L
 Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	NA	1632A	0.20	0.162	81	80-120	

Method 1632: (circle species) TIA ^s AsIII MMA DMA	Service Request #: K1611838, K1613815, K1613893, K1614045, K1614164
Analysis For: As	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g)	Digest Volume (mL)	Aliquot Volume (mL)	Dilution Factor	peak area	net ng	net ng/L (avg (K _s))	Comments
1	CALBLK 0	~	~	50	~	38.8300	0.00	0.0	
2	2 ng wk std A	~	~	50	~	211.7430	2.22	44.4	
3	10 ng wk std A	~	~	50	~	823.3965	10.07	201.3	
4	20 ng wk std A	~	~	50	~	1517.2580	18.97	379.4	
5	30 ng wk std A	~	~	50	~	2226.8370	28.07	561.4	
6	CALBLK 1	~	~	50	~	67.6070	0.37	7.4	
7	CALVER 1	~	~	50	~	713.3350	8.65 ✓	173.1	CALVER : 87%
8	CALBLK 2	~	~	50	~	53.1920	0.18	3.7	
9	OPR	0.500	10	2.0	~	1337.5000	16.66 ✓	166.6	OPR: 83%
10	MB1	0.500	10	2.0	~	87.5860	0.63	6.3	
11	MB2	0.500	10	2.0	~	45.6120	0.09	0.9	
12	MB3	0.500	10	2.0	~	63.7680	0.32	3.2	
13	K1611838-009	0.126	10	2.0	~	52.2760	0.17	6.8	
14	K1611838-009S	0.128	40	0.5	4	1105.4310	13.68	2138.2	MS: 91% <i>11/23/11</i>
15	K1611838-009SD	0.125	10	0.5	4	762.7270	9.29 ✓	1486.0	MSD: 62%
16	K1611838-009SD	0.125	40	0.5	4	755.3700	9.19	1470.9	RR-MSD: 61% <i>11/23/11</i>
17	K1611838-009S	0.128	10	0.5	4	1096.4430	13.57 ✓	2120.2	RR MS: 90%
18	K1611838-010	0.126	10	2.0	~	65.1160	0.34	13.4	
19	CALVER 2	~	~	50	~	676.0075	8.18 ✓	163.5	CALVER : 82%
20	CALBLK 3	~	~	50	~	43.9210	0.07	1.3	
21	K1611838-011	0.128	10	2.0	~	59.1680	0.26	10.2	
22	K1611838-020	0.129	10	2.0	~	58.5990	0.25	9.8	
23	K1611838-029	0.128	10	2.0	~	44.0320	0.07	2.6	
24	K1611838-038	0.130	10	2.0	~	59.1960	0.26	10.0	
25	K1611838-047	0.130	10	2.0	~	48.3365	0.12	4.7	

Comments:	wk std A : AA1-34-G	Calibration:	ng	net peak area	Calibration Factor
	wk std B : AA1-35-H		30	2188.0070 ✓	72.9336 ✓
	KBH4 : HG-AAS-3-I		20	1478.4280 ✓	73.9214 ✓
	6M HCl : HG-AAS-3-K		10	784.5665 ✓	78.4567 ✓
	Tris-Buffer : HG-AAS-3-C		2	172.9130 ✓	86.4565 ✓
	K1838-9S=2344	K1838-9SD=2400			77.9420 ✓ CF mean
					6.16 ✓ CF Stdev
	CALVER/MS/MSD : 10ng wk std B				7.91 ✓ RSD

Analyst: <i>[Signature]</i>	Date: 11/23/11	Page Number: 1 of 2
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Method 1632: (circle species) <u>(TIAs)</u> AsIII MMA DMA Analysis For: As	Service Request #: K1611838, K1613815, K1613893, K1614045, K1614164
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DATA

Pos.	SAMPLE NUMBER	Initial Sample (g)	Digest Volume (mL)	Aliquot Volume (mL)	Dilution Factor	peak area	net ng	net ng/L (ng/kg)	Comments
26	K1611838-056	0.127	10	2.0	~	53.9280	0.19	7.6	
27	K1611838-065	0.126	10	2.0	~	48.9880	0.13	5.2	
28	K1611838-074	0.127	10	2.0	~	59.5550	0.27	10.5	
29	K1611838-083	0.125	10	2.0	~	71.7245	0.42	16.9	
30	K1613893-001	0.505	10	2.0	~	50.4600	0.15	1.5	
31	CALVER 3	~	~	50	~	671.7905	8.12	162.4	CALVER : 81%
32	CALBLK 4	~	~	50	~	36.3740	-0.03	-0.6	
33	K1613893-001S	0.505	10	0.5	4	850.3830	10.41	412.4	MS: 69%
34	K1613893-001SD	0.516	10	0.5	4	872.2180	10.69	414.4	MSD: 71%
35	K1613815-001	1.105	20	2.0	~	84.3390	0.58	5.3	
36	K1614045-001	0.784	15	2.0	~	67.9090	0.37	3.6	
37	K1614045-002	1.456	25	2.0	~	75.9600	0.48	4.1	
38	K1614164-001	0.501	10	2.0	~	48.4460	0.12	1.2	
39	CALVER 4	~	~	50	~	667.3130	8.06	161.3	CALVER : 81%
40	CALBLK 5	~	~	50	~	41.5800	0.04	0.7	
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									

Calibration:	wk std A : AA1-34-G	ng	net peak area	Calibration Factor
	wk std B : AA1-35-H	30	2188.0070	72.9336
	KBH4 : HG-AAS-3-I	20	1478.4280	73.9214
	6M HCl : HG-AAS-3-K	10	784.5665	78.4567
	Tris-Buffer : HG-AAS-3-C	2	172.9130	86.4565
	K3893-1S=594			77.9420
	K3893-1SD=581			6.16
				7.91
	CALVER/MS/MSD : 10ng wk std B			RSD

Analyst: <i>Elmer J. McRae</i>	Date: 11/23/16	Page Number: 2 of 2
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Service Request Number(s): K1611838, K1613815, K1613893, K1614045, ~~K1614164~~ Prep. Run Number: 276557

Analysis for: Tissue Extraction for TIAs

DATA

SR #	Sample ID	Freeze Dried Sample (g)	Extraction Sol'n	Amount of Extraction Sol'n (mL)
OPR		0.500	2M HCl	10
MB1		0.500	2M HCl	10
MB2		0.500	2M HCl	10
MB3		0.500	2M HCl	10
K1611838-009		0.126	2M HCl	10
K1611838-009S		0.128	2M HCl	10
K1611838-009SD		0.125	2M HCl	10
K1611838-010		0.126	2M HCl	10
K1611838-011		0.128	2M HCl	10
K1611838-020		0.129	2M HCl	10
K1611838-029		0.128	2M HCl	10
K1611838-038		0.130	2M HCl	10
K1611838-047		0.130	2M HCl	10
K1611838-056		0.127	2M HCl	10
K1611838-065		0.126	2M HCl	10
K1611838-074		0.127	2M HCl	10
K1611838-083		0.125	2M HCl	10
K1613815-001		1.105	2M HCl	20 10 ^{from 11/22/16}
K1613893-001		0.505	2M HCl	10
K1613893-001S		0.505	2M HCl	10
K1613893-001SD		0.516	2M HCl	10
K1614045-001		0.784	2M HCl	15 10 ^{from 11/22/16}
K1614045-002		1.456	2M HCl	25 10 ^{from 11/22/16}
K1614164-001		0.501	2M HCl	10

2M HCl Lot #: HG-AAS-3-K ^{from 11/22/16}
 MS/MSD: 0.15mL AA1-33-E 35-C
 OPR: 0.05mL AA1-33-E 35-C ^{from 11/22/16}

Comments: K-Bal-415

Analyst: Elmabon Meralan 11/22/16

ALS ENVIRONMENTAL

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study
Sample Matrix: Animal Tissue

Service Request No.: K1611838
Date Received: 09/01/16-10/20/16

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eighty-three animal tissue samples were received for analysis at ALS Environmental between 09/01/16 and 10/20/16. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored frozen at -20°C upon receipt at the laboratory. These samples were originally logged under Service Requests K1610185, K1610363, K1610722, and K10932.

General Chemistry Parameters

Fluoride

General Comments:

The sample homogenates were subjected to an aqueous extraction as per EPA Method 300.0. The extract was analyzed using ion specific electrode following SM 4500-F-C.

No other anomalies associated with the analysis of these samples were observed.

Total Metals

Matrix Spike Recovery Exceptions:

The control criteria for matrix spike recovery of Magnesium, Potassium, Sodium, and Sulfur for sample EPA-HS-A1 were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____





Confirmation of Sample Receipt

To:	Dave Enos	From:	Jeff Coronado
Email:	dave.enos@teck.com	Email:	Jeff.Coronado@alsglobal.com
Fax:	509-459-4400	Fax:	360-636-1068
Phone:	509-623-4505	Phone:	360-577-7222 x3330

Samples for analysis have been received by ALS Environmental on 9/ 1/16 - 10/20/16 and assigned our Service Request number **K1611838**. **Please verify the following information and notify me of any corrections as soon as possible.**

The estimated completion date for this work is: 11/10/16

Client: Teck American Incorporated
Project: UCR - 2016 Sturgeon Tissue Study

EDD Required: Yes

Tier: V

Report To: Dave Enos
 Teck American Incorporated
 501 North Riverpoint Blvd., Suite 300
 Spokane, WA 99202

Billing Address: Kris McCaig
 Teck American Incorporated
 501 North Riverpoint Blvd., Suite 300
 Spokane, WA 99202

Comments:

Thank you for your business!

							Misc Out 2	SM 4500-F- C Modified	Subsample
K1611838-001	EPA-HS-05-007-A1	Animal Tissue	8/30/16 1517						
K1611838-002	EPA-HS-06-047-A3	Animal Tissue	9/7/16 1230						
K1611838-003	EPA-HS-09-056-A3	Animal Tissue	9/8/16 1133						
K1611838-004	EPA-HS-10-008-A1	Animal Tissue	8/1/16 1013						
K1611838-005	EPA-HS-10-017-A1	Animal Tissue	9/1/16 0915						
K1611838-006	EPA-HS-10-028-A2	Animal Tissue	9/1/16 1400						
K1611838-007	EPA-HS-10-057-A3	Animal Tissue	9/8/16 1210						
K1611838-008	EPA-HS-10-058-A3	Animal Tissue	9/8/16 1227						
K1611838-009	EPA-HS-A1	Animal Tissue	8/30/16 1517					A	A
K1611838-010	EPA-HS-A1 DUP	Animal Tissue	8/30/16 1517					A	A
K1611838-011	EPA-HS-A1 TRIP	Animal Tissue	8/30/16 1517					A	A
K1611838-012	EPA-HS-08-014-A1	Animal Tissue	8/31/16 1358						
K1611838-013	EPA-HS-08-029-A2	Animal Tissue	9/1/16 1411						
K1611838-014	EPA-HS-08-031-A2	Animal Tissue	9/1/16 1348						

K1611838-015	EPA-HS-09-032-A2	Animal Tissue	9/ 1/16 1326	1631app Hg LL T	1632 As Inorg T	6010C Metals T	6020A Metals T	7470A Hg T	7742 Se T	Archive -20C	Composite	Frz Dry	Frz Dry	Hold	Homogen	Misc Out 1
K1611838-016	EPA-HS-10-024-A2	Animal Tissue	9/ 1/16 1048							A	A				A	
K1611838-017	EPA-HS-10-035-A2	Animal Tissue	9/ 2/16 1130							A	A				A	
K1611838-018	EPA-HS-10-036-A2	Animal Tissue	9/ 7/16 0900							A	A				A	
K1611838-019	EPA-HS-10-043-A3	Animal Tissue	9/ 7/16 1345							A	A				A	
K1611838-020	EPA-HS-A2	Animal Tissue	8/31/16 1358	A	A	A	A		A			A			A	A
K1611838-021	EPA-HS-08-015-A1	Animal Tissue	8/31/16 1410							A	A				A	
K1611838-022	EPA-HS-08-055-A3	Animal Tissue	9/ 8/16 1105							A	A				A	
K1611838-023	EPA-HS-09-018-A1	Animal Tissue	9/ 1/16 0935							A	A				A	
K1611838-024	EPA-HS-10-002-A1	Animal Tissue	8/30/16 1210							A	A				A	
K1611838-025	EPA-HS-10-005-A1	Animal Tissue	8/30/16 1425							A	A				A	
K1611838-026	EPA-HS-10-042-A2	Animal Tissue	9/ 7/16 1330							A	A				A	
K1611838-027	EPA-HS-10-049-A3	Animal Tissue	9/ 7/16 1540							A	A				A	
K1611838-028	EPA-HS-10-052-A3	Animal Tissue	9/ 7/16 1450							A	A				A	

						Misc Out 2	SM 4500-F-C Modified F	Subsample Sub Sample
K1611838-015	EPA-HS-09-032-A2	Animal Tissue	9/1/16 1326					
K1611838-016	EPA-HS-10-024-A2	Animal Tissue	9/1/16 1048					
K1611838-017	EPA-HS-10-035-A2	Animal Tissue	9/2/16 1130					
K1611838-018	EPA-HS-10-036-A2	Animal Tissue	9/7/16 0900					
K1611838-019	EPA-HS-10-043-A3	Animal Tissue	9/7/16 1345					
K1611838-020	EPA-HS-A2	Animal Tissue	8/31/16 1358				A	A
K1611838-021	EPA-HS-08-015-A1	Animal Tissue	8/31/16 1410					
K1611838-022	EPA-HS-08-055-A3	Animal Tissue	9/8/16 1105					
K1611838-023	EPA-HS-09-018-A1	Animal Tissue	9/1/16 0935					
K1611838-024	EPA-HS-10-002-A1	Animal Tissue	8/30/16 1210					
K1611838-025	EPA-HS-10-005-A1	Animal Tissue	8/30/16 1425					
K1611838-026	EPA-HS-10-042-A2	Animal Tissue	9/7/16 1330					
K1611838-027	EPA-HS-10-049-A3	Animal Tissue	9/7/16 1540					
K1611838-028	EPA-HS-10-052-A3	Animal Tissue	9/7/16 1450					

K1611838-029	EPA-HS-A3	Animal Tissue	8/30/16 1210	163 Tapp Hg LL T	1632 As Inorg T	6010C Metals T	6020A Metals T	7470A Hg T	7742 Se T	Archive -20C	Composite	Frz Dry	Hold	Homogen	None Misc Out 1
K1611838-030	EPA-HS-05-016-B1	Animal Tissue	8/31/16 1422							A	A			A	
K1611838-031	EPA-HS-06-038-B3	Animal Tissue	9/7/16 1033							A	A			A	
K1611838-032	EPA-HS-07-011-B1	Animal Tissue	8/31/16 1230							A	A			A	
K1611838-033	EPA-HS-07-030-B2	Animal Tissue	9/1/16 1337							A	A			A	
K1611838-034	EPA-HS-07-051-B3	Animal Tissue	9/7/16 1507							A	A			A	
K1611838-035	EPA-HS-08-009-B1	Animal Tissue	8/31/16 1047							A	A			A	
K1611838-036	EPA-HS-08-040-B3	Animal Tissue	9/7/16 1355							A	A			A	
K1611838-037	EPA-HS-08-046-B3	Animal Tissue	9/7/16 1306							A	A			A	
K1611838-038	EPA-HS-B1	Animal Tissue	8/31/16 1047	A	A	A	A		A			A		A	A
K1611838-039	EPA-HS-03-048-B3	Animal Tissue	9/7/16 1253							A	A			A	
K1611838-040	EPA-HS-06-013-B1	Animal Tissue	8/31/16 1305							A	A			A	
K1611838-041	EPA-HS-07-023-B2	Animal Tissue	9/1/16 1135							A	A			A	
K1611838-042	EPA-HS-07-027-B2	Animal Tissue	9/1/16 1423							A	A			A	

					Misc Out 2	SM 4500-F- C Modified F	Subsample
K1611838-029	EPA-HS-A3	Animal Tissue	8/30/16 1210			A	A
K1611838-030	EPA-HS-05-016-B1	Animal Tissue	8/31/16 1422				
K1611838-031	EPA-HS-06-038-B3	Animal Tissue	9/7/16 1033				
K1611838-032	EPA-HS-07-011-B1	Animal Tissue	8/31/16 1230				
K1611838-033	EPA-HS-07-030-B2	Animal Tissue	9/1/16 1337				
K1611838-034	EPA-HS-07-051-B3	Animal Tissue	9/7/16 1507				
K1611838-035	EPA-HS-08-009-B1	Animal Tissue	8/31/16 1047				
K1611838-036	EPA-HS-08-040-B3	Animal Tissue	9/7/16 1355				
K1611838-037	EPA-HS-08-046-B3	Animal Tissue	9/7/16 1306				
K1611838-038	EPA-HS-B1	Animal Tissue	8/31/16 1047			A	A
K1611838-039	EPA-HS-03-048-B3	Animal Tissue	9/7/16 1253				
K1611838-040	EPA-HS-06-013-B1	Animal Tissue	8/31/16 1305				
K1611838-041	EPA-HS-07-023-B2	Animal Tissue	9/1/16 1135				
K1611838-042	EPA-HS-07-027-B2	Animal Tissue	9/1/16 1423				

K1611838-043	EPA-HS-08-019-B2	Animal Tissue	9/ 1/16 0950	1631app Hg LL T	1632 As Inorg T	6010C Metals T	6020A Metals T	7470A Hg T	7742 Se T	Archive -20C	Composte	Frz Dry	Hold	Homogen	Misc Out 1
K1611838-044	EPA-HS-08-044-B3	Animal Tissue	9/ 7/16 1241							A	A			A	
K1611838-045	EPA-HS-08-050-B3	Animal Tissue	9/ 7/16 1523							A	A			A	
K1611838-046	EPA-HS-09-006-B1	Animal Tissue	8/30/16 1446							A	A			A	
K1611838-047	EPA-HS-B2	Animal Tissue	8/30/16 1446	A	A	A	A		A			A		A	A
K1611838-048	EPA-HS-01-022-B2	Animal Tissue	9/ 1/16 1121							A	A			A	
K1611838-049	EPA-HS-06-020-B2	Animal Tissue	9/ 1/16 1026							A	A			A	
K1611838-050	EPA-HS-06-021-B2	Animal Tissue	9/ 1/16 1102							A	A			A	
K1611838-051	EPA-HS-07-003-B1	Animal Tissue	8/30/16 1039							A	A			A	
K1611838-052	EPA-HS-07-012-B1	Animal Tissue	8/31/16 1244							A	A			A	
K1611838-053	EPA-HS-08-001-B1	Animal Tissue	8/30/16 1140							A	A			A	
K1611838-054	EPA-HS-08-045-B3	Animal Tissue	9/ 7/16 1318							A	A			A	
K1611838-055	EPA-HS-09-034-B2	Animal Tissue	9/ 2/16 1111							A	A			A	
K1611838-056	EPA-HS-B3	Animal Tissue	8/30/16 1039	A	A	A	A		A			A		A	A

						Misc Out 2	SM 4500-F-C Modified	Subsample
K1611838-043	EPA-HS-08-019-B2	Animal Tissue	9/1/16 0950					
K1611838-044	EPA-HS-08-044-B3	Animal Tissue	9/7/16 1241					
K1611838-045	EPA-HS-08-050-B3	Animal Tissue	9/7/16 1523					
K1611838-046	EPA-HS-09-006-B1	Animal Tissue	8/30/16 1446					
K1611838-047	EPA-HS-B2	Animal Tissue	8/30/16 1446				A	A
K1611838-048	EPA-HS-01-022-B2	Animal Tissue	9/1/16 1121					
K1611838-049	EPA-HS-06-020-B2	Animal Tissue	9/1/16 1026					
K1611838-050	EPA-HS-06-021-B2	Animal Tissue	9/1/16 1102					
K1611838-051	EPA-HS-07-003-B1	Animal Tissue	8/30/16 1039					
K1611838-052	EPA-HS-07-012-B1	Animal Tissue	8/31/16 1244					
K1611838-053	EPA-HS-08-001-B1	Animal Tissue	8/30/16 1140					
K1611838-054	EPA-HS-08-045-B3	Animal Tissue	9/7/16 1318					
K1611838-055	EPA-HS-09-034-B2	Animal Tissue	9/2/16 1111					
K1611838-056	EPA-HS-B3	Animal Tissue	8/30/16 1039				A	A

K1611838-057	EPA-HS-02-066-C3	Animal Tissue	9/13/16 1345	1631app Hg LL T	1632 As Inorg T	6010C Metals T	6020A Metals T	7470A Hg T	7742 Se T	Archive -20C	Composite	Frz Dry	Hold	Homogen	Misc Out 1
K1611838-058	EPA-HS-04-059-C2	Animal Tissue	9/ 8/16 1634							A	A			A	
K1611838-059	EPA-HS-04-060-C2	Animal Tissue	9/ 8/16 1619							A	A			A	
K1611838-060	EPA-HS-05-054-C2	Animal Tissue	9/ 8/16 1022							A	A			A	
K1611838-061	EPA-HS-05-067-C3	Animal Tissue	9/13/16 1425							A	A			A	
K1611838-062	EPA-HS-06-063-C2	Animal Tissue	9/13/16 1036							A	A			A	
K1611838-063	EPA-HS-06-069-C3	Animal Tissue	9/13/16 1536							A	A			A	
K1611838-064	EPA-HS-08-041-C1	Animal Tissue	9/ 7/16 1405							A	A			A	
K1611838-065	EPA-HS-C1	Animal Tissue	9/ 7/16 1405							A	A	A		A	A
K1611838-066	EPA-HS-01-072-C3	Animal Tissue	9/13/16 1625							A	A			A	
K1611838-067	EPA-HS-02-010-C1	Animal Tissue	8/31/16 1140							A	A			A	
K1611838-068	EPA-HS-03-004-C1	Animal Tissue	8/30/16 1310							A	A			A	
K1611838-069	EPA-HS-03-026-C1	Animal Tissue	9/ 1/16 1441							A	A			A	
K1611838-070	EPA-HS-05-068-C3	Animal Tissue	9/13/16 1514							A	A			A	

						Misc Out 2	SM 4500-F- C Modified	Subsample
K1611838-057	EPA-HS-02-066-C3	Animal Tissue	9/13/16 1345					
K1611838-058	EPA-HS-04-059-C2	Animal Tissue	9/8/16 1634					
K1611838-059	EPA-HS-04-060-C2	Animal Tissue	9/8/16 1619					
K1611838-060	EPA-HS-05-054-C2	Animal Tissue	9/8/16 1022					
K1611838-061	EPA-HS-05-067-C3	Animal Tissue	9/13/16 1425					
K1611838-062	EPA-HS-06-063-C2	Animal Tissue	9/13/16 1036					
K1611838-063	EPA-HS-06-069-C3	Animal Tissue	9/13/16 1536					
K1611838-064	EPA-HS-08-041-C1	Animal Tissue	9/7/16 1405					
K1611838-065	EPA-HS-C1	Animal Tissue	9/7/16 1405				A	A
K1611838-066	EPA-HS-01-072-C3	Animal Tissue	9/13/16 1625					
K1611838-067	EPA-HS-02-010-C1	Animal Tissue	8/31/16 1140					
K1611838-068	EPA-HS-03-004-C1	Animal Tissue	8/30/16 1310					
K1611838-069	EPA-HS-03-026-C1	Animal Tissue	9/1/16 1441					
K1611838-070	EPA-HS-05-068-C3	Animal Tissue	9/13/16 1514					

K1611838-071	EPA-HS-06-025-C1	Animal Tissue	9/ 1/16 1455	1631app Hg LL T	1632 As Inorg T	6010C Metals T	6020A Metals T	7470A Hg T	7742 Se T	Archive -20C	Composite	Frz Dry	Hold	Homogen	Misc Out 1
K1611838-072	EPA-HS-06-065-C3	Animal Tissue	9/13/16 1241							A	A			A	
K1611838-073	EPA-HS-07-071-C3	Animal Tissue	9/13/16 1609							A	A			A	
K1611838-074	EPA-HS-C2	Animal Tissue	8/30/16 1310	A	A	A	A		A			A		A	A
K1611838-075	EPA-HS-03-039-C1	Animal Tissue	9/ 7/16 1011							A	A			A	
K1611838-076	EPA-HS-04-033-C1	Animal Tissue	9/ 2/16 1030							A	A			A	
K1611838-077	EPA-HS-04-061-C2	Animal Tissue	9/ 8/16 1417							A	A			A	
K1611838-078	EPA-HS-05-064-C2	Animal Tissue	9/13/16 1125							A	A			A	
K1611838-079	EPA-HS-06-037-C1	Animal Tissue	9/ 7/16 1052							A	A			A	
K1611838-080	EPA-HS-06-053-C2	Animal Tissue	9/ 8/16 0912							A	A			A	
K1611838-081	EPA-HS-06-062-C2	Animal Tissue	9/13/16 0948							A	A			A	
K1611838-082	EPA-HS-06-070-C3	Animal Tissue	9/13/16 1553							A	A			A	
K1611838-083	EPA-HS-C3	Animal Tissue	9/ 7/16 1011	A	A	A	A		A			A		A	A
K1611838-084	Homogenization Blank	Water	10/17/16 1035					A					A		

K1611838-071	EPA-HS-06-025-C1	Animal Tissue	9/1/16 1455			
K1611838-072	EPA-HS-06-065-C3	Animal Tissue	9/13/16 1241			
K1611838-073	EPA-HS-07-071-C3	Animal Tissue	9/13/16 1609			
K1611838-074	EPA-HS-C2	Animal Tissue	8/30/16 1310	A	A	
K1611838-075	EPA-HS-03-039-C1	Animal Tissue	9/7/16 1011			
K1611838-076	EPA-HS-04-033-C1	Animal Tissue	9/2/16 1030			
K1611838-077	EPA-HS-04-061-C2	Animal Tissue	9/8/16 1417			
K1611838-078	EPA-HS-05-064-C2	Animal Tissue	9/13/16 1125			
K1611838-079	EPA-HS-06-037-C1	Animal Tissue	9/7/16 1052			
K1611838-080	EPA-HS-06-053-C2	Animal Tissue	9/8/16 0912			
K1611838-081	EPA-HS-06-062-C2	Animal Tissue	9/13/16 0948			
K1611838-082	EPA-HS-06-070-C3	Animal Tissue	9/13/16 1553			
K1611838-083	EPA-HS-C3	Animal Tissue	9/7/16 1011	A	A	
K1611838-084	Homogenization Blank	Water	10/17/16 1035	A		

Subsample
Sub Sample

SM 4500-F-C Modified
F

None
Misc Out 2

K1611838-085	Homogenization Blank	Water	10/19/16 0930	1631app Hg LL T	1632 As Inorg T	6010C Metals T	6020A Metals T	7470A Hg T	7742 Se T	Archive -20C	Composite	Frz Dry	Hold	Homogen	Misc Out 1
K1611838-086	Homogenization Blank	Water	10/18/16 1035			6010C Metals T	6020A Metals T	7470A Hg T	7742 Se T	Archive -20C	Composite	Frz Dry	Hold	Homogen	

Test Comments:

Group	Test/Method	Samples	Comments
GenChem	SM 4500-F- C Modified/F	9-11, 20, 29, 38, 47, 56, 65, 74, 83	Water extraction as per 300.0 followed by ISE analysis by 4500-F-C
Metals	7742/Se T	9-11, 20, 29, 38, 47, 56, 65, 74, 83	7742: (Se)
SubLab	None/Misc Out 1	9-11, 20, 29, 38, 47, 56, 65, 74, 83	Organics testing being relinquished to Vista
SubLab	None/Misc Out 2	84-86	4L to Vista (PBDE,Dioxin,PCB Congeners)
Metals	6010C/Metals T	9-11, 20, 29, 38, 47, 56, 65, 74, 83-86	B,Ca,Mg,K,SI,Na,S
Metals	6020A/Metals T	9-11, 20, 29, 38, 47, 56, 65, 74, 83	Al,Sb,As,Ba,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Ag,Tl,Sn,U,V,Zn
Metals	6020A/Metals T	84-86	Al,Sb,As,Ba,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Tl,Sn,U,V,Zn

K1611838-085	Homogenization Blank	Water	10/19/16 0930	A	None Misc Out 2	SM 4500-F- C Modified F	Subsample Sub Sample
K1611838-086	Homogenization Blank	Water	10/18/16 1035	A			

K1610185

Upper Columbia River Sturgeon Sampling (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 10-083116-172932-0002

Date Shipped: 8/31/2016
 Carrier Name: Spokane Courier Service
 Airbill No: Hand Deliver

Project Code: N/A
 Cooler #: 2

Contact Name: Cameron Irvine
 Contact Phone: (916) 335-2369

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
1 EPA-HS-02-010-C1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C1	08/31/2016 11:40	
2 EPA-HS-05-016-B1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B1	08/31/2016 14:22	
3 EPA-HS-06-013-B1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B1	08/31/2016 13:05	
4 EPA-HS-07-011-B1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B1	08/31/2016 12:30	
5 EPA-HS-07-012-B1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B1	08/31/2016 12:44	
6 EPA-HS-08-009-B1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B1	08/31/2016 10:47	
7 EPA-HS-08-014-A1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A1	08/31/2016 13:58	
8 EPA-HS-08-015-A1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A1	08/31/2016 14:10	
9 EPA-HS-10-008-A1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A1	08/31/2016 10:13	

Special Instructions: Common Target Analyte List (TAL) metals - Method 6010
 Total inorganic arsenic and total arsenic - method 1632A
 Polychlorinated dibenzo-p-dioxins and furans (PCDF) - method 1613B
 Polychlorinated biphenyls (PCBs) - method 1668A
 Polychlorinated diphenylethers (PBDEs) (total PBDEs, BDE-47, BDE-99, BDE-153, and BDE-209) - method 1614
 Location = Fish Composite ID

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: MultiAnalyte=Arsenic, TAL Metals, PCDF, PCBs, PBDEs

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
RIFS Fish	<i>Cameron Irvine</i>	08/31/16 1830	<i>Cam Irvine ACS</i>	8:20 01-16	

K1610185

Upper Columbia River Sturgeon Sampling (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 10-083116-131311-0001

Date Shipped: 8/31/2016
 Carrier Name: Spokane Courier Service
 Airbill No: Hand Deliver

Project Code: N/A
 Cooler #: 1

Contact Name: Cameron Irvine
 Contact Phone: (916) 335-2369

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
EPA-HS-03-004-C1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C1	08/30/2016 13:10	
EPA-HS-05-007-A1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A1	08/30/2016 15:17	
EPA-HS-07-003-B1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B1	08/30/2016 10:39	
EPA-HS-08-001-B1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B1	08/30/2016 11:40	
EPA-HS-09-006-B1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B1	08/30/2016 14:46	
EPA-HS-10-002-A1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A1	08/30/2016 12:10	
EPA-HS-10-005-A1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A1	08/30/2016 14:25	

Special Instructions: Common Target Analyte List (TAL) metals - Method 6010
 Total Inorganic arsenic and total arsenic - method 1632A
 Polychlorinated dibenzo-p-dioxins and furans (PCDF)- method 1613B
 Polychlorinated biphenyls (PCBs) - method 1668A
 Polybrominated diphenylethers (PBDEs) (total PBDEs, BDE-47, BDE-99, BDE-153, and BDE-209) - method 1614
 Location = Fish Composite ID

Analysis Key: MultiAnalyte=Arsenic, TAL Metals, PCDF, PCBs, PBDEs

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
RIIFS Fish	Cam Irvine CHRM	083116 1830	Cameron Irvine AUs	8:20 9-16	

K1610363

Upper Columbia River Sturgeon Sampling (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 10-090216-130919-0003

Date Shipped: 9/2/2016
 Carrier Name: Spokane Courier Service
 Airbill No: Hand Deliver

Project Code: N/A
 Cooler #: 3

Contact Name: Cameron Irvine
 Contact Phone: (916) 335-2369

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
1 ✓ EPA-HS-01-022-B2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B2	09/01/2016 11:21	
2 ✓ EPA-HS-03-026-C1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C1	09/01/2016 14:41	
3 ✓ EPA-HS-06-020-B2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B2	09/01/2016 10:26	
4 ✓ EPA-HS-06-021-B2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B2	09/01/2016 11:02	
5 ✓ EPA-HS-06-025-C1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C1	09/01/2016 14:55	
6 ✓ EPA-HS-07-023-B2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B2	09/01/2016 11:35	
7 ✓ EPA-HS-07-027-B2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B2	09/01/2016 14:23	
8 ✓ EPA-HS-07-030-B2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B2	09/01/2016 13:37	
9 ✓ EPA-HS-08-019-B2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B2	09/01/2016 09:50	
10 ✓ EPA-HS-08-029-A2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A2	09/01/2016 14:11	

Special Instructions: Common Target Analyte List (TAL) metals - Method 6070
 Total inorganic arsenic and total arsenic - method 1632A
 Polychlorinated dibenzo-p-dioxins and furans (PCDF)- method 1613B
 Polychlorinated biphenyls (PCBs) - method 1668A
 Polybrominated diphenylethers (PBDEs) (total PBDEs, BDE-47, BDE-99, BDE-153, and BDE-209) - method 1614
 Location = Fish Composite ID

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: MultiAnalyte=Artenic, TAL Metals, PCDF, PCBs, PBDEs

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
fisher	<i>[Signature]</i>	9/14/16 14:30	<i>[Signature]</i> ALS	9-3-16 10:10	GOOD

21610963

Upper Columbia River Sturgeon Sampling (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 10-090216-130919-0003

Date Shipped: 9/2/2016
 Carrier Name: Spokane Courier Service
 Airbill No: Hand Deliver

Project Code: N/A
 Cooler #: 3

Contact Name: Cameron Irvine
 Contact Phone: (916) 335-2369

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
EPA-HS-08-031-A2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A2	09/01/2016 13:48	
EPA-HS-09-018-A1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A1	09/01/2016 09:35	
EPA-HS-09-032-A2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A2	09/01/2016 13:26	
EPA-HS-10-017-A1	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A1	09/01/2016 09:15	
EPA-HS-10-024-A2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A2	09/01/2016 10:48	
EPA-HS-10-028-A2	N/A	Tissue/ CAI, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A2	09/01/2016 14:00	

Special Instructions: Common Target Analyte List (TAL) metals - Method 6010
 Total inorganic arsenic and total arsenic - method 1632A
 Polychlorinated benzo-p-dioxins and furans (PCDF)- method 1613B
 Polychlorinated biphenyls (PCBs) - method 1668A
 Polybrominated diphenylethers (PBDEs) (total PBDEs, BDE-47, BDE-99, BDE-153, and BDE-209) - method 1614
 Location = Fish Composite ID

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: MultiAnalyte=Arsenic, TAL Metals, PCDF, PCBs, PBDES

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Tissue	<i>[Signature]</i>	9/2/16/14:30	<i>[Signature]</i> ALS	9-3-16 10:10	GOOD



Cooler Receipt and Preservation Form

PC 10

Client Upper Columbia River Sturgeon Service Request K16 10363
Received: 9-3-16 Opened: 9-3-16 By: ES Unloaded: 9-3-16 By: ES

- Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
- Samples were received in: (circle) Cooler Box Envelope Other NA
- Were custody seals on coolers? NA Y N If yes, how many and where? 1-Front 1-Side
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-0.5	-0.4	1.6	1.7	10.1	356			NA	
-0.3	-0.3	0.4	0.4	2	355				

- Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
- Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed
- Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
- Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
- Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
- Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
- Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Out of	Head-	Broke	pH	Reagent	Volume	Reagent Lot	Initials	Time
	Bottle Type	Temp	space				added	Number		

Notes, Discrepancies, & Resolutions: _____

K1610722

Upper Columbia River Sturgeon Sampling (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 10-090916-151346-0005

Date Shipped: 9/10/2016

Carrier Name: Spokane Courier Service

Airbill No: Hand Deliver

Project Code: N/A

Cooler #: 5

Contact Name: Cameron Irvine

Contact Phone: (916) 335-2369

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
1 ✓ EPA-HS-03-039-C1	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C1	09/07/2016 10:11	
2 ✓ EPA-HS-03-046-B3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B3	09/07/2016 12:53	
3 ✓ EPA-HS-06-037-C1	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C1	09/07/2016 10:52	
4 ✓ EPA-HS-06-038-B3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B3	09/07/2016 10:33	
5 ✓ EPA-HS-06-047-A3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A3	09/07/2016 12:30	
6 ✓ EPA-HS-07-051-B3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B3	09/07/2016 15:07	
7 ✓ EPA-HS-08-040-B3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B3	09/07/2016 13:55	
8 ✓ EPA-HS-08-041-C1	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C1	09/07/2016 14:05	
9 ✓ EPA-HS-08-044-B3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B3	09/07/2016 12:41	
10 ✓ EPA-HS-08-045-B3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B3	09/07/2016 13:18	
11 ✓ EPA-HS-08-046-B3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B3	09/07/2016 13:06	
12 ✓ EPA-HS-08-050-B3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-B3	09/07/2016 15:23	
13 ✓ EPA-HS-10-036-A2	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A2	09/07/2016 09:00	
14 ✓ EPA-HS-10-042-A2	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A2	09/07/2016 13:30	
15 ✓ EPA-HS-10-043-A3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A3	09/07/2016 13:45	
16 ✓ EPA-HS-10-049-A3	N/A	Tissue/ DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A3	09/07/2016 15:40	

Special Instructions: Common Target Analyte List (TAL) metals - Method 6010
 Total inorganic arsenic and total arsenic - method 1632A
 Polychlorinated dibenzo-p-dioxins and furans (PCDF)- method 1613B
 Polychlorinated biphenyls (PCBs) - method 1668A
 Polybrominated diphenylethers (PBDEs) (total PBDEs, BDE-47, BDE-99, BDE-153, and BDE-209) - method 1614
 Location = Fish Composite ID

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: MultiAnalyte=Arsenic, TAL Metals, PCDF, PCBs, PBDEs

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Tissue	<i>Kurt Irvine</i>	9/10/16 14:07	<i>Subh</i> ALS	9/12/16 9:30	
			<i>Cory Cameron</i> ALS	9/12/16 08:45	

K1610722

No: 10-090916-152752-0006

CHAIN OF CUSTODY RECORD

Upper Columbia River Sturgeon Sampling (LAB COPY)

Date Shipped: 9/10/2016

Carrier Name: Spokane Courier Service
Airbill No: Hand Deliver

Project Code: N/A
Cooler #: 6

Contact Name: Cameron Irvine
Contact Phone: (916) 335-2369

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
18 ✓ EPA-HS-04-059-C2	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C2	09/08/2016 16:34	
19 ✓ EPA-HS-04-060-C2	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C2	09/08/2016 16:19	
20 ✓ EPA-HS-04-061-C2	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C2	09/09/2016 14:17	
21 ✓ EPA-HS-05-054-C2	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C2	09/08/2016 10:22	
22 ✓ EPA-HS-06-053-C2	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-C2	09/08/2016 09:12	
23 ✓ EPA-HS-08-055-A3	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A3	09/08/2016 11:05	
24 ✓ EPA-HS-09-056-A3	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A3	09/08/2016 11:33	
25 ✓ EPA-HS-10-057-A3	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A3	09/08/2016 12:10	
26 ✓ EPA-HS-10-058-A3	N/A	Tissue/DR, KLO	Set lining	MultiAnalyte(90)	N/A (None) (1)	EPA-HS-A3	09/08/2016 12:27	

Special Instructions: Common Target Analyte List (TAL) metals - Method 6010
 Total inorganic arsenic and total arsenic - method 1632A
 Polychlorinated dibenzo-p-dioxins and furans (PCDF)- method 1613B
 Polychlorinated biphenyls (PCBs) - method 1668A
 Polybrominated diphenylethers (PBDEs) (total PBDEs, BDE-47, BDE-99, BDE-153, and BDE-209) - method 1614
 Location = Fish Composite ID

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Tissue	<i>Kelly Swell</i>	9/10/16 14:32	<i>Duff</i>	9/10/16 8:30	
			<i>Coly Crocker</i>	9/12/16 08:45	



Cooler Receipt and Preservation Form

PC JC

Client Teck America

Service Request KI6 10722

Received: 9-12-16

Opened: 9-12-16

By: DW

Unloaded: 9-12-16

By: DW

1. Samples were received via? USPS FedEx UPS DHL PDX Courier Hand Delivered

2. Samples were received in: (circle) Cooler Box Envelope Other NA

3. Were custody seals on coolers? NA Y N If yes, how many and where? 2 Front

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
2.6	2.7	2.1	2.2	10.1	356	10 0910916 152752	0004		
-45	-45	- Frozen	-	0	364	10 0910916 151316	0005		

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves

5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N

6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below.
If applicable, tissue samples were received: Frozen Partially Thawed Thawed

7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N

8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N

9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N

10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N

11. Were VOA vials received without headspace? Indicate in the table below. NA Y N

12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____



Cooler Receipt and Preservation Form

PC JC

Client Ham Hill Tech Av Service Request K16 10932
 Received: 91516 Opened: 91516 By: SW Unloaded: 91516 By: SW

- Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
- Samples were received in: (circle) Cooler Box Envelope Other
- Were custody seals on coolers? NA Y N If yes, how many and where? 1 Front / 1 Side NA
 If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-31	-31	FROZEN		0	298	10 091416-091905 0007		NA	

- Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
- Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y N
 If applicable, tissue samples were received: Frozen Partially Thawed Thawed
- Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
- Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
- Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
- Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
- Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Out of	Head-	Broke	pH	Reagent	Volume	Reagent Lot	Initials	Time
	Bottle Type	Temp	space				added	Number		

Notes, Discrepancies, & Resolutions: _____

Tom Weinmann

From: Jeff Coronado <Jeff.Coronado@alsglobal.com>
Sent: Tuesday, October 25, 2016 6:09 PM
To: Tom Weinmann
Cc: Kris McCaig (kris.mccaig@teck.com); Dave Enos (dave.enos@teck.com)
Subject: Sturgeon homogenization blanks

Hi Tom,

When we did the homogenizations last week we ended up only creating a nitric preserved bottle for the metals. We do not have an aliquot properly preserved and in the correct containers for Mercury by 1631E and Inorganic Arsenic by 1632. At this point all we can do is run Mercury by 7470A and report total Arsenic by 6020A. Do you see this being a significant issue? My thought is that the detection limit by both of these methods would be more than adequate given the mass of tissue processed, but please let me know what think.

Thanks,
Jeff

Jeff Coronado
Metals Department Manager, Environmental
Kelso Laboratory



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