

December 20, 2019

Vista Work Order No. 1903646

Ms. Delaney Peterson Anchor QEA, LLC 720 Olive Way, Suite 1900 Seattle, WA 98101

Dear Ms. Peterson,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on October 15, 2019 under your Project Name 'Gasco PDI'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1903646 Case Narrative

Sample Condition on Receipt:

Nine sediment 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.

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.

As requested, a Duplicate was performed on sample "PDI-029SC-A-13-13.7-191009". The RPDs were within acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1903646-01	PDI-016SC-A-14-15-191009	09-Oct-19 09:48	15-Oct-19 08:51	Amber Glass, 120 mL
1903646-02	PDI-016SC-A-15-16-191009	09-Oct-19 09:48	15-Oct-19 08:51	Amber Glass, 120 mL
1903646-03	PDI-023SC-A-11-12-191009	09-Oct-19 12:14	15-Oct-19 08:51	Amber Glass, 120 mL
1903646-04	PDI-023SC-A-12-12.5-191009	09-Oct-19 12:14	15-Oct-19 08:51	Amber Glass, 120 mL
1903646-05	PDI-029SC-A-12-13-191009	09-Oct-19 14:39	15-Oct-19 08:51	Amber Glass, 120 mL
1903646-06	PDI-029SC-A-13-13.7-191009	DUP09-Oct-19 14:39	15-Oct-19 08:51	Amber Glass, 120 mL
				Amber Glass, 120 mL
1903646-07	PDI-1029SC-A-12-13-191009	09-Oct-19 00:00	15-Oct-19 08:51	Amber Glass, 120 mL
1903646-08	PDI-038SC-A-12-13-191009	09-Oct-19 16:08	15-Oct-19 08:51	Amber Glass, 120 mL
1903646-09	PDI-038SC-A-13-13.7-191009	09-Oct-19 16:08	15-Oct-19 08:51	Amber Glass, 120 mL

ANALYTICAL RESULTS

Sample ID: Method	d Blank						EPA Me	thod 1613B
Matrix: Solic Sample Size: 10.0		QC Batch: B9J0315 Date Extracted: 29-Oct-2019	9:52	1	.ab Sample:B9J0315-BLK1Date Analyzed :06-Dec-19 20:1	7 Column: ZB-5	MS	
Analyte Conc.	. (pg/g)	DL EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.247		IS	13C-2,3,7,8-TCDD	62.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.236			13C-1,2,3,7,8-PeCDD	75.7	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.419			13C-1,2,3,4,7,8-HxCDD	76.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.461			13C-1,2,3,6,7,8-HxCDD	62.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.639			13C-1,2,3,7,8,9-HxCDD	50.2	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.471			13C-1,2,3,4,6,7,8-HpCDD	61.6	23 - 140	
OCDD	ND	0.864			13C-OCDD	44.7	17 - 157	
2,3,7,8-TCDF	ND	0.160			13C-2,3,7,8-TCDF	76.9	24 - 169	
1,2,3,7,8-PeCDF	ND	0.166			13C-1,2,3,7,8-PeCDF	71.2	24 - 185	
2,3,4,7,8-PeCDF	ND	0.135			13C-2,3,4,7,8-PeCDF	86.0	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.171			13C-1,2,3,4,7,8-HxCDF	91.9	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.178			13C-1,2,3,6,7,8-HxCDF	75.7	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.203			13C-2,3,4,6,7,8-HxCDF	73.7	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.464			13C-1,2,3,7,8,9-HxCDF	43.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.317			13C-1,2,3,4,6,7,8-HpCDF	65.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.309			13C-1,2,3,4,7,8,9-HpCDF	64.9	26 - 138	
OCDF	ND	0.430			13C-OCDF	56.2	17 - 157	
				CRS	37Cl-2,3,7,8-TCDD	61.1	35 - 197	
					Toxic Equivalent Quotient (T	EQ) Data (pg/g o	lry wt)	
					TEQMinWHO2005Dioxin	0.00		
TOTALS								
Total TCDD	ND	0.247						
Total PeCDD	ND	0.236						
Total HxCDD	ND	0.639						
Total HpCDD	ND	0.471						
Total TCDF	ND	0.160						
Total PeCDF	ND	0.166						
Total HxCDF	ND	0.464						
Total HpCDF	ND	0.317						

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: OPR								EPA Method 1613B
Matrix: Solid Sample Size: 10.0 g			B9J0315 29-Oct-2019	9:52		Lab Sample:B9J0315-BS1Date Analyzed:06-Dec-19 18:42	Column: ZB-5MS	
Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	22.4	20.0	112	67 - 158	IS	13C-2,3,7,8-TCDD	93.0	20 - 175
1,2,3,7,8-PeCDD	112	100	112	70 - 142		13C-1,2,3,7,8-PeCDD	103	21 - 227
1,2,3,4,7,8-HxCDD	105	100	105	70 - 164		13C-1,2,3,4,7,8-HxCDD	94.5	21 - 193
1,2,3,6,7,8-HxCDD	114	100	114	76 - 134		13C-1,2,3,6,7,8-HxCDD	78.2	25 - 163
1,2,3,7,8,9-HxCDD	110	100	110	64 - 162		13C-1,2,3,7,8,9-HxCDD	81.9	21 - 193
1,2,3,4,6,7,8-HpCDD	105	100	105	70 - 140		13C-1,2,3,4,6,7,8-HpCDD	89.1	26 - 166
OCDD	213	200	107	78 - 144		13C-OCDD	87.7	13 - 199
2,3,7,8-TCDF	18.9	20.0	94.3	75 - 158		13C-2,3,7,8-TCDF	95.0	22 - 152
1,2,3,7,8-PeCDF	108	100	108	80 - 134		13C-1,2,3,7,8-PeCDF	96.8	21 - 192
2,3,4,7,8-PeCDF	109	100	109	68 - 160		13C-2,3,4,7,8-PeCDF	98.6	13 - 328
1,2,3,4,7,8-HxCDF	98.6	100	98.6	72 - 134		13C-1,2,3,4,7,8-HxCDF	113	19 - 202
1,2,3,6,7,8-HxCDF	103	100	103	84 - 130		13C-1,2,3,6,7,8-HxCDF	93.8	21 - 159
2,3,4,6,7,8-HxCDF	106	100	106	70 - 156		13C-2,3,4,6,7,8-HxCDF	91.0	22 - 176
1,2,3,7,8,9-HxCDF	104	100	104	78 - 130		13C-1,2,3,7,8,9-HxCDF	88.7	17 - 205
1,2,3,4,6,7,8-HpCDF	99.1	100	99.1	82 - 122		13C-1,2,3,4,6,7,8-HpCDF	85.4	21 - 158
1,2,3,4,7,8,9-HpCDF	100	100	100	78 - 138		13C-1,2,3,4,7,8,9-HpCDF	93.7	20 - 186
OCDF	205	200	103	63 - 170		13C-OCDF	96.9	13 - 199
					CRS	37Cl-2,3,7,8-TCDD	90.2	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: PDI-01	6SC-A-14-15-1910	009					EPA Met	thod 1613B
Project: Gasco	or QEA, LLC o PDI ct-2019 9:48	Sample DataMatrix:SedimentSample Size:14.9 g% Solids:68.7		Lal QC	boratory Data o Sample: 1903646-01 c Batch: B9J0315 te Analyzed : 07-Dec-19 02:4	Date Receiv Date Extrac 0 Column: ZB-:	ted: 29-Oct-2019	
Analyte Conc.	. (pg/g)	DL EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.210		IS	13C-2,3,7,8-TCDD	88.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.183			13C-1,2,3,7,8-PeCDD	97.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.380			13C-1,2,3,4,7,8-HxCDD	88.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.392			13C-1,2,3,6,7,8-HxCDD	72.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.439			13C-1,2,3,7,8,9-HxCDD	77.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	1.07		J		13C-1,2,3,4,6,7,8-HpCDD	83.6	23 - 140	
OCDD	7.36				13C-OCDD	88.9	17 - 157	
2,3,7,8-TCDF	ND	0.136			13C-2,3,7,8-TCDF	97.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.107			13C-1,2,3,7,8-PeCDF	100	24 - 185	
2,3,4,7,8-PeCDF	ND	0.111			13C-2,3,4,7,8-PeCDF	95.5	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.122			13C-1,2,3,4,7,8-HxCDF	105	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.140			13C-1,2,3,6,7,8-HxCDF	85.1	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.140			13C-2,3,4,6,7,8-HxCDF	84.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.204			13C-1,2,3,7,8,9-HxCDF	86.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.304			13C-1,2,3,4,6,7,8-HpCDF	81.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.267			13C-1,2,3,4,7,8,9-HpCDF	94.2	26 - 138	
OCDF	ND	0.238			13C-OCDF	94.1	17 - 157	
				CRS	37Cl-2,3,7,8-TCDD	91.8	35 - 197	
					Toxic Equivalent Quotient (TE	CQ) Data (pg/g d	ry wt)	
					TEQMinWHO2005Dioxin	0.0129		
TOTALS								
Total TCDD	0.409							
Total PeCDD	ND	0.183						
Total HxCDD	1.05							
Total HpCDD	2.78							
Total TCDF	ND	0.136						
Total PeCDF	ND	0.111						
Total HxCDF	ND	0.204						
Total HpCDF	ND	0.304						

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: PDI-01	6SC-A-15-16-191009							EPA Met	hod 1613B
Project: Gasco	or QEA, LLC 9 PDI 2t-2019 9:48	Sample Matrix Sampl % Sol	:: Sediment e Size: 14.9 g		Lat QC	boratory Data o Sample: 1903646-02 Batch: B9J0315 te Analyzed : 07-Dec-19 03:2	Date Receiv Date Extract 8 Column: ZB-5	ed: 29-Oct-2019	
Analyte Conc.	(pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.200			IS	13C-2,3,7,8-TCDD	87.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.263				13C-1,2,3,7,8-PeCDD	99.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.344				13C-1,2,3,4,7,8-HxCDD	81.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.373				13C-1,2,3,6,7,8-HxCDD	69.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.405				13C-1,2,3,7,8,9-HxCDD	68.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		0.540			13C-1,2,3,4,6,7,8-HpCDD	73.9	23 - 140	
OCDD	5.10					13C-OCDD	79.7	17 - 157	
2,3,7,8-TCDF	ND	0.136				13C-2,3,7,8-TCDF	96.1	24 - 169	
1,2,3,7,8-PeCDF	ND	0.115				13C-1,2,3,7,8-PeCDF	95.9	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0965				13C-2,3,4,7,8-PeCDF	96.3	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.115				13C-1,2,3,4,7,8-HxCDF	95.2	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.123				13C-1,2,3,6,7,8-HxCDF	80.7	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.142				13C-2,3,4,6,7,8-HxCDF	80.4	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.217				13C-1,2,3,7,8,9-HxCDF	71.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.219				13C-1,2,3,4,6,7,8-HpCDF	75.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.185				13C-1,2,3,4,7,8,9-HpCDF	82.3	26 - 138	
OCDF	ND	0.219				13C-OCDF	85.8	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	84.3	35 - 197	
						Toxic Equivalent Quotient (TE	Q) Data (pg/g di	ry wt)	
						TEQMinWHO2005Dioxin	0.00153		
TOTALS									
Total TCDD	ND		0.428						
Total PeCDD	ND	0.263							
Total HxCDD	ND		0.598						
Total HpCDD	1.26		1.80						
Total TCDF	ND	0.136							
Total PeCDF	ND	0.115							
Total HxCDF	ND	0.217							
Total HpCDF	ND	0.219							

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: PDI-02.	3SC-A-11-12-191009							EPA Me	thod 1613B
Project: Gasco	or QEA, LLC 9 PDI st-2019 12:14	Sample Matrix Sampl % Soli	e Size: 14.2 g		Lab QC	boratory Data o Sample: 1903646-03 Batch: B9J0315 ce Analyzed : 07-Dec-19 07:41	Date Received: Date Extracted: I Column: ZB-5MS	29-Oct-2019	
Analyte Conc.	(pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.245			IS	13C-2,3,7,8-TCDD	105	25 - 164	
1,2,3,7,8-PeCDD	ND	0.307				13C-1,2,3,7,8-PeCDD	107	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.565				13C-1,2,3,4,7,8-HxCDD	105	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.626				13C-1,2,3,6,7,8-HxCDD	82.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.645				13C-1,2,3,7,8,9-HxCDD	87.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		1.35			13C-1,2,3,4,6,7,8-HpCDD	96.6	23 - 140	
OCDD	12.6					13C-OCDD	95.9	17 - 157	
2,3,7,8-TCDF	ND	0.156				13C-2,3,7,8-TCDF	111	24 - 169	
1,2,3,7,8-PeCDF	ND	0.116				13C-1,2,3,7,8-PeCDF	103	24 - 185	
2,3,4,7,8-PeCDF	ND	0.121				13C-2,3,4,7,8-PeCDF	106	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.295				13C-1,2,3,4,7,8-HxCDF	120	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.317				13C-1,2,3,6,7,8-HxCDF	101	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.355				13C-2,3,4,6,7,8-HxCDF	99.4	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.545				13C-1,2,3,7,8,9-HxCDF	96.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.232				13C-1,2,3,4,6,7,8-HpCDF	92.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.233				13C-1,2,3,4,7,8,9-HpCDF	103	26 - 138	
OCDF	ND	0.316				13C-OCDF	104	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	94.8	35 - 197	
						Toxic Equivalent Quotient (TEC	Q) Data (pg/g dry v	vt)	
						TEQMinWHO2005Dioxin	0.00378		
TOTALS									
Total TCDD	ND	0.245							
Total PeCDD	ND	0.307							
Total HxCDD	ND		0.970						
Total HpCDD	ND		3.93						
Total TCDF	ND	0.156							
Total PeCDF	ND	0.121							
Total HxCDF	ND	0.545							
Total HpCDF	ND motod datastian limit	0.233							

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: PDI-02	38C-A-12-12.5-1910	09					EPA Met	hod 1613B
Client DataName:AnchProject:GascoDate Collected:09-Oo		Sample DataMatrix:SedimentSample Size:14.9 g% Solids:67.3	t	La QC	boratory Data b Sample: 1903646-04 C Batch: B9J0315 ate Analyzed : 07-Dec-19 08:2	Date Recei Date Extra 29 Column: ZB	cted: 29-Oct-2019	
Analyte Conc.	. (pg/g)	DL EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.275		IS	13C-2,3,7,8-TCDD	97.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.263			13C-1,2,3,7,8-PeCDD	107	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.440			13C-1,2,3,4,7,8-HxCDD	87.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.494			13C-1,2,3,6,7,8-HxCDD	72.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.482			13C-1,2,3,7,8,9-HxCDD	83.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	1.47		J		13C-1,2,3,4,6,7,8-HpCDD	85.3	23 - 140	
OCDD	11.3				13C-OCDD	83.9	17 - 157	
2,3,7,8-TCDF	ND	0.177			13C-2,3,7,8-TCDF	108	24 - 169	
1,2,3,7,8-PeCDF	ND	0.132			13C-1,2,3,7,8-PeCDF	112	24 - 185	
2,3,4,7,8-PeCDF	ND	0.123			13C-2,3,4,7,8-PeCDF	102	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.184			13C-1,2,3,4,7,8-HxCDF	103	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.208			13C-1,2,3,6,7,8-HxCDF	86.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.213			13C-2,3,4,6,7,8-HxCDF	86.8	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.194			13C-1,2,3,7,8,9-HxCDF	137	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.254			13C-1,2,3,4,6,7,8-HpCDF	84.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.243			13C-1,2,3,4,7,8,9-HpCDF	105	26 - 138	
OCDF	ND	0.369			13C-OCDF	93.0	17 - 157	
				CRS	37Cl-2,3,7,8-TCDD	93.5	35 - 197	
					Toxic Equivalent Quotient (TE	Q) Data (pg/g	dry wt)	
					TEQMinWHO2005Dioxin	0.0181		
TOTALS								
Total TCDD	ND	0.275						
Total PeCDD	ND	0.263						
Total HxCDD	1.46							
Total HpCDD	4.39							
Total TCDF	ND	0.177						
Total PeCDF	ND	0.132						
Total HxCDF	ND	0.213						
Total HpCDF	ND	0.254						

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: PDI-02	9SC-A-12-13-191009)					EPA Me	thod 1613B
Project: Gasco	or QEA, LLC o PDI ct-2019 14:39	Sample DataMatrix:SedimentSample Size:13.1 g% Solids:81.2		Lab QC	boratory Data o Sample: 1903646-05 Batch: B9J0315 te Analyzed : 07-Dec-19 09:1	Date Rece Date Extra 7 Column: ZE	acted: 29-Oct-2019	
Analyte Conc.	. (pg/g)	DL EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.377		IS	13C-2,3,7,8-TCDD	102	25 - 164	
1,2,3,7,8-PeCDD	ND	0.221			13C-1,2,3,7,8-PeCDD	109	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.278			13C-1,2,3,4,7,8-HxCDD	89.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.311			13C-1,2,3,6,7,8-HxCDD	71.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.303			13C-1,2,3,7,8,9-HxCDD	77.0	32 - 141	
1,2,3,4,6,7,8-HpCDD	2.22		J		13C-1,2,3,4,6,7,8-HpCDD	83.2	23 - 140	
OCDD	16.9				13C-OCDD	92.1	17 - 157	
2,3,7,8-TCDF	ND	0.190			13C-2,3,7,8-TCDF	107	24 - 169	
1,2,3,7,8-PeCDF	ND	0.161			13C-1,2,3,7,8-PeCDF	106	24 - 185	
2,3,4,7,8-PeCDF	ND	0.145			13C-2,3,4,7,8-PeCDF	103	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.154			13C-1,2,3,4,7,8-HxCDF	104	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.157			13C-1,2,3,6,7,8-HxCDF	86.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.174			13C-2,3,4,6,7,8-HxCDF	86.8	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.249			13C-1,2,3,7,8,9-HxCDF	84.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.236			13C-1,2,3,4,6,7,8-HpCDF	79.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.210			13C-1,2,3,4,7,8,9-HpCDF	92.4	26 - 138	
OCDF	ND	0.708			13C-OCDF	101	17 - 157	
				CRS	37Cl-2,3,7,8-TCDD	97.5	35 - 197	
					Toxic Equivalent Quotient (TE	Q) Data (pg/g	dry wt)	
					TEQMinWHO2005Dioxin	0.0273		
TOTALS								
Total TCDD	ND	0.377						
Total PeCDD	ND	0.221						
Total HxCDD	0.653							
Total HpCDD	5.18							
Total TCDF	ND	0.190						
Total PeCDF	ND	0.161						
Total HxCDF	ND	0.249						
Total HpCDF	ND	0.349						

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: PDI-029	98C-A-13-13.7-19	1009						EPA Me	thod 1613E
Project: Gasco	or QEA, LLC 9 PDI st-2019 14:39	Sample I Matrix: Sample % Solic	Size: 13.7 g		La QC	boratory Data o Sample: 1903646-06 c Batch: B9J0315 te Analyzed : 07-Dec-19 10:0	Date Recei Date Extra 5 Column: ZB	cted: 29-Oct-2019	
Analyte Conc.	(pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.257			IS	13C-2,3,7,8-TCDD	96.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.216				13C-1,2,3,7,8-PeCDD	101	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.486				13C-1,2,3,4,7,8-HxCDD	85.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.541				13C-1,2,3,6,7,8-HxCDD	71.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.558				13C-1,2,3,7,8,9-HxCDD	75.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	8.75					13C-1,2,3,4,6,7,8-HpCDD	79.3	23 - 140	
OCDD	69.3					13C-OCDD	84.6	17 - 157	
2,3,7,8-TCDF	0.540					13C-2,3,7,8-TCDF	105	24 - 169	
1,2,3,7,8-PeCDF	ND		0.389			13C-1,2,3,7,8-PeCDF	99.5	24 - 185	
2,3,4,7,8-PeCDF	ND	0.134				13C-2,3,4,7,8-PeCDF	99.2	21 - 178	
1,2,3,4,7,8-HxCDF	0.675			J		13C-1,2,3,4,7,8-HxCDF	95.5	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.179				13C-1,2,3,6,7,8-HxCDF	83.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.176				13C-2,3,4,6,7,8-HxCDF	84.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.245				13C-1,2,3,7,8,9-HxCDF	86.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	0.808			J		13C-1,2,3,4,6,7,8-HpCDF	74.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.317				13C-1,2,3,4,7,8,9-HpCDF	89.3	26 - 138	
OCDF	2.84			J		13C-OCDF	92.5	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	94.6	35 - 197	
						Toxic Equivalent Quotient (TE	Q) Data (pg/g	dry wt)	
						TEQMinWHO2005Dioxin	0.239		
TOTALS									
Total TCDD	ND	0.257							
Total PeCDD	ND	0.216							
Total HxCDD	ND		1.38						
Total HpCDD	20.8								
Total TCDF	0.540								
Total PeCDF	0.433		0.822						
Total HxCDF	1.06								
Total HpCDF	0.808		2.57						

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Source Client ID: PDI-0295 Source LabNumber: 1903646 Matrix: Solid Sample Size: 13.7 g Analyte Conc. (p 2,3,7,8-TCDD ND 1,2,3,7,8-PeCDD ND 1,2,3,4,7,8-HxCDD ND 1,2,3,6,7,8-HxCDD ND 1,2,3,4,6,7,8-HxCDD ND 1,2,3,4,6,7,8-HxCDD ND 1,2,3,4,6,7,8-HxCDD ND 1,2,3,4,6,7,8-HxCDD 9.69 OCDD 77.5 2,3,7,8-PeCDF 0.610 2,3,4,7,8-PeCDF ND 1,2,3,4,7,8-PeCDF ND 1,2,3,4,7,8-HxCDF ND 1,2,3,4,7,8-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND 1,2,3,4,6,7,8-HpCDF 0.896 1,2,3,4,6,7,8-HpCDF ND 1,2,3,4,6,7,8-HpCDF ND		QC Batch: Date Extracted: EMPC	B9J0315 29-Oct-2019 9:52 Qualifiers	Lab Sample Date Analy La				
AnalyteConc. (p2,3,7,8-TCDDND1,2,3,7,8-PeCDDND1,2,3,4,7,8-PeCDDND1,2,3,4,7,8-HxCDDND1,2,3,6,7,8-HxCDDND1,2,3,4,6,7,8-HpCDD9.69OCDD77.52,3,7,8-TCDF0.5511,2,3,7,8-PeCDF0.6102,3,4,7,8-PeCDF0.6461,2,3,4,6,7,8-HxCDF0.6461,2,3,6,7,8-HxCDFND1,2,3,4,6,7,8-HxCDFND1,2,3,7,8,9-HxCDFND1,2,3,7,8,9-HxCDFND1,2,3,4,6,7,8-HpCDF0.896	0.203 0.290 0.420	EMPC	Qualifiers	L	bolod Standard	0/ D		
1,2,3,7,8-PeCDD ND 1,2,3,4,7,8-HxCDD ND 1,2,3,6,7,8-HxCDD ND 1,2,3,7,8,9-HxCDD ND 1,2,3,4,6,7,8-HpCDD 9.69 OCDD 77.5 2,3,7,8-TCDF 0.551 1,2,3,4,6,7,8-PeCDF 0.610 2,3,4,7,8-PeCDF 0.646 1,2,3,4,6,7,8-HxCDF ND	0.290 0.420				ibeleu Stalluaru	%R	LCL-UCL	Qualifiers
1,2,3,7,8-PeCDD ND 1,2,3,4,7,8-HxCDD ND 1,2,3,6,7,8-HxCDD ND 1,2,3,7,8,9-HxCDD ND 1,2,3,4,6,7,8-HpCDD 9.69 OCDD 77.5 2,3,7,8-TCDF 0.551 1,2,3,4,6,7,8-PeCDF 0.610 2,3,4,7,8-PeCDF 0.646 1,2,3,4,6,7,8-HxCDF ND	0.290 0.420			IS	13C-2,3,7,8-TCDD	93.2	25 - 164	
1,2,3,4,7,8-HxCDDND1,2,3,6,7,8-HxCDDND1,2,3,7,8,9-HxCDDND1,2,3,4,6,7,8-HpCDD9.69OCDD77.52,3,7,8-TCDF0.5511,2,3,7,8-PeCDF0.6102,3,4,7,8-PeCDFND1,2,3,4,7,8-HxCDF0.6461,2,3,6,7,8-HxCDFND2,3,4,6,7,8-HxCDFND1,2,3,7,8,9-HxCDFND1,2,3,7,8,9-HxCDFND1,2,3,4,6,7,8-HpCDF0.896					13C-1,2,3,7,8-PeCDD	92.8	25 - 181	
1,2,3,6,7,8-HxCDDND1,2,3,7,8,9-HxCDDND1,2,3,4,6,7,8-HpCDD9.69OCDD77.52,3,7,8-TCDF0.5511,2,3,7,8-PeCDF0.6102,3,4,7,8-PeCDFND1,2,3,4,7,8-HxCDF0.6461,2,3,6,7,8-HxCDFND2,3,4,6,7,8-HxCDFND1,2,3,7,8,9-HxCDFND1,2,3,4,6,7,8-HpCDF0.896	0.506				13C-1,2,3,4,7,8-HxCDD	81.7	32 - 141	
1,2,3,7,8,9-HxCDDND1,2,3,4,6,7,8-HpCDD9.69OCDD77.52,3,7,8-TCDF0.5511,2,3,7,8-PeCDF0.6102,3,4,7,8-PeCDFND1,2,3,4,7,8-HxCDF0.6461,2,3,6,7,8-HxCDFND2,3,4,6,7,8-HxCDFND1,2,3,7,8,9-HxCDFND1,2,3,4,6,7,8-HpCDF0.896					13C-1,2,3,6,7,8-HxCDD	66.5	28 - 130	
1,2,3,4,6,7,8-HpCDD 9.69 OCDD 77.5 2,3,7,8-TCDF 0.551 1,2,3,7,8-PeCDF 0.610 2,3,4,7,8-PeCDF ND 1,2,3,4,7,8-HxCDF 0.646 1,2,3,6,7,8-HxCDF ND 2,3,4,6,7,8-HxCDF ND 1,2,3,7,8,9-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND	0.470				13C-1,2,3,7,8,9-HxCDD	72.0	32 - 141	
OCDD 77.5 2,3,7,8-TCDF 0.551 1,2,3,7,8-PeCDF 0.610 2,3,4,7,8-PeCDF ND 1,2,3,4,7,8-HxCDF 0.646 1,2,3,6,7,8-HxCDF ND 2,3,4,6,7,8-HxCDF ND 1,2,3,7,8,9-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND 1,2,3,4,6,7,8-HxCDF ND					13C-1,2,3,4,6,7,8-HpCDD	73.7	23 - 140	
2,3,7,8-TCDF0.5511,2,3,7,8-PeCDF0.6102,3,4,7,8-PeCDFND1,2,3,4,7,8-HxCDF0.6461,2,3,6,7,8-HxCDFND2,3,4,6,7,8-HxCDFND1,2,3,7,8,9-HxCDFND1,2,3,4,6,7,8-HpCDF0.896					13C-OCDD	81.9	17 - 157	
1,2,3,7,8-PeCDF 0.610 2,3,4,7,8-PeCDF ND 1,2,3,4,7,8-HxCDF 0.646 1,2,3,6,7,8-HxCDF ND 2,3,4,6,7,8-HxCDF ND 1,2,3,7,8,9-HxCDF ND 1,2,3,4,6,7,8-HpCDF 0.896					13C-2,3,7,8-TCDF	98.0	24 - 169	
2,3,4,7,8-PeCDF ND 1,2,3,4,7,8-HxCDF 0.646 1,2,3,6,7,8-HxCDF ND 2,3,4,6,7,8-HxCDF ND 1,2,3,7,8,9-HxCDF ND 1,2,3,4,6,7,8-HpCDF 0.896			J		13C-1,2,3,7,8-PeCDF	95.5	24 - 185	
1,2,3,4,7,8-HxCDF 0.646 1,2,3,6,7,8-HxCDF ND 2,3,4,6,7,8-HxCDF ND 1,2,3,7,8,9-HxCDF ND 1,2,3,4,6,7,8-HpCDF 0.896	0.143				13C-2,3,4,7,8-PeCDF	94.6	21 - 178	
1,2,3,6,7,8-HxCDF ND 2,3,4,6,7,8-HxCDF ND 1,2,3,7,8,9-HxCDF ND 1,2,3,4,6,7,8-HpCDF 0.896			J		13C-1,2,3,4,7,8-HxCDF	91.3	26 - 152	
2,3,4,6,7,8-HxCDF ND 1,2,3,7,8,9-HxCDF ND 1,2,3,4,6,7,8-HpCDF 0.896	0.250				13C-1,2,3,6,7,8-HxCDF	78.3	26 - 123	
1,2,3,7,8,9-HxCDF ND 1,2,3,4,6,7,8-HpCDF 0.896	0.278				13C-2,3,4,6,7,8-HxCDF	79.3	28 - 136	
1,2,3,4,6,7,8-HpCDF 0.896	0.388				13C-1,2,3,7,8,9-HxCDF	77.3	29 - 147	
, , , , , , , 1			J		13C-1,2,3,4,6,7,8-HpCDF	73.6	28 - 143	
	0.362				13C-1,2,3,4,7,8,9-HpCDF	83.9	26 - 138	
OCDF 3.07			J		13C-OCDF	86.9	17 - 157	
					37C1-2,3,7,8-TCDD	91.9	35 - 197	
					oxic Equivalent Quotient (TE			
				r.	FEQMinWHO2005Dioxin	0.268		
TOTALS								
Total TCDD ND	0.203							
Total PeCDD ND	0.290							
Total HxCDD 1.52								
Total HpCDD 23.6								
Total TCDF 0.972		1.08						
Total PeCDF 1.25								
Total HxCDF 1.43								
Total HpCDF 2.84								

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

The results are reported in dry weight. weight.

The sample size is reported in wet

Sample ID: Du	plicate							EPA Me	thod 1613B
Source Client ID: Source LabNumber: Matrix:	PDI-029SC-A-13-13.7-1910 1903646-06 Solid	09			Duplicat	te Lab Sample: B9J0315-I	DUP1		
Analyte	Dup Conc. (pg/g)	Source Conc.	RPD	RPD Limits		Labeled Standard	Dup %R	Source %R	LCL-UCL
2,3,7,8-TCDD	ND	ND	NA	25	IS	13C-2,3,7,8-TCDD	93.2	96.8	25 - 164
1,2,3,7,8-PeCDD	ND	ND	NA	25		13C-1,2,3,7,8-PeCDD	92.8	101	25 - 181
1,2,3,4,7,8-HxCDD	ND	ND	NA	25		13C-1,2,3,4,7,8-HxCDD	81.7	85.2	32 - 141
1,2,3,6,7,8-HxCDD	ND	ND	NA	25		13C-1,2,3,6,7,8-HxCDD	66.5	71.8	28 - 130
1,2,3,7,8,9-HxCDD	ND	ND	NA	25		13C-1,2,3,7,8,9-HxCDD	72.0	75.9	32 - 141
1,2,3,4,6,7,8-HpCDD	9.69	8.75	10.2	25		13C-1,2,3,4,6,7,8-HpCDD	73.7	79.3	23 - 140
OCDD	77.5	69.3	11.2	25		13C-OCDD	81.9	84.6	17 - 157
2,3,7,8-TCDF	0.551	0.540	2.08	25		13C-2,3,7,8-TCDF	98.0	105	24 - 169
1,2,3,7,8-PeCDF	0.610	ND	#	25		13C-1,2,3,7,8-PeCDF	95.5	99.5	24 - 185
2,3,4,7,8-PeCDF	ND	ND	NA	25		13C-2,3,4,7,8-PeCDF	94.6	99.2	21 - 178
1,2,3,4,7,8-HxCDF	0.646	0.675	4.47	25		13C-1,2,3,4,7,8-HxCDF	91.3	95.5	26 - 152
1,2,3,6,7,8-HxCDF	ND	ND	NA	25		13C-1,2,3,6,7,8-HxCDF	78.3	83.0	26 - 123
2,3,4,6,7,8-HxCDF	ND	ND	NA	25		13C-2,3,4,6,7,8-HxCDF	79.3	84.2	28 - 136
1,2,3,7,8,9-HxCDF	ND	ND	NA	25		13C-1,2,3,7,8,9-HxCDF	77.3	86.9	29 - 147
1,2,3,4,6,7,8-HpCDF	0.896	0.808	10.3	25		13C-1,2,3,4,6,7,8-HpCDF	73.6	74.7	28 - 143
1,2,3,4,7,8,9-HpCDF	ND	ND	NA	25		13C-1,2,3,4,7,8,9-HpCDF	83.9	89.3	26 - 138
OCDF	3.07	2.84	7.63	25		13C-OCDF	86.9	92.5	17 - 157
					CRS	37Cl-2,3,7,8-TCDD	91.9	94.6	35 - 197

LCL-UCL - Lower control limit - upper control limit

The results are reported in dry weight.

The sample size is reported in wet weight.Results

reported to the MDL

Sample ID: PDI-102	29SC-A-12-13-191009							EPA Me	thod 1613B
Project: Gasco	or QEA, LLC o PDI ct-2019 0:00	Sample Matrix Sampl % Soli	e Size: 12.7 g		Lab QC	boratory Data o Sample: 1903646-07 Batch: B9J0315 te Analyzed : 07-Dec-19 11:40	Date Received: Date Extracted) Column: ZB-5M	: 29-Oct-2019	
Analyte Conc.	(pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.244			IS	13C-2,3,7,8-TCDD	98.2	25 - 164	
1,2,3,7,8-PeCDD	ND	0.351				13C-1,2,3,7,8-PeCDD	103	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.375				13C-1,2,3,4,7,8-HxCDD	90.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.344				13C-1,2,3,6,7,8-HxCDD	82.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.388				13C-1,2,3,7,8,9-HxCDD	81.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	5.03					13C-1,2,3,4,6,7,8-HpCDD	81.9	23 - 140	
OCDD	38.1					13C-OCDD	87.8	17 - 157	
2,3,7,8-TCDF	ND	0.180				13C-2,3,7,8-TCDF	98.7	24 - 169	
1,2,3,7,8-PeCDF	ND	0.172				13C-1,2,3,7,8-PeCDF	96.1	24 - 185	
2,3,4,7,8-PeCDF	ND	0.169				13C-2,3,4,7,8-PeCDF	94.0	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.159				13C-1,2,3,4,7,8-HxCDF	98.5	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.163				13C-1,2,3,6,7,8-HxCDF	82.8	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.169				13C-2,3,4,6,7,8-HxCDF	89.4	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.216				13C-1,2,3,7,8,9-HxCDF	101	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.247				13C-1,2,3,4,6,7,8-HpCDF	83.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.202				13C-1,2,3,4,7,8,9-HpCDF	91.4	26 - 138	
OCDF	ND		0.980			13C-OCDF	93.4	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	93.7	35 - 197	
						Toxic Equivalent Quotient (TEC	Q) Data (pg/g dry	wt)	
						TEQMinWHO2005Dioxin	0.0617		
TOTALS									
Total TCDD	ND	0.244							
Total PeCDD	ND	0.351							
Total HxCDD	ND		0.800						
Total HpCDD	12.8								
Total TCDF	ND	0.180							
Total PeCDF	ND	0.172							
Total HxCDF	ND	0.216							
Total HpCDF	0.805								

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: PDI-03	8SC-A-12-13-191009							EPA Me	thod 1613B
Project: Gasco	or QEA, LLC 9 PDI 9t-2019 16:08	Matr	ole Size: 12.8 g		Lab QC	boratory Data 9 Sample: 1903646-08 Batch: B9J0315 re Analyzed : 07-Dec-19 12:2	Date Receiv Date Extract 8 Column: ZB-5	ed: 29-Oct-2019	
Analyte Conc.	(pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.222			IS	13C-2,3,7,8-TCDD	88.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.192				13C-1,2,3,7,8-PeCDD	92.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.279				13C-1,2,3,4,7,8-HxCDD	81.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.306				13C-1,2,3,6,7,8-HxCDD	67.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.326				13C-1,2,3,7,8,9-HxCDD	67.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.413				13C-1,2,3,4,6,7,8-HpCDD	73.3	23 - 140	
OCDD	ND		0.754			13C-OCDD	80.3	17 - 157	
2,3,7,8-TCDF	ND	0.163				13C-2,3,7,8-TCDF	89.8	24 - 169	
1,2,3,7,8-PeCDF	ND	0.145				13C-1,2,3,7,8-PeCDF	86.6	24 - 185	
2,3,4,7,8-PeCDF	ND	0.117				13C-2,3,4,7,8-PeCDF	89.6	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.142				13C-1,2,3,4,7,8-HxCDF	90.5	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.158				13C-1,2,3,6,7,8-HxCDF	76.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.165				13C-2,3,4,6,7,8-HxCDF	80.6	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.270				13C-1,2,3,7,8,9-HxCDF	72.2	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.258				13C-1,2,3,4,6,7,8-HpCDF	68.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.209				13C-1,2,3,4,7,8,9-HpCDF	79.6	26 - 138	
OCDF	ND	0.240				13C-OCDF	85.1	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	93.6	35 - 197	
						Toxic Equivalent Quotient (TE	Q) Data (pg/g dı	y wt)	
						TEQMinWHO2005Dioxin	0.00		
TOTALS									
Total TCDD	ND	0.222							
Total PeCDD	ND	0.192							
Total HxCDD	ND	0.326							
Total HpCDD	ND	0.413							
Total TCDF	ND	0.163							
Total PeCDF	ND	0.145							
Total HxCDF	ND	0.270							
Total HpCDF	ND	0.258							

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: PDI-03	8SC-A-13-13.7-191009							EPA Me	thod 1613B
Client DataName:AncheProject:GascoDate Collected:09-Oct		Matr	ple Size: 13.9 g		Lat QC	boratory Data o Sample: 1903646-09 c Batch: B9J0315 te Analyzed : 07-Dec-19 13:	Date Received Date Extracted 16 Column: ZB-5M	: 29-Oct-2019	
Analyte Conc.	(pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.212			IS	13C-2,3,7,8-TCDD	91.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.208				13C-1,2,3,7,8-PeCDD	96.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.309				13C-1,2,3,4,7,8-HxCDD	79.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.352				13C-1,2,3,6,7,8-HxCDD	68.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.358				13C-1,2,3,7,8,9-HxCDD	72.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	1.58			J		13C-1,2,3,4,6,7,8-HpCDD	79.4	23 - 140	
OCDD	12.1					13C-OCDD	83.3	17 - 157	
2,3,7,8-TCDF	ND	0.156				13C-2,3,7,8-TCDF	94.7	24 - 169	
1,2,3,7,8-PeCDF	ND	0.134				13C-1,2,3,7,8-PeCDF	88.9	24 - 185	
2,3,4,7,8-PeCDF	ND	0.125				13C-2,3,4,7,8-PeCDF	90.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.132				13C-1,2,3,4,7,8-HxCDF	90.2	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.143				13C-1,2,3,6,7,8-HxCDF	78.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.162				13C-2,3,4,6,7,8-HxCDF	80.7	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.201				13C-1,2,3,7,8,9-HxCDF	82.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.212				13C-1,2,3,4,6,7,8-HpCDF	76.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.176				13C-1,2,3,4,7,8,9-HpCDF	89.1	26 - 138	
OCDF	ND	1.91				13C-OCDF	87.9	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	94.0	35 - 197	
						Toxic Equivalent Quotient (T	EQ) Data (pg/g dry	wt)	
						TEQMinWHO2005Dioxin	0.0194		
TOTALS									
Total TCDD	ND	0.212							
Total PeCDD	ND	0.208							
Total HxCDD	1.24								
Total HpCDD	3.98								
Total TCDF	ND	0.156							
Total PeCDF	ND	0.134							
Total HxCDF	ND	0.201							
Total HpCDF	ND	0.212							

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the
	instrument
Н	Recovery and/or RPD was outside laboratory acceptance limits
Ι	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
М	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
Р	The reported concentration may include contribution from chlorinated diphenyl
	ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-В
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Vista Analytical Laboratory Certifications

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated	EPA 23
Dibenzofurans	
Determination of Polychlorinated p-Dioxins & Polychlorinated	EPA TO-9A
Dibenzofurans	

MATRIX: Biological Tissue							
Description of Test	Method						
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B						
Dilution GC/HRMS							
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A						
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C						
by GC/HRMS							
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by	EPA 1699						
HRGC/HRMS							
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537						
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by	EPA 8280A/B						
GC/HRMS							
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA						
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A						

MATRIX: Drinking Water						
Description of Test	Method					
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA					
	1613/1613B					
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522					
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537					
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009					

MATRIX: Non-Potable Water							
Description of Test	Method						
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B						
Dilution GC/HRMS							
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A						
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C						
by GC/HRMS							
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699						
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537						
Dioxin by GC/HRMS	EPA 613						
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B						
Dibenzofurans by GC/HRMS							
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA						
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A						

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

01 PDI-016SC-A-14-15-191009 N SE 10/09/2019 9.48 1 Dioxin/Furans E1613B 30 4°C 002 PDI-016SC-A-15-16-191009 N SE 10/09/2019 9.48 1 Dioxin/Furans E1613B 30 4°C 002 PDI-016SC-A-15-16-191009 N SE 10/09/2019 9.48 1 Dioxin/Furans E1613B 30 4°C 003 PDI-016SC-A-15-16-191009 N SE 10/09/2019 12:14 1 Dioxin/Furans E1613B 30 4°C 003 PDI-023SC-A-12-12:5-191009 N SE 10/09/2019 12:14 1 Dioxin/Furans E1613B 30 4°C 004 PDI-023SC-A-12-12:5-191009 N SE 10/09/2019 12:14 1 Dioxin/Furans E1613B 30 4°C 004 PDI-023SC-A-12-13:-191009 N SE 10/09/2019 12:14 1 Dioxin/Furans E1613B 30 4°C 005	K	ANCHOR QEA Avenue, Suite 2600, Seattle, WA 98101	ENVIR	ONME	ENTAL SA	MPLE	CH	AIN	OF CUSTODY 190	3648 38°C,2.5°	VISTA-201910	009-171243
1605 Comwall Avenue, Bellingham, WA 98225 Client: NW Natural Lab: VISTA COC Sample Number Field Sample ID \overrightarrow{b} \overrightarrow{b} \overrightarrow{b} Matrix Collected Date \overrightarrow{b}	POC:	* Delaney Peterson (360-715-27	07)		Project:	Gasc	o PDI		×	Sample Custodian:	CO SN BL F	
Od1 PDL016SC-A-14-15-191009 N SE 10/09/2019 9:48 1 Dioxin/Furans E1613B 30 4*C 002 PDL016SC-A-15-16-191009 N SE 10/09/2019 9:48 1		1605 Cornwall Avenue, Belling	ham, WA s	98225	Client:	NW N	latural					
Image: Normal Schwart in State Image: Normal Schwart in	Sample	Field Sample ID	Sample Type	Matrix			# Containers		Test Request	Method	TAT**	Preservative
Index Total solids (VISTA) SMZ540G 30 4*C 002 PDI-016SC-A-15-16-191009 N SE 10/09/2019 9.48 1	001	PDI-016SC-A-14-15-191009	N	SE	10/09/2019	9:48	1					
O02 PDI-018SC-A-15-16-191009 N SE 10/09/2019 9.48 1 Image: Constraint of the constrain									Dioxin/Furans	E1613B	30	4°C
Image: Section of the synthesis of the synthesynthesis of the synthesis of the synthe									Total solids (VISTA)	SM2540G		4°C
Total solids (VISTA) SN02 30 4*C 003 PDI-023SC-A-11-12-191009 N SE 10/09/2019 12:14 1	002	PDI-016SC-A-15-16-191009	N	SE	10/09/2019	9:48	1					- 1
O03 PDI-023SC-A-11-12-191009 N SE 10/09/2019 12:14 1									Dioxin/Furans	E1613B	30	4°C
Image:									Total solids (VISTA)	SM2540G		4°C
Index Index <th< td=""><td>003</td><td>PDI-023SC-A-11-12-191009</td><td>N</td><td>SE</td><td>10/09/2019</td><td>12:14</td><td>1</td><td></td><td></td><td></td><td></td><td></td></th<>	003	PDI-023SC-A-11-12-191009	N	SE	10/09/2019	12:14	1					
Odd PDI-023SC-A-12-12.5-191009 N SE 10/09/2019 12:14 1 Image: Constraint of the text of tex of text of text of tex of text of text of text of te							1	1	Dioxin/Furans	E1613B	30	4°C
Image:									Total solids (VISTA)			4°C
Total solids (VISTA) SM2540G 30 4 ⁺ C 005 PDI-029SC-A-12-13-191009 N SE 10/09/2019 14:39 1	004	PDI-023SC-A-12-12.5-191009	N	SE	10/09/2019	12:14	1					
O05 PDI-029SC-A-12-13-191009 N SE 10/09/2019 14:39 1 Image: Constraint of the constrant of the constraint of the constraint of the constrain						5			Dioxin/Furans	E1613B	30	4°C
Image: Note N OE 10/09/2019 14.39 Image: N Dioxin/Furans E1613B 30 4°C 006 PDI-029SC-A-13-13.7-191009 N SE 10/09/2019 14:39 2 X Image: N SM2540G 30 4°C 006 PDI-029SC-A-13-13.7-191009 N SE 10/09/2019 14:39 2 X Image: N SM2540G 30 4°C 007 PDI-1029SC-A-12-13-191009 FD SE 10/09/2019 1 Image: N Image: N SM2540G 30 4°C 007 PDI-1029SC-A-12-13-191009 FD SE 10/09/2019 1 Image: N Image: N Image: N Image: N Image: N 4°C 007 PDI-1029SC-A-12-13-191009 FD SE 10/09/2019 1 Image: N Image: N<									Total solids (VISTA)	SM2540G		4°C
Does Display N SE 10/09/2019 14:39 2 X 006 PDI-029SC-A-13-13.7-191009 N SE 10/09/2019 14:39 2 X Image: Constraint of the constrain	005	PDI-029SC-A-12-13-191009	N	SE	10/09/2019	14:39	1					L.,
O06 PDI-029SC-A-13-13.7-191009 N SE 10/09/2019 14:39 2 X Dioxin/Furans E1613B 30 4°C 007 PDI-1029SC-A-12-13-191009 FD SE 10/09/2019 1 Image: Second Secon									Dioxin/Furans	E1613B	30	4°C
Image: Normal State Image: Normal State<									Total solids (VISTA)	SM2540G		4°C
Operation Description	006	PDI-029SC-A-13-13.7-191009	N	SE	10/09/2019	14:39	2	X				
O07 PDI-1029SC-A-12-13-191009 FD SE 10/09/2019 1 Image: Constraint of the second									Dioxin/Furans	E1613B	30	4°C
Dioxin/Furans E1613B 30 4°C Total solids (VISTA) SM2540G 30 4°C									Total solids (VISTA)			4°C
Total solids (VISTA) SM2540G 30 4°C	007	PDI-1029SC-A-12-13-191009	FD	SE	10/09/2019		1					
Total solids (VISTA) SM2540G 30 4°C									Dioxin/Furans	E1613B	30	4°C
									Total solids (VISTA)			4°C
	008	PDI-038SC-A-12-13-191009	N	SE	10/09/2019	16:08	1					

Comment:					
Relinguished By:	Received By;	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature		Signature
CONSTINON	Print Name Haiten Ganas	Print Name	Print Name	Print Name	Print Name
HQ	Company VAL	Company	Company	Company	Company
Date/Time	Date/Time 10/15/19 08:51	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 10/9/2019 Work Order 1903646 * Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY



Sample Custodian:

VISTA-20191009-171243

CO, SN, BJ, DL

POC: *	Delaney	Peterson	(360-715-2707)

Gasco PDI

Project:

	1605 Cornwall Avenue, Bellingham	1, WA !	98225	Client:	NW N	atural		Lab	ê	VISTA	
COC Sample Number	Field Sample ID	Sample Type	Matrix	Collecte	ed Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
008	PDI-038SC-A-12-13-191009	N	SE	10/09/2019	16:08	1					1
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
009	PDI-038SC-A-13-13.7-191009	N	SE	10/09/2019	16:08	1			-		1
								Dioxin/Furans	E1613B	30	4°C
							1	Total solids (VISTA)	SM2540G	30	4°C

Comment:					
Relinquished By:	Received By:	Relinquished By:	Received By:	Relinguished By:	Received By:
(XIVVAA)	Signature	Signature	Signature		Signature
Print Name C.OREIRD	Print Name Handen Gangi	Print Name	Print Name	Print Name	Print Name
Company A-Q	Company VAL	Company	Company	Company	Company
Date/Time 14/19 0755	Date/Time 10/15/19 08:51	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 10/9/2019 Work Order 1903646 * Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

Page 2 of 2 Page 24 of 518



Sample Log-In Checklist

Arrival: Image: Ima												
Vista Work Orde	r#: <u>1903</u>	le L	16				T	AT	std			
Samples	Date/Time			In	itials:		Loc	ation:	WR-Z			
Arrival:	10/15/19	С)8:51	Ĥ	106		She	lf/Rack	<:_ <u>//</u> A	<u> </u>		
Delivered By:	FedEx UP	'S	On Tra	ic	GSO	DHI	-			Otl	her	
Preservation:	(Ce)		Blue Ice Dry Ice							No	ne	
Temp °C: ୨. ୧	(uncorrected)					1				TA	x	
Temp °C: 3.8	(corrected)	P	robe use	}d:	Y /(N)		The	mome	ter ID:	TK-	<u>4</u>	
			-									
		- R. 3		and the second			B.		YES	NO	NA	
Shipping Contain	er(s) Intact?								V			
Shipping Custody	/ Seals Intact?								1			
Shipping Container(s) Intact? ✓ Shipping Custody Seals Intact? ✓												
Shipping Docume	entation Present	?							1			
Samples Arrival: Image: Constraint W k-2 Arrival: $(0/15/19$ $08:51$ $H0G$ Shelf/Rack: N/A Delivered By: FedEx UPS On Trac GSO DHL Hand Delivered Other Preservation: Geo Blue Ice Dry Ice None Temp °C: 3. % (uncorrected) Probe used: Y / N Thermometer ID: I/A - 4 Shipping Container(s) Intact? V V V Shipping Custody Seals Intact? V V Airbill 2 of 4 Trk # 2262 1463 1324 V V Shipping Container Dispose Chain of Custody / Sample Documentation Present? V V V V Shipping Container Vista Cliept Retain Return Dispose Chain of Custody / Sample Documentation Present? V V V V V V V Holding Time Acceptable? V V V V V V V							oose					
Samples Arrival: Date/Time Initials: Location: $WR - Z$ Arrival: $0/15/19$ $08:51$ HDG Shelf/Rack: A/A Delivered By: FedE> UPS On Trac GSO DHL Hand Delivered Other Preservation: Geo Blue Ice Dry Ice None Temp °C: 3.8 (corrected) Probe used: Y I/W Thermometer ID: $IR - 4$ Shipping Container(s) Intact? V V V Shipping Custody Seals Intact? V V Airbill 2 of 4 Trk # 2262 I463 2328 V V Shipping Container Vista V Shipping Dispose Chain of Custody / Sample Documentation Present? V V V Shipping Custody / Sample Documentation Complete? V V -odged In: Date/Time Initials: Location: W V V												
Chain of Custody	/ Sample Docur	nent	tation Co	mp	lete?							
Holding Time Acc	eptable?								\checkmark			
_	Date/Time			Ini	tials:		Loca	tion:	WR-2	7		
Logged In:	10/16/19	09	.04		ajm							

Comments:

ID.: LR – SLC

COC Anomaly/Sample Acceptance Form completed?

1



Sample Log-In Checklist

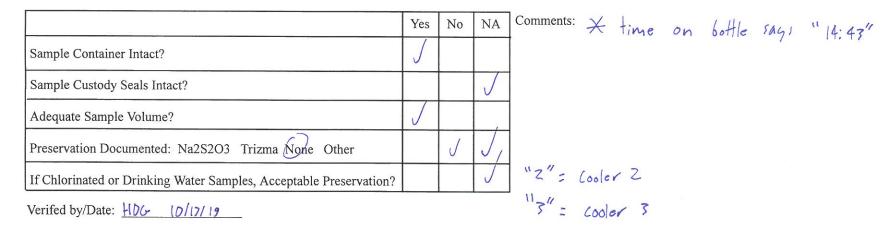
Vista Work Orde	Vista Work Order #: 1903646 Page # of											
Samples	Date/Tim	ne		Initials:		L	ocation: $\bigcup R$	- 2				
Arrival: 10/15/19 08:51 HOG Shelf/Rack: NA												
Delivered By:	FedEx	UPS	On Tra	c GSO	DH	L	Hand Delivered	Other				
Preservation:	lc	e	Blu	le lce		Dry Ice None						
Temp °C: 7.5 Temp °C: 2.5	(uncorr (correc		Probe used: Y / N				hermometer II	D: <u>IR-3</u>				
						L						

Real and the second of						YES	NO	NA					
Shipping Container(s													
Shipping Custody Se													
Airbill 3 of 4													
Shipping Documenta	Airbill 3 of 4 Trk # 7767 [463 8/02 Shipping Documentation Present?												
Shipping Container		Vista	Client	Retain	Re	eturn	Disp	oose					
Chain of Custody / S	ample Do	ocumentation Pr	esent?	U 10	117/19	+	1	v					
Chain of Custody / S	ample Do	ocumentation Co	omplete?		1 1		5	1					
Holding Time Accept	able?					V							
	ite/Time		Initials:	Locat	ion:	WR-2							
Logged In:	01619	0904		Shelf	Rack	<u>c: 2- </u>							
COC Anomaly/Samp	le Accep	tance Form com	pleted?				1	 Image: A start of the start of					

Comments:

CoC/Label Reconciliation Report WO# 1903646

LabNumber	CoC Sample ID	Label ID matches COCID	Label ID doesn't match COCID SampleAlias	Sampled	Label Sampled matches	Sampled doesn't match	Container	Container Correct		Sample x Comments
Z 1903646-01	A PDI-016SC-A-14-15-191009		001	09-Oct-19 09:4	8 🗳		Amber Glass, 120 mL		Solid	
2 1903646-02	A PDI-016SC-A-15-16-191009	ø,	002	09-Oct-19 09:4	8 🖸		Amber Glass, 120 mL	\Box	Solid	
2 1903646-03	A PDI-023SC-A-11-12-191009	T	003	09-Oct-19 12:1	4 🗹		Amber Glass, 120 mL		Solid	
2 1903646-04	A PDI-023SC-A-12-12.5-191009	Ø	004	09-Oct-19 12:1	4 🗹		Amber Glass, 120 mL		Solid	
Z 1903646-05	A PDI-029SC-A-12-13-191009		005	09-Oct-19 14:3	9 🗹		Amber Glass, 120 mL		Solid	
2 1903646-06	A PDI-029SC-A-13-13.7-191009	Q	006	09-Oct-19 14:3	9 🗹		Amber Glass, 120 mL	e⁄	Solid	DUP
Z 1903646-06	B PDI-029SC-A-13-13.7-191009		006	09-Oct-19 14:3	9 🗹		Amber Glass, 120 mL	Ø	Solid	DUP
2 1903646-07	A PDI-1029SC-A-12-13-191009		007	¥ 09-Oct-19 00:0	0	HOG 10/17/19	Amber Glass, 120 mL	e	Solid	
3 1903646-08	A PDI-038SC-A-12-13-191009	Ø	008	09-Oct-19 16:0	8 🗹	1011111	Amber Glass, 120 mL	Ø	Solid	
7 1903646-09	A PDI-038SC-A-13-13.7-191009		009	09-Oct-19 16:0	8 🗹		Amber Glass, 120 mL	e	Solid	



EXTRACTION INFORMATION

Process Sheet Workorder: 1903646

Prep Expiration: 2020-10-08 Client: Anchor QEA, LLC

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

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05-Nov-19 Workorder Due: 12-Nev-19-00:00

TAT: 28 21 DIO/18/15

Prep Batch:	B950	315
o Data Entered:	M	<i>\\\\</i>

Prep

Initial Sequence:

h:	B120312
	MD INLOSTIA
	Date and Initials
e:	5960012

			_	
LabSampleID	Recon ClientSampleID	Date Received	Location	Comments
1903646-01	↓ XVPDI-016SC-A-14-15-191009	15-Oct-19 08:51	WR-2 A-1	
1903646-02	└ VPDI-016SC-A-15-16-191009	15-Oct-19 08:51	WR-2 A-1	
1903646-03	∑ [✓] PDI-023SC-A-11-12-191009	15-Oct-19 08:51	WR-2 A-1	
1903646-04	X PDI-023SC-A-12-12.5-191009	15-Oct-19 08:51	WR-2 A-1	
1903646-05	区 PDI-029SC-A-12-13-191009	15-Oct-19 08:51	WR-2 A-1	
1903646-06	≠ 🗹 ✓ PDI-029SC-A-13-13.7-191009	15-Oct-19 08:51	WR-2 A-1	DÜP
1903646-07	✓ ∑	15-Oct-19 08:51	WR-2 A-1	
1903646-08	DI-038SC-A-12-13-191009	,15-Oct-19 08:51	WR-2 A-1	
1903646-09	DI-038SC-A-13-13.7-191009	15-Oct-19 08:51	WR-2 A-1	

WO Comments: Pest-4gam Dioxin - 10g (dry weight)	traction (dry weight)	· ·	
CE_Eq.oxtractic=(dry-mi			· · · · · · · · · · · · · · · · · · ·
Pre-Prep Check Out: <u>20 10/22/1</u> 9	Prep Check Out:		Prep Reconciled Initals/Date: (20 10/22/19
Pre-Prep Check In: 00/0/22/19	Prep Check In:NA	•	Spike Reconciled Initals/Date: 10/24/19
			VialBoxID: <u>Cirli</u>
	Page 1 of 1		# 11/05/19 10
Work Order 1903646		;	Page 29 of 518

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• Page 29 of 518

PREPARATION BENCH SHEET

Matrix: Solid

B9J0315

Chemist: _____O

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 29-Oct-19 09:52

С	VISTA Sample ID	G Eqv	Sample Amt. (g)	CH	S/NS EM/WIT DATE	CHE	CRS M/WIT ATE	A CHI DA	E M /	ABSG CHEM/ DATE		AA CHEM/ DATE		Florisil CHEM/ DATE			RS EM/WIT DATE
	B9J0315-BLK1	NA	(10.00)	00 21	10/29/19	pt or	10/30/09	N	VA 613114		D= 6131109		1311 cg D# vol31		A I	1N 11/04/14	
	B9J0315-BS1	I	(10,00		r''	T				7	-		T				T
	B9J0315-DUP1 1903646-06	13.09	13.73	/													
	1903646-01	14.56	14.85	V													
	1903646-02	13.81	14 92														
	1903646-03	14.37	14.22														
	1903646-04	14.86	14.93	J													
	1903646-05	12.31	13.06														
	1903646-06	13.09	13.60	1													
	1903646-07	12.39	12 67	J													
	1903646-08	12:43	1283														
	1903646-09	13.65	13.92	V V	/		\mathbf{V}	١	\mathbb{P}^{-}		P		/		Y		

(V ₂)	(Vb)	16			
IS Name	NS Name	CRS Name 🕀 RS Na			Check Out: Chemist/Date: 00 10/29/
PCDD/F 1901, 1000	PCDD/F 18F1913, 10m	PCDD/F 191 602 [Uml PCDD	0/F 191 K03, 10 L Start D	Date/Time SOLV: Tolvene	, , ,
РСВ	PCB	PCB PCB _			Check In: Chemist/Date:
РАН	PAH	РАН РАН	Stop D	Pate/Time Final Volume(s) <u>4</u>	Balance ID: <u>HRMS-</u> 9
			06		

5 = Sample homogenized in secondary container

6 = Sample clogged during extaction; pipetted and used Nitrogen to assist

Comments:

I = Sample approached dryness on rotovap

2 = Sample bumped on rotovap; lost < 5% 3 = Sample poured through Na2SO4 to remove water

4 = Precipitate present at Final Volume Work Order 1903646

Page 30 of 518

Percent Moisture/ Percent Solids

D2216-90 BATCH ID B9J0194

Analyst: AO	Test Code: %Moist/%Solids	
Analyte:	Units: %	Data Entry Verified by: (Initial and Date) エレーロ/24//9
Dried at 110°C+/-5°C		
Oven ID: <u>01</u> 02		

Inst: HRMS-8

٦

 Date/Time IN:
 Date/Time OUT

 10/22/19 1050
 10/24/19 1405

	В	С	D	E	F	G	Н		к	L	M	N	0	Р
				Intial and Date:		TL 10/24/19			AO 10/22/19)		NA		AO 10/22/19
Particle Size	SampID		SampType	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	CI-	pH Before	pH After	Acid Added	Sample Homogenized*
	1903646-01	A	Sample	1.2900 /	11.1200 🖌	8.0400 /	6.7500	68.67	Wet Sand	NA	NA	NA	NA	Y
	1903646-02	Α	Sample	1.2800	8.8500 /	6.7600 🖌	5.4800	72.39	Wet Sand	NA	NA	NA	NA	Y
	1903646-03	А	Sample	1.2800	5.4900 /	4.2100 /	2.9300	69.60	Wet Sand	NA		NA	NA	Y
	1903646-04	А	Sample	1.2700	6.5300 /	4.8100 /	3.5400	67.30	Wet Sand	NA		NA	NA	Y
	1903646-05	А	Sample	1.3000 /	5.9300 /	5.0600 /	3.7600	81.21	Wet Sand			NA	NA	Y
	1903646-06	Α	Sample	1.2900 /	6.9700 /	5.6300 /	4.3400	76.41	Wet Sand			NA	NA	Y
	1903646-07	А	Sample	1.2800 /	6.2100 /	5.2600	3.9800	80.73	Wet Sand			NA	NA	Y
	1903646-08	Α	Sample	1.2900 /	7.7400 /	6.4800 1	5.1900	80.47	Wet Sand			NA	NA	Υ
	1903646-09	А	Sample	1.2800	6.1400	4.8400	3.5600	73.25	Wet Sand	NA	NA	NA	NA	Y
														<u> </u>
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				_							<u> </u>			_
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*Sample homogenized in sample container unless otherwise noted.

BCH_PMOIST_B9J0194.xls

1 of 1

 Percent Moisture/ Percent Solids

 D2216-90
 BATCH ID
 B9J0194

 Analyst:
 (1,0)
 Test Code: %Moist/%Solids
 Data Entry Verified by:

 Analyte:
 Units: %
 Data Entry Verified by:
 Data Entry Verified by:

 Oven ID:
 (01)
 02
 Data Entry Verified by:
 Data Entry Verified by:

1	~		Date/Time IN:	Date/Time OUT	1									
Inst HRMS	- R		1060	1405	J									
	В	с	D	E	F	G	н		K	L	M	N	0	Р
Particle Size	SampID		SampType	Intial and Date:	00 10 22 19 Wet Pan'and Sample	1L /0/24/19	Dry Sample	%Solids	00 10 Visual	<u>11 ()</u> CI-	9		Acid	00 10 22 19 Sample
Farucie Size	Sampio		Samprype	Tare Wt. (gms)	Weight (g)	Weight (g)	Weight (g)	RawVal	Inspection		pH Before	pH After A	Acia	Sample Homogenized*
	1903646-01	A	Sample	1.29	11.12	8.04			Net sand					*
	1903646-02	\overline{T}	Sample	1.28	8.85	6.76			+	X				×
	1903646-03		Sample	1.28	5.49	4.21	90							×
	1903646-04		Sample	1.27	6.53	4.81		1			901	4		×
	1903646-05		Sample	1.30	5.93	5,06	0				ر ار	$\overline{\langle}$		X
	1903646-06		Sample	1.29	6.97	5.63		<u></u>			ノ			×
	1903646-07		Sample	1.28	6.21	5.26	_					2/4		×
	1903646-08		Sample	1.29	7.74	6.48		/ \						×
	1903646-09	v	Sample	1.28	6.14	4.84			*					×
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*Sample homogenized in sample container unless otherwise noted.

BCH_PMOIST_B9J0194.xls

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Batch: B9J0315

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1903646-01	14.85 \	68.66734	10.1971	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
1903646-02	14.92 N	72.39101	10.8007	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
1903646-03	14.22 \	69.59621	9.8966	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
1903646-04	14.93 V	67.30038	10.0479	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
1903646-05	13.06	81.2095	10.6060	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
1903646-06	13.66	76.40845	10.4374	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
1903646-07	12.67 J	80.73022	10.2285	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
1903646-08	12.83	80.46512	10.3237	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
1903646-09	13.92	73.25104	10.1965	20	29-Oct-19 09:52	ACO			Sediment	1613 Full List
B9J0315-BLK1	10 5			20	29-Oct-19 09:52	ACO		1		QC
B9J0315-BS1	10 3			20	29-Oct-19 09:52	ACO	18F1913	10		QC
B9J0315-DUP1	13.73 J			20	29-Oct-19 09:52	ACO				QC

All bolded data on report verified against written benchsheet by (initial/date)_

11/05/19 M

Printed: 11/5/2019 11:28:54AM Page 1 of 1

SAMPLE DATA – EPA METHOD 1613

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	I Laboratory	
Dataset:	U:\VG7.PRO\Results\191	205D3\191205D3-4.qld
Last Altered:	Tuesday, December 10, 2	2019 15:44:51 Pacific Standard Time
Printed:	Tuesday, December 10, 2	2019 15:46:02 Pacific Standard Time

EL 12/10/19 CT 12/18/19

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 14:45:52

Name: 191205D3_4, Date: 6-DEC-2019, Time: 20:17:54, ID: B9J0315-BLK1 Method Blank, Description: B9J0315-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

	# Name	Area	IS Area	Wt.Nol.	RRF	RA _	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPCDL
17 1	1 2,3,7,8-TCDD)	7.23e4	10.0000	0.905			1.001		26.12				0.247
2	2 1,2,3,7,8-PeC	DD	7.01e4	10.0000	0.903			1.001		30.62				0.236
3	3 1,2,3,4,7,8-H	×CDD	5.43e4	10.0000	1.101			1.000		33.92				0.419
4	4 1,2,3.6,7,8-H	xCDD	5.86e4	10.0000	0.939			1.000		34.02				0.461
5	5 1,2,3.7,8,9-H	xCDD	4.48e4	10.0000	0.961			1.001		34.34				0.639
6	6 1,2,3,4,6,7,8-	HpCDD	4.45e4	10.0000	0.979			1.000		37.79				0.471
7	7 OCDD		5.73e4	10.0000	0.959			1.000		41.03				0.864
8	8 2,3,7,8-TCDF		1. 42e 5	10.0000	0.950			1.001		25.33				0.160
9	9 1,2,3,7,8-PeC	DF	1.09e5	10.0000	0.960			1.001		29.45				0.166
10	10 2,3,4,7,8-PeC	DF	1.30e5	10.0000	1.015			1.001		30.35				0.135
1	11 1,2,3,4,7,8-H	xCDF	8.45e4	10.0000	1.177			1.000		33.02				0.171
12 4	12 1,2,3,6,7,8-H	xCDF	8.66e4	10.0000	1.069			1.000		33.16				0.178
13 3 1	13 2,3,4,6,7,8-H	xCDF	7.77e4	10.0000	1.114			1.001		33.78				0.203
14	14 1,2,3,7,8,9-H		3.97e4	10.0000	1.062			1.000		34.69				0.464
15 7 1 5 4	15 1,2,3,4,6,7,8-	HpCDF	5.49e4	10.0000	1.128			1.001		36.55				0.317
16	16 1,2,3,4,7,8,9-	HpCDF	4.17e4	10.0000	1.280			1.000		38.30				0.309
17 17 17	17 OCDF		8.56e4	10.0000	0.947			1.000		41.25				0.430
19.2 4 9	18 13C-2,3,7,8-7	FCDD 7.23e4	1.05e5	10.0000	1.095	0.792	NO	1.021	1.022	26.06	26.08	125.77	62.9	0.524
19.2.2	19 13C-1,2,3,7,8	PeCDD 7.01e4	1.05e5	10.0000	0.881	0.631	NO	1.187	1.199	30.29	30.60	151.43	75.7	0.426
20 20 2 2 2	20 13C-1,2,3,4,7	7,8-Hx 5.43e4	1.11e5	10.0000	0.642	1.347	NO	1.014	1.014	33.90	33.91	153.12	76.6	0.915
2	21 13C-1,2,3,6,7	7,8-Hx 5.86e4	1.11e5	10.0000	0.856	1.255	NO	1.017	1.017	34.02	34.02	123.97	62.0	0.687
2331	22 13C-1,2,3,7,8	3,9-Hx 4.48e4	1.11e5	10.0000	0.807	1.236	NO	1.026	1.026	34.31	34.31	100.46	50.2	0.728
28.04	23 13C-1,2,3,4,6	6,7,8-H 4.45e4	1.11e5	10.0000	0.654	1.086	NO	1.126	1.130	37.65	37.78	123.14	61.6	0.889
	24 13C-OCDD	5.73e4	1.11e5	10.0000	0.580	0.924	NO	1.226	1.227	40.99	41.03	178.84	44.7	0.778
25	25 13C-2,3,7,8-1	CDF 1.42e5	1.79e5	10.0000	1.035	0.790	NO	0.992	0.991	25.31	25.31 ⁻	153.79	76.9	0.538
25,91	26 13C-1,2,3,7,8	3-PeCDF 1.09e5	5 1.79e5	10.0000	0.854	1.581	NO	1.154	1.153	29.45	29.43	142.48	71.2	0.843
	27 13C-2,3,4,7,8	3-PeCDF 1.30e5	1.79e5	10.0000	0.847	1.653	NO	1.189	1.188	30.35	30.32	172.04	86.0	0.850
28.111.111	28 13C-1,2,3,4,7	7,8-Hx 8.45e4		10.0000	0.832		NO	0.987	0.988	33.01	33.02	183.89	91.9	1.08
	29 13C-1,2,3,6,7	7,8-Hx 8.66e4	1.11e5	10.0000	1.034		NO	0.991	0.992	33.13	33.15	151.46	75.7	0.872
	30 13C-2,3,4,6,7	7,8-Hx 7.77e4	1.11e5	10.0000	0.953	0.514	NO	1.009	1.009	33.74	33.75	147.45	73.7	0.946
	31 13C-1,2,3,7,8	3,9-Hx 3.97e4	1.11e5	10.0000	0.828	0.535	NO	1.039	1.038	34.73	34.69	86.736	43.4	1.09

Work Order 1903646

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945		Page 2 of 2
Vista Analytica	al Laboratory			
Dataset:	U:\VG7.PRO\Results\1912	205D3\191205D3-4.qld	-	
Last Altered:	Tuesday, December 10, 2	019 15:44:51 Pacific Standard Time		
Printed:	Tuesday, December 10, 2	019 15:46:02 Pacific Standard Time		

Name: 191205D3_4, Date: 6-DEC-2019, Time: 20:17:54, ID: B9J0315-BLK1 Method Blank, Description: B9J0315-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

	# Name	Area	IS Area	Wt.Vol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC DL
32	32 13C-1,2,3,4,6,7,8-H	5.49e4	1.11e5	10.0000	0.757	0.438	NO	1.093	1.092	36.54	36.51	131.29	65.6	1.01
33	33 13C-1,2,3,4,7,8,9-H	4.17e4	1.11e5	10.0000	0.581	0.443	NO	1.143	1.146	38.22	38.30	129.82	64.9	1.32
34	34 13C-OCDF	8.56e4	1.11e5	10.0000	0.689	0.919	NO	1.233	1.234	41.23	41.25	224.90	56.2	0.704
35	35 37CI-2,3,7,8-TCDD	3.08e4	1.05e5	10.0000	1.198			1.022	1.023	26.09	26.10	48.906	61.1	0.187
36	36 13C-1,2,3,4-TCDD	1.05e5	1.05e5	10.0000	1.000	0.817	NO	1.000	1.000	25.50	25.52	200.00	100.0	0.574
37	37 13C-1,2,3,4-TCDF	1.79e5	1.79e5	10.0000	1.000	0.803	NO	1.000	1.000	24.06	24.08	200.00	100.0	0.557
38	38 13C-1,2,3,4,6,9-Hx	1.11e5	1.11e5	10.0000	1.000	0.528	NO	1.000	1.000	33.42	33.43	200.00	100.0	0.902
39.4	39 Total Tetra-Dioxins		7.23e4	10.0000	0.901			0.000		25.50				0.139
40	40 Total Penta-Dioxins		7.01e4	10.0000	0.872			0.000		30.00				0.104
	41 Total Hexa-Dioxins		0.00e0	10,0000	0.976			0.000		33.80				0.299
24:13:15	42 Total Hepta-Dioxins		4.45e4	10.0000	0.989			0.000		37.75				0.246
43 12 1	43 Total Tetra-Furans		1.42e5	10.0000	0.943			0.000		24.00				0.0821
	44 1st Func. Penta-Fur		0.00e0	10.0000	0.940			0.000		27.63	,			0.0447
	45 Total Penta-Furans		0.00e0	10.0000	0.940			0.000		30.00				0.0597
	46 Total Hexa-Furans		0.00e0	10.0000	1.078			0.000		33.00				0.116
	47 Total Hepta-Furans		0.00e0	10.0000	1.135			0.000		37.75				0.159

.

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 14:45:52

Name: 191205D3_4, Date: 6-DEC-2019, Time: 20:17:54, ID: B9J0315-BLK1 Method Blank, Description: B9J0315-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

Tetra-Dioxins

Name N/Y RT Area IS Area Response Primary Flags

Penta-Dioxins

Hexa-Dioxins

NO CONTROL AND A C

Hepta-Dioxins

Tetra-Furans

Dentalise in Nanchon and an Annon Marked Barrier in Statement in Statement in Statement Property from Barrier Ba

Penta-Furans function 1

Penta-Furans

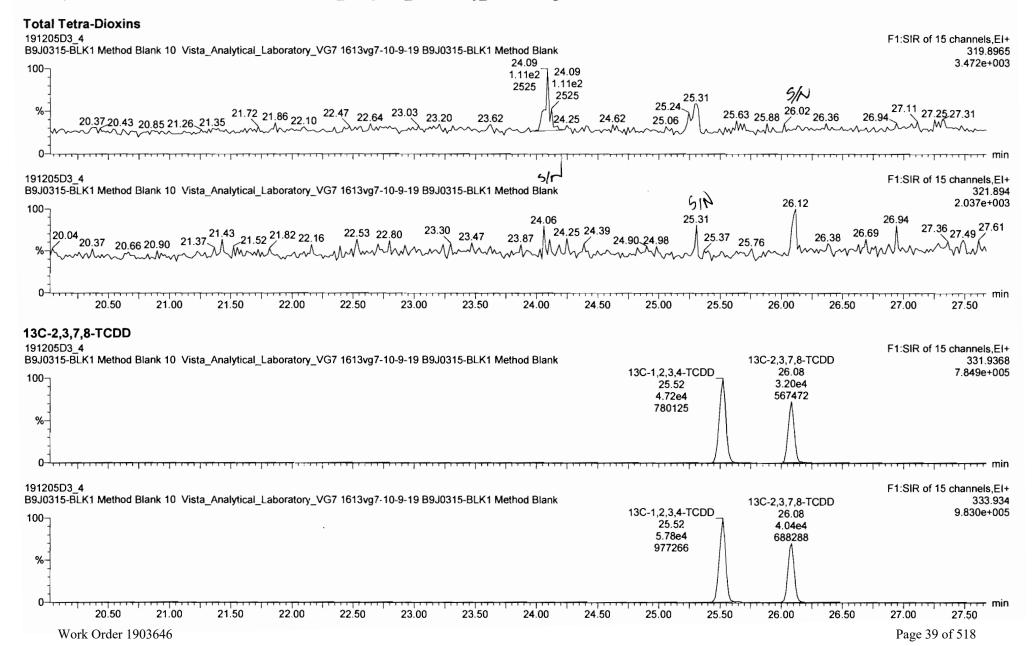
Hexa-Furans

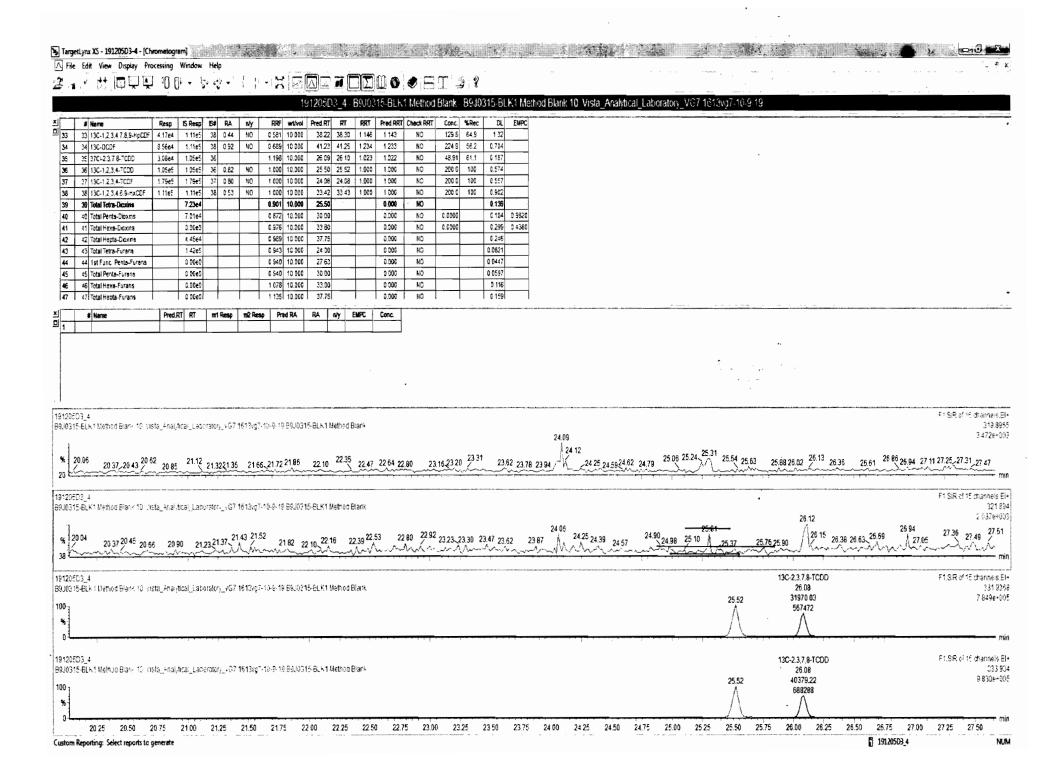
Name N/Y RT Area IS Area Response Primary Flags

Hepta-Furans

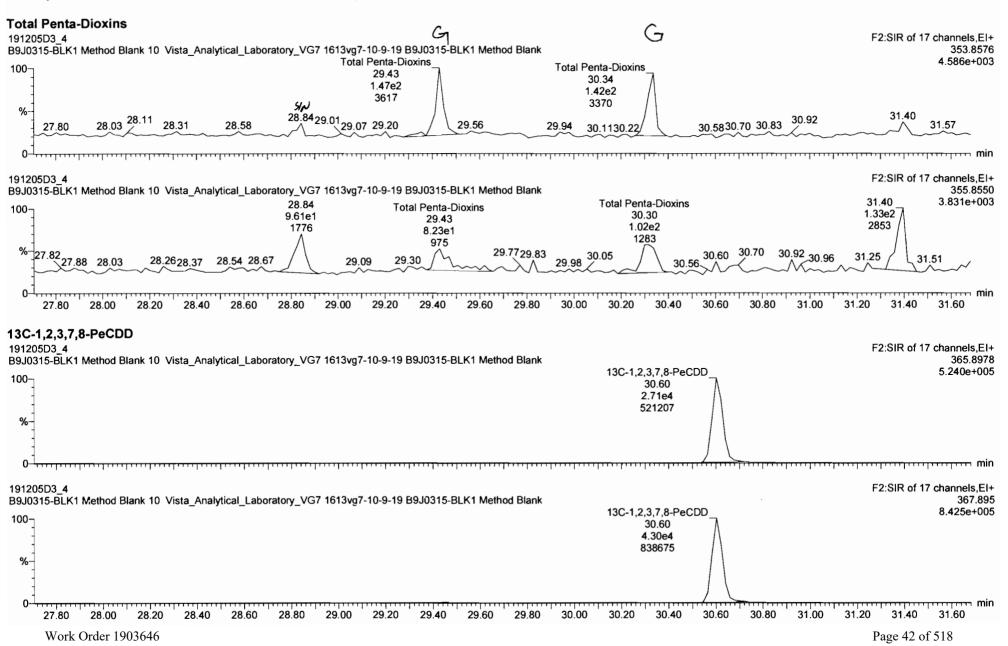
Name ______ NY _____ RT ____ Area IS Area ____ Response Primary Flags ______ Conc __EMPC

Quantify Sam	ple Report	MassLynx MassLynx V4.1 SCN 945	Page 16 of 60
Vista Analytica	al Laboratory		-
Dataset:	Untitled		
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Printed:	Tuesday, Dec	cember 10, 2019 14:44:43 Pacific Standard Time	

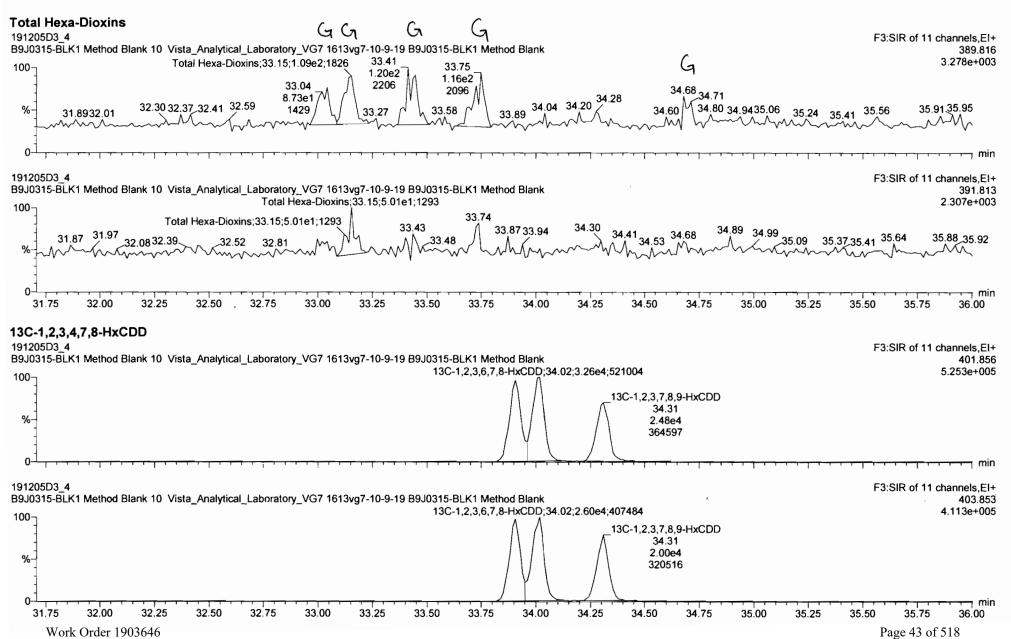




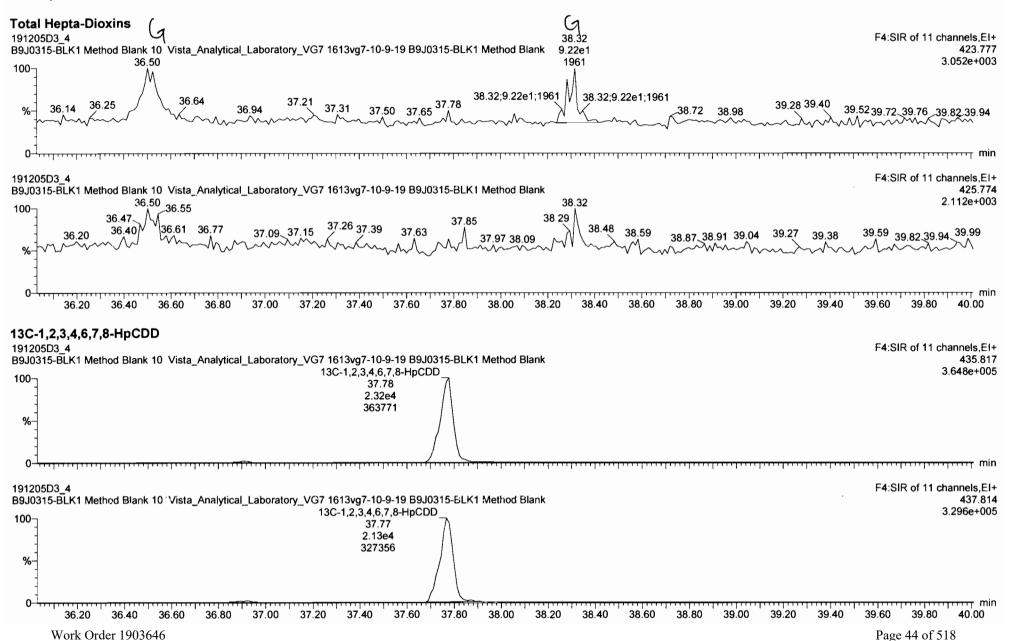
uantify Sample Report ista Analytical Laborator		ynx V4.1 SCN 945								Page 17 of 6
	December 10, 2019 14:44: December 10, 2019 14:44:									
	e: 6-DEC-2019, Time: 20: ∟K1 Method Blank 10 Vis									
CI-2,3,7,8-TCDD	0 Vista_Analytical_Laboratory_V								F1:SIR of	f 15 channels,E 327.8i
		Gr 1010 1 gr-10-0-10 2000			5	37CI-2,3,7 26. 3.08 513	Be4			5.181e+0
%										
0 20.50 21	00 21.50 22.00	22.50 23.00	23.50 24.00	24.50	25.00	25.50	26.00	26.50	27.00	27.50
C-1,2,3,4-TCDD 1205D3_4 J0315-BI K1 Method Blank 1	0 Vista_Analytical_Laboratory_V	/G7 1613va7-10-9-19 B9.10	315-BLK1 Method Blank				13C-2,3,7,8	TCDD	F1:SIR of	f 15 channels,E 331.93
0 %	· ·····				13C-1,2,3,4-TC 25.52 4.72e4 780125		26.08 3.20e4 56747	4		7.849e+(
0 ^{_1}	· · · · · · · · · · · · · · · · · · ·	·····			╺ ╻╷╌╸╻╷╴╴	╷/_┍	····	·····	F1:SIR of	f 15 channels,
	0 Vista_Analytical_Laboratory_V	G1 1013A01-10-8-18 RA101	315-BLK1 Method Blank		13C-1,2,3,4-TC 25.52 5.78e4 977266	DD	13C-2,3,7,8 26.08 4.04e 68828	4		333. 9.830e+(
0 20.50 21	00 21.50 22.00	22.50 23.00	23.50 24.00	24.50	25.00	25.50	26.00	26.50	27.00	27.50
Work Order 1903646		22.00	20.00 24.00	24.00	20.00	20.00	20.00	20.00		1 of 518



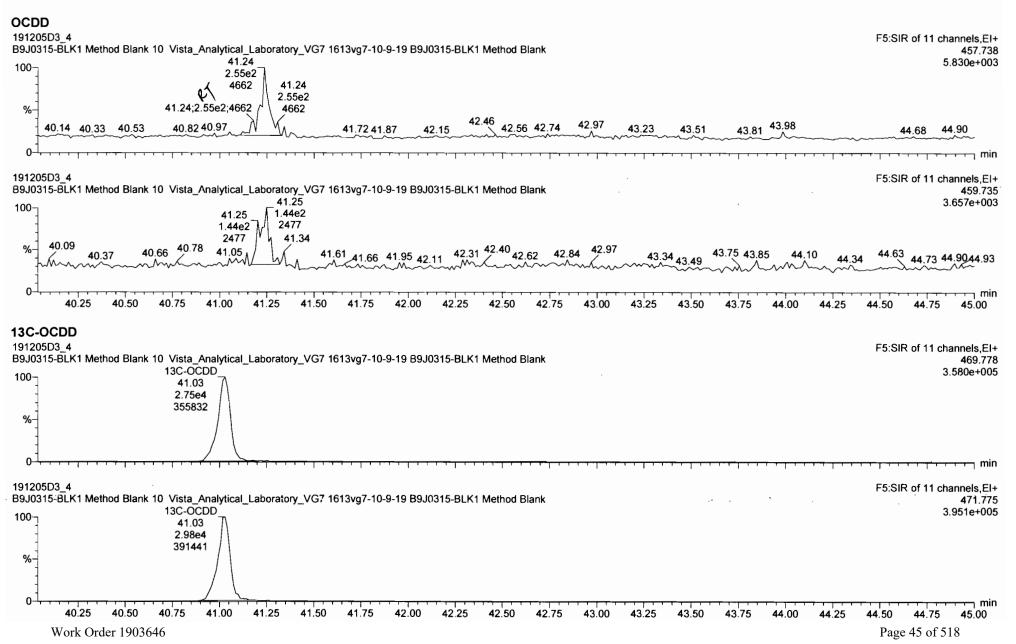
Quantify Sam	ple Report MassLy	/nx MassLynx V4.1 SCN 945			
Vista Analytica	Laboratory				
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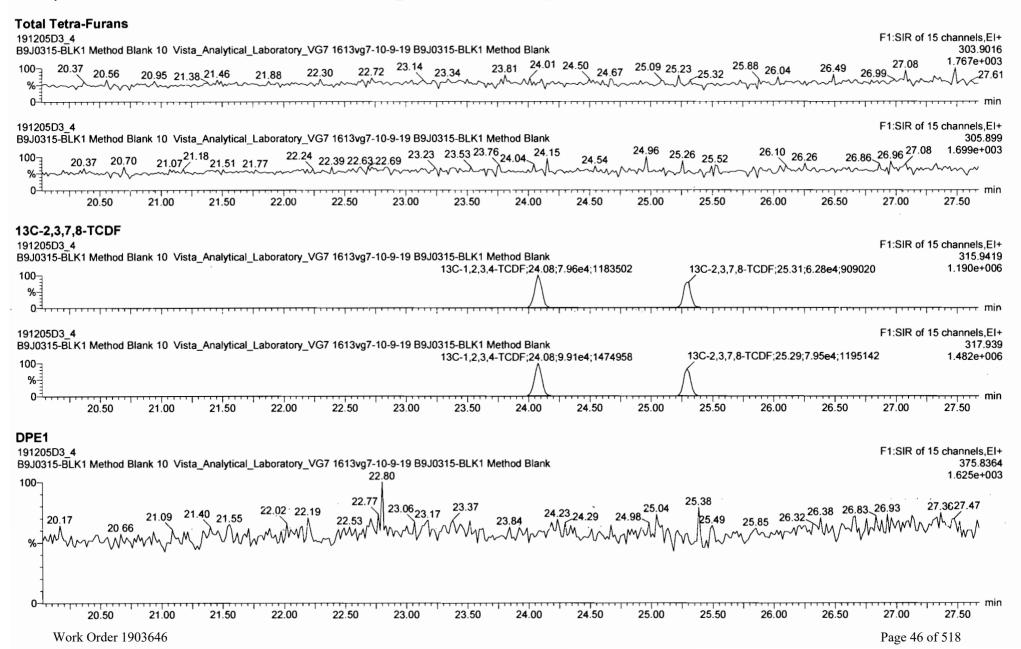


Page 19 of 60

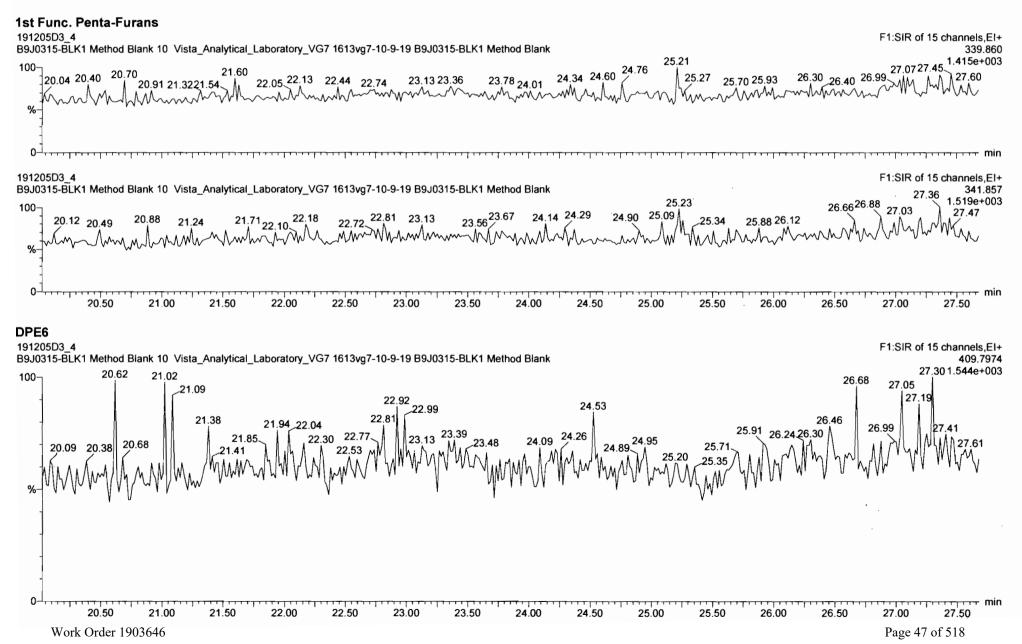


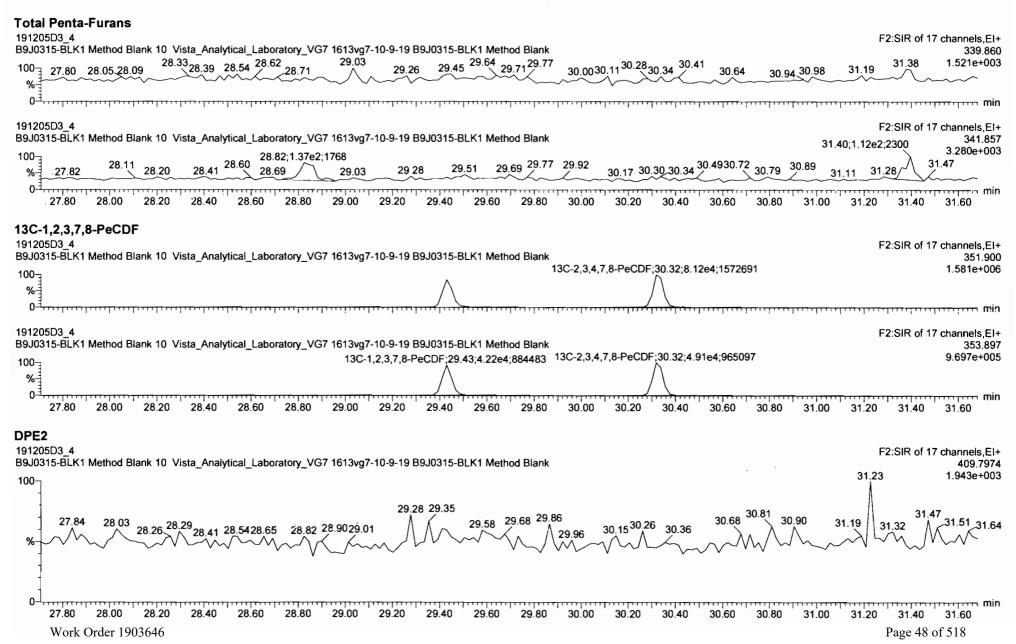
Vista Analytical Labor		
visia Analytical Labor	ratory	
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Last Altered: Tueso	day, December 10, 2019 14:44:25 Pacific Standard Time	
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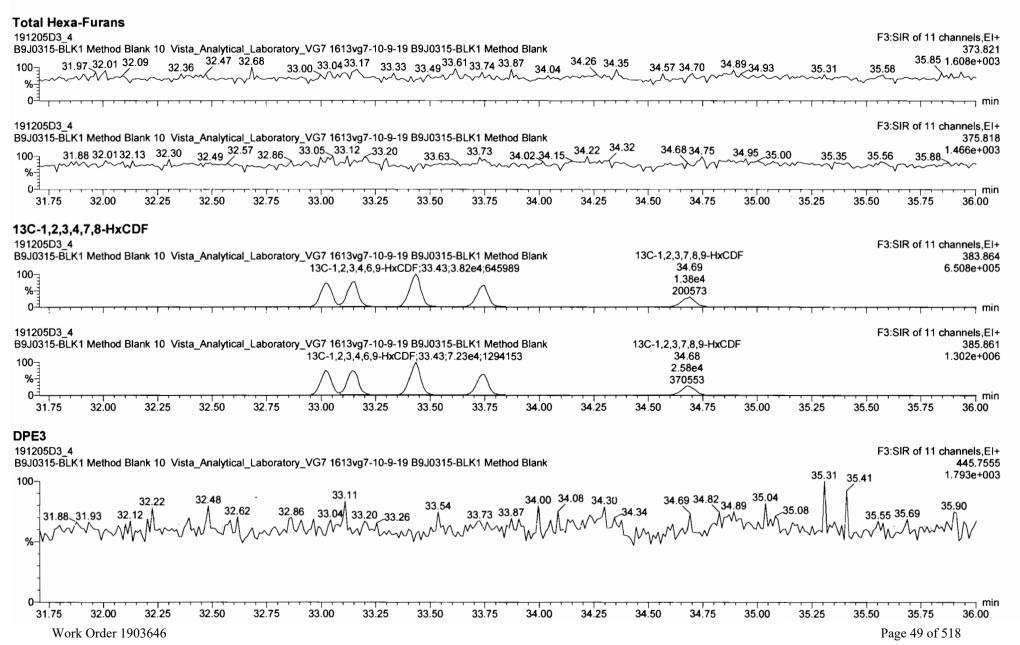


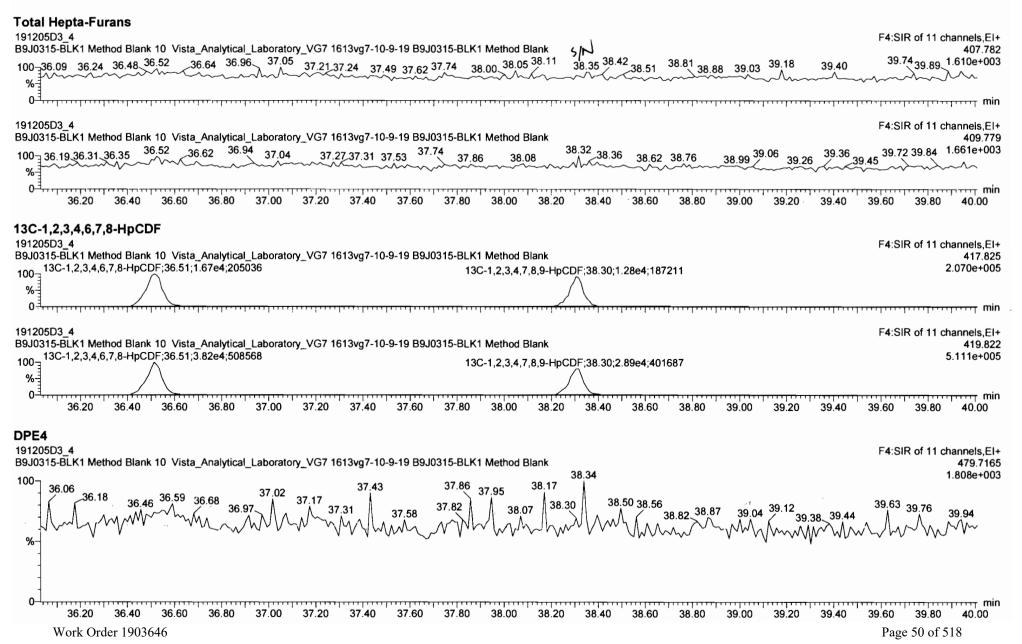


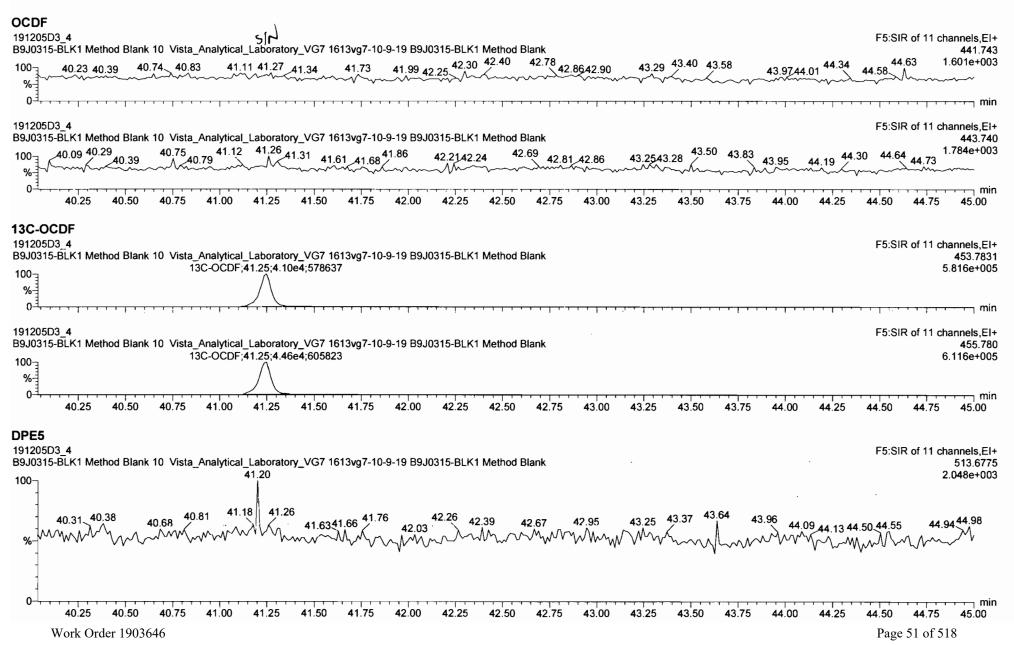
Quantify Sam	ple Report	MassLynx MassLynx V4.1 SCN 945	Page 23 of 60
Vista Analytica	al Laboratory		
Dataset:	Untitled		
Last Altered:	Tuesday, Dec	ember 10, 2019 14:44:25 Pacific Standard Time	
Printed:	Tuesday, Dec	ember 10, 2019 14:44:43 Pacific Standard Time	

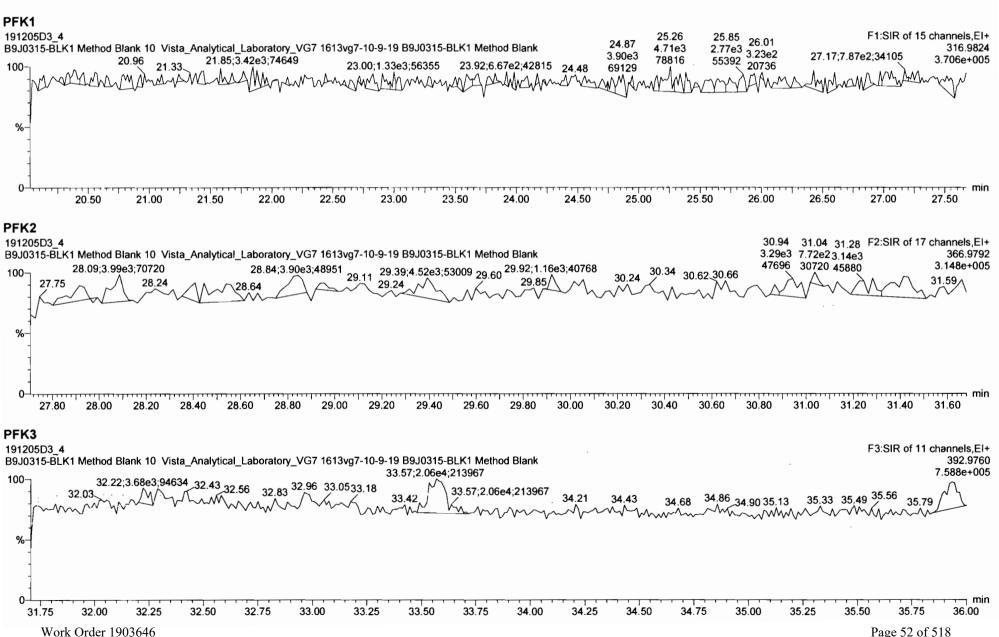


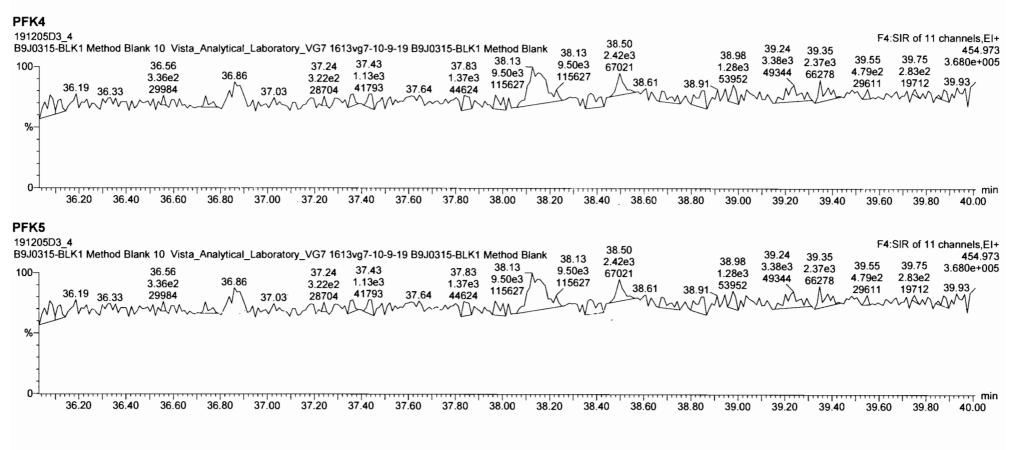












Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	al Laboratory	
Dataset:	U:\VG7.PRO\Results\191	205D3\191205D3-2.qld
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EL 12/10/19 CT 12/18/19

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 14:45:01

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	# Name	Area	IS Area Wt.Nol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1. 图示我想到	1 2,3,7,8-TCDD	1.01e4	9.94e4 10.0000	0.905	0.759	NO	1.001	1.001	26.12	26.12	22.351		22.4	0.211
2	2 1,2,3,7,8-PeCDD	4.50e4	8.88e4 10.0000	0.903	0.613	NO	1.001	1.001	30.62	30.62	112.21		112	0.385
3	3 1,2,3,4,7,8-HxCDD	3.88e4	6.72e4 10.0000	1.101	1.233	NO	1.000	1.001	33.90	33.92	104.96		105	0.545
4	4 1,2,3,6,7,8-HxCDD	3.97e4	7.41e4 10.0000	0.939	1.230	NO	1.000	1.001	34.01	34.03	114.10		114	0.565
5	5 1,2,3,7,8,9-HxCDD	3.87e4	7.31e4 10.0000	0.961	1.266	NO	1.001	1.000	34.33	34.31	109.99		110	0.587
6	6 1.2,3,4,6,7,8-HpCDD	3.32e4	6.45e4 10.0000	0.979	1.018	NO	1.000	1.000	37.78	37.7 8	105.05		105	0.613
7	7 OCDD	5.76e4	1.13e5 10.0000	0.959	0.877	NO	1.000	1.001	41.02	41.04	213.49		213	0.559
8	8 2,3,7,8-TCDF	1.51e4	1.69e5 10.0000	0.950	0.744	NO	1.001	1.001	25.33	25.32	·· 18.861		18.9	0.183
9	9 1,2,3,7,8-PeCDF	7.38e4	1.42e5 10.0000	0.960	1.602	NO	1.001	1.001	29.45	29.45	108.32		108	0.445
10 6 4 5	10 2,3,4,7,8-PeCDF	7.92e4	1.43e5 10.0000	1.015	1.544	NO	1.001	1.001	30.35	30.34	108.88		109	0.406
0.200.22	11 1,2,3,4,7,8-HxCDF	6.03e4	1.04e5 10.0000	1.177	1.244	NO	1.000	1.001	33.01	33.03	98.605		98.6	0.528
12301	12 1,2,3,6,7,8-HxCDF	5.94e4	1.07e5 10.0000	1.069	1.221	NO	1.000	1.000	33.15	33.15	103.49		103	0.555
12111	13 2,3,4,6,7,8-HxCDF	5.70e4	9.61e4 10.0000	1.114	1.205	NO	1.001	1.000	33.76	33.74	106.47		106	0.602
1	14 1,2,3,7,8,9-HxCDF	4.50e4	8.13e4 10.0000	1.062	1.250	NO	1.000	1.000	34.68	34.69	. 104.35		104	0.935
DTARK	15 1,2,3,4,6,7,8-HpCDF	4.00e4	7.16e4 10.0000	1.128	1.006	NO	1.001	1.000	36.56	36.53	· 99.148		99.1	0.826
16 23	16 1,2,3,4,7,8,9-HpCDF	3.86e4	6.03e4 10.0000	1.280	1.006	NO	1.000	1.000	38.32	38.32	100.17		100	0.702
	17 OCDF	7.19e4	1.48e5 10.0000	0.947	0.905	NO	1.000	1.000	41.25	41.26	205.25		205	0.529
	18 13C-2,3,7,8-TCDD	9.94e4	9.76e4 10.0000	1.095	0.816	NO	1.021	1.022	26.06	26.08	185.92	93.0		0.587
	19 13C-1,2,3,7,8-PeCDD	8.88e4	9.76e4 10.0000	0.881	0.638	NO	1.187	1.199	30.29	30.60	206.35	103.2		0.555
2018 2017	20 13C-1,2,3,4.7,8-Hx	6.72e4	1.11e5 10.0000	0.642	1.324	NO	1.014	1.014	33.89	33.89	188.95	94.5		0.987
2018-0-20	21 13C-1,2,3,6,7,8-Hx	7.41e4	1.11e5 10.0000	0.856	1.279	NO	1.017	1.017	34.00	34.01	156.49	78.2		0.741
2	22 13C-1,2,3,7,8,9-Hx	7.31e4	1,11e5 10.0000	0.807	1.288	NO	1.026	1.026	34.30	34.30	163.75	81.9		0.786
23 (33)	23 13C-1,2,3,4,6,7,8-H	6.45e4	1.11e5 10.0000	0.654	1.056	NO	1.126	1.130	37.64	37.77	178.24	89.1		1.02
	24 13C-OCDD	1.13e5	1.11e5 10.0000	0.580	0.878	NO	1.226	1.227	40.98	41.02	350.99	87.7		0.838
20	25 13C-2,3,7,8-TCDF	1.69e5	1.72e5 10.0000	1.035	0.786	NO	0.992	0.991	25.31	25.31	190.08	95.0		0.491
20.00	26 13C-1,2,3,7,8-PeCDF	1.42e5	1.72e5 10.0000	0.854	1.646	NO	1.154	1.153	29.45	29.43	193.67	96.8		0.699
27 ANNE 10	27 13C-2,3,4,7,8-PeCDF	1.43e5	1.72e5 10.0000	0.847	1.593	NO	1.189	1.188	30.35	30.32	197.21	98.6		0.705
	28 13C-1,2,3,4,7,8-Hx	1.04e5	1.11e5 10.0000	0.832	0.502	NO	0.987	0.988	33.00	33.01	225.52	112.8		1.26
	29 13C-1,2,3,6,7,8-Hx	1.07e5	1.11e5 10.0000	1.034	0.518	NO	0.991	0.992	33.12	33.14	187.59	93.8		1.01
	30 13C-2,3,4,6,7,8-Hx	9.61e4	1.11e5 10.0000	0.953	0.512	NO	1.009	1.009	33.73	33.73	182.08	91.0		1.10
	31 13C-1,2,3,7,8,9-Hx	8.13e4	1.11e5 10.0000	0.828	0.528	NO	1.039	1.038	34.72	34.68	177.46	88.7		1.26

Quantify Sam	ole Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	Laboratory	
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Name: 191205D3_2, Date: 6-DEC-2019, Time: 18:42:17, ID: B9J0315-BS1 OPR, Description: B9J0315-BS1 OPR 10 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

	# Name	Area	IS Area	Wt.Nol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL -	
32	32 13C-1,2,3,4,6,7,8-H	7.16e4	1.11e5	10.0000	0.757	0.434	NO	1.093	1.093	36.52	36.52	170.76	85.4		1.06	
33	33 13C-1,2,3,4,7,8,9-H	6.03e4	1.11e5	10.0000	0.581	0.453	NO	1.143	1.146	38.21	38.32	187.31	93.7		1.38	
34	34 13C-OCDF	1.48e5	1.11e5	10.0000	0.689	0.909	NO	1.233	1.234	41.22	41.25	387.69	96.9		0.837	Í
35	35 37CI-2,3,7,8-TCDD	4.22e4	9.76e4	10.0000	1. 198			1.022	1.023	26.09	26.10	72.181	90.2		0.212	
36	36 13C-1,2,3,4-TCDD	9.76e4	9.76e4	10.0000	1.000	0.813	NO	1.000	1.000	25.50	25.52	200.00	100.0		0.643	
37	37 13C-1,2,3,4-TCDF	1.72e5	1.72e5	10.0000	1.000	0.808	NO	1.000	1.000	24.06	24.09	200.00	100.0		0.508	
38	38 13C-1,2,3,4,6,9-Hx	1.11e5	1.11e5	10.0000	1.000	0.514	NO	1.000	1.000	33.42	33.42	200.00	100.0		1.05	
39	39 Total Tetra-Dioxins		9.94e4	10.0000	0.901			0.000		25.50		22.351		22.4	0.212	
40	40 Total Penta-Dioxins		8.88e4	10.0000	0.872			0.000		30.00		112.21		112	0.399	
Star and an article	41 Total Hexa-Dioxins		0.00e0	10.0000	0.976			0.000	,	33.80		329.05		329	0.578	
2	42 Total Hepta-Dioxins		6.45e4	10.0000	0.989			0.000		37.75		105.05		105	0.608	4
13	43 Total Tetra-Furans		1.69e5	10.0000	0.943			0.000		24.00		18.861		18.9	0.184	
	44 1st Func. Penta-Fur		0.00e0	10.0000	0.940			0.000		27.63					0.0425	
	45 Total Penta-Furans		0.00e0	10.0000	0.940			0.000		30.00		217.20		217	0.447	
	46 Total Hexa-Furans		0.00e0	10.0000	1.078			0.000		33.00		413.30		413	0.653	
	47 Total Hepta-Furans		0.00e0	10.0000	1.135			0.000		37.75		199.32		199	0.808	

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Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 14:45:01

Name: 191205D3_2, Date: 6-DEC-2019, Time: 18:42:17, ID: B9J0315-BS1 OPR, Description: B9J0315-BS1 OPR 10 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

Tetra-Dioxins

# Name	NY	START :	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1 2,3,7,8-TCDD	NO	26.12	4339.229	44669.434	202.346	MM	22.3513	22.35

Penta-Dioxins

	N/Y	RI	Area	IS Area	Response	Primary Flags	- A Room	ENEC
2 1,2,3,7,8-PeCDD	NO	30.62	17095.826	34570.090	1012.914	MM	112.2094	112.21

Hexa-Dioxins

	NY	THEFT	Area		Response	Primery Flace		
5 1,2,3,7,8,9-HxCDD	NO	34.31	21603.037	41166.156	1057.363	MM	109.9931	109.99
4 1,2,3,6,7,8-HxCDD	NO	34.03	21894.307	41605.699	1070.985	MM	114.1045	114.10
3 1,2,3,4,7,8-HxCDD	NO	33.92	21435.672	38274.949	1155.893	bd	104.9571	104.96

Hepta-Dioxins

		BULK		SALESA DE		erne 7a se		
6 1,2,3,4,6,7,8-HpCDD	NO	37.78	16746.068	33149.285	1028.876	MM	105.0516	105.05

Tetra-Furans

8 2,3,7,8-TCDF	NO	25.32	6451.651	74270.531	179.203	bb	18.8615	18.86

Penta-Furans function 1

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Name: 191205D3_2, Date: 6-DEC-2019, Time: 18:42:17, ID: B9J0315-BS1 OPR, Description: B9J0315-BS1 OPR 10 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

Penta-Furans

# Name	N/Y	a∔ RT	Area	IS Area 🔤	Response	Primary Flags 👘	Çonc.	EMPC
10 2,3,4,7,8-PeCDF	NO	30.34	48060.984	88056.273	11 04 .948	MM	108.8833	108.88
2 语音语言 - 9 1,2,3,7,8-PeCDF	NO	29.45	45445.406	88289.852	1040.262	MM	108.3155	108.32

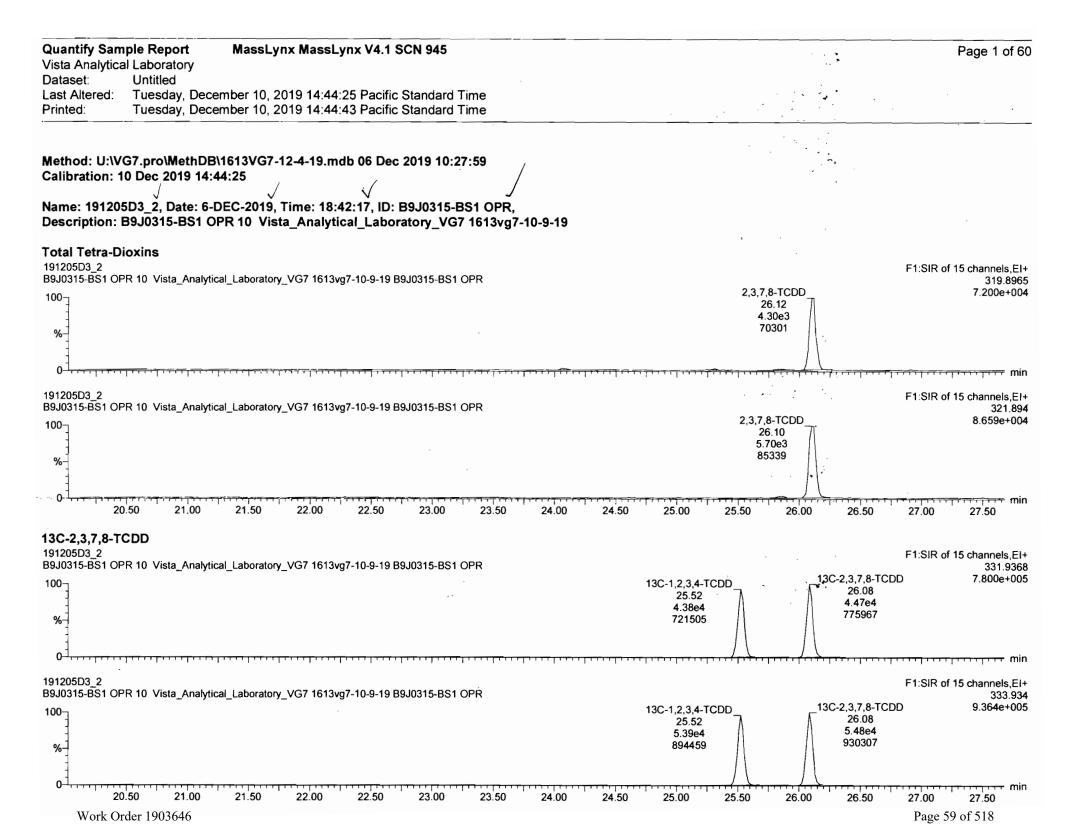
Hexa-Furans

		+NY	ALL ART	Area		Response	Primary Flags	Here Bone	EMPC
	14 1,2,3,7,8,9-HxCDF	NO	34.69	25022.020	28096.428	1107.788	bb	104.3507	104.35
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	13 2,3,4,6,7,8-HxCDF	NO	33.74	31139.211	32566.977	1185.650	bb	106.4700	106.47
3	12 1,2,3,6,7,8-HxCDF	NO	33.15	32663.059	36643.254	1106.179	db	103.4876	103.49
	11 1,2,3,4,7,8-HxCDF	NO	33.03	33404.797	34723.160	1160.387	bd	98.6053	98.61
5412- 5 4 114	46 Total Hexa-Furans	NO	32.03	109.270	33007.455	4.142	bb	0.3844	0.38

Hepta-Furans

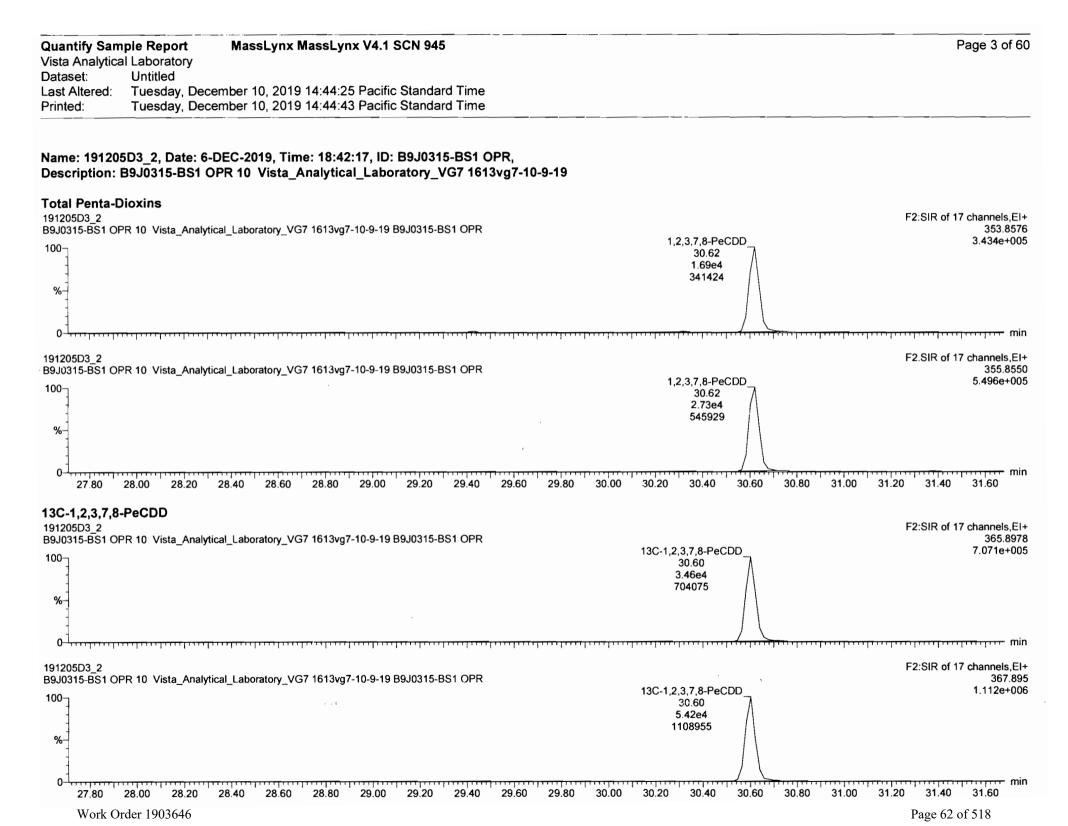
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16	1,2,3,4,7,8,9-HpCDF	NO	38.32	19382.289	18793.408	1282.077	bb	100.1701	100.17
2	1,2,3,4,6,7,8-HpCDF	NO	36.53	20075.064	21671.762	1117.992	bb	99.1479	99.15

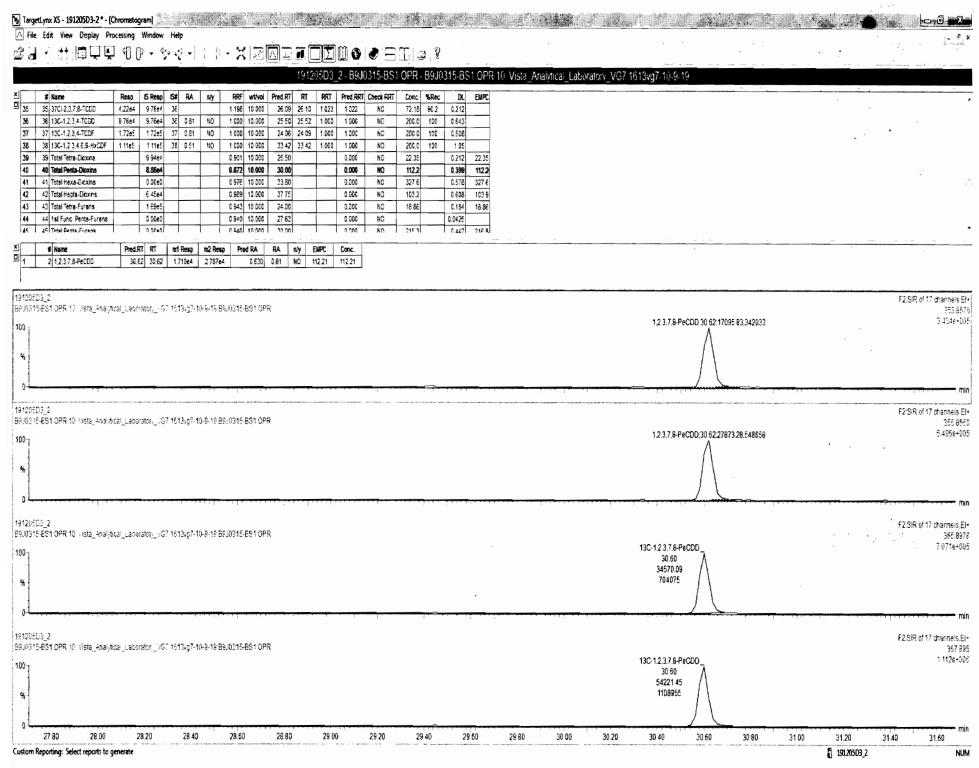
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	wtivol Pred.RT RT RRT Pred.RRT Check RRT Conc. %Rec DL EMPC		· · · ·
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2 37 13C-1.2,3.4-TCDF 1.72e5 1.72e5 37 0.81 NO 1.000	10 000 24 06 24 09 1.000 1.000 NO 200.0 100 0 508		
8 38 13C-1 2.3 4.6 9-HxCDF 1.11e5 1.11e5 38 0 51 NO 1.000 9 39 Total Tetra-Dicxins 9.94e4 0.901			
9 39 Total Tetra-Dicxins 9.54e4 6.501 0 40 Total Fenta-Dioxins 8.68e4 0.872			
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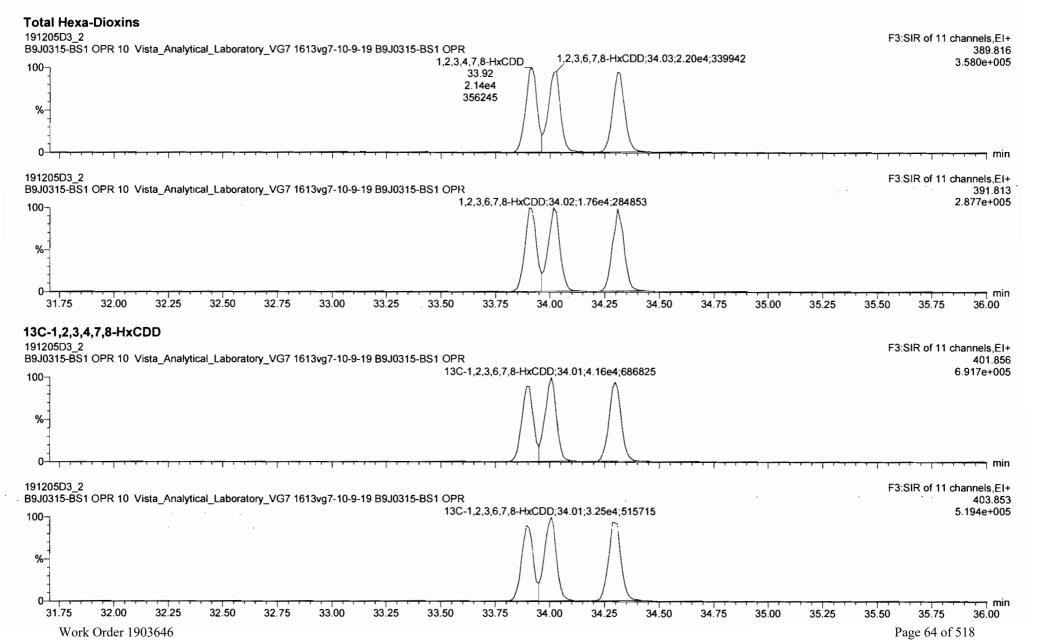




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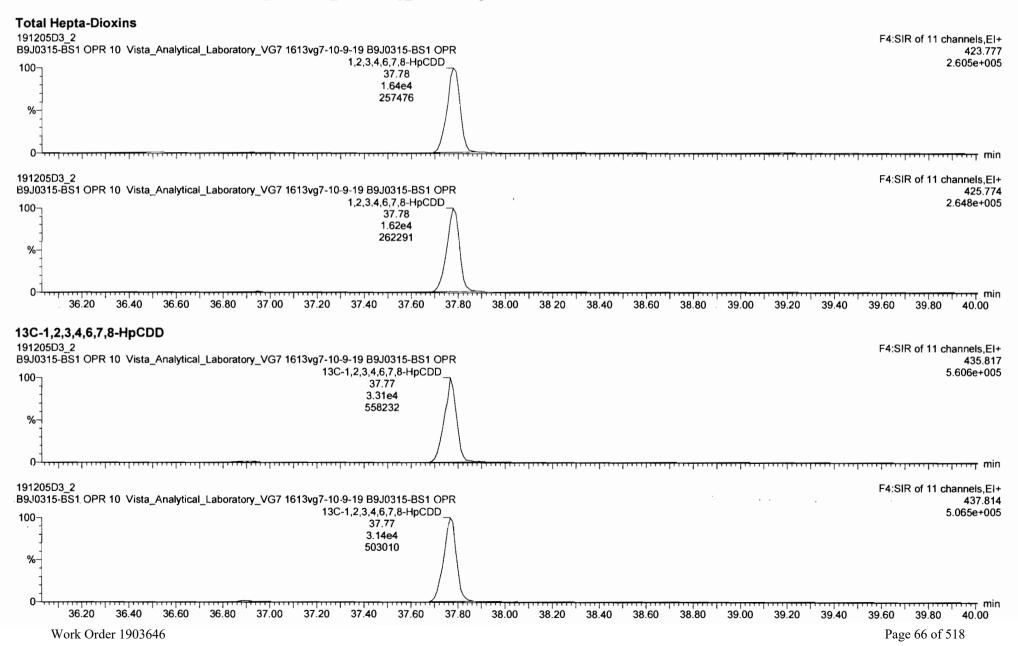


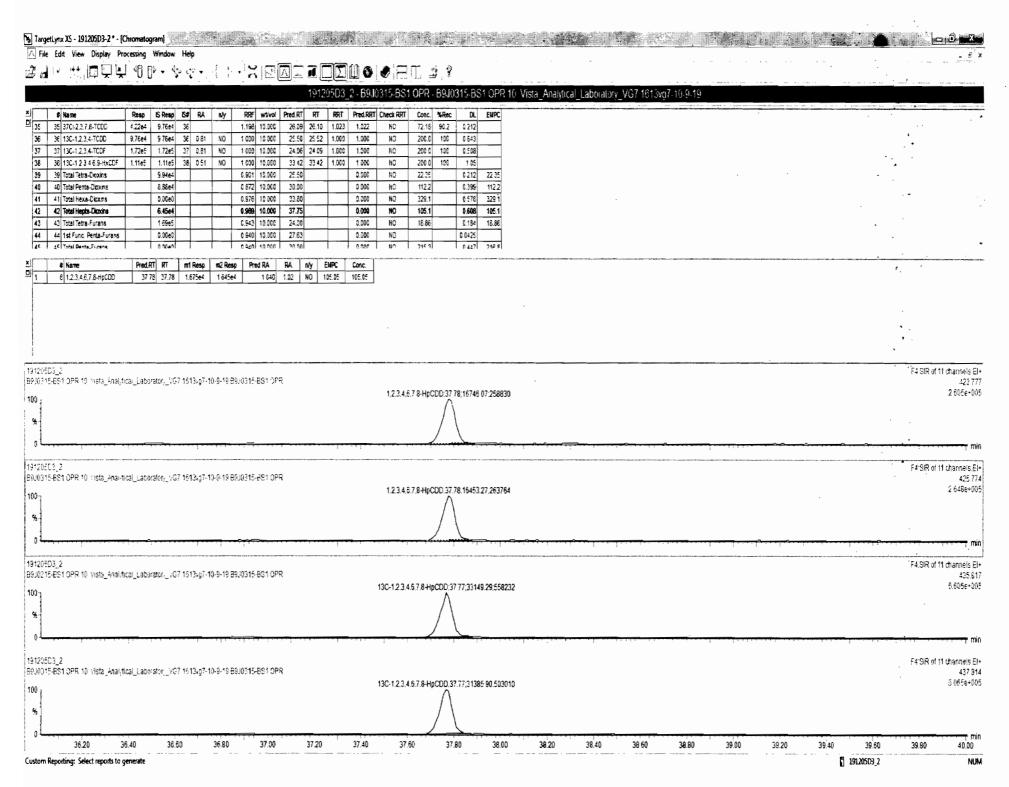
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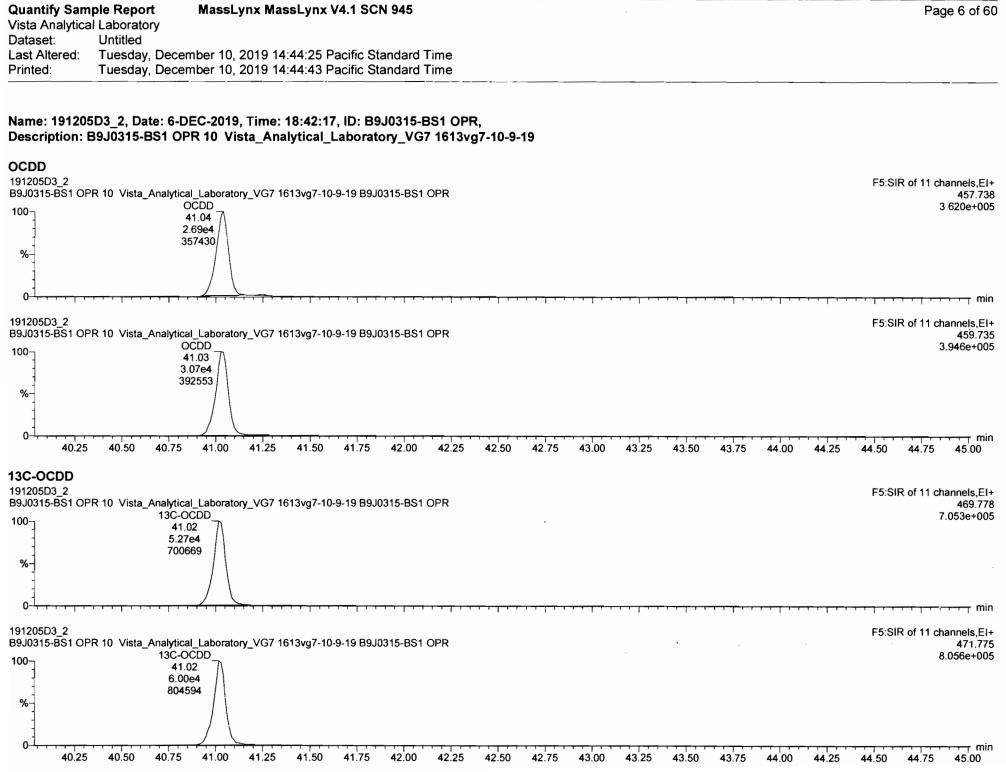
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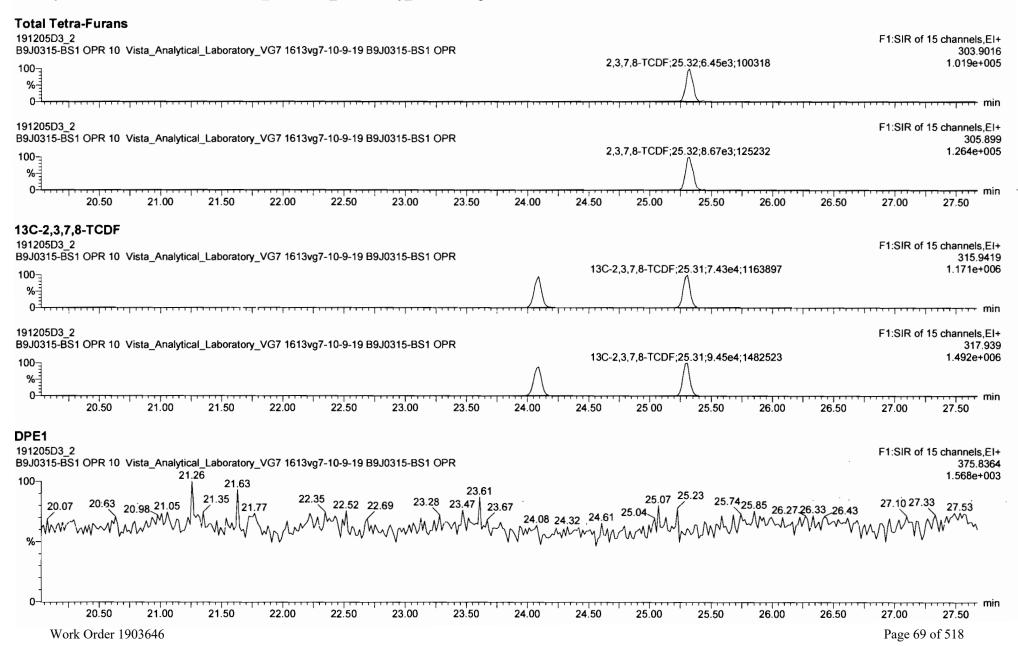
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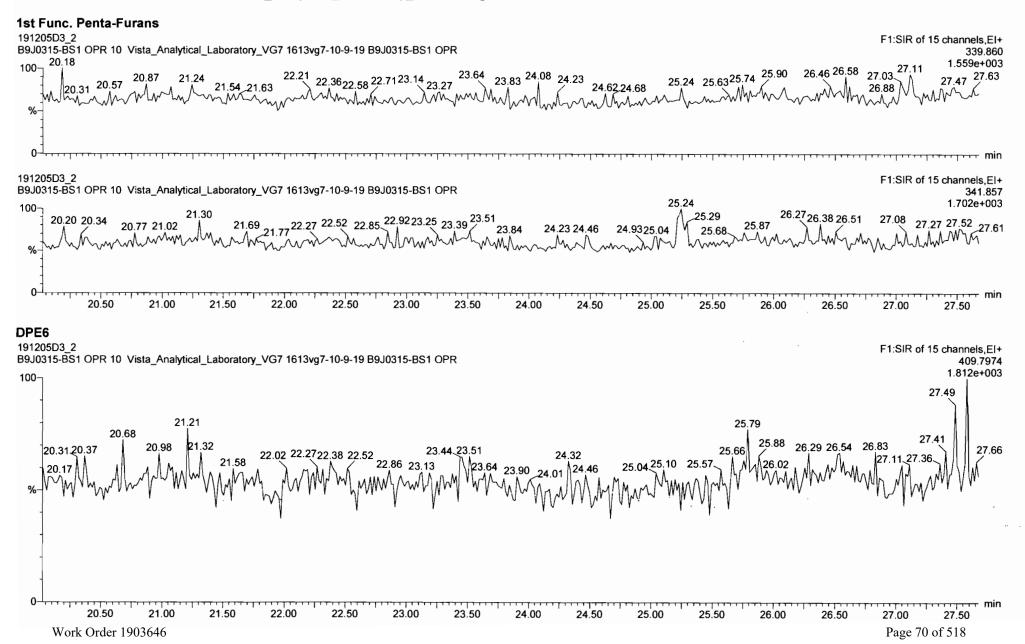
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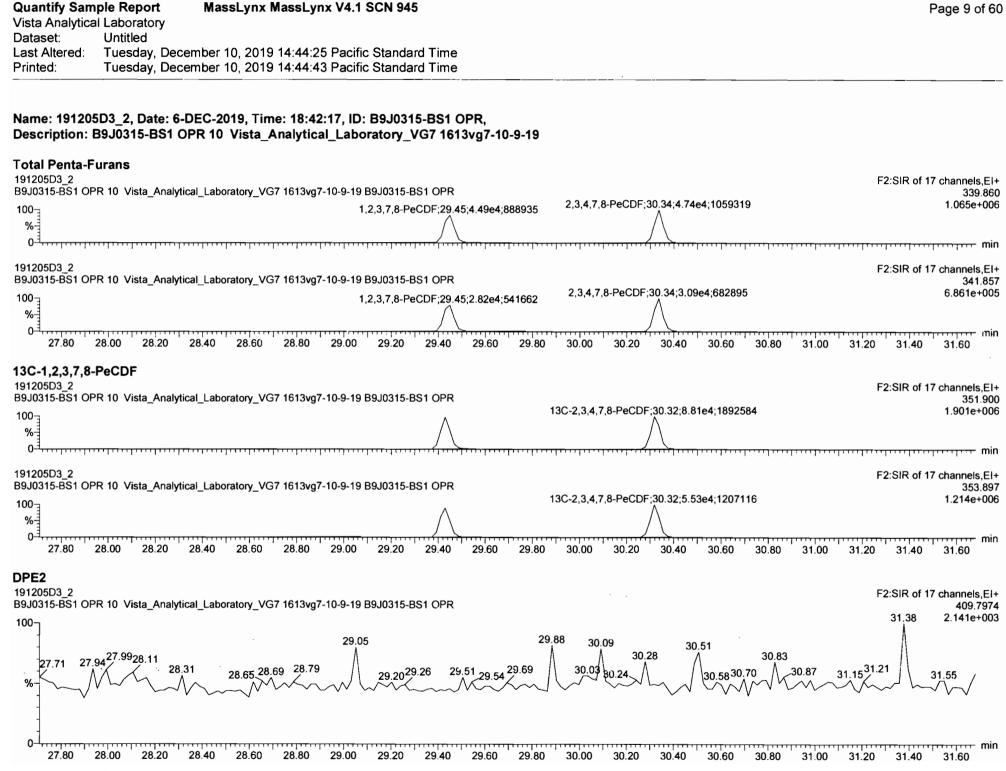
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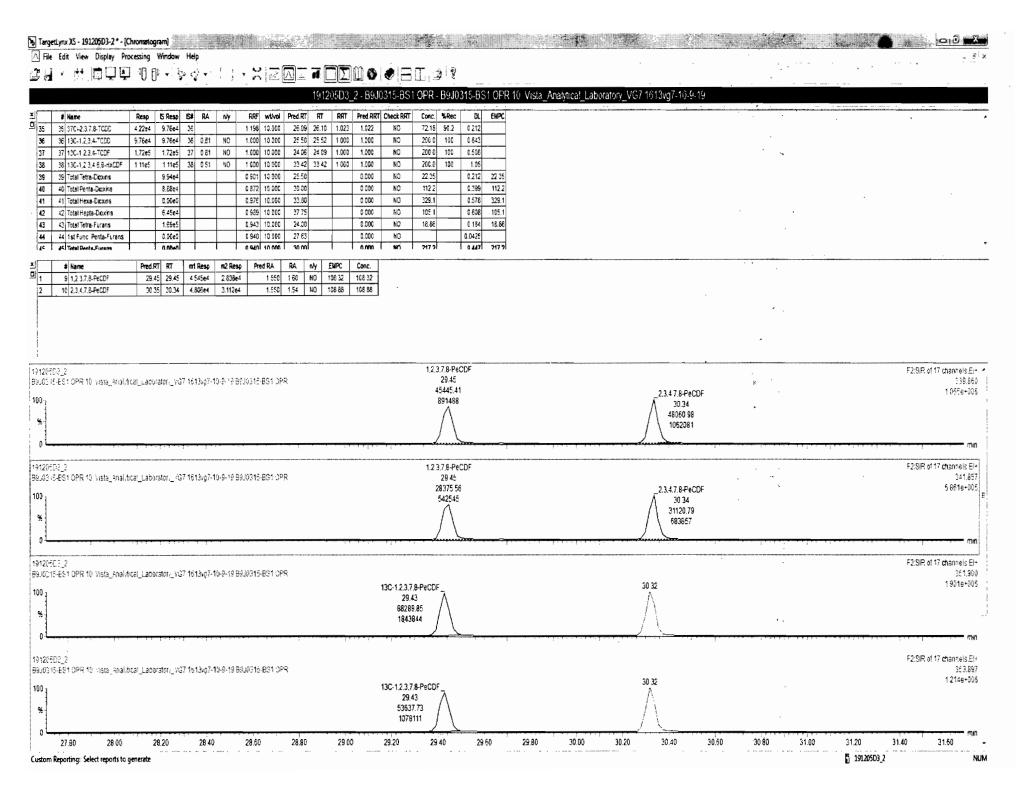
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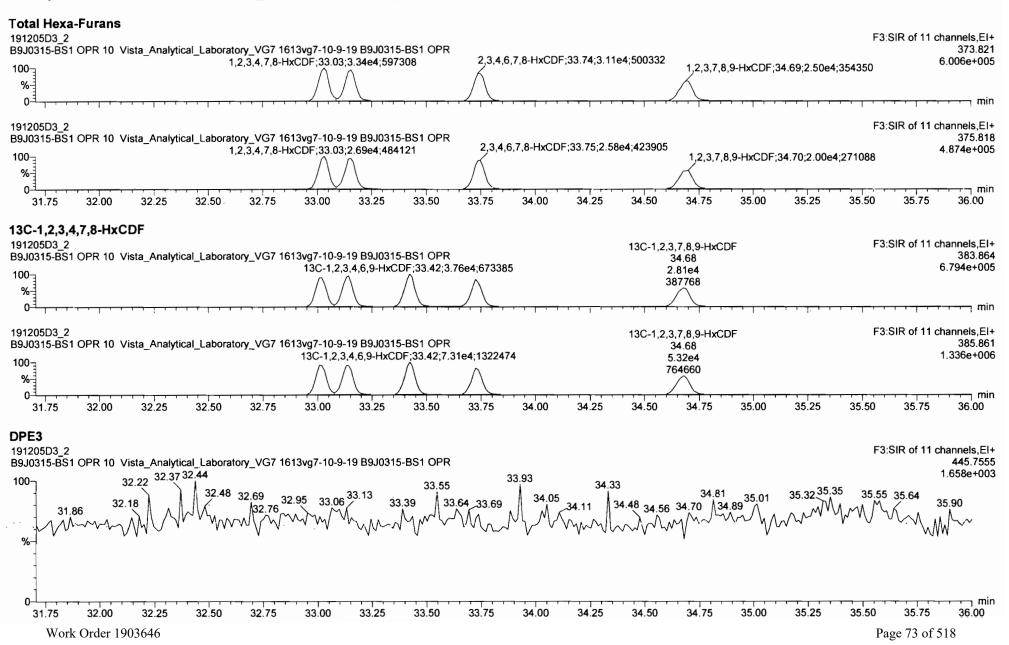
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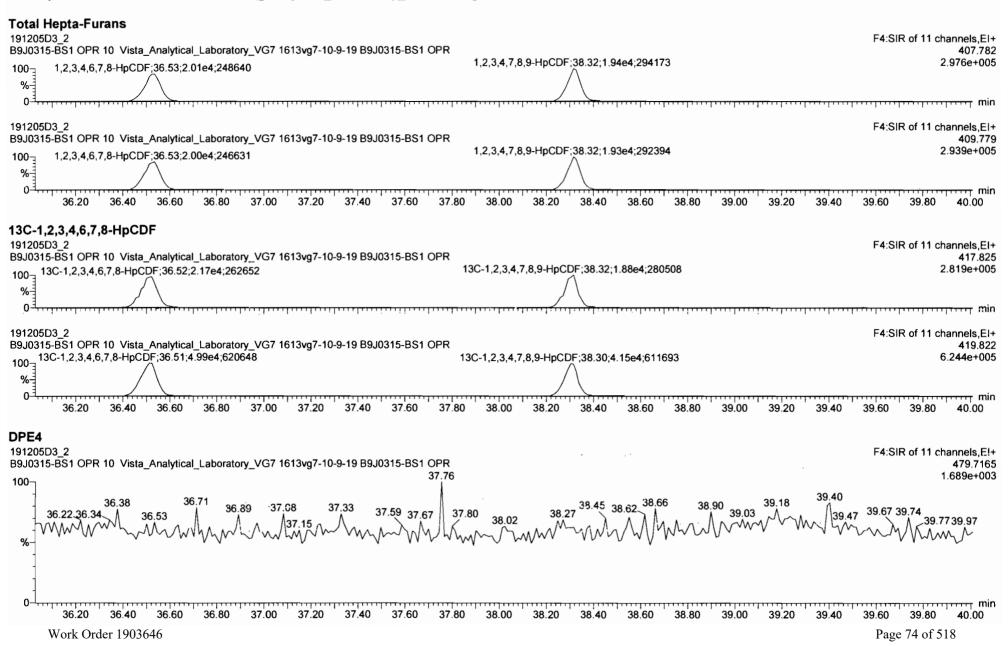
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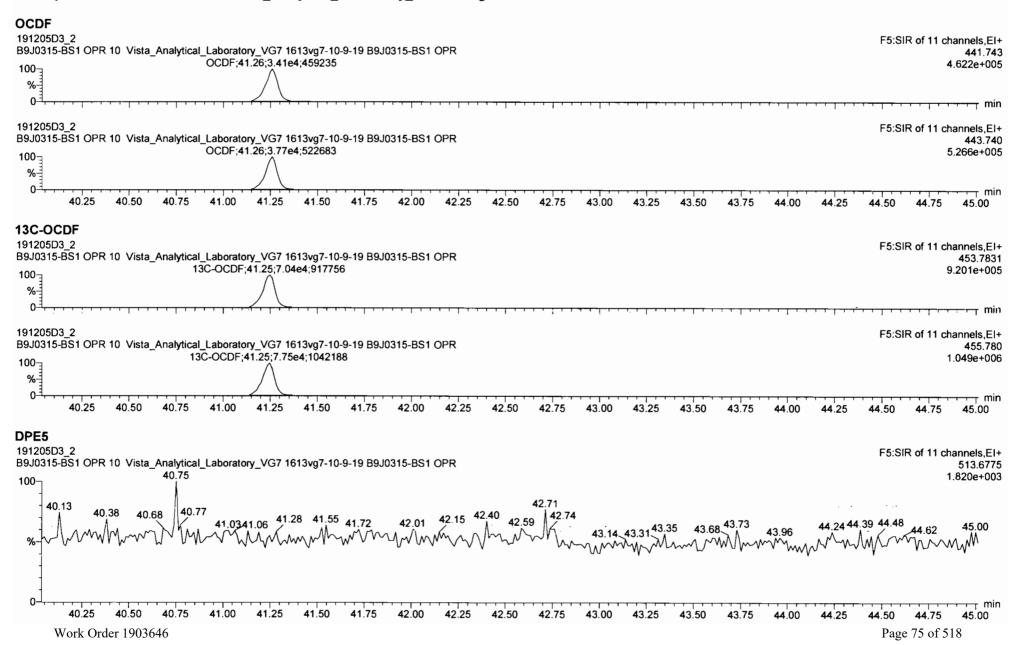
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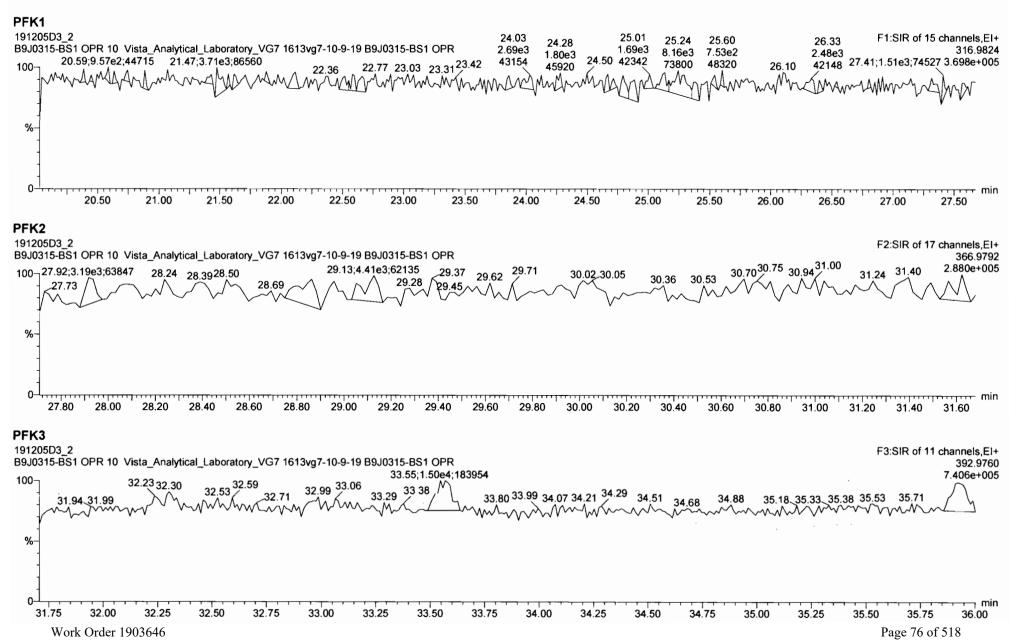


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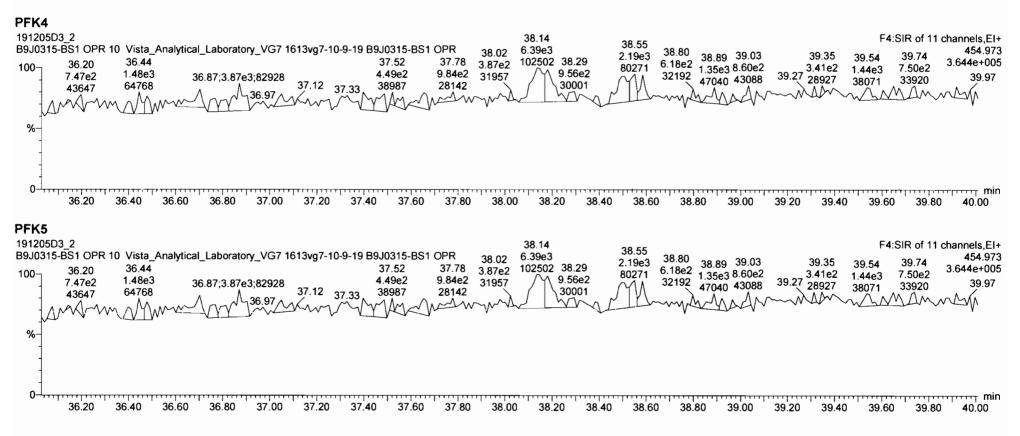
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Name: 191205D3_2, Date: 6-DEC-2019, Time: 18:42:17, ID: B9J0315-BS1 OPR, Description: B9J0315-BS1 OPR 10 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19



Name: 191205D3_2, Date: 6-DEC-2019, Time: 18:42:17, ID: B9J0315-BS1 OPR, Description: B9J0315-BS1 OPR 10 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19



Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	l Laboratory	
Dataset:	U:\VG7.PRO\Results\1912	05D3\191205D3-12.qld
Last Altered:	Wednesday, December 11	, 2019 08:20:47 Pacific Standard Time
Printed:	Wednesday, December 11	, 2019 08:29:33 Pacific Standard Time

EL 12/11/19 CT 12/18/19

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 10 Dec 2019 16:21:14 Calibration: 10 Dec 2019 16:20:20 \checkmark

Name: 191205D3_12, Date: 7-DEC-2019, Time: 02:40:25, ID: 1903646-01 PDI-016SC-A-14-15-191009, Description: 1903646-01 PDI-016SC-A-14-15-191009 14.85 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

	# Name	Area	IS Area W	/t.Nol. RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1	1 2,3,7,8-TCDD		1.02e5 10).1971 🛹 0.905			1.001		26.11					0.210
2	2 1,2,3,7,8-PeCDD		9.12e4 10	0.1971 0.903			1.001		30.62					0.183
3	3 1,2,3,4,7,8-HxCDD		7.11e4 10	.1971 1.101			1.000		33.90					0.380
4 建建林学校学生	4 1,2,3,6,7,8-HxCDD		7.74e4 10	0.1971 0.939			1.000		34.01					0.392
5	5 1,2,3,7,8,9-HxCDD		7.77e4 10	0.1971 0.961			1.001		34.34					0.439
6	6 1,2,3,4,6,7,8-HpCDD	3.62e2	6.81e4 10	0.1971 0.979	0.998	NO	1.000	1.000	37.78	37.77	1.0665		1.07	0.469
7 million	7 OCDD	2.31e3	1.28e5 10	0.1971 0.959	0.947	NO	1.000	1.001	41.02	41.04	7.3569		7.36	0.370
8	8 2,3,7,8-TCDF		1.78e5 10	0.1971 0.950			1.001		25.31			~,		0.136
9	9 1,2,3,7,8-PeCDF		1.52e5 10	0.1971 0.960			1.001		29.45					0.107
10.2	10 2,3,4,7,8-PeCDF		1.43e5 10	0.1971 1.015			1.001		30.35					0.111
11 EARLY	11 1,2,3,4,7,8-HxCDF		1.09e5 10).1971 1.177			1.000		33.01					0.122
12	12 1,2,3,6,7,8-HxCDF		1.10e5 10	0.1971 1.069			1.000		33.15					0.140
13	13 2,3,4,6,7,8-HxCDF		9.99e4 10	0.1971 1.114	ł		1.001		33.77					0.140
14	14 1,2,3,7,8,9-HxCDF		8.90e4 10	0.1971 1.062			1.000		34.68					0.204
15	15 1,2,3,4,6,7,8-HpCDF		7.71e4 10	0.1971 1.128			1.001		36.55					0.304
16.	16 1,2,3,4,7,8,9-HpCDF		6.82e4 10	0.1971 1.280			1.000		38.30					0.267
13.200	17 OCDF		1.62e5 10	0.1971 0.947			1.000		41.24					0.238
18 H R M S	18 13C-2,3,7,8-TCDD	1.02e5	1.06e5 10	0.1971 1.095	0.782	NO	1.021	1.022	26.06	26.08	172.81	88.1		0.472
19.1.1.1	19 13C-1,2,3,7,8-PeCDD	9.12e4	1.06e5 10	0.1971 0.881	0.640	NO	1.187	1.199	30.29	30.60	191.73	97.8		0.350
205466	20 13C-1,2,3,4,7,8-Hx	7.11e4	1.25e5 10	0.1971 0.642	1.273	NO	1.014	1.014	33.89	33.89	174.26	88.8		0.807
	21 13C-1,2,3,6,7,8-Hx	7.74e4	1.25e5 10	0.1971 0.856	1.250	NO	1.017	1.017	34.00	34.01	142.48	72.6		0.605
22	22 13C-1,2,3,7,8,9-Hx	7.77e4	1.25e5 10	0.1971 0.807	1.266	NO	1.026	1.026	34.30	34.31	151.69	77.3		0.642
29	23 13C-1,2,3,4,6,7,8-H	6.81e4	1.25e5 10	0.1971 0.654	1.045	NO	1.126	1.130	37.64	37.77	163.91	83.6		1.17
2000	24 13C-OCDD	1.28e5	1.25e5 10	0.1971 0.580	0.894	NO	1.226	1.227	40.98	41.02	348.64	88.9		0.855
25	25 13C-2,3,7,8-TCDF	1.78e5	1.77e5 10	0.1971 1.035	0.789	NO	0.992	0.991	25.31	25.29	190.25	97.0		0:613
28 ALL ALL	26 13C-1,2,3,7,8-PeCDF	1.52e5	1.77e5 10	0.1971 0.854	1.595	NO	1.154	1.153	29.45	29.43	196.80	100.3		1.02
20000111	27 13C-2,3,4,7,8-PeCDF	1.43e5	1.77e5 10	0.1971 0.847	1.594	NO	1.189	1.188	30.35	30.32	187.39	95.5		1.03
28	28 13C-1,2,3,4,7,8-Hx	1.09e5	1.25e5 10	0.1971 0.832	0.523	NO	0.987	0.988	33.00	33.01	205.53	104.8		1.16
	29 13C-1,2,3,6,7,8-Hx	1.10e5	1.25e5 10	0.1971 1.034	0.498	NO	0.991	0.992	33.12	33.14	166.96	85.1		0.935
	30 13C-2,3,4,6,7,8-Hx	9.99e4	1.25e5 10	0.1971 0.953	0.515	NO	1.009	1.009	33.73	33.74	164.99	84.1		1.01
\$1,77 9081 03	31 13C-1,2,3,7,8,9-Hx	8.90e4	1.25e5_10	0.828	0.506	NO	1.039	1.038	34.72	34.68	169.36	86.4		1.17

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica		
Dataset:	U:\VG7.PRO\Results\1912	
Last Altered:	Wednesday, December 11,	, 2019 08:20:47 Pacific Standard Time
Printed:	Wednesday, December 11	, 2019 08:29:33 Pacific Standard Time

	# Name	Area	IS Area	Wt.Nol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H	7.71e4	1.25e5 1	10.1971	0.757	0.443	NO	1.093	1.092	36.52	36.51	160.19	81.7		1.14
33	33 13C-1,2,3,4,7,8,9-H	6.82e4	1.25e5 1	10.1971	0.581	0.437	NO	1.143	1.146	38.21	38.30	184.67	94.2		1.49
34	34 13C-OCDF	1.62e5	1.25e5 1	10.1971	0.689	0.869	NO	1.233	1.234	41.22	41.24	369.24	94.1		0.625
35	35 37CI-2,3,7,8-TCDD	4.66e4	1.06e5 1	10.1971	1.198			1.022	1.023	26.08	26.10	72.030	91.8		0.163
36	36 13C-1,2,3,4-TCDD	1.06e5	1.06e5 ´	10.1971	1.000	0.808	NO	1.000	1.000	25.50	25.52	196.13	100.0		0.517
37	37 13C-1,2,3,4-TCDF	1.77e5	1.77e5 1	10.1971	1.000	0.786	NO	1.000	1.000	24.06	24.09	196.13	100.0		0.634
38	38 13C-1,2,3,4,6,9-Hx	1.25e5	1.25e5 1	10.1971	1.000	0.516	NO	1.000	1.000	33.42	33.42	196.13	100.0		0.968
39	39 Total Tetra-Dioxins		1.02e5 1	10.1971	0.901			0.000		25.50		0.40899		0.409	0.211
40	40 Total Penta-Dioxins		9.12e4 1	10.1971	0.872			0.000		30.00					0.0880
41	41 Total Hexa-Dioxins		0.00e0 ²	10.1971	0.976			0.000		33.80		1.0493		1.05	0.412
42	42 Total Hepta-Dioxins		6.81e4 ′	10.1971	0.989			0.000		37.75		2.7750		2.77	0.465
43	43 Total Tetra-Furans		1.78e5 1	10.1971	0.943			0.000		24.00					0.0604
	44 1st Func. Penta-Fur		0.00e0 1	10.1971	0.940			0.000		27.63					0.0338
45			0.00e0 ⁴	10.1971	0.940			0.000		30.00					0.0459
46	46 Total Hexa-Furans		0.00e0 1	10.1971	1.078			0.000		33.00					0.0789
47.049777	47 Total Hepta-Furans		0.00e0	10.1971	1.135			0.000		37.75	_				0.141

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 10 Dec 2019 16:21:14 Calibration: 10 Dec 2019 16:20:20

Name: 191205D3_12, Date: 7-DEC-2019, Time: 02:40:25, ID: 1903646-01 PDI-016SC-A-14-15-191009, Description: 1903646-01 PDI-016SC-A-14-15-191009 14.85 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

Tetra-Dioxins

# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	s 🚌 Conc.	EMPC
1 39 Total Tetra-Dioxins	NO	24.18	85.505	44847.164	3.757	MM	0.4090	0.41

Penta-Dioxins

# Name + N/Y RT Area IS Area Response Primary Flags	onc. EMI	PC
	•	

Hexa-Dioxins

A THE AT Name AND A CONTRACT	NY	RT	Area	SArea	Response	Primary Flags	Conc.	EMPC
41 Total Hexa-Dioxins	NO	32.38	219.717	42068.663	10.442	MM	1.0493	1.05

Hepta-Dioxins

	NY	R		SArea	Response	Primary Flags	Conc.	EMPC
6 1,2,3,4,6,7,8-HpCDD	NO	37.77	181.056	34785.504	10.651	MM	1.0665	1.07
2. 42 Total Hepta-Dioxins	NO	36.91	276.691	34785.504	17.226	MM	1.7086	1.71

Tetra-Furans

Penta-Furans function 1

.

Penta-Furans

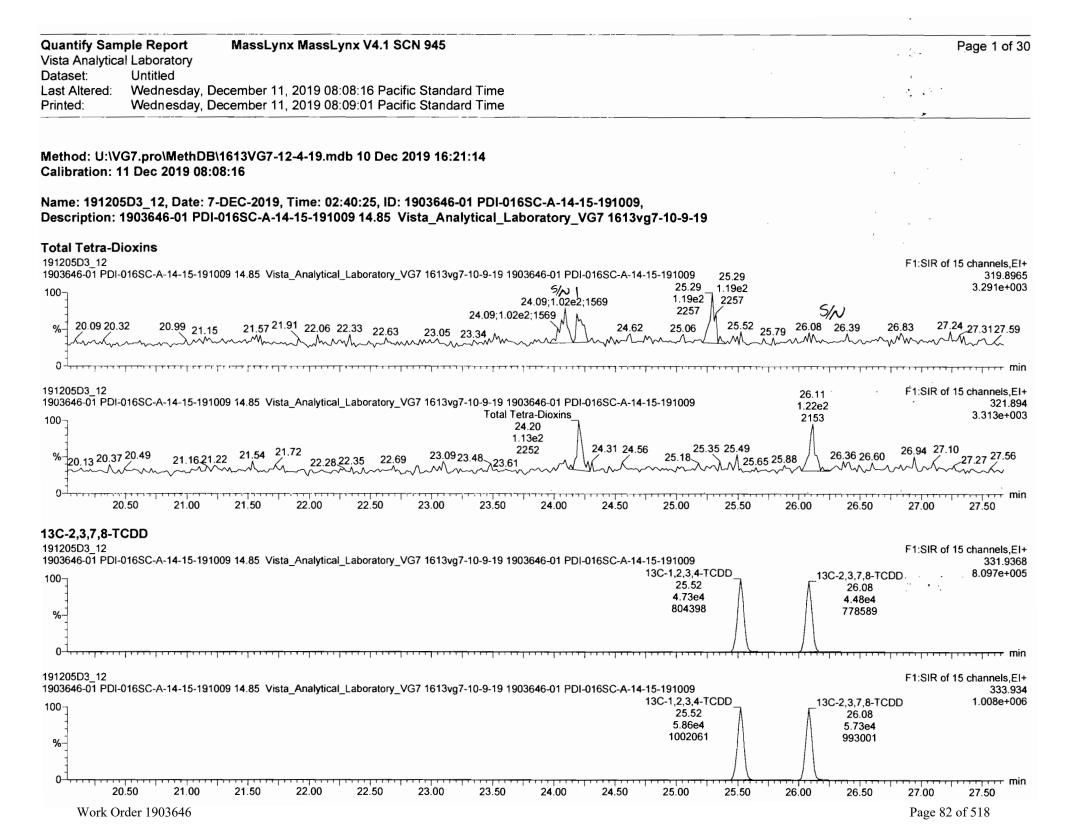
Name Area N/Y RT Area IS Area Response Primary Flags Conc. EMPC

Hexa-Furans

Name N/Y RT Area IS Area Response Primary Flags

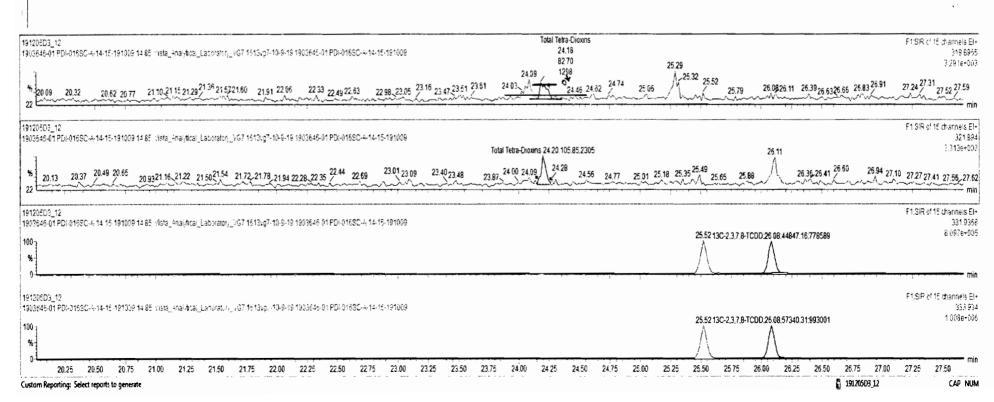
Hepta-Furans

1 N/Y A REAL REAL SAFE BELLE Area REAL SAFE RESPONSE Primary Flags Conc. #EMPC



Work Order 1903646

Page 83 of 518



	1	Hame	Pred.R	रा सा	A	1 Resc	m2 Re	sp Pr	ed RA	RA	n/y	EMPC	Conc.					
	201					•			۱ ۸	·	•		·		·	·		
_		DPE1				1				1	-					-		
2	52	PFK5												_				
1	51	PFK4																
0	50	PFK3																
9	49	PFK2																
3	48	PFK1			L													
7	47	Total Hepta-Furans		0 00e0				1 1 35	10 197	37.75	5		0.000	NO			0 141	
6	46	Total Hexa-Furans		0 00e0				1.078	10.197	23.00			0.000	NO			0 0789	
5	45	Total Penta-Furans		0.00e0				C 940	10.197	30.00			0 000	NO			0 0459	
4 4	44	1st Func. Penta-Furans		0 00e0				0 940	10 197	27 63	l .		0 000	NO			0 0338	
3 4	43	Total Tetra-Furans		1 76e5				0.943	10 197	24 00			0 000	ND			0.0604	
12 4	42	Total Hepta-Dioxins		6 61e4				0 989	10 197	37.75			0.000	NO	1 048		C 465	2.226
												_						

0.770 0.78 NO 0.40170 0.40170

RRF without Pred.RT RT

25.50

30.00

0.901 10.197

0.872 10.197

0 976 10,197 23,80

and the start is

RRT Pred.RRT Check RRT Conc %Rec

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12 - 1903646-01 PDI-016SC-A-14-15-191009 - 1903646-01 PDI-016SC-A-14-15-191009 14-85 Vista Analytical Laboratory VG7 1613vg7-10-9-19 191205D3

DL EMPC

0.211 0.4017 0 0880 0 6374

0.236 0.3420

S TargetLynx XS - 191205D3-12 * - [Chromatogram]

Name

39 Total Tetra-Dicxins

40 Total Penta-Dioxins

39 Total Tetra-Dapons

41 41 Total Hexa-Dioxins

39

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40

Resp IS Resp IS# RA n/y

25.50 24 18 8.270e1 1.058e2

1.02e5

9.12e4

0 00e0

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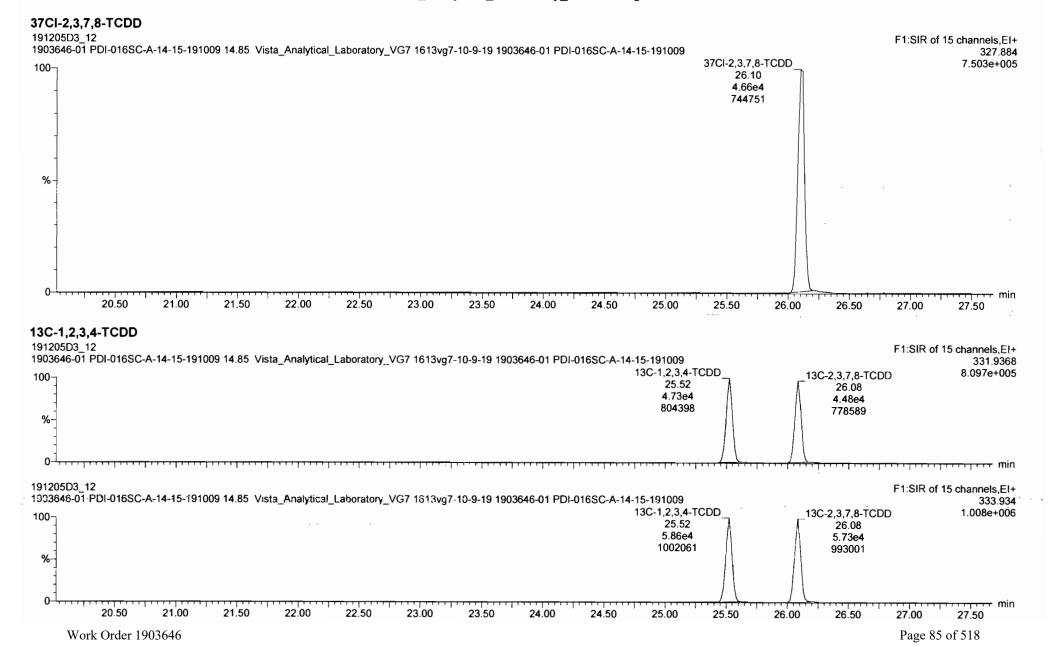
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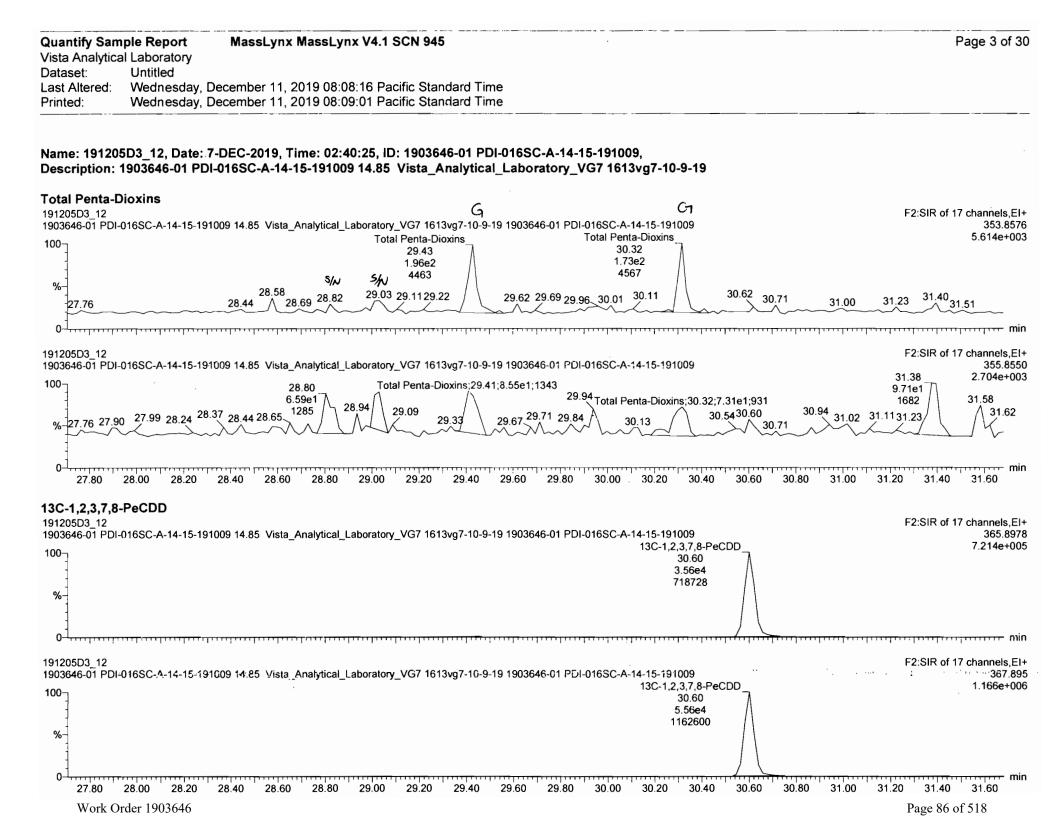
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				N 1		6-01 PDI-0	6SC:A-14-15-19100914-85 Visla Analytical Laboratory VG7 1613vg7-10-9-19
x # Name	Resp IS Resp IS# RA	······		RRT Check RRT		DL EMP	
39 39 Total Tetra-Dioxins	1.02e5		25.50 0.00		0.4017	0.211 0.401	
40 40 Total Pents-Dioxins	9 12e4		30.00 0.00			0.0880 0.637	
41 41 Total Hexa-Dioxins	0 00e0		23.80 0.00	_	C 0000	0.236 0.342	
42 42 Total hepta-Dioxins	6.81e4		37.75 D.00		1 048	0.230 0.342	
43 43 Total Tetra-Furans	1.78e5		24.00 0.00			0 0604	
44 64 1st Func Penta-Furana	0.00e0		27.63 0.00			0.0338	
45 45 Total Penta-Furans	0 0000		30.00 0.00	-		0.0459	
46 46 Total Hexe-Furans	0 00e0		33.00 0.00			0 0789	· · · ·
47 47 Total Hepts-Furshs	0 00e0		27.75 0.00	_			
47 47 5081 nepts-r 01813	5 0000	1120 (0.(8)	000	- nu	· · · · · ·	0.141	
49 49 PFK2				_			
50 50 PFK3				_			
51 51 PFK4		+			+ - + - +		
52 52 PFK5 53 53 DPE1				-	- -		
53 53 DPE1				- I			-
# Name	Pred.RT RT mt Resp	m2 Resp Pred RA R	RA n/y EMPC Conc		······································	Ann an a	
1 39 Total Tetra-Dioxins	25.50 24.18 8 270e1	1.058e2 0.770 0.		_			
903646-01 PDL-0163C-4-14-15-19	1009 14.65 Vista_Anal <i>k</i> ical_La	aboratori_+07 1613vq7-10-8	9-19 1903645-01 PDI-0163C	4-14-15-19100	ις.		24.18 319.8955 82.70 25.29 24.09 1298
* 20.09 20.32 20.52	20.77 21.10.21.15.21.29	.36 21.5721.60 21.91 22	2.06 22.33 22.49 22.63	22.96.23	05 23.16 23.47	23.51 23.51	24.03 A 24.46 24.62 24.74 25.05 25.79 26.0826 11 26.39 26.6326 66 26.83 26.91 27.24 27.31 27.52 27.59
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91206D3_12							F1.SIR of 15 channels EI+
903645-01 PDI-016SC14-16-19	1009 14 85 vista_AnaMical_La	aborator,_VG7 1613vg7-10-9	9-19 1903646-01 PDI-016SC	4-14-18-19100	6		321 694
-						I	tal Tetra-Dioxins:24.20:105.85:2305 26.11 3.313e-0/3
20.13 20.37 20.49 20	⁶⁵ 20.9321 16 21.22 21.9	5021.54 21.72 21.78 21	94 22.28 22 35 22.44 22		23.09 23.40 23	48 23.1	24.00 24.09 24.28 24.56 24.77 25.01 25.18 25.35 25.49 25.65 25.88 26.35 25 41 26.60 26.94 27.10 27.27 27.41 27.56 27.62 min
9120ED3_12							F1:SIR of 15 channels.E1+
903545-01 PDI-015SC-4-14-15-19	1009 14 85 mista_Analytical_La	anoratory_VG7 1613vg7-10-9	8-18 1903645-01 PDI-016SC	4-14-15-19100	0		231 9358
DD y							25,52 13C-2,3,7,8-TCDD 26,08;44847,16;778589 8:0976+305
1							$\wedge$ $\wedge$
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	, ,						
120503_12							. F1:SIR of 15 dtannels El+
003646-01 PDI-015SC-4-14-15-19	1009 14.85 Mista_Analytical_La	aborators_VG7 1513vg7-10-9	9-19 1903646-01 PDI-016SC	w.14-1E-19100	^o		333 894
00							25.5213C-2.3,7.8-TCDD:26.08:57340.31:993001 1.008e+006
Foo							ΛΛ
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20.25 20.50	0.75 2100 2125	21.50 21.75 22.00	0 22.25 22.50 2	275 2300	0 2325 2	3 50 23.7	24.00 24.25 24.50 24.75 25.00 25.25 25.50 25.75 26.00 26.25 26.50 26.75 27.00 27.25 27.50 min
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Work Order 19	03646						Page 84 of 518

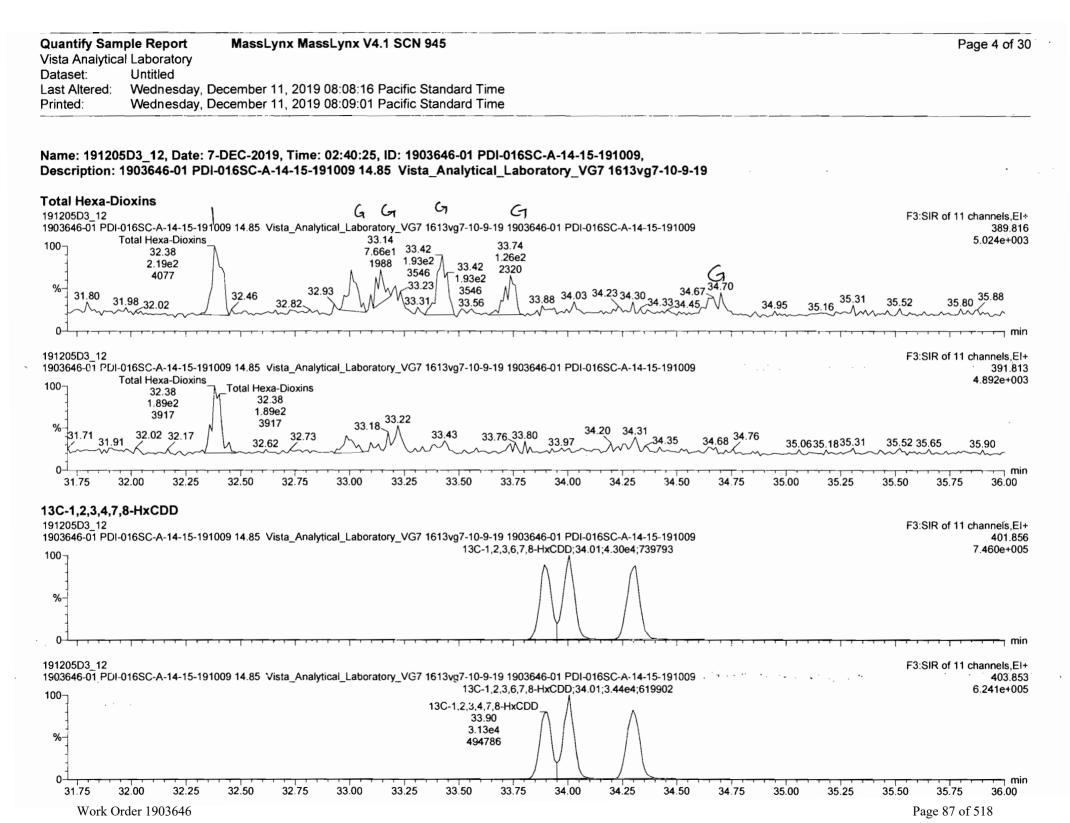
# TargetLynx XS - 19120503-12 Contractor

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Quantify Sam	ple Report MassLynx MassLynx V4.1 SCN 945	Page 2 of 30	j.
Vista Analytica	al Laboratory	·	
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Last Altered:	Wednesday, December 11, 2019 08:08:16 Pacific Standard Time		
Printed:	Wednesday, December 11, 2019 08:09:01 Pacific Standard Time		

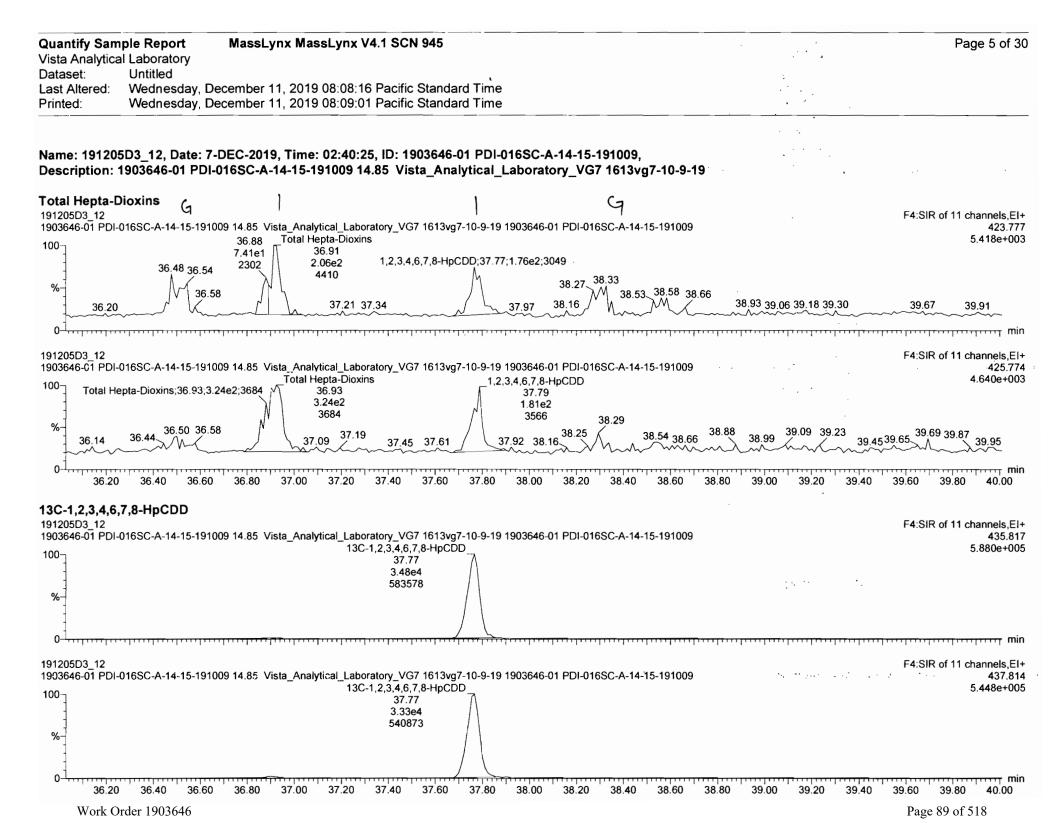


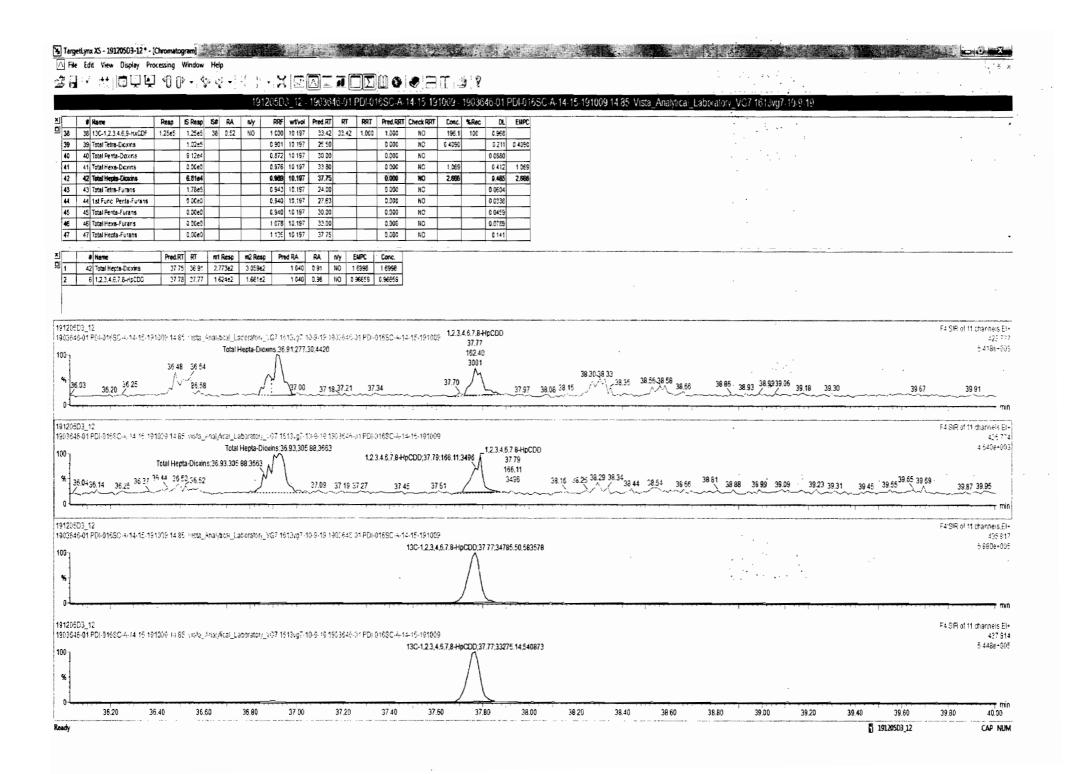


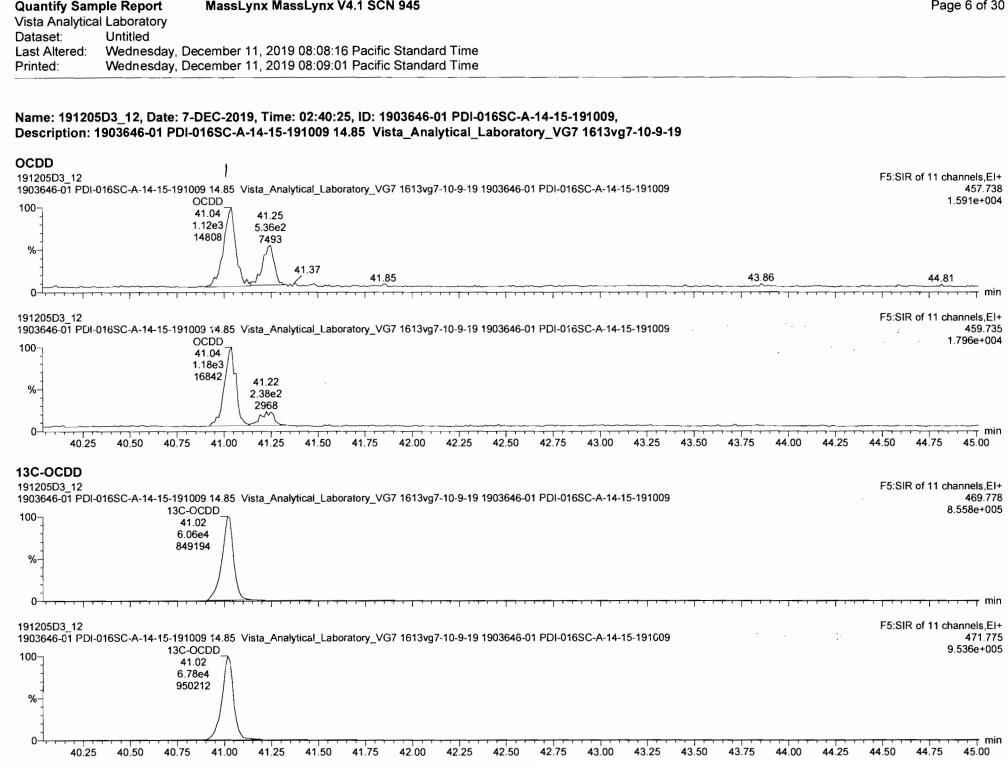


				91205D3	12 - 1903	040-01 PDF	0100011111				1000 14.00 ¥151a_				0 10		
Nane	Resp	RA N	RRF	witiyol RT	RRT	Conc. %Rec	DL EMPC	T							,		
13C-0CDF	<u> </u>	9 87 NC		10 197 41 2		365 941	0 625										
37CF2.3.7.8-TCD0	4,5664	001 RC	+ +	10.197 26.1		72.0 91.8	0.163	1							· . ·	5 - 5 - 7	
13C-1,2 3,4-TCDD		0.81 NC	+	10 197 25.5	_	196 100	0.557	-							1 ( t.		
13C-1,2.3,4-10DF		0.01 NC		10 197 24.0		196 100	0 634	1									
13C-1 2.3.4.8.9 HxCDF		0.52 NC		10.197 33.4		196 100	0.968	-									
Total Tetra-Dioxins	1.2062	0.52 100	+ -+	10.197 33.4	1000	0 409	0.900										
			+	10.197	+ +	0 903	0.0880	· .									
Total Penta-Dioxina				10,197		1.05	0.0000										
Total Hexa-Dicxins Total Hepta-Dicxins			+ - +	10,157	+ +	2.78	0.465 2.78	-							· .		
Total Tetra-Furans			+ +	10.197	+ +	2.10	0.0604								•		
1st Func Penta-Furans			++	10 197			0.0338	-									
Total Penta-Furans			+ - +	10.197	++		0.0459	1							· .		
Total Persa Filtans			1	10.107			0.0786	1									
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Name	RT m1Res	<u> </u>	·	n/y EMP(												•	
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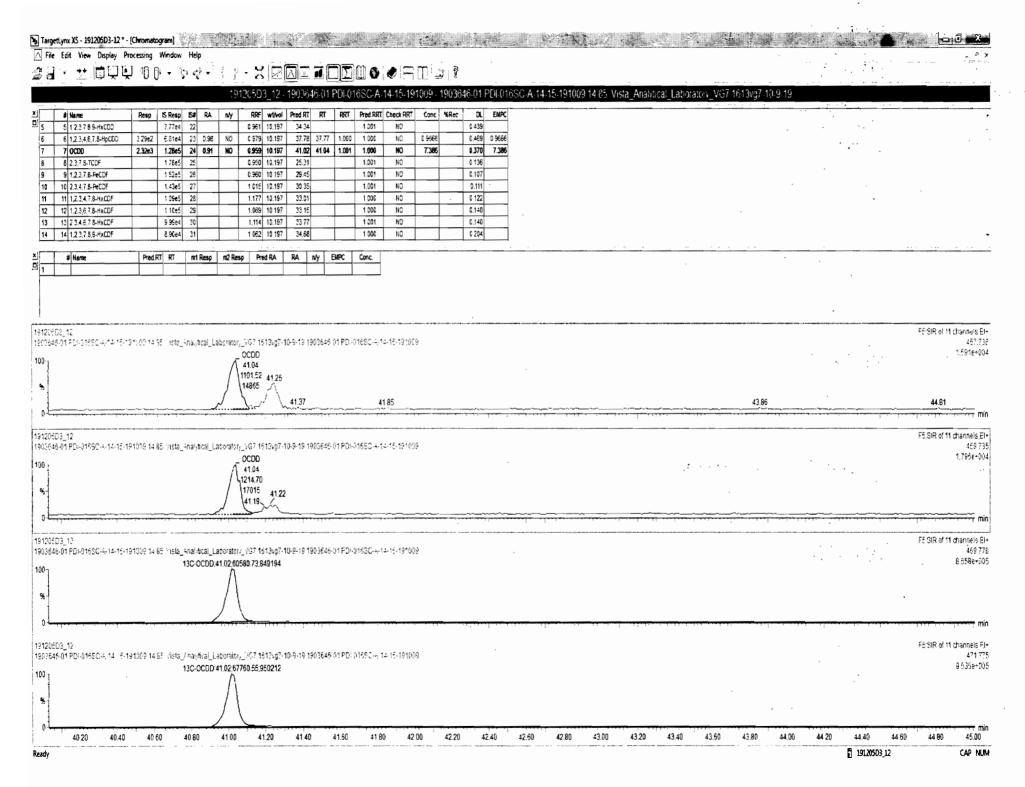


MassLynx MassLynx V4.1 SCN 945

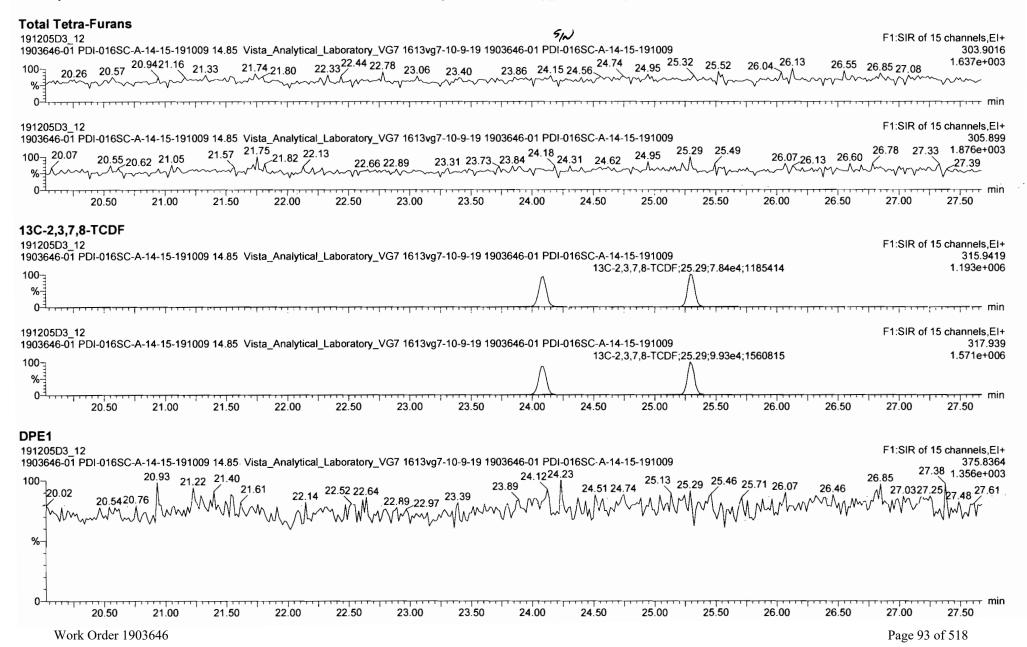
### Work Order 1903646

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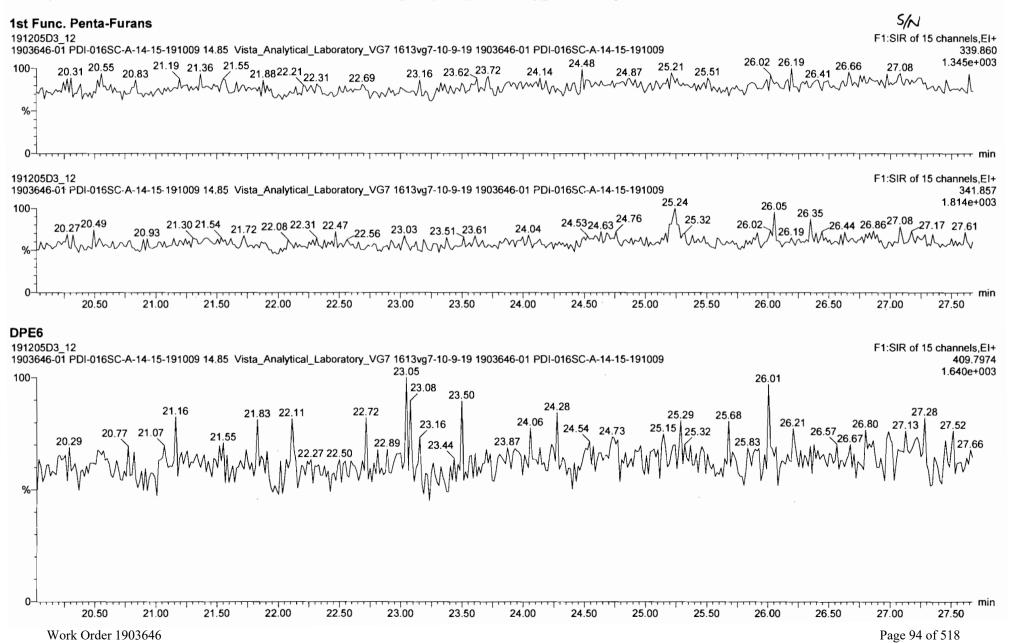
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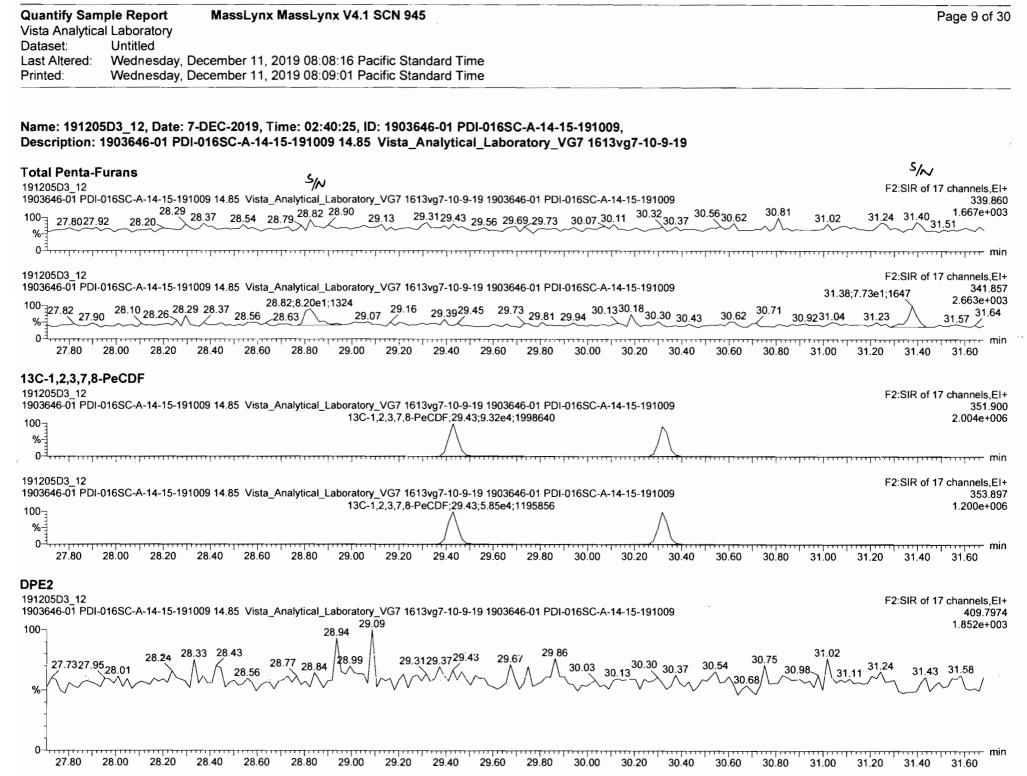


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Vista Analytical	l Laboratory		
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Quantify San	nple Report	MassLynx MassLynx V4.1 SCN 945	Page 8 of 30
Vista Analytic	al Laboratory		_
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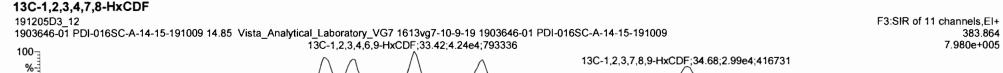


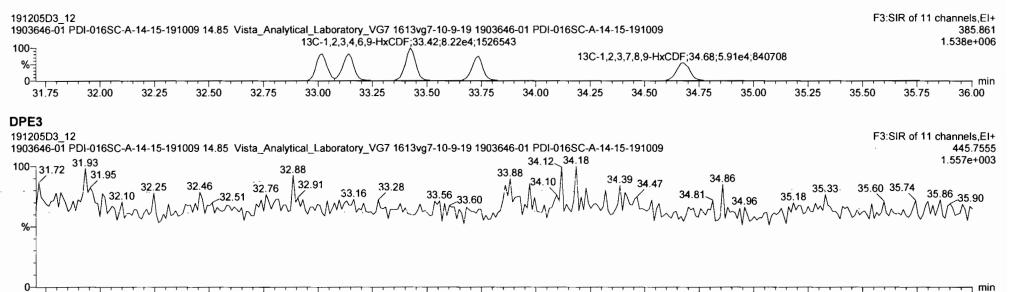
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/ista Analytical Laboratory		
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otal Hexa-Furans 91205D3_12 903646-01 PDI-016SC-A-14-15-1910	-016SC-A-14-15-191009 14.85 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 جهرا 009 14.85 Vista Analytical Laboratory VG7 1613vg7-10-9-19 1903646-01 PDI-016SC-A-14-15-191009	373.821
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<b>Total Hexa-Furans</b> 91205D3_12 903646-01 PDI-016SC-A-14-15-1910 10031.85_31.89 32.16 32.26 % 0 91205D3_12 903646-01 PDI-016SC-A-14-15-1910	-016SC-A-14-15-191009 14.85 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 جهرا 009 14.85 Vista Analytical Laboratory VG7 1613vg7-10-9-19 1903646-01 PDI-016SC-A-14-15-191009	373.82 35.12 35.28 35.52 35.78 1.572e+003 35.78 1.572e+003 35.78 1.572e+003 35.78 1.572e+003 575.81 F3:SIR of 11 channels,El- 375.81

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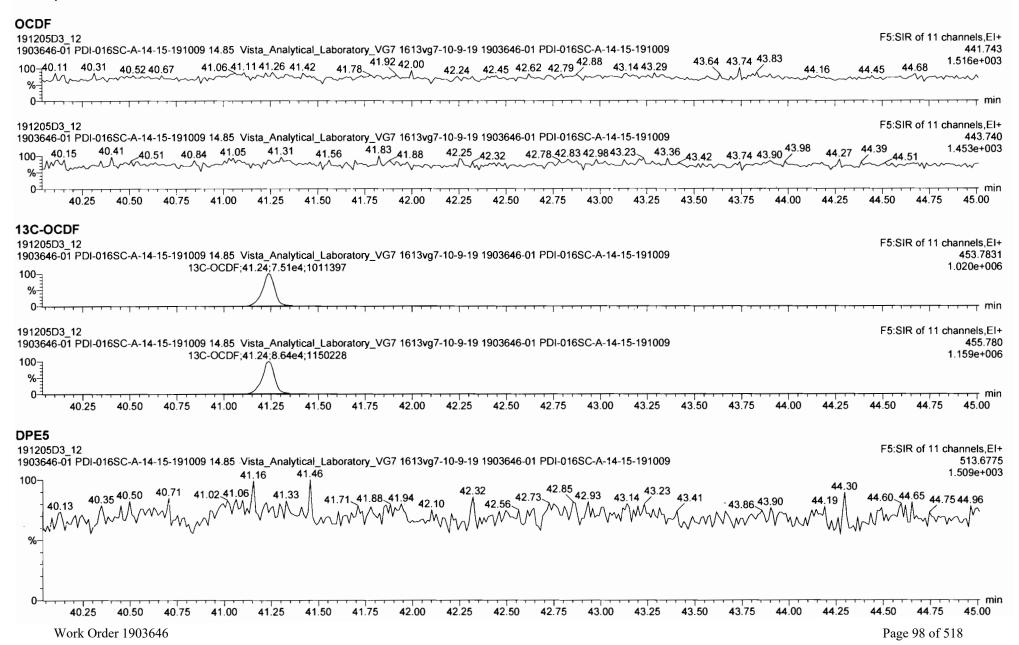
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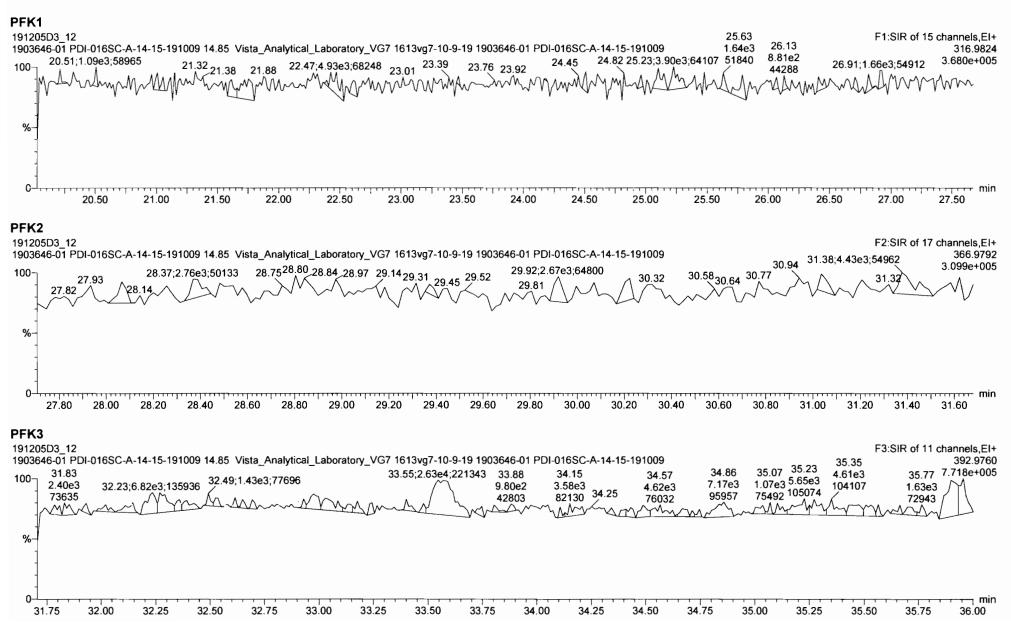
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<b>13C-1,2,3,4,6,7,8-HpCDF</b> 191205D3_12 1903646-01 PDI-016SC-A-14-15-191009 14.85 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-01 PDI-016SC-A-14-15-191009 13C-1,2,3,4,6,7,8-HpCDF;36.51;2.36e4;306299 13C-1,2,3,4,7,8,9-HpCDF;38.30;2.07e4;304541	F4:SIR of 11 channels,EI+ 417.825 3.089e+005
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$\begin{array}{c} 100 \\ 36.38 \\ 36.42 \\ 36.38 \\ 36.42 \\ 36.34 \\ 36.34 \\ 36.34 \\ 36.85 \\ 36.85 \\ 36.89 \\ 37.10 \\ 37.36 \\ 37.43 \\ 37.71 \\ 37.36 \\ 37.43 \\ 37.71 \\ 37.86 \\ 37.89 \\ 38.33 \\ 38.18 \\ 38.47 \\ 38.77 \\ 38.95 \\ 39.04 \\ 39.16 \\ 39 \\ 39.16 \\ 39 \\ 39.16 \\ 39 \\ 39.16 \\ 39 \\ 39.16 \\ 39 \\ 39 \\ 39 \\ 39 \\ 39 \\ 39 \\ 39 \\ 3$	2.050e+003
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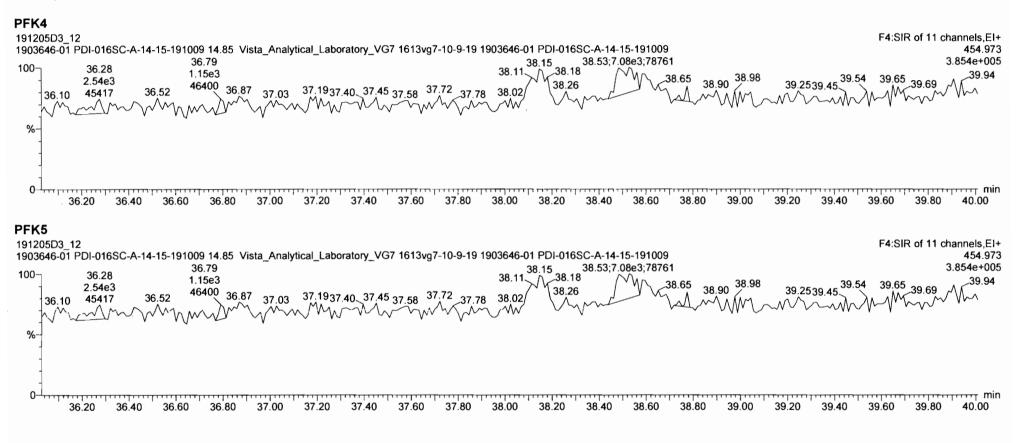
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Quantify Sam	ple Report MassLynx MassLynx V4.1 SCN 945	Page 14 of 30
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Last Altered:	Wednesday, December 11, 2019 08:08:16 Pacific Standard Time	
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Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
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EL 12/19/19 CT 12/W/19

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	# Name	Area	IS Area WL/Vol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL -
1	1 2,3,7,8-TCDD		9.85e4 10.8007	0.905			1.001		26.13					0.200
2	2 1,2,3,7,8-PeCDD		8.95e4 10.8007	0.903			1.001		30.65					0.263
3	3 1,2,3,4,7,8-HxCDD		6.78e4 10.8007	1.101			1.000		33.92					0.344
	4 1,2,3,6,7,8-HxCDD		7.70e4 10.8007	0.939			1.000		34.02					0.373
5	5 1,2,3,7,8,9-HxCDD		7.09e4 10.8007	0.961			1.001		34.35					0.405
6	6 1,2,3,4,6,7,8-HpCDD	2.22e2	6.24e4 10.8007	0.979	1.536	YES	1.000	1.001	37.79	37.80	0.67183		0.540	0, <b>481</b>
7	7 OCDD	1.58e3	1.19e5 10.8007	0.959	0.969	NO	1.000	1.001	41.04	41.07	5.0993		5.10	0.262
8	8 2,3,7,8-TCDF		1.67e5 10.8007	0.950			1.001		25.33					0.136
9	9 1,2,3,7,8-PeCDF		1.38e5 10.8007	0.960			1.001		29.47					0.115
10	10 2,3,4,7,8-PeCDF		1.37e5 10.8007	1.015			1.001		30.37					0.0965
	11 1,2,3,4,7,8-HxCDF		1.02e5 10.8007	1.177			1.000		33.03					0.115
12 13 15	12 1,2,3,6,7,8-HxCDF		1.08e5 10.8007	1.069			1.000		33.17					0.123
18	13 2,3,4,6,7,8-HxCDF		9.90e4 10.8007	1.114			1.001		33.78					0.142
	14 1,2,3,7,8,9-HxCDF		7.66e4 10.8007	1.062			1.000		34.69					0.217
15	15 1,2,3,4,6,7,8-HpCDF		7.40e4 10.8007	1.128			1.001		36.57					0.219
16	16 1,2,3,4,7,8,9-HpCDF		6.17e4 10.8007	1.280			1.000		38.32					0.185
	17 OCDF		1.53e5 10.8007	0.947			1.000		41.26					0.219
18 7	18 13C-2,3,7,8-TCDD	9.85e4	1.02e5 10.8007	1.095	0.790	NO	1.021	1.022	26.08	26.10	162.80	87.9		0.524
19.35	19 13C-1,2,3,7,8-PeCDD	8.95e4	1.02e5 10.8007	0.881	0.598	NO	1.187	1.199	30.31	30.62	183.72	99.2		0.325
202	20 13C-1,2,3,4,7,8-Hx	6.78e4	1.29e5 10.8007	0.642	1.251	NO	1.014	1.014	33.90	33.91	151.46	81.8		0.944
31.31	21 13C-1,2,3,6,7,8-Hx	7.70e4	1.29e5 10.8007	0.856	1.288	NO	1.017	1.017	34.02	34.02	129.02	69.7		0.709
22. P.J.	22 13C-1,2,3,7,8,9-Hx	7.09e4	1.29e5 10.8007	0.807	1.255	NO	1.026	1.026	34.32	34.31	126.09	68.1		0.752
23 23 24	23 13C-1,2,3,4,6,7,8-H	6.24e4	1.29e5 10.8007	0.654	1.057	NO	1.126	1.130	37.66	37.78	136.81	73.9		0.906
24	24 13C-OCDD	1.19e5	1.29e5 10.8007	0.580	0.886	NO	1.226	1.227	41.00	41.04	295.22	79.7		0.653
254	25 13C-2,3,7,8-TCDF	1. <del>0</del> 7e5	1.68e5 10.8007	1.035	0.775	NO	0.992	0.991	25.33	25.31	177.87	96.1		0.489
20.12 11	26 13C-1,2,3,7,8-PeCDF	1.38e5	1.68e5 10.8007	0.854	1.579	NO	1.154	1.153	29.47	29.45	177.64	95.9		0.791
	27 13C-2,3,4,7,8-PeCDF	1.37e5	1.68e5 10.8007	0.847	1.562	NO	1.189	1.188	30.37	30.34	178.31	96.3		0.797
	28 13C-1,2,3,4,7,8-Hx	1.02e5	1.29e5 10.8007	0.832	0.512	NO	0.987	0.988	33.01	33.03	176.37	95.2		1.09
29.5	29 13C-1,2,3,6,7,8-Hx	1.08e5	1.29e5 10.8007	1.034	0.521	NO	0.991	0.992	33.13	33.16	149.52	80.7		0.873
	30 13C-2,3,4,6,7,8-Hx	9.90e4	1.29e5 10.8007	0.953	0.531	NO	1.009	1.009	33.74	33.75	148.92	80.4		0.948
	31 13C-1,2,3,7,8,9-Hx	7.66e4	1.29e5 10.8007	0.828	0.513	NO	1.039	1.038	34.73	34.69	132.65	71.6		1.09

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
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32	32 13C-1,2,3,4,6,7,8-H	7.40e4	1.29e5	10.8007	0.757	0.442	NO	1.093	1.093	36.54	36.54	140.08	75.7		0.997
33	33 13C-1,2,3,4,7,8,9-H	6.17e4	1.29e5	10.8007	0.581	0.430	NO	1.143	1.146	38.22	38.32	152.31	82.3		1.30
34	34 13C-OCDF	1.53e5	1.29e5	10.8007	0.689	0.892	NO	1.233	1.234	41.23	41.26	317.64	85.8		0.512
35	35 37Cl-2,3,7,8-TCDD	4.13e4	1.02e5	10.8007	1.198			1.022	1.023	26.10	26.12	62.406	84.3		0.176
36	36 13C-1,2,3,4-TCDD	1.02e5	1.02e5	10.8007	1.000	0.807	NO	1.000	1.000	25.50	25.54	185.17	100.0		0.574
37	37 13C-1,2,3,4-TCDF	1.68e5	1.68e5	10.8007	1.000	0.790	NO	1.000	1.000	24.06	24.09	185.17	100.0		0.506
38 ³⁷⁶ 7729:27538 7 8	38 13C-1,2,3,4,6,9-Hx	1.29e5	1.29e5	10.8007	1.000	0.495	NO	1.000	1.000	33.42	33.44	185.17	100.0		0.903
39	39 Total Tetra-Dioxins		9.85e4	10.8007	0.901			0.000		25.50		0.00000		0.428	0.105
40	40 Total Penta-Dioxins		8.95e4	10.8007	0.872			0.000		30.00					0.126
41 這座建印約	41 Total Hexa-Dioxins		0.00e0	10.8007	0.976			0.000		33.80		0.00000		0.598	0.226
2	42 Total Hepta-Dioxins		6.24e4	10.8007	0.989			0.000		37.75		1.2564		1.80	0.476
	43 Total Tetra-Furans		1.67e5	10.8007	0.943			0.000		24.00					0.0654
<b>H</b>	44 1st Func. Penta-Fur		0.00e0	10.8007	0.940			0.000		27.63					0.0354
<b>6</b>	45 Total Penta-Furans		0.00e0	10.8007	0.940			0.000		30.00					0.0509
<b>6 4 1</b>	46 Total Hexa-Furans		0.00e0	10.8007	1.078			0.000		33.00					0.0783
	47 Total Hepta-Furans		0.00e0	10.8007	1.135	_		0.000		37.75					0.111

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 10 Dec 2019 16:21:14 Calibration: 10 Dec 2019 16:25:11

# Name: 191205D3_13, Date: 7-DEC-2019, Time: 03:28:12, ID: 1903646-02 PDI-016SC-A-15-16-191009, Description: 1903646-02 PDI-016SC-A-15-16-191009 14.92 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

### **Tetra-Dioxins**

500.0	# Name	N/Y	RT .	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	39 Total Tetra-Dioxins	YES	24.23	129.668	43499.164	0.000	MM	0.0000	0.43

### Penta-Dioxins

# Name	N/Y RT Area	IS Area Response Primary Flags	EMPC

### **Hexa-Dioxins**

# Name	NY	RT	Area	IS Area	Response	Primary Flags	Conc. E	EMPC
41 Total Hexa-Dioxins	YES	32.42	125.471	40163.737	0.000	MM	0.0000	0.60

### **Hepta-Dioxins**

	NY	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
6 1,2,3,4,6,7,8-HpCDD	YES	37.80	134.271	32061.988	0.000	MM	0.0000	0.54
2 42 Total Hepta-Dioxins	NO	36.95	223.366	32061.988	13.417	MM	1.2564	1.26

### **Tetra-Furans**

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### **Penta-Furans function 1**

### Penta-Furans

Area States # Name States and a Response Primary Flags Conc. EMPC

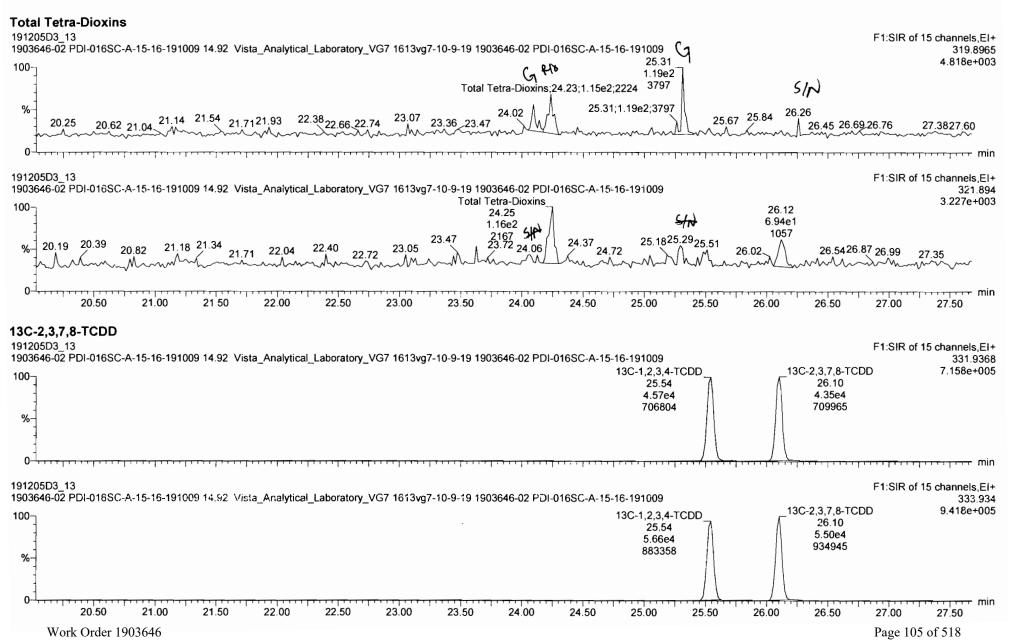
### Hexa-Furans

# Name # Name Conc. EMPC

### **Hepta-Furans**

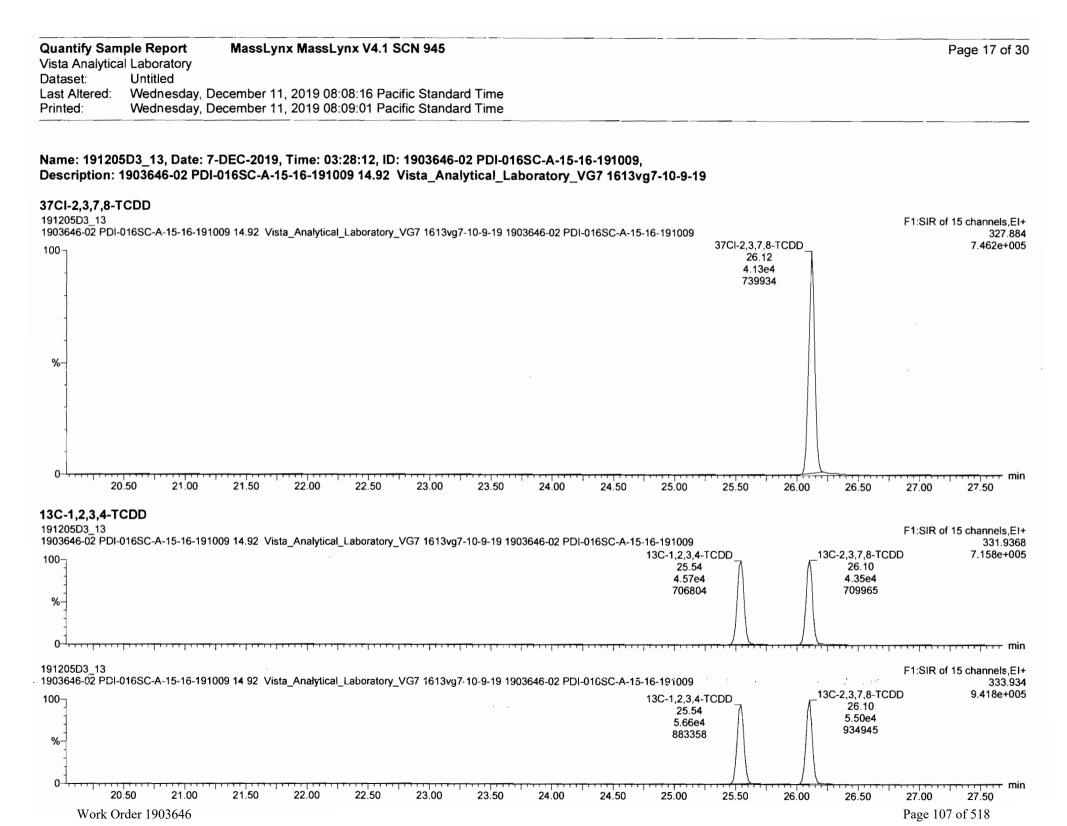
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Vista Analytica	I Laboratory	
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Printed:	Wednesday, December 11, 2019 08:09:01 Pacific Standard Time	



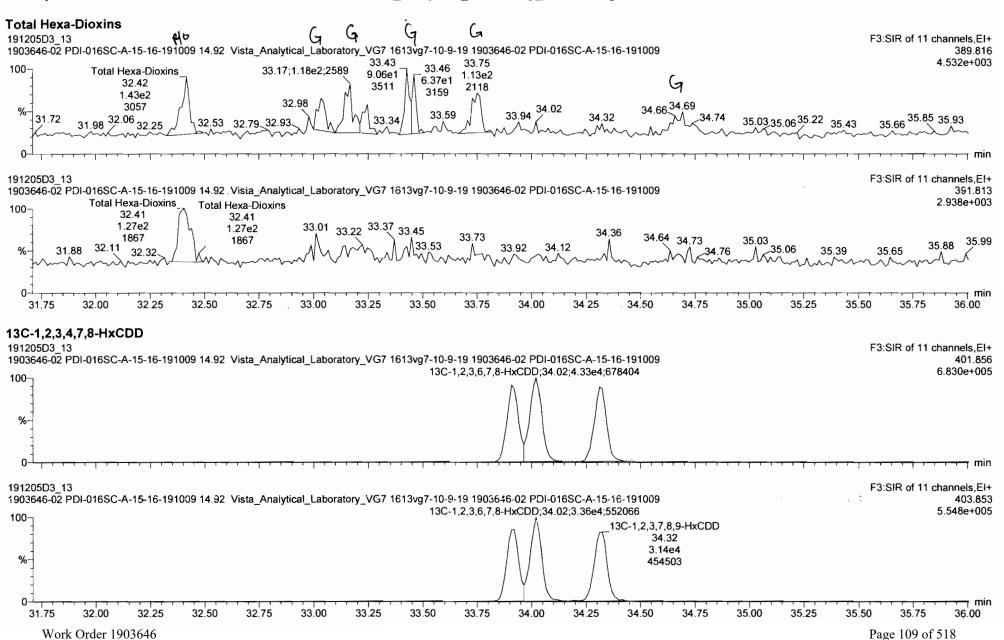
TargetLynx XS - 191205D3-13 * - [Chrometogram] A File Edit View Display Processing Window Help . 5 X 홍님 · 문비미밎 역 앱 바 · 노랑 · 가 가 너지 않지고 피티지에 이 이 문지 않 ? 19120503 13 - 1903646-02 PDI-016SC-A-15-16-191009 - 1903646-02 PDI-016SC-A-15-16-191009 14 92 Vista Analytical Laboratory VG7 1613vg7-10-9-19 DL %Rec RT # S# RA YAN RRT Acq Date Name Conc. EMPC Abs.Resp RRF Acq.Time 1º Chr.Noise D Sample Text Factor1 SWI CalFie 0 34 13C-0CDF 41 26 34 38 0.892 NO 1.234 7-DEC-29 317.642 0.512 85 769 1.526e5 03.28:12 720 465 1903646-02. 1903646-02 PD4-0.0 10.8 35 37C+2,3,7.8-TCDC 62,4060 0 176 84 254 4 120e4 26.12 35 3£ 1 023 7-DEC-29 03.28:12 1903646-02... 1903E46-02 PDI-0.0 10.8 0 574 100 000 25.54 38 38 0 807 NO 1 000 7-DEC-29 03:28:12 0 0 10.8 36 13C-1,2,3,4-TCDD 165.173 1.023e5 521.366 1903646-02 1903646-02 PDL 24 09 37 37 0.790 NO 1.000 7-DEC-29 37 13C-1,2 3,4-TCDF 185 173 0.506 100 000 1 682e5 03 28 12 1075 058 1903646-02. 1903646-02 PD4-0 0 10 8 38 13C-1,2,3,4,8,9-HxCDF 185.173 0 903 100.000 1 291e5 32 44 38 38 6 495 NO 1.000 7-DEC-29 03:28.12 1820.403 1903646-02 903646-02 PDL 0.0 10.8 39 03:28:12 0.0 10.8 39 Total Tetra-Dioxina 0.000000 0.105 0.428134 7-DEC-29 1903646-02... 1903646-02 PDH 000000 0 0.126 0 521387 40 7-DEC-29 03 28:12 1903645-02. 1903646-02 PDI-8 61 00 40 Total Pents-Dioxins 41 0.711625 0 381 0 711825 41 7-DEC-29 03.28:12 1903646-02... 1903646-02 PD4 0.0 10.8 Total Hexa-Dickins 42 Total Hepta-Dioxins 0000000 8.296 1 90189 42 7-DEC-29 03:28:12 1903646-02. 1903646-02 PCH. 00 108 43 7-DEC-29 03.28:12 1903646-02 PDI-00 108 43 Total Tetra-Furans 0.0654 1903646-02 RT m1 Height m2 Height m1 Resp m2 Resp RA n/y Resp Conc. EMPC Name 24.23 2 335e2 2.167e3 1.297e2 1.160e2 1.12 YES 0.000e0 0 000 3.428 Total Tetra-Dicxns 19120ED3_13 Physical 45 champels El-Total Tetra-Dioxins 1903646-02 PEND1636-4-16-16-19106314-92 Usba, Indexted List Ardin, _267-1013/g2-10-8-18-1903646-02 PDN01686-4-16-16-191009 212 8985 24 23 25.31 48186+003 100-129 67 2335 25.26 24.02 26.12 26.45 26.69, 26.76²⁶ 93 * 2005 2025 20 50 20 52 20 73 21 94 21.14 21 37 21.54 21.71 21.93 22.01 22.38 22.54 22.66 22.74 22.83 23.07 23.14 23.36 23.47 24.45 24.58 24.93 25.05 25.53 25.67 25.84 27 24 27 38 27 50 19120ED2 13 F1 SR of 15 channels EI+ 1903648-02 PDI-01680 ---15-16-191009 14 92 hista_Analyteal_Lacoraton_1%7 1619kg7-16-9-19 1903646-02 PDI-01680-4-15-16-191009 321894 7.2176-002 Total Tetra-Dioxins 24 25:115 96:2167 100-26.02 26.12 25.04 25.18 25.29 25.51 20 19 20.39 20.59 20.62 21.14 21.34 21.51 21.71 21.88 22.04 22.15 22.40 22.47 22.72 22.85 23.05 23.10 23.4423.47 23.63 23.72 26 41 26 54 26.62 24 06 24.37 24.65 24.72 26.99 27 04 27 35 27 43 %-25.65 25.79 n. F1.SiR of 15 channels EH 19120503 13 1903646-02 PDI-015SC-5 15 16 191009 14 92 Wista_Anai/fical_Laboratorc_.G7 1613vg7-10-9-19 1903646-02 PDI-016SC-5-15-16-191009 331,9366 25.54 13C-2.3.7.8-TCDD 7 1586+005 100-26.10 43499.16 709965 % 191205D3_13 Fit:SiR of 15 channels EI+ 1905846-02 PDI-01650-4-15-15 191009 14 92 vista_winal-facal_Laboratory_167 1613-p7-16-6-19 1902346-02 PDI-016SC-4-15-16-191009 333 934 25.54 13C-2.3,7,8-TODD 9.4186+005 100 1 26,10 55037 61 ч. 934945

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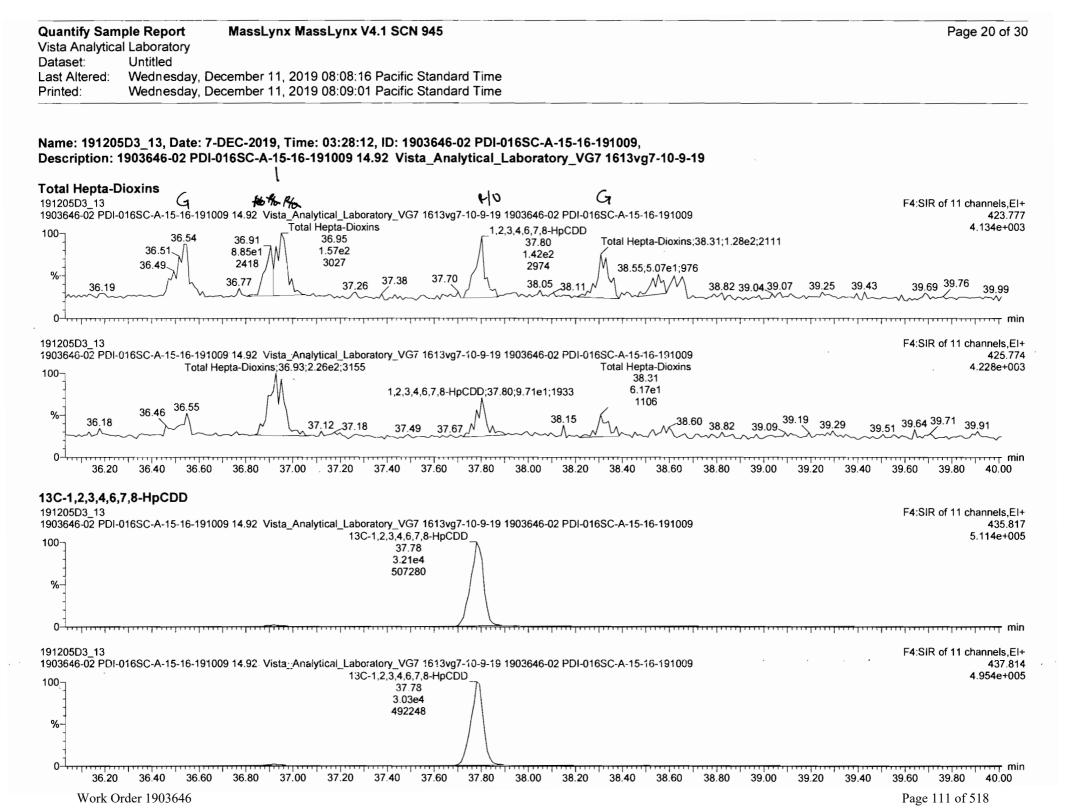


Quantify Sample Report /ista Analytical Laboratory Dataset: Untitled	MassLynx MassLynx V4.1 SCN 945	Page 18 of 3
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0 ¹	28.40 28.60 28.80 29.00 29.20 29.40 29.60 29.80 30.00 30.20 30.40 30.60 30.80 31.00	) 31.20 31.40 31.60
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Quantify Sam	ple Report MassLynx MassLynx V4.1 SCN 945	Page 19 of 30
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TargetLynx XS - 19120503-13 * - [Chromatogram] A File Edit View Display Processing Window Help 16 X 191205D3 10 - 1903646-02 PDI-016SC-A-15-16-191009 - 1903646-02 PDI-016SC-A 191009 14 92 Visla Analytical Laboratory VG7 1613v07.10.9.19 RT # S# RA Y/N RRT Acq.Dele DL %Rec EMPC Abs.Resp Name Conc RRF Acq.Time 1º Chr.Noise D Sample Text Factor1 SWt CaLFie 34 13C-OCDF 41.26 34 38 0 892 NO 1.234 7-DEC-29 317 642 0 512 85.769 1.526e5 03:26.12 720 468 1903646-02... 1903646-02 PD+ 0.0 10.8 35 37CH2 3.7.8-TCDC 67 4060 0.176 84 254 4 130e4 26.12 35 36 1.023 7-DEC-29 1903645-02... 1903645-02 PDI-03 28,12 8.01 6.0 36 13C-1.2.3.4-TCDD 0.574 109.000 25 54 36 36 0.807 185 173 102345 NO 1 600 7-DEC-29 03 28 12 521 366 1903646-02. 1903646-02 PDI-. 60 108 37 13C-1.2.3,4-TCDF 185,173 0 50€ 100 000 168265 24.09 37 37 0.790 NO 1.000 7-DEC-29 0.0 10.8 1075 058 1903646-02... 1903846-02 PDI-03 28:12 38 13C-1.2.3,4,8.9-HxCDF 185 173 0 903 100.000 1 291e5 23.44 38 38 0 495 NO 1 000 7-DEC-29 83.28.12 1830 403 1903646-02. 1903646-02 PDL 0.0 10.8 39 Total Tetra-Dioxns 0.00000.0 0 105 0 428134 39 7-DEC-29 03 28 12 1903646-02 . 1903646-02 PDI-6.0 10.8 40 Total Penta-Dioxina 0 126 40 7-DEC-29 03:28.12 1903646-02. 1903646-02 PDH 6.0 10.8 1903646-02... 1903646-02 PDI-41 Total Hexa-Dicxens 8.000000 0.226 0.598131 41 7-DEC-29 \$3:28:12 00 10.8 42 Total Hepta-Dioxns 000000 0 0.296 1 90189 42 7-DEC-29 03:28:12 1903646-02. 1903646-02 PDI-00 108 43 Total Tetra-Furana 0.0654 7-DEC-29 43 03-28-12 1903646-02 1903646-02 PDI-00 108 Name RT m1 Height m2 Height m1 Resp m2 Resp RA n/y Resp Conc. ENDC 1 Total Hexa-Dicxins 32 42 3.003e3 1 652e3 1 255e2 1.208e2 1.04 YES 0.000e0 0.000 0.598 19120503_13 F3 S/R of 11 channels EI+ 1903635-02 PDI-0168C-4 16-19-191000 14 92 Visto_snal,#rai_Laborator,_V07 1513xq7-10-0-10 1903646-02 PDI-0168C-4 389.815 33 43 33 45 4,532e+003 Total Hexa-Dioxins 32 42 125 47:3003 33 03 33 15 33 17 33 73 33.75 33 87 33 94 34 02 34 08 34 30 34 32 34 38 34 55 34 66 34 69 34 74 34 87 34 92 35 03 35 06 35 22 35 25 35 43 35 56 35 66 35 74 35 85 53 35 % 3172 31 85 1 33.25 32.98 23.50 32.53 32 52 32 70 32.79 33.34 31 98 32.05 32 15 32 25  $\sim$ 17 15 mir 191205D3 13 F3 SIR of 11 channels EI+ 1903586-02 PDH/16SC-4-15-16-191009 14 92 Hista_Analytical_Laboratory_167 1613vg7-10-9-19 1903646 (/2 PDH/016SC-4-15-16-191009 391.813 Total Hexa-Dioxins:32 41:120.83:1852 2,938e+003 33, 15 33 22 33, 37 33, 45 33, 53 33, 52 33, 53 33, 62 33, 92 34, 03 34, 12 34, 20 34, 33 46 34, 61 34, 64 34, 73 34, 76 34, 86 35, 03 35, 06, 35, 14 35, 26 35, 39, 35, 47 35, 55 35, 65 35, 81 35, 88 35, 99 33.01 32,47 3176 31.88 32.02 32.11 32.25 32.32 32.53 32.65 32.82 32.84 32.99 30 19120503 13 F3 SIR of 11 channels EI+ 199/2845-02 PD -01/550 --- -6-16-181009 14 92 -/iste_frail/trail_Laborator__vG7 1613/g7-10-6-18 1903646-02 PD-01650 ---16-15-181009 401,856 5 830e+005 34.02 100 34.31 * 9mir 191205D3_13 F3 SIR of 11 channels.Ei+ --1963845-02 PDI-016SC-++15-16-191009 14 92 vista -inal-tical Laboratory VG7 1613vd7-10-9-19 1903646-02 PDI-016SC-++15-16-191009 403.853 13C-1.2.3.4 7.8-HxCDD:33 92:30122.26:472809 5548e+005 34 02 100-34,32 % 0 min 191205D3_13 F3 SIR of 11 channels.EI+ 1903646-02 PDI-016SC-+-15-16-191008 14.92 Vista Anal-tical Laboraton_VG7 1613vd7-10-9-19 1903646-02 PDI-016SC-+-15-15-191009 401.856 13C-1.2.3.6.7.8-HxCDD;34 02:43325.85,678404_34.31 5830e+005 100 ч. n 31.80 32 00 32.20 32 40 32.60 32 80 33,00 33.20 33 40 33 60 33.80 34 00 34.20 34.40 34,60 34,80 35.00 35.20 35,40 35 60 35.80 36.00 + Custom Reporting: Select reports to generate § 19120503 13 CAP NUM



TargetLynx X5 - 191205D3-13 * - [Chromatogram]

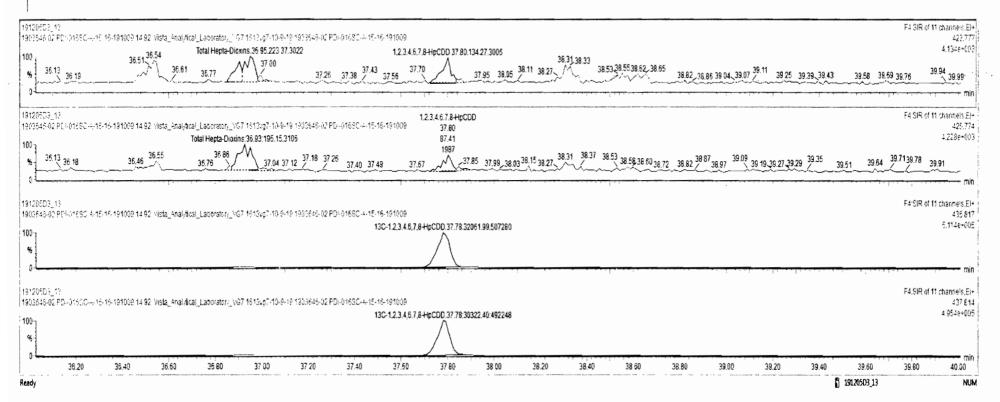
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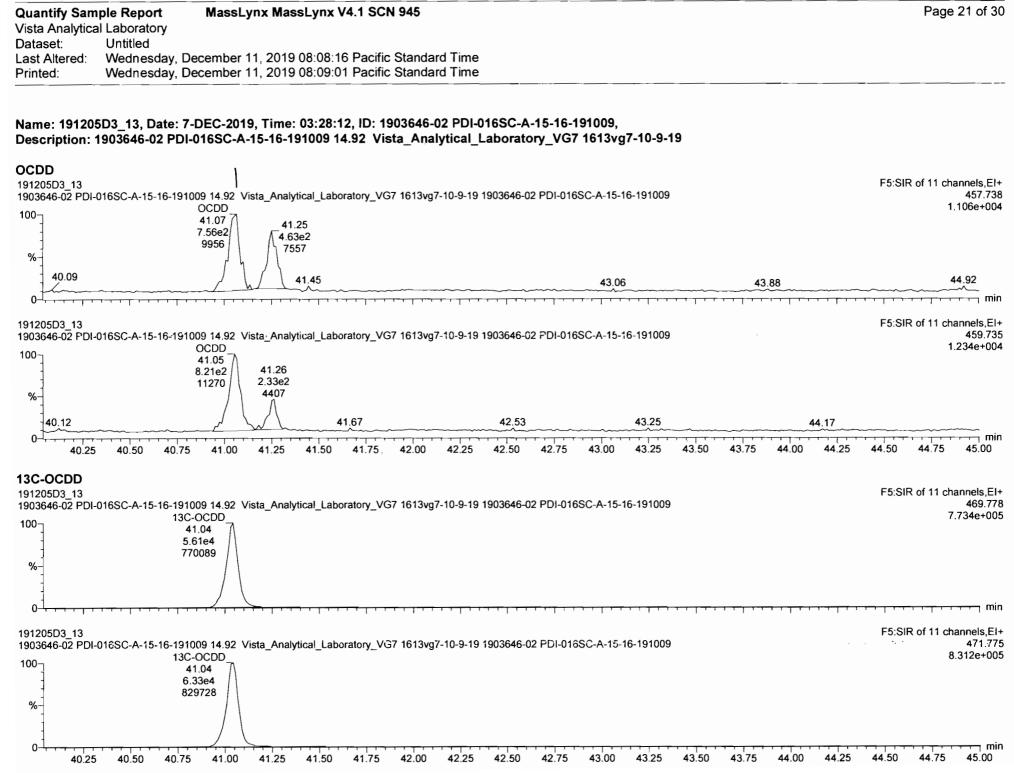
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	#	Name	Resp	IS Resp	S#	RA	n/y	RRF	wt/vol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
36	3E	13C-1 2 3 4-TCDC	1.02e5	1.02e5	3E	0.81	NO	1.000	10 801	25 50	25.54	1 000	1 000	NO	185 2	100	0.574	
37	37	13C-1,2.3,4-TCDF	1 68e5	1 68e5	37	079	NO	1 000	19,801	24.0E	24.09	1 000	1.900	NO	185 2	100	0 506	
38	38	13C-1 2 3 4 6 9-HxCDF	1.29e5	1.29e5	38	0 50	NO	1.000	10 801	33 42	33 44	1 000	1 000	NO	185 2	100	0.993	
39	39	Total Tetra-Dioxins		5.85e4				0 901	10 801	25 50			0.000	NG	0.0000		0 105	0 4281
40	40	Total Penta-Dioxins		8 95e4				C 872	10 801	30 00			0.000	NO			0.128	
41	41	Total Hexa-Dicxina		0.0 <b>Ce</b> 0				\$ 976	10 80 1	33.80			0 000	NO	0.0000		0 226	0 5981
42	42	Total Hepta-Dioxina		6.2404				0.989	10.801	37.75			0.000	NO	1.256		0.476	1.797
43	63	Total Tetra-Furans		1 67e5				0 943	10 801	24 00			0 000	NO			0 0654	
44	46	1st Func. Penta-Furans		0 00 <del>e</del> 0				0 940	10 B01	27 <del>C</del> 3			0 000 0	NO			0 0354	
45	45	Total Penta-Furans	_	0 00e0				0 940	10.801	30 00			0 000	NO			0 0509	
46	46	Total Hexa-Furana		0 00 <del>e</del> 0				1 078	10.801	33 00			0 000	HO			0 0783	
G	47	Total Hepta-Furans		0 00e0				1 135	10 801	37 75			D 000	NO			D 111	
48	48	PFK1																

×		#	Name	Pred.RT	RT.	m1 Resp	m2 Resp	Pred RA	RA	nły	EMPC	Canc.
	1	42	Total Hepta-Dioxina	37 75	36.95	2.23462	1 951a2	1.040	1,14	NO	1 2564	1 2564
	2	8	1,2.3,4 6.7 B-HpCDD	37 79	37 80	1.343e2	8741e1	1,040	154	YES	0 54040	0 00000

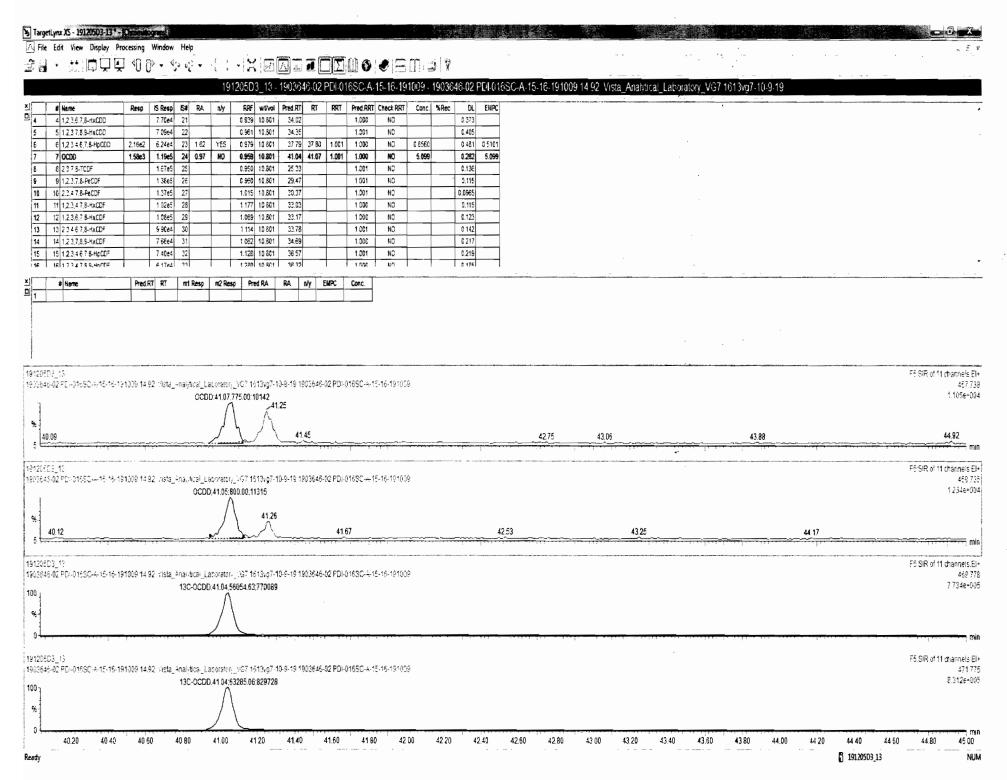


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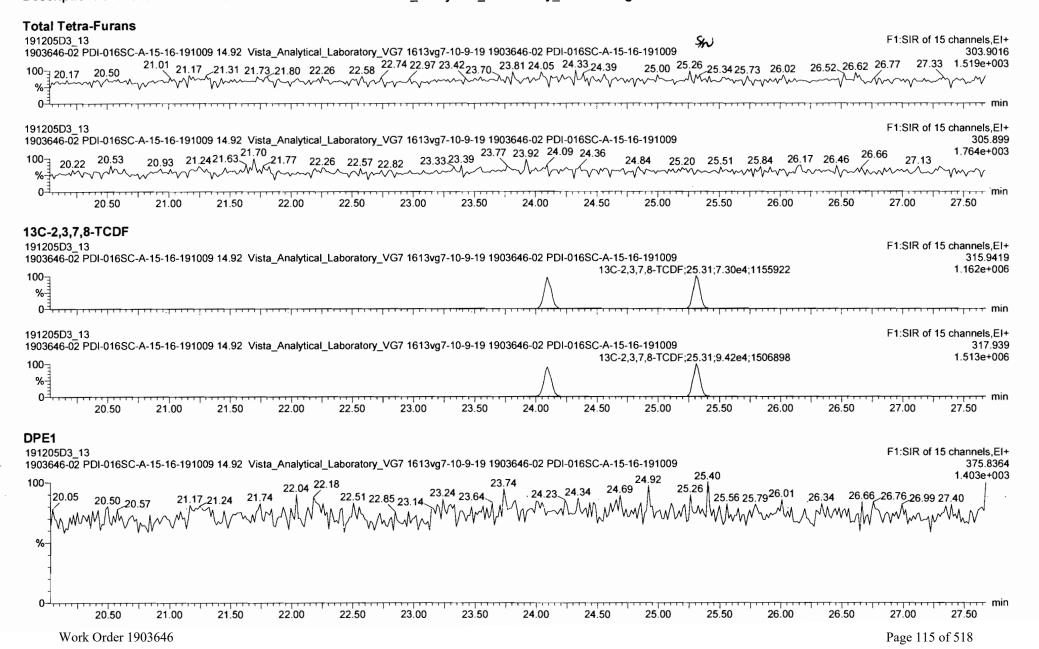
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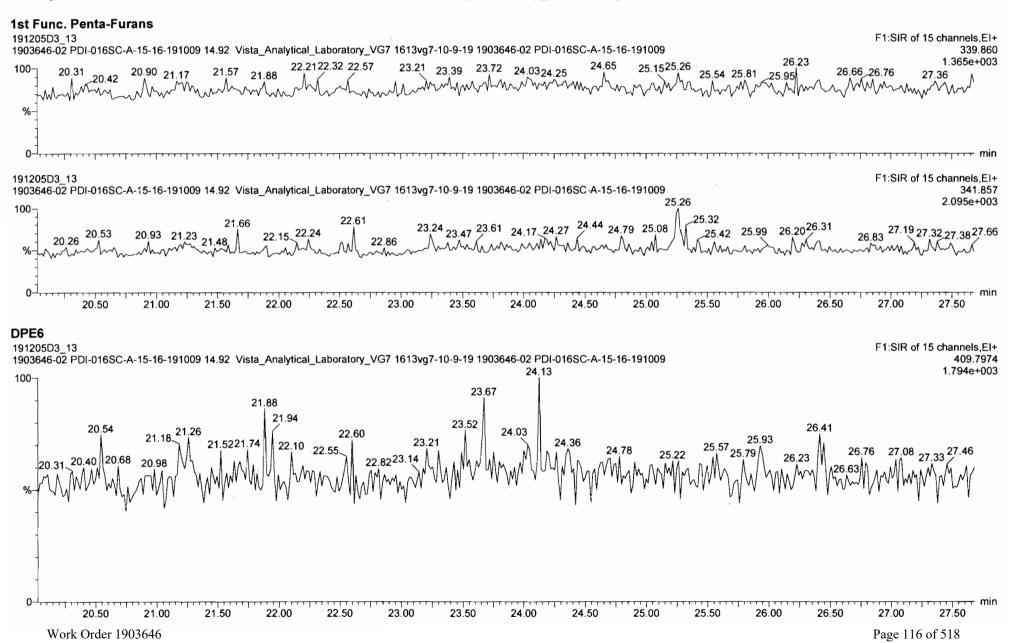
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Quantify San	nple Report	MassLynx MassLynx V4.1 SCN 945	Page 22 of 30
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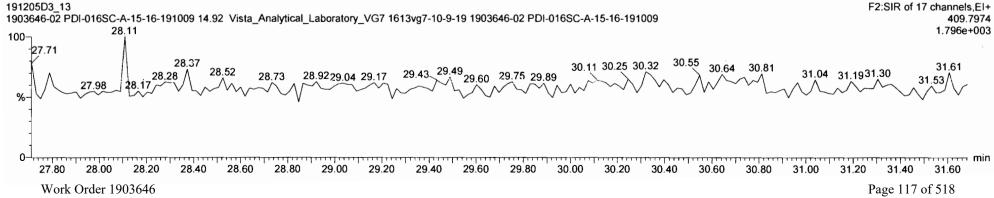
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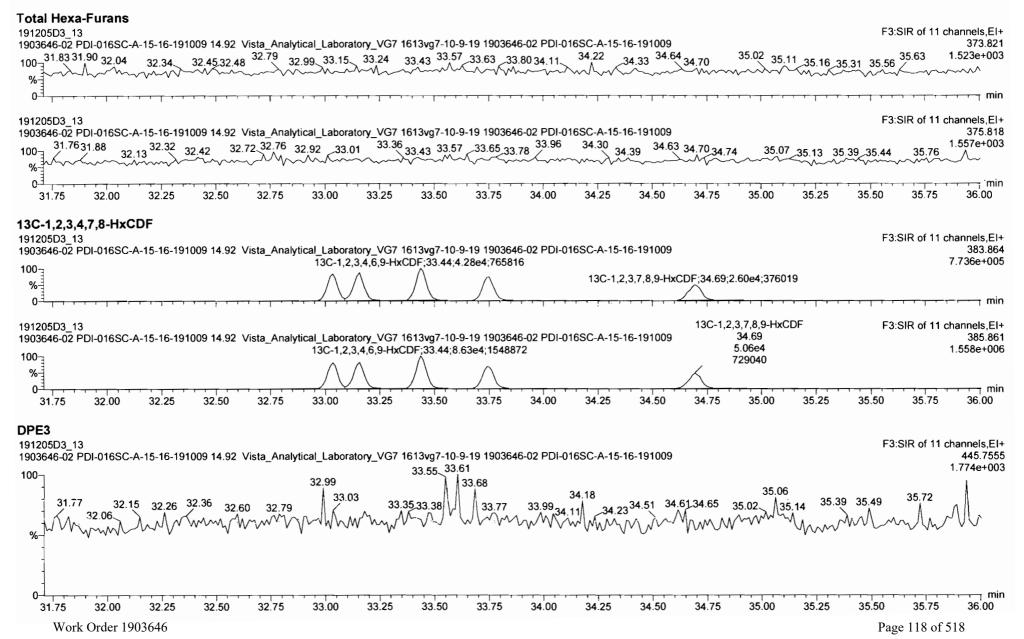


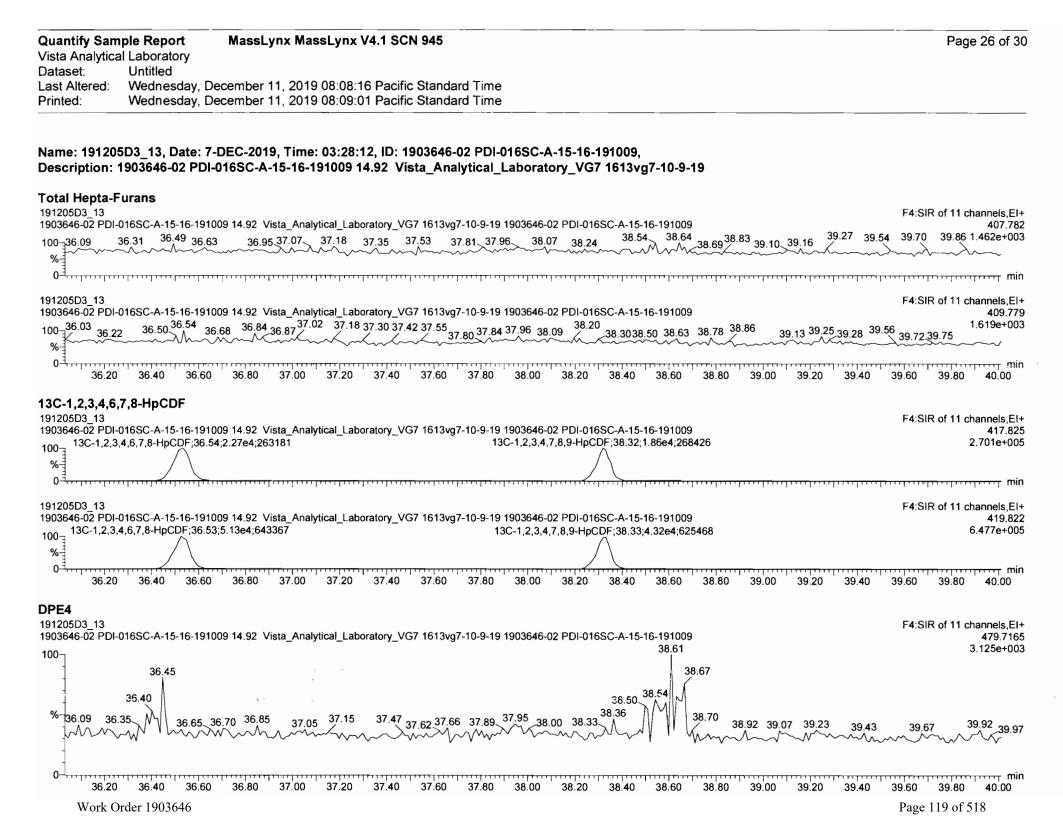
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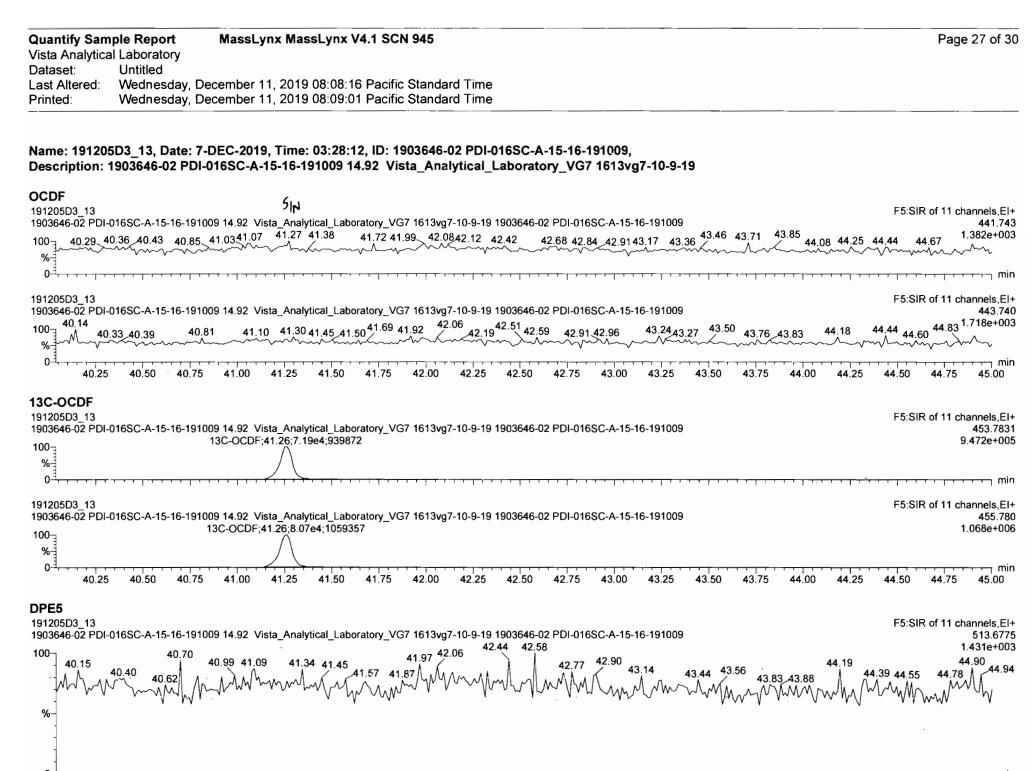
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Quantify San	nple Report	MassLynx MassLynx V4.1 SCN 945	Page 25 of 30
Vista Analytic	al Laboratory		
Dataset:	Untitled		
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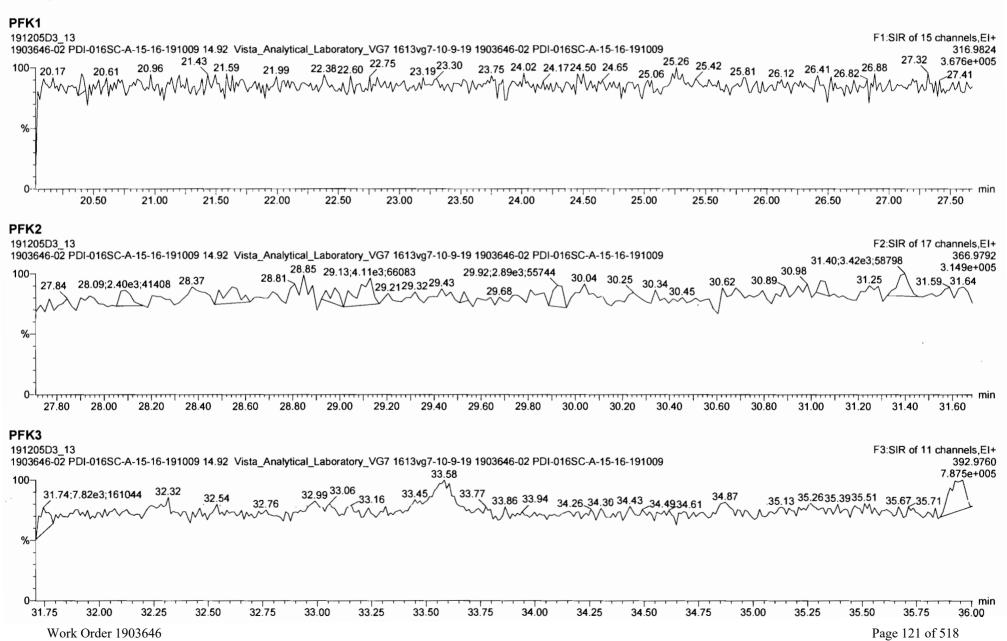


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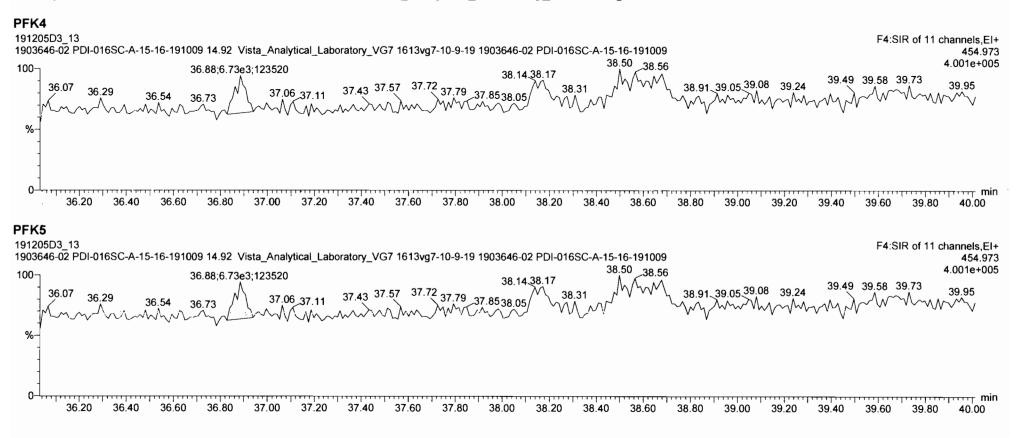
Work Order 1903646

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Quantify Sam	ple Report	MassLynx MassLynx V4.1 SCN 945	Page 28 of 30
Vista Analytica	I Laboratory		
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Last Altered:	Wednesday, D	ecember 11, 2019 08:08:16 Pacific Standard Time	
Printed:	Wednesday, D	ecember 11, 2019 08:09:01 Pacific Standard Time	



Quantify Sam	ple Report MassLynx MassLynx V4.1 SCN 945	Page 29 of 30
Vista Analytica	al Laboratory	· ·
Dataset:	Untitled	
Last Altered:	Wednesday, December 11, 2019 08:08:16 Pacific Standard Time	
Printed:	Wednesday, December 11, 2019 08:09:01 Pacific Standard Time	



Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica		
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Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:14:28

-	# Name	Area	IS Area	Wt.Nol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1.25	1 2,3,7,8-TCDD		1.07e5	9.8966	• 0.905			1.001		26.12					0.245
2	2 1,2,3,7,8-PeCDD		8.80e4	9.8966	0.903			1.001		30.62					0.307
3	3 1,2,3,4,7,8-HxCDD		7.03e4	9.8966	1.101			1.000		33.91					0.565
	4 1,2,3,6,7,8-HxCDD		7.28e4	9.8966	0.939			1.000		34.02					0.626
5	5 1,2,3,7,8,9-HxCDD		7.35e4	9.8966	0.961			1.001		34.34					0.645
6	6 1,2,3,4,6,7,8-HpCDD	4.90e2	6.56e4	9.8966	0.979	1.328	YES	1.000	1.001	37.79	37.80	1.5395		1.35	0.277
7458	7 OCDD	3.44e3	1.16e5	9.8966	0.959	0.858	NO	1.000	1.000	41.04	41.05	12.563		12.6	0.406
8	8 2,3,7,8-TCDF		1.83e5	9.8966	0.950			1.001		25.32					0.156
9	9 1,2,3,7,8-PeCDF		1.40e5	9.8966	0.960			1.001		29.45					0.116
10.22	10 2,3,4,7,8-PeCDF		1.44e5	9.8966	1.015			1.001		30.37					0.121
	11 1,2,3,4,7,8-HxCDF		1.03e5	9.8966	1.177			1.000		33.03					0.295
12241.0	12 1,2,3,6,7,8-HxCDF		1.08e5	9.8966	1.069			1.000		33.15					0.317
13	13 2,3,4,6,7,8-HxCDF		9.84e4	9.8966	1.11 <b>4</b>			1.001		33.78					0.355
14	14 1,2,3,7,8,9-HxCDF		8.31e4	9.8966	1.062			1.000		34.69					0.545
15. 金融 建金属	15 1,2,3,4,6,7,8-HpCDF		7.30e4	9.8966	1.128			1.001		36.56					0.232
16. E	16 1,2,3,4,7,8,9-HpCDF		6.21e4	9.8966	1.280			1.000		38.32					0.233
<b>挖着新闻</b>	17 OCDF		1.48e5	9.8966	0.947			1.000		41.26					0.316
18月11日 金融	18 13C-2,3,7,8-TCDD	1.07e5	9.35e4	9.8966	1.095	0.785	NO	1.021	1.022	26.06	26.08	212.12	105.0		0.570
	19 13C-1,2,3,7,8-PeCDD	8.80e4	9.35e4	9.8966	0.881	0.630	NO	1.187	1.199	30.29	30.60	215.92	106.8		0.435
2023 Mail 1	20 13C-1,2,3,4,7,8-Hx	7.03e4	1.0 <b>4e</b> 5	9.8966	0.642	1.314	NO	1.014	1.014	33.90	33.90	212.96	105.4		1.24
	21 13C-1,2,3,6,7,8-Hx	7.28e4	1.04e5	9.8966	0.856	1.292	NO	1.017	1.017	34.01	34.02	165.63	82.0		0.929
22 20 20 20	22 13C-1,2,3,7,8,9-Hx	7.35e4	1.04e5	9.8966	0.807		NO	1.026	1.026	34.31	34.31	177.34	87.8		0.985
23	23 13C-1,2,3,4,6,7,8-H	6.56e4	1.04e5	9.8966	0.654		NO	1.126	1.130	37.65	37.78	195.28	96.6		1.18
20000	24 13C-OCDD	1. <b>16e</b> 5	1.0 <b>4e</b> 5	9.8966	0.580	0.898	NO	1.226	1.227	40.99	41.04	387.78	95.9		1.00
25.56.161.2	25 13C-2,3,7,8-TCDF	1.83e5		9.8966		0.791	NO	0.992	0.991	25.32	25.29	223.35	110.5		0.517
CORPORATION CONTROL OF A STATE	26 13C-1,2,3,7,8-PeCDF	1. <b>40e5</b>	1.60e5	9.8966	0.854		NO	1.154	1.153	29.45	29.43	207.21	102.5		1.01
ASSESSMENT OF THE OWNER AND ADDRESS OF THE	27 13C-2,3,4,7,8-PeCDF	1.44e5	1.60e5	9.8966	0.847		NO	1.189	1.189	30.35	30.34	214.25	106.0		1.02
C. THE ART DESCRIPTION OF A PROPERTY.	28 13C-1,2,3,4,7,8-Hx	1.03e5	1.04e5	9.8966	0.832		NO	0.987	0.988	33.01	33.03	241.72	119.6		1.24
STREET, STREET	29 13C-1,2,3,6,7,8-Hx	1.08e5	1.04e5	9.8966	1.034		NO	0.991	0.991	33.13	33.14	203.97	100.9		0.996
	30 13C-2,3,4,6,7,8-Hx	9.84e4	1.04e5	9.8966	0.953		NO	1.009	1.009	33.74	33.75	200.96	99.4		1.08
	31 13C-1,2,3,7,8,9-Hx	8.31e4	1.04e5	9.8966	0.828	0.520	NO	1.039	1.038	34.73	34.69	195.44	96.7		1.25

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	l Laboratory	
Dataset:	U:\VG7.PRO\Results\1912	205D4\191205D4-3.qld
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Printed:	Wednesday, December 11	I, 2019 09:12:19 Pacific Standard Time

	# Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N -	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H	7.30e4	1.04e5	9.8966	0.757	0.451	NO	1.093	1.092	36.54	36.52	187.50	92.8		1.20
33	33 13C-1,2,3,4,7,8,9-H	6.21e4	1.04e5	9.8966	0.581	0.459	NO	1.143	1.146	38.22	38.32	208.06	103.0		· 1.57
34 252	34 13C-OCDF	1. <b>48e</b> 5	1.04e5	9.8966	0.689	0.865	NO	1.233	1.234	41.23	41.26	419.14	103.7		1.17
35	35 37CI-2,3,7,8-TCDD	4.24e4	9.35e4	9.8966	1.198			1.022	1.023	26.09	26.10	76.634	94.8		0.225
36	36 13C-1,2,3,4-TCDD	9.35e4	9.35e4	9.8966	1.000	0.820	NO	1.000	1.000	25.50	25.52	202.09	100.0		0.624
37	37 13C-1,2,3,4-TCDF	1.60e5	1.60e5	9.8966	1.000	0.797	NO	1.000	1.000	24.06	24.08	202.09	100.0	,	0.536
38	38 13C-1,2,3,4,6,9-Hx	1.04e5	1.04e5	9.8966	1.000	0.493	NO	1.000	1.000	33.42	33.43	202.09	100.0		1.03
39	39 Total Tetra-Dioxins		1.07e5	9.8966	0.901			0.000		25.50					0.129
40	40 Total Penta-Dioxins		8.80e4	9.8966	0.872			0.000		30.00					0.150
41	41 Total Hexa-Dioxins		0.00e0	9.8966	0.976			0.000		33.80		0.00000		0.970	0.348
42	42 Total Hepta-Dioxins		6.56e4	9.8966	0.989			0.000		37.75		0.00000		3.93	0.129
43	43 Total Tetra-Furans		1.83e5	9.8966	0.943			0.000		24.00					0.0740
4	44 1st Func. Penta-Fur		0.00e0	9.8966	0.940			0.000		27.63					0.0472
45	45 Total Penta-Furans		0.00e0	9.8966	0.940			0.000		30.00					0.0539
46	46 Total Hexa-Furans		0.00e0	9.8966	1.078			0.000		33.00					0.202
47	47 Total Hepta-Furans	_	0.00e0	9.8966	1.135			0.000		37.75					0.124

Page 2 of 2

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:14:28

Name: 191205D4_3, Date: 7-DEC-2019, Time: 07:41:24, ID: 1903646-03 PDI-023SC-A-11-12-191009, Description: 1903646-03 PDI-023SC-A-11-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

#### **Tetra-Dioxins**

N/Y RT Area II Area Response Primary Flags Conc. EMPC

#### Penta-Dioxins

# Name N/Y RT Area IS Area Response Primary Flags

#### **Hexa-Dioxins**

AND AND A NAME AND	NY	RT		<b>IS Area</b>	Response	Primary Flags	Conc	EMPC
41 Total Hexa-Dioxins	YES	32.38	87.675	40635.872	0.000	MM	0.0000	0.45
2 41 Total Hexa-Dioxins	YES	32.40	149.628	40635.872	0.000	MM	0.0000	0.52

#### **Hepta-Dioxins**

•. .

Manual In Nome Let Manual an Anna	アンズ参	TINRI			W. Response	Panar/Fiels	DATE OF CODE	EMER
42 Total Hepta-Dioxins	YES	36.94	496.044	33595.539	0.000	MM	0.0000	2.58
2 6 1,2,3,4,6,7,8-HpCDD	YES	37.80	279.257	33595.539	0.000	MM	0.0000	1.35

#### **Tetra-Furans**

#### Penta-Furans function 1

NAS REPART REALEDAND	Interesting distances		

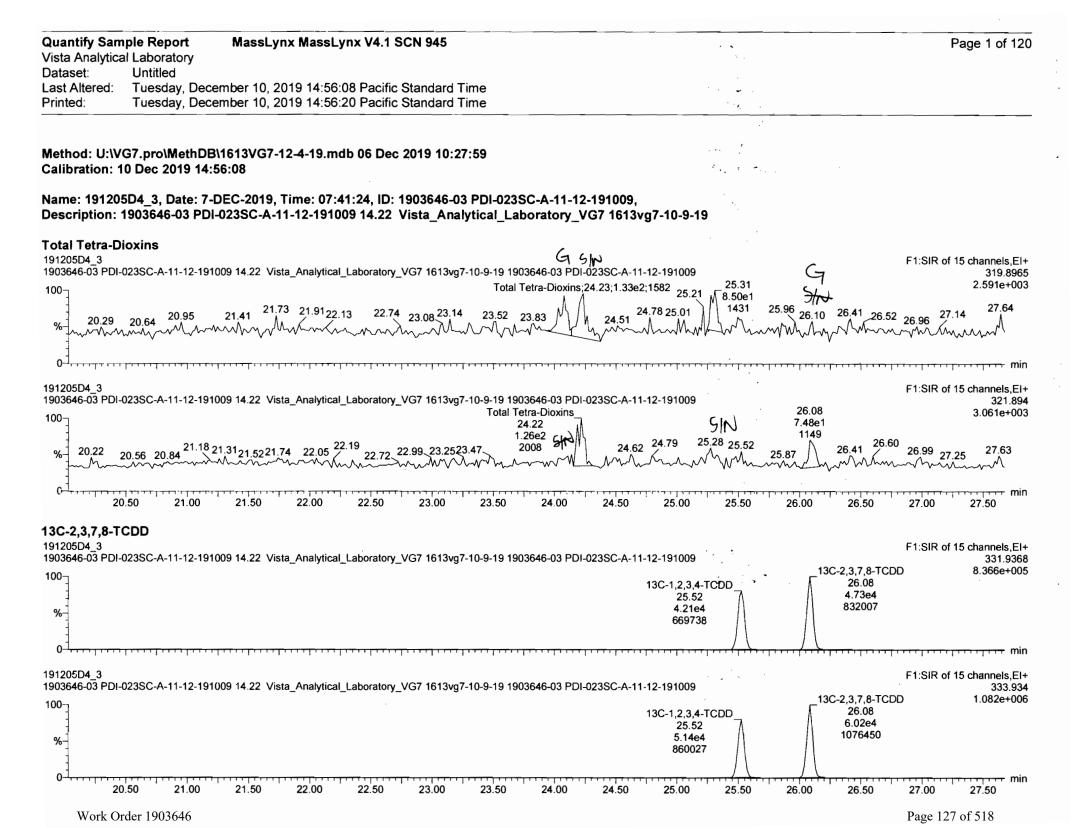
#### Penta-Furans

#### Hexa-Furans

# Name N/Y RT Area IS Area Response Primary Flags

#### **Hepta-Furans**

T Name NY RT Area IS Area Response Primary Flags

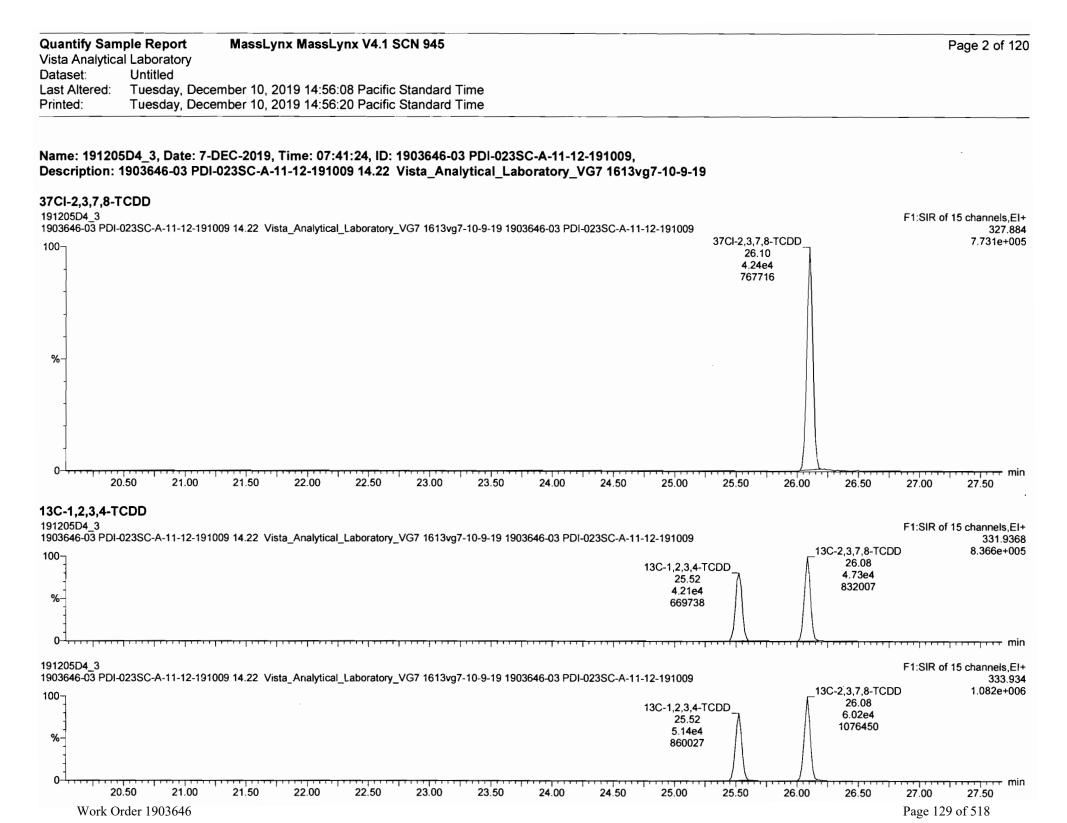


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Work Order 1903646

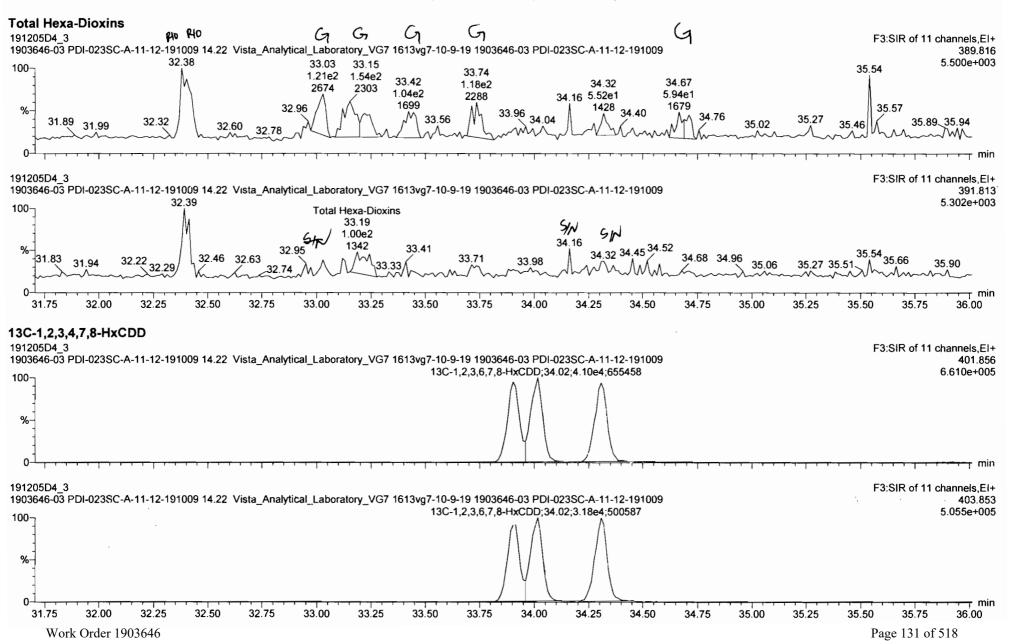
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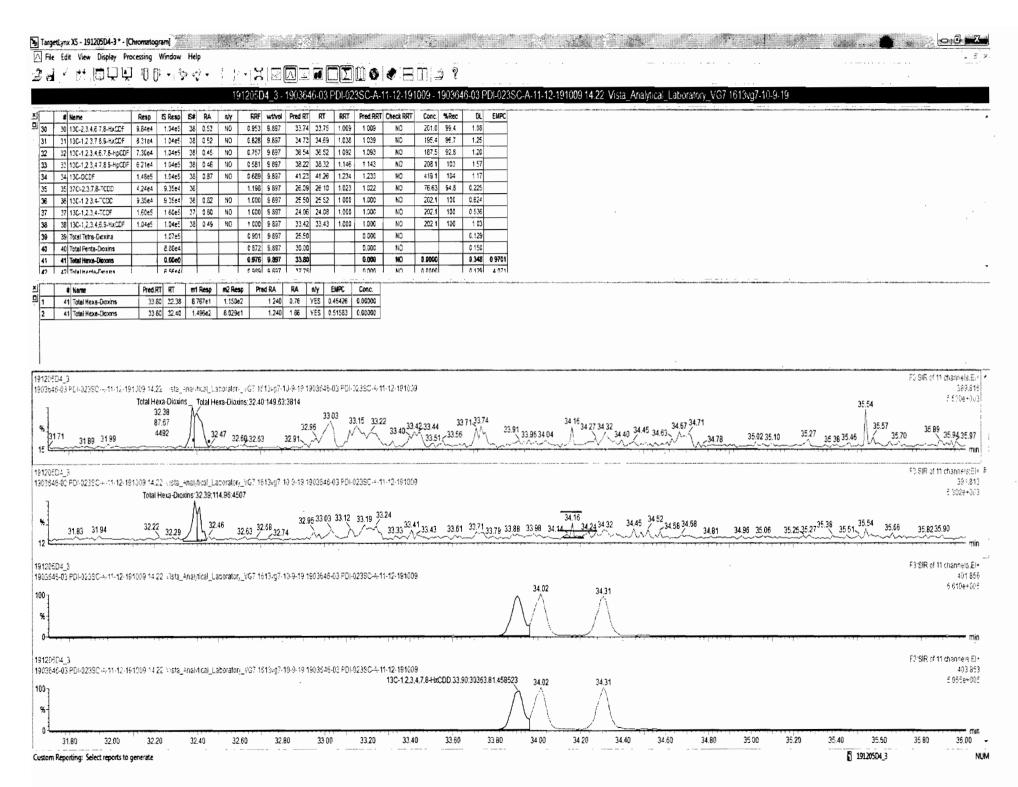
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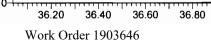
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lame: 191205D4_3, Date: 7-DEC-2019, Time: 07:41:24, ID: 1903646-03 PDI-023SC-A-11-12-191009, lescription: 1903646-03 PDI-023SC-A-11-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 303646-03 PDI-023SC-A-11-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-03 PDI-023SC-A-11-12-191009 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 10000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000	ast Altered: Tuesda	y, December 10, 2019 14:56:08 Pacific Standard Time		
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F2:SIR of 17 cha 191205D4_3 1902646-03 PDI-023SC-A-11-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-03 PDI-023SC-A-11-12-191009 13C-1,2,3,7,8-PeCDD 3,40e4 619779 191205D4_3 19026D4_3 19026D4_3 F2:SIR of 17 cha 1902646-03 PDI-023SC-A-11-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-03 PDI-023SC-A-11-12-191009 13C-1,2,3,7,8-PeCDD 13C-1,2,3,7,8-PeCDD 1. 30,60 5,40e4 1046142	903646-03 PDI-023SC-A-1	28.82 1.18e2 29.43 28.58 28.58 28.28 28.37 28.48 28.67 Total Penta-Dioxins 29.43 1.02e2 29.01 2330 Total P	16-03 PDI-023SC-A-11-12-191009 Total Penta-Dioxins; 30.32; 1.03e2; 2050 enta-Dioxins; 29.94; 5.54e1; 754 30.62 30.62 30.98 2515 30.70 ₃ 0.81 31.38 1.12e2 30.98 2515 30.70 ₃ 0.81 31.05 31.22	17 channels,E 355.855 3.734e+00 31.5331.64 m 31.60
903646-03 PDI-023SC-A-11-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-03 PDI-023SC-A-11-12-191009 13C-1,2,3,7,8-PeCDD1 30.60 5.40e4 1046142	91205D4_3 903646-03 PDI-023SC-A-1 100 %	I-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 190364	16-03 PDI-023SC-A-11-12-191009 13C-1,2,3,7,8-PeCDD 30.60 3.40e4	17 channels,E 365.89 6.226e+00
	903646-03 PDI-023SC-A-1 100	I-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 190364	16-03 PDI-023SC-A-11-12-191009 13C-1,2,3,7,8-PeCDD 30.60 5.40e4	367.85 1.050e+00
0	27.80 28.00 2			m 31.60 of 518

Quantify Sample Report		MassLynx MassLynx V4.1 SCN 945	Page 4 of 120
Vista Analytica	al Laboratory		
Dataset:	Untitled		
Last Altered:	Tuesday, D	ecember 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, D	ecember 10, 2019 14:56:20 Pacific Standard Time	





Quantify Sam		Page 5 of 12
•	cal Laboratory	
Dataset:		
ast Altered:		
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	
Description: Total Hepta-D 191205D4_3 1903646-03 PDI-1 Total He 36.04 0 	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	F4:SIR of 11 channels,E1 423.77 7.850e+00 
100 Total H % 36.20	Hepta-Dioxins;36.94;4.11e2;5271 36.94 4.11e2 5271 36.94 4.11e2 5271 36.45 36.52 36.57 37.27 37.45 38.03 38.27 38.45 38.57 38.64 38.84 39.14 39.23 39.14 39.23	39.47 39.55 39.95
0	0 36.40 36.60 36.80 37.00 37.20 37.40 37.60 37.80 38.00 38.20 38.40 38.60 38.80 39.00 39.20	39.40 39.60 39.80 40.00
91205D4_3 903646-03 PDI- 00- - - - - - - - -	6,7,8-HpCDD II-023SC-A-11-12-191009 14.22 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-03 PDI-023SC-A-11-12-191009 13C-1,2,3,4,6,7,8-HpCDD 37.78 3.36e4 558463	F4:SIR of 11 channels,EI 435.81 5.614e+00
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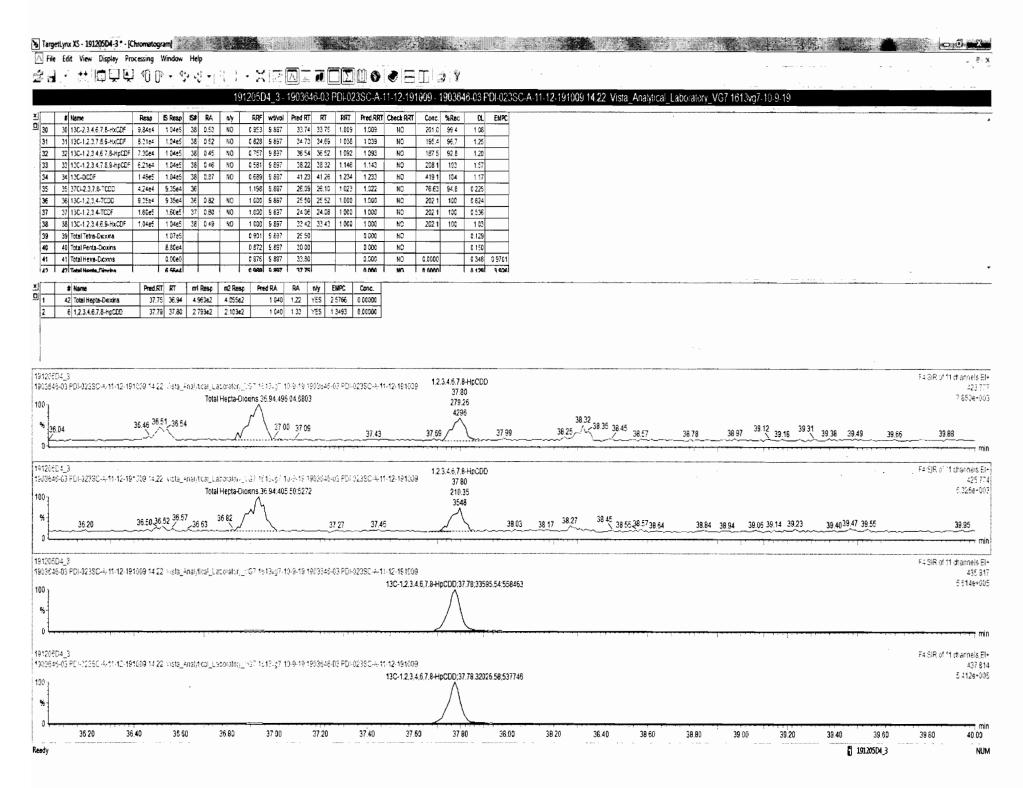
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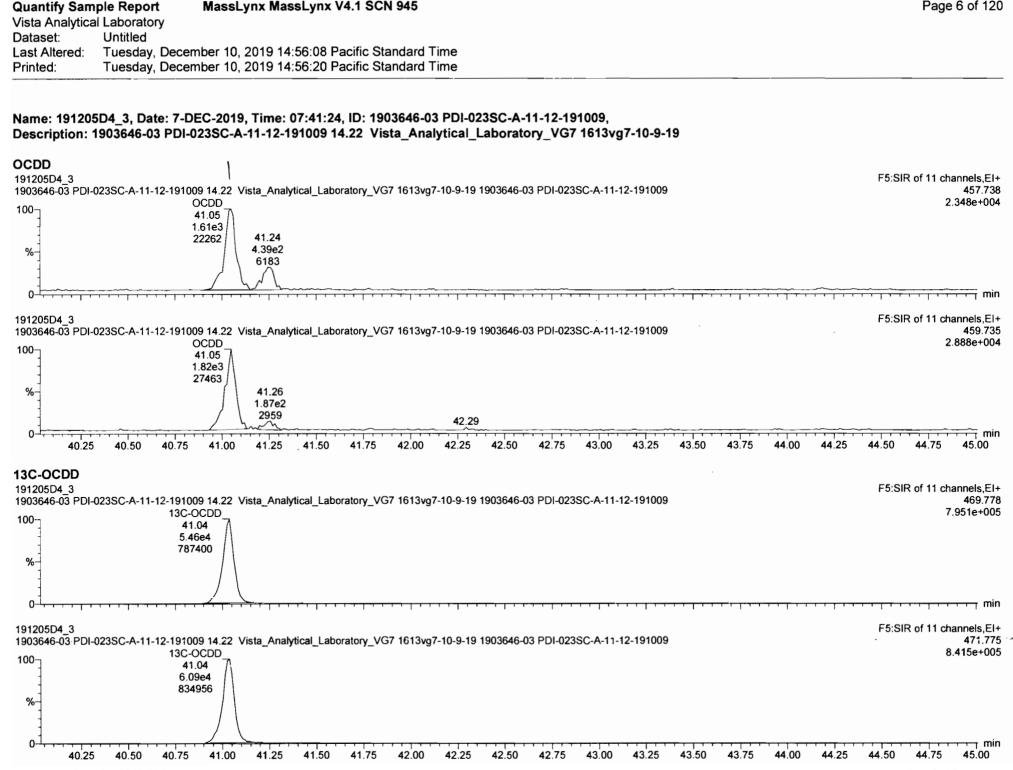
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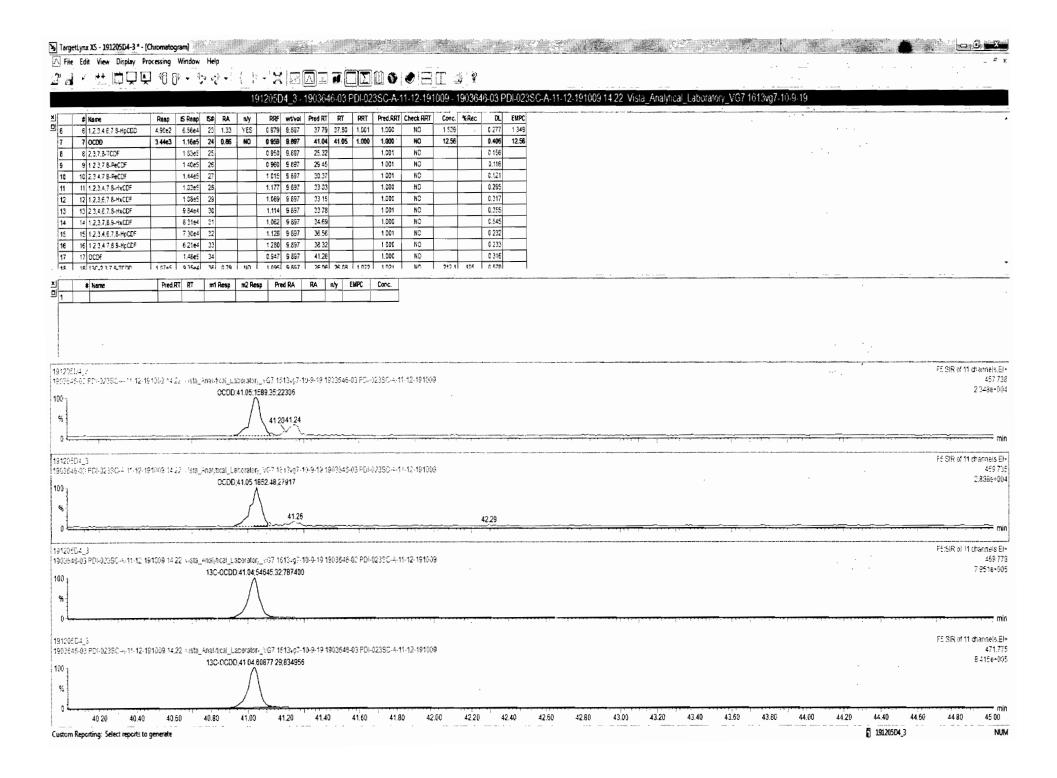


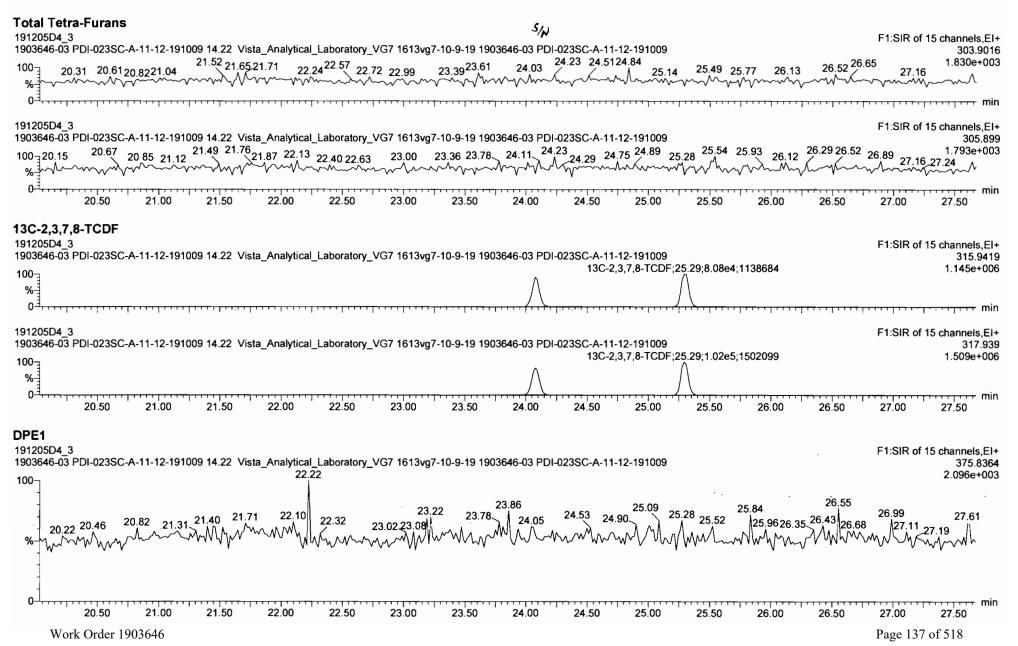


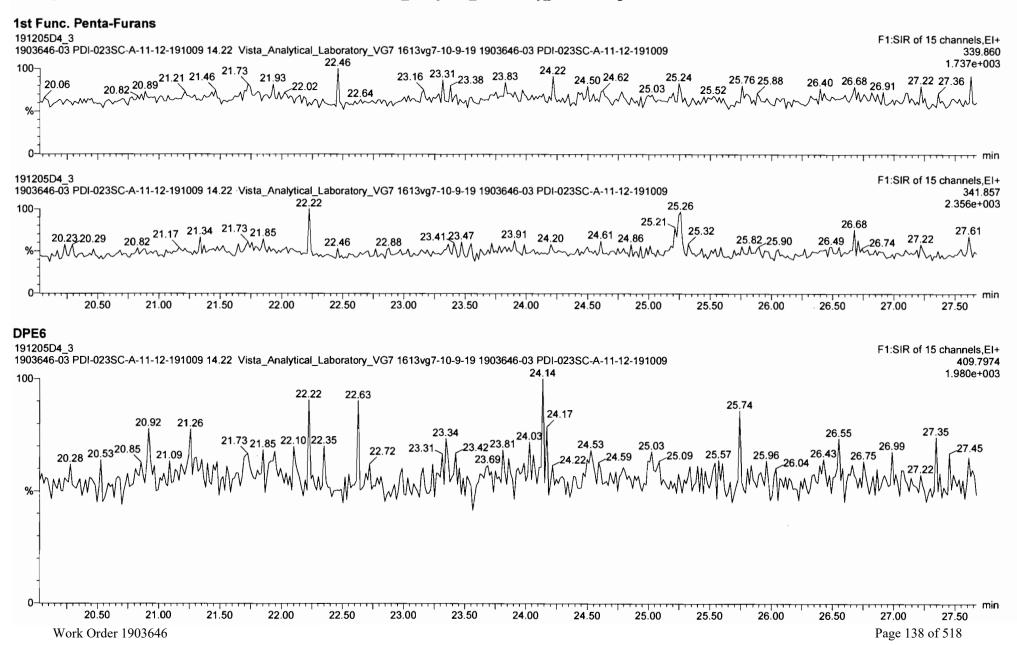
Work Order 1903646

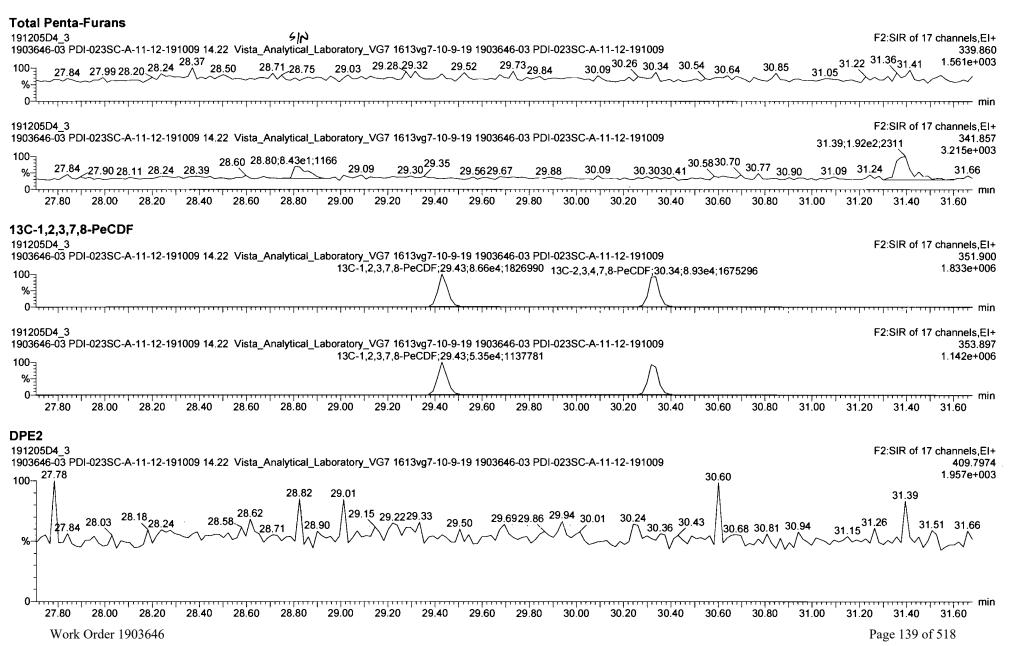
Page 135 of 518

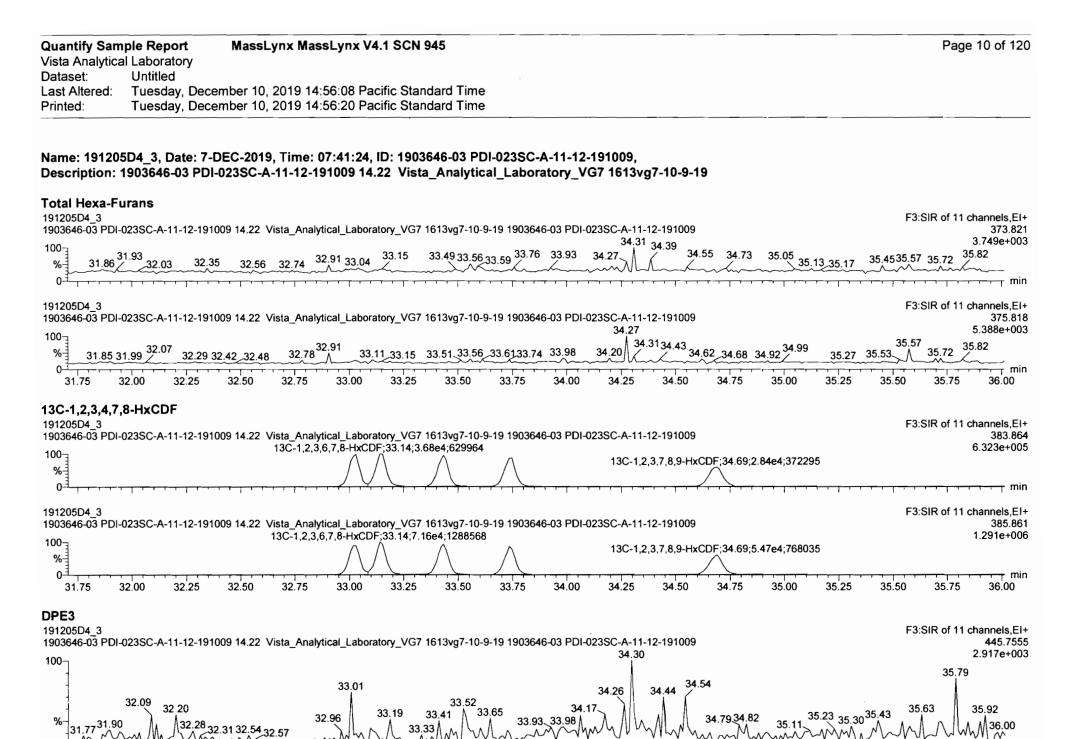
Page 6 of 120











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Work Order 1903646

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35.75 Page 140 of 518

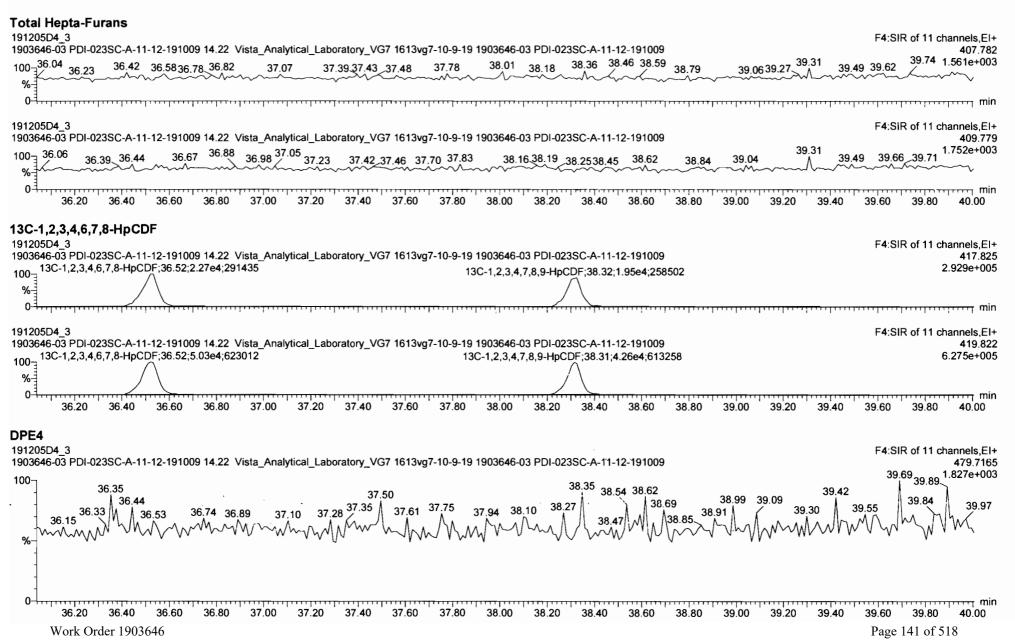
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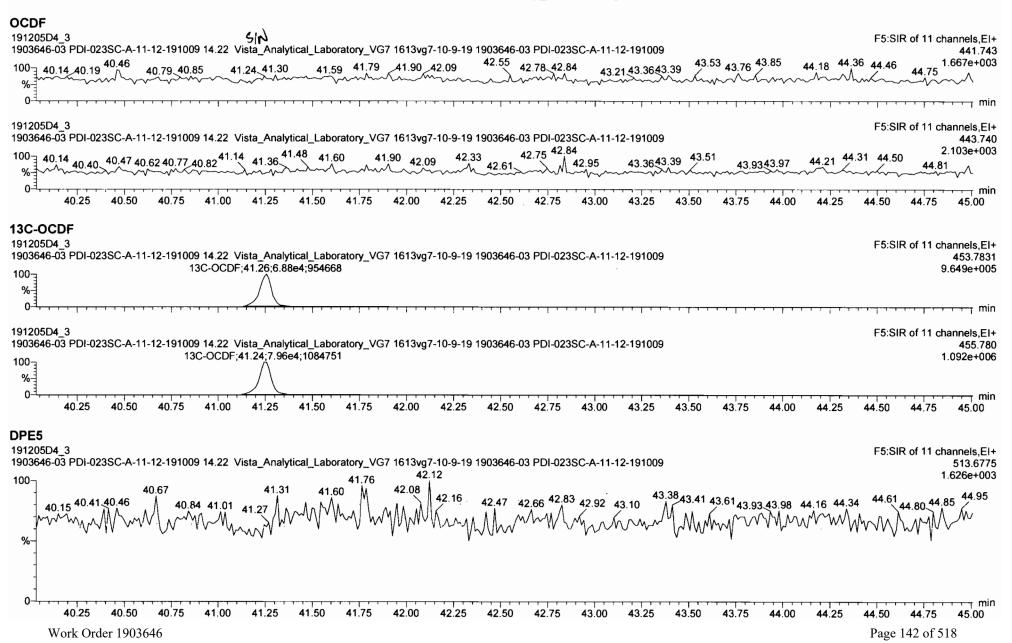
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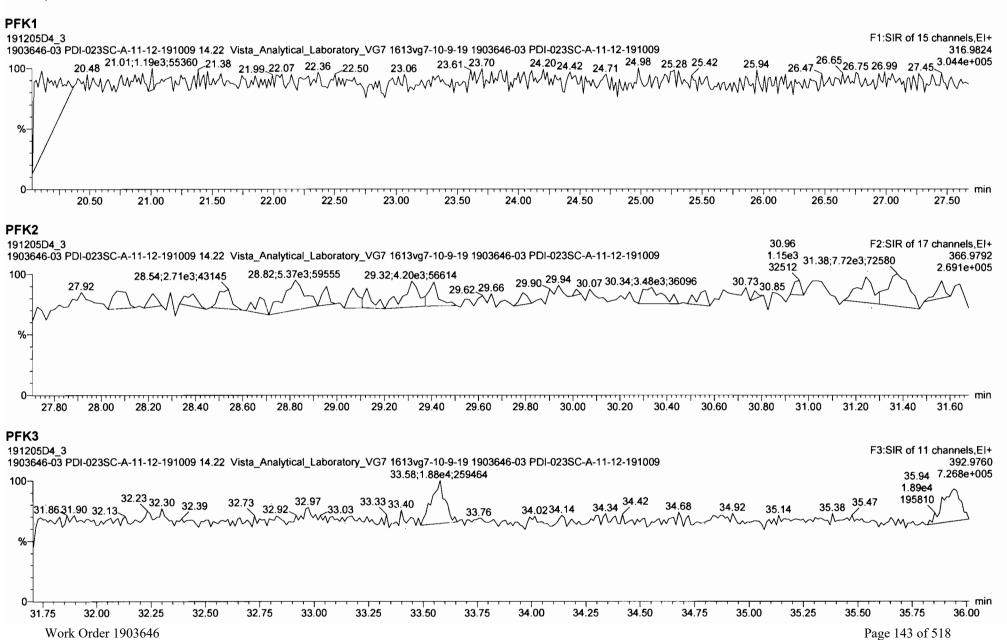
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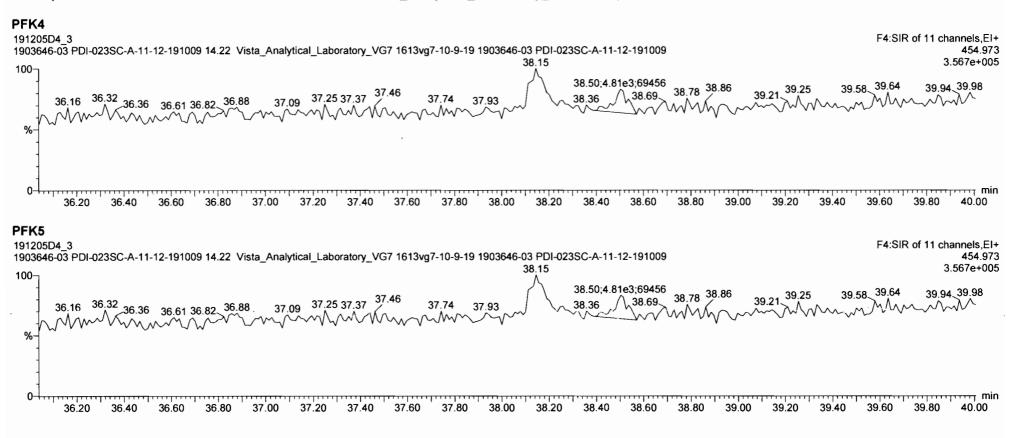
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Quantify Sam	ple Report	MassLynx MassLynx V4.1 SCN 945	Page 14 of 120
Vista Analytica	al Laboratory		
Dataset:	Untitled		
Last Altered:	Tuesday, Dec	ember 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, Dec	ember 10, 2019 14:56:20 Pacific Standard Time	



-	<b>Quantify Sam</b>	ole Summary Report	MassLynx MassLynx V4.1 SCN 945		
	Vista Analytical	Laboratory			
	Dataset:	U:\VG7.PRO\Results\19120	)5D4\191205D4-4.qld		
	Last Altered:	Wednesday, December 11,	2019 09:25:21 Pacific Standard Time		
	Printed:	Wednesday, December 11,	2019 09:27:35 Pacific Standard Time	EL	12/11/19

C- 12/18/9

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Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:15:09

	# Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Reç	EMPC	., <b>DL</b>
1	1 2,3,7,8-TCDD		1.03e5	10.0479	-0.905			1.001		26.10					0.275
2	2 1,2,3,7,8-PeCDD		9.09e4	10.0479	0.903			1.001		30.62					0.263
3	3 1,2,3,4,7,8-HxCDD		6.72e4	10.0479	1.101			1.000		33.92	•				0.440
4	4 1,2,3,6,7,8-HxCDD		7.42e4	10.0479	0.939			1.000		34.01					0.494
5	5 1,2,3,7,8,9-HxCDD		8.04e4	10.0479	0.961			1.001		34.33					0.482
6	6 1,2,3,4,6,7,8-HpCDD	4.79e2	6.65e4	10.0479	0.979	0.970	NO	1.000	1.000	37.78	37.78	1.4652		1.47	0.450
7	7 OCDD	3.16e3	1.16e5	10.0479	0.959	0.901	NO	1.000	1.000	41.03	41.04	11.335		11.3	0.397
8	8 2,3,7,8-TCDF		1.85e5	10.0479	0.950			1.001		25.32					0.177
9	9 1,2,3,7,8-PeCDF		1.58e5	10.0479	0.960			1.001		29.45					0.132
10	10 2,3,4,7,8-PeCDF		1.43e5	10.0479	1.015			1.001		30.35					0.123
11222733	11 1,2,3,4,7,8-HxCDF		1.02e5	10.0479	1.177			1.000		33.02					0.184
	12 1,2,3,6,7,8-HxCDF		1.06e5	10.0479	1.069			1.000		33.15					0.208
13	13 2,3,4,6,7,8-HxCDF		9.86e4	10.0479	1.114			1.001		33.77					0.213
<b>14</b>	14 1,2,3,7,8,9-HxCDF		1.35e5	10.0479	1.062			1.000		34.68					0.194
15	15 1,2,3,4,6,7,8-HpCDF		7.60e4	10.0479	1.128			1.001		36.56					0.254
16 24 44	16 1,2,3,4,7,8,9-HpCDF		7.28e4	10.0479	1.280			1.000		38.30					0.243
	17 OCDF		1.53e5	10.0479	0.947			1.000		41.24					0.369
	18 13C-2,3,7,8-TCDD	1.03e5	9.64e4	10.0479	1.095	0.789	NO	1.021	1.022	26.05	26.07	194.88	97.9		0.638
19.4.4.4	19 13C-1,2,3,7,8-PeCDD	9.09e4	9.64e4	10.0479	0.881	0.616	NO	1.187	1.200	30.27	30.60	212.98	107.0		0.504
20.美丽丽丽	20 13C-1,2,3,4,7,8-Hx	6.72e4	1.19e5	10.0479	0.642	1.319	NO	1.014	1.014	33.90	33.91	174.66	87.7		1.09
2156838	21 13C-1,2,3,6,7,8-Hx	7.42e4	1.19e5	10.0479	0.856	1.278	NO	1.017	1.017	34.02	34.01	144.78	72.7		0.819
22	22 13C-1,2,3,7,8,9-Hx	8.04e4	1.19e5	10.0479	0.807	1.283	NO	1.026	1.026	34.31	34.30	166.40	83.6		0.869
23: 23:	23 13C-1,2,3,4,6,7,8-H	6.65e4	1.19e5	10.0479	0.654	1.053	NO	1.126	1.130	37.65	37.77	169.79	85.3		1.17
25月18日11日	24 13C-OCDD	1.16e5	1. <b>19e</b> 5	10.0479	0 580	0.890	NO	1.226	1.227	40.99	41.03	333.95	83.9		1.05
<b>25.34</b> 336	25 13C-2,3,7,8-TCDF	1.85e5	1.65e5	10.0479	1.035	0.787	NO	0.992	0.991	25.30	25.29	214.64	107.8		0.552
26	26 13C-1,2,3,7,8-PeCDF	1.58e5	1.65e5	10.0479	0.854	1.607	NO	1.154	1.154	29.43	29.43	223.09	112.1		0.788
27.5	27 13C-2,3,4,7,8-PeCDF	1.43e5	1.65e5	10.0479	0.847	1.563	NO	1.189	1.189	30.33	30.32	203.67	102.3		0.795
28.83	28 13C-1,2,3,4,7,8-Hx	1.02e5	1.19e5	10.0479	0.832	0.528	NO	0.987	0.988	33.01	33.02	204.77	102.9		1.30
29	29 13C-1,2,3,6,7,8-Hx	1.06e5	1. <b>19e</b> 5	10.0479	1.034	0.529	NO	0.991	0.991	33.13	33.14	171.90	86.4		1.05
80 <b></b>	30 13C-2,3,4,6,7,8-Hx	9.86e4	1.19e5		0.953	0.517	NO	1.009	1.009	33.74	33.74	172.67	86.8		1.14
31 756 978	31 13C-1,2,3,7,8,9-Hx	1.35e5	1.19e5	10.0479	0.828	0.488	NO	1.039	1.037	34.73	34.68	272.52	136.9		1.31

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945	
Vista Analytica	al Laboratory		
Dataset:	U:\VG7.PRO\Results\191	205D4\191205D4-4.qld	
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Printed:	Wednesday, December 1	1, 2019 09:27:35 Pacific Standard Time	

	# Name	Area	IS Area	Wt.Nol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H	7.60e4	1.19e5	10.0479	0.757	0.453	NO	1.093	1.092	36.54	36.52	167.61	84.2		0.933
83	33 13C-1,2,3,4,7,8,9-H	7.28e4	1.19e5	10.0479	0.581	0.461	NO	1.143	1.146	38.22	38.30	209.33	105.2		1.22
34	34 13C-OCDF	1.53e5	1.19e5	10.0479	0.689	0.870	NO	1.233	1.233	41.23	41.24	370.28	93.0		0.593
35	35 37CI-2,3,7,8-TCDD	4.32e4	9.64e4	10.0479	1.198			1.022	1.023	26.07	26.10	74.478	93.5		0.206
36	36 13C-1,2,3,4-TCDD	9.64e4	9.64e4	10.0479	1.000	0.782	NO	1.000	1.000	25.50	25.51	199.05	100.0		0.699
37	37 13C-1,2,3,4-TCDF	1.65e5	1.65e5	10.0479	1.000	0.784	NO	1.000	1.000	24.06	24.08	199.05	100.0		0.572
38	38 13C-1,2,3,4,6,9-Hx	1.19e5	1.19e5	10.0479	1.000	0.509	NO	1.000	1.000	33.42	33.43	199.05	100.0		1.08
39.4.4	39 Total Tetra-Dioxins		1.03e5	10.0479	0.901			0.000		25.50					0.153
40	40 Total Penta-Dioxins		9.09e4	10.0479	0.872			0.000		30.00					0.152
41	41 Total Hexa-Dioxins		0.00e0	10.0479	0.976			0.000		33.80		1.4586		<b>`1.46</b>	0.255
2	42 Total Hepta-Dioxins		6.65e4	10.0479	0.989			0.000		37.75		4.3930		4.39	0.446
<b>S</b> .	43 Total Tetra-Furans		1.85e5	10.0479	0.943			0.000		24.00					0.0831
	44 1st Func. Penta-Fur		0.00e0	10.0479	0.940			0.000		27.63					0.0569
	45 Total Penta-Furans		0.00e0	10.0479	0.940			0.000		30.00					0.0617
<u>Calenda</u>	46 Total Hexa-Furans		0.00e0	10.0479	1.078			0.000		33.00					0.119
	47 Total Hepta-Furans	_	0.00e0	10.0479	1.135			0.000		37.75					0.119

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Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:15:09

Name: 191205D4_4, Date: 7-DEC-2019, Time: 08:29:10, ID: 1903646-04 PDI-023SC-A-12-12.5-191009, Description: 1903646-04 PDI-023SC-A-12-12.5-191009 14.93 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

# **Tetra-Dioxins**

# Name # Name Conc. Response Primary Flags

### Penta-Dioxins

# Name // RT Area IS Area Response Primary Flags Conc. EMPC

## **Hexa-Dioxins**

# Name	PARTICIAL MANYA	RT RT	Area	IS Area	Response	Rimmy Elem	Gere	EMPC
1 41 Total Hexa-Did	oxins NO	32.39	271.923	41658.154	14.303	MM	1.4586	1.46

# **Hepta-Dioxins**

	# Name to a set the set		R	Area	S Area	Resconse	<b>EdminiBert</b>	Conc	EMPC
	42 Total Hepta-Dioxins	NO	36.94	506.126	34097.375	29.086	MM	2.9278	2.93
2世纪初期的	6 1,2,3,4,6,7,8-HpCDD	NO	37.78	235.978	34097.375	14.419	bb	1.4652	1.47

# **Tetra-Furans**

## Penta-Furans function 1

# Penta-Furans

 IS Area
 Response Primary Flags

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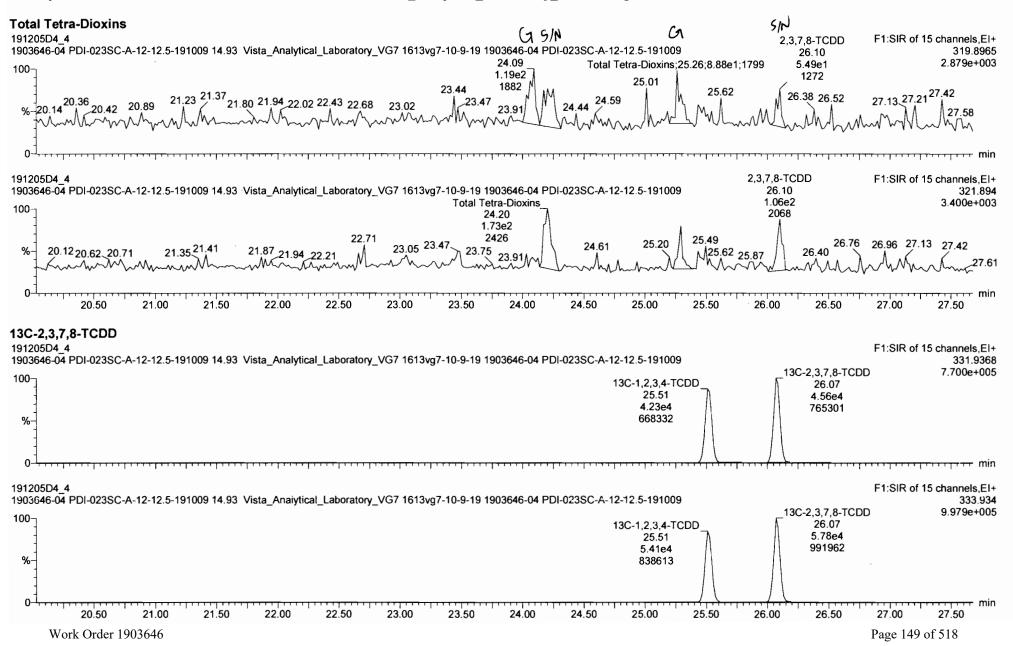
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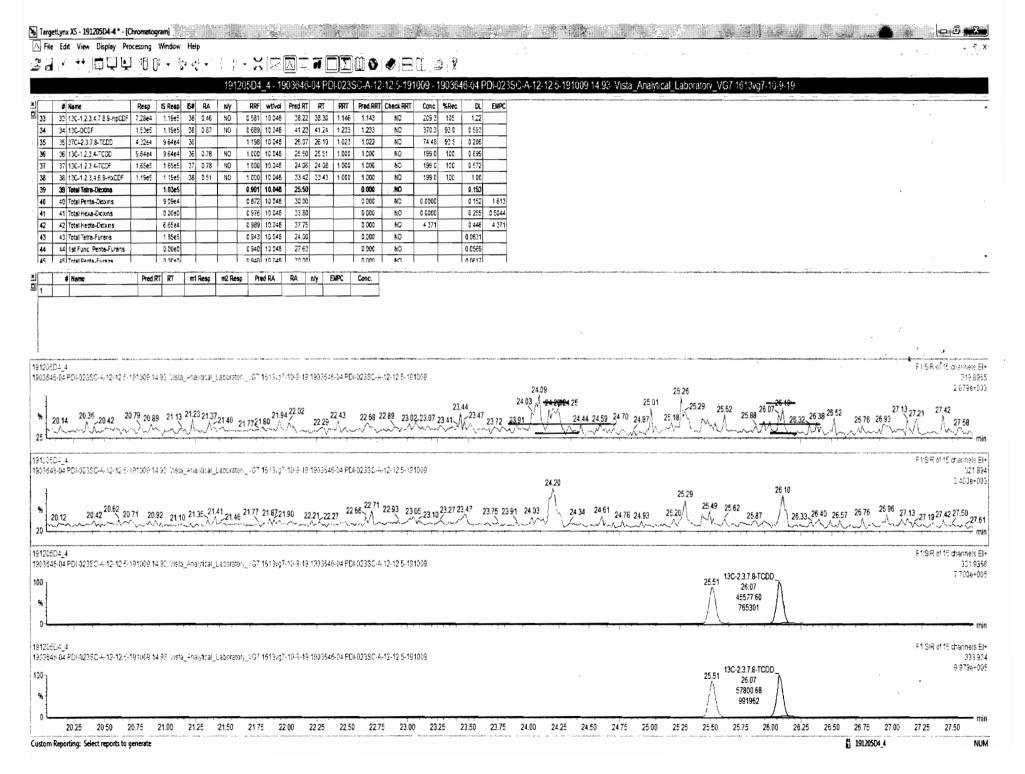
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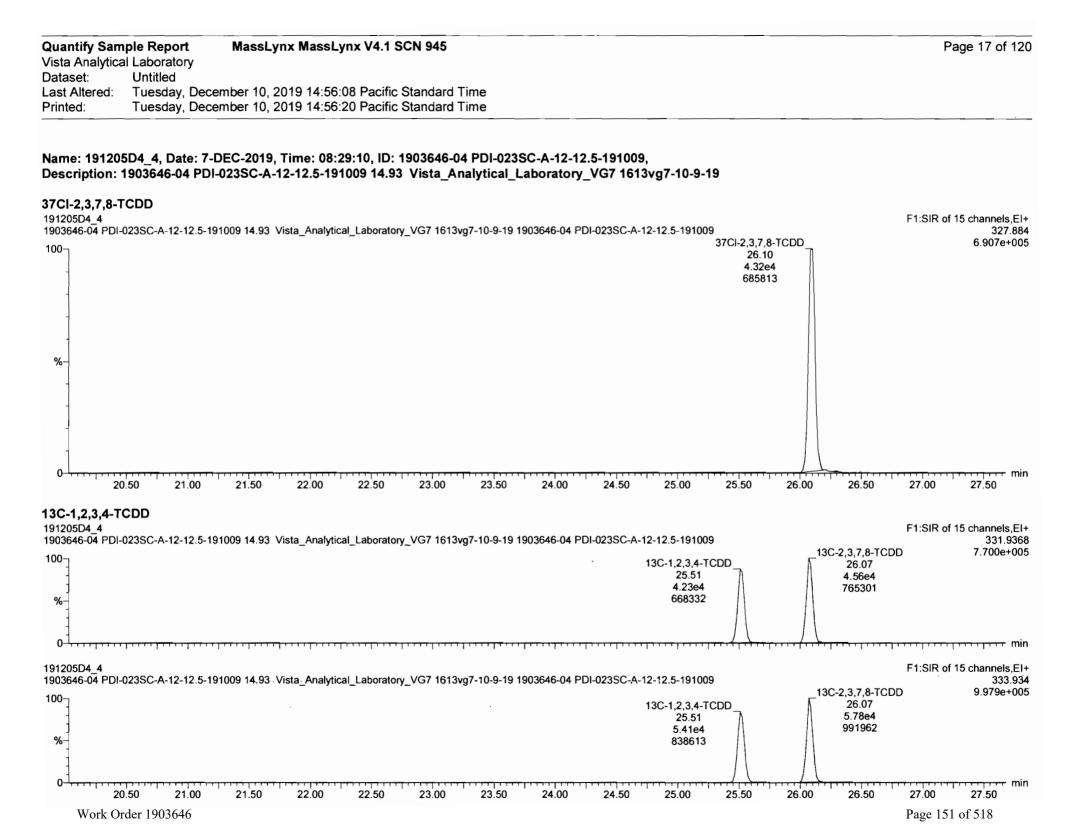
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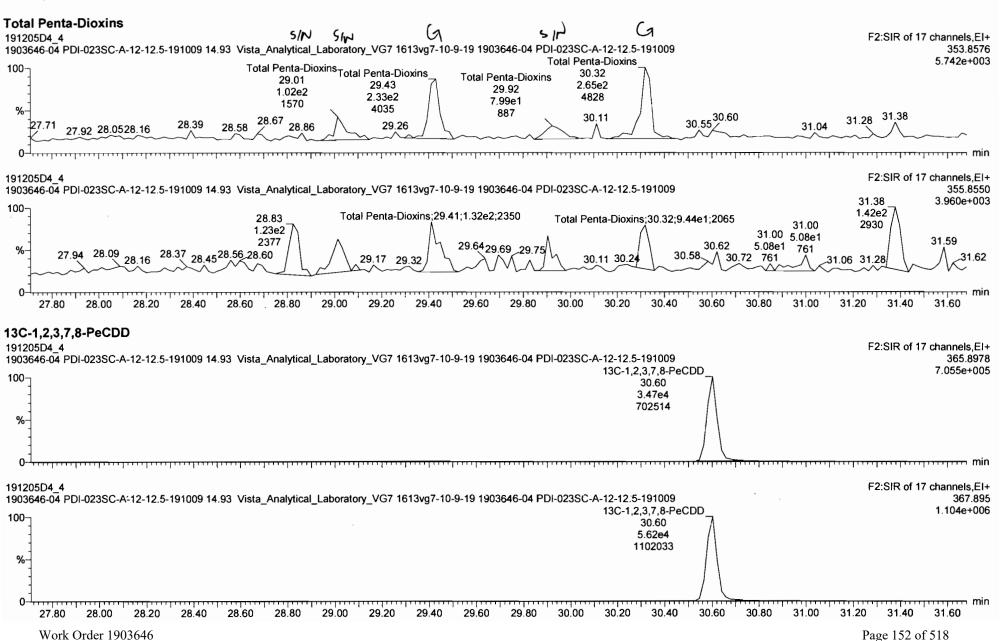
# Name The Response Primary Flags

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Vista Analytical	Laboratory				
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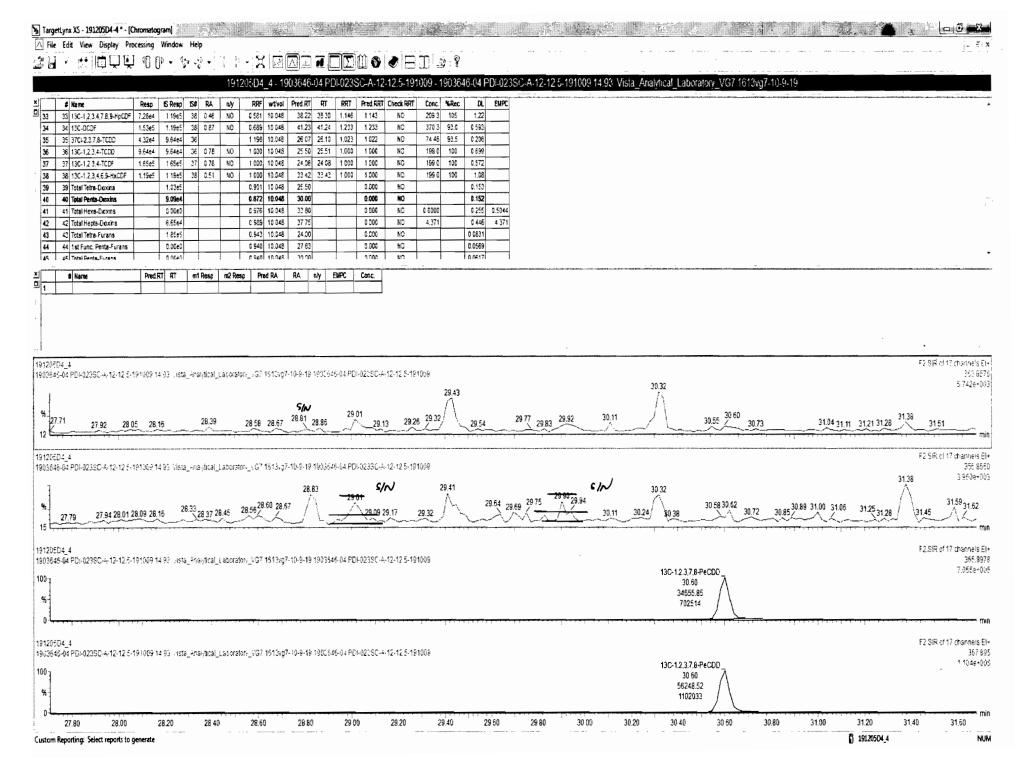




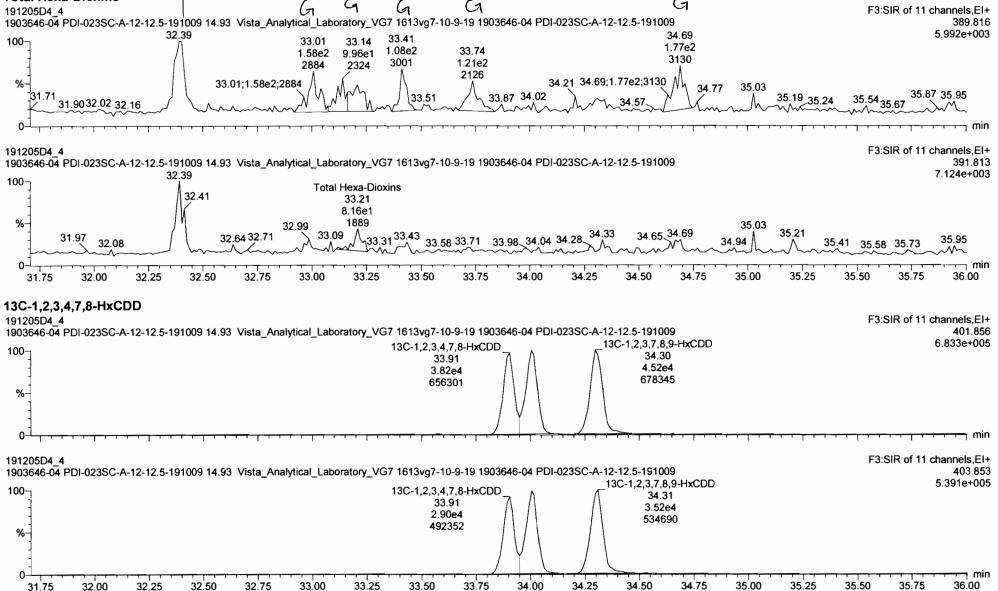




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Quantity Samp	le Report MassLyr	nx MassLynx V4.1 SCN 945		Page 19 of 120
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Work Order 1903646

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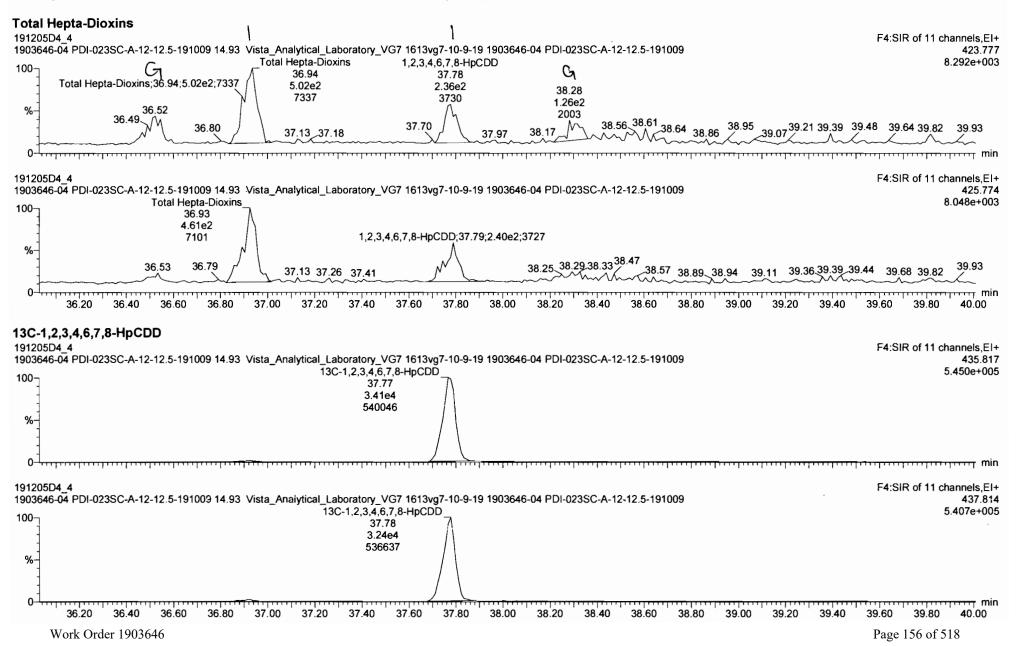
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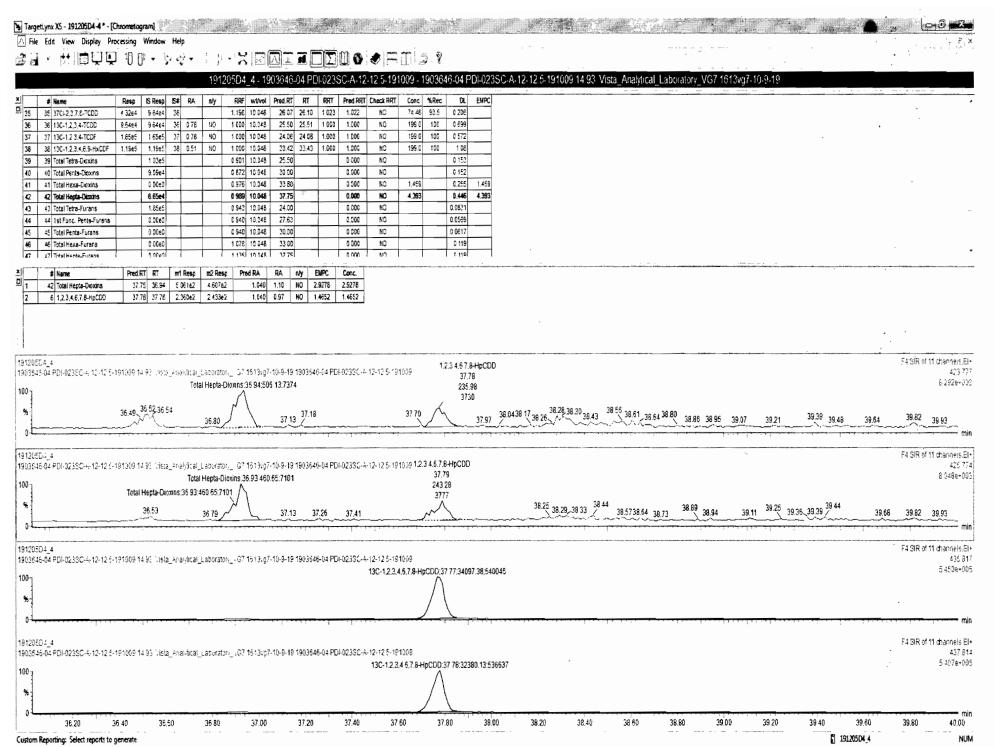
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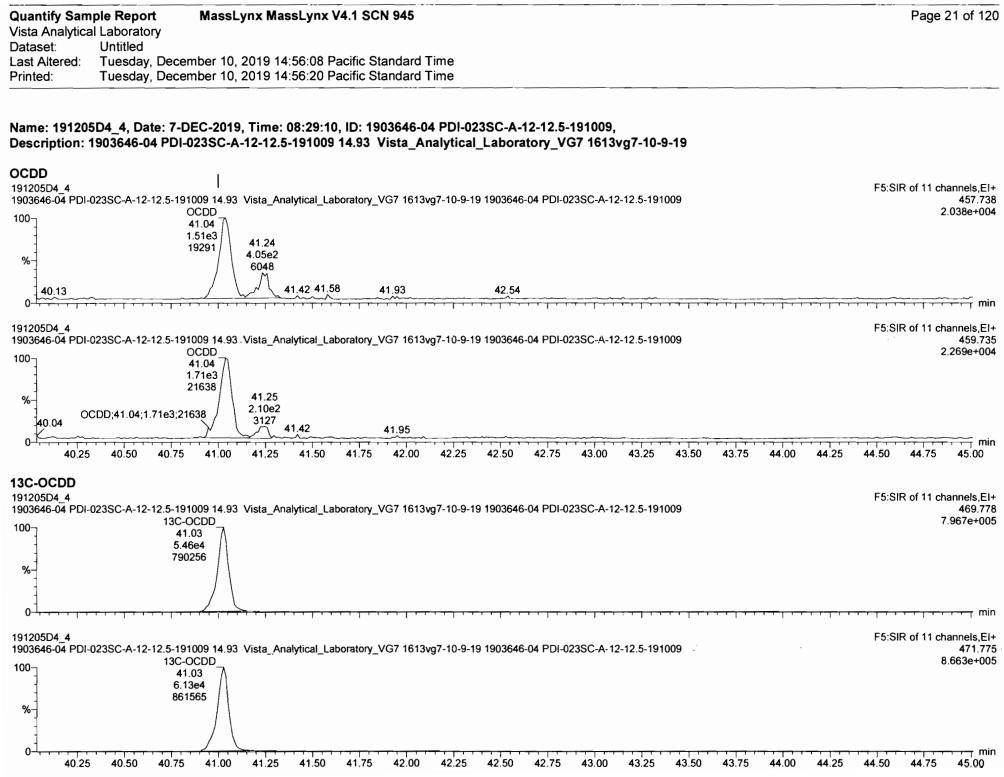
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Work Order 1903646

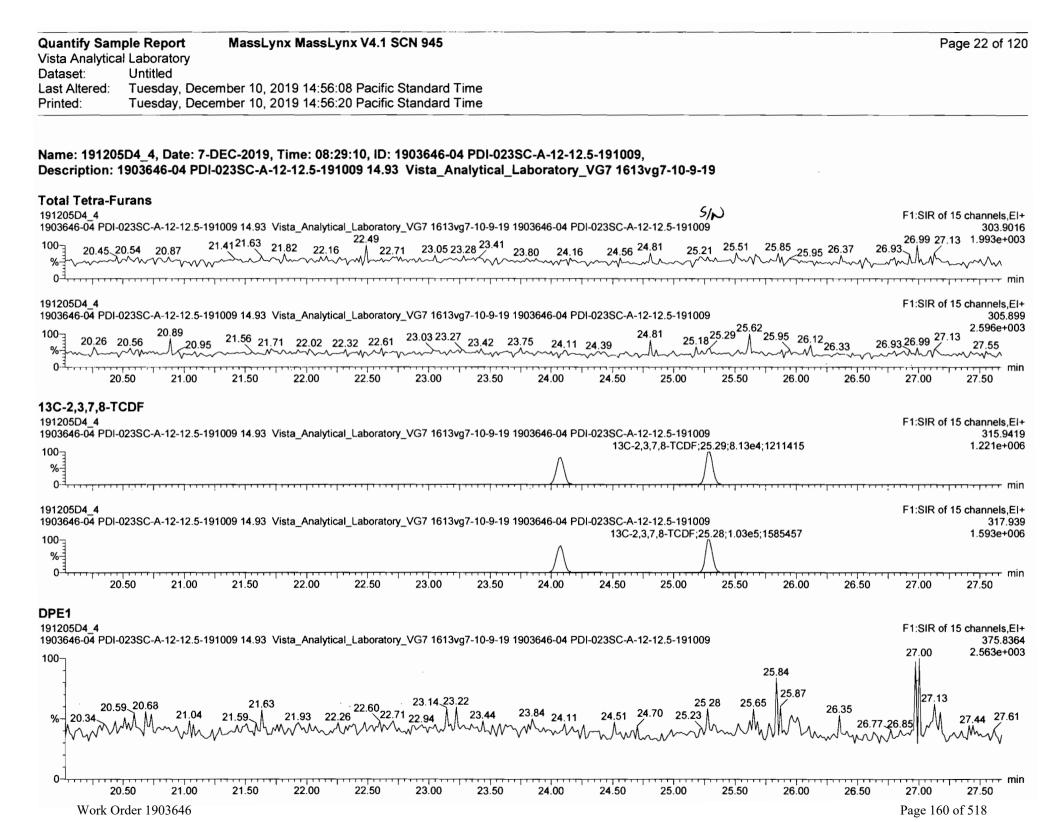
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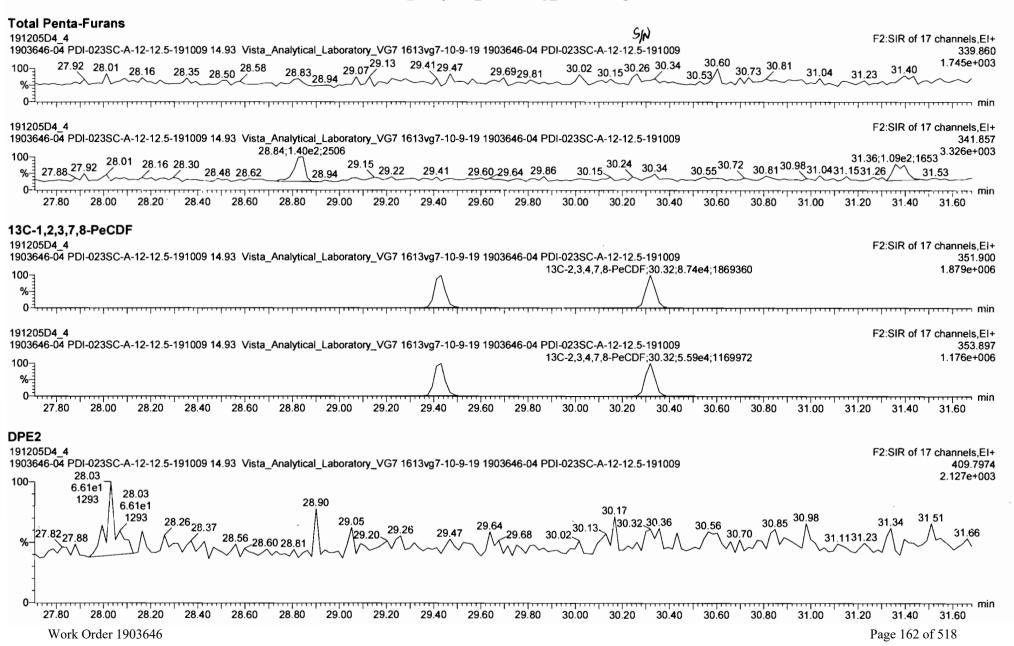
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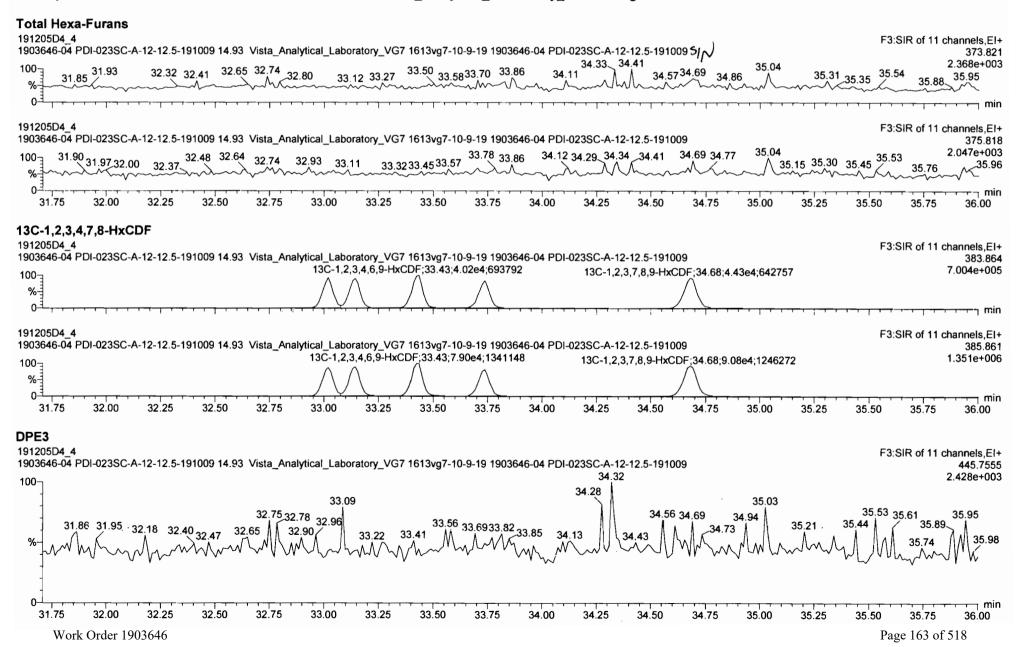
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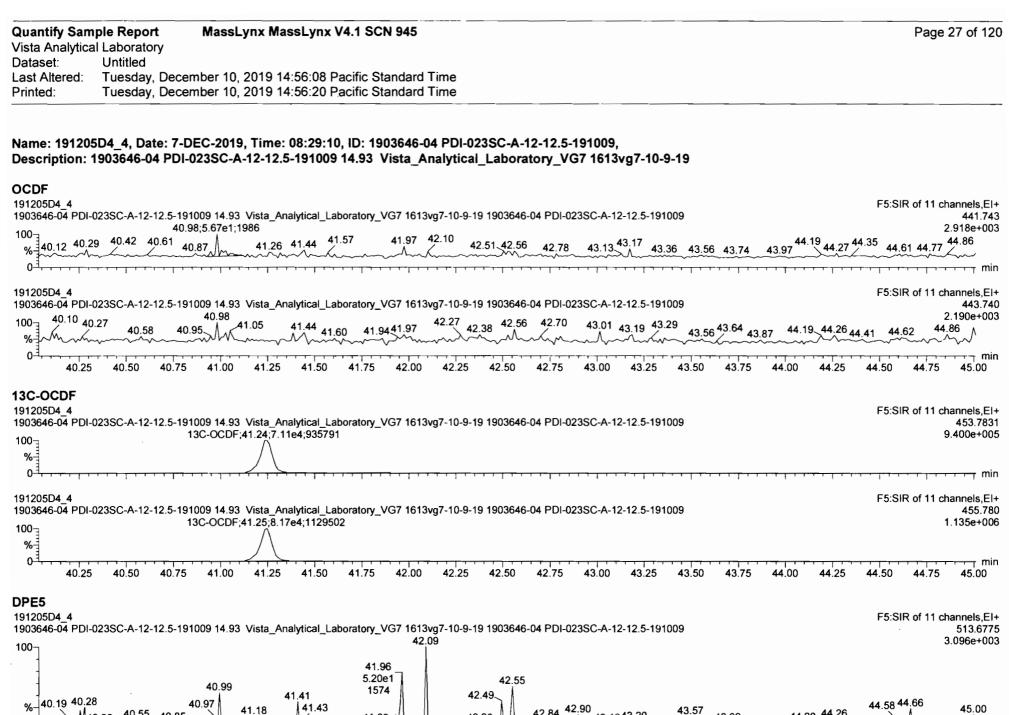
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Vista Analytica	al Laboratory		-
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Quantify Sample Report MassLynx MassLynx V4.1 SCN 945	Page 26 of 120
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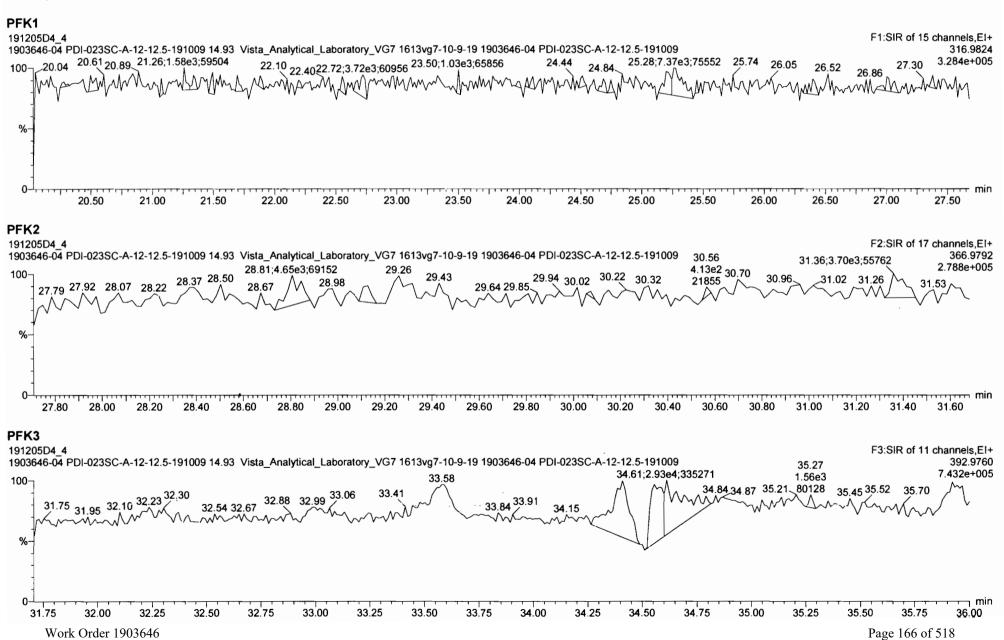
#### 39.40 39.47 39.51 100-3 37.34 37.53 38.26 38.30 38.37 37.13 37.19 38.65 2.009e+003 36.89 36.37 36.78 38.48 36.57 37.74 37.87 37.91 39.12 38.89 39.79 36.13 % 0-191205D4 4 F4:SIR of 11 channels,EI+ 1903646-04 PDI-023SC-A-12-12.5-191009 14.93 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-04 PDI-023SC-A-12-12.5-191009 409.779 37.13 2.693e+003 39.05 39.12 39.27 ^{39.39} 100 %-36.09 36.32 37.70 37.79 37.88 38.15 36.52_36.57 36.78 36.37 38.26 38.40 37.30.37.34 38.63 39.81 39.95 37.04 38.95 min 36.20 36.40 36.60 36.80 37.00 37.20 37.40 37.60 37.80 38.00 38.20 38.40 38.60 38.80 39.00 39.20 39.40 39.60 39.80 40.00 13C-1,2,3,4,6,7,8-HpCDF 191205D4 4 F4:SIR of 11 channels.EI+ 1903646-04 PDI-023SC-A-12-12.5-191009 14.93 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-04 PDI-023SC-A-12-12.5-191009 417.825 13C-1,2,3,4,6,7,8-HpCDF;36.52;2.37e4;340784 3.428e+005 13C-1,2,3,4,7,8,9-HpCDF;38.30;2.30e4;317210 100-%-0min דרר 191205D4 4 F4:SIR of 11 channels,EI+ 1903646-04 PDI-023SC-A-12-12.5-191009 14.93 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-04 PDI-023SC-A-12-12.5-191009 419.822 13C-1,2,3,4,6,7,8-HpCDF;36.52;5.23e4;714277 13C-1,2,3,4,7,8,9-HpCDF;38.32;4.99e4;684406 7.186e+005 100-%-0π min 36.20 36.40 36.60 36.80 37.00 37.20 37.40 37.60 37.80 38.00 38.20 38.40 38.60 38.80 39.00 39.20 39.40 39.60 39.80 40.00 DPE4 191205D4 4 F4:SIR of 11 channels,EI+ 1903646-04 PDI-023SC-A-12-12.5-191009 14.93 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-04 PDI-023SC-A-12-12.5-191009 479.7165 38.60 3.584e+003 100-7.55e1 38.54 2402 7.58e1 38.36 1927 38.66 36.43 39.47 39.54 % 38.24 38.80 39.11 39.91 36.38 36.94 37.46 37.53 37.79 39.57 36 62 38.18 37.00 37.18 37.90 39.05 B6.58 39.36 39.81 36.12 36.19 0 min Tree

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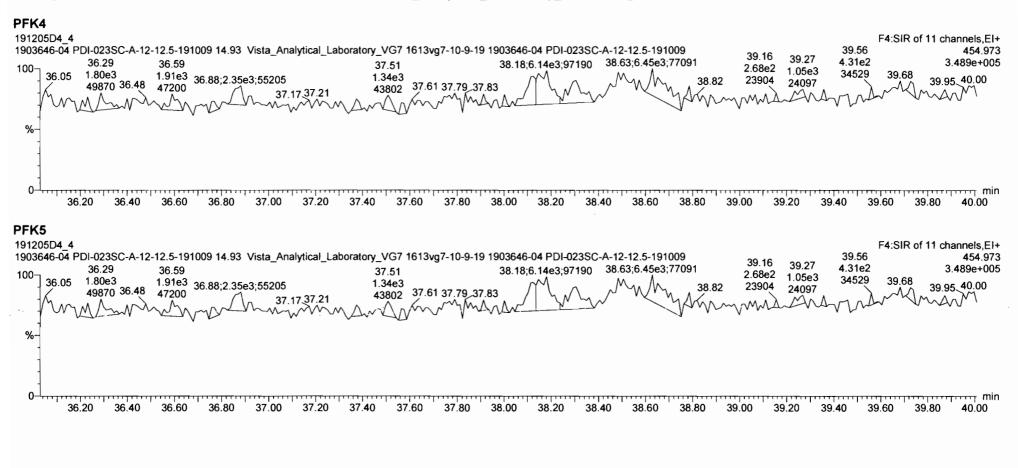


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Quantify Sample Report		MassLynx MassLynx V4.1 SCN 945	Page 28 of 120
Vista Analytica	al Laboratory		
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Quantify Sam	le Report MassLynx MassLynx	k V4.1 SCN 945	Page 29 of 120
Vista Analytica	Laboratory		-
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Vista Analytica	I Laboratory	
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Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:15:41  $\checkmark$ 

	# Name	Агеа	IS Area	Wt.Nol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	, 🕂 RT	Conc.	%Rec	EMPC	DL
	1 2,3,7,8-TCDD		1.08e5	10.6060	0.905			1.001		26.11					0.377
2	2 1,2,3,7,8-PeCDD		9.35e4	10.6060	0.903			1.001		30.62					0.221
3	3 1,2,3,4,7,8-HxCDD		7.32e4	10.6060	1.101			1.000		33.90					0.278
4	4 1,2,3,6,7,8-HxCDD		7.83e4	10.6060	0.939			1.000		34.00					0.311
5	5 1,2,3,7,8,9-HxCDD		7.90e4	10.6060	0.961			1.001		34.33					0.303
6	6 1,2,3,4,6,7,8-HpCDD	7.96e2	6.92e4	10.6060	0.979	1.154	NO	1.000	1.000	37.77	37.77	2.2159		2.22	0.277
7.1	7 OCDD	5.83e3	1.36e5	10.6060	0.959	0.909	NO	1.000	1.001	41.01	41.03	16.887		16.9	0.248
8	8 2,3,7,8-TCDF		1.91e5	10.6060	0.950			1.001		25.31				• •	0.190
9	9 1,2,3,7,8-PeCDF		1.57e5	10.6060	0.960			1.001		29.45		•			0.161
1012	10 2,3,4,7,8-PeCDF		1.51e5	10.6060	1.015			1.001		30.35					0.145
	11 1,2,3,4,7,8-HxCDF		1. <b>10e5</b>	10.6060	1.177			1.000		33.02					0.154
12	12 1,2,3,6,7,8-HxCDF		1.14e5	10.6060	1.069			1.000		33.14					0.157
13	13 2,3,4,6,7,8-HxCDF		1.05e5	10.6060	1.114			1.001		33.76					0.174
14-11-26	14 1,2,3,7,8,9-HxCDF		8.86e4	10.6060	1.062			1.000		34.67					0.249
<b>15</b>	15 1,2,3,4,6,7,8-HpCDF		7.70e4	10.6060	1.128			1.001		36.54					0.236
16.	16 1,2,3,4,7,8,9-HpCDF		6.84e4	10.6060	1.280			1.000		38.30					0.210
<b>RAMAR</b> EAT	17 OCDF	3.49e2	1.77e5	10.6060	0.947	0.737	YES	1.000	1.001	41.24	41.27	0.78570		0.708	0.325
<b>BARRATE</b>	18 13C-2,3,7,8-TCDD	1.08e5	9.75e4	10.6060	1.095	0.771	NO	1.021	1.022	26.06	26.08	191.41	101.5		0.577
	19 13C-1,2,3,7,8-PeCDD	9.35e4	9.75e4	10.6060	0.881	0.632	NO	1.187	1.199	30.29	30.60	205.04	108.7		0.456
20.5646512	20 13C-1,2,3,4,7,8-Hx	7.32e4	1.27e5	10.6060	0.642	1.274	NO	1.014	1.014	33.88	33.89	168.89	89.6		1.01
20080000000	21 13C-1,2,3,6,7,8-Hx	7.83e4	1.27e5	10.6060	0.856	1.283	NO	1.017	1.017	34.00	34.00	135.61	71.9		0.755
22 <b>238</b>	22 13C-1,2,3,7,8,9-Hx	7.90e4	1.27e5	10.6060	0.807	1.266	NO	1.026	1.026	34.30	34.29	145.21	77.0		0.800
	23 13C-1,2,3,4,6,7,8-H	6.92e4	1.27e5	10.6060	0.654	1.100	NO	1.126	1.130	37.64	37.76	156.83	83.2		1.29
	24 13C-OCDD	1.36e5	1.27e5	10.6060	0.580	0.885	NO	1.226	1.227	40.98	41.01	347.32	92.1		0.602
25.00	25 13C-2,3,7,8-TCDF	1.91e5	1.73e5	10.6060	1.035	0.772	NO	0.992	0.991	25.31	25.29	201.91	107. <b>1</b>		0.488
	26 13C-1,2,3,7,8-PeCDF	1.57e5	1.73e5	10.6060	0.854	1.601	NO	1.154	1.153	29.44	29.43	200.40	106.3		0.630
27 <b>12</b> 14	27 13C-2,3,4,7,8-PeCDF	1.51e5	1.73e5	10.6060	0.847	1.593	NO	1.189	1.188	30.35	30.32	194.97	103.4		0.635
281	28 13C-1,2,3,4,7,8-Hx	1.10e5	1.27e5	10.6060	0.832	0.521	NO	0.987	0.988	32.99	33.02	195.71	103.8		1.16
	29 13C-1,2,3,6,7,8-Hx	1.14e5	1.27e5	10.6060	1.034	0.525	NO	0.991	0.991	33.11	33.13	163.00	86.4		0.933
	30 13C-2,3,4,6,7,8-Hx	1.05e5	1.27e5	10.6060	0.953	0.532	NO	1.009	1.009	33.73	33.72	163.65	86.8		1.01
	31 13C-1,2,3,7,8,9-Hx	8.86e4	1.27e5	10.6060	0.828	0.504	NO	1.039	1.038	34.71	34.67	158.57	84.1		1.17

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	I Laboratory	
Dataset:	U:\VG7.PRO\Results\19120	05D4\191205D4-5.qld
Last Altered:	Wednesday, December 11,	2019 09:51:49 Pacific Standard Time
Printed:	Wednesday, December 11,	2019 09:53:33 Pacific Standard Time

	# Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H	7.70e4	1.27e5	10.6060	0.757	0.449	NO	1.093	1.092	36.52	36.51	150.66	79.9		1.06
33	33 13C-1,2,3,4,7,8,9-H	6.84e4	1.27e5	10.6060	0.581	0.453	NO	1.143	1.146	38.20	38.30	174.32	92.4		1.38
34	34 13C-OCDF	1.77e5	1.27e5	10.6060	0.689	0.881	NO	1.233	1.234	41.21	41.24	380.15	100.8		0.638
35	35 37CI-2,3,7,8-TCDD	4.56e4	9.75e4	10.6060	1.198			1.022	1.023	26.08	26.10	73.558	97.5		0.249
36	36 13C-1,2,3,4-TCDD	9.75e4	9.75e4	10.6060	1.000	0.800	NO	1.000	1.000	25.50	25.52	188.57	100.0		0.632
37	37 13C-1,2,3,4-TCDF	1.73e5	1.73e5	10.6060	1.000	0.792	NO	1.000	1.000	24.06	24.07	188.57	100.0		0.505
38	38 13C-1,2,3,4,6,9-Hx	1.27e5	1.27e5	10.6060	1.000	0.532	NO	1.000	1.000	33.42	33.42	188.57	100.0		0.965
39	39 Total Tetra-Dioxins		1.08e5	10.6060	0.901			0.000		25.50					0.201
40	40 Total Penta-Dioxins		9.35e4	10.6060	0.872			0.000		30.00					0.0984
41	41 Total Hexa-Dioxins		0.00e0	10.6060	0.976			0.000		33.80		0.65263		0.653	0.304
42	42 Total Hepta-Dioxins		6.92e4	10.6060	0.989			0.000		37.75		5.1798		5.18	0.274
<b>43</b>	43 Total Tetra-Furans		1.91e5	10.6060	0.943			0.000		24.00					0.0930
4	44 1st Func. Penta-Fur		0.00e0	10.6060	0.940			0.000		27.63					0.0854
<b>6</b>	45 Total Penta-Furans		0.00e0	10.6060	0.940			0.000		30.00					0.0763
<b>16</b>	46 Total Hexa-Furans		0.00e0	10.6060	1.078			0.000		33.00					0.0753
475-2° M 44	47 Total Hepta-Furans		0.00e0	10.6060	1.135			0.000		37.75		0.00000		0.349	0.150

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Page 2 of 2

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:15:41

Name: 191205D4_5, Date: 7-DEC-2019, Time: 09:17:07, ID: 1903646-05 PDI-029SC-A-12-13-191009, Description: 1903646-05 PDI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

# Tetra-Dioxins

 # Name
 N/Y
 Area
 IS Area
 Response Primary Flags

 1
 1
 1

## Penta-Dioxins

N/Y Area IS Area Response Primary Flags

# **Hexa-Dioxins**

	NY	RT	Area	S Aree	Response	Primary Flags	NAL DE TOXE	EMPC
41 Total Hexa-Dioxins	NO	32.39	141.477	43052.950	6.755	MM	0.6526	0.65

# **Hepta-Dioxins**

		NX	RI	Area			Erman Fags	Interior Incare	EMPC
42 Tot	al Hepta-Dioxins	NO	36.92	522.143	36257.805	31.079	MM	2.9639	2.96
6 1,2	,3,4,6,7,8-HpCDD	NO	37.77	426.726	36257.805	23.018	MM	2.2159	2.22

## **Tetra-Furans**

## **Penta-Furans function 1**

nne kale setana kersoa	

# Penta-Furans

# Name Name N/Y RT Area IS Area Response Primary Flags

# Hexa-Furans

# Name N/Y RT Area IS Area Response Primary Flags Conc. EMPC

# **Hepta-Furans**

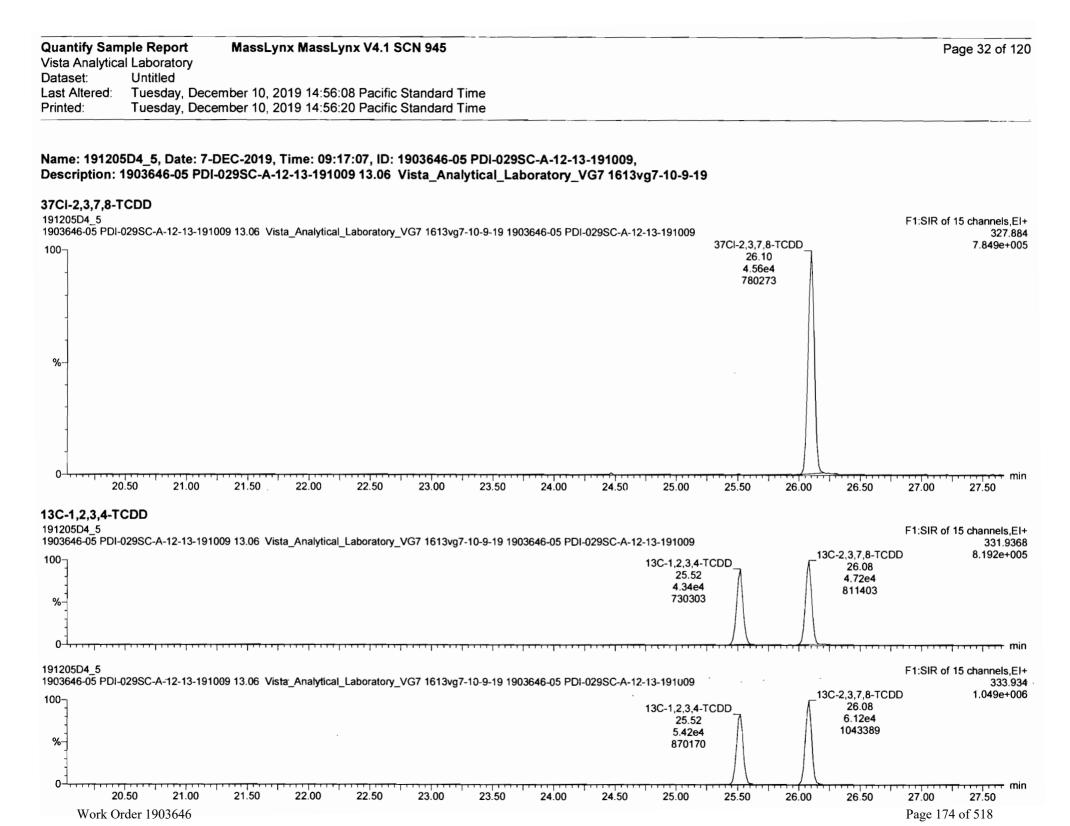
# Name	NY	RT	Area	TS Area	Response	Pinary Flags	Conc.	EMPC
47 Total Hepta-Furans	YES	37.13	77.925	22583.996	0.000	MM	0.0000	0.35

uantify Sample Report ista Analytical Laboratory	MassLynx MassLynx V4.1 SCN 945	Page 31 of 12
ataset: Untitled	comber 10, 2010 14-56-08 Decific Standard Time	
	cember 10, 2019 14:56:08 Pacific Standard Time cember 10, 2019 14:56:20 Pacific Standard Time	
	7-DEC-2019, Time: 09:17:07, ID: 1903646-05 PDI-029SC-A-12-13-191009, DI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19	
otal Tetra-Dioxins		F1:SIR of 15 channels,
	91009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-05 PDI-029SC-A-12-13-191009 5N Total Tetra-Dioxins	319.89 6.838e+0
00 [	24.34 25.51 24.09 5.29e1 1.35e2	
]	9.62e1 2920 6024	27.58 7.63e1
%	20.21,11.1022,1203	25.93 $25.99$ $26.30$ $26.95$ $27.20$ $3175$ $3175$ $26.63$
20.28 20.74 21	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1 Man Mar Man Marken Miller
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1205D4_5	91009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-05 PDI-029SC-A-12-13-191009	F1:SIR of 15 channels, 321.8
000040-05 PDI-0295C-A-12-13-1	Total Tetra-Dioxins	6.374e+(
	5 ^m 25.51 24.46 1.14e2	26.30
	5.84e1 5467 25.63	7.31e1 27.58 25,99 1841 27.03
20.26 20.74 21.10	21.29 21.60 21.91 22.17 22.64 23.09 23.34 23.72 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12 24.12	3 $126.11$ $126.63$ $126.92$ $127.03$ $127.52$ $127.52$
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	13C-1,2,3,4-TCDD 25.52 /	26.08 4.72e4
	4.34e4	811403
%-	730303	
0		····
91205D4_5		F1:SIR of 15 channels,
	91009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-05 PDI-029SC-A-12-13-191009	333.( _13C-2,3,7,8-TCDD 1.049e+(
00	13C-1,2,3,4-TCDD	26.08
]	25.52 5.42e4	6.12e4 1043389
%	870170	
1		

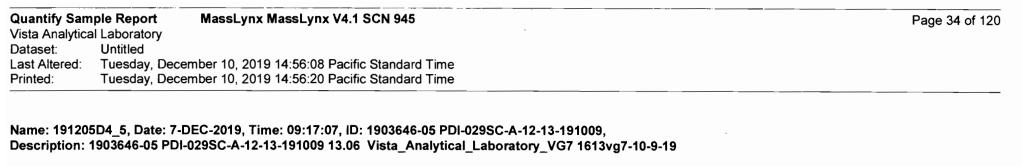
Work Order 1903646

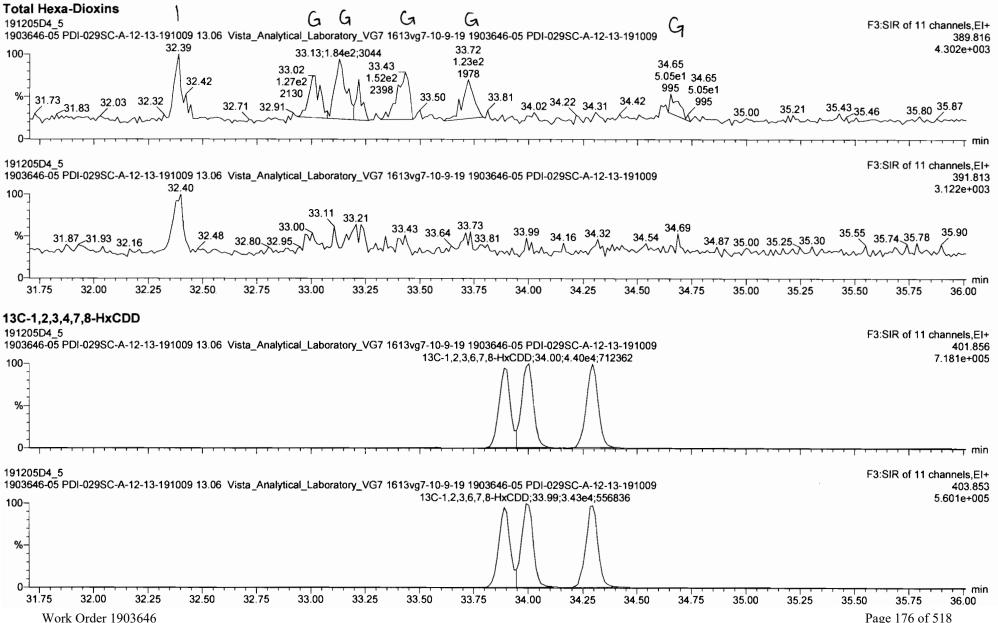
Page 172 of 518

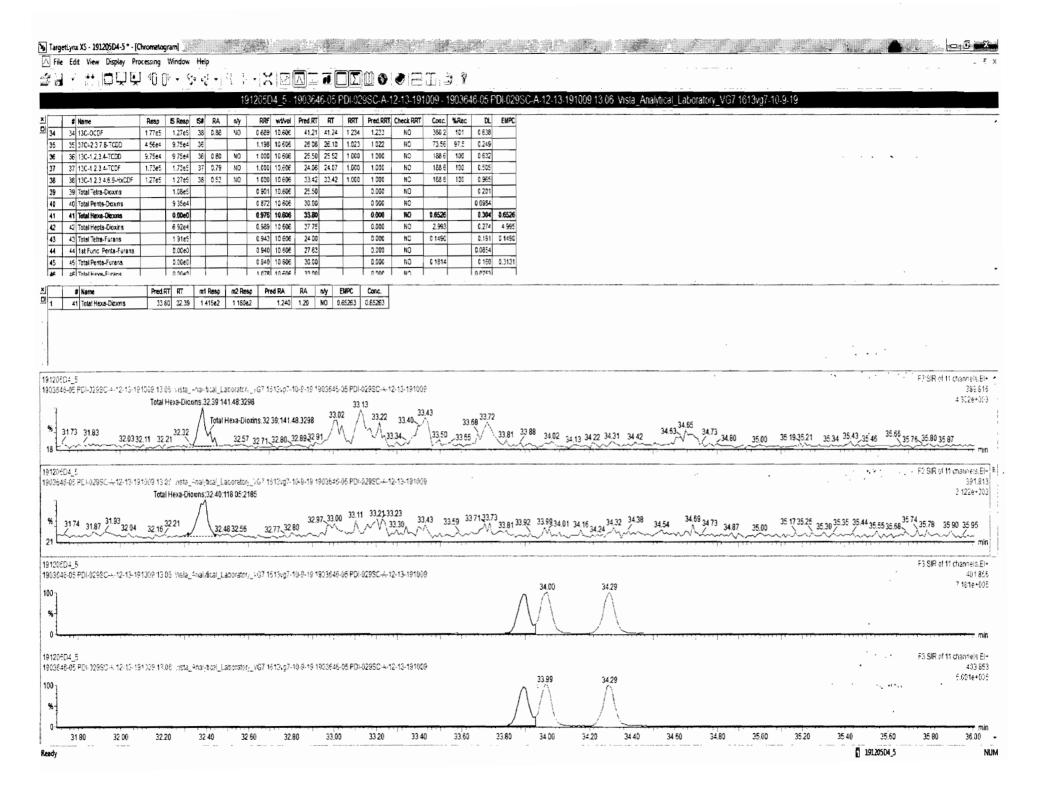
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											2-13-191	1009 - 19	03646-05	PDI-029SC-A-1	2-13-191009 13:06	vista Anaiytical	Laboratory	/G7 1613va7-10-9	9-19		
	e u	0	<b>C</b> D				- province in								far dage - Barry fait star - according to the Cardina Star				a Cara Anto	and the second s	
-	# Name 7 13C-1.2.3,4-TCDF	Resp 1.73e5	1.73e5	# RA 17 0.79	n/y NO	RRF wt/va 1 000 10.60	_	T RT 6 24.07		Pred.RRT 1.000	ND	Conc 188.6	%Hec DL 100 0.505	EMPC							
	8 13C-1.2.3.4-500F	1.73e5		v 0.79 V2 0.53	NO	1 000 10.60	_	_	_	1.000	NO	188.6	100 0.965								
_	9 Total Tetra-Dickins	1.2/82	1.08e5	x v		0.501 10.60	-		3.000	0.000	NO	9,0000	0.201								
-	0 Total Penta-Dioxina		9.3564	+		0 872 10.60				0.000	NO	C 0000	0.0984								
_	1 Tetal Hexa-Dicxins		0.00e0			0 976 10 60			$\vdash$	0.000	NO		0 151								
_	2 Total Hepta-Dioxins	_	6.92e4			0 989 10.60	_			0.000	NO	2.993	0.274								
_	3 Total Tetra-Furans		1 91e5	-		0 943 10 60	_			0 000	NO	C 1490	0 191								
_	4 1st Func Penta-Furana		0.00e0	-		0 940 10 60	-			0 000	NO		0 0854								
_	5 Total Penta-Furans		0.00e0			0 940 10.60	_	_		0.000	NO	0.1814	0 160								
_	6 Total Hexa-Furana		0.0000			1.078 10.60	_	_		0.000	NO		0.0753								
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_	* Name 39 Total Tetra-Dioxons	Fred.F		mt Resp 1.347e2	1.139e	·	RA 0 1.18	<u> </u>		Conc. 0.00000											
	5 5 PD+029SC-4-12-13-19	1009 15 (	)s vista_An	alytica: La	Corator,	_)G7 1613vg)	-10-9-19	1903646-	05 PD+0.	29SC12	-13-19103	ý.	una ferantes a la califada	lation and the second secon		To	tal Tetra-Diox <u>ins;</u>	SN 2551:134 68:6024		F	
δĒ	Е РСно298С -+-12-13-19												23	65 23 83 mm ²	24,34 :09 ji 24.60 g		tal Tetra-Diox <u>ins</u> 	25,51:134 68:6024	25.9926.16.26.30 26.41 26.	63 26 95 27 05 27 ;	5. 27 20 27.44
δĒ	Ē РЕно2990, 12-13-19		06 Vista_An 0.94 21 1				7-10-5-19 91 22.				283		23.37 23	65 23 83 23 93 ²	24.34 09 24.50 2			25,51:134 68:6024	25.9926.16.26.30 26.	63 26 95 27 05 27 ;	5. 27 20 27.44
18	8 20 28 20.43 2												23.37 23	65 23 83 23 93 ²	24.34 09 24.50 2			25,51:134 68:6024	25.9925.16 26 30 26	63 26 95 27.05 27.	5. 27 20 27.44
18	8 20 28 20.43 2	0.74 20	0.94 21 1	621.19 2	147	21.65 21.9	91 22	14 22.24	22.52	2 22	283	23 11	23.37 23	65 23 83 23 93 ²	24.34 09 24.50 2			25,51:134 68:6024	25.9926.16 26 30 26.	63 26 95 27.05 27.	5.6 27 20 27.44 
18	8 20 28 20.43 2	0.74 20	0.94 21 1	621.19 2	147	21.65 21.9	91 22	14 22.24	22.52	2 22	283	23 11	23.37 23	65 23 83 23 93 ²	24.34 09 24.50 2 09 24.50 2	471 25.01	25.27,25.3	25,51:134 68:6024	25.9926.16.26.30 26.	63 26 95 27.05 27.	5.6 27 20 27.44 
18	8 20 28 20.43 2	0.74 20	0.94 21 1	621.19 2	147	21.65 21.9	91 22	14 22.24	22.52	2 22	283	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27,25.3	25.51:134 68:6024 25.53 25.88.25.93 25.51:113.87:5467 25.53		63 26 95 27.05 27. 	5. 27 20 27.44 20 27.44 15 R of 15 cha 5.
18/11/15	8 2028 2043 2 5 5 РЕно2950 – 12 13 18	0.74 24	0.94 21 1	621.19 2	1.47 2007ator	21.65 21.5 A 07 1513.9	91 22	14 22 24	22.52 22.52 25 25 20 95 PDI-0	2 22	283	23 11			24.34 24.30 24.34 24.34 24.36 24.34 24.45 24.45 24.45 24.45 24.45 24.45 24.45 24.50	14 71 25.01	25.27 25.3	25,51:134 68:6024 25,53 25,88,25,93		63 26 95 27.05 27. 	5. 27 20 27.44 
	8 20 28 20.43 2 5 PD=0298C 12-13-18 5 PD=0298C 12-13-18 0.20.26 2 5	0.74 21 1009 131 0.74 2 0.74 2	0.94 21 1 05 vista_44	621.19 2 si/bcar_La 21.29 2	1.47 2017ator 1.5721	2165 21.0 _ G7 1513;9 _ 60 21.1	21 22. 	14 22 24 14 ///////////////////////////////////	22.55 05 PDI-00 22.55	2 <u>22</u> 2980-4 12 22.64 2	2 83 2	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27 25.3	25.51:134 68:6024 25.53 25.88.25.93 25.51:113.87:5467 25.53		63 26 95 27.05 27. F 26 92 27.03 27	5.1 27 20 27.44 11 SIR of 1F cha 5. 730 27.52 17 SIR of 1E cha
	8 20 28 20 43 2 5 PE+0295C → 12 13 15 5 PE+0295C → 12 13 15 0 20 26 2 20 26 20 43 2 20 26 20 4 20 20	0.74 21 1009 131 0.74 2 0.74 2	0.94 21 1 05 vista_44	621.19 2 si/bcar_La 21.29 2	1.47 2017ator 1.5721	2165 21.0 _ G7 1513;9 _ 60 21.1	21 22. 	14 22 24 14 ///////////////////////////////////	22.55 05 PDI-00 22.55	2 <u>22</u> 2980-4 12 22.64 2	2 83 2	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25.51:134 68:6024 25.53 25.88.25.93 25.51:113.87:5467 25.53 25.53 25.93 25.53 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25.95 25	9 26 30 26 39	63 26 95 27.05 27. F 26 92 27.03 27	5.4 27 20 27.44 11 SIR of 1F cha 51 730 27.52 7130 27.52 7130 27.52
	8 20 28 20.43 2 5 PD=0298C 12-13-18 5 PD=0298C 12-13-18 0.20.26 2 5	0.74 21 1009 131 0.74 2 0.74 2	0.94 21 1 05 vista_44	621.19 2 si/bcar_La 21.29 2	1.47 2017ator 1.5721	2165 21.0 _ G7 1513;9 _ 60 21.1	21 22. 	14 22 24 14 ///////////////////////////////////	22.55 05 PDI-00 22.55	2 <u>22</u> 2980-4 12 22.64 2	2 83 2	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25.51:134 68:6024 25.53 25.88.25.93 25.51:113.87:5467 25.53 25.93 25.51:113.87:5467 25.53 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93	9 26 30 26 39	63 26 95 27.05 27. F 26 92 27.03 27	5.1 27 20 27.44 11 SIR of 1F cha 5: 730 27.52 730 27.52 730 27.52
	8 20 28 20.43 2 5 PD=0298C 12-13-18 5 PD=0298C 12-13-18 0.20.26 2 5	0.74 21 1009 131 0.74 2 0.74 2	0.94 21 1 05 vista_44	621.19 2 si/bcar_La 21.29 2	1.47 2017ator 1.5721	2165 21.0 _ G7 1513;9 _ 60 21.1	21 22. 	14 22 24 14 ///////////////////////////////////	22.55 05 PDI-00 22.55	2 <u>22</u> 2980-4 12 22.64 2	2 83 2	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25,51:134 68:6024 25,53 25,88,25,93 25,51:113,87:5467 25,53 25,93 25,9 25,53 25,93 25,93 25,9 25,53 25,93 25,93 25,9 25,53 25,93 25,93 25,9 25,53 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,	9 26 30 26 39	63 26 95 27.05 27. F 26 92 27.03 27	5.4 27 20 27.44 11 SIR of 1F cha 51 730 27.52 7130 27.52 7130 27.52
	8 20 28 20.43 2 5 PD=0298C 12-13-18 5 PD=0298C 12-13-18 0.20.26 2 5	0.74 21 1009 131 0.74 2 0.74 2	0.94 21 1 05 vista_44	621.19 2 si/bcar_La 21.29 2	1.47 2017ator 1.5721	2165 21.0 _ G7 1513;9 _ 60 21.1	21 22. 	14 22 24 14 ///////////////////////////////////	22.55 05 PDI-00 22.55	2 <u>22</u> 2980-4 12 22.64 2	2 83 2	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25.51:134 68:6024 25.53 25.88.25 93 25.51:113.87:5467 25.53 25.53 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 2	9 26 30 26 39	63 26 95 27.05 27. F 26 92 27.03 27	5.4 27 20 27.44 11 SIR of 1F cha 51 730 27.52 7130 27.52 7130 27.52
	8 20 28 20.43 2 5 PD=0298C 12-13-18 5 PD=0298C 12-13-18 0.20.26 2 5	0.74 21 1009 131 0.74 2 0.74 2	0.94 21 1 05 vista_44	621.19 2 si/bcar_La 21.29 2	1.47 2017ator 1.5721	2165 21.0 _ G7 1513;9 _ 60 21.1	21 22. 	14 22 24 14 ///////////////////////////////////	22.55 05 PDI-00 22.55	2 <u>22</u> 2980-4 12 22.64 2	2 83 2	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25,51:134 68:6024 25,53 25,88,25,93 25,51:113,87:5467 25,53 25,93 25,9 25,53 25,93 25,93 25,9 25,53 25,93 25,93 25,9 25,53 25,93 25,93 25,9 25,53 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,93 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,95 25,	9 26 30 26 39	63 26 95 27.05 27. F 26 92 27.03 27	5.1 27 20 27.44 11 SIR of 1F cha 5: 730 27.52 730 27.52 730 27.52
	8 20 28 20.43 2 5 PD=0298C 12-13-18 5 PD=0298C 12-13-18 0.20.26 2 5	0.74 21 1009 131 0.74 2 0.74 2	0.94 21 1 05 vista_44	621.19 2 si/bcar_La 21.29 2	1.47 2017ator 1.5721	2165 21.0 _ G7 1513;9 _ 60 21.1	21 22. 	14 22 24 14 ///////////////////////////////////	22.55 05 PDI-00 22.55	2 <u>22</u> 2980-4 12 22.64 2	2 83 2	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25.51:134 68:6024 25.53 25.88.25 93 25.51:113.87:5467 25.53 25.53 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 2	9 26 30 26 39	63 26 95 27.05 27. F 26 92 27.03 27	5.4 27 20 27.44 11 SIR of 1F cha 51 730 27.52 7130 27.52 7130 27.52
11/1 105	8 20 28 20.43 2 5 PD+0299C → 12-13-19 5 PD+0295C → 12-13-19 20.26 2 5 PD+0295C → 12-13-19 5 PD+0295C → 12-13-19	0.74 21 1009 131 0.74 2 0.74 2	0.94 21 1 05 vista_44	621.19 2 si/bcar_La 21.29 2	1.47 2017ator 1.5721	2165 21.0 _ G7 1513;9 _ 60 21.1	21 22. 	14 22 24 14 ///////////////////////////////////	22.55 05 PDI-00 22.55	2 <u>22</u> 2980-4 12 22.64 2	2 83 2	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25.51:134 68:6024 25.53 25.88.25 93 25.51:113.87:5467 25.53 25.53 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 2	9 26 30 26 39	63 26 95 27.05 27. F 26 92 27.03 27 F	5.8 27 20 27.44 11 SIR of 15 cha 51 730 27.52 27 730 27.52 27 27 27 27 27 27 27 27 27 27 27 27 27
	8 20 28 20.43 2 5 5 PD=02950 → 10 13 19 5 5 PD=02950 → 10 13 19 5 5 PD=02950 → 12 13 19 5 5 5 5 5 5 5 5 5 5 5 5 5	0.74 2 1009 131 0.74 2 1009 131	0.94 21 1 05 Vista_44 1 01 21 10	21.29 2 21.29 2 21.29 2	147 2 Dorator 15721	21 65 21.3 _ G7 15 13.9 _ G7 15 13.9 _ G7 15 13.9	91 22 	14 22 24 1903646- 2.17 1903645-	22.55 05 PDI-0. 22.55 05 PDI-0.	2 22 2980-4-12 2264 2 2980-4-12	2 83 2 13 19100 2 84 2 2 13 19100 2 -13 19100	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25.51:134 68:6024 25.53 25.88.25 93 25.51:113.87:5467 25.53 25.53 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 2	9 26 30 26 39	63 26 95 27.05 27. F 26 92 27.03 27 F	5.6 27 20 27.44 11 SIR of 15 cha 53 730 27.52 27 730 27.52 27 30 27.52 27 30 27.52 27 30 27.52 27 30 27.52 27 40 53 54 54 55 55 55 55 55 55 55 55 55 55 55
	8 20 28 20.43 2 5 PD+0299C → 12-13-19 5 PD+0295C → 12-13-19 20.26 2 5 PD+0295C → 12-13-19 5 PD+0295C → 12-13-19	0.74 2 1009 131 0.74 2 1009 131	0.94 21 1 05 Vista_44 1 01 21 10	21.29 2 21.29 2 21.29 2	147 2 Dorator 15721	21 65 21.3 _ G7 15 13.9 _ G7 15 13.9 _ G7 15 13.9	91 22 	14 22 24 1903646- 2.17 1903645-	22.55 05 PDI-0. 22.55 05 PDI-0.	2 22 2980-4-12 2264 2 2980-4-12	2 83 2 13 19100 2 84 2 2 13 19100 2 -13 19100	23 11			109 24 50 2 109 24 50 2	14 71 25.01	25.27.25.32 tal Tetra-Dioxins 25.18 25.26	25.51:134 68:6024 25.53 25.88.25.93 25.51:113.87:5467 25.53 25.93 25.51:113.87:5467 25.63 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93 25.93	9 26 30 26 39 26 53 26 53 26 53 27 55 27	63 26 95 27.05 27. F 26 92 27.03 27 F	1 SIR of 15 chai 53 730 27.52 51 SIR of 15 chai 81 51 SIR of 15 chai
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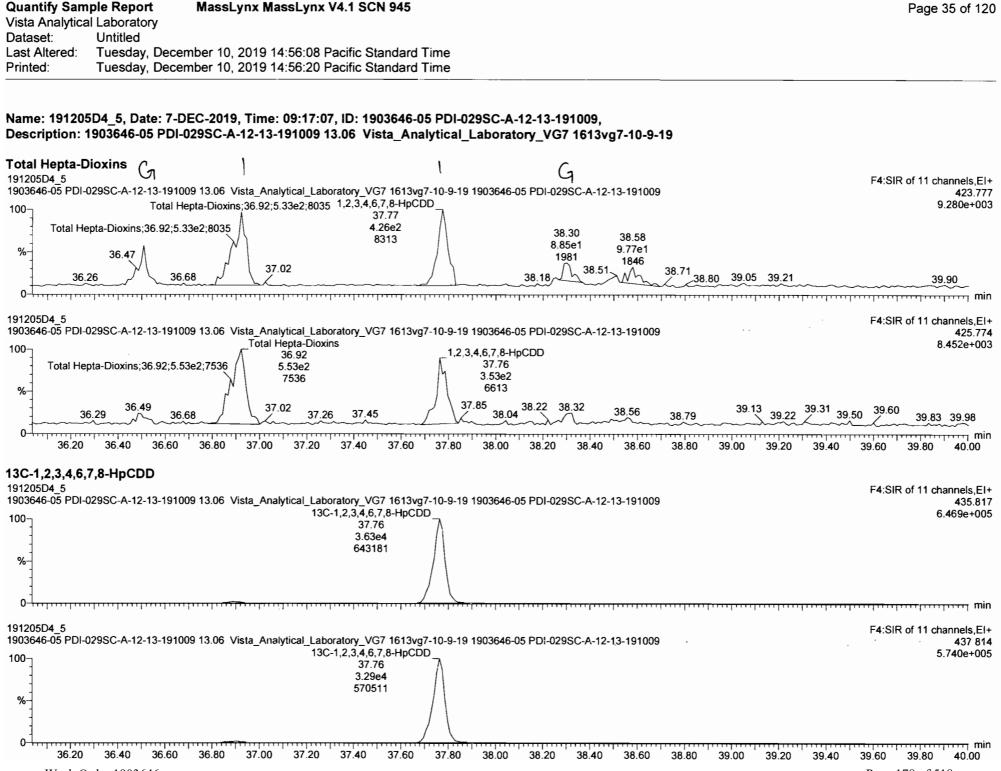


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Total Penta-Dioxins         3.13e2           29.43         6936           27.80         28.42         28.56         28.00         29.10         4009         29.69         29.00         30.6630.77         31.28         31.25           3120504.5         7.71         27.80         28.18         28.42         8.0661         10.0239C.A.12.13.191009         13.06         Vista_Analytical_Laboratory_VG7 1613vg7-10.9-19 1903646-05 PDI-0239C.A.12.13.191009         31.82         31.37         31.92           30264-05 FDI-0239C.A.12.13.191009 13.06         Vista_Analytical_Laboratory_VG7 1613vg7-10.9-19 1903646-05 PDI-0239C.A.12.13.191009         30.663         30.80         31.00         31.92         31.92           47.71         27.9028.01         28.80         28.00         29.20         29.40         29.79         29.22.99         30.663         30.80         31.00         31.20         31.43         31.60           3CC, 12.3.7.8-PCDD         7.70         28.00         28.60         28.80         29.00         29.20         29.40         29.60         29.80         30.00         30.20         30.40         30.60         31.40         31.40         31.60           30264-05 PDI-023SC-A.12-13-191009         13.06         Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-05 PDI-025SC-	00-]				7	8.034e+0
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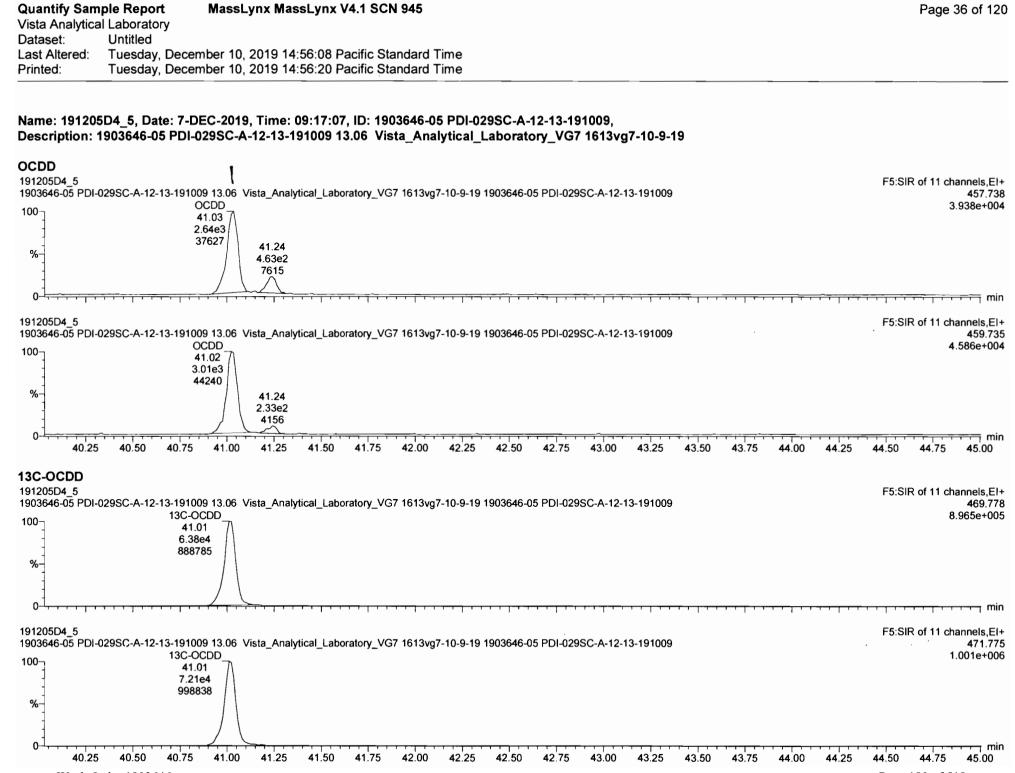






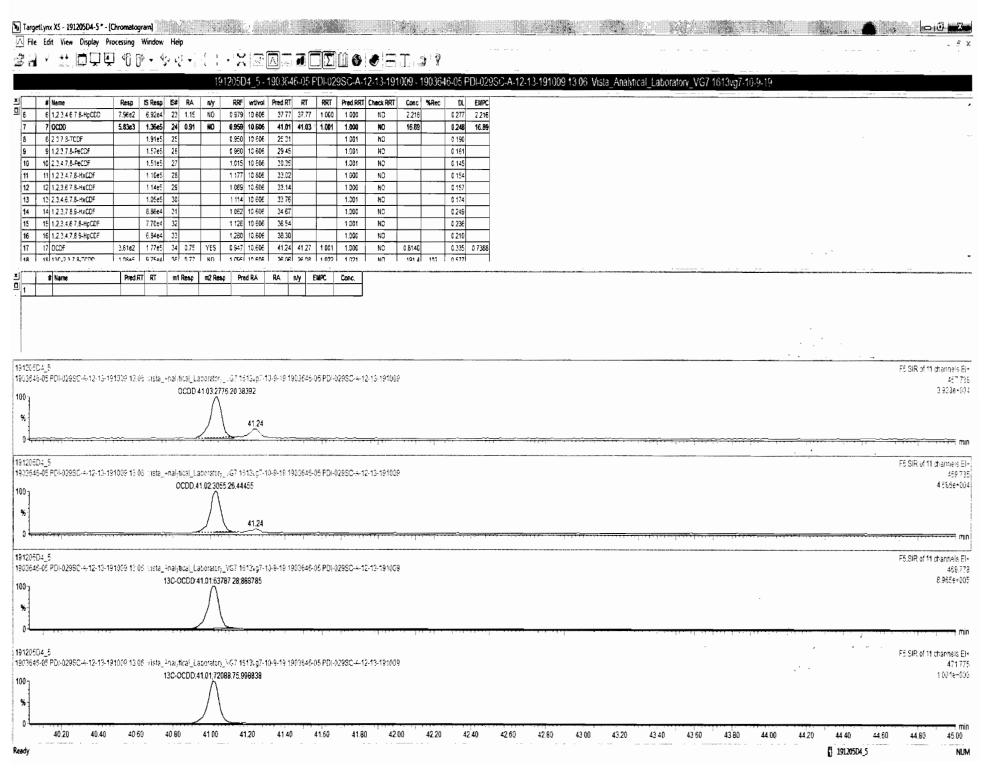


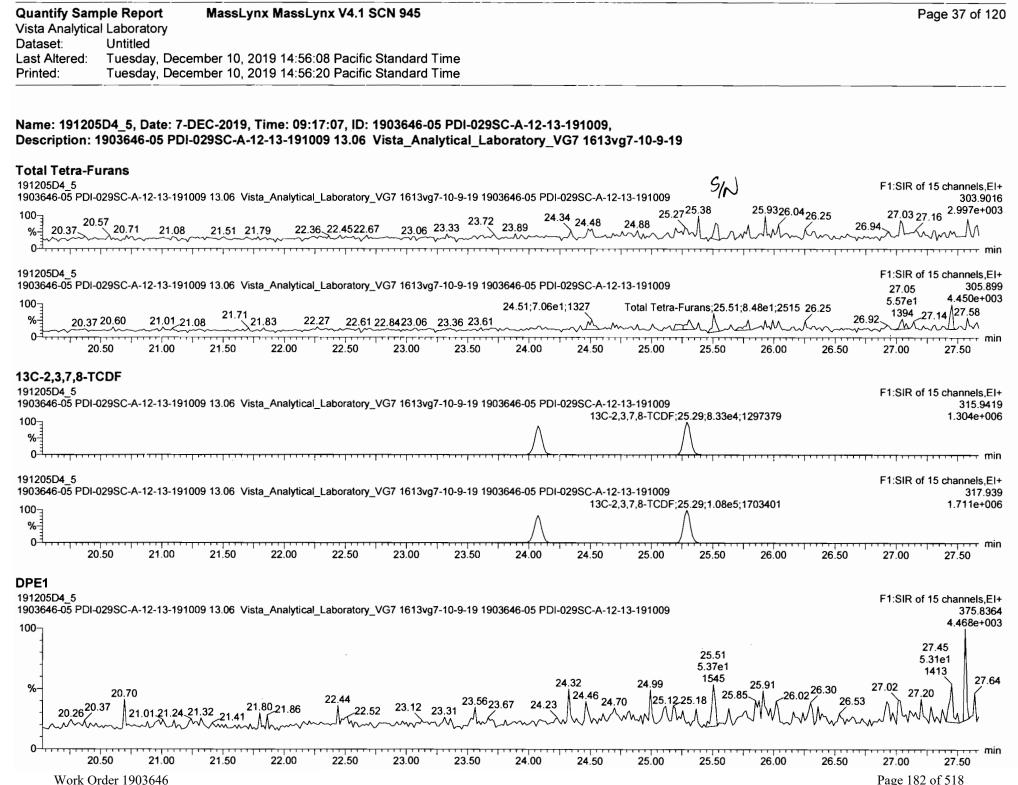
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# Name	1	Resp 5	S Resp 5	RA	Y F	RRF wt/vol	Pred.RT	सा	RRT	Pred RRT (	heck RRT	Conc	%Rec	DL ENPC				P1 11 1		27 Ta an 2022 275
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35 3701-2.3.3		4.5664	9 75e4 3	6	1	196 10 60€				1.022	NC			249						
36 13C-1.2.3				6 0.80 N		000 10.60 <del>6</del>		25 52		1.000	NO	188.6		832						
37 13C-1 2,3			1.73e5 3			000 10.6DE				1 000	HO	168 8		505					• •	
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5-05 PC028		36,51	1			s:36 92;522.	14:8012	903648-4	55 PD+02	29SC-⊷ 12•			CDD:37 77	426.73,8352	<u>38.30</u> 38.33 38.5	55 38 58 38.71 38	80	39.05 39.21		
6-05 PC+-928	3	36,51	1	Total Hep		s:36 92;522.	14:8012	903648-4	65 PDI-02	29SC 12-			CDD:37 77	426.73,8352	<u>38.16</u> <u>38.30</u> <u>38.33</u> <u>38.5</u>	55, 38 58 	80	<u>39.05 39.21</u>		9.21 
5-05 PD-028	36.26	36.51 6.47	1	Total Hept	a-Dioxins	s:36 92;522 37 02	14:8012		19. ¹⁹	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1.2.3.4	.6.7.8-Hp	CDD:37 77	426.73,8352	<u>38.30</u> 38.33 38.5	55 38 58 38.71 38	80	<u>39.05 39.21</u>		9 21 
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5-05 PD028	36.26 20-4-12-13-191	36.51 6.47	1 Visla_And	Total Hept 6.68 Alcal_Labor Total Hept	a-Dioxons	s:36 92;522 - 37 02 	14:8012 10:9-10 11 29:7536	903645-0	05 PDi-02	2932 - 4-12-	1.2.3.4 	.6.7.8+Hp	CDD 37.76:3	369.76.8721	30.ID		4 (1997) 		-	9.2 39.90 F4 SIR of 11 char
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15-05 PDI-0281 104_5 16-05 PDI-0291 104_5 15-05 PDI-0291	36.26 36.29 36.29 36.29 36.29 36 36.29	36.51 6.47 1009 13 06 3.46 36 49 1009 13 06	1 vista_fnc 36.59 : vista_Anc	Total Hept	a-Dioxins	s:36 92:522 37 02 77 1513.027-1 5 36 92:553. 37 77 1513.027-1	14 8012 2 29.7536 .02	3056454 37 9036454	05 PDI 82 125 05 PDI 82	293C 12- 37,45 29SC 12- 12	1.2.3.4 .13-191009 1.2.3.4 .13-191009 3C-1,2.3.4		CDD 37.76.3	969.76.8721 85	.04 38 15 36 22 38 32 38 49		4 (1997) 		-	9 26 39 90 F4 SIR of 11 char 8 45 39 83 34 F4 SIR of 11 char 6.45 F4 SIR of 11 char
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204_5 204_5 204_5 204_5 204_5	36.26 36.29 36.29 36.29 36.29 36 36.29	36.51 6.47 1009 13 06 3.46 36 49 1009 13 06	1 vista_fnc 36.59 : vista_Anc	Total Hept	a-Dioxins	s:36 92:522 37 02 77 1513.027-1 5 36 92:553. 37 77 1513.027-1	14 8012 2 29.7536 .02	3056454 37 9036454	05 PDI 82 125 05 PDI 82	293C-4-12- 37,45 295C-4-12- 1: 295C-4-12-	12.3.4 13-191003 1.2.3.4 13-191004 3C-1,2,3.4,	9 9 6 7 8-HpC	CDD 37.76:37	969.76.8721 85			4 (1997) 		-	F4 SIR of 11 chan 8 45
15-05 PDI-0281 104_5 16-05 PDI-0291 104_5 15-05 PDI-0291	36.26 36.29 36.29 36.29 36.29 36 36.29	36.51 6.47 1009 13 06 3.46 36 49 1009 13 06	1 vista_fnc 36.59 : vista_Anc	Total Hept	a-Dioxins	s:36 92:522 37 02 77 1513.027-1 5 36 92:553. 37 77 1513.027-1	14 8012 2 29.7536 .02	3056454 37 9036454	05 PDI 82 125 05 PDI 82	293C-4-12- 37,45 295C-4-12- 1: 295C-4-12-	12.3.4 13-191003 1.2.3.4 13-191004 3C-1,2,3.4,	9 9 6 7 8-HpC	CDD 37.76:37	369 76.6721 85 36257 81.54			4 (1997) 		-	9 25 39 90 F4 SIR of 11 char 8 45 39 83 31 F4 SIR of 11 char 6.45 F4 SIR of 11 char
6-05 PD-0288 04_5 6-05 PD-0293 04_5 6-05 PD-0293	36.26 36.29 36.29 36.29 36.29 36 36.29	36.51 6.47 1009 13 06 3.46 36 49	1 vista_fnc 36.59 : vista_Anc	Total Hept	a-Dioxins	s:36 92:522 37 02 77 1513.027-1 5 36 92:553. 37 77 1513.027-1	14 8012 2 29.7536 .02	3056454 37 9036454	05 PDI 82 125 05 PDI 82	293C-4-12- 37,45 295C-4-12- 1: 295C-4-12-	12.3.4 13-191003 1.2.3.4 13-191004 3C-1,2,3.4,	9 9 6 7 8-HpC	CDD 37.76:37	369 76.6721 85 36257 81.54			4 (1997) 		-	9 21 39 90 F4 SIR of 11 char 8 41 39,83 3 F4 SIR of 11 char 6,41 F4:SIR of 11 char



Work Order 1903646

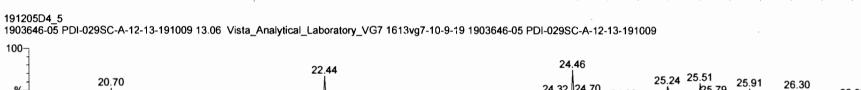
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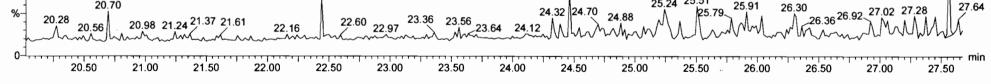




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Quantify San Vista Analytica	nple Report MassLynx MassLynx V4.1 SCN 945	Page 38 of 12
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Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	
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Description:	1903646-05 PDI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19	
Description: 1st Func. Per	1903646-05 PDI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19	F1:SIR of 15 channels,EI+
Description: 1st Func. Per 191205D4_5	1903646-05 PDI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19	339.860
Description: 1st Func. Per 191205D4_5	1903646-05 PDI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 nta-Furans -029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-05 PDI-029SC-A-12-13-191009	
Description: 1st Func. Per 191205D4_5 1903646-05 PDI-	1903646-05 PDI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 nta-Furans -029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-05 PDI-029SC-A-12-13-191009 25.51	339.86 3.600e+00
Description: 1st Func. Per 191205D4_5 1903646-05 PDI-	1903646-05 PDI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 nta-Furans -029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-05 PDI-029SC-A-12-13-191009	339.86 3.600e+00





## DPE6

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191205D4 5 F1:SIR of 15 channels,EI+ 409.7974 2.901e+003 1903646-05 PDI-029SC-A-12-13-191009 13.06 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-05 PDI-029SC-A-12-13-191009 100-25.51 7.09e1 26.02 1691 27.45 27.02^{5.18e1} 1531 24.32 24.46 25.63 25.88 27.62 24.99 26.32 26.91 20.70 27.38 26.41 24.77 25.18 25.76 22.44 23.31 23.61 %-5326.86 21.32 24.09 22.4922.77 21.86 21 20.26 0min min 24.00 24.50 25.00 25.50 26.00 26.50 27.00 27.50

20.50 21.00 21.50 22.00 22.50 23.00 23.50 Work Order 1903646

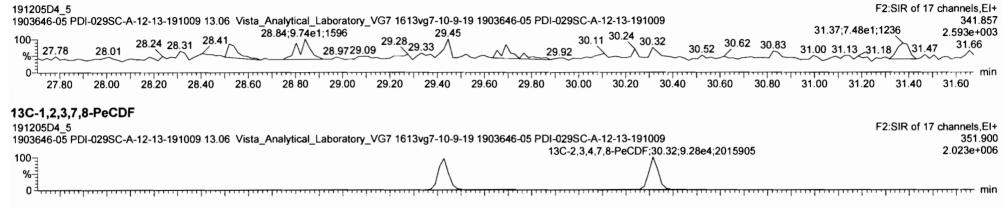
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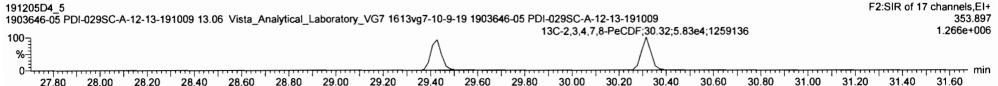
min

341.857 4.466e+003

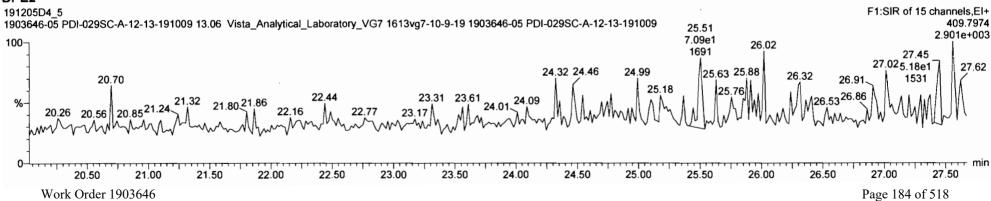
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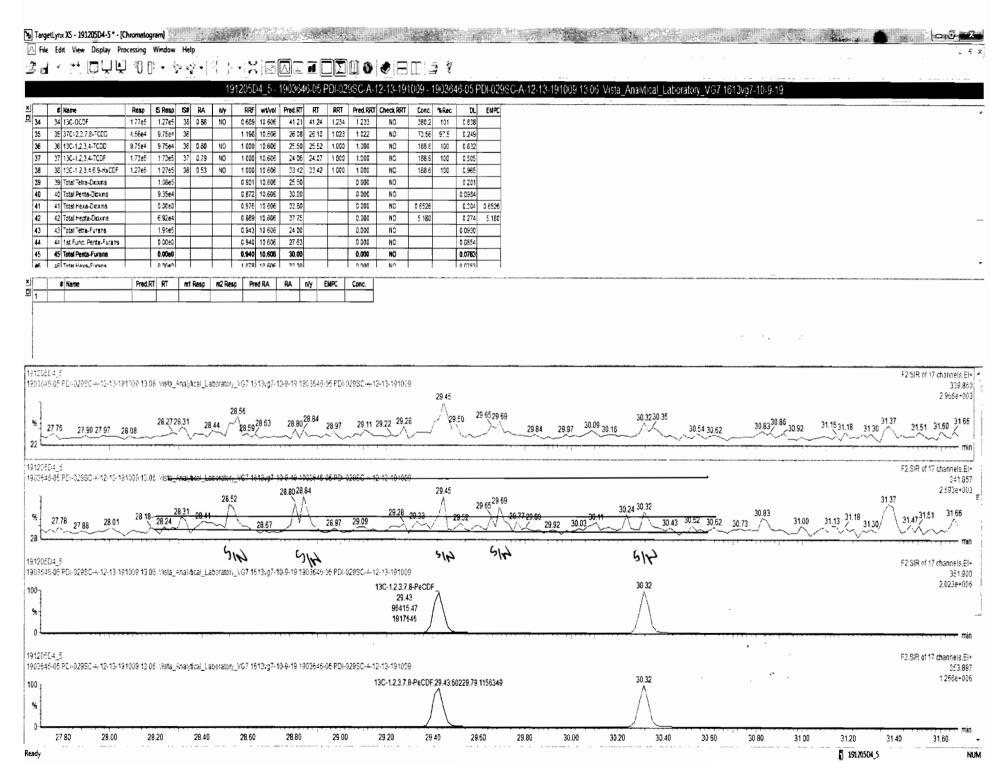
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Vista Analytical	-									
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Printed:	Tuesday, Dec	ember 10, 2019 ⁻	4:56:20 Pacific Stan	ndard Time						
			-	3646-05 PDI-029SC-A-1 a_Analytical_Laborator	•	10-9-19				
Description: 1 Total Penta-Fເ	903646-05 PD		-		•	10-9-19 ۶/م)			F2:SIR of	17 channels El
Description: 1 Total Penta-Fι 191205D4_5	903646-05 PD urans	-0295C-A-12-13 51N	-191009 13.06 Vista קוז	a_Analytical_Laborato	y_VG7 1613vg7-	S/N			F2:SIR of	17 channels,El 339.86
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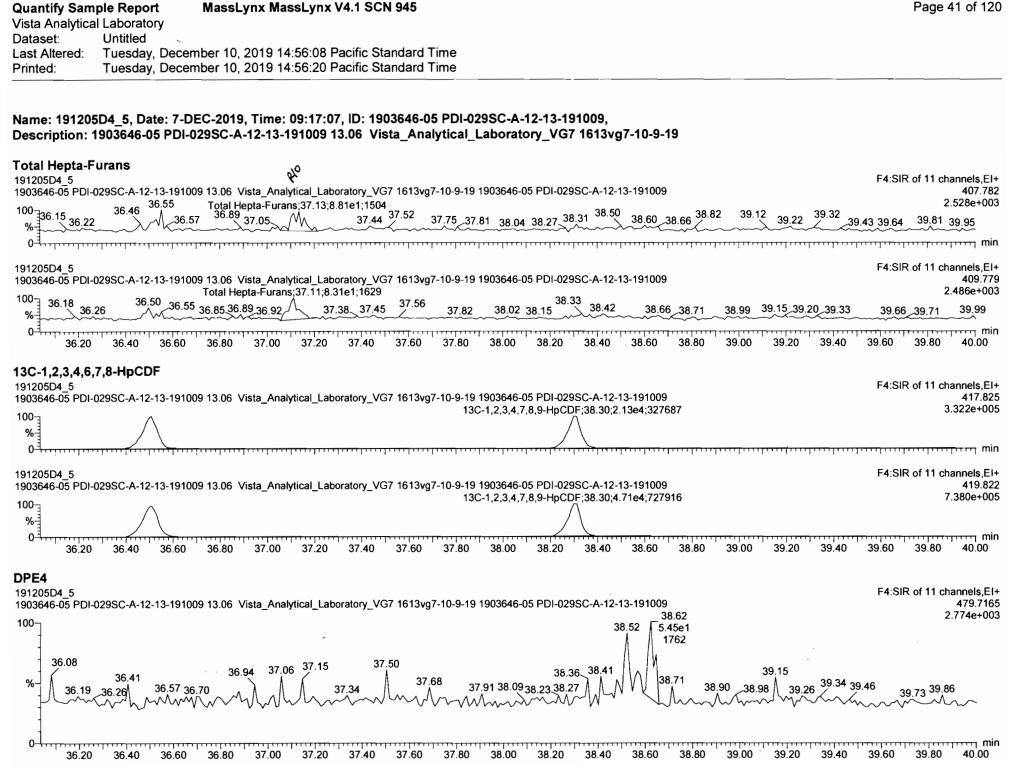




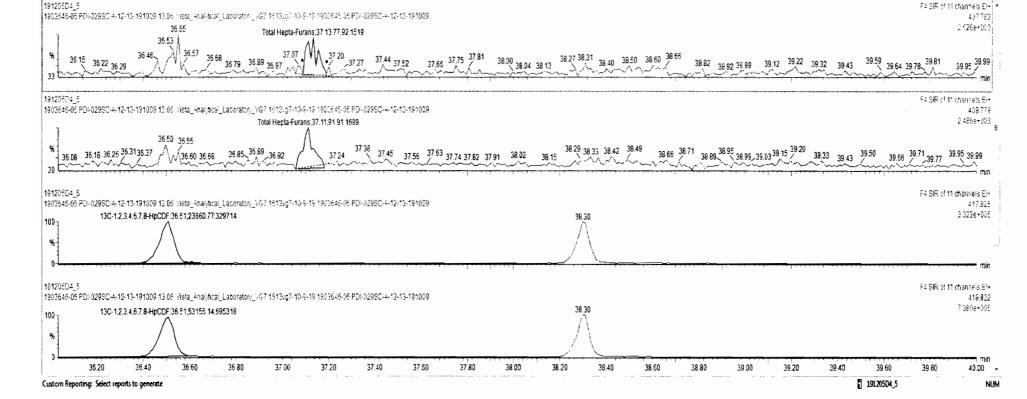


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Page 186 of 518



Page 187 of 518



S2       PKS       Image: Sector Sect	51	51 PFK4										
54         DPE2         Image: Constraint of the constraint o	52	52 PFK5										
55         DP63         Image: Contract of the contra	53	SC OPE1										
56 DPE4	54	54 DPE2	_									
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58 DPE6	57	57 DPES										
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m1 Resp m2 Resp Pred RA RA m/y EMPC

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Pred.RT RT

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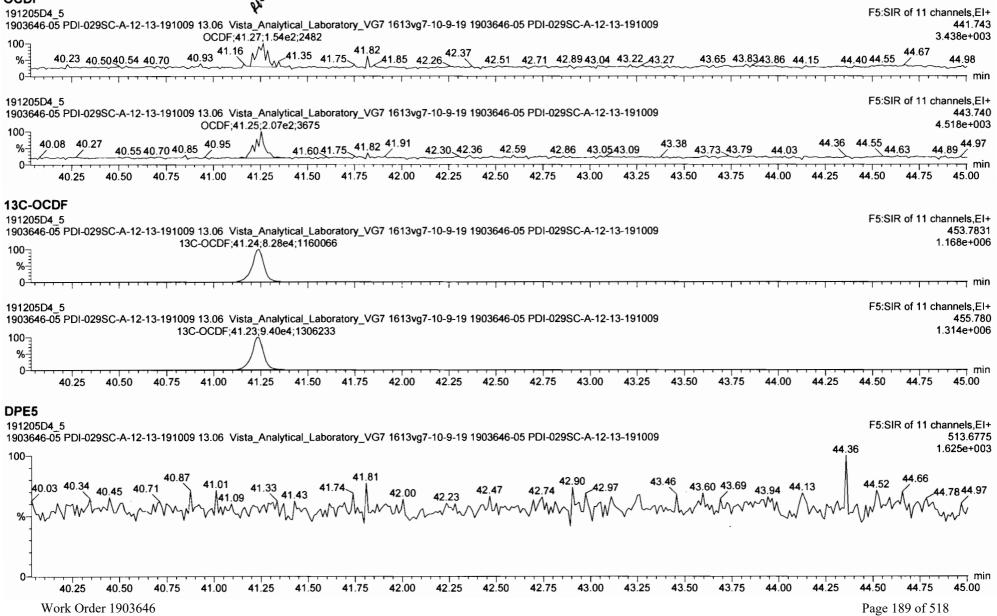
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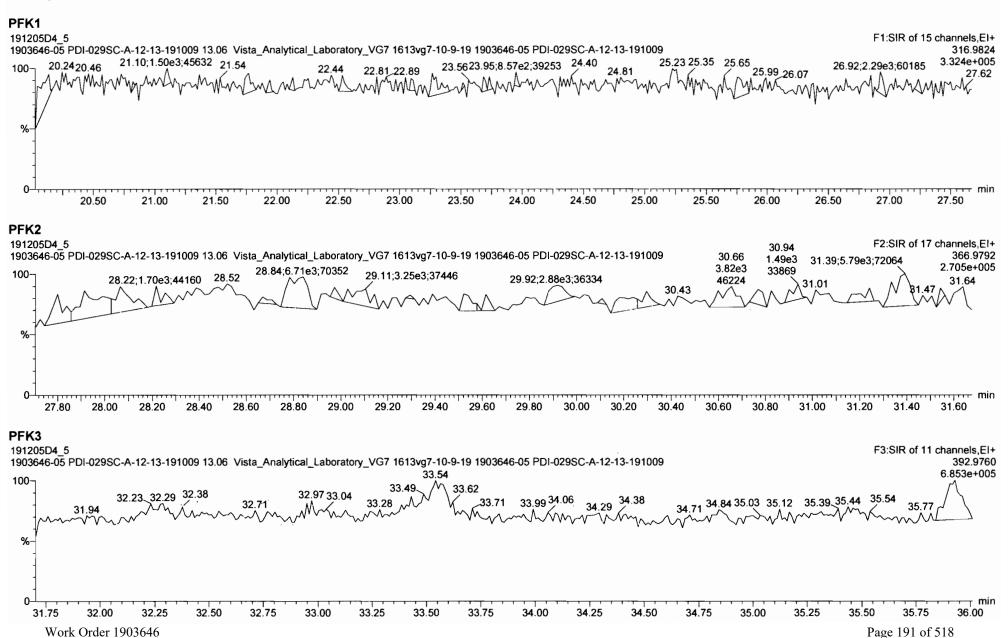
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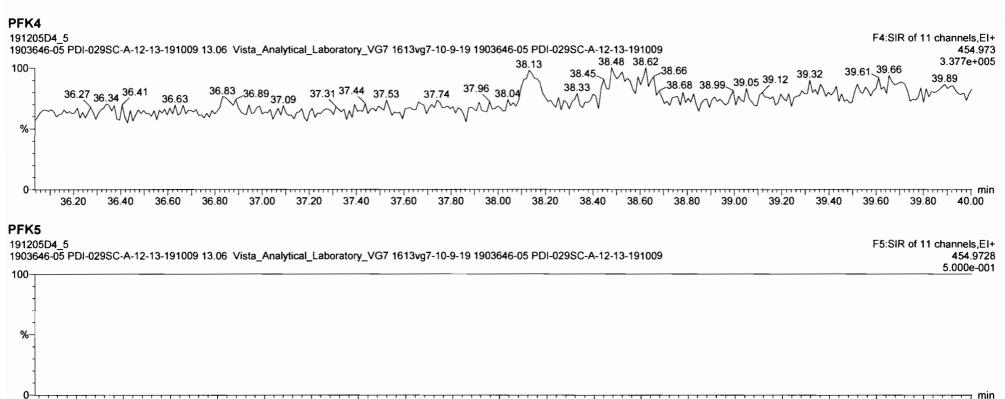
TargetLynx XS - 191205D4-5* · [Chromatogram]

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12 12 12.3.6.7.8-HxCDF	1.14e5 29	1 069 10.606		1 000 NO 1 001 NO		0 157 0.174						
13 13 2 3.4.6.7.8-HxCDF 14 14 1.2.3.7.8.9-HxCDF	1 05e5 30 8.86e4 31	1 114 10 606		1 000 NO		0.249						
15 15 1,2 3,4.6 7 8-HpCDF	7.70e4 32	1 128 10.608		1001 NO		0 236						
16 16 1.2 3.4,7,8.9-HpCDF 17 17 0CDF	6.8464 33 3.49e2 1.77e5 34 0.74	1 280 10.606 YES 0.947 10.606		1.000 NG		0.210 0.335 0.7078						
18 16 13C-2 3.7 8-TCDD	10865 97564 36 077			1 021 NO		0.577						
19 19 13C-1.2.3,7 8-PeCDD	9 35e4 9 75e4 36 0 62			1.187 NO		0 456						
20 20 13C-1.2,3.4,7.8-HxCDD 21 21 13C-1.2,3.6,7.8-HxCDD	7.32e4 1.27e5 38 1.27 7.83e4 1.27e5 38 1.28			1.014 NO 1.017 NO		1 01						
22 22 13C-1,2.3,7.8,9-HxCDD	7 50e4 1.27e5 38 1.27	NO 0 807 10.608	34.30 34.29 1.026	1.026 NO	145.2 77.0	0 800						
23 23 13C-1.2 3.4 6.7 8-HpCDD 24 24 13C-0000	6.9264 1 2765 38 1 10 1 3565 1 2765 38 0 R8	NO 0.654 10.606		1 126 NO	156 8 83.2 347 3 97 1	1 29						
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⁵⁶ 40.23 40.27 40 32	10.50 40.67		40.02	N	M41 32 41 35 4	1.40	41.82		10.44	10	40 43.55	
25	40 50 40.54 40.67 40	70 40.77 40.84 40	.8840.93 41.02 41.054	1.09 41.16	<u> </u>	41,51_41.53	41.63_41.66_41.7541	85 41.93	42 07 42.11 42.19 42	26 42 37 42	48 42.51 42.55 42.65	42.7142.75 min
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					200.85:3690							4 ± 18e+003
			OCDF:41	25:200 85:3690	Λ							
5	40.50 40.55 40 67 40	70 40.85	40.95 41	$\mathcal{N}^{N}$	$\sum$	41.44 41.51 41	50 41 55 41.75 41.82	41.91	40.05 (0.10	42.30 42.36	12.48 42.55 42.59 42.6	6 4273 4281
15 40.27	40.5040.23		40.95 41	08 41.15				41.31 	42.06 42.12	42.30		min
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### Name: 191205D4 6, Date: 7-DEC-2019, Time: 10:05:05, ID: 1903646-06 PDI-029SC-A-13-13.7-191009, Description: 1903646-06 PDI-029SC-A-13-13.7-191009 13.66 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

	# Name	Area	IS Area	WL/Vol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL ,
1	1 2,3,7,8-TCDD		1.04e5	10.4374	0.905			1.001		26.10					0.257
2	2 1,2,3,7,8-PeCDD		8.66e4	10.4374	0.903			1.001		30.62					0.216
3	3 1,2,3,4,7,8-HxCDD		6.70e4	10.4374	1.101			1.000		33.91					0.486
	4 1,2,3,6,7,8-HxCDD		7.52e4	10.4374	0.939			1.000		34.00		۰.			0.541
5	5 1,2,3,7,8,9-HxCDD		7.49e4	10.4374	0.961			1.001		34.34					0.558
6	6 1,2,3,4,6,7,8-HpCDD	2.84e3	6.35e4	10.4374	0.979	1.049	NO	1.000	1.000	37.78	37.78	8.7471		8.75	0.482
7	7 OCDD	2.08e4	1.20e5	10.4374	0.959	0.916	NO	1.000	1.000	41.01	41.02	69.324		69.3	0.346
8	8 2,3,7,8-TCDF	4.70e2	1.76e5	10.4374	0.950	0.660	NO	1.001	1.001	25.31	25.30	0.53950		0.540	0.164
9	9 1,2,3,7,8-PeCDF	3.01e2	1.38e5	10.4374	0.960	1.191	YES	1.001	1.001	29.45	29.44	0.43489		0.389 02	0.0854
10 《编辑》: 全	10 2,3,4,7,8-PeCDF		1.36e5	10.4374	1.015			1.001		30.34			•	-	0.134
11	11 1,2,3,4,7,8-HxCDF	4.03e2	9.73e4	10.4374	1.177	1.243	NO	1.000	1.000	33.01	33.01	0.67537		0.675	0.156
12	12 1,2,3,6,7,8-HxCDF		1.05e5	10.4374	1.069			1.000		33.15					0.179
13	13 2,3,4,6,7,8-HxCDF		9.83e4	10.4374	1.114			1.001		33.77					0.176
14	14 1,2,3,7,8,9-HxCDF		8.80e4	10.4374	1.062			1.000		34.69					0.245
15	15 1,2,3,4,6,7,8-HpCDF	3.29e2	6.93e4	10.4374	1.128	0.968	NO	1.001	1.000	36.55	36.53	0.80760		0.808	0.375
16	16 1,2,3,4,7,8,9-HpCDF		6.36e4	10.4374	1.280			1.000		38.31					0.317
<b>7.</b> 新新教	17 OCDF	1.10e3	1.56e5	10.4374	0.947	0.951	NO	1.000	1.000	41.23	41.24	2.8431		2.84	0.265
18	18 13C-2,3,7,8-TCDD	1.04e5	9.77e4	10.4374	1.095	0.780	NO	1.021	1.022	26.04	26.07	185.46	96.8		0.656
<b>19.32</b>	19 13C-1,2,3,7,8-PeCDD	8.66e4	9.77 <b>e</b> 4	10.4374	0.881	0.644	NO	1.187	1.200	30.27	30.60	192.69	100.6		0.661
20115	20 13C-1,2,3,4,7,8-Hx	6.70e4	1.22e5	10.4374	0.642	1.284	NO	1.014	1.014	33.89	33.90	163.21	85.2		0.971
201112353	21 13C-1,2,3,6,7,8-Hx	7.52e4	1.22e5	10.4374	0.856	1.311	NO	1.017	1.017	34.01	34.00	137.54	71.8		0.729
22 1 1 1 1	22 13C-1,2,3,7,8,9-Hx	7.49e4	1.22e5	10.4374	0.807	1.264	NO	1.026	1.026	34.31	34.30	145.35	75.9		0.773
23	23 13C-1,2,3,4,6,7,8-H	6.35e4	1.22e5	10.4374	0.654	1.074	NO	1.126	1.130	37.65	37.77	151.94	79.3		1.11
2.1	24 13C-OCDD	1.20e5	1.22e5	10.4374	0.580	0.903	NO	1.226	1.227	40.99	41.01	324.14	84.6		0.792
25	25 13C-2,3,7,8-TCDF	1.76e5	1.62e5	10.4374	1.035	0.784	NO	0.992	0.991	25.30	25.29	200.31	104.5		0.519
26	26 13C-1,2.3,7,8-PeCDF	1.38e5	1.62e5	10.4374	0.854	1.609	NO	1.154	1.154	29.43	29.43	190.73	. 99.5		0.856
	27 13C-2,3,4,7,8-PeCDF	1.36e5	1.62e5	10.4374	0.847	1.637	NO	1.189	1.189	30.33	30.31	190.02	99.2		0.863
28 39 28	28 13C-1,2,3,4,7,8-Hx	9.73e4	1.22e5	10.4374	0.832	0.510	NO	0.987	0.988	33.01	33.01	`183.04	95.5		1.10
	29 13C-1,2,3,6,7,8-Hx	1.05e5	1.22e5	10.4374	1.034	0.532	NO	0.991	0.991	33.12	33.14	158.99	83.0		0.886
	30 13C-2,3,4,6,7,8-Hx	9.83e4	1.22e5	10.4374	0.953	0.533	NO	1.009	1.009	33.74	33.73	161.44	84.2		0.962
	31 13C-1,2,3,7,8,9-Hx	8.80e4	1.22e5	10.4374	0.828	0.516	NO	1.039	1.038	34.72	34.69	166.44	86.9		1.11

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	I Laboratory	
Dataset:	U:\VG7.PRO\Results\1912	05D4\191205D4-6.qld
Last Altered:	Thursday, December 19, 2	019 12:49:00 Pacific Standard Time
Printed:	Thursday, December 19, 2	019 12:51:10 Pacific Standard Time

Sharah	# Name	Area	IS Area	Wt.Nol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H	6.93e4	1.22e5	10.4374	0.757	0.449	NO	1.093	1.092	36.53	36.52	143.22	74.7		1.05
33	33 13C-1,2,3,4,7,8,9-H	6.36e4	1.22e5	10.4374	0.581	0.434	NO	1.143	1.146	38.21	38.31	171.15	89.3		1.37
34	34 13C-OCDF	1.56e5	1.22e5	10.4374	0.689	0.911	NO	1.233	1.233	41.23	41.23	354.53	92.5		0.706
35	35 37CI-2,3,7,8-TCDD	4.43e4	9.77e4	10.4374	1.198			1.022	1.023	26.07	26.10	72.518	94.6		0.229
36	36 13C-1,2,3,4-TCDD	9.77e4	9.77e4	10.4374	1.000	0.796	NO	1.000	1.000	25.50	25.51	191.62	100.0		0.718
37	37 13C-1,2,3,4-TCDF	1.62e5	1.62e5	10.4374	1.000	0.819	NO	1.000	1.000	24.06	24.07	191.62	100.0		0.537
38	38 13C-1,2,3,4,6,9-Hx	1.22e5	1.22e5	10.4374	1.000	0.517	NO	1.000	1.000	33.42	33.43	191.62	100.0		0.917
39	39 Total Tetra-Dioxins		1.04e5	10.4374	0.901			0.000	•	25.50					0.125
40	40 Total Penta-Dioxins		8.66e4	10.4374	0.872			0.000		30.00					0.0958
41、如何理论的方法的	41 Total Hexa-Dioxins		0.00e0	10.4374	0.976			0.000		33.80		0.00000		1.38	0.380
42	42 Total Hepta-Dioxins		6.35e4	10.4374	0.989			0.000		37.75		20.814		20.8	0.478
48	43 Total Tetra-Furans		1.76e5	10.4374	0.943			0.000		24.00		0.53950		0.540	0.166
4.22	44 1st Func. Penta-Fur		0.00e0	10.4374	0.940			0.000		27.63		0.13846		0.138	0.0420
45	45 Total Penta-Furans		0.00e0	10.4374	0.940			0.000		30.00		0.29500		0.684	0.0540
	46 Total Hexa-Furans		0.00e0	10.4374	1.078			0.000		33.00		1.0607		1.06	0.191
42.894 11.32	47 Total Hepta-Furans		0.00e0	10.4374	1.135			0.000		37.75		0.80760		2.57	0.365

Page 2 of 2

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:17:04

Name: 191205D4_6, Date: 7-DEC-2019, Time: 10:05:05, ID: 1903646-06 PDI-029SC-A-13-13.7-191009, Description: 1903646-06 PDI-029SC-A-13-13.7-191009 13.66 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

#### **Tetra-Dioxins**

# Name NAME NAME NAME RT Area IS Area Response Primary Flags

#### Penta-Dioxins

# Name N/Y RT Area IS Area Response Primary Flags

#### **Hexa-Dioxins**

# Name	NY	RT	Area	IS Area	Response	Primary Flags	Conc	EMPC
1 41 Total Hexa-Dioxins	YES	32.39	282.040	40711.965	0.000	bb	0.0000	1.38

#### **Hepta-Dioxins**

# Name	NAME NY	RT	Area	IS Area	Response	Primery Elects	Conc.	EMPC
6 1,2,3,4,6,7,8-HpCDD	NO	37.78	1453.007	32885.051	89.416	MM	8.7471	8.75
2 42 Total Hepta-Dioxins	NO	36.92	2051.367	32885.051	124.520	bb	12.0665	12.07

#### **Tetra-Furans**

Name and American State	e na sensen anglas. Lang			IS Area	Regione	PLUN FLU		EMEC
8 2,3,7	7,8-TCDF NO	25.30	186.791	77193.531	5.350	MM	0.5395	0.54

#### Penta-Furans function 1

		N. RI		IS Area				- 100
44 1st Func. Penta-Furans	NO	27.08	59.655	84913.336	1.358	MM	0.1385	0.14

### Penta-Furans

Şî,	- Nori Sala	# Name	N/Y at t	, <b>RT</b> -	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1 .	·	9 1,2,3,7,8-PeCDF	YES	29.44	163.566	85151.438	0.000	MM	0.0000	0.39
2	-	45 Total Penta-Furans	NO	28.54	118.433	84913.336	2.893	MM	0.2950	0.30

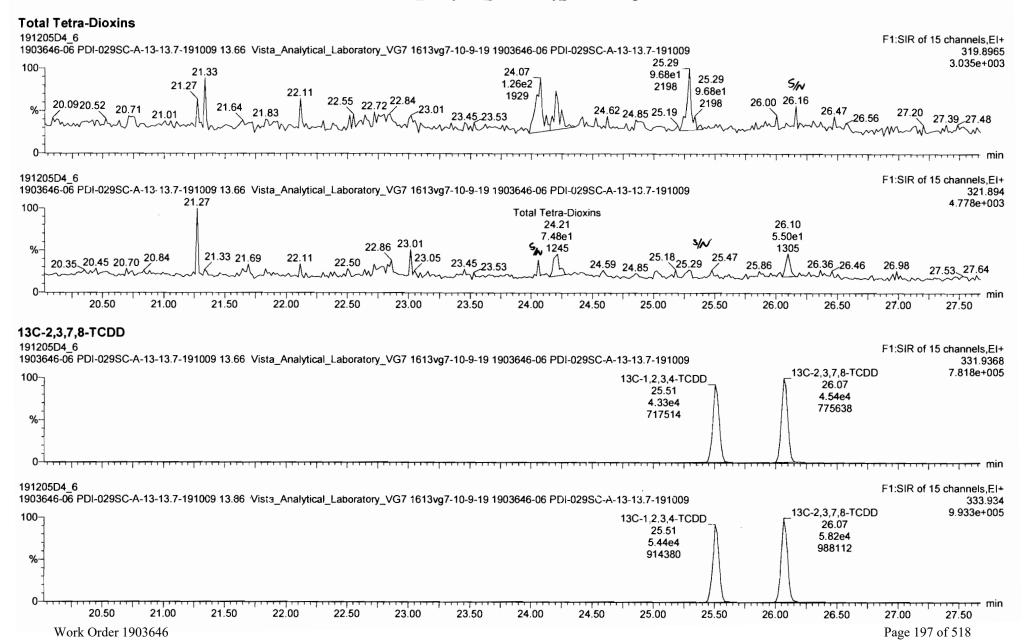
### Hexa-Furans

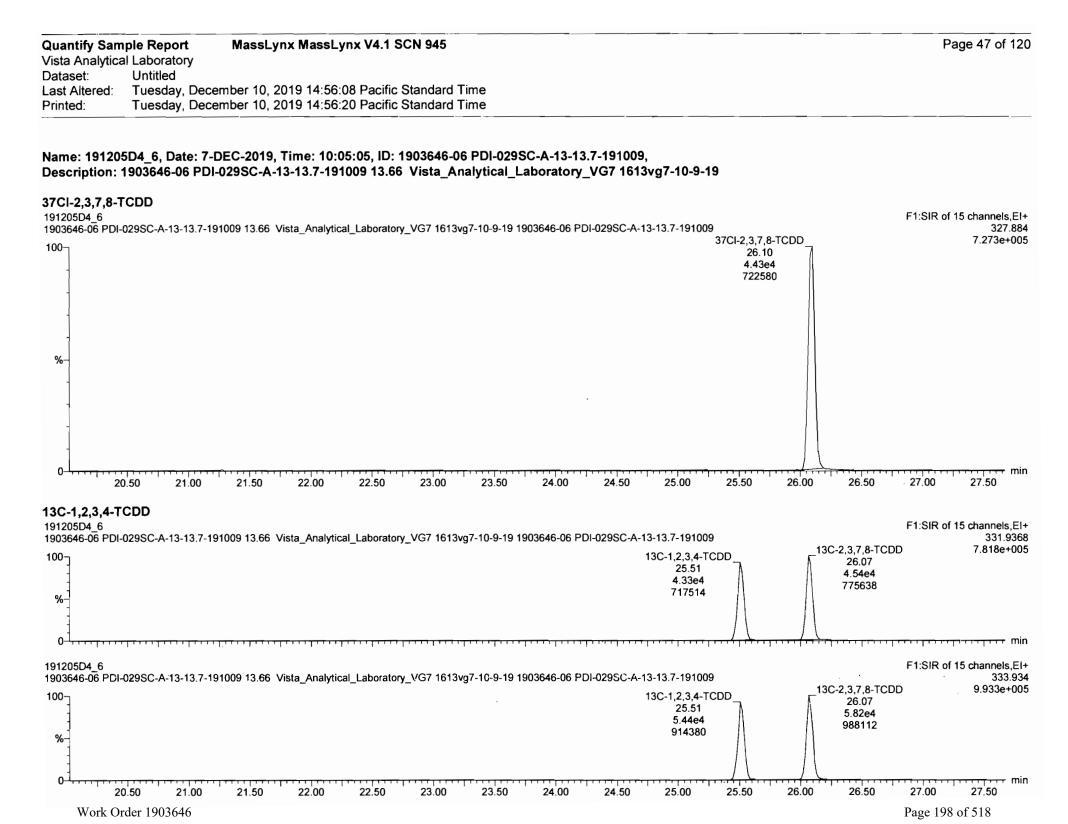
# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1 1,2,3,4,7,8-HxCDF	NO	33.01	223.589	32852.105	8.295	MM	0.6754	0.68
2 46 Total Hexa-Furans	NO	32.57	108.322	33378.895	4.334	MM	0.3854	0.39

## Hepta-Furans

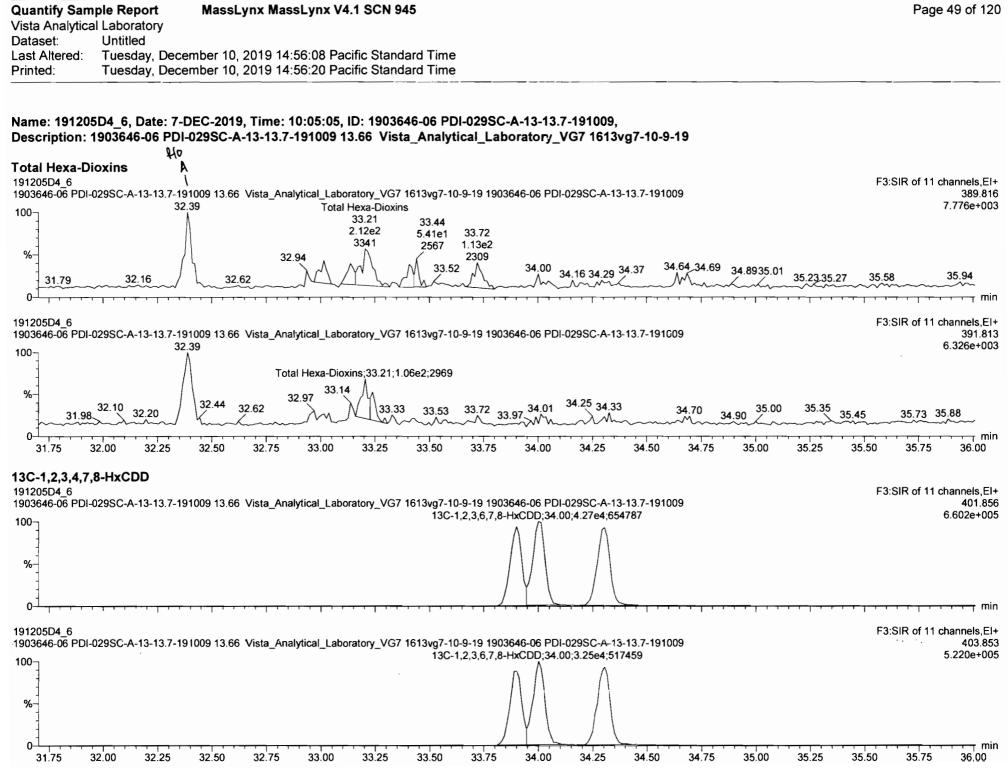
* Name	KNY,	RT BT	Area	IS Area	Response	Primary Flags	Cone -	EMPC
1 47 Total Hepta-Furans	YES	37.12	354.294	20350.186	0.000	MM	0.0000	1.77
2 15 1,2,3,4,6,7,8-HpCDF	NO	36.53	162.076	21470.418	9.505	MM	0.8076	0.81

Quantify Sam	nple Report MassLynx MassLynx V4.1 SCN 945	Page 46 of 120
Vista Analytica	al Laboratory	·
Dataset:	Untitled	
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	



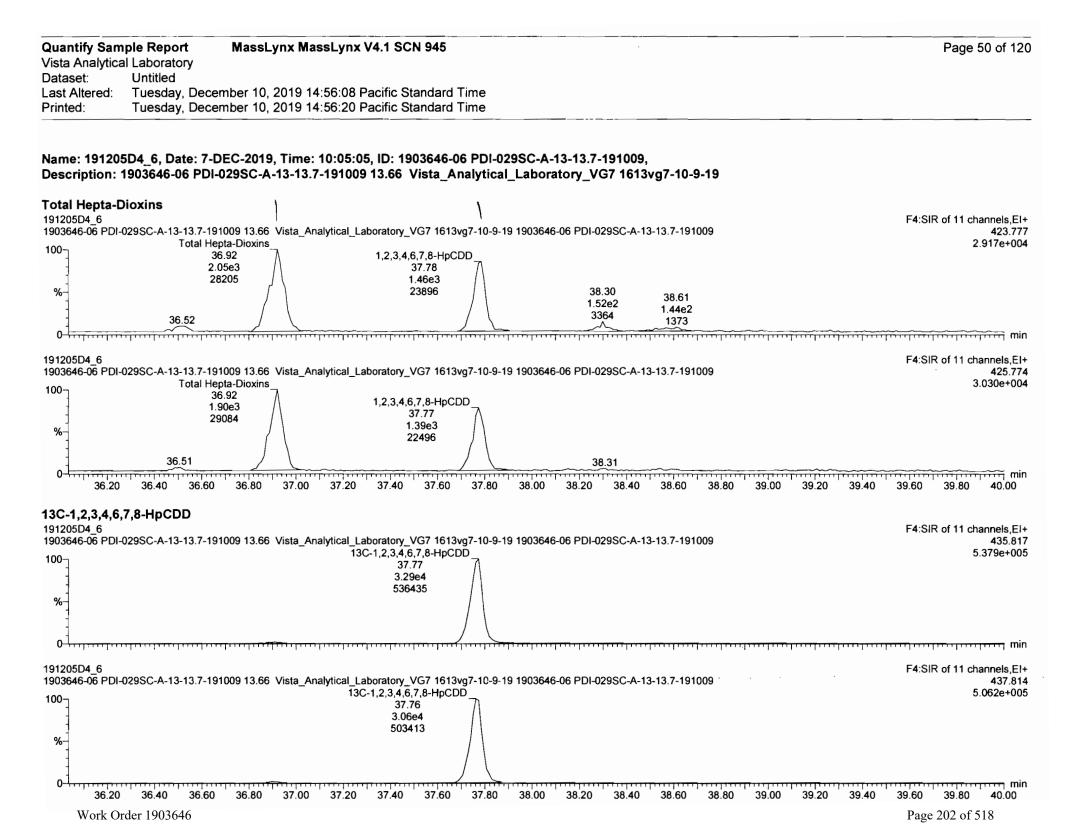


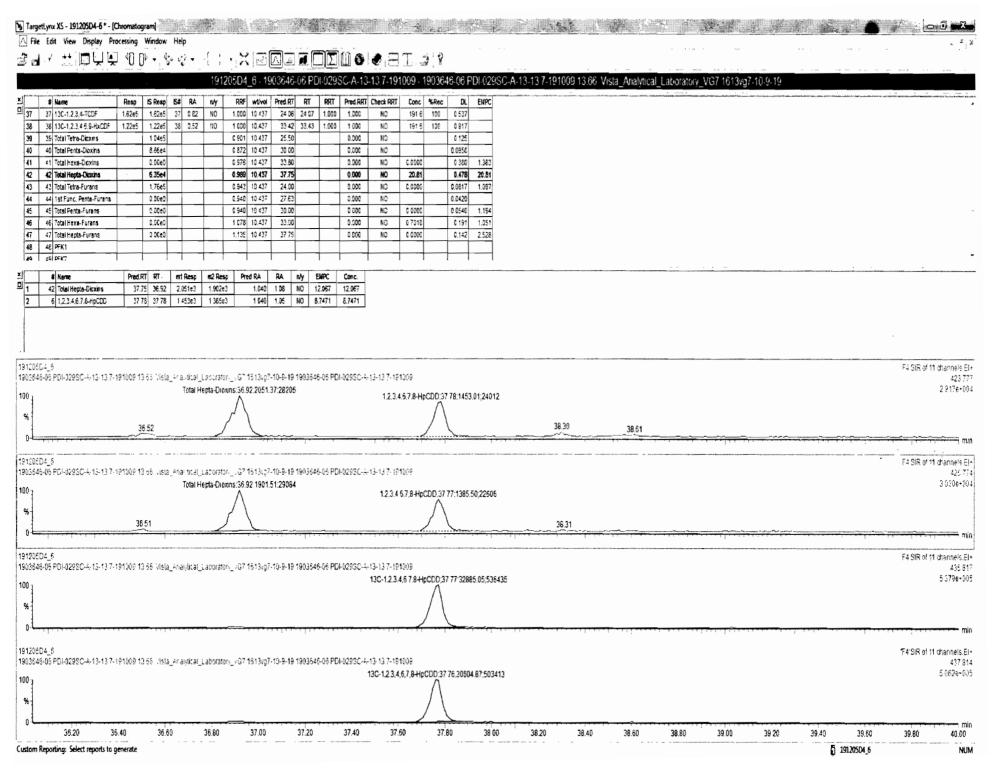
	mple Report MassLynx MassLy cal Laboratory	nx V4.1 SCN 945		Page 48 of 1
ataset: ast Altered: rinted:	Untitled Tuesday, December 10, 2019 14:56:0 Tuesday, December 10, 2019 14:56:2			
	05D4_6, Date: 7-DEC-2019, Time: 10:0 1903646-06 PDI-029SC-A-13-13.7-191			
otal Penta- 1205D4_6 103646-06 PDI	Dioxins	<b>G1</b> I_Laboratory_VG7 1613vg7-10-9-19 1903646	-06 PDI-029SC-A-13-13.7-191009	F2:SIR of 17 channels, 353.85
<b>)0</b>		Total Penta-Dioxins 29.43 2.41e2 4841	Total Penta-Dioxins 30.33 2.00e2	5.668e+0
%-	28.05 28.54 28.59 5/N 28.54 28.80	28.99 29.71	<i>\$∕</i> ~ 3731	5/N 30.98 31.30 31.37 31.52
0 ^{_]} ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	·····			F2:SIR of 17 channels,
03646-06 PD	I-029SC-A-13-13.7-191009 13.66 Vista_Analytica 28.82 7.20e ⁻ 28.56 327.99 28.08 28.37 28.44 28.67	_Total Penta-Dio	Total Penta-Dioxins xins 29.90 30.33 6.83e1 8.24e1	355.8 31.37 1.33e2 2744 0.94 ^{30.99} 31.15 31.62
27.80	28.00 28.20 28.40 28.60 28.80	29.00 29.20 29.40 29.60 2	9.80 30.00 30.20 30.40 30.60 30.80	31.00 31.20 31.40 31.60
<b>C-1,2,3,7,8</b> 1205D4_6 03646-06 PD	3-PeCDD I-029SC-A-13-13.7-191009 13.66 Vista_Analytica	L_Laboratory_VG7 1613vg7-10-9-19 1903646		F2:SIR of 17 channels, 365.8 7 door
0- - 			13C-1,2,3,7,8-PeCDD_ 30.60 3.39e4 716078	7.183e+
0 				
1205D4 6	I-029SC-A-13-13.7-191009 13.66 Vista_Ana!ytica	Laboratory_VG7 1613vg7-10-9-19 1903646		F2:SIR of 17 channels, 367.
			13C-1,2,3,7,8-PeCDD 30.60 5.27e4 1028791	1.032e+
% 				
0- [⊥]	28.00 28.20 28.40 28.60 28.80	29.00 29.20 29.40 29.60 2	9.80 30.00 30.20 30.40 30.60 30.80	31.00 31.20 31.40 31.60
Work C	Order 1903646			Page 199 of 518

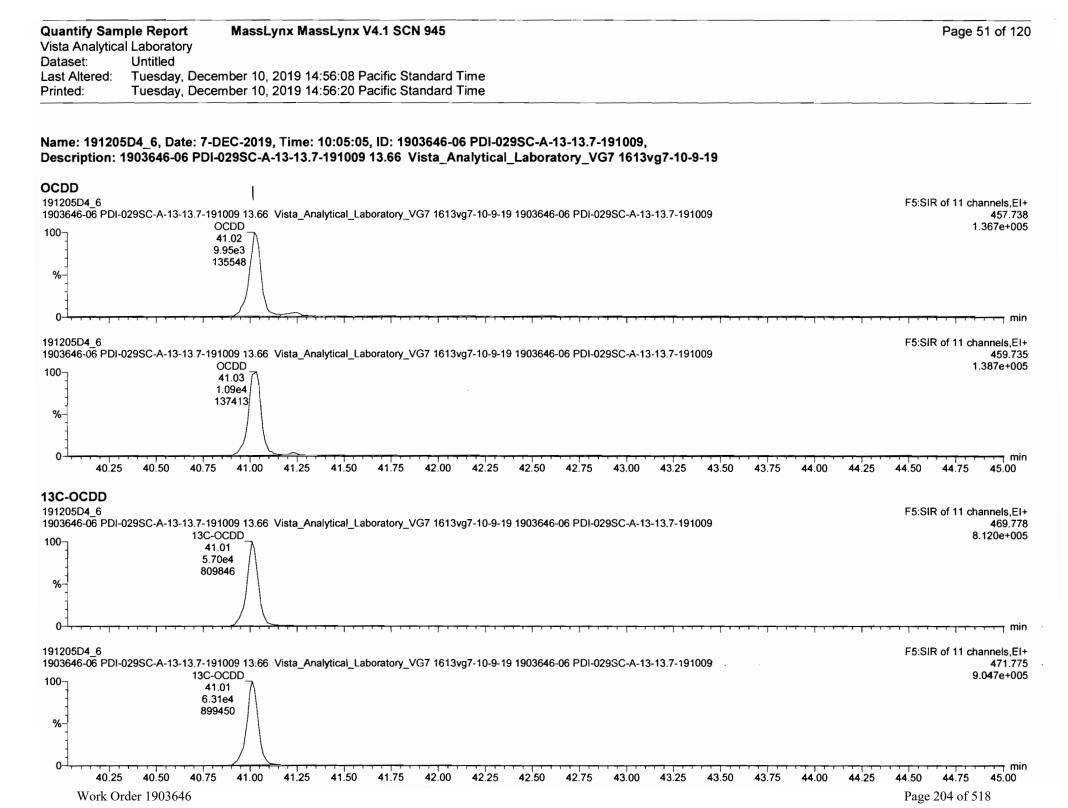


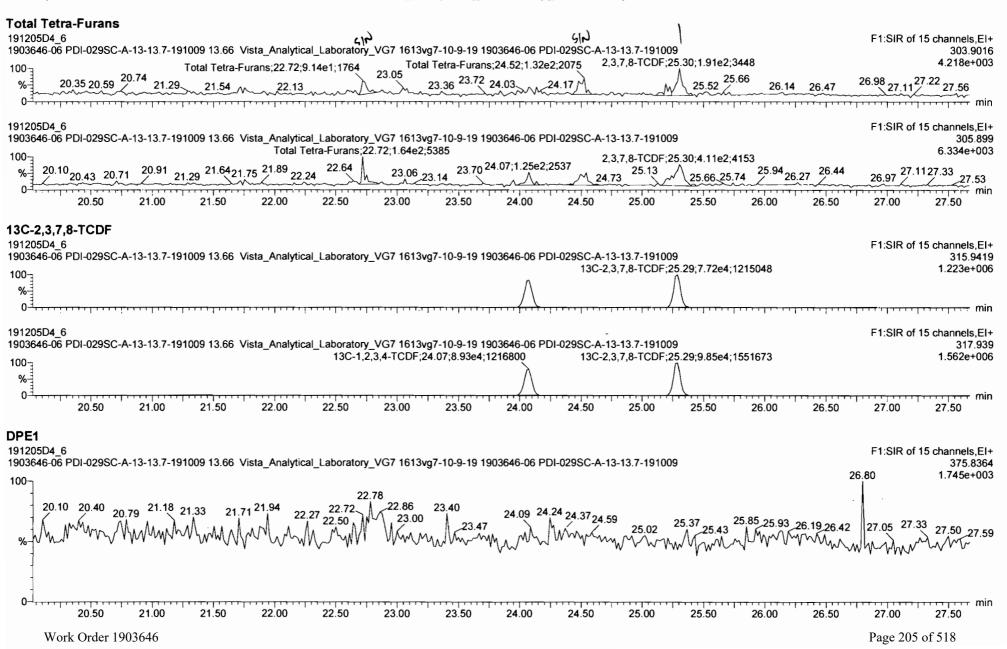
Page 200 of 518

	a land from from	-	Window H		· · ·					Mi 🖛 :		<b>.</b>															
		-10 B	( <b>1</b> ) (	Ç ¹ • .															<u>.</u> .								
					19120	5D4_6 - 1	90364	3-06 PC	)1-0298	C-A-13-1	37-1910	)09 - 19(	)3646-06	PDI-029	C-A-13-13 7	-19100	91366 \	Vista_An	lytical_Labo	atory_V(	G7 1613v	<u>17-10-9</u> -	19				
# Nam	e l	Resp	S Resp S	RA	niy	RRF wt/vo	Pred R	T RT	RRT	Pred.RRT C	heck RRT	Conc. %	Rec D	EMPC	in Accessible in Said Marry Conce			B - 80-1		under Maridian de							
37 13C	-1.2,3.4-TCDF	1.62e5	1.62e5 3	_		1.000 10.43		6 24.07		1.000	NO		100 0.53														
	-1 2,3.4.6 9-HxCDF	1.22e5		8 0.52	_	1.000 10.43		2 33 43	1 000	1 000	NO	191.6 1	100 0.91														
_	Tetra-Dioxina		1.04e5 8.66e4	+		901 10.43 872 10.43			$\vdash$	0.000	NO NO	_	0.12														
	l Penta-Dioxins I Hexa-Dioxins		0.00e0	+		975 10.43				0.000		0.0000	0.095														
	i Hepta-Dioxins		6.35e4			989 10.43				0 000	HO	20.85	0.47														
43 Total	Tetra-Furans		1.76e5			0.943 10.43	24.0	0		0.000	NC	0.0000	0.081	7 1.097													
_	Func Penta-Furans		0 00e0			0 940 10 43				0 000	NÔ	_	0 042														
	l Penta-Furans		0.00e0		_	0.940 10.43	_			0.000		0000	0.054														
_	Hexa-Furans		0.00e0 0.00e0	+ +	_	1 078 10 43 1.135 10 43				0.000		0.7010	0 19	1 1 051 2 2.528													
48 PFK			0.0000			1.102 10 40				0.000	10	0 0000	0.14	2 2.020													
TO DER.											- 1			+													
\$ Ka		Pred.RT	RT N	1 Resp	m2 Resp	Pred RA	RA	n/y I	EMPC	Conc.	<b></b>																
	al Hexa-Dicxons	_			2 719e2	1 240	+ +	YES 1		00000																	
		Total H	exa-Dicxins	32.39:282 N	04:6894																						7776
				1																							
				1				33.0	1 33.14	33.21	33 41, 33.	44		72		r				9							
31.79		32 16	}		32.6	2	3	2.94 33.0	1 33.14	33.21	33 41, 33	44 33.47	33.70 ^{33.}	72	34.00 34.0	¹⁵ 34 16	34.29 34.	37	34 64	⁹ 34 75	89 35.0	35 06	35.23, 35.27	35.48 35	5.58		35.94
31.79		32 16		<u></u>	32.6	2	3	2.94 33.0	1 33.14	33.21	33 41, 33. ~	44 \ <u>\</u> 33.47	33.70 ³³	72	34.00 34.0	1 ^E 34 16	34.29 34	37	34 64 34.6	⁹ 34 75 /34	89_35.0	35 06	35.23,35.27	35.48 3	5.58		35.94
	į	32 16			32.6	2	3	2.94 33.0	1 33.14	33.21	33 41 33	44 33.47	33.70 33	72	34.00 34.0	16 	34.29 34	37	34 64 34.6 	⁹ 34 75 34	89_35.0	35 06	35.23,35.27	35.48 3	5.58		
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	02950-4-13-13 7-1	91009 13.	06 vista_år exa-Dioxins;		tocalory_	<u> </u>		<u></u>	6-06 PD+	029SC+-1			33.70 ×	72	34.00 34.0	1 ^E 34 16	34,29 34.	37	34.64 34.6	⁹ 34 75 	89 35.0	135 06	35.23, 35.27	35.48 30	5.58		channe- 30
-06 PD+	02950-4-13-13 7-1	91009 13.		32.39:271	5.0talory_ 93:5449	,757 1613vj	 j7-10-&-11	9 190052	6-06 PD+	029SC+-1	2.15 7.19 h	108			34.00 34.0	1 ⁵ 34 16	34.29 34.	37	34.64	⁹ 34 75 2 2 34 34 34 34 34 34 34 34 34 34 34 34 34	8935.0	135 06	35.23, 35.27	35.48 3	5.58		channe 30
6 -06 PD+		91009 13. Total H	exa-Dioxins;	32.39:271	5.0talory_ 93:5449	<u> </u>	 j7-10-&-11	9 190052	6-06 PD+	029SC+-1	2.15 7.19 h	108			34.00 34.0 			37	34.67.34.70							F3 SIR of 11	channe 30 5 325e
	02950-A-13-13 7-1 31.88 31.98 32	91009 13. Total H	exa-Dioxins;	32.39:271	5.0talory_ 93:5449	,757 1613vj	 j7-10-&-11	9 190052	6-06 PD+	029SC+-1	2.15 7.19 h	108	33.70 33 33.70 33 33.58 33 33.58 33					37	in statistic grup at a statistic section of		89 35.0°		35.23, 35.27 35.28 35.3				channe- 301 5 325e
		91009 13. Total H	exa-Dioxins;	32.39:271	5.0talory_ 93:5449	,757 1613vj	 j7-10-&-11	9 190052	6-06 PD+	029SC+-1	2.15 7.19 h	108						37	in statistic grup at a statistic section of							F3 SIR of 11	channe 30 5 325e 8
	31.88 31.98 32.	91009 13. Total H 10 32.20	exa-Dioxins;	32.39:271 Total I	storalory_ 93:5449 Hexa-Diox		j7-10-6-11 71.93:544	9 190094 9 32.97	6-02 PD+	3321 4 4	24 33 33 33 43	108 13 33.53						37	in statistic grup at a statistic section of							F3 SIR of 11	channe 30 5 325e 8 channel
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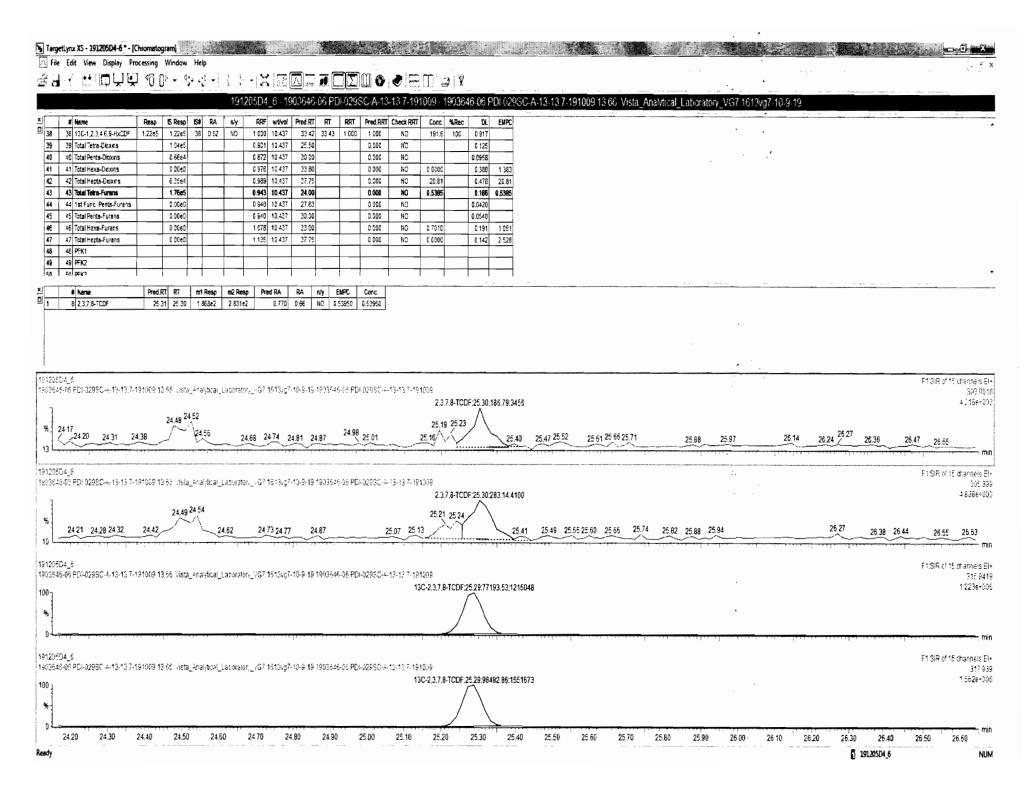


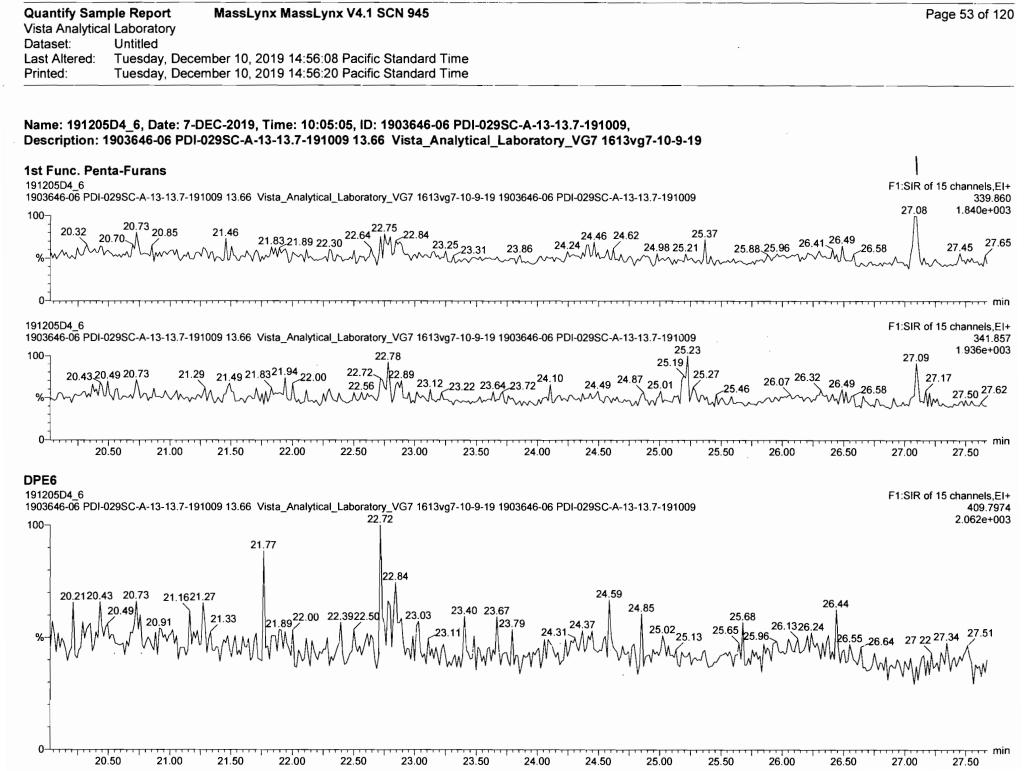




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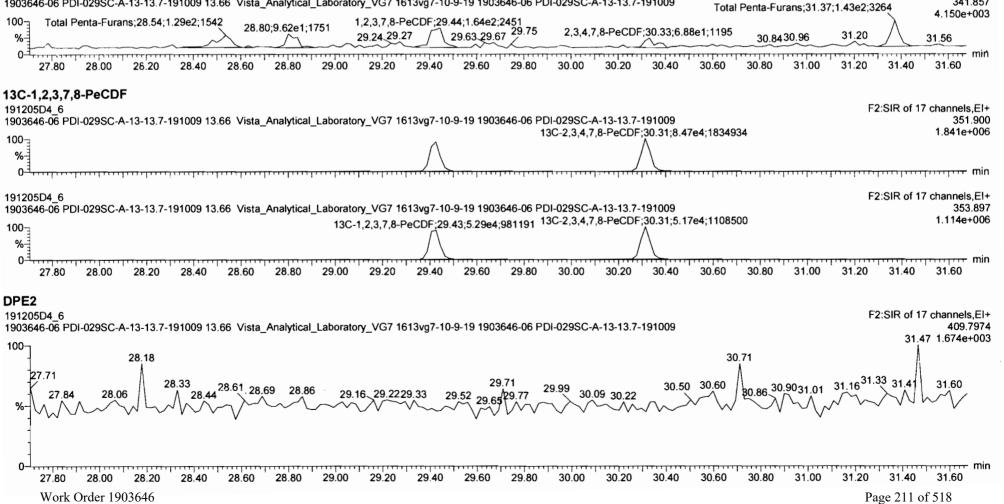


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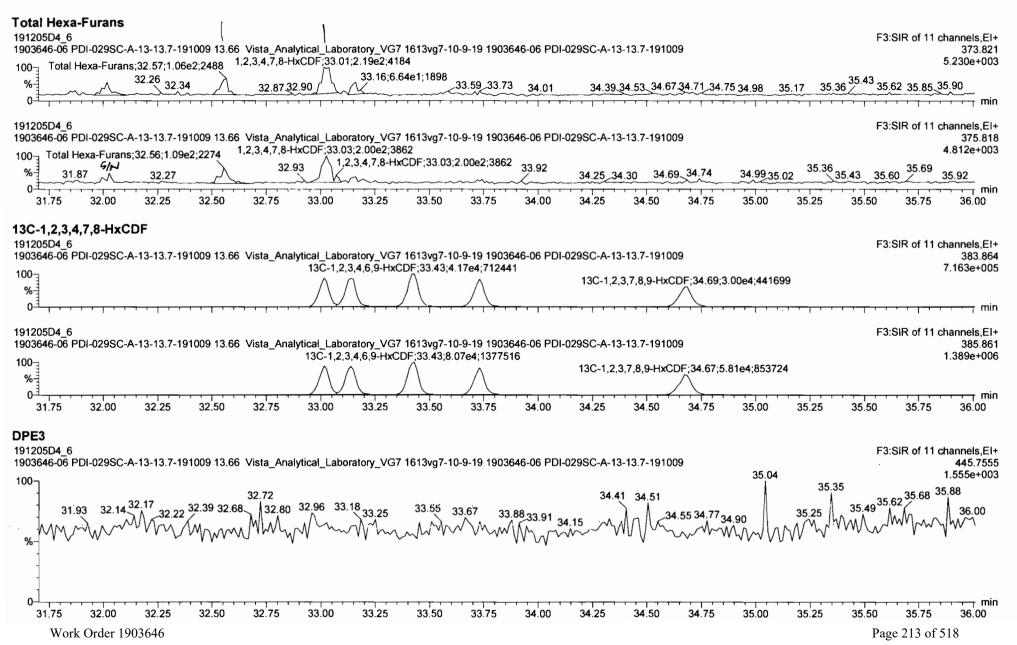
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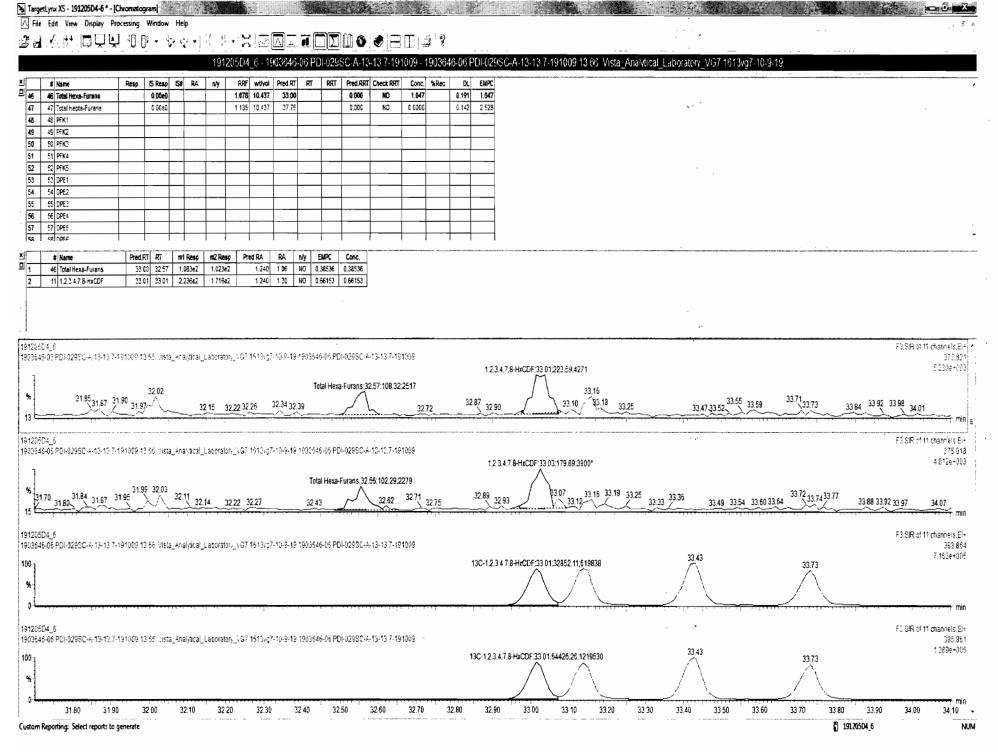
Quantify Sam	ple Report MassLynx MassLyn	1x V4.1 SCN 945		Page 54 of 12
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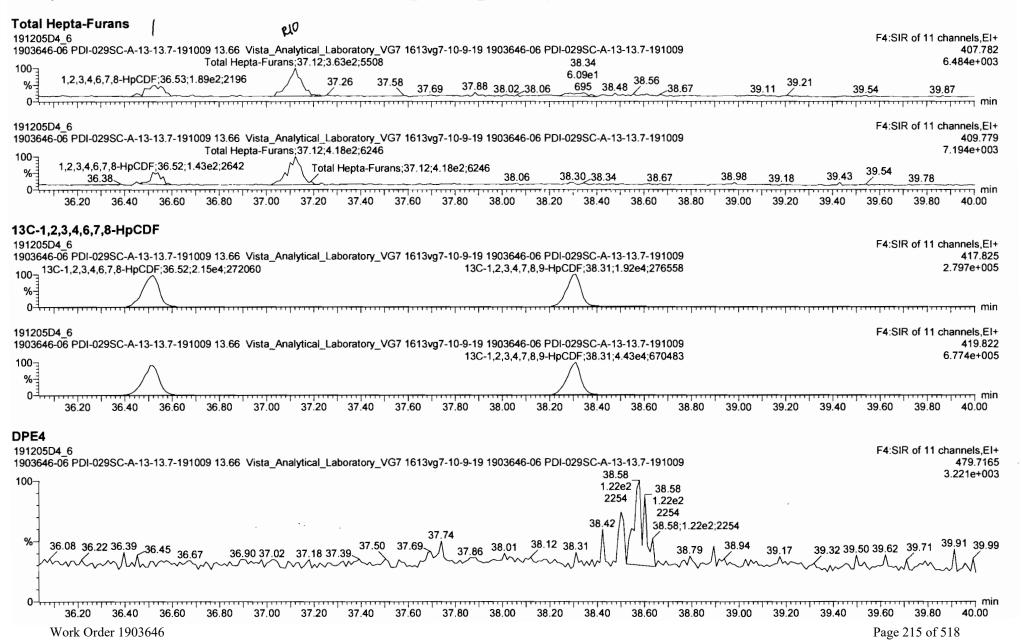
o i ci TargetLynx XS - 191205D4-6* - [Chromatogram] File Edit View Display Processing Window Help きょく t* 10日日 40 P・シック・ ¥ 191205D4 6 - 1903646-06 PDI-029SC-A-13-13 7-191009 - 1903646-06 PDI-029SC-A-13-13 7-191009 13:66 Vista Analytical Laboratory VG7 1613vg7-10-9-19 Resp IS Resp IS# RA RRF wit/vol Pred.RT RT RRT Pred RRT Check RRT Conc. SRec DL EMPC n/γ # Name 38 38 13C-1.2.3.4 6.9-HxCDF 1 22e5 1.22e5 38 0.52 NO 1 000 10 437 33.42 33.43 1.000 1,000 ND 191.6 100 0 917 ¢ 125 39 1.04e5 0 901 10.437 25.50 0.000 NO 39 Total Tetra-Dicxins 0 872 10 437 0 000 NO 0.0958 40 40 Total Penta-Dioxins 866e4 30 00 0.976 10.437 0.380 41 41 Total Hexa-Dioxins 0 00e0 33.80 0.000 NO 0 0000 1.383 37.75 NO 20.81 0 478 20 81 6.35e4 0 989 10 437 0 000 0 42 42 Total Hepta-Dicxins 43 43 Total Tetra-Furans 178e5 0 943 10.437 24,00 0.000 NO 0 5395 0 166 0 5395 0 940 10 437 0 1385 0.0420 8,1385 0 60e0 27 63 0 000 NC 44 44 1st Func Penta-Furans 0.0540 0.6839 45 45 Total Penta-Furans 0.06e0 0.940 10.437 30.00 0.000 NO 1,2950 0 00e0 1 078 10 437 33 00 0.000 HO. 1 061 C 191 1.0€1 **4**€ 46 Total Hexa-Furana 0 365 1 135 10.437 37.75 NO C.8976 2.574 47 47 Total Feota-Furans 0.00e0 0.000 48 48 PFK1 49 PFK2 49 50 50 PFK3 Pred.RT RT mt Resp m2 Resp Pred RA RA n/y EMPC ¥ hame Conc. ٥, 30 00 28.54 1.184e2 8 008e1 1.550 1.48 NO 0 29500 0.29500 45 Total Penta-Furans 29.45 29.44 1 636a2 1374-2 1 550 1.19 YES 0.38888 0.00000 2 9 1.2.3.7.8-PeCDF 19120EE4_6 F2 SIR of 17 channels Ei+ * 1907646-06 PDI-0298C-4, 13 13 7 101009 13 66 Unita_Anal-Ato_Laborator, _ G7 1513vg7-10-9-19 1903646-06 PDI-0298C-4, 13-13 7-191009 739 860 41749+003 1.2.3.7.8-PeCDF:29.44:163 57:3322 30.33 Total Penta-Furans:28 54:118.43:2645 29.67 ٩. 28.48 28.73 28 84 28 88 28.33 28.39 28 67 29.07 29 16 29 26 29 35 30.75 30.79 30.92 31 01 31.39 27 86 27.91 29 52 30.45 30.54 31.20 3154 28.14 30.03 30.14 16 F2.SIR of 17 channels E:+ 19120ED4_6 1903545-05 PD+0283C-4-13-13 7-191009 13-55 Costa_Anantical_Laborator__, 07 1513527-10-9-19 1903646-06 PDF0283C-4-13-13 7-191039 341,857 2482e+003 31.37 28.60 28.84 29 63 29.67 29.75 30.33 28 48 29.24 29.27 28.99 29.05 29.18 31203124 28.12 28.23 28.31 28.37 30.60 30.64 27 78 \$80.37 28.63 28.69 30,77 30 84 30,96 ų, 31 11 27 93 28 06 31,49 31 56 28 88 29 95 29.82 27 1 min 19120504_6 F2'SIR of 1? channels EI-1900646-08 PDH0298C-x-13-13 7-191009 12:35 -xista_Ansiytical_Laborator_1 G7 1510yg7-10-9-19 1900646-05 PDH0298C-X-13-13 7-191009 351.900 1.8416+005 30.31 13C-1.2.3.7.8-PeCDF:29.43 85151 44:1553268 100 ; ę, -0 F2 SIR of 17 channels, EI+ 191205D4 8 1903646-05 PDir029SC-4-12-15 7-191009 13 66 Lista_Ariabate3Laborator,_1G7 1513vg7-10-9-19 1903646-05 PDir029SC-4-13-13 7-191009 353 697 30.31 1 1146+005 13C-1.2.3.7.8-PeCDF:29 43:52911.29:981191 100 -28.20 28,40 28.60 28.80 29.00 29.20 29.40 29.80 30.00 30,40 30.50 30.B0 31.00 31.20 31,40 31.60 27 80 28.00 29.60 30.20 19120504 6 Custom Reporting: Select reports to generate NUM

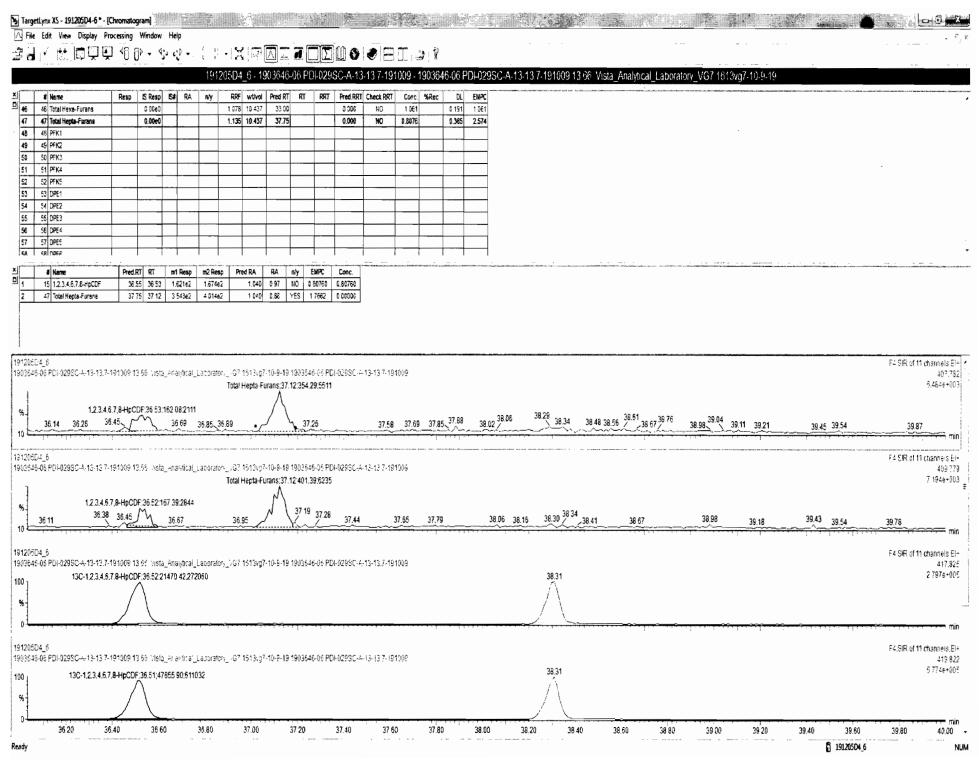


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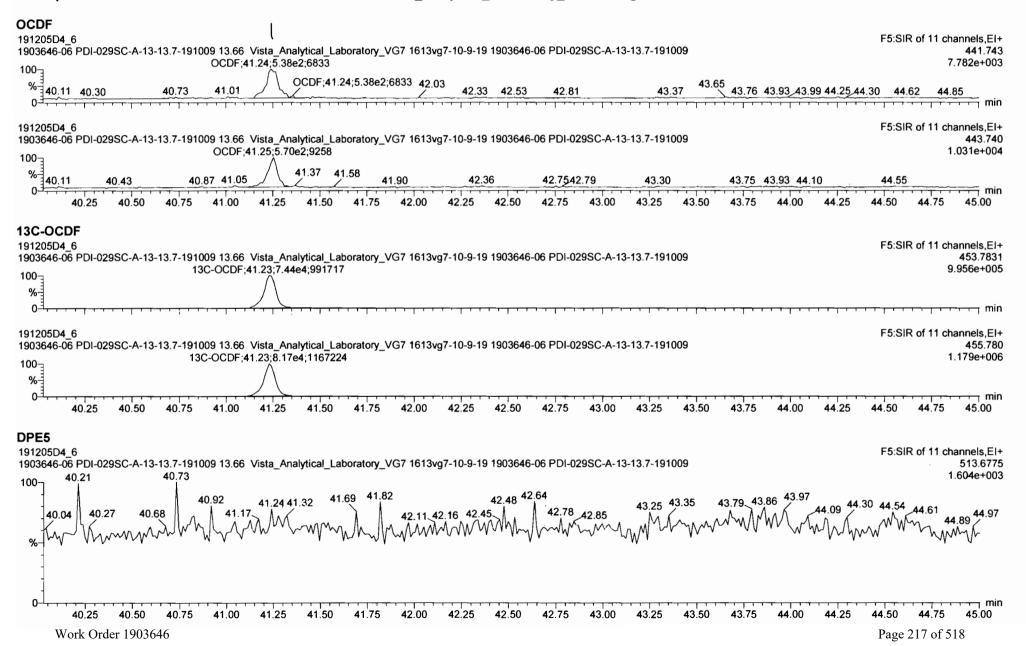
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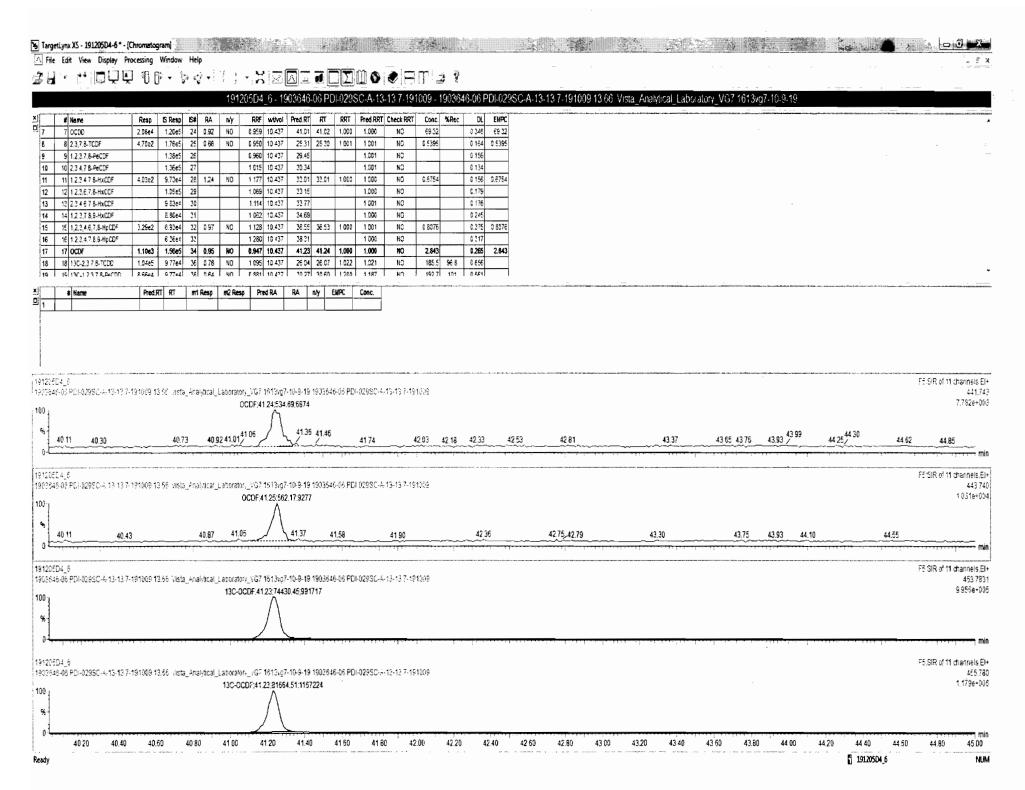




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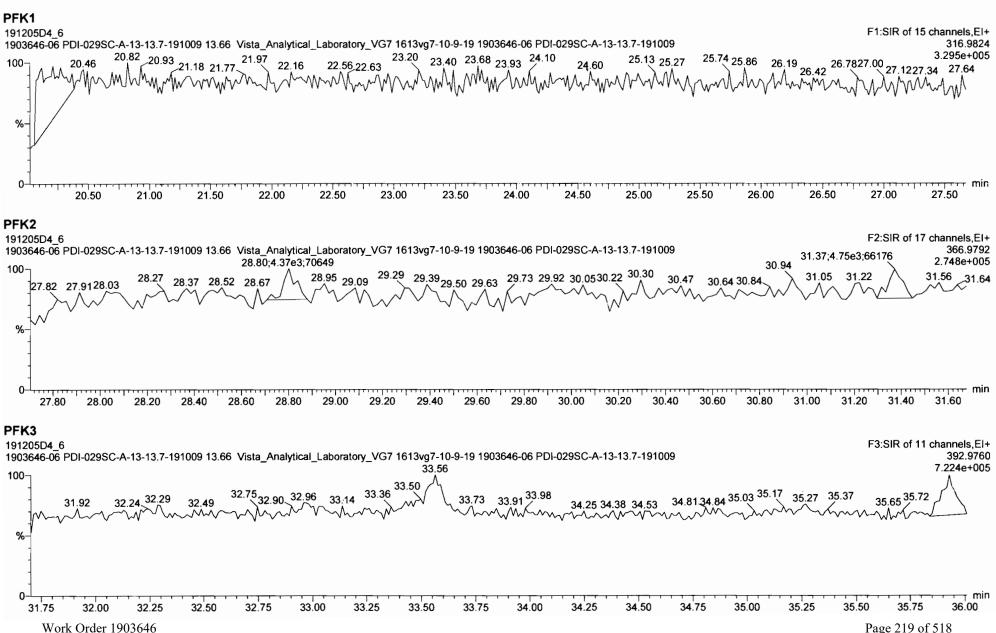




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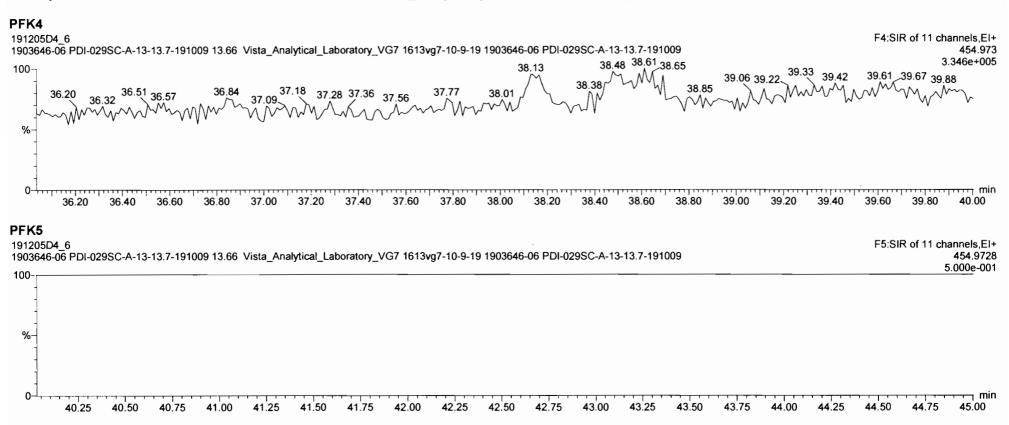
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# Name	Area	IS Area Wt./Vol.	RRF RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec EMPC	DL
12,3,7,8-TCDD		1.00e5 10.4911	0.905		1.001		26.10				0.203
2 1,2,3,7,8-PeCDD		8.01e4 10.4911	0.903		1.001		30.62				0.290
3 1,2,3,4,7,8-HxCD	D	6.66e4 10.4911	1.101		1.000		33.91				0.420
4 1,2,3,6,7,8-HxCD	D	7.22e4 10.4911	0.939		1.000		34.01				0.506
5 1,2,3,7,8,9-HxCD	D	7.37e4 10.4911	0.961		1.001		34.34				0.470
6 1,2.3,4,6,7,8-HpC	DD 3.04e3	6.11e4 10.4911	0.979 1.100	NO	1.000	1.000	37.78	37.78	9.6876	9.69	0.749
7 OCDD	2.35e4	1.21e5 10.4911	0.959 0.902	NO	1.000	1.000	41.02	41.03	77.536	77.5	0.886
8 2,3,7,8-TCDF	. 4.54e2	1.65e5 10.4911	0.950 0.872	NO	1.001	1.001	25.31	25.30	0.55084	0.551	0.174
9 1,2,3,7,8-PeCDF	4.09e2	1.33e5 10.4911	0.960 1.372	NO	1.001	1.001	29.45	29.44	0.60995	0.610	0.161
10 2,3,4,7,8-PeCDF		1.31e5 10.4911	1.015		1.001		30.34				0.143
11 1,2,3,4,7,8-HxCD	F 3.84e2	9.64e4 10.4911	1.177 1.089	NO	1.000	1.001	33.01	33.04	0.64584	0.646	0.237
12 1,2,3,6,7,8-HxCD	F	1.03e5 10.4911	1.069		1.000		33.15				0.250
13 2,3,4,6,7,8-HxCD	F	9.60e4 10.4911	1.114		1.001		33.77				0.278
14 1,2,3,7,6,9-HxCD	F	8.12e4 10.4911	1.062		1.000		34.67				0.388
15 1,2,3,4,6,7,8-HpC	DF 3.75e2	7.07e4 10.4911	1.128 1.079	NO	1.001	1.000	36.55	36.51	0.89550	0.896	0.453
16 1,2,3,4,7,8,9-HpC	DF	6.19e4 10.4911	1.280		1.000		38.31				0.362
17 OCDF	1.16e3	1.52e5 10.4911	0.947 0.931	NO	1.000	1.000	41.24	41.25	3.0687	3.07	0.486
18 13C-2,3,7,8-TCD	D 1.00e5	9.79e4 10.4911	1.095 0.829	NO	1.021	1.022	26.04	26.07	177.73	93.2	0.633
19 13C-1,2,3,7,8-Pe	CDD 8.01e4	9.79e4 10.4911	0.881 0.627	NO	1.187	1.200	30.27	30.60	176.91	92.8	0.392
20 13C-1,2,3,4,7,8-H	lx 6.66e4	1.27e5 10.4911	0.642 1.294	NO	1.014	1.014	33.88	33.90	155.83	81.7	0.881
21 13C-1,2,3,6,7,8-H	lx 7.22e4	1.27e5 10.4911	0.856 1.280	NO	1.017	1.018	34.00	34.01	126.80	66.5	0.661
22 13C-1,2,3,7,8,9-H	lx 7.37e4	1.27e5 10.4911	0.807 1.288	NO	1.026	1.027	34.30	34.30	137.30	72.0	0.701
23 13C-1,2,3,4,6,7,8	-H 6.11e4	1.27e5 10.4911	0.654 1.091	NO	1.126	1.130	37.64	37.77	140.44	73.7	1.11
24 13C-OCDD	1.21e5	1.27e5 10.4911	0.580 0.909	NO	1.226	1.228	40.97	41.02	312.34	81.9	0.848
25 25 13C-2,3,7,8-TCD	F . 1.65e5	1.63e5 10.4911	1.035 0.782	NO	0.992	0.991	25.30	25.29	186.86	98.0	0.611
26 13C-1,2,3,7,8-Pe	CDF 1.33e5	,1.63e5 10.4911	0.854 1.570	NO	1.154	1.154	29,43	29.43	182.15	95.5	0.798
27 13C-2,3,4,7,8-Pe	CDF 1.31e5	1.63e5 10.4911	0.847 1.604	NO	1.189	1.189	30.33	30.31	180.26	94.6	0.804
28 13C-1,2,3,4,7,8-H	lx 9.64e4	1.27e5 10.4911	0.832 0.514	NO	0.987	0.988	32.99	33.01	174.12	91.3	1.20
29 13C-1,2,3,6,7,8-H	lx 1.03e5	1.27e5 10.4911	1.034 0.507	NO	0.991	0.992	33.11	33.14	149.31	78.3	0.966
30 13C-2,3,4,6,7,8-H	lx 9.60e4	1.27e5 10.4911	0.953 0.533	NO	1.009	1.009	33.73	33.7 <b>3</b>	151.23	79.3	1.05
<b>31</b> 31 13C-1,2,3,7,8,9-H	lx 8.12e4	1.27e5 10.4911	0.828 0.521	NO	1.039	1.038	34.71	34.67	147.42	77.3	1.21

Quantify Sam	ole Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytical	Laboratory	
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32 13C-1,2,3,4,6,7,8-H	7.07e4	1.27e5 10.4	4911 0.75	7 0.4	429 N	NO	1.093	1.093	36.52	36.52	140.23	73.6		1.12
33 13C-1,2,3,4,7,8,9-H	6.19e4	1.27e5 10.4	1911 0.58	1 0.4	446 N	NO	1.143	1.146	38.20	38.31	159.95	83.9		1.46
34 13C-OCDF	1.52e5	1.27e5 10.4	4911 0.68	9 0.8	876 N	NO	1.233	1.234	41.21	41.24	331.36	86.9		0.775
35 37Cl-2,3,7,8-TCDD	4.31e4	9.79e4 10.4	<b>1911 1.19</b>	8			1.022	1.023	26.07	26.10	70.076	91.9		0.176
36 13C-1,2,3,4-TCDD	9.79e4	9.79e4 10.4	1.00	0 0.8	824 N	NO	1.000	1.000	25.50	25.51	190.64	100.0		0.693
37 37 13C-1,2,3,4-TCDF	1.63e5	1.63e5 10.4	1.00	0 0.7	791 N	NO	1.000	1.000	24.06	24.07	190.64	100.0		0.633
38 13C-1,2,3,4,6,9-Hx	1.27e5	1.27e5 10.4	1.00 <b>1</b> .00	0 0.5	523 N	NO	1.000	1.000	33.42	33.42	190.64	100.0		0.999
39 Total Tetra-Dioxins		1.00e5 10.4	4911 0.90	1			0.000		25.50		• .			0.0883
40 Total Penta-Dioxins		8.01e4 10.4	4911 0.87	2			0.000		30.00					0.117
41 41 Total Hexa-Dioxins		0.00e0 10.4	4911 0.97	6			0.000		33.80		1.5214		1.52	0.474
42 Total Hepta-Dioxins		6.11e4 10.4	1911 0.98	9			0.000		37.75		23.578		23.6	0.742
43 Total Tetra-Furans		1.65e5 10.4	4911 0.94	3			0.000		24.00		0.97192		1.08	0.176
44 1st Func. Penta-Fur		0.00e0 10.4	4911 0.94	0			0.000		27.63		0.22558		0.226	0.0918
45 Total Penta-Furans		0.00e0 10.4	4911 0.94	0			0.000		30.00		1.0223		1.02	0.160
46 Total Hexa-Furans		0.00e0 10.4	1.07	8			0.000		33.00		1.4347		1.43	0.290
47 47 Total Hepta-Furans		0.00e0 10.4	<u>1911 1.13</u>	5			0.000		37.75		2.8396		2.84	0.431

Page 2 of 2

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 10 Dec 2019 16:21:14 Calibration: 19 Dec 2019 11:25:42

Name: 191205D4_7, Date: 7-DEC-2019, Time: 10:53:01, ID: B9J0315-DUP1 Duplicate, Description: B9J0315-DUP1 Duplicate 13.73 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

# **Tetra-Dioxins**

# Name N/Y RT Area IS Area Response Primary Flags Conc. EMPC

### Penta-Dioxins

# Name N/Y RT Area Area Response Primary Flags Conc. EMPC

### Hexa-Dioxins

T Name		RT	Area	IS Area	Response	Primary Flags	Conc	EMPC
1 Total Hexa-Dioxins	NO	32.40	320.723	39867.235	15.577	bb	1.5214	1.52

# **Hepta-Dioxins**

Salas and the Name And the Statistic statistics	NYE	र्म्स <b>स्व</b>	Area	<b>SAR</b>	Response	Primary Flags	Conc.	EMPC
<b>1</b> 6 1,2,3,4,6,7,8-HpCDD	NO	37.78	1593.271	31888.762	99.539	MM	9.6876	9.69
2 42 Total Hepta-Dioxins	NO	36.92	2261.960	31888.762	144.080	bb	13.8905	13.89

# Tetra-Furans

	N/Y					Prokytes	en core	<b>IENEC</b>
8 2,3,7,8-TCDF	NO	25.30	211.525	72563.383	5.491	MM	0.5508	0.55
2 43 Total Tetra-Furans	YES	25.21	65.646	72563.383	0.000	bd	0.0000	0.11
43 Total Tetra-Furans	NO	24.54	140.056	72563.383	4.165	MM	0.4211	0.42

### Penta-Furans function 1

	K N/Y			IS Area	l 202 desembre			<b>HEVE</b> S
44 1st Func. Penta-Furans	NO	27.09	83.516	80868.172	2.224	MM	0.2256	0.23

# Penta-Furans

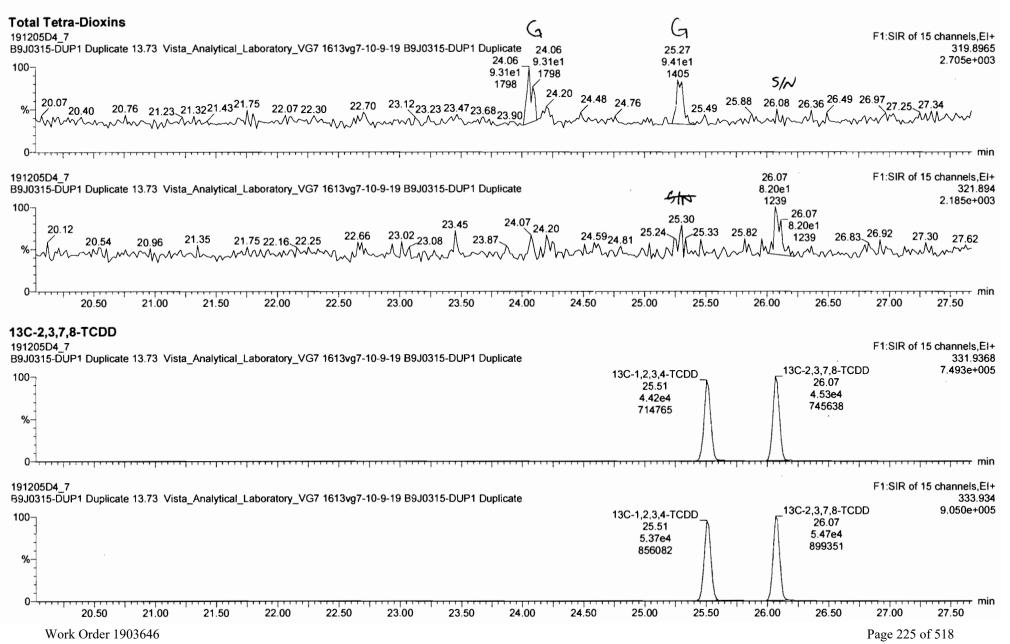
	# Name	NY -	<b>RT</b>	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1.8234	9 1,2,3,7,8-PeCDF	NO	29.44	236.475	81288.578	6.146	MM	0.6100	0.61
2	45 Total Penta-Furans	s NO	28.52	159.390	80868.172	4.065	MM	0.4123	0.41

# Hexa-Furans

# Name	NY	RT	Ace	IS Area	Response	Primary Flags	Conc.	EMPC
46 Total Hexa-Furans	NO	32.03	102.034	32117.558	3.951	MM	0.3495	0.35
2 11 1,2,3,4,7,8-HxCDF	NO	33.04	200.285	32739.316	7.973	MM	0.6458	0.65
3 46 Total Hexa-Furans	NO	32.58	122.841	32117.558	4.968	MM	0.4394	0.44

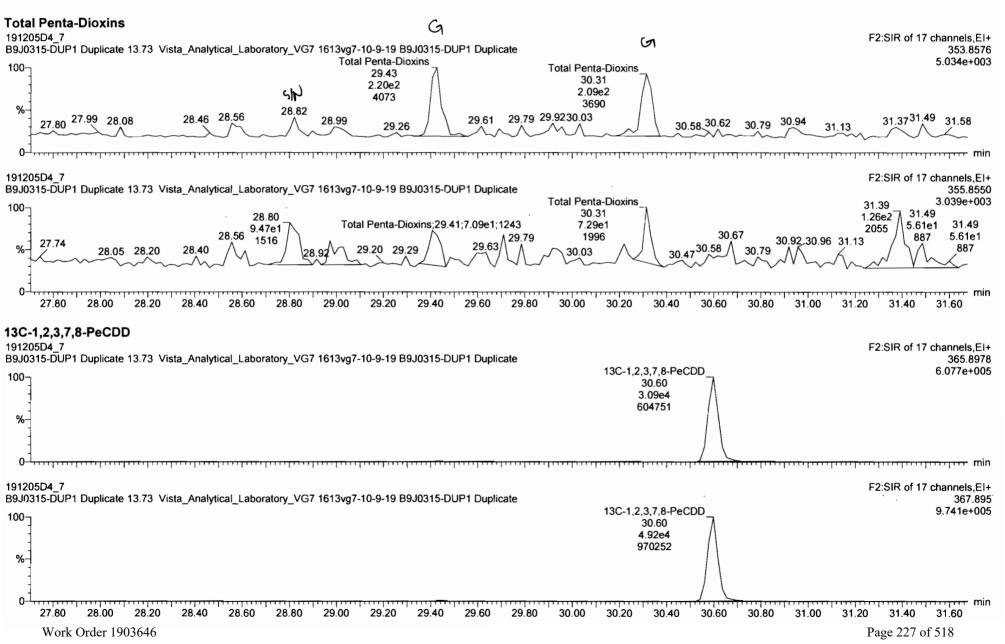
# Hepta-Furans

<b>HARDER HARD</b>	TO LINK INY	RT	Area	IS Area	Response	Primary Flags	Le Martin Cone	EMPC
15 1,2,3,4,6,7,8	B-HpCDF NO	36.51	194.346	21237.775	10.594	MM	0.8955	0.90
277 47 Total Hepta-	-Furans NO	37.11	411.462	20163.469	23.143	MM	1.9441	1.94

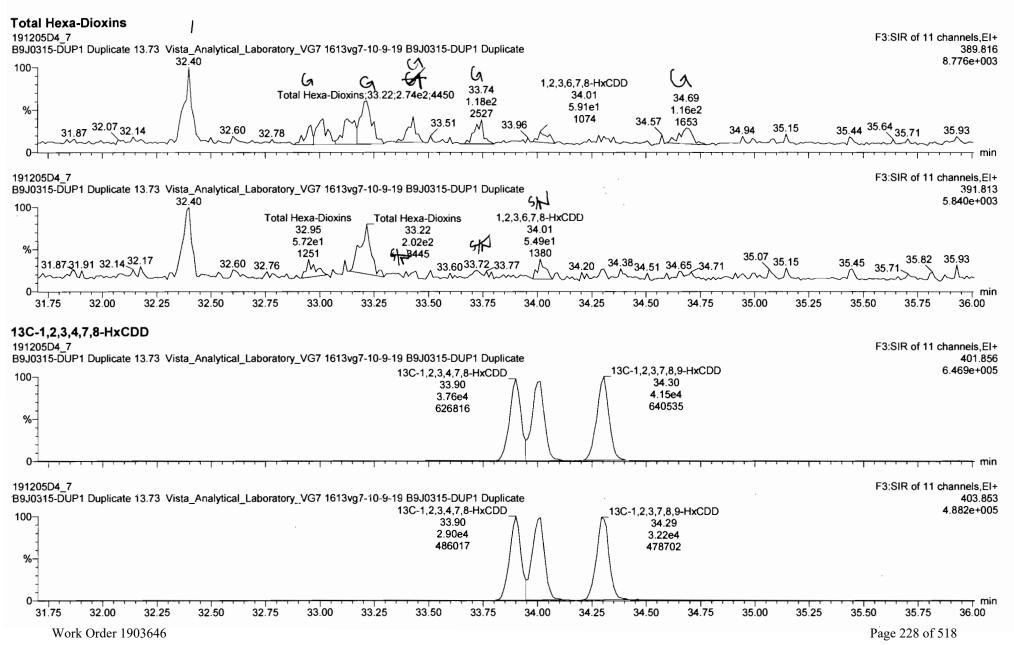


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rinted:		ember 10, 2019 14:56:20 Pa								
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		21.30 22.00 22.0	50 23.00 23.50	24.00 24.00	23.00	23.30	20.00	20.30	27.00	27.30
<b>3C-1,2,3,4-T</b> 91205D4_7	CDD								F1:SIR of 1	5 channels,E
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	0.50 21.00	21.50 22.00 22.1	50 23.00 23.50	24.00 24.50	25.00	25.50	26.00	26.50	27.00	27.50
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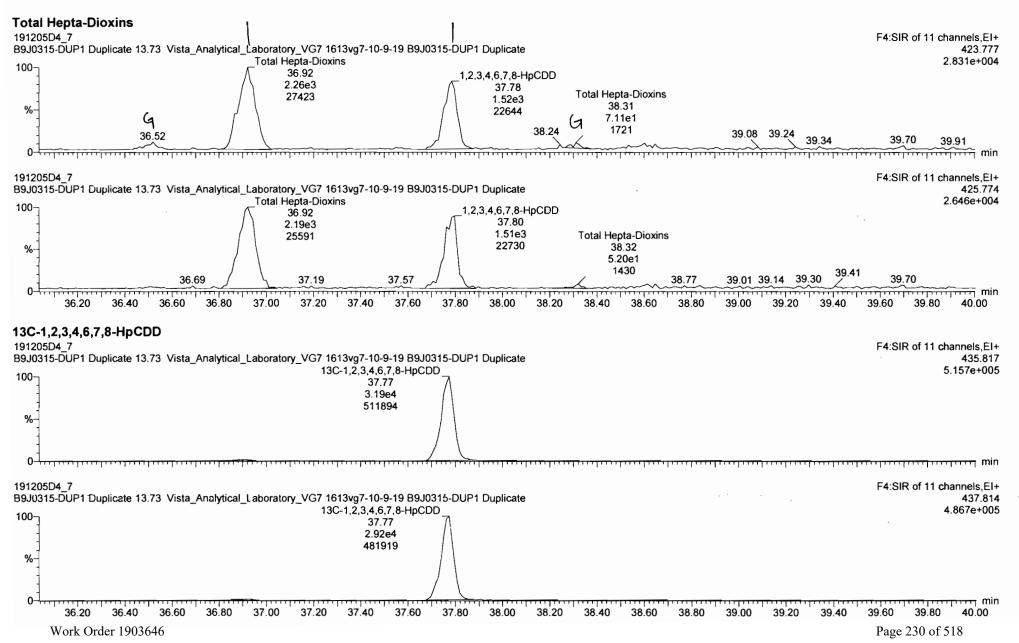
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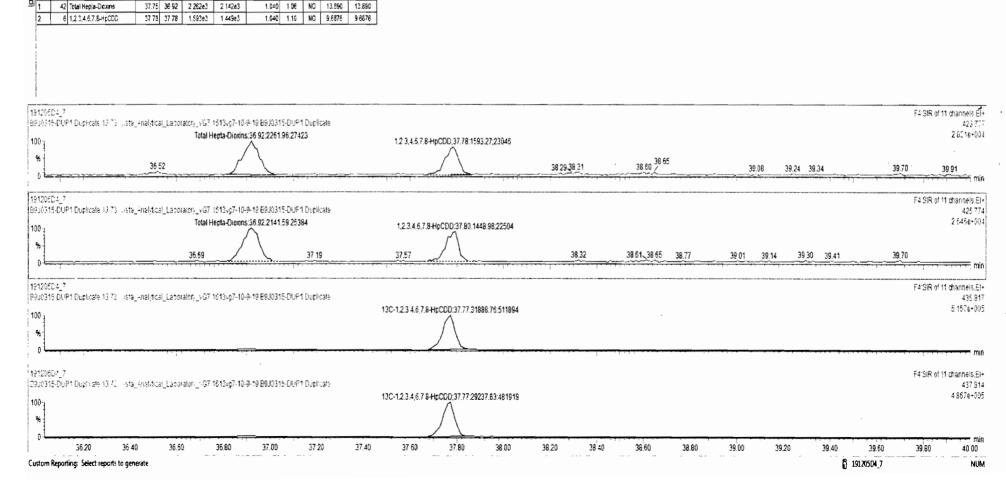
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	32 13C-1 2 3,4 7 8 9-HpCDF	8.1964	1 27e5	38 0.45	NO	0 581 10 491	38.20			1.143	NO	159.9		46
+-	34 13C-0CDF	1.5265		38 0 88	<i>n</i> 0	0.689 10.491			++-	1.233	NO	331.4		775
+	35 37CI-2.3.7.8-TCED	4.31e4		36		1 198 10 491		26 10		1.022	NO		_	176
-	36 13C-1 2,3.4-TCDD	9.79e4		36 0 82	ND	1 000 10.491	25 50			1.000	NO	190 6		893
-	37 13C-1 2.3.4-TCDF	1.63e5		27 079 38 052	10	1.000 10.491 1.000 10.491	-	24.07	++	1.000	NO NO	190 5 190 5		533 999
+-	36 13C-1 2,3.4 6.9-HxCDF 39 Total Tetra-Dioxina	1.27e5	1 27e5 1.00e5	30 0.52	RU	0 901 10.491			1.000	0.000	NO	130.5	00 00	_
+	40 Total Penta-Dioxins		8.01e4			0 872 10 491			+	0.000	NO			117
+-	41 Total Hexa-Dioxins	<u> </u>	0.00e0		+	0.976 10.491				0.000	NO	1.521		1.521
+-	42 Total Hepta-Dioxins		6.11e4			0 989 10 491	37.75			0.000	NO	23.71	0	742 24.04
	43 Total Tetra-Furans		1 65e5			0 943 10 491	24.00	)		0 000	NO	C 5414	0.	176 1.145
	44 1st Func Penta-Furans		C OCeD			0 940 10 491	27 63	3		0 000	NO	0 2553	00	918 0.2553
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5 · · · ·	4010P3 Duplicate 12 73 545	Total 32.14 sia_knai/t	Hexa-Diox 32.32	ns 32 40 32	0 72 76	94 60 32.69 32.78 10-9-19 B9J301	32. 8	.96 33.0	2 33.1;		325 33	43 33.51	33 72	33.74 33.74
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	DUP1 Duplicate 12 73 199 31.84, 31.87 31 99 32 07 31.84, 31.87 31 99 32 07 31.87, 31.91 32 31.87, 31.91 32 	Total 32.14 sila_inal/t Total 14_32.17	Hexa-Diox 32.32 cal_Lation Hexa-Diox 32.31	ns 32 40 32 32 32 32 32 32 32 32 32 32 32 32 32 32 3	0 72 76 0 32 ( 13.c7. 1.01,48	94 60 32.69 32.78 10-9-19 B9J201 187 60 32.75.3	32. 8 15-DUP11 32.76	.96 33.0 Duplicate	2 33.1 33.1 33.1 13.12	7 33,22	<u></u>	33,51	33.60 ³	3.72 33 77
	DUP1 Duplicate 12 73 199 31.84, 31.87 31 99 32 07 31.84, 31.87 31 99 32 07 31.87, 31.91 32 31.87, 31.91 32 	Total 32.14 sila_inal/t Total 14_32.17	Hexa-Diox 32.32 cal_Lation Hexa-Diox 32.31	ns 32 40 32 32 32 32 32 32 32 32 32 32 32 32 32 32 3	0 72 76 0 32 ( 13.c7. 1.01,48	94 60 32.69 32.78 10-9-19 B9J201 187 60 32.75.3	32. 8 15-DUP11 32.76	.96 33.0 Duplicate	2 33.1 33.1 33.1 13.12	7 33,22	<u></u>	33,51	33.60 ³	3.72 33 77
	40091 Duplicate 13 73 54 31.84 31.87 31 99 32 07 31.84 31.87 31 99 32 07 4.7 -DUP 1 Duplicate 11 73 945 31.87 31.91 32 	Total 32.14 sila_inal/t Total 14_32.17	Hexa-Diox 32.32 cal_Lation Hexa-Diox 32.31	ns 32 40 32 32 32 32 32 32 32 32 32 32 32 32 32 32 3	0 72 76 0 32 ( 13.c7. 1.01,48	94 60 32.69 32.78 10-9-19 B9J201 187 60 32.75.3	32. 8 15-DUP11 32.76	.96 33.0 Duplicate	2 33.1 33.1 33.1 13.12	7 33,22	<u></u>	33,51	33.60 ³	3.72 33 77
15- 5015 	-DUP1 Duplicate 12 73 1/19 31.84_31.87 31 99 32 07 14_7 -DUP1 Duplicate 11 73 vis 31.87_31.91 32 14_7 -DUP1 Duplicate 15 73 vis	Total 32.14 sla_4nal/t Total 14.32.17 sta_4nal.t	Hexa-Diox 32.32 cal_Laten Hexa-Diox 32.31 cal_Laten	ns 32 40 32 32 1 ston_vG? 1- ins 32 40,23 32 1 stor_vG? 1	0 72 78 0 32 6 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.4	94 60 32.69 32.78 10-9-19 B9J001 10-9-19 B9J001 10-9-19 B9J001	32.78 32.76 332.76 3	.96 33,0	2 33.11 33.11 13.12 5	7 33,22	<u></u>	33,51	33.60 ³	3.72 33 77
15- 15- 15- 15- 15- 15- 15- 15-	40091 Duplicate 13 73 54 31.84 31.87 31 99 32 07 31.84 31.87 31 99 32 07 4.7 -DUP 1 Duplicate 11 73 945 31.87 31.91 32 	Total 32.14 sla_4nal/t Total 14.32.17 sta_4nal.t	Hexa-Diox 32.32 cal_Laten Hexa-Diox 32.31 cal_Laten	ns 32 40 32 32 1 ston_vG? 1- ins 32 40,23 32 1 stor_vG? 1	0 72 78 0 32 6 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.4	94 60 32.69 32.78 10-9-19 B9J001 10-9-19 B9J001 10-9-19 B9J001	32.78 32.76 332.76 3	.96 33,0	2 33.11 33.11 13.12 5	7 33,22	<u></u>	33,51	<u>33.60</u> 3 13C-1.2	3.72 ³³ 77 3.4.7.8+bC
15- 5015 	-DUP1 Duplicate 12 73 1/19 31.84_31.87 31 99 32 07 14_7 -DUP1 Duplicate 11 73 vis 31.87_31.91 32 14_7 -DUP1 Duplicate 15 73 vis	Total 32.14 sla_4nal/t Total 14.32.17 sta_4nal.t	Hexa-Diox 32.32 cal_Laten Hexa-Diox 32.31 cal_Laten	ns 32 40 32 32 1 ston_vG? 1- ins 32 40,23 32 1 stor_vG? 1	0 72 78 0 32 6 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.4	94 60 32.69 32.78 10-9-19 B9J001 10-9-19 B9J001 10-9-19 B9J001	32.78 32.76 332.76 3	.96 33,0	2 33.11 33.11 13.12 5	7 33,22	<u></u>	33,51	<u>33.60</u> 3 13C-1.2	3.72 33 77
15- 5015 	-DUP1 Duplicate 12 73 1/19 31.84_31.87 31 99 32 07 14_7 -DUP1 Duplicate 11 73 vis 31.87_31.91 32 14_7 -DUP1 Duplicate 15 73 vis	Total 32.14 sla_4nal/t Total 14.32.17 sta_4nal.t	Hexa-Diox 32.32 cal_Laten Hexa-Diox 32.31 cal_Laten	ns 32 40 32 32 1 ston_vG? 1- ins 32 40,23 32 1 stor_vG? 1	0 72 78 0 32 6 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.27.4 13.4	94 60 32.69 32.78 10-9-19 B9J001 10-9-19 B9J001 10-9-19 B9J001	32.78 32.76 332.76 3	.96 33,0	2 33.11 33.11 13.12 5	7 33,22	<u></u>	33,51	<u>33.60</u> 3 13C-1.2	3.72 ³³ 77 3.4.7.8+bC

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<b>Quantify Sam</b>	ple Report MassLynx MassLynx V4.1 SCN 945	Page 65 of 120
Vista Analytica	al Laboratory	-
Dataset:	Untitled	
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	



Work Order 1903646



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	# Name	Resp	IS Res	ip Š	# R/	4	ъÿ	RRF	wtivoi	Pred.RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
32	32 13C-1.2.3,4.6,7.8-HpCD	F 7.07e4	1.276	5 3	8 04	13	40	0 757	10.491	26.52	36 52	1.093	1.093	NO	140 2	73.6	1.12	
33	33 13C-1,2,3,4 7,8 9-HpCD	F 6.19e4	1.276	5 3	8 0.4	IS	80	0 581	10.491	38.20	38.31	1.146	1.142	NC	159.9	83.9	148	_
34	34 13C-0CDF	1.52e5	1276	5 3	8 0.8	8	NO	0.689	10.491	4121	41.24	1.234	1 233	NO	231.4	88.9	0 775	
35	35 37CH2.2 7.6-TCDD	4.31e4	9.796	4 3	86			1 158	10.491	26.07	26 10	1.023	1.022	HO	70.08	91.9	0 176	
36	36 13C-1.2 3.4-TCDD	9 79e4	9 796	4	x6 D B	2	NO	1 000	10,491	25 50	25.51	1 000	1 000	KO	190 6	100	0 693	_
37	37 13C-1.2 3 4-TCDF	1.63e5	1.63	5 3	17 0.7	'9	NO	1 000	10 491	24 06	24 07	1 000	1 000	NO	190.6	100	0 633	
38	38 13C-1,2 3,4 6,9-HxCDF	1 27e5	1.27e	5 3	8 0 5	2	NO	1 000	10 491	33 42	33 42	1.000	1.000	NO	190.6	100	0 999	
39	39 Total Tetra-Dicxes		1 00e	5				0 901	10.491	25 50			0 000	NO			0 0883	_
40	40 Total Penta-Doxins		8 01e	4				0.872	10 491	30 00			0 300	NO			0 117	
41	41 Total Hexe-Dickms		0.00e	0				0 976	10 491	33 80			0.000	NC	1 521		0 474	1 521
42	42 Total Hepta-Dioxins		6.110	4				0.989	10,491	37.75			0.000	NO	23.58		0.742	23.58
43	43 Total Tetra-Furans		1.65e	ç				0.943	10.491	24 00			0.000	NO	0.5414		0.176	1,145
44	44 1st Func Pente-Furans		0.006	0				0.940	10 491	27 63			0.000	NO	0 2553		0.0918	0.2553

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191205D4 7 - B9J0315-DUP1 Duplicate - B9J0315-DUP1 Duplicate 13.73 Visia Analytical Laboratory VG7 1613v07-10-9-19

TargetLynx XS - untitled * - [Chromatogram]

Pred.RT RT

# Name

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mt Resp m2 Resp

Pred RA

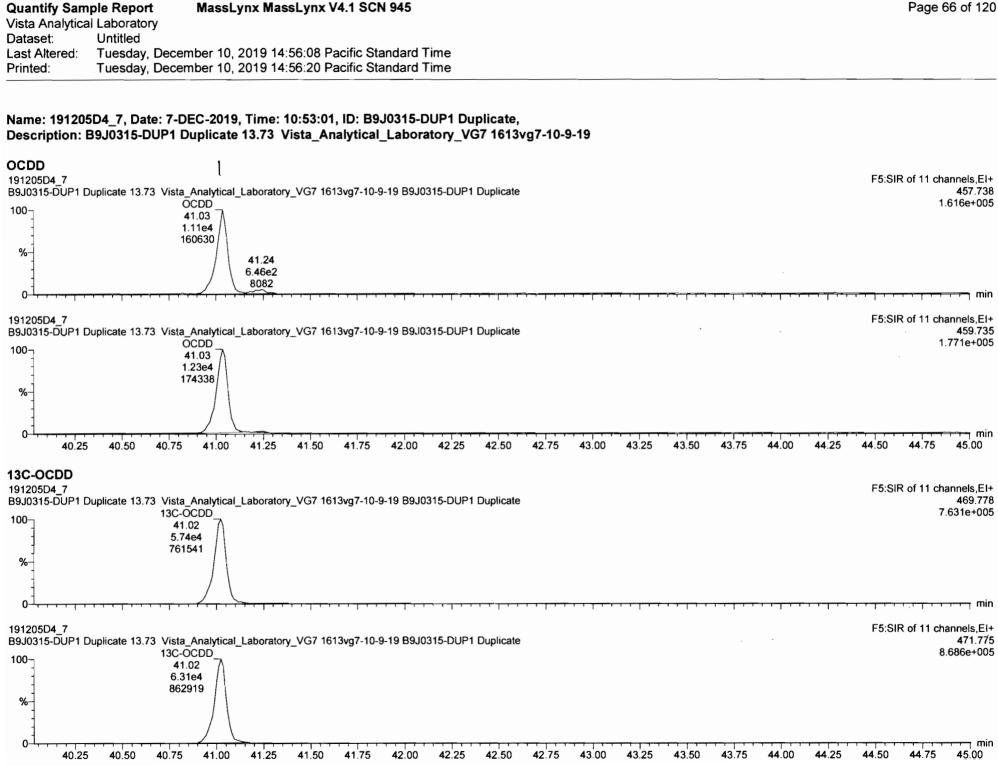
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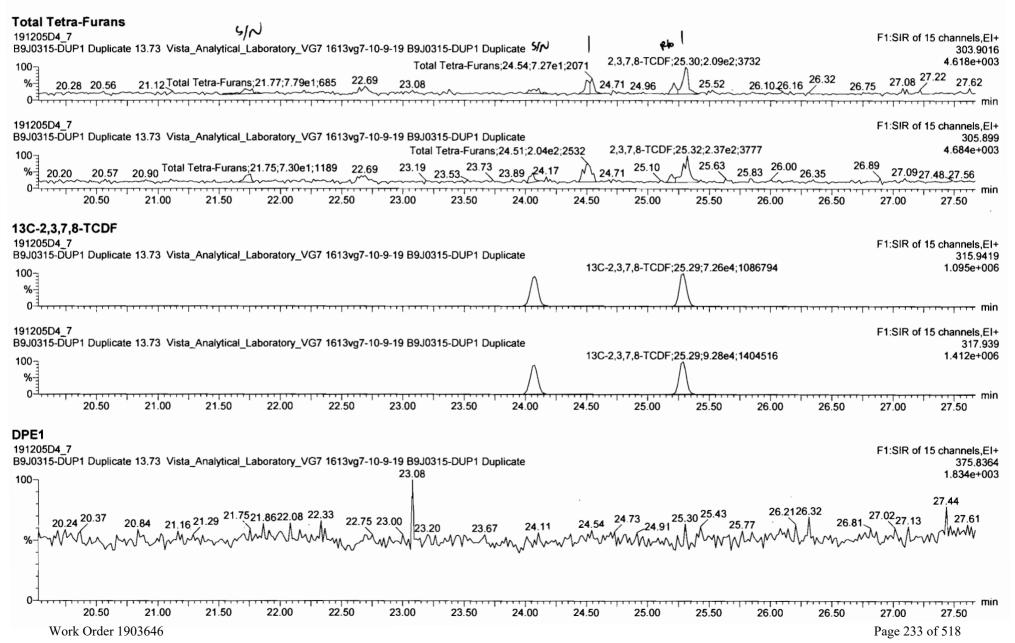
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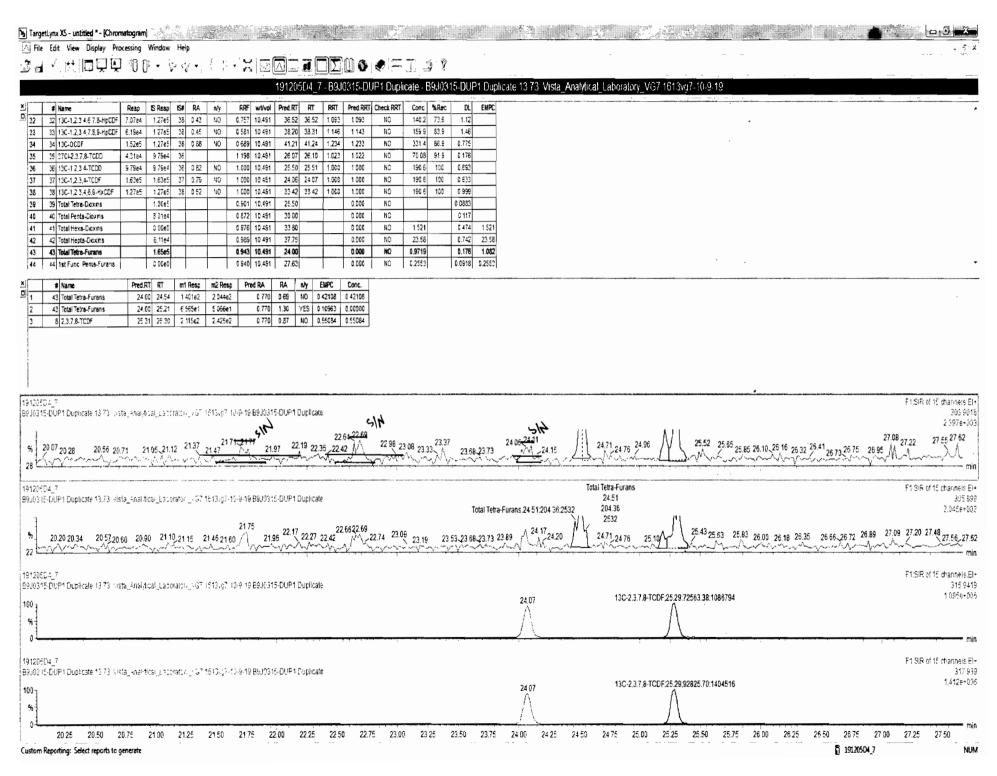


Work Order 1903646

Page 232 of 518

Quantify Sam	ple Report M	assLynx MassLynx V4.1 SCN 945	Page 67 of 120
Vista Analytica	il Laboratory		
Dataset:	Untitled		
Last Altered:	Tuesday, Decembe	r 10, 2019 14:56:08 Pacific Standard Time	
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# Name 2 32 13C-1,2,3,4 6,7 8-HpCDF	Resp         IS Resp         IS#         RA           7 07e4         1 27e5         38         0 42	NO 0.757 10.4				140.2										
33 13C-1,2 3,4 7,8 9-HpCDF		NO 0.581 18.4				159.9										
	152e5 127e5 38 0.88		_		_	221.4										
	4.3164 9.7584 38	1 156 10 4				70 08										
	9.79e4 9.79e4 36 0.82	NO 1 000 10 4					100 0.693									
	163e5 1.63e5 37 0.79	NO 1 000 10 4					100 0.633									
	1 27e5 1 27e5 38 0 52	NO 1 000 10 4					100 0.999	-								
39 Total Tetra-Dioxins	1.9Ce5	0 901 10.4	_	0.0		100 0	0.0883	-								
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43 Total Tetra-Furans	1.65e5	0.943 10.4		0.0		0.9719		.082								
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43 Total Tetra-Furans	24.00 24.54 1.401e2	2 044e2 0 7		0 42108 0.421	08											
43 Total Tetra-Furans	24.00 25 21 € 565e1	£ 066e1 0 7														
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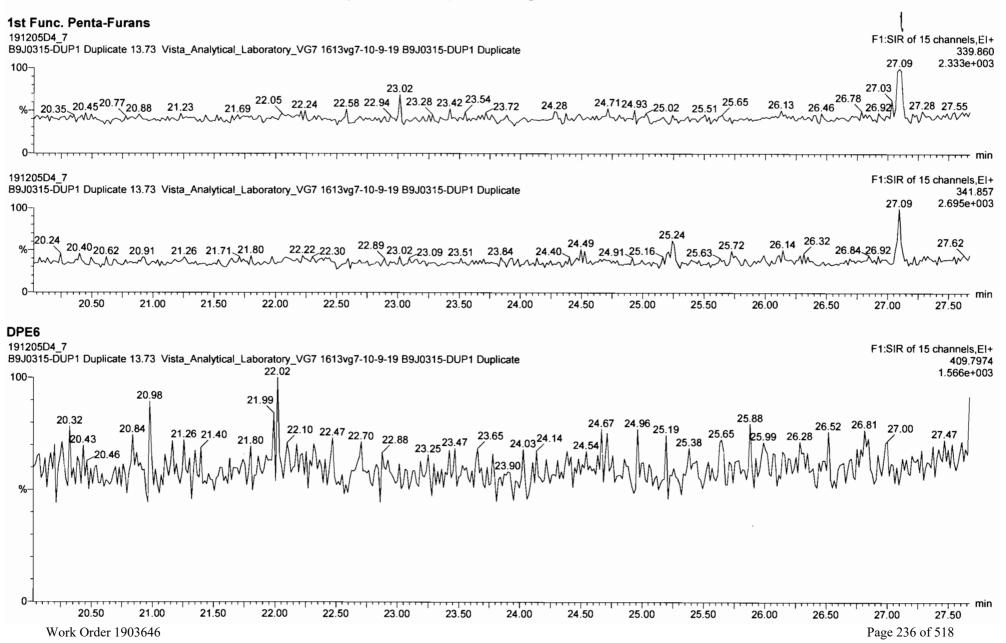
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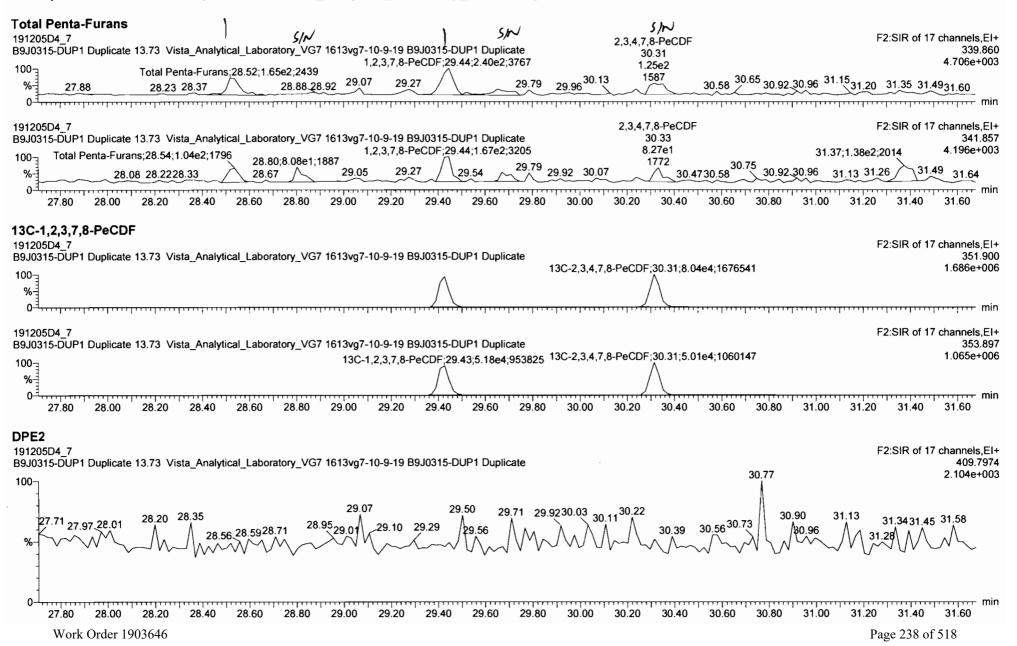
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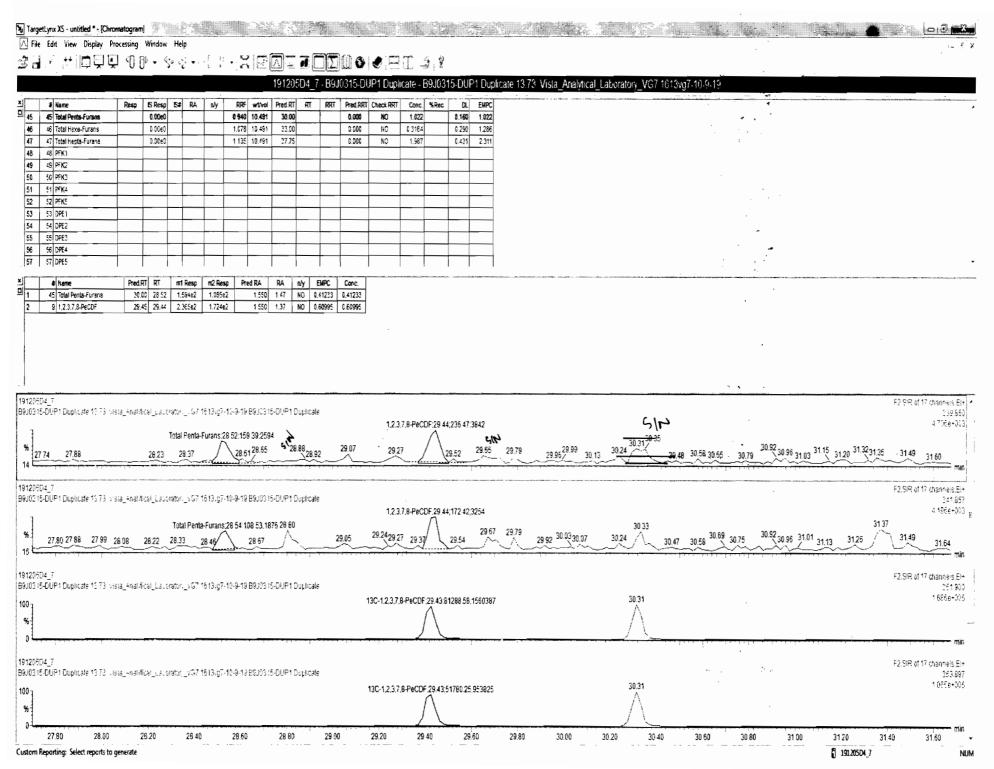
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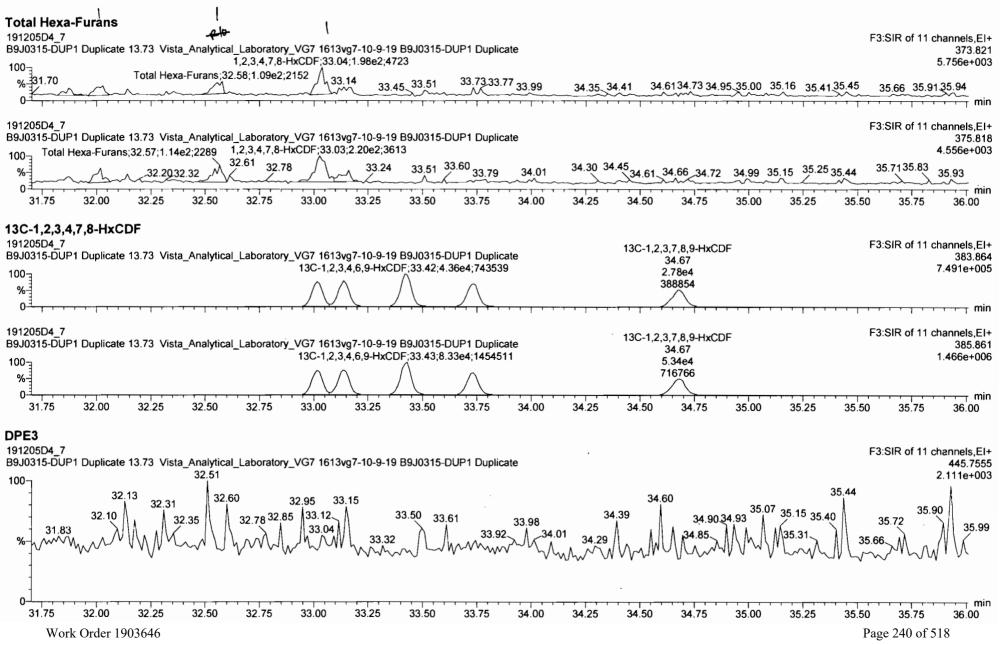
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Work Order 1903646

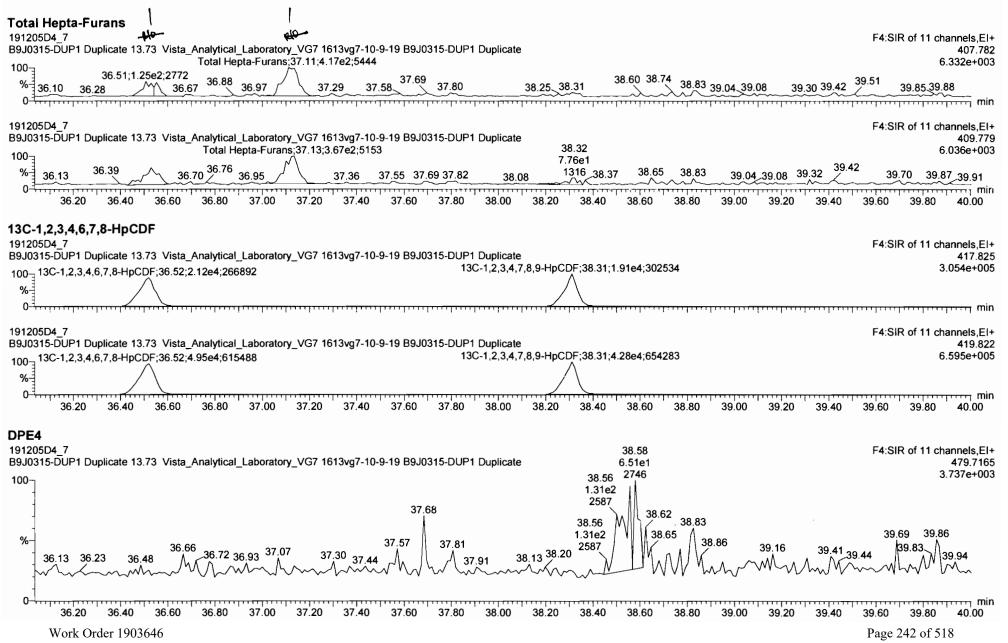
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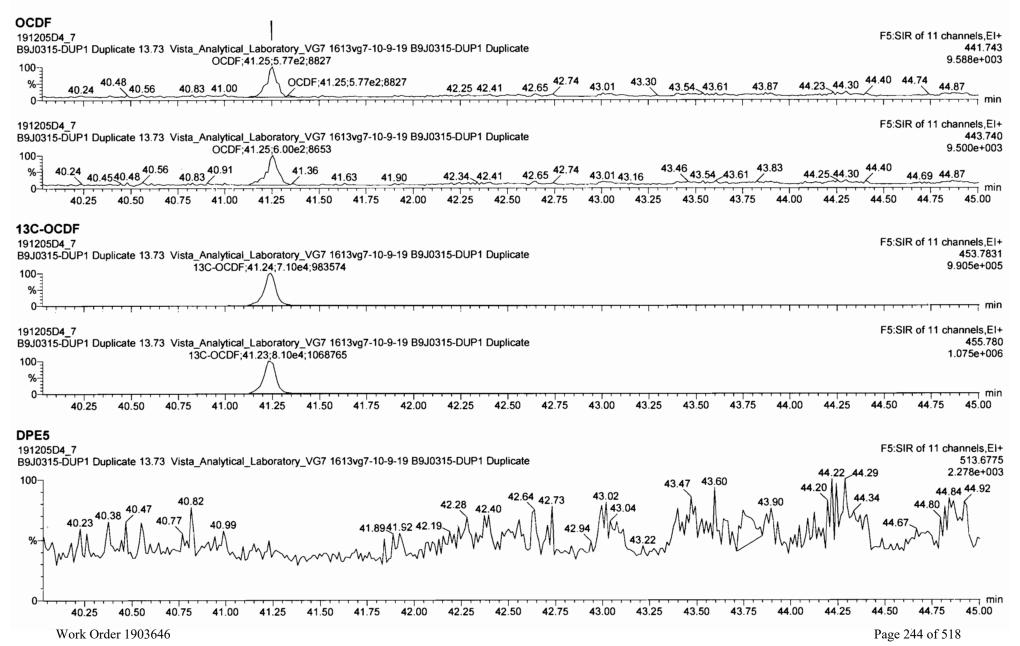
Page 241 of 518

Quantify San	nple Report	MassLynx MassLynx V4.1 SCN 945	Page 71 of 120
Vista Analytic	al Laboratory		
Dataset:	Untitled		
Last Altered:	Tuesday, D	ecember 10, 2019 14:56:08 Pacific Standard Time	
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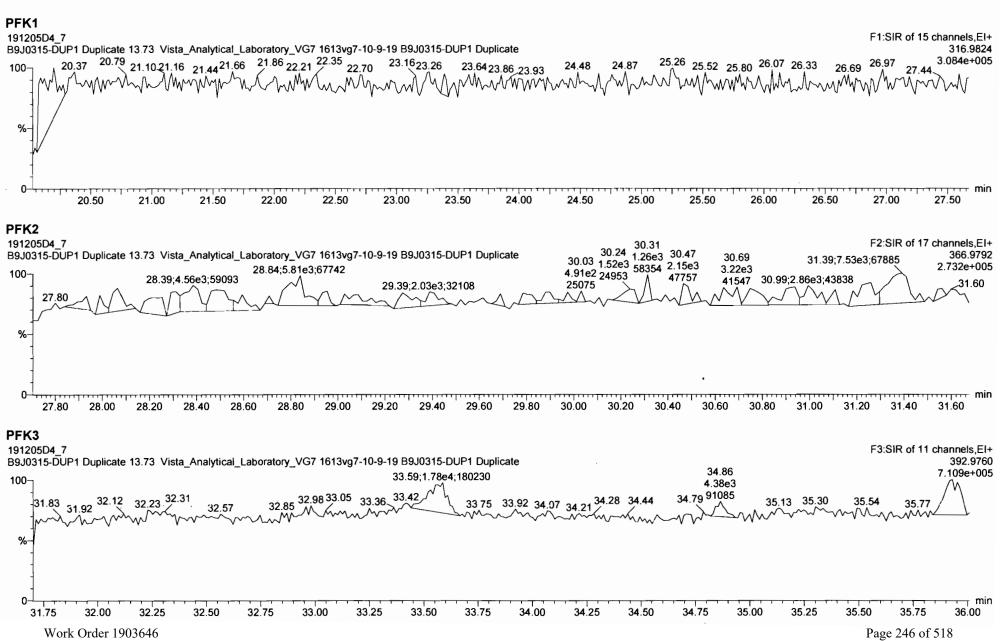
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	12.3.4.6: 12.3.4.6: 1.2.3.4.6: 1.2.3.4.6: 1.2.3.4.6: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4: 1.2.3.4:	sta_4nal.t	136.51;194.1	5 2779 6 67 3 6 67 3 6 7 17 3022 36 70 21 _ 267	16.79 36 16.13. <i>q</i> 7. 36.76	Total Hepta- 88 36.97 10-9 19 B9J0 Total Hepta 36.95 37/1	15-DUP1	11.411 46	54:5174						38.06 38.29 36.32 36.37 38.06							4( 6332 39 85 39 88 39 90 F4 SIR et 11 chane 4( 6 026 0 39 85 39 87 39 91 F4 SIR et 11 chane 12
	12.3.4.6: 12.3.4.6: 3.10 36.28 7 7 7 7 7 7 7 7 7 7 7 7 7	7 8-HpCD7 sta_fnal-t 37 7 8-HpCD 35 47 55nal-t stanal-t 7 8-HpCC	(36.51,194)	6.67 3 6.67 3 6.67 3 6.7 3 6.7 3 6.7 3 6.7 3 6.7 3 6.7 3 6.7 3 7.7 8,260	16.79 36 16.13.ç7. 36.76 1813-ç7. 1813-ç7.	Total Hepta- 88 36.97 10-9-19 B9J0 Total Hepta 36.95 37.1 10-9-19 E9J0	11/2012	11.411 45	5427 545174 728 37: 728 37: 728 37:						38.06 38.29 36.32 36.37 38.06			38.95 39.04 39.06	39.17 39: 	32 39.42 39.50		43 6332 39 85 39 88 39 90 F4 SIR of 11 channer 4 5 036 0 39 65 39 87 39 91 F4 SIR of 11 channer 4 3.054
	12.3.4.6 12.3.4.6 12.3.4.6 12.3.4.6 12.3.4.6 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 13.1 12.3.4 13.1 12.3.4 13.1 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12.3.4 12	7 8-HpCD7 sta_fnal.t 37 8-HpCD 35 47 35 47 516nal.t stanal.t	(36.51,194)	52779 6 <u>67</u> 30, x 67 117,3022 36 <u>70</u> 01, - /67 778,260	16.79 36 16.13.ç7 16.13.ç7 16.13.ç7 16.13.ç7	Total Hepta- 88 36.97 10-9-19 B9J0 Total Hepta 36.95 37.1 10-9-19 E9J0	11/2012	11.411 45	5427 545174 728 37: 728 37: 728 37:						38.06 38.29 26.32 38.33 38.06 38.29 26.32 38.31 38.31			38.95 39.04 39.06		32 39.42 39.50		43 6332 39 85 39 88 39 90 F4 5IR of 11 channel F4 5IR of 11 channel 4 3.054 F4 5IR of 11 channel 4 3.054
36) 36) 36) 36) 36) 37	12.3.4.6: 12.3.4.6: 3.10 36.28 7 7 7 7 7 7 7 7 7 7 7 7 7	7 8-HpCD7 sta_fnal.t 37 8-HpCD 35 47 35 47 516nal.t stanal.t	(36.51,194)	52779 6 <u>67</u> 30, x 67 117,3022 36 <u>70</u> 01, - /67 778,260	16.79 36 16.13.ç7 16.13.ç7 16.13.ç7 16.13.ç7	Total Hepta- 88 36.97 10-9-19 B9J0 Total Hepta 36.95 37.1 10-9-19 E9J0	11/2012	11.411 45	5427 545174 728 37: 728 37: 728 37:						38.06 38.29 36.32 36.37 38.06			38.95 39.04 39.06	39.17 39: 	32 39.42 39.50		43 6 3324 

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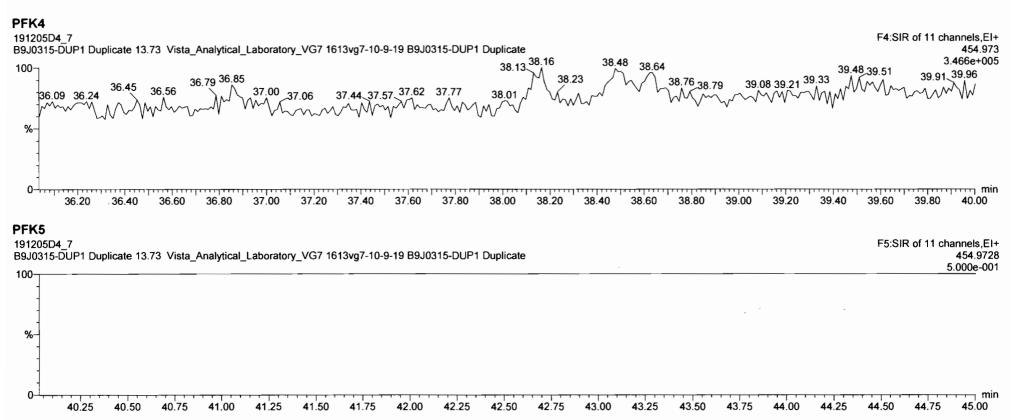


191205D4_7 - B9J0315-DUP1 Duplicate - B9J0315-DUP1 Duplicate 13 73 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19	
teme Resp IS Resp IS# RA My RRF writvol Pred.RT RT RRT Pred.RRT Check RRT Ch	· ·
12.3.4.7,8-txCDF     3.84e2     9.64e4     28     109     N0     1 177     10.451     33.01     33.04     1.001     1.000     NO     C £458     0.237     0.8458       12.3.6.7,8-txCDF     1.02e5     29     1     1065     10.491     32.15     1     1000     NO     0.256	· •
12.567.6-multi 1.2459 23 1.0557 24.10 1.057 24.10 1.057 24.10 1.050 1.05 24.05 13.467.8-multi 1.2457.8-multi 1.2459 1.2377 1.001 ND 0.278	•
2.3.7.8.3-%CDF 8 212e4 31 1 062 10.491 34.67 1.000 NO 0388	
2.3.4.6.7.6.HpCDF 3.7542 7.0744 32 1.08 NO 1.128 10.491 36.55 38.51 1.000 1.001 NO 0.8955 0.453 0.8555	
1.2.3.4 7.8 9-HpCDF         6.19e4         33         1 280         10 491         38 31         1 000         NO         0 362           DCDF         1.16e3         1.52e5         34         0.93         NO         0.4125         1.000         NO         0 3669	
DCDF         1.16e3         1.52e5         34         0.93         NO         0.947         10.412         41.24         41.25         1.000         NO         3.069         0.4466         3.069           12C-2 3.7.6-TCDD         100e5         9.79e4         38         0.83         NO         10951         10.451         26.04         26.07         1.022         1.021         NO         177.7         53.2         0.633	
3C-1 2.3,7 8-FeCDD 801e4 979e4 36 0.62 ND 0.681 10.491 20.27 33.60 1.200 1.167 NO 176 9.528 0.392	
12C-1.2.3 4.7 8-HxCDD E.6664 1.27e5 38 1 29 NO E.642 19 491 33 88 32 50 1.014 1 014 NO 155 8 81.7 C 881	
3C-12.3.6.7.8-HxCDD 7.22e4 1.27e5 38 1.28 NO 0 0556 10 491 34 00 34.01 1.018 1.017 NO 125.8 66.5 0 661 3C-12 37.8 S-HxCDD 7.37e4 1.27e5 38 1.29 NO 0.897 10.451 34 30 34 30 1.027 1.026 NO 137 3 72.0 0.701	
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Kame Pred.R RT m1 Resp m2 Resp Pred.RA RA n/y ENPC Conc.	
	F5 SIR of 11 channels E1-
11 Dr. p. Kale - 3.73	F5 SIR of 11 shannels El- 441 745 9 588e-003
OCDF;4125.558.56.8805	441 743
OCDF;4125.558.56.8805	441 743 9 5888+003
OCDF/4125.558.56.8805	441 743
OCDF;4125.558.56.8805	441743 9588e-903 44.74 44.87 min
40.24         40.39         40.45         40.56         40.83         41.00         41.23         41.90         41.93         42.07         42.25         42.41         42.56         42.65         42.74         43.01         43.30         43.41         43.61         43.65         43.82         43.04         44.15	441 743 9 588e-903 44.74 44.87 F5 SIR of 11 shamers.El+
40.24       40.39       40.46       40.56       40.65       40.83       41.00       41.23       41.90       41.93       42.07       42.25       42.41       42.55       42.65       42.74       43.01       43.30       43.61       43.65       43.82,43.90       44.16       44.40         40.24       40.39       40.56       40.65       40.65       42.65       42.74       43.01       43.30       43.61       43.65       43.82,43.90       44.16       44.40         41       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       <	441743 9588e-903 44.74 44.87 min
40.24         40.39         40.45         40.56         40.83         41.00         41.23         41.90         41.93         42.07         42.25         42.41         42.56         42.65         42.74         43.01         43.30         43.41         43.61         43.65         43.82         43.04         44.15	441 743 9 588e-003 44.74 44.87 F5 SIR of 11 channers.Ei+ 443 740 9 500e-003
40.24       40.39       40.46       40.65       40.83       41.00       41.33       41.52       41.90,41.93       42.07       42.25       42.41       42.55 42.74       43.01       43.30       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       44.16       44.40         V1 Duplicate 13.75       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00<	441 743 9 588e-003 44.74 44.87 F5 SIR of 11 channers.Ei+ 443 740 9 500e-003
40.24       40.39       40.46       40.56       40.65       40.83       41.00       41.23       41.90       41.93       42.07       42.25       42.41       42.55       42.65       42.74       43.01       43.30       43.61       43.65       43.82,43.90       44.16       44.40         40.24       40.39       40.56       40.65       40.65       42.65       42.74       43.01       43.30       43.61       43.65       43.82,43.90       44.16       44.40         41       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       <	441 743 9 588e-003 44.74 44.87 10 min F5 SiR of 11 shanners.Ei- 443 740
40.24       40.39       40.46       40.65       40.83       41.00       41.33       41.52       41.90,41.93       42.07       42.25       42.41       42.55 42.74       43.01       43.30       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       43.65       43.61       44.16       44.40         V1 Duplicate 13.75       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00       11.00<	441743 9 588e-003 44.74 44.87 F5 SIR of 11 channers.EI+ 443740 9 500e-003 44.69
$\frac{40.24}{40.39} \frac{40.46}{40.56} \frac{40.83}{40.56} \frac{40.83}{40.56} \frac{41.00}{41.33} \frac{41.52}{41.52} \frac{41.90,41.93}{42.07} \frac{42.25}{42.25} \frac{42.41}{42.56} \frac{42.55}{42.55} \frac{42.74}{43.01} \frac{43.01}{43.30} \frac{43.54}{43.61} \frac{43.54}{43.51} \frac{43.61}{43.61} 43.6$	441 743 9 E88e-003 44.74 44.87 F5 SIR of 11 channers.EI+ 443 740 9 E00e-003 44.69 44.74 44.87 min F5.SIR of 11 channels EI+
$\frac{40.24}{40.36} \frac{40.36}{40.56} \frac{40.83}{40.56} \frac{41.00}{41.33} \frac{41.52}{41.52} \frac{41.90,41.93}{42.07} \frac{42.25}{42.25} \frac{42.41}{42.56} \frac{42.55}{42.74} \frac{43.01}{43.01} \frac{43.30}{43.40} \frac{43.54}{43.51} \frac{43.61}{43.61} 43.6$	441 743 9 E88e+003 44.74 44.87 min F5 SiR of 11 channers.EI+ 443 740 9 E(00e+003 44.69 44.69 44.69 ft dhannels EI+ 453 7831
$\frac{40.24}{40.39} \frac{40.46}{40.56} \frac{40.83}{40.56} \frac{40.83}{40.56} \frac{41.00}{41.33} \frac{41.52}{41.52} \frac{41.90,41.93}{42.07} \frac{42.25}{42.25} \frac{42.41}{42.56} \frac{42.55}{42.55} \frac{42.74}{43.01} \frac{43.01}{43.30} \frac{43.54}{43.61} \frac{43.54}{43.51} \frac{43.61}{43.61} 43.6$	441 743 9 E88e-003 44.74 44.87 F5 SIR of 11 channers.EI+ 443 740 9 E00e-003 44.69 44.74 44.87 min F5.SIR of 11 channels EI+
$\frac{40  24}{40  34  40  45} \frac{40  40  45}{40  40  56} \frac{40  83}{40  45} \frac{41  25}{40  40  56} \frac{40  83}{40  41  56} \frac{43  82  43  90}{41  25  42  25} \frac{42  21}{42  25} \frac{42  25}{42  24} \frac{42  25}{42  25} \frac{42  21}{42  56} \frac{42  55  42  74}{43  01} \frac{43  40}{43  26} \frac{43  56}{43  82  43  90} \frac{44  16}{44  16} \frac{44  23}{44  30} \frac{44  40}{44  16}$	441 743 9 E88e+003 44.74 44.87 min F5 SiR of 11 channers.EI+ 443 740 9 E(00e+003 44.69 44.69 44.69 ft dhannels EI+ 453 7831
$\frac{40  24}{40  34  40  45} \frac{40  40  45}{40  40  56} \frac{40  83}{40  45} \frac{41  25}{40  40  56} \frac{40  83}{40  41  56} \frac{43  82  43  90}{41  25  42  25} \frac{42  21}{42  25} \frac{42  25}{42  24} \frac{42  25}{42  25} \frac{42  21}{42  56} \frac{42  55  42  74}{43  01} \frac{43  40}{43  26} \frac{43  56}{43  82  43  90} \frac{44  16}{44  16} \frac{44  23}{44  30} \frac{44  40}{44  16}$	441 743 9 558e-003 44.74 44.97 F5 SiR of 11 channers.El+ 443 740 9 500e-003 44.69 44.74 44.87 min F5.3iR of 11 channels El+ 455 7831 9 905e-005
$\frac{40  24}{40  34  40  45} \frac{40  40  45}{40  40  56} \frac{40  83}{40  45} \frac{41  25}{40  40  56} \frac{40  83}{40  41  56} \frac{43  82  43  90}{41  25  42  25} \frac{42  21}{42  25} \frac{42  25}{42  24} \frac{42  25}{42  25} \frac{42  21}{42  56} \frac{42  55  42  74}{43  01} \frac{43  40}{43  26} \frac{43  56}{43  82  43  90} \frac{44  16}{44  16} \frac{44  23}{44  30} \frac{44  40}{44  16}$	441 743 9 E88e+003 44.74 44.87 min F5 SiR of 11 channers.EI+ 443 740 9 E(00e+003 44.69 44.69 44.69 ft dhannels EI+ 453 7831
OCDF #125.588.568.8805         40.24       40.36.40.46       40.56       40.82       41.00       41.33       41.52       41.90.41.83       42.07       42.25       42.41       42.56.42.55.42.74       43.01       43.04       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43	441 743 9 558e+003 44.74 44.97 F5 SIR of 11 channers.EI+ 443 740 9 500e+003 44.69 44.69 F5.3IR of 11 channels EI+ 453 7831 9 505e+005
OCDEF#125585668005         40.24       40.34.04.45       40.65.40.65       40.83       41.00       41.33       41.25       42.25       42.21       42.05       42.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       <	441 743 9 558e+003 44.74 44.97 F5 SiR of 11 channers.El+ 443 740 9 500e+003 44.69 44.74 44.87 min F5.SiR of 11 channels El+ 455 7831 9 905e+005
OCDF #125.588.568.8805         40.24       40.36.40.46       40.56       40.82       41.00       41.33       41.52       41.90.41.83       42.07       42.25       42.41       42.56.42.55.42.74       43.01       43.04       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43.64       43	441 743 9 558e+003 44.74 44.97 F5 SIR of 11 channers.EI+ 443 740 9 500e+003 44.69 44.69 F5.3IR of 11 channels EI+ 453 7831 9 505e+005
OCDEF#125585668005         40.24       40.34.04.45       40.65.40.65       40.83       41.00       41.33       41.25       42.25       42.21       42.05       42.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       43.01       <	441 743 9 5586+003 44.74 44.87 F5 SiR of 11 channers.El+ 443 740 9 5000+003 44.69 44.74 44.87 min F5.3iR of 11 channels El+ 455 7831 9 905e+005

Quantify Sam	nple Report MassLynx MassLynx V4.1 SCN 945	Page 73 of 120
Vista Analytica	al Laboratory	
Dataset:	Untitled	
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	



Quantify Sam	le Report MassLynx MassLynx V4.1 SCN 945	Page 74 of 120
Vista Analytica	Laboratory	
Dataset:	Untitled	
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	



# Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:17:49

# Name: 191205D4_8, Date: 7-DEC-2019, Time: 11:40:53, ID: 1903646-07 PDI-1029SC-A-12-13-191009, Description: 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

	# Name	Area	IS Area WL/Vo	I. RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL 🛃
1	1 2,3,7,8-TCDD		9.82e4 10.228	5 0.905			1.001		26.10					0.244
2	2 1,2,3,7,8-PeCDD		8.28e4 10.228	5 0.903			1.001		30.61					0.351
3	3 1,2,3,4,7,8-HxCDD		6.97e4 10.228	5 1.101			1.000		33.89					0.375
4	4 1,2,3,6,7,8-HxCDD		8.52e4 10.228	5 0.939			1.000		34.00					0.344
5	5 1,2,3,7,8,9-HxCDD		7.95e4 10.228	5 0.961			1.001		34.32					0.388
6	6 1,2,3,4,6,7,8-HpCDD	1.62e3	6.44e4 10.228	5 0.979	1.069	NO	1.000	1.000	37.77	37.77	5.0267		5.03	0.347
71. 潮江 (中)(書)	7 OCDD	1.14e4	1.22e5 10.228	5 0.959	0.904	NO	1.000	1.000	41.01	41.02	38.136		38.1	0.482
8	8 2,3,7,8-TCDF		1.67e5 10.228	5 0.950			1.001		25.30	`	5			0.180
9	9 1,2,3,7,8-PeCDF		1.34e5 10.228	5 0.960			1.001		29.43					0.172
10 27 25 2	10 2,3,4,7,8-PeCDF		1.30e5 10.228	5 1.015			1.001		30.33					0.169
11 12 23	11 1,2,3,4,7,8-HxCDF		9.86e4 10.228	5 1.177			1.000		33.00					0.159
12 22 2	12 1,2,3,6,7,8-HxCDF		1.03e5 10.228	5 1.069			1.000		33.13					0.163
13	13 2,3,4,6,7,8-HxCDF		1.03e5 10.228	5 1.114			1.001		33.75					0.169
14	14 1,2,3,7,8,9-HxCDF		1.00e5 10.228	5 1.062			1.000		34.66	• •				0.216
15:50 BEE	15 1,2,3,4,6,7,8-HpCDF		7.58e4 10.228	5 1.128			1.001		36.54					0.247
16	16 1,2,3,4,7,8,9-HpCDF		6.39e4 10.228	5 1.280			1.000		38.29					0.202
17.11.2至秦	17 OCDF	4.46e2	1.55e5 10.228	5 0.947	0.633	YES	1.000	1.001	41.22	41.26	1.1905		0.980	0,342
18	18 13C-2,3,7,8-TCDD	9.82e4	9.13e4 10.228	5 1.095	0.776	NO	1.021	1.022	26.05	26.07	192.06	98.2		0.687
197	19 13C-1,2,3,7,8-PeCDD	) 8.28e4	9.13e4 10.228	5 0.881	0.614	NO	1. <b>187</b>	1.199	30.28	30.59	201.13	102.9		0.706
20	20 13C-1,2,3,4,7,8-Hx	6.97e4	1.20e5 10.228	5 0.642	1.292	NO	1.014	1.014	33.88	33.88	176.33	90.2		0.950
21.00	21 13C-1,2,3,6,7,8-Hx	8.52e4	1.20e5 10.228	5 0.856	1.265	NO	1.017	1.017	34.00	34.00	161.81	82.8		0.713
22	22 13C-1,2,3,7,8,9-Hx	7.95e4	1.20e5 10.228	5 0.807	1.275	NO	1.026	1.026	34.29	34.29	160.19	81.9		0.756
23.2	23 13C-1,2,3,4,6,7,8-H	6.44e4	1.20e5 10.228	5 0.654	1.066	NO	1.126	1.130	37.63	37.76	160.10	81.9		1.47
24 3 3 3 4	24 13C-OCDD	1.22e5	1.20e5 10.228	5 0.580	0.925	NO	1.226	1.227	40.97	41.0 <b>1</b>	343.35	87.8		0.808
25	25 13C-2,3,7,8-TCDF	1.67e5	1.63e5 10.228	5 1.035	0.768	NO	0.992	0.991	25.30	25.28	193.03	98.7		0.464
26-26-26	26 13C-1,2,3,7,8-PeCDF	1.34e5	1.63e5 10.228	5 0.854	1.594	NO	1.154	1.153	29.43	29.41	187.91	96.1		0.644
27.	27 13C-2,3,4,7,8-PeCDF	1.30e5	1.63e5 10.228	5 0.847	1.593	NO	1.189	1.188	30.33	30.30	183.79	94.0		0.650
28	28 13C-1,2,3,4,7,8-Hx	9.86e4	1.20e5 10.228	5 0.832	0.510	NO	0.987	0.988	32.99	33.00	192.66	98.5		1.10
29.30 99.5	29 13C-1,2,3,6,7,8-Hx	1.03e5	1.20e5 10.228	5 1.034	0.532	NO	0.991	0.991	33.11	33.12	161.90	82.8		0.883
92 <b>12 10 1</b> 0	30 13C-2,3,4,6,7,8-Hx	1.03e5	1.20e5 10.228	5 0.953	0.518	NO	1.009	1.009	33.72	33.72	174.79	89.4		0.958
SI	31 13C-1,2,3,7,8,9-Hx	1.00e5	1.20e5 10.228	5 0.828	0.524	NO	1.039	1.037	34.71	34.66	196.59	100.5		1.10

E 12/19/19

CT 12/20/19

Quantify Sam	ole Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytical	Laboratory	
Dataset:	U:\VG7.PRO\Results\19120	)5D4\191205D4-8.qld
Last Altered:	Thursday, December 19, 20	019 13:20:01 Pacific Standard Time
Printed:	Thursday, December 19, 20	019 13:20:39 Pacific Standard Time

# Name: 191205D4_8, Date: 7-DEC-2019, Time: 11:40:53, ID: 1903646-07 PDI-1029SC-A-12-13-191009, Description: 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

	# Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H	7.58e4	1.20e5	10.2285	0.757	0.439	NO	1.093	1.092	36.51	36.50	162.72	83.2		0.938
33 =	33 13C-1,2,3,4,7,8,9-H	6.39e4	1.20e5	10.2285	0.581	0.432	NO	1.143	1.146	38.20	38.29	178.65	91.4		1.22
34	34 13C-OCDF	1.55e5	1.20e5	10.2285	0.689	0.888	NO	1.233	1.234	41.21	41.22	365.12	93.4		0.639
35 🦿	35 37CI-2,3,7,8-TCDD	4.10e4	9.13e4	10.2285	1.198			1.022	1.023	26.07	26.09	73.280	93.7		0.206
36	36 13C-1,2,3,4-TCDD	9.13e4	9.13e4	10.2285	1.000	0.797	NO	1.000	1.000	25.50	25.51	195.53	100.0		0.752
37	37 13C-1,2,3,4-TCDF	1.63e5	1.63e5	10.2285	1.000	0.786	NO	1.000	1.000	24.06	24.06	195.53	100.0		0.480
38	38 13C-1,2,3,4,6,9-Hx	1.20e5	1.20e5	10.2285	1.000	0.495	NO	1.000	1.000	33.42	33.41	195.53	100.0		0.914
<b>39</b>	39 Total Tetra-Dioxins		9.82e4	10.2285	0.901			0.000		25.50					0.120
40	40 Total Penta-Dioxins		8.28e4	10.2285	0.872			0.000		30.00					0.167
41	41 Total Hexa-Dioxins		0.00e0	10.2285	0.976			0.000		33.80		0.00000		0.800	0.224
42	42 Total Hepta-Dioxins		6.44e4	10.2285	0.989			0.000		37.75		12.827		12.8	0.344
<b>43</b>	43 Total Tetra-Furans		1.67e5	10.2285	0.943			0.000		24.00					0.0844
	44 1st Func. Penta-Fur		0.00e0	10.2285	0.940			0.000		27.63					0.0618
<b>5</b>	45 Total Penta-Furans		0.00e0	10.2285	0.940			0.000		30.00					0.101
<b>46</b> 163 199 20	46 Total Hexa-Furans		0.00e0	10.2285	1.078			0.000		33.00					0.0991
47 TEE: 78-3	47 Total Hepta-Furans		0.00e0	10.2285	1.135			0.000		37.75		0.80451		0.805	0.238

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:17:49

Name: 191205D4_8, Date: 7-DEC-2019, Time: 11:40:53, ID: 1903646-07 PDI-1029SC-A-12-13-191009, Description: 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

### Tetra-Dioxins

# Name N/Y RT Area IS Area Response Primary Flags

#### Penta-Dioxins

# Name N/Y RT Area IS Area Response Primary Flags

#### **Hexa-Dioxins**

Mame	NY	िष्ठ	Area	IS Area	Response	Primary Flags	Conc	EMPC
41 Total Hexa-Dioxins	YES	32.37	206.172	43790.664	0.000	MM	0.0000	0.80

# **Hepta-Dioxins**

	Name , in the second state	NY	R	Area	IS Area	Response	Primary Flags		ELEC
6	1,2,3,4,6,7,8-HpCDD	NO	37.77	837.990	33223.922	50.356	MM	5.0267	5.03
<b>2 7 7 7 1</b> 42	Total Hepta-Dioxins	NO	36.91	1367.377	33223.922	78.883	bb	7.8002	7.80

#### Tetra-Furans

Rest Martin and MS Area of Response Disnary Tags Malarage Room MEMPS

### Penta-Furans function 1

	NA SERVICE	Response Particity	
<b>ORBERT</b>			

### Name: 191205D4_8, Date: 7-DEC-2019, Time: 11:40:53, ID: 1903646-07 PDI-1029SC-A-12-13-191009, Description: 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

### Penta-Furans

 # Name
 N/Y
 Area
 IS Area
 Response Primary Flags

 1

### Hexa-Furans

# Name N/Y CONC. EMPC

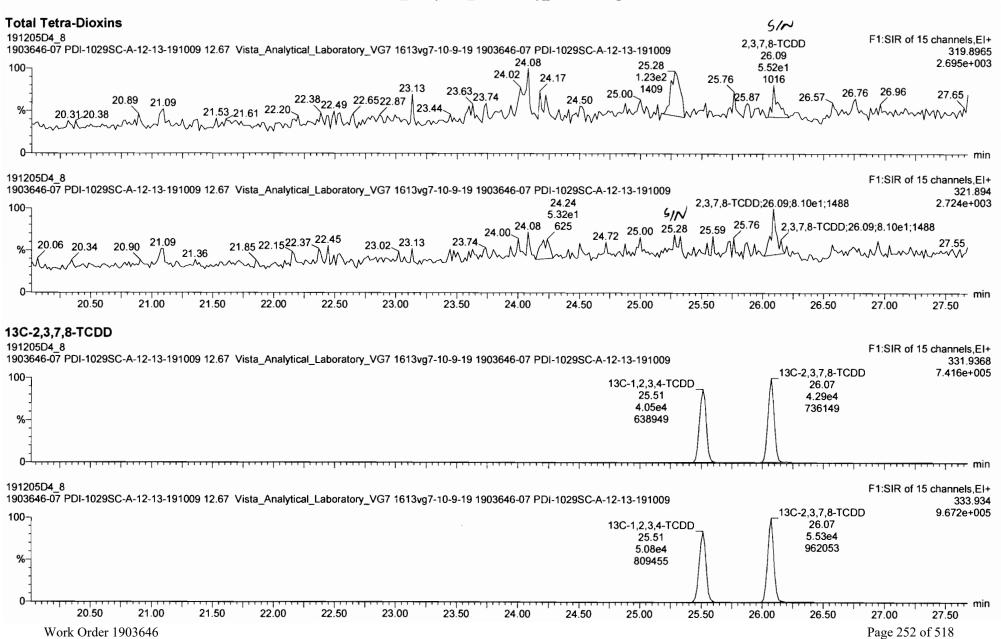
#### **Hepta-Furans**

Name and the second	NY -	े संस्थित्य कर	Area	IS Area	Response	Primary Flags	States Oone	EMPC
1 47 Total Hepta-Furans	NO	37.13	158.929	21192.531	9.337	bb	0.8045	0.80

Quantify Samp	ple Report MassLynx MassLynx V4.1 SCN 945	F
Vista Analytical	I Laboratory	
Dataset:	Untitled	
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	

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# Name: 191205D4_8, Date: 7-DEC-2019, Time: 11:40:53, ID: 1903646-07 PDI-1029SC-A-12-13-191009, Description: 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19



Quantify Sample		MassLynx MassLyr	x V4.1 SCN 945			Page 77 of 120
Vista Analytical La	-					
	Intitled					
		ember 10, 2019 14:56:08				
Printed: Tu	uesday, Deo	ember 10, 2019 14:56:20	) Pacific Standard Time			
			:53, ID: 1903646-07 PDI-1029			
-		I-1029SC-A-12-13-1910	09 12.67 Vista_Analytical_La	boratory_VG7 1613vg7-10-9	-19	
7CI-2,3,7,8-TCD	סכ					
91205D4_8	000 4 40 40 4				20	F1:SIR of 15 channels,EI+
	95C-A-12-13-1	91009 12.67 Vista_Analytical_	Laboratory_VG7 1613vg7-10-9-19 19	J3646-07 PDI-1029SC-A-12-13-1910	37CI-2,3,7,8-TCDD	327.884 6.856e+005
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13C-1,2,3,4-TCDD

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191205D4 8 F1:SIR of 15 channels,EI+ 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-07 PDI-1029SC-A-12-13-191009 331.9368 7.416e+005 13C-2,3,7,8-TCDD 100-13C-1,2,3,4-TCDD 26.07 25.51 4.29e4 4.05e4 736149 638949 %-0 🗝 min F1:SIR of 15 channels,EI+ 333.934 191205D4_8 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-07 PDI-1029SC-A-12-13-191009 13C-2,3,7,8-TCDD 26.07 9.672e+005 100-13C-1,2,3,4-TCDD 25.51 5.53e4 962053 5.08e4 %-809455 0 TTT min 26.50 25.00 26.00 20.50 21.00 21.50 22.00 22.50 23.00 23.50 24.00 24.50 25.50 27.00 27.50

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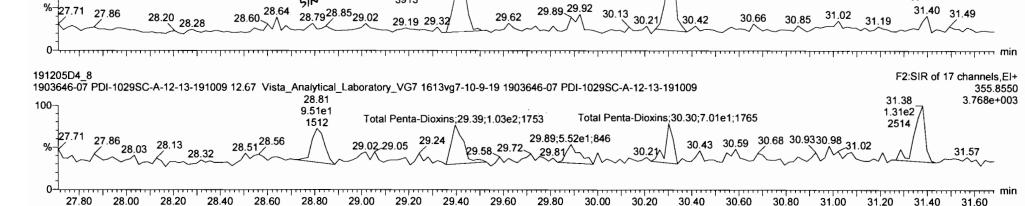
Work Order 1903646

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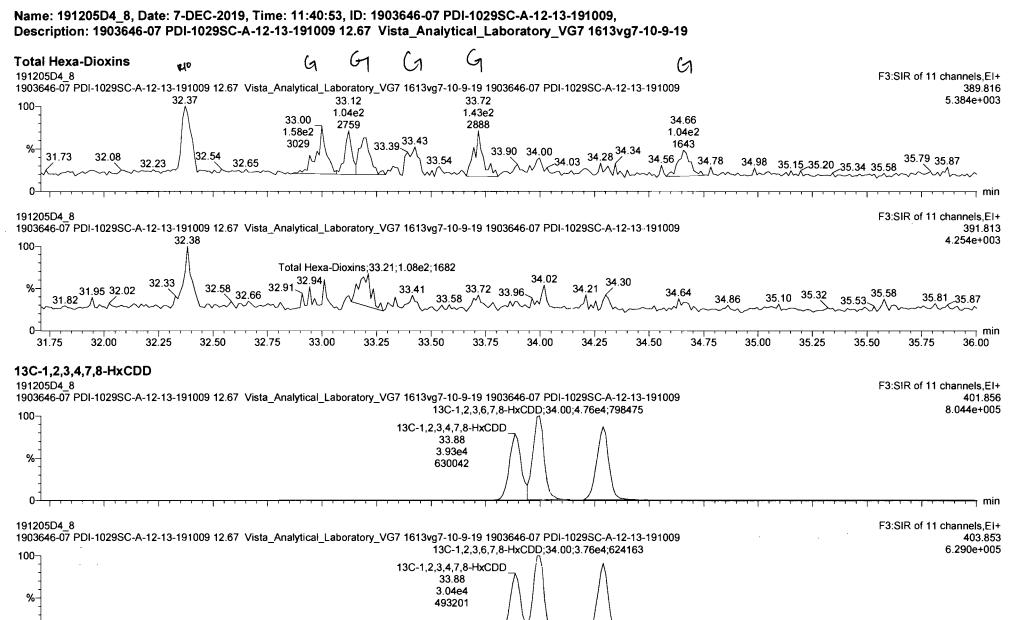
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	MassLynx MassLynx V4.1 SCN 945	Page 78 of 12
/ista Analytical Laboratory		
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	C-2019, Time: 11:40:53, ID: 1903646-07 PDI-1029SC-A-12-13-191009, 29SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19	•
Description: 1903646-07 PDI-10 Fotal Penta-Dioxins		
Description: 1903646-07 PDI-10 Total Penta-Dioxins	29SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19	F2:SIR of 17 channels,EI 353.857
Description: 1903646-07 PDI-10 Total Penta-Dioxins 191205D4_8 903646-07 PDI-1029SC-A-12-13-19100	29SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19	F2:SIR of 17 channels,EI
Description: 1903646-07 PDI-10 Total Penta-Dioxins 91205D4_8 903646-07 PDI-1029SC-A-12-13-19100	29SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 (م 9 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-07 PDI-1029SC-A-12-13-191009 Total Penta-Dioxins 29 41	F2:SIR of 17 channels,El 353.857
Description: 1903646-07 PDI-10 Total Penta-Dioxins 91205D4_8	29SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 م) 9 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-07 PDI-1029SC-A-12-13-191009 Total Penta-Dioxins	F2:SIR of 17 channels,E 353.85



#### 13C-1,2,3,7,8-PeCDD

191205D4 8 F2:SIR of 17 channels,EI+ 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-07 PDI-1029SC-A-12-13-191009 365.8978 13C-1,2,3,7,8-PeCDD 6.223e+005 100-30.59 3.15e4 619147 %-0 🗂 min 191205D4 8 F2:SIR of 17 channels,EI+ 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-07 PDI-1029SC-A-12-13-191009 367.895 13C-1,2,3,7,8-PeCDD 1.028e+006 100-30.59 5.13e4 1024970 %-0min min 27.80 28.00 28.20 28.40 28.60 28.80 29.00 29.20 29.40 29.60 29.80 30.00 30.20 30.40 30.60 30.80 31.00 31.20 31.40 31.60 Page 254 of 518 Work Order 1903646



#### min 32.25 32.50 32.75 33.00 33.25 33.50 33.75 34.00 34.25 34.50 34.75 35.00 35.25 35.50 35.75 36.00

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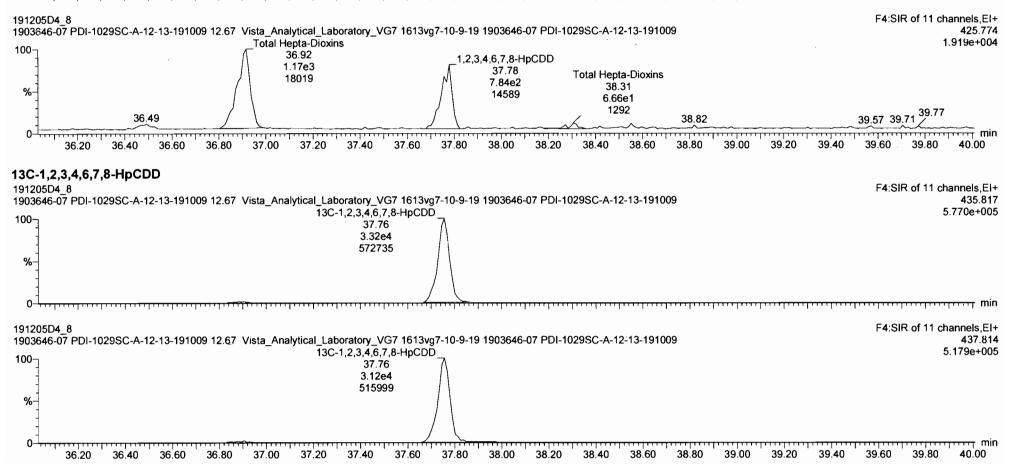
Page 255 of 518

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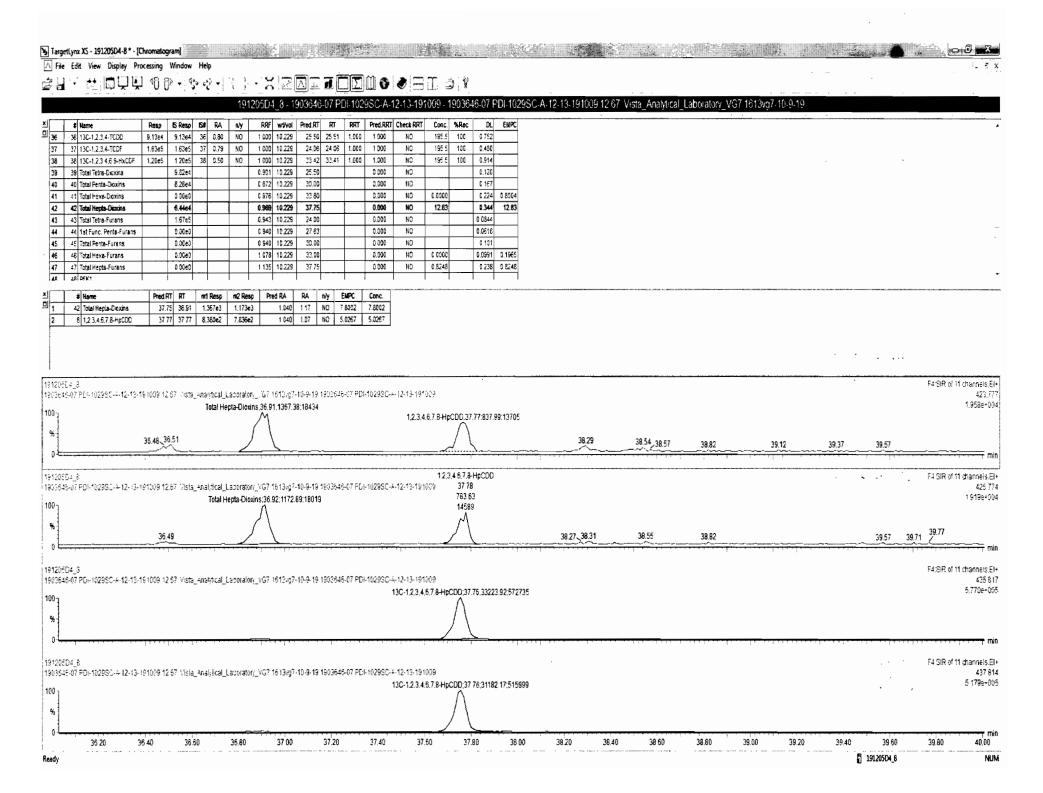
TargetLynx XS - 191205D4-8* - [Chromatogram] 5-7 17 2 2010 A Salara Sec. Same A File Edit View Display Processing Window Help ふりく 兵間自自 むか・やぶ・ • 8 191205D4 8 - 1903646-07 PDI-1029SC-A-12-13-191009 - 1903646-07 PDI-1029SC-A-12-13-191009 12 67 Vista Analytical Laboratory VG7 1613v07-10-9-19 # Name Resp IS Resp IS# RA NY RRF wt/vol Pred.RT RT RRT Pred.RRT Check RRT Conc. %Rec DL EMPC D 36 36 13C-1,2,3,4-TCDD 9 13e4 38 C B0 1 000 10 229 195 5 100 0 752 NO 25.50 25.51 1.000 1,000 NC: 9.1364 37 1.63e5 1 63e5 37 0.79 NO 1 000 10,229 24 06 24.06 1,000 1,000 NO 195.5 100 0 480 37 13C-1.2 3.4-TCDF 38 0.50 NO 1.000 10.229 33.42 33.41 1.000 195 5 100 0.914 38 38 13C-1 2,3.4,6 9-HxCDF 1.20e5 1 20e5 1.000 NO 39 9.82e4 0.901 10.229 25.50 0 000 NO 0 120 39 Total Tetra-Dioxina 0.167 40 40 Total Pents-Dioxins 8.28e4 0 872 10.229 30 00 0.000 NO 0.00e0 0.976 10.229 0.006 NO 0.0000 0.224 0.8064 41 41 Total Hexa-Dioxins 33.80 42 6.44e4 0 989 10,229 37.75 0 000 NO 12.82 0 344 13.24 42 Total Hepta-Dicxins 0.943 10.229 0.000 NÔ ۇنى ئەنبەن ن 167e5 24.00 43 43 Total Tetra-Furans 0.00e0 0.940 10.229 27.63 0.000 HO 0.0516 44 44 1st Func. Penta-Furans 0 940 10,229 30.00 NO 0 101 45 45 Total Penta-Furans 0.0Ge0 0.000 1 078 10.229 0.000 0 0991 0 1965 46 46 Total Hexa-Furans 0 00e0 33 00 NC 0 0000 0 236 0 8248 0 00e0 1 135 10.229 37.75 0 000 NO 0.8248 47 47 Total Hepta-Furans 48 48 PFK1 Pred.RT RT mi Resp m2 Resp Pred RA RA n/y EMPC Conc. # Name 33.80 32.37 2.062e2 1 393e2 1.240 1.48 YES 0.80043 0.00000 41 Total Hexa-Dioxins F3.SIR of 11 channels.Ei+1 4 191205D4_8 1903646-07 PDI-1029SC-4-12-13-191009 12 67 Usia_knailtical_Laborator_\ G7 1613xg7-10-9-19 1903646-07 PDI-1029SC-4-12-13-191009 389 815 5 384e+00? Total Hexa-Dioxins:32 37,205 17,4158 100 33.12 33 20 33.00 3372 33.39 33.43 33.69 A 33.77 31.73 31 83 31 95 32 08 33.90 34.00 34.03 34.21 34.28 34.34 32.98 35 15 25.20 35.34 35.53 35.58 % 34 40 34.56 35.73 35.79 35.87 35.95 33.54 34.78 34.85 34.98 32.54 32.65 32.23 191205D4 R F3/SIR of 11 channels, EI+ F 391 813 1903646-07 PDI-1029SC-A-12-13-19100P 12 67 Visia_Analytical_Laborator._VC7 15 (3);97-10-9-19 1903646-07 PDI-1029SC-A-12-13-191009 4,254e+803 Total Hexa-Dioxins:32.38;139.29,3115 100 32.94 33.01 33.19.33.21 35.32 35.41 35 53 35.58 35.62 33.72 33.86 33.96 34.02 Total Hexa-Dioxns;32.38.139 29:3115 33.23 33.41 33.55 33.58 35.81 35.87 34.21 34 30 31.82 32.47 32 58 32.66 34.52 34.64 34.66 34.86 34.99 35.10 % 32.81 35.99 0 F3.SIR of 11 channels, El+ 191205D4_2 1903646-07 PDI-10295C-A-12-13-191009 12 67 Visia_knal/tical_Laborator_NG7 1613xg7-10-9-19 1903646-07 PDI-10295C-A-12-13-191009 401,856 8.044e+005 34,00 13C-123478-HxCDD 3388 3926198 630042 34,29 100 % F3.SIR of 11 channels, EI+ 191205D4_8 1903646-07 PDI-1029SC-4-12-13-191009 12 67 ...ista_4nalytical_Laboratory_VG7 1613/g7-10-9-19 1903646-07 PDI-1029SC-4-12-13-191009 403 853 5.290e+005 34.00 13C-1,2,3,4,7,8-HxCDD:33.88.30394.55;493201 34.29 100 % 0 ത്വന 34 80 35.00 35.20 35.40 35,60 35.80 36.00 -32.20 32 40 32.60 32.80 33.00 33.20 33,40 33,60 33.80 34.00 34.29 34.40 34.60 31.80 32.00 19120504_8 NUM Read

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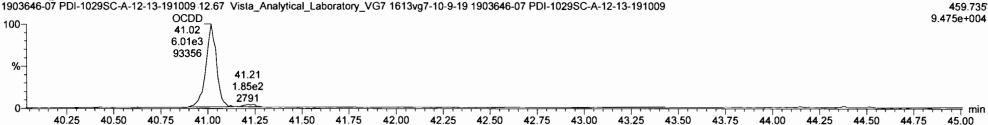
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191205D4 8 F5:SIR of 11 channels,EI+ 1903646-07 PDI-1029SC-A-12-13-191009 12.67 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19 1903646-07 PDI-1029SC-A-12-13-191009 469.778 13C-OCDD 8.515e+005 100-41.01 5.89e4 849737 %-

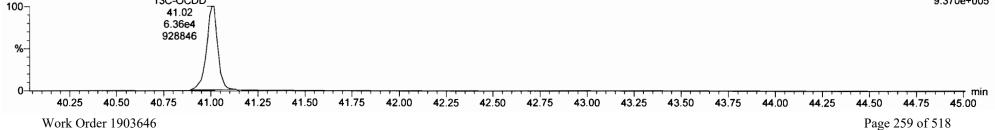
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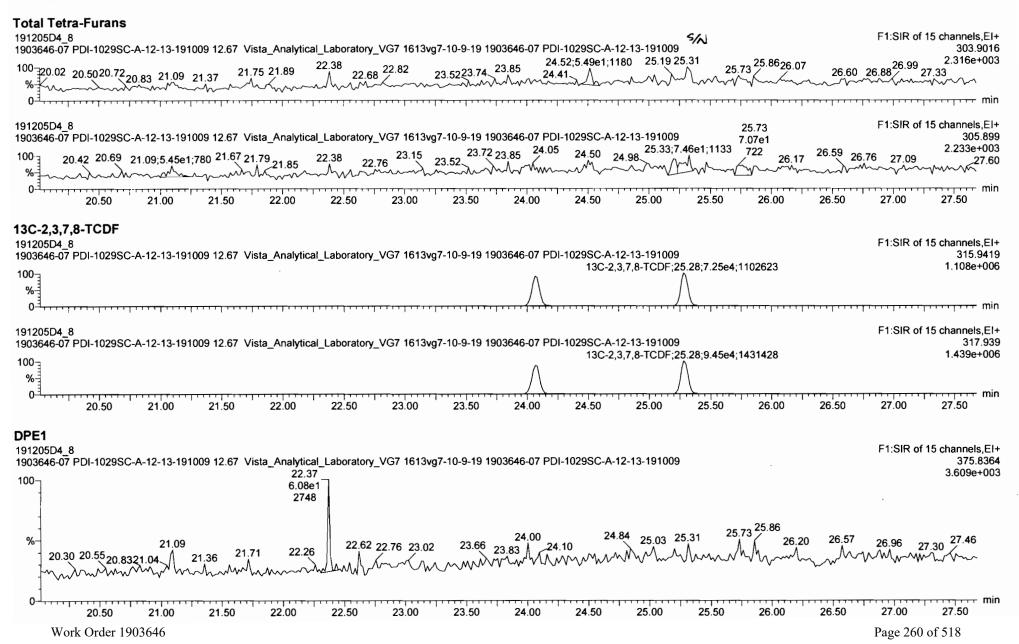
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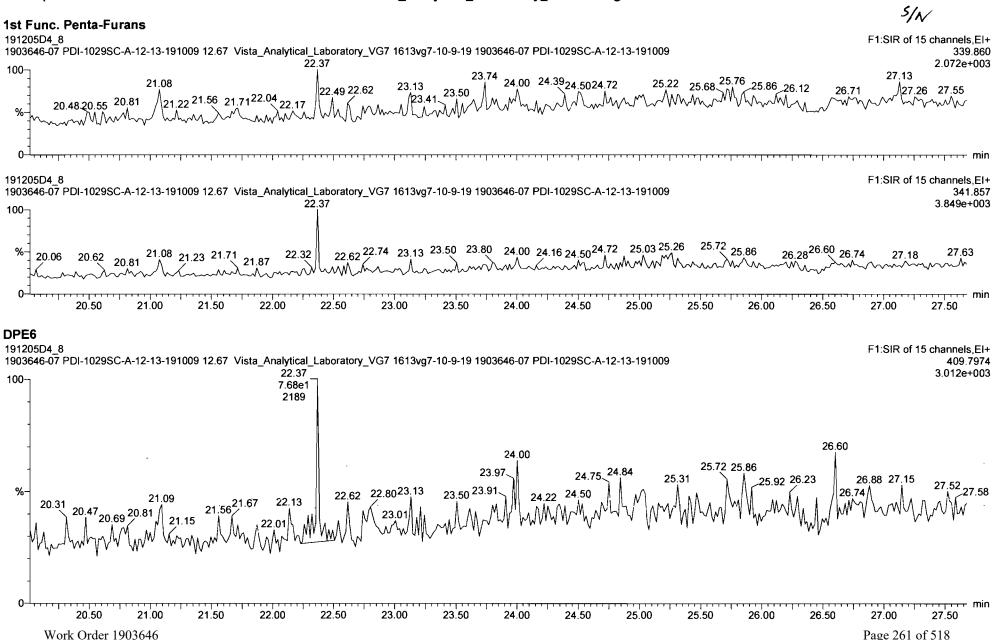
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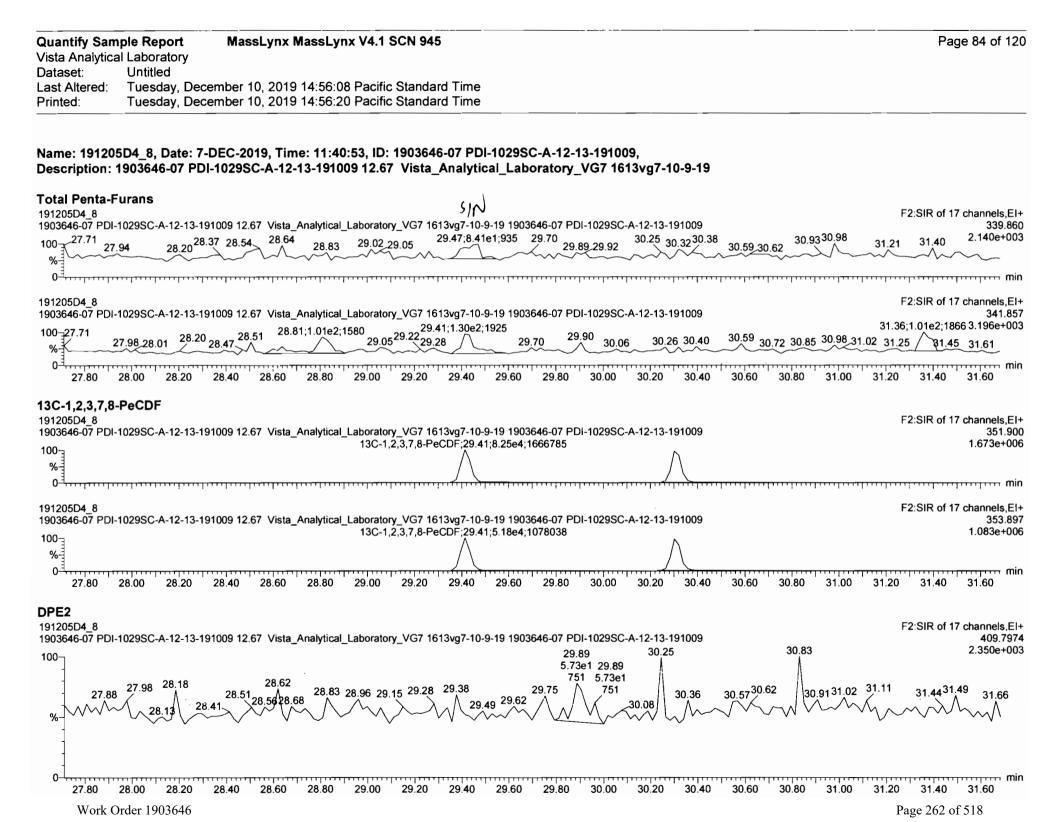
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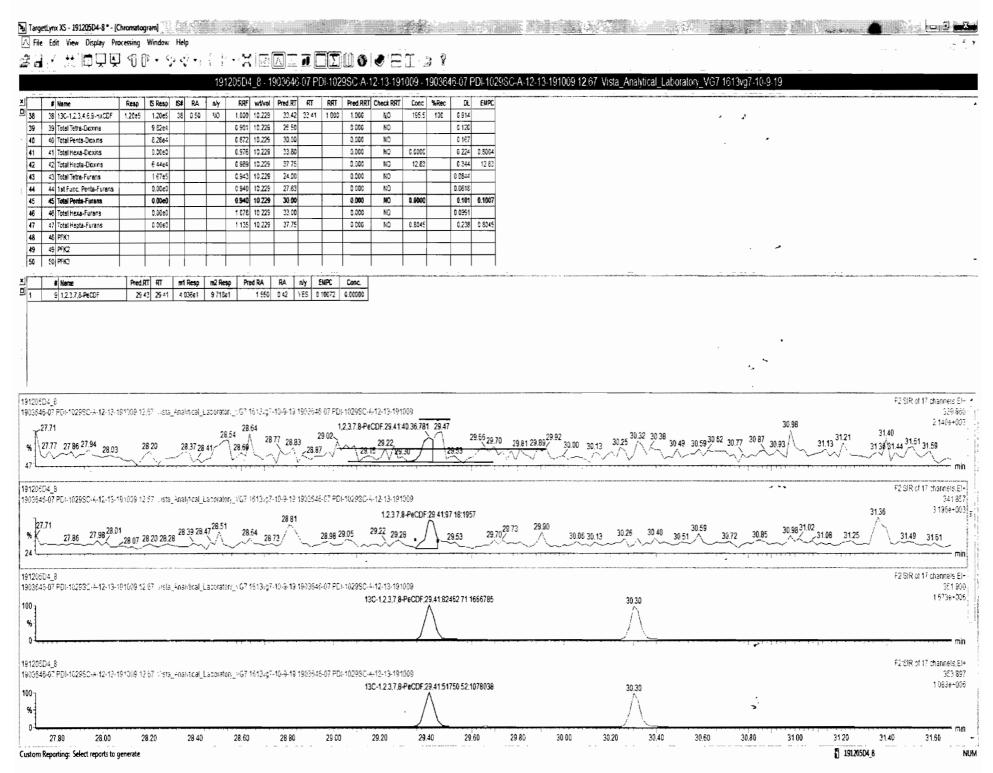




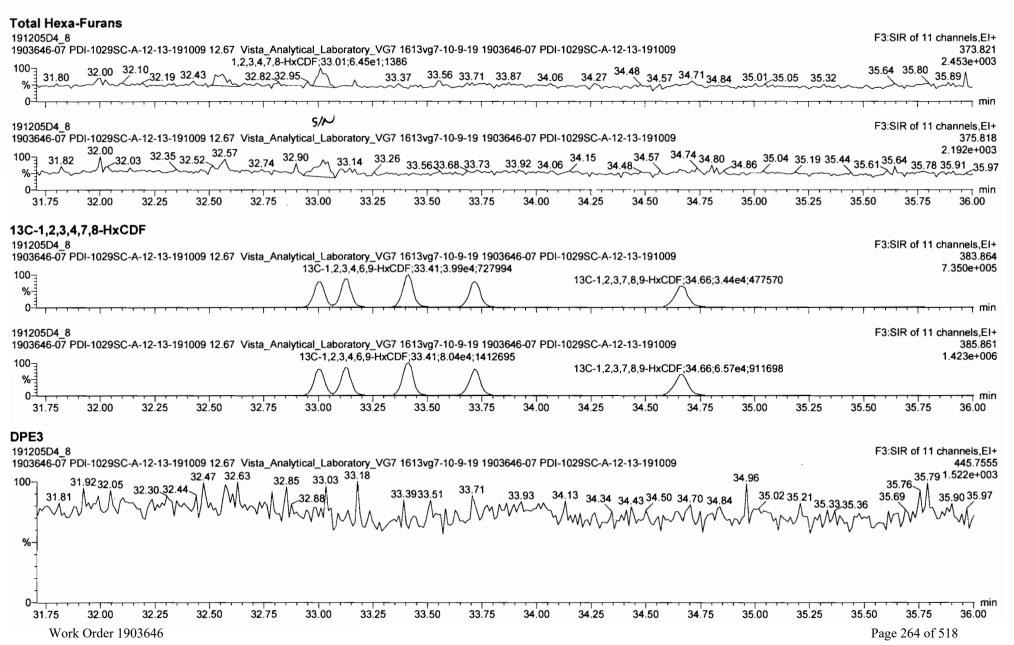


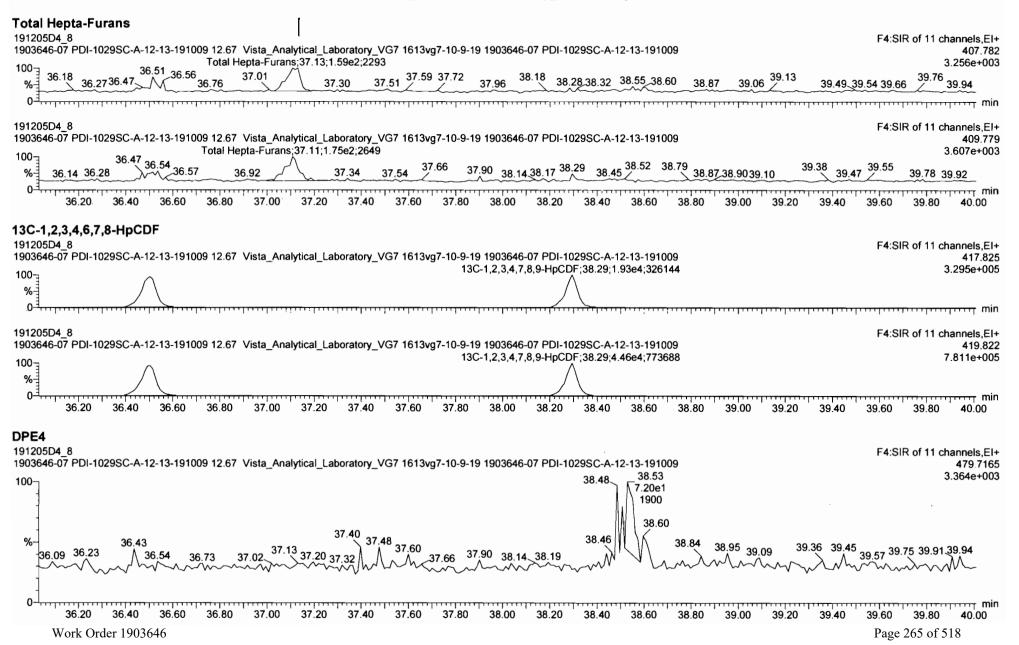
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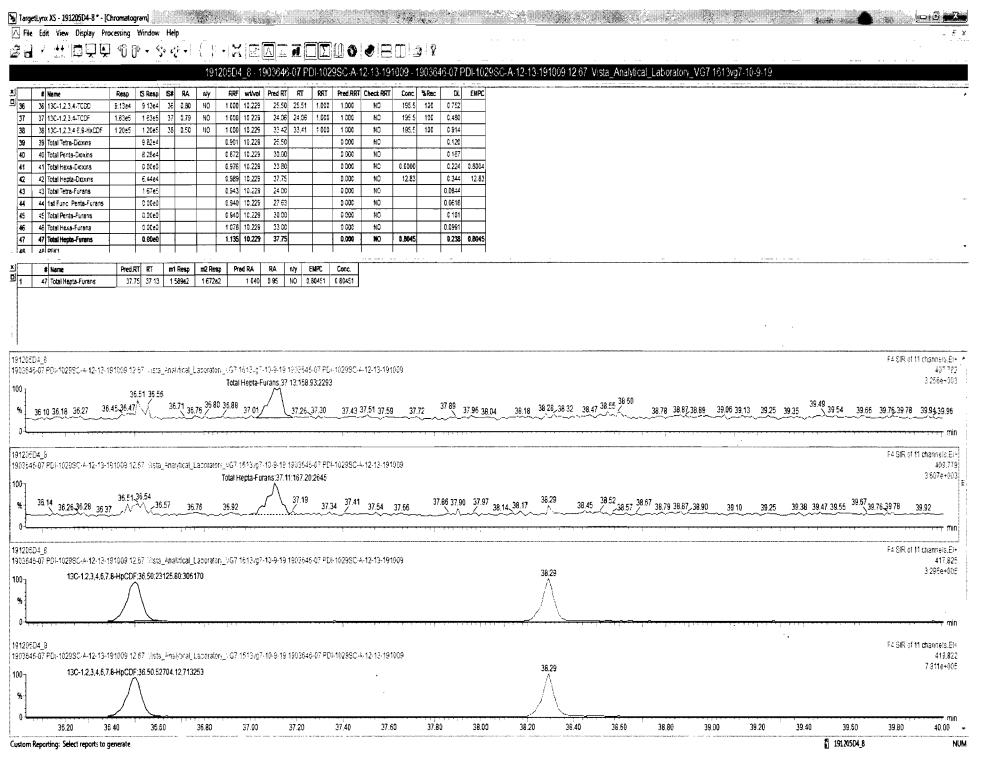




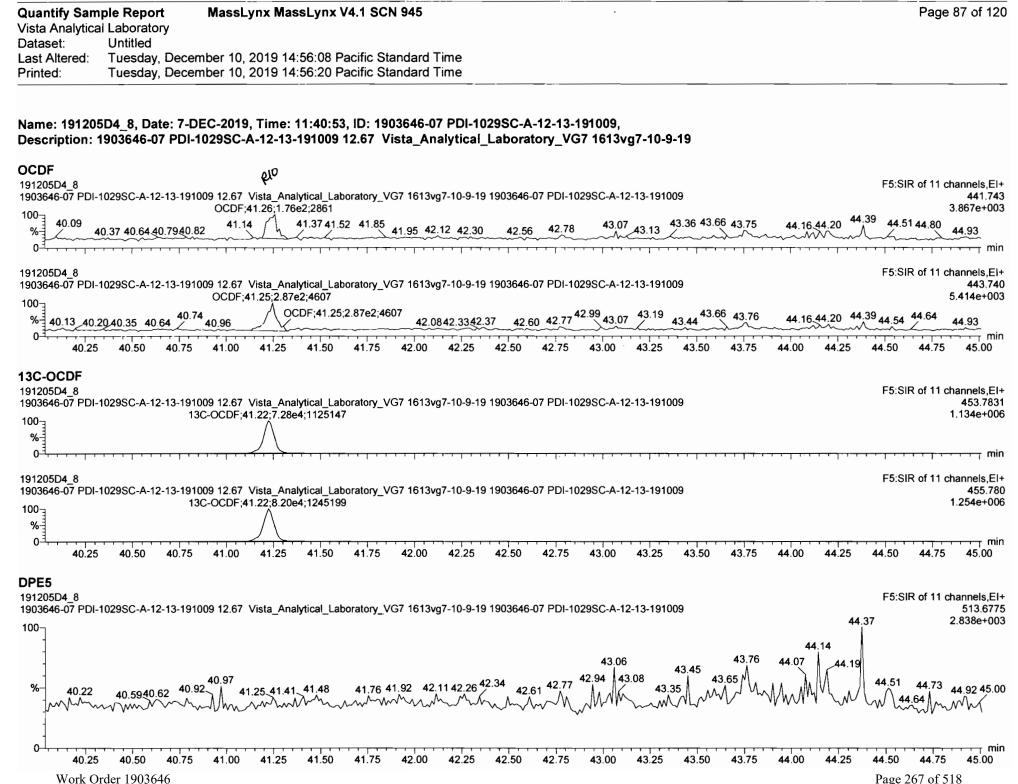
Work Order 1903646





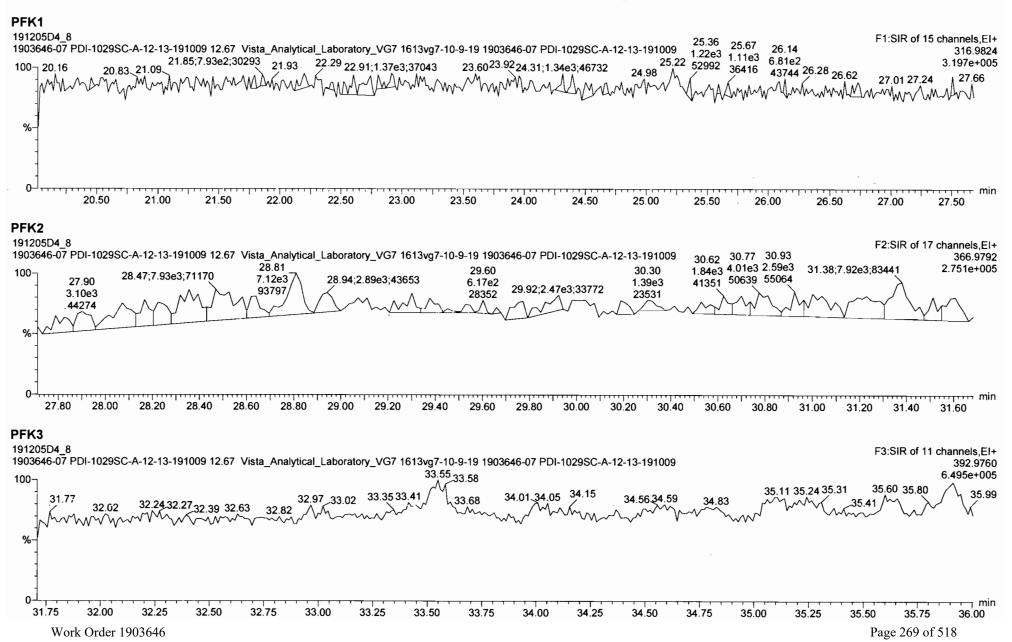


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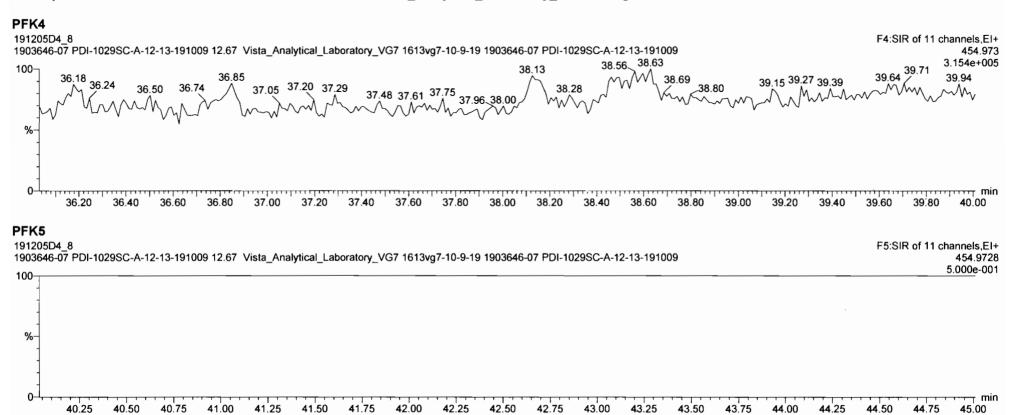


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11			4.46e2	1.55e5		-	And the owner of the owner	10.229		41.26		1.000	NO	1.190	_		9799												
18		C-2,3.7,8-TCDD C-1,2.3,7,8-PeCDD	9 82e4 8.28e4	9 13e4 9 13e4	3€ 078 36 061	NO		10.229 10 229		26.07 30 59		1 021	NO NO	201 1	98 2 103	0.687	-												
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21		C-1.2 3.6 7.8-HxCDD	_	1 20e5	38 1.27	NO	_	19.229		34 99		1 917	NO	-	528	0.713													
2		C-1,2,3,7 8,9-HxCDC	_	1 20e5	38 1.27			10.229		34.29 37.76		1.026	NO		81.9	0 756	_												
2	_	C-1.2 3.4 <u>.6.7</u> ,8-HpCL C-OCDD	1.22ef	1 20e5 1 20e5	38 1 07 38 0.93	NO		10 229 10 229		41.01		1.125 1.225	NO NO	-	81.9 87.8	1.47													
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<b>Quantify Sam</b>	ple Report	MassLynx MassLynx V4.1 SCN 945	
Vista Analytica	l Laboratory		
Dataset:	Untitled		
Last Altered:	Tuesday, Dece	ember 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, Dece	ember 10, 2019 14:56:20 Pacific Standard Time	



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Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	Laboratory	
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	<b># Name</b>	Area	IS Area	Wt.Nol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
<b>1</b> - 2000	1 2,3,7,8-TCDD		8.47e4	10.3237	✓0.905			1.001		26.10					0.222
2	2 1,2,3,7,8-PeCDD		7.08e4	10.3237	0.903			1.001		30.62					0.192
3	3 1,2,3,4,7,8-HxCDD		5.96e4	10.3237	1.101			1.000		33.91					0.279
4. 建建全体限	4 1,2,3,6,7,8-HxCDD		6.57e4	10.3237	0.939			1.000		34.00					0.306
5	5 1,2,3,7,8,9-HxCDD		6.22e4	10.3237	0.961			1.001		34.34					0.326
6	6 1,2,3,4,6,7,8-HpCDD		5.44e4	10.3237	0.979			1.000		37.78					0.413
7 ****	7 OCDD	2.34e2	1.06e5	10.3237	0.959	1.244	YES	1.000	1.000	41.02	41.01	0.89554		0.754	0.284
8	8 2,3,7,8-TCDF		1.43e5	10.3237	0.950			1.001		25.31					0.163
9	9 1,2,3,7,8-PeCDF		1.14e5	10.3237	0.960			1.001		29.45					0.145
	10 2,3,4,7,8-PeCDF		1.17e5	10.3237	1.015			1.001		30.34					0.117
	11 1,2,3,4,7,8-HxCDF		8.55e4	10.3237	1.177			1.000		33.01					0.142
2.	12 1,2,3,6,7,8-HxCDF		8.97e4	10.3237	1.069			1.000		33.15					0.158
	13 2,3,4,6,7,8-HxCDF		8.73e4	10.3237	1.114			1.001		33.76					0.165
4	14 1,2,3,7,8,9-HxCDF		6.79e4	10.3237	1.062			1.000		34.68					0.270
<b>5 3</b>	15 1,2,3,4,6,7,8-HpCDF		5.93e4	10.3237	1.128			1.001		36.56					0.258
16.62.1	16 1,2,3,4,7,8,9-HpCDF		5.26e4	10.3237	1.280			1.000		38.31					0.209
	17 OCDF		1.33e5	10.3237	0.947			1.000		41.24					0.240
	18 13C-2,3,7,8-TCDD	8.47e4	8.70e4	10.3237	1.095	0.790	NO	1.021	1.022	26.04	26.07	172.17	88.9		0.638
	19 13C-1,2,3,7,8-PeCDD	7.08e4	8.70e4	10.3237	0.881	0.630	NO	1.187	1.200	30.27	30.60	179.00	92.4	.*	0.574
	20 13C-1,2,3,4,7,8-Hx	5.96e4	1.14e5	10.3237	0.642	1.313	NO	1.014	1.014	33.89	33.90	158.44	81.8		1.07
	21 13C-1,2,3,6,7,8-Hx	6.57e4	1.14e5	10.3237	0.856	1.289	NO	1.017	1.017	34.01	34.00	131.08	67.7		0.803
	22 13C-1,2,3,7,8,9-Hx	6.22e4	1.14e5	10.3237	0.807	1.271	NO	1.026	1.026	34.31	34.30	131.56	67.9		0:851
	23 13C-1,2,3,4,6,7,8-H	5.44e4	1.14e5	10.3237	0.654	1.071	NO	1.126	1.130	37.65	37.77	141.99	73.3		0.991
	24 13C-OCDD	1.06e5	1.14e5	10.3237	0.580	0.915	NO	1.226	1.227	40.99	41.02	310.99	80.3		0.748
a 💉 🚧	25 13C-2,3,7,8-TCDF	1.43e5	1.53e5	10.3237	1.035	0.798	NO	0.992	0.991	25.30	25.29	173.94	89.8		0.564
<b>Farman</b> i	26 13C-1,2,3,7,8-PeCDF	1.14e5	1.53e5	10.3237	0.854	1.572	NO	1.154	1.154	29.43	29.42	167.77	86.6		0.624
	27 13C-2,3,4,7,8-PeCDF	1.17e5	1.53e5	10.3237	0.847	1.659	NO	1.189	1.188	30.33	30.31	173.62	89.6		0.630
	28 13C-1,2,3,4,7,8-Hx	8.55e4	1.14e5	10.3237	0.832	0.516	NO	0.987	0.988	33.00	33.01	175.24	90.5		1.01
	29 13C-1,2,3,6,7,8-Hx	8.97e4	1.14e5	10.3237	1.034	0.516	NO	0.991	0.991	33.12	33.14	147.97	76.4		0.809
	30 13C-2,3,4,6,7,8-Hx	8.73e4	1.14e5	10.3237	0.953	0.506	NO	1.009	1.009	33.74	33.73	156.13	80.6		0.878
	31 13C-1,2,3,7,8,9-Hx	6.79e4	1.14e5	10.3237	0.828	0.544	NO	1.039	1.038	34.72	34.68	139.84	72.2		1.01

Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	al Laboratory	
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Last Altered:	Wednesday, December 11	, 2019 11:27:35 Pacific Standard Time
Printed:	Wednesday, December 11	, 2019 11:29:10 Pacific Standard Time

	# Name	Area	IS Area	WL/Vol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC
32	32 13C-1,2,3,4,6,7,8-H	5.93e4	1.14e5	10.3237	0.757	0.463	NO	1.093	1.093	36.53	36.53	133.52	68.9	1.34
33]]]. 封計	33 13C-1,2,3,4,7,8,9-H	5.26e4	1.14e5	10.3237	0.581	0.440	NO	1.143	1.146	38.21	38.31	154.25	79.6	1.75
34 3 20	34 13C-OCDF	1.33e5	1.14e5	10.3237	0.689	0.876	NO	1.233	1.234	41.22	41.24	329.67	85.1	0.935
<b>35</b>	35 37CI-2,3,7,8-TCDD	3.90e4	8.70e4	10.3237	1.198			1.022	1.023	26.07	26.10	72.565	93.6	0.242
36	36 13C-1,2,3,4-TCDD	8.70e4	8.70e4	10.3237	1.000	0.797	NO	1.000	1.000	25.50	25.51	193.73	100.0	0.699
37	37 13C-1,2,3,4-TCDF	1.53e5	1.53e5	10.3237	1.000	0.803	NO	1.000	1.000	24.06	24.07	193.73	100.0	0.584
38	38 13C-1,2,3,4,6,9-Hx	1.14e5	1.14e5	10.3237	1.000	0.512	NO	1.000	1.000	33.42	33.43	193.73	100.0	0.837
39	39 Total Tetra-Dioxins		8.47e4	10.3237	0.901			0.000		25.50				0.124
<b>40.</b>	40 Total Penta-Dioxins		7.08e4	10.3237	0.872			0.000		30.00				0.101
4	41 Total Hexa-Dioxins		0.00e0	10.3237	0.976			0.000		33.80				0.155
2	42 Total Hepta-Dioxins		5.44e4	10.3237	0.989			0.000		37.75				0.238
<b>43</b>	43 Total Tetra-Furans		1.43e5	10.3237	0.943			0.000		24.00				0.0763
	44 1st Func. Penta-Fur		0.00e0	10.3237	0.940			0.000		27.63				0.0434
<b>15. – 1</b> – 1	45 Total Penta-Furans		0.00e0	10.3237	0.940			0.000		30.00				0.0484
<b>46 - 1</b> - 1	46 Total Hexa-Furans		0.00e0	10.3237	1.078			0.000		33.00				0.0900
<b>97 1 1</b> 3 5	47 Total Hepta-Furans		0.00e0	10.3237	1.135			0.000		37.75				0.141

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Page 2 of 2

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:18:12

Name: 191205D4_9, Date: 7-DEC-2019, Time: 12:28:50, ID: 1903646-08 PDI-038SC-A-12-13-191009, Description: 1903646-08 PDI-038SC-A-12-13-191009 12.83 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

#### Tetra-Dioxins

# Name Response Primary Flags Conc. EMPC

#### Penta-Dioxins

# Name: # Name: Flags Conc. REMPC

#### Hexa-Dioxins

* Name States N/Y States RI MATER IS Area Bestronge Bridgery Flegs Conc MENPC

#### **Hepta-Dioxins**

### Tetra-Furans

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#### **Penta-Furans function 1**

#### Penta-Furans

			S			

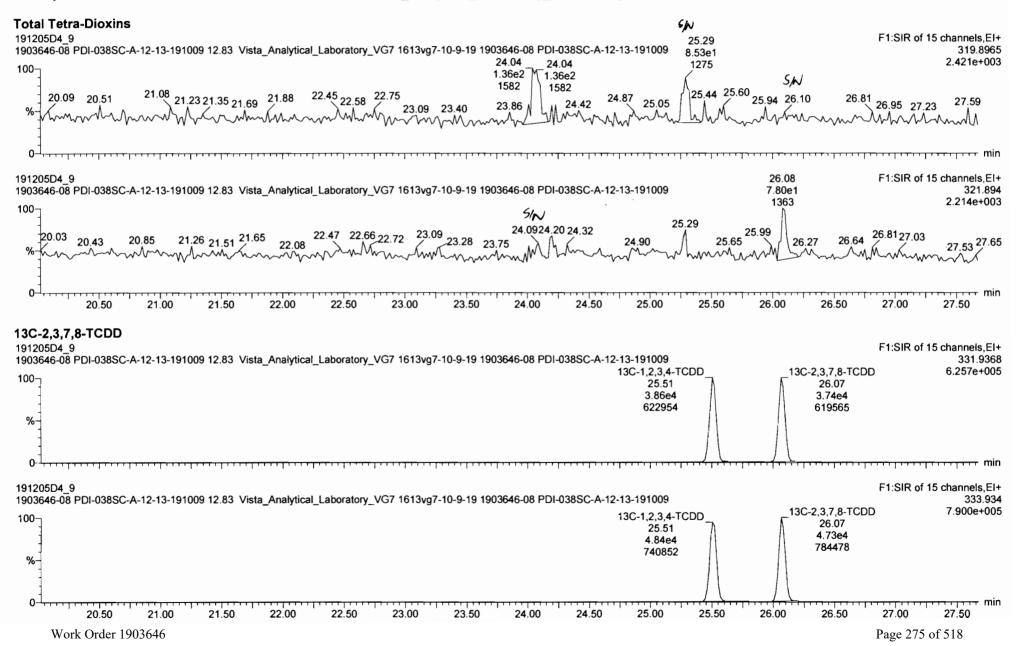
#### Hexa-Furans

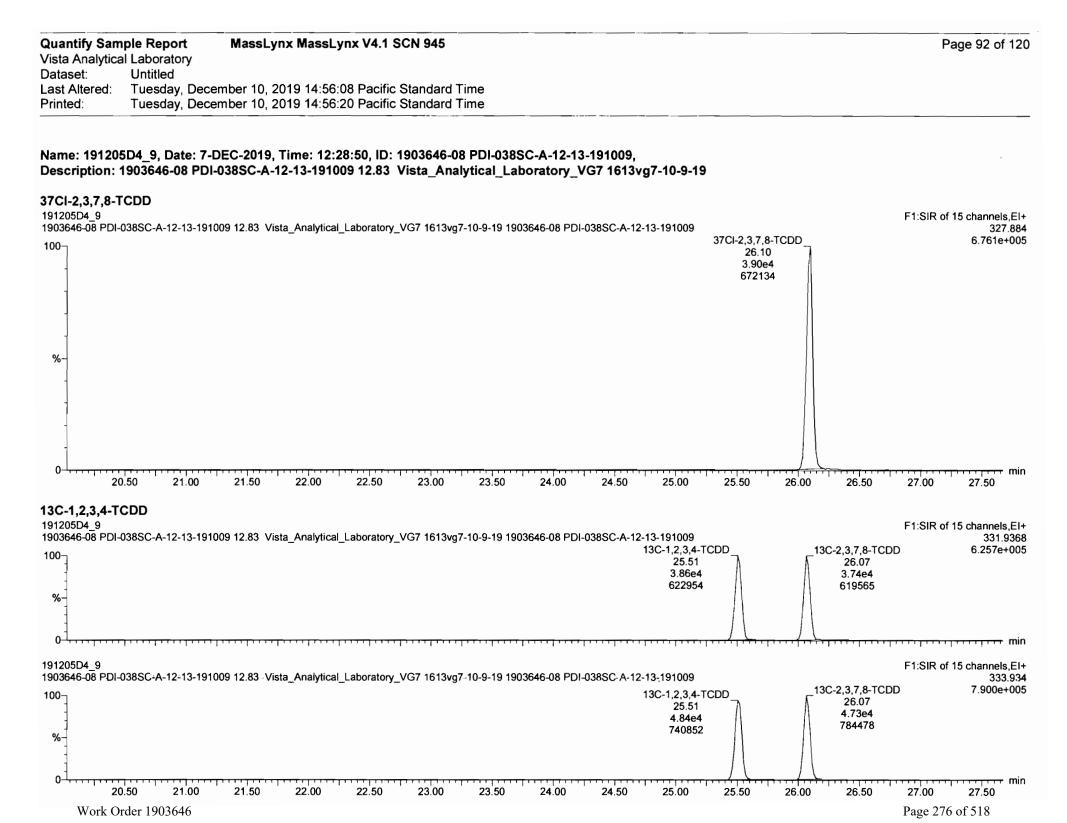
With and Area Marea Response Primary Flags
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#### **Hepta-Furans**

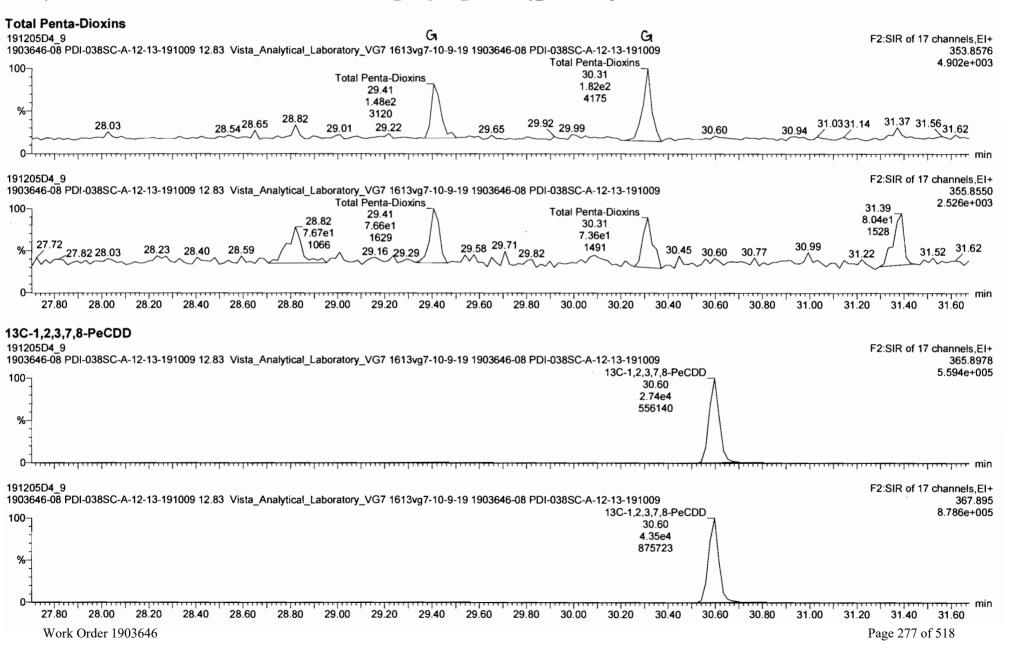
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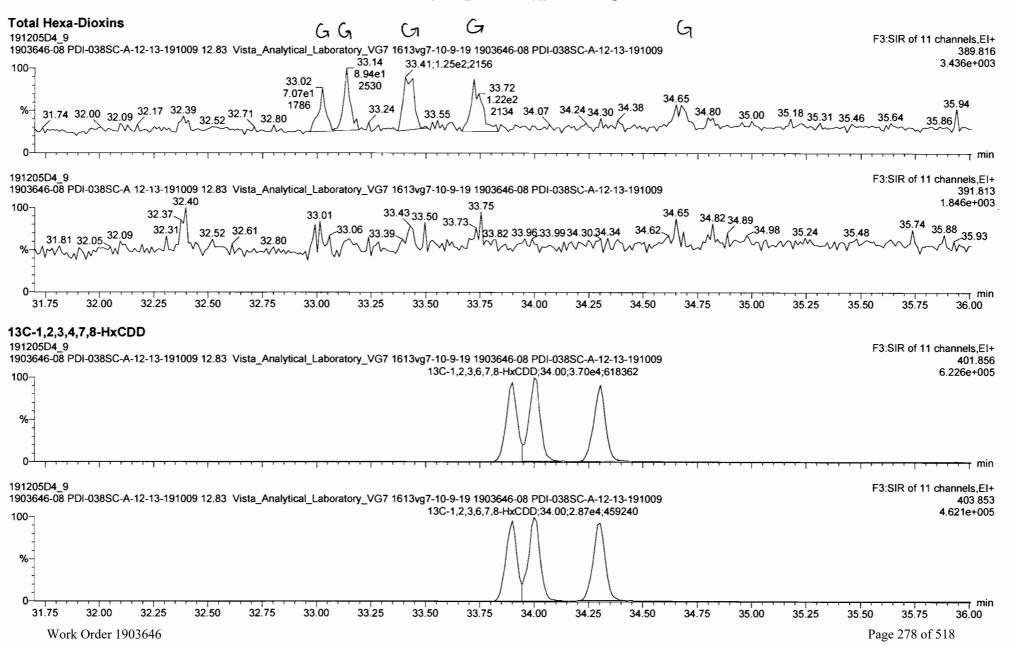
Quantify Sam	ple Report	MassLynx M	lassLyn	c V4.1 SCN 945	
Vista Analytica	I Laboratory				
Dataset:	Untitled				
Last Altered:				Pacific Standard	
Printed:	Tuesday, Dec	ember 10, 2019	14:56:20	Pacific Standard	Time

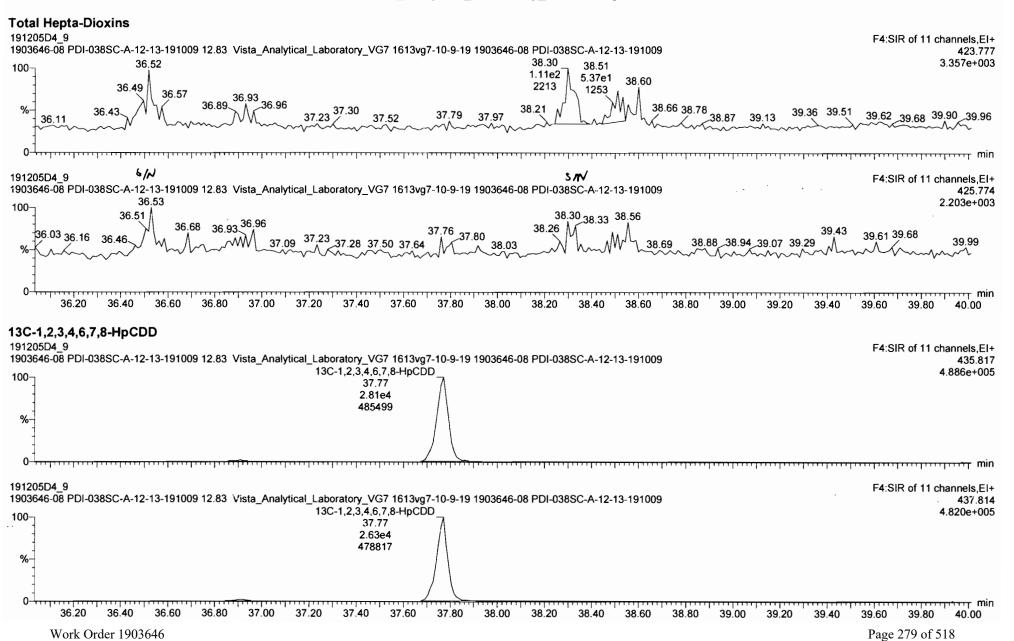


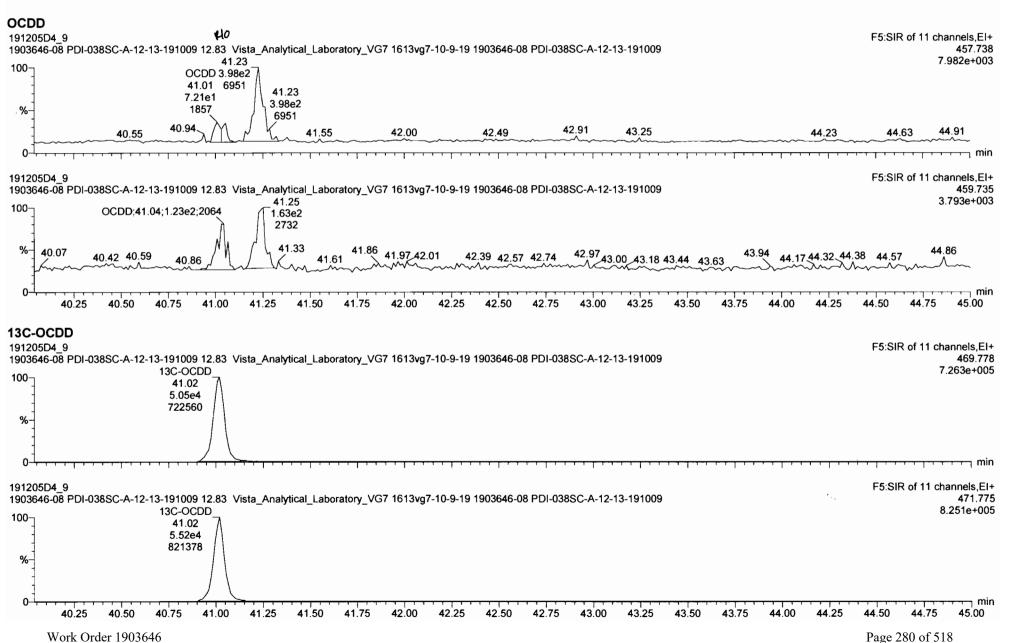


Quantify Sam	nple Report	MassLynx MassLynx V4.1 SCN 945	Page 93 of 120
Vista Analytica	al Laboratory		
Dataset:	Untitled		
Last Altered:	Tuesday, Deo	ember 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, Deo	ember 10, 2019 14:56:20 Pacific Standard Time	









Escate OB PDL: 038BC - 4-12-15-191000 12 83 Viete_Snapkcal_LaboratorVG7 1913;g7-10-8-19 190564.6 0F PDL: 038BC - 4-12-13-191009          OCCOD 1121 0000         ULD         U	ile Edit View Display Pro		i de la companya de l Internación de la companya de la comp
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1023348400       1964       196       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198       198	# Name	Resp IS Resp IS# RA My RRF without Pred RT RT RRT Pred RRT Check RRT Conc. %Rec DL EMPC	
13/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000       12/21/2000 <td>1 2 3.7 8-TCDD</td> <td>8.47e4 18 0 905 10 324 26 10 1 001 HC 0 222</td> <td></td>	1 2 3.7 8-TCDD	8.47e4 18 0 905 10 324 26 10 1 001 HC 0 222	
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Chi Li Jacobiane         Files         Li Ling         Ling <thling< th=""> <thling< th="">         Ling<td>10 2 3,4.7,8-PeCDF</td><td></td><td></td></thling<></thling<>	10 2 3,4.7,8-PeCDF		
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Invert         Next N         No. 40         No. 40         Dec Concerns           1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         <			
R1_3         R1_4         R1_4 <td< td=""><td>1 1312 7 2 F 7 R.HyrDF</td><td></td><td>· · · · · · · · · · · · · · · · · · ·</td></td<>	1 1312 7 2 F 7 R.HyrDF		· · · · · · · · · · · · · · · · · · ·
14-1       412       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       413       413       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414       414	# Name	Fred.RT RT mt Resp m2 Resp Pred RA RA n/y EMPC Conc.	
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42-03 PE(-0.088C - +12-11-19100 12 83 :Hets_Ana)4cal_Latorator1/07 1913,q7-10-4-19 19054-6 QP PD(+0385C - +12-13-191009 40.14 40.22 40.37 40.42 40.45 40.52 40.55 40.59 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.86 40.75 40.84 40.84 40.75 40.84 40.84 40.75 40.84 40.84 40.75 40.84 40.84 40.75 40.84 40.84 40.75 40.84 40.84 40.75 40.84 40.84 40.75 40.84 40.84 40.75 40.75 40.84 40.84 40.75 40.75 40.75 40.84 40.84 40.84 40.84 40.84 40.75 40.75 40.75 40.84 40.84 40.84 40.75 40.75 40.75 40.84 40.84 40.84 40.75 40.75 40.84 40.84 40.75 40.75 40.84 40.84 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.85 40.75 40.75 40.85 40.75 40.75 40.85 40.75 40.75 40.85 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.75 40.	40.17 40.22		
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<b>i</b> 19120504 9			

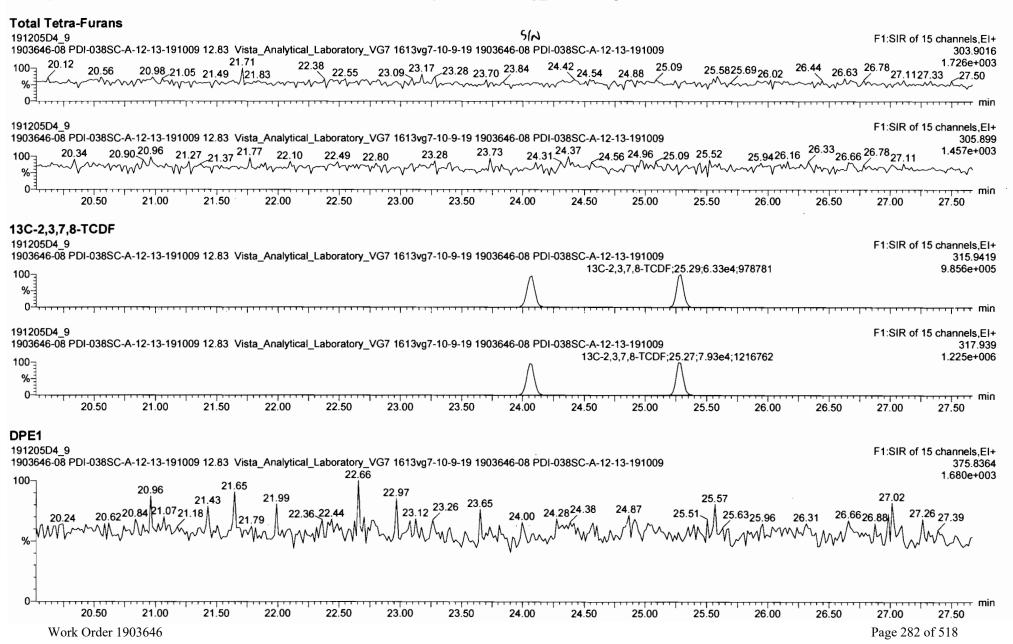
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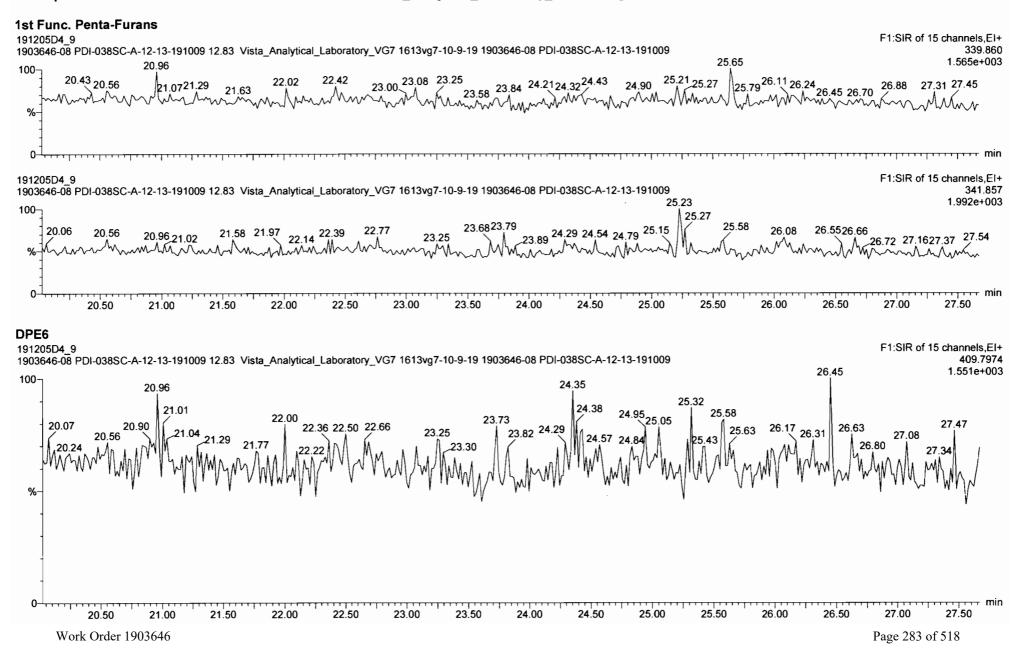
🐚 Targetiynx XS - 191205D4-9 * - [Chromatogram]

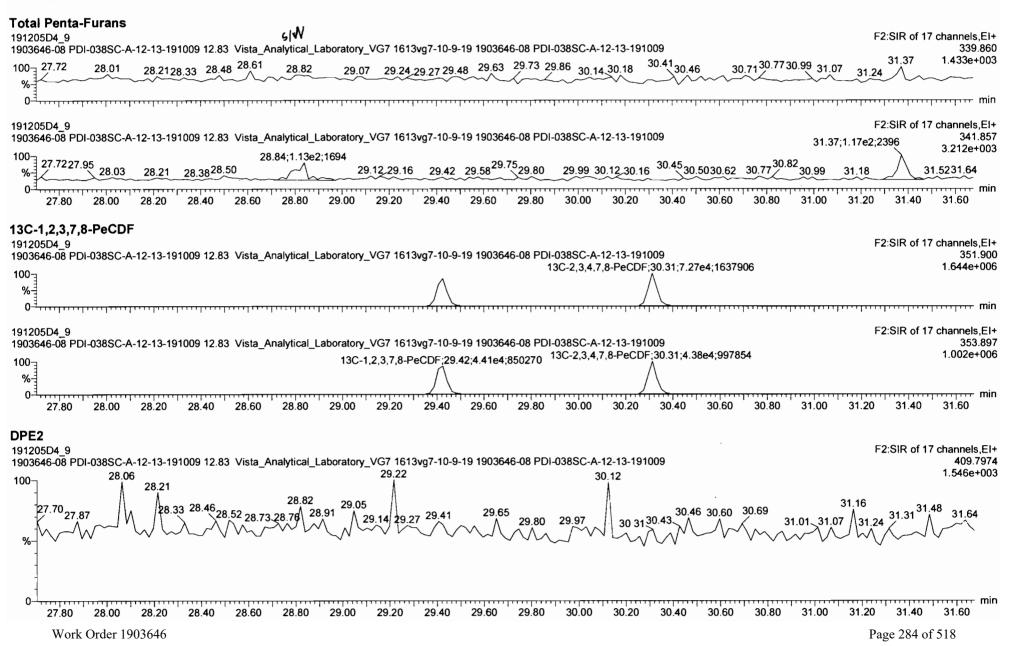
12/18

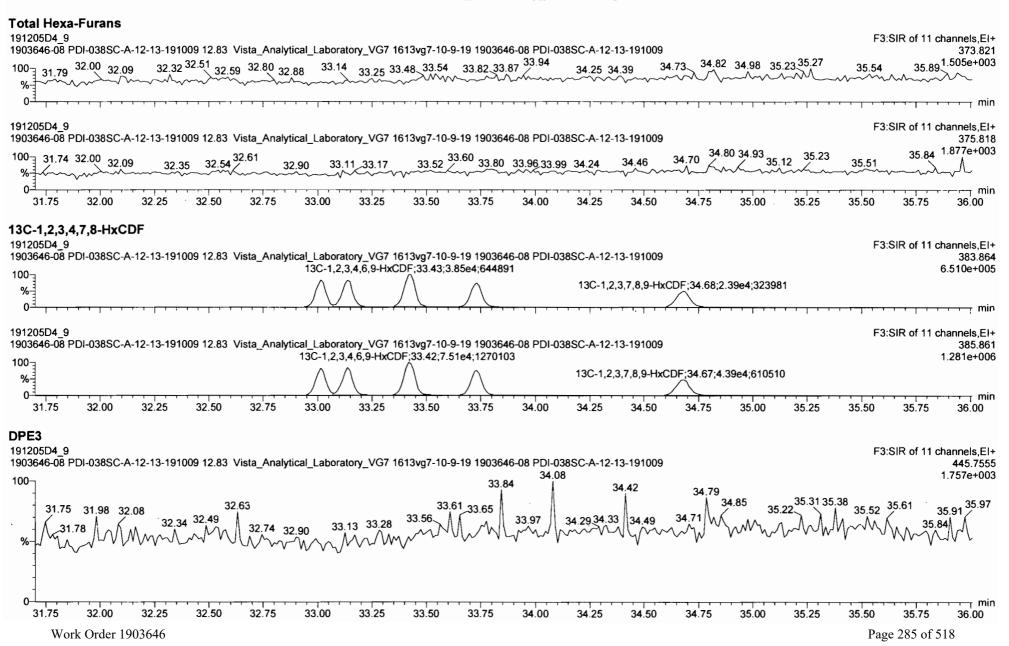
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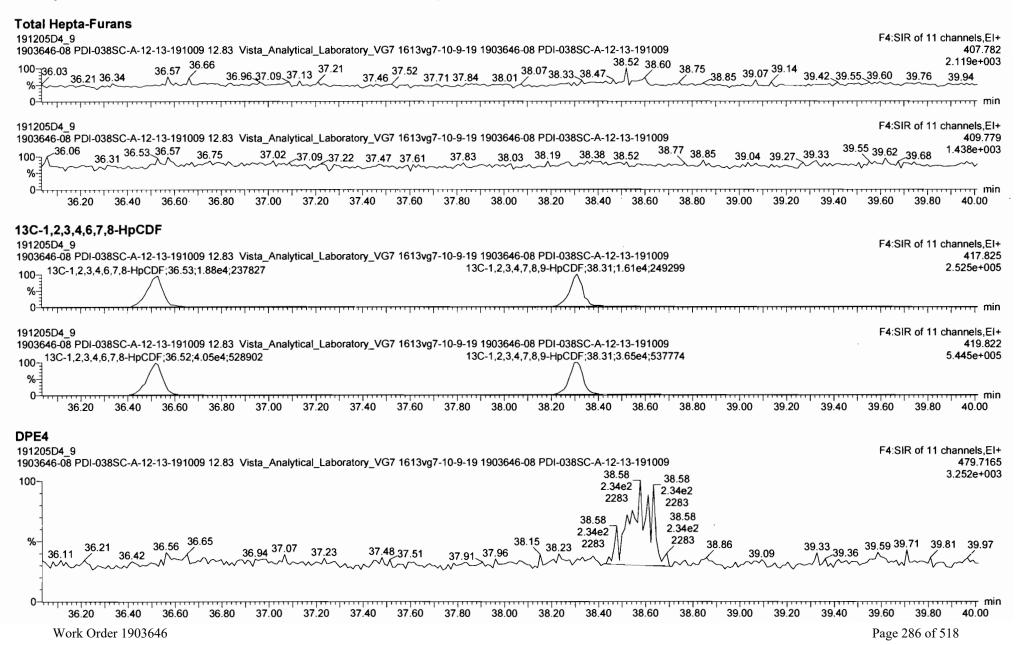
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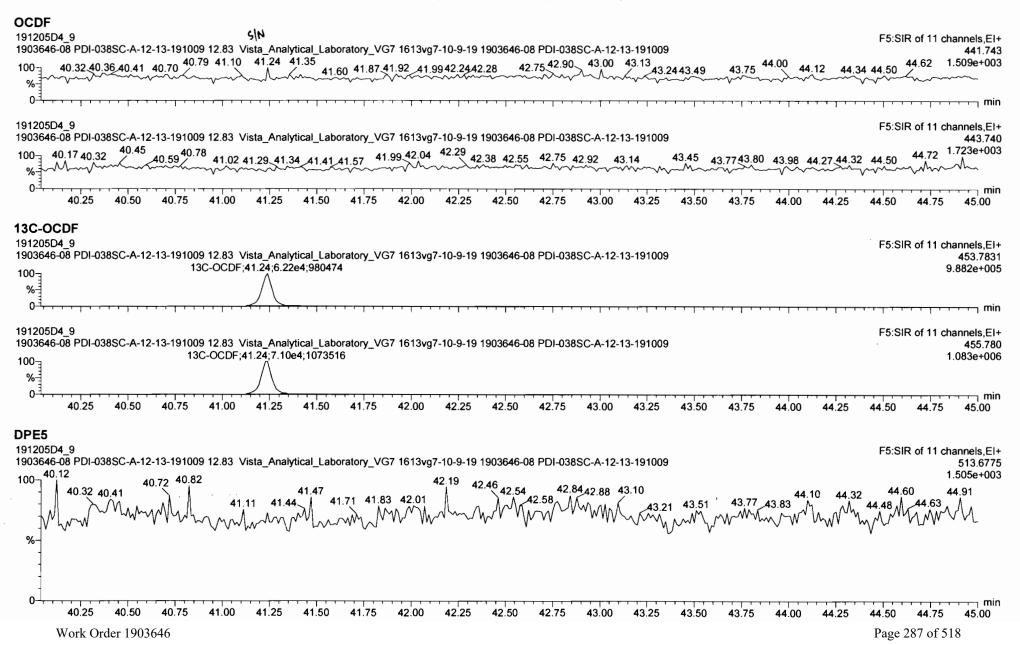




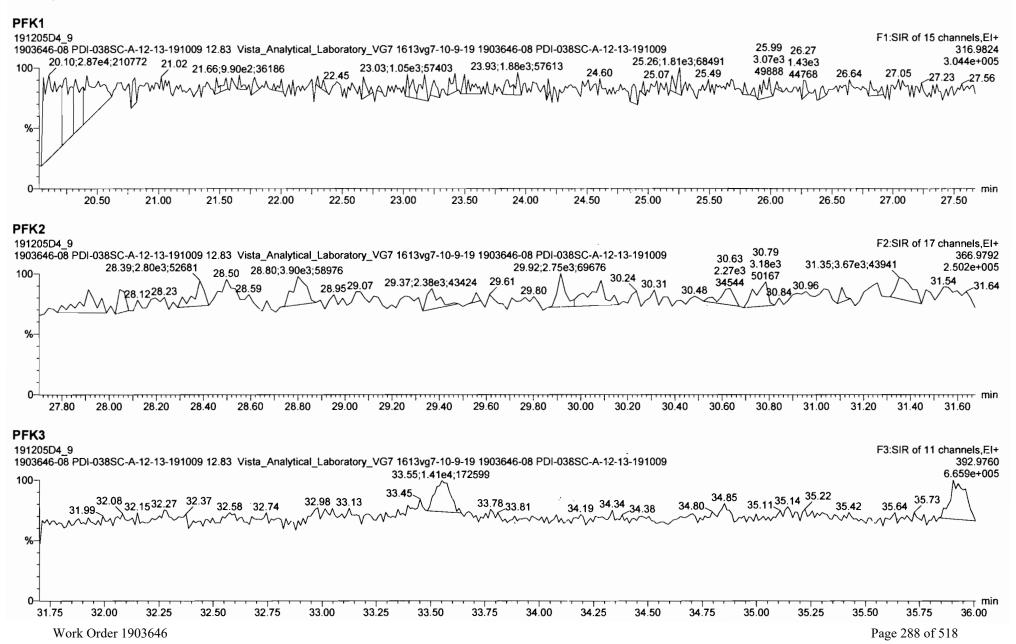




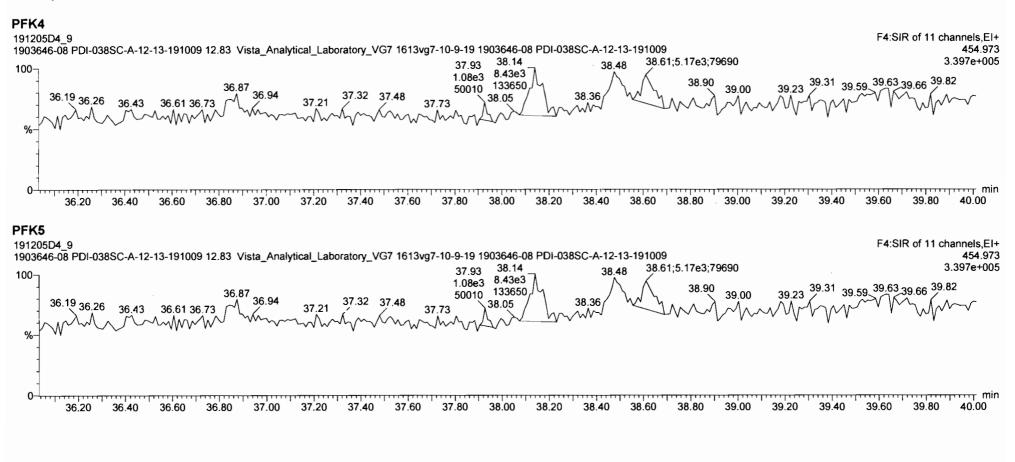




Quantify Sam	nple Report MassLynx MassLynx V4.1 SCN 945	Page 103 of 120				
Vista Analytical Laboratory						
Dataset:	Untitled					
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time					
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time					
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time					



Quantify Sam	nple Report MassLynx MassLynx V4.1 SCN 945	Page 104 of 120
Vista Analytica	al Laboratory	
Dataset:	Untitled	
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	



Quantify Sam	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	I Laboratory	
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Last Altered:	Wednesday, December 1	1, 2019 11:37:29 Pacific Standard Time
Printed:	Wednesday, December 1	1, 2019 11:39:21 Pacific Standard Time

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:18:31 J

المراجع	# Name	Area	IS Area	WL/Vol.	RRF	RA	Y/N_1	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
15-20-0	1 2,3,7,8-TCDD		8.91e4	10.1965	0.905			1.001		26.11					0.212
2	2 1,2,3,7,8-PeCDD		7.54e4	10.1965	0.903			1.001		30.62					0.208
3	3 1,2,3,4,7,8-HxCDD		5.90e4	10.1965	1.101			1.000		33.91					0.309
4	4 1,2,3,6,7,8-HxCDD		6.74e4	10.1965	0.939			1.000		34.01					0.352
5	5 1,2,3,7,8,9-HxCDD		6.75e4	10.1965	0.961			1.001		34.34					0.358
6	6 1,2,3,4,6,7,8-HpCDD	4.70e2	5.97e4	10.1965	0.979	1.075	NO	1.000	1.000	37.78	37.78	1.5753		1.58	0.487
7	7 OCDD	3.28e3	1.11e5	10.1965	0.959	0.873	NO	1.000	1.000	41.03	41.03	12.098		12.1	0.960
8	8 2,3,7,8-TCDF		1.51e5	10.1965	0.950			1.001		25.31					0.156
9.00	9 1,2,3,7,8-PeCDF		1.17e5	10.1965	0.960			1.001		29.45					0.134
10	10 2,3,4,7,8-PeCDF		1.18e5	10.1965	1.015			1.001		30.35					0.125
16.2.3	11 1,2,3,4,7,8-HxCDF		8.63e4	10.1965	1.177			1.000		33.02					0.132
12 22 34	12 1,2,3,6,7,8-HxCDF		9.31e4	10.1965	1.069			1.000		33.15					0.143
	13 2,3,4,6,7,8-HxCDF		8.84e4	10.1965	1.114			1.001		33.77					0.162
14	14 1,2,3,7,8,9-HxCDF		7.85e4	10.1965	1.062			1.000		34.69					0.201
<b>(5)</b>	15 1,2,3,4,6,7,8-HpCDF		6.62e4	10.1965	1.128			1.001		36.55					0.212
16 BERRY	16 1,2,3,4,7,8,9-HpCDF		5.96e4	10.1965	1.280			1.000		38.31					0.176
	17 OCDF		1.39e5	10.1965	0.947			1.000		41.25					1.91
	18 13C-2,3,7,8-TCDD	8.91e4	8.86e4	10.1965	1.095	0.785	NO	1.021	1.023	26.05	26.08	180.27	91.9		0.744
	19 13C-1,2,3,7,8-PeCDD	7.54e4	8.86e4	10.1965	0.881	0.640	NO	1.187	1.200	30.27	30.60	189.46	96.6		0.453
	20 13C-1,2,3,4,7,8-Hx	5.90e4	1.15e5	10.1965	0.642	1.307	NO	1.014	1.014	33.89	33.90	156.76	79.9		0.922
	21 13C-1,2,3,6,7,8-Hx	6.7 <b>4e4</b>		10.1965	0.856	1.268	NO	1.017	1.017	34.01	34.01	134.37	68.5		0.692
	22 13C-1.2,3,7,8,9-Hx	6.75e4	1.15e5	10.1965	0.807	1.285	NO	1.026	1.026	34.31	34.30	142.82	72.8		0.734
See the second second second second	23 13C-1,2,3,4,6,7,8-H	5.97e4	1.15e5	10.1965		1.084	NO	1.126	1.130	37.65	37.77	155.79	79.4		1.30
	24 13C-OCDD	1.11e5	1.15e5	10.1965		0.891	NO	1.226	1.227	40.99	41.03	326.95	83.3		0.711
	25 13C-2,3,7,8-TCDF	1.51e5	1.54e5	10.1965	1.035	0.794	NO	0.992	0.991	25.30	25.29	185.82	94.7		0.502
	26 13C-1,2,3,7,8-PeCDF	1.17e5	1.54e5	10.1965	0.854	1.571	NO	1.154	1.154	29.43	29.43	174.42	88.9		0.964
	27 13C-2,3,4,7,8-PeCDF	1.18e5	1. <b>54</b> e5	10.1965	0.847	1.543	NO	1.189	1.188	30.33	30.32	176.85	90.2		0.972
28.53.4	28 13C-1,2,3,4,7,8-Hx	8.63e4	1.15e5	10.1965	0.832	0.500	NO	0.987	0.988	33.01	33.02	176.98	90.2		1.12
The state of the s	29 13C-1,2,3,6,7,8-Hx	9.31e4	1.15e5	10.1965	1.034	0.520	NO	0.991	0.991	33.12	33.14	153.51	78.3		0.903
	30 13C-2,3,4,6,7,8-Hx	8.84e4	1.15e5	10.1965	0.953	0.513	NO	1.009	1.009	33.74	33.73	158.25	80.7		0.980
的教室化就	31 13C-1,2,3,7,8,9-Hx	7.85e4	1.15e5	10.1965	0.828	0.499	NO	1.039	1.038	34.72	34.69	161.76	82.5		1.13

<b>Quantify Sam</b>	ple Summary Report	MassLynx MassLynx V4.1 SCN 945
Vista Analytica	I Laboratory	
Dataset:	U:\VG7.PRO\Results\19120	05D4\191205D4-10.qld
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Printed:	Wednesday, December 11,	2019 11:39:21 Pacific Standard Time

	# Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL .
32	32 13C-1,2,3,4,6,7,8-H	6.62e4	1.15e5	10.1965	0.757	0.439	NO	1.093	1.092	36.53	36.52	149.06	76.0		1.08
33	33 13C-1,2,3,4,7,8,9-H	5.96e4	1.15e5	10.1965	0.581	0.443	NO	1.143	1.146	38.21	38.31	174.82	89.1		1.41
34	34 13C-OCDF	1.39e5	1.15e5	10.1965	0.689	0.883	NO	1.233	1.234	41.23	41.25	344.80	87.9		0.603
35	35 37CI-2,3,7,8-TCDD	3.99e4	8.86e4	10.1965	1.198			1.022	1.023	26.07	26.10	73.738	94.0		0.235
36	36 13C-1,2,3,4-TCDD	8.86e4	8.86e4	10.1965	1.000	0.814	NO	1.000	1.000	25.50	25.51	196.14	100.0		0.815
37	37 13C-1,2,3,4-TCDF	1.54e5	1.5 <b>4e</b> 5	10.1965	1.000	0.790	NO	1.000	1.000	24.06	24.08	196.14	100.0		0.519
38	38 13C-1,2,3,4,6,9-Hx	1.15e5	1.15e5	10.1965	1.000	0.506	NO	1.000	1.000	33.42	33.43	196.14	100.0		0.934
39	39 Total Tetra-Dioxins		8.91e4	10.1965	0.901			0.000		25.50					0.103
40	40 Total Penta-Dioxins		7.54e4	10.1965	0.872			0.000		30.00					0.101
41	41 Total Hexa-Dioxins		0.00e0	10.1965	0.976			0.000		33.80		1.2358		1.24	0.347
42	42 Total Hepta-Dioxins		5.97e4	10.1965	0.989			0.000		37.75		3.9819		3.98	0.483
43	43 Total Tetra-Furans		1.51e5	10.1965	0.943			0.000		24.00					0.0770
	44 1st Func. Penta-Fur		0.00e0	10.1965	0.940			0.000		27.63					0.0426
<b>4</b> 5	45 Total Penta-Furans		0.00e0	10.1965	0.940			0.000		30.00					0.0580
6	46 Total Hexa-Furans		0.00e0	10.1965	1.078			0.000		33.00					0.0954
47. 建非常	47 Total Hepta-Furans		0.00e0	10.1965	1.135			0.000		37.75					0.104

Method: U:\VG7.pro\MethDB\1613VG7-12-4-19.mdb 06 Dec 2019 10:27:59 Calibration: 10 Dec 2019 15:18:31

# Name: 191205D4_10, Date: 7-DEC-2019, Time: 13:16:49, ID: 1903646-09 PDI-038SC-A-13-13.7-191009, Description: 1903646-09 PDI-038SC-A-13-13.7-191009 13.92 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19

### **Tetra-Dioxins**

IS Area IS Area Response Primary Flags

### Penta-Dioxins

### **Hexa-Dioxins**

	<b>INY</b> 2	R		<b>SArea</b>	Response	Primary Flags	Conc.	geup:
41 Total Hexa-Dioxins	NO	32.39	206.967	36359.938	12.297	MM	1.2358	1.24

### **Hepta-Dioxins**

THE REPORT OF NAMES AND ADDRESS OF A DESCRIPTION OF A DESCRIPANTE A DESCRIPTICA DESCRIPTION OF A DESCRIPTION OF A DESCRIPTION	<b>NAS</b>			des dispira	Restricte	Primary Flags		
42 Total Hepta-Dioxins	NO	36.93	354.145	31054.818	24.261	MM	2.4065	2.41
6 1,2,3,4,6,7,8-HpCDD	NO	37.78	243.322	31054.818	15.732	MM	1.5753	1.58

### **Tetra-Furans**

### Penta-Furans function 1

### Penta-Furans

 # Name Ended and INA
 RT
 IS Area
 Response Primary Flags

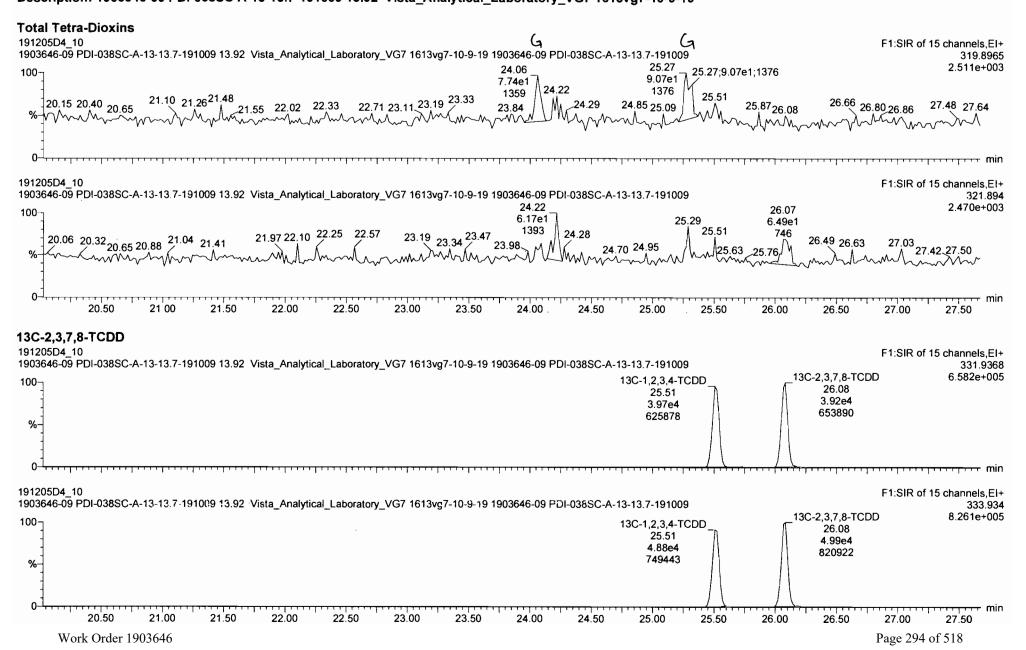
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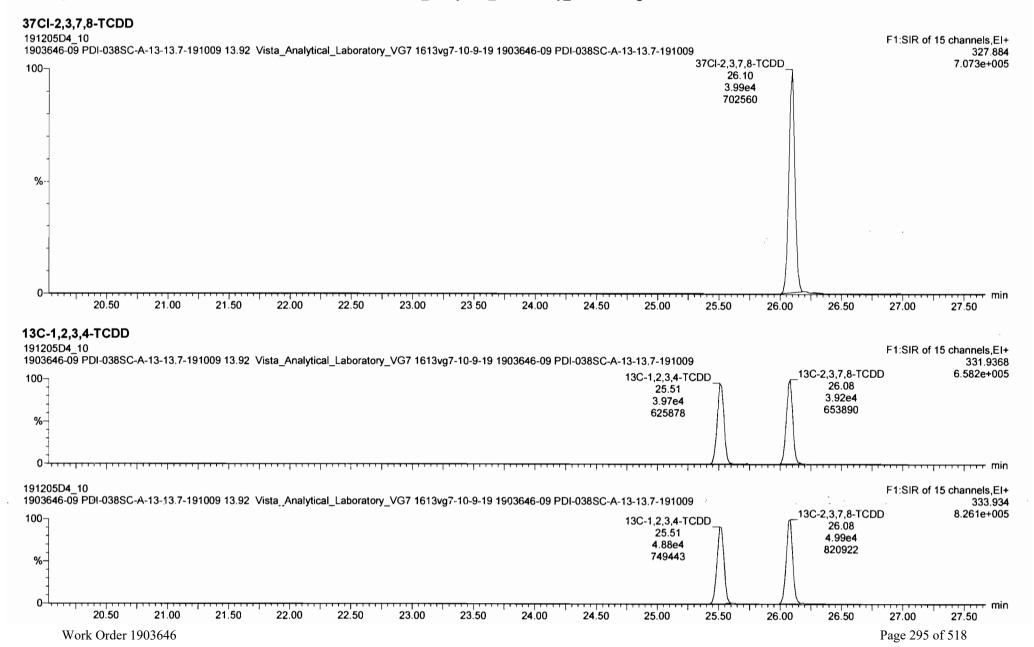
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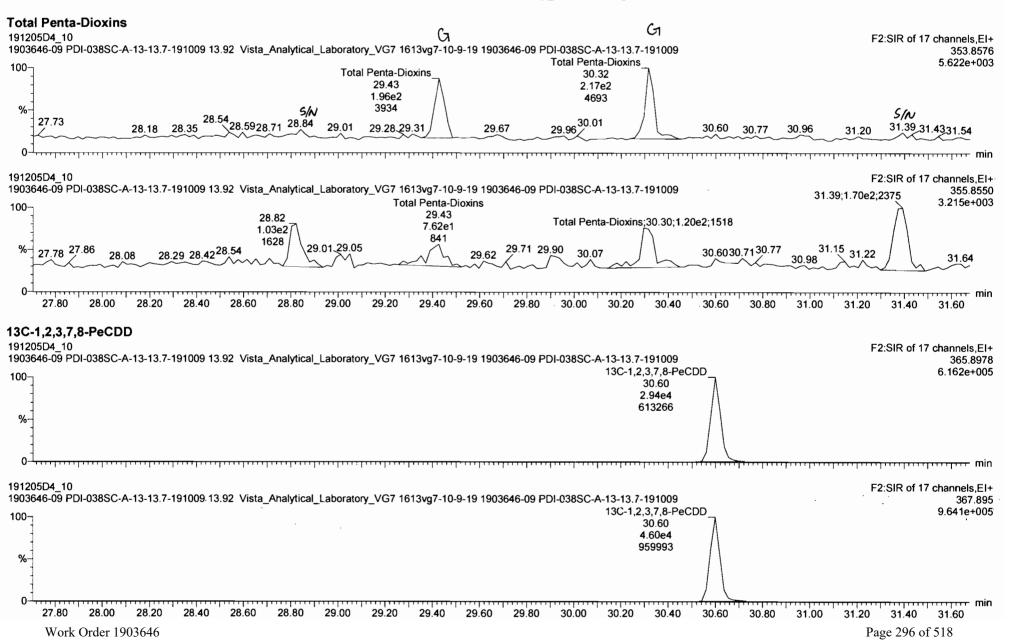
H Name Frimary Flags

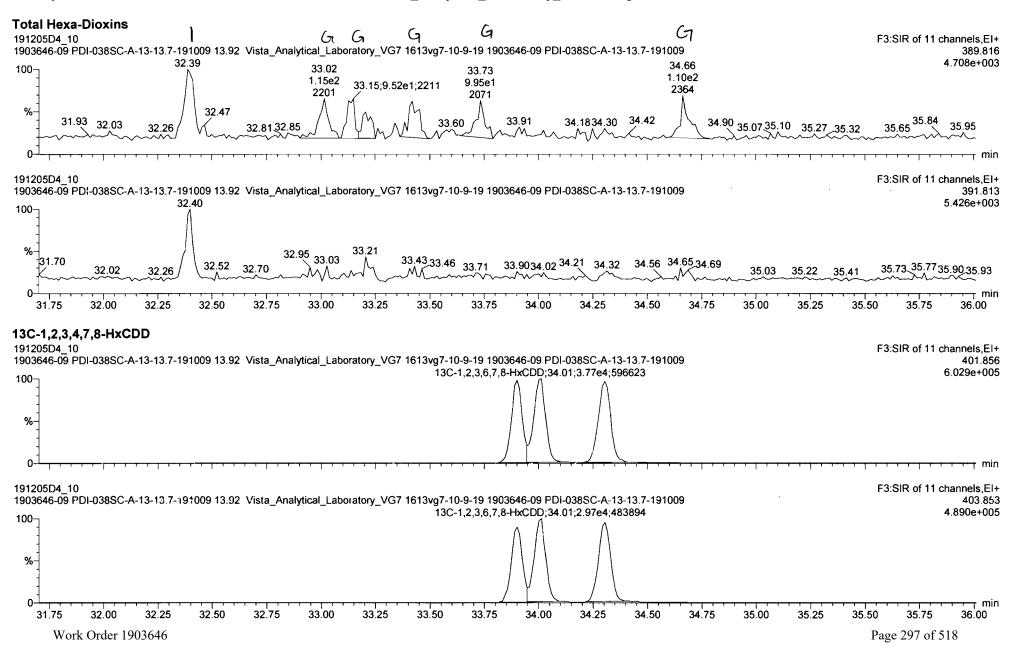
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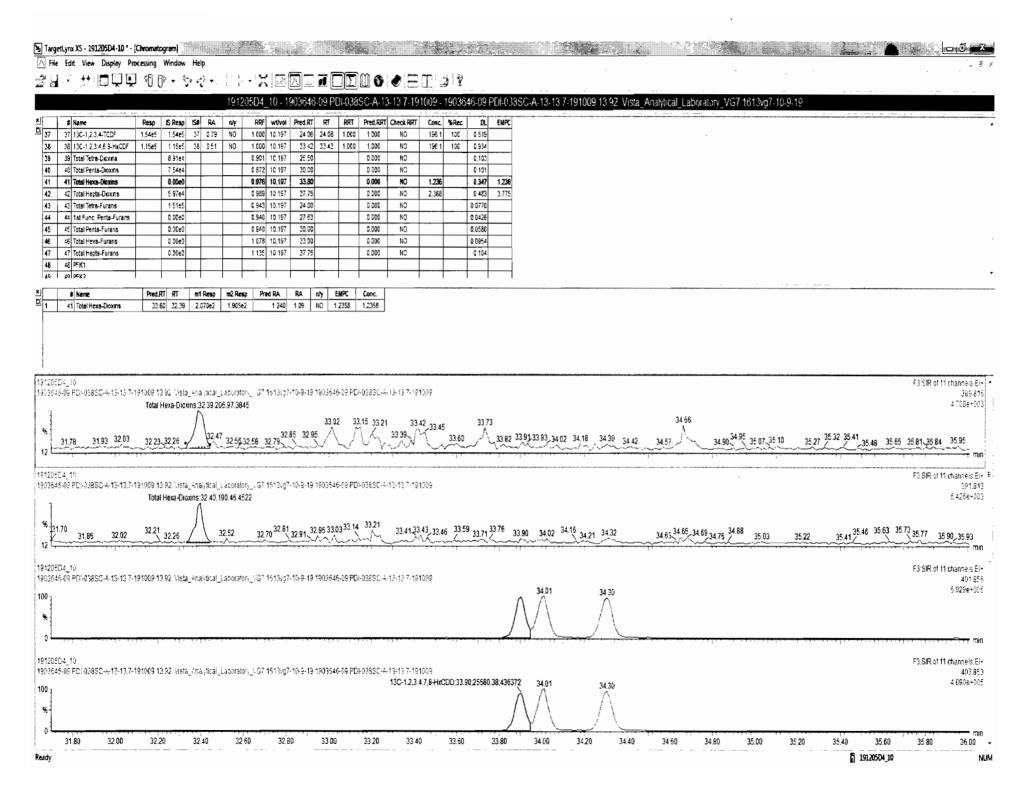
T Name Response Primary Flags

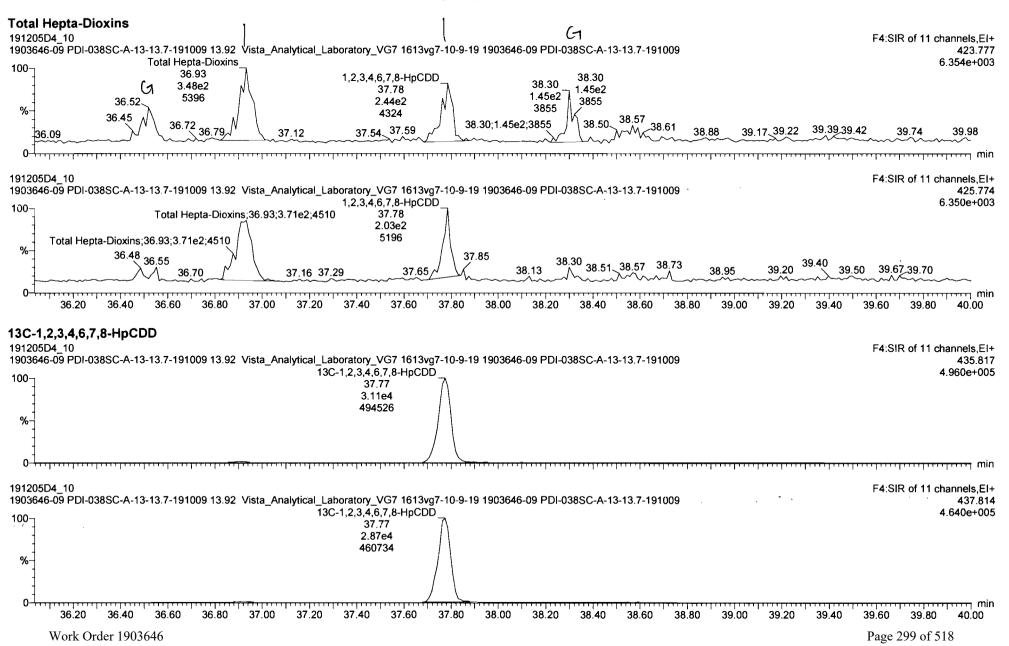


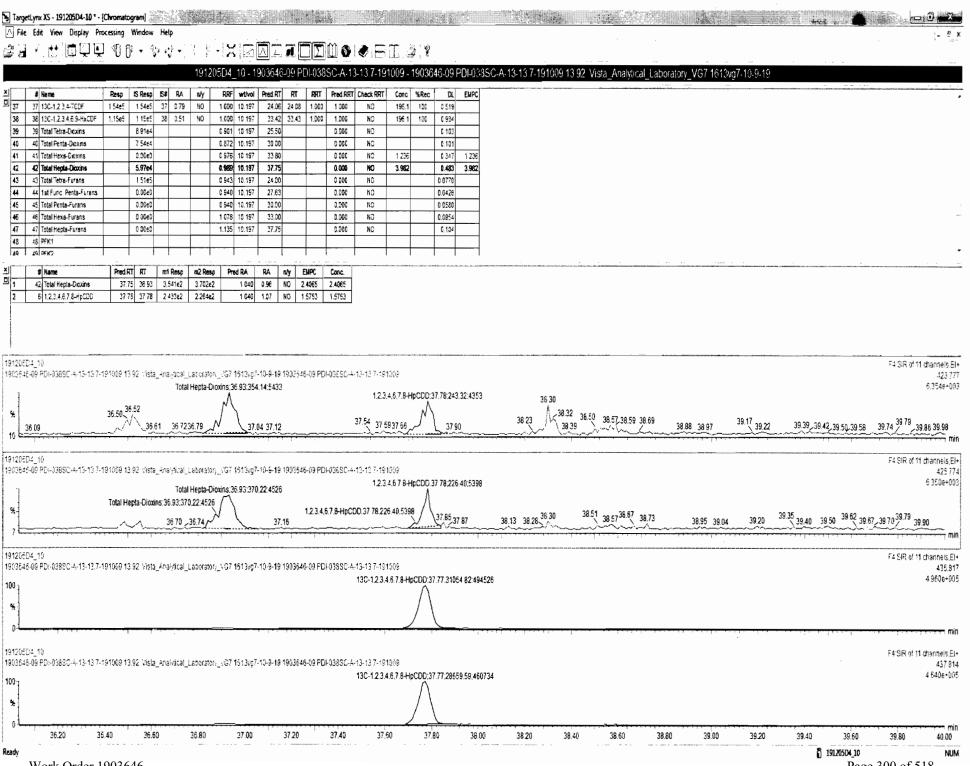






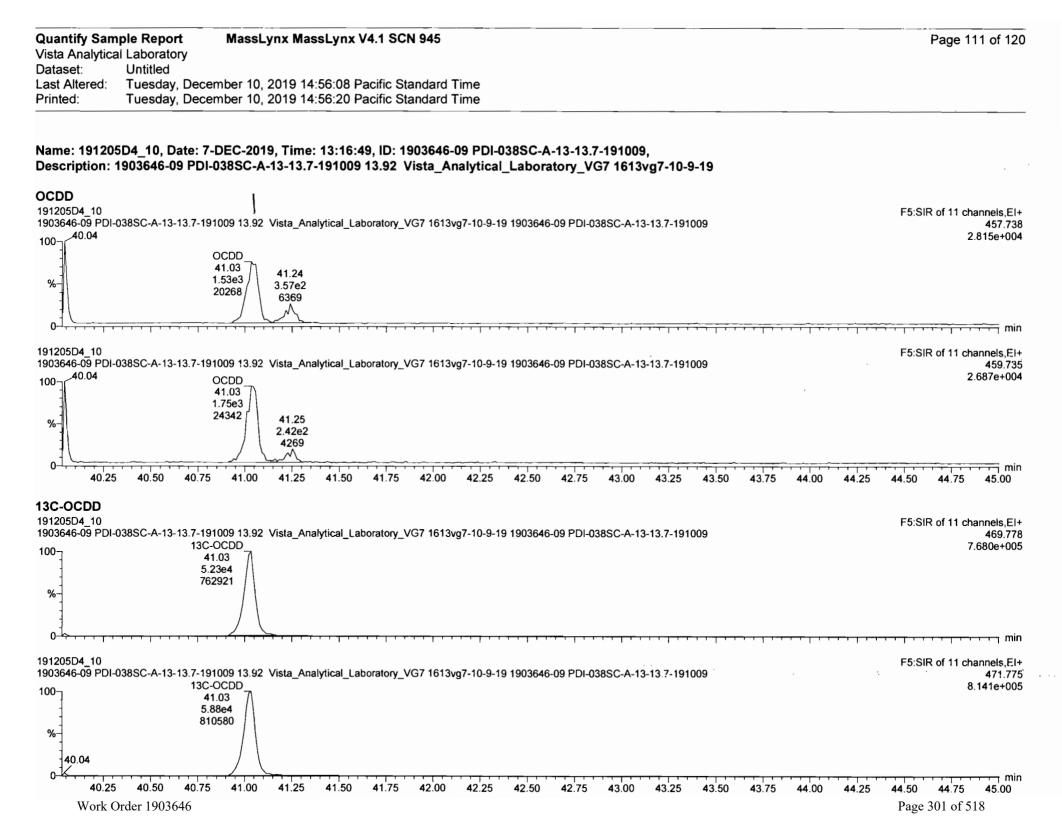


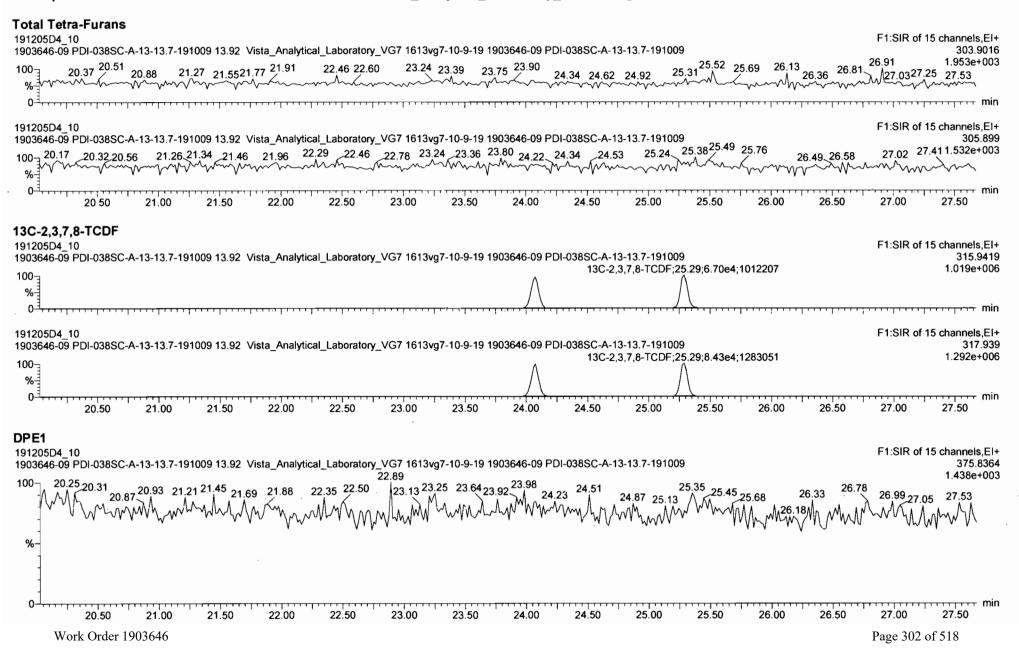




Work Order 1903646

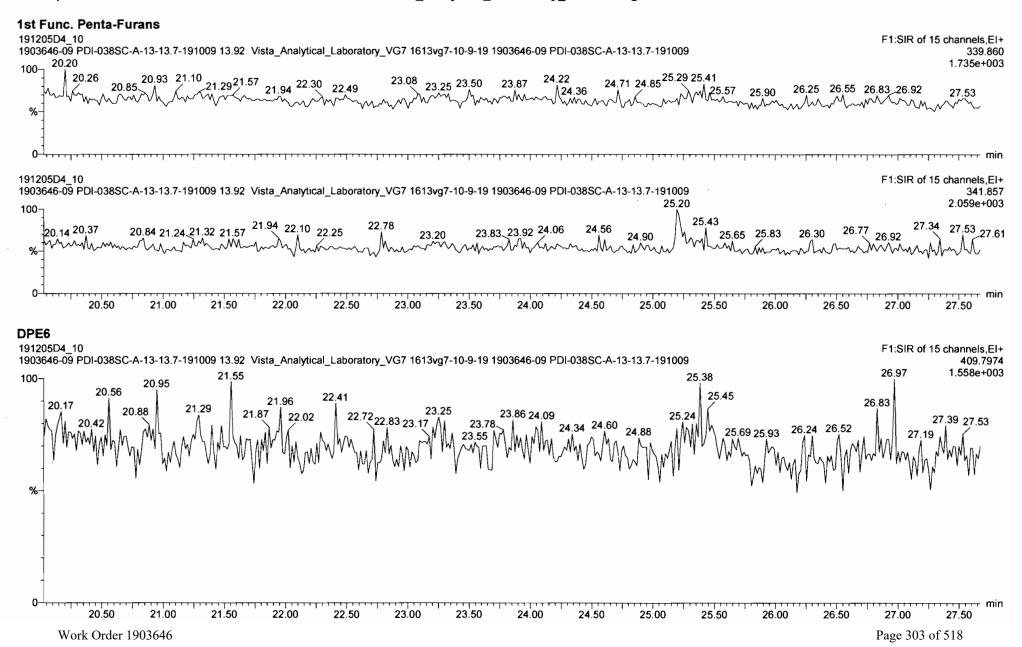
Page 300 of 518



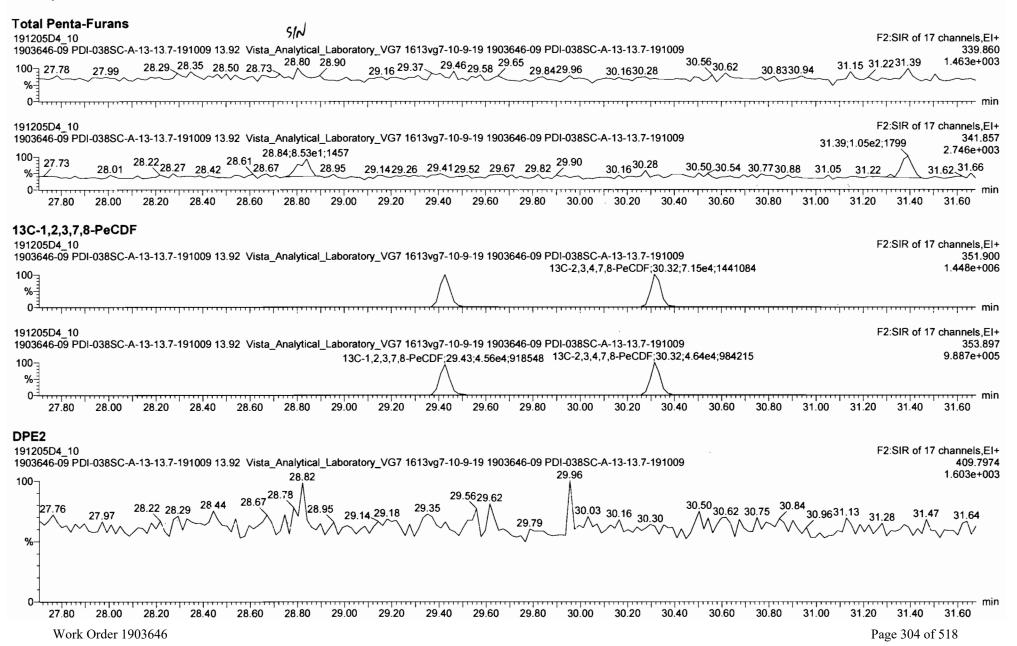


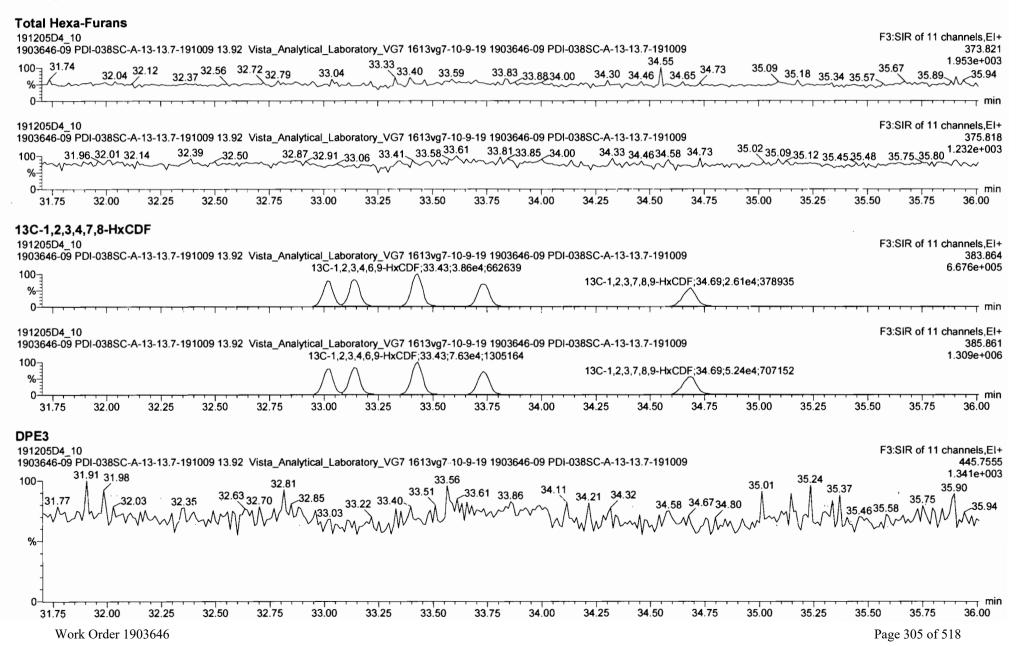
Page 112 of 120

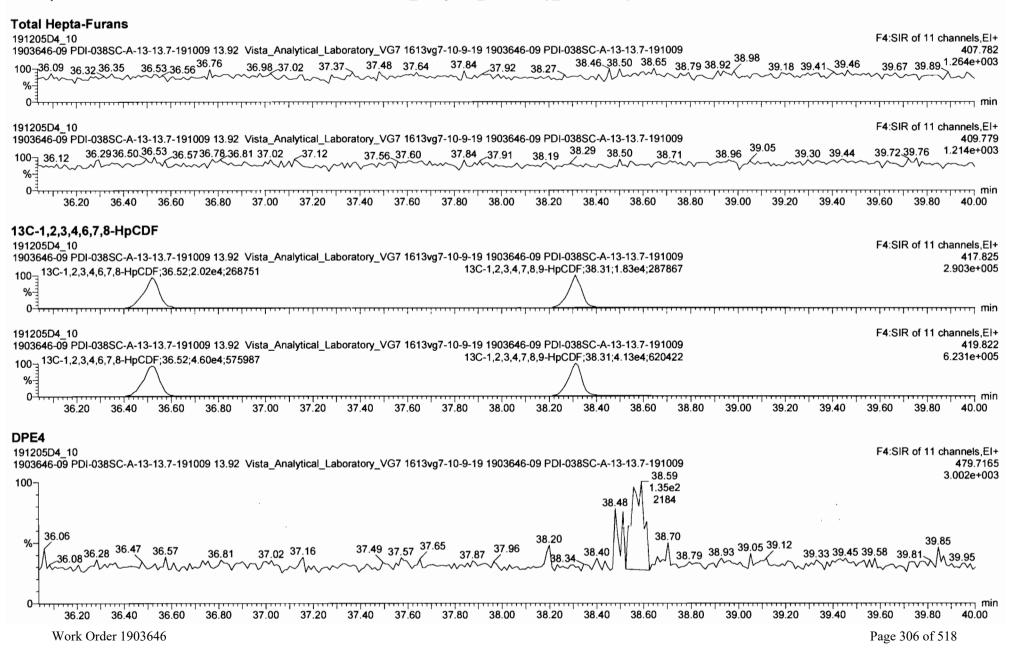
Quantify San	nple Report	MassLynx MassLynx V4.1 SCN 945	Page 113 of 120
Vista Analytic	al Laboratory		
Dataset:	Untitled		
Last Altered:	Tuesday, D	ecember 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, D	ecember 10, 2019 14:56:20 Pacific Standard Time	



Quantify Sam	ple Report MassLynx MassLynx V4.1 SCN 945	Page 114 of 120
Vista Analytica	I Laboratory	
Dataset:	Untitled	
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	

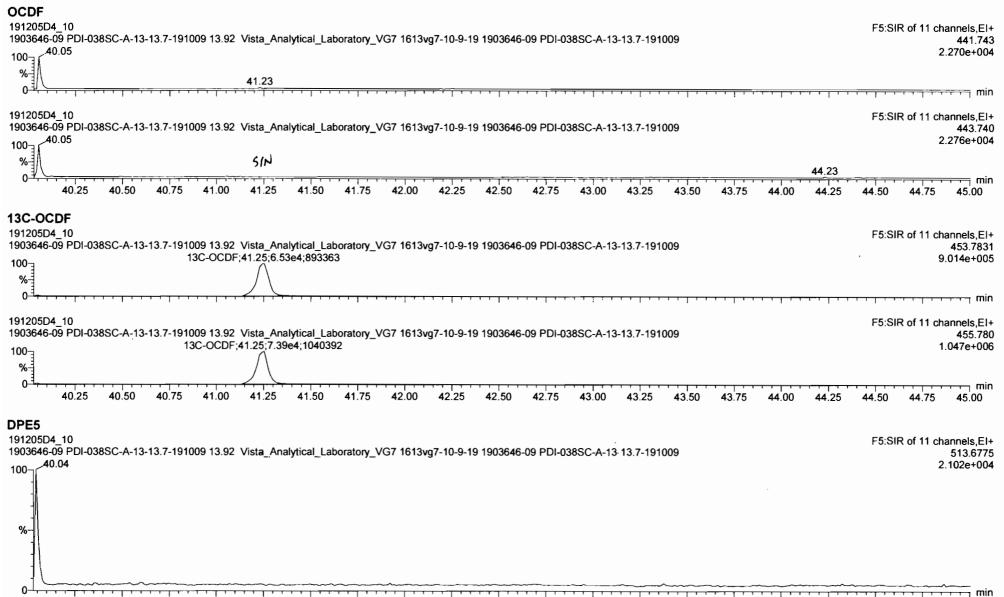






	Page 117 of 120
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lay, December 10, 2019 14:56:08 Pacific Standard Time	
ay, December 10, 2019 14:56:20 Pacific Standard Time	
	d ay, December 10, 2019 14:56:08 Pacific Standard Time

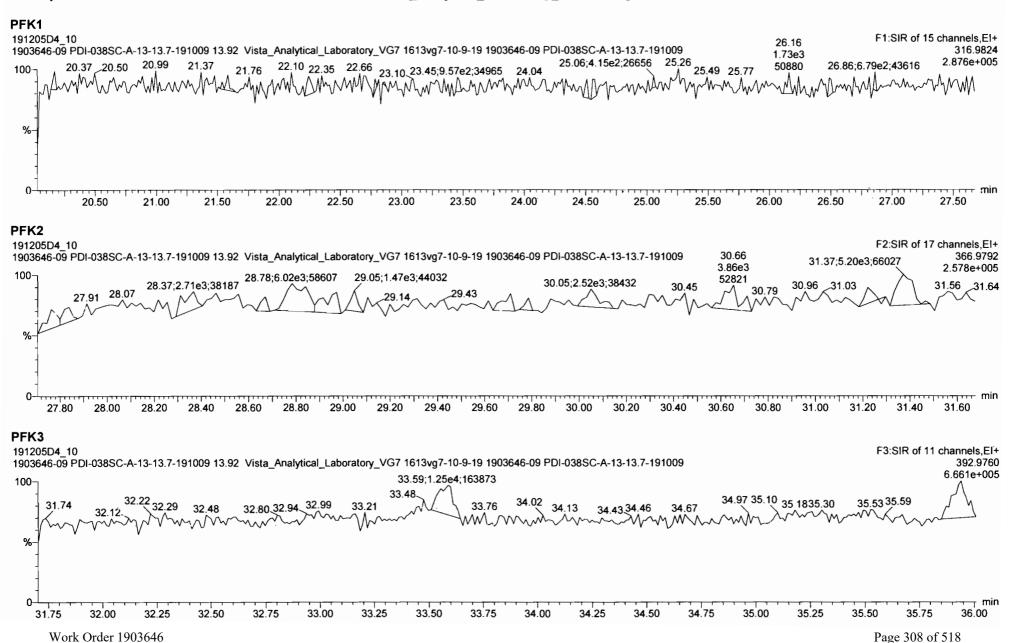
Description: 1903646-09 PDI-038SC-A-13-13.7-191009 13.92 Vista_Analytical_Laboratory_VG7 1613vg7-10-9-19



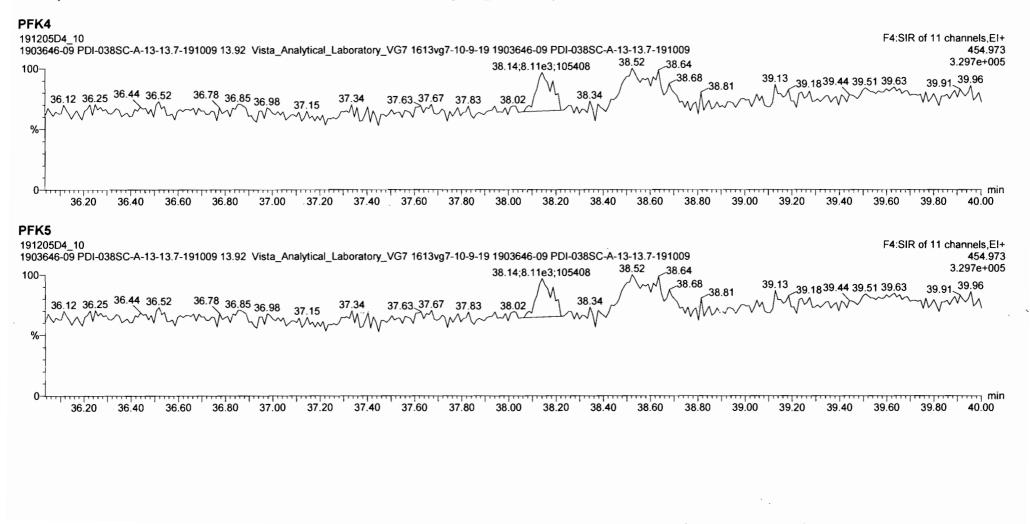
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Work Order 1903646

ge 118 of 120



Quantify Sam	nple Report MassLynx MassLynx V4.1 SCN 945	Page 119 of 120
Vista Analytica	al Laboratory	
Dataset:	Untitled	
Last Altered:	Tuesday, December 10, 2019 14:56:08 Pacific Standard Time	
Printed:	Tuesday, December 10, 2019 14:56:20 Pacific Standard Time	



## CONTINUING CALIBRATION

## HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calbration ID: <u>57(9/205</u> ) 3 -1			Reviewed By: <u>(1-1 12/10/19</u>		
End Calibration ID: ST191205D3-2	_		Initials & Date		
	Beg.	End		Beg.	End
Ion abundance within QC llmits?	$\checkmark$	/	Mass resolution <u>&gt;</u>	·⁄	
<b>Concentrations within criteria?</b>	$\square$	10	□ 5k □ 6-8K □ 8K ₪ 10K 1614 1699 429 1613/1668/8280		
TCDD/TCDF Valleys <25%		~	Intergrated peaks display correctly?	$\checkmark$	7
First and last eluters present?	J	$\checkmark$	GC Break <20%		
<b>Retention Times within criteria?</b>	$\checkmark$	$\square$	8280 CS1 End Standard:		
Verification Std. named correctly?			- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		NA
(ST-Year-Month-Day-VG ID)					
Forms signed and dated?	$\square$		Comments:		
Correct ICAL referenced?	, B	DB_			
Run Log:					
- Correct instrument listed?	$\checkmark$	$\checkmark$			
<ul> <li>Samples within 12 hour clock?</li> <li>Bottle position verfied?</li> </ul>	(Y)	N B			

Vista Analytical Laboratory - Injection Log Run file: 191205D3 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	s#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191205D3	1	ST191205D3-1	DB	6-DEC-19	17:54:28	ST191205D3-1	ST191205D3-2
191205D3	2	B9J0315-BS1	DB	6-DEC-19	18:42:17	ST191205D3-1	NA
191205D3	3	SOLVENT BLANK	DB	6-DEC-19	19:30:03	NA	NA
191205D3	4	B9J0315-BLK1	DB	6-DEC-19	20:17:54	ST191205D3-1	NA
191205D3	5	1903904-01	DB	6-DEC-19	21:05:49	ST191205D3-1	ST191205D3-2
191205D3	6	1903904-02	DB	6-DEC-19	21:53:37	ST191205D3-1	ST191205D3-2
191205D3	7	1903904-03	DB	6-DEC-19	22:41:25	ST191205D3-1	ST191205D3-2
191205D3	в	1903904-04	DB	6-DEC-19	23:29:13	ST191205D3-1	ST191205D3-2
191205D3	9	1903904-05	DB	7-DEC-19	00:17:01	ST191205D3-1	ST191205D3-2
191205D3	10	1903581-01RE1	DB	7-DEC-19	01:04:49	ST191205D3-1	ST191205D3-2
191205D3	11	1903581-02RE1	DB	7-DEC-19	01:52:37	ST191205D3-1	ST191205D3-2
191205D3	12	1903646-01	DB	7-DEC-19	02:40:25	ST191205D3-1	NA
191205D3	13	1903646-02	DB	7-DEC-19	03:28:12	ST191205D3-1	NA
191205D3	14	SOLVENT BLANK	DB	7-DEC-19	04:15:57	NA	NA
191205D3	15	ST191205D3-2	DB	7-DEC-19	05:03:43	ST191205D3-1	ST191205D3-2

Page 1 of 1

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.: CCAL ID: ST191205D3-1

Contract No.: SAS No.

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191205D3 S#1 Analysis Date: 6-DEC-19 Time: 17:54:28

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.75	0.65-0.89	У	10.7	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	У	52.2	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	У	48.2	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	У	53.0	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	У	51.3	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	У	50.2	43.0 - 58.0
OCDD	M+2/M+4	0.90	0.76-1.02	У	100	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	У	9.38	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	У	51.5	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y Y	51.8	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	У	47.3	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	У	47.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	У	49.0	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.21	1.05-1.43	У	48.1	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.99	0.88-1.20	У	47.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	У	47.1	43.0 - 58.0
OCDF	M+2/M+4	0.88	0.76-1.02	У	95.3	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: 12/10/19

#### FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191205D3 S#1 Analysis Date: 6-DEC-19 Time: 17:54:28

LABELED 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	0.79	0.65-0.89	У	103	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	У	105	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDI	M+2/M+4	1.30	1.05-1.43	у	103	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDI	M+2/M+4	1.27	1.05-1.43	у	87.1	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDI	M+2/M+4	1.26	1.05-1.43	У	95.6	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpC	CDD M+2/M+4	1.06	0.88-1.20	У	98.8	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	У	234	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.80	0.65-0.89	У	100	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	У	103	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	У	103	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDH	F M/M+2	0.51	0.43-0.59	У	111	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDH	F M/M+2	0.52	0.43-0.59	У	101	70.0 - 143.0
13C-2,3,4,6,7,8-HxCD	F M/M+2	0.52	0.43-0.59	У	102	73.0 - 137.0
13C-1,2,3,7,8,9-HxCD	F M/M+2	0.51	0.43-0.59	У	107	74.0 - 135.0
13C-1,2,3,4,6,7,8-Hp0	CDF M+2/M+4	0.44	0.37-0.51	v	97.1	78.0 - 129.0
13С-1,2,3,4,7,8,9-нр0		0.45	0.37-0.51	-	108	77.0 - 129.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	У	242	96.0 - 415.0
CLEANUP STANDARD (3)	)					
37Cl-2,3,7,8-TCDD					9.58	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: 06 Date: 12/10/19

EPA METHOD 8290

#### PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.: CCAL ID: ST191205D3-1

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191205D3 S#1 Analysis Date: 6-DEC-19 Time: 17:54:28

NATIVE ANALYTES	M/Z'S FORMING RATIO	ION ABUND. RATIO	QC LIMITS	Pass	CONC . FOUND	CONC. RANGE (ng/mL)
2,3,7,8-TCDD	M/M+2	0.75	0.65-0.89	У	10.7	8.00 - 12.0
1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	У	52.2	40.0 ~ 60.0
1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD	M+2/M+4 M+2/M+4 M+2/M+4	1.23 1.27 1.25	1.05-1.43 1.05-1.43 1.05-1.43	У У У	48.2 53.0 51.3	40.0 - 60.0 40.0 - 60.0 40.0 - 60.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	У	50.2	40.0 - 60.0
OCDD	M+2/M+4	0.90	0.76-1.02	У	100	80.0 - 120
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	У	9.38	8.00 - 12.0
1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF	M+2/M+4 M+2/M+4	1.54 1.58	1.32-1.78 1.32-1.78	У У	51.5 51.8	40.0 - 60.0 40.0 - 60.0
1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF	M+2/M+4 M+2/M+4 M+2/M+4 M+2/M+4	1.24 1.22 1.21 1.21	1.05-1.43 1.05-1.43 1.05-1.43 1.05-1.43	У У У У	47.3 47.3 49.0 48.1	40.0 - 60.0 40.0 - 60.0 40.0 - 60.0 40.0 - 60.0
1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF		0.99 1.02 0.88	0.88-1.20 0.88-1.20 0.76-1.02	у У У	47.0 47.1 95.3	40.0 - 60.0 40.0 - 60.0 80.0 - 120

Analyst: 76 Date: 12/10/19

#### EPA METHOD 8290

#### PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7	GC	Column	ID:	ZB-5MS
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VER Data Filename: 191205D3 S#1 Analysis Date: 6-DEC-19 Time: 17:54:28

	M/Z'S FORMING	ION ABUND.	QC LIMITS		CONC.	CONC. RANGE
LABELED COMPOUNDS	RATIO	RATIO		Pass	FOUND	(ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	У	103	70.0 - 130
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	У	105	70.0 - 130
13C-1,2,3,4,7,8-HxC	DD M+2/M+4	1.30	1.05-1.43	У	103	70.0 - 130
13C-1,2,3,6,7,8-HxC	DD M+2/M+4	1.27	1.05-1.43	У	87.1	70.0 - 130
13C-1,2,3,7,8,9-HxC	DD M+2/M+4	1.26	1.05-1.43	У	95.6	70.0 - 130
13C-1,2,3,4,6,7,8-H	pCDD M+2/M+4	1.06	0.88-1.20	У	98.8	70.0 - 130
13C-OCDD	M+2/M+4	0.91	0.76-1.02	У	234	140 - 260
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	У	100	70.0 - 130
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	У	103	70.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	У	103	70.0 - 130
13C-1,2,3,4,7,8-HxC	DF M/M+2	0.51	0.43-0.59	У	111	70.0 - 130
13C-1,2,3,6,7,8-HxC	DF M/M+2	0.52	0.43-0.59	У	101	70.0 - 130
13C-2,3,4,6,7,8-HxC	DF M/M+2	0.52	0.43-0.59	У	102	70.0 - 130
13C-1,2,3,7,8,9-HxC	DF M/M+2	0.51	0.43-0.59	У	107	70.0 - 130
13C-1,2,3,4,6,7,8-H	pCDF M/M+2	0.44	0.37-0.51	У	97.1	70.0 - 130
13C-1,2,3,4,7,8,9-H	pCDF M/M+2	0.45	0.37-0.51	У	108	70.0 - 130
13C-OCDF	M+2/M+4	0.89	0.76-1.02	У	242	140 - 260
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD					9.58	7.00 - 13.0

Analyst:_______ Date:____12/10/19____

### Work Order 1903646

#### Page 1 of 1

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: 10-9-19

RT Window Data Filename: 191205D3 S#1 Analysis Date: 6-DEC-19 Time: 17:54:28

ZB-5MS IS Data Filename: 191205D3 S#1 Analysis Date: 6-DEC-19 Time: 17:54:28

DB 225 IS Data Filename: Analysis Date: Time:

#### ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

	ABSOLUTE		ABSOLUTE
ISOMERS	RT	ISOMERS	RT
1,3,6,8-TCDD (F)	22:40	1,3,6,8-TCDF (F)	20:32
1,2,8,9-TCDD (L)	26:57	1,2,8,9-TCDF (L)	27:05
1,2,4,7,9-PeCDD (F)	28:34	1,3,4,6,8-PeCDF (F)	27:04
1,2,3,8,9-PeCDD (L)	30:58	1,2,3,8,9-PeCDF (L)	31:12
1,2,4,6,7,9-HxCDD (F)	32:23	1,2,3,4,6,8-HxCDF (F)	31:51
1,2,3,7,8,9-HxCDD (L)	34:19	1,2,3,7,8,9-HxCDF (L)	34:41
1,2,3,4,6,7,9-HpCDD (F)	36:55	1,2,3,4,6,7,8-HpCDF (F)	36:31
1,2,3,4,6,7,8-HpCDD (L)	37:46	1,2,3,4,7,8,9-HpCDF (L)	38:19

(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: 12/10/19

#### FORM 6A PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191205D3 S#1 Analysis Date: 6-DEC-19 Time: 17:54:28

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

	RETENTION TIME				
NATIVE ANALYTES	REFERENCE	RRT	QC LIMITS (1)		
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002		
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	1.000	0.999-1.002		
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002		
LABELED COMPOUNDS					
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043		

100 2,0,0,0 1000	130 1,2,3,4 1000	1.022	0.070 1.045
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	0.991	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	1.023	0.989-1.052

Analyst: <u>)B</u> Date: <u>[2/10/14</u>

Page 1 of 1

### FORM 6B PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191205D3 S#1 Analysis Date: 6-DEC-19 Time: 17:54:28

	RETENTION TIME		RRT
NATIVE ANALYTES	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	1.001	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	1.001	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
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
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	1.009	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	1.130	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.234	1.091-1.371

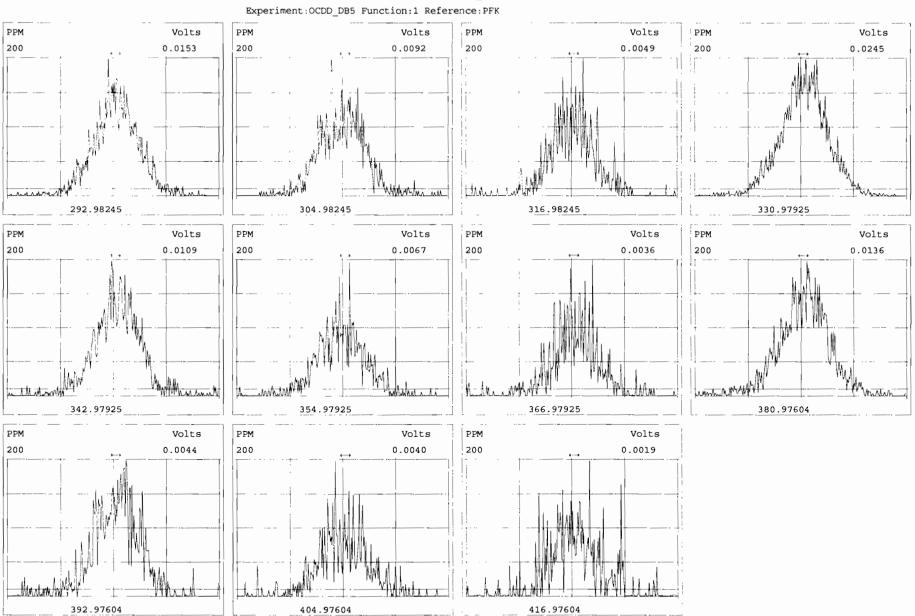
Analyst: <u>26</u> Date: 12/10/19

	lient ID: 1613 CS3 19C2204 ab ID: ST191205D3-1		lename: 19 Column II			Acq: 6-D : 1613VG7-			: 1.000	ConCal: S EndCAL: S					Page	l of
	Name	Resp	RA	RRF	RT	Conc	Qual	noise Fac	DL	Name		Conc	EMPC	Qual	noise	D
	2,3,7,8-TCDD	-	0.75 y	0.91	26:06	10.703	guur	* 2.5	*	Total Tetra	-Dioxins	77.8	78.6	Quar	*	D.
	1,2,3,7,8-PeCDD		0.62 y	0.90	30:37	52.224		* 2.5	*	Total Penta		204	205		*	
	1,2,3,4,7,8-HxCDD		1.23 y	1.10	33:54	48.212		* 2.5	*	Total Hexa-1		225	226		*	
	1,2,3,6,7,8-HxCDD		1.27 y	0.94	34:01	52.958		* 2.5	*	Total Hepta		116	118		*	
	1,2,3,7,8,9-HxCDD		1.25 y	0.96	34:19	51.275		* 2.5	*	Total Tetra		37.9	39.6		*	
	1,2,3,4,6,7,8-HpCDD		1.04 y	0.98	37:46	50.192		* 2.5	*	Total Penta		227.05	227.38		*	
	-	4.26e+06	0.90 y	0.96	41:02	100.35		* 2.5	*	Total Hexa-		255	256		*	
			1							Total Hepta		94.8	96.1		*	
	2,3,7,8-TCDF	9.05e+05	0.76 y	0.95	25:18	9.3841		* 2.5	*	<b>L</b>						
	1,2,3,7,8-PeCDF		1.54 y	0.96	29:26	51.487		* 2.5	*							
	2,3,4,7,8-PeCDF		1.58 y	1.01	30:20	51.790		* 2.5	*							
	1,2,3,4,7,8-HxCDF		1.24 y	1.18	33:01	47.291		* 2.5	*							
	1,2,3,6,7,8-HxCDF	3.46e+06	1.22 y	1.07	33:09	47.330		* 2.5	*							
	2,3,4,6,7,8-HxCDF	3.45e+06	1.21 y	1.11	33:44	48.961		* 2.5	*							
	1,2,3,7,8,9-HxCDF	2.97e+06	1.21 y	1.06	34:41	48.126		* 2.5	*							
	1,2,3,4,6,7,8-HpCDF	2.54e+06	0.99 y	1.13	36:31	46.975		* 2.5	*							
	1,2,3,4,7,8,9-HpCDF		1.02 y	1.28	38:19	47.078		* 2.5	*							
	OCDF	4.92e+06	0.88 y	0.95	41:15	95.350		* 2.5	*							
			-							Rec Q	ual					
ιs	13C-2,3,7,8-TCDD	6.63e+06	0.79 y	1.10	26:04	102.84				103						
IS	13C-1,2,3,7,8-PeCDD	5.46e+06	0.63 y	0.88	30:36	105.20				105						
s	13C-1,2,3,4,7,8-HxCDD	4.34e+06	1.30 y	0.64	33:53	103.46				103						
s	13C-1,2,3,6,7,8-HxCDD	4.86e+06	1.27 y	0.86	33:60	87.088				87.1						
s	13C-1,2,3,7,8,9-HxCDD	5.03e+06	1.26 y	0.81	34:17	95.583				95.6						
S	13C-1,2,3,4,6,7,8-HpCDD	4.22e+06	1.06 y	0.65	37:46	98.815				98.8						
s	13C-OCDD	8.85e+06	0.91 y	0.58	41:01	233.84				117						
S	13C-2,3,7,8-TCDF	1.01e+07	0.80 y	1.03	25:17	100.24				100						
S	13C-1,2,3,7,8-PeCDF	8.63e+06	1.59 y	0.85	29:25	103.30				103						
s	13C-2,3,4,7,8-PeCDF	8.51e+06	1.57 y	0.85	30:19	102.71				103						
s	13C-1,2,3,4,7,8-HxCDF	6.02e+06	0.51 y	0.83	33:01	110.93				111						
s	13C-1,2,3,6,7,8-HxCDF	6.84e+06	0.52 y	1.03	33:08	101.27				101						
S	13C-2,3,4,6,7,8-HxCDF	6.33e+06	0.52 y	0.95	33:44	101.74				102						
S	13C-1,2,3,7,8,9-HxCDF	5.80e+06	0.51 y	0.83	34:40	107.42				107						
s	13C-1,2,3,4,6,7,8-HpCDF	4.80e+06	0.44 y	0.76	36:30	97.054				97.1						
s	13C-1,2,3,4,7,8,9-HpCDF	4.09e+06	0.45 y	0.58	38:18	107.82				108						
S	13C-OCDF	1.09e+07	0.89 Y	0.69	41:14	242.23				121						
ט/כ	37Cl-2,3,7,8-TCDD	6.75e+05		1.20	26:05	9.5760				95.8	Integr	ations	Revi	ewed		
											by	74	by			
s/	RT 13C-1,2,3,4-TCDD	5.88e+06	0.82 y	1.00	25:30	100.00				A	nalyst:	00	Anal	yst:		
S	13C-1,2,3,4-TCDF	9.78e+06	0.80 y	1.00	24:04	100.00										
٤s/	RT 13C-1,2,3,4,6,9-HxCDF	6.53e+06	0.50 y	1.00	33:25	100.00					12	alia				
										Da	ate: 14	1917	Date	:		

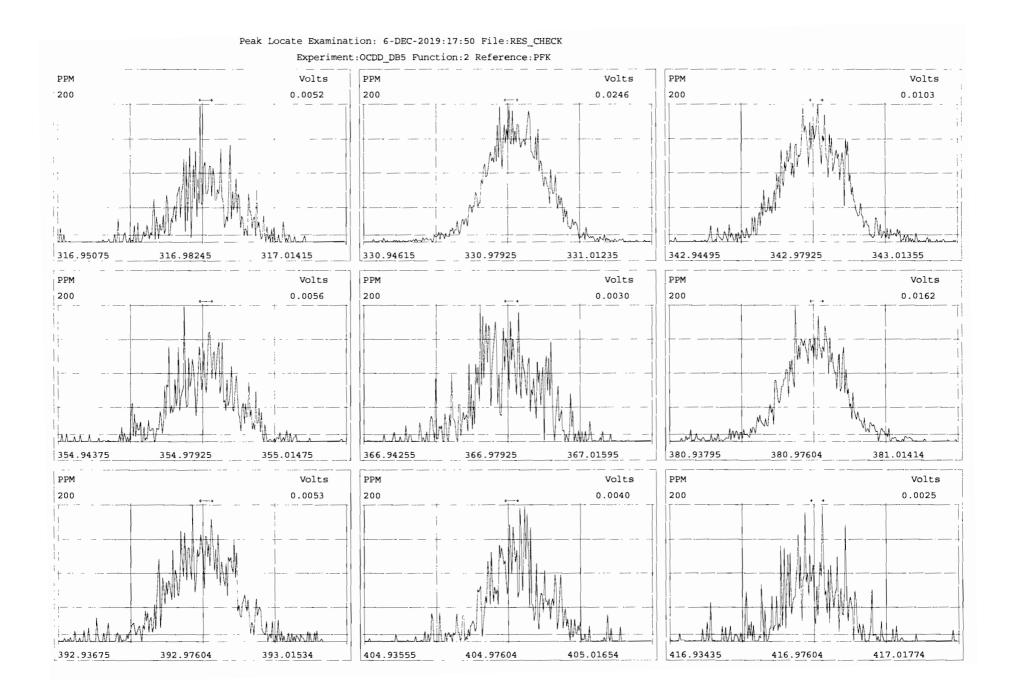
Page 1 of 1

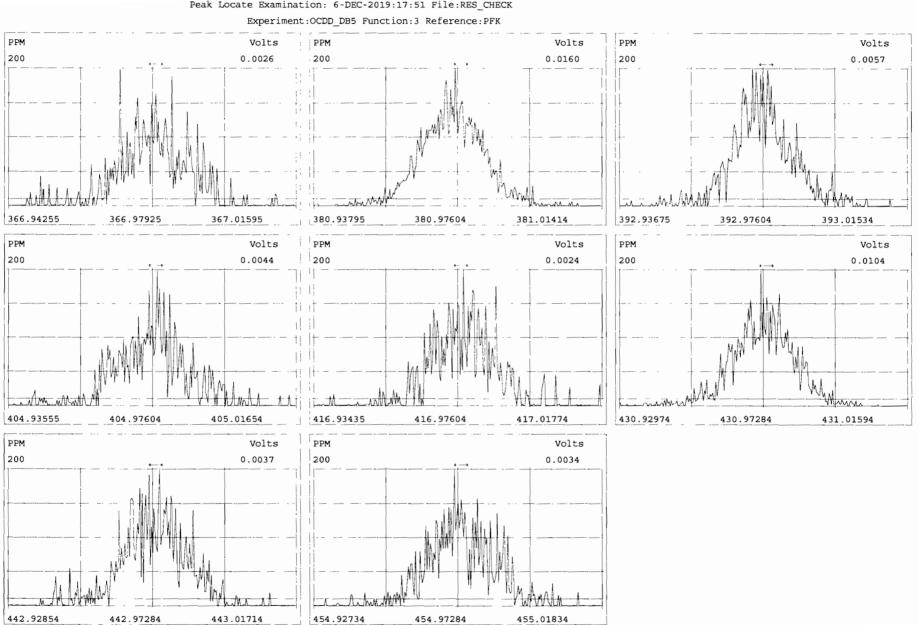
Vista Analytical Laboratory - Injection Log Run file: 191205D3 Instrument ID: VG-7 GC Column ID: ZB-5MS

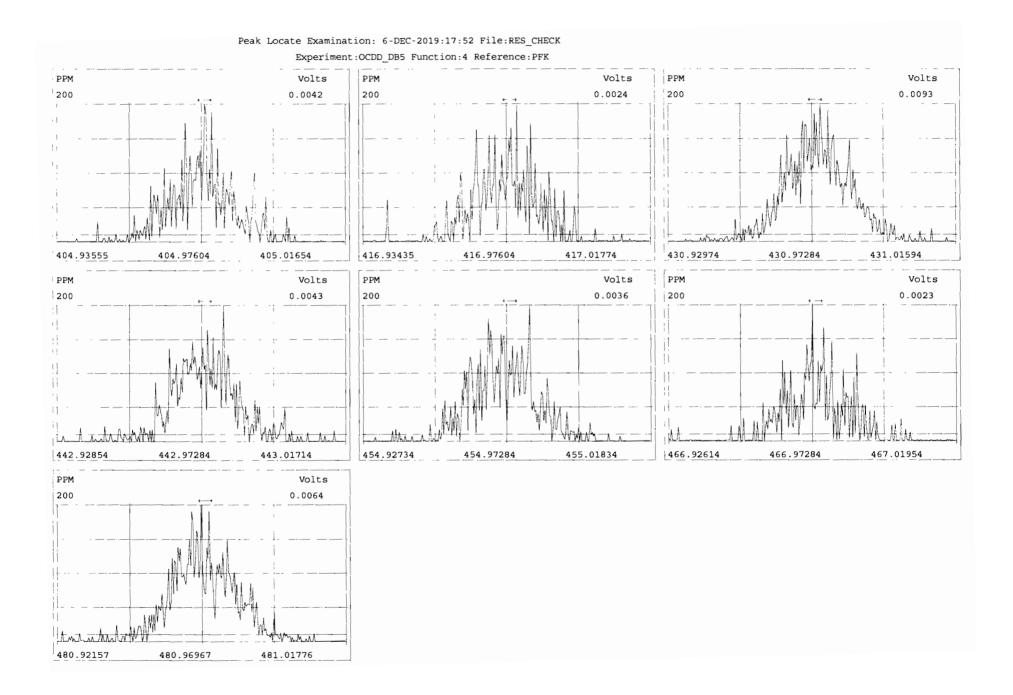
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
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191205D3	2	B9J0315-BS1	DB	6-DEC-19	18:42:17	ST191205D3-1	NA
191205D3	3	SOLVENT BLANK	DB	6-DEC-19	19:30:03	NA	NA
191205D3	4	B9J0315-BLK1	DB	6-DEC-19	20:17:54	ST191205D3-1	NA
191205D3	5	1903904-01	DB	6-DEC-19	21:05:49	ST191205D3-1	ST191205D3-2
191205D3	6	1903904-02	DB	6-DEC-19	21:53:37	ST191205D3-1	ST191205D3-2
191205D3	7	1903904-03	DB	6-DEC-19	22:41:25	ST191205D3-1	ST191205D3-2
191205D3	8	1903904-04	DB	6-DEC-19	23:29:13	ST191205D3-1	ST191205D3-2
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191205D3	10	1903581-01RE1	DB	7-DEC-19	01:04:49	ST191205D3-1	ST191205D3-2
191205D3	11	1903581-02RE1	DB	7-DEC-19	01:52:37	ST191205D3-1	ST191205D3-2
191205D3	12	1903646-01	DB	7-DEC-19	02:40:25	ST191205D3-1	NA
191205D3	13	1903646-02	DB	7-DEC-19	03:28:12	ST191205D3-1	NA
191205D3	14	SOLVENT BLANK	DB	7-DEC-19	04:15:57	NA	NA
191205D3	15	ST191205D3-2	DB	7-DEC-19	05:03:43	ST191205D3-1	ST191205D3-2

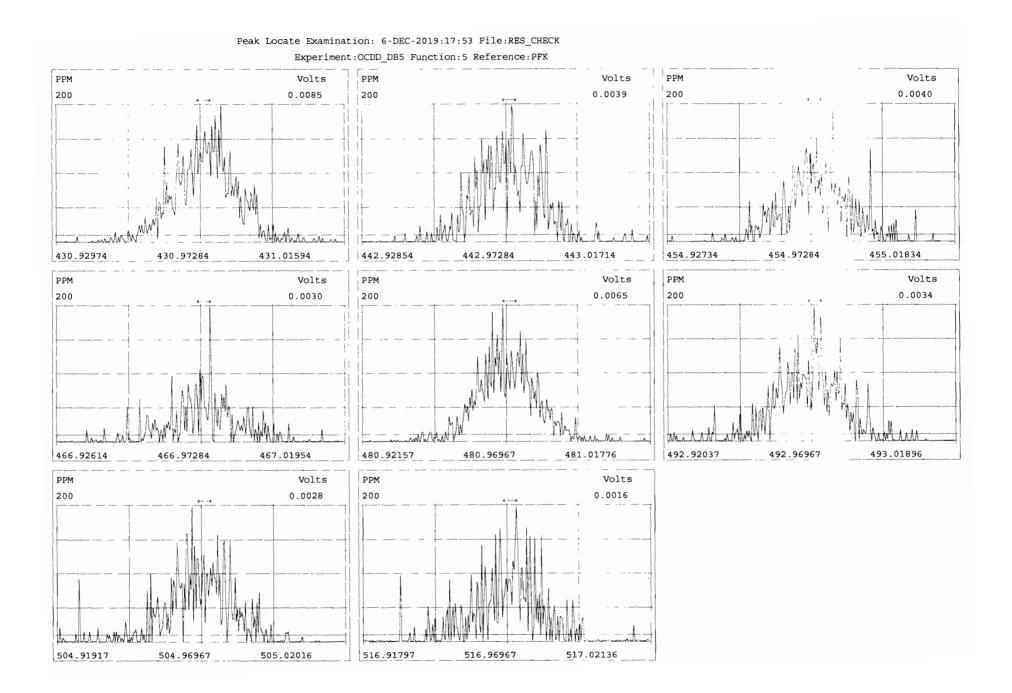


Peak Locate Examination: 6-DEC-2019:17:49 File:RES_CHECK

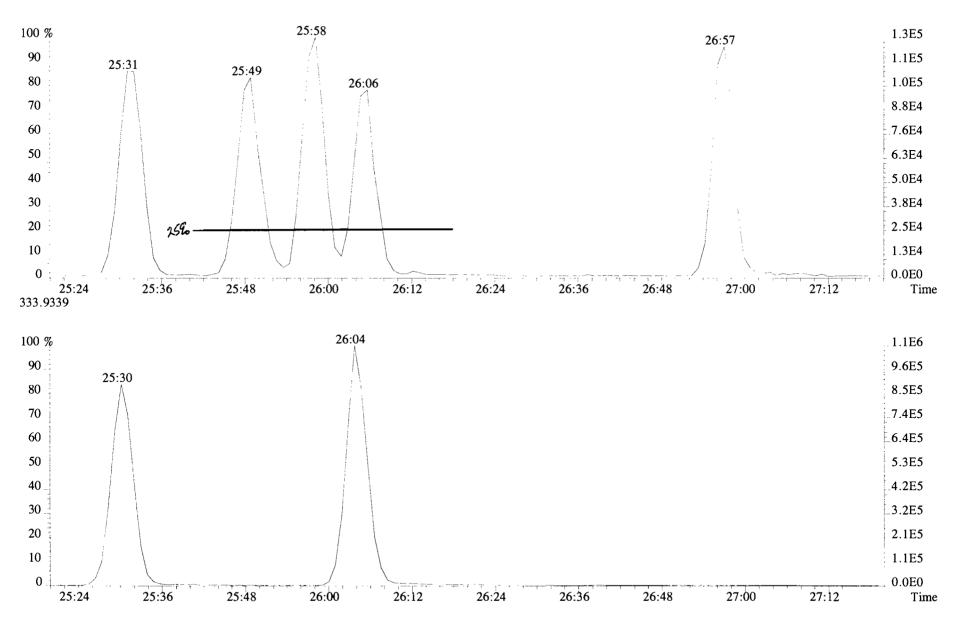


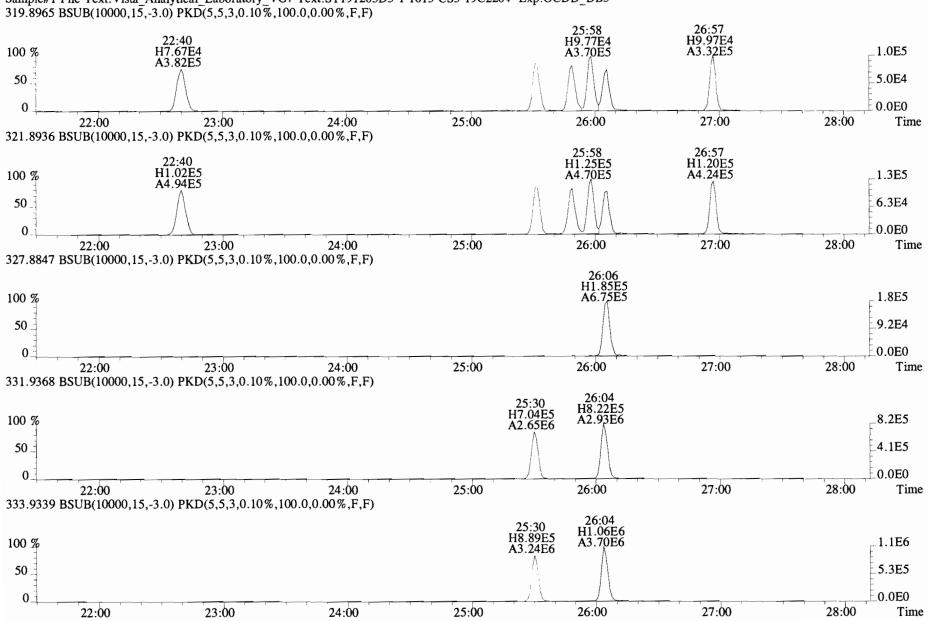




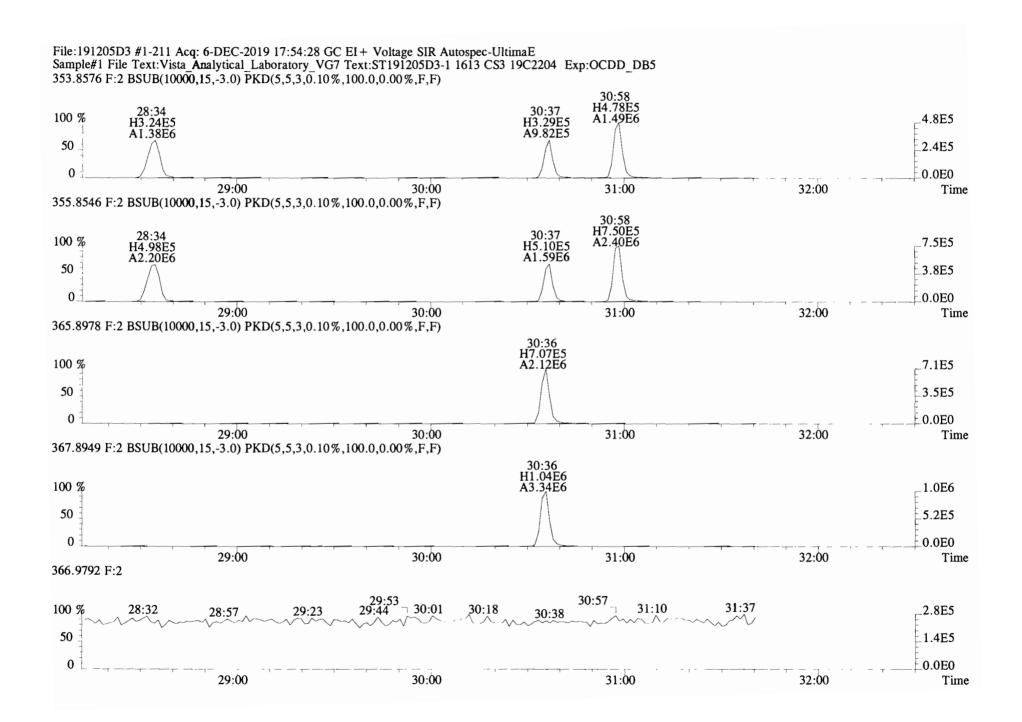


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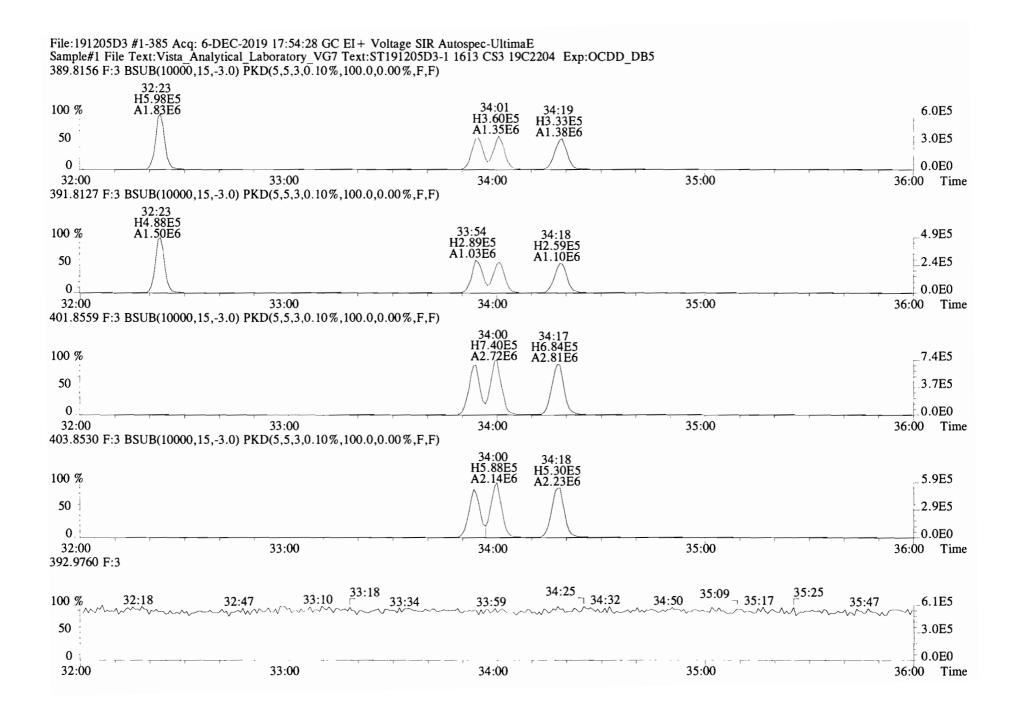


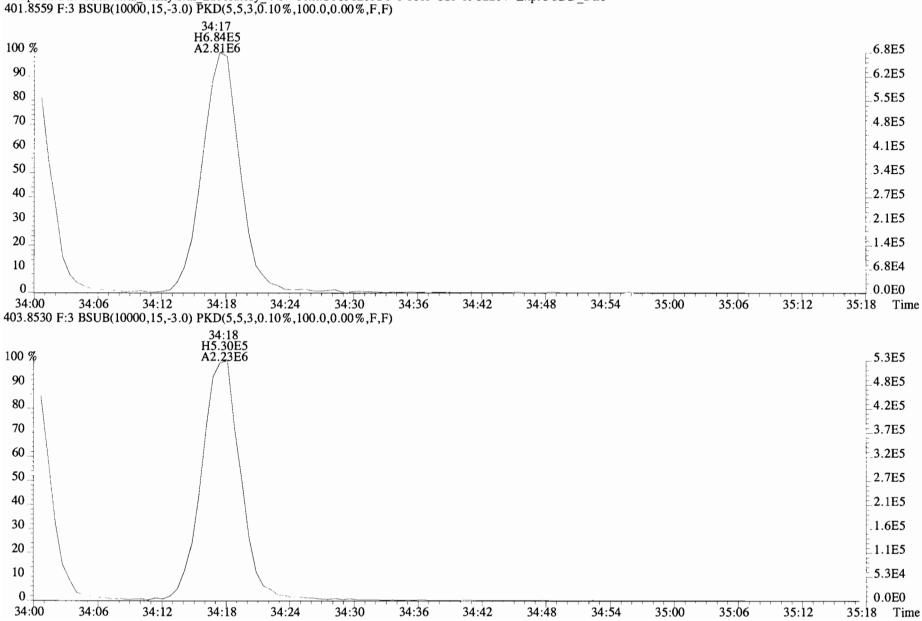


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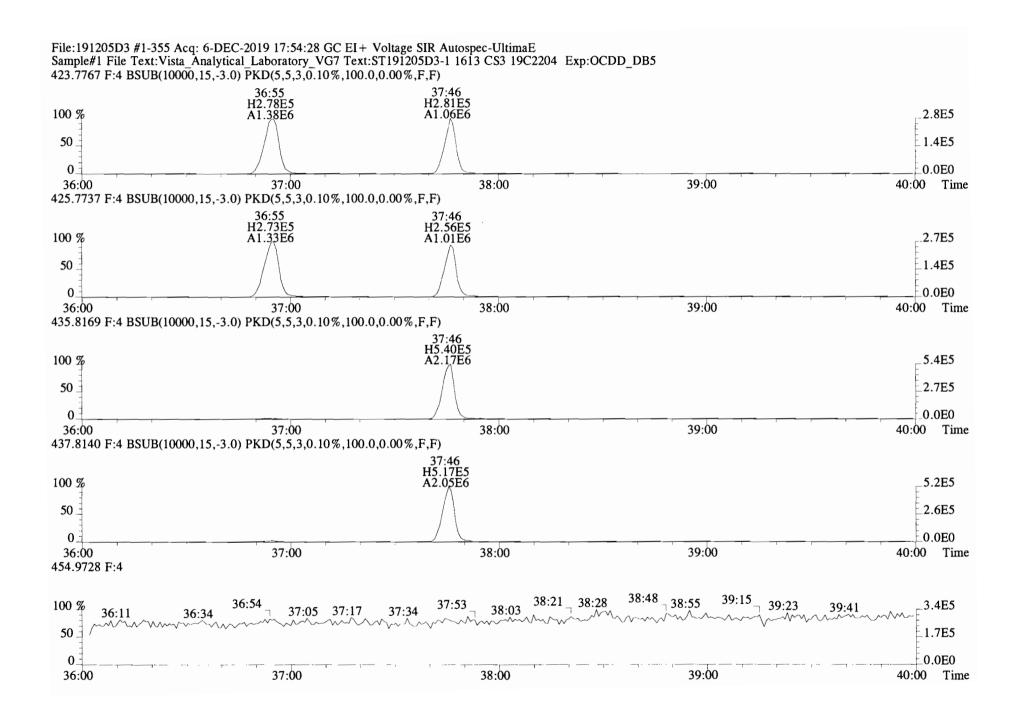


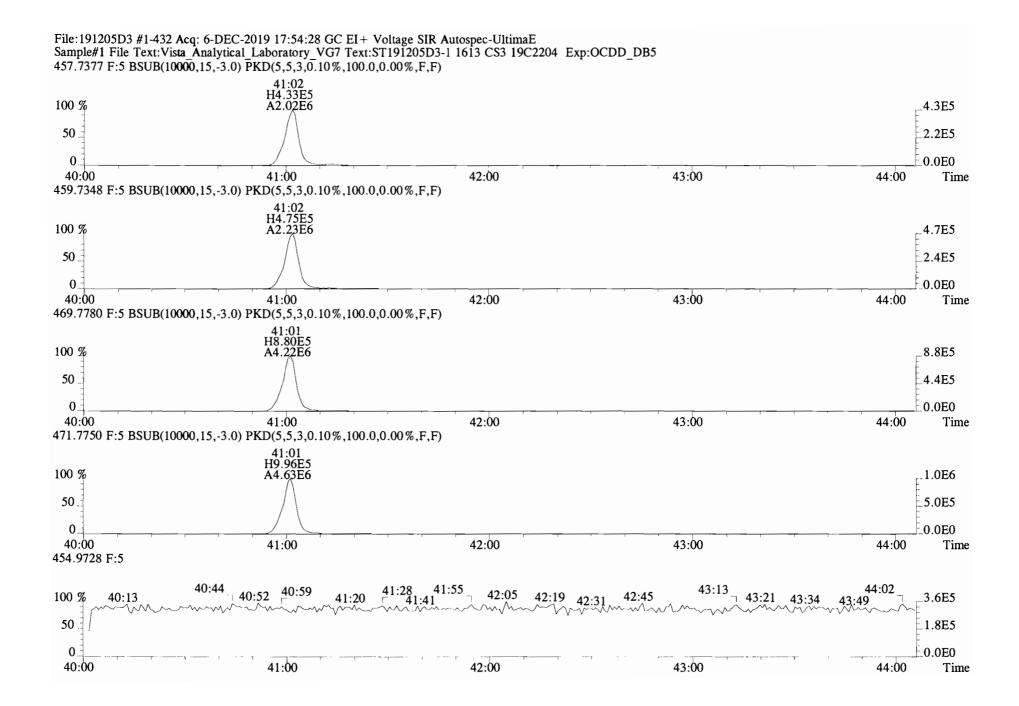
### Work Order 1903646

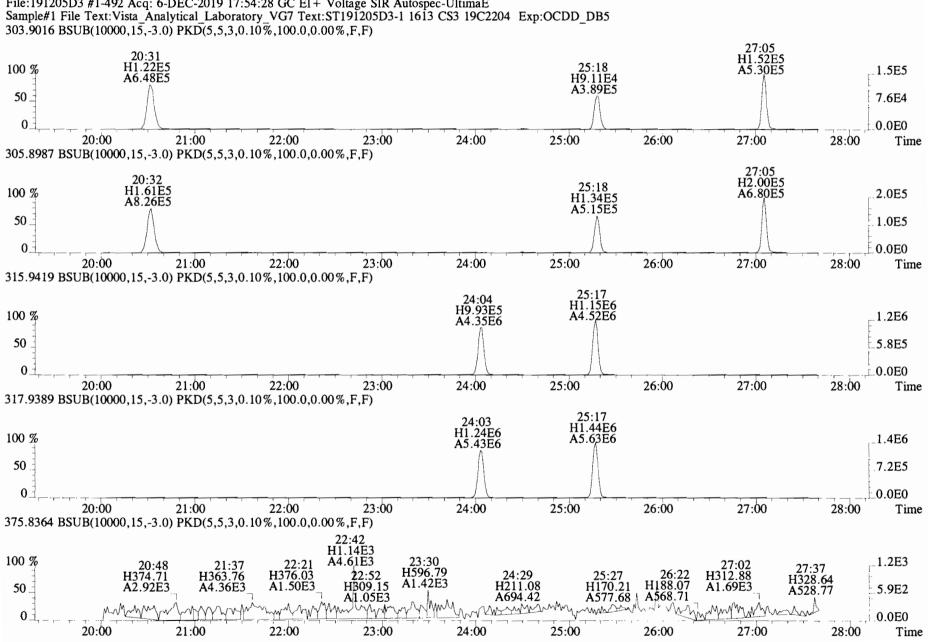




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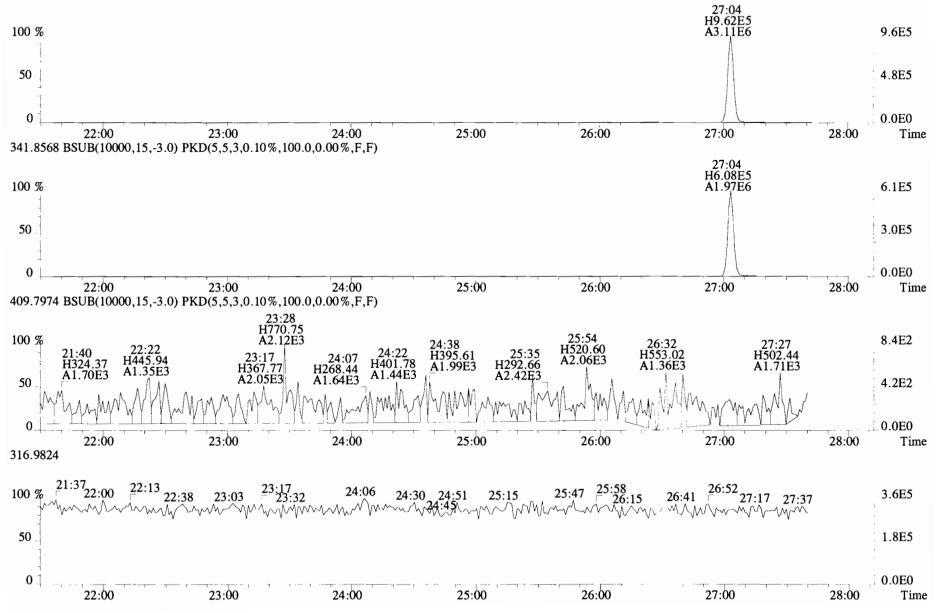


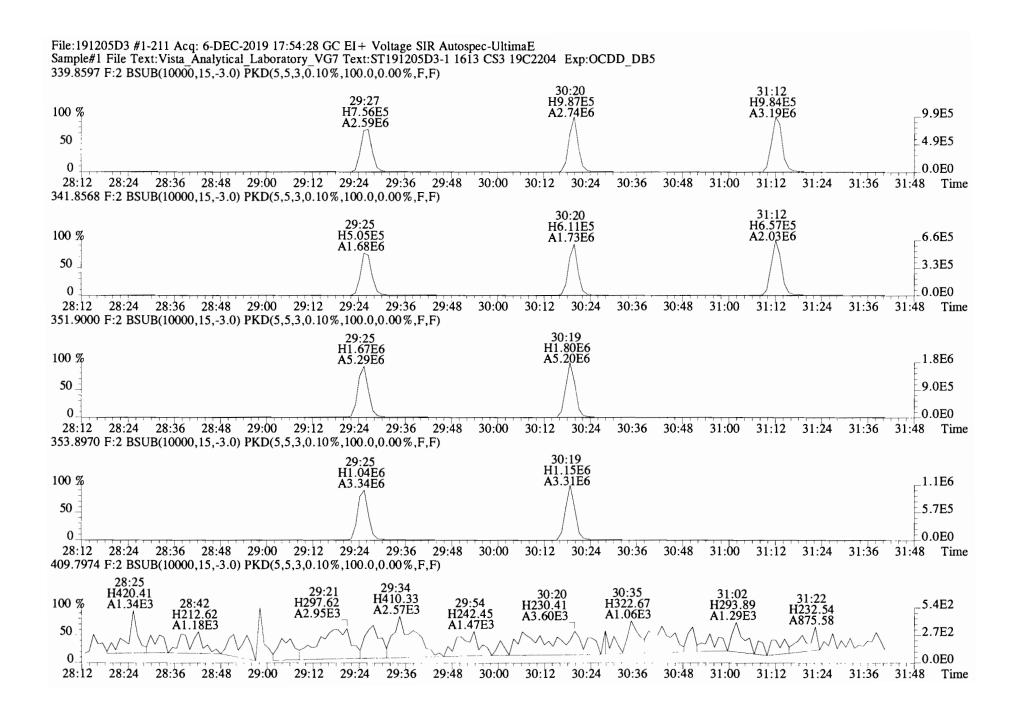


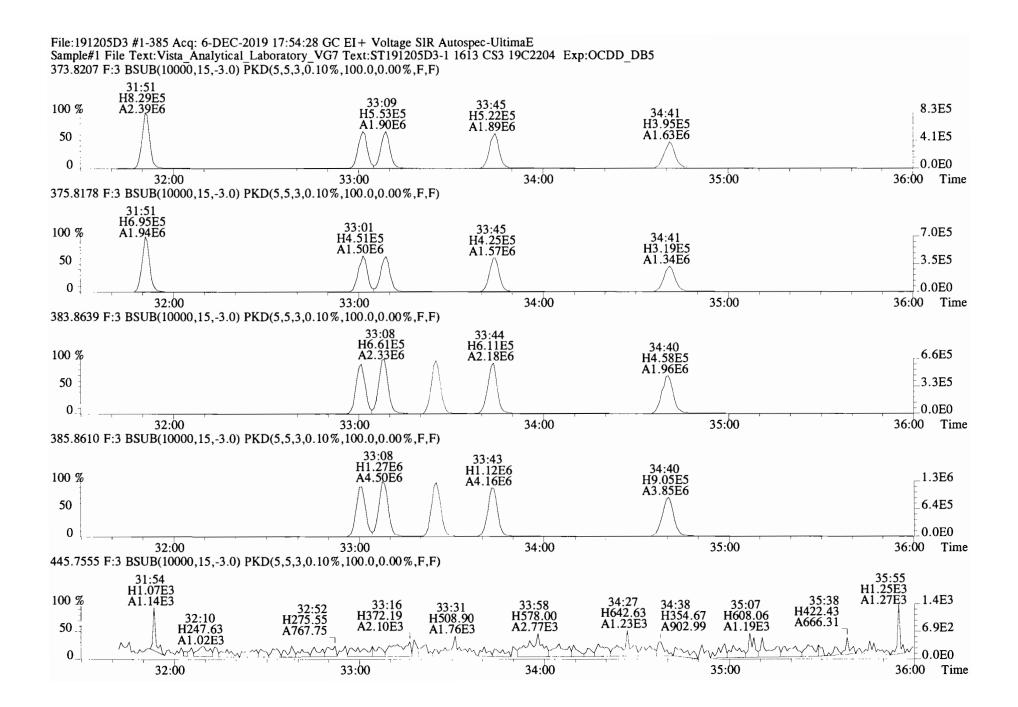


# File:191205D3 #1-492 Acg: 6-DEC-2019 17:54:28 GC EI + Voltage SIR Autospec-UltimaE

## File:191205D3 #1-492 Acq: 6-DEC-2019 17:54:28 GC EI + Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191205D3-1 1613 CS3 19C2204 Exp:OCDD_DB5 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.107,100.0,0.007,F,F)

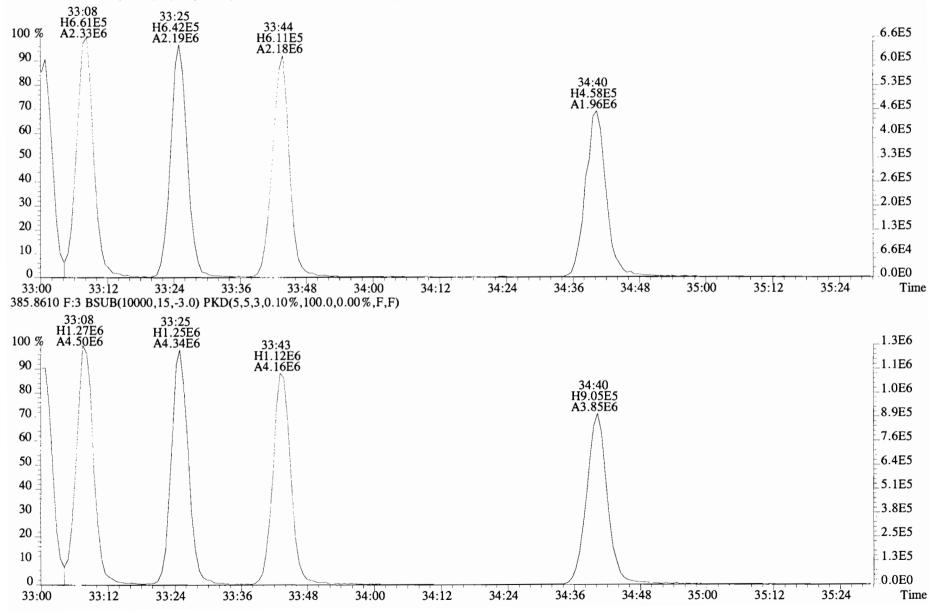


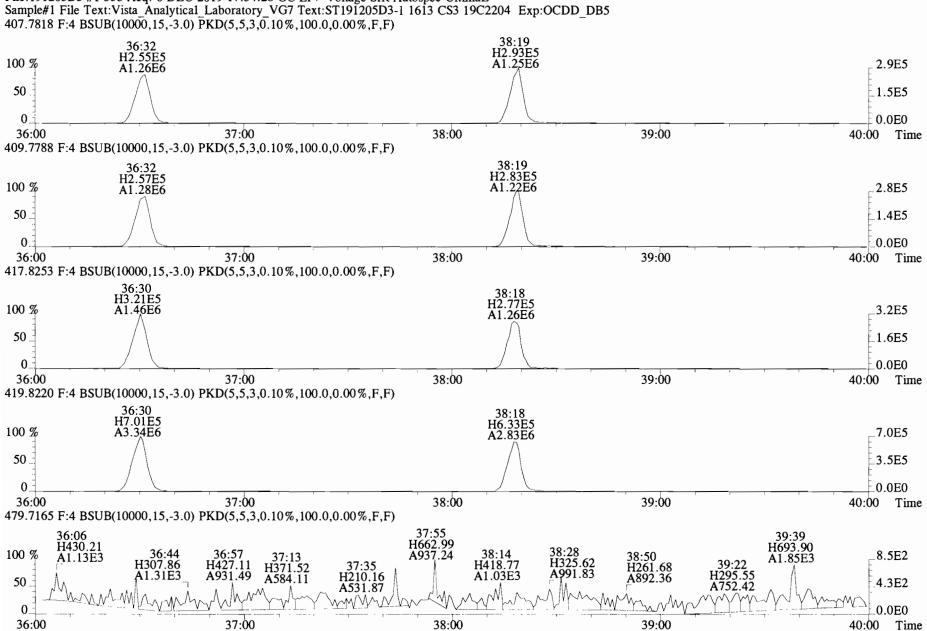




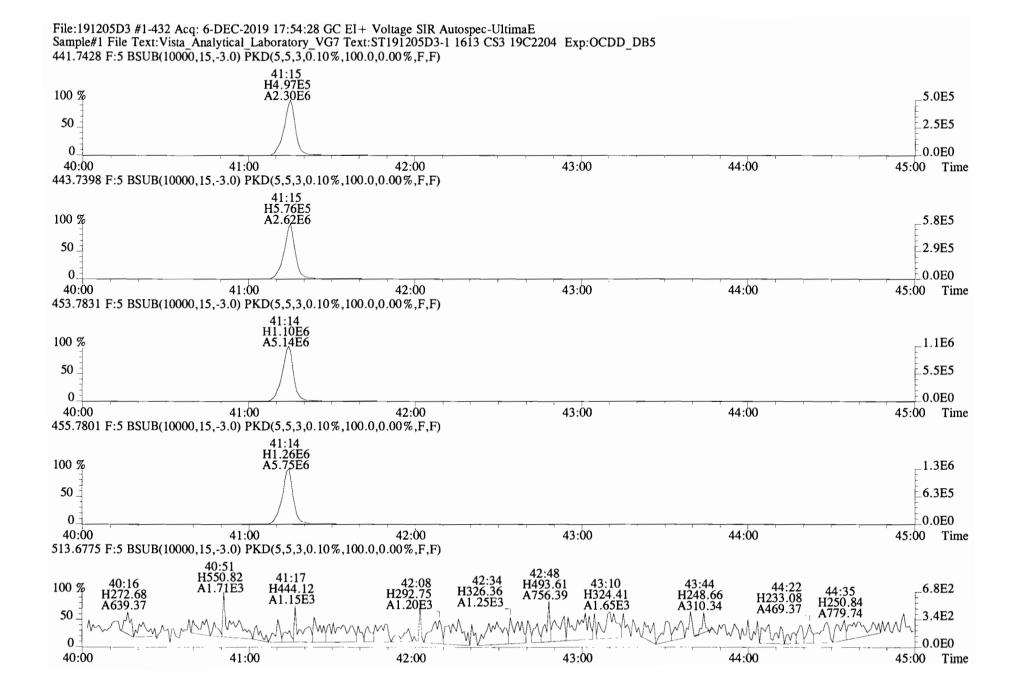
## Work Order 1903646

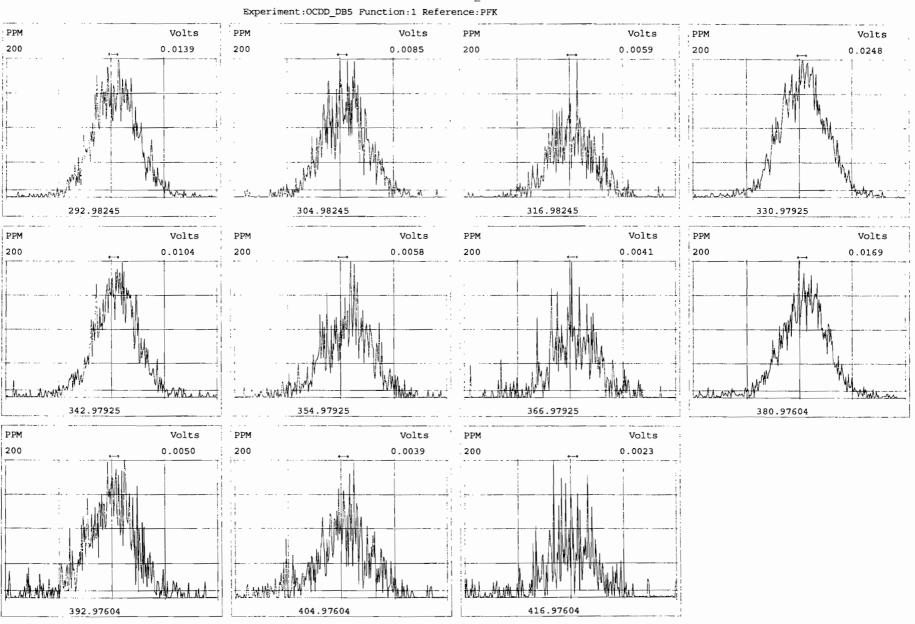
File:191205D3 #1-385 Acq: 6-DEC-2019 17:54:28 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191205D3-1 1613 CS3 19C2204 Exp:OCDD_DB5 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

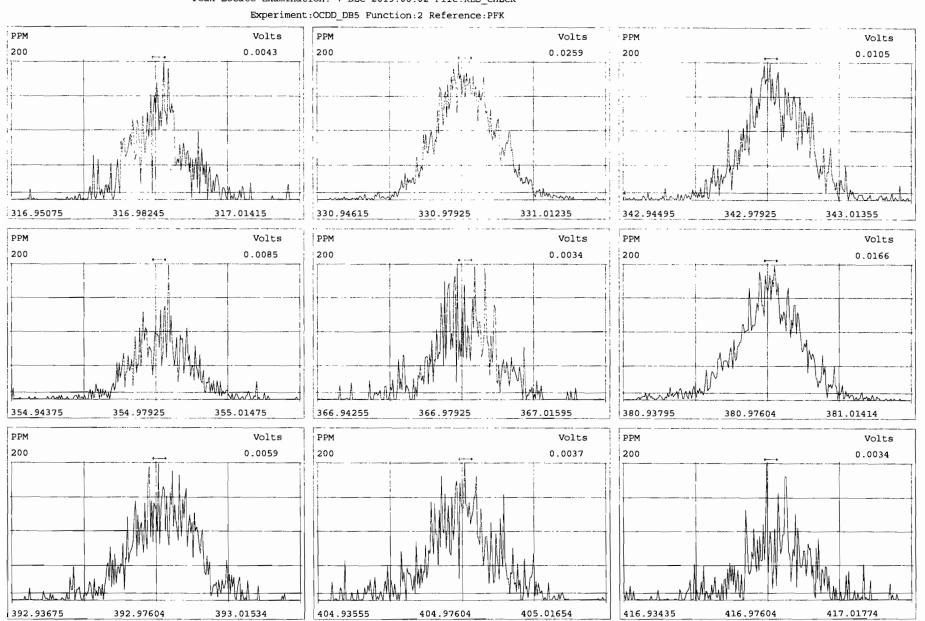




File:191205D3 #1-355 Acq: 6-DEC-2019 17:54:28 GC EI+ Voltage SIR Autospec-UltimaE

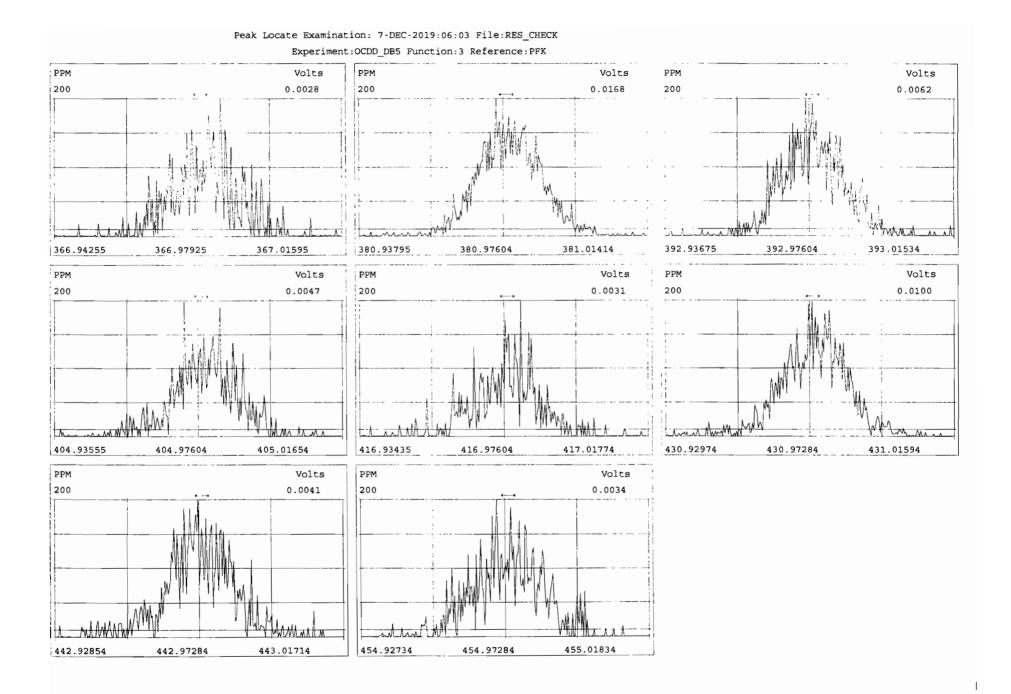


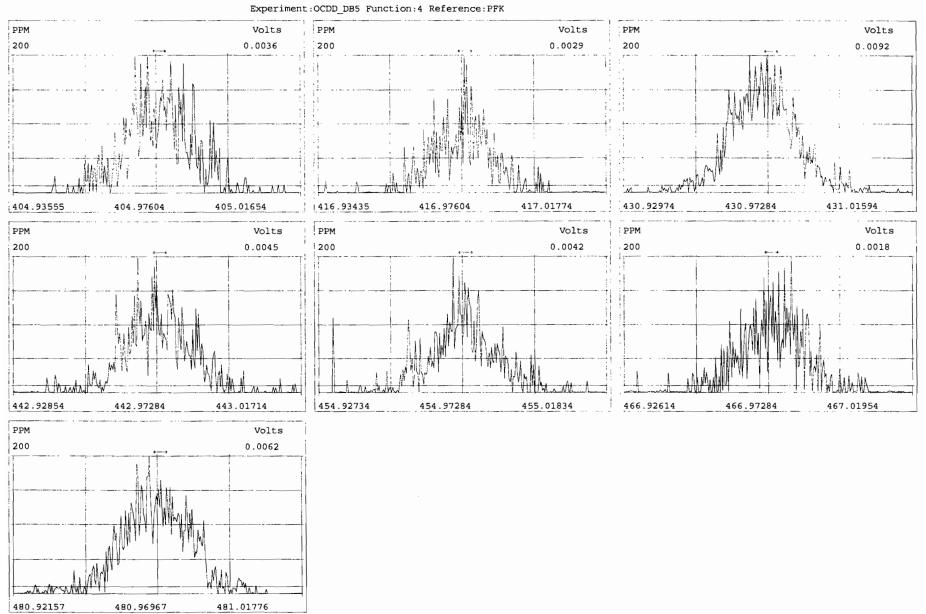




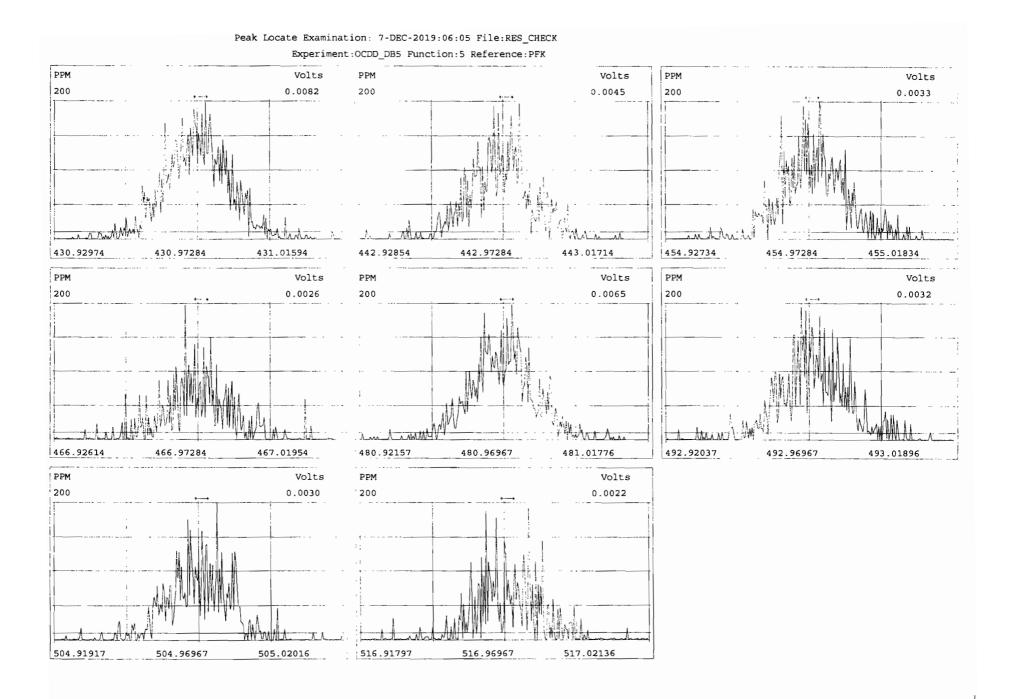
## Peak Locate Examination: 7-DEC-2019:06:02 File:RES_CHECK

Work Order 1903646





## Peak Locate Examination: 7-DEC-2019:06:04 File:RES_CHECK



## HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calbration ID: ST191205D4-1			Reviewed By: <u>C7 12/10/19</u>	
End Calibration ID:NA			Initials & Date	
	Beg.	End	Beg.	End
Ion abundance within QC limits?	$\checkmark$	NA	Mass resolution >	A
<b>Concentrations within criteria?</b>		ф	□ 5k □ 6-8K □ 8K 🗹 10K 1614 1699 429 1613/1668/8280	
TCDD/TCDF Valleys <25%		Ф	Intergrated peaks display correctly?	NV
First and last eluters present?		ф	GC Break <20%	
<b>Retention Times within criteria?</b>	$\checkmark$	Ф	8280 CS1 End Standard:	
Verification Std. named correctly?	ľ	ф	- Ratios within limits, S/N <2.5:1, CS1 within 12 hours	NĄ
(ST-Year-Month-Day-VG ID)				
Forms signed and dated?	V	Ф	Comments: ASIOS CRASUED DURING END RES CHECK.	
Correct ICAL referenced?	DB		A SIOS CRASHED DURING END RES CHECK. I FUNCTION PRINTED.	
Run Log:				
- Correct instrument listed?	$\square$	1		
- Samples within 12 hour clock?	Ŷ	N		
<ul> <li>Bottle position verfied?</li> </ul>	)	<u> </u>		

Vista Analytical Laboratory - Injection Log Run file: 191205D4 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191205D4	1	ST191205D4-1	DB	7-DEC-19	06:05:48	ST191205D4-1	NA
191205D4	2	SOLVENT BLANK	DB	7-DEC-19	06:53:37	ST191205D4-1	NA
191205D4	3	1903646-03	DB	7-DEC-19	07:41:24	ST191205D4-1	NA
191205D4	4	1903646-04	DB	7-DEC-19	08:29:10	ST191205D4-1	NA
191205D4	5	1903646-05	DB	7-DEC-19	09:17:07	ST191205D4-1	NA
191205D4	6	1903646-06	DB	7-DEC-19	10:05:05	ST191205D4-1	NA
191205D4	7	B9J0315-DUP1	DB	7-DEC-19	10:53:01	ST191205D4-1	NA
191205D4	8	1903646-07	DB	7-DEC-19	11:40:53	ST191205D4-1	NA
191205D4	9	1903646-08	DB	7-DEC-19	12:28:50	ST191205D4-1	NA
191205D4	10	1903646-09	DB	7-DEC-19	13:16:49	ST191205D4-1	NA

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista	Analytical L	aboratory	, Episo	de No.:			CCAL ID: ST191205D4-1
Contract No.:	S	AS No.:					
Initial Calibrat	ion Date: 10	-9-19					
Instrument ID: \	/G - 7		G	C Column	ID: ZB-5MS		
VER Data Filenar	ne: 191205D4	S#1 An	alysis Dat	e: 7-DÉ	C-19 Time: (	06:05:48	
	M/Z'S	ION	QC			CONC.	
	FORMING	ABUND.	LIMITS		CONC.	RANGE (3)	
	RATIO (1)	RATIO	(2)	Pass	FOUND	(ng/mL)	
NATIVE ANALYTES							
							(1) See Table 8, Method
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	У	10.5	7.8 - 12.9	
						8 2 - 12 3 (4)	(2) Ion Abundance Ratio

2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	У	10.5	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	У	50.9	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	v	49.0	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.20		y	51.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	У	51.8	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	У	50.0	43.0 - 58.0
OCDD	M+2/M+4	0.88	0.76-1.02	У	99.9	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	У	9.37	8.4 - 12.0
	N . 0 /N . 4	1.54			51 0	8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	У	51.9	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	У	52.0	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	У	46.9	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	У	47.0	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	У	49.4	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	У	47.1	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88-1.20	У	47.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	У	47.2	43.0 - 58.0
OCDF	M+2/M+4	0.91	0.76-1.02	У	95.8	63.0 - 159.0

od 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.

	FORM 4B	
PCDD/PCDF	CALIBRATION	VERIFICATION

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

Initial Calibration Date: 10-9-19

Instrument ID: VG-7	GC Column	ID:	ZB-5MS
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VER Data Filename: 191205D4 S#1 Analysis Date: 7-DEC-19 Time: 06:05:48

LABELED 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	0.82	0.65-0.89	У	104	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	У	106	62.0 - 160.0
13C-1,2,3,4,7,8-HxCD	D M+2/M+4	1.31	1.05-1.43	У	103	85.0 - 117.0
13C-1,2,3,6,7,8-HxCD	D M+2/M+4	1.29	1.05-1.43	У	86.3	85.0 - 118.0
13C-1,2,3,7,8,9-HxCD	D M+2/M+4	1.25	1.05-1.43	У	91.9	85.0 - 118.0
13C-1,2,3,4,6,7,8-Hp	CDD M+2/M+4	1.06	0.88-1.20	У	100	72.0 - 138.0
13C-OCDD	M/M+2	0.88	0.76-1.02	У	238	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.77	0.65-0.89	У	101	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	У	105	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	У	99.7	77.0 - 130.0
13C-1,2,3,4,7,8-HxCD	F M/M+2	0.50	0.43-0.59	У	111	76.0 - 131.0
13C-1,2,3,6,7,8-HxCD	F M/M+2	0.51	0.43-0.59	У	99.5	70.0 - 143.0
13C-2,3,4,6,7,8-HxCD	F M/M+2	0.50	0.43-0.59	У	99.4	73.0 - 137.0
13C-1,2,3,7,8,9-HxCD	F M/M+2	0.50	0.43-0.59	У	105	74.0 - 135.0
13C-1,2,3,4,6,7,8-Нр	CDF M+2/M+4	0.44	0.37-0.51	У	98.9	78.0 - 129.0
13C-1,2,3,4,7,8,9-Hp	CDF M+2/M+4	0.44	0.37-0.51	У	107	77.0 - 129.0
13C-OCDF	M+2/M+4	0.90	0.76-1.02	У	250	96.0 - 415.0
CLEANUP STANDARD (3	)					
37Cl-2,3,7,8-TCDD					9.55	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: R10/19

#### Page 1 of 1

FORM 5 PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19 Instrument ID: VG-7

RT Window Data Filename: 191205D4 S#1 Analysis Date: 7-DEC-19 Time: 06:05:48

ZB-5MS IS Data Filename: 191205D4 S#1 Analysis Date: 7-DEC-19 Time: 06:05:48

DB_225 IS Data Filename: Analysis Date: Time:

#### ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

	ABSOLUTE		ABSOLUTE
ISOMERS	RT	ISOMERS	RT
1,3,6,8-TCDD (F)	22:40	1,3,6,8-TCDF (F)	20:32
1,2,8,9-TCDD (L)	26:57	1,2,8,9-TCDF (L)	27:06
1,2,4,7,9-PeCDD (F)	28:33	1,3,4,6,8-PeCDF (F)	27:04
1,2,3,8,9-PeCDD (L)	30:58	1,2,3,8,9-PeCDF (L)	31:12
1,2,4,6,7,9-HxCDD (F)	32:23	1,2,3,4,6,8-HxCDF (F)	31:51
1,2,3,7,8,9-HxCDD (L)	34:19	1,2,3,7,8,9-HxCDF (L)	34:41
1,2,3,4,6,7,9-HpCDD (F)	36:55	1,2,3,4,6,7,8-HpCDF (F)	36:31
1,2,3,4,6,7,8-HpCDD (L)	37:46	1,2,3,4,7,8,9-HpCDF (L)	38:19

(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: 12/10/19

FORM 6A

#### PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

GC Column ID: ZB-5MS Instrument ID: VG-7

.

VER Data Filename: 191205D4 S#1 Analysis Date: 7-DEC-19 Time: 06:05:48

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

	RETENTION TIME		RRT
NATIVE ANALYTES	REFERENCE	RRT	QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
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	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002

#### LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	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	0.991	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	1.023	0.989-1.052

Analyst: <u>)6</u> Date: 12/10/19

FORM 6B PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191205D4 S#1 Analysis Date: 7-DEC-19 Time: 06:05:48

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	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
1,2,3,4,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.001
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	1.001	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	1.000	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
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

#### 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	1.009	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	1.130	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.234	1.091-1.371

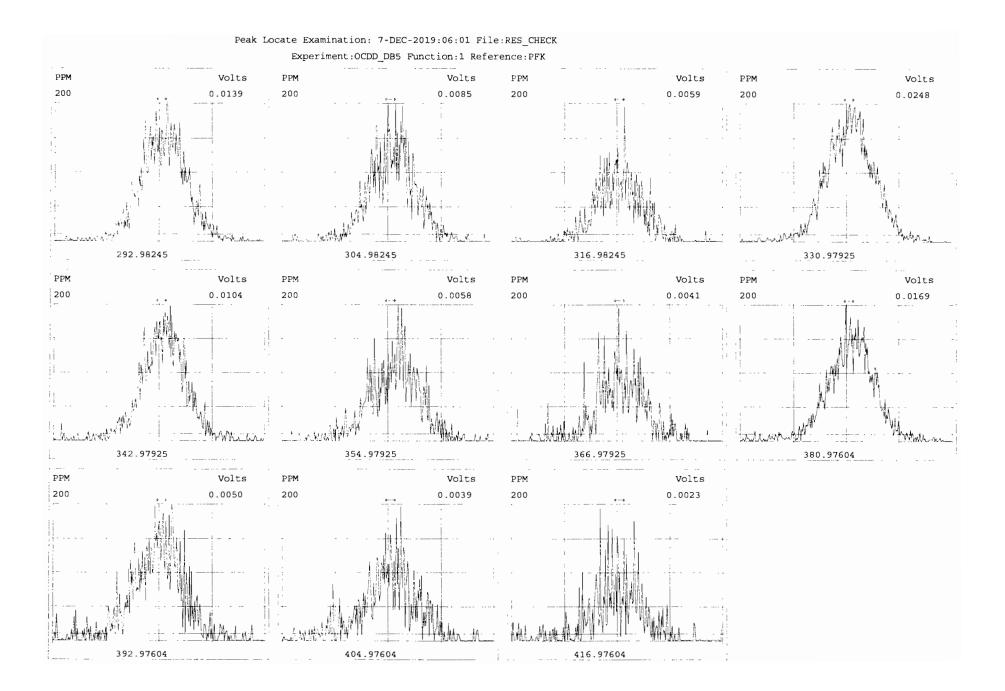
Analyst:_______B_____ Date:____12/10/19____

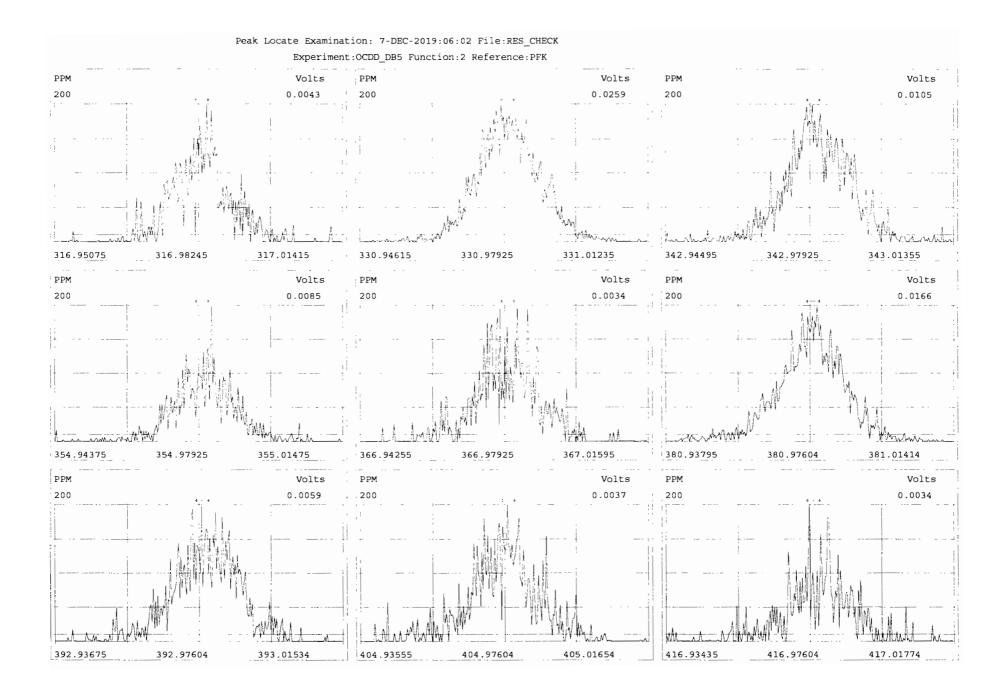
	ient ID: 1613 CS3 19C2204 b ID: ST191205D4-1		lename: 19 Column II			Acq: 7-D 1613VG7-			: 1.000	ConCal EndCAL	: ST191205D4 : NA	1-1			Page	1 of 1
	Name	Resp	RA	RRF	RT	Conc	Qual	noise Fac	DL	Name		Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	6.53e+05	0.77 y	0.91	26:05	10.538		* 2.5	*	Total Te	tra-Dioxins	75.8	76.8		*	*
	1,2,3,7,8-PeCDD	2.58e+06	0.63 y	0.90	30:37	50.865		* 2.5	*	Total Pe	nta-Dioxins	197	197		*	*
	1,2,3,4,7,8-HxCDD	2.40e+06	1.29 y	1.10	33:55	48.956		* 2.5	*	Total He	xa-Dioxins	223	224		*	*
	1,2,3,6,7,8-HxCDD	2.39e+06	1.20 y	0.94	34:01	51.406		* 2.5	*	Total He	pta-Dioxins	116	117		*	*
	1,2,3,7,8,9-HxCDD	2.48e+06	1.23 y	0.96	34:19	51.786		* 2.5	*	Total Te	tra-Furans	37.1	38.5		*	*
	1,2,3,4,6,7,8-HpCDD	2.16e+06	1.04 y	0.98	37:46	49.986		* 2.5	*	Total Pe	nta-Furans	227.68	228.25		*	*
	OCDD	4.45e+06	0.88 y	0.96	41:02	99.854		* 2.5	*	Total He	xa-Furans	252	253		*	*
										Total He	pta-Furans	94.8	95.7		*	*
	2,3,7,8-TCDF	9.35e+05	0.77 y	0.95	25:18	9.3743		* 2.5	*							
	1,2,3,7,8-PeCDF	4.47e+06	1.56 y	0.96	29:26	51.866		* 2.5	*							
	2,3,4,7,8-PeCDF	4.47e+06	1.57 y	1.01	30:20	52.012		* 2.5	*							
	1,2,3,4,7,8-HxCDF	3.44e+06	1.22 y	1.18	33:01	46.916		* 2.5	*							
	1,2,3,6,7,8-HxCDF	3.48e+06	1.22 y	1.07	33:09	47.021		* 2.5	*							
	2,3,4,6,7,8-HxCDF	3.51e+06	1.25 y	1.11	33:45	49.387		* 2.5	*							
	1,2,3,7,8,9-HxCDF	2.91e+06	1.23 y	1.06	34:41	47.081		* 2.5	*							
	1,2,3,4,6,7,8-HpCDF	2.67e+06	1.02 y	1.13	36:31	46.988		* 2.5	*							
	1,2,3,4,7,8,9-HpCDF	2.53e+06	1.04 y	1.28	38:19	47.192		* 2.5	*							
	OCDF	5.26e+06	0.91 y	0.95	41:15	95.789		* 2.5	*							
										Rec	Qual					
IS	13C-2,3,7,8-TCDD	6.84e+06	0.82 y	1.10	26:04	103.79				104						
IS	13C-1,2,3,7,8-PeCDD	5.62e+06	0.62 y	0.88	30:36	105.85				106						
IS	13C-1,2,3,4,7,8-HxCDD	4.46e+06	1.31 y	0.64	33:53	103.28				103						
IS	13C-1,2,3,6,7,8-HxCDD	4.96e+06	1.29 y	0.86	33:60	86.268				86.3						
IS	13C-1,2,3,7,8,9-HxCDD	4.99e+06	1.25 y	0.81	34:18	91.941				91.9						
IS	13C-1,2,3,4,6,7,8-HpCDD	4.40e+06	1.06 y	0.65	37:46	100.12				100						
IS	13C-OCDD	9.29e+06	0.88 y	0.58	41:01	238.41				119						
IS	13C-2,3,7,8-TCDF	1.05e+07	0.77 y	1.03	25:17	101.15				101						
IS	13C-1,2,3,7,8-PeCDF	8.98e+06	1.58 y	0.85	29:25	104.82				105						
IS	13C-2,3,4,7,8-PeCDF	8.47e+06	1.63 y	0.85	30:19	99.659				99.7						
IS	13C-1,2,3,4,7,8-HxCDF	6.22e+06	0.50 y	0.83	33:01	111.29				111						
IS	13C-1,2,3,6,7,8-HxCDF	6.92e+06	0.51 y	1.03	33:08	99.504				99.5						
IS	13C-2,3,4,6,7,8-HxCDF	6.37e+06	0.50 y	0.95	33:44	99.438				99.4						
IS	13C-1,2,3,7,8,9-HxCDF	5.83e+06	0.50 y	0.83	34:40	104.71				105						
IS	13C-1,2,3,4,6,7,8-HpCDF	5.04e+06	0.44 y	0.76	36:30	98.946				98.9						
IS	13C-1,2,3,4,7,8,9-HpCDF	4.18e+06	0.44 y	0.58	38:18	107.01				107						
IS	13C-OCDF	1.16e+07	0.90 y	0.69	41:14	250.07				125						
C/Up	37Cl-2,3,7,8-TCDD	6.88e+05		1.20	26:05	9.5459				95.5	-	ations		ewed		
D.C. / 5		C 00- 0-	0.00	1 00	05 30	100.00					by Analyst:	1)B	by	uct.	07	
RS/R			0.79 y	1.00	25:30	100.00					Analyst:		Anal	yst:		
RS	13C-1,2,3,4-TCDF		0.78 y	1.00	24:03	100.00						. 1				
RS/R	T 13C-1,2,3,4,6,9-HxCDF	6.72e+06	0.52 y	1.00	33:25	100.00					Date: 12	1)B_ 2/10/19	_ Date	:12/	10/19	

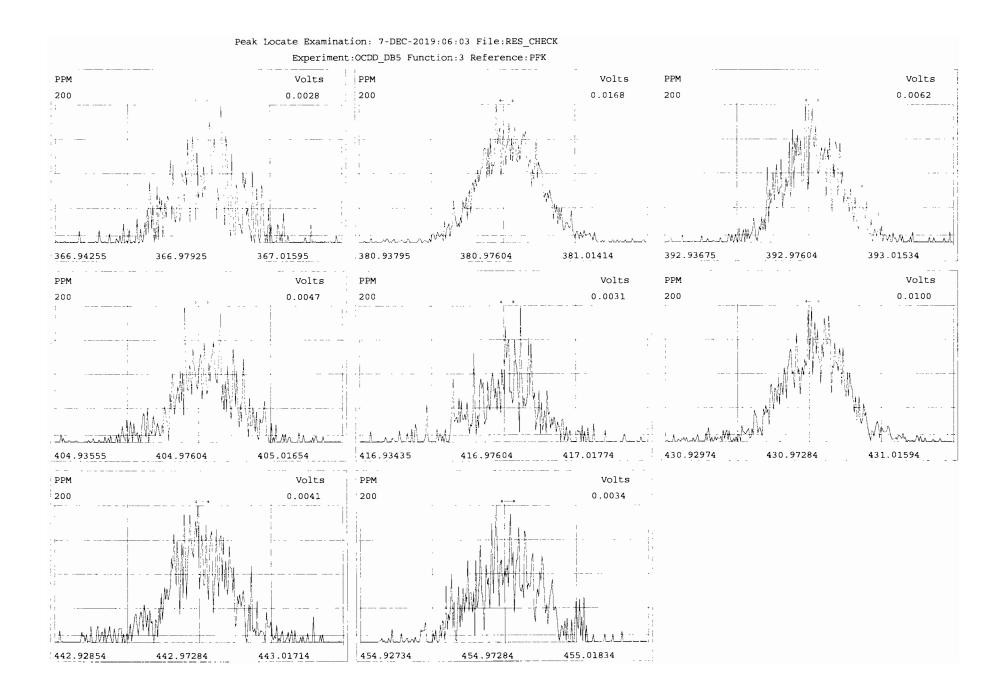
_				
Page	1	of	1	

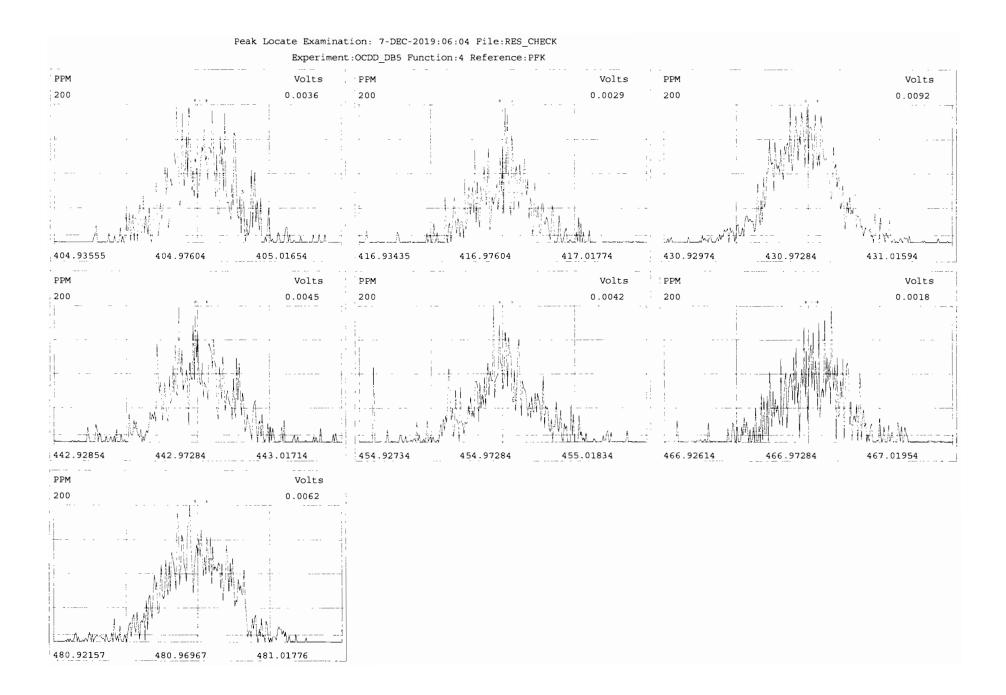
Vista Analytical Laboratory - Injection Lo	g Run file: 191205D4	Instrument ID: VG-7	GC Column ID: ZB-5MS

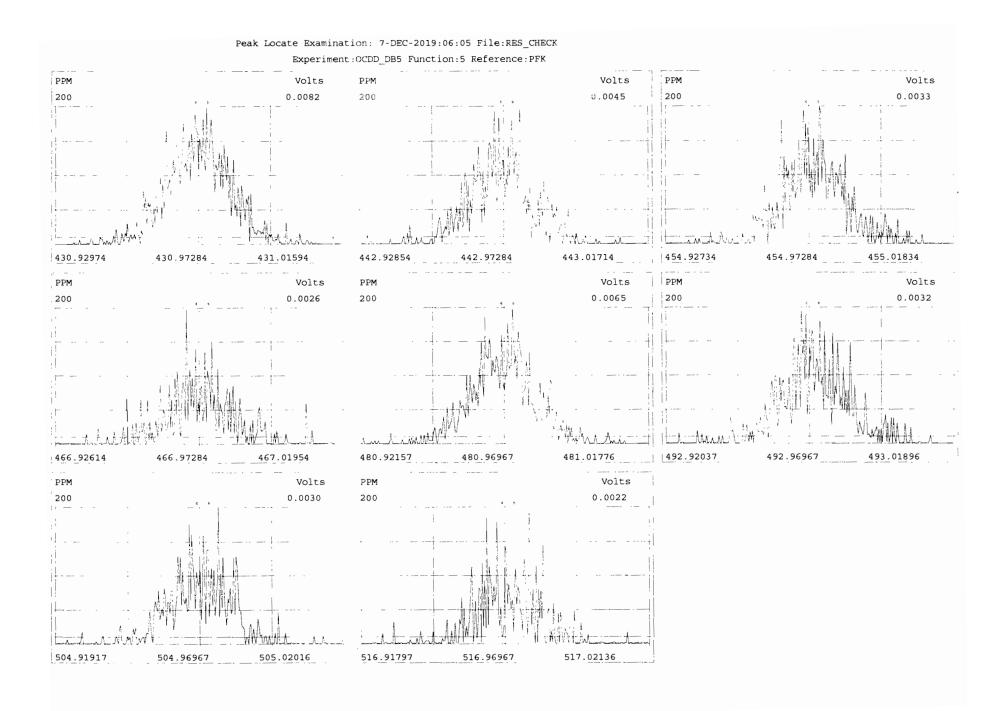
Data file	S#	Sample ID	Analyst	Acg date	Acq time	CCal	ECal
191205D4	1	ST191205D4-1	DB	7-DEC-19	06:05:48	ST191205D4-1	NA
191205D4	2	SOLVENT BLANK	DB	7-DEC-19	06:53:37	ST191205D4-1	NA
191205D4	3	1903646-03	DB	7-DEC-19	07:41:24	ST191205D4-1	NA
191205D4	4	1903646-04	DB	7-DEC-19	08:29:10	ST191205D4-1	NA
191205D4	5	1903646-05	DB	7-DEC-19	09:17:07	ST191205D4~1	NA
191205D4	6	1903646-06	DB	7-DEC-19	10:05:05	ST191205D4-1	NA
191205D4	7	B9J0315-DUP1	DB	7-DEC-19	10:53:01	ST191205D4-1	NA
191205D4	8	1903646-07	DB	7-DEC-19	11:40:53	ST191205D4-1	NA
191205D4	9	1903646-08	DB	7-DEC-19	12:28:50	ST191205D4-1	NA
191205D4	10	1903646-09	DB	7-DEC-19	13:16:49	ST191205D4-1	NA



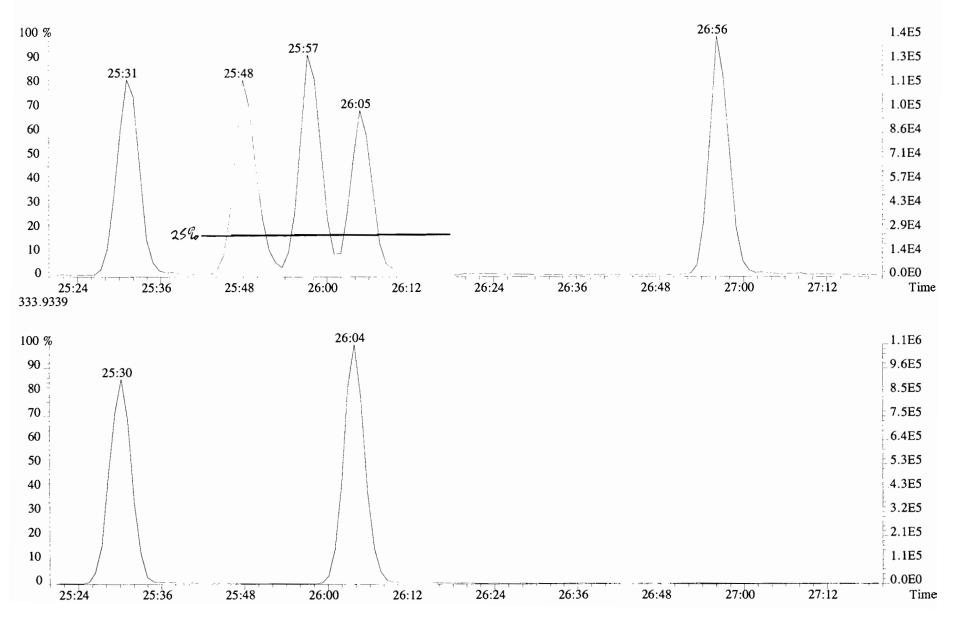


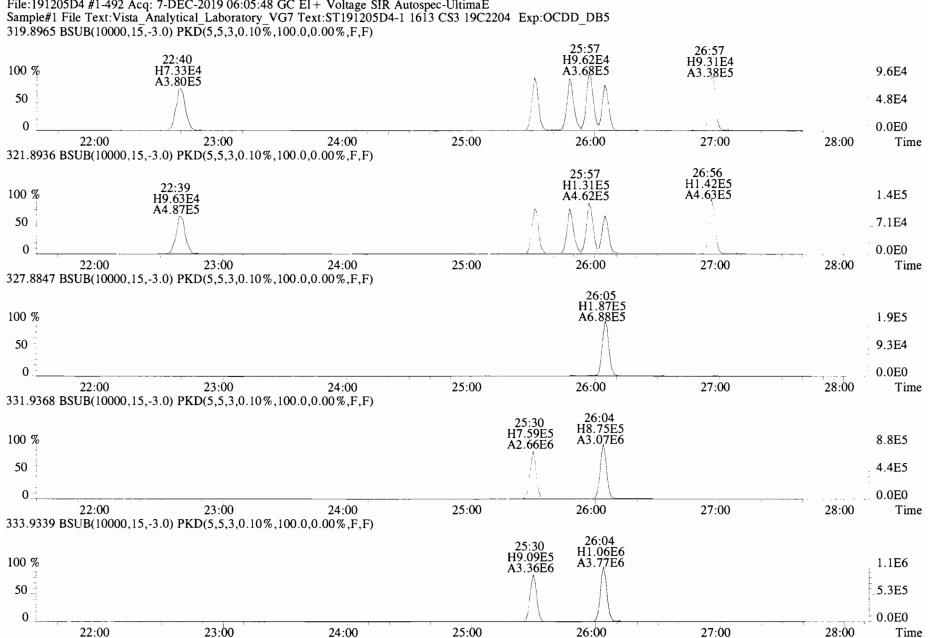






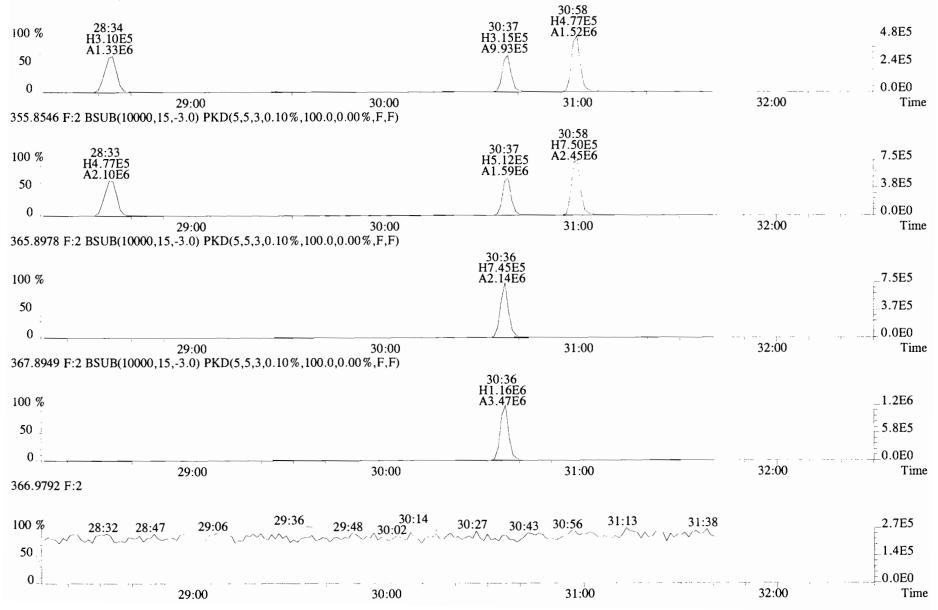
File:191205D4 #1-492 Acq: 7-DEC-2019 06:05:48 GC EI + Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191205D4-1 1613 CS3 19C2204 Exp:OCDD_DB5 321.8936

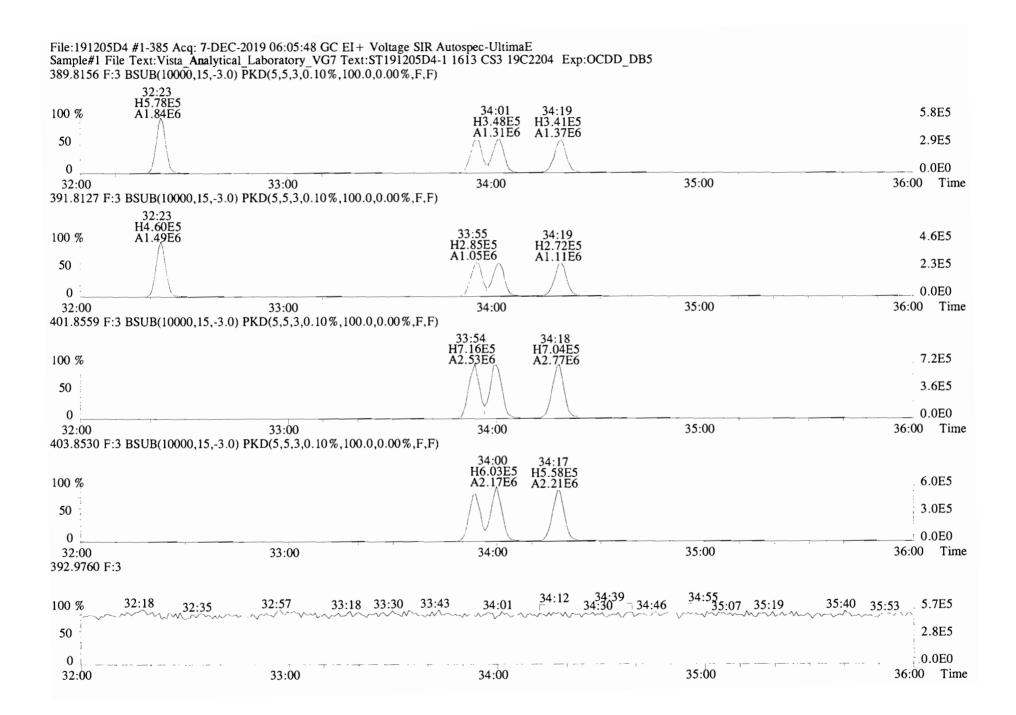


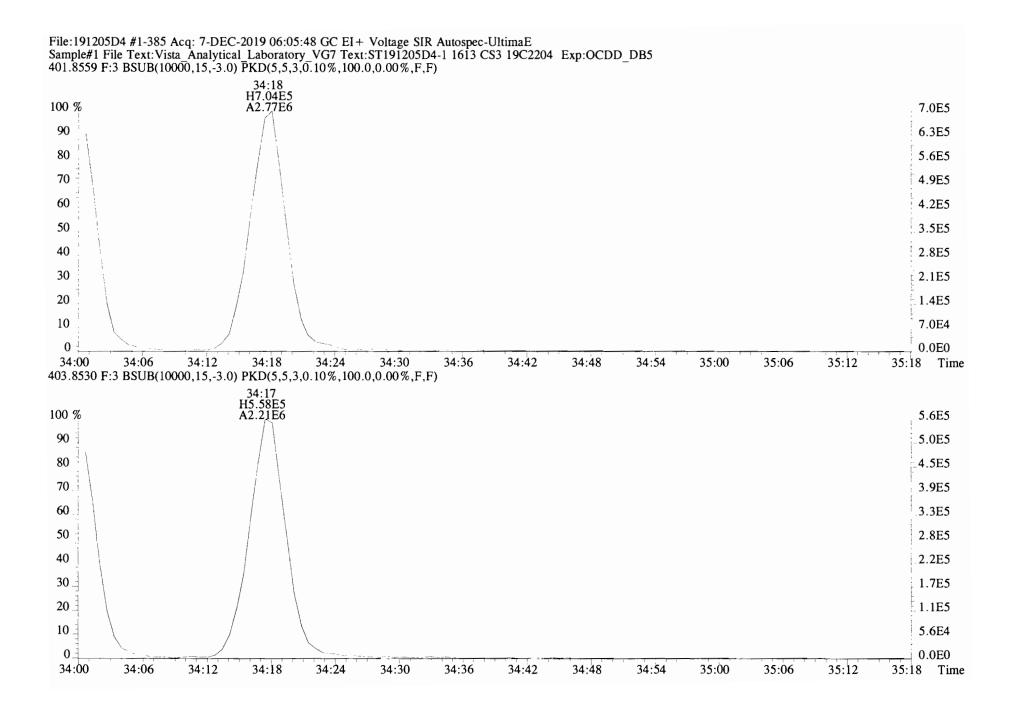


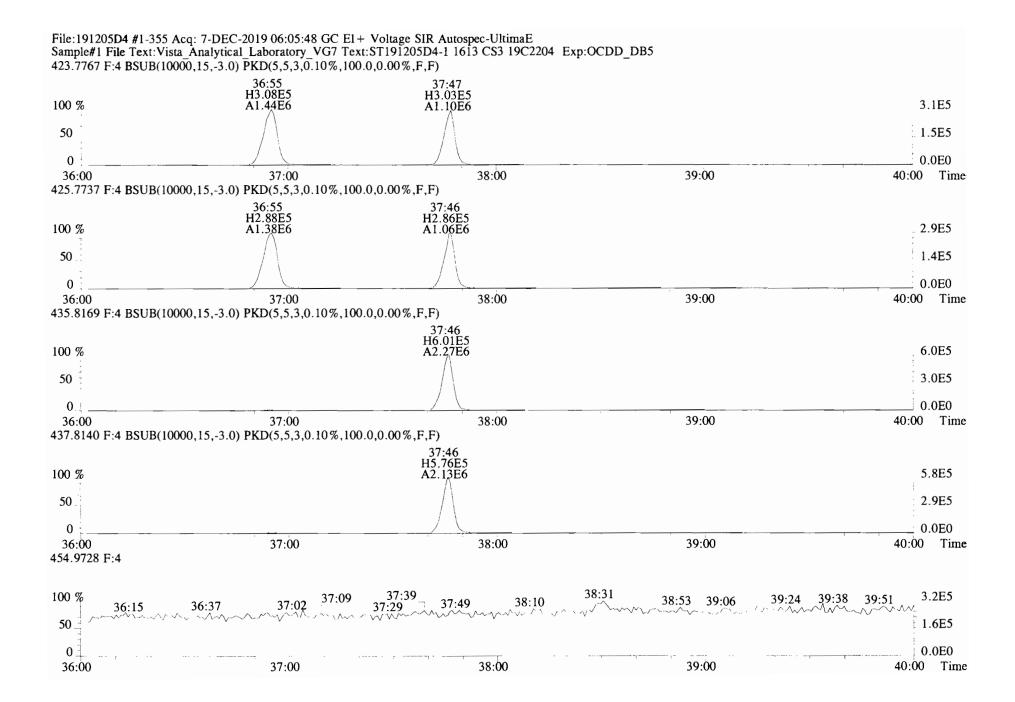
# File:191205D4 #1-492 Acq: 7-DEC-2019 06:05:48 GC El+ Voltage SIR Autospec-UltimaE

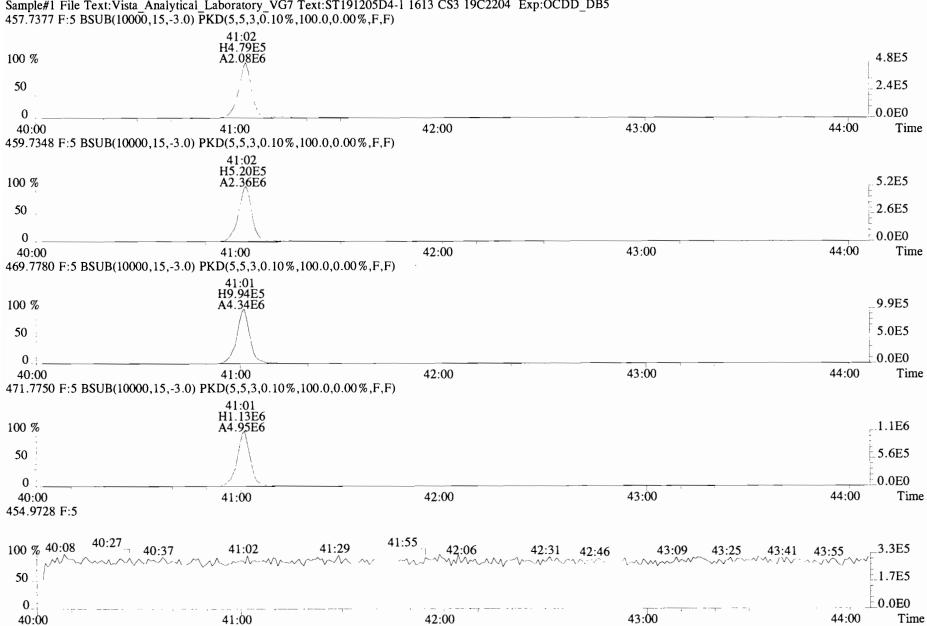
## File:191205D4 #1-211 Acq: 7-DEC-2019 06:05:48 GC EI + Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191205D4-1 1613 CS3 19C2204 Exp:OCDD_DB5 353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



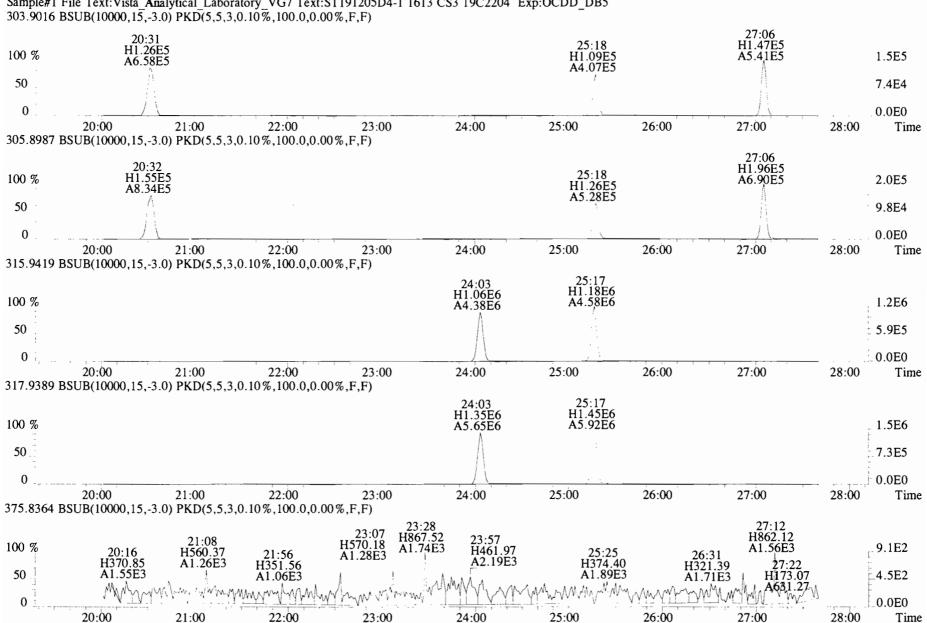




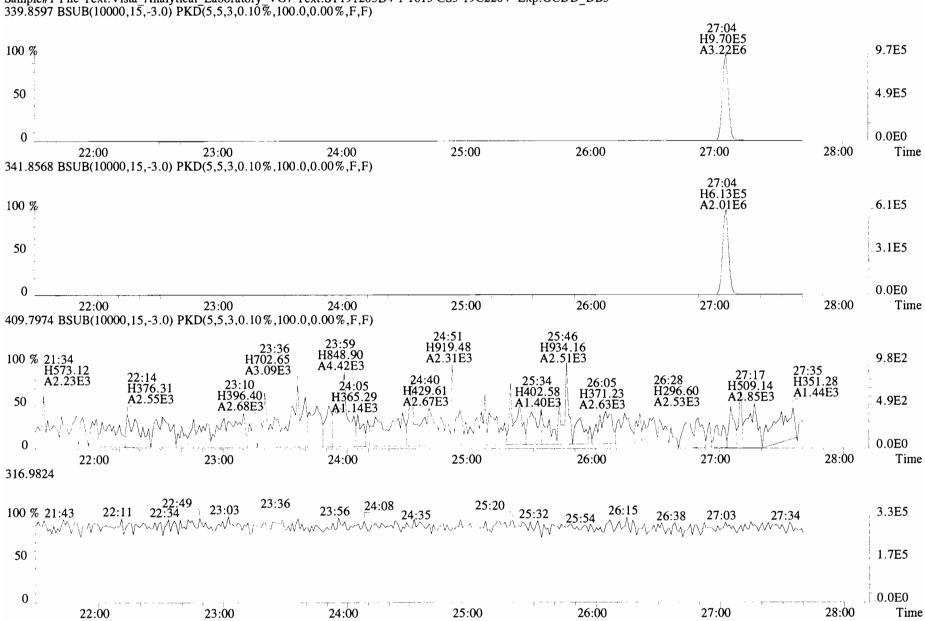




File:191205D4 #1-432 Acq: 7-DEC-2019 06:05:48 GC El + Voltage SIR Autospec-UltimaE Sample#1 File Text: Vista Analytical Laboratory_VG7 Text: ST191205D4-1 1613 CS3 19C2204 Exp:OCDD_DB5

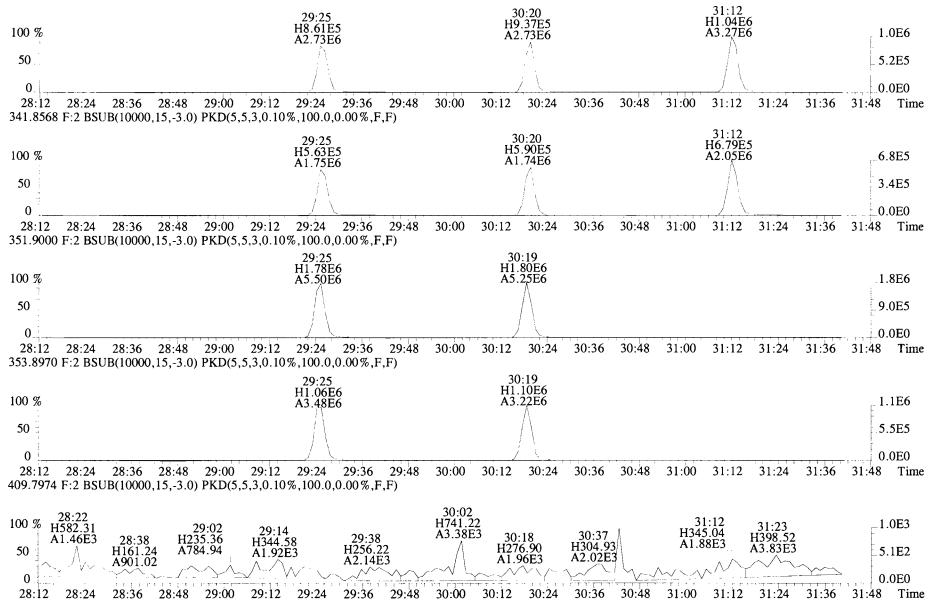


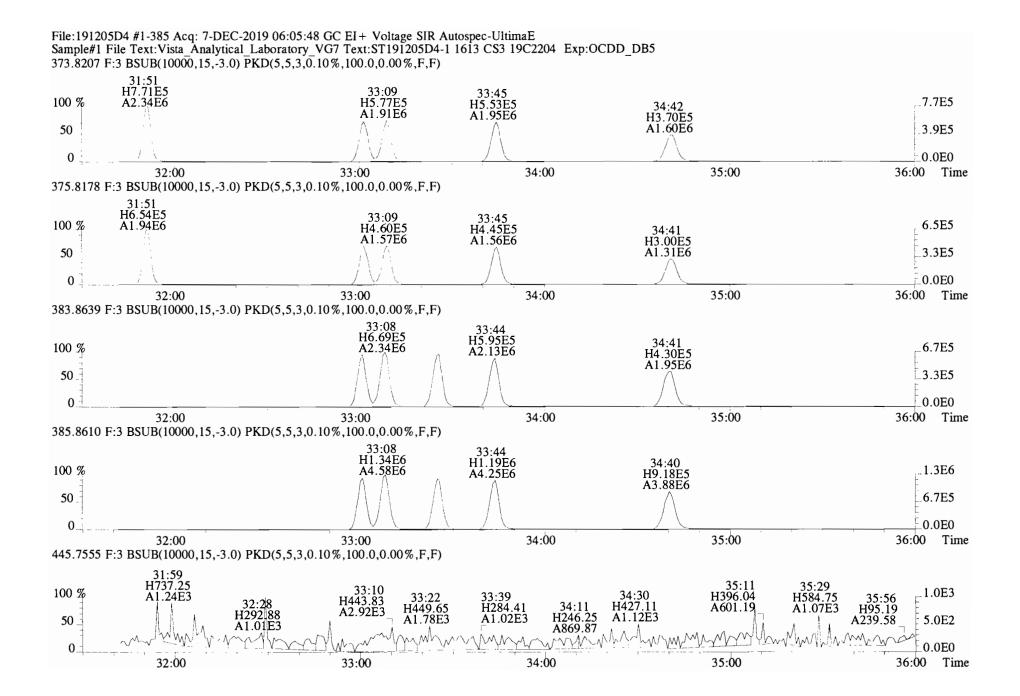
# File:191205D4 #1-492 Acq: 7-DEC-2019 06:05:48 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191205D4-1 1613 CS3 19C2204 Exp:OCDD_DB5



### File:191205D4 #1-492 Acq: 7-DEC-2019 06:05:48 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191205D4-1 1613 CS3 19C2204 Exp:OCDD_DB5 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

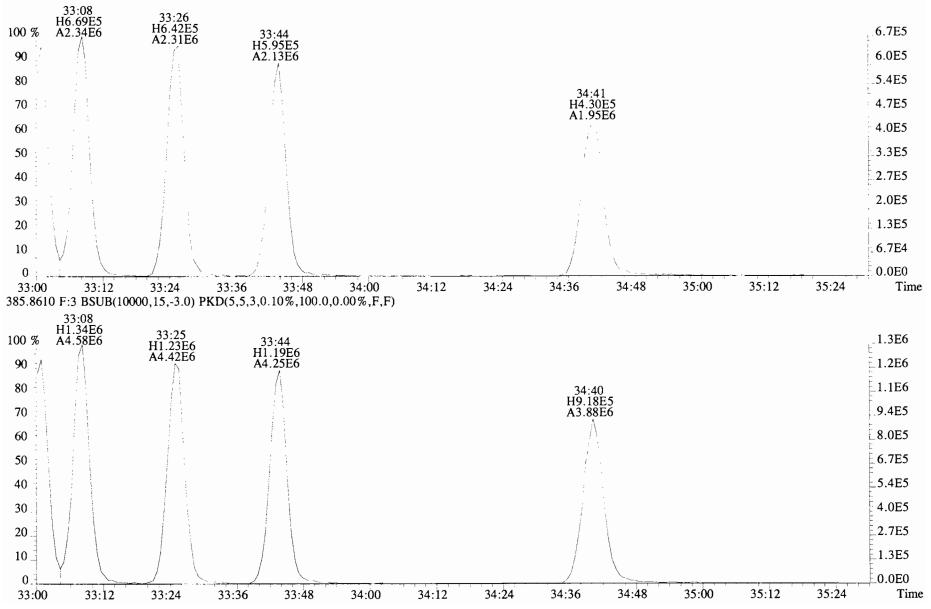
## File:191205D4 #1-211 Acq: 7-DEC-2019 06:05:48 GC E1+ Voltage S1R Autospec-UltimaE Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191205D4-1 1613 CS3 19C2204 Exp:OCDD_DB5 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

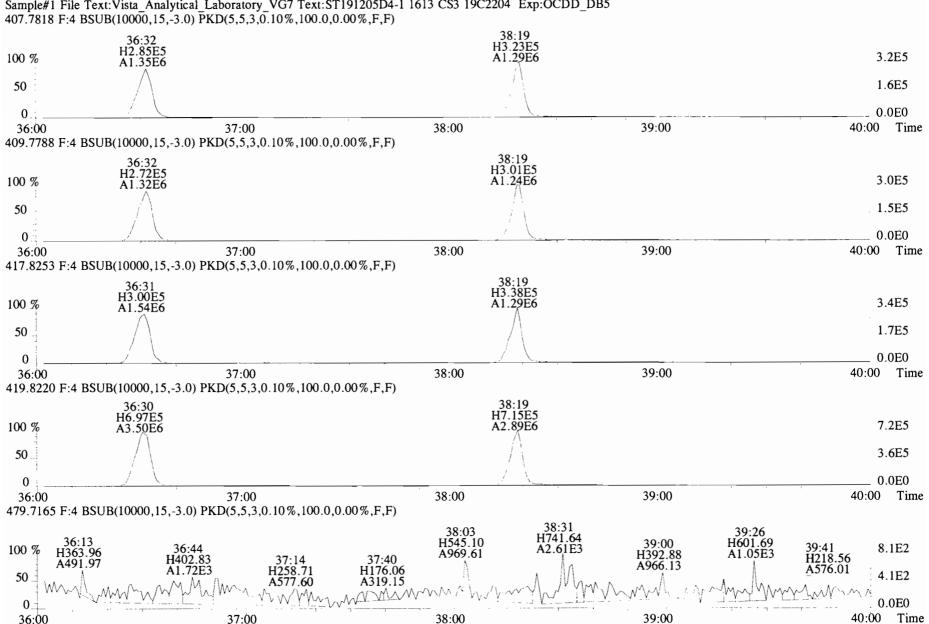




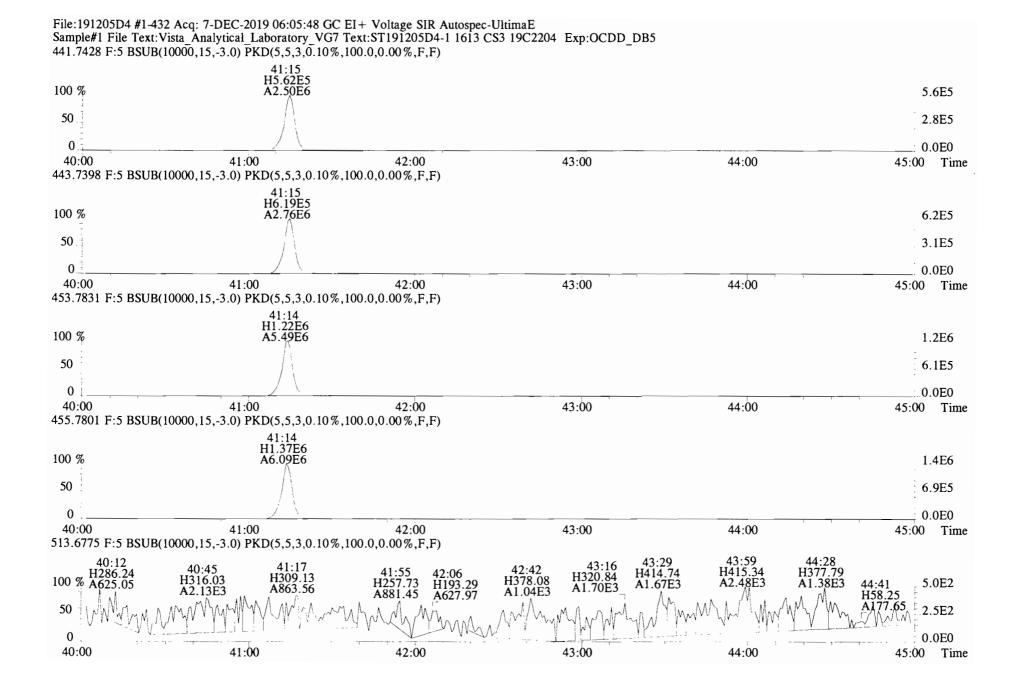
## Work Order 1903646

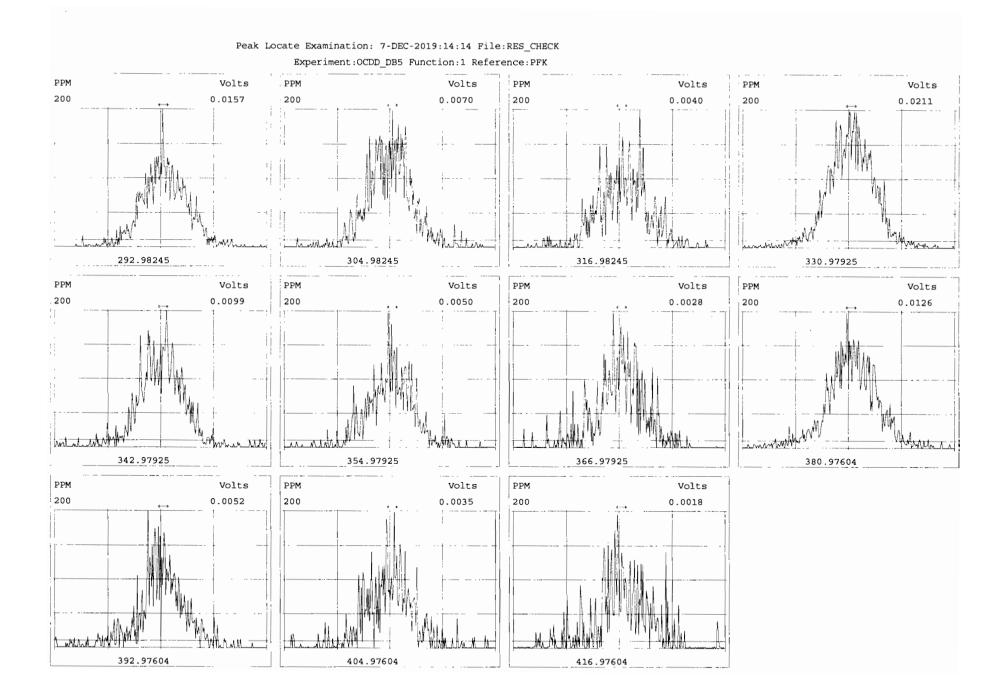
File:191205D4 #1-385 Acq: 7-DEC-2019 06:05:48 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191205D4-1 1613 CS3 19C2204 Exp:OCDD_DB5 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





# File:191205D4 #1-355 Acq: 7-DEC-2019 06:05:48 GC EI + Voltage SIR Autospec-UltimaE Sample#1 File Text: Vista_Analytical_Laboratory_VG7 Text: ST191205D4-1 1613 CS3 19C2204 Exp:OCDD_DB5





# INITIAL CALIBRATION

Initial Calibration RRF	Summary (		Vista Analy	tigal Tabo	ratory			
Run: 191009D1	Analyte:	ICAL,	-	1613VG <b>7</b> -10	-	T	ID. VG-7	
Run: 191009D1	Anaryte:		Cal:	1013/07-10	-9-19	inst.	ID. VG-7	
Data filename: 191009D1			Samp# 1	Samp# 2	Samp# 3	Samp# 4	Camp# F	Samp# 6
baca illename. 191009bi			0.25	0.50	2.0	5amp# 4 10	Samp# 5 40	300 300
			0.25	0.50	2.0	10	40	300
Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
2,3,7,8-TCDD	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98
1,2,3,7,8-PeCDD	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96
1,2,3,4,7,8-HxCDD	1.1013	3.97 %	1.12	1.13	1.03	1.08	1.09	1.15
1,2,3,6,7,8-HxCDD	0.9386	7.68 %	0.83	0.88	1.01	0.92	0.98	1.00
1,2,3,7,8,9-HxCDD	0.9613	4.62 %	0.95	0.90	0.93	0.95	1.00	1.03
1,2,3,4,6,7,8-HpCDD	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06
OCDD	0.9585	4.07 %	0.93	0.94	0.92	0.94	1.01	1.01
			0.00		0175	0.72	2.01	1.01
2,3,7,8-TCDF	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99
1,2,3,7,8-PeCDF	0.9603	4.05 %	0.94	0.94	0.92	0.95	1.00	1.01
2,3,4,7,8-PeCDF	1.0148	3.01 %	1.00	0.99	1.00	1.00	1.03	1.07
1,2,3,4,7,8-HxCDF	1.1768	4.35 %	1.23	1.11	1.15	1.14	1.20	1.24
1,2,3,6,7,8-HxCDF	1.0689	3.63 %	1.01	1.07	1.06	1.05	1.12	1.11
2,3,4,6,7,8-HxCDF	1.1136	5.58 %	1.06	1.03	1.12	1.11	1.16	1.20
1,2,3,7,8,9-HxCDF	1.0616	3.91 %	1.05	1.02	1.02	1.06	1.08	1.13
1,2,3,4,6,7,8-HpCDF	1.1276	3.90 %	1.13	1.13	1.06	1.10	1.17	1.18
1,2,3,4,7,8,9-HpCDF	1.2799	3.29 %	1.30	1.24	1.25	1.25	1.31	1.34
OCDF	0.9472	3.80 %	0.95	0.92	0.91	0.92	1.00	0.98
13C-2,3,7,8-TCDD	1.0954	1.91 %	1.11	1.08	1.06	1.10	1.12	1.11
13C-1,2,3,7,8-PeCDD	0.8814	5.11 %	0.89	0.86	0.83	0.86	0.89	0.96
13C-1,2,3,4,7,8-HxCDD	0.6421	10.35 %	0.65	0.60	0.58	0.61	0.65	0.77
13C-1,2,3,6,7,8-HxCDD	0.8555	4.13 %	0.86	0.87	0.82	0.87	0.80	0.90
13C-1,2,3,7,8,9-HxCDD	0.8066	5.57 %	0.84	0.80	0.76	0.80	0.76	0.88
13C-1,2,3,4,6,7,8-HpCDD	0.6539	9.07 %	0.70	0.63	0.59	0.62	0.63	0.75
13C-OCDD	0.5797	10.98 %	0.60	0.52	0.53	0.55	0.59	0.69
13C-2,3,7,8-TCDF	1.0349	1.62 %	1.04	1.00	1.03	1.05	1.04	1.04
13C-1,2,3,7,8-PeCDF	0.8542	4.58 %	0.84	0.82	0.82	0.87	0.86	0.92
13C-2,3,4,7,8-PeCDF	0.8471	3.79 %	0.81	0.84	0.83	0.84	0.85	0.91
13C-1,2,3,4,7,8-HxCDF	0.8317	8.50 %	0.76	0.80	0.79	0.86	0.83	0.96
13C-1,2,3,6,7,8-HxCDF	1.0344	5.35 %	1.00	1.03	1.03	1.03	0.98	1.14
13C-2,3,4,6,7,8-HxCDF	0.9533	6.17 %	0.94	0.94	0.90	0.93	0.93	1.07
13C-1,2,3,7,8,9-HxCDF	0.8277	8.68 %	0.82	0.80	0.77	0.78	0.83	0.96
13C-1,2,3,4,6,7,8-HpCDF	0.7575	6.47 %	0.76	0.73	0.72	0.75	0.73	0.85
13C-1,2,3,4,7,8,9-HpCDF	0.5812	8.97 %	0.62	0.54	0.52	0.55	0.58	0.66
13C-OCDF	0.6890	12.48 %	0.69	0.62	0.62	0.65	0.72	0.85
				_				
37C1-2,3,7,8-TCDD	1.1977	8.83 %	1.40	1.16	1.16	1.11	1.15	1.21
13C-1,2,3,4-TCDD	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4-TCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4,6,9-HxCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
100 1/2/0/1/0/5 INCOL	1.0000	0.00 8	1.00	1.00	1.00	1.00	1.00	1.00

DB CT10|10|19 10|10|19

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F	ilename:	191009D1 S: 1 Acqui	red: 9-00	CT-19 16:13	:04			
I	Run: 191	009D1 Analyte:	Cal: 16	513VG7-10-9	-19	Resul	ts:	
5	Sample t	ext: ST191009D1-1 1613 CS	0 19C2201					
	Тур	Name	Amount	Resp	RA	RT	RF	RRF
	Unk	2,3,7,8-TCDD	0.25	1.97e+04	0.80 y	26:32	-	0.84
	Unk	1,2,3,7,8-PeCDD	1.25	8.06e+04	0.62 y	30:54	-	0.86
	Unk	1,2,3,4,7,8-HxCDD	1.25	7.34e+04	1.23 y	34:16	-	1.12
	Unk	1,2,3,6,7,8-HxCDD	1.25	7.23e+04	1.12 y	34:23	-	0.83
	Unk	1,2,3,7,8,9-HxCDD	1.25	8.01e+04	1.19 y	34:43	-	0.95
	Unk	1,2,3,4,6,7,8-HpCDD	1.25	6.39e+04	1.06 y	38:05	-	0.90
	Unk	OCDD	2.50	1.14e+05	0.95 y	41:28	-	0.93
	Unk	2,3,7,8-TCDF	0.25	3.62e+04	0.85 y	25:49	_	1.09
	Unk	1,2,3,7,8-PeCDF	1.25	1.26e+05	1.52 y	29:46	_	0.94
)	Unk	2,3,4,7,8-PeCDF	1.25	1.31e+05	1.52 y	30:40	-	1.00
	Unk	1,2,3,4,7,8-HxCDF	1.25	9.36e+04	1.22 y	33:22	-	1.23
2	Unk	1,2,3,6,7,8-HxCDF	1.25	1.02e+05	1.11 y	33:29	-	1.01
ļ.	Unk	2,3,4,6,7,8-HxCDF	1.25	1.01e+05	1.30 y	34:07	-	1.06
ł	Unk	1,2,3,7,8,9-HxCDF	1.25	8.74e+04	1.10 y	35:08	-	1.05
5	Unk	1,2,3,4,6,7,8-HpCDF	1.25	8.63e+04	1.01 y	36:57	-	1.13
5	Unk	1,2,3,4,7,8,9-HpCDF	1.25	8.18e+04	1.14 y	38:40	-	1.30
7	Unk	OCDF	2.50	1.32e+05	0.94 y	41:43	-	0.95

		_,_, _, _, _, _, _						
15	Unk	1,2,3,4,6,7,8-HpCDF	1.25	8.63e+04	1.01 y	36:57	-	1.13
16	Un <b>k</b>	1,2,3,4,7,8,9-HpCDF	1.25	8.18e+04	1.14 y	38:40	-	1.30
17	Unk	OCDF	2.50	1.32e+05	0.94 y	41:43	-	0.95
36	IS	13C-2,3,7,8-TCDD	100.00	9.40e+06	0.78 y	26:32	-	1.11
37	IS	13C-1,2,3,7,8-PeCDD	100.00	7.48e+06	0.62 y	30:55	-	0.89
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.24e+06	1.19 y	34:15	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.96e+06	1.32 y	34:22	-	0.86
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.74e+06	1.31 y	34:42	-	0.84
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.68e+06	1.05 y	38:05	-	0.70
42	IS	13C-OCDD	200.00	9.75e+06	0.88 y	41:28	-	0.60
43	IS	13C-2,3,7,8-TCDF	100.00	1.33e+07	0.79 y	25:49	_	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.07e+07	1.58 y	29:46	-	0.84
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.05e+07	1.58 y	30:39	-	0.81
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.11e+06	0.51 y	33:21	-	0.76
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.04e+06	0.50 y	33:29	-	1.00
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.61e+06	0.50 y	34:07	-	0.94
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	6.66e+06	0.48 y	35:07	-	0.82
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.12e+06	0.42 y	36:57	-	0.76
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	5.02e+06	0.45 y	38:41	-	0.62
52	IS	13C-OCDF	200.00	1.11e+07	0.90 y	41:43	-	0.69
53	C/Up	37Cl-2,3,7,8-TCDD	0.25	2.97e+04		26:33	-	1.40
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.45e+06	0.80 y	25:59	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.28e+07	0.79 y	24:39	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	8.07e+06	0.52 y	33:47	-	1.00

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Results:

	sampre	CEXC: SIT91009D1~2 1613 CS	1 1902202					
	Тур	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.50	3.54e+04	0.78 y	26:34	-	0.83
2	Unk	1,2,3,7,8-PeCDD	2.50	1.46e+05	0.60 y	30:56	-	0.87
3	Unk	1,2,3,4,7,8-HxCDD	2.50	1.25e+05	1.20 y	34:16	-	1.13
4	Unk	1,2,3,6,7,8-HxCDD	2.50	1.40e+05	1.22 y	34:23	-	0.88
5	Unk	1,2,3,7,8,9-HxCDD	2.50	1.33e+05	1.15 y	34:43	-	0.90
6	Unk	1,2,3,4,6,7,8-HpCDD	2.50	1.13e+05	0.97 y	38:06	-	0.97
7	Unk	OCDD	5.00	1.78e+05	0.90 y	41:28	-	0.94
8	Unk	2,3,7,8-TCDF	0.50	5.25e+04	0.74 y	25:51	-	0.90
9	Unk	1,2,3,7,8-PeCDF	2.50	2.25e+05	1.59 y	29:48	-	0.94
10	Unk	2,3,4,7,8-PeCDF	2.50	2.42e+05	1.50 y	30:40	-	0.99
11	Unk	1,2,3,4,7,8-HxCDF	2.50	1.62e+05	1.16 y	33:22	-	1.11
12	Unk	1,2,3,6,7,8-HxCDF	2.50	2.03e+05	1.20 y	33:30	-	1.07
13	Unk	2,3,4,6,7,8-HxCDF	2.50	1.79e+05	1.30 y	34:07	-	1.03
14	Unk	1,2,3,7,8,9-HxCDF	2.50	1.49e+05	1.24 y	35:08	-	1.02
15	Unk	1,2,3,4,6,7,8-HpCDF	2.50	1.51e+05	0.91 y	36:57	-	1.13
16	Unk	1,2,3,4,7,8,9-HpCDF	2.50	1.23e+05	0.94 y	38:41	-	1.24
17	Unk	OCDF	5.00	2.09e+05	0.91 y	41:43	-	0.92
36	IS	13C-2,3,7,8-TCDD	100.00	8.50e+06	0.78 y	26:34	-	1.08
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.74e+06	0.63 y	30:56	-	0.86
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.41e+06	1.38 y	34:16	-	0.60
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.35e+06	1.20 y	34:23	-	0.87
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.87e+06	1.26 y	34:42	-	0.80
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.64e+06	1.05 y	38:05	-	0.63
42	IS	13C-OCDD	200.00	7.58e+06	0.89 y	41:28	-	0.52
43	IS	13C-2,3,7,8-TCDF	100.00	1.17e+07	0.80 Y	25:51	-	1.00
44	IS	13C-1,2,3,7,8-PeCDF	100.00	9.60e+06	1.59 y	29:48	-	0.82
45	IS	13C-2,3,4,7,8-PeCDF	100.00	9.80e+06	1.58 y	30:40	-	0.84
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.84e+06	0.52 Y	33:21	-	0.80
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.58e+06	0.51 Y	33:29	-	1.03
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.92e+06	0.51 Y	34:07	-	0.94
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.84e+06	0.49 y	35:08	-	0.80
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.38e+06	0.43 Y	36:57	-	0.73
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.99e+06	0.43 Y	38:41	-	0.54
52	IS	13C-OCDF	200.00	9.05e+06	0.88 Y	41:43	-	0.62
53	C/Up	37C1-2,3,7,8-TCDD	0.50	4.55e+04		26:34	-	1.16
	D0/5-		100.07					
54	RS/RT		100.00	7.86e+06	0.77 y	26:01	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.17e+07	0.83 Y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.33e+06	0.52 y	33:47	-	1.00

Filename: 191009D1 S: 2 Acquired: 9-OCT-19 17:00:45

Run: 191009D1 Analyte: Cal: 1613VG7-10-9-19

Sample text: ST191009D1-2 1613 CS1 19C2202

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RS/RT 13C-1,2,3,4,6,9-HxCDF

13C-1,2,3,6,7,8-HxCDF

13C-2,3,4,6,7,8-HxCDF

13C-1,2,3,7,8,9-HxCDF

13C-1,2,3,4,6,7,8-HpCDF

13C-1,2,3,4,7,8,9-HpCDF

37C1-2,3,7,8-TCDD

13C-1,2,3,4-TCDD

13C-1,2,3,4-TCDF

13C-OCDF

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RS/RT

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E	ilonom		mod. 0.00	m 10 17 40	27			
	Run: 19	e: 191009D1 S: 3 Acqui 91009D1 Analyte:		CT-19 17:48 513VG7-10-9		Deevite		
		text: ST191009D1-3 1613 CS		513VG7-10-9	-19	Results	:	
	Sampre		2 1902203					
	Тур	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	2.00	1.35e+05	0.74 y	26:33	-	0.87
2	Unk	1,2,3,7,8-PeCDD	10.00	5.33e+05	0.64 y	30:56	-	0.88
3	Unk	1,2,3,4,7,8-HxCDD	10.00	3.94e+05	1.22 y	34:16	-	1.03
4	Unk	1,2,3,6,7,8-HxCDD	10.00	5.50e+05	1.25 y	34:23	-	1.01
5	Unk	1,2,3,7,8,9-HxCDD	10.00	4.71e+05	1.36 y	34:43	-	0.93
6	Unk	1,2,3,4,6,7,8-HpCDD	10.00	3.70e+05	1.02 y	38:06	-	0.95
7	Unk	OCDD	20.00	6.41e+05	0.90 y	41:29	-	0.92
8	Unk	2,3,7,8-TCDF	2.00	1.90e+05	0.83 y	25:49	-	0.89
9	Unk	1,2,3,7,8-PeCDF	10.00	7.88e+05	1.58 y	29:47	-	0.92
10	Unk	2,3,4,7,8-PeCDF	10.00	8.71e+05	1.56 y	30:40	-	1.00
11	Unk	1,2,3,4,7,8-HxCDF	10.00	6.02e+05	1.14 y	33:22	-	1.15
12	Unk	1,2,3,6,7,8-HxCDF	10.00	7.20e+05	1.27 y	33:30	-	1.06
13	Unk	2,3,4,6,7,8-HxCDF	10.00	6.66e+05	1.26 y	34:08	-	1.12
14	Unk	1,2,3,7,8,9-HxCDF	10.00	5.16e+05	1.16 y	35:08	-	1.02
15	Unk	1,2,3,4,6,7,8-HpCDF	10.00	5.02e+05	1.05 y	36:57	-	1.06
16	Unk	1,2,3,4,7,8,9-HpCDF	10.00	4.31e+05	1.08 y	38:41	-	1.25
17	Unk	OCDF	20.00	7.38e+05	0.91 y	41:44	-	0.91
36	IS	13C-2,3,7,8-TCDD	100.00	7.73e+06	0.78 y	26:33	-	1.06
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.03e+06	0.62 y	30:55	-	0.83
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	3.81e+06	1.24 y	34:15	-	0.58
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	5.44e+06	1.28 y	34:22	-	0.82
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.03e+06	1.21 y	34:42	-	0.76
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	3.89e+06	1.09 y	38:05	-	0.59
42	IS	13C-OCDD	200.00	6.97e+06	0.90 y	41:28	-	0.53
43	IS	13C-2,3,7,8-TCDF	100.00	1.08e+07	0.82 Y	25:49	-	1.03
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.55e+06	1.59 y	29:47	-	0.82
45	IS	13C-2,3,4,7,8-PeCDF	100.00	8.70e+06	1.59 y	30:40	-	0.83
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.22e+06	0.49 y	33:21	-	0.79

100.00

100.00

100.00

100.00

100.00

200.00

100.00

100.00

100.00

2.00

6.80e+06

5.93e+06

5.05e+06

4.73e+06

3.46e+06

8.15e+06

1.69e+05

7.29e+06

1.04e+07

0.51 y

0.52 y

0.51 y

0.44 y

0.45 y

0.92 y

0.77 y

0.82 y

6.60e+06 0.52 y 33:47

33:29

34:07

35:08

36:57

38:41

41:44

26:33

25:59

24:39

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DB 10/10/19

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Filename: 191009D1 S: 4

Run: 191009D1 Analyte:

Sample text: ST191009D1-4 1613 CS3 19C2204

Results:		

	-		_	_				
	Тур	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	10.00	8.37e+05	0.80 Y	26:35	-	0.99
2	Unk	1,2,3,7,8-PeCDD	50.00	2.94e+06	0.61 Y	30:56	-	0.88
3	Unk	1,2,3,4,7,8-HxCDD	50.00	2.38e+06	1.21 y	34:16	-	1.08
4	Unk	1,2,3,6,7,8-HxCDD	50.00	2.90e+06	1.19 y	34:23	-	0.92
5	Unk	1,2,3,7,8,9-HxCDD	50.00	2.74e+06	1.24 y	34:42	-	0.95
6	Unk	1,2,3,4,6,7,8-HpCDD	50.00	2.15e+06	1.03 Y	38:05	-	0.96
7	Unk	OCDD	100.00	3.73e+06	0.91 Y	41:28	-	0.94
8	Unk	2,3,7,8-TCDF	10.00	1.05e+06	0 00	25.51	-	0.89
е 9	Unk	2,3,7,8-ICDF 1,2,3,7,8-PeCDF	50.00	1.05e+06 4.65e+06	0.80 Y	25:51	-	
9 10	Unk			4.65e+06 4.70e+06	1.59 y	29:47	-	0.95
11	Unk	2,3,4,7,8-PeCDF	50.00		1.68 y	30:40		1.00
12	Unk	1,2,3,4,7,8-HxCDF	50.00	3.52e+06	1.24 y	33:21	-	1.14
12	Unk	1,2,3,6,7,8-HxCDF	50.00	3.92e+06	1.25 y	33:29	-	1.05
. 13 14	Unk	2,3,4,6,7,8-HxCDF	50.00	3.74e+06	1.22 y	34:07		1.11
		1,2,3,7,8,9-HxCDF	50.00	3.00e+06	1.19 y	35:07	-	1.06
15 16	Unk Unk	1,2,3,4,6,7,8-HpCDF	50.00	2.97e+06	1.04 y	36:57	-	1.10
	Unk Unk	1,2,3,4,7,8,9-HpCDF	50.00	2.49e+06	1.07 y	38:41	-	1.25
17	Unk	OCDF	100.00	4.33e+06	0.91 y	41:43	-	0.92
36	IS	13C-2,3,7,8-TCDD	100.00	8.46e+06	0.74 y	26:33	-	1.10
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.66e+06	0.62 y	30:55	-	0.86
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.42e+06	1.25 y	34:15	_	0.61
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.30e+06	1.28 y	34:22	-	0.87
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.76e+06	1.27 y	34:41	-	0.80
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.47e+06	1.05 y	38:05	-	0.62
42	IS	13C-OCDD	200.00	7.90e+06	0.94 y	41:27	-	0.55
43	IS	13C-2,3,7,8-TCDF	100.00	1.18e+07	0.79 y	25:50	-	1.05
44	IS	13C-1,2,3,7,8-PeCDF	100.00	9.79e+06	1.62 y	29:47	-	0.87
45	IS	13C-2,3,4,7,8-PeCDF	100.00	9.43e+06	1.61 y	30:39	_	0.84
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.19e+06	0.50 y	33:21	-	0.86
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.47e+06	0.51 y	33:29	-	1.03
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.75e+06	0.49 y	34:06	-	0.93
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.64e+06	0.49 y	35:07	-	0.78
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.40e+06	0.43 y	36:55	-	0.75
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.99e+06	0.44 y	38:40	-	0.55
52	IS	13C-OCDF	200.00	9.37e+06	0.89 y	41:43	_	0.65
53	C/Up	37Cl-2,3,7,8-TCDD	10.00	8.56e+05		26:35	-	1.11
54	RS/RT	13C-1,2,3,4-TCDD	100.00	7.70e+06	0.75 y	26:00	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.13e+07	0.82 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.23e+06	0.51 y	33:47	-	1.00

Acquired: 9-0CT.19 18:36:09

Cal: 1613VG7-10-9-19

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 Filename: 191009D1 S: 5
 Acquired: 9-OCT-19 19:23:46

 Run: 191009D1
 Analyte:
 Cal: 1613VG7-10-9-19

 Sample text: ST191009D1-5 1613 CS4 19C2205
 Results:

	Тур	Name	Amount	Resp	RA	RT	RF	RRF
.1	Unk	2,3,7,8-TCDD	40.00	3.53e+06	0.81 y	26:35	-	0.92
2	Unk	1,2,3,7,8-PeCDD	200.00	1.48e+07	0.63 y	30:55	-	0.96
3	Unk	1,2,3,4,7,8-HxCDD	200.00	1.19e+07	1.19 y	34:15	-	1.09
4	Unk	1,2,3,6,7,8-HxCDD	200.00	1.34e+07	1.20 y	34:22	-	0.98
5	Unk	1,2,3,7,8,9-HxCDD	200.00	1.30e+07	1.18 y	34:41	_	1.00
6	Unk	1,2,3,4,6,7,8-HpCDD	200.00	1.10e+07	1.03 y	38:04	-	1.03
7	Unk	OCDD	400.00	2.03e+07	0.91 y	41:26	-	1.01
					-			
8	Unk	2,3,7,8-TCDF	40.00	5.17e+06	0.77 y	25:52	-	0.95
9	Unk	1,2,3,7,8-PeCDF	200.00	2.24e+07	1.58 y	29:47	-	1.00
10	Unk	2,3,4,7,8-PeCDF	200.00	2.29e+07	1.55 y	30:40	=	1.03
11	Unk	1,2,3,4,7,8-HxCDF	200.00	1.69e+07	1.21 y	33:21	-	1.20
12	Unk	1,2,3,6,7,8-HxCDF	200.00	1.85e+07	1.21 y	33:29		1.12
13	Unk	2,3,4,6,7,8-HxCDF	200.00	1.83e+07	1.21 y	34:06	-	1.16
14	Unk	1,2,3,7,8,9-HxCDF	200.00	1.53e+07	1.22 y	35:06	-	1.08
15	Unk	1,2,3,4,6,7,8-HpCDF	200.00	1.46e+07	1.04 y	36:56	-	1.17
16	Unk	1,2,3,4,7,8,9-HpCDF	200.00	1.30e+07	1.05 y	38:39	-	1.31
17	Unk	OCDF	400.00	2.42e+07	0.91 y	41:41	-	1.00
36	IS	13C-2,3,7,8-TCDD	100.00	9.63e+06	0.75 y	26:34	-	1.12
37	IS	13C-1,2,3,7,8-PeCDD	100.00	7.72e+06	0.63 y	30:54	-	0.89
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.48e+06	1.31 y	34:14	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.83e+06	1.22 y	34:21	-	0.80
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.48e+06	1.26 y	34:40	-	0.76
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.36e+06	1.08 y	38:03	-	0.63
42	IS	13C-OCDD	200.00	1.01e+07	0.91 y	41:25	-	0.59
43	IS	13C-2,3,7,8-TCDF	100.00	1.36e+07	0.80 y	25:51	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.12e+07	1.57 y	29:46	-	0.86
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.11e+07	1.52 y	30:39	-	0.85
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	7.05e+06	0.50 y	33:20	-	0.83
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.28e+06	0.49 y	33:28	-	0.98
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.90e+06	0.51 y	34:05	-	0.93
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	7.08e+06	0.51 y	35:06	-	0.83
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.23e+06	0.46 y	36:55	-	0.73
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	4.95e+06	0.44 y	38:38	-	0.58
52	IS	13C-OCDF	200.00	1.22e+07	0.90 y	41:40	-	0.72
53	C/Up	37C1-2,3,7,8-TCDD	40.00	3.96e+06		26:35	_	1.15
	C) OD	3,61 2,3,7,8-1000	40.00	3.500+00		20.00	_	1.13
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.64e+06	0.78 y	26:00	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.30e+07	0.83 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	8.48e+06	0.51 y	33:46	-	1.00
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RS/RT 13C-1,2,3,4,6,9-HxCDF

13C-1,2,3,4-TCDD

13C-1,2,3,4-TCDF

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RS/RT

RS

Fi	lename	: 191009D1 S: 6 Acqui	ired: 9-0	CT-19 20:11	.17			
		1009D1 Analyte:		613VG7-10-9		Resul	lts:	
S	Sample	text: ST191009D1-6 1613 C						
	Тур	Name	Amount	Resp	RA	RT	RF	RRF
	Unk	2,3,7,8-TCDD	300.00	2.80e+07	0.81 y	26:35	_	0.98
2	Unk	1,2,3,7,8-PeCDD	1500.00	1.19e+08	0.62 y	30:55	~	0.96
	Unk	1,2,3,4,7,8-HxCDD	1500.00	1.04e+08	1.22 y	34:15	-	1.15
	Unk	1,2,3,6,7,8-HxCDD	1500.00	1.07e+08	1.21 y	34:22	-	1.00
	Unk	1,2,3,7,8,9-HxCDD	1500.00	1.06e+08	1.23 y	34:41	-	1.03
;	Unk	1,2,3,4,6,7,8-HpCDD	1500.00	9.32e+07	1.05 y	38:03	_	1.06
,	Unk	OCDD	3000.00	1.64e+08	0.92 y	41:25	-	1.01
l	Unk	2,3,7,8-TCDF	300.00	3.95e+07	0.79 y	25:52	_	0.99
,	Unk	1,2,3,7,8-PeCDF	1500.00	1.79e+08	1.58 y	29:47	-	1.01
0	Unk	2,3,4,7,8-PeCDF	1500.00	1.86e+08	1.57 y	30:39	_	1.07
1	Unk	1,2,3,4,7,8-HxCDF	1500.00	1.40e+08	1.20 y	33:21	_	1.24
2	Unk	1,2,3,6,7,8-HxCDF	1500.00	1.48e+08	1.21 y	33:29	-	1.11
3	Unk	2,3,4,6,7,8-HxCDF	1500.00	1.51e+08	1.22 y	34:06	_	1.20
4	Unk	1,2,3,7,8,9-HxCDF	1500.00	1.28e+08	1.25 y	35:06	_	1.13
5	Unk	1,2,3,4,6,7,8-HpCDF	1500.00	1.18e+08	1.03 y	36:55	_	1.18
.6	Unk	1,2,3,4,7,8,9-HpCDF	1500.00	1.04e+08	1.05 y	38:38	_	1.34
7	Unk	OCDF	3000.00	1.96e+08	0.91 y	41:40	-	0.98
6	IS	13C-2,3,7,8-TCDD	100.00	9.53e+06	0.73 y	26:33	-	1.11
7	IS	13C-1,2,3,7,8-PeCDD	100.00	8.28e+06	0.64 y	30:54	_	0.96
8	IS	13C-1,2,3,4,7,8-HxCDD	100.00	6.01e+06	1.21 y	34:14	_	0.77
9	IS	13C-1,2,3,6,7,8-HxCDD	100.00	7.08e+06	1.32 y	34:21	_	0.90
0	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.90e+06	1.26 y	34:39	_	0.88
1	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.86e+06	1.08 y	38:03		0.75
2	IS	13C-OCDD	200.00	1.08e+07	0.92 y	41:25	-	0.69
3	IS	13C-2,3,7,8-TCDF	100.00	1.33e+07	0.80 y	25:51	-	1.04
4	IS	13C-1,2,3,7,8-PeCDF	100.00	1.18e+07	1.59 y	29:46	-	0.92
5	IS	13C-2,3,4,7,8-PeCDF	100.00	1.16e+07	1.60 y	30:38	-	0.91
6	IS	13C-1,2,3,4,7,8-HxCDF	100.00	7.52e+06	0.51 y	33:20	_	0.96
7	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.92e+06	0.50 y	33:28	_	1.14
8	IS	13C-2,3,4,6,7,8-HxCDF	100.00	8.38e+06	0.50 y 0.51 y	34:05	-	1.07
9	IS	13C-1,2,3,7,8,9-HxCDF	100.00	7.57e+06	0.52 y	35:05	-	0.96
0	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.70e+06	0.43 y	36:54	_	0.85
1	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	5.19e+06	0.43 y	38:37	_	0.66
2	IS	13C-OCDF	200.00	1.33e+07	0.89 Y	41:39	-	0.85
3	C/Up	37C1-2,3,7,8-TCDD	199.98	2.09e+07		26:35		1.21

100.00 8.62e+06 0.76 y

100.00

1.27e+07 0.84 y

100.00 7.85e+06 0.49 y 33:45

26:01

24:41

1.00

1.00

1.00

-

-

)B 10/10/19

Initial Calibration RRF Summary (ICAL) Vista Analytical Laboratory											
Run: 191009D1	Analyte:		Cal:	1613VG7-10	9-19	Inst. ID.	VG-7				
Data filename: 191009D1	L		Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6			
			0.25	0.50	2.0	10	40	300			
Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6			
Total Tetra-Dioxins	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98			
TCDD EMPC	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98			
Total Penta-Dioxins	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96			
PeCDD EMPC	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96			
Total Hexa-Dioxins	0.9918	4.02 %	0.95	0.96	0.99	0.97	1.02	1.06			
HxCDD EMPC	0.9918	4.02 %	0.95	0.96	0.99	0.97	1.02	1.06			
Total Hepta-Dioxins	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06			
HPCDD EMPC	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06			
Total Tetra-Furans	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99			
TCDF EMPC	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99			
1st Func. Penta-Furans	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04			
1st Func. PeCDF EMPC	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04			
Total Penta-Furans	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04			
PeCDF EMPC	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04			
Total Hexa-Furans	1.1033	3.70 %	1.08	1.06	1.09	1.09	1.14	1.17			
HxCDF EMPC	1.1033	3.70 %	1.08	1.06	1.09	1.09	1.14	1.17			
Total Hepta-Furans	1.1937	3.56 %	1.21	1.17	1.14	1.16	1.23	1.25			
HpCDF EMPC	1.1937	3.56 %	1.21	1.17	1.14	1.16	1.23	1.25			

)B 10/10/19

Initial Calibration RRF Summary (ICAL) Vista Analytical Laboratory								
Run: 191009D1	Cal: 1613VG7.10-9-19			Inst. ID. VG-7				
	Analyte:		-010.07 10		111001	10.10		
Data filename: 191009D1		Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6	
		0.25	0.50	2.0	10	40	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	1.000	1.000	1.001	1.001	1.001	
1,2,3,7,8-PeCDD	0.999 -1.002	0.999	1.000	1.001	1.001	1.001	1.001	
1,2,3,4,7,8-HxCDD	0.999 -1.001	1.000	1.000	1.001	1.000	1.000	1.000	
1,2,3,6,7,8-HxCDD	0.998 -1.004	1.000	1.000	1.000	1.001	1.001	1.000	
1,2,3,7,8,9-HxCDD	0.998 -1.004	1.001	1.000	1.000	1.000	1.001	1.001	
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	1.000	1.000	1.000	1.001	1.001	1.001	
1,2,3,7,8-PeCDF	0.999 -1.002	1.000	1.000	1.000	1.000	1.000	1.001	
2,3,4,7,8-PeCDF	0.999 -1.002	1.000	1.000	1.000	1.001	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	1.001	1.000	1.000	1.000	
2,3,4,6,7,8-HxCDF	0.999 -1.001	1.000	1.000	1.000	1.001	1.001	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	1.001	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	1.021	1.021	1.021	
13C-1,2,3,7,8-PeCDD	1.000 ~1.567	1.190	1.189	1.190	1.189	1.188	1.188	
13C-1,2,3,4,7,8-HxCDD	1.002 -1.026	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	1.017	1.017	1.018	
13C-1,2,3,7,8,9-HxCDD	1.014 -1.038	1.027	1.027	1.027	1.027	1.027	1.027	
13C-1,2,3,4,6,7,8-HpCDD	1.117 -1.141	1.127	1.127	1.128	1.127	1.127	1.127	
13C-OCDD	1.085 -1.365	1.227	1.227	1.228	1.227	1.227	1.227	
13C-2,3,7,8-TCDF	0.923 -1.103	0.994	0.994	0.994	0.994	0.994	0.994	
13C-1,2,3,7,8-PeCDF	1.000 -1.425	1.146	1.146	1.146	1.145	1.145	1.144	
13C-2,3,4,7,8-PeCDF	1.011 -1.526	1.180	1.179	1.180	1.179	1.178	1.178	
13C-1,2,3,4,7,8-HxCDF	0.975 -1.001	0.987	0.987	0.987	0.987	0.987	0.987	
13C-1,2,3,6,7,8-HxCDF	0.979 -1.005	0.991	0.991	0.991	0.991	0.991	0.991	
13C-2,3,4,6,7,8-HxCDF	1.001 -1.020	1.010	1.010	1.010	1.009	1.009	1.010	
13C-1,2,3,7,8,9-HxCDF	1.002 -1.072	1.040	1.040	1.040	1.039	1.039	1.039	
13C-1,2,3,4,6,7,8-HpCDF	1.069 -1.111	1.093	1.093	1.094	1.093	1.093	1.093	
13C-1,2,3,4,7,8,9-HpCDF	1.098 -1.192	1.145	1.145	1.145	1.145	1.144	1.144	
13C-OCDF	1.091 -1.371	1.235	1.234	1.235	1.235	1.234	1.234	
37Cl-2,3,7,8-TCDD	0.989 -1.052	1.022	1.021	1.022	1.022	1.022	1.022	
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	*	*	*	*	*	*	

)B 10[10]19

Page 1 of 1

#### Page 1 of 1

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: 10-9-19

RT Window Data Filename: 191009D1 S#4 Analysis Date: 9-OCT-19 Time: 18:36:09

ZB-5MS IS Data Filename: 191009D1 S#4 Analysis Date: 9-OCT-19 Time: 18:36:09

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)	23:24	1,3,6,8-TCDF (F)	21:25
1,2,8,9-TCDD (L)	27:24	1,2,8,9-TCDF (L)	27:33
1,2,4,7,9-PeCDD (F)	28:55	1,3,4,6,8-PeCDF (F)	27:28
1,2,3,8,9-PeCDD (L)	31:17	1,2,3,8,9-PeCDF (L)	31:32
1,2,4,6,7,9-HxCDD (F)	32:41	1,2,3,4,6,8-HxCDF (F)	32:08
1,2,3,7,8,9-HxCDD (L)	34:42	1,2,3,7,8,9-HxCDF (L)	35:07
1,2,3,4,6,7,9-HpCDD (F)	37:16	1,2,3,4,6,7,8-HpCDF (F)	36:57
1,2,3,4,6,7,8-HpCDD (L)	38:05	1,2,3,4,7,8,9-HpCDF (L)	38:41

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

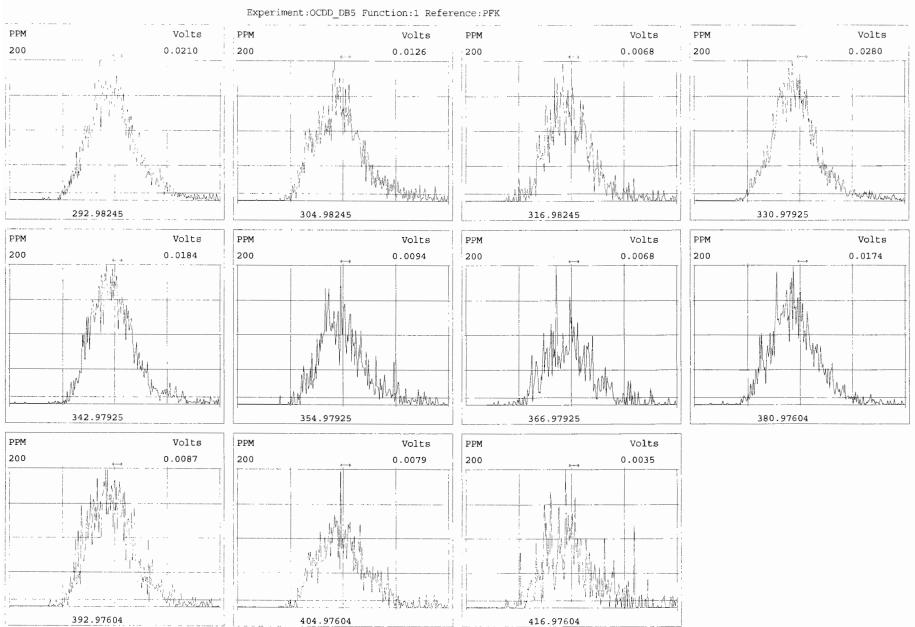
ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT BETWEEN COMPARED PEAKS (1)

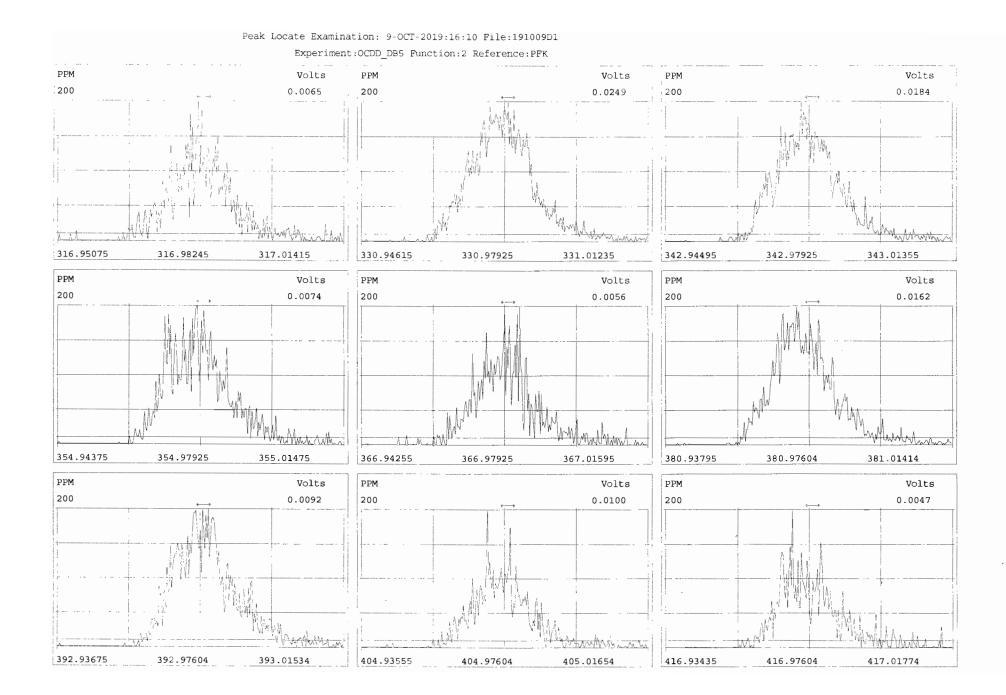
<25%

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

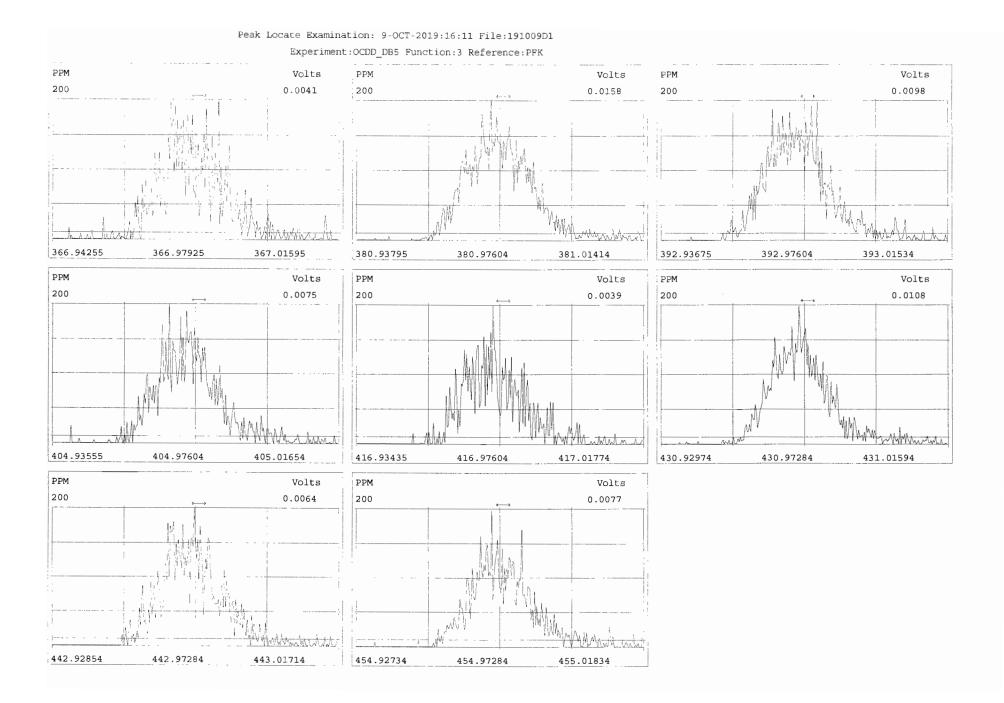
Analyst: 19 Date: 10/10/19

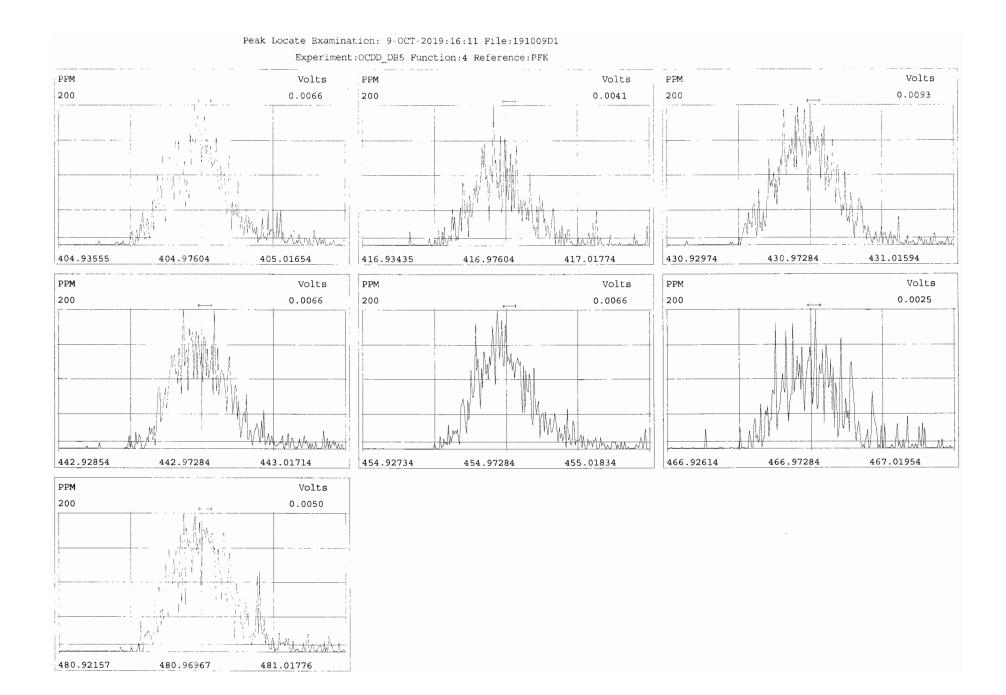


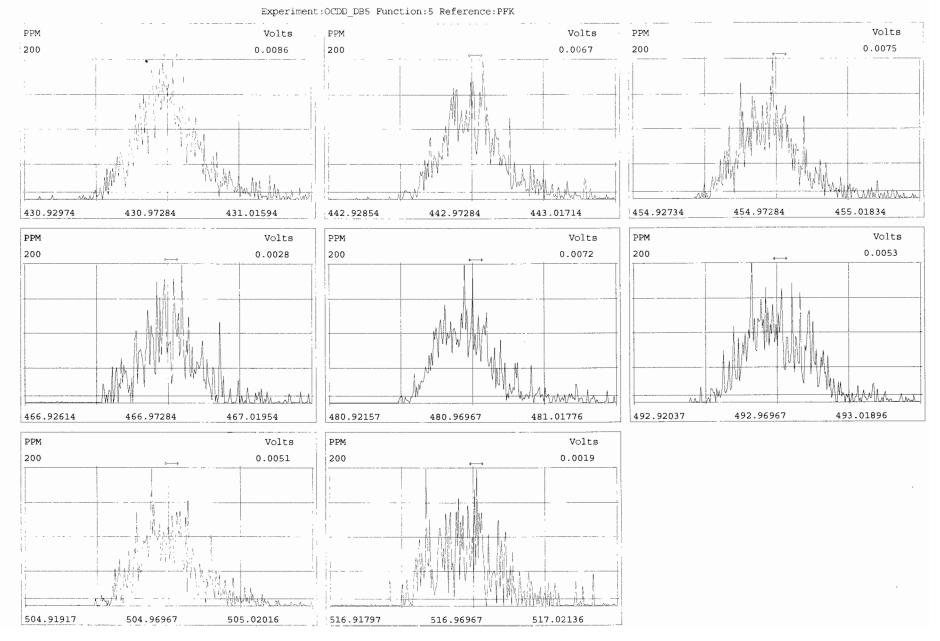
#### Peak Locate Examination: 9-OCT-2019:16:10 File:191009D1



# Work Order 1903646





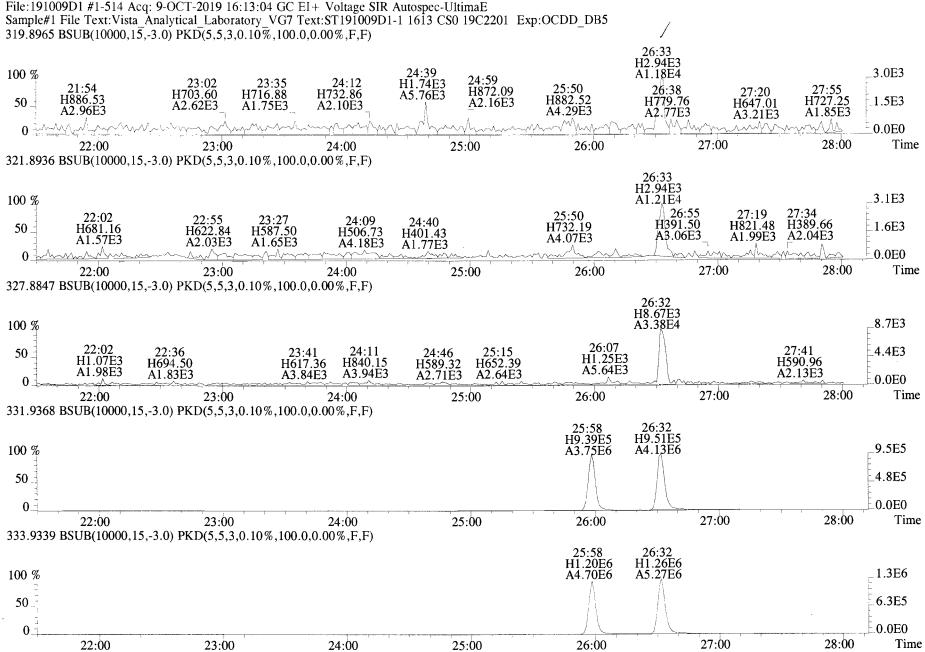


#### Peak Locate Examination: 9-OCT-2019:16:12 File:191009D1

Work Order 1903646

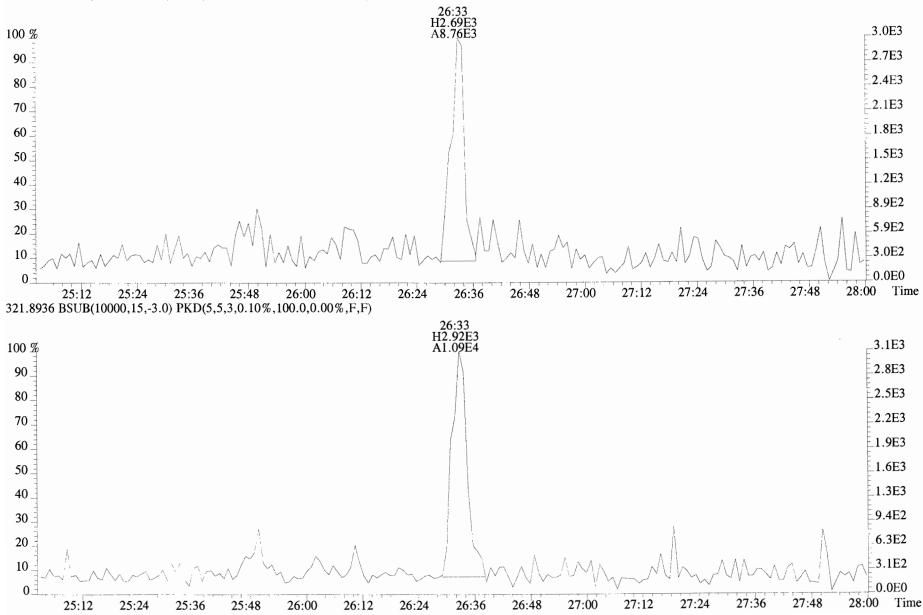
GC Column ID: ZB-5MS

Data file	s#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191009D1	1	ST191009D1-1	DB	9-0CT-19	16:13:04	ST191009D1-4	NA
191009D1	2	ST191009D1-2	DB	9-0CT-19	17:00:45	ST191009D1-4	NA
191009D1	3	ST191009D1-3	DB	9-0CT-19	17:48:27	ST191009D1-4	NA
191009D1	4	ST191009D1-4	DB	9-0CT-19	18:36:09	ST191009D1-4	NA
191009D1	5	ST191009D1-5	DB	9-0CT-19	19:23:46	ST191009D1-4	NA
191009D1	6	ST191009D1-6	DB	9-0CT-19	20:11:17	ST191009D1-4	NA
191009D1	7	SOLVENT BLANK	DB	9-0CT-19	20:58:57	ST191009D1-4	NA
191009D1	8	SS191009D1-1	DB	9-0CT-19	21:46:34	ST191009D1-4	NA
191009D1	9	B9J0001-BS1	DB	9-0CT-19	22:34:09	ST191009D1-4	NA
191009D1	10	SOLVENT BLANK	DB	9-0CT-19	23:21:45	ST191009D1-4	NA
191009D1	11	B9J0001-BLK1	DB	10-OCT-19	00:09:30	ST191009D1-4	NA
191009D1	12	QC191007D1-1	DB	10-OCT-19	00:57:00	ST191009D1-4	NA
191009D1	13	1903285-08	DB	10-OCT-19	01:44:36	ST191009D1-4	NA
191009D1	14	1903285-09	DB	10-OCT-19	02:32:11	ST191009D1-4	NA
191009D1	15	1903285-10	DB	10-OCT-19	03:19:47	ST191009D1-4	NA
191009D1	16	1903103-02@5X	DB	10-OCT-19	04:07:23	ST191009D1-4	NA
191009D1	17	1903103-01@5X	DB	10-OCT-19	04:54:54	ST191009D1-4	NA
191009D1	18	B9I0240-DUP1@5X	DB	10-OCT-19	05:42:38	ST191009D1-4	NA

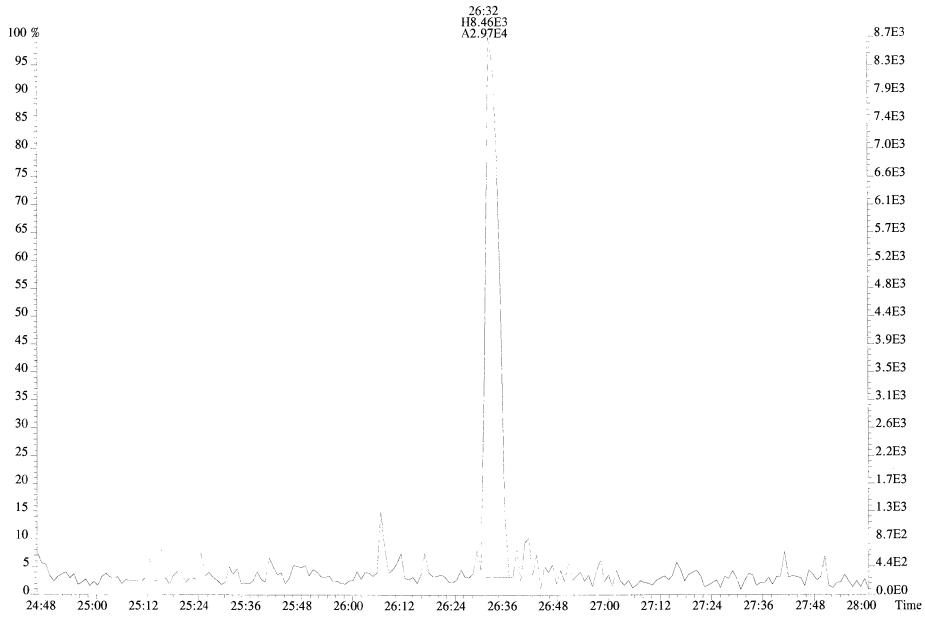


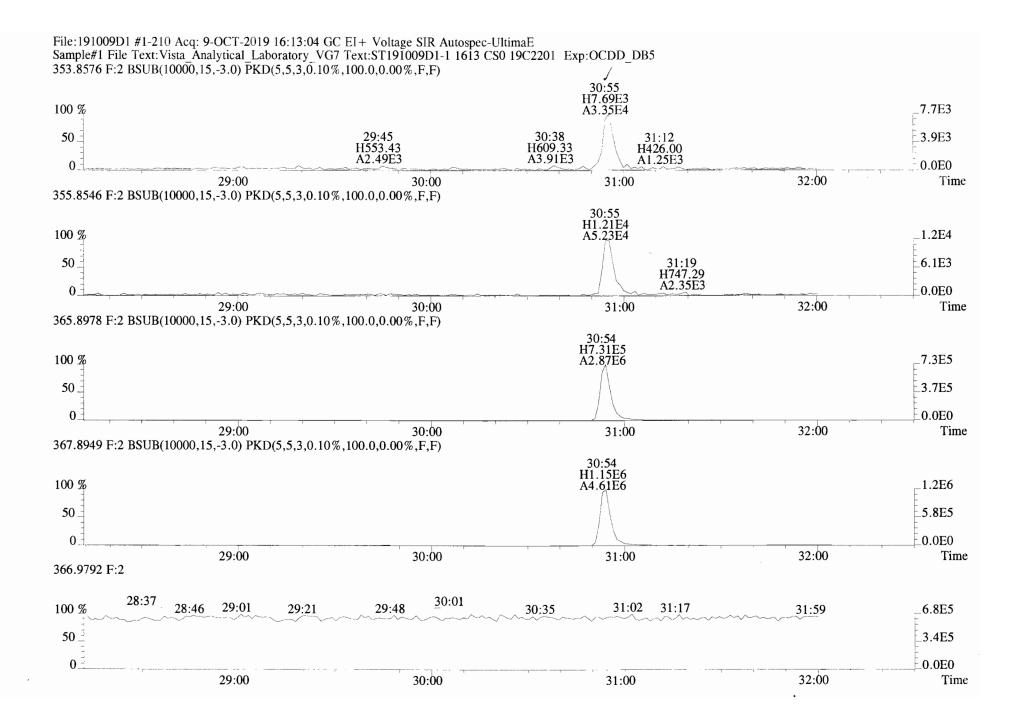
# Work Order 1903646

# File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI + Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

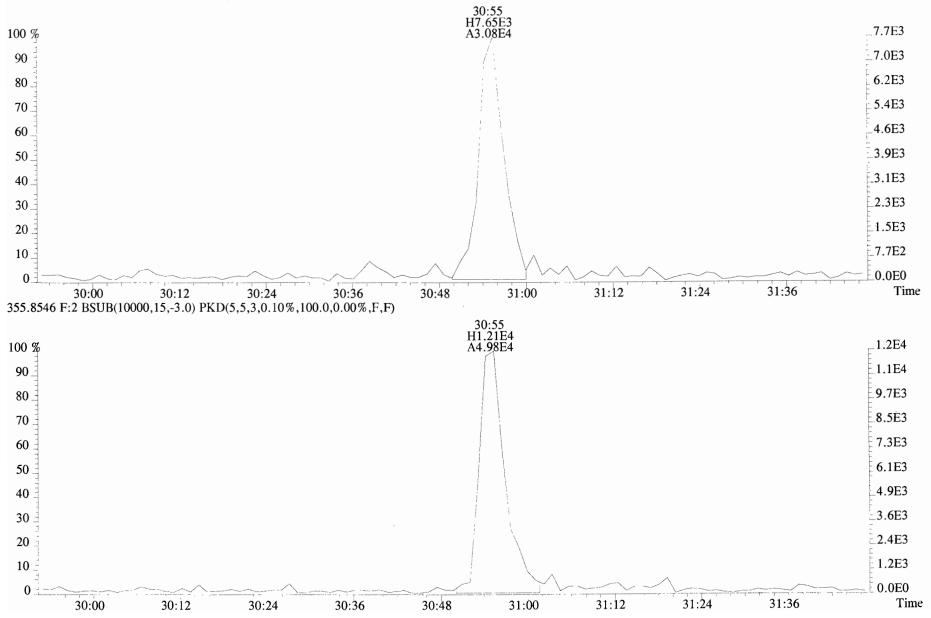


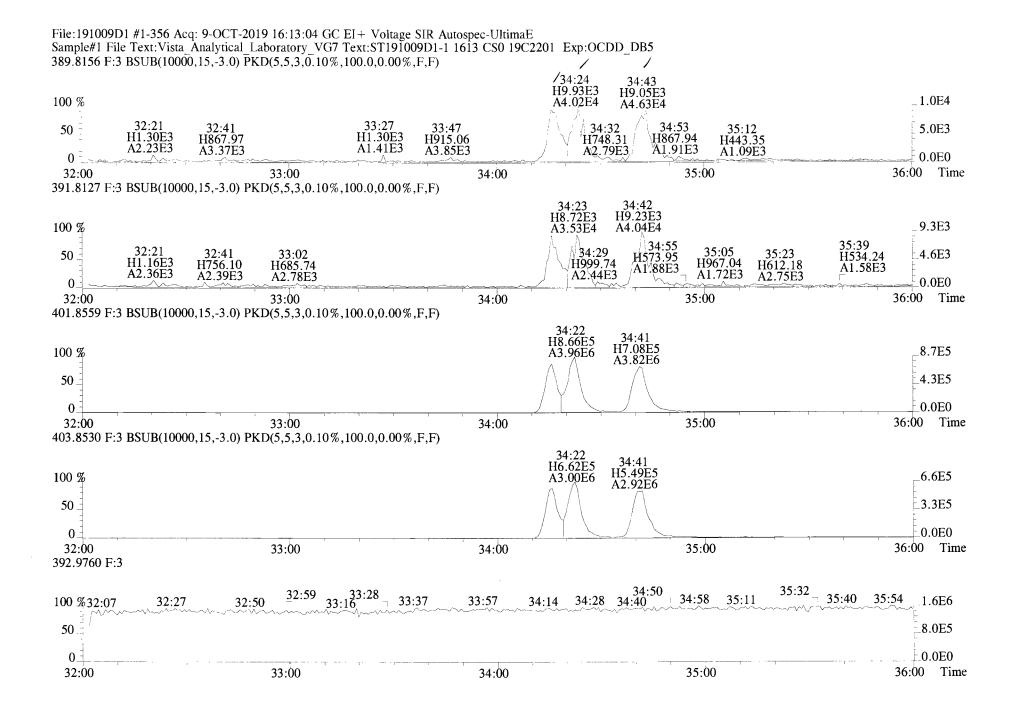
# File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 327.8847 BSUB(10000,15,-3.0)





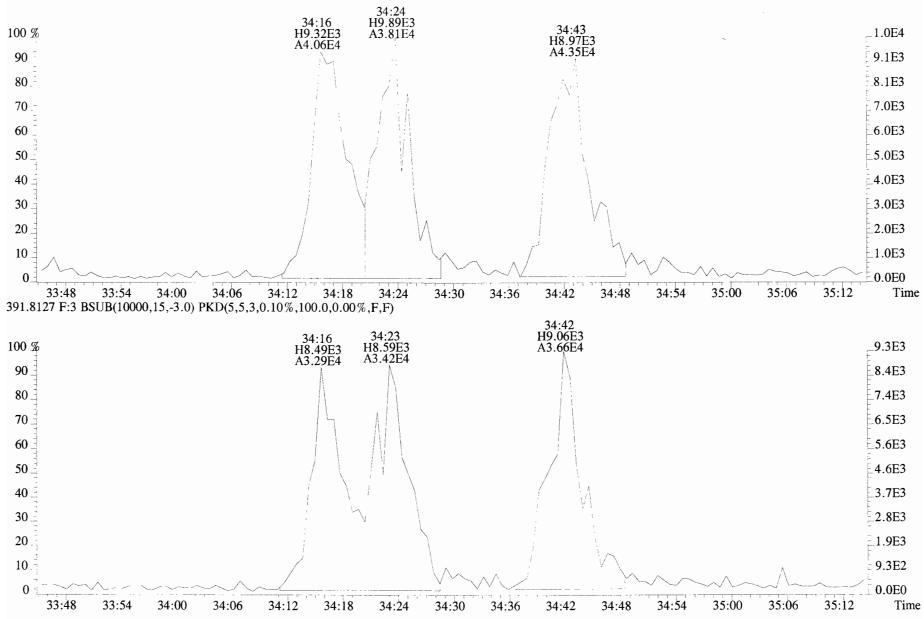
## File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI + Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



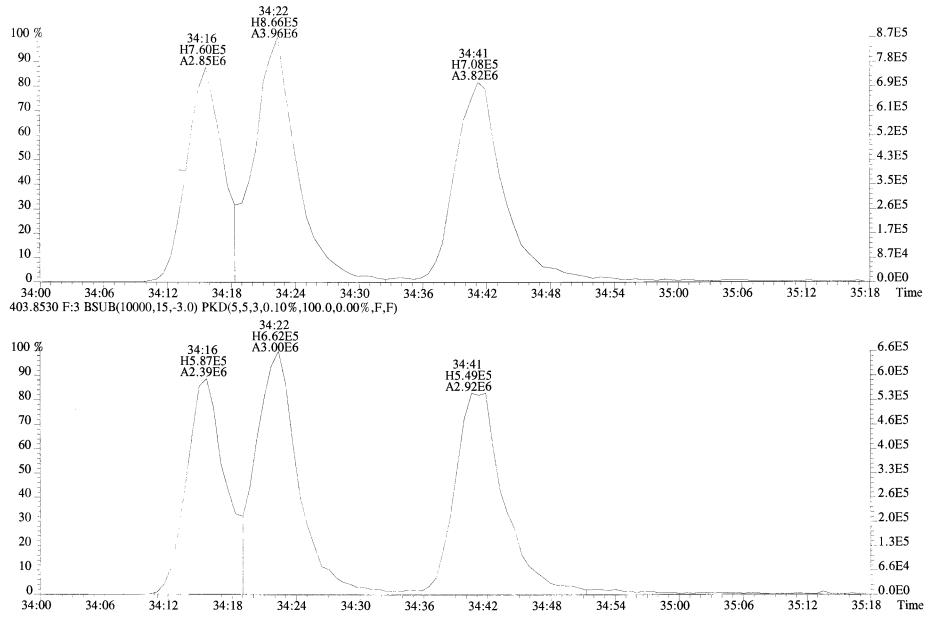


#### Work Order 1903646

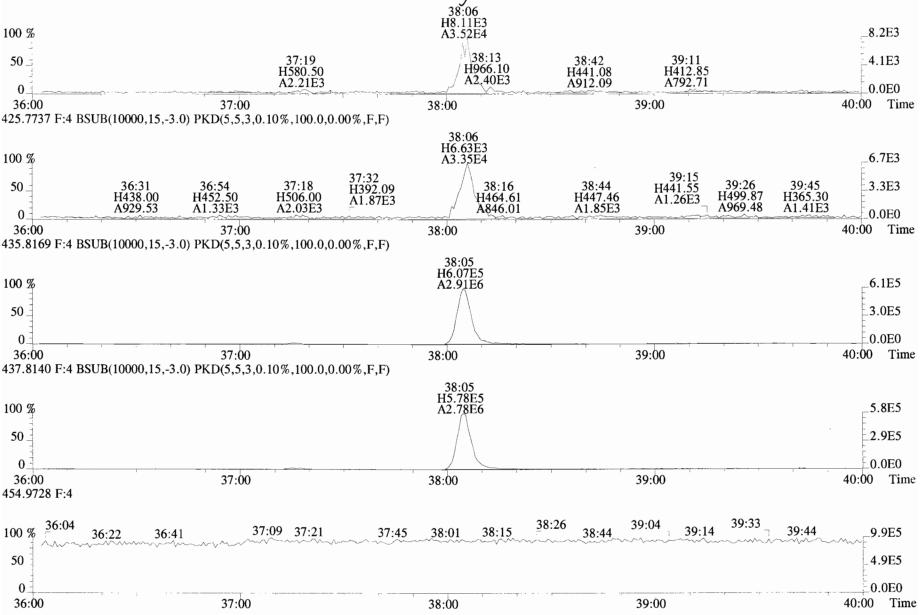
#### File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



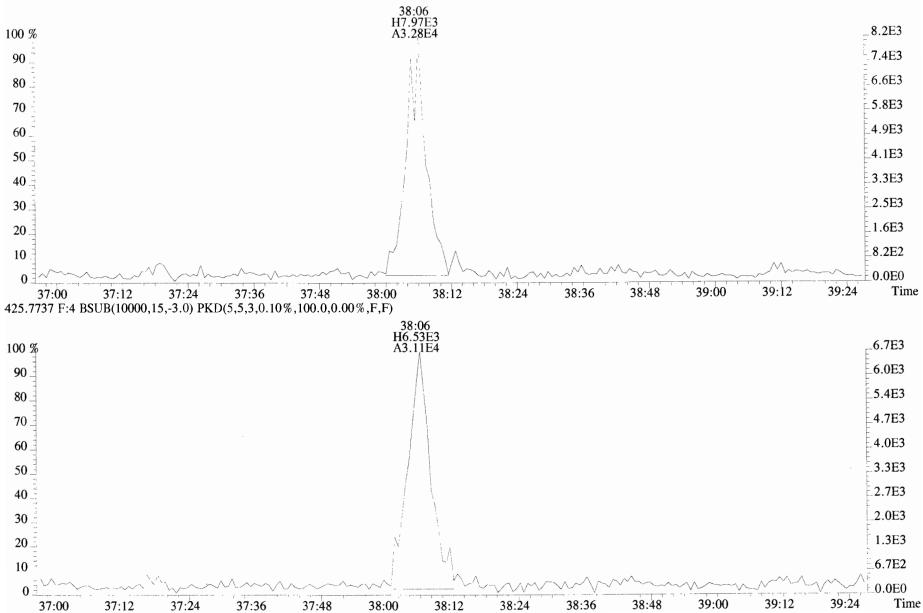
#### File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

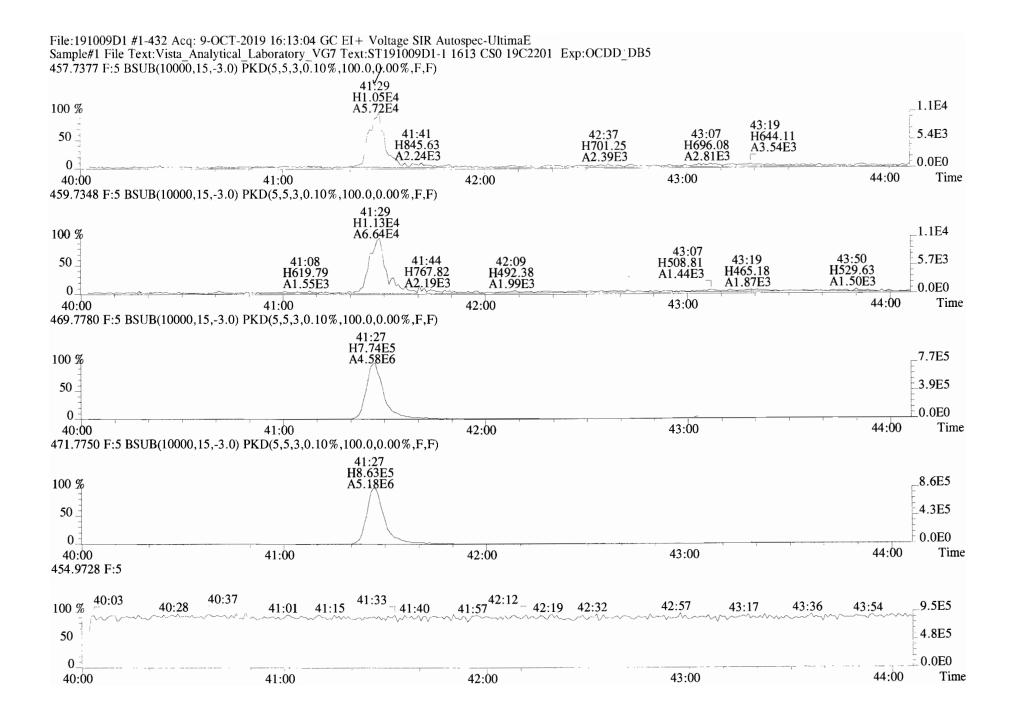


#### File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

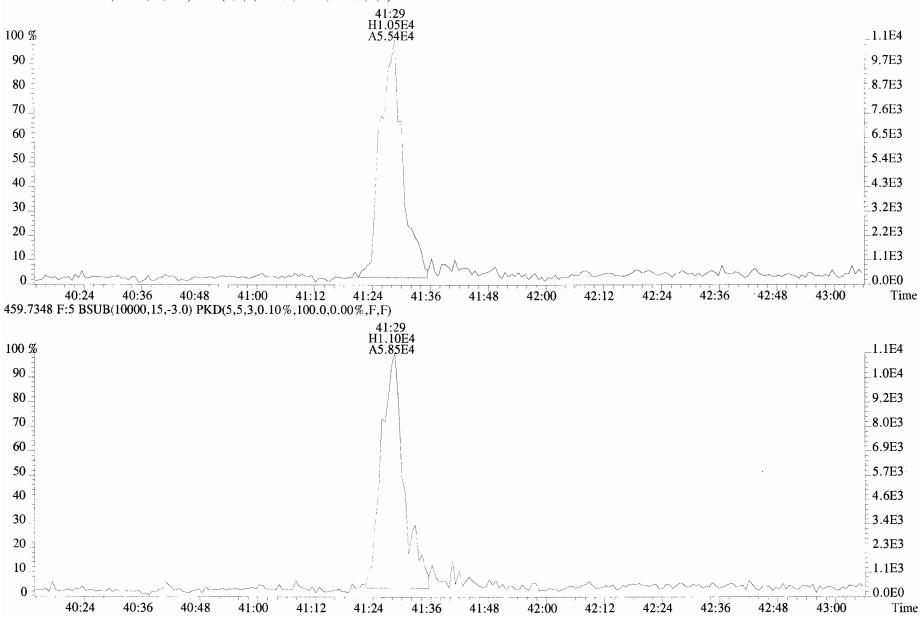


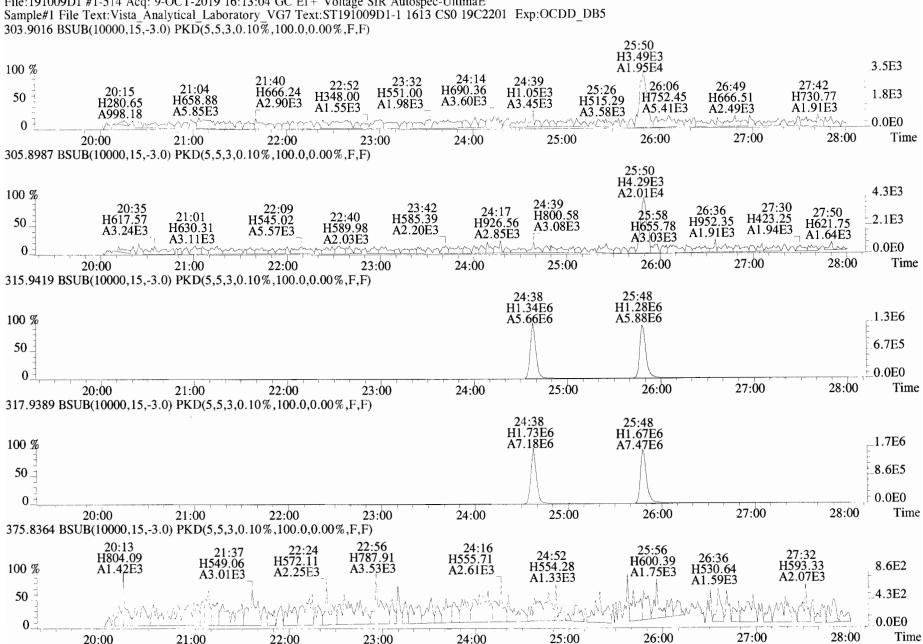
#### File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





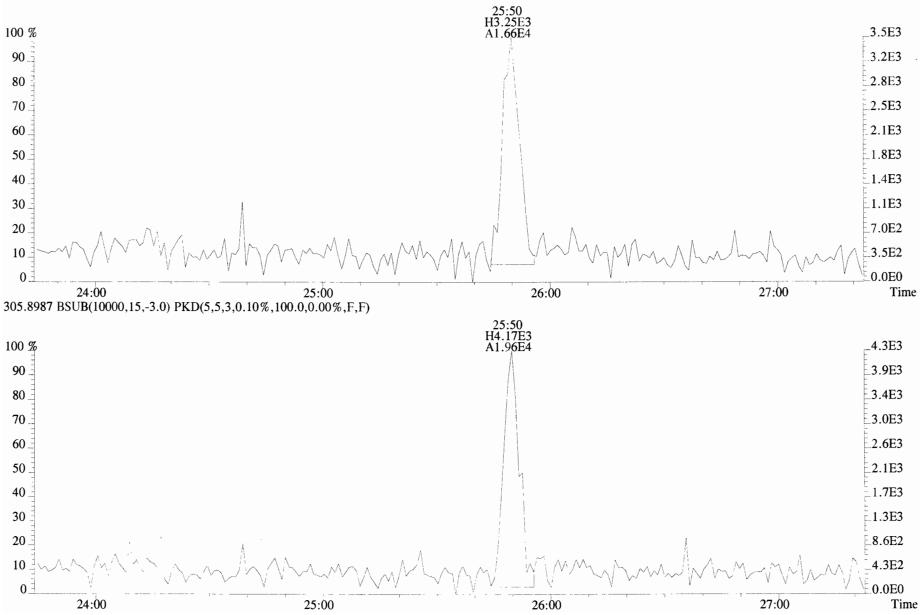
#### File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



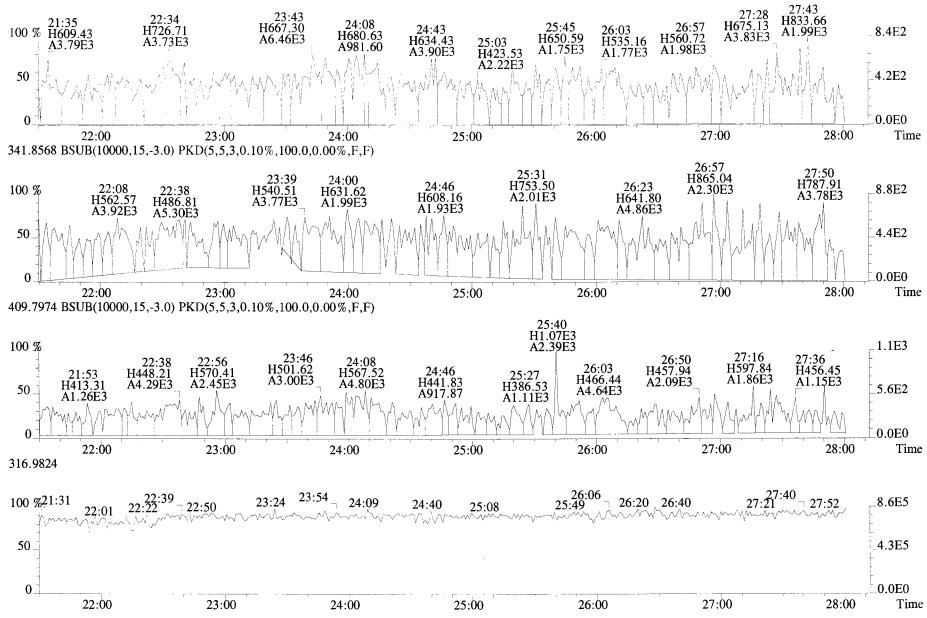


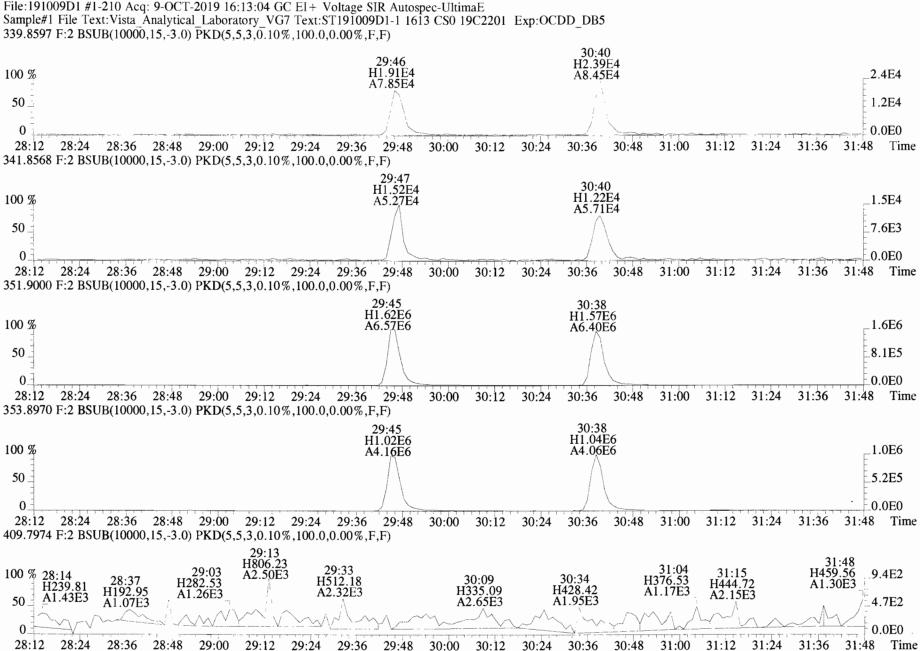
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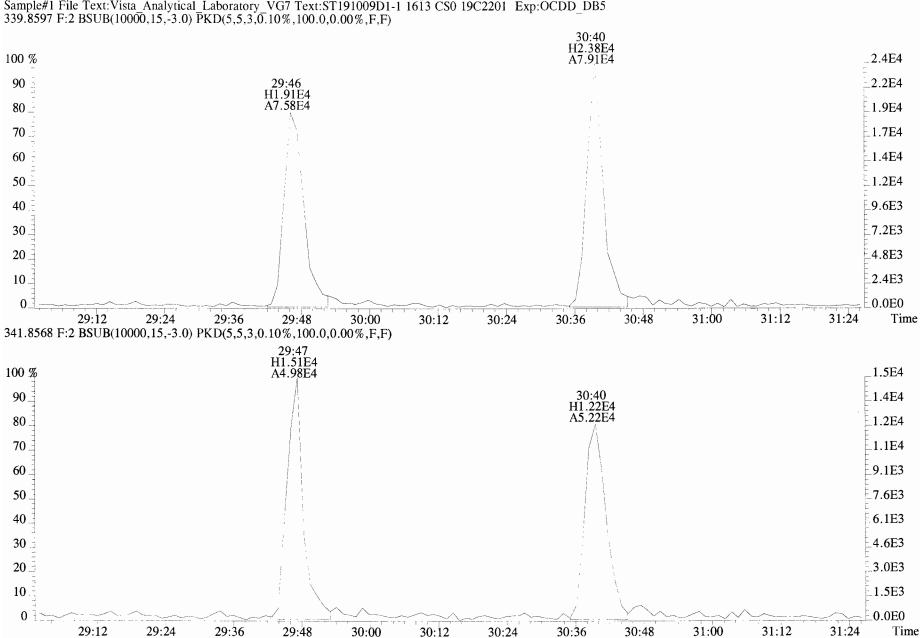
#### File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

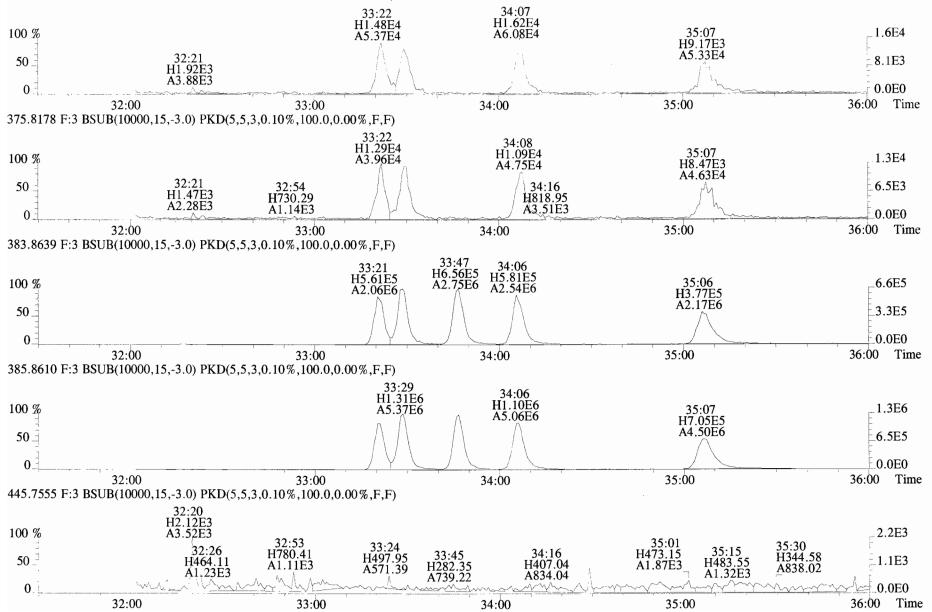




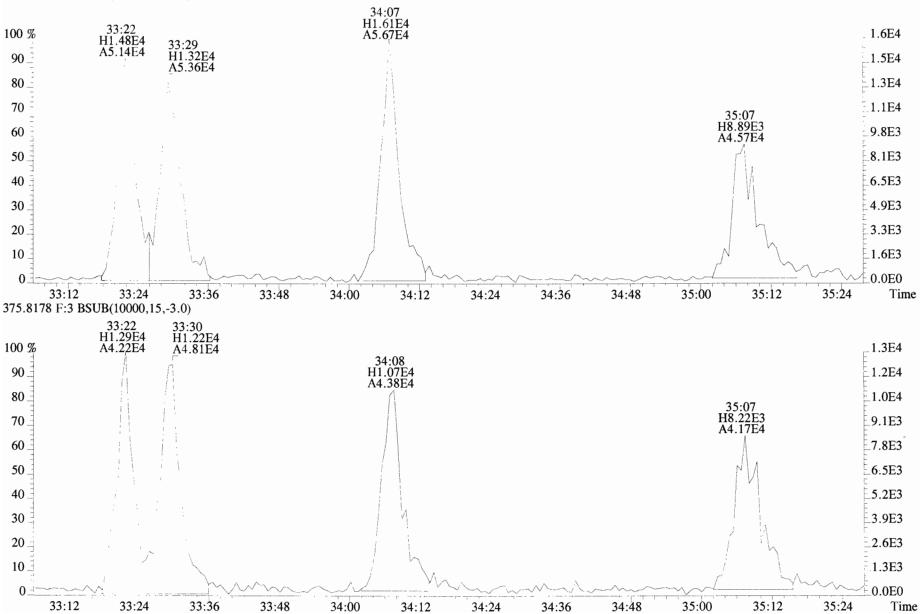


# File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text: Vista Analytical Laboratory VG7 Text: ST191009D1-1 1613 CS0 19C2201 Exp:OCDD DB5

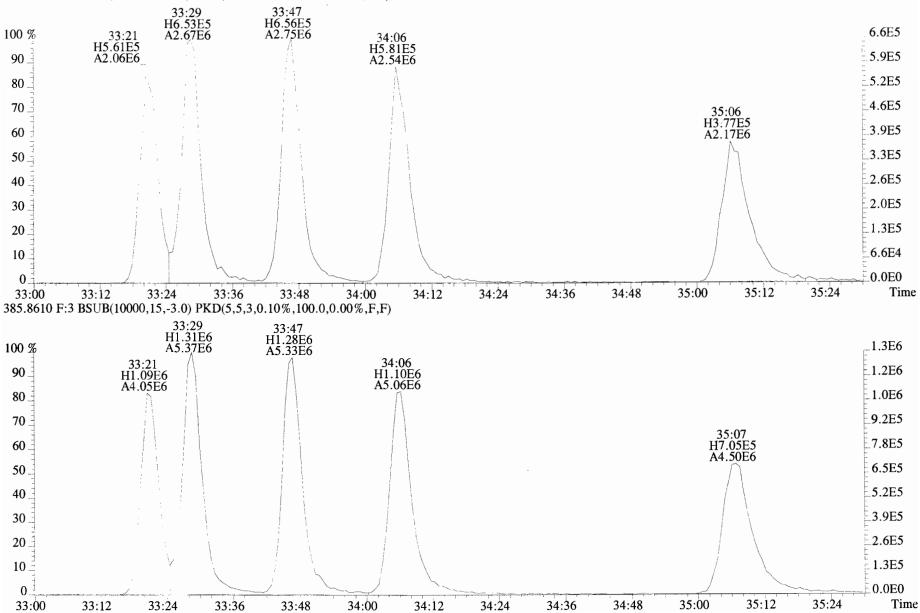
#### File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

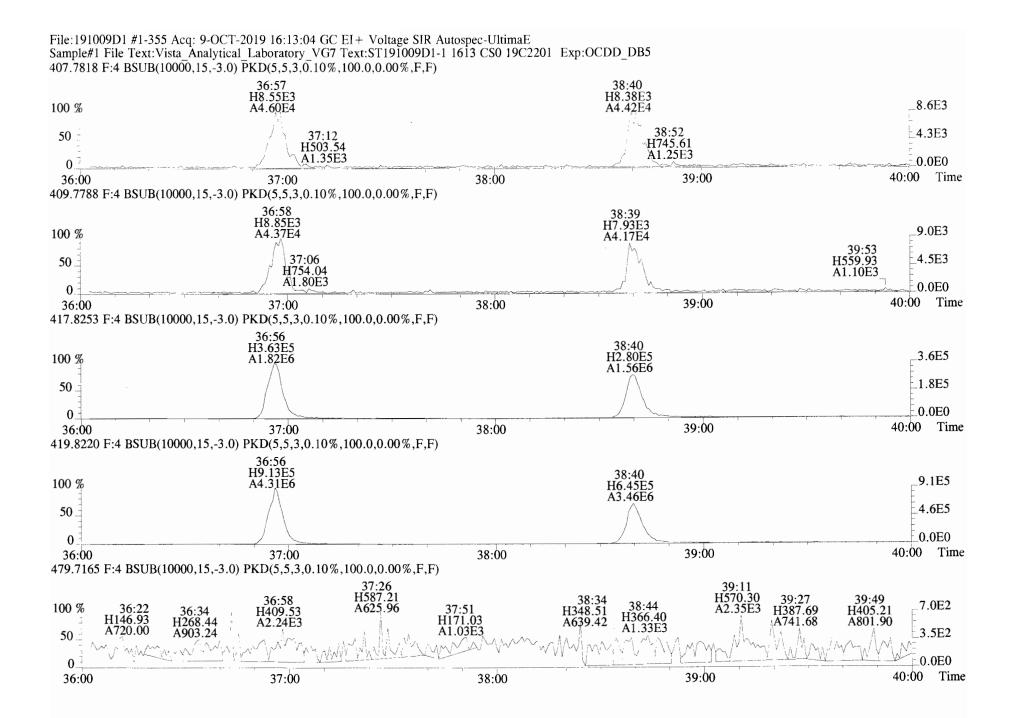


File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 373.8207 F:3 BSUB(10000,15,-3.0)



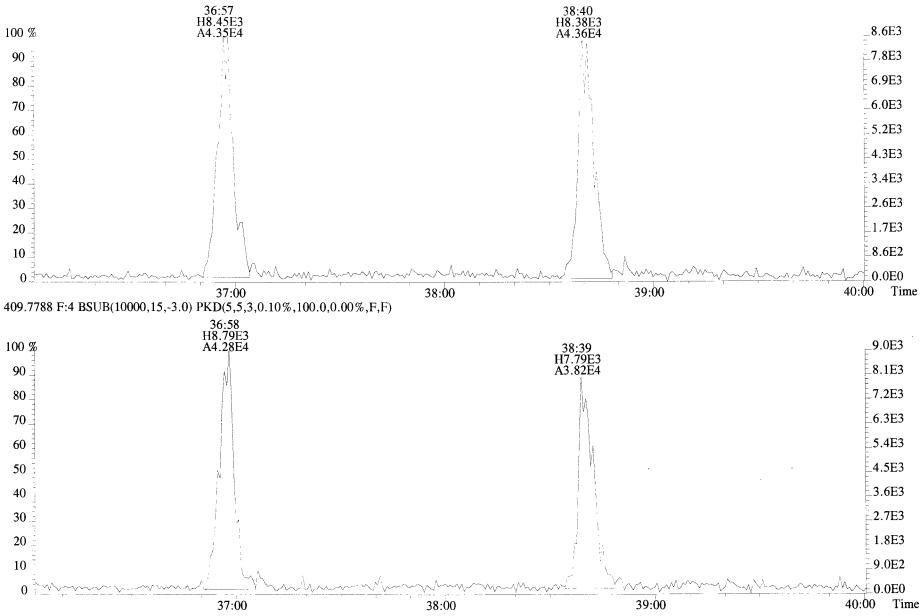
#### File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



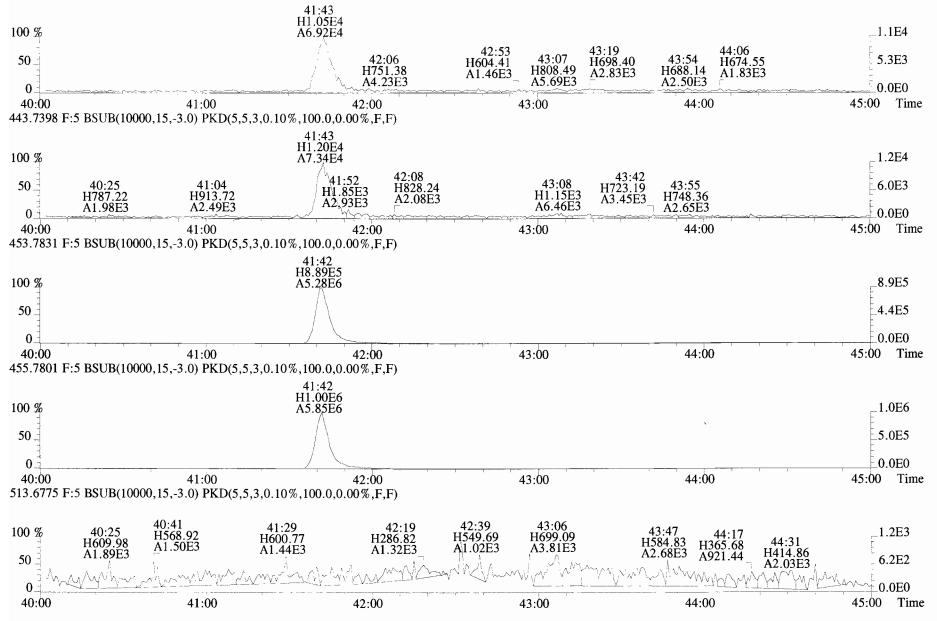


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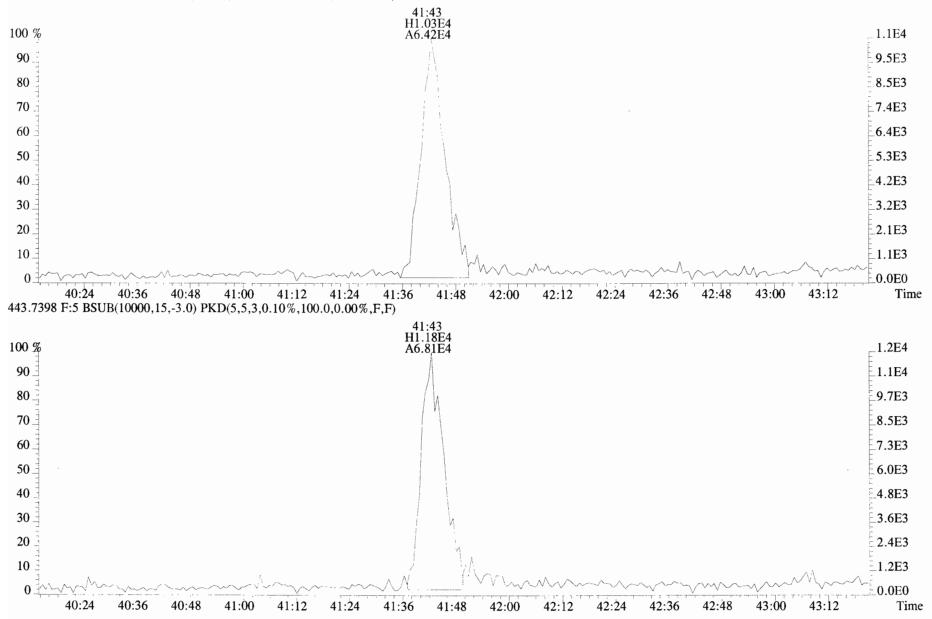
### File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC El+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



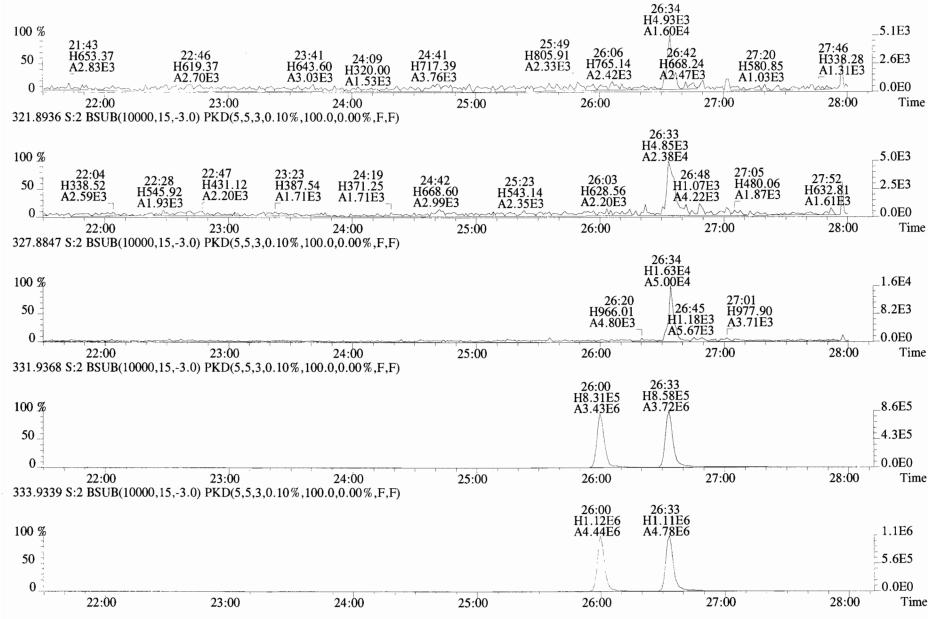
#### File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



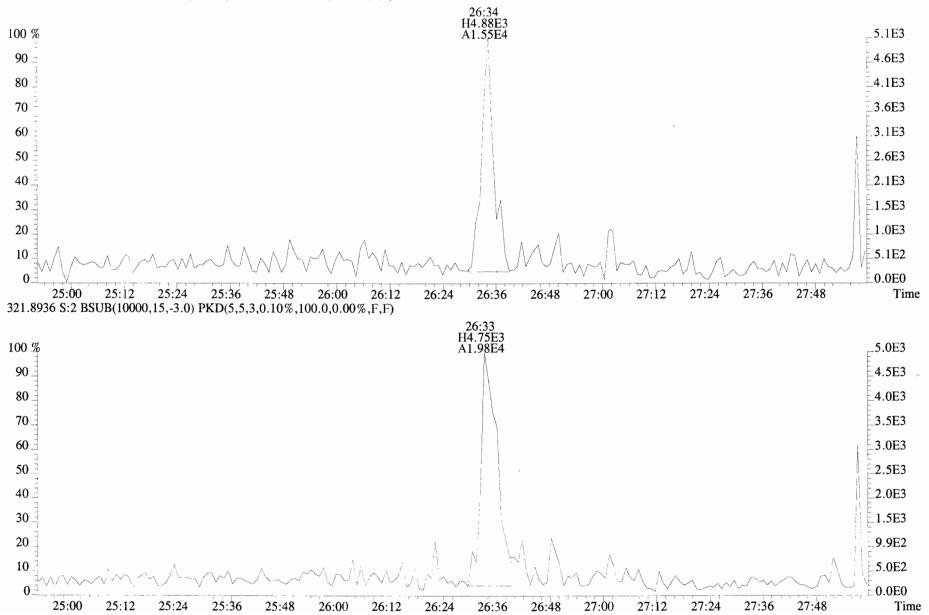
#### File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



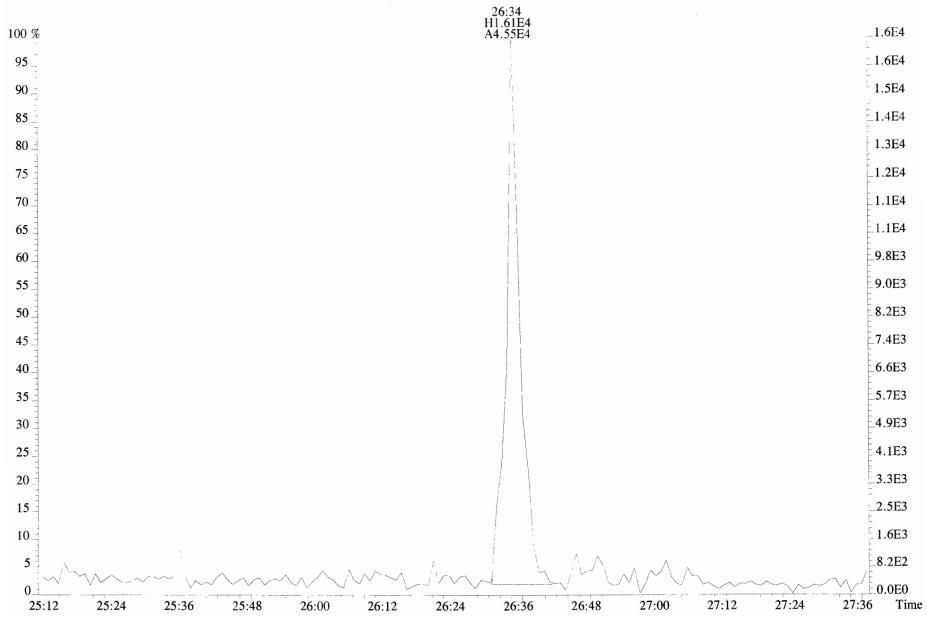
### File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

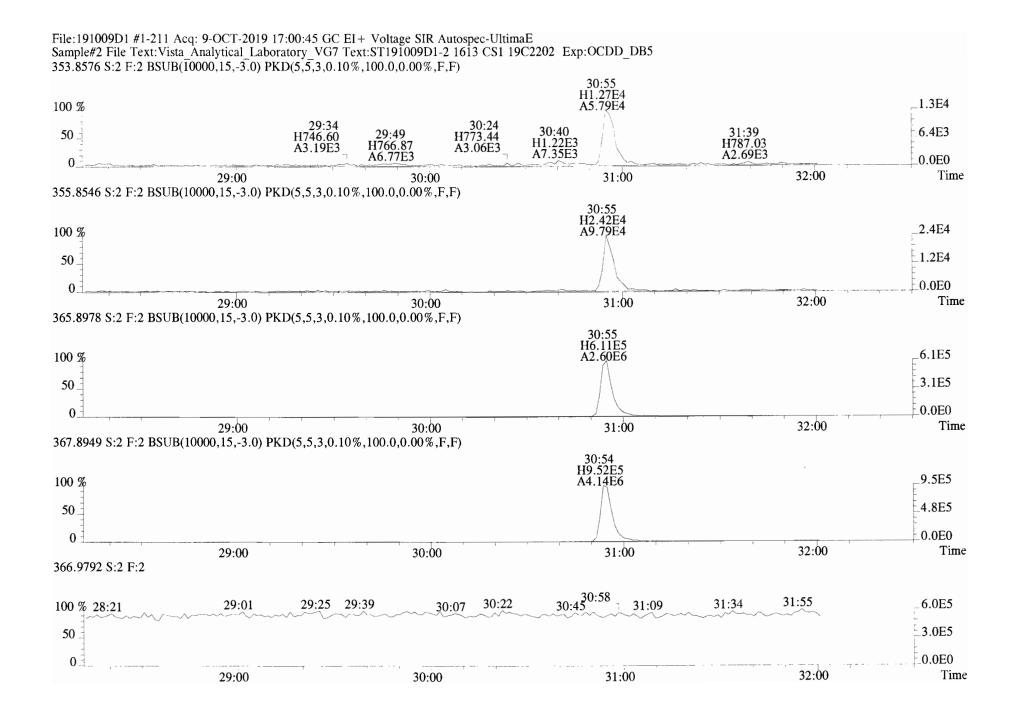


#### File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



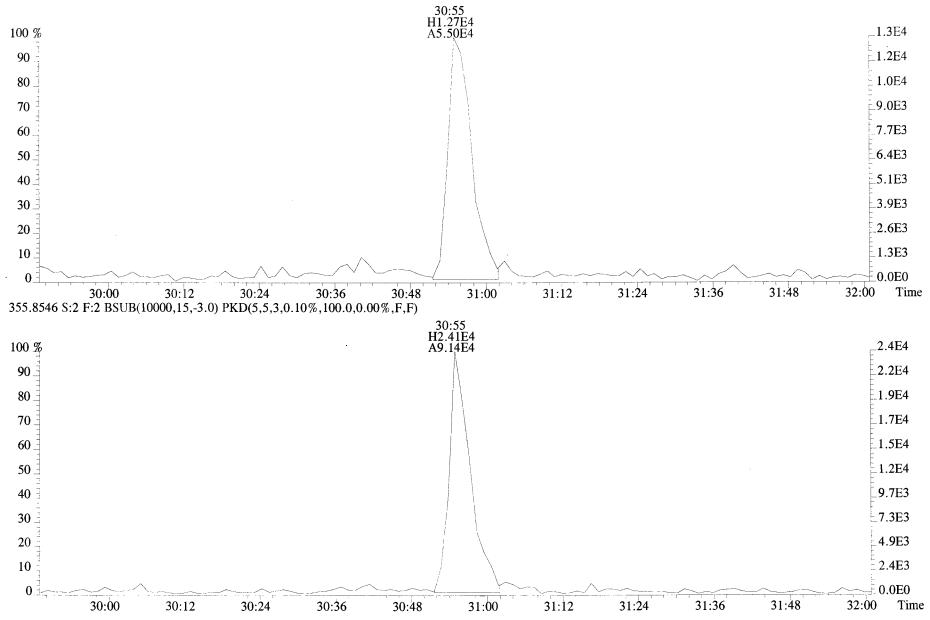
# File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI + Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

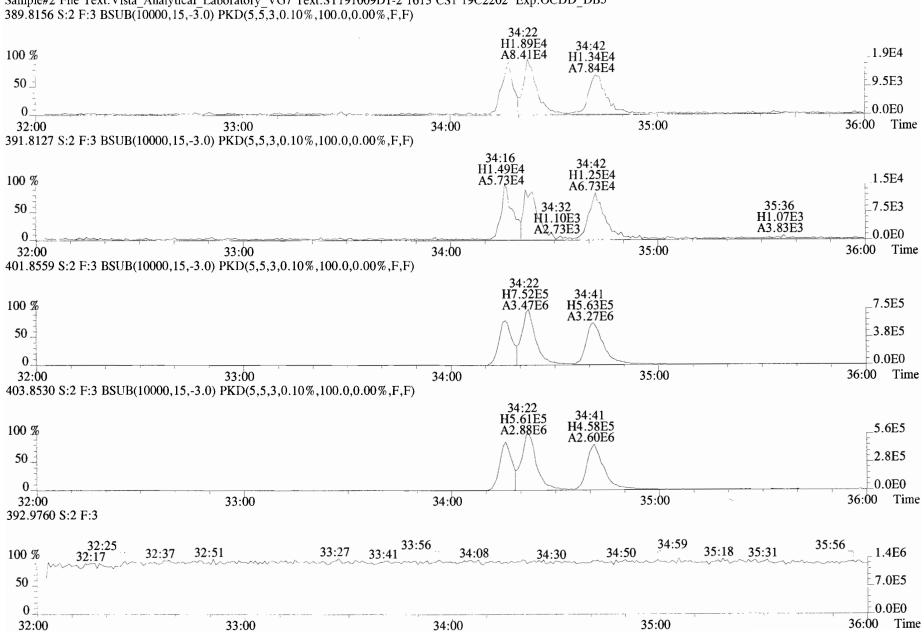




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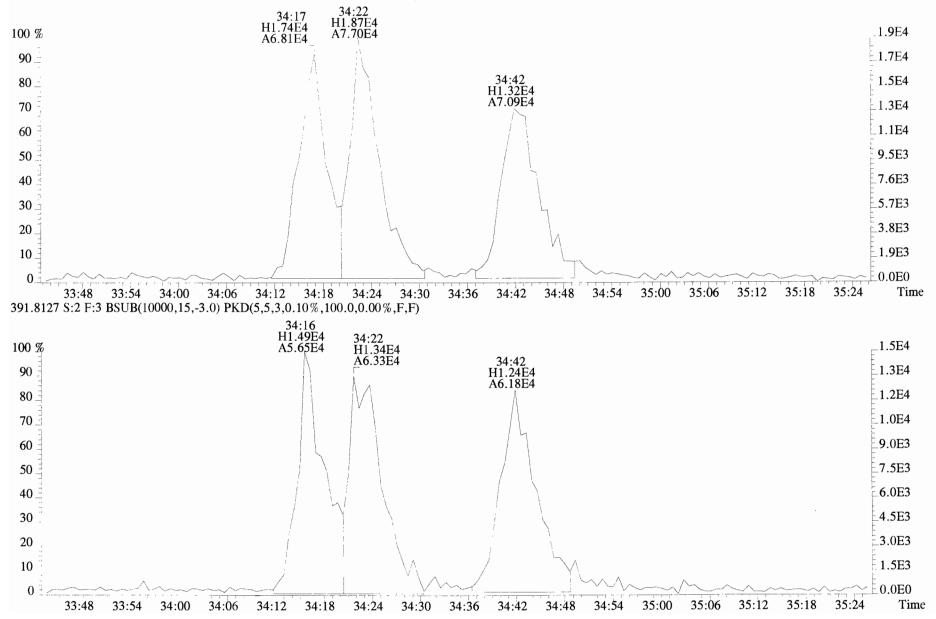
### File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



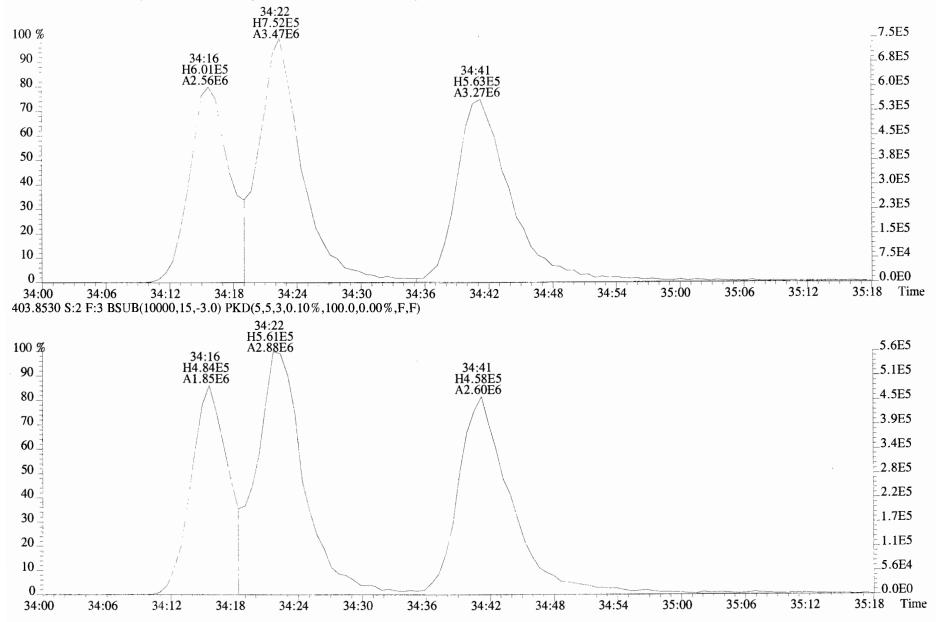


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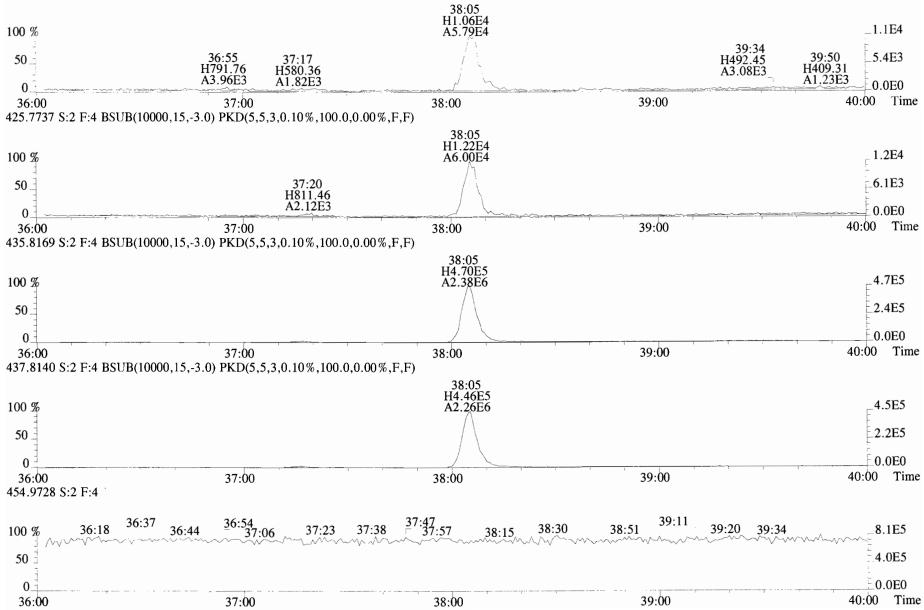
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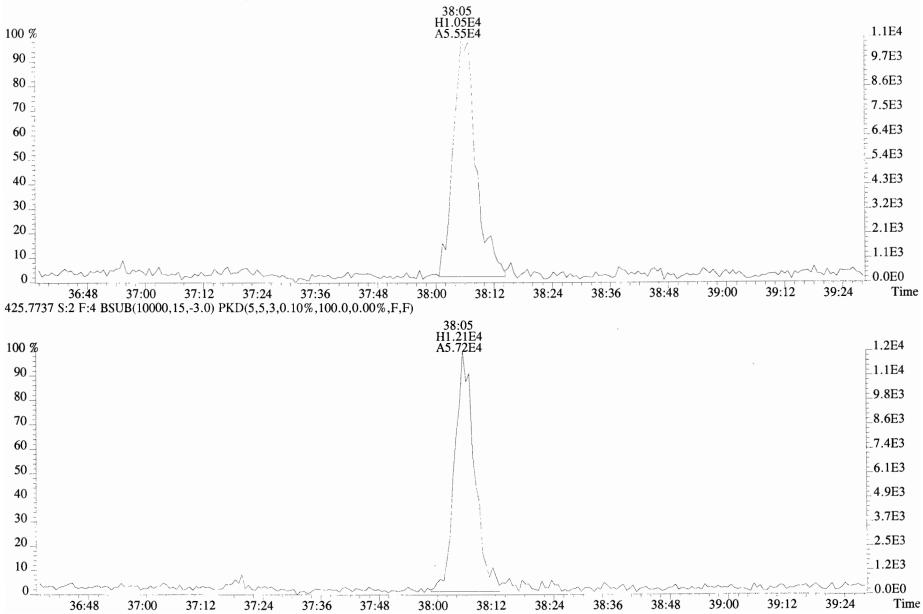
#### File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

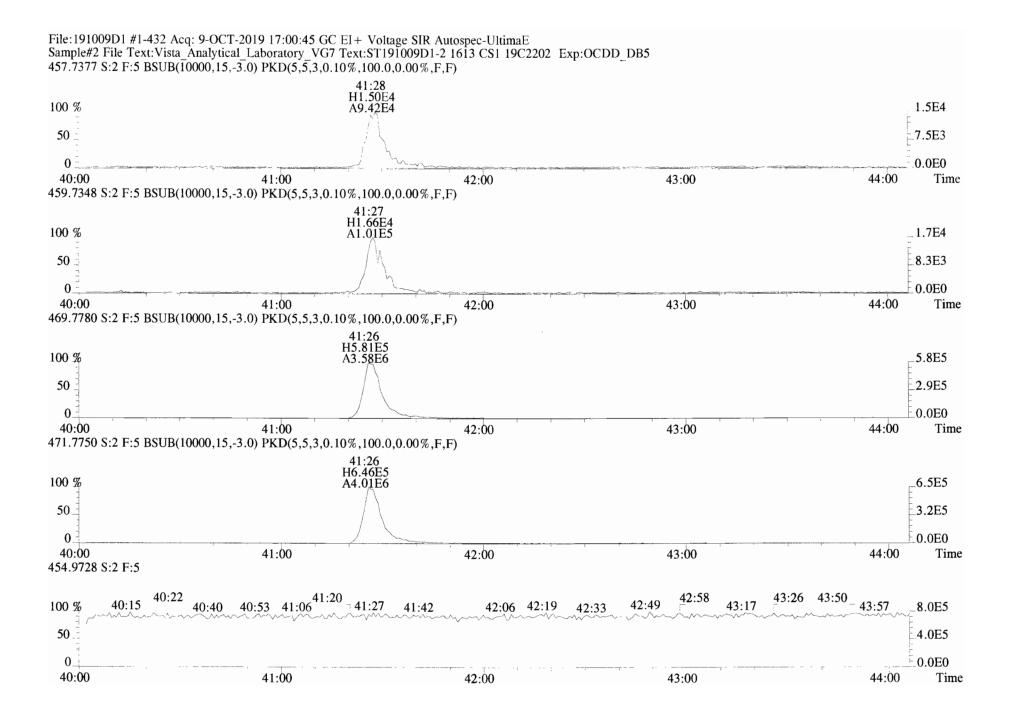


# File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

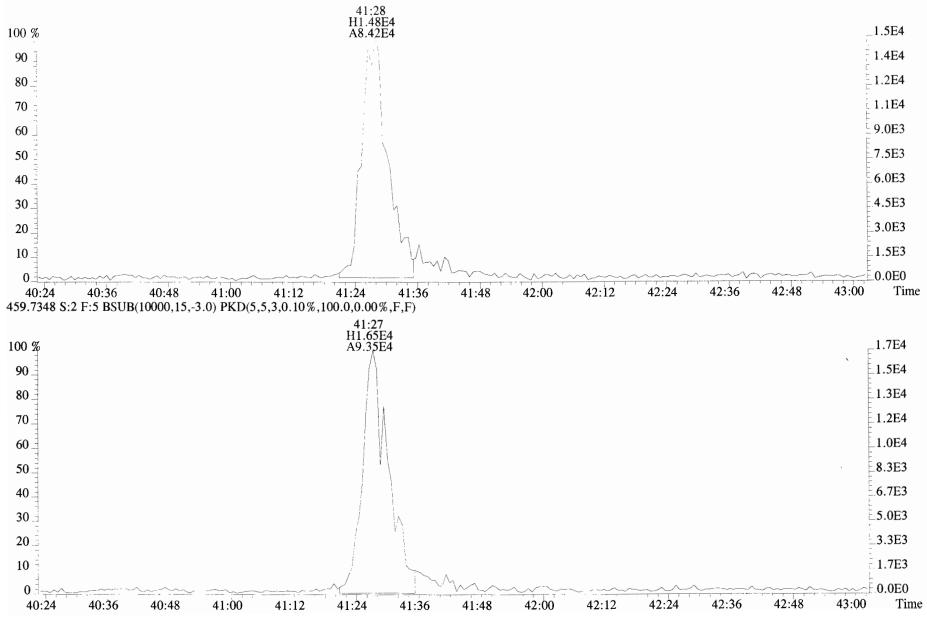


#### File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 423.7767 S:2 F:4 BSUB(T0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

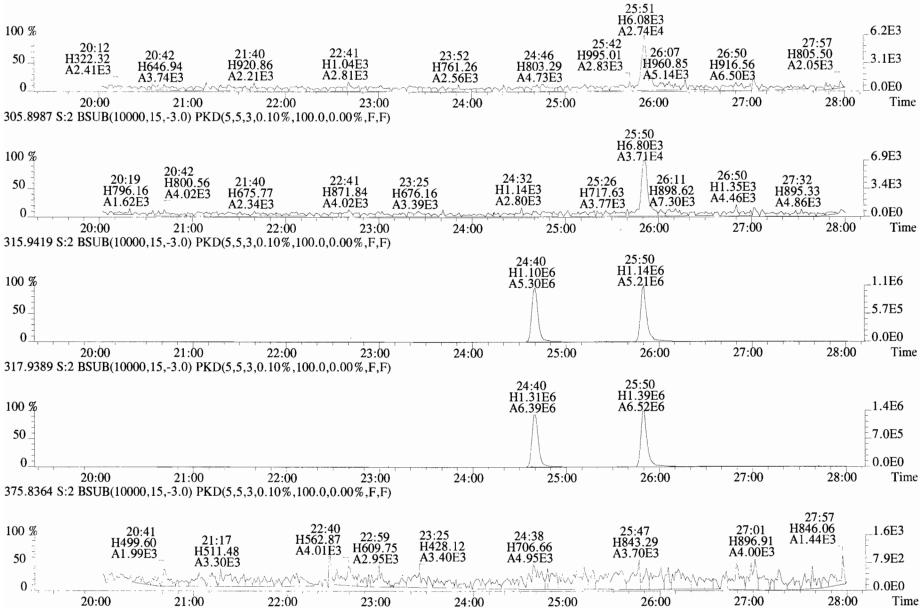




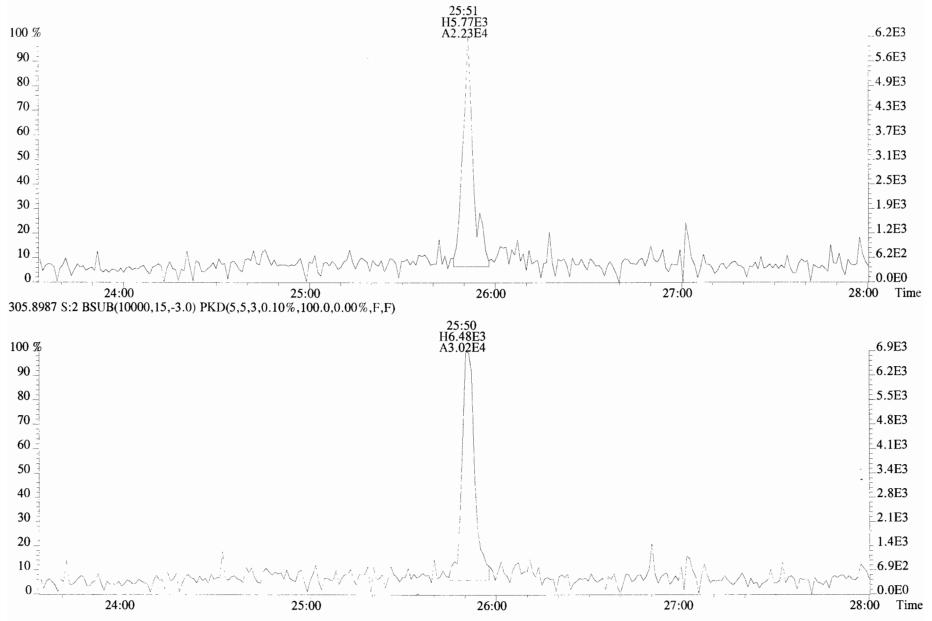
#### File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI + Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



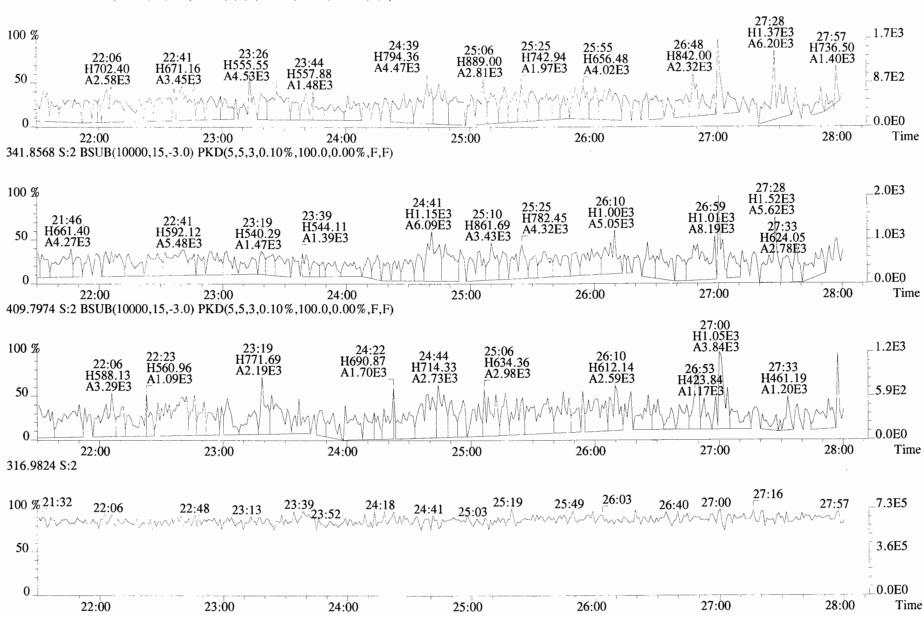
### File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

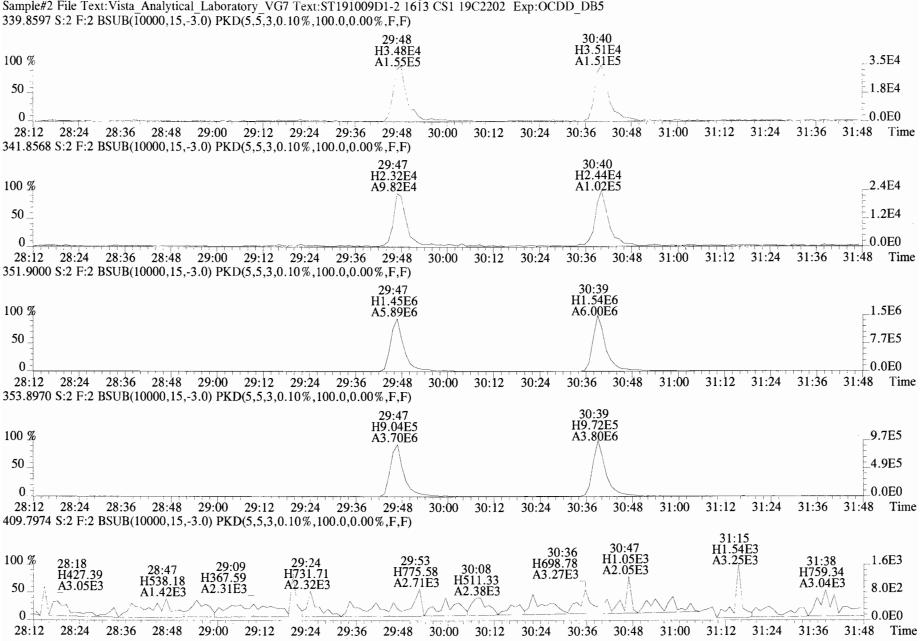


#### File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



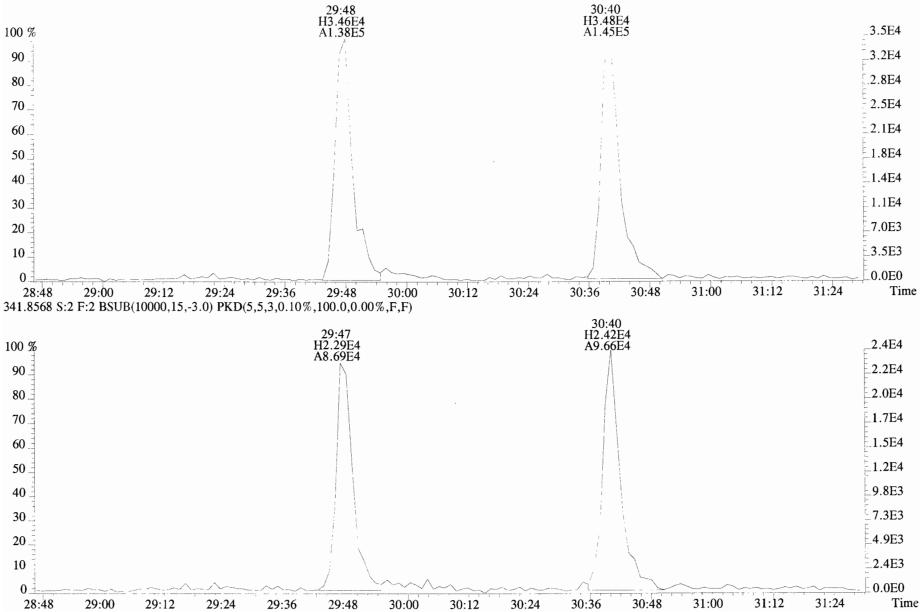
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

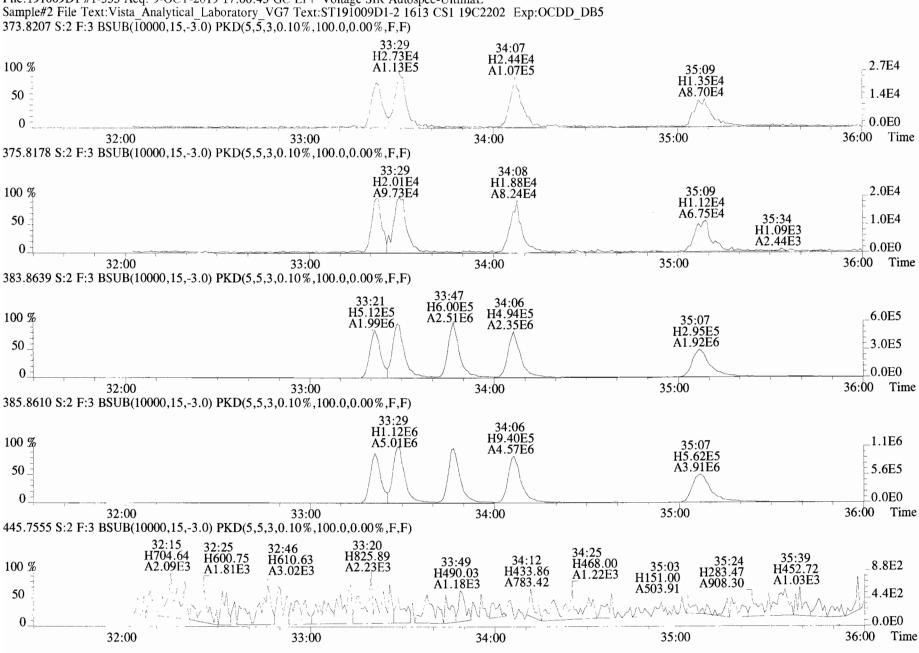




File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE

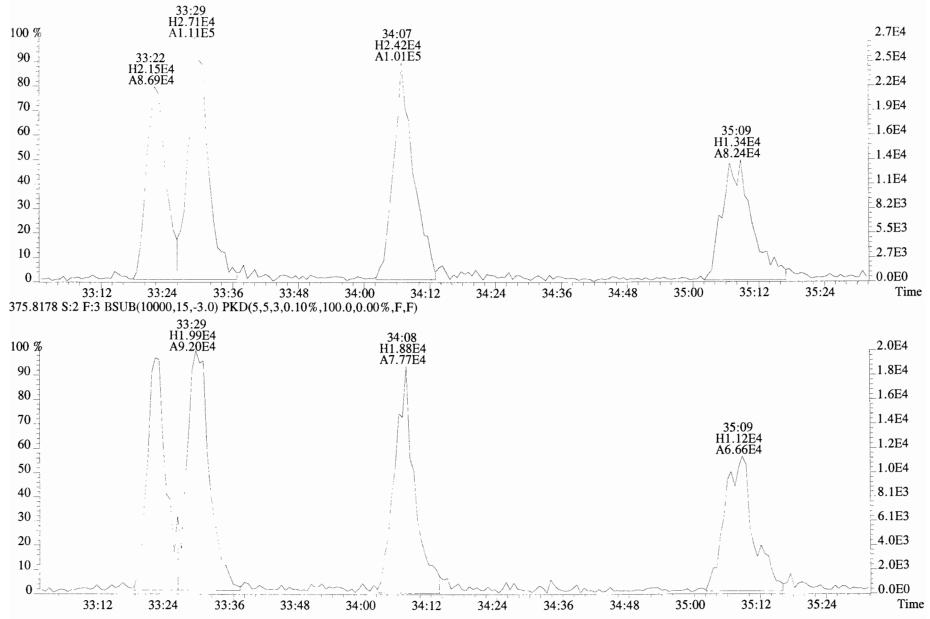
#### File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



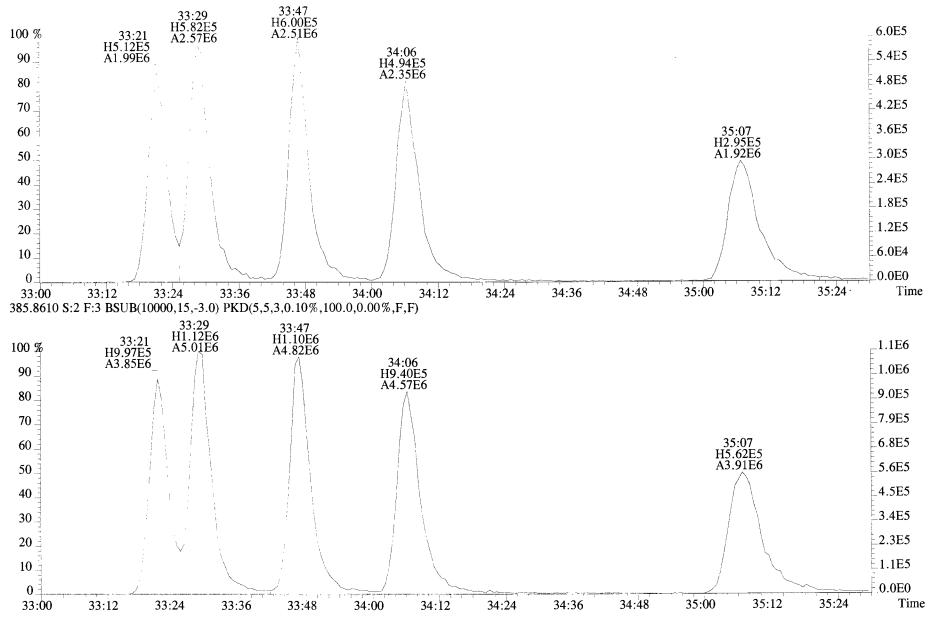


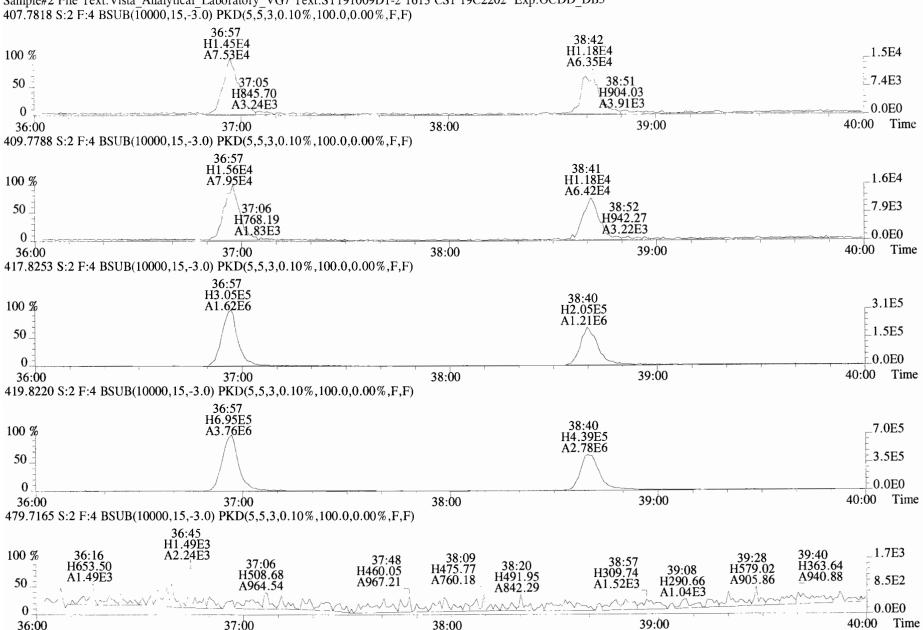
# File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC El+ Voltage SIR Autospec-UltimaE

File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

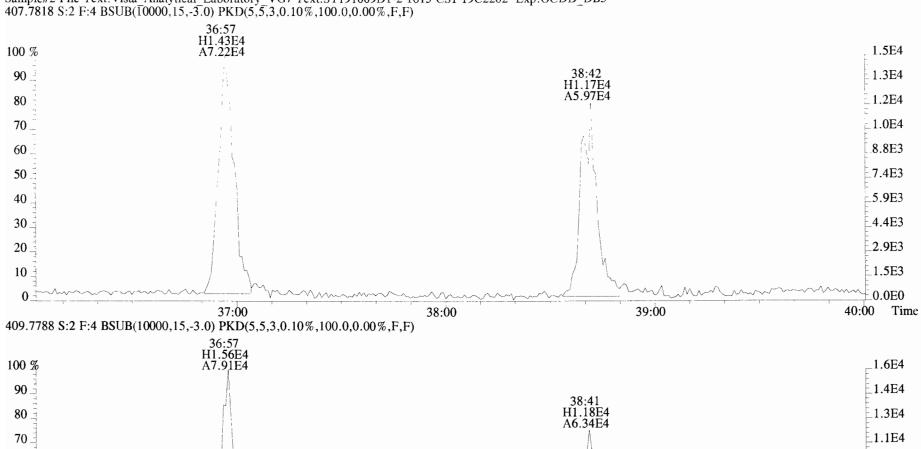


#### File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

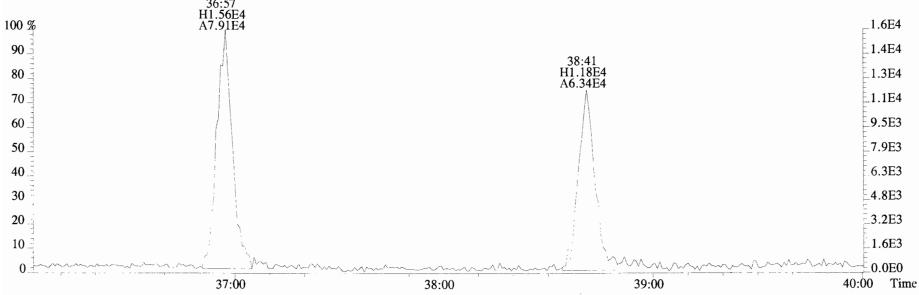


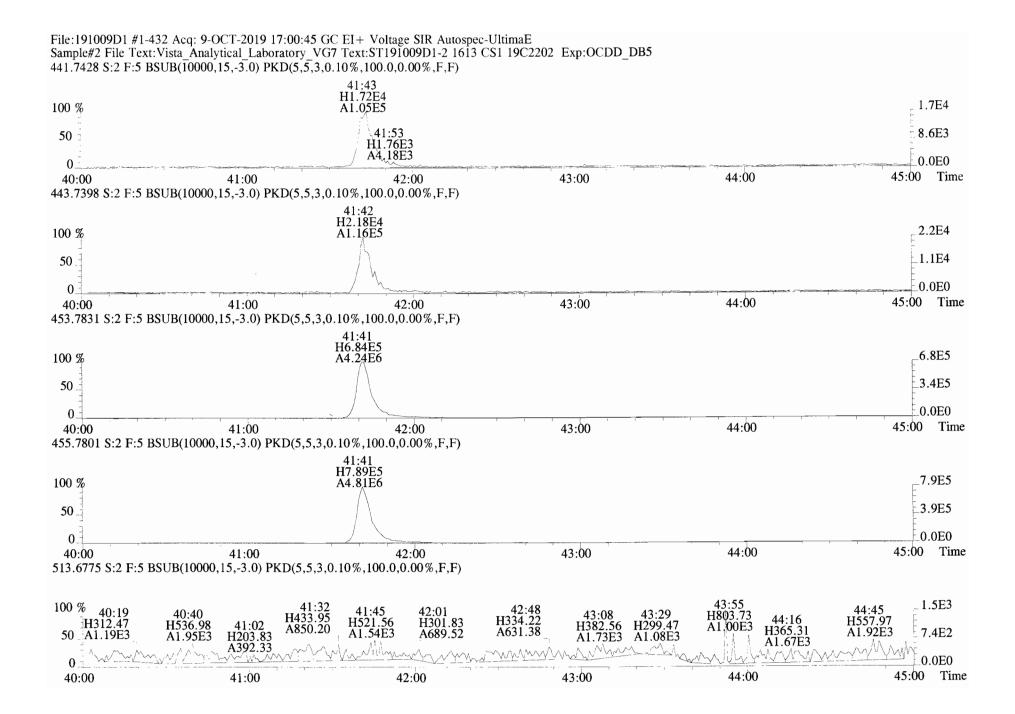


### File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI + Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD DB5

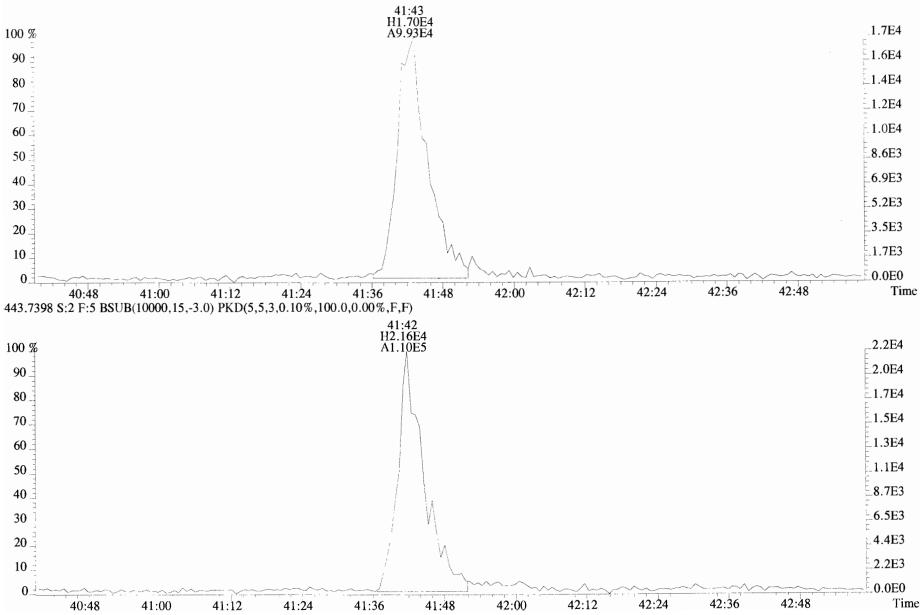


#### File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 407.7818 S:2 F:4 BSUB(T0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

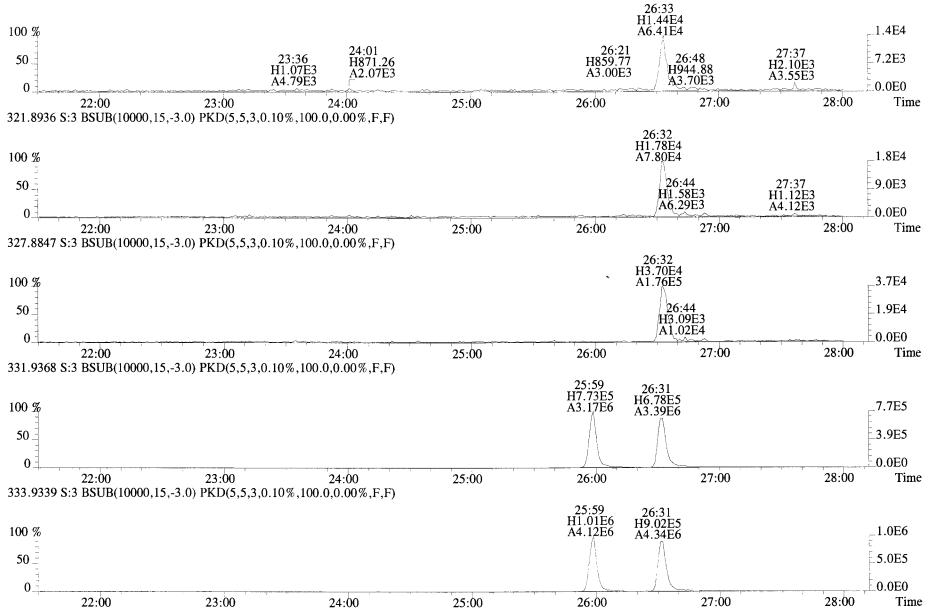


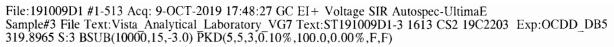


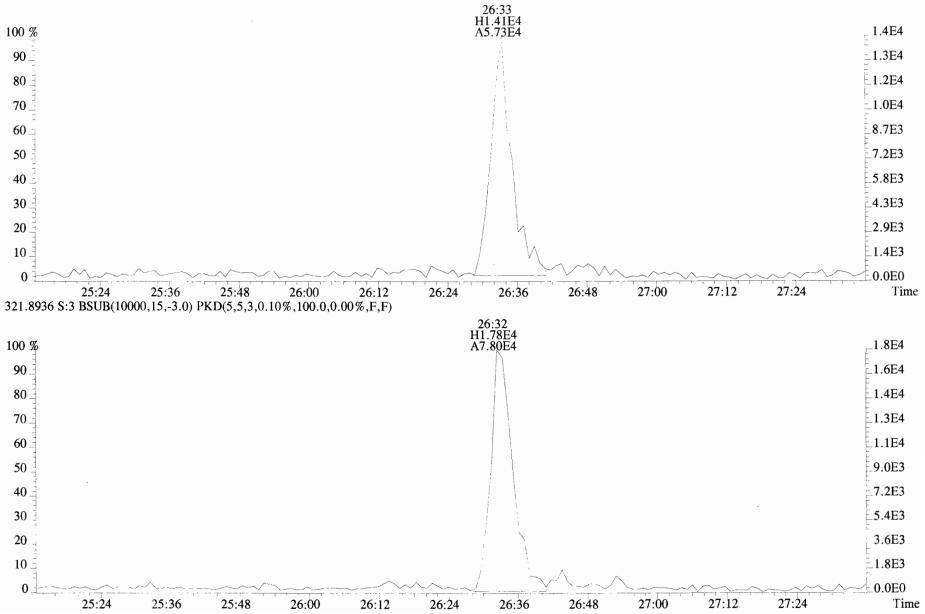
### File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5 441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



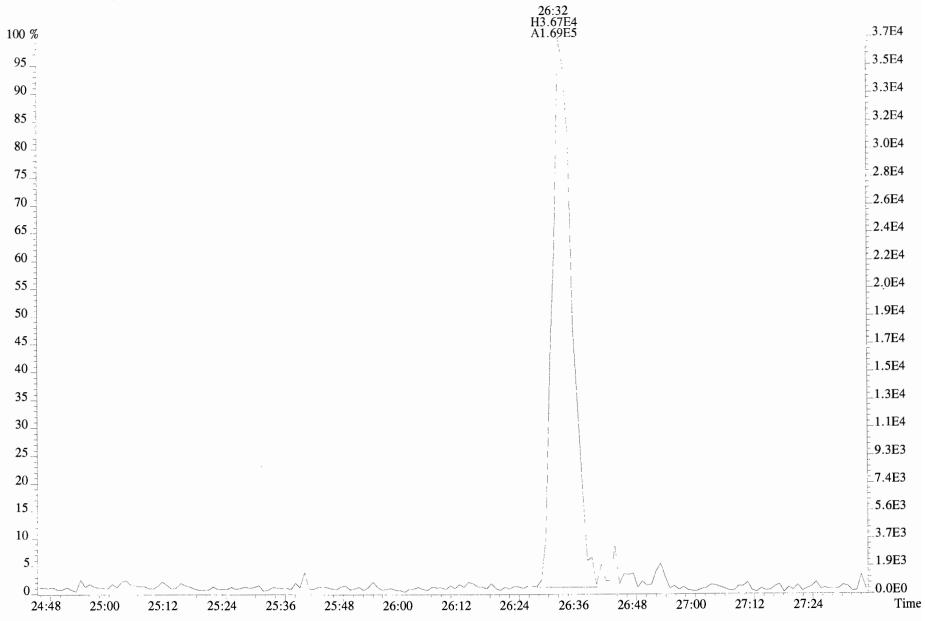
#### File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



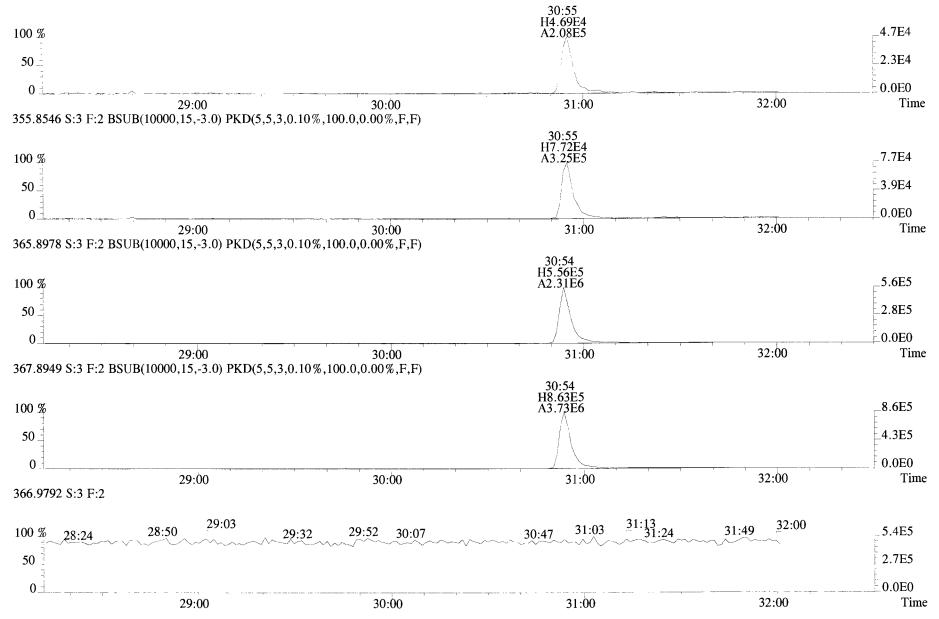


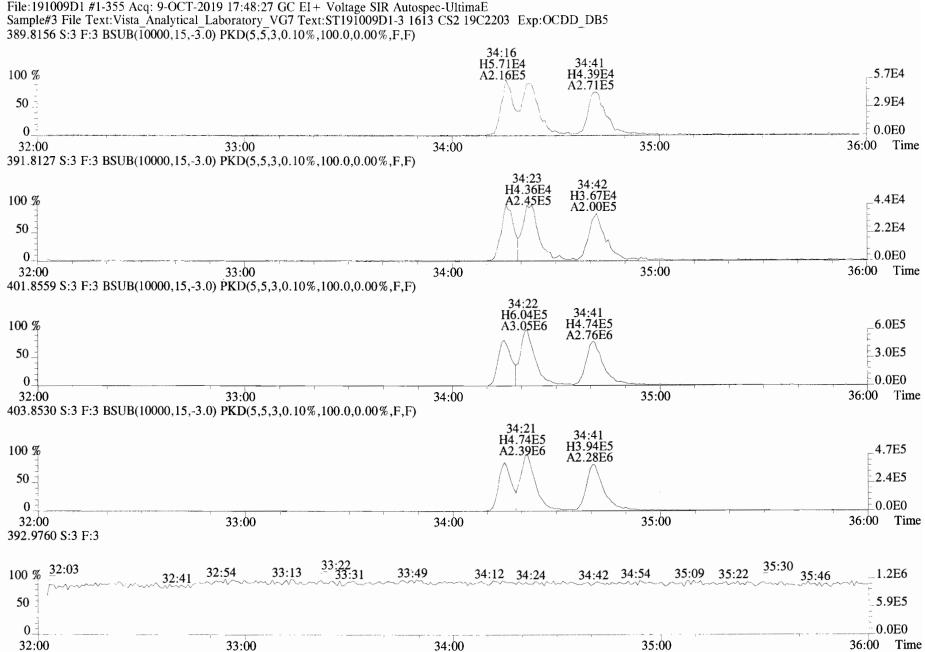


#### File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 327.8847 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



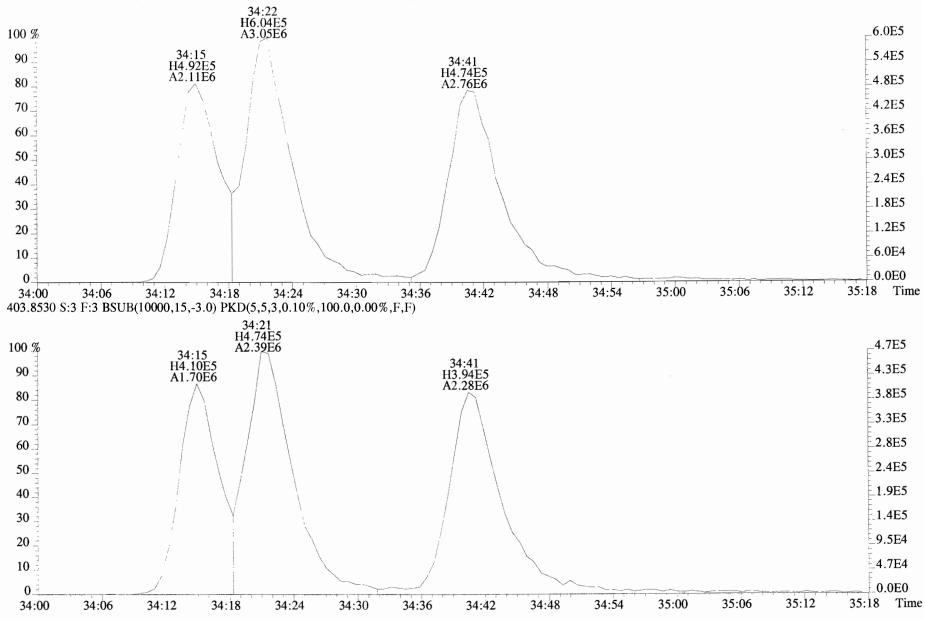
#### File:191009D1 #1-211 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 353.8576 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



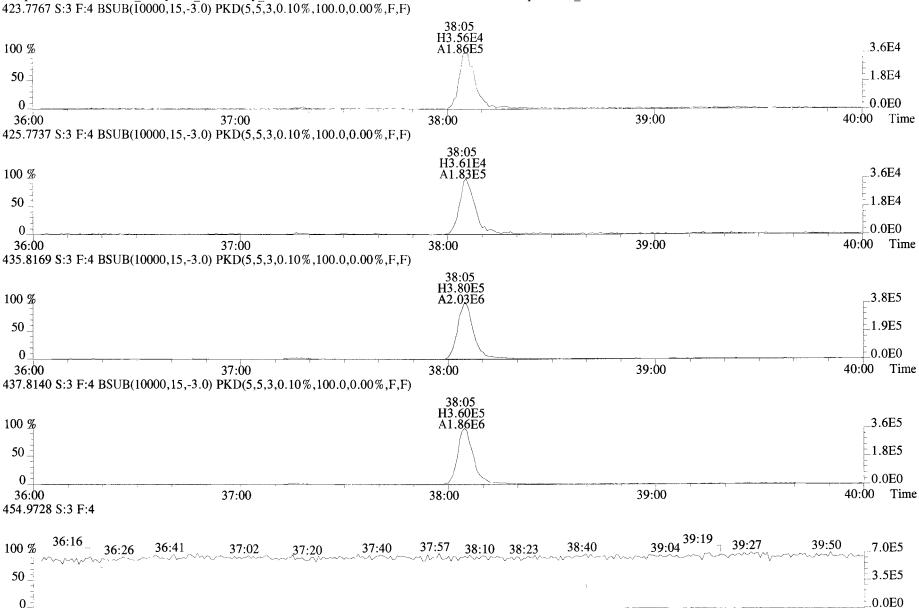


Work Order 1903646

#### File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



*



38:00

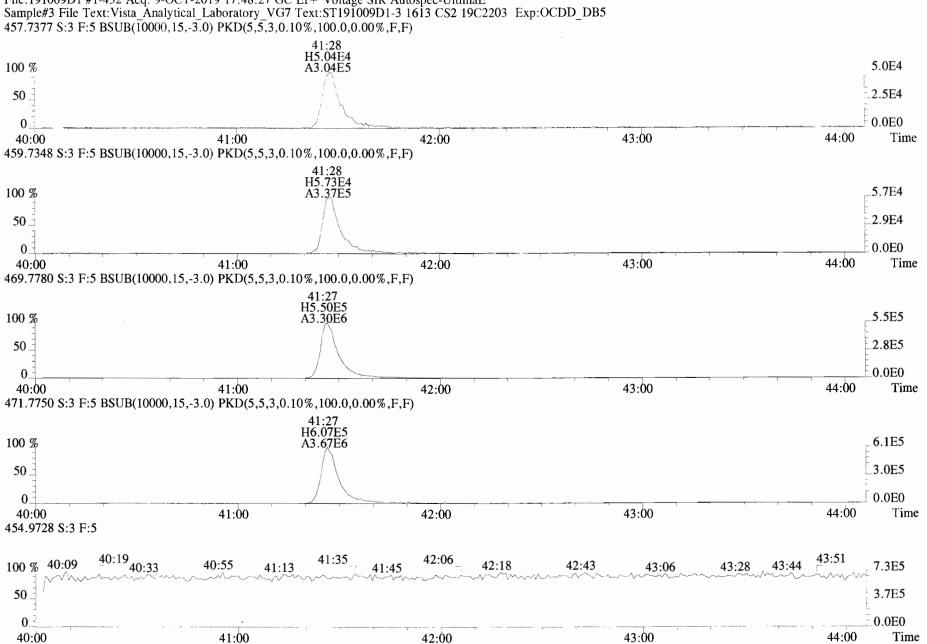
#### File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

37:00

36:00

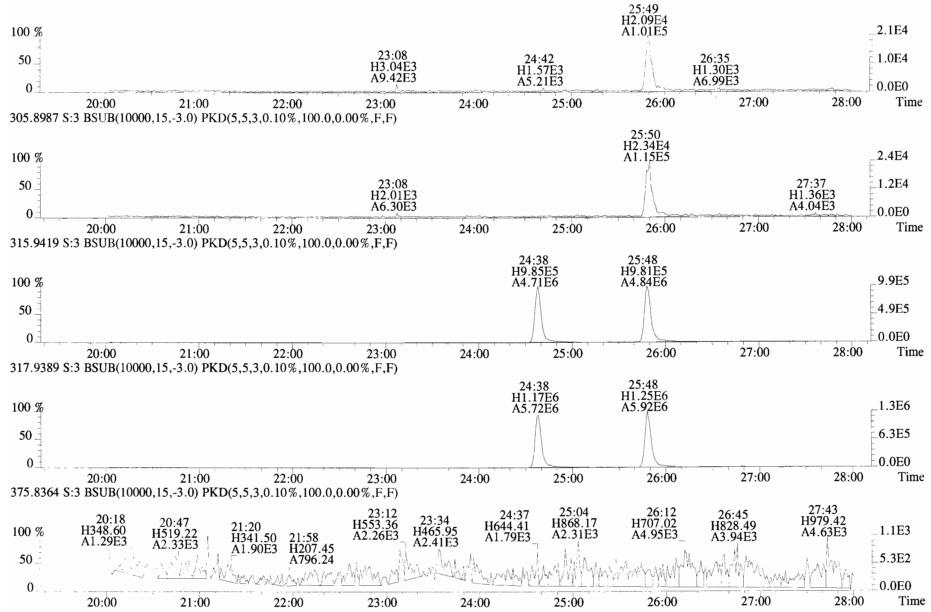
40:00 Time

39:00

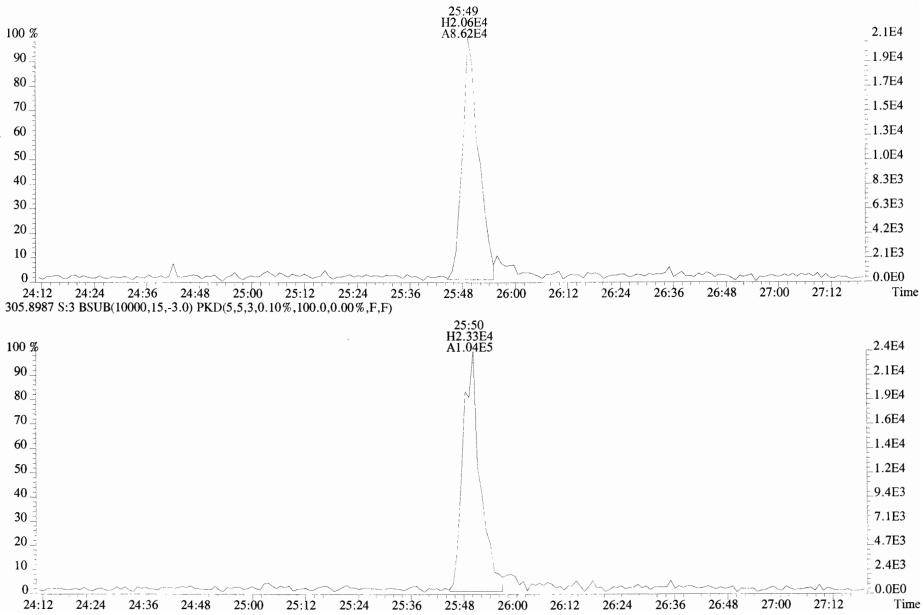


## File:191009D1 #1-432 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE

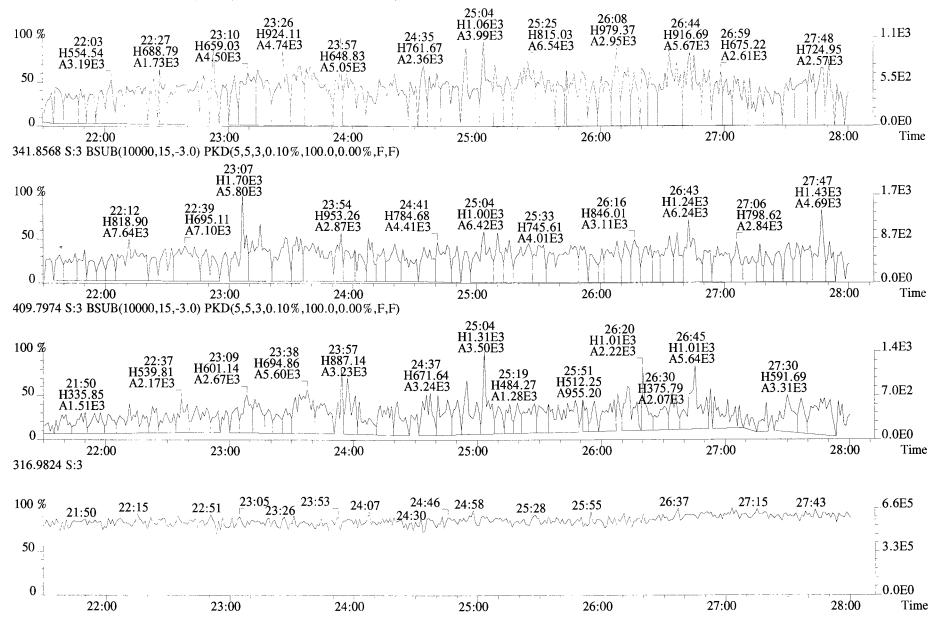
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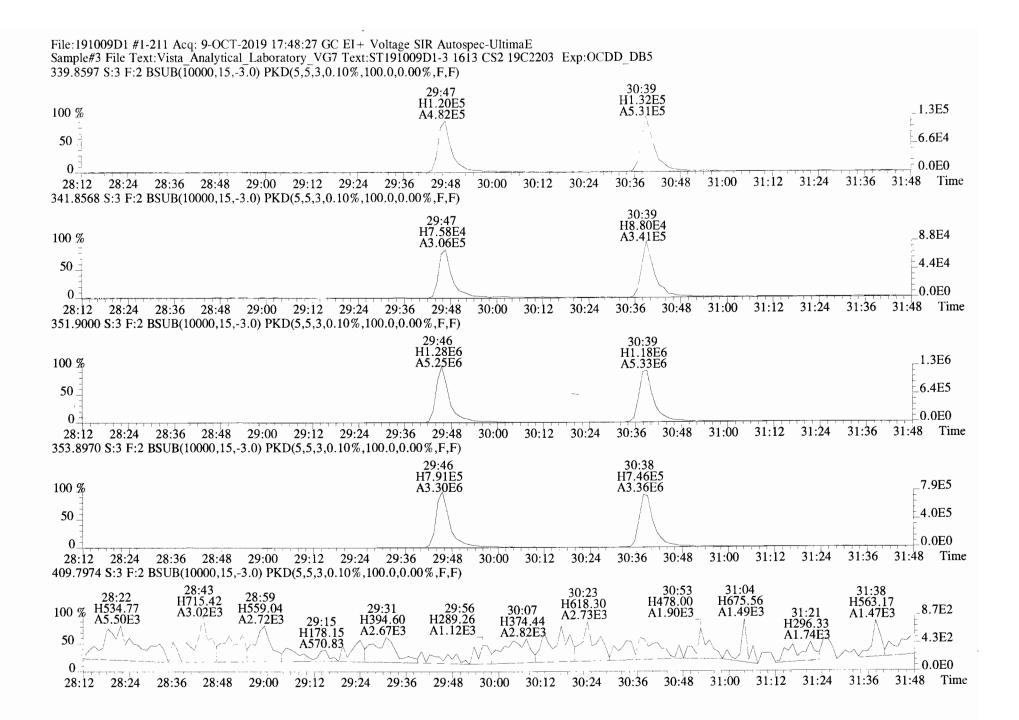


#### File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

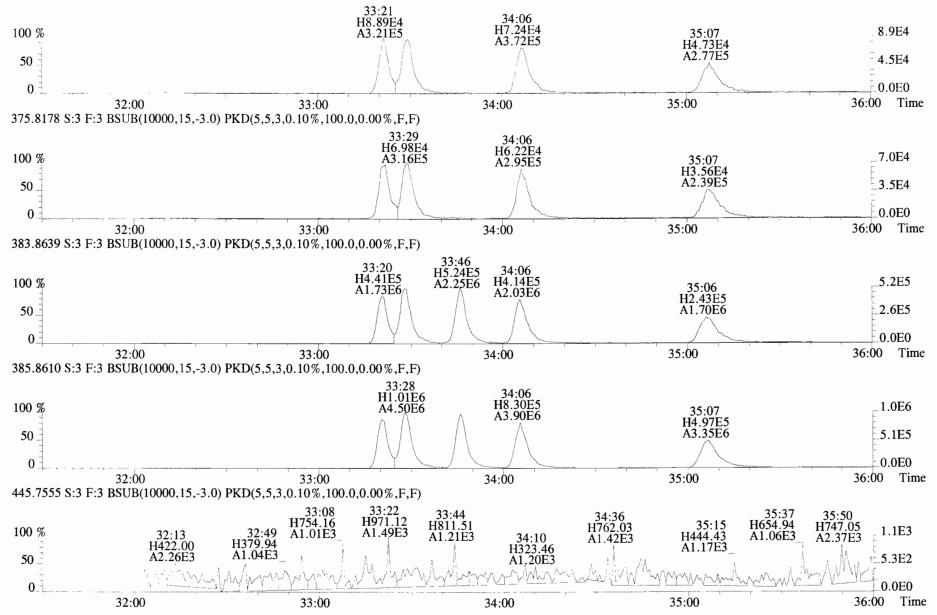


File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI + Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

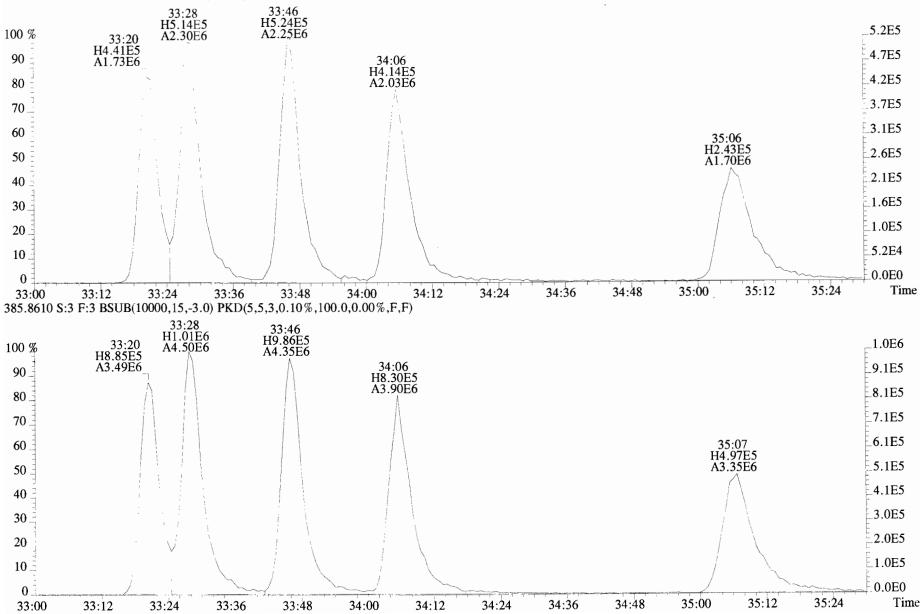


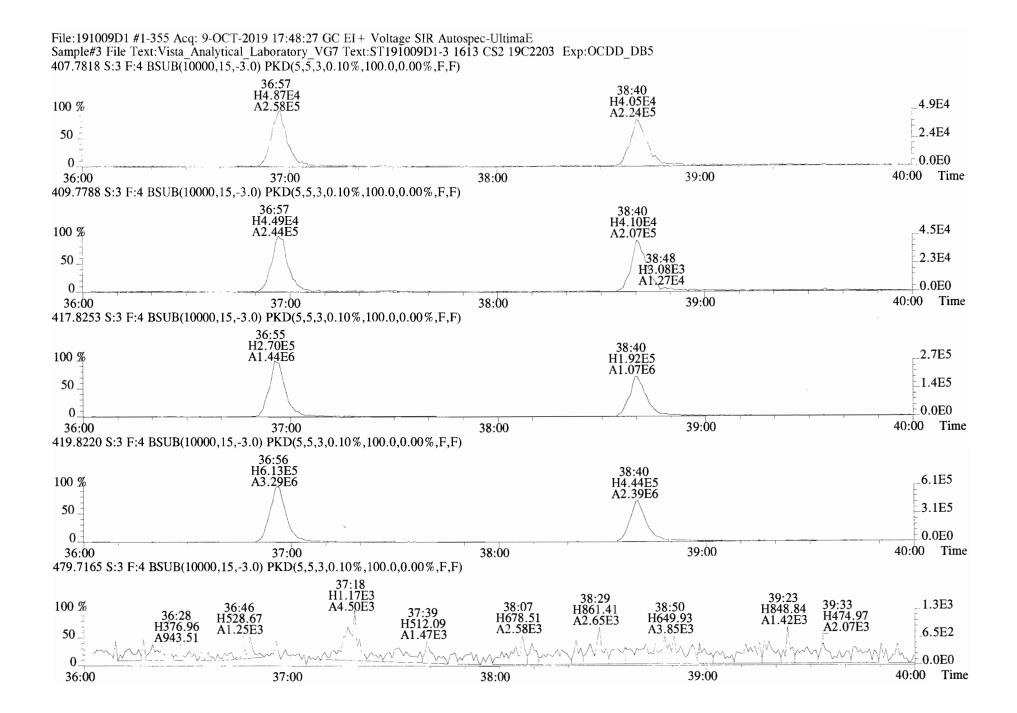


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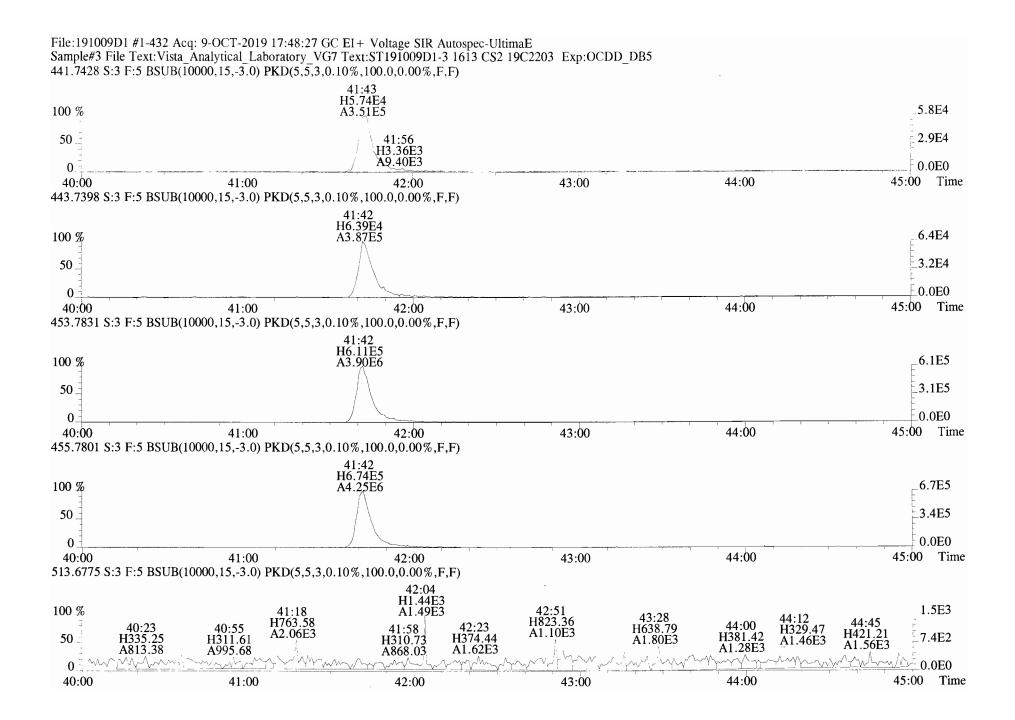


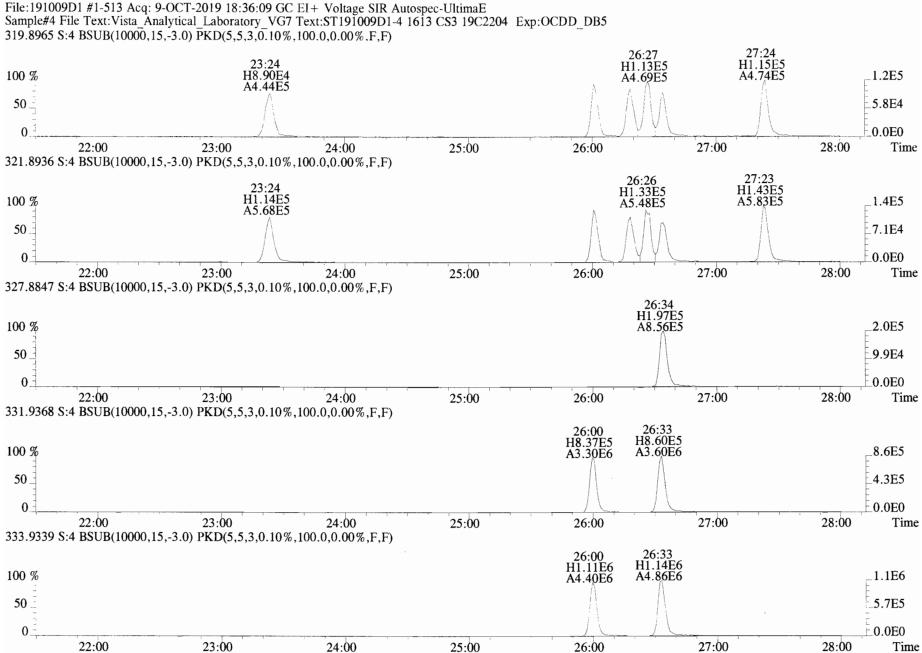
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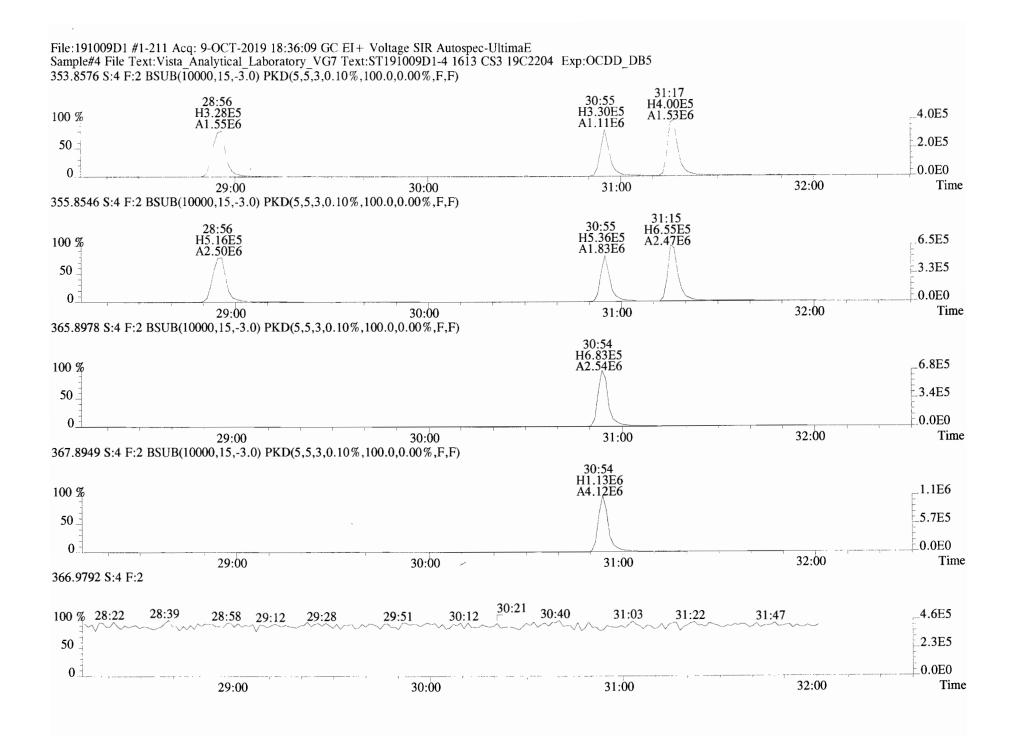




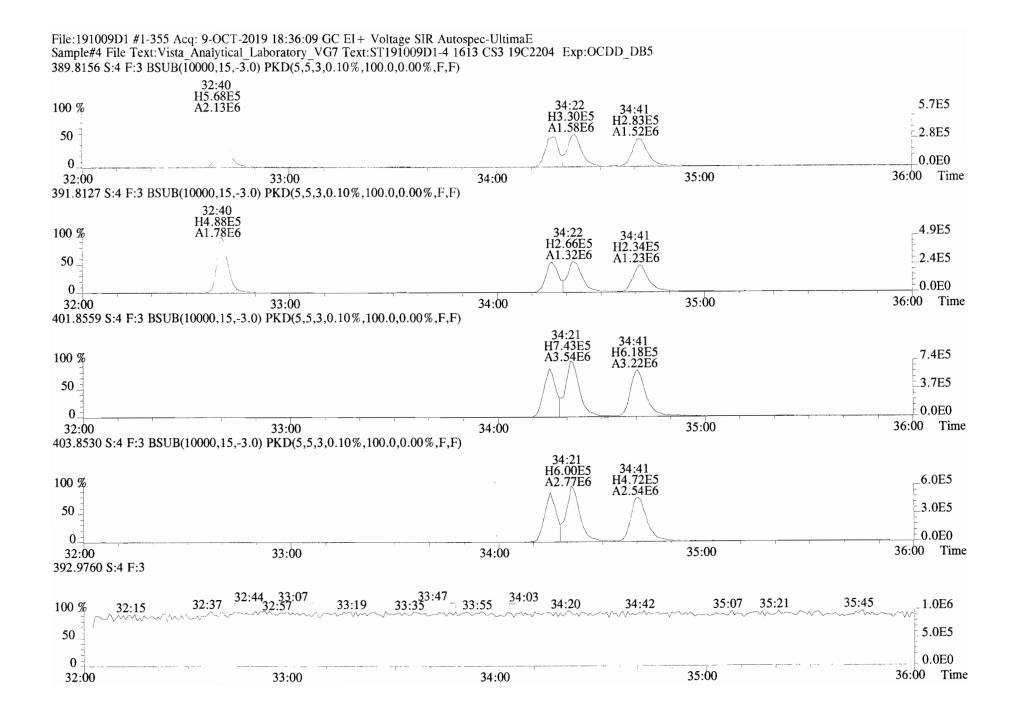
#### Work Order 1903646



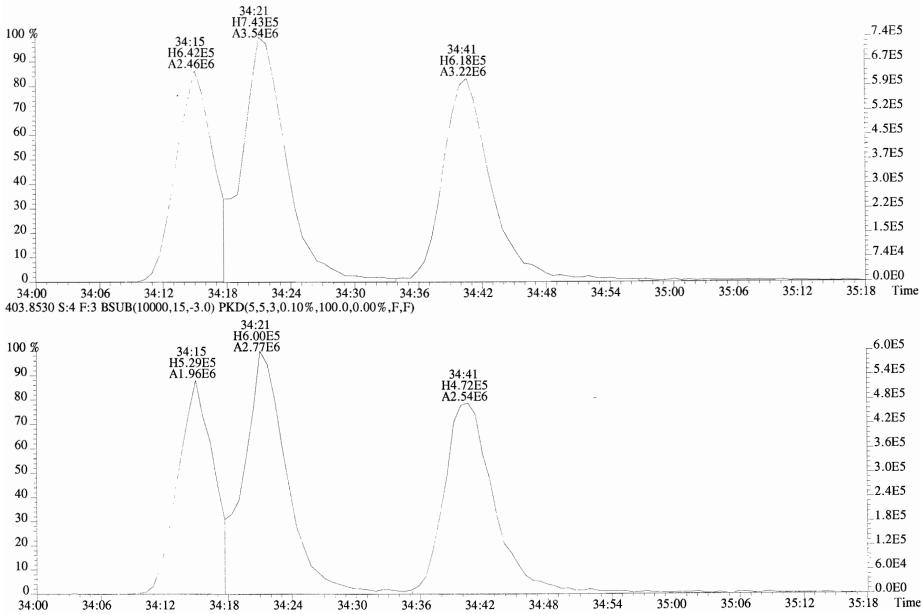




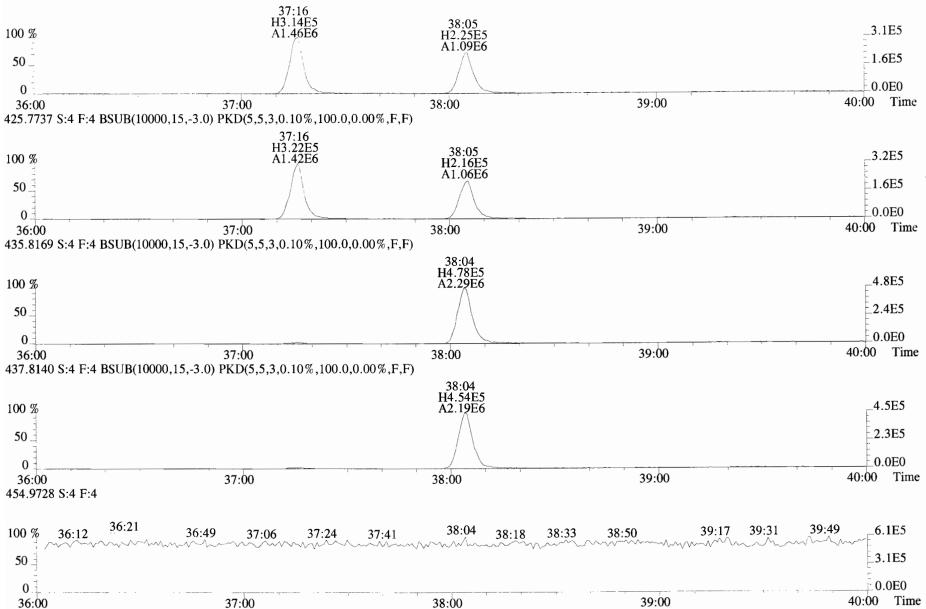
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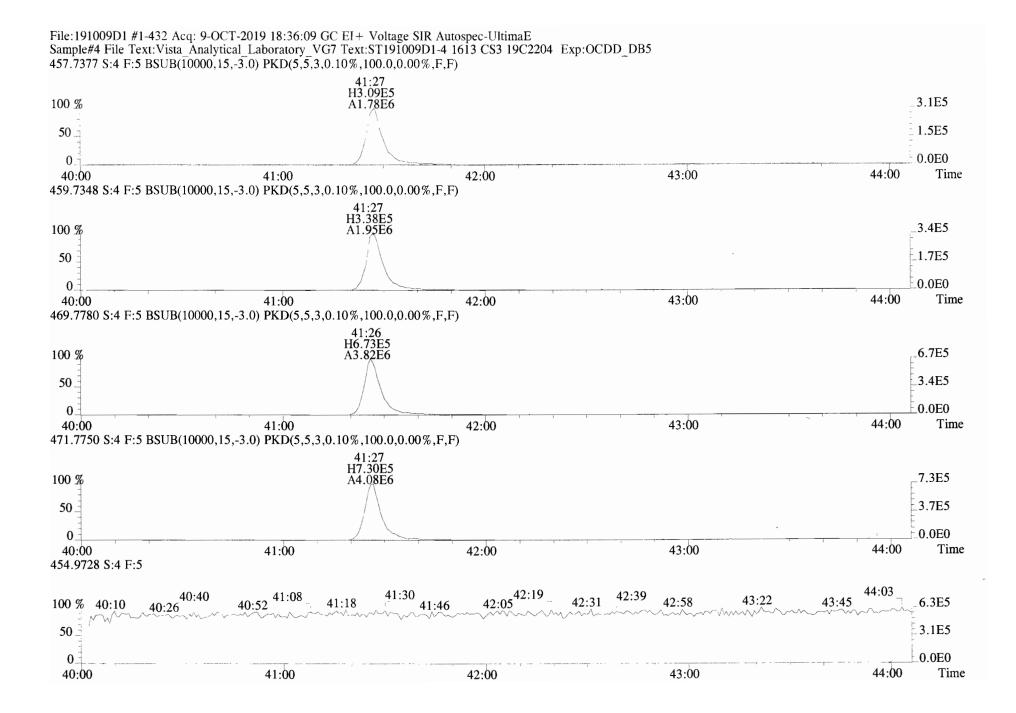


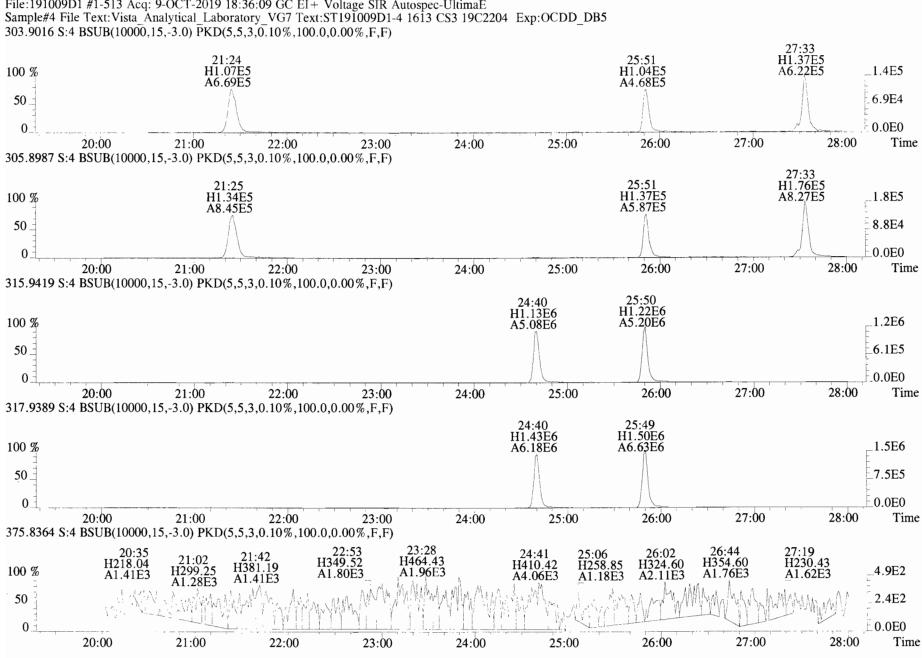
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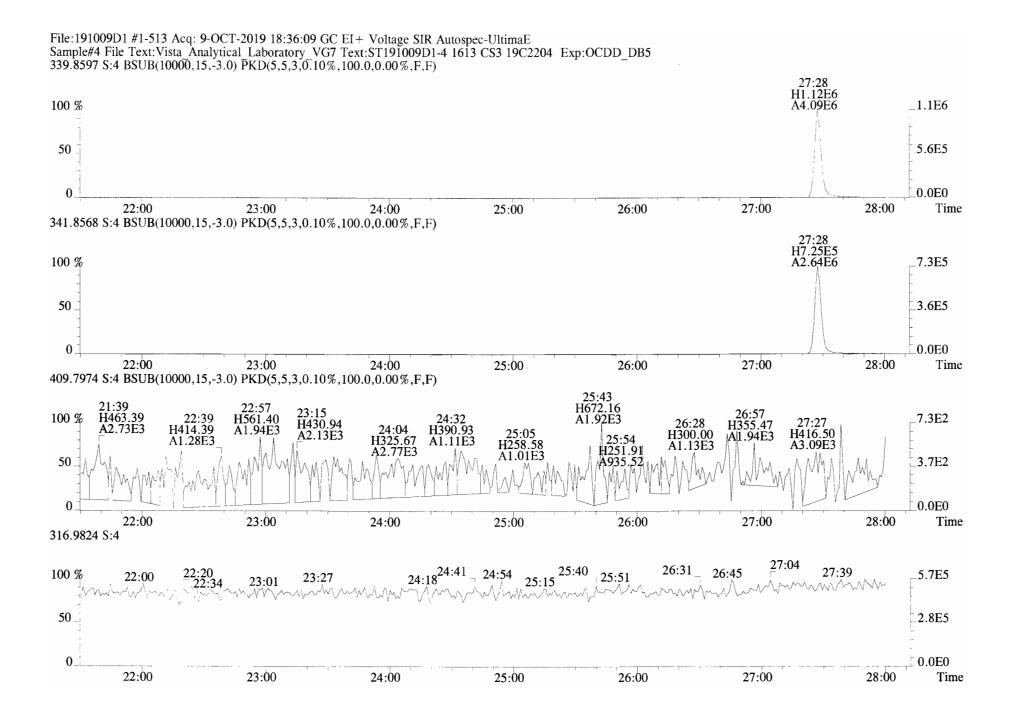
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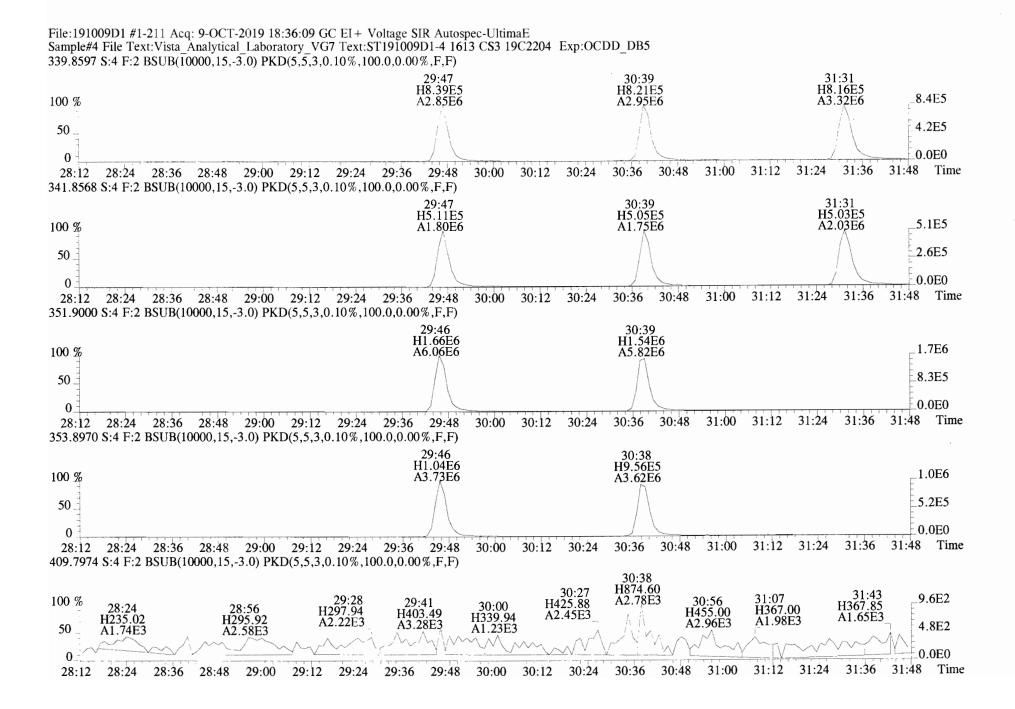


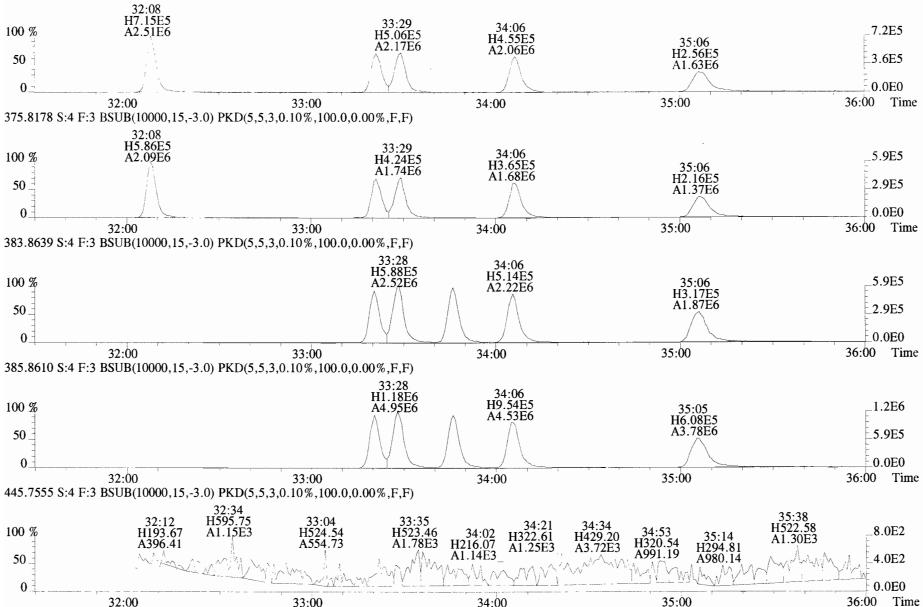




# File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE

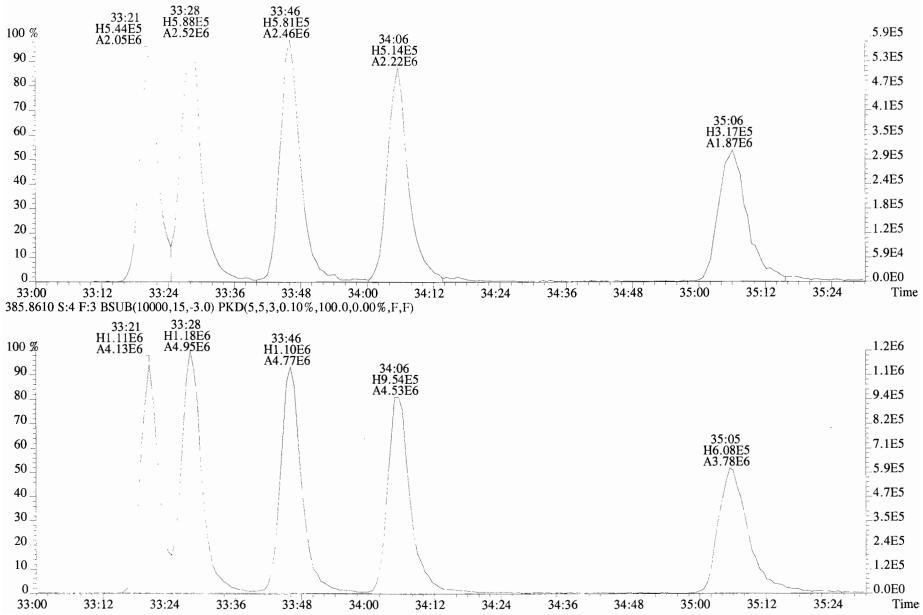


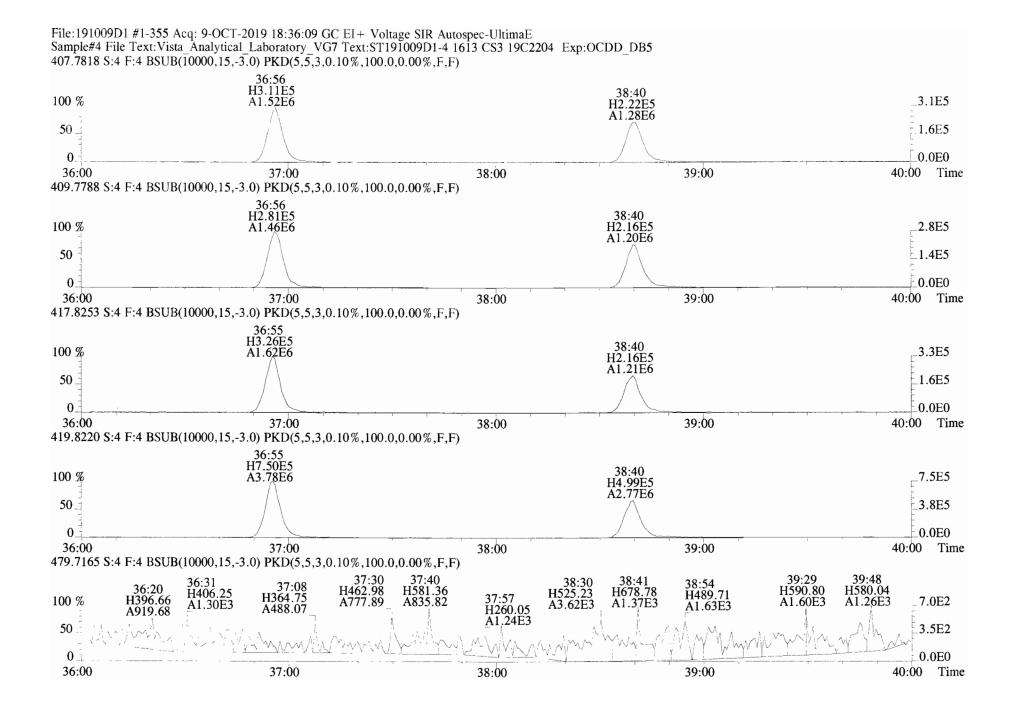




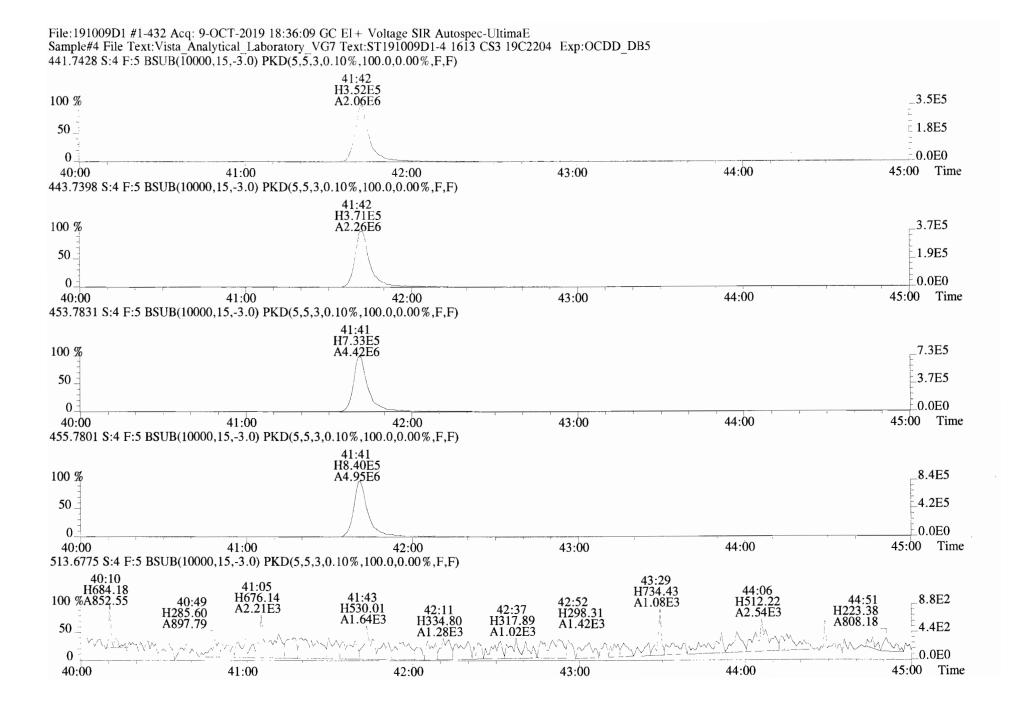
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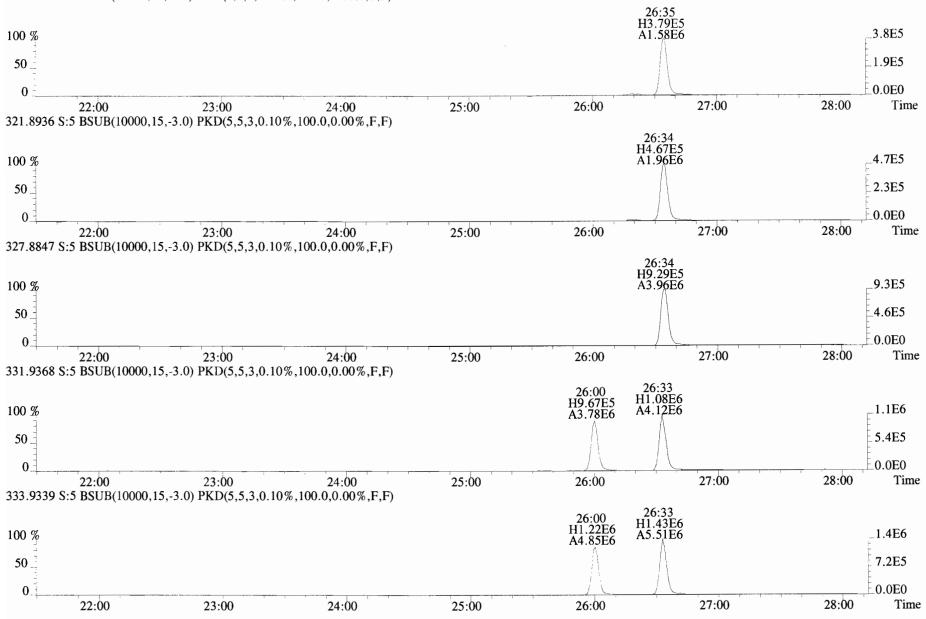
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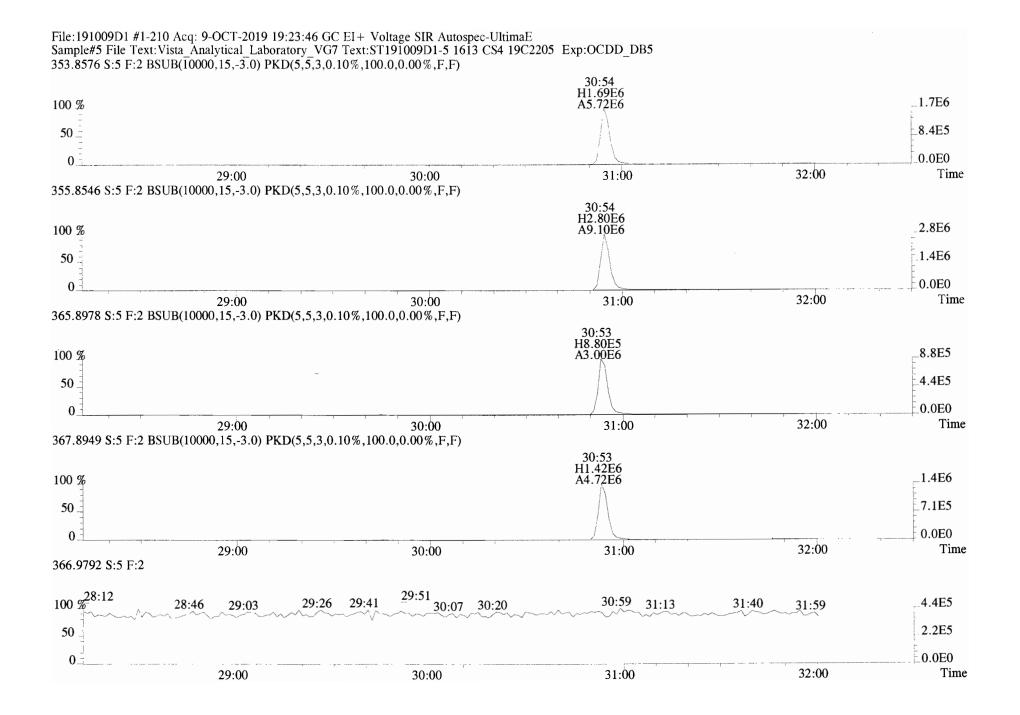


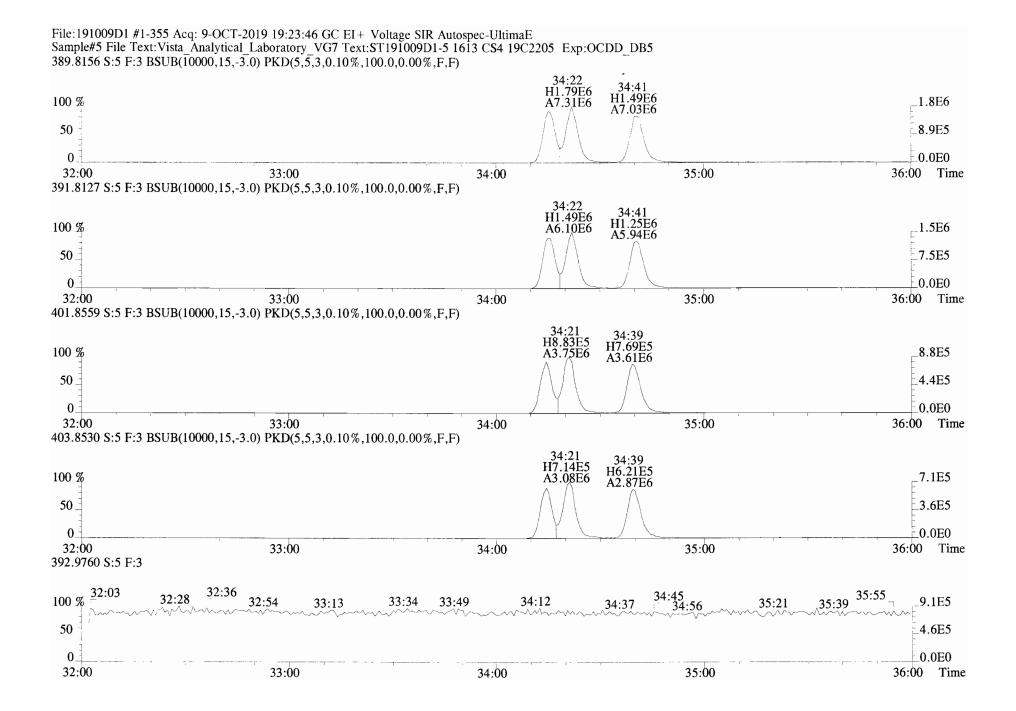
### Work Order 1903646



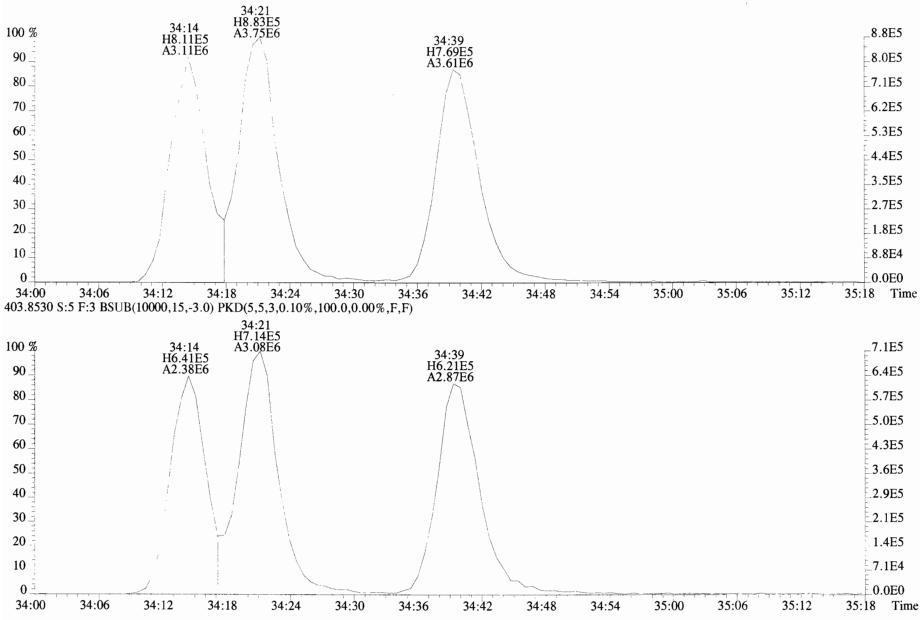


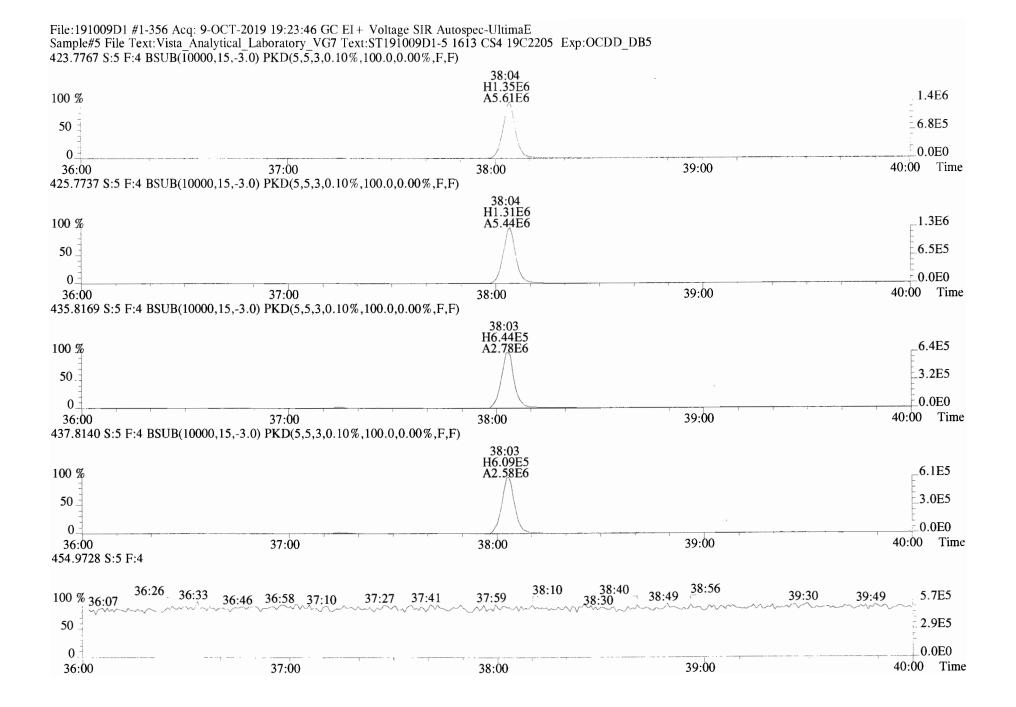
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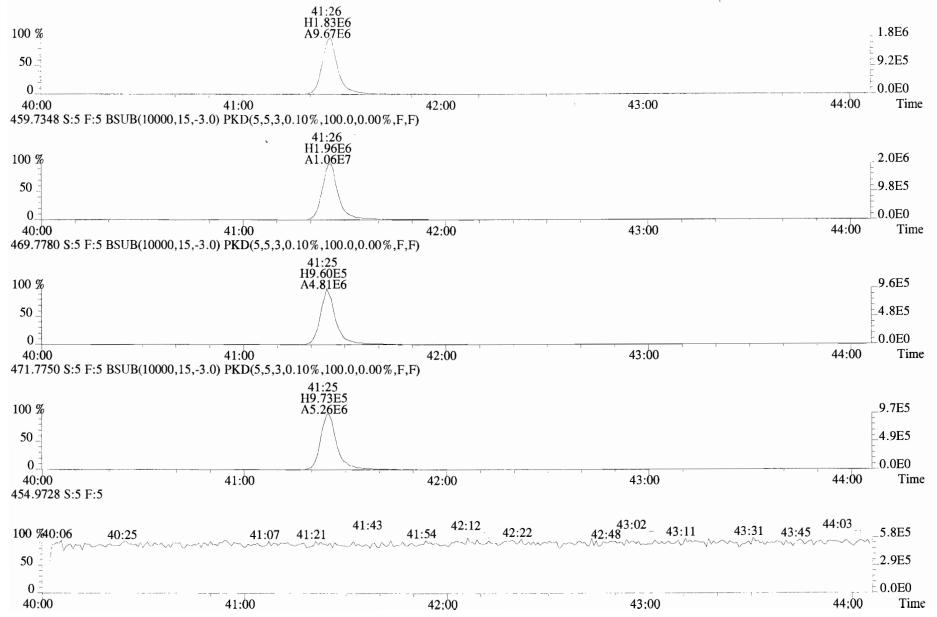


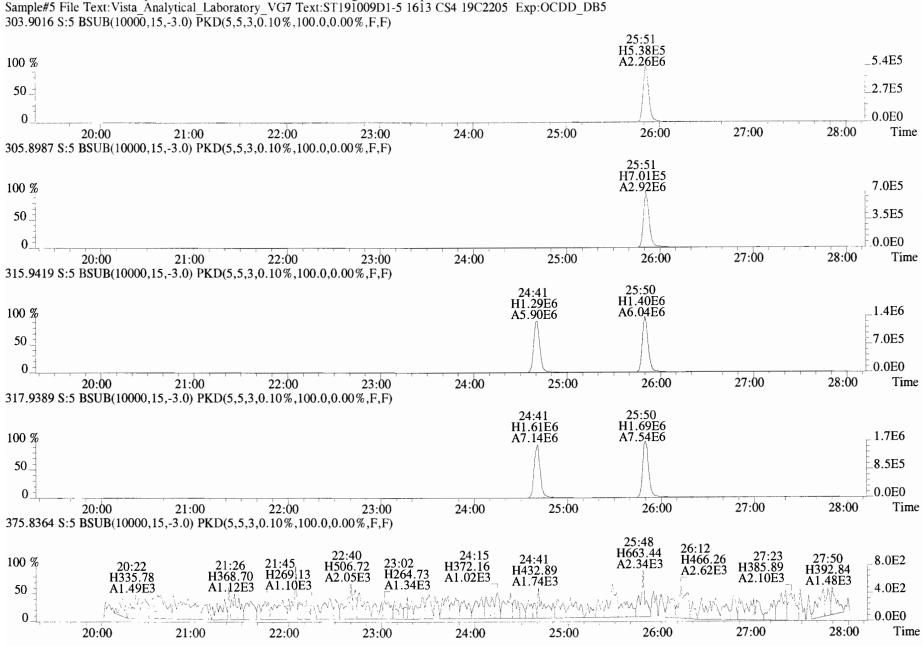
#### File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5 401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





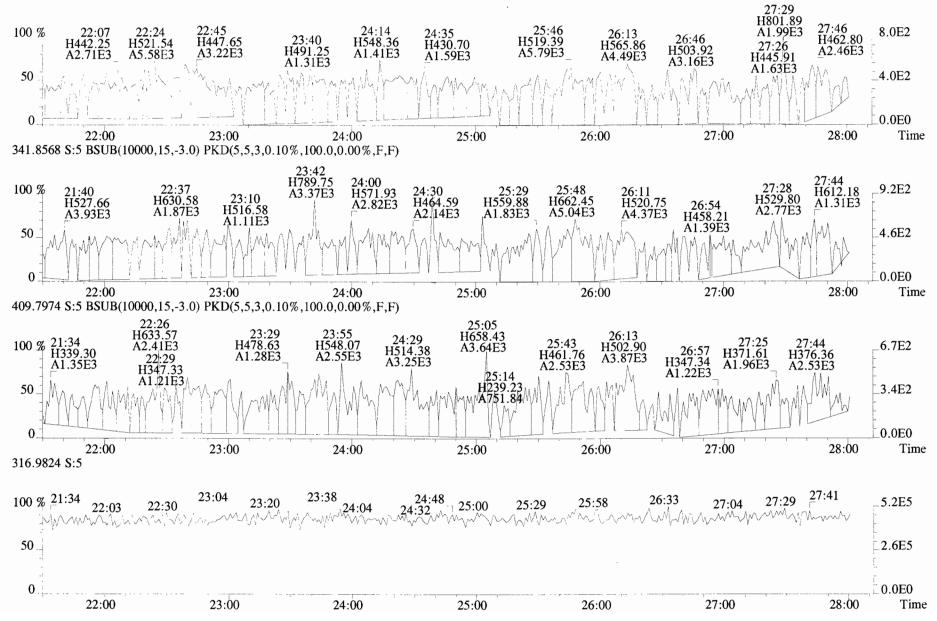
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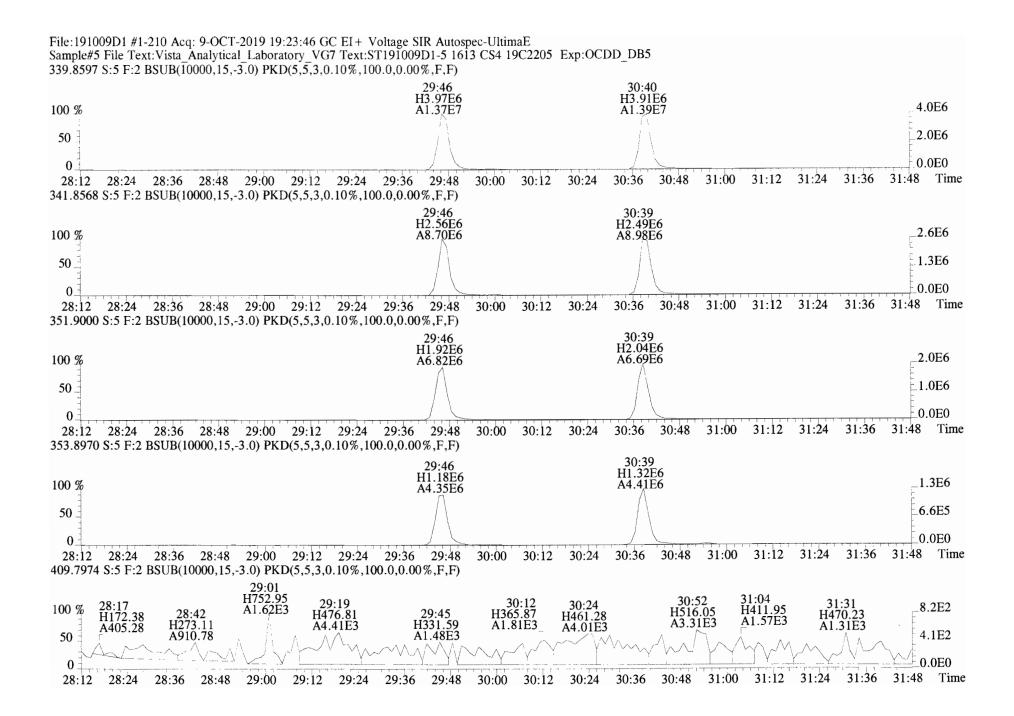


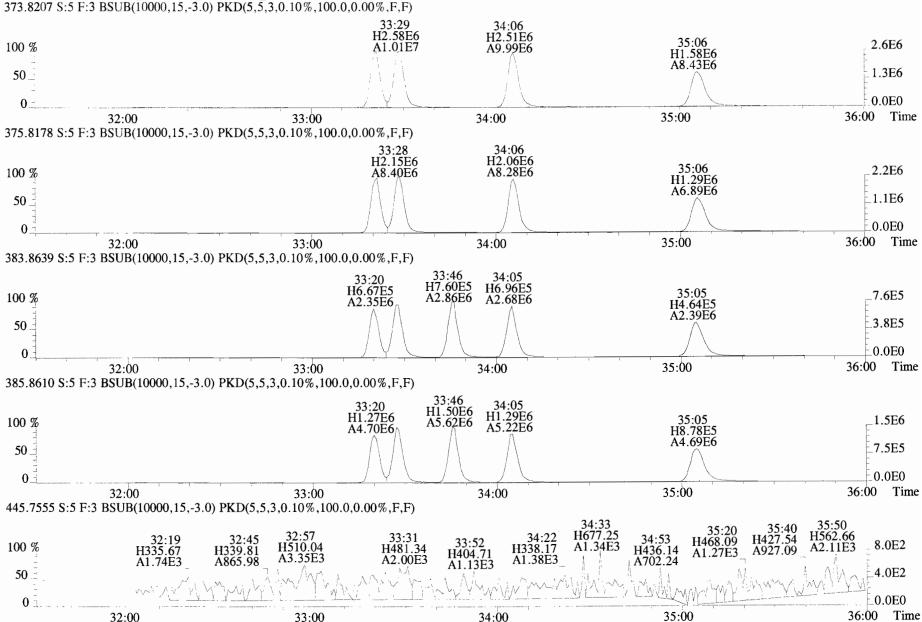


## File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE Sample#5 File Text: Vista Analytical Laboratory VG7 Text: ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5

File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

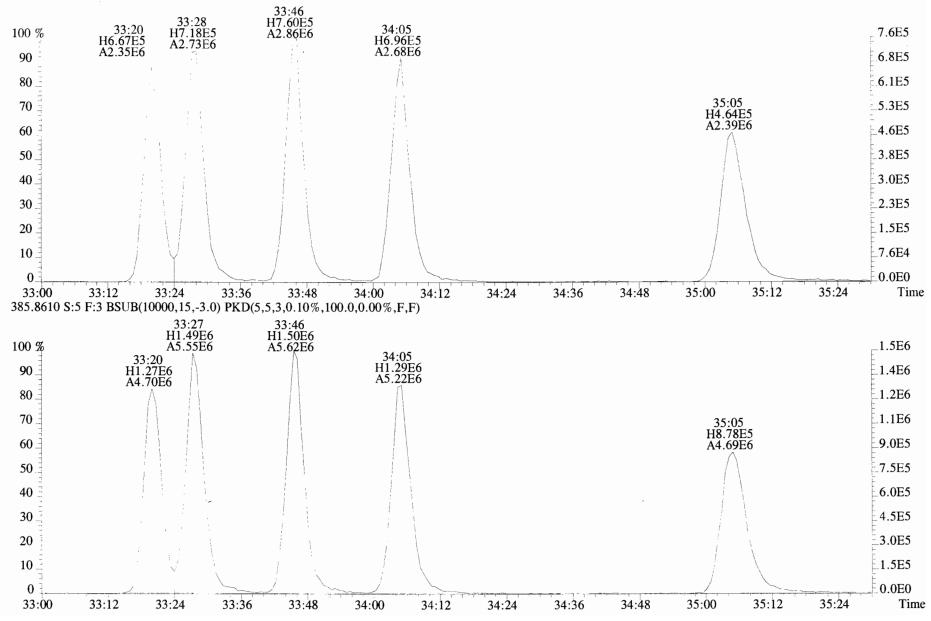


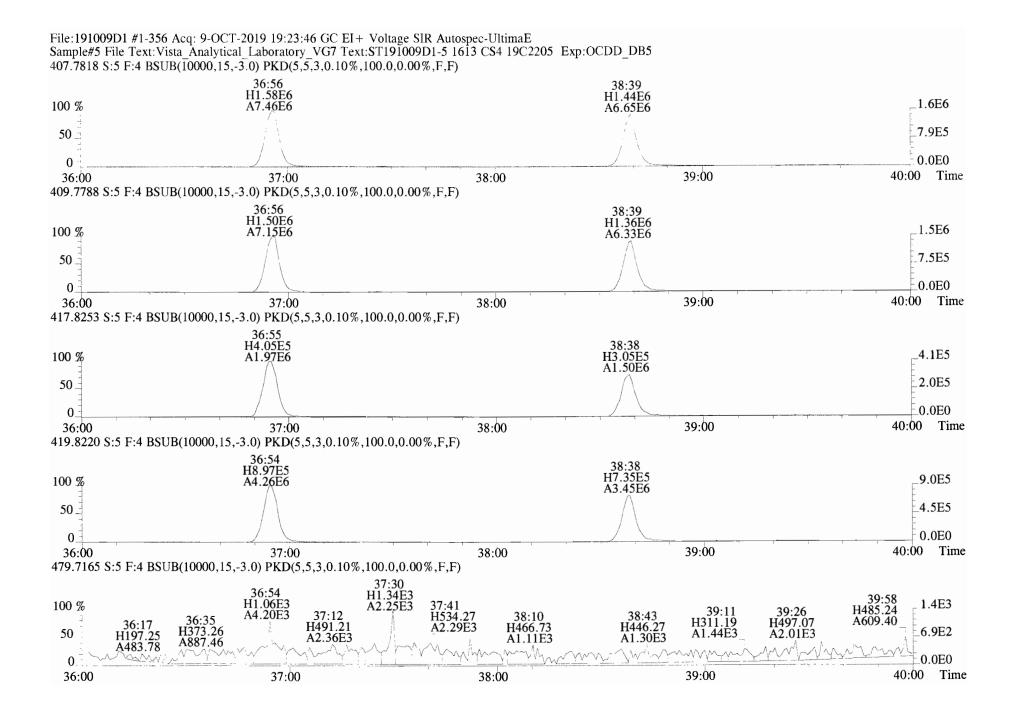




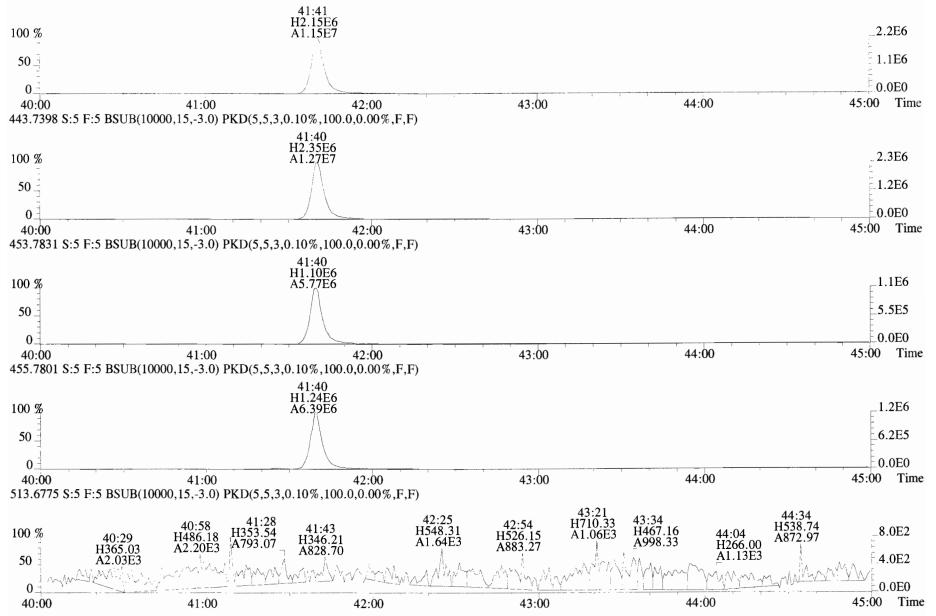
#### File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI + Voltage SIR Autospec-UltimaE Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5 373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

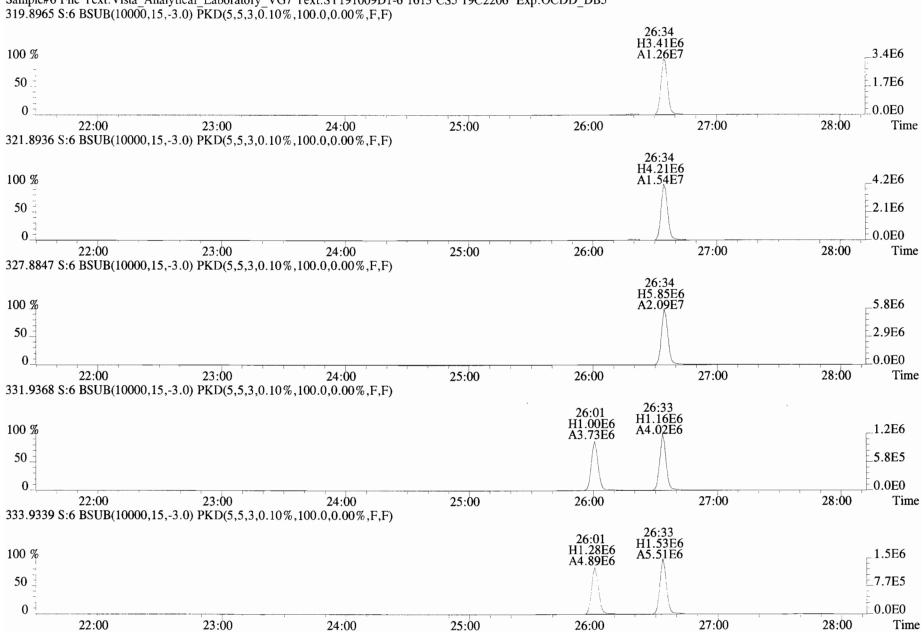
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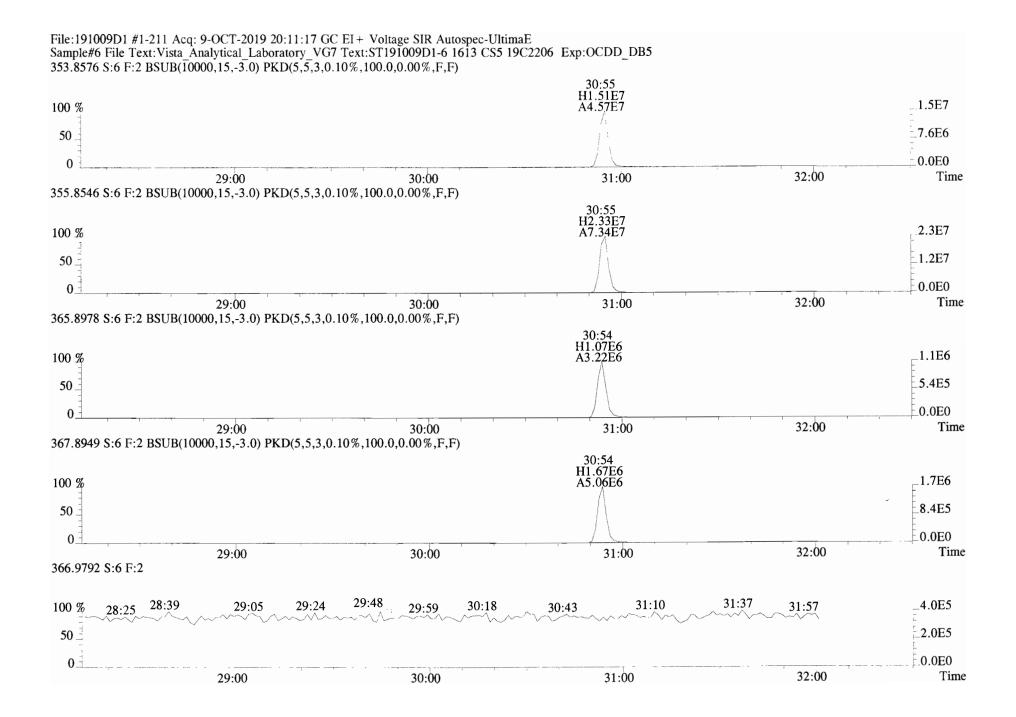


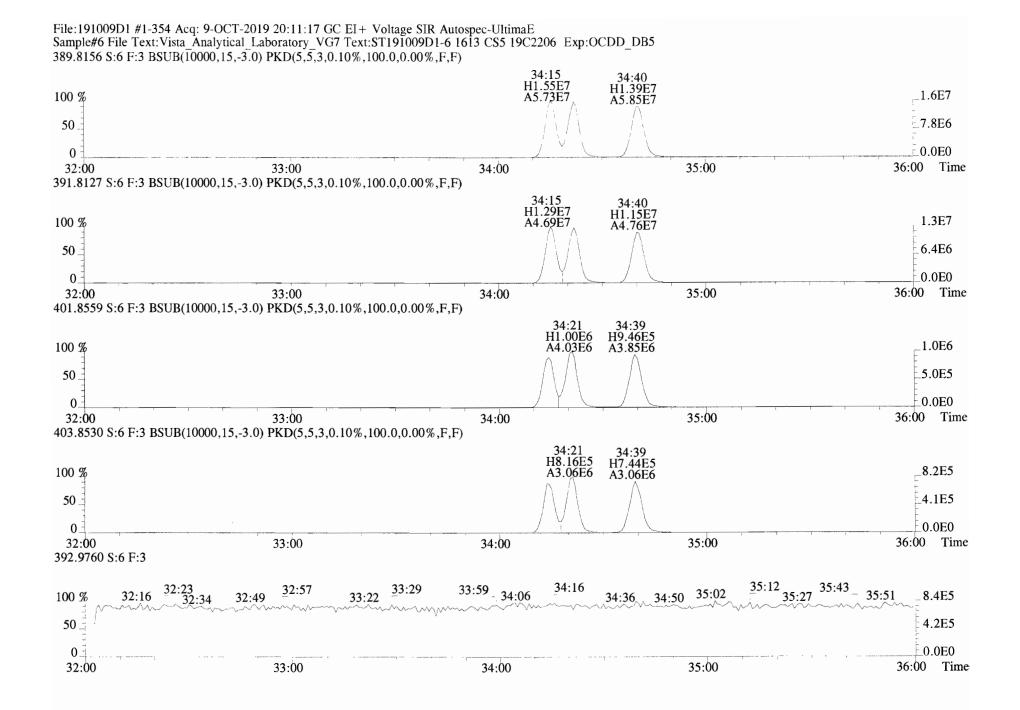
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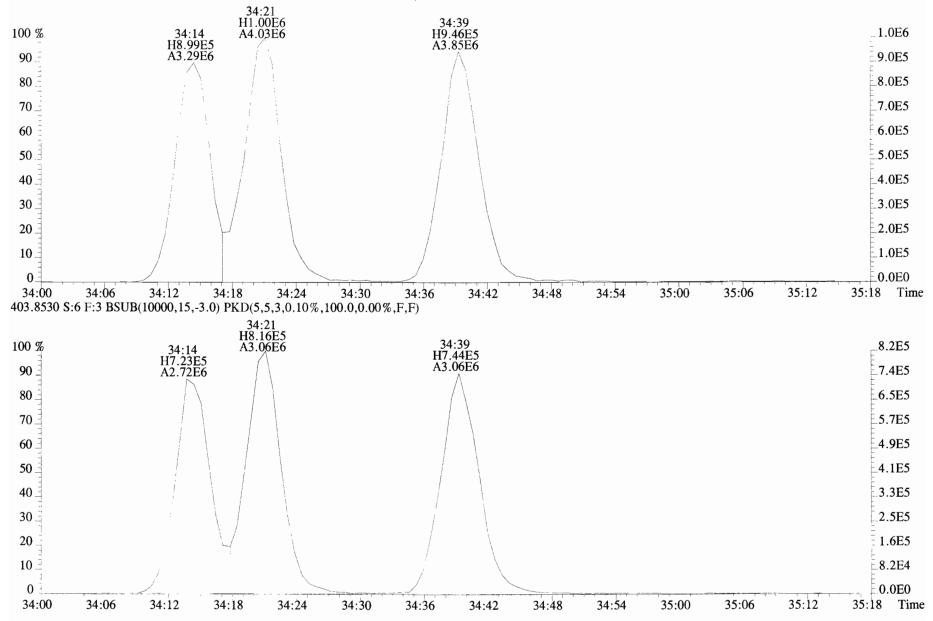


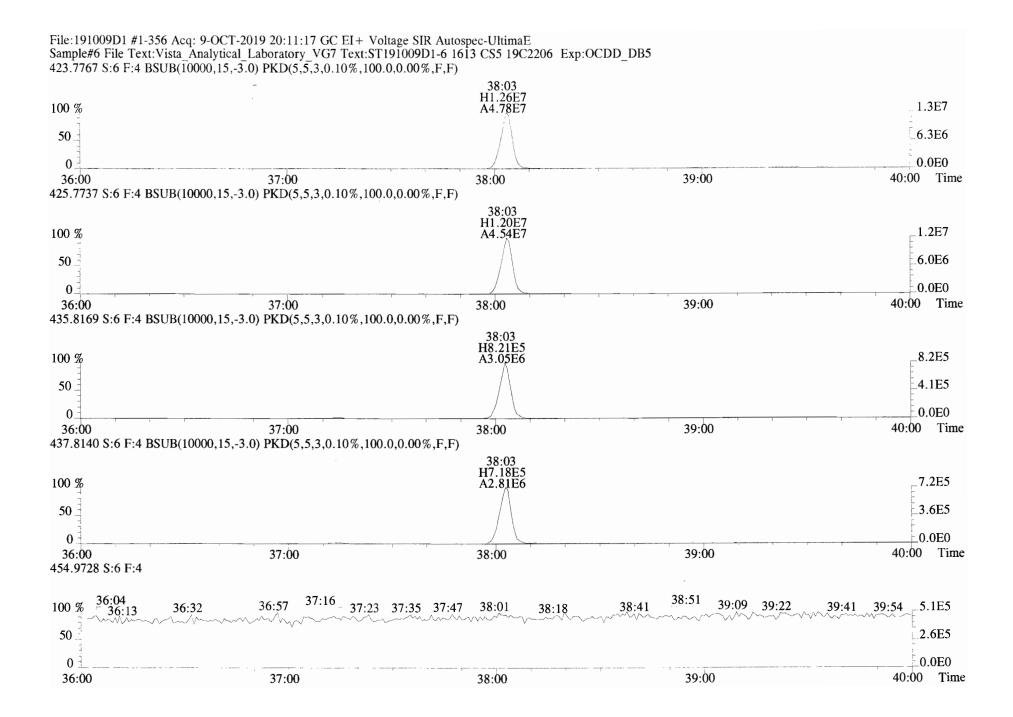
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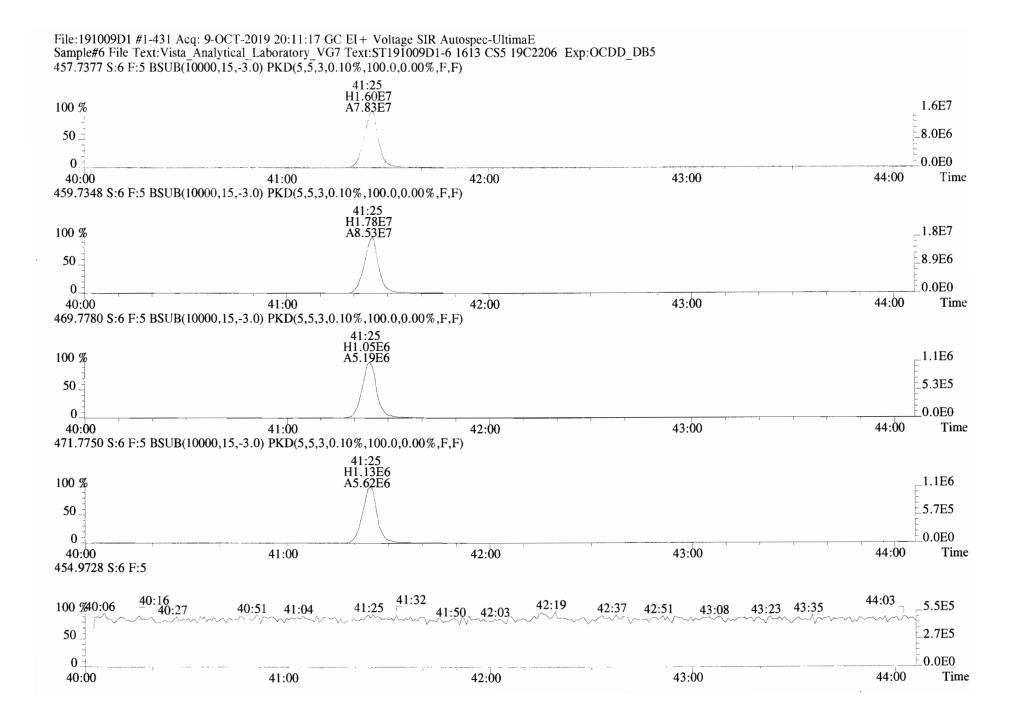


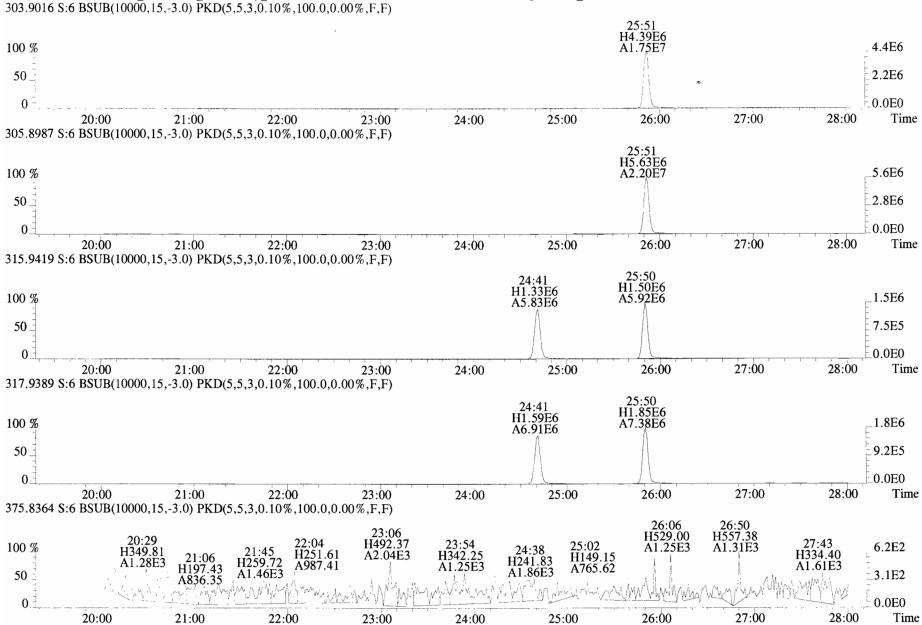


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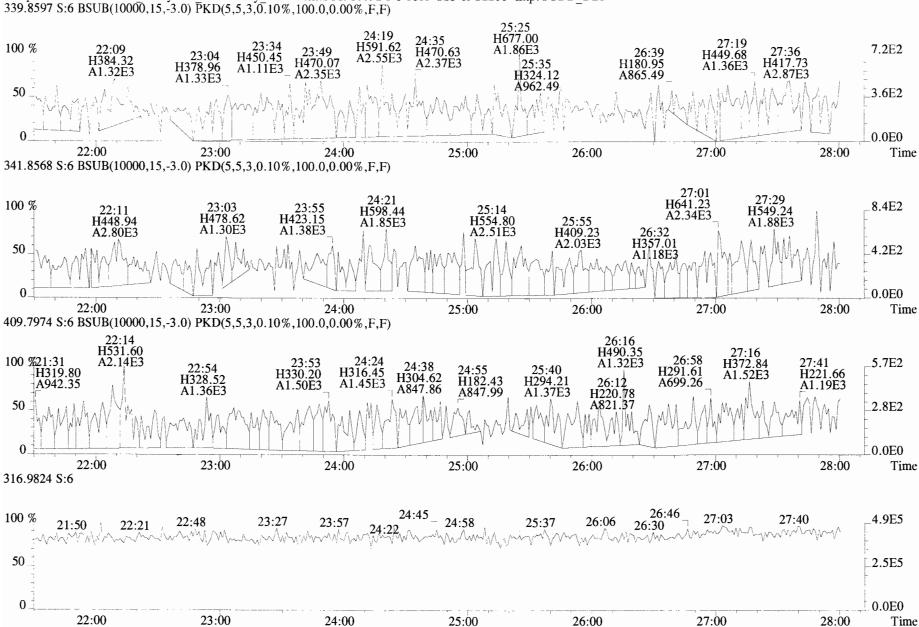




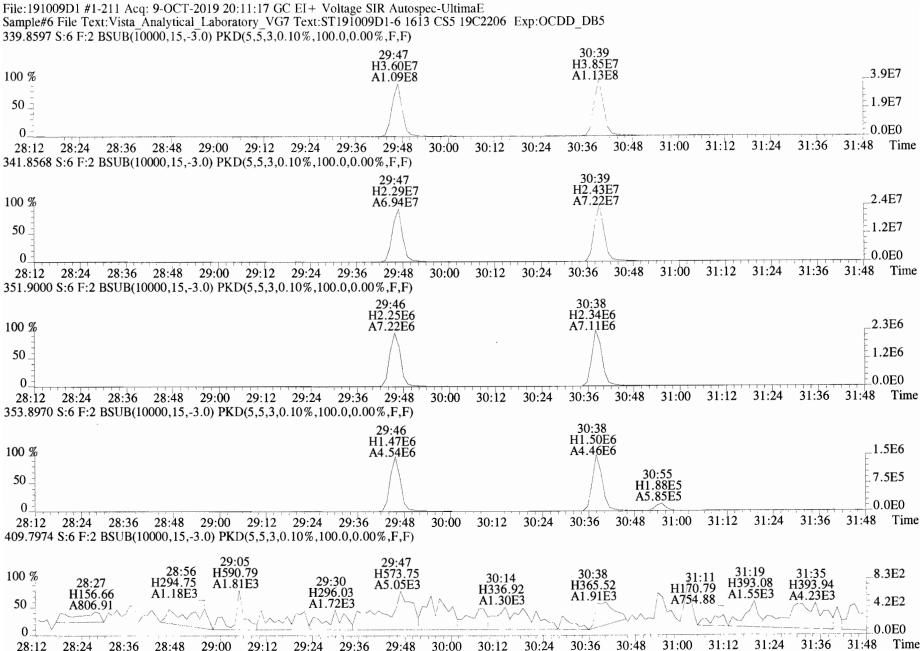


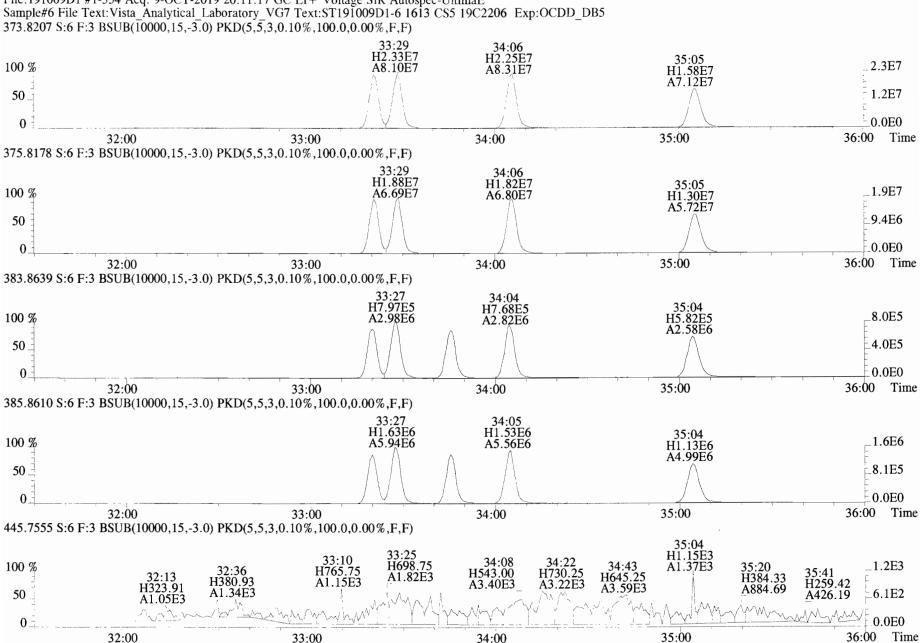


#### File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5 303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



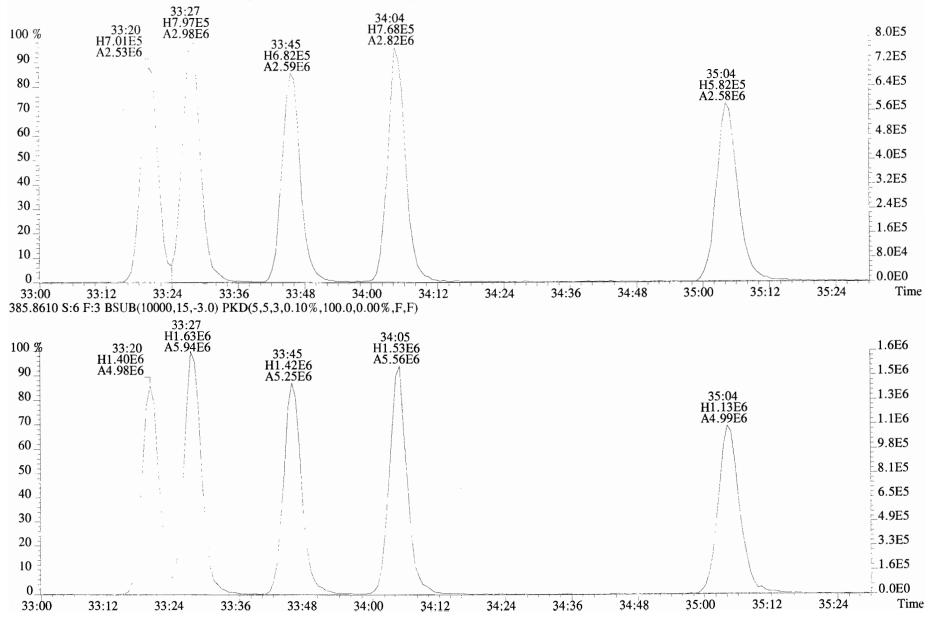
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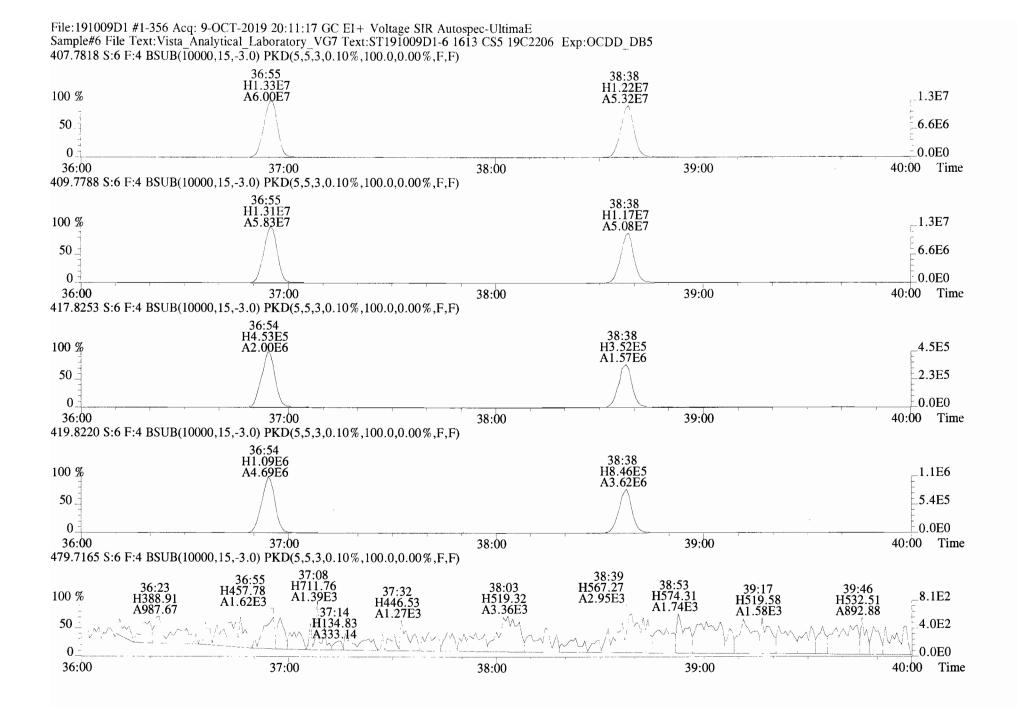


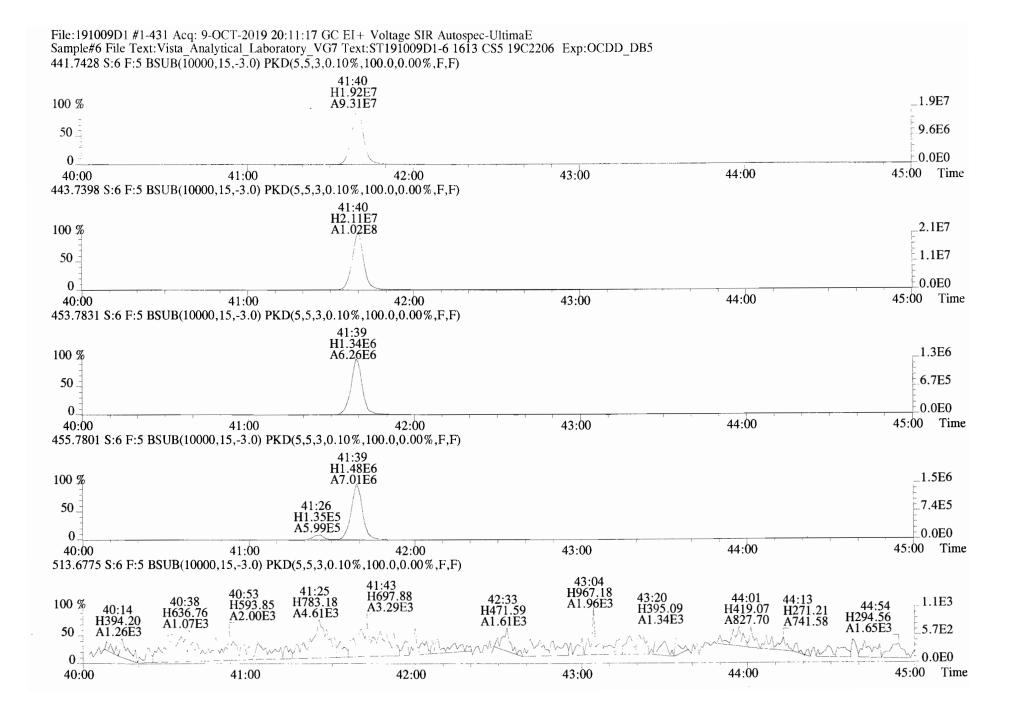


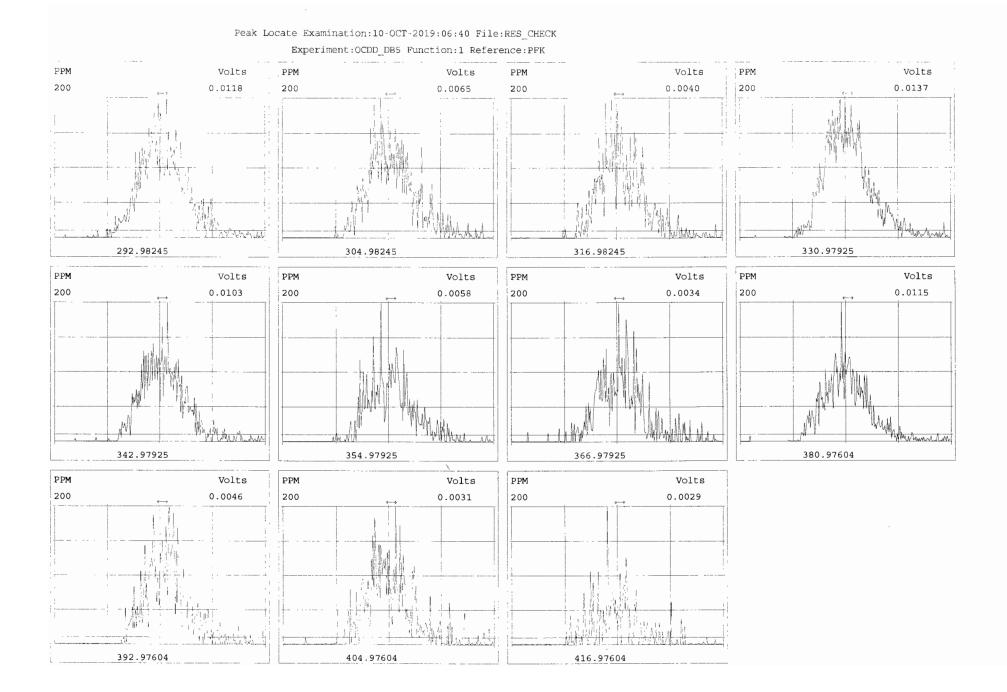
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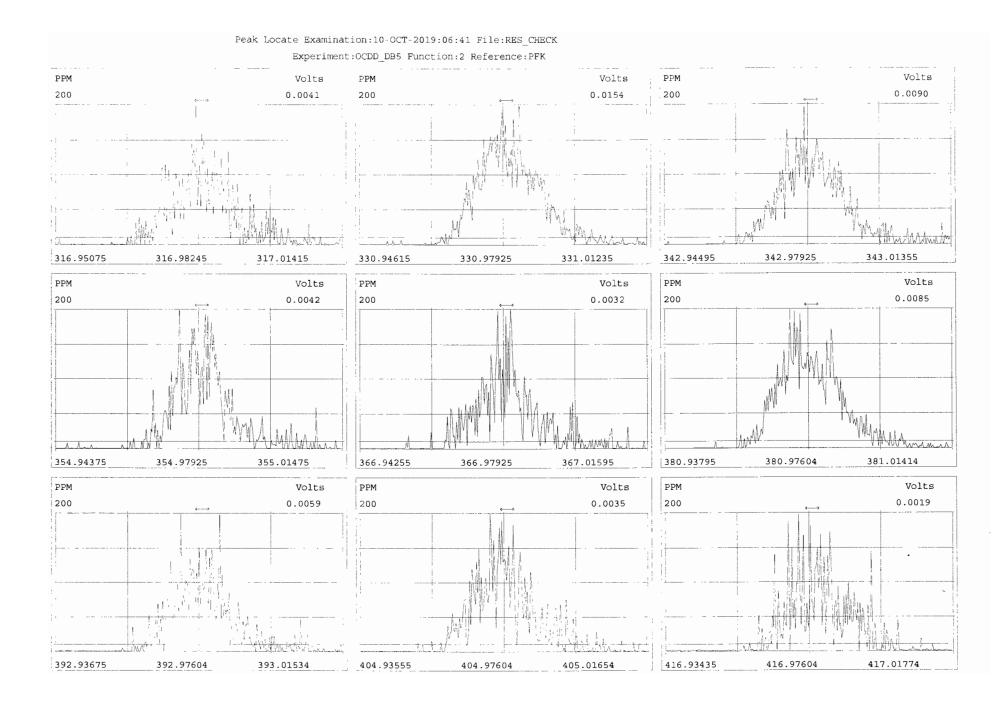
#### File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5 383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

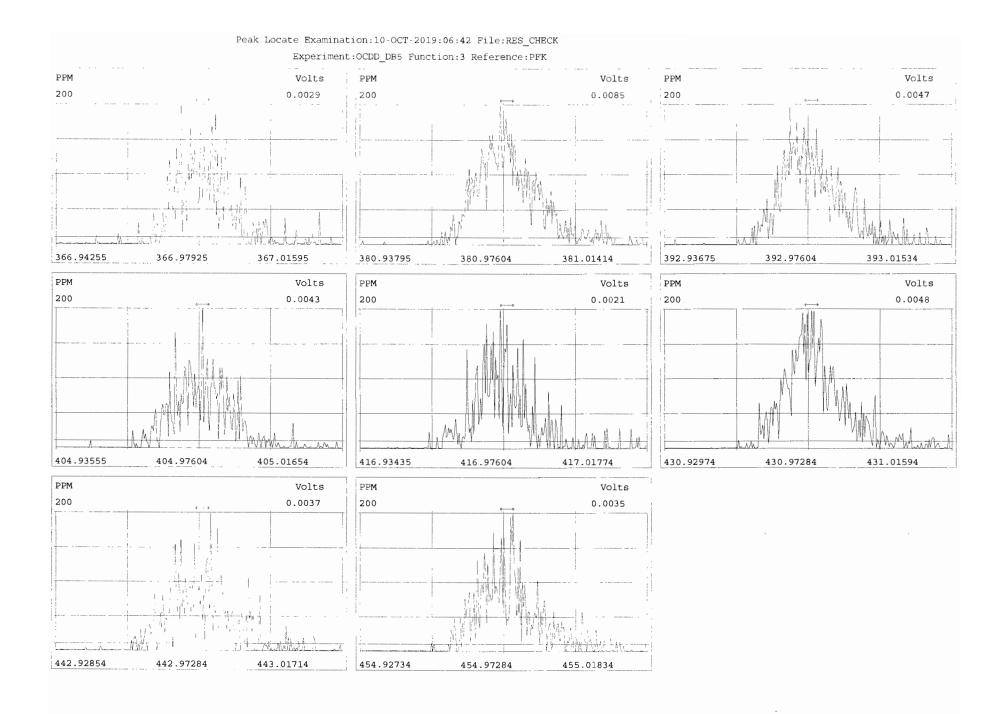


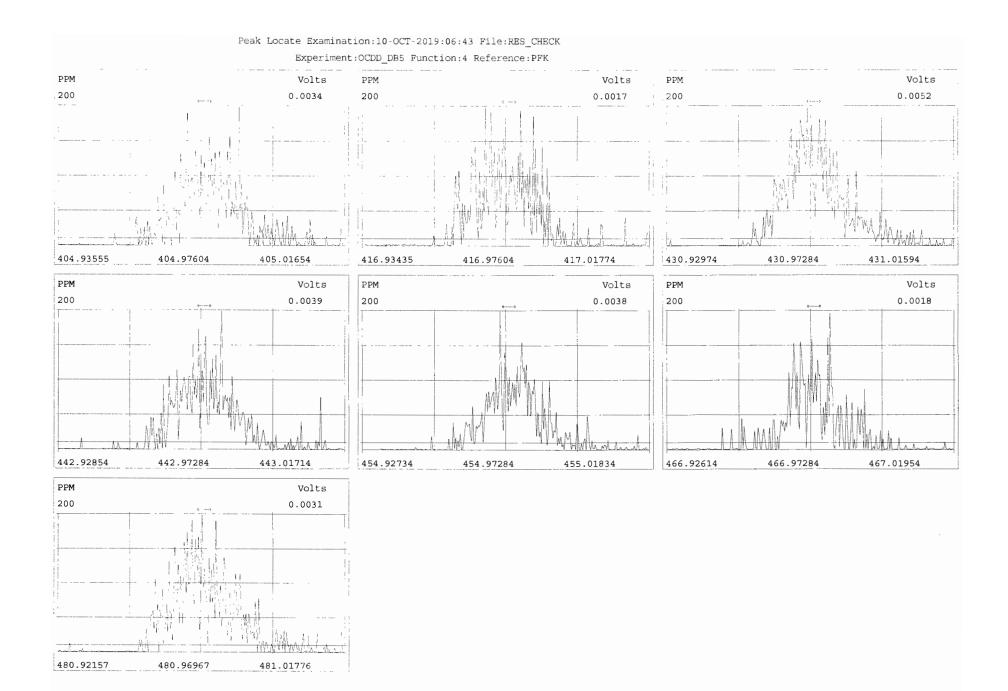


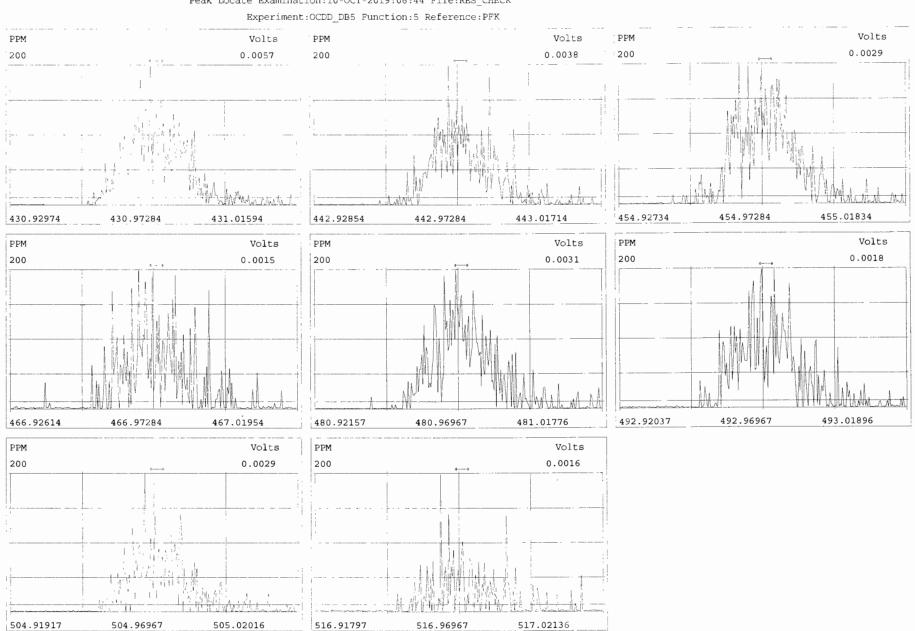












Peak Locate Examination:10-OCT-2019:06:44 File:RES CHECK

 $\mathbf{\tilde{z}}$ 

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

CCAL ID: SS191009D1-1 Lab Name: Vista Analytical Laboratory Episode No.: Contract No.: SAS No.: Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.83	0.65-0.89	У	10.2	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	У	51.3	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05-1.43	У	48.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	У	52.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.17	1.05-1.43	У	50.4	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	У	51.9	43.0 - 58.0
OCDD	M+2/M+4	0.92	0.76-1.02	У	105	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	У	10.3	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	У	50.2	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	У	56.7	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	У	51.1	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	У	51.5	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	-	51.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	-	50.9	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF		1.05	0.88-1.20	-	53.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF		1.05	0.88-1.20	У	50.2	43.0 - 58.0
OCDF	M+2/M+4	0.92	0.76-1.02	У	102	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: <u>78</u> Date: <u>10/10/19</u>

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

LABELED 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	0.72	0.65-0.89	У	100	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	У	101	62.0 - 160.0
13C-1,2,3,4,7,8-HxCD	•	1.23	1.05-1.43	У	95.9	85.0 - 117.0
13C-1,2,3,6,7,8-HxCD 13C-1,2,3,7,8,9-HxCD		1.25 1.26	1.05-1.43 1.05-1.43	У У	95.6 94.3	85.0 - 118.0 85.0 - 118.0
13C-1,2,3,4,6,7,8-Hp	CDD M+2/M+4	1.06	0.88-1.20	У	91.7	72.0 - 138.0
13C-OCDD	M/M+2	0.92	0.76-1.02	У	190	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.78	0.65-0.89	У	97.2	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	У	97.4	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	<b>M</b> +2/ <b>M</b> +4	1.59	1.32-1.78	У	96.6	77.0 - 130.0
13C-1,2,3,4,7,8-HxCD	PF M/M+2	0.51	0.43-0.59	У	102	76.0 - 131.0
13C-1,2,3,6,7,8~HxCD	F M/M+2	0.51	0.43-0.59	У	101	70.0 - 143.0
13C-2,3,4,6,7,8-HxCD	₽F <b>M/M</b> +2	0.51	0.43-0.59	У	97.1	73.0 - 137.0
13C-1,2,3,7,8,9-HxCD	0F M/M+2	0.51	0.43-0.59	У	99.0	74.0 - 135.0
13С-1,2,3,4,6,7,8-Нр	CDF M+2/M+4	0.43	0.37-0.51	У	96.6	78.0 - 129.0
13С-1,2,3,4,7,8,9-Нр	CDF M+2/M+4	0.44	0.37-0.51	У	102	77.0 - 129.0
13C-OCDF	M+2/M+4	0.88	0.76-1.02	У	197	96.0 - 415.0
CLEANUP STANDARD (3 37Cl-2,3,7,8-TCDD	)				9.08	7.9 ~ 12.7
5,CI 2,5,,,0-ICDD					9.00	1.3 - 12.1

(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: 10/10/19

FORM 6A PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

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

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.000	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	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002

#### LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.189	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.994	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.145	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.179	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.989-1.052

Analyst: 1)B Date: 10(10/19

FORM 6B PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

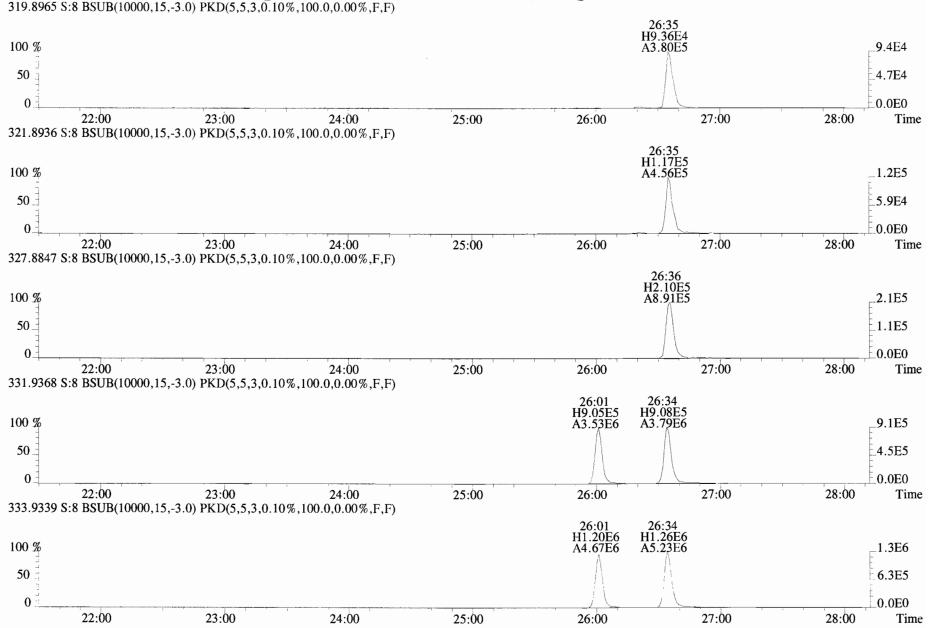
	RETENTION TIME		RRT
NATIVE ANALYTES	REFERENCE	RRT	QC LIMITS (1)
		1 000	0.999-1.001
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	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	1.001	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
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

#### LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.987	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	1.010	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.040	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	1.018	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	1.127	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

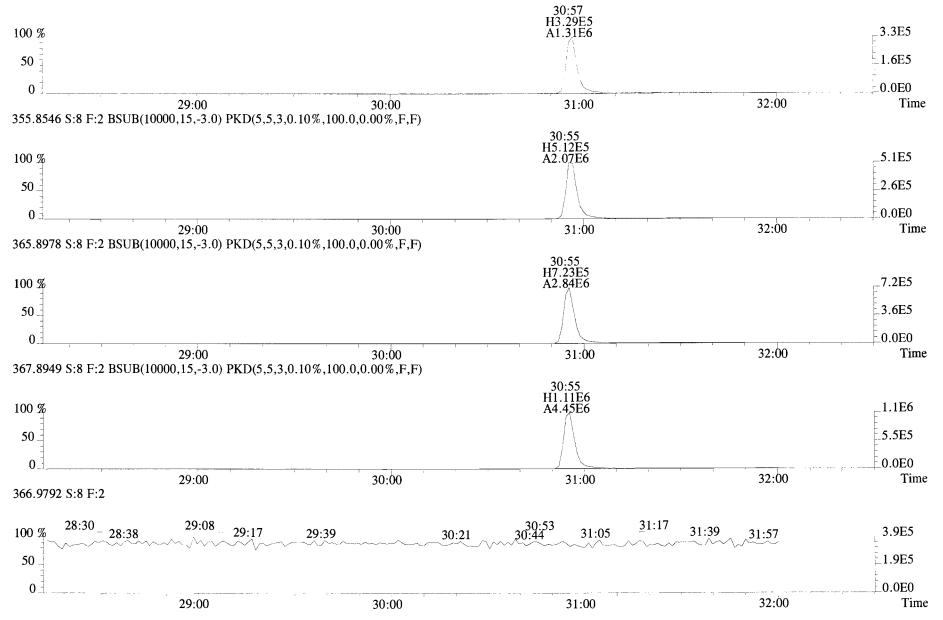
Analyst: <u>)B</u> Date: <u>10/10/19</u>

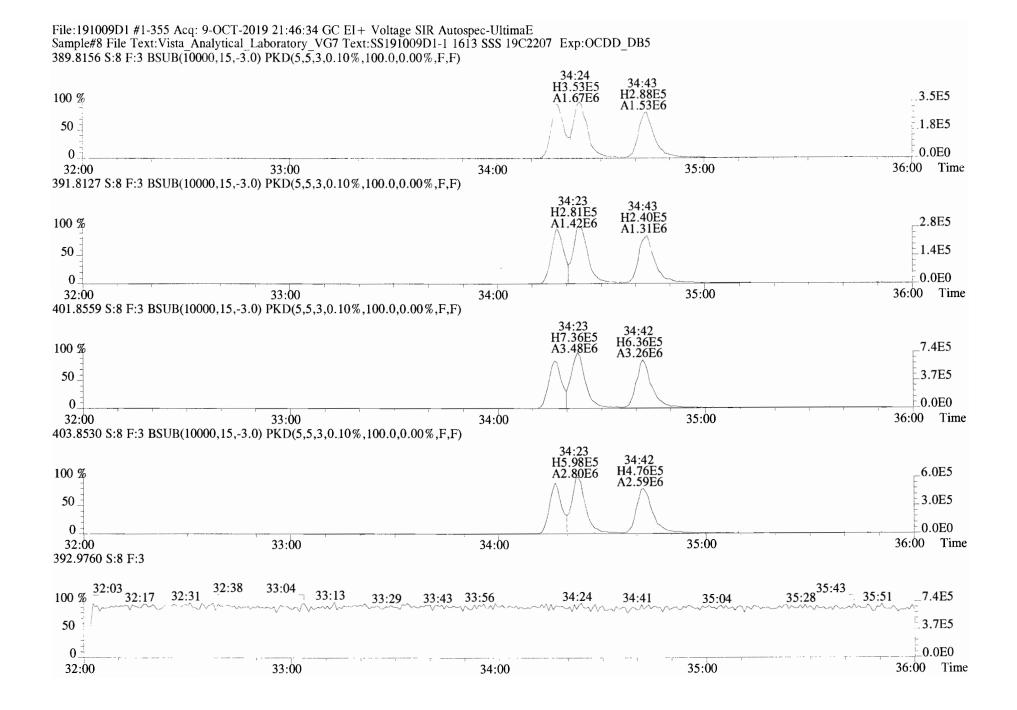
lient ID: 1613 SSS 19C2207								ConCal: ST191009D1-4					Page 1 of		
Lab ID: SS191009D1-1	GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000								EndCAL: NA						
Name	Resp	RA	RRF	RT	Conc	Qual	noise Fac	DL	Name		Conc	EMPC	Qual	noise	I
2,3,7,8-TCDD	8.36e+05	0.83 y	0.91	26:36	10.234		* 2.5	*	Total Te	tra-Dioxins	10.4	11.4		*	
1,2,3,7,8-PeCDD	3.38e+06	0.63 y	0.90	30:57	51.323		* 2.5	*	Total Pe	nta-Dioxins	51.4	51.7		*	
1,2,3,4,7,8-HxCDD	2.55e+06	1.31 y	1.10	34:18	48.909		* 2.5	*	Total He	xa-Dioxins	153	153		*	
1,2,3,6,7,8-HxCDD	3.09e+06	1.18 y	0.94	34:24	52.378		* 2.5	*	Total He	pta-Dioxins	53.5	54.4		*	
1,2,3,7,8,9-HxCDD	2.83e+06	1.17 y	0.96	34:44	50.434		* 2.5	*	Total Te	tra-Furans	10.7	11.4		*	
1,2,3,4,6,7,8-HpCDD	2.34e+06	1.02 y	0.98	38:07	51.915		* 2.5	*	Total Pe	nta-Furans	110.38	111.73		*	
OCDD	4.27e+06	0.92 y	0.96	41:30	105.37		* 2.5	*	Total He	xa-Furans	205	207		*	
									Total He	pta-Furans	104	106		*	
2,3,7,8-TCDF	1.24e+06	0.78 y	0.95	25:53	10.342		* 2.5	*							
1,2,3,7,8-PeCDF	5.03e+06	1.54 y	0.96	29:48	50.200		* 2.5	*							
2,3,4,7,8-PeCDF	5.90e+06	1.60 y	1.01	30:42	56.719		* 2.5	*							
1,2,3,4,7,8-HxCDF	3.94e+06	1.22 y	1.18	33:23	51.086		* 2.5	*							
1,2,3,6,7,8-HxCDF	4.44e+06	1.23 y	1.07	33:31	51.491		* 2.5	*							
2,3,4,6,7,8-HxCDF	4.08e+06	1.20 y	1.11	34:08	51.474		* 2.5	*							
1,2,3,7,8,9-HxCDF	3.40e+06	1.24 y	1.06	35:10	50.903		* 2.5	*							
1,2,3,4,6,7,8-HpCDF	3.36e+06	1.05 y	1.13	36:58	53.010		* 2.5	*							
1,2,3,4,7,8,9-HpCDF	2.94e+06	1.05 y	1.28	38:42	50.216		* 2.5	*							
OCDF	5.04e+06	0.92 y	0.95	41:45	102.23		* 2.5	*							
									Rec	Qual					
13C-2,3,7,8-TCDD	9.02e+06	0.72 y	1.10	26:35	100.49				100						
13C-1,2,3,7,8-PeCDD	7.29e+06	0.64 y	0.88	30:56	100.87				101						
13C-1,2,3,4,7,8-HxCDD	4.73e+06	1.23 y	0.64	34:16	95.948				95.9						
13C-1,2,3,6,7,8-HxCDD	6.28e+06	1.25 y	0.86	34:24	95.558				95.6						
13C-1,2,3,7,8,9-HxCDD	5.85e+06	1.26 y	0.81	34:43	94.306				94.3						
13C-1,2,3,4,6,7,8-HpCDD	4.61e+06	1.06 y	0.65	38:06	91.680				91.7						
13C-OCDD	8.45e+06	0.92 y	0.58	41:29	189.68				94.8						
13C-2,3,7,8-TCDF	1.26e+07	0.78 y	1.03	25:52	97.199				97.2						
13C-1,2,3,7,8-PeCDF	1.04e+07	1.62 y	0.85	29:48	97.425				97.4						
13C-2,3,4,7,8-PeCDF	1.03e+07	1.59 y	0.85	30:41	96.649				96.6						
13C-1,2,3,4,7,8-HxCDF	6.55e+06	0.51 y	0.83	33:22	102.43				102						
13C-1,2,3,6,7,8-HxCDF	8.06e+06	0.51 y	1.03	33:30	101.42				101						
13C-2,3,4,6,7,8-HxCDF	7.11e+06	0.51 y	0.95	34:08	97.073				97.1						
13C-1,2,3,7,8,9-HxCDF	6.30e+06	0.51 y	0.83	35:09	98.999				99.0						
13C-1,2,3,4,6,7,8-HpCDF	5.62e+06	0.43 y	0.76	36:57	96.588				96.6						
13C-1,2,3,4,7,8,9-HpCDF	4.58e+06	0.44 y	0.58	38:42	102.46				102						
13C-OCDF	1.04e+07	0.88 Y	0.69	41:44	196.65				98.3						
p 37Cl-2,3,7,8-TCDD	8.91e+05		1.20	26:36	9.0817				90.8	Integ	rations	Rev	iewed		
										by	26	by		~~	
RT 13C-1,2,3,4-TCDD	8.20e+06	0.76 y	1.00	26:01	100.00					Analyst:	1)1 <u>3</u> 10/10/19	Ana	Lyst:_	C'	
13C-1,2,3,4-TCDF		0.82 y	1.00	24:42	100.00										
RT 13C-1,2,3,4,6,9-HxCDF	7.68e+06	0.50 y	1.00	33:48	100.00						p. lalia				



### File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5 319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

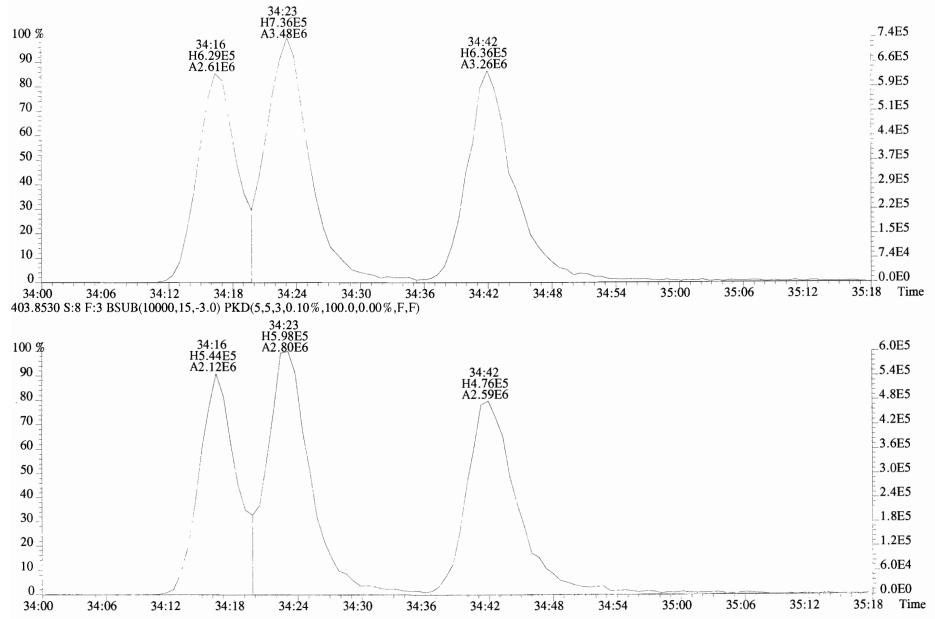
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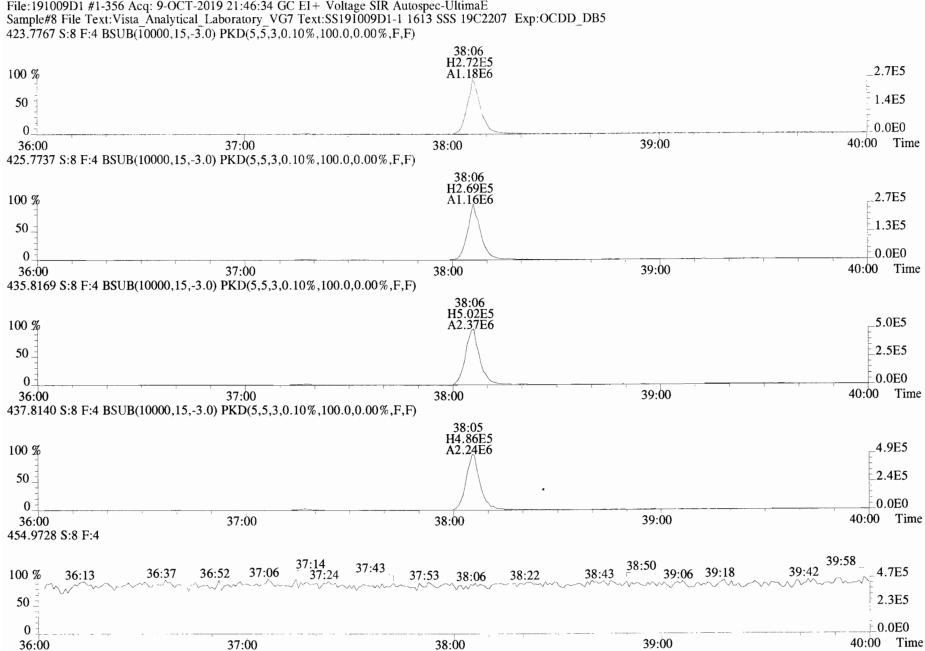




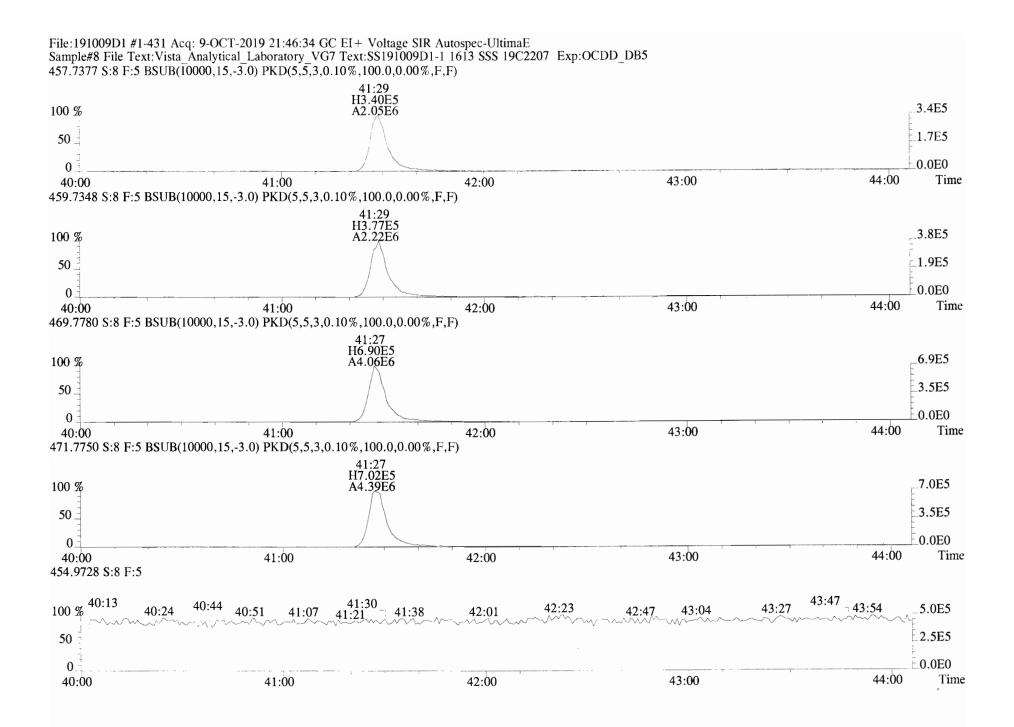
# Work Order 1903646

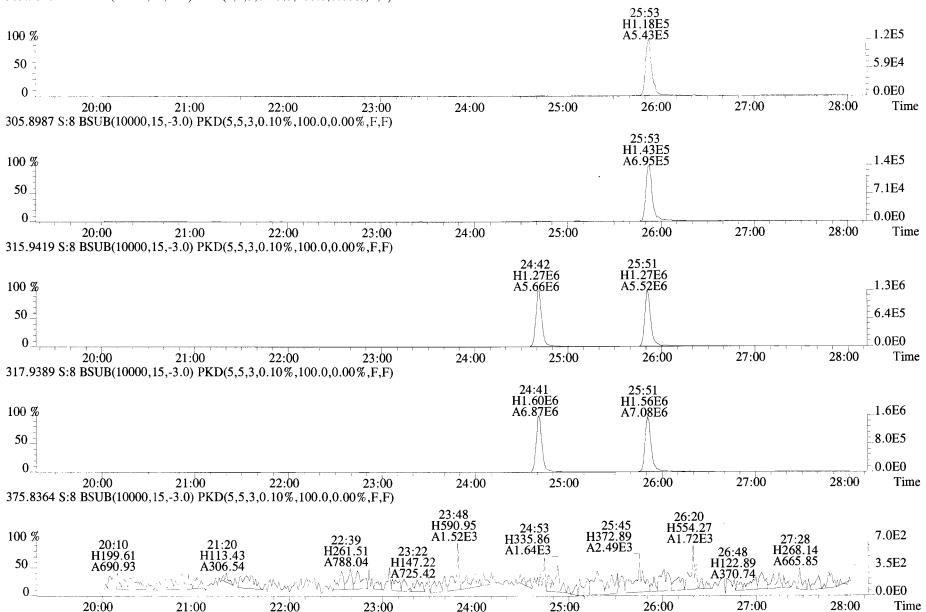
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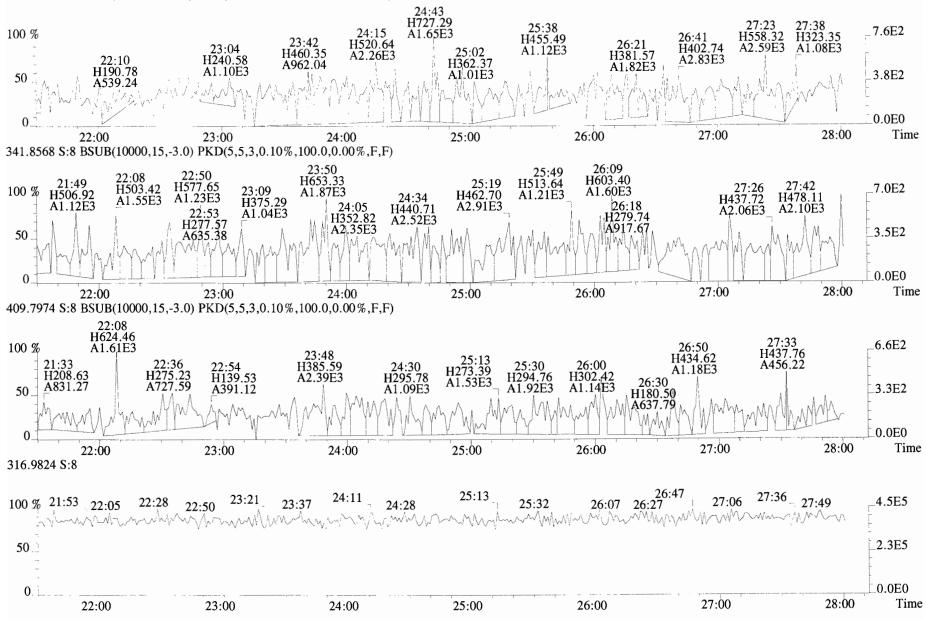
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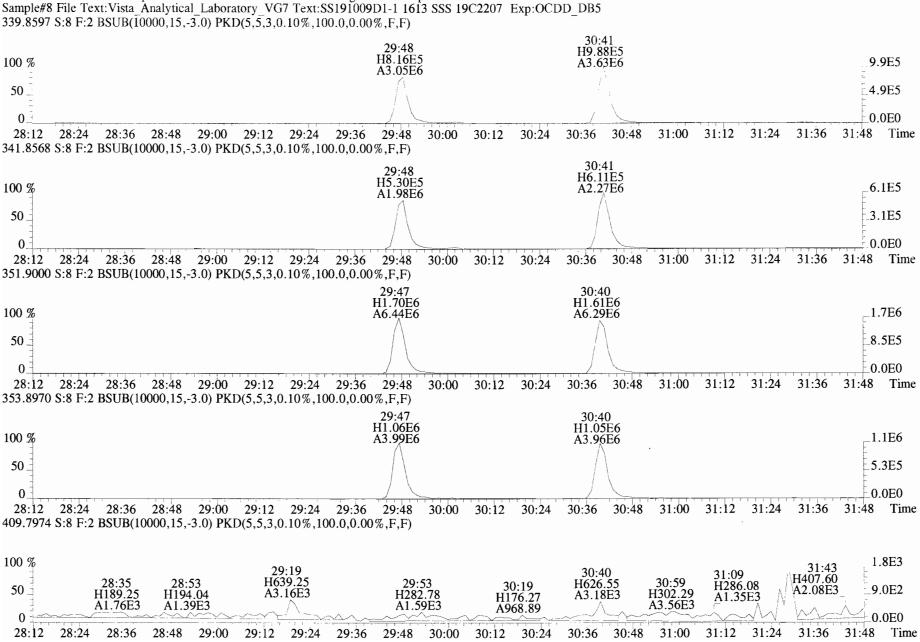




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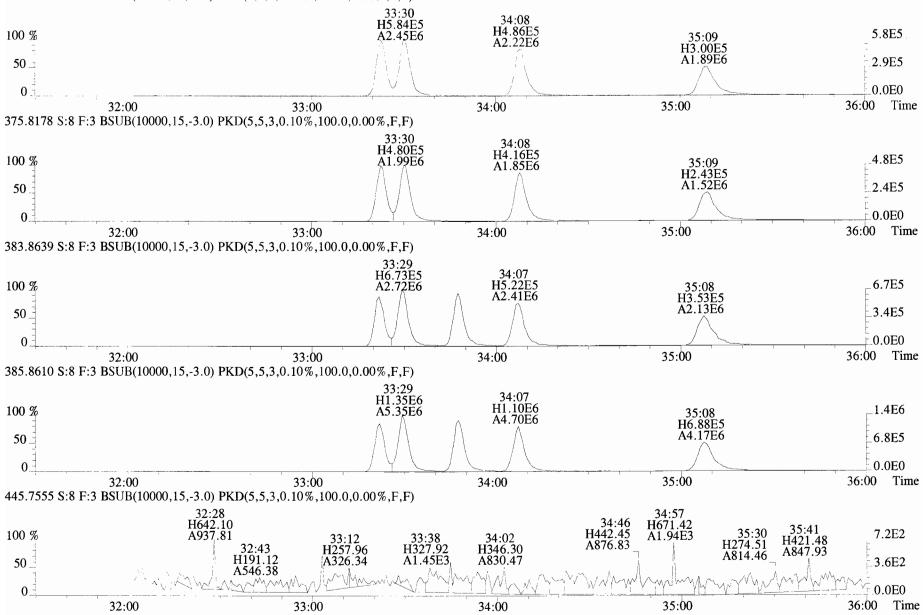
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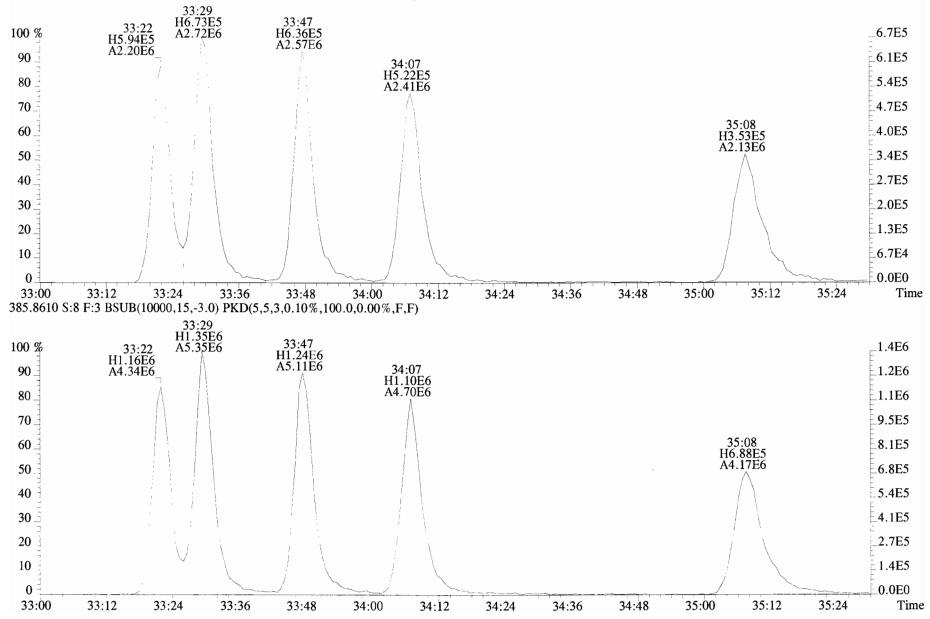


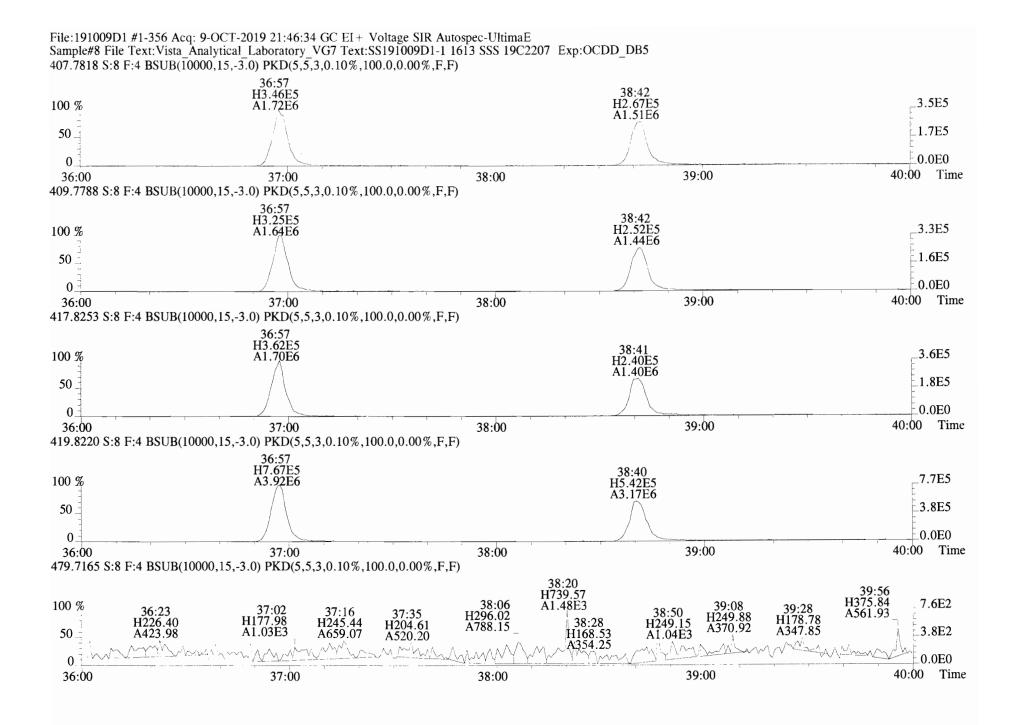
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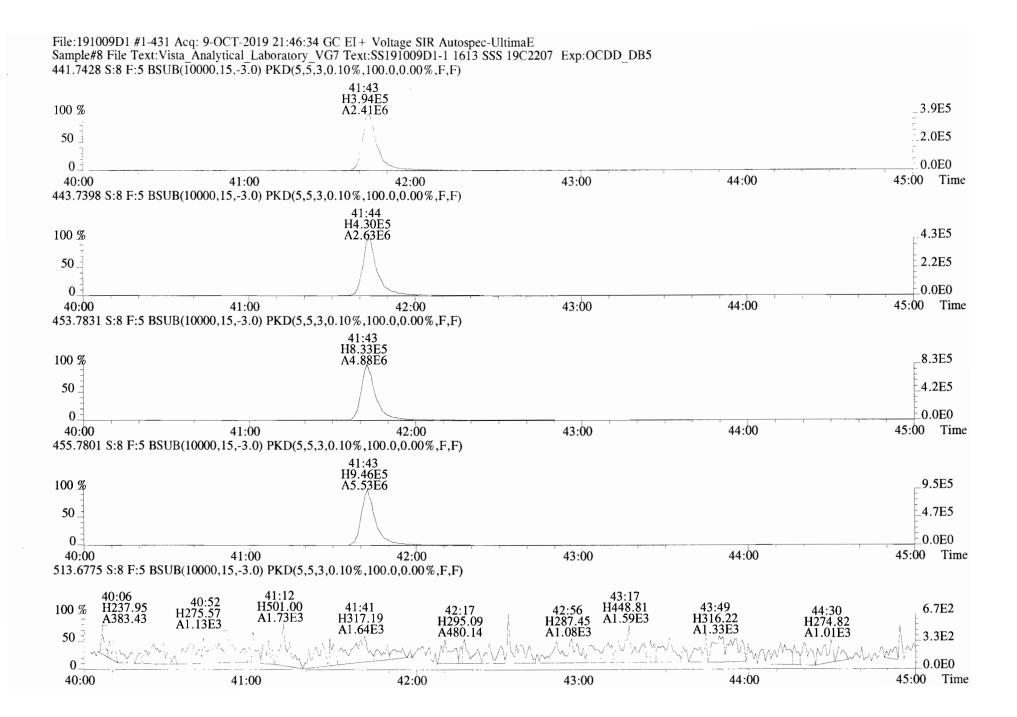


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## Work Order 1903646



# Work Order 1903646