

LDW NPDES Inspection Sampling Support Project

S 96th Street and Hamm Creek Sediment Trap and Creek Sampling Data Report

Prepared for



Toxics Cleanup Program
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List of Acronyms

2LAET	Second Lowest Apparent Effects Threshold
AET	Apparent Effects Threshold
BEHP	bis(2-ethylhexyl)phthalate
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CSL	Cleanup Screening Level
DW	dry weight
Ecology	Washington State Department of Ecology
EMPC	estimated maximum possible concentration
EPA	U.S. Environmental Protection Agency
GPS	global positioning system
HPAH	high molecular weight polycyclic aromatic hydrocarbon
ISGP	Industrial Stormwater General Permit
LAET	Lowest Apparent Effects Threshold
LDW	Lower Duwamish Waterway
MTCA	Model Toxics Control Act
OC	organic carbon
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
QAPP	Quality Assurance Project Plan
LPAH	low molecular weight polycyclic aromatic hydrocarbon
NR	National
NTR	National Toxics Rule
RAL	Remedial Action Level
RM	River Mile
SAP	Sampling and Analysis Plan
SCO	Sediment Cleanup Objective
SMS	Sediment Management Standards
SPU	Seattle Public Utilities
SQS	Sediment Quality Standard
SVOC	semivolatile organic compound
TCDD	tetrachlorodibenzo- <i>p</i> -dioxin
TEF	toxic equivalency factor
TEQ	toxic equivalency
TOC	total organic carbon
TPH	total petroleum hydrocarbons
WQC	water quality criteria
WSDOT	Washington State Department of Transportation

1.0 Introduction

This data report describes activities conducted by Leidos to assist the Washington State Department of Ecology (Ecology) with the collection of water and solids samples at locations in the S 96th Street and south fork Hamm Creek drainage basins, which are located within the River Mile (RM) 3.8-4.2 West (Sea King Industrial Park) and RM 4.2-4.8 West (Restoration Areas) source control areas of the Lower Duwamish Waterway (LDW).

Water and solids samples were collected from four locations within the S 96th Street drainage basin¹, including sediment trap stations 96-ST1, 96-ST2, and 96-ST3 and a daylighted segment of the north fork of Hamm Creek (Figure 1).

Water and solids samples were also collected from two locations within the south fork of Hamm Creek, including sediment trap station HC-ST1 (Figure 1).

The S 96th Street and Hamm Creek Sediment Trap and Creek Sampling investigation included the following activities:

- Collect sediment trap solids and water grab samples from conveyance structures in the S 96th Street drainage basin.
- Collect creek sediment, base flow, and storm event grab samples from the north fork of Hamm Creek.
- Collect sediment trap solids, creek sediments, and storm event grab samples from the south fork of Hamm Creek.
- Analyze the samples for metals, polychlorinated biphenyl (PCB) Aroclors and congeners, dioxins/furans, polycyclic aromatic hydrocarbons (PAHs) and other semivolatile organic compounds (SVOCs) including phthalates and phenols. All solids samples were analyzed for conventionals, and the creek sediment samples were analyzed for petroleum hydrocarbons. Water samples were analyzed for total and dissolved metals.
- Present sample results and compare to relevant screening criteria.

2.0 Field Sampling

In March and April 2015, Leidos assisted Ecology with the collection of water and solids samples from six locations within the S 96th Street and Hamm Creek drainage basins. Sample collection activities are described in this section. Sample locations are shown on Figure 1 and described in Table 1. Field documents are provided in Appendix A.

Sampling was conducted on March 26, 2015. The 24-hour antecedent rainfall was 0.05 inch; there was no precipitation during the sampling event. Flow conditions are believed to represent base flow, and samples are referred to as “base flow samples” in this report. Samples 96-ST1-20150326-S, 96-ST2-20150326-S, 96-ST3-20150326-S, and HC-ST1-20150326-S were

¹ This drainage basin is referred to as the S 96th Street *storm drain basin* in LDW Data Gaps Reports, Source Control Action Plans, and Source Control Status Reports. For the purposes of the current data report, it is referred to as the S 96th Street *drainage basin* to reflect that both stormwater infrastructure (i.e., storm drains) and Hamm Creek convey water within this basin.

collected from in-line sediment traps installed by Seattle Public Utilities (SPU). A representative from SPU was present during sediment trap sampling to identify locations and offer guidance for bottle collection and replacement. Each sampling location has sediment traps equipped with 1-liter Teflon sampling bottles that collect solids during storm events. Sediment trap 96-ST1 is located in a manhole near the entryway and administration building at Delta Marine Industries Inc. (Delta Marine) (Figure 1). Sediment trap 96-ST2 is located in a manhole on the northwest side of the Delta Marine facility near the corner of S 95th Street and 15th Avenue S (Figure 1). Sediment trap 96-ST3 is located in a siltation vault in Washington State Department of Transportation (WSDOT) right-of-way on the corner of S 96th Street and 4th Avenue S (Figure 1). Sediment trap HC-ST1 is located in the south fork of Hamm Creek under Des Moines Memorial Drive S (Figure 1).

Herrera Environmental Consultants (Herrera) conducted confined space entries at the S 96th Street locations to retrieve the sample bottles. The sample bottles were removed from the sediment traps and capped. Leidos labeled the sample bottles and wrapped them in aluminum foil to prevent exposure to sunlight. Following retrieval, the samples were placed on ice until shipment to Vista Analytical.

Leidos and Herrera collected creek sediment samples from the north and south forks of Hamm Creek at locations selected by Ecology. Both locations were downstream of culverts. Creek sediment sample HC-NF-10-20150326-S was collected from the north fork of Hamm Creek at S Cambridge Street and 10th Avenue S (location HC-NF-10). Creek sediment sample HC-SF-20150326-S was collected from the south fork of Hamm Creek adjacent to West Marginal Place S (location HC-SF) and downstream from the HC-ST1 sediment trap. The samples were collected with a stainless steel spoon and homogenized in a stainless steel bowl. The sample material was transferred to pre-labeled sample jars and placed on ice until shipment to the laboratories.

Storm drain water grab sample 96-ST2-20150326-W was collected at the 96-ST2 location and creek water grab sample HC-NF-10-20150326-W was collected from the north fork of Hamm Creek in the same area as the creek sediment sample. Field measurements of water quality data were collected by Herrera during sample collection (Table 2). Pre-labeled sample bottles were submerged in the water with the opening directed upstream. Bottles containing preservatives were filled using a decontaminated stainless steel pitcher. Sample bottles were placed on ice until shipment to the laboratories.

Between March 26 and April 13, 2015, Leidos monitored precipitation and weather forecasts to identify a suitable storm event for sample collection. On April 13, Leidos and Herrera collected creek storm flow grab samples from the north and south forks of Hamm Creek, samples HC-NF-20150413-W and HC-SF-20150313-W, during a storm event (0.6 inches of precipitation over 10 hours; no precipitation for over 48 hours prior to the storm event). Samples were collected at approximately the mid-point of the storm event. The north fork sample was collected in the same location as the March 26 base flow sample. The south fork sample was collected from the same location as the March 26 creek sediment sample.

Stream flow during the April 13 sampling event was visibly greater than during the March 26 sampling event, however no flow measurements were collected. Pre-labeled sample bottles were submerged in the storm flow with the openings directed upstream. Bottles containing

preservatives were filled using a decontaminated stainless steel pitcher. Sample bottles were placed on ice until shipment to the laboratories.

The sample locations are presented in Figure 1. Sample information and analyses conducted for each sample are presented in the following table.

Sample Type	Sample ID	Sample Analysis
Sediment Trap Solids	96-ST1-20150326-S	Metals, PCB Aroclors, PCB congeners, dioxins/furans, SVOCs, and conventionals
	96-ST2-20150326-S	
	96-ST3-20150326-S	
	HC-ST1-20150326-S	
Creek Sediment	HC-SF-20150326-S	Metals, PCB Aroclors, PCB congeners, dioxins/furans, SVOCs, TPH-Dx, and conventionals
	HC-NF-10-20150326-S	
Storm Drain Water	96-ST2-20150326-W	Metals, PCB Aroclors, PCB congeners, dioxins/furans, SVOCs, and conventionals
Creek Base Flow	HC-NF-10-20150326-W	Metals, PCB Aroclors, PCB congeners, dioxins/furans, SVOCs, hexavalent chromium, and conventionals
Creek Storm Flow	HC-SF-20150413-W	Metals, PCB Aroclors, PCB congeners, dioxins/furans, SVOCs, and conventionals
	HC-NF-10-20150413-W	Metals, PCB Aroclors, PCB congeners, dioxins/furans, SVOCs, hexavalent chromium, and conventionals

PCBs – Polychlorinated biphenyls

SVOCs – Semivolatile organic compounds

Field documentation of sampling activities is presented in Appendix A. Coordinates for location HC-SF were recorded using a Global Positioning System (GPS) unit. Due to an equipment failure in the field, coordinates for the location HC-NF-10 were determined using Google Earth.

The following deviations from the Sampling and Analysis Plan and Quality Assurance Project Plan (SAP/QAPP) occurred during the sampling activities:

- Sediment trap samples were to be transferred from the collection bottles to a stainless steel bowl for homogenization. Due to sampling volume concerns during sampling activities, sediment trap bottles were sent directly to Vista Analytical for extraction and analysis of PCB congeners and dioxins/furans. Vista Analytical then sent the remaining sample material to TestAmerica for PCB Aroclors, metals, SVOCs, and conventionals analysis. Sediment trap bottles were cleaned by Vista Analytical and returned to SPU for future sampling.
- One creek sediment sample was to be collected from the north fork of Hamm Creek. Two creek sediment samples were collected during field activities, one from the north fork of Hamm Creek and one from the south fork of Hamm Creek.
- Up to five water grab samples were to be collected from the storm drain system and the north fork of Hamm Creek. One water grab sample was collected at the 96-ST2 sediment trap station and one north fork Hamm Creek water grab sample was collected during the

March 26 sampling event. Two creek storm flow samples were collected from the north and south forks of Hamm Creek during the April 13 storm sampling event.

3.0 Chemical Analysis

Water samples collected at locations 96-ST2, HC-NF-10, and HC-SF were submitted to Vista Analytical for the following analyses:

- Dioxins and Furans (EPA Method 1613 B)
- PCB Congeners (EPA Method 1668C)

The samples were submitted to Test America for the following analyses:

- PCB Aroclors (EPA Method 8082)
- SVOCs (EPA Method 8270D)
- Metals (EPA Method 200.8) and Mercury (EPA Method 7471A)
- Conventional: Anions (EPA 300.0), Alkalinity (SM 2320), pH (SM 4500H+B), Total Suspended Solids (SM 2540D), TOC and Dissolved Organic Carbon (SM5310B), and Conductivity (EPA 120.1)
- Water samples at HC-NF-10 were analyzed for Hexavalent Chromium (EPA 3500 Cr D).

Solids samples collected at locations 96-ST1, 96-ST2, 96-ST3, HC-NF-10, HC-ST1 and HC-SF were submitted to Vista Analytical for the following analyses:

- PCB Congeners (EPA Method 1668C)
- Dioxins/Furans (EPA Method 1613 B)

The samples were submitted to Test America for the following analyses:

- PCB Aroclors (EPA Method 8082)
- SVOCs (EPA Method 8270D)
- Metals (EPA Method 6020) and Mercury (EPA Method 7471A)
- Conventional: Total Solids (SM 2540B), Grain Size (Plumb, 1981), and Total Organic Carbon (TOC) (SW 9060)
- Samples HC-NF-10 and HC-SF were analyzed for total petroleum hydrocarbon (TPH)-Diesel and Motor Oil (NWTPH-Dx)

Analytical results are summarized in Tables 3 through 10. Laboratory data reports are presented in Appendix B.

3.1 Results Comparison to Screening Criteria

Water sample results were compared to Washington State water quality criteria for toxic substances (WA WQC)² and National Toxics Rule human health water quality criteria for consumption of organisms only (NTR WQC)³ and the National Recommended water quality

² WAC 173-201A-240

³ http://www.ecy.wa.gov/programs/wq/swqs/national_toxics_rule.pdf

criteria for consumption of organisms only (NR WQC). Metals results were also compared to Industrial Stormwater General Permit (ISGP) benchmarks for quarterly stormwater monitoring. The ISGP benchmarks for metals apply to various types of industries including: chemical and allied products; metal fabricators and salvage yards; hazardous waste treatment, storage, and disposal; air transportation; and timber products. The ISGP benchmarks are used for comparison purposes only. Criteria used for water sample comparisons are listed in Table 3.

Solids sample results were compared to SMS criteria⁴ for all chemicals with SMS criteria and to Remedial Action Level (RAL) concentrations for carcinogenic PAHs [cPAHs] and dioxins/furans, which do not have SMS numeric criteria (EPA 2014). Where SMS criteria are expressed on an organic carbon (OC)-normalized basis, solids results are also presented in OC-normalized units (milligrams per kilogram [mg/kg] OC). Samples with TOC concentrations <0.5% or >4.0% were not OC-normalized; instead, their dry weight (DW) results were compared to the DW Apparent Effects Thresholds (AET) criteria (Michelsen and Bragdon-Cook 1993). The Lowest Apparent Effects Threshold (LAET) and Second Lowest Apparent Effects Threshold (2LAET) criteria are analogous to SMS Sediment Cleanup Objective (SCO) and Cleanup Screening Level (CSL) for the protection of benthic life, respectively. Criteria used for solids sample comparisons are listed in Tables 7, 8, and 9.

The LDW Source Control Work Group compares analytical results from solids samples collected from storm drain systems in the LDW basin to the SCO/CSL and LAET/2LAET values. Petroleum hydrocarbon results are compared to the Model Toxics Control Act (MTCA) Method A cleanup standards. Although these regulatory standards are not applicable to storm drain solids, the LDW Source Control Work Group uses these values as a benchmark to describe storm drain solids quality (SPU 2010).

Carcinogenic PAH toxic equivalent (cPAH TEQ) values were calculated using toxicity equivalency factors (TEFs) provided in the MTCA (WAC 173-340-708(e), Table 708-2) based on an individual compound's relative toxicity to benzo(a)pyrene. Final cPAH concentrations are equivalent to the sum of the concentrations of the seven individual cPAH compounds multiplied by their associated TEF. Nondetected values were assessed as half of the sample-specific quantitation limit. Individual cPAH compounds include benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthenes, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

Total high molecular weight PAH (HPAH) values for each sample were calculated by summing the detected concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene.

Total low molecular weight PAH (LPAH) values for each sample were calculated by summing the detected concentrations of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene. If an individual PAH constituent was not detected, it was not included in the total HPAH or LPAH value. If an individual PAH constituent was qualified with a "J" flag by the laboratory, the value was included in the total HPAH or LPAH value.

⁴ WAC 173-204

The toxic equivalent (TEQ) concentrations of the dioxin/furan congeners were normalized to the toxicity of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) using TEFs updated by the World Health Organization in 2005 (Van den Berg et al. 2006) and incorporated into MTCA (Ecology 2007, WAC 173-340). The TEQ is equivalent to the sum of the concentrations of individual congeners multiplied by their TEF (toxicity relative to 2,3,7,8-TCDD). Nondetected values were assessed as one-half the sample-specific detection limit for nondetected congeners.

PCBs are a group of synthetic organic chemicals that include 209 individual chlorinated biphenyl compounds (known as congeners). PCB congeners and the toxicity and risks of the PCB mixture are assessed using TEFs for 12 individual PCB congeners. Individual PCB congeners are multiplied by the corresponding TEF (Van den Berg et al. 2006) and summed to obtain the total PCB congener TEQ. Total PCB Aroclor results are the sum of the detected individual Aroclors for a given sample.

Vista Analytical Laboratory (Vista) reported estimated maximum possible concentration (EMPC) values for one or more of the target analytes in all samples. An EMPC value was reported when a peak was detected, but did not meet identification criteria as required by the analytical method; therefore, the result cannot be considered as positive identification for the analyte. During data validation, EcoChem qualified the EMPC values as not detected (U) to indicate that the result is not detected at an elevated reporting limit. EcoChem qualified the EMPC values for total homolog groups as estimated (J) at the reported values. In this report, total PCB congeners and total PCB homologs include only congeners that met identification criteria by EPA Method 1668C. Individual PCB congeners that the laboratory qualified with a “U” flag were not included in the total PCB and total homolog calculations. Individual PCB congeners that the laboratory qualified with a “J” qualifier, with the exception of EMPC values, were included in the total PCB and total homolog calculations.

3.1.1 Water Sample Results

Samples representing base flow and storm flow conditions were collected, as described above. Sample results and identification of chemicals that exceeded screening criteria are presented in Table 3. The exceedance factors for those chemicals with concentrations that exceeded the screening criteria in each sample are presented in Table 4. The full results for PCB congener analyses are presented in Table 5. Conventional results are presented in Table 6.

S 96th Street Drainage Basin

Sampling Location 96-ST2

One water sample was collected from a stormwater structure at location 96-ST2. Total and dissolved metals, PCB congeners, dioxins/furans, bis(2-ethylhexyl)phthalate (BEHP), and benzoic acid were detected in the sample (Table 3). Concentrations of total arsenic, total PCB congeners, BEHP, and the dioxin/furan TEQ exceeded the NTR WQC and the NR WQC (Table 4).

Sampling Location HC-NF-10

Samples representing base flow and storm flow conditions were collected from the same location in the north fork of Hamm Creek (HC-NF-10). Metals, PCB congeners, dioxins/furans, and benzoic acid were detected in both the base flow and storm flow samples (Table 3). Metals,

total PCB congeners, and benzoic acid concentrations were higher in the storm flow sample than those concentrations reported in the base flow sample, with the exceptions of total and dissolved arsenic and nickel concentrations, which were lower in the storm flow sample than in the base flow sample (Table 3).

In the storm flow sample, total and dissolved copper and zinc exceeded both the marine chronic and acute WA WQC, and dissolved mercury exceeded the marine chronic WA WQC. The total zinc concentration also exceeded the ISGP benchmark. Concentrations of these metals in the base flow sample did not exceed criteria. Total PCB congeners exceeded the NTR WQC and NR WQC in both the base flow and storm flow samples (Table 4).

BEHP was detected in the base flow sample, but was not detected in the storm flow sample; the detected concentration exceeded the NR WQC (Table 4). Fluoranthene and pyrene were detected in the storm flow sample, but were not detected in the base flow sample (Table 3).

Base Flow Sample Comparison

Location HC-NF-10 is upstream from location 96-ST2. Chemical concentrations observed in the base flow samples collected at these locations are generally similar, though concentrations of total and dissolved chromium and BEHP were one order of magnitude greater in the sample from 96-ST2. Higher concentrations of dioxins/furans were reported in sample HC-NF-10 than in sample 96-ST2.

South Fork Hamm Creek Drainage Basin

Sampling Location HC-SF

One storm flow sample was collected from the south fork of Hamm Creek (HC-SF). Metals, PCB congeners, dioxins/furans, acenaphthylene, fluoranthene, pyrene, di-n-butylphthalate, phenols, benzoic acid and benzyl alcohol were detected in the sample (Table 3). Total PCB congeners exceeded the NTR WQC and NR WQC. The total copper concentration exceeded the marine chronic and acute WA WQC (Table 4).

3.1.2 Solids Sample Results

Six solids samples were collected. Sample results and identification of chemicals that exceeded comparison criteria are presented in Table 7. The exceedance factors for those chemical concentrations that exceeded the dry weight screening criteria in each sample are presented in Table 8. OC-normalized concentrations for two samples and comparison to OC-normalized criteria are presented in Table 9. The full results for PCB congener analysis is presented in Table 10.

S 96th Street Drainage Basin

Four solids samples were collected within the S 96th Street drainage basin. Samples were collected from 3 sediment traps (96-ST1 through 96-ST3) and from a daylighted section of the north fork of Hamm Creek (HC-NF-10). Metals, PCB congeners, dioxins/furans, and PAHs were detected in all samples. Phthalates were detected in the sediment trap samples (Table 7).

Higher chemical concentrations were observed in the samples collected from sediment traps 96-ST1 and 96-ST2, which are the furthest downstream locations that were sampled within the

drainage basin. The lowest metals and phthalates concentrations were reported in the sample from sediment trap 96-ST3, which is the most upstream location sampled within the drainage basin. PCB congeners, dioxin/furan, and PAH concentrations were lowest in the creek sediment sample, HC-NF-10 (Table 7).

The creek sediment sample, HC-NF-10, was analyzed for petroleum hydrocarbons. Diesel- and motor-oil range hydrocarbons were detected at concentrations below the MTCA Method A cleanup levels (Table 7).

BEHP and dimethylphthalate concentrations exceeded the LAET/2LAET in sediment trap samples 96-ST1 and 96-ST2. Zinc concentrations in these samples exceeded only the SCO benthic criteria. The dioxin/furan TEQ in all three sediment trap samples exceeded the LDW RAL. No chemical exceedances were observed in the creek sediment sample (Table 8). Results from sediment trap sample 96-ST2 were OC-normalized. BEHP exceeded the SCO and CSL (Table 9).

South Fork Hamm Creek Drainage Basin

One sediment trap sample, HC-ST1, and one creek sediment sample, HC-SF were collected in the Hamm Creek drainage basin. Both locations are in the south fork of Hamm Creek. HC-SF is downstream from HC-ST1.

Metals, PCB congeners, dioxins/furans, and PAHs were detected in both samples. In addition, di-n-octyl phthalate was detected in the creek sediment sample, HC-SF. Chemical concentrations were similar in both samples, though the copper and dioxin/furans concentrations in HC-SF were greater than the concentrations in HC-ST1 (Table 3). No exceedances of the SMS criteria or LDW RALs were observed in the solids samples collected from the south fork Hamm Creek drainage basin (Table 8).

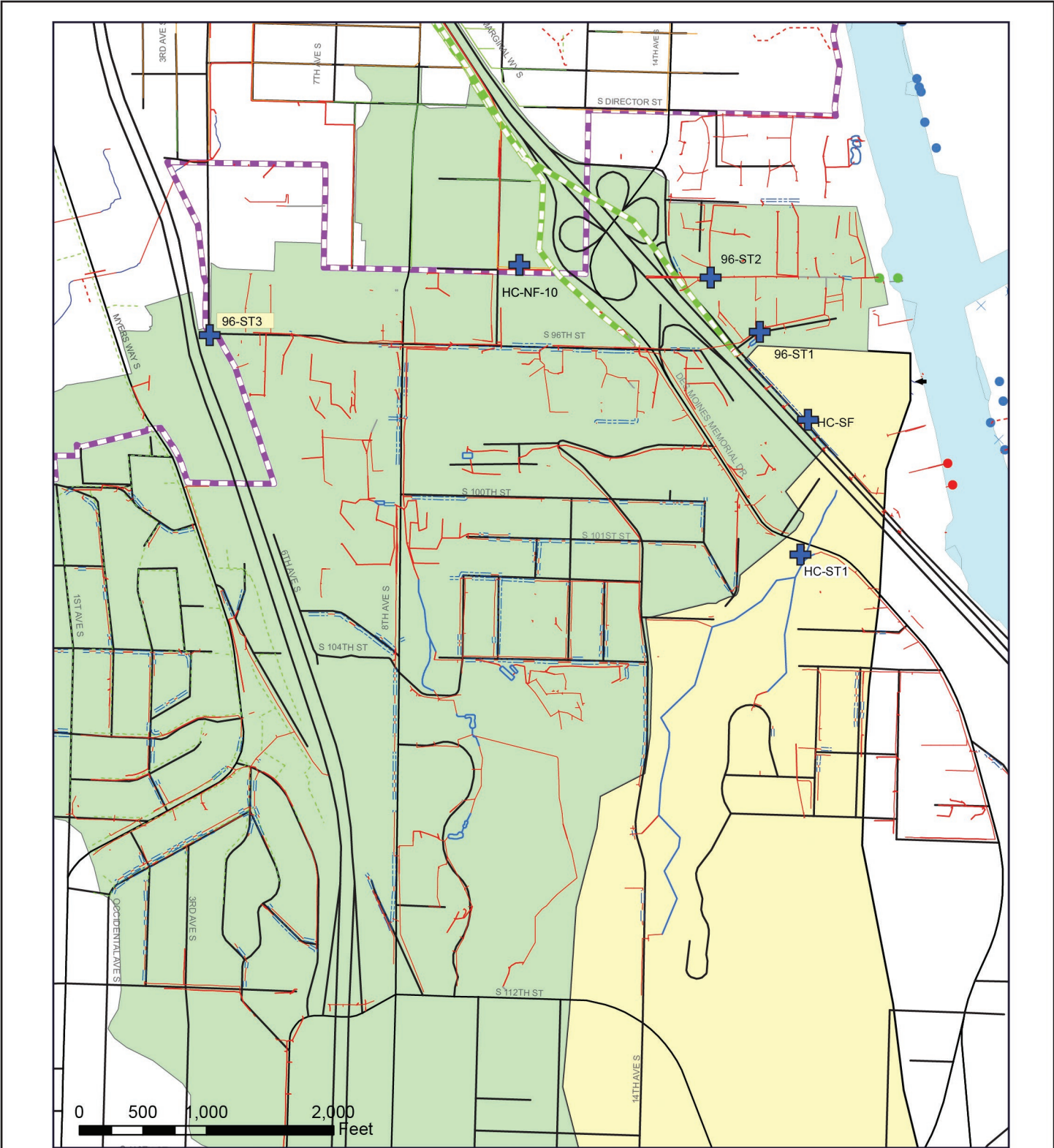
3.2 Data Validation

All chemical results gathered during this investigation were independently validated by EcoChem, Inc. of Seattle, WA. A summary-level, EPA Stage 2A data validation was performed on all chemistry results. Data validation was performed following EPA guidance (EPA 1994, 2008, 2009, 2010). The results of the data validation are summarized below. Additional details, including a list of all qualified results, are presented in Appendix C.

Vista qualified some dioxin/furan and PCB congeners results with EMPC because not all method-required compound identification parameters were met. EcoChem re-qualified the EMPC values as not detected (U) to indicate that the result is not detected at an elevated reporting limit. EcoChem qualified the EMPC values for total homolog groups as estimated (J) at the reported values.

4.0 References

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- Seattle storm drain
- Sanitary sewer
- Combined sewer
- King County mainline
- Non-MS4 storm drain
- Ditch
- City limits
- S 96th St SD basin
- Hamm Creek basin
- ⊕ Sample Locations
- 1 Catch Basin
- 4 Catch Basin Grated Top
- 7 Flow Control Catch Basin



Figure 1. S 96th Street and Hamm Creek Sampling Locations (Modified from City of Seattle 2015)



Tables

**Table 1. Sample Location Information
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Basin	Location	Date	Sediment Trap Sample	Creek Sediment Sample	Base Flow Sample	Storm Flow Sample	State Plane X (North Zone)	State Plane Y (North Zone)	Location Description
S 96th Street	96-ST1	3/26/2015	✓				1270741.32	192246.67	Manhole near the entryway and administration building at Delta Marine Industries Inc.
	96-ST2	3/26/2015	✓		✓		1275063.56	192278.28	Manhole on the northwest side of the Delta Marine facility near the corner of S 95th Street and 15th Avenue S
	96-ST3	3/26/2015	✓				1275030.99	192684.64	Stormwater vault at the Seattle City Light right-of-way on the corner of S 96th Street and 4th Avenue S
	HC-NF-10	3/26/2015		✓	✓		1273047.58	192753.26	North fork of Hamm Creek at east side of S Cambridge Street and 10 Avenue S
4/13/2015					✓				
Hamm Creek	HC-ST1	3/26/2015	✓				1275382.75	190530.64	Located in the south fork of Hamm Creek near Des Moines Memorial Drive S
	HC-SF	3/26/2015		✓			1275544.9	191525.6	Downstream of culvert along south fork of Hamm Creek adjacent to West Marginal Place S
		4/13/2015				✓			

Check mark indicates that the listed type of sample was collected at the specified location.

**Table 2. Water Quality Data - Field Measurements
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID			96-ST2	HC-NF-10	HC-NF-10	HC-SF
Collection Date			3/26/2015	3/26/2015	4/13/2015	4/13/2015
Analyte	ISGP Benchmark	Units	Result	Result	Result	Result
Field Parameters						
Flow	--	Yes/No	Yes	na	Yes	Yes
pH	5.0 to 9.0	std units	7.2	na	8.49	7.6
Conductivity	--	mS/cm	0.32	na	0.12	0.2
Temperature	--	degrees C	11.5	na	10.2	9.8
Total Dissolved Solids	--	mg/L	--	na	--	--
Turbidity	25	NTU	5	na	28.4	17.2
Oil & Grease	No visible sheen	Yes/No	No	na	No	No
Dissolved Oxygen	--	mg/L	10.8	na	13.4	13.4
ORP	--	mV	76.9	na	--	--

Results in **bold** exceed the ISGP benchmark.

**Table 3. Water Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Analyte	Collection Event					Base Flow		Storm Flow	
	Location ID					96-ST2	HC-NF-10	HC-NF-10	HC-SF
	Collection Date					3/26/2015	3/26/2015	4/13/2015	4/13/2015
	ISGP Benchmark	WA WQC		NTR WQC	NR WQC	Result	Result	Result	Result
Chronic		Acute	HHO	HHO					
Total Metals (µg/L)									
Antimony	--	--	--	--	--	0.88	0.82	1.3	0.69
Arsenic	150	36	69	--	--	4.1	3.4	2.0	2.2
Beryllium	--	--	--	--	--	< 0.40 U	< 0.40 U	< 0.40 U	< 0.40 U
Cadmium	2.1	9.4	42	--	--	0.029 J	0.043 J	0.096 J	0.042 J
Chromium	--	--	--	--	--	34	1.2	3.0	3.5
Chromium, hexavalent	--	50	1108	--	--	9.0 J	< 12 U	< 12 U	--
Copper	14	3.7	5.8	--	--	2.7	2.5	13	6.1
Lead	81.6	8.5	221	--	--	0.98	0.81	6.5	2.9
Mercury	1.4	0.025	2.1	--	--	< 0.20 U	< 0.20 U	< 0.20 U	< 0.20 U
Nickel	--	8.3	75	--	--	3.7	3.5	3.3	3.8
Selenium	5	71	291	--	--	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Silver	3.8	--	2.2	--	--	< 0.40 U	< 0.40 U	< 0.40 U	< 0.40 U
Thallium	--	--	--	--	--	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Zinc	117	86	95	--	--	25	20	200	31
Dissolved Metals (µg/L)									
Antimony		--	--	4,300	6,400	0.83	0.80	0.98	0.28 J
Arsenic		36	69	--	--	1.8	2.1	1.1	0.81 J
Beryllium		--	--	--	--	< 0.40 U	< 0.40 U	< 0.40 U	< 0.40 U
Cadmium		9.3	42	--	--	< 0.40 U	< 0.40 U	< 0.40 U	< 0.40 U
Chromium		--	--	--	--	21	0.70	1.0	0.26 J
Copper		3.1	4.8	--	--	1.8 J	1.7 J	4.9	2.2
Lead		8.1	210	--	--	0.19 J	0.13 J	0.18 J	0.059 J
Mercury		0.025	1.8	0.15	--	< 0.20 UJ	< 0.20 UJ	0.11 J	0.044 J
Nickel		8.2	74	4,600	4,600	2.2 J	1.8 J	1.3 J	0.99 J
Selenium		71	290	--	4,200	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Silver		--	1.9	--	--	< 0.40 U	< 0.40 U	< 0.40 U	< 0.40 U
Thallium		--	--	6.3	0.47	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Zinc		81	90	--	26,000	7.8	7.2	110	6.2 J

**Table 3. Water Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Analyte	Collection Event					Base Flow		Storm Flow	
	Location ID					96-ST2	HC-NF-10	HC-NF-10	HC-SF
	Collection Date					3/26/2015	3/26/2015	4/13/2015	4/13/2015
	ISGP Benchmark	WA WQC		NTR WQC	NR WQC	Result	Result	Result	Result
Marine		HHO	HHO						
Chronic				Acute					
PCB Congeners (ug/L) ^a									
Total PCB Congeners	--	0.03	10	1.70E-04	6.40E-05	4.1E-04 J	4.6E-04 J	3.0E-03 J	1.5E-03 J
PCB TEQ, nd SDL*0	--	0.03	10	--	--	7.6E-10 J	3.4E-10 J	7.0E-09 J	2.1E-07 J
PCB TEQ, nd SDL*0.5	--	0.03	10	--	--	7.8E-08 J	9.5E-08 J	2.1E-07 J	2.4E-07 J
PCB TEQ, nd SDL*1	--	0.03	10	--	--	1.6E-07 J	1.9E-07 J	4.1E-07 J	2.7E-07 J
PCB Aroclors (ug/L)									
Aroclor 1016	--	--	--	--	--	< 0.50 U	< 0.50 U	< 0.47 U	< 0.48 U
Aroclor 1221	--	--	--	--	--	< 0.50 U	< 0.50 U	< 0.47 U	< 0.48 U
Aroclor 1232	--	--	--	--	--	< 0.50 U	< 0.50 U	< 0.47 U	< 0.48 U
Aroclor 1242	--	--	--	--	--	< 0.50 U	< 0.50 U	< 0.47 U	< 0.48 U
Aroclor 1248	--	--	--	--	--	< 0.50 U	< 0.50 U	< 0.47 U	< 0.48 U
Aroclor 1254	--	--	--	--	--	< 0.50 U	< 0.50 U	< 0.47 U	< 0.48 U
Aroclor 1260	--	--	--	--	--	< 0.50 U	< 0.50 U	< 0.47 U	< 0.48 U
Total PCB Aroclors	--	0.03	10	1.70E-04	6.40E-05	< 0.50 U	< 0.50 U	< 0.47 U	< 0.48 U
Dioxins and Furans (pg/L) ^a									
2,3,7,8-TCDD	--	--	--	0.014	0.0051	< 0.73 U	< 7.85 U*	< 0.829 U	< 0.714 U
1,2,3,7,8-PeCDD	--	--	--	--	--	< 0.52 U	< 0.756 U	< 1.50 U	< 1.63 U
1,2,3,4,7,8-HxCDD	--	--	--	--	--	< 1.96 U	< 2.12 U	< 4.43 U	< 3.20 U
1,2,3,6,7,8-HxCDD	--	--	--	--	--	< 2.00 U	< 2.11 U	< 3.49 U	< 3.34 U
1,2,3,7,8,9-HxCDD	--	--	--	--	--	< 2.04 U	< 2.19 U	< 4.84 U	< 3.34 U
1,2,3,4,6,7,8-HpCDD	--	--	--	--	--	3.58 J	< 5.88 U*	61.5	33.7
OCDD	--	--	--	--	--	29.6 J	50.2	480	272
2,3,7,8-TCDF	--	--	--	--	--	< 0.682 U	1.58 J	< 0.928 U	< 1.27 U
1,2,3,7,8-PeCDF	--	--	--	--	--	< 0.574 U	< 0.754 U	< 1.25 U	< 1.40 U
2,3,4,7,8-PeCDF	--	--	--	--	--	< 0.542 U	< 0.888 U	< 1.19 U	< 0.950 U
1,2,3,4,7,8-HxCDF	--	--	--	--	--	< 0.457 U	1.51 J	1.14 J	< 0.796 U
1,2,3,6,7,8-HxCDF	--	--	--	--	--	< 0.483 U	< 0.985 U	< 0.601 U*	< 1.18 U
1,2,3,7,8,9-HxCDF	--	--	--	--	--	< 0.769 U	< 1.58 U	< 0.546 U	< 0.938 U
2,3,4,6,7,8-HxCDF	--	--	--	--	--	< 0.537 U	< 1.11 U	< 0.444 U	< 0.653 U

**Table 3. Water Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Analyte	Collection Event					Base Flow		Storm Flow			
	Location ID					96-ST2	HC-NF-10	HC-NF-10	HC-SF		
	Collection Date					3/26/2015	3/26/2015	4/13/2015	4/13/2015		
	ISGP Benchmark	WA WQC		NTR WQC	NR WQC	Result	Result	Result	Result		
		Marine		HHO	HHO						
	Chronic	Acute									
1,2,3,4,6,7,8-HpCDF	--	--	--	--	--	< 1.22 U	4.09 J	11.3 J	12.1 J		
1,2,3,4,7,8,9-HpCDF	--	--	--	--	--	< 0.866 U	< 1.73 U	< 1.40 U	< 1.25 U		
OCDF	--	--	--	--	--	< 1.38 U*	7.39 J	18.0 J	16.0 J		
Total TCDD	--	--	--	--	--	< 0.73 U	< 8.83 U*	< 1.56 U	< 1.27 U		
Total PeCDD	--	--	--	--	--	< 0.842 U	< 1.06 U	< 1.50 U	< 2.34 U		
Total HxCDD	--	--	--	--	--	< 3.01 U	< 3.50 U	7.53 J	5.04 J		
Total HpCDD	--	--	--	--	--	7.95	6.43 J	111	61.4		
Total TCDF	--	--	--	--	--	< 1.25 U	3.48	< 0.928 U	< 1.27 U		
Total PeCDF	--	--	--	--	--	< 0.74 U	1.24 J	1.76 J	2.62		
Total HxCDF	--	--	--	--	--	< 0.93 U	3.03 J	16.2 J	9.20 J		
Total HpCDF	--	--	--	--	--	< 2.30 U	7.48	28.0	22.3		
Dioxin/Furan TEQ, nd SDL*0	--	--	--	--	--	0.045 J	0.367 J	0.990 J	0.540 J		
Dioxin/Furan TEQ, nd SDL*0.5	--	--	--	--	--	1.22 J	5.36 J	3.12 J	2.62 J		
Dioxin/Furan TEQ, nd SDL*1	--	--	--	--	--	2.39 J	10.3 J	5.26 J	4.70 J		
PAHs (µg/L)											
1-Methylnaphthalene	--	--	--	--	--	< 0.057 UJ	< 0.059 UJ	< 0.29 U	< 0.058 U		
2-Chloronaphthalene	--	--	--	--	1,600	< 0.057 UJ	< 0.059 UJ	< 0.29 U	< 0.058 U		
2-Methylnaphthalene	--	--	--	--	--	< 0.19 UJ	< 0.2 UJ	< 0.96 U	< 0.19 U		
Acenaphthene	--	--	--	--	990	< 0.095 UJ	< 0.099 UJ	< 0.48 U	< 0.096 U		
Acenaphthylene	--	--	--	--	--	< 0.076 UJ	< 0.079 UJ	< 0.38 U	0.029 J		
Anthracene	--	--	--	110,000	40,000	< 0.038 UJ	< 0.040 UJ	< 0.19 U	< 0.039 U		
Benzo(a)anthracene	--	--	--	0.031	0.018	< 0.057 UJ	< 0.059 UJ	< 0.29 U	< 0.058 U		
Benzo(a)pyrene	--	--	--	0.031	0.018	< 0.038 UJ	< 0.040 UJ	< 0.19 U	< 0.039 U		
Benzo(b)fluoranthene	--	--	--	0.031	0.018	< 0.076 UJ	< 0.079 UJ	< 0.38 U	< 0.077 U		
Benzo(g,h,i)perylene	--	--	--	--	--	< 0.057 UJ	< 0.059 UJ	< 0.29 U	< 0.058 U		
Benzo(k)fluoranthene	--	--	--	0.031	0.018	< 0.057 UJ	< 0.059 UJ	< 0.29 U	< 0.058 U		
Chrysene	--	--	--	0.031	0.018	< 0.038 UJ	< 0.040 UJ	< 0.19 U	< 0.039 U		
Dibenz(a,h)anthracene	--	--	--	0.031	0.018	< 0.057 UJ	< 0.059 UJ	< 0.29 U	< 0.058 U		
Dibenzofuran	--	--	--	--	--	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U		

**Table 3. Water Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Analyte	Collection Event					Base Flow		Storm Flow	
	Location ID					96-ST2	HC-NF-10	HC-NF-10	HC-SF
	Collection Date					3/26/2015	3/26/2015	4/13/2015	4/13/2015
	ISGP Benchmark	WA WQC		NTR WQC	NR WQC	Result	Result	Result	Result
		Marine		HHO	HHO				
	Chronic	Acute							
Fluoranthene	--	--	--	370	140	< 0.047 UJ	< 0.049 UJ	0.071 J	0.017 J
Fluorene	--	--	--	14,000	5,300	< 0.057 UJ	< 0.059 UJ	< 0.29 U	< 0.058 U
Indeno(1,2,3-cd)pyrene	--	--	--	0.031	0.018	< 0.057 UJ	< 0.059 UJ	< 0.29 U	< 0.058 U
Naphthalene	--	--	--	--	--	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U
Phenanthrene	--	--	--	--	--	< 0.076 UJ	< 0.079 UJ	< 0.38 U	< 0.077 U
Pyrene	--	--	--	11,000	4,000	< 0.057 UJ	< 0.059 UJ	0.078 J	0.018 J
Total Benzofluoranthenes	--	--	--	--	--	< 0.076 UJ	< 0.079 UJ	< 0.38 U	< 0.077 U
Total HPAHs	--	--	--	--	--	< 0 U	< 0 U	0.15 J	0.035 J
Total LPAHs	--	--	--	--	--	< 0 U	< 0 U	< 0 U	0.029 J
Total PAHs	--	--	--	--	--	< 0 U	< 0 U	0.15 J	0.064 J
cPAHs, nd RL*0	--	--	--	--	--	< 0 U	< 0 U	< 0 U	< 0 U
cPAHs, nd RL*0.5	--	--	--	--	--	0.034 J	0.036 J	0.17 J	0.035 J
cPAHs, nd RL*1	--	--	--	--	--	0.069 J	0.072 J	0.35 J	0.070 J
Phthalates (µg/L)									
bis(2-Ethylhexyl)phthalate	--	--	--	5.9	2.2	19 J	4.4 J	< 14 U	< 2.9 U
Butylbenzylphthalate	--	--	--	--	1,900	< 0.57 UJ	< 0.22 UJ	< 2.9 U	< 0.58 U
Di-n-Butylphthalate	--	--	--	12,000	4,500	< 0.38 UJ	< 0.40 UJ	< 1.9 U	0.13 J
Diethylphthalate	--	--	--	120,000	44,000	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U
Dimethylphthalate	--	--	--	2,900,000	1,100,000	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U
Di-n-Octyl phthalate	--	--	--	--	--	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U
Phenols (µg/L)									
2,4,5-Trichlorophenol	--	--	--	--	3,600	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U
2,4,6-Trichlorophenol	--	--	--	6.5	2.4	< 0.57 UJ	< 0.59 UJ	< 2.9 U	< 0.58 U
2,4-Dichlorophenol	--	--	--	790	290	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U
2,4-Dimethylphenol	--	--	--	--	850	< 1.9 UJ	< 2.0 UJ	< 9.6 U	< 1.9 U
2,4-Dinitrophenol	--	--	--	14,000	5,300	< 4.7 UJ	< 4.9 UJ	< 24 U	< 4.8 U
2-Chlorophenol	--	--	--	--	150	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U
2-Methylphenol	--	--	--	--	--	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U
2-Nitrophenol	--	--	--	--	--	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U

**Table 3. Water Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Analyte	Collection Event					Base Flow				Storm Flow			
	Location ID					96-ST2		HC-NF-10		HC-NF-10		HC-SF	
	Collection Date					3/26/2015		3/26/2015		4/13/2015		4/13/2015	
	ISGP Benchmark	WA WQC		NTR WQC	NR WQC	Result		Result		Result		Result	
		Marine		HHO	HHO								
	Chronic	Acute											
4,6-Dinitro-2-Methylphenol	--	--	--	765	280	< 3.8	UJ	< 4.0	UJ	< 19	U	< 3.9	U
4-Chloro-3-methylphenol	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
4-Methylphenol	--	--	--	--	--	< 0.76	UJ	< 0.79	UJ	< 3.8	U	0.13	J
4-Nitrophenol	--	--	--	--	--	< 2.8	UJ	< 3.0	UJ	< 14	U	< 2.9	U
Pentachlorophenol	--	7.9	13	8.2	3	< 0.32	UJ	< 0.69	UJ	< 3.3	U	0.35	J
Phenol	--	--	--	4,600,000	860,000	< 0.57	UJ	< 0.59	UJ	< 2.9	U	0.11	J
Other SVOCs (µg/L)													
1,2,4-Trichlorobenzene	--	--	--	--	70	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
1,2-Dichlorobenzene	--	--	--	17,000	1,300	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
1,3-Dichlorobenzene	--	--	--	2,600	960	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
1,4-Dichlorobenzene	--	--	--	2,600	190	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
2,4-Dinitrotoluene	--	--	--	9.1	3.4	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
2,6-Dinitrotoluene	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
2-Nitroaniline	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
3,3'-Dichlorobenzidine	--	--	--	0.077	0.028	--		< 2.0	UJ	< 9.6	U	< 1.9	U
3-Nitroaniline	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
4-Bromophenyl phenyl ether	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
4-Chloroaniline	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
4-Chlorophenyl-phenylether	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
4-Nitroaniline	--	--	--	--	--	< 0.57	UJ	< 0.59	UJ	< 2.9	U	< 0.58	U
Benzoic Acid	--	--	--	--	--	1.4	J	1.4	J	7.4	J	2.2	J
Benzyl Alcohol	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	0.48	J	0.34	J
2,2'-Oxybis(1-Chloropropane)	--	--	--	170,000	65,000	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
Bis(2-Chloroethoxy) Methane	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
Bis(2-Chloroethyl) Ether	--	--	--	1.4	0.53	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
Carbazole	--	--	--	--	--	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
Hexachlorobenzene	--	--	--	0.00077	0.00029	< 0.38	UJ	< 0.40	UJ	< 1.9	U	< 0.39	U
Hexachlorobutadiene	--	--	--	50	18	< 0.57	UJ	< 0.59	UJ	< 2.9	U	< 0.58	U
Hexachlorocyclopentadiene	--	--	--	17,000	1,100	< 1.9	UJ	< 2.0	UJ	< 9.6	U	< 1.9	U

**Table 3. Water Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Analyte	Collection Event					Base Flow				Storm Flow			
	Location ID					96-ST2		HC-NF-10		HC-NF-10		HC-SF	
	Collection Date					3/26/2015		3/26/2015		4/13/2015		4/13/2015	
	ISGP Benchmark	WA WQC		NTR WQC	NR WQC	Result	Result	Result	Result				
		Marine		HHO	HHO								
	Chronic	Acute											
Hexachloroethane	--	--	--	8.9	3.3	< 0.57 UJ	< 0.59 UJ	< 2.9 U	< 0.58 U				
Isophorone	--	--	--	600	960	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U				
Nitrobenzene	--	--	--	1,900	690	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U				
N-Nitrosodimethylamine	--	--	--	8.1	3.0	< 1.9 UJ	< 2.0 UJ	< 9.6 U	< 1.9 U				
N-Nitroso-Di-N-Propylamine	--	--	--	--	0.51	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U				
N-Nitrosodiphenylamine	--	--	--	16	6.0	< 0.38 UJ	< 0.40 UJ	< 1.9 U	< 0.39 U				

Results in **bold** are detections.

Results that are **shaded in gray** exceed one or more screening criteria.

a - Total PCB congeners and PCB/dioxin/furan TEQs include only congeners that met identification criteria as required by EPA Method 1668C (PCBs) or EPA Method 1613B (dioxins/furans).

PCB and dioxin/furan congeners identified with a U* qualifier were tagged as "estimated maximum possible concentrations" by the laboratory. This was changed to non-detect (U) during data validation.

**Table 4. Water Sample Results Compared to Screening Criteria
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Base Flow									
	96-ST2					HC-NF-10				
Collection Date	3/26/2015					3/26/2015				
Analyte	Exceedance Factor					Exceedance Factor				
	NPDES ISGP Benchmark	WA Marine Chronic	WA Marine Acute	NTR Human Health - Organisms	NR Human Health - Organisms	NPDES ISGP Benchmark	WA Marine Chronic	WA Marine Acute	NTR Human Health - Organisms	NR Human Health - Organisms
Total Metals										
Copper										
Zinc										
Dissolved Metals										
Copper										
Mercury										
Zinc										
PCB Congeners										
Total PCB Congeners				2.4	6.3				2.7	7.1
Phthalates										
bis(2-Ethylhexyl)phthalate				3.2	8.6					2.0

Exceedance Factors (EFs) are presented for detected concentrations only.

Only chemicals with EF > 1 are shown.

The EFs are calculated (result divided by criterion) and have no regulatory relevance. They provide an indication of the general magnitude of the concentration relative to the WA, NTR, or NR Water Quality Criteria.

**Table 4. Water Sample Results Compared to Screening Criteria
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

	Storm Flow									
Location ID	HC-NF-10					HC-SF				
Collection Date	4/13/2015					4/13/2015				
Analyte	Exceedance Factor					Exceedance Factor				
	NPDES ISGP Benchmark	WA Marine Chronic	WA Marine Acute	NTR Human Health - Organisms	NR Human Health - Organisms	NPDES ISGP Benchmark	WA Marine Chronic	WA Marine Acute	NTR Human Health - Organisms	NR Human Health - Organisms
Total Metals										
Copper		3.5	2.2				1.6	1.1		
Zinc	1.7	2.3	2.1							
Dissolved Metals										
Copper		1.6								
Mercury		4.4					1.8			
Zinc		1.4	1.2							
PCB Congeners										
Total PCB Congeners				18	47				8.7	23
Phthalates										
bis(2-Ethylhexyl)phthalate										

Exceedance Factors (EFs) are presented for detected concentrations only.

Only chemicals with EF > 1 are shown.

The EFs are calculated (result divided by criterion) and have no regulatory relevance. They provide an indication of the general magnitude of the concentration relative to the WA, NTR, or NR Water Quality Criteria.

**Table 5. Water Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Collection Event	Base Flow		Storm Flow	
Location ID	96-ST2	HC-NF-10	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	4/13/2015	4/13/2015
Analyte	Result	Result	Result	Result
Total PCB Congeners (µg/L)	0.000405 J	0.000456 J	0.00298 J	0.00148 J
Total PCB Congeners (pg/L)	405 J	456 J	2,977 J	1,477 J
Total Mono-CB (pg/L)	< 1.21 U	< 2.00 U	< 1.22 U	< 2.26 U
PCB-1	< 1.21 U	< 2.00 U	< 1.22 U	< 2.26 U
PCB-2	< 1.11 U	< 1.84 U	< 1.12 U	< 1.87 U
PCB-3	< 1.11 U	< 1.83 U	< 1.12 U	< 1.87 U
Total Di-CB (pg/L)	6.55	6.85	72.2 J	30.9 J
PCB-4/10	< 7.58 U	< 7.51 U	< 4.65 U	< 3.43 U
PCB-5/8	< 5.40 U	< 5.64 U	6.84 J	< 2.53 U
PCB-6	< 5.55 U	< 5.78 U	< 3.67 U	< 2.60 U
PCB-7/9	< 5.48 U	< 5.72 U	< 3.63 U	< 2.57 U
PCB-11	6.55	6.85	60.3	27.9
PCB-12/13	< 4.88 U	< 5.55 U	< 3.87 U	< 2.58 U
PCB-14	< 4.21 U	< 4.78 U	< 3.33 U	< 2.22 U
PCB-15	< 4.29 U	< 4.88 U	5.06	3.01 J
Total Tri-CB (pg/L)	35.9	36.8 J	91.2 J	39.7 J
PCB-16/32	7.03 J	7.62 J	12.6	5.36 J
PCB-17	2.69 J	2.80 J	5.90	3.28 J
PCB-18	8.11	10.8	18.2	7.95
PCB-19	2.54 J	2.48 J	3.16 J	< 1.37 U
PCB-20/21/33	2.65 J	3.10 J	10.5 J	5.09 J
PCB-22	1.54 J	2.66 J	6.50	3.77 J
PCB-23	< 0.989 U	< 0.801 U	< 1.99 U	< 0.993 U
PCB-24/27	1.16 J	< 0.960 U	1.88 J	< 0.899 U
PCB-25	< 1.09 U	< 0.883 U	< 2.20 U	< 1.10 U
PCB-26	0.944 J	< 0.783 U	< 2.95 U*	1.59 J
PCB-28	5.08	< 5.35 U	14.3	8.51
PCB-29	< 0.989 U	< 0.801 U	< 1.99 U	< 0.993 U
PCB-30	< 1.06 U	< 1.02 U	< 0.789 U	< 0.869 U
PCB-31	4.19 J	5.53	11.9	< 7.29 U*
PCB-34	< 0.920 U	< 0.745 U	< 1.85 U	< 0.924 U
PCB-35	< 1.12 U	< 0.875 U	< 2.09 U	< 1.03 U
PCB-36	< 1.08 U	< 0.846 U	< 2.02 U	< 0.995 U
PCB-37	< 1.04 U	1.78 J	6.28	4.20 J
PCB-38	< 1.13 U	< 0.885 U	< 2.11 U	< 1.04 U
PCB-39	< 1.11 U	< 0.872 U	< 2.08 U	< 1.03 U
Total Tetra-CB (pg/L)	38.8 J	59.8 J	281 J	130 J
PCB-40	< 1.58 U	< 1.52 U	5.82	< 2.28 U*
PCB-41/64/71/72	4.89 J	7.09 J	25.2	12.7 J
PCB-42/59	< 1.87 U*	2.51 J	8.13 J	< 4.03 U
PCB-43/49	4.79 J	5.66 J	22.3	11.1
PCB-44	6.60	8.77	33.2	17.2
PCB-45	< 1.39 U	1.93 J	3.95 J	< 1.75 U
PCB-46	< 1.52 U	< 1.06 U	1.85 J	< 1.92 U
PCB-47	< 2.14 U	< 3.05 U	< 8.42 U	< 5.81 U*
PCB-48/75	< 1.02 U	1.07 J	4.24 J	2.67 J
PCB-50	< 1.45 U	< 1.29 U	< 2.25 U	< 1.66 U
PCB-51	< 1.24 U	0.929 J	1.86 J	< 1.57 U
PCB-52/69	9.00 J	11.5	50.9	24.5
PCB-53	1.72 J	1.98 J	4.66 J	2.06 J
PCB-54	< 1.10 U	< 0.982 U	< 1.71 U	< 1.26 U

**Table 5. Water Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Collection Event	Base Flow		Storm Flow	
Location ID	96-ST2	HC-NF-10	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	4/13/2015	4/13/2015
Analyte	Result	Result	Result	Result
PCB-55	< 0.979 U	< 0.798 U	< 2.18 U	< 1.06 U
PCB-56/60	3.46 J	2.88 J	19.0	9.85
PCB-57	< 1.05 U	< 0.894 U	< 2.23 U	< 1.14 U
PCB-58	< 1.03 U	< 0.881 U	< 2.19 U	< 1.12 U
PCB-61/70	6.58 J	8.67 J	48.8	24.4
PCB-62	< 0.997 U	< 0.962 U	< 2.18 U	< 1.37 U
PCB-63	< 1.01 U	< 0.861 U	< 2.14 U	< 1.10 U
PCB-65	< 1.03 U	< 0.992 U	< 2.25 U	< 1.41 U
PCB-67	< 1.07 U	< 0.918 U	< 2.28 U	< 1.17 U
PCB-68	< 0.841 U	< 0.811 U	< 1.84 U	< 1.15 U
PCB-73	< 1.02 U	< 0.894 U	< 2.18 U	< 1.29 U
PCB-74	1.78 J	2.02 J	12.5	6.04
PCB-76/66	< 4.31 U*	4.79 J	28.8	13.4
PCB-77	< 1.05 U	< 0.882 U	7.21	4.24 J
PCB-78	< 1.12 U	< 0.980 U	< 2.54 U	< 1.20 U
PCB-79	< 1.04 U	< 0.847 U	2.81 J	2.12 J
PCB-80	< 0.909 U	< 0.742 U	< 2.02 U	< 0.988 U
PCB-81	< 1.02 U	< 0.894 U	< 2.32 U	< 1.09 U
Total Penta-CB (pg/L)	121 J	105 J	852 J	409 J
PCB-82	3.14 J	2.88 J	22.8	7.68
PCB-83	< 2.44 U	< 1.94 U	< 2.88 U	< 1.91 U
PCB-84/92	8.86 J	9.06 J	60.6	23.7
PCB-85/116	3.05 J	< 3.07 U	18.7	13.2
PCB-86	< 3.93 U	< 3.12 U	< 4.64 U	< 3.07 U
PCB-87/117/125	7.25 J	< 8.03 U	54.0	23.4
PCB-88/91	2.37 J	2.86 J	16.1	10.4
PCB-89	< 3.47 U	< 2.62 U	< 4.24 U	< 2.69 U
PCB-90/101	20.0	24.0	146	62.6
PCB-93	< 3.31 U	< 2.65 U	< 3.64 U	< 2.98 U
PCB-94	< 3.11 U	< 2.49 U	< 3.42 U	< 2.80 U
PCB-95/98/102	17.4	18.2	105	44.3
PCB-96	< 2.20 U	< 1.81 U	< 2.33 U	< 2.07 U
PCB-97	4.40 J	< 5.71 U	40.8	15.8
PCB-99	7.72	9.33	51.3	28.6
PCB-100	< 2.50 U	< 2.06 U	< 2.65 U	< 2.34 U
PCB-103	< 2.49 U	< 2.05 U	< 2.63 U	< 2.33 U
PCB-104	< 1.91 U	< 1.57 U	< 2.02 U	< 1.79 U
PCB-105	5.91	6.18	46.9	25.8
PCB-106/118	15.2	< 18.8 U	123	63.0
PCB-107/109	< 2.26 U	1.89 J	< 8.62 U*	5.34 J
PCB-108/112	< 2.89 U	1.52 J	< 4.82 U*	< 2.34 U*
PCB-110	24.1	27.8	160	77.3
PCB-111/115	< 2.19 U	< 1.74 U	< 3.29 U*	< 1.58 U*
PCB-113	< 2.58 U	< 1.95 U	< 3.15 U	< 2.00 U
PCB-114	< 1.10 U	< 1.35 U	< 2.76 U	1.90 J
PCB-119	< 2.16 U	< 1.72 U	< 2.16 U*	< 1.16 U*
PCB-120	< 2.04 U	< 1.62 U	< 2.41 U	< 1.60 U
PCB-121	< 1.99 U	< 1.59 U	< 2.20 U	< 1.80 U
PCB-122	< 1.31 U	< 1.61 U	< 3.28 U	< 2.45 U
PCB-123	< 2.41 U	< 1.85 U	< 3.38 U	< 1.90 U
PCB-124	1.56 J	1.34 J	7.12	4.00 J

**Table 5. Water Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Collection Event	Base Flow		Storm Flow	
Location ID	96-ST2	HC-NF-10	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	4/13/2015	4/13/2015
Analyte	Result	Result	Result	Result
PCB-126	< 1.21 U	< 1.47 U	< 3.48 U	2.04 J
PCB-127	< 1.27 U	< 1.56 U	< 3.46 U	< 2.39 U
Total Hexa-CB (pg/L)	110 J	153 J	885 J	473 J
PCB-128/162	4.08 J	5.72 J	36.5	19.8
PCB-129	1.35 J	1.90 J	< 9.79 U*	5.17
PCB-130	2.44 J	2.57 J	12.0	9.38
PCB-131	< 1.72 U	< 2.07 U	< 1.90 U	< 2.51 U
PCB-132/161	< 6.56 U*	9.13 J	64.1	23.0
PCB-133/142	1.20 J	< 1.93 U	6.57 J	< 3.35 U*
PCB-134/143	< 1.36 U*	< 1.88 U	10.5	5.73 J
PCB-135	3.68 J	5.36	22.4	11.3
PCB-136	< 3.11 U*	3.14 J	17.9	9.45
PCB-137	< 1.40 U*	1.64 J	11.2	6.28
PCB-138/163/164	29.2	34.4	217	111
PCB-139/149	20.6	24.2	132	78.9
PCB-140	< 3.86 U	< 3.31 U	< 2.82 U	< 3.36 U
PCB-141	6.24	6.25	47.8	19.5
PCB-144	< 3.51 U	2.85 J	< 5.34 U*	4.42 J
PCB-145	< 2.75 U	< 2.35 U	< 2.00 U	< 2.39 U
PCB-146/165	< 4.05 U*	6.10 J	31.8	17.6
PCB-147	< 3.85 U	< 3.30 U	< 2.03 U*	< 3.11 U*
PCB-148	< 3.67 U	< 3.14 U	< 2.68 U	< 3.20 U
PCB-150	< 2.66 U	< 2.28 U	< 1.94 U	< 2.32 U
PCB-151	6.59	6.98	35.5	20.3
PCB-152	< 2.57 U	< 2.20 U	< 1.87 U	< 2.24 U
PCB-153	27.2	34.2	177	101
PCB-154	< 3.37 U	< 2.89 U	< 2.46 U	< 2.94 U
PCB-155	< 2.51 U	< 2.15 U	< 1.83 U	< 2.18 U
PCB-156	2.73 J	3.65 J	20.7	9.82
PCB-157	< 0.989 U	< 1.24 U	6.52	3.24 J
PCB-158/160	2.98 J	3.63 J	24.0	11.8
PCB-159	< 1.02 U	< 1.28 U	< 3.71 U	< 1.73 U
PCB-166	< 1.09 U	< 1.37 U	< 1.43 U	< 1.85 U
PCB-167	1.63 J	1.55 J	10.6	5.42
PCB-168	< 1.07 U	< 1.29 U	< 1.19 U	< 1.57 U
PCB-169	< 1.09 U	< 1.37 U	< 1.66 U	< 1.99 U
Total Hepta-CB (pg/L)	68.3 J	76.9 J	594 J	261 J
PCB-170	7.70	7.99	63.0	24.0
PCB-171	< 1.78 U*	2.89 J	17.1	7.47
PCB-172	< 1.65 U*	2.12 J	12.4	6.28
PCB-173	< 1.01 U	< 1.41 U	< 2.90 U	< 1.64 U
PCB-174	8.48	11.5	82.0	37.3
PCB-175	< 1.01 U	< 1.36 U	< 2.15 U	< 1.27 U
PCB-176	< 0.730 U	1.52 J	7.65	3.17 J
PCB-177	4.27 J	< 6.23 U	42.1	20.0
PCB-178	2.20 J	3.27 J	15.5	9.27
PCB-179	3.20 J	4.65 J	27.0	14.6
PCB-180	20.9	23.3	164	66.4
PCB-181	< 0.828 U	< 1.15 U	< 2.37 U	< 1.34 U
PCB-182/187	12.2	15.1	91.6	46.6
PCB-183	4.83	< 4.38 U	36.7	15.1

**Table 5. Water Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Collection Event	Base Flow		Storm Flow	
Location ID	96-ST2	HC-NF-10	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	4/13/2015	4/13/2015
Analyte	Result	Result	Result	Result
PCB-184	< 0.794 U	< 1.07 U	< 1.69 U	< 0.994 U
PCB-185	1.83 J	< 1.11 U	11.3	4.43 J
PCB-186	< 0.729 U	< 0.979 U	< 1.55 U	< 0.913 U
PCB-188	< 0.698 U	< 0.937 U	< 1.48 U	< 0.874 U
PCB-189	< 0.593 U	< 0.759 U	< 1.82 U	< 0.976 U
PCB-190	1.90 J	2.87 J	12.2	6.00
PCB-191	0.869 J	< 0.836 U	4.67 J	< 1.43 U*
PCB-192	< 0.643 U	< 0.895 U	< 1.84 U	< 1.04 U
PCB-193	< 1.54 U*	1.65 J	6.74	< 2.88 U*
Total Octa-CB (pg/L)	16.0 J	14.8 J	159	90.5 J
PCB-194	< 3.74 U*	4.54 J	27.8	18.4
PCB-195	1.92 J	1.94 J	15.8	5.94
PCB-196/203	7.26 J	8.31 J	42.4	25.3
PCB-197	< 1.46 U	< 1.96 U	< 2.46 U	< 1.64 U
PCB-198	< 2.25 U	< 3.04 U	< 3.81 U	1.50 J
PCB-199	6.83	< 6.73 U	47.8	25.7
PCB-200	< 1.39 U*	< 2.21 U	5.89	3.47 J
PCB-201	< 1.55 U	< 2.09 U	6.11	< 3.40 U*
PCB-202	< 1.91 U*	< 2.25 U	12.8	10.2
PCB-204	< 1.58 U	< 2.13 U	< 2.67 U	< 1.78 U
PCB-205	2.70 J	< 3.26 U	< 3.61 U	< 1.40 U
Total Nona-CB (pg/L)	< 1.05 U	< 0.948 U	33.3 J	28.6 J
PCB-206	2.70 J	< 3.26 U	22.0	19.5
PCB-207	< 1.05 U	< 0.946 U	3.39 J	2.40 J
PCB-208	< 1.07 U	< 0.959 U	7.88	6.70
Deca-CB (pg/L)	2.78 J	2.18 J	10.2	13.8
PCB-209	2.78 J	2.18 J	10.2	13.8
PCB TEQ, nd SDL*0	0.000760 J	0.000340	0.00695 J	0.208 J
PCB TEQ, nd SDL*0.5	0.0780 J	0.0950	0.206 J	0.238 J
PCB TEQ, nd SDL*1	0.155 J	0.190	0.406 J	0.268 J

Total PCB congeners and total PCB homologs include only congeners that met identification criteria as required by EPA Method 1668C.

Note: Leidos recalculated total homolog values following data validation.

**Table 6. Water Sample Results - Conventionals
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Collection Event			Base Flow		Storm Flow	
Location ID			96-ST2	HC-NF-10	HC-NF-10	HC-SF
Collection			3/26/2015	3/26/2015	4/13/2015	4/13/2015
Analyte	ISGP Benchmark	Units	Result	Result	Result	Result
Conventionals						
Alkalinity	--	mg/L	100	94	30 J	58 J
Bicarbonate	--	mg/L CaCO ₃	100	94	30 J	58 J
Carbonate	--	mg/L CaCO ₃	< 5 U	< 5 U	< 5 UJ	< 5 UJ
Chloride	--	mg/L	15	8.9	4	5.1
Specific Conductance	--	µmhos/cm	330	280	120	170
Nitrate	--	mg/L	1.6	1.6	0.59 J	0.96
pH	5-9	std units	7.47 J	7.62 J	7.31	7.14
Sulfate	--	mg/L	37	29	10	14
Dissolved Organic Carbon	--	mg/L	3.8	3.5	4	4.6
Total Organic Carbon	--	mg/L	3.7	3.5	4.8	4.6
Total Suspended Solids ^a	30	mg/L	< 2.5 U	3	27	23

a - The ISGP effluent limit for Total Suspended Solids becomes effective for all LDW NPDES industrial facilities on January 1, 2017. In the past, a subset of the facilities were subject to the TSS effluent limit.

**Table 7. Solids Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Sample Type				Sediment Traps				Creek Sediment	
Location ID				96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date				3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	SMS Criteria		Unit	Result	Result	Result	Result	Result	Result
	SCO/ LAET ^a	CSL/ 2LAET							
Metals (Total) (mg/kg)									
Antimony	--	--	mg/kg	3.2	1.2	0.16 J	0.34	0.90	0.44
Arsenic	57	93	mg/kg	32	7.4	2.5	3.5	5.0	5.3
Beryllium	--	--	mg/kg	0.38 J	0.15 J	< 0.74 U	0.12 J	0.16 J	0.14 J
Cadmium	5.1	6.7	mg/kg	0.96	0.52	< 0.74 U	0.10 J	0.18 J	0.20 J
Chromium	260	270	mg/kg	43	84	3.7	19	27	20
Copper	390	390	mg/kg	90	40	3.9	10	25	20
Lead	450	530	mg/kg	82	39	4.3	7.8	28	14
Mercury	0.41	0.59	mg/kg	< 0.090 U	0.021 J	< 0.068 U	< 0.023 U	0.0094 J	0.031
Nickel	--	--	mg/kg	44	37	4.0	33	29	29
Selenium	--	--	mg/kg	1.1 J	0.40 J	< 3.7 U	< 1.2 U	0.41 J	0.49 J
Silver	6.1	6.1	mg/kg	0.29 J	0.065 J	< 0.74 U	0.021 J	0.024 J	0.03 J
Thallium	--	--	mg/kg	< 1.6 U	< 0.65 U	< 1.5 U	< 0.46 U	< 0.43 U	< 0.60 U
Zinc	410	960	mg/kg	550	510	17 J	64	260	98
PCB Aroclors (µg/kg)									
Aroclor 1016	--	--	µg/kg	< 47 U	< 21 U	< 41 U	< 15 U	< 13 U	< 16 U
Aroclor 1221	--	--	µg/kg	< 51 U	< 23 U	< 45 U	< 16 U	< 14 U	< 17 U
Aroclor 1232	--	--	µg/kg	< 51 U	< 23 U	< 45 U	< 16 U	< 14 U	< 17 U
Aroclor 1242	--	--	µg/kg	< 47 U	< 21 U	< 41 U	< 15 U	< 13 U	< 16 U
Aroclor 1248	--	--	µg/kg	< 47 U	< 21 U	< 41 U	< 15 U	< 13 U	< 16 U
Aroclor 1254	--	--	µg/kg	< 47 U	< 21 U	< 41 U	< 15 U	< 13 U	< 16 U
Aroclor 1260	--	--	µg/kg	< 47 U	< 21 U	< 41 U	< 15 U	< 13 U	< 16 U
Total PCB Aroclors	130	1,000	µg/kg	< 51 U	< 23 U	< 45 U	< 16 U	< 14 U	< 17 U
PCB Congeners (ug/kg)^b									
Total PCB Congeners	130	1,000	µg/kg	75.4 J	38.8 J	62.6	4.50 J	4.40 J	6.10 J
PCB TEQ, nd SDL*0	--	--	µg/kg	0.004374 J	7.54E-05 J	0.00442	0.000211 J	0.00028 J	0.000449 J
PCB TEQ, nd SDL*0.5	--	--	µg/kg	0.004812 J	0.001096 J	0.00473	0.000231 J	0.00031 J	0.000473 J
PCB TEQ, nd SDL*1	--	--	µg/kg	0.00525 J	0.002117 J	0.00505	0.000251 J	0.00034 J	0.000497 J
Dioxins and Furans (ng/kg)									
2,3,7,8-TCDD	--	--	ng/kg	1.67	9.96	5.30	< 0.153 U*	< 0.357 U*	< 0.250 U*
1,2,3,7,8-PeCDD	--	--	ng/kg	5.94	28.1	10.5	0.293 J	1.11 J	0.815 J
1,2,3,4,7,8-HxCDD	--	--	ng/kg	10.3	12.0	17.7	0.284 J	1.76 J	1.07 J
1,2,3,6,7,8-HxCDD	--	--	ng/kg	27.9	50.2	45.1	1.08 J	4.38	3.17
1,2,3,7,8,9-HxCDD	--	--	ng/kg	22.0	51.9	34.9	0.796 J	3.43	2.19 J
1,2,3,4,6,7,8-HpCDD	--	--	ng/kg	700	747	1060	19.1	81.5	59.0

**Table 7. Solids Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Sample Type				Sediment Traps				Creek Sediment	
Location ID				96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date				3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	SMS Criteria		Unit	Result	Result	Result	Result	Result	Result
	SCO/ LAET ^a	CSL/ 2LAET							
OCDD	--	--	ng/kg	8410 J	6140 J	9690	173	665	505
2,3,7,8-TCDF	--	--	ng/kg	3.65	2.18	14.1	0.245 J	< 0.259 U*	0.623
1,2,3,7,8-PeCDF	--	--	ng/kg	2.84	2.38 J	8.46	< 0.123 U*	0.373 J	0.471 J
2,3,4,7,8-PeCDF	--	--	ng/kg	3.19	2.27 J	13.1	0.178 J	0.440 J	0.576 J
1,2,3,4,7,8-HxCDF	--	--	ng/kg	9.77	8.90	19.6	0.372 J	1.37 J	1.13 J
1,2,3,6,7,8-HxCDF	--	--	ng/kg	7.80	5.66	15.6	0.293 J	0.694 J	0.738 J
1,2,3,7,8,9-HxCDF	--	--	ng/kg	1.05 J	1.05 J	2.54 J	< 0.103 U	0.295 J	0.220 J
2,3,4,6,7,8-HxCDF	--	--	ng/kg	9.71	7.15	20.3	0.379 J	0.899 J	0.985 J
1,2,3,4,6,7,8-HpCDF	--	--	ng/kg	162	85.2	259	4.70	9.85	13.2
1,2,3,4,7,8,9-HpCDF	--	--	ng/kg	8.10	5.82	14.8	< 0.300 U*	0.624 J	0.829 J
OCDF	--	--	ng/kg	424	159	517	14.0	13.4	28.4
Dioxin/Furan TEQ, nd SDL*0	25	--	ng/kg	29.2	63.0	53.4	0.985	3.66	2.90
Dioxin/Furan TEQ, nd SDL*0.5	25	--	ng/kg	29.2	63.0	53.4	1.07	3.85	3.03
Dioxin/Furan TEQ, nd SDL*1	25	--	ng/kg	29.2	63.0	53.4	1.16	4.04	3.16
Total TCDD	--	--	ng/kg	24.3 J	39.5	89.7 J	0.992 J	1.24 J	3.09 J
Total TCDF	--	--	ng/kg	70.5 J	38.2	320 J	3.44 J	2.71 J	12.7 J
Total PeCDD	--	--	ng/kg	52.9	137	141	2.41 J	4.84 J	6.20 J
Total PeCDF	--	--	ng/kg	92.2 J	73.8 J	317	4.64 J	10.4	11.3 J
Total HxCDD	--	--	ng/kg	225	529	396	8.56	28.5	23.0
Total HxCDF	--	--	ng/kg	193	170	383	6.71	23.1	20.6
Total HpCDD	--	--	ng/kg	1350	1520	1980	37.3	143	111
Total HpCDF	--	--	ng/kg	439	255	639	13.5 J	27.8	40.5
PAHs (µg/kg)									
1-Methylnaphthalene	--	--	µg/kg	< 280 U	< 130 U	< 240 U	< 90 U	< 77 U	< 48 U
2-Chloronaphthalene	--	--	µg/kg	< 190 U	< 83 U	< 160 U	< 60 U	< 51 U	< 32 U
2-Methylnaphthalene	670	1,400	µg/kg	< 190 U	< 83 U	< 160 U	< 60 U	< 51 U	< 32 U
Acenaphthene	500	730	µg/kg	< 190 U	21 J	< 160 U	< 60 U	< 51 U	< 32 U
Acenaphthylene	1,300	1,300	µg/kg	< 190 U	< 83 U	< 160 U	< 60 U	< 51 U	< 32 U
Anthracene	960	4,400	µg/kg	100 J	44 J	< 160 U	19 J	< 51 U	8.2 J
Benzo(a)anthracene	1,300	1,600	µg/kg	440	300	120 J	75	46 J	29 J
Benzo(a)pyrene	1,600	3,000	µg/kg	580	320	120 J	86 J	43 J	< 48 U
Benzo(b)fluoranthene	--	--	µg/kg	950	560	220	120	71	< 32 U
Benzo(k)fluoranthene	--	--	µg/kg	400	230	97 J	43 J	20 J	< 40 U
Benzo(g,h,i)perylene	670	720	µg/kg	310	180	100 J	34 J	62 J	< 40 U
Chrysene	1,400	2,800	µg/kg	720	350	140 J	94	53 J	37 J
Dibenz(a,h)anthracene	230	540	µg/kg	94 J	< 170 U	< 330 U	< 120 U	< 100 U	< 64 U

**Table 7. Solids Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Sample Type				Sediment Traps				Creek Sediment	
Location ID				96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date				3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	SMS Criteria		Unit	Result	Result	Result	Result	Result	Result
	SCO/ LAET ^a	CSL/ 2LAET							
Dibenzofuran	540	700	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U
Fluoranthene	1,700	2,500	µg/kg	1,100	630	240	180	77	54
Fluorene	540	1,000	µg/kg	50 J	< 83 U	< 160 U	< 60 U	< 51 U	< 32 U
Indeno(1,2,3-cd)pyrene	600	690	µg/kg	340 J	200	120 J	45 J	30 J	< 64 U
Naphthalene	2,100	2,400	µg/kg	< 190 U	22 J	< 160 U	< 60 U	< 51 U	< 32 U
Phenanthrene	1,500	5,400	µg/kg	420	210	84 J	100	34 J	24 J
Pyrene	2,600	3,300	µg/kg	1,100	550	220	160	77	55
Total Benzofluoranthenes	3,200	3,600	µg/kg	1,350	790	317 J	163 J	91 J	< 40 U
Total HPAHs	12,000	17,000	µg/kg	6,034 J	3,320	1,377 J	837 J	479 J	175 J
Total LPAHs	5,200	13,000	µg/kg	570 J	297 J	84 J	119 J	34 J	32 J
cPAHs, nd RL*0	1,000	--	µg/kg	810 J	453	177 J	115 J	60 J	3.3 J
cPAHs, nd RL*0.5	1,000	--	µg/kg	810 J	461	194 J	121 J	65 J	36 J
cPAHs, nd RL*1	1,000	--	µg/kg	810 J	470	210 J	127 J	70 J	68 J
Phthalates (µg/kg)									
bis(2-Ethylhexyl)phthalate	1,300	1,900	µg/kg	9,400	14,000	920 J	< 330 U	< 320 U	< 400 U
Butylbenzylphthalate	63	900	µg/kg	< 1,900 U	< 370 U	< 1,600 U	< 600 U	< 510 U	< 320 U
Di-n-Butylphthalate	1,400	5,100	µg/kg	< 4,700 U	< 2,100 U	< 4,100 U	< 1,500 U	< 1,300 U	< 800 U
Diethylphthalate	200	1,200	µg/kg	< 1,900 U	< 830 U	< 1,600 U	< 600 U	< 510 U	< 320 U
Dimethylphthalate	71	160	µg/kg	190 J	560	< 810 U	< 300 U	< 260 U	< 160 U
Di-n-Octyl phthalate	6,200	--	µg/kg	830 J	540 J	370 J	< 1,500 U	< 1,300 U	77 J
Phenols (µg/kg)									
2,4,5-Trichlorophenol	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U
2,4,6-Trichlorophenol	--	--	µg/kg	< 1,400 U	< 630 U	< 1,200 U	< 450 U	< 380 U	< 240 U
2,4-Dichlorophenol	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U
2,4-Dimethylphenol	29	29	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U
2,4-Dinitrophenol	--	--	µg/kg	< 9,400 U	< 4,200 U	< 8,100 U	< 3,000 U	< 2,600 U	< 1,600 U
2-Chlorophenol	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U
2-Methylphenol	63	63	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U
2-Nitrophenol	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U
4,6-Dinitro-2-Methylphenol	--	--	µg/kg	< 9,400 U	< 4,200 U	< 8,100 U	< 3,000 U	< 2,600 U	< 1,600 U
4-Chloro-3-methylphenol	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U
4-Methylphenol	670	670	µg/kg	< 1,900 U	230 J	< 1,600 U	< 600 U	< 510 U	27 J
4-Nitrophenol	--	--	µg/kg	< 9,400 U	< 4,200 U	< 8,100 U	< 3,000 U	< 2,600 U	< 1,600 U
Pentachlorophenol	360	690	µg/kg	< 1,900 U	< 830 U	< 1,600 U	< 600 U	< 510 U	< 320 U
Phenol	420	1,200	µg/kg	< 940 U	63 J	< 810 U	< 300 U	< 260 U	< 160 U

**Table 7. Solids Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Sample Type				Sediment Traps				Creek Sediment			
Location ID				96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF		
Collection Date				3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015		
Analyte	SMS Criteria		Unit	Result	Result	Result	Result	Result	Result		
	SCO/ LAET ^a	CSL/ 2LAET									
Other SVOCs (µg/kg)											
1,2,4-Trichlorobenzene	31	51	µg/kg	< 470 U	< 210 U	< 410 U	< 150 U	< 130 U	< 80 U		
1,2-Dichlorobenzene	35	50	µg/kg	< 520 U	< 230 U	< 450 U	< 160 U	< 140 U	< 88 U		
1,3-Dichlorobenzene	--	--	µg/kg	< 470 U	< 210 U	< 410 U	< 150 U	< 130 U	< 80 U		
1,4-Dichlorobenzene	110	120	µg/kg	< 470 U	< 210 U	< 410 U	< 150 U	< 130 U	< 80 U		
2,4-Dinitrotoluene	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
2,6-Dinitrotoluene	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
2-Nitroaniline	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
3,3'-Dichlorobenzidine	--	--	µg/kg	< 1,900 U	< 830 U	< 1,600 U	< 600 U	< 510 U	< 320 U		
3-Nitroaniline	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
4-Bromophenyl-phenylether	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
4-Chloroaniline	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
4-Chlorophenyl-phenylether	--	--	µg/kg	< 940 UJ	< 420 UJ	< 810 UJ	< 300 UJ	< 260 UJ	< 160 UJ		
4-Nitroaniline	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
Benzoic Acid	650	650	µg/kg	< 23,000 U	< 10,000 U	< 20,000 U	< 7,500 U	< 6,400 U	< 4,000 U		
Benzyl Alcohol	57	73	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
2,2'-Oxybis(1-Chloropropane)	--	--	µg/kg	< 2,300 U	< 1,000 U	< 2,000 U	< 750 U	< 640 U	< 400 U		
bis(2-Chloroethoxy) Methane	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
Bis-(2-Chloroethyl) Ether	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
Carbazole	--	--	µg/kg	67 J	54 J	< 810 U	< 300 U	< 260 U	< 160 U		
Hexachlorobenzene	22	70	µg/kg	< 470 U	< 210 U	< 410 U	< 150 U	< 130 U	< 80 U		
Hexachlorobutadiene	11	120	µg/kg	< 470 U	< 210 U	< 410 U	< 150 U	< 130 U	< 80 U		
Hexachlorocyclopentadiene	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
Hexachloroethane	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
Isophorone	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
Nitrobenzene	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
N-Nitrosodimethylamine	--	--	µg/kg	< 9,400 U	< 4,200 U	< 8,100 U	< 3,000 U	< 2,600 U	< 1,600 U		
N-Nitroso-Di-N-Propylamine	--	--	µg/kg	< 940 U	< 420 U	< 810 U	< 300 U	< 260 U	< 160 U		
N-Nitrosodiphenylamine	28	40	µg/kg	< 470 U	27 J	< 410 U	< 150 U	< 130 U	< 80 U		
TPH (mg/kg)											
Diesel-Range Hydrocarbons	2,000	--	mg/kg	--	--	--	--	41 J	40 J		
Motor Oil-Range Hydrocarbons	2,000	--	mg/kg	--	--	--	--	360 J	300 J		
Grain size (%)											
Clay	--	--	%	2.2	1.8	0.50	0.23	0	0		
Silt	--	--	%	34	50	66	4.6	1.1	10		

**Table 7. Solids Sample Results
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Sample Type				Sediment Traps				Creek Sediment	
Location ID				96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date				3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	SMS Criteria		Unit	Result	Result	Result	Result	Result	Result
	SCO/ LAET ^a	CSL/ 2LAET							
Sand	--	--	%	52	48	34	95	54	87
Gravel	--	--	%	12	0.38	0	0.31	45	2.9
Cobbles	--	--	%	0	0	0	0	0	0
Conventionals (%)									
Total Organic Carbon	--	--	%	15	3.2	5.2	0.46	0.49	2.2
Total Solids	--	--	%	20.7	46.6	23.9	64.1	76.0	61.1

a - These numeric criteria are sediment cleanup objectives (SCOs) for protection of the benthic community in Puget Sound marine sediment. LDW RALs are presented for cPAHs and dioxin/furan TEQs. MTCA Method A cleanup levels for soil are presented for TPH.

b - Total PCB congeners and PCB/dioxin/furan TEQs include only congeners that met identification criteria as required by EPA Method1668C (PCBs) or EPA Method 1613B (dioxins/furans).

PCB and dioxin/furan congeners identified with a U* qualifier were tagged as "estimated maximum possible concentrations" by the laboratory. This was changed to non-detect (U) during data validation.

Petroleum hydrocarbon results are compared to MTCA Method A cleanup levels. Two cleanup levels are available for TPH-Gasoline under MTCA Method A. The more stringent value (30 mg/kg) is applied for facilities where benzene has been detected.

Results in **bold** are detections.

Results **shaded in gray** exceed one or more criteria.

**Table 8. Solids Sample Results Compared to Dry Weight Criteria
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Sediment Traps								Creek Sediment			
	96-ST1		96-ST2		96-ST3		HC-ST1		HC-NF-10		HC-SF	
	3/26/2015		3/26/2015		3/26/2015		3/26/2015		3/26/2015		3/26/2015	
Collection Date	Exceedance Factor		Exceedance Factor		Exceedance Factor		Exceedance Factor		Exceedance Factor		Exceedance Factor	
Analyte	SCO/ LAET	CSL/ 2LAET	SCO/ LAET	CSL/ 2LAET	SCO/ LAET	CSL/ 2LAET	SCO/ LAET	CSL/ 2LAET	SCO/ LAET	CSL/ 2LAET	SCO/ LAET	CSL/ 2LAET
Metals (Total)												
Zinc	1.3		1.2									
Dioxins and Furans												
Dioxin/Furan TEQ, nd SDL*0	1.2		2.5		2.1							
Dioxin/Furan TEQ, nd SDL*0.5	1.2		2.5		2.1							
Dioxin/Furan TEQ, nd SDL*1	1.2		2.5		2.1							
Phthalates												
bis(2-Ethylhexyl)phthalate	7.2	4.9	11	7.4								
Dimethylphthalate	2.7	1.2	7.9	3.5								

Exceedance factors are presented for detected concentrations that exceed the SMS/AET criteria, LDW RALs (dioxins/furans and cPAHs), or MTCA Method A cleanup levels for soil (TPH).

The exceedance factors are calculated (result divided by criterion) and have no regulatory relevance. They provide an indication of the general magnitude of the concentration relative to the identified criterion.

Table 9. Solids Sample Results Compared to Organic Carbon-Normalized Criteria S 96th Street and Hamm Creek Sediment Trap and Creek Sampling

			Sediment Trap				Creek Sediment			
Location ID			96-ST2				HC-SF			
Collection Date			3/26/15				3/26/15			
Analyte	SMS Criteria		Result	EF		Result	EF			
	SCO	CSL		SCO	CSL		SCO	CSL		
PAHs (mg/kg OC)										
2-Methylnaphthalene	38	64	< 2.6	U		< 1.5	U			
Acenaphthene	16	57	0.66	J		< 1.5	U			
Acenaphthylene	66	66	< 2.6	U		< 1.5	U			
Anthracene	220	1,200	1.4	J		0.37	J			
Benzo(a)anthracene	110	270	9.4			1.3	J			
Benzo(a)pyrene	99	210	10			< 2.2	U			
Benzo(g,h,i)perylene	31	78	5.6			< 1.8	U			
Chrysene	110	460	11			1.7	J			
Dibenz(a,h)anthracene	12	33	< 5.3	U		< 2.9	U			
Dibenzofuran	15	58	< 13	U		< 7.3	U			
Fluoranthene	160	1,200	20			2.5				
Fluorene	23	79	< 2.6	U		< 1.5	U			
Indeno(1,2,3-cd)pyrene	34	88	6.3			< 2.9	U			
Naphthalene	99	170	0.69	J		< 1.5	U			
Phenanthrene	100	480	6.6			1.1	J			
Pyrene	1,000	1,400	17			2.5				
Total Benzofluoranthenes	230	450	25			< 1.8	U			
Total HPAHs	960	5,300	104			8.0	J			
Total LPAHs	370	780	9.3	J		1.5	J			
Phthalates (mg/kg OC)										
bis(2-Ethylhexyl)phthalate	47	78	438		9.3 5.6	< 18	U			
Butylbenzylphthalate	4.9	64	< 12	U		< 15	U			
Di-n-Butylphthalate	220	1,700	< 66	U		< 36	U			
Diethylphthalate	61	110	< 26	U		< 15	U			
Dimethylphthalate	53	53	18			< 7.3	U			
Di-n-Octyl phthalate	58	4,500	17	J		3.5	J			
Other SVOCs (mg/kg OC)										
1,2,4-Trichlorobenzene	0.81	1.8	< 6.6	U		< 3.6	U			
1,2-Dichlorobenzene	2.3	2.3	< 7.2	U		< 4.0	U			
1,4-Dichlorobenzene	3.1	9	< 6.6	U		< 3.6	U			
Hexachlorobenzene	0.38	2.3	< 6.6	U		< 3.6	U			
Hexachlorobutadiene	3.9	6.2	< 6.6	U		< 3.6	U			
N-Nitrosodiphenylamine	11	11	0.84	J		< 3.6	U			
PCB Aroclors (mg/kg OC)										
Total PCB Aroclors	12	65	< 0.72	U		< 0.77	U			

Only samples with TOC content between 0.5 and 4.0% are OC-normalized for comparison with SMS OC-normalized criteria.

Results that are shaded in gray exceed one or more criteria.

Exceedance Factors (EFs) are presented for detected concentrations that exceed the SMS criteria only.

The EFs are calculated (result divided by criterion) and have no regulatory relevance. They provide an indication of the general magnitude of the concentration relative to the SMS criteria.

**Table 10. Solids Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Sediment Traps				Creek Sediment	
	96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	Result	Result	Result	Result	Result	Result
Total PCB Congeners (ng/kg) ^a	75,400	38,800	62,600	4,500	4,390	6,060
Total Monochlorobiphenyl (ng/kg)^a	101 J	39.6 J	59.7	5.31 J	4.83 J	9.56
PCB-1	37.5	13.8 J	17.5	1.58 J	1.15 J	2.85
PCB-2	21.8 J	8.74 J	17.8	1.50 J	1.48 J	3.28
PCB-3	41.8	17.1 J	24.4	2.24 J	2.20 J	3.44
Total Dichlorobiphenyl (ng/kg)^a	1,340 J	419 J	379 J	30.3	14.6 J	33.6 J
PCB-4/10	67.2	30.3 J	12.9 J	< 5.80 U	< 4.10 U	2.98 J
PCB-5/8	223	86.7	46.3	14.9	4.43 J	11.6
PCB-6	52.5	20.8 J	11.5	< 4.29 U	< 2.94 U	< 2.85 U*
PCB-7/9	27.9 J	< 23.2 U	< 14.1 U	< 4.24 U	< 2.91 U	< 3.03 U
PCB-11	610	170	177	< 9.92 U	< 15.7 U	< 17.1 U
PCB-12/13	45.5 J	< 28.8 U	17.8	< 4.47 U	< 3.64 U	< 3.26 U
PCB-14	< 29.1 U	< 24.8 U	< 14.2 U	< 3.85 U	< 3.14 U	< 2.81 U
PCB-15	318	111	113	15.4	10.2	19.0
Total Trichlorobiphenyl (ng/kg)^a	3,040 J	1,260 J	795 J	169 J	81.6 J	215 J
PCB-16/32	285	115	48.7	19.2	12.2	19.7
PCB-17	155	63.7	32.1	9.11	4.26	9.97
PCB-18	421	174	82.6	21.6	11.1	26.0
PCB-19	52.9	21.8 J	< 9.06 U*	3.10	3.23	2.38 J
PCB-20/21/33	302	133	80.3	17.0	7.64	22.7
PCB-22	192	85.2	59.3	11.9	5.41	15.4
PCB-23	< 7.23 U	< 4.89 U	< 2.35 U	< 0.818 U	< 1.00 U	< 1.23 U
PCB-24/27	46.1 J	16.0 J	7.50 J	2.71 J	2.19 J	3.35 J
PCB-25	56.8	20.6 J	13.4	2.98	< 1.10 U	4.37
PCB-26	111	42.8	25.3	4.21	< 0.978 U	6.58
PCB-28	587	248	160	34.9	15.8	44.8
PCB-29	< 7.24 U	< 4.89 U	< 2.35 U	< 0.819 U	< 1.00 U	< 1.23 U

**Table 10. Solids Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Sediment Traps				Creek Sediment	
	96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	Result	Result	Result	Result	Result	Result
PCB-30	< 5.03 U	< 4.46 U	< 1.57 U	< 0.623 U	< 0.888 U	< 0.620 U
PCB-31	474	205	137	26.6	10.4	37.5
PCB-34	< 6.73 U	< 4.55 U	< 2.19 U	< 0.761 U	< 0.930 U	< 1.14 U
PCB-35	34.1	< 13.1 U*	15.8	< 1.37 U	< 1.72 U	< 2.29 U
PCB-36	< 8.75 U	< 6.91 U	< 3.10 U	< 1.33 U	< 1.66 U	< 2.22 U
PCB-37	321	140	133	15.5	9.48	22.2
PCB-38	< 9.15 U	< 7.23 U	< 5.46 U	< 1.39 U	< 1.74 U	< 2.32 U
PCB-39	< 9.01 U	< 7.12 U	< 3.20 U	< 1.37 U	< 1.71 U	< 2.28 U
Total Tetrachlorobiphenyl (ng/kg)^a	7,990 J	3,160 J	3,580 J	299 J	281 J	452 J
PCB-40	137	28.1	6.27 J	< 1.25 U*	< 1.83 U	2.00 J
PCB-41/64/71/72	638	258	96.0	20.2	20.6	19.2
PCB-42/59	244	100	64.1	10.9	11.8	11.6
PCB-43/49	619	268	279	31.2	22.2	40.3
PCB-44	889	356	336	35.0	30.3	44.9
PCB-45	133	58.1	29.9	6.49	7.75	6.59
PCB-46	58.2	29.6	11.5	< 3.06 U*	6.05	3.42
PCB-47	203	92.9	91.1	11.2	8.86	14.7
PCB-48/75	124	48.1 J	27.0	5.94	3.37 J	7.01
PCB-50	< 12.1 U	< 5.48 U	< 3.50 U	< 1.02 U	< 1.24 U	< 1.27 U
PCB-51	42.2	17.1 J	7.28 J	2.32 J	4.47	2.43 J
PCB-52/69	1,350	531	621	46.7	47.3	73.2
PCB-53	129	69.3	32.0	6.91	13.9	7.69
PCB-54	< 9.17 U	< 4.16 U	< 2.66 U	< 0.777 U	< 0.939 U	< 0.964 U
PCB-55	< 25.3 U*	13.9 J	14.1	1.04 J	1.71 J	< 1.44 U*
PCB-56/60	568	216	266	17.8	16.8	30.3
PCB-57	6.56 J	< 3.94 U	< 2.48 U*	< 0.726 U	< 0.950 U	< 0.871 U
PCB-58	< 9.30 U	< 3.89 U	< 1.94 U*	< 0.715 U	< 0.936 U	0.306 J

**Table 10. Solids Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Sediment Traps				Creek Sediment	
	96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	Result	Result	Result	Result	Result	Result
PCB-61/70	1,280	480	812	47.5	35.3	85.4
PCB-62	< 11.9 U	< 5.28 U	< 3.35 U	< 0.994 U	< 1.16 U	< 1.30 U
PCB-63	< 25.5 U*	12.5 J	14.0	1.21 J	1.40 J	2.10 J
PCB-65	< 12.3 U	< 5.44 U	< 3.45 U	< 1.02 U	< 1.19 U	< 1.34 U
PCB-67	28.4	15.0 J	11.0	1.15 J	< 0.975 U	1.72 J
PCB-68	< 10.1 U	< 4.45 U	1.39 J	< 0.838 U	< 1.19 U*	0.521 J
PCB-73	< 11.6 U	< 5.29 U	< 3.21 U	< 1.02 U	< 1.17 U	< 1.21 U
PCB-74	397	143	189	13.6	11.7	24.4
PCB-76/66	847	323	440	30.6	27.0	54.9
PCB-77	226	75.5	179	7.03	7.26	14.2
PCB-78	< 11.1 U	< 4.29 U	< 2.96 U	< 0.783 U	< 1.02 U	< 1.02 U
PCB-79	46.5	19.1 J	44.2	1.87 J	2.19 J	4.16
PCB-80	< 8.47 U	< 3.49 U	< 2.23 U	< 0.621 U	< 0.832 U	< 0.747 U
PCB-81	23.5 J	6.48 J	11.5	0.673 J	1.12 J	0.859 J
Total Pentachlorobiphenyl (ng/kg)^a	21,200 J	10,100 J	15,900 J	874 J	1,300 J	1,610 J
PCB-82	409	203	250	13.4	28.5	27.7
PCB-83	< 14.3 U	< 9.87 U	< 2.91 U	< 1.20 U	< 2.13 U	< 1.35 U
PCB-84/92	1,330	710	815	52.0	109	88.4
PCB-85/116	538	228	525	22.4	28.5	48.1
PCB-86	< 22.9 U	< 15.9 U	< 4.68 U	< 1.92 U	< 3.42 U	< 2.17 U
PCB-87/117/125	1,200	542	864	43.8	65.7	87.5
PCB-88/91	476	248	309	18.9	42.8	35.6
PCB-89	23.6 J	< 14.6 U	9.29	< 1.21 U*	2.97	1.46 J
PCB-90/101	3,410	1,540	2,520	144	188	250
PCB-93	< 22.4 U	< 14.1 U	< 4.04 U	< 1.72 U	< 2.99 U	< 1.92 U
PCB-94	19.5 J	< 6.32 U*	< 5.98 U*	< 1.62 U	< 1.67 U*	< 1.03 U*
PCB-95/98/102	2,590	1,390	1,380	114	227	169

**Table 10. Solids Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Sediment Traps				Creek Sediment	
	96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	Result	Result	Result	Result	Result	Result
PCB-96	< 6.16 U*	7.68 J	< 3.95 U	< 1.67 U	< 0.636 U*	< 2.32 U
PCB-97	900	397	575	32.8	54.7	60.6
PCB-99	1,310	556	1,240	53.5	67.7	117
PCB-100	10.7 J	7.04 J	5.78 J	< 1.89 U	< 0.996 U*	< 1.39 U*
PCB-103	< 20.5 U*	13.1 J	12.4	< 1.88 U	2.48 J	< 2.61 U
PCB-104	< 15.1 U	< 11.3 U	< 3.41 U	< 1.44 U	< 2.45 U	< 2.00 U
PCB-105	1,050	414	1,100	42.8	< 1.42 U	93.6
PCB-106/118	3,170	1,280	2,860	130	138	256
PCB-107/109	201	94.9	216	9.03	10.3	20.0
PCB-108/112	136	79.2	88.1	5.33	11.4	9.27
PCB-110	3,930	2,190	2,710	175	296	304
PCB-111/115	47.1 J	24.1 J	36.8	2.53 J	3.01 J	3.93 J
PCB-113	< 14.4 U	< 10.9 U	11.1	0.567 J	1.04 J	< 1.44 U
PCB-114	60.5	20.1 J	49.9	1.73 J	2.55	3.93
PCB-119	50.2	27.7	37.4	2.15 J	3.63	4.37
PCB-120	11.3 J	6.85 J	9.79	0.398 J	< 1.78 U	0.920 J
PCB-121	< 13.5 U	< 8.50 u	< 2.43 U	< 1.04 U	< 1.80 U	< 1.16 U
PCB-122	34.3	< 10.6 U*	36.6	< 1.30 U*	2.19 J	3.36
PCB-123	51.8	31.2	66.3	< 2.27 U*	3.82	5.64
PCB-124	170	80.5	167	7.46	8.45	15.9
PCB-126	41.9	< 16.4 U*	42.5	2.03 J	2.71	4.34
PCB-127	< 27.3 U	< 12.7 U	< 8.12 U	< 1.25 U	< 1.66 U	< 1.45 U
Total Hexachlorobiphenyl (ng/kg)^a	22,900 J	12,800 J	18,900	1,400 J	1,560	1,880 J
PCB-128/162	815	495	805	40.8	58.2	77.1
PCB-129	231	147	183	9.46	16.3	17.9
PCB-130	387	211	232	17.4	27.9	29.2
PCB-131	< 26.0 U	< 17.2 U	< 15.1 U	< 1.77 U	< 2.11 U	< 1.71 U

**Table 10. Solids Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Sediment Traps				Creek Sediment	
	96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	Result	Result	Result	Result	Result	Result
PCB-132/161	1,410	819	872	75.6	118	108
PCB-133/142	135	82.1	135	7.22	12.9	12.0
PCB-134/143	239	142	195	14.3	23.4	17.8
PCB-135	678	355	453	42.6	47.1	51.5
PCB-136	558	316	306	40.0	43.3	40.4
PCB-137	200	142	130	10.9	13.6	13.6
PCB-138/163/164	5,440	2,920	4,790	295	344	423
PCB-139/149	3,910	2,260	2,850	267	281	322
PCB-140	35.7	18.2 J	19.5	1.39 J	< 2.99 U	1.90 J
PCB-141	1,010	574	761	65.1	67.7	77.0
PCB-144	184	140	124	15.9	14.1	14.7
PCB-145	< 15.4 U	< 8.78 U	< 6.07 U	< 1.62 U	< 2.12 U	< 1.99 U
PCB-146/165	744	401	706	44.3	55.5	70.9
PCB-147	79.2	58.2	80.5	5.06	6.07	9.12
PCB-148	< 20.5 U	< 11.7 U	< 8.12 U	< 2.16 U	< 2.84 U	< 2.67 U
PCB-150	< 14.9 U	< 8.51 U	< 3.36 U*	< 1.57 U	< 2.06 U	< 1.93 U
PCB-151	1,120	636	707	90.0	75.2	84.4
PCB-152	< 14.4 U	< 8.21 U	< 5.68 U	< 1.51 U	< 1.99 U	< 1.87 U
PCB-153	4,330	2,260	4,270	282	271	387
PCB-154	52.9	29.1	43.8	< 1.84 U*	4.24	4.73
PCB-155	< 14.0 U	< 8.01 U	< 5.54 U	< 1.48 U	< 1.94 U	< 1.82 U
PCB-156	450	220	424	23.2	25.0	37.2
PCB-157	114	74.5	132	6.40	8.21	12.2
PCB-158/160	516	322	419	28.3	36.8	42.4
PCB-159	< 20.9 U	< 11.5 U	< 12.3 U	< 1.16 U	< 1.64 U	< 1.18 U
PCB-166	20.7 J	10.2 J	17.9	0.970 J	< 1.17 U*	1.69 J
PCB-167	215	125	239	11.4	13.5	21.9

**Table 10. Solids Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Sediment Traps				Creek Sediment	
	96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	Result	Result	Result	Result	Result	Result
PCB-168	< 16.2 U	7.11 J	< 9.43 U	0.803 J	< 1.32 U	1.06 J
PCB-169	< 29.2 U	< 13.4 U	< 21.0 U	< 1.36 U	< 2.20 U	< 1.62 U
Total Heptachlorobiphenyl (ng/kg)^a	13,700	7,970 J	10,900 J	1,230	834 J	1,120
PCB-170	1,420	892	1,070	113	85.1	108
PCB-171	432	238	264	34.5	26.9	31.2
PCB-172	305	159	260	25.1	19.3	23.9
PCB-173	< 38.6 U*	15.3 J	31.9	2.98	< 2.24 U*	3.21
PCB-174	2,040	1,020	1,450	180	125	143
PCB-175	< 46.8 U*	36.8	41.7	4.90	< 3.02 U*	4.14
PCB-176	171	117	106	19.6	11.2	14.4
PCB-177	1,120	575	821	93.4	63.6	83.9
PCB-178	312	225	315	28.3	20.4	33.5
PCB-179	674	414	572	72.6	43.6	61.1
PCB-180	3,730	2,080	2,970	328	221	292
PCB-181	< 15.7 U	< 9.17 U	< 6.53 U	< 1.24 U	< 1.33 U	< 0.956 U
PCB-182/187	1,990	1,220	1,760	184	121	198
PCB-183	709	507	482	69.9	48.3	60.7
PCB-184	< 8.91 U	< 7.41 U	< 3.03 U*	< 0.810 U	< 0.805 U	< 0.638 U
PCB-185	226	112	193	22.0	13.9	19.2
PCB-186	< 8.19 U	< 6.81 U	< 3.32 U	< 0.744 U	< 0.740 U	< 0.586 U
PCB-188	< 7.84 U	< 6.52 U	7.02 J	< 0.712 U	< 0.708 U	< 0.561 U
PCB-189	47.6	33.1	50.0	4.31	3.58	5.09
PCB-190	271	179	284	26.1	17.3	24.3
PCB-191	61.8	35.8	35.3	4.70	3.43	3.63
PCB-192	< 12.2 U	< 7.12 U	< 5.07 U	< 0.964 U	< 1.03 U	< 0.742 U
PCB-193	193	106	162	17.1	10.7	14.5

**Table 10. Solids Sample Results - PCB Congeners
S 96th Street and Hamm Creek Sediment Trap and Creek Sampling**

Location ID	Sediment Traps				Creek Sediment	
	96-ST1	96-ST2	96-ST3	HC-ST1	HC-NF-10	HC-SF
Collection Date	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015
Analyte	Result	Result	Result	Result	Result	Result
Total Octachlorobiphenyl (ng/kg)^a	4,020	2,470 J	4,580	421 J	249 J	390
PCB-194	827	457	736	73.7	44.4	67.2
PCB-195	421	208	364	34.2	18.7	32.3
PCB-196/203	950	715	1,130	123	67.9	108
PCB-197	42.1	< 18.3 U*	33.4	< 3.56 U*	3.68	3.82
PCB-198	37.0	< 16.5 U*	82.2	6.67	3.94	4.83
PCB-199	1,090	767	1,420	123	68.8	110
PCB-200	138	82.0	108	14.4	8.79	10.3
PCB-201	159	79.0	156	15.1	10.1	13.7
PCB-202	359	143	519	27.3	20.8	36.0
PCB-204	< 22.9 U	< 10.1 U	< 4.89 U	< 1.44 U	< 2.36 U	< 1.20 U
PCB-205	< 36.6 U*	21.6 J	28.5	3.71	2.03 J	3.60
Total Nonachlorobiphenyl (ng/kg)^a	897	425	4,680	58.1	53.6	115
PCB-206	623	295	3,240	41.0	37.7	75.1
PCB-207	79.0	39.3	168	5.70	3.80	11.0
PCB-208	195	90.4	1,270	11.4	12.0	28.9
Decachlorobiphenyl (ng/kg)	292	144	2,810	14.8	10.1	231
PCB-209	292	144	2,810	14.8	10.1	231
PCB TEQ, nd SDL*0	4.37 J	0.075 J	4.42	0.211 J	0.278 J	0.449 J
PCB TEQ, nd SDL*0.5	4.81 J	1.10 J	4.73	0.231 J	0.311 J	0.473 J
PCB TEQ, nd SDL*1	5.25 J	2.12 J	5.05	0.251 J	0.344 J	0.497 J

a - Total PCBs and total PCB homologs include only congeners that met identification criteria as required by EPA Method1668C.

PCB congeners identified with a U* qualifier were tagged as "estimated maximum possible concentrations" by the laboratory. This was changed to non-detect (U) during data validation.

Appendix A

Field Documentation

Location Sea King Sed Trap/NPDES Date 3/26/15
 Project / Client NPDES Sampling Support / ECV

- 0630 Depart Home and stop for fuel and ice.
 0655 Meet Megan Gay (Leidos) at Storage unit
 0700 Conduct prep work and load field vehicle.
 08200 Call from Iris Winstonley
 - Hexavalent Chromium in water at location near Ace Galvanizing
 - PCB Analyzers for water at all locations
 - Potentially sub Hamm Creek locations if no water at sediment trap locations
 0900 Depart Storage unit for ~~96-ST1~~ 96-ST3
 0920 Arrive onsite at 96-ST3 at the corner of 59th St and 4 Ave S
 Rachel McCrea (Ecology) arrives on site
 Discuss name of location discrepancy
 0930 Brian Robinson (SPU) and Mahkub Alam (ECV) onsite. Recent location map supplied by SPU has corrected location ID.
 0935 Conduct H+S meeting w/ all parties including Herrera personnel
 Mob to 96-ST3 and begin prep work.
 1010 Collect only Solids Sample at
 1030 Herrera enters vault.

Location Sea King Sed Trap/NPDES Date 3/26/15
 Project / Client NPDES Sampling Support / ECV

C. Wilson discussed sampling procedure w/ M. Alam and Brian Robinson about keeping bottles, sed trap bottles, for labs after analysis
 C. Wilson coordinated w/ the labs and will send both bottles from the sediment traps to Vista Analytical for extraction of all material. Vista will send additional material to Test America for additional analysis.
 Order of Priority for Solids

PCB congeners } Vista
 Dioxins/Furans }
 Metals }

SVOCs ~~PCB Analyzers~~ } TA
 PCB Analyzers

1100 Herrera retrieved both Sed trap bottles
 Extremely low recovery
 Both bottles were labeled
 96-ST3-20150226-5
 and will be sent to Vista to extract solids material.

Location Sea King Sed Trap / NPDES Date 3/26/15
 Project / Client NPDES Sampling Support / ECV

In the process of extracting the sediment trap bottles the field team determined the bracket holding the sediment trap in place was bent over the course of the year and extraction of the bottle was difficult. During extraction, the bracket holding the bottle broke. A one liter teflon bottle was dropped and lost during the replacement procedure. The two bottles that were collecting sediment over the course of the year were secured and brought to the surface.

Leidos/Herrera will return w/ a new brackets for the sediment trap.

1107 Mobilize to location 96-ST2
 Label sample containers for water and sediment trap bottles

1150 Begin collecting water samples
 After water sample collection Herrera collected water quality parameters

1230 Successfully collected sediment trap bottles from 96-ST2 2015 ^{CV} 5/15/15
 Solids Sample ID: 96-ST2-~~2013~~0326-S

Location Sea King Sed Trap / NPDES Date 3/26/15
 Project / Client NPDES Sampling Support / ECV

Water sample TD: 96-ST2-~~2013~~0326-L ^{CV} 5/15/15
 1240 Break for lunch
 1315 Return from lunch
 1320 Setup at 96-ST1
 1330 Herrera enters structure
 Pictures collected for ECV
 Collected sediment trap samples from 96-ST1 Sample ID: 96-ST1-~~2013~~0326-L ^{CV} 5/15/15
 Appeared to contain sufficient solids for analysis
 1400 Investigated drainage on south side of 596th new delta marine. Drainage from parking lot appears to be conveyed to a bioswale on the southwest corner of the property. Stormwater is then conveyed to a large storm drain line heading northeast towards LDW.
 1405 Mobilize to Hamm Creek area near SCH O'Connell Substation Megan Bay went w/ George + Rachel to retrieve HC-1 sediment trap sample.

Location Sea King Sed Trap/NPOES Date 3/26/15
 Project / Client NPOES Sampling Support/ECY

1420 Inspected Hamm Creek South Fork and decided to collect a sample where Hamm Creek daylight's in the South Fork creek. Structure is approximately 48-58" diameter corrugated pipe. Samples were collected in a 10 to 15' radius around the discharge point.

The pipe coordinates are

Lat: $47^{\circ}30'55.57994''$

Long: $-122^{\circ}18'35.90501''$

1440 Solids sample collected.

Sample ID: HC-SF-20150326-S

Collect sample for Diaph/Furan, PCBs congeners,

Metals, SVOCs, Aroclors, Particle size,

and SVOCs

Mostly dark brown sand w/ some organic material. Dark grey and black fines.

Depart Hamm Creek South Fork and mobilize to S Cambridge St and 10 Ave S. Inspect my discharge point.

Location Sea King Sed Trap/NPOES Date 3/26/15
 Project / Client NPOES Sampling Support

1520 Collected Stream bed sample

HC-NF-10-20150326-S

Prepped to collect base flow water sample

1540 collect base flow sample

Sample ID: HC-NF-10-20150326-W

Herren reinstalled bracket on 96-ST3

1600 Herren offsite

1620 Leidos off site to field office

1800 Complete demob and deliver samples to FedEx.

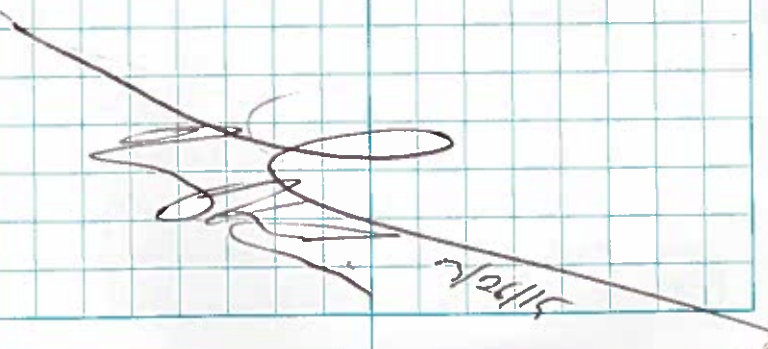
1915 Arrive at Boshell office

Place Test America samples

in Env Fridge.

Email lab summary email.

2000 C. Wilson offsite.



Location Hamm CreekDate 4/13/15Project / Client NPDES Sampling Support / ECY

- 1300 Depart Ballou office
 1345 Arrive at storage unit and load gear
 1425 Depart storage unit for Hamm Creek
 South Fork location adjacent to
 SCL Duwanish Substation
 1445 Arrive at ~~site~~ South Fork location
 1450 Inspect location, no storm flow
 1455 Make phone calls to Megan Gray (Leider),
 Alex Svendsen (Herrera), and Mahbub
 Alana (ECY) to decide to hold off
 on sampling until additional flow
 1520 Depart location for apartment
 1545 Arrive at apartment
 Track rain totals and radar
 1815 Depart apartment for South Fork
 location but had to stop at storage unit
 1835 Picked up 1L glass w/bers storage
 unit to collect PCB Analyzers for waters
 1900 Arrive at South Fork location
 and await Alex for sampling assistance
 1915 Approached by interested citizen and
 C. Wilson told him about sampling
 of creek
 1930 Alex Svendsen on site

Location Hamm CreekDate 4/13/15Project / Client NPDES Sampling Support

1935 Collect samples HC-SF-20150413-W
 1942 Water Quality

Temp 9.8°C
 DO 96%
 SC 169 µS/cm
 pH 7.63
 NTU 17.2

Complete sampling and take pictures

1957 Depart location for lunch and
 Cambridge.

2004 Arrive at lunch and Cambridge

2010 Collect Sample HC-NF-10-20150413-W

2015 Water Quality

Temp 10.2°C
 DO 96%
 SC 120 µS/cm
 pH 8.49
 Turb 26.4 NTU

2025 Completed collecting water
 Sample at HC-NF-10
 Attempted to collect GPS data
 but unable to attain signal.

Location HAMM Creek Date 4/14/15
 Project / Client NPDES Sampling Support / ECV

- 2030 C. Wilson and A. Svendsen
 offsite. C. Wilson depart for storage
 unit. Dropped off Test America samples
 on ice and secured storage unit.
- 2105 Depart storage unit for Northgate
 Park and ride to transfer Vista samples
 to Megan Gay.
- 2130 Arrived at park and ride and
 transferred one cooler of samples
 to Megan Gay.
- 2150 C. Wilson arrives at home.

Location HAMM Creek Date 4/14/15
 Project / Client NPDES Sampling Support

- 0700 C. Wilson arrives at Storage unit
 adds additional ice to Test America
 Samples.
 Meet w/ Paco for sample
 transfer sign over COC
- 0730 Close unit. Depart facility

Appendix B

Laboratory Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310


TestAmerica Job ID: 580-48451-1

Client Project/Site: NPDES Sampling Support

For:

Leidos, Inc.
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

Attn: Iris Winstanley



Authorized for release by:
4/27/2015 10:17:38 PM

Kristine Allen, Manager of Project Management
(253)248-4970
kristine.allen@testamericainc.com

LINKS

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results through
TotalAccess

Have a Question?



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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Job ID: 580-48451-1

Laboratory: TestAmerica Seattle

Narrative

Receipt

The samples were received on 3/27/2015 11:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.7° C and 1.8° C.

Except:

The following samples were received outside of holding time for hexavalent chromium analysis: 96-ST2-20150326-W (580-48451-1), HC-NF-10-20150326-W (580-48451-2). The lab is proceeding with analysis.

Sample 96-ST2-20150326-W (580-48451-1), the chain of custody lists 12 containers but 14 containers were received. All containers were logged in.

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with analytical batch 580-185805 recovered above the upper control limit for Butyl benzyl phthalate. Method 8270D allows <20% of compounds to fail the criteria; therefore, the data have been qualified and reported. The following samples are impacted: (CCVIS 580-185805/3), (LCS 580-185545/2-A), (LCSD 580-185545/3-A) and (MB 580-185545/1-A).

Method(s) 8270D: The method blank for prep batch 580-185545 contained Pentachlorophenol above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, data have been qualified and reported.

Method(s) 8270D: In analytical batch 580-185805, surrogate recovery for the method blank, LCS, LCSD associated with prep batch 580-185545 was outside control limits. Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported. Affected samples: 96-ST2-20150326-W (580-48451-1), HC-NF-10-20150326-W (580-48451-2), (LCS 580-185545/2-A), (LCSD 580-185545/3-A), (MB 580-185545/1-A), (580-48451-F-1-A MS) and (580-48451-E-1-A MSD).

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 580-185805 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: A number of analytes recovered outside control limits for the LCS/LCSD associated with prep batch 580-185545. These analytes were outside the Marginal Exceedance Limits; therefore, re-extraction and/or re-analysis was performed outside of holding time. Both sets of data have been reported. Affected samples: 96-ST2-20150326-W (580-48451-1), HC-NF-10-20150326-W (580-48451-2), (LCS 580-185545/2-A), (LCSD 580-185545/3-A), (580-48451-F-1-A MS) and (580-48451-E-1-A MSD)

Method(s) 8270D: The continuing calibration verification (CCV) associated with analytical batch 580-186321 recovered above the upper control limit for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: 96-ST2-20150326-W (580-48451-1), HC-NF-10-20150326-W (580-48451-2), (CCVIS 580-186321/3), (LCS 580-186033/2-A), (LCSD 580-186033/3-A), (MB 580-186033/1-A), (580-48451-A-1-A MS), (580-48451-F-1-A MS), (580-48451-D-1-A MSD) and (580-48451-E-1-A MSD).

Method(s) 8270D: The method blank for prep batch 580-186033 contained Diethyl phthalate, Phenol, Butyl benzyl phthalate and Pentachlorophenol above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. Affected samples: 96-ST2-20150326-W (580-48451-1), HC-NF-10-20150326-W (580-48451-2) and (MB 580-186033/1-A)

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 580-186321 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene, 4-Chloro-3-methylphenol and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: In analytical batch 580-186321, the laboratory control sample (LCS) for prep batch 580-186033 recovered outside the

Case Narrative

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Job ID: 580-48451-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

upper acceptance limits for Bis(2-ethylhexyl)phthalate and N-Nitrosodiphenylamine. The associated LCSD also recovered high for N-Nitrosodiphenylamine. Bis(2-ethyl hexyl)phthalate was detected in samples 96-ST2-20150326-W (580-48451-1), HC-NF-10-20150326-W (580-48451-2). There was insufficient sample to perform a second re-extraction or re-analysis; therefore, the data have been reported. Affected samples: 96-ST2-20150326-W (580-48451-1), HC-NF-10-20150326-W (580-48451-2), (LCS 580-186033/2-A), (LCSD 580-186033/3-A), (580-48451-A-1-A MS) and (580-48451-D-1-A MSD).

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 580-186033 recovered outside control limits for the following analytes: Bis(2-ethylhexyl)phthalate, Benzoic acid and N-Nitrosodiphenylamine.

Method(s) 8270D: The continuing calibration verification (CCV) associated with 580-186325 recovered above the upper control limit for Indeno(1,2,3-cd)pyrene. Method 8270D allows <20% of compounds to fail the criteria; therefore, the data have been qualified and reported. The following samples are impacted: HC-SF-20150326-S (580-48451-3), HC-NF-10-20150326-S (580-48451-4), (CCVIS 580-186325/3), (LCS 580-186214/2-A), (LCSD 580-186214/3-A), (MB 580-186214/1-A), (580-48644-B-1-A).

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in 580-186325 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The method blank for prep batch 580-186214 contained Diethyl phthalate, Bis(2-ethylhexyl)phthalate, Di-n-butyl phthalate and Benzyl alcohol above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. Affected samples: HC-SF-20150326-S (580-48451-3), HC-NF-10-20150326-S (580-48451-4), (MB 580-186214/1-A) and (580-48644-B-1-A).

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS and/or LCSD associated with 580-186214 : 4-Chlorophenyl phenyl ether, Phenanthrene and Bis(2-chloroethoxy)methane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. Affected samples: HC-SF-20150326-S (580-48451-3), HC-NF-10-20150326-S (580-48451-4), (LCS 580-186214/2-A), (LCSD 580-186214/3-A), (580-48644-B-1-A).

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for 580-186214 and 580-186214 recovered outside control limits for the following analytes: Benzoic acid. The individual LCS/LCSD recoveries were in control.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: 96-ST2-20150326-W (580-48451-1). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8082, 8082A: In analysis batch 185672, the following samples from preparation batch 185590 had a sample matrix interference causing the internal standard recovery to fail high on the front column only :HC-SF-20150326-S (580-48451-3), HC-NF-10-20150326-S (580-48451-4), (580-48451-B-3-E MS) and (580-48451-B-3-F MSD). The internal standard passed on the rear column; therefore, the data have been reported from the rear column.

Method(s) NWTPH-Dx: In analysis batch 185495, the following samples from preparation batch 185436 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: HC-SF-20150326-S (580-48451-3) and HC-NF-10-20150326-S (580-48451-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Case Narrative

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Job ID: 580-48451-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

General Chemistry

Method(s) SM 3500 CR D: The following sample was received with less than 50% hold time remaining: 96-ST2-20150326-W (580-48451-1). The sample was analyzed outside of holding time.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Geotechnical

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3550B: In preparation batch 185590, the following sample matrix observations were made for samples HC-SF-20150326-S (580-48451-3), HC-NF-10-20150326-S (580-48451-4), (580-48451-B-3 MS) and (580-48451-B-3 MSD): the affected samples contained standing water.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Definitions/Glossary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
B	Compound was found in the blank and sample.
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

GC Semi VOA

Qualifier	Qualifier Description
Y	The chromatographic response resembles a typical fuel pattern.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Definitions/Glossary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

1

2

3

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11

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: 96-ST2-20150326-W

Lab Sample ID: 580-48451-1

Date Collected: 03/26/15 11:50

Matrix: Water

Date Received: 03/27/15 11:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
1,2-Dichlorobenzene	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
1,3-Dichlorobenzene	ND	*	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
1,4-Dichlorobenzene	ND	* F1	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
1-Methylnaphthalene	ND	F1 *	0.028	0.014	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,2'-oxybis[1-chloropropane]	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,4,5-Trichlorophenol	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,4,6-Trichlorophenol	ND	F1 *	0.28	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,4-Dichlorophenol	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,4-Dimethylphenol	ND	*	0.95	0.14	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,4-Dinitrophenol	ND	F1 * ^	2.4	0.47	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,4-Dinitrotoluene	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,6-Dinitrotoluene	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2-Chloronaphthalene	ND	F1 *	0.028	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
2-Chlorophenol	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2-Methylnaphthalene	ND	F1 *	0.095	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
2-Methylphenol	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2-Nitroaniline	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
2-Nitrophenol	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
3 & 4 Methylphenol	ND	F1 *	0.38	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
3,3'-Dichlorobenzidine	ND	* F1	0.95	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
3-Nitroaniline	ND		0.19	0.057	ug/L		03/30/15 13:12	04/08/15 13:19	1
4,6-Dinitro-2-methylphenol	ND	F1 * ^	1.9	0.47	ug/L		03/30/15 13:12	04/08/15 13:19	1
4-Bromophenyl phenyl ether	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
4-Chloro-3-methylphenol	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
4-Chloroaniline	ND		0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
4-Chlorophenyl phenyl ether	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
4-Nitroaniline	ND	*	0.28	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
4-Nitrophenol	ND	F1 *	1.4	0.47	ug/L		03/30/15 13:12	04/08/15 13:19	1
Acenaphthene	ND	F1 *	0.047	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Acenaphthylene	ND	F1 *	0.038	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Anthracene	ND	*	0.019	0.0047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Benzo[a]anthracene	ND	F1 *	0.028	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Benzo[a]pyrene	ND	F1 *	0.019	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Benzo[b]fluoranthene	ND	F1 *	0.038	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Benzo[g,h,i]perylene	ND	F1 *	0.028	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Benzo[k]fluoranthene	ND	F1 *	0.028	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Benzoic acid	0.80	J F1 *	1.4	0.28	ug/L		03/30/15 13:12	04/08/15 13:19	1
Benzyl alcohol	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Bis(2-chloroethoxy)methane	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Bis(2-chloroethyl)ether	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Bis(2-ethylhexyl) phthalate	ND	F2 F1 *	1.4	0.56	ug/L		03/30/15 13:12	04/08/15 13:19	1
Butyl benzyl phthalate	0.19	J F1 *	0.28	0.095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Carbazole	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Chrysene	ND	F1 *	0.019	0.0062	ug/L		03/30/15 13:12	04/08/15 13:19	1
Dibenz(a,h)anthracene	ND	F1 *	0.028	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Dibenzofuran	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Diethyl phthalate	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Dimethyl phthalate	ND	*	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: 96-ST2-20150326-W

Lab Sample ID: 580-48451-1

Date Collected: 03/26/15 11:50

Matrix: Water

Date Received: 03/27/15 11:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND	F1 *	0.19	0.062	ug/L		03/30/15 13:12	04/08/15 13:19	1
Di-n-octyl phthalate	ND	F1 *	0.19	0.085	ug/L		03/30/15 13:12	04/08/15 13:19	1
Fluoranthene	0.0081	J F1 *	0.024	0.0062	ug/L		03/30/15 13:12	04/08/15 13:19	1
Fluorene	ND	F1 *	0.028	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Hexachlorobenzene	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Hexachlorobutadiene	ND	*	0.28	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Hexachlorocyclopentadiene	ND	*	0.95	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Hexachloroethane	ND	*	0.28	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Indeno[1,2,3-cd]pyrene	ND	F1 *	0.028	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Isophorone	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Naphthalene	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Nitrobenzene	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
N-Nitrosodimethylamine	ND	F1 *	0.95	0.095	ug/L		03/30/15 13:12	04/08/15 13:19	1
N-Nitrosodi-n-propylamine	ND	F1 *	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
N-Nitrosodiphenylamine	ND	F1	0.19	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Pentachlorophenol	0.19	J F1 B	0.33	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Phenanthrene	ND	F1 *	0.038	0.0095	ug/L		03/30/15 13:12	04/08/15 13:19	1
Phenol	ND	F1 *	0.28	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1
Pyrene	0.0082	J F1 *	0.028	0.0062	ug/L		03/30/15 13:12	04/08/15 13:19	1
2,3,4,6-Tetrachlorophenol	ND	F1 *	0.33	0.047	ug/L		03/30/15 13:12	04/08/15 13:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	67		44 - 125	03/30/15 13:12	04/08/15 13:19	1
2-Fluorobiphenyl	58		50 - 120	03/30/15 13:12	04/08/15 13:19	1
2-Fluorophenol	45		30 - 134	03/30/15 13:12	04/08/15 13:19	1
Nitrobenzene-d5	61		59 - 120	03/30/15 13:12	04/08/15 13:19	1
Phenol-d5	50	X	52 - 120	03/30/15 13:12	04/08/15 13:19	1
Terphenyl-d14	69		64 - 150	03/30/15 13:12	04/08/15 13:19	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
1,2-Dichlorobenzene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
1,3-Dichlorobenzene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
1,4-Dichlorobenzene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
1-Methylnaphthalene	ND	H	0.057	0.028	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,2'-oxybis[1-chloropropane]	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,4,5-Trichlorophenol	ND	H F2 F1	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,4,6-Trichlorophenol	ND	H F2	0.57	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,4-Dichlorophenol	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,4-Dimethylphenol	ND	H	1.9	0.28	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,4-Dinitrophenol	ND	H F2 F1 ^	4.7	0.95	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,4-Dinitrotoluene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,6-Dinitrotoluene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2-Chloronaphthalene	ND	H	0.057	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
2-Chlorophenol	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2-Methylnaphthalene	ND	H	0.19	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
2-Methylphenol	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2-Nitroaniline	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
2-Nitrophenol	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: 96-ST2-20150326-W

Lab Sample ID: 580-48451-1

Date Collected: 03/26/15 11:50

Matrix: Water

Date Received: 03/27/15 11:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND	H F2	0.76	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
3,3'-Dichlorobenzidine	ND	H F1	1.9	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
3-Nitroaniline	ND	H F2 F1	0.38	0.11	ug/L		04/03/15 16:15	04/08/15 17:41	1
4,6-Dinitro-2-methylphenol	ND	H F2 ^	3.8	0.95	ug/L		04/03/15 16:15	04/08/15 17:41	1
4-Bromophenyl phenyl ether	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
4-Chloro-3-methylphenol	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
4-Chloroaniline	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
4-Chlorophenyl phenyl ether	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
4-Nitroaniline	ND	H F2 F1	0.57	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
4-Nitrophenol	ND	H F2	2.8	0.95	ug/L		04/03/15 16:15	04/08/15 17:41	1
Acenaphthene	ND	H	0.095	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Acenaphthylene	ND	H	0.076	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Anthracene	ND	H	0.038	0.0095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Benzo[a]anthracene	ND	H	0.057	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Benzo[a]pyrene	ND	H	0.038	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Benzo[b]fluoranthene	ND	H	0.076	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Benzo[g,h,i]perylene	ND	H	0.057	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Benzo[k]fluoranthene	ND	H	0.057	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Benzoic acid	1.4	J H F2 *	2.8	0.57	ug/L		04/03/15 16:15	04/08/15 17:41	1
Benzyl alcohol	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Bis(2-chloroethoxy)methane	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Bis(2-chloroethyl)ether	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Butyl benzyl phthalate	ND	H	0.57	0.19	ug/L		04/03/15 16:15	04/08/15 17:41	1
Carbazole	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Chrysene	ND	H	0.038	0.012	ug/L		04/03/15 16:15	04/08/15 17:41	1
Dibenz(a,h)anthracene	ND	H	0.057	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Dibenzofuran	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Diethyl phthalate	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Dimethyl phthalate	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Di-n-butyl phthalate	ND	H	0.38	0.12	ug/L		04/03/15 16:15	04/08/15 17:41	1
Di-n-octyl phthalate	ND	H	0.38	0.17	ug/L		04/03/15 16:15	04/08/15 17:41	1
Fluoranthene	ND	H	0.047	0.012	ug/L		04/03/15 16:15	04/08/15 17:41	1
Fluorene	ND	H	0.057	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Hexachlorobenzene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Hexachlorobutadiene	ND	H	0.57	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Hexachlorocyclopentadiene	ND	H F2	1.9	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Hexachloroethane	ND	H	0.57	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Indeno[1,2,3-cd]pyrene	ND	H	0.057	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Isophorone	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Naphthalene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Nitrobenzene	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
N-Nitrosodimethylamine	ND	H	1.9	0.19	ug/L		04/03/15 16:15	04/08/15 17:41	1
N-Nitrosodi-n-propylamine	ND	H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
N-Nitrosodiphenylamine	ND	* H	0.38	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Pentachlorophenol	0.32	J H F2 B	0.66	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Phenanthrene	ND	H	0.076	0.019	ug/L		04/03/15 16:15	04/08/15 17:41	1
Phenol	ND	H F2 F1	0.57	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1
Pyrene	ND	H	0.057	0.012	ug/L		04/03/15 16:15	04/08/15 17:41	1
2,3,4,6-Tetrachlorophenol	ND	H	0.66	0.095	ug/L		04/03/15 16:15	04/08/15 17:41	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: 96-ST2-20150326-W

Lab Sample ID: 580-48451-1

Date Collected: 03/26/15 11:50

Matrix: Water

Date Received: 03/27/15 11:15

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	82		44 - 125	04/03/15 16:15	04/08/15 17:41	1
2-Fluorobiphenyl	80		50 - 120	04/03/15 16:15	04/08/15 17:41	1
2-Fluorophenol	68		30 - 134	04/03/15 16:15	04/08/15 17:41	1
Nitrobenzene-d5	85		59 - 120	04/03/15 16:15	04/08/15 17:41	1
Phenol-d5	73		52 - 120	04/03/15 16:15	04/08/15 17:41	1
Terphenyl-d14	95		64 - 150	04/03/15 16:15	04/08/15 17:41	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - REDL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	19	J H *	28	11	ug/L		04/03/15 16:15	04/09/15 17:34	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	54		44 - 125	04/03/15 16:15	04/09/15 17:34	10
2-Fluorobiphenyl	90		50 - 120	04/03/15 16:15	04/09/15 17:34	10
2-Fluorophenol	65		30 - 134	04/03/15 16:15	04/09/15 17:34	10
Nitrobenzene-d5	91		59 - 120	04/03/15 16:15	04/09/15 17:34	10
Phenol-d5	67		52 - 120	04/03/15 16:15	04/09/15 17:34	10
Terphenyl-d14	93		64 - 150	04/03/15 16:15	04/09/15 17:34	10

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.065	ug/L		03/31/15 14:22	04/02/15 13:17	1
PCB-1221	ND		0.50	0.068	ug/L		03/31/15 14:22	04/02/15 13:17	1
PCB-1232	ND		0.50	0.055	ug/L		03/31/15 14:22	04/02/15 13:17	1
PCB-1242	ND		0.50	0.078	ug/L		03/31/15 14:22	04/02/15 13:17	1
PCB-1248	ND		0.50	0.060	ug/L		03/31/15 14:22	04/02/15 13:17	1
PCB-1254	ND		0.50	0.078	ug/L		03/31/15 14:22	04/02/15 13:17	1
PCB-1260	ND		0.50	0.057	ug/L		03/31/15 14:22	04/02/15 13:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	60		26 - 124	03/31/15 14:22	04/02/15 13:17	1
DCB Decachlorobiphenyl	73		38 - 121	03/31/15 14:22	04/02/15 13:17	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0041		0.0010	0.00027	mg/L		04/04/15 08:32	04/05/15 16:04	1
Antimony	0.00088		0.00040	0.000080	mg/L		04/04/15 08:32	04/05/15 16:04	1
Beryllium	ND		0.00040	0.00010	mg/L		04/04/15 08:32	04/05/15 16:04	1
Cadmium	0.000029	J	0.00040	0.000028	mg/L		04/04/15 08:32	04/05/15 16:04	1
Chromium	0.034		0.00040	0.00014	mg/L		04/04/15 08:32	04/05/15 16:04	1
Copper	0.0027		0.0020	0.00060	mg/L		04/04/15 08:32	04/05/15 16:04	1
Lead	0.00098		0.00040	0.000034	mg/L		04/04/15 08:32	04/05/15 16:04	1
Nickel	0.0037		0.0030	0.00040	mg/L		04/04/15 08:32	04/05/15 16:04	1
Selenium	ND		0.0010	0.00030	mg/L		04/04/15 08:32	04/05/15 16:04	1
Silver	ND		0.00040	0.000030	mg/L		04/04/15 08:32	04/05/15 16:04	1
Thallium	ND		0.0010	0.00014	mg/L		04/04/15 08:32	04/05/15 16:04	1
Zinc	0.025		0.0070	0.0019	mg/L		04/04/15 08:32	04/05/15 16:04	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		04/16/15 13:30	04/16/15 16:26	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
 Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: 96-ST2-20150326-W

Lab Sample ID: 580-48451-1

Date Collected: 03/26/15 11:50

Matrix: Water

Date Received: 03/27/15 11:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	330		10	10	umhos/cm			04/16/15 10:00	1
Chloride	15		0.90	0.30	mg/L			03/28/15 10:23	1
Nitrate as N	1.6		0.90	0.20	mg/L			03/28/15 10:23	1
Sulfate	37		1.2	0.40	mg/L			03/28/15 10:23	1
Alkalinity	100		5.0	5.0	mg/L			04/01/15 13:21	1
Bicarbonate Alkalinity as CaCO3	100		5.0	5.0	mg/L			04/01/15 13:21	1
Carbonate Alkalinity as CaCO3	ND		5.0	5.0	mg/L			04/01/15 13:21	1
Total Suspended Solids	ND		2.5	2.5	mg/L			03/30/15 14:11	1
Chromium, hexavalent	0.0090	J H	0.012	0.0010	mg/L			03/27/15 15:33	1
pH	7.47	HF	0.0100	0.0100	SU			03/27/15 16:45	1
Total Organic Carbon	3.7		1.0	0.19	mg/L			04/11/15 18:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	3.8		1.0	0.19	mg/L			04/11/15 18:01	1

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-W

Lab Sample ID: 580-48451-2

Date Collected: 03/26/15 15:40

Matrix: Water

Date Received: 03/27/15 11:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
1,2-Dichlorobenzene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
1,3-Dichlorobenzene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
1,4-Dichlorobenzene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
1-Methylnaphthalene	ND	*	0.029	0.015	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,2'-oxybis[1-chloropropane]	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,4,5-Trichlorophenol	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,4,6-Trichlorophenol	ND	*	0.29	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,4-Dichlorophenol	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,4-Dimethylphenol	ND	*	0.97	0.15	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,4-Dinitrophenol	ND	* ^	2.4	0.49	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,4-Dinitrotoluene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,6-Dinitrotoluene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2-Chloronaphthalene	ND	*	0.029	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
2-Chlorophenol	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2-Methylnaphthalene	ND	*	0.097	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
2-Methylphenol	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2-Nitroaniline	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
2-Nitrophenol	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
3 & 4 Methylphenol	ND	*	0.39	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
3,3'-Dichlorobenzidine	ND	*	0.97	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
3-Nitroaniline	ND	*	0.19	0.058	ug/L		03/30/15 13:12	04/08/15 14:37	1
4,6-Dinitro-2-methylphenol	ND	* ^	1.9	0.49	ug/L		03/30/15 13:12	04/08/15 14:37	1
4-Bromophenyl phenyl ether	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
4-Chloro-3-methylphenol	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
4-Chloroaniline	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
4-Chlorophenyl phenyl ether	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
4-Nitroaniline	ND	*	0.29	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
4-Nitrophenol	ND	*	1.5	0.49	ug/L		03/30/15 13:12	04/08/15 14:37	1
Acenaphthene	ND	*	0.049	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Acenaphthylene	ND	*	0.039	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Anthracene	ND	*	0.019	0.0049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Benzo[a]anthracene	ND	*	0.029	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Benzo[a]pyrene	ND	*	0.019	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Benzo[b]fluoranthene	ND	*	0.039	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Benzo[g,h,i]perylene	ND	*	0.029	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Benzo[k]fluoranthene	ND	*	0.029	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Benzoic acid	0.84	J *	1.5	0.29	ug/L		03/30/15 13:12	04/08/15 14:37	1
Benzyol alcohol	0.060	J *	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Bis(2-chloroethoxy)methane	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Bis(2-chloroethyl)ether	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Bis(2-ethylhexyl) phthalate	ND	*	1.5	0.57	ug/L		03/30/15 13:12	04/08/15 14:37	1
Butyl benzyl phthalate	0.21	J *	0.29	0.097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Carbazole	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Chrysene	ND	*	0.019	0.0063	ug/L		03/30/15 13:12	04/08/15 14:37	1
Dibenz(a,h)anthracene	ND	*	0.029	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Dibenzofuran	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Diethyl phthalate	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Dimethyl phthalate	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-W

Lab Sample ID: 580-48451-2

Date Collected: 03/26/15 15:40

Matrix: Water

Date Received: 03/27/15 11:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND	*	0.19	0.063	ug/L		03/30/15 13:12	04/08/15 14:37	1
Di-n-octyl phthalate	ND	*	0.19	0.087	ug/L		03/30/15 13:12	04/08/15 14:37	1
Fluoranthene	0.0070	J *	0.024	0.0063	ug/L		03/30/15 13:12	04/08/15 14:37	1
Fluorene	ND	*	0.029	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Hexachlorobenzene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Hexachlorobutadiene	ND	*	0.29	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Hexachlorocyclopentadiene	ND	*	0.97	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Hexachloroethane	ND	*	0.29	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Indeno[1,2,3-cd]pyrene	ND	*	0.029	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Isophorone	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Naphthalene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Nitrobenzene	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
N-Nitrosodimethylamine	ND	*	0.97	0.097	ug/L		03/30/15 13:12	04/08/15 14:37	1
N-Nitrosodi-n-propylamine	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
N-Nitrosodiphenylamine	ND	*	0.19	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Pentachlorophenol	0.19	J B	0.34	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Phenanthrene	ND	*	0.039	0.0097	ug/L		03/30/15 13:12	04/08/15 14:37	1
Phenol	ND	*	0.29	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1
Pyrene	ND	*	0.029	0.0063	ug/L		03/30/15 13:12	04/08/15 14:37	1
2,3,4,6-Tetrachlorophenol	ND	*	0.34	0.049	ug/L		03/30/15 13:12	04/08/15 14:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	73		44 - 125	03/30/15 13:12	04/08/15 14:37	1
2-Fluorobiphenyl	62		50 - 120	03/30/15 13:12	04/08/15 14:37	1
2-Fluorophenol	53		30 - 134	03/30/15 13:12	04/08/15 14:37	1
Nitrobenzene-d5	63		59 - 120	03/30/15 13:12	04/08/15 14:37	1
Phenol-d5	60		52 - 120	03/30/15 13:12	04/08/15 14:37	1
Terphenyl-d14	74		64 - 150	03/30/15 13:12	04/08/15 14:37	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
1,2-Dichlorobenzene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
1,3-Dichlorobenzene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
1,4-Dichlorobenzene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
1-Methylnaphthalene	ND	H	0.059	0.030	ug/L		04/03/15 16:15	04/08/15 19:00	1
2,2'-oxybis[1-chloropropane]	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2,4,5-Trichlorophenol	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2,4,6-Trichlorophenol	ND	H	0.59	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2,4-Dichlorophenol	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2,4-Dimethylphenol	ND	H	2.0	0.30	ug/L		04/03/15 16:15	04/08/15 19:00	1
2,4-Dinitrophenol	ND	H ^	4.9	0.99	ug/L		04/03/15 16:15	04/08/15 19:00	1
2,4-Dinitrotoluene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2,6-Dinitrotoluene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2-Chloronaphthalene	ND	H	0.059	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
2-Chlorophenol	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2-Methylnaphthalene	ND	H	0.20	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
2-Methylphenol	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2-Nitroaniline	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
2-Nitrophenol	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-W

Lab Sample ID: 580-48451-2

Date Collected: 03/26/15 15:40

Matrix: Water

Date Received: 03/27/15 11:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND	H	0.79	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
3,3'-Dichlorobenzidine	ND	H	2.0	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
3-Nitroaniline	ND	H	0.40	0.12	ug/L		04/03/15 16:15	04/08/15 19:00	1
4,6-Dinitro-2-methylphenol	ND	H ^	4.0	0.99	ug/L		04/03/15 16:15	04/08/15 19:00	1
4-Bromophenyl phenyl ether	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
4-Chloro-3-methylphenol	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
4-Chloroaniline	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
4-Chlorophenyl phenyl ether	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
4-Nitroaniline	ND	H	0.59	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
4-Nitrophenol	ND	H	3.0	0.99	ug/L		04/03/15 16:15	04/08/15 19:00	1
Acenaphthene	ND	H	0.099	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Acenaphthylene	ND	H	0.079	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Anthracene	ND	H	0.040	0.0099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Benzo[a]anthracene	ND	H	0.059	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Benzo[a]pyrene	ND	H	0.040	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Benzo[b]fluoranthene	ND	H	0.079	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Benzo[g,h,i]perylene	ND	H	0.059	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Benzo[k]fluoranthene	ND	H	0.059	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Benzoic acid	1.4	J H *	3.0	0.59	ug/L		04/03/15 16:15	04/08/15 19:00	1
Benzyl alcohol	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Bis(2-chloroethoxy)methane	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Bis(2-chloroethyl)ether	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Bis(2-ethylhexyl) phthalate	4.4	H *	3.0	1.2	ug/L		04/03/15 16:15	04/08/15 19:00	1
Butyl benzyl phthalate	0.22	J H B	0.59	0.20	ug/L		04/03/15 16:15	04/08/15 19:00	1
Carbazole	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Chrysene	ND	H	0.040	0.013	ug/L		04/03/15 16:15	04/08/15 19:00	1
Dibenz(a,h)anthracene	ND	H	0.059	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Dibenzofuran	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Diethyl phthalate	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Dimethyl phthalate	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Di-n-butyl phthalate	ND	H	0.40	0.13	ug/L		04/03/15 16:15	04/08/15 19:00	1
Di-n-octyl phthalate	ND	H	0.40	0.18	ug/L		04/03/15 16:15	04/08/15 19:00	1
Fluoranthene	ND	H	0.049	0.013	ug/L		04/03/15 16:15	04/08/15 19:00	1
Fluorene	ND	H	0.059	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Hexachlorobenzene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Hexachlorobutadiene	ND	H	0.59	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Hexachlorocyclopentadiene	ND	H	2.0	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Hexachloroethane	ND	H	0.59	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Indeno[1,2,3-cd]pyrene	ND	H	0.059	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Isophorone	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Naphthalene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Nitrobenzene	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
N-Nitrosodimethylamine	ND	H	2.0	0.20	ug/L		04/03/15 16:15	04/08/15 19:00	1
N-Nitrosodi-n-propylamine	ND	H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
N-Nitrosodiphenylamine	ND	* H	0.40	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Pentachlorophenol	ND	H	0.69	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Phenanthrene	ND	H	0.079	0.020	ug/L		04/03/15 16:15	04/08/15 19:00	1
Phenol	ND	H	0.59	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Pyrene	ND	H	0.059	0.013	ug/L		04/03/15 16:15	04/08/15 19:00	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-W

Lab Sample ID: 580-48451-2

Date Collected: 03/26/15 15:40

Matrix: Water

Date Received: 03/27/15 11:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	ND	H	0.69	0.099	ug/L		04/03/15 16:15	04/08/15 19:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	74		44 - 125				04/03/15 16:15	04/08/15 19:00	1
2-Fluorobiphenyl	67		50 - 120				04/03/15 16:15	04/08/15 19:00	1
2-Fluorophenol	55		30 - 134				04/03/15 16:15	04/08/15 19:00	1
Nitrobenzene-d5	72		59 - 120				04/03/15 16:15	04/08/15 19:00	1
Phenol-d5	59		52 - 120				04/03/15 16:15	04/08/15 19:00	1
Terphenyl-d14	87		64 - 150				04/03/15 16:15	04/08/15 19:00	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.065	ug/L		03/31/15 14:22	04/02/15 13:33	1
PCB-1221	ND		0.50	0.068	ug/L		03/31/15 14:22	04/02/15 13:33	1
PCB-1232	ND		0.50	0.055	ug/L		03/31/15 14:22	04/02/15 13:33	1
PCB-1242	ND		0.50	0.079	ug/L		03/31/15 14:22	04/02/15 13:33	1
PCB-1248	ND		0.50	0.060	ug/L		03/31/15 14:22	04/02/15 13:33	1
PCB-1254	ND		0.50	0.080	ug/L		03/31/15 14:22	04/02/15 13:33	1
PCB-1260	ND		0.50	0.057	ug/L		03/31/15 14:22	04/02/15 13:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		26 - 124				03/31/15 14:22	04/02/15 13:33	1
DCB Decachlorobiphenyl	78		38 - 121				03/31/15 14:22	04/02/15 13:33	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0034		0.0010	0.00027	mg/L		04/04/15 08:32	04/05/15 15:55	1
Antimony	0.00082		0.00040	0.000080	mg/L		04/04/15 08:32	04/05/15 15:55	1
Beryllium	ND		0.00040	0.00010	mg/L		04/04/15 08:32	04/05/15 15:55	1
Cadmium	0.000043	J	0.00040	0.000028	mg/L		04/04/15 08:32	04/05/15 15:55	1
Chromium	0.0012		0.00040	0.00014	mg/L		04/04/15 08:32	04/05/15 15:55	1
Copper	0.0025		0.0020	0.00060	mg/L		04/04/15 08:32	04/05/15 15:55	1
Lead	0.00081		0.00040	0.000034	mg/L		04/04/15 08:32	04/05/15 15:55	1
Nickel	0.0035		0.0030	0.00040	mg/L		04/04/15 08:32	04/05/15 15:55	1
Selenium	ND		0.0010	0.00030	mg/L		04/04/15 08:32	04/05/15 15:55	1
Silver	ND		0.00040	0.000030	mg/L		04/04/15 08:32	04/05/15 15:55	1
Thallium	ND		0.0010	0.00014	mg/L		04/04/15 08:32	04/05/15 15:55	1
Zinc	0.020		0.0070	0.0019	mg/L		04/04/15 08:32	04/05/15 15:55	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		04/16/15 13:30	04/16/15 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	280		10	10	umhos/cm			04/16/15 10:00	1
Chloride	8.9		0.90	0.30	mg/L			03/28/15 11:07	1
Nitrate as N	1.6		0.90	0.20	mg/L			03/28/15 11:07	1
Sulfate	29		1.2	0.40	mg/L			03/28/15 11:07	1
Alkalinity	94		5.0	5.0	mg/L			04/01/15 13:21	1
Bicarbonate Alkalinity as CaCO3	94		5.0	5.0	mg/L			04/01/15 13:21	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
 Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-W

Lab Sample ID: 580-48451-2

Date Collected: 03/26/15 15:40

Matrix: Water

Date Received: 03/27/15 11:15

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	ND		5.0	5.0	mg/L			04/01/15 13:21	1
Total Suspended Solids	3.0		2.0	2.0	mg/L			03/30/15 14:11	1
Chromium, hexavalent	ND		0.012	0.0010	mg/L			03/27/15 15:30	1
pH	7.62	HF	0.0100	0.0100	SU			03/27/15 16:47	1
Total Organic Carbon	3.5		1.0	0.19	mg/L			04/11/15 18:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	3.5		1.0	0.19	mg/L			04/11/15 18:01	1



Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-SF-20150326-S

Lab Sample ID: 580-48451-3

Date Collected: 03/26/15 14:40

Matrix: Solid

Date Received: 03/27/15 11:15

Percent Solids: 61.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		80	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
1,2-Dichlorobenzene	ND		88	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
1,3-Dichlorobenzene	ND		80	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
1,4-Dichlorobenzene	ND		80	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
1-Methylnaphthalene	ND		48	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2,2'-oxybis[1-chloropropane]	ND		400	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2,4,5-Trichlorophenol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2,4,6-Trichlorophenol	ND		240	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2,4-Dichlorophenol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2,4-Dimethylphenol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2,4-Dinitrophenol	ND		1600	320	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2,4-Dinitrotoluene	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2,6-Dinitrotoluene	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2-Chloronaphthalene	ND		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2-Chlorophenol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2-Methylnaphthalene	ND		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2-Methylphenol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2-Nitroaniline	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
2-Nitrophenol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
3 & 4 Methylphenol	27	J	320	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
3,3'-Dichlorobenzidine	ND		320	48	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
3-Nitroaniline	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
4,6-Dinitro-2-methylphenol	ND		1600	160	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
4-Bromophenyl phenyl ether	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
4-Chloro-3-methylphenol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
4-Chloroaniline	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
4-Chlorophenyl phenyl ether	ND	*	160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
4-Nitroaniline	ND		160	32	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
4-Nitrophenol	ND		1600	400	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Acenaphthene	ND		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Acenaphthylene	ND		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Anthracene	8.2	J	32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Benzo[a]anthracene	29	J	32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Benzo[a]pyrene	ND		48	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Benzo[b]fluoranthene	ND		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Benzo[g,h,i]perylene	ND		40	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Benzo[k]fluoranthene	ND		40	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Benzoic acid	ND	*	4000	1200	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Benzyl alcohol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Bis(2-chloroethoxy)methane	ND	*	160	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Bis(2-chloroethyl)ether	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Bis(2-ethylhexyl) phthalate	400	J B	960	80	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Butyl benzyl phthalate	ND		320	80	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Carbazole	ND		160	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Chrysene	37	J	40	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Dibenz(a,h)anthracene	ND		64	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Dibenzofuran	ND		160	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Diethyl phthalate	ND		320	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Dimethyl phthalate	ND		160	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-SF-20150326-S

Lab Sample ID: 580-48451-3

Date Collected: 03/26/15 14:40

Matrix: Solid

Date Received: 03/27/15 11:15

Percent Solids: 61.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		800	80	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Di-n-octyl phthalate	77	J	800	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Fluoranthene	54		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Fluorene	ND		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Hexachlorobenzene	ND		80	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Hexachlorobutadiene	ND		80	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Hexachlorocyclopentadiene	ND		160	16	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Hexachloroethane	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Indeno[1,2,3-cd]pyrene	ND ^		64	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Isophorone	ND		160	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Naphthalene	ND		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Nitrobenzene	ND		160	54	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
N-Nitrosodimethylamine	ND		1600	400	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
N-Nitrosodi-n-propylamine	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
N-Nitrosodiphenylamine	ND		80	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Pentachlorophenol	ND		320	32	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Phenanthrene	24	J *	32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Phenol	ND		160	24	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10
Pyrene	55		32	8.0	ug/Kg	☼	04/07/15 09:56	04/08/15 18:16	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	96		28 - 143	04/07/15 09:56	04/08/15 18:16	10
2-Fluorobiphenyl	68		42 - 140	04/07/15 09:56	04/08/15 18:16	10
2-Fluorophenol	71		36 - 145	04/07/15 09:56	04/08/15 18:16	10
Nitrobenzene-d5	60		38 - 141	04/07/15 09:56	04/08/15 18:16	10
Phenol-d5	80		38 - 149	04/07/15 09:56	04/08/15 18:16	10
Terphenyl-d14	94		42 - 151	04/07/15 09:56	04/08/15 18:16	10

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arochlor 1016	ND		0.016	0.0050	mg/Kg	☼	03/30/15 17:21	03/31/15 18:40	1
Arochlor 1221	ND		0.017	0.013	mg/Kg	☼	03/30/15 17:21	03/31/15 18:40	1
Arochlor 1232	ND		0.017	0.011	mg/Kg	☼	03/30/15 17:21	03/31/15 18:40	1
Arochlor 1242	ND		0.016	0.0033	mg/Kg	☼	03/30/15 17:21	03/31/15 18:40	1
Arochlor 1248	ND		0.016	0.0047	mg/Kg	☼	03/30/15 17:21	03/31/15 18:40	1
Arochlor 1254	ND		0.016	0.0033	mg/Kg	☼	03/30/15 17:21	03/31/15 18:40	1
Arochlor 1260	ND		0.016	0.0047	mg/Kg	☼	03/30/15 17:21	03/31/15 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	71		45 - 135	03/30/15 17:21	03/31/15 18:40	1
DCB Decachlorobiphenyl	55		50 - 140	03/30/15 17:21	03/31/15 18:40	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	40	Y	40	5.8	mg/Kg	☼	03/28/15 09:35	03/30/15 08:46	1
Motor Oil (>C24-C36)	300	Y	81	15	mg/Kg	☼	03/28/15 09:35	03/30/15 08:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	79		50 - 150	03/28/15 09:35	03/30/15 08:46	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-SF-20150326-S

Lab Sample ID: 580-48451-3

Date Collected: 03/26/15 14:40

Matrix: Solid

Date Received: 03/27/15 11:15

Percent Solids: 61.1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.3		0.75	0.27	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Lead	14		0.75	0.072	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Antimony	0.44		0.30	0.063	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Beryllium	0.14	J	0.30	0.052	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Cadmium	0.20	J	0.30	0.028	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Chromium	20		0.75	0.094	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Copper	20		0.60	0.15	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Nickel	29		0.75	0.12	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Selenium	0.49	J	1.5	0.30	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Silver	0.030	J	0.30	0.018	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Thallium	ND		0.60	0.19	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10
Zinc	98		7.5	1.7	mg/Kg	☼	04/21/15 11:45	04/21/15 17:25	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.031		0.030	0.0090	mg/Kg	☼	03/31/15 13:06	03/31/15 15:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	61		0.10	0.10	%			03/31/15 09:21	1
Total Organic Carbon	22000		2000	44	mg/Kg			04/02/15 10:44	1

Method: PSEP Plumb 1981 - Grain Size (PSEP Plumb 1981)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobbles	0.00				%			04/07/15 12:58	1
Gravel	2.9				%			04/07/15 12:58	1
Sand	87				%			04/07/15 12:58	1
Silt	10				%			04/07/15 12:58	1
Clay	0.30				%			04/07/15 12:58	1

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-S

Lab Sample ID: 580-48451-4

Date Collected: 03/26/15 15:20

Matrix: Solid

Date Received: 03/27/15 11:15

Percent Solids: 76.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		130	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
1,2-Dichlorobenzene	ND		140	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
1,3-Dichlorobenzene	ND		130	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
1,4-Dichlorobenzene	ND		130	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
1-Methylnaphthalene	ND		77	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2,2'-oxybis[1-chloropropane]	ND		640	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2,4,5-Trichlorophenol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2,4-Dichlorophenol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2,4-Dimethylphenol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2,4-Dinitrophenol	ND		2600	510	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2,4-Dinitrotoluene	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2,6-Dinitrotoluene	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2-Chloronaphthalene	ND		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2-Chlorophenol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2-Methylnaphthalene	ND		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2-Methylphenol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2-Nitroaniline	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
2-Nitrophenol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
3 & 4 Methylphenol	ND		510	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
3,3'-Dichlorobenzidine	ND		510	77	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
3-Nitroaniline	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
4,6-Dinitro-2-methylphenol	ND		2600	260	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
4-Bromophenyl phenyl ether	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
4-Chloro-3-methylphenol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
4-Chloroaniline	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
4-Chlorophenyl phenyl ether	ND	*	260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
4-Nitroaniline	ND		260	51	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
4-Nitrophenol	ND		2600	640	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Acenaphthene	ND		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Acenaphthylene	ND		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Anthracene	ND		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Benzo[a]anthracene	46	J	51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Benzo[a]pyrene	43	J	77	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Benzo[b]fluoranthene	71		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Benzo[g,h,i]perylene	62	J	64	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Benzo[k]fluoranthene	20	J	64	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Benzoic acid	ND	*	6400	1900	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Benzyl alcohol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Bis(2-chloroethoxy)methane	ND	*	260	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Bis(2-chloroethyl)ether	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Bis(2-ethylhexyl) phthalate	320	J B	1500	130	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Butyl benzyl phthalate	ND		510	130	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Carbazole	ND		260	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Chrysene	53	J	64	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Dibenz(a,h)anthracene	ND		100	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Dibenzofuran	ND		260	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Diethyl phthalate	ND		510	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Dimethyl phthalate	ND		260	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-S

Lab Sample ID: 580-48451-4

Date Collected: 03/26/15 15:20

Matrix: Solid

Date Received: 03/27/15 11:15

Percent Solids: 76.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		1300	130	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Di-n-octyl phthalate	ND		1300	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Fluoranthene	77		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Fluorene	ND		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Hexachlorobenzene	ND		130	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Hexachlorobutadiene	ND		130	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Hexachlorocyclopentadiene	ND		260	26	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Hexachloroethane	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Indeno[1,2,3-cd]pyrene	30	J ^	100	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Isophorone	ND		260	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Naphthalene	ND		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Nitrobenzene	ND		260	87	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
N-Nitrosodimethylamine	ND		2600	640	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
N-Nitrosodi-n-propylamine	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
N-Nitrosodiphenylamine	ND		130	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Pentachlorophenol	ND		510	51	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Phenanthrene	34	J *	51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Phenol	ND		260	38	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10
Pyrene	77		51	13	ug/Kg	☼	04/07/15 09:56	04/08/15 18:42	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	103		28 - 143	04/07/15 09:56	04/08/15 18:42	10
2-Fluorobiphenyl	70		42 - 140	04/07/15 09:56	04/08/15 18:42	10
2-Fluorophenol	70		36 - 145	04/07/15 09:56	04/08/15 18:42	10
Nitrobenzene-d5	60		38 - 141	04/07/15 09:56	04/08/15 18:42	10
Phenol-d5	80		38 - 149	04/07/15 09:56	04/08/15 18:42	10
Terphenyl-d14	96		42 - 151	04/07/15 09:56	04/08/15 18:42	10

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arochlor 1016	ND		0.013	0.0040	mg/Kg	☼	03/30/15 17:21	03/31/15 19:29	1
Arochlor 1221	ND		0.014	0.010	mg/Kg	☼	03/30/15 17:21	03/31/15 19:29	1
Arochlor 1232	ND		0.014	0.0088	mg/Kg	☼	03/30/15 17:21	03/31/15 19:29	1
Arochlor 1242	ND		0.013	0.0026	mg/Kg	☼	03/30/15 17:21	03/31/15 19:29	1
Arochlor 1248	ND		0.013	0.0038	mg/Kg	☼	03/30/15 17:21	03/31/15 19:29	1
Arochlor 1254	ND		0.013	0.0026	mg/Kg	☼	03/30/15 17:21	03/31/15 19:29	1
Arochlor 1260	ND		0.013	0.0038	mg/Kg	☼	03/30/15 17:21	03/31/15 19:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		45 - 135	03/30/15 17:21	03/31/15 19:29	1
DCB Decachlorobiphenyl	61		50 - 140	03/30/15 17:21	03/31/15 19:29	1

Method: NWTPh-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	41	Y	31	4.4	mg/Kg	☼	03/28/15 09:35	03/30/15 09:22	1
Motor Oil (>C24-C36)	360	Y	62	11	mg/Kg	☼	03/28/15 09:35	03/30/15 09:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	74		50 - 150	03/28/15 09:35	03/30/15 09:22	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-S

Lab Sample ID: 580-48451-4

Date Collected: 03/26/15 15:20

Matrix: Solid

Date Received: 03/27/15 11:15

Percent Solids: 76.0

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0		0.53	0.19	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Lead	28		0.53	0.051	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Antimony	0.90		0.21	0.045	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Beryllium	0.16	J	0.21	0.037	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Cadmium	0.18	J	0.21	0.020	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Chromium	27		0.53	0.067	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Copper	25		0.43	0.10	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Nickel	29		0.53	0.086	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Selenium	0.41	J	1.1	0.22	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Silver	0.024	J	0.21	0.013	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Thallium	ND		0.43	0.14	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10
Zinc	260		5.3	1.2	mg/Kg	☼	04/21/15 11:45	04/21/15 17:29	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0094	J	0.017	0.0052	mg/Kg	☼	03/31/15 13:06	03/31/15 15:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	76		0.10	0.10	%			03/31/15 09:21	1
Total Organic Carbon	4900		2000	44	mg/Kg			04/02/15 10:44	1

Method: PSEP Plumb 1981 - Grain Size (PSEP Plumb 1981)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobbles	0.00				%			04/07/15 12:58	1
Gravel	45				%			04/07/15 12:58	1
Sand	54				%			04/07/15 12:58	1
Silt	1.1				%			04/07/15 12:58	1
Clay	0.10				%			04/07/15 12:58	1

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-185545/1-A

Matrix: Water

Analysis Batch: 185805

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185545

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
1,2-Dichlorobenzene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
1,3-Dichlorobenzene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
1,4-Dichlorobenzene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
1-Methylnaphthalene	ND		0.030	0.015	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,2'-oxybis[1-chloropropane]	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,4,5-Trichlorophenol	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,4,6-Trichlorophenol	ND		0.30	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,4-Dichlorophenol	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,4-Dimethylphenol	ND		1.0	0.15	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,4-Dinitrophenol	ND		2.5	0.50	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,4-Dinitrotoluene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,6-Dinitrotoluene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2-Chloronaphthalene	ND		0.030	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
2-Chlorophenol	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2-Methylnaphthalene	ND		0.10	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
2-Methylphenol	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2-Nitroaniline	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
2-Nitrophenol	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
3 & 4 Methylphenol	ND		0.40	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
3,3'-Dichlorobenzidine	ND		1.0	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
3-Nitroaniline	ND		0.20	0.060	ug/L		03/30/15 13:12	04/01/15 19:52	1
4,6-Dinitro-2-methylphenol	ND		2.0	0.50	ug/L		03/30/15 13:12	04/01/15 19:52	1
4-Bromophenyl phenyl ether	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
4-Chloro-3-methylphenol	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
4-Chloroaniline	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
4-Chlorophenyl phenyl ether	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
4-Nitroaniline	ND		0.30	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
4-Nitrophenol	ND		1.5	0.50	ug/L		03/30/15 13:12	04/01/15 19:52	1
Acenaphthene	ND		0.050	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Acenaphthylene	ND		0.040	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Anthracene	ND		0.020	0.0050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Benzo[a]anthracene	ND		0.030	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Benzo[a]pyrene	ND		0.020	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Benzo[b]fluoranthene	ND		0.040	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Benzo[g,h,i]perylene	ND		0.030	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Benzo[k]fluoranthene	ND		0.030	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Benzoic acid	ND		1.5	0.30	ug/L		03/30/15 13:12	04/01/15 19:52	1
Benzyl alcohol	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Bis(2-chloroethoxy)methane	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Bis(2-chloroethyl)ether	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Bis(2-ethylhexyl) phthalate	ND		1.5	0.59	ug/L		03/30/15 13:12	04/01/15 19:52	1
Butyl benzyl phthalate	ND	^	0.30	0.10	ug/L		03/30/15 13:12	04/01/15 19:52	1
Carbazole	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Chrysene	ND		0.020	0.0065	ug/L		03/30/15 13:12	04/01/15 19:52	1
Dibenz(a,h)anthracene	ND		0.030	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Dibenzofuran	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Diethyl phthalate	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-185545/1-A

Matrix: Water

Analysis Batch: 185805

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185545

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dimethyl phthalate	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Di-n-butyl phthalate	ND		0.20	0.065	ug/L		03/30/15 13:12	04/01/15 19:52	1
Di-n-octyl phthalate	ND		0.20	0.090	ug/L		03/30/15 13:12	04/01/15 19:52	1
Fluoranthene	ND		0.025	0.0065	ug/L		03/30/15 13:12	04/01/15 19:52	1
Fluorene	ND		0.030	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Hexachlorobenzene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Hexachlorobutadiene	ND		0.30	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Hexachlorocyclopentadiene	ND		1.0	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Hexachloroethane	ND		0.30	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Indeno[1,2,3-cd]pyrene	ND		0.030	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Isophorone	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Naphthalene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Nitrobenzene	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
N-Nitrosodimethylamine	ND		1.0	0.10	ug/L		03/30/15 13:12	04/01/15 19:52	1
N-Nitrosodi-n-propylamine	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
N-Nitrosodiphenylamine	ND		0.20	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Pentachlorophenol	0.294	J	0.35	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Phenanthrene	ND		0.040	0.010	ug/L		03/30/15 13:12	04/01/15 19:52	1
Phenol	ND		0.30	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1
Pyrene	ND		0.030	0.0065	ug/L		03/30/15 13:12	04/01/15 19:52	1
2,3,4,6-Tetrachlorophenol	ND		0.35	0.050	ug/L		03/30/15 13:12	04/01/15 19:52	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol	13	X	44 - 125	03/30/15 13:12	04/01/15 19:52	1
2-Fluorobiphenyl	13	X	50 - 120	03/30/15 13:12	04/01/15 19:52	1
2-Fluorophenol	11	X	30 - 134	03/30/15 13:12	04/01/15 19:52	1
Nitrobenzene-d5	13	X	59 - 120	03/30/15 13:12	04/01/15 19:52	1
Phenol-d5	13	X	52 - 120	03/30/15 13:12	04/01/15 19:52	1
Terphenyl-d14	15	X	64 - 150	03/30/15 13:12	04/01/15 19:52	1

Lab Sample ID: LCS 580-185545/2-A

Matrix: Water

Analysis Batch: 185805

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	1.00	0.244	*	ug/L		24	44 - 125
1,3-Dichlorobenzene	1.00	0.239	*	ug/L		24	40 - 125
1,4-Dichlorobenzene	1.00	0.235	*	ug/L		23	40 - 125
1-Methylnaphthalene	1.00	0.285	*	ug/L		29	54 - 125
2,2'-oxybis[1-chloropropane]	1.00	0.327	*	ug/L		33	44 - 130
2,4,5-Trichlorophenol	1.00	0.290	*	ug/L		29	66 - 130
2,4,6-Trichlorophenol	1.00	0.283	J *	ug/L		28	55 - 140
2,4-Dichlorophenol	1.00	0.260	*	ug/L		26	50 - 140
2,4-Dimethylphenol	1.00	0.157	J *	ug/L		16	30 - 135
2,4-Dinitrophenol	2.00	ND	*	ug/L		17	24 - 146
2,4-Dinitrotoluene	1.00	0.282	*	ug/L		28	73 - 126
2,6-Dinitrotoluene	1.00	0.291	*	ug/L		29	67 - 134

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185545/2-A

Matrix: Water

Analysis Batch: 185805

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloronaphthalene	1.00	0.286	*	ug/L		29	55 - 125
2-Chlorophenol	1.00	0.278	*	ug/L		28	57 - 125
2-Methylnaphthalene	1.00	0.264	*	ug/L		26	56 - 125
2-Methylphenol	1.00	0.278	*	ug/L		28	60 - 130
2-Nitroaniline	1.00	0.313	*	ug/L		31	52 - 140
2-Nitrophenol	1.00	0.247	*	ug/L		25	55 - 140
3 & 4 Methylphenol	1.00	0.280	J *	ug/L		28	60 - 130
3,3'-Dichlorobenzidine	2.00	0.415	J	ug/L		21	20 - 175
3-Nitroaniline	1.00	0.249		ug/L		25	22 - 124
4,6-Dinitro-2-methylphenol	2.00	ND	*	ug/L		24	50 - 136
4-Bromophenyl phenyl ether	1.00	0.315	*	ug/L		31	62 - 132
4-Chloro-3-methylphenol	1.00	0.305	*	ug/L		30	65 - 145
4-Chloroaniline	1.00	0.196	J	ug/L		20	20 - 150
4-Chlorophenyl phenyl ether	1.00	0.274	*	ug/L		27	59 - 125
4-Nitroaniline	1.00	0.273	J *	ug/L		27	49 - 125
4-Nitrophenol	2.00	0.547	J *	ug/L		27	35 - 153
Acenaphthene	1.00	0.301	*	ug/L		30	63 - 125
Acenaphthylene	1.00	0.297	*	ug/L		30	62 - 125
Anthracene	1.00	0.297	*	ug/L		30	50 - 125
Benzo[a]anthracene	1.00	0.327	*	ug/L		33	65 - 125
Benzo[a]pyrene	1.00	0.280	*	ug/L		28	45 - 125
Benzo[b]fluoranthene	1.00	0.321	*	ug/L		32	70 - 129
Benzo[g,h,i]perylene	1.00	0.371	*	ug/L		37	65 - 153
Benzo[k]fluoranthene	1.00	0.343	*	ug/L		34	70 - 123
Benzoic acid	2.00	ND	*	ug/L		10	20 - 144
Benzyl alcohol	1.00	0.264	*	ug/L		26	41 - 144
Bis(2-chloroethoxy)methane	1.00	0.272	*	ug/L		27	59 - 125
Bis(2-chloroethyl)ether	1.00	0.271	*	ug/L		27	55 - 125
Bis(2-ethylhexyl) phthalate	1.00	0.709	J	ug/L		71	70 - 185
Butyl benzyl phthalate	1.00	0.402	* ^	ug/L		40	60 - 167
Carbazole	1.00	0.322	*	ug/L		32	75 - 142
Chrysene	1.00	0.316	*	ug/L		32	70 - 125
Dibenz(a,h)anthracene	1.00	0.304	*	ug/L		30	69 - 154
Dibenzofuran	1.00	0.291	*	ug/L		29	60 - 125
Diethyl phthalate	1.00	0.312	*	ug/L		31	60 - 150
Dimethyl phthalate	1.00	0.319	*	ug/L		32	65 - 155
Di-n-butyl phthalate	1.00	0.377	*	ug/L		38	55 - 167
Di-n-octyl phthalate	1.00	0.342	*	ug/L		34	55 - 150
Fluoranthene	1.00	0.301	*	ug/L		30	70 - 145
Fluorene	1.00	0.292	*	ug/L		29	69 - 125
Hexachlorobenzene	1.00	0.338	*	ug/L		34	61 - 125
Hexachlorobutadiene	1.00	0.174	J *	ug/L		17	25 - 125
Hexachlorocyclopentadiene	1.00	ND	*	ug/L		5	20 - 125
Hexachloroethane	1.00	0.213	J *	ug/L		21	30 - 125
Indeno[1,2,3-cd]pyrene	1.00	0.327	*	ug/L		33	70 - 136
Isophorone	1.00	0.309	*	ug/L		31	64 - 125
Naphthalene	1.00	0.296	*	ug/L		30	56 - 125
Nitrobenzene	1.00	0.307	*	ug/L		31	62 - 125

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-185545/2-A

Matrix: Water

Analysis Batch: 185805

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodimethylamine	1.00	0.247	J *	ug/L		25	33 - 143
N-Nitrosodi-n-propylamine	1.00	0.284	*	ug/L		28	60 - 120
N-Nitrosodiphenylamine	1.00	0.538		ug/L		54	40 - 135
Pentachlorophenol	2.00	0.597		ug/L		30	20 - 145
Phenanthrene	1.00	0.290	*	ug/L		29	70 - 125
Phenol	1.00	0.242	J *	ug/L		24	53 - 130
Pyrene	1.00	0.289	*	ug/L		29	70 - 133
2,3,4,6-Tetrachlorophenol	1.00	0.280	J *	ug/L		28	60 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	16	X	44 - 125
2-Fluorobiphenyl	14	X	50 - 120
2-Fluorophenol	12	X	30 - 134
Nitrobenzene-d5	15	X	59 - 120
Phenol-d5	13	X	52 - 120
Terphenyl-d14	15	X	64 - 150

Lab Sample ID: LCSD 580-185545/3-A

Matrix: Water

Analysis Batch: 185805

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
1,2,4-Trichlorobenzene	1.00	0.216	*	ug/L		22	40 - 125	13	20
1,2-Dichlorobenzene	1.00	0.218	*	ug/L		22	44 - 125	11	20
1,3-Dichlorobenzene	1.00	0.207	*	ug/L		21	40 - 125	14	20
1,4-Dichlorobenzene	1.00	0.213	*	ug/L		21	40 - 125	10	20
1-Methylnaphthalene	1.00	0.250	*	ug/L		25	54 - 125	13	20
2,2'-oxybis[1-chloropropane]	1.00	0.278	*	ug/L		28	44 - 130	16	20
2,4,5-Trichlorophenol	1.00	0.248	*	ug/L		25	66 - 130	16	20
2,4,6-Trichlorophenol	1.00	0.225	J *	ug/L		22	55 - 140	23	20
2,4-Dichlorophenol	1.00	0.199	J *	ug/L		20	50 - 140	27	20
2,4-Dimethylphenol	1.00	0.160	J *	ug/L		16	30 - 135	1	20
2,4-Dinitrophenol	2.00	ND	*	ug/L		12	24 - 146	31	20
2,4-Dinitrotoluene	1.00	0.229	*	ug/L		23	73 - 126	21	20
2,6-Dinitrotoluene	1.00	0.247	*	ug/L		25	67 - 134	16	20
2-Chloronaphthalene	1.00	0.249	*	ug/L		25	55 - 125	14	20
2-Chlorophenol	1.00	0.218	*	ug/L		22	57 - 125	24	20
2-Methylnaphthalene	1.00	0.231	*	ug/L		23	56 - 125	14	20
2-Methylphenol	1.00	0.223	*	ug/L		22	60 - 130	22	20
2-Nitroaniline	1.00	0.280	*	ug/L		28	52 - 140	11	20
2-Nitrophenol	1.00	0.198	J *	ug/L		20	55 - 140	22	20
3 & 4 Methylphenol	1.00	0.227	J *	ug/L		23	60 - 130	21	20
3,3'-Dichlorobenzidine	2.00	0.354	J *	ug/L		18	20 - 175	16	20
3-Nitroaniline	1.00	0.227	*	ug/L		23	22 - 124	9	20
4,6-Dinitro-2-methylphenol	2.00	ND	*	ug/L		19	50 - 136	22	20
4-Bromophenyl phenyl ether	1.00	0.259	*	ug/L		26	62 - 132	19	20
4-Chloro-3-methylphenol	1.00	0.258	*	ug/L		26	65 - 145	17	20
4-Chloroaniline	1.00	0.198	J	ug/L		20	20 - 150	1	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185545/3-A

Matrix: Water

Analysis Batch: 185805

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
							Limits	RPD	RPD	Limit
4-Chlorophenyl phenyl ether	1.00	0.235	*	ug/L		24	59 - 125	15	20	
4-Nitroaniline	1.00	0.227	J *	ug/L		23	49 - 125	18	20	
4-Nitrophenol	2.00	ND	*	ug/L		23	35 - 153	15	20	
Acenaphthene	1.00	0.266	*	ug/L		27	63 - 125	12	20	
Acenaphthylene	1.00	0.253	*	ug/L		25	62 - 125	16	20	
Anthracene	1.00	0.262	*	ug/L		26	50 - 125	12	20	
Benzo[a]anthracene	1.00	0.281	*	ug/L		28	65 - 125	15	20	
Benzo[a]pyrene	1.00	0.239	*	ug/L		24	45 - 125	16	20	
Benzo[b]fluoranthene	1.00	0.278	*	ug/L		28	70 - 129	14	20	
Benzo[g,h,i]perylene	1.00	0.313	*	ug/L		31	65 - 153	17	20	
Benzo[k]fluoranthene	1.00	0.314	*	ug/L		31	70 - 123	9	20	
Benzoic acid	2.00	ND	*	ug/L		6	20 - 144	42	20	
Benzyl alcohol	1.00	0.210	*	ug/L		21	41 - 144	23	20	
Bis(2-chloroethoxy)methane	1.00	0.239	*	ug/L		24	59 - 125	13	20	
Bis(2-chloroethyl)ether	1.00	0.221	*	ug/L		22	55 - 125	20	20	
Bis(2-ethylhexyl) phthalate	1.00	ND	*	ug/L		32	70 - 185	76	20	
Butyl benzyl phthalate	1.00	0.334	* ^	ug/L		33	60 - 167	18	20	
Carbazole	1.00	0.272	*	ug/L		27	75 - 142	17	20	
Chrysene	1.00	0.279	*	ug/L		28	70 - 125	12	20	
Dibenz(a,h)anthracene	1.00	0.308	*	ug/L		31	69 - 154	1	20	
Dibenzofuran	1.00	0.247	*	ug/L		25	60 - 125	17	20	
Diethyl phthalate	1.00	0.263	*	ug/L		26	60 - 150	17	20	
Dimethyl phthalate	1.00	0.269	*	ug/L		27	65 - 155	17	20	
Di-n-butyl phthalate	1.00	0.322	*	ug/L		32	55 - 167	16	20	
Di-n-octyl phthalate	1.00	0.294	*	ug/L		29	55 - 150	15	20	
Fluoranthene	1.00	0.261	*	ug/L		26	70 - 145	14	20	
Fluorene	1.00	0.254	*	ug/L		25	69 - 125	14	20	
Hexachlorobenzene	1.00	0.297	*	ug/L		30	61 - 125	13	20	
Hexachlorobutadiene	1.00	0.182	J *	ug/L		18	25 - 125	4	20	
Hexachlorocyclopentadiene	1.00	ND	*	ug/L		4	20 - 125	10	20	
Hexachloroethane	1.00	0.189	J *	ug/L		19	30 - 125	12	20	
Indeno[1,2,3-cd]pyrene	1.00	0.305	*	ug/L		30	70 - 136	7	20	
Isophorone	1.00	0.279	*	ug/L		28	64 - 125	11	20	
Naphthalene	1.00	0.256	*	ug/L		26	56 - 125	14	20	
Nitrobenzene	1.00	0.250	*	ug/L		25	62 - 125	20	20	
N-Nitrosodimethylamine	1.00	0.223	J *	ug/L		22	33 - 143	10	20	
N-Nitrosodi-n-propylamine	1.00	0.236	*	ug/L		24	60 - 120	18	20	
N-Nitrosodiphenylamine	1.00	0.445	*	ug/L		44	40 - 135	19	20	
Pentachlorophenol	2.00	0.530	*	ug/L		27	20 - 145	12	20	
Phenanthrene	1.00	0.262	*	ug/L		26	70 - 125	10	20	
Phenol	1.00	0.190	J *	ug/L		19	53 - 130	24	20	
Pyrene	1.00	0.269	*	ug/L		27	70 - 133	7	20	
2,3,4,6-Tetrachlorophenol	1.00	0.249	J *	ug/L		25	60 - 130	12	20	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	13	X	44 - 125
2-Fluorobiphenyl	12	X	50 - 120
2-Fluorophenol	8	X	30 - 134

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-185545/3-A

Matrix: Water

Analysis Batch: 185805

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185545

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Nitrobenzene-d5	12	X	59 - 120
Phenol-d5	10	X	52 - 120
Terphenyl-d14	13	X	64 - 150

Lab Sample ID: 580-48451-1 MS

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,2,4-Trichlorobenzene	ND	F1 *	0.950	1.22	* F1	ug/L		128	40 - 125
1,2-Dichlorobenzene	ND	F1 *	0.950	1.22	* F1	ug/L		128	45 - 125
1,3-Dichlorobenzene	ND	*	0.950	1.19	*	ug/L		125	40 - 125
1,4-Dichlorobenzene	ND	* F1	0.950	1.20	* F1	ug/L		126	40 - 125
1-Methylnaphthalene	ND	F1 *	0.950	1.43	* F1	ug/L		151	60 - 125
2,2'-oxybis[1-chloropropane]	ND	F1 *	0.950	1.24	* F1	ug/L		131	65 - 125
2,4,5-Trichlorophenol	ND	F1 *	0.950	1.60	* F1	ug/L		168	75 - 125
2,4,6-Trichlorophenol	ND	F1 *	0.950	1.69	* F1	ug/L		178	55 - 140
2,4-Dichlorophenol	ND	F1 *	0.950	1.43	* F1	ug/L		151	50 - 140
2,4-Dimethylphenol	ND	*	0.950	1.27	*	ug/L		133	30 - 135
2,4-Dinitrophenol	ND	F1 * ^	1.90	4.17	* F1 ^	ug/L		220	50 - 130
2,4-Dinitrotoluene	ND	F1 *	0.950	1.65	* F1	ug/L		173	75 - 125
2,6-Dinitrotoluene	ND	F1 *	0.950	1.54	* F1	ug/L		162	75 - 125
2-Chloronaphthalene	ND	F1 *	0.950	1.39	* F1	ug/L		146	60 - 125
2-Chlorophenol	ND	F1 *	0.950	1.28	* F1	ug/L		135	60 - 130
2-Methylnaphthalene	ND	F1 *	0.950	1.31	* F1	ug/L		138	60 - 125
2-Methylphenol	ND	F1 *	0.950	1.39	* F1	ug/L		146	70 - 130
2-Nitroaniline	ND	F1 *	0.950	1.55	* F1	ug/L		164	75 - 140
2-Nitrophenol	ND	F1 *	0.950	1.64	* F1	ug/L		172	55 - 140
3 & 4 Methylphenol	ND	F1 *	0.950	1.36	* F1	ug/L		143	65 - 130
3,3'-Dichlorobenzidine	ND	* F1	1.90	ND	F1 *	ug/L		0	20 - 175
3-Nitroaniline	ND		0.950	0.866		ug/L		91	75 - 140
4,6-Dinitro-2-methylphenol	ND	F1 * ^	1.90	4.07	* F1 ^	ug/L		214	50 - 125
4-Bromophenyl phenyl ether	ND	F1 *	0.950	1.44	* F1	ug/L		151	75 - 125
4-Chloro-3-methylphenol	ND	F1 *	0.950	1.54	* F1	ug/L		162	65 - 145
4-Chloroaniline	ND		0.950	0.625		ug/L		66	35 - 175
4-Chlorophenyl phenyl ether	ND	F1 *	0.950	1.27	* F1	ug/L		134	70 - 125
4-Nitroaniline	ND	*	0.950	0.863	*	ug/L		91	70 - 125
4-Nitrophenol	ND	F1 *	1.90	3.29	* F1	ug/L		173	35 - 145
Acenaphthene	ND	F1 *	0.950	1.38	* F1	ug/L		145	65 - 125
Acenaphthylene	ND	F1 *	0.950	1.30	* F1	ug/L		137	65 - 125
Anthracene	ND	*	0.950	1.19	*	ug/L		125	50 - 125
Benzo[a]anthracene	ND	F1 *	0.950	1.47	* F1	ug/L		155	65 - 125
Benzo[a]pyrene	ND	F1 *	0.950	1.25	* F1	ug/L		131	45 - 125
Benzo[b]fluoranthene	ND	F1 *	0.950	1.62	* F1	ug/L		170	70 - 125
Benzo[g,h,i]perylene	ND	F1 *	0.950	1.59	* F1	ug/L		167	75 - 125
Benzo[k]fluoranthene	ND	F1 *	0.950	1.41	* F1	ug/L		149	70 - 125
Benzoic acid	0.80	J F1 *	1.90	4.51	* F1	ug/L		195	20 - 140
Benzyl alcohol	ND	F1 *	0.950	1.38	* F1	ug/L		145	65 - 125

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48451-1 MS

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Bis(2-chloroethoxy)methane	ND	F1 *	0.950	1.43	* F1	ug/L		151	75 - 125
Bis(2-chloroethyl)ether	ND	F1 *	0.950	1.39	* F1	ug/L		146	65 - 125
Bis(2-ethylhexyl) phthalate	ND	F2 F1 *	0.950	1.97	* F1	ug/L		207	20 - 175
Butyl benzyl phthalate	0.19	J F1 *	0.950	2.32	* F1	ug/L		224	60 - 150
Carbazole	ND	F1 *	0.950	1.45	* F1	ug/L		153	75 - 125
Chrysene	ND	F1 *	0.950	1.49	* F1	ug/L		157	70 - 125
Dibenz(a,h)anthracene	ND	F1 *	0.950	1.45	* F1	ug/L		153	75 - 130
Dibenzofuran	ND	F1 *	0.950	1.39	* F1	ug/L		146	60 - 125
Diethyl phthalate	ND	F1 *	0.950	1.52	* F1	ug/L		160	60 - 150
Dimethyl phthalate	ND	*	0.950	1.44	*	ug/L		151	65 - 155
Di-n-butyl phthalate	ND	F1 *	0.950	1.70	* F1	ug/L		179	55 - 155
Di-n-octyl phthalate	ND	F1 *	0.950	1.71	* F1	ug/L		180	55 - 150
Fluoranthene	0.0081	J F1 *	0.950	1.42	* F1	ug/L		148	70 - 125
Fluorene	ND	F1 *	0.950	1.43	* F1	ug/L		150	70 - 125
Hexachlorobenzene	ND	F1 *	0.950	1.33	* F1	ug/L		140	70 - 125
Hexachlorobutadiene	ND	*	0.950	0.968	*	ug/L		102	25 - 125
Hexachlorocyclopentadiene	ND	*	0.950	0.640	J *	ug/L		67	20 - 125
Hexachloroethane	ND	*	0.950	1.12	*	ug/L		117	30 - 125
Indeno[1,2,3-cd]pyrene	ND	F1 *	0.950	1.61	* F1	ug/L		170	75 - 125
Isophorone	ND	F1 *	0.950	1.44	* F1	ug/L		152	75 - 125
Naphthalene	ND	F1 *	0.950	1.39	* F1	ug/L		146	60 - 125
Nitrobenzene	ND	F1 *	0.950	1.42	* F1	ug/L		150	70 - 125
N-Nitrosodimethylamine	ND	F1 *	0.950	1.18	*	ug/L		124	45 - 125
N-Nitrosodi-n-propylamine	ND	F1 *	0.950	1.36	* F1	ug/L		143	70 - 130
N-Nitrosodiphenylamine	ND	F1	0.950	2.18	F1	ug/L		230	40 - 135
Pentachlorophenol	0.19	J F1 B	1.90	3.65	F1 B	ug/L		182	20 - 145
Phenanthrene	ND	F1 *	0.950	1.38	* F1	ug/L		145	75 - 125
Phenol	ND	F1 *	0.950	1.24	* F1	ug/L		131	65 - 130
Pyrene	0.0082	J F1 *	0.950	1.38	* F1	ug/L		144	70 - 125
2,3,4,6-Tetrachlorophenol	ND	F1 *	0.950	1.63	* F1	ug/L		172	60 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	81		44 - 125
2-Fluorobiphenyl	65		50 - 120
2-Fluorophenol	59		30 - 134
Nitrobenzene-d5	72		59 - 120
Phenol-d5	71		52 - 120
Terphenyl-d14	78		64 - 150

Lab Sample ID: 580-48451-1 MSD

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	
	Result	Qualifier		Result	Qualifier					RPD	Limit
1,2,4-Trichlorobenzene	ND	F1 *	0.947	1.20	* F1	ug/L		127	40 - 125	1	20
1,2-Dichlorobenzene	ND	F1 *	0.947	1.22	* F1	ug/L		128	45 - 125	0	20
1,3-Dichlorobenzene	ND	*	0.947	1.18	*	ug/L		124	40 - 125	1	20
1,4-Dichlorobenzene	ND	* F1	0.947	1.19	*	ug/L		125	40 - 125	1	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48451-1 MSD

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
1-Methylnaphthalene	ND	F1 *	0.947	1.37	* F1	ug/L		145	60 - 125	4	20
2,2'-oxybis[1-chloropropane]	ND	F1 *	0.947	1.24	* F1	ug/L		131	65 - 125	0	20
2,4,5-Trichlorophenol	ND	F1 *	0.947	1.59	* F1	ug/L		168	75 - 125	0	20
2,4,6-Trichlorophenol	ND	F1 *	0.947	1.66	* F1	ug/L		175	55 - 140	2	20
2,4-Dichlorophenol	ND	F1 *	0.947	1.43	* F1	ug/L		151	50 - 140	0	20
2,4-Dimethylphenol	ND	*	0.947	1.20	*	ug/L		127	30 - 135	5	20
2,4-Dinitrophenol	ND	F1 * ^	1.89	4.28	* F1 ^	ug/L		226	50 - 130	3	20
2,4-Dinitrotoluene	ND	F1 *	0.947	1.58	* F1	ug/L		167	75 - 125	4	20
2,6-Dinitrotoluene	ND	F1 *	0.947	1.51	* F1	ug/L		159	75 - 125	2	20
2-Chloronaphthalene	ND	F1 *	0.947	1.38	* F1	ug/L		145	60 - 125	1	20
2-Chlorophenol	ND	F1 *	0.947	1.36	* F1	ug/L		143	60 - 130	6	20
2-Methylnaphthalene	ND	F1 *	0.947	1.29	* F1	ug/L		136	60 - 125	1	20
2-Methylphenol	ND	F1 *	0.947	1.44	* F1	ug/L		152	70 - 130	4	20
2-Nitroaniline	ND	F1 *	0.947	1.53	* F1	ug/L		162	75 - 140	1	20
2-Nitrophenol	ND	F1 *	0.947	1.63	* F1	ug/L		172	55 - 140	0	20
3 & 4 Methylphenol	ND	F1 *	0.947	1.37	* F1	ug/L		144	65 - 130	0	20
3,3'-Dichlorobenzidine	ND	* F1	1.89	ND	* F1	ug/L		0	20 - 175	NC	20
3-Nitroaniline	ND		0.947	0.872		ug/L		92	75 - 140	1	20
4,6-Dinitro-2-methylphenol	ND	F1 * ^	1.89	4.19	* F1 ^	ug/L		221	50 - 125	3	20
4-Bromophenyl phenyl ether	ND	F1 *	0.947	1.44	* F1	ug/L		152	75 - 125	0	20
4-Chloro-3-methylphenol	ND	F1 *	0.947	1.45	* F1	ug/L		153	65 - 145	6	20
4-Chloroaniline	ND		0.947	0.623		ug/L		66	35 - 175	0	20
4-Chlorophenyl phenyl ether	ND	F1 *	0.947	1.25	* F1	ug/L		131	70 - 125	2	20
4-Nitroaniline	ND	*	0.947	0.879	*	ug/L		93	70 - 125	2	20
4-Nitrophenol	ND	F1 *	1.89	3.29	* F1	ug/L		173	35 - 145	0	20
Acenaphthene	ND	F1 *	0.947	1.36	* F1	ug/L		143	65 - 125	2	20
Acenaphthylene	ND	F1 *	0.947	1.29	* F1	ug/L		136	65 - 125	1	20
Anthracene	ND	*	0.947	1.16	*	ug/L		122	50 - 125	2	20
Benzo[a]anthracene	ND	F1 *	0.947	1.39	* F1	ug/L		147	65 - 125	6	20
Benzo[a]pyrene	ND	F1 *	0.947	1.32	* F1	ug/L		139	45 - 125	6	20
Benzo[b]fluoranthene	ND	F1 *	0.947	1.69	* F1	ug/L		178	70 - 125	4	20
Benzo[g,h,i]perylene	ND	F1 *	0.947	1.64	* F1	ug/L		173	75 - 125	3	20
Benzo[k]fluoranthene	ND	F1 *	0.947	1.42	* F1	ug/L		150	70 - 125	1	20
Benzoic acid	0.80	J F1 *	1.89	4.30	* F1	ug/L		185	20 - 140	5	20
Benzyl alcohol	ND	F1 *	0.947	1.37	* F1	ug/L		144	65 - 125	1	20
Bis(2-chloroethoxy)methane	ND	F1 *	0.947	1.35	* F1	ug/L		143	75 - 125	6	20
Bis(2-chloroethyl)ether	ND	F1 *	0.947	1.44	* F1	ug/L		151	65 - 125	3	20
Bis(2-ethylhexyl) phthalate	ND	F2 F1 *	0.947	3.38	* F1 F2	ug/L		357	20 - 175	53	20
Butyl benzyl phthalate	0.19	J F1 *	0.947	2.04	* F1	ug/L		195	60 - 150	13	20
Carbazole	ND	F1 *	0.947	1.46	* F1	ug/L		154	75 - 125	1	20
Chrysene	ND	F1 *	0.947	1.48	* F1	ug/L		156	70 - 125	1	20
Dibenz(a,h)anthracene	ND	F1 *	0.947	1.50	* F1	ug/L		159	75 - 130	4	20
Dibenzofuran	ND	F1 *	0.947	1.39	* F1	ug/L		146	60 - 125	0	20
Diethyl phthalate	ND	F1 *	0.947	1.50	* F1	ug/L		159	60 - 150	1	20
Dimethyl phthalate	ND	*	0.947	1.47	*	ug/L		155	65 - 155	2	20
Di-n-butyl phthalate	ND	F1 *	0.947	1.66	* F1	ug/L		176	55 - 155	2	20
Di-n-octyl phthalate	ND	F1 *	0.947	1.79	* F1	ug/L		189	55 - 150	4	20
Fluoranthene	0.0081	J F1 *	0.947	1.43	* F1	ug/L		150	70 - 125	1	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48451-1 MSD

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 185545

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Fluorene	ND	F1 *	0.947	1.43	* F1	ug/L		151	70 - 125	0	20
Hexachlorobenzene	ND	F1 *	0.947	1.37	* F1	ug/L		145	70 - 125	3	20
Hexachlorobutadiene	ND	*	0.947	0.821	*	ug/L		87	25 - 125	16	20
Hexachlorocyclopentadiene	ND	*	0.947	0.552	J *	ug/L		58	20 - 125	15	20
Hexachloroethane	ND	*	0.947	1.07	*	ug/L		113	30 - 125	4	20
Indeno[1,2,3-cd]pyrene	ND	F1 *	0.947	1.70	* F1	ug/L		179	75 - 125	5	20
Isophorone	ND	F1 *	0.947	1.39	* F1	ug/L		147	75 - 125	4	20
Naphthalene	ND	F1 *	0.947	1.38	* F1	ug/L		145	60 - 125	1	20
Nitrobenzene	ND	F1 *	0.947	1.47	* F1	ug/L		155	70 - 125	3	20
N-Nitrosodimethylamine	ND	F1 *	0.947	1.24	* F1	ug/L		131	45 - 125	5	20
N-Nitrosodi-n-propylamine	ND	F1 *	0.947	1.37	* F1	ug/L		144	70 - 130	1	20
N-Nitrosodiphenylamine	ND	F1	0.947	2.21	F1	ug/L		233	40 - 135	1	20
Pentachlorophenol	0.19	J F1 B	1.89	3.68	F1 B	ug/L		184	20 - 145	1	20
Phenanthrene	ND	F1 *	0.947	1.41	* F1	ug/L		149	75 - 125	2	20
Phenol	ND	F1 *	0.947	1.29	* F1	ug/L		137	65 - 130	4	20
Pyrene	0.0082	J F1 *	0.947	1.40	* F1	ug/L		146	70 - 125	1	20
2,3,4,6-Tetrachlorophenol	ND	F1 *	0.947	1.65	* F1	ug/L		175	60 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol	81		44 - 125
2-Fluorobiphenyl	64		50 - 120
2-Fluorophenol	66		30 - 134
Nitrobenzene-d5	73		59 - 120
Phenol-d5	75		52 - 120
Terphenyl-d14	80		64 - 150

Lab Sample ID: MB 580-186033/1-A

Matrix: Water

Analysis Batch: 186321

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186033

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,4-Trichlorobenzene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
1,2-Dichlorobenzene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
1,3-Dichlorobenzene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
1,4-Dichlorobenzene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
1-Methylnaphthalene	ND		0.060	0.030	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,2'-oxybis[1-chloropropane]	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,4,5-Trichlorophenol	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,4,6-Trichlorophenol	ND		0.60	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,4-Dichlorophenol	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,4-Dimethylphenol	ND		2.0	0.30	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,4-Dinitrophenol	ND	^	5.0	1.0	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,4-Dinitrotoluene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,6-Dinitrotoluene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
2-Chloronaphthalene	ND		0.060	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
2-Chlorophenol	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
2-Methylphenol	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-186033/1-A

Matrix: Water

Analysis Batch: 186321

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186033

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Nitroaniline	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
2-Nitrophenol	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
3 & 4 Methylphenol	ND		0.80	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
3,3'-Dichlorobenzidine	ND		2.0	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
3-Nitroaniline	ND		0.40	0.12	ug/L		04/03/15 16:15	04/08/15 11:08	1
4,6-Dinitro-2-methylphenol	ND	^	4.0	1.0	ug/L		04/03/15 16:15	04/08/15 11:08	1
4-Bromophenyl phenyl ether	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
4-Chloro-3-methylphenol	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
4-Chloroaniline	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
4-Chlorophenyl phenyl ether	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
4-Nitroaniline	ND		0.60	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
4-Nitrophenol	ND		3.0	1.0	ug/L		04/03/15 16:15	04/08/15 11:08	1
Acenaphthene	ND		0.10	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Acenaphthylene	ND		0.080	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Anthracene	ND		0.040	0.010	ug/L		04/03/15 16:15	04/08/15 11:08	1
Benzo[a]anthracene	ND		0.060	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Benzo[a]pyrene	ND		0.040	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Benzo[b]fluoranthene	ND		0.080	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Benzo[g,h,i]perylene	ND		0.060	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Benzo[k]fluoranthene	ND		0.060	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Benzoic acid	ND		3.0	0.60	ug/L		04/03/15 16:15	04/08/15 11:08	1
Benzyl alcohol	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Bis(2-chloroethoxy)methane	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Bis(2-chloroethyl)ether	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Bis(2-ethylhexyl) phthalate	ND		3.0	1.2	ug/L		04/03/15 16:15	04/08/15 11:08	1
Butyl benzyl phthalate	0.225	J	0.60	0.20	ug/L		04/03/15 16:15	04/08/15 11:08	1
Carbazole	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Chrysene	ND		0.040	0.013	ug/L		04/03/15 16:15	04/08/15 11:08	1
Dibenz(a,h)anthracene	ND		0.060	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Dibenzofuran	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Diethyl phthalate	0.245	J	0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Dimethyl phthalate	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Di-n-butyl phthalate	ND		0.40	0.13	ug/L		04/03/15 16:15	04/08/15 11:08	1
Di-n-octyl phthalate	ND		0.40	0.18	ug/L		04/03/15 16:15	04/08/15 11:08	1
Fluoranthene	ND		0.050	0.013	ug/L		04/03/15 16:15	04/08/15 11:08	1
Fluorene	ND		0.060	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Hexachlorobenzene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Hexachlorobutadiene	ND		0.60	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Hexachlorocyclopentadiene	ND		2.0	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Hexachloroethane	ND		0.60	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Indeno[1,2,3-cd]pyrene	ND		0.060	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Isophorone	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Naphthalene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Nitrobenzene	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
N-Nitrosodimethylamine	ND		2.0	0.20	ug/L		04/03/15 16:15	04/08/15 11:08	1
N-Nitrosodi-n-propylamine	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
N-Nitrosodiphenylamine	ND		0.40	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Pentachlorophenol	0.335	J	0.70	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-186033/1-A

Matrix: Water

Analysis Batch: 186321

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186033

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.080	0.020	ug/L		04/03/15 16:15	04/08/15 11:08	1
Phenol	0.317	J	0.60	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1
Pyrene	ND		0.060	0.013	ug/L		04/03/15 16:15	04/08/15 11:08	1
2,3,4,6-Tetrachlorophenol	ND		0.70	0.10	ug/L		04/03/15 16:15	04/08/15 11:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		44 - 125	04/03/15 16:15	04/08/15 11:08	1
2-Fluorobiphenyl	77		50 - 120	04/03/15 16:15	04/08/15 11:08	1
2-Fluorophenol	83		30 - 134	04/03/15 16:15	04/08/15 11:08	1
Nitrobenzene-d5	84		59 - 120	04/03/15 16:15	04/08/15 11:08	1
Phenol-d5	93		52 - 120	04/03/15 16:15	04/08/15 11:08	1
Terphenyl-d14	94		64 - 150	04/03/15 16:15	04/08/15 11:08	1

Lab Sample ID: LCS 580-186033/2-A

Matrix: Water

Analysis Batch: 186321

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	2.00	1.41		ug/L		71	40 - 125
1,2-Dichlorobenzene	2.00	1.38		ug/L		69	44 - 125
1,3-Dichlorobenzene	2.00	1.30		ug/L		65	40 - 125
1,4-Dichlorobenzene	2.00	1.38		ug/L		69	40 - 125
1-Methylnaphthalene	2.00	1.66		ug/L		83	54 - 125
2,2'-oxybis[1-chloropropane]	2.00	1.49		ug/L		75	44 - 130
2,4,5-Trichlorophenol	2.00	1.81		ug/L		90	66 - 130
2,4,6-Trichlorophenol	2.00	2.02		ug/L		101	55 - 140
2,4-Dichlorophenol	2.00	1.75		ug/L		87	50 - 140
2,4-Dimethylphenol	2.00	1.20	J	ug/L		60	30 - 135
2,4-Dinitrophenol	4.00	3.38	J ^	ug/L		85	24 - 146
2,4-Dinitrotoluene	2.00	1.93		ug/L		97	73 - 126
2,6-Dinitrotoluene	2.00	2.01		ug/L		101	67 - 134
2-Chloronaphthalene	2.00	1.80		ug/L		90	55 - 125
2-Chlorophenol	2.00	1.66		ug/L		83	57 - 125
2-Methylnaphthalene	2.00	1.50		ug/L		75	56 - 125
2-Methylphenol	2.00	1.64		ug/L		82	60 - 130
2-Nitroaniline	2.00	2.07		ug/L		103	52 - 140
2-Nitrophenol	2.00	2.02		ug/L		101	55 - 140
3 & 4 Methylphenol	2.00	1.64		ug/L		82	60 - 130
3,3'-Dichlorobenzidine	4.00	2.37		ug/L		59	20 - 175
3-Nitroaniline	2.00	1.78		ug/L		89	22 - 124
4,6-Dinitro-2-methylphenol	4.00	4.81	^	ug/L		120	50 - 136
4-Bromophenyl phenyl ether	2.00	1.76		ug/L		88	62 - 132
4-Chloro-3-methylphenol	2.00	1.75		ug/L		88	65 - 145
4-Chloroaniline	2.00	1.31		ug/L		66	20 - 150
4-Chlorophenyl phenyl ether	2.00	1.67		ug/L		84	59 - 125
4-Nitroaniline	2.00	1.67		ug/L		84	49 - 125
4-Nitrophenol	4.00	4.03		ug/L		101	35 - 153
Acenaphthene	2.00	1.79		ug/L		90	63 - 125

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186033/2-A

Matrix: Water

Analysis Batch: 186321

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	2.00	1.67		ug/L		84	62 - 125
Anthracene	2.00	1.62		ug/L		81	50 - 125
Benzo[a]anthracene	2.00	1.87		ug/L		94	65 - 125
Benzo[a]pyrene	2.00	1.54		ug/L		77	45 - 125
Benzo[b]fluoranthene	2.00	1.96		ug/L		98	70 - 129
Benzo[g,h,i]perylene	2.00	2.03		ug/L		102	65 - 153
Benzo[k]fluoranthene	2.00	2.04		ug/L		102	70 - 123
Benzoic acid	4.00	2.57	J	ug/L		64	20 - 144
Benzyl alcohol	2.00	1.18		ug/L		59	41 - 144
Bis(2-chloroethoxy)methane	2.00	1.71		ug/L		85	59 - 125
Bis(2-chloroethyl)ether	2.00	1.72		ug/L		86	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	3.97	*	ug/L		198	70 - 185
Butyl benzyl phthalate	2.00	2.48		ug/L		124	60 - 167
Carbazole	2.00	1.75		ug/L		87	75 - 142
Chrysene	2.00	2.04		ug/L		102	70 - 125
Dibenz(a,h)anthracene	2.00	1.75		ug/L		87	69 - 154
Dibenzofuran	2.00	1.77		ug/L		88	60 - 125
Diethyl phthalate	2.00	2.00		ug/L		100	60 - 150
Dimethyl phthalate	2.00	1.92		ug/L		96	65 - 155
Di-n-butyl phthalate	2.00	1.89		ug/L		94	55 - 167
Di-n-octyl phthalate	2.00	1.89		ug/L		95	55 - 150
Fluoranthene	2.00	1.71		ug/L		86	70 - 145
Fluorene	2.00	1.86		ug/L		93	69 - 125
Hexachlorobenzene	2.00	1.76		ug/L		88	61 - 125
Hexachlorobutadiene	2.00	1.09		ug/L		54	25 - 125
Hexachlorocyclopentadiene	2.00	0.571	J	ug/L		29	20 - 125
Hexachloroethane	2.00	1.28		ug/L		64	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	1.92		ug/L		96	70 - 136
Isophorone	2.00	1.70		ug/L		85	64 - 125
Naphthalene	2.00	1.61		ug/L		81	56 - 125
Nitrobenzene	2.00	1.78		ug/L		89	62 - 125
N-Nitrosodimethylamine	2.00	1.46	J	ug/L		73	33 - 143
N-Nitrosodi-n-propylamine	2.00	1.37		ug/L		69	60 - 120
N-Nitrosodiphenylamine	2.00	2.93	*	ug/L		147	40 - 135
Pentachlorophenol	4.00	2.59		ug/L		65	20 - 145
Phenanthrene	2.00	1.73		ug/L		87	70 - 125
Phenol	2.00	1.53		ug/L		76	53 - 130
Pyrene	2.00	1.69		ug/L		85	70 - 133
2,3,4,6-Tetrachlorophenol	2.00	1.90		ug/L		95	60 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	90		44 - 125
2-Fluorobiphenyl	83		50 - 120
2-Fluorophenol	79		30 - 134
Nitrobenzene-d5	82		59 - 120
Phenol-d5	91		52 - 120
Terphenyl-d14	95		64 - 150

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186033/3-A

Matrix: Water

Analysis Batch: 186321

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	RPD Limit
							Limits	RPD		
1,2,4-Trichlorobenzene	2.00	1.43		ug/L		72	40 - 125	1	20	
1,2-Dichlorobenzene	2.00	1.45		ug/L		73	44 - 125	5	20	
1,3-Dichlorobenzene	2.00	1.39		ug/L		70	40 - 125	7	20	
1,4-Dichlorobenzene	2.00	1.41		ug/L		71	40 - 125	2	20	
1-Methylnaphthalene	2.00	1.68		ug/L		84	54 - 125	1	20	
2,2'-oxybis[1-chloropropane]	2.00	1.54		ug/L		77	44 - 130	3	20	
2,4,5-Trichlorophenol	2.00	1.87		ug/L		94	66 - 130	4	20	
2,4,6-Trichlorophenol	2.00	2.02		ug/L		101	55 - 140	0	20	
2,4-Dichlorophenol	2.00	1.73		ug/L		86	50 - 140	1	20	
2,4-Dimethylphenol	2.00	1.35	J	ug/L		68	30 - 135	12	20	
2,4-Dinitrophenol	4.00	2.84	J ^	ug/L		71	24 - 146	17	20	
2,4-Dinitrotoluene	2.00	1.94		ug/L		97	73 - 126	0	20	
2,6-Dinitrotoluene	2.00	1.87		ug/L		94	67 - 134	7	20	
2-Chloronaphthalene	2.00	1.76		ug/L		88	55 - 125	2	20	
2-Chlorophenol	2.00	1.69		ug/L		85	57 - 125	2	20	
2-Methylnaphthalene	2.00	1.58		ug/L		79	56 - 125	6	20	
2-Methylphenol	2.00	1.74		ug/L		87	60 - 130	6	20	
2-Nitroaniline	2.00	2.04		ug/L		102	52 - 140	1	20	
2-Nitrophenol	2.00	2.01		ug/L		101	55 - 140	0	20	
3 & 4 Methylphenol	2.00	1.60		ug/L		80	60 - 130	3	20	
3,3'-Dichlorobenzidine	4.00	2.51		ug/L		63	20 - 175	6	20	
3-Nitroaniline	2.00	1.77		ug/L		88	22 - 124	1	20	
4,6-Dinitro-2-methylphenol	4.00	4.87	^	ug/L		122	50 - 136	1	20	
4-Bromophenyl phenyl ether	2.00	1.81		ug/L		91	62 - 132	3	20	
4-Chloro-3-methylphenol	2.00	1.80		ug/L		90	65 - 145	3	20	
4-Chloroaniline	2.00	1.47		ug/L		73	20 - 150	11	20	
4-Chlorophenyl phenyl ether	2.00	1.59		ug/L		79	59 - 125	5	20	
4-Nitroaniline	2.00	1.65		ug/L		83	49 - 125	1	20	
4-Nitrophenol	4.00	3.40		ug/L		85	35 - 153	17	20	
Acenaphthene	2.00	1.71		ug/L		85	63 - 125	5	20	
Acenaphthylene	2.00	1.63		ug/L		82	62 - 125	2	20	
Anthracene	2.00	1.61		ug/L		81	50 - 125	0	20	
Benzo[a]anthracene	2.00	1.81		ug/L		91	65 - 125	3	20	
Benzo[a]pyrene	2.00	1.61		ug/L		80	45 - 125	4	20	
Benzo[b]fluoranthene	2.00	2.00		ug/L		100	70 - 129	2	20	
Benzo[g,h,i]perylene	2.00	2.08		ug/L		104	65 - 153	2	20	
Benzo[k]fluoranthene	2.00	2.22		ug/L		111	70 - 123	8	20	
Benzoic acid	4.00	1.96	J *	ug/L		49	20 - 144	27	20	
Benzyl alcohol	2.00	1.25		ug/L		63	41 - 144	6	20	
Bis(2-chloroethoxy)methane	2.00	1.85		ug/L		92	59 - 125	8	20	
Bis(2-chloroethyl)ether	2.00	1.83		ug/L		92	55 - 125	7	20	
Bis(2-ethylhexyl) phthalate	2.00	2.70	J *	ug/L		135	70 - 185	38	20	
Butyl benzyl phthalate	2.00	2.32		ug/L		116	60 - 167	7	20	
Carbazole	2.00	1.78		ug/L		89	75 - 142	2	20	
Chrysene	2.00	1.98		ug/L		99	70 - 125	3	20	
Dibenz(a,h)anthracene	2.00	1.83		ug/L		91	69 - 154	4	20	
Dibenzofuran	2.00	1.74		ug/L		87	60 - 125	2	20	
Diethyl phthalate	2.00	1.94		ug/L		97	60 - 150	3	20	

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186033/3-A

Matrix: Water

Analysis Batch: 186321

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit	RPD	Limit
Dimethyl phthalate	2.00	1.83		ug/L		91	65 - 155	5	20	
Di-n-butyl phthalate	2.00	1.88		ug/L		94	55 - 167	0	20	
Di-n-octyl phthalate	2.00	1.86		ug/L		93	55 - 150	1	20	
Fluoranthene	2.00	1.81		ug/L		91	70 - 145	6	20	
Fluorene	2.00	1.83		ug/L		91	69 - 125	2	20	
Hexachlorobenzene	2.00	1.80		ug/L		90	61 - 125	2	20	
Hexachlorobutadiene	2.00	1.18		ug/L		59	25 - 125	9	20	
Hexachlorocyclopentadiene	2.00	0.469	J	ug/L		23	20 - 125	20	20	
Hexachloroethane	2.00	1.28		ug/L		64	30 - 125	0	20	
Indeno[1,2,3-cd]pyrene	2.00	1.96		ug/L		98	70 - 136	2	20	
Isophorone	2.00	1.80		ug/L		90	64 - 125	6	20	
Naphthalene	2.00	1.73		ug/L		86	56 - 125	7	20	
Nitrobenzene	2.00	1.86		ug/L		93	62 - 125	5	20	
N-Nitrosodimethylamine	2.00	1.61	J	ug/L		80	33 - 143	10	20	
N-Nitrosodi-n-propylamine	2.00	1.53		ug/L		76	60 - 120	11	20	
N-Nitrosodiphenylamine	2.00	3.09	*	ug/L		154	40 - 135	5	20	
Pentachlorophenol	4.00	2.71		ug/L		68	20 - 145	4	20	
Phenanthrene	2.00	1.77		ug/L		88	70 - 125	2	20	
Phenol	2.00	1.52		ug/L		76	53 - 130	1	20	
Pyrene	2.00	1.75		ug/L		88	70 - 133	4	20	
2,3,4,6-Tetrachlorophenol	2.00	1.93		ug/L		97	60 - 130	2	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	92		44 - 125
2-Fluorobiphenyl	83		50 - 120
2-Fluorophenol	80		30 - 134
Nitrobenzene-d5	95		59 - 120
Phenol-d5	88		52 - 120
Terphenyl-d14	93		64 - 150

Lab Sample ID: MB 580-186214/1-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186214

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,4-Trichlorobenzene	ND		5.0	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
1,2-Dichlorobenzene	ND		5.5	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
1,3-Dichlorobenzene	ND		5.0	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
1,4-Dichlorobenzene	ND		5.0	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
1-Methylnaphthalene	ND		3.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,2'-oxybis[1-chloropropane]	ND		25	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4,5-Trichlorophenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4,6-Trichlorophenol	ND		15	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4-Dichlorophenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4-Dimethylphenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4-Dinitrophenol	ND		100	20	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4-Dinitrotoluene	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,6-Dinitrotoluene	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-186214/1-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186214

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chloronaphthalene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Chlorophenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Methylnaphthalene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Methylphenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Nitroaniline	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Nitrophenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
3 & 4 Methylphenol	ND		20	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
3,3'-Dichlorobenzidine	ND		20	3.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
3-Nitroaniline	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4,6-Dinitro-2-methylphenol	ND		100	10	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Bromophenyl phenyl ether	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Chloro-3-methylphenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Chloroaniline	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Chlorophenyl phenyl ether	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Nitroaniline	ND		10	2.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Nitrophenol	ND		100	25	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Acenaphthene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Acenaphthylene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Anthracene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[a]anthracene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[a]pyrene	ND		3.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[b]fluoranthene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[g,h,i]perylene	ND		2.5	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[k]fluoranthene	ND		2.5	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzoic acid	ND		250	75	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzyl alcohol	1.50	J	10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Bis(2-chloroethoxy)methane	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Bis(2-chloroethyl)ether	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Bis(2-ethylhexyl) phthalate	6.81	J	60	5.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Butyl benzyl phthalate	10.1	J	20	5.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Carbazole	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Chrysene	ND		2.5	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Dibenz(a,h)anthracene	ND		4.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Dibenzofuran	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Diethyl phthalate	2.55	J	20	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Dimethyl phthalate	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Di-n-butyl phthalate	5.39	J	50	5.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Di-n-octyl phthalate	ND		50	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Fluoranthene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Fluorene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Hexachlorobenzene	ND		5.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Hexachlorobutadiene	ND		5.0	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Hexachlorocyclopentadiene	ND		10	1.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Hexachloroethane	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Indeno[1,2,3-cd]pyrene	ND	^	4.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Isophorone	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Naphthalene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Nitrobenzene	ND		10	3.4	ug/Kg		04/07/15 09:56	04/08/15 13:13	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-186214/1-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		100	25	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
N-Nitrosodi-n-propylamine	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
N-Nitrosodiphenylamine	ND		5.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Pentachlorophenol	ND		20	2.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Phenanthrene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Phenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Pyrene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	69		28 - 143	04/07/15 09:56	04/08/15 13:13	1
2-Fluorobiphenyl	63		42 - 140	04/07/15 09:56	04/08/15 13:13	1
2-Fluorophenol	67		36 - 145	04/07/15 09:56	04/08/15 13:13	1
Nitrobenzene-d5	67		38 - 141	04/07/15 09:56	04/08/15 13:13	1
Phenol-d5	70		38 - 149	04/07/15 09:56	04/08/15 13:13	1
Terphenyl-d14	72		42 - 151	04/07/15 09:56	04/08/15 13:13	1

Lab Sample ID: LCS 580-186214/2-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	100	70.0		ug/Kg		70	66 - 115
1,2-Dichlorobenzene	100	67.7		ug/Kg		68	64 - 112
1,3-Dichlorobenzene	100	67.8		ug/Kg		68	64 - 111
1,4-Dichlorobenzene	100	69.2		ug/Kg		69	65 - 110
1-Methylnaphthalene	100	72.8		ug/Kg		73	62 - 118
2,2'-oxybis[1-chloropropane]	100	71.7		ug/Kg		72	41 - 126
2,4,5-Trichlorophenol	100	69.2		ug/Kg		69	57 - 133
2,4,6-Trichlorophenol	100	75.3		ug/Kg		75	62 - 133
2,4-Dichlorophenol	100	68.4		ug/Kg		68	68 - 125
2,4-Dimethylphenol	100	78.0		ug/Kg		78	54 - 139
2,4-Dinitrophenol	200	117		ug/Kg		58	20 - 141
2,4-Dinitrotoluene	100	77.3		ug/Kg		77	68 - 121
2,6-Dinitrotoluene	100	79.7		ug/Kg		80	66 - 123
2-Chloronaphthalene	100	73.0		ug/Kg		73	68 - 112
2-Chlorophenol	100	76.8		ug/Kg		77	68 - 117
2-Methylnaphthalene	100	70.2		ug/Kg		70	64 - 119
2-Methylphenol	100	75.5		ug/Kg		76	71 - 116
2-Nitroaniline	100	87.5		ug/Kg		88	64 - 112
2-Nitrophenol	100	78.8		ug/Kg		79	67 - 127
3 & 4 Methylphenol	100	76.2		ug/Kg		76	70 - 116
3,3'-Dichlorobenzidine	200	97.7		ug/Kg		49	20 - 103
3-Nitroaniline	100	58.4		ug/Kg		58	27 - 103
4,6-Dinitro-2-methylphenol	200	145		ug/Kg		73	48 - 130
4-Bromophenyl phenyl ether	100	84.2		ug/Kg		84	68 - 122
4-Chloro-3-methylphenol	100	82.8		ug/Kg		83	69 - 121
4-Chloroaniline	100	30.4		ug/Kg		30	20 - 103
4-Chlorophenyl phenyl ether	100	72.6	*	ug/Kg		73	75 - 108

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186214/2-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Nitroaniline	100	68.7		ug/Kg		69	58 - 108
4-Nitrophenol	200	171		ug/Kg		85	20 - 165
Acenaphthene	100	77.1		ug/Kg		77	68 - 116
Acenaphthylene	100	77.7		ug/Kg		78	68 - 120
Anthracene	100	79.7		ug/Kg		80	73 - 116
Benzo[a]anthracene	100	86.4		ug/Kg		86	76 - 119
Benzo[a]pyrene	100	86.0		ug/Kg		86	72 - 117
Benzo[b]fluoranthene	100	85.3		ug/Kg		85	63 - 132
Benzo[g,h,i]perylene	100	93.5		ug/Kg		93	55 - 139
Benzo[k]fluoranthene	100	82.2		ug/Kg		82	63 - 119
Benzoic acid	201	83.6	J	ug/Kg		42	29 - 158
Benzyl alcohol	100	72.8		ug/Kg		73	55 - 123
Bis(2-chloroethoxy)methane	100	68.0	*	ug/Kg		68	69 - 107
Bis(2-chloroethyl)ether	100	67.8		ug/Kg		68	62 - 110
Bis(2-ethylhexyl) phthalate	100	100		ug/Kg		100	62 - 144
Butyl benzyl phthalate	100	103		ug/Kg		103	69 - 142
Carbazole	100	81.0		ug/Kg		81	76 - 135
Chrysene	100	75.4		ug/Kg		75	75 - 114
Dibenz(a,h)anthracene	100	86.3		ug/Kg		86	56 - 134
Dibenzofuran	100	72.1		ug/Kg		72	72 - 109
Diethyl phthalate	100	80.2		ug/Kg		80	73 - 116
Dimethyl phthalate	100	79.0		ug/Kg		79	78 - 117
Di-n-butyl phthalate	100	96.6		ug/Kg		97	66 - 140
Di-n-octyl phthalate	100	94.9		ug/Kg		95	65 - 141
Fluoranthene	100	79.3		ug/Kg		79	73 - 125
Fluorene	100	75.9		ug/Kg		76	70 - 121
Hexachlorobenzene	100	87.5		ug/Kg		87	66 - 117
Hexachlorobutadiene	100	72.7		ug/Kg		73	65 - 116
Hexachlorocyclopentadiene	100	84.9		ug/Kg		85	46 - 131
Hexachloroethane	100	73.1		ug/Kg		73	62 - 120
Indeno[1,2,3-cd]pyrene	100	95.2	^	ug/Kg		95	56 - 127
Isophorone	100	81.3		ug/Kg		81	67 - 119
Naphthalene	100	70.9		ug/Kg		71	62 - 112
Nitrobenzene	100	76.2		ug/Kg		76	64 - 118
N-Nitrosodimethylamine	100	80.5	J	ug/Kg		80	38 - 133
N-Nitrosodi-n-propylamine	100	78.3		ug/Kg		78	62 - 116
N-Nitrosodiphenylamine	201	160		ug/Kg		80	73 - 115
Pentachlorophenol	200	149		ug/Kg		75	45 - 117
Phenanthrene	100	70.8	*	ug/Kg		71	73 - 106
Phenol	100	71.2		ug/Kg		71	63 - 111
Pyrene	100	77.1		ug/Kg		77	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	79		28 - 143
2-Fluorobiphenyl	70		42 - 140
2-Fluorophenol	76		36 - 145
Nitrobenzene-d5	74		38 - 141
Phenol-d5	77		38 - 149

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186214/2-A
Matrix: Solid
Analysis Batch: 186325

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 186214

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	79		42 - 151

Lab Sample ID: LCSD 580-186214/3-A
Matrix: Solid
Analysis Batch: 186325

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 186214

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD	Limit
1,2,4-Trichlorobenzene	100	73.5		ug/Kg		74	66 - 115	5		28
1,2-Dichlorobenzene	100	69.5		ug/Kg		69	64 - 112	3		30
1,3-Dichlorobenzene	100	70.1		ug/Kg		70	64 - 111	3		30
1,4-Dichlorobenzene	100	71.7		ug/Kg		72	65 - 110	4		30
1-Methylnaphthalene	100	75.4		ug/Kg		75	62 - 118	3		30
2,2'-oxybis[1-chloropropane]	100	74.9		ug/Kg		75	41 - 126	4		57
2,4,5-Trichlorophenol	100	69.8		ug/Kg		70	57 - 133	1		30
2,4,6-Trichlorophenol	100	78.3		ug/Kg		78	62 - 133	4		30
2,4-Dichlorophenol	100	70.7		ug/Kg		71	68 - 125	3		30
2,4-Dimethylphenol	100	72.7		ug/Kg		73	54 - 139	7		30
2,4-Dinitrophenol	200	139		ug/Kg		70	20 - 141	18		36
2,4-Dinitrotoluene	100	79.5		ug/Kg		79	68 - 121	3		30
2,6-Dinitrotoluene	100	75.6		ug/Kg		76	66 - 123	5		30
2-Chloronaphthalene	100	74.3		ug/Kg		74	68 - 112	2		25
2-Chlorophenol	100	79.7		ug/Kg		80	68 - 117	4		27
2-Methylnaphthalene	100	73.8		ug/Kg		74	64 - 119	5		27
2-Methylphenol	100	79.4		ug/Kg		79	71 - 116	5		25
2-Nitroaniline	100	86.5		ug/Kg		86	64 - 112	1		22
2-Nitrophenol	100	80.9		ug/Kg		81	67 - 127	3		30
3 & 4 Methylphenol	100	81.5		ug/Kg		82	70 - 116	7		27
3,3'-Dichlorobenzidine	200	94.5		ug/Kg		47	20 - 103	3		60
3-Nitroaniline	100	56.1		ug/Kg		56	27 - 103	4		33
4,6-Dinitro-2-methylphenol	200	160		ug/Kg		80	48 - 130	10		22
4-Bromophenyl phenyl ether	100	84.9		ug/Kg		85	68 - 122	1		30
4-Chloro-3-methylphenol	100	87.4		ug/Kg		87	69 - 121	5		27
4-Chloroaniline	100	29.0		ug/Kg		29	20 - 103	5		60
4-Chlorophenyl phenyl ether	100	71.4	*	ug/Kg		71	75 - 108	2		30
4-Nitroaniline	100	68.1		ug/Kg		68	58 - 108	1		32
4-Nitrophenol	200	160		ug/Kg		80	20 - 165	6		30
Acenaphthene	100	77.3		ug/Kg		77	68 - 116	0		27
Acenaphthylene	100	78.9		ug/Kg		79	68 - 120	2		28
Anthracene	100	82.3		ug/Kg		82	73 - 116	3		27
Benzo[a]anthracene	100	85.0		ug/Kg		85	76 - 119	2		27
Benzo[a]pyrene	100	85.5		ug/Kg		85	72 - 117	1		30
Benzo[b]fluoranthene	100	86.2		ug/Kg		86	63 - 132	1		30
Benzo[g,h,i]perylene	100	92.1		ug/Kg		92	55 - 139	2		28
Benzo[k]fluoranthene	100	83.5		ug/Kg		84	63 - 119	2		30
Benzoic acid	201	143	J *	ug/Kg		71	29 - 158	52		28
Benzyl alcohol	100	75.3		ug/Kg		75	55 - 123	3		60
Bis(2-chloroethoxy)methane	100	71.1		ug/Kg		71	69 - 107	4		30
Bis(2-chloroethyl)ether	100	67.0		ug/Kg		67	62 - 110	1		22

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186214/3-A
Matrix: Solid
Analysis Batch: 186325

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 186214

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit		
Bis(2-ethylhexyl) phthalate	100	101		ug/Kg		101	62 - 144	1	30	
Butyl benzyl phthalate	100	106		ug/Kg		106	69 - 142	3	30	
Carbazole	100	81.9		ug/Kg		82	76 - 135	1	30	
Chrysene	100	77.4		ug/Kg		77	75 - 114	3	26	
Dibenz(a,h)anthracene	100	85.8		ug/Kg		86	56 - 134	1	30	
Dibenzofuran	100	73.8		ug/Kg		74	72 - 109	2	30	
Diethyl phthalate	100	80.8		ug/Kg		81	73 - 116	1	26	
Dimethyl phthalate	100	79.0		ug/Kg		79	78 - 117	0	30	
Di-n-butyl phthalate	100	98.0		ug/Kg		98	66 - 140	2	30	
Di-n-octyl phthalate	100	94.2		ug/Kg		94	65 - 141	1	30	
Fluoranthene	100	81.4		ug/Kg		81	73 - 125	3	30	
Fluorene	100	75.8		ug/Kg		76	70 - 121	0	30	
Hexachlorobenzene	100	90.4		ug/Kg		90	66 - 117	3	30	
Hexachlorobutadiene	100	76.6		ug/Kg		77	65 - 116	5	30	
Hexachlorocyclopentadiene	100	82.7		ug/Kg		83	46 - 131	3	29	
Hexachloroethane	100	77.6		ug/Kg		78	62 - 120	6	30	
Indeno[1,2,3-cd]pyrene	100	96.2	^	ug/Kg		96	56 - 127	1	29	
Isophorone	100	84.0		ug/Kg		84	67 - 119	3	30	
Naphthalene	100	74.9		ug/Kg		75	62 - 112	5	26	
Nitrobenzene	100	81.7		ug/Kg		82	64 - 118	7	30	
N-Nitrosodimethylamine	100	76.6	J	ug/Kg		77	38 - 133	5	30	
N-Nitrosodi-n-propylamine	100	82.7		ug/Kg		83	62 - 116	5	28	
N-Nitrosodiphenylamine	201	162		ug/Kg		80	73 - 115	1	30	
Pentachlorophenol	200	156		ug/Kg		78	45 - 117	4	23	
Phenanthrene	100	73.0		ug/Kg		73	73 - 106	3	28	
Phenol	100	72.1		ug/Kg		72	63 - 111	1	26	
Pyrene	100	78.6		ug/Kg		79	70 - 120	2	30	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	82		28 - 143
2-Fluorobiphenyl	71		42 - 140
2-Fluorophenol	78		36 - 145
Nitrobenzene-d5	79		38 - 141
Phenol-d5	80		38 - 149
Terphenyl-d14	81		42 - 151

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Lab Sample ID: 580-48451-1 MS
Matrix: Water
Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W
Prep Type: Total/NA
Prep Batch: 186033

Analyte	Sample		Spike Added	MS		Unit	D	%Rec	%Rec. Limits	
	Result	Qualifier		Result	Qualifier					
1,2,4-Trichlorobenzene - RE	ND	H	1.89	1.26		ug/L		67	40 - 125	
1,2-Dichlorobenzene - RE	ND	H	1.89	1.27		ug/L		67	45 - 125	
1,3-Dichlorobenzene - RE	ND	H	1.89	1.21		ug/L		64	40 - 125	
1,4-Dichlorobenzene - RE	ND	H	1.89	1.23		ug/L		65	40 - 125	
1-Methylnaphthalene - RE	ND	H	1.89	1.43		ug/L		76	60 - 125	

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Lab Sample ID: 580-48451-1 MS

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
2,2'-oxybis[1-chloropropane] - RE	ND	H	1.89	1.30		ug/L		69	65 - 125
2,4,5-Trichlorophenol - RE	ND	H F2 F1	1.89	1.36	F1	ug/L		72	75 - 125
2,4,6-Trichlorophenol - RE	ND	H F2	1.89	1.54		ug/L		82	55 - 140
2,4-Dichlorophenol - RE	ND	H	1.89	1.37		ug/L		73	50 - 140
2,4-Dimethylphenol - RE	ND	H	1.89	1.21	J	ug/L		64	30 - 135
2,4-Dinitrophenol - RE	ND	H F2 F1 ^	3.77	1.69	J F1 ^	ug/L		45	50 - 130
2,4-Dinitrotoluene - RE	ND	H	1.89	1.68		ug/L		89	75 - 125
2,6-Dinitrotoluene - RE	ND	H	1.89	1.60		ug/L		85	75 - 125
2-Chloronaphthalene - RE	ND	H	1.89	1.40		ug/L		74	60 - 125
2-Chlorophenol - RE	ND	H	1.89	1.29		ug/L		68	60 - 130
2-Methylnaphthalene - RE	ND	H	1.89	1.31		ug/L		70	60 - 125
2-Methylphenol - RE	ND	H	1.89	1.31		ug/L		70	70 - 130
2-Nitroaniline - RE	ND	H	1.89	1.46		ug/L		77	75 - 140
2-Nitrophenol - RE	ND	H	1.89	1.63		ug/L		87	55 - 140
3 & 4 Methylphenol - RE	ND	H F2	1.89	1.26		ug/L		67	65 - 130
3,3'-Dichlorobenzidine - RE	ND	H F1	3.77		ND F1	ug/L		0	20 - 175
3-Nitroaniline - RE	ND	H F2 F1	1.89	0.536	F1	ug/L		28	75 - 140
4,6-Dinitro-2-methylphenol - RE	ND	H F2 ^	3.77	2.19	J ^	ug/L		58	50 - 125
4-Bromophenyl phenyl ether - RE	ND	H	1.89	1.52		ug/L		81	75 - 125
4-Chloro-3-methylphenol - RE	ND	H	1.89	1.42		ug/L		75	65 - 145
4-Chloroaniline - RE	ND	H	1.89	0.707		ug/L		37	35 - 175
4-Chlorophenyl phenyl ether - RE	ND	H	1.89	1.40		ug/L		74	70 - 125
4-Nitroaniline - RE	ND	H F2 F1	1.89	0.545	J F1	ug/L		29	70 - 125
4-Nitrophenol - RE	ND	H F2	3.77	2.64	J	ug/L		70	35 - 145
Acenaphthene - RE	ND	H	1.89	1.41		ug/L		75	65 - 125
Acenaphthylene - RE	ND	H	1.89	1.37		ug/L		72	65 - 125
Anthracene - RE	ND	H	1.89	1.45		ug/L		77	50 - 125
Benzo[a]anthracene - RE	ND	H	1.89	1.73		ug/L		92	65 - 125
Benzo[a]pyrene - RE	ND	H	1.89	1.54		ug/L		82	45 - 125
Benzo[b]fluoranthene - RE	ND	H	1.89	1.70		ug/L		90	70 - 125
Benzo[g,h,i]perylene - RE	ND	H	1.89	1.77		ug/L		94	75 - 125
Benzo[k]fluoranthene - RE	ND	H	1.89	1.79		ug/L		95	70 - 125
Benzoic acid - RE	1.4	J H F2 *	3.77	2.41	J	ug/L		28	20 - 140
Benzyl alcohol - RE	ND	H	1.89	1.45		ug/L		77	65 - 125
Bis(2-chloroethoxy)methane - RE	ND	H	1.89	1.49		ug/L		79	75 - 125
Bis(2-chloroethyl)ether - RE	ND	H	1.89	1.63		ug/L		86	65 - 125
Bis(2-ethylhexyl) phthalate - RE	20	H F2 E *	1.89	3.20	4	ug/L		-895	20 - 175
Butyl benzyl phthalate - RE	ND	H	1.89	2.44		ug/L		130	60 - 150
Carbazole - RE	ND	H	1.89	1.53		ug/L		81	75 - 125
Chrysene - RE	ND	H	1.89	1.81		ug/L		96	70 - 125
Dibenz(a,h)anthracene - RE	ND	H	1.89	1.65		ug/L		87	75 - 130
Dibenzofuran - RE	ND	H	1.89	1.47		ug/L		78	60 - 125
Diethyl phthalate - RE	ND	H	1.89	1.70		ug/L		90	60 - 150
Dimethyl phthalate - RE	ND	H	1.89	1.55		ug/L		82	65 - 155
Di-n-butyl phthalate - RE	ND	H	1.89	1.81		ug/L		96	55 - 155
Di-n-octyl phthalate - RE	ND	H	1.89	1.91		ug/L		101	55 - 150
Fluoranthene - RE	ND	H	1.89	1.55		ug/L		82	70 - 125

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Lab Sample ID: 580-48451-1 MS

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Fluorene - RE	ND	H	1.89	1.51		ug/L		80	70 - 125
Hexachlorobenzene - RE	ND	H	1.89	1.49		ug/L		79	70 - 125
Hexachlorobutadiene - RE	ND	H	1.89	1.04		ug/L		55	25 - 125
Hexachlorocyclopentadiene - RE	ND	H F2	1.89	0.415	J	ug/L		22	20 - 125
Hexachloroethane - RE	ND	H	1.89	1.25		ug/L		66	30 - 125
Indeno[1,2,3-cd]pyrene - RE	ND	H	1.89	1.89		ug/L		100	75 - 125
Isophorone - RE	ND	H	1.89	1.47		ug/L		78	75 - 125
Naphthalene - RE	ND	H	1.89	1.42		ug/L		76	60 - 125
Nitrobenzene - RE	ND	H	1.89	1.54		ug/L		82	70 - 125
N-Nitrosodimethylamine - RE	ND	H	1.89	1.33	J	ug/L		71	45 - 125
N-Nitrosodi-n-propylamine - RE	ND	H	1.89	1.35		ug/L		72	70 - 130
N-Nitrosodiphenylamine - RE	ND	* H	1.89	2.28		ug/L		121	40 - 135
Pentachlorophenol - RE	0.32	J H F2 B	3.77	3.28		ug/L		79	20 - 145
Phenanthrene - RE	ND	H	1.89	1.51		ug/L		80	75 - 125
Phenol - RE	ND	H F2 F1	1.89	1.09	F1	ug/L		58	65 - 130
Pyrene - RE	ND	H	1.89	1.52		ug/L		80	70 - 125
2,3,4,6-Tetrachlorophenol - RE	ND	H	1.89	1.53		ug/L		81	60 - 130

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol - RE	70		44 - 125
2-Fluorobiphenyl - RE	71		50 - 120
2-Fluorophenol - RE	59		30 - 134
Nitrobenzene-d5 - RE	77		59 - 120
Phenol-d5 - RE	63		52 - 120
Terphenyl-d14 - RE	87		64 - 150

Lab Sample ID: 580-48451-1 MSD

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,2,4-Trichlorobenzene - RE	ND	H	1.90	1.27		ug/L		67	40 - 125	0	20
1,2-Dichlorobenzene - RE	ND	H	1.90	1.45		ug/L		77	45 - 125	14	20
1,3-Dichlorobenzene - RE	ND	H	1.90	1.37		ug/L		72	40 - 125	12	20
1,4-Dichlorobenzene - RE	ND	H	1.90	1.43		ug/L		75	40 - 125	15	20
1-Methylnaphthalene - RE	ND	H	1.90	1.49		ug/L		78	60 - 125	4	20
2,2'-oxybis[1-chloropropane] - RE	ND	H	1.90	1.36		ug/L		72	65 - 125	4	20
2,4,5-Trichlorophenol - RE	ND	H F2 F1	1.90	1.68	F2	ug/L		88	75 - 125	21	20
2,4,6-Trichlorophenol - RE	ND	H F2	1.90	1.91	F2	ug/L		101	55 - 140	21	20
2,4-Dichlorophenol - RE	ND	H	1.90	1.54		ug/L		81	50 - 140	12	20
2,4-Dimethylphenol - RE	ND	H	1.90	1.42	J	ug/L		75	30 - 135	16	20
2,4-Dinitrophenol - RE	ND	H F2 F1 ^	3.80	2.80	J ^ F2	ug/L		74	50 - 130	49	20
2,4-Dinitrotoluene - RE	ND	H	1.90	1.74		ug/L		92	75 - 125	3	20
2,6-Dinitrotoluene - RE	ND	H	1.90	1.81		ug/L		95	75 - 125	12	20
2-Chloronaphthalene - RE	ND	H	1.90	1.57		ug/L		83	60 - 125	11	20
2-Chlorophenol - RE	ND	H	1.90	1.53		ug/L		80	60 - 130	17	20
2-Methylnaphthalene - RE	ND	H	1.90	1.39		ug/L		73	60 - 125	6	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Lab Sample ID: 580-48451-1 MSD

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
2-Methylphenol - RE	ND	H	1.90	1.60		ug/L		84	70 - 130	20	20
2-Nitroaniline - RE	ND	H	1.90	1.64		ug/L		86	75 - 140	12	20
2-Nitrophenol - RE	ND	H	1.90	1.81		ug/L		95	55 - 140	10	20
3 & 4 Methylphenol - RE	ND	H F2	1.90	1.56	F2	ug/L		82	65 - 130	21	20
3,3'-Dichlorobenzidine - RE	ND	H F1	3.80	ND	F1	ug/L		0	20 - 175	NC	20
3-Nitroaniline - RE	ND	H F2 F1	1.90	0.867	F1 F2	ug/L		46	75 - 140	47	20
4,6-Dinitro-2-methylphenol - RE	ND	H F2 ^	3.80	2.88	J ^ F2	ug/L		76	50 - 125	27	20
4-Bromophenyl phenyl ether - RE	ND	H	1.90	1.58		ug/L		83	75 - 125	4	20
4-Chloro-3-methylphenol - RE	ND	H	1.90	1.63		ug/L		86	65 - 145	14	20
4-Chloroaniline - RE	ND	H	1.90	0.671		ug/L		35	35 - 175	5	20
4-Chlorophenyl phenyl ether - RE	ND	H	1.90	1.50		ug/L		79	70 - 125	7	20
4-Nitroaniline - RE	ND	H F2 F1	1.90	0.902	F1 F2	ug/L		48	70 - 125	49	20
4-Nitrophenol - RE	ND	H F2	3.80	3.80	F2	ug/L		100	35 - 145	36	20
Acenaphthene - RE	ND	H	1.90	1.55		ug/L		82	65 - 125	10	20
Acenaphthylene - RE	ND	H	1.90	1.51		ug/L		80	65 - 125	10	20
Anthracene - RE	ND	H	1.90	1.50		ug/L		79	50 - 125	3	20
Benzo[a]anthracene - RE	ND	H	1.90	1.75		ug/L		92	65 - 125	1	20
Benzo[a]pyrene - RE	ND	H	1.90	1.50		ug/L		79	45 - 125	3	20
Benzo[b]fluoranthene - RE	ND	H	1.90	1.88		ug/L		99	70 - 125	11	20
Benzo[g,h,i]perylene - RE	ND	H	1.90	1.81		ug/L		95	75 - 125	2	20
Benzo[k]fluoranthene - RE	ND	H	1.90	1.60		ug/L		84	70 - 125	12	20
Benzoic acid - RE	1.4	J H F2 *	3.80	4.23	F2	ug/L		76	20 - 140	55	20
Benzyl alcohol - RE	ND	H	1.90	1.44		ug/L		76	65 - 125	1	20
Bis(2-chloroethoxy)methane - RE	ND	H	1.90	1.60		ug/L		84	75 - 125	7	20
Bis(2-chloroethyl)ether - RE	ND	H	1.90	1.58		ug/L		83	65 - 125	3	20
Bis(2-ethylhexyl) phthalate - RE	20	H F2 E *	1.90	9.75	4 F2	ug/L		-543	20 - 175	101	20
Butyl benzyl phthalate - RE	ND	H	1.90	2.63		ug/L		138	60 - 150	7	20
Carbazole - RE	ND	H	1.90	1.61		ug/L		85	75 - 125	5	20
Chrysene - RE	ND	H	1.90	1.82		ug/L		96	70 - 125	1	20
Dibenz(a,h)anthracene - RE	ND	H	1.90	1.61		ug/L		85	75 - 130	2	20
Dibenzofuran - RE	ND	H	1.90	1.58		ug/L		83	60 - 125	7	20
Diethyl phthalate - RE	ND	H	1.90	1.75		ug/L		92	60 - 150	3	20
Dimethyl phthalate - RE	ND	H	1.90	1.62		ug/L		85	65 - 155	4	20
Di-n-butyl phthalate - RE	ND	H	1.90	1.95		ug/L		103	55 - 155	8	20
Di-n-octyl phthalate - RE	ND	H	1.90	1.84		ug/L		97	55 - 150	4	20
Fluoranthene - RE	ND	H	1.90	1.63		ug/L		86	70 - 125	5	20
Fluorene - RE	ND	H	1.90	1.66		ug/L		87	70 - 125	9	20
Hexachlorobenzene - RE	ND	H	1.90	1.57		ug/L		83	70 - 125	5	20
Hexachlorobutadiene - RE	ND	H	1.90	1.05		ug/L		56	25 - 125	1	20
Hexachlorocyclopentadiene - RE	ND	H F2	1.90	0.600	J F2	ug/L		32	20 - 125	36	20
Hexachloroethane - RE	ND	H	1.90	1.31		ug/L		69	30 - 125	4	20
Indeno[1,2,3-cd]pyrene - RE	ND	H	1.90	1.75		ug/L		92	75 - 125	7	20
Isophorone - RE	ND	H	1.90	1.52		ug/L		80	75 - 125	3	20
Naphthalene - RE	ND	H	1.90	1.55		ug/L		81	60 - 125	8	20
Nitrobenzene - RE	ND	H	1.90	1.68		ug/L		88	70 - 125	8	20
N-Nitrosodimethylamine - RE	ND	H	1.90	1.33	J	ug/L		70	45 - 125	1	20
N-Nitrosodi-n-propylamine - RE	ND	H	1.90	1.63		ug/L		86	70 - 130	19	20
N-Nitrosodiphenylamine - RE	ND	* H	1.90	2.48		ug/L		130	40 - 135	8	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Lab Sample ID: 580-48451-1 MSD

Matrix: Water

Analysis Batch: 186321

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 186033

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Pentachlorophenol - RE	0.32	J H F2 B	3.80	4.06	F2	ug/L		99	20 - 145	21	20
Phenanthrene - RE	ND	H	1.90	1.59		ug/L		84	75 - 125	5	20
Phenol - RE	ND	H F2 F1	1.90	1.41	F2	ug/L		74	65 - 130	25	20
Pyrene - RE	ND	H	1.90	1.57		ug/L		83	70 - 125	3	20
2,3,4,6-Tetrachlorophenol - RE	ND	H	1.90	1.85		ug/L		98	60 - 130	19	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol - RE	83		44 - 125
2-Fluorobiphenyl - RE	77		50 - 120
2-Fluorophenol - RE	74		30 - 134
Nitrobenzene-d5 - RE	82		59 - 120
Phenol-d5 - RE	84		52 - 120
Terphenyl-d14 - RE	90		64 - 150

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-185590/1-A

Matrix: Solid

Analysis Batch: 185672

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185590

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arochlor 1016	ND		0.010	0.0032	mg/Kg		03/30/15 17:21	03/31/15 17:16	1
Arochlor 1221	ND		0.011	0.0080	mg/Kg		03/30/15 17:21	03/31/15 17:16	1
Arochlor 1232	ND		0.011	0.0070	mg/Kg		03/30/15 17:21	03/31/15 17:16	1
Arochlor 1242	ND		0.010	0.0021	mg/Kg		03/30/15 17:21	03/31/15 17:16	1
Arochlor 1248	ND		0.010	0.0030	mg/Kg		03/30/15 17:21	03/31/15 17:16	1
Arochlor 1254	ND		0.010	0.0021	mg/Kg		03/30/15 17:21	03/31/15 17:16	1
Arochlor 1260	ND		0.010	0.0030	mg/Kg		03/30/15 17:21	03/31/15 17:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		45 - 135	03/30/15 17:21	03/31/15 17:16	1
DCB Decachlorobiphenyl	73		50 - 140	03/30/15 17:21	03/31/15 17:16	1

Lab Sample ID: LCS 580-185590/2-A

Matrix: Solid

Analysis Batch: 185672

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185590

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arochlor 1016	0.100	0.0803		mg/Kg		80	40 - 140
Arochlor 1260	0.100	0.0761		mg/Kg		76	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	77		45 - 135
DCB Decachlorobiphenyl	73		50 - 140

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCSD 580-185590/3-A

Matrix: Solid

Analysis Batch: 185672

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185590

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Arochlor 1016	0.100	0.0803		mg/Kg		80	40 - 140	0	20	
Arochlor 1260	0.100	0.0745		mg/Kg		75	60 - 130	2	20	
		LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits							
Tetrachloro-m-xylene	78		45 - 135							
DCB Decachlorobiphenyl	72		50 - 140							

Lab Sample ID: 580-48451-3 MS

Matrix: Solid

Analysis Batch: 185672

Client Sample ID: HC-SF-20150326-S

Prep Type: Total/NA

Prep Batch: 185590

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
									Limits	RPD		
Arochlor 1016	ND		0.155	0.146		mg/Kg	☼	94	40 - 140			
Arochlor 1260	ND		0.155	0.111		mg/Kg	☼	71	60 - 130			
		MS	MS									
Surrogate	%Recovery	Qualifier	Limits									
Tetrachloro-m-xylene	80		45 - 135									
DCB Decachlorobiphenyl	62		50 - 140									

Lab Sample ID: 580-48451-3 MSD

Matrix: Solid

Analysis Batch: 185672

Client Sample ID: HC-SF-20150326-S

Prep Type: Total/NA

Prep Batch: 185590

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
									Limits	RPD		
Arochlor 1016	ND		0.159	0.137		mg/Kg	☼	86	40 - 140	6	20	
Arochlor 1260	ND		0.159	0.113		mg/Kg	☼	71	60 - 130	2	20	
		MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits									
Tetrachloro-m-xylene	70		45 - 135									
DCB Decachlorobiphenyl	65		50 - 140									

Lab Sample ID: MB 580-185678/1-A

Matrix: Water

Analysis Batch: 185853

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185678

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
	Result	Qualifier								
PCB-1016	ND		0.50	0.065	ug/L		03/31/15 14:22	04/02/15 11:37	1	
PCB-1221	ND		0.50	0.068	ug/L		03/31/15 14:22	04/02/15 11:37	1	
PCB-1232	ND		0.50	0.055	ug/L		03/31/15 14:22	04/02/15 11:37	1	
PCB-1242	ND		0.50	0.078	ug/L		03/31/15 14:22	04/02/15 11:37	1	
PCB-1248	ND		0.50	0.060	ug/L		03/31/15 14:22	04/02/15 11:37	1	
PCB-1254	ND		0.50	0.079	ug/L		03/31/15 14:22	04/02/15 11:37	1	
PCB-1260	ND		0.50	0.057	ug/L		03/31/15 14:22	04/02/15 11:37	1	
		MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Tetrachloro-m-xylene	67		26 - 124	03/31/15 14:22	04/02/15 11:37	1				
DCB Decachlorobiphenyl	97		38 - 121	03/31/15 14:22	04/02/15 11:37	1				

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 580-185678/4-A

Matrix: Water

Analysis Batch: 185853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185678

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.800	0.651		ug/L		81	25 - 145
PCB-1260	0.800	0.666		ug/L		83	30 - 145
		LCS	LCS				
Surrogate	%Recovery	Qualifier	Limits				
Tetrachloro-m-xylene	66		26 - 124				
DCB Decachlorobiphenyl	85		38 - 121				

Lab Sample ID: LCSD 580-185678/5-A

Matrix: Water

Analysis Batch: 185853

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 185678

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	0.800	0.606		ug/L		76	25 - 145	7	27
PCB-1260	0.800	0.614		ug/L		77	30 - 145	8	22
		LCSD	LCSD						
Surrogate	%Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	61		26 - 124						
DCB Decachlorobiphenyl	79		38 - 121						

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-185436/1-A

Matrix: Solid

Analysis Batch: 185495

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 185436

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		25	3.6	mg/Kg		03/28/15 09:35	03/30/15 07:51	1
Motor Oil (>C24-C36)	ND		50	9.1	mg/Kg		03/28/15 09:35	03/30/15 07:51	1
		MB	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
o-Terphenyl	79		50 - 150			03/28/15 09:35	03/30/15 07:51	1	

Lab Sample ID: LCS 580-185436/2-A

Matrix: Solid

Analysis Batch: 185495

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 185436

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	480		mg/Kg		96	70 - 125
Motor Oil (>C24-C36)	502	496		mg/Kg		99	64 - 127
		LCS	LCS				
Surrogate	%Recovery	Qualifier	Limits				
o-Terphenyl	95		50 - 150				

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-185436/3-A
Matrix: Solid
Analysis Batch: 185495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 185436

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	500	454		mg/Kg		91	70 - 125	6	16
Motor Oil (>C24-C36)	502	463		mg/Kg		92	64 - 127	7	17

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
<i>o</i> -Terphenyl	85		50 - 150

Lab Sample ID: 580-48451-3 DU
Matrix: Solid
Analysis Batch: 185495

Client Sample ID: HC-SF-20150326-S
Prep Type: Total/NA
Prep Batch: 185436

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
#2 Diesel (C10-C24)	40	Y	37.3	J	mg/Kg	☼	6	35
Motor Oil (>C24-C36)	300	Y	359		mg/Kg	☼	19	35

Surrogate	DU %Recovery	DU Qualifier	Limits
<i>o</i> -Terphenyl	88		50 - 150

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 580-186045/22-A
Matrix: Water
Analysis Batch: 186205

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 186045

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00027	mg/L		04/04/15 08:32	04/05/15 15:51	1
Antimony	ND		0.00040	0.000080	mg/L		04/04/15 08:32	04/05/15 15:51	1
Beryllium	ND		0.00040	0.00010	mg/L		04/04/15 08:32	04/05/15 15:51	1
Cadmium	ND		0.00040	0.000028	mg/L		04/04/15 08:32	04/05/15 15:51	1
Chromium	ND		0.00040	0.00014	mg/L		04/04/15 08:32	04/05/15 15:51	1
Copper	ND		0.0020	0.00060	mg/L		04/04/15 08:32	04/05/15 15:51	1
Lead	ND		0.00040	0.000034	mg/L		04/04/15 08:32	04/05/15 15:51	1
Nickel	ND		0.0030	0.00040	mg/L		04/04/15 08:32	04/05/15 15:51	1
Selenium	ND		0.0010	0.00030	mg/L		04/04/15 08:32	04/05/15 15:51	1
Silver	ND		0.00040	0.000030	mg/L		04/04/15 08:32	04/05/15 15:51	1
Thallium	ND		0.0010	0.00014	mg/L		04/04/15 08:32	04/05/15 15:51	1
Zinc	ND		0.0070	0.0019	mg/L		04/04/15 08:32	04/05/15 15:51	1

Lab Sample ID: LCS 580-186045/23-A
Matrix: Water
Analysis Batch: 186205

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 186045

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.102		mg/L		102	85 - 115
Antimony	0.100	0.100		mg/L		100	85 - 115
Beryllium	0.100	0.105		mg/L		105	85 - 115
Cadmium	0.100	0.0989		mg/L		99	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-186045/23-A
Matrix: Water
Analysis Batch: 186205

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 186045

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Copper	0.100	0.0997		mg/L		100	85 - 115	
Lead	0.100	0.0980		mg/L		98	85 - 115	
Nickel	0.100	0.0998		mg/L		100	85 - 115	
Selenium	0.100	0.106		mg/L		106	85 - 115	
Silver	0.100	0.0924		mg/L		92	85 - 115	
Thallium	0.100	0.0981		mg/L		98	85 - 115	
Zinc	0.100	0.101		mg/L		101	85 - 115	

Lab Sample ID: LCSD 580-186045/24-A
Matrix: Water
Analysis Batch: 186205

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 186045

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
							Limits		RPD	Limit
Arsenic	0.100	0.101		mg/L		101	85 - 115	1	20	
Antimony	0.100	0.100		mg/L		100	85 - 115	0	20	
Beryllium	0.100	0.107		mg/L		107	85 - 115	2	20	
Cadmium	0.100	0.0988		mg/L		99	85 - 115	0	20	
Chromium	0.100	0.0993		mg/L		99	85 - 115	2	20	
Copper	0.100	0.0987		mg/L		99	85 - 115	1	20	
Lead	0.100	0.0981		mg/L		98	85 - 115	0	20	
Nickel	0.100	0.0984		mg/L		98	85 - 115	1	20	
Selenium	0.100	0.105		mg/L		105	85 - 115	1	20	
Silver	0.100	0.0925		mg/L		92	85 - 115	0	20	
Thallium	0.100	0.0979		mg/L		98	85 - 115	0	20	
Zinc	0.100	0.102		mg/L		102	85 - 115	1	20	

Lab Sample ID: 580-48451-1 MS
Matrix: Water
Analysis Batch: 186205

Client Sample ID: 96-ST2-20150326-W
Prep Type: Total/NA
Prep Batch: 186045

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	
									Limits	
Arsenic	0.0041		0.100	0.101		mg/L		97	70 - 130	
Antimony	0.00088		0.100	0.103		mg/L		102	70 - 130	
Beryllium	ND		0.100	0.103		mg/L		103	70 - 130	
Cadmium	0.000029	J	0.100	0.0980		mg/L		98	70 - 130	
Chromium	0.034		0.100	0.139		mg/L		105	70 - 130	
Copper	0.0027		0.100	0.101		mg/L		99	70 - 130	
Lead	0.00098		0.100	0.0996		mg/L		99	70 - 130	
Nickel	0.0037		0.100	0.104		mg/L		100	70 - 130	
Selenium	ND		0.100	0.0956		mg/L		96	70 - 130	
Silver	ND		0.100	0.0959		mg/L		96	70 - 130	
Thallium	ND		0.100	0.0999		mg/L		100	70 - 130	
Zinc	0.025		0.100	0.117		mg/L		92	70 - 130	

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-48451-1 MSD

Matrix: Water

Analysis Batch: 186205

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 186045

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
Arsenic	0.0041		0.100	0.103		mg/L		99	70 - 130	1	20	
Antimony	0.00088		0.100	0.101		mg/L		100	70 - 130	2	20	
Beryllium	ND		0.100	0.103		mg/L		103	70 - 130	0	20	
Cadmium	0.000029	J	0.100	0.0972		mg/L		97	70 - 130	1	20	
Chromium	0.034		0.100	0.139		mg/L		105	70 - 130	0	20	
Copper	0.0027		0.100	0.103		mg/L		100	70 - 130	2	20	
Lead	0.00098		0.100	0.101		mg/L		100	70 - 130	1	20	
Nickel	0.0037		0.100	0.106		mg/L		102	70 - 130	1	20	
Selenium	ND		0.100	0.0976		mg/L		98	70 - 130	2	20	
Silver	ND		0.100	0.0961		mg/L		96	70 - 130	0	20	
Thallium	ND		0.100	0.101		mg/L		101	70 - 130	1	20	
Zinc	0.025		0.100	0.118		mg/L		93	70 - 130	1	20	

Lab Sample ID: 580-48451-1 DU

Matrix: Water

Analysis Batch: 186205

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Prep Batch: 186045

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	Prepared	Analyzed	RPD	
			Result	Qualifier					RPD	Limit
Arsenic	0.0041		0.00405		mg/L				1	20
Antimony	0.00088		0.000890		mg/L				1	20
Beryllium	ND		ND		mg/L				NC	20
Cadmium	0.000029	J	0.0000437	J F5	mg/L				39	20
Chromium	0.034		0.0334		mg/L				2	20
Copper	0.0027		0.00261		mg/L				2	20
Lead	0.00098		0.000991		mg/L				1	20
Nickel	0.0037		0.00373		mg/L				0.08	20
Selenium	ND		ND		mg/L				NC	20
Silver	ND		ND		mg/L				NC	20
Thallium	ND		ND		mg/L				NC	20
Zinc	0.025		0.0237		mg/L				7	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 580-187003/21-A

Matrix: Water

Analysis Batch: 187059

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 187003

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Mercury	ND		0.00020	0.000041	mg/L		04/16/15 13:30	04/16/15 15:38	1	

Lab Sample ID: LCS 580-187003/22-A

Matrix: Water

Analysis Batch: 187059

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 187003

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	RPD
Mercury	0.00200	0.00196		mg/L		98	85 - 115	

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-187003/23-A
Matrix: Water
Analysis Batch: 187059

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 187003

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00205		mg/L		103	85 - 115	5	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-187370/21-A
Matrix: Solid
Analysis Batch: 187455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 187370

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.18	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Lead	ND		0.50	0.048	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Antimony	ND		0.20	0.042	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Beryllium	ND		0.20	0.035	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Cadmium	ND		0.20	0.019	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Chromium	ND		0.50	0.063	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Copper	ND		0.40	0.098	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Nickel	ND		0.50	0.081	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Selenium	ND		1.0	0.20	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Silver	ND		0.20	0.012	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Thallium	ND		0.40	0.13	mg/Kg		04/21/15 11:45	04/21/15 16:23	10
Zinc	ND		5.0	1.1	mg/Kg		04/21/15 11:45	04/21/15 16:23	10

Lab Sample ID: LCS 580-187370/22-A
Matrix: Solid
Analysis Batch: 187455

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 187370

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	194		mg/Kg		97	80 - 120
Lead	50.0	46.9		mg/Kg		94	80 - 120
Antimony	150	146		mg/Kg		97	80 - 120
Beryllium	5.00	4.76		mg/Kg		95	80 - 120
Cadmium	5.00	5.11		mg/Kg		102	80 - 120
Chromium	20.0	19.8		mg/Kg		99	80 - 120
Copper	25.0	25.2		mg/Kg		101	80 - 120
Nickel	50.0	48.7		mg/Kg		97	80 - 120
Selenium	200	195		mg/Kg		97	80 - 120
Silver	30.0	29.7		mg/Kg		99	80 - 120
Thallium	200	203		mg/Kg		102	80 - 120
Zinc	200	192		mg/Kg		96	80 - 120

Lab Sample ID: LCSD 580-187370/23-A
Matrix: Solid
Analysis Batch: 187455

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 187370

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	200		mg/Kg		100	80 - 120	3	20
Lead	50.0	48.7		mg/Kg		97	80 - 120	4	20
Antimony	150	149		mg/Kg		99	80 - 120	2	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-187370/23-A
Matrix: Solid
Analysis Batch: 187455

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 187370

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Beryllium	5.00	5.07		mg/Kg		101	80 - 120	6	20	
Cadmium	5.00	5.25		mg/Kg		105	80 - 120	3	20	
Chromium	20.0	20.7		mg/Kg		104	80 - 120	5	20	
Copper	25.0	26.3		mg/Kg		105	80 - 120	4	20	
Nickel	50.0	50.2		mg/Kg		100	80 - 120	3	20	
Selenium	200	200		mg/Kg		100	80 - 120	3	20	
Silver	30.0	30.6		mg/Kg		102	80 - 120	3	20	
Thallium	200	214		mg/Kg		107	80 - 120	5	20	
Zinc	200	199		mg/Kg		100	80 - 120	4	20	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-185674/18-A
Matrix: Solid
Analysis Batch: 185736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 185674

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.020	0.0060	mg/Kg		03/31/15 13:06	03/31/15 14:40	1

Lab Sample ID: LCS 580-185674/19-A
Matrix: Solid
Analysis Batch: 185736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 185674

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	RPD
Mercury	0.167	0.157		mg/Kg		94	80 - 120	

Lab Sample ID: LCSD 580-185674/20-A
Matrix: Solid
Analysis Batch: 185736

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 185674

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Mercury	0.167	0.152		mg/Kg		91	80 - 120	4	20	

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 580-186995/1
Matrix: Water
Analysis Batch: 186995

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Specific Conductance	ND		10	10	umhos/cm			04/16/15 10:00	1

Lab Sample ID: LCS 580-186995/2
Matrix: Water
Analysis Batch: 186995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	RPD
Specific Conductance	500	498		umhos/cm		100	90 - 110	

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-185519/1
Matrix: Water
Analysis Batch: 185519

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.90	0.20	mg/L			03/28/15 09:40	1

Lab Sample ID: LCS 580-185519/2
Matrix: Water
Analysis Batch: 185519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	5.00	4.99		mg/L		100	90 - 110

Lab Sample ID: LCSD 580-185519/3
Matrix: Water
Analysis Batch: 185519

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	5.00	4.99		mg/L		100	90 - 110	0	15

Lab Sample ID: 580-48451-1 MS
Matrix: Water
Analysis Batch: 185519

Client Sample ID: 96-ST2-20150326-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.6		1.80	3.39		mg/L		98	90 - 110

Lab Sample ID: 580-48451-1 DU
Matrix: Water
Analysis Batch: 185519

Client Sample ID: 96-ST2-20150326-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	1.6		1.63		mg/L		0	10

Lab Sample ID: MB 580-185521/1
Matrix: Water
Analysis Batch: 185521

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.30	mg/L			03/28/15 09:40	1
Sulfate	ND		1.2	0.40	mg/L			03/28/15 09:40	1

Lab Sample ID: LCS 580-185521/2
Matrix: Water
Analysis Batch: 185521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.9		mg/L		100	90 - 110
Sulfate	50.0	48.6		mg/L		97	90 - 110

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 580-185521/3

Matrix: Water

Analysis Batch: 185521

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	50.0		mg/L		100	90 - 110	0	15
Sulfate	50.0	48.4		mg/L		97	90 - 110	0	15

Lab Sample ID: 580-48451-1 MS

Matrix: Water

Analysis Batch: 185521

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	15		9.00	23.3		mg/L		97	90 - 110
Sulfate	37		12.0	48.3		mg/L		92	90 - 110

Lab Sample ID: 580-48451-1 DU

Matrix: Water

Analysis Batch: 185521

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	15		14.5		mg/L		0.07	10
Sulfate	37		37.2		mg/L		0.08	10

Method: 9060_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-185879/3

Matrix: Solid

Analysis Batch: 185879

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		2000	44	mg/Kg			04/02/15 10:44	1

Lab Sample ID: LCS 580-185879/4

Matrix: Solid

Analysis Batch: 185879

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	2850	3910		mg/Kg		137	27.8 - 170

Lab Sample ID: LCSD 580-185879/5

Matrix: Solid

Analysis Batch: 185879

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	2850	3540		mg/Kg		124	27.8 - 170	10	35

Lab Sample ID: 580-48451-3 MS

Matrix: Solid

Analysis Batch: 185879

Client Sample ID: HC-SF-20150326-S

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	22000		114000	146000		mg/Kg		109	50 - 140

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: 9060_PSEP - TOC (Puget Sound) (Continued)

Lab Sample ID: 580-48451-3 MSD
Matrix: Solid
Analysis Batch: 185879

Client Sample ID: HC-SF-20150326-S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	22000		119000	145000		mg/Kg		104	50 - 140	1	35

Lab Sample ID: 580-48451-3 DU
Matrix: Solid
Analysis Batch: 185879

Client Sample ID: HC-SF-20150326-S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	22000		23600		mg/Kg		6	50

Method: SM 2320B - Alkalinity

Lab Sample ID: LCS 580-185807/2
Matrix: Water
Analysis Batch: 185807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	100	102		mg/L		102	85 - 115

Lab Sample ID: 580-48451-1 DU
Matrix: Water
Analysis Batch: 185807

Client Sample ID: 96-ST2-20150326-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	100		105		mg/L		0.3	17
Bicarbonate Alkalinity as CaCO3	100		105		mg/L		0.3	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 580-185553/1
Matrix: Water
Analysis Batch: 185553

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		2.0	2.0	mg/L			03/30/15 14:11	1

Lab Sample ID: LCS 580-185553/2
Matrix: Water
Analysis Batch: 185553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	30.0	32.8		mg/L		109	70.6 - 120

Lab Sample ID: 580-48451-1 DU
Matrix: Water
Analysis Batch: 185553

Client Sample ID: 96-ST2-20150326-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	ND		4.00		mg/L		NC	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: SM 3500 CR D - Chromium, Hexavalent

Lab Sample ID: MB 580-185508/1
Matrix: Water
Analysis Batch: 185508

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.012	0.0010	mg/L			03/27/15 15:28	1

Lab Sample ID: LCS 580-185508/2
Matrix: Water
Analysis Batch: 185508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.200	0.192		mg/L		96	90 - 110

Lab Sample ID: 580-48451-2 MS
Matrix: Water
Analysis Batch: 185508

Client Sample ID: HC-NF-10-20150326-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.201	0.187		mg/L		93	85 - 115

Lab Sample ID: 580-48451-2 DU
Matrix: Water
Analysis Batch: 185508

Client Sample ID: HC-NF-10-20150326-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chromium, hexavalent	ND		0.00400	J	mg/L		NC	25

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 580-186709/1
Matrix: Water
Analysis Batch: 186709

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.19	mg/L			04/11/15 18:01	1

Lab Sample ID: LCS 580-186709/2
Matrix: Water
Analysis Batch: 186709

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	15.0	15.2		mg/L		101	85 - 115

Lab Sample ID: 580-48451-1 MS
Matrix: Water
Analysis Batch: 186709

Client Sample ID: 96-ST2-20150326-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	3.7		10.0	14.3		mg/L		106	85 - 115

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 580-48451-1 MSD

Matrix: Water

Analysis Batch: 186709

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	3.7		10.0	13.9		mg/L		102	85 - 115	3	20

Lab Sample ID: 580-48451-1 DU

Matrix: Water

Analysis Batch: 186709

Client Sample ID: 96-ST2-20150326-W

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	3.7		3.76		mg/L		0.9	20

Lab Chronicle

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: 96-ST2-20150326-W

Lab Sample ID: 580-48451-1

Date Collected: 03/26/15 11:50

Matrix: Water

Date Received: 03/27/15 11:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			185545	03/30/15 13:12	ZMR	TAL SEA
Total/NA	Analysis	8270D		1	186321	04/08/15 13:19	ERB	TAL SEA
Total/NA	Prep	3520C	RE		186033	04/03/15 16:15	ZMR	TAL SEA
Total/NA	Analysis	8270D	RE	1	186321	04/08/15 17:41	ERB	TAL SEA
Total/NA	Prep	3520C	REDL		186033	04/03/15 16:15	ZMR	TAL SEA
Total/NA	Analysis	8270D	REDL	10	186427	04/09/15 17:34	AHP	TAL SEA
Total/NA	Prep	3510C			185678	03/31/15 14:22	RBL	TAL SEA
Total/NA	Analysis	8082		1	185853	04/02/15 13:17	EKK	TAL SEA
Total/NA	Prep	200.8			186045	04/04/15 08:32	SPP	TAL SEA
Total/NA	Analysis	200.8		1	186205	04/05/15 16:04	FCW	TAL SEA
Total/NA	Prep	245.1			187003	04/16/15 13:30	PAB	TAL SEA
Total/NA	Analysis	245.1		1	187059	04/16/15 16:26	FCW	TAL SEA
Total/NA	Analysis	120.1		1	186995	04/16/15 10:00	JSM	TAL SEA
Total/NA	Analysis	300.0		1	185519	03/28/15 10:23	JLS	TAL SEA
Total/NA	Analysis	300.0		1	185521	03/28/15 10:23	JLS	TAL SEA
Total/NA	Analysis	SM 2320B		1	185807	04/01/15 13:21	JLS	TAL SEA
Total/NA	Analysis	SM 2540D		1	185553	03/30/15 14:11	JLS	TAL SEA
Total/NA	Analysis	SM 3500 CR D		1	185508	03/27/15 15:33	RSB	TAL SEA
Total/NA	Analysis	SM 4500 H+ B		1	185500	03/27/15 16:45	RSB	TAL SEA
Dissolved	Analysis	SM 5310B		1	186709	04/11/15 18:01	RSB	TAL SEA
Total/NA	Analysis	SM 5310B		1	186709	04/11/15 18:01	RSB	TAL SEA

Client Sample ID: HC-NF-10-20150326-W

Lab Sample ID: 580-48451-2

Date Collected: 03/26/15 15:40

Matrix: Water

Date Received: 03/27/15 11:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			185545	03/30/15 13:12	ZMR	TAL SEA
Total/NA	Analysis	8270D		1	186321	04/08/15 14:37	ERB	TAL SEA
Total/NA	Prep	3520C	RE		186033	04/03/15 16:15	ZMR	TAL SEA
Total/NA	Analysis	8270D	RE	1	186321	04/08/15 19:00	ERB	TAL SEA
Total/NA	Prep	3510C			185678	03/31/15 14:22	RBL	TAL SEA
Total/NA	Analysis	8082		1	185853	04/02/15 13:33	EKK	TAL SEA
Total/NA	Prep	200.8			186045	04/04/15 08:32	SPP	TAL SEA
Total/NA	Analysis	200.8		1	186205	04/05/15 15:55	FCW	TAL SEA
Total/NA	Prep	245.1			187003	04/16/15 13:30	PAB	TAL SEA
Total/NA	Analysis	245.1		1	187059	04/16/15 16:28	FCW	TAL SEA
Total/NA	Analysis	120.1		1	186995	04/16/15 10:00	JSM	TAL SEA
Total/NA	Analysis	300.0		1	185519	03/28/15 11:07	JLS	TAL SEA
Total/NA	Analysis	300.0		1	185521	03/28/15 11:07	JLS	TAL SEA
Total/NA	Analysis	SM 2320B		1	185807	04/01/15 13:21	JLS	TAL SEA
Total/NA	Analysis	SM 2540D		1	185553	03/30/15 14:11	JLS	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Client Sample ID: HC-NF-10-20150326-W

Lab Sample ID: 580-48451-2

Date Collected: 03/26/15 15:40

Matrix: Water

Date Received: 03/27/15 11:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 3500 CR D		1	185508	03/27/15 15:30	RSB	TAL SEA
Total/NA	Analysis	SM 4500 H+ B		1	185500	03/27/15 16:47	RSB	TAL SEA
Dissolved	Analysis	SM 5310B		1	186709	04/11/15 18:01	RSB	TAL SEA
Total/NA	Analysis	SM 5310B		1	186709	04/11/15 18:01	RSB	TAL SEA

Client Sample ID: HC-SF-20150326-S

Lab Sample ID: 580-48451-3

Date Collected: 03/26/15 14:40

Matrix: Solid

Date Received: 03/27/15 11:15

Percent Solids: 61.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			186214	04/07/15 09:56	ERZ	TAL SEA
Total/NA	Analysis	8270D		10	186325	04/08/15 18:16	AHP	TAL SEA
Total/NA	Prep	3550B			185590	03/30/15 17:21	EKK	TAL SEA
Total/NA	Analysis	8082		1	185672	03/31/15 18:40	ALC	TAL SEA
Total/NA	Prep	3546			185436	03/28/15 09:35	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185495	03/30/15 08:46	EKK	TAL SEA
Total/NA	Prep	3050B			187370	04/21/15 11:45	PAB	TAL SEA
Total/NA	Analysis	6020		10	187455	04/21/15 17:25	FCW	TAL SEA
Total/NA	Prep	7471A			185674	03/31/15 13:06	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185736	03/31/15 15:16	FCW	TAL SEA
Total/NA	Analysis	2540B		1	185630	03/31/15 09:21	EKK	TAL SEA
Total/NA	Analysis	9060_PSEP		1	185879	04/02/15 10:44	JLS	TAL SEA
Total/NA	Analysis	PSEP Plumb 1981		1	186251	04/07/15 12:58	HJM	TAL SEA

Client Sample ID: HC-NF-10-20150326-S

Lab Sample ID: 580-48451-4

Date Collected: 03/26/15 15:20

Matrix: Solid

Date Received: 03/27/15 11:15

Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			186214	04/07/15 09:56	ERZ	TAL SEA
Total/NA	Analysis	8270D		10	186325	04/08/15 18:42	AHP	TAL SEA
Total/NA	Prep	3550B			185590	03/30/15 17:21	EKK	TAL SEA
Total/NA	Analysis	8082		1	185672	03/31/15 19:29	ALC	TAL SEA
Total/NA	Prep	3546			185436	03/28/15 09:35	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	185495	03/30/15 09:22	EKK	TAL SEA
Total/NA	Prep	3050B			187370	04/21/15 11:45	PAB	TAL SEA
Total/NA	Analysis	6020		10	187455	04/21/15 17:29	FCW	TAL SEA
Total/NA	Prep	7471A			185674	03/31/15 13:06	PAB	TAL SEA
Total/NA	Analysis	7471A		1	185736	03/31/15 15:19	FCW	TAL SEA
Total/NA	Analysis	2540B		1	185630	03/31/15 09:21	EKK	TAL SEA
Total/NA	Analysis	9060_PSEP		1	185879	04/02/15 10:44	JLS	TAL SEA
Total/NA	Analysis	PSEP Plumb 1981		1	186251	04/07/15 12:58	HJM	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

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Certification Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

Sample Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48451-1	96-ST2-20150326-W	Water	03/26/15 11:50	03/27/15 11:15
580-48451-2	HC-NF-10-20150326-W	Water	03/26/15 15:40	03/27/15 11:15
580-48451-3	HC-SF-20150326-S	Solid	03/26/15 14:40	03/27/15 11:15
580-48451-4	HC-NF-10-20150326-S	Solid	03/26/15 15:20	03/27/15 11:15

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Tacoma, WA 98424
phone 253.922.2310 fax

TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Client Contact
Leidos
18912 N Creek Pkwy, Ste. 101
Bothell, WA 98011
425.398.2101 Phone
425.485.5566 FAX

Project Name: NPDES Sampling Support
Site: Lower Duwamish Waterway
P O # P010163427

Project Manager: Iris Winstanley
Tel/Fax: 425.205.5189

Site Contact: Corey Wilson
Lab Contact: Kris Allen

Date: 3/26/15
Carrier: Courier

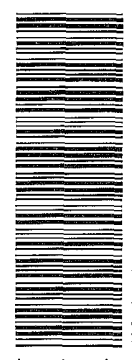
Analysis Turnaround Time

CALENDAR DAYS WORKING DAYS

TAT if different from Below 3 Weeks

2 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Metals (Method 200.8/7470A)	pH (Method SM4500H)	Spec Cond (Method 120.1)	Alk/Bicarb/Carb (Method SM2320)	Anions (Method 300.0/353.2)	TOC (Method SM5310B)	DOC (Method SM5310B)	TSS (Method 2540D)	Hexavalent Chrome (3520)	PBB Analytes (EPA 8082)	Sample Specific Notes:
96-ST2-20150226-W	3/26/15	1550	G	W	12	N		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Cooler/B Dig/IR cor 1.7 unc 1.4 ^{cc} Cooler Dsc L5 Bbb/hh@Lab 1355 Wet/Packs Packing Bbb/hh/e w/cs
HC-NF-10-20150326-W	3/26/15	1540	G	W	12	N		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Cooler/B Dig/IR cor 1.8 unc 1.5 ^{cc} Cooler Dsc L5 Bbb/hh@Lab 1355 Wet/Packs Packing Bbb/hh/e w/cs



Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other MeOH

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Unknown

Special Instructions/QC Requirements & Comments:

Return to Client Disposal by Lab Archive for _____ Months

Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: _____	Therm ID No.:
Relinquished by: <i>[Signature]</i>	Company: Leidos	Received by: Bothell office	Company: Leidos
Relinquished by: <i>[Signature]</i>	Company: Leidos	Received by: TASEA	Company: TASEA
Relinquished by: <i>[Signature]</i>	Company: Leidos	Received in Laboratory by:	Company:
Date/Time: 3/26/15 11:55	Date/Time: 3/26/15 2:00	Date/Time: 3/27/15 11:15	Date/Time:

Tacoma, WA 98424
phone 253.922.2310 fax

TestAmerica Laboratories, Inc.

48451

Regulatory Program: DW NPDES RCRA Other:

Client Contact Leidos 18912 N Creek Pkwy, Ste. 101 Bothell, WA 98011 Phone 425.398.2101 FAX 425.485.5566 Project Name: NPDES Sampling Support Site: Lower Duwamish Waterway P.O. # P010163427		Project Manager: Iris Winstanley Tel/Fax: 425.205.5189		Site Contact: Corey Wilson Lab Contact: Kris Allen		Date: 3/28/15 Carrier: Courier		COC No: 2 of 2 COCs			
Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS TAT if different from Below: 3 Weeks <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Sample Date 3/26/15 3/26/15 3/26/15		Sample Time 1440 1540 1520		Sample Type G G G		Matrix Sed Sed Sed		# of Cont. 3 3 3	
Sample Identification HC-SF-20150326-S HC-NF-2-HC-NF-10-20150326-S CW 3/26/15		Filtered Sample (Y/N) <input type="checkbox"/> Perform MS / MSD (Y/N) <input type="checkbox"/> PCB Aroclors (Method 8082) <input type="checkbox"/> SVOC (Method 8270D/8270D-SIM) <input checked="" type="checkbox"/> TPH-Diesel (NWTPH-DX) <input checked="" type="checkbox"/> Metals (Method 6020/7471A) <input type="checkbox"/> Total Solids (Method SM2540B) <input type="checkbox"/> TPH-Gasoline (NWTPH-GX) <input type="checkbox"/> VOCs (EPA 8260B) <input checked="" type="checkbox"/> TOC (Plumb1981/9060) <input checked="" type="checkbox"/> Particle Size (PSEP_Plumb1981) <input checked="" type="checkbox"/>		Sample Specific Notes: 3/26/15 3/26/15 3/26/15		For Lab Use Only: Walk-in Client: <input type="checkbox"/> Lab Sampling: <input type="checkbox"/> Job / SDG No.: <input type="checkbox"/>		Sampler: <input type="checkbox"/> Sample Specific Notes:		COC No: 2 of 2 COCs	
Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other MeOH											
Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.											
Special Instructions/QC Requirements & Comments:											
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:		Date/Time: 03/26/2015 2000	
Relinquished by: [Signature]		Company: Leidos		Received by: Bothell Off. 700		Company: Leidos		Date/Time: 3/27/15 1115		Date/Time: 3/27/15 1115	
Relinquished by: Bothell Office (Megan Han)		Company: Leidos		Received by: [Signature]		Company: TA-SEA		Date/Time: 3/27/15 1115		Date/Time: 3/27/15 1115	
Relinquished by:		Company:		Received in Laboratory by:		Company:		Date/Time:		Date/Time:	



Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 580-48451-1

Login Number: 48451

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	COC lists 12 containers for -1, 14 received.
Samples are received within Holding Time.	False	Samples received out of hold for Cr6
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-48451-2

Client Project/Site: NPDES Sampling Support

For:

Leidos, Inc.
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

Attn: Iris Winstanley



Authorized for release by:
5/28/2015 12:16:38 PM

Kristine Allen, Manager of Project Management
(253)248-4970
kristine.allen@testamericainc.com

LINKS

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results through
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Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Job ID: 580-48451-2

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-48451-2

Comments

No additional comments.

Receipt

The samples were received on 3/27/2015 11:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.7° C and 1.8° C.

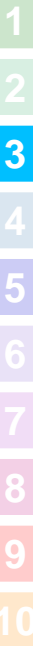
Receipt Exceptions

The following samples 96-ST2-20150326-W (580-48451-1) and HC-NF-10-20150326-W (580-48451-2) were activated for Dissolved 200.8 and 245.1 analysis by the client on 5/19/2015. This analysis was not originally requested on the chain-of-custody (COC). The mercury testing will be performed outside of holding time.

Metals

Method(s) 245.1: The following samples was received outside of holding time: 96-ST2-20150326-W (580-48451-1) and HC-NF-10-20150326-W (580-48451-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Definitions/Glossary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Qualifiers

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Client Sample ID: 96-ST2-20150326-W

Lab Sample ID: 580-48451-1

Date Collected: 03/26/15 11:50

Matrix: Water

Date Received: 03/27/15 11:15

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0018		0.0010	0.00027	mg/L		05/26/15 15:38	05/27/15 22:17	1
Antimony	0.00083		0.00040	0.000080	mg/L		05/26/15 15:38	05/27/15 22:17	1
Beryllium	ND		0.00040	0.00010	mg/L		05/26/15 15:38	05/27/15 22:17	1
Cadmium	ND		0.00040	0.000028	mg/L		05/26/15 15:38	05/27/15 22:17	1
Chromium	0.021		0.00040	0.00014	mg/L		05/26/15 15:38	05/27/15 22:17	1
Copper	0.0018	J	0.0020	0.00060	mg/L		05/26/15 15:38	05/27/15 22:17	1
Lead	0.00019	J	0.00040	0.000034	mg/L		05/26/15 15:38	05/27/15 22:17	1
Nickel	0.0022	J	0.0030	0.00040	mg/L		05/26/15 15:38	05/27/15 22:17	1
Selenium	ND		0.0010	0.00030	mg/L		05/26/15 15:38	05/27/15 22:17	1
Silver	ND		0.00040	0.000030	mg/L		05/26/15 15:38	05/27/15 22:17	1
Thallium	ND		0.0010	0.00014	mg/L		05/26/15 15:38	05/27/15 22:17	1
Zinc	0.0078		0.0070	0.0019	mg/L		05/26/15 15:38	05/27/15 22:17	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00020	0.000041	mg/L		05/26/15 11:59	05/26/15 16:13	1

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Client Sample ID: HC-NF-10-20150326-W

Lab Sample ID: 580-48451-2

Date Collected: 03/26/15 15:40

Matrix: Water

Date Received: 03/27/15 11:15

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0021		0.0010	0.00027	mg/L		05/26/15 15:38	05/27/15 22:22	1
Antimony	0.00080		0.00040	0.000080	mg/L		05/26/15 15:38	05/27/15 22:22	1
Beryllium	ND		0.00040	0.00010	mg/L		05/26/15 15:38	05/27/15 22:22	1
Cadmium	ND		0.00040	0.000028	mg/L		05/26/15 15:38	05/27/15 22:22	1
Chromium	0.00070		0.00040	0.00014	mg/L		05/26/15 15:38	05/27/15 22:22	1
Copper	0.0017	J	0.0020	0.00060	mg/L		05/26/15 15:38	05/27/15 22:22	1
Lead	0.00013	J	0.00040	0.000034	mg/L		05/26/15 15:38	05/27/15 22:22	1
Nickel	0.0018	J	0.0030	0.00040	mg/L		05/26/15 15:38	05/27/15 22:22	1
Selenium	ND		0.0010	0.00030	mg/L		05/26/15 15:38	05/27/15 22:22	1
Silver	ND		0.00040	0.000030	mg/L		05/26/15 15:38	05/27/15 22:22	1
Thallium	ND		0.0010	0.00014	mg/L		05/26/15 15:38	05/27/15 22:22	1
Zinc	0.0072		0.0070	0.0019	mg/L		05/26/15 15:38	05/27/15 22:22	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	H	0.00020	0.000041	mg/L		05/26/15 11:59	05/26/15 16:16	1

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: LCS 580-190359/11-A
Matrix: Water
Analysis Batch: 190580

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190359

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.100	0.0938		mg/L		94	85 - 115
Antimony	0.100	0.0977		mg/L		98	85 - 115
Beryllium	0.100	0.0952		mg/L		95	85 - 115
Cadmium	0.100	0.0967		mg/L		97	85 - 115
Chromium	0.100	0.0964		mg/L		96	85 - 115
Copper	0.100	0.0957		mg/L		96	85 - 115
Lead	0.100	0.0967		mg/L		97	85 - 115
Nickel	0.100	0.0961		mg/L		96	85 - 115
Selenium	0.100	0.0936		mg/L		94	85 - 115
Silver	0.100	0.0958		mg/L		96	85 - 115
Thallium	0.100	0.0977		mg/L		98	85 - 115
Zinc	0.100	0.0942		mg/L		94	85 - 115

Lab Sample ID: LCSD 580-190359/12-A
Matrix: Water
Analysis Batch: 190580

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190359

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	0.100	0.0958		mg/L		96	85 - 115	2	20
Antimony	0.100	0.0985		mg/L		98	85 - 115	1	20
Beryllium	0.100	0.0958		mg/L		96	85 - 115	1	20
Cadmium	0.100	0.0987		mg/L		99	85 - 115	2	20
Chromium	0.100	0.0976		mg/L		98	85 - 115	1	20
Copper	0.100	0.0980		mg/L		98	85 - 115	2	20
Lead	0.100	0.0972		mg/L		97	85 - 115	1	20
Nickel	0.100	0.0978		mg/L		98	85 - 115	2	20
Selenium	0.100	0.0956		mg/L		96	85 - 115	2	20
Silver	0.100	0.0975		mg/L		97	85 - 115	2	20
Thallium	0.100	0.0986		mg/L		99	85 - 115	1	20
Zinc	0.100	0.0954		mg/L		95	85 - 115	1	20

Lab Sample ID: MB 580-189859/5-B
Matrix: Water
Analysis Batch: 190580

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 190359

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00027	mg/L		05/26/15 15:38	05/27/15 21:22	1
Antimony	ND		0.00040	0.000080	mg/L		05/26/15 15:38	05/27/15 21:22	1
Beryllium	ND		0.00040	0.00010	mg/L		05/26/15 15:38	05/27/15 21:22	1
Cadmium	ND		0.00040	0.000028	mg/L		05/26/15 15:38	05/27/15 21:22	1
Chromium	ND		0.00040	0.00014	mg/L		05/26/15 15:38	05/27/15 21:22	1
Copper	ND		0.0020	0.00060	mg/L		05/26/15 15:38	05/27/15 21:22	1
Lead	ND		0.00040	0.000034	mg/L		05/26/15 15:38	05/27/15 21:22	1
Nickel	ND		0.0030	0.00040	mg/L		05/26/15 15:38	05/27/15 21:22	1
Selenium	ND		0.0010	0.00030	mg/L		05/26/15 15:38	05/27/15 21:22	1
Silver	ND		0.00040	0.000030	mg/L		05/26/15 15:38	05/27/15 21:22	1
Thallium	ND		0.0010	0.00014	mg/L		05/26/15 15:38	05/27/15 21:22	1
Zinc	ND		0.0070	0.0019	mg/L		05/26/15 15:38	05/27/15 21:22	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
 Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 580-190301/14-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190301

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		05/26/15 11:59	05/26/15 15:25	1

Lab Sample ID: LCS 580-190301/15-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190301

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00200	0.00210		mg/L		105	85 - 115

Lab Sample ID: LCSD 580-190301/16-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190301

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00200	0.00205		mg/L		102	85 - 115	3	20

Lab Chronicle

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Client Sample ID: 96-ST2-20150326-W

Date Collected: 03/26/15 11:50

Date Received: 03/27/15 11:15

Lab Sample ID: 580-48451-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			189859	05/19/15 16:39	PAB	TAL SEA
Dissolved	Prep	200.8			190359	05/26/15 15:38	PAB	TAL SEA
Dissolved	Analysis	200.8		1	190580	05/27/15 22:17	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			189859	05/19/15 16:39	PAB	TAL SEA
Dissolved	Prep	245.1			190301	05/26/15 11:59	PAB	TAL SEA
Dissolved	Analysis	245.1		1	190402	05/26/15 16:13	FCW	TAL SEA

Client Sample ID: HC-NF-10-20150326-W

Date Collected: 03/26/15 15:40

Date Received: 03/27/15 11:15

Lab Sample ID: 580-48451-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			189859	05/19/15 16:39	PAB	TAL SEA
Dissolved	Prep	200.8			190359	05/26/15 15:38	PAB	TAL SEA
Dissolved	Analysis	200.8		1	190580	05/27/15 22:22	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			189859	05/19/15 16:39	PAB	TAL SEA
Dissolved	Prep	245.1			190301	05/26/15 11:59	PAB	TAL SEA
Dissolved	Analysis	245.1		1	190402	05/26/15 16:16	FCW	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

Sample Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48451-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48451-1	96-ST2-20150326-W	Water	03/26/15 11:50	03/27/15 11:15
580-48451-2	HC-NF-10-20150326-W	Water	03/26/15 15:40	03/27/15 11:15

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Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 580-48451-2

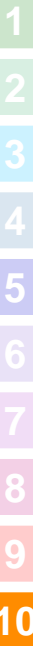
Login Number: 48451

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	COC lists 12 containers for -1, 14 received.
Samples are received within Holding Time.	False	Samples received out of hold for Cr6
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-48644-1

Client Project/Site: Industrial Facility Sampling

For:

Leidos, Inc.
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

Attn: Iris Winstanley

Kristine D. Allen

Authorized for release by:
4/29/2015 6:12:35 PM

Kristine Allen, Manager of Project Management
(253)248-4970
kristine.allen@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Job ID: 580-48644-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-48644-1

Comments

No additional comments.

Receipt

The samples were received on 4/1/2015 10:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

GC/MS Semi VOA

Method(s) 8270D: The method blank for prep batch 580-186214 contained Diethyl phthalate, Butyl benzy phthalate, Bis(2-ethylhexyl)phthalate, Di-n-butyl phthalate and Benzyl alcohol above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. Affected samples: 96-ST3-20150326-S (580-48644-1), 96-ST2-20150326-S (580-48644-2), 96-ST1-20150326-S (580-48644-3), HC-ST1-20150326-S (580-48644-4) and (MB 580-186214/1-A)

Method(s) 8270D: The continuing calibration verification (CCV) associated with 580-186325 recovered above the upper control limit for Indeno(1,2,3-cd)pyrene. Method 8270D allows <20% of compounds to fail the criteria; therefore, the data have been qualified and reported. The following samples are impacted: 96-ST3-20150326-S (580-48644-1), 96-ST2-20150326-S (580-48644-2), 96-ST1-20150326-S (580-48644-3), HC-ST1-20150326-S (580-48644-4), (CCVIS 580-186325/3), (LCS 580-186214/2-A), (LCSD 580-186214/3-A), (MB 580-186214/1-A), (580-48644-B-1-B MS) and (580-48644-B-1-C MSD).

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in 580-186325 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS and/or LCSD associated with 580-186214 : 4-Chlorophenyl phenyl ether, Phenanthrene and Bis(2-chloroethoxy)methane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. Affected samples: 96-ST3-20150326-S (580-48644-1), 96-ST2-20150326-S (580-48644-2), 96-ST1-20150326-S (580-48644-3), HC-ST1-20150326-S (580-48644-4), (LCS 580-186214/2-A), (LCSD 580-186214/3-A), (580-48644-B-1-B MS) and (580-48644-B-1-C MSD)

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for 580-186214 and 580-186214 recovered outside control limits for the following analytes: Benzoic acid. The individual LCS/LCSD recoveries were in control.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: HC-ST1-20150326-S (580-48644-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Geotechnical

Method(s) PSEP Plumb 1981: This sample is mostly water (>90% by weight) with silt. The entire portion of this sample was used for

Case Narrative

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Job ID: 580-48644-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

testing. 96-ST3-20150326-S (580-48644-1)

Method(s) PSEP Plumb 1981: Sample volume in the jar is about 1/3 sand, 2/3 water with silt. Water will be decanted off leaving silt and sand. The rest of the test will continue as normal on the decanted portion of sample. HC-ST1-20150326-S (580-48644-4)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3550B: Due to the matrix of the following samples, a four mL final volume NOT a two mL final volume was performed. It is also very likely that the samples will need dilution upon running on the instrument even at the four mL final volume. 96-ST3-20150326-S (580-48644-1), 96-ST2-20150326-S (580-48644-2), 96-ST1-20150326-S (580-48644-3), HC-ST1-20150326-S (580-48644-4), (580-48644-B-1 MS) and (580-48644-B-1 MSD)

Method(s) 3550B: In preparation batch 186369, the following sample matrix observations were made for samples 96-ST3-20150326-S (580-48644-1), 96-ST2-20150326-S (580-48644-2), 96-ST1-20150326-S (580-48644-3) and HC-ST1-20150326-S (580-48644-4): all samples consisted primarily of water.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Definitions/Glossary

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST3-20150326-S

Lab Sample ID: 580-48644-1

Date Collected: 03/26/15 10:30

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 23.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	F1	410	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
1,2-Dichlorobenzene	ND	F1	450	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
1,3-Dichlorobenzene	ND	F1	410	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
1,4-Dichlorobenzene	ND	F1	410	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
1-Methylnaphthalene	ND	F1	240	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2,2'-oxybis[1-chloropropane]	ND	F1	2000	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2,4,5-Trichlorophenol	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2,4,6-Trichlorophenol	ND		1200	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2,4-Dichlorophenol	ND	F1	810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2,4-Dimethylphenol	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2,4-Dinitrophenol	ND		8100	1600	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2,4-Dinitrotoluene	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2,6-Dinitrotoluene	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2-Chloronaphthalene	ND	F1	160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2-Chlorophenol	ND	F1	810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2-Methylnaphthalene	ND	F1	160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2-Methylphenol	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2-Nitroaniline	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
2-Nitrophenol	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
3 & 4 Methylphenol	ND		1600	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
3,3'-Dichlorobenzidine	ND	F1	1600	240	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
3-Nitroaniline	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
4,6-Dinitro-2-methylphenol	ND	F1	8100	810	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
4-Bromophenyl phenyl ether	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
4-Chloro-3-methylphenol	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
4-Chloroaniline	ND	F1	810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
4-Chlorophenyl phenyl ether	ND	* F1	810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
4-Nitroaniline	ND		810	160	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
4-Nitrophenol	ND		8100	2000	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Acenaphthene	ND		160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Acenaphthylene	ND		160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Anthracene	ND		160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Benzo[a]anthracene	120	J	160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Benzo[a]pyrene	120	J	240	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Benzo[b]fluoranthene	220	F1	160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Benzo[g,h,i]perylene	100	J F1	200	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Benzo[k]fluoranthene	97	J	200	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Benzoic acid	ND	*	20000	6100	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Benzyl alcohol	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Bis(2-chloroethoxy)methane	ND	F1 *	810	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Bis(2-chloroethyl)ether	ND	F1	810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Bis(2-ethylhexyl) phthalate	920	J F1 B	4900	410	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Butyl benzyl phthalate	ND		1600	410	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Carbazole	ND		810	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Chrysene	140	J F1	200	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Dibenz(a,h)anthracene	ND		330	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Dibenzofuran	ND		810	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Diethyl phthalate	ND	F1	1600	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Dimethyl phthalate	ND		810	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST3-20150326-S

Lab Sample ID: 580-48644-1

Date Collected: 03/26/15 10:30

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 23.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		4100	410	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Di-n-octyl phthalate	370	J	4100	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Fluoranthene	240	F1	160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Fluorene	ND		160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Hexachlorobenzene	ND		410	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Hexachlorobutadiene	ND	F1	410	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Hexachlorocyclopentadiene	ND	F1	810	81	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Hexachloroethane	ND	F1	810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Indeno[1,2,3-cd]pyrene	120	J F1 ^	330	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Isophorone	ND		810	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Naphthalene	ND	F1	160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Nitrobenzene	ND	F1	810	280	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
N-Nitrosodimethylamine	ND		8100	2000	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
N-Nitrosodi-n-propylamine	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Pentachlorophenol	ND	F1	1600	160	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Phenanthrene	84	J F1 *	160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Phenol	ND		810	120	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10
Pyrene	220	F1	160	41	ug/Kg	☼	04/07/15 09:56	04/08/15 19:07	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	94		28 - 143	04/07/15 09:56	04/08/15 19:07	10
2-Fluorobiphenyl	52		42 - 140	04/07/15 09:56	04/08/15 19:07	10
2-Fluorophenol	59		36 - 145	04/07/15 09:56	04/08/15 19:07	10
Nitrobenzene-d5	58		38 - 141	04/07/15 09:56	04/08/15 19:07	10
Phenol-d5	73		38 - 149	04/07/15 09:56	04/08/15 19:07	10
Terphenyl-d14	94		42 - 151	04/07/15 09:56	04/08/15 19:07	10

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arochlor 1016	ND		0.041	0.013	mg/Kg	☼	04/08/15 13:57	04/09/15 20:20	1
Arochlor 1221	ND		0.045	0.032	mg/Kg	☼	04/08/15 13:57	04/09/15 20:20	1
Arochlor 1232	ND		0.045	0.028	mg/Kg	☼	04/08/15 13:57	04/09/15 20:20	1
Arochlor 1242	ND		0.041	0.0085	mg/Kg	☼	04/08/15 13:57	04/09/15 20:20	1
Arochlor 1248	ND		0.041	0.012	mg/Kg	☼	04/08/15 13:57	04/09/15 20:20	1
Arochlor 1254	ND		0.041	0.0085	mg/Kg	☼	04/08/15 13:57	04/09/15 20:20	1
Arochlor 1260	ND		0.041	0.012	mg/Kg	☼	04/08/15 13:57	04/09/15 20:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		45 - 135	04/08/15 13:57	04/09/15 20:20	1
DCB Decachlorobiphenyl	78		50 - 140	04/08/15 13:57	04/09/15 20:20	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.5		1.9	0.67	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Lead	4.3		1.9	0.18	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Antimony	0.16	J	0.74	0.16	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Beryllium	ND		0.74	0.13	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Cadmium	ND		0.74	0.071	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Chromium	3.7		1.9	0.23	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST3-20150326-S

Lab Sample ID: 580-48644-1

Date Collected: 03/26/15 10:30

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 23.9

Method: 6020 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	3.9		1.5	0.36	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Nickel	4.0		1.9	0.30	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Selenium	ND		3.7	0.75	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Silver	ND		0.74	0.045	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Thallium	ND		1.5	0.48	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10
Zinc	17 J		19	4.2	mg/Kg	☼	04/22/15 17:11	04/23/15 09:41	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.068	0.020	mg/Kg	☼	04/08/15 11:03	04/08/15 15:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	24		0.10	0.10	%			04/09/15 09:51	1
Total Organic Carbon	52000		2000	44	mg/Kg			04/09/15 14:36	1

Method: PSEP Plumb 1981 - Grain Size (PSEP Plumb 1981)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobbles	0.00				%			04/07/15 12:58	1
Gravel	0.00				%			04/07/15 12:58	1
Sand	34				%			04/07/15 12:58	1
Silt	66				%			04/07/15 12:58	1
Clay	0.50				%			04/07/15 12:58	1

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST2-20150326-S

Lab Sample ID: 580-48644-2

Date Collected: 03/26/15 12:15

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 46.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		210	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
1,2-Dichlorobenzene	ND		230	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
1,3-Dichlorobenzene	ND		210	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
1,4-Dichlorobenzene	ND		210	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
1-Methylnaphthalene	ND		130	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2,2'-oxybis[1-chloropropane]	ND		1000	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2,4,5-Trichlorophenol	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2,4,6-Trichlorophenol	ND		630	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2,4-Dichlorophenol	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2,4-Dimethylphenol	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2,4-Dinitrophenol	ND		4200	830	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2,4-Dinitrotoluene	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2,6-Dinitrotoluene	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2-Chloronaphthalene	ND		83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2-Chlorophenol	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2-Methylnaphthalene	ND		83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2-Methylphenol	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2-Nitroaniline	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
2-Nitrophenol	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
3 & 4 Methylphenol	230	J	830	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
3,3'-Dichlorobenzidine	ND		830	130	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
3-Nitroaniline	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
4,6-Dinitro-2-methylphenol	ND		4200	420	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
4-Bromophenyl phenyl ether	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
4-Chloro-3-methylphenol	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
4-Chloroaniline	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
4-Chlorophenyl phenyl ether	ND	*	420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
4-Nitroaniline	ND		420	83	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
4-Nitrophenol	ND		4200	1000	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Acenaphthene	21	J	83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Acenaphthylene	ND		83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Anthracene	44	J	83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Benzo[a]anthracene	300		83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Benzo[a]pyrene	320		130	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Benzo[b]fluoranthene	560		83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Benzo[g,h,i]perylene	180		100	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Benzo[k]fluoranthene	230		100	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Benzoic acid	ND	*	10000	3100	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Benzyl alcohol	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Bis(2-chloroethoxy)methane	ND	*	420	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Bis(2-chloroethyl)ether	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Bis(2-ethylhexyl) phthalate	14000	B	2500	210	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Butyl benzyl phthalate	370	J B	830	210	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Carbazole	54	J	420	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Chrysene	350		100	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Dibenz(a,h)anthracene	ND		170	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Dibenzofuran	ND		420	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Diethyl phthalate	ND		830	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Dimethyl phthalate	560		420	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST2-20150326-S

Lab Sample ID: 580-48644-2

Date Collected: 03/26/15 12:15

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 46.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		2100	210	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Di-n-octyl phthalate	540	J	2100	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Fluoranthene	630		83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Fluorene	ND		83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Hexachlorobenzene	ND		210	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Hexachlorobutadiene	ND		210	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Hexachlorocyclopentadiene	ND		420	42	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Hexachloroethane	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Indeno[1,2,3-cd]pyrene	200	^	170	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Isophorone	ND		420	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Naphthalene	22	J	83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Nitrobenzene	ND		420	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
N-Nitrosodimethylamine	ND		4200	1000	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
N-Nitrosodi-n-propylamine	ND		420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
N-Nitrosodiphenylamine	27	J	210	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Pentachlorophenol	ND		830	83	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Phenanthrene	210	*	83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Phenol	63	J	420	63	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10
Pyrene	550		83	21	ug/Kg	☼	04/07/15 09:56	04/08/15 20:23	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	91		28 - 143	04/07/15 09:56	04/08/15 20:23	10
2-Fluorobiphenyl	59		42 - 140	04/07/15 09:56	04/08/15 20:23	10
2-Fluorophenol	60		36 - 145	04/07/15 09:56	04/08/15 20:23	10
Nitrobenzene-d5	48		38 - 141	04/07/15 09:56	04/08/15 20:23	10
Phenol-d5	69		38 - 149	04/07/15 09:56	04/08/15 20:23	10
Terphenyl-d14	86		42 - 151	04/07/15 09:56	04/08/15 20:23	10

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arochlor 1016	ND		0.021	0.0067	mg/Kg	☼	04/08/15 13:57	04/09/15 20:37	1
Arochlor 1221	ND		0.023	0.017	mg/Kg	☼	04/08/15 13:57	04/09/15 20:37	1
Arochlor 1232	ND		0.023	0.015	mg/Kg	☼	04/08/15 13:57	04/09/15 20:37	1
Arochlor 1242	ND		0.021	0.0044	mg/Kg	☼	04/08/15 13:57	04/09/15 20:37	1
Arochlor 1248	ND		0.021	0.0063	mg/Kg	☼	04/08/15 13:57	04/09/15 20:37	1
Arochlor 1254	ND		0.021	0.0044	mg/Kg	☼	04/08/15 13:57	04/09/15 20:37	1
Arochlor 1260	ND		0.021	0.0063	mg/Kg	☼	04/08/15 13:57	04/09/15 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87		45 - 135	04/08/15 13:57	04/09/15 20:37	1
DCB Decachlorobiphenyl	71		50 - 140	04/08/15 13:57	04/09/15 20:37	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.4		0.81	0.29	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Lead	39		0.81	0.078	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Antimony	1.2		0.32	0.068	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Beryllium	0.15	J	0.32	0.057	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Cadmium	0.52		0.32	0.031	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Chromium	84		0.81	0.10	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
 Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST2-20150326-S

Lab Sample ID: 580-48644-2

Date Collected: 03/26/15 12:15

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 46.6

Method: 6020 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	40		0.65	0.16	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Nickel	37		0.81	0.13	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Selenium	0.40	J	1.6	0.33	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Silver	0.065	J	0.32	0.019	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Thallium	ND		0.65	0.21	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10
Zinc	510		8.1	1.8	mg/Kg	☼	04/22/15 17:11	04/23/15 09:57	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.021	J	0.034	0.010	mg/Kg	☼	04/08/15 11:03	04/08/15 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	47		0.10	0.10	%			04/09/15 09:51	1
Total Organic Carbon	32000		2000	44	mg/Kg			04/09/15 14:36	1

Method: PSEP Plumb 1981 - Grain Size (PSEP Plumb 1981)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobbles	0.00				%			04/07/15 12:58	1
Gravel	0.38				%			04/07/15 12:58	1
Sand	48				%			04/07/15 12:58	1
Silt	50				%			04/07/15 12:58	1
Clay	1.8				%			04/07/15 12:58	1

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST1-20150326-S

Lab Sample ID: 580-48644-3

Date Collected: 03/26/15 13:40

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 20.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		470	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
1,2-Dichlorobenzene	ND		520	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
1,3-Dichlorobenzene	ND		470	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
1,4-Dichlorobenzene	ND		470	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
1-Methylnaphthalene	ND		280	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2,2'-oxybis[1-chloropropane]	ND		2300	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2,4,5-Trichlorophenol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2,4,6-Trichlorophenol	ND		1400	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2,4-Dichlorophenol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2,4-Dimethylphenol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2,4-Dinitrophenol	ND		9400	1900	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2,4-Dinitrotoluene	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2,6-Dinitrotoluene	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2-Chloronaphthalene	ND		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2-Chlorophenol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2-Methylnaphthalene	ND		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2-Methylphenol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2-Nitroaniline	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
2-Nitrophenol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
3 & 4 Methylphenol	ND		1900	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
3,3'-Dichlorobenzidine	ND		1900	280	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
3-Nitroaniline	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
4,6-Dinitro-2-methylphenol	ND		9400	940	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
4-Bromophenyl phenyl ether	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
4-Chloro-3-methylphenol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
4-Chloroaniline	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
4-Chlorophenyl phenyl ether	ND	*	940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
4-Nitroaniline	ND		940	190	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
4-Nitrophenol	ND		9400	2300	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Acenaphthene	ND		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Acenaphthylene	ND		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Anthracene	100	J	190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Benzo[a]anthracene	440		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Benzo[a]pyrene	580		280	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Benzo[b]fluoranthene	950		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Benzo[g,h,i]perylene	310		230	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Benzo[k]fluoranthene	400		230	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Benzoic acid	ND	*	23000	7000	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Benzyl alcohol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Bis(2-chloroethoxy)methane	ND	*	940	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Bis(2-chloroethyl)ether	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Bis(2-ethylhexyl) phthalate	9400	B	5600	470	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Butyl benzyl phthalate	ND		1900	470	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Carbazole	67	J	940	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Chrysene	720		230	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Dibenz(a,h)anthracene	94	J	380	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Dibenzofuran	ND		940	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Diethyl phthalate	ND		1900	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Dimethyl phthalate	190	J	940	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST1-20150326-S

Lab Sample ID: 580-48644-3

Date Collected: 03/26/15 13:40

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 20.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		4700	470	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Di-n-octyl phthalate	830	J	4700	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Fluoranthene	1100		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Fluorene	50	J	190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Hexachlorobenzene	ND		470	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Hexachlorobutadiene	ND		470	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Hexachlorocyclopentadiene	ND		940	94	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Hexachloroethane	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Indeno[1,2,3-cd]pyrene	340	J ^	380	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Isophorone	ND		940	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Naphthalene	ND		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Nitrobenzene	ND		940	320	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
N-Nitrosodimethylamine	ND		9400	2300	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
N-Nitrosodi-n-propylamine	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
N-Nitrosodiphenylamine	ND		470	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Pentachlorophenol	ND		1900	190	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Phenanthrene	420	*	190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Phenol	ND		940	140	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10
Pyrene	1100		190	47	ug/Kg	☼	04/07/15 09:56	04/08/15 20:48	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	99		28 - 143	04/07/15 09:56	04/08/15 20:48	10
2-Fluorobiphenyl	46		42 - 140	04/07/15 09:56	04/08/15 20:48	10
2-Fluorophenol	44		36 - 145	04/07/15 09:56	04/08/15 20:48	10
Nitrobenzene-d5	40		38 - 141	04/07/15 09:56	04/08/15 20:48	10
Phenol-d5	63		38 - 149	04/07/15 09:56	04/08/15 20:48	10
Terphenyl-d14	70		42 - 151	04/07/15 09:56	04/08/15 20:48	10

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arochlor 1016	ND		0.047	0.015	mg/Kg	☼	04/08/15 13:57	04/09/15 20:54	1
Arochlor 1221	ND		0.051	0.037	mg/Kg	☼	04/08/15 13:57	04/09/15 20:54	1
Arochlor 1232	ND		0.051	0.033	mg/Kg	☼	04/08/15 13:57	04/09/15 20:54	1
Arochlor 1242	ND		0.047	0.0098	mg/Kg	☼	04/08/15 13:57	04/09/15 20:54	1
Arochlor 1248	ND		0.047	0.014	mg/Kg	☼	04/08/15 13:57	04/09/15 20:54	1
Arochlor 1254	ND		0.047	0.0098	mg/Kg	☼	04/08/15 13:57	04/09/15 20:54	1
Arochlor 1260	ND		0.047	0.014	mg/Kg	☼	04/08/15 13:57	04/09/15 20:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	81		45 - 135	04/08/15 13:57	04/09/15 20:54	1
DCB Decachlorobiphenyl	62		50 - 140	04/08/15 13:57	04/09/15 20:54	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	32		2.0	0.70	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Lead	82		2.0	0.19	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Antimony	3.2		0.78	0.16	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Beryllium	0.38	J	0.78	0.14	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Cadmium	0.96		0.78	0.074	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Chromium	43		2.0	0.25	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST1-20150326-S

Lab Sample ID: 580-48644-3

Date Collected: 03/26/15 13:40

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 20.7

Method: 6020 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	90		1.6	0.38	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Nickel	44		2.0	0.32	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Selenium	1.1	J	3.9	0.79	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Silver	0.29	J	0.78	0.047	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Thallium	ND		1.6	0.51	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10
Zinc	550		20	4.4	mg/Kg	☼	04/22/15 17:11	04/23/15 09:49	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.090	0.027	mg/Kg	☼	04/08/15 11:03	04/08/15 15:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	21		0.10	0.10	%			04/09/15 09:51	1
Total Organic Carbon	150000		2000	44	mg/Kg			04/09/15 14:36	1

Method: PSEP Plumb 1981 - Grain Size (PSEP Plumb 1981)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobbles	0.00				%			04/07/15 12:58	1
Gravel	12				%			04/07/15 12:58	1
Sand	52				%			04/07/15 12:58	1
Silt	34				%			04/07/15 12:58	1
Clay	2.2				%			04/07/15 12:58	1

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: HC-ST1-20150326-S

Lab Sample ID: 580-48644-4

Date Collected: 03/26/15 14:02

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 64.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		150	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
1,2-Dichlorobenzene	ND		160	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
1,3-Dichlorobenzene	ND		150	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
1,4-Dichlorobenzene	ND		150	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
1-Methylnaphthalene	ND		90	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2,2'-oxybis[1-chloropropane]	ND		750	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2,4,5-Trichlorophenol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2,4,6-Trichlorophenol	ND		450	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2,4-Dichlorophenol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2,4-Dimethylphenol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2,4-Dinitrophenol	ND		3000	600	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2,4-Dinitrotoluene	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2,6-Dinitrotoluene	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2-Chloronaphthalene	ND		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2-Chlorophenol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2-Methylnaphthalene	ND		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2-Methylphenol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2-Nitroaniline	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
2-Nitrophenol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
3 & 4 Methylphenol	ND		600	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
3,3'-Dichlorobenzidine	ND		600	90	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
3-Nitroaniline	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
4,6-Dinitro-2-methylphenol	ND		3000	300	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
4-Bromophenyl phenyl ether	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
4-Chloro-3-methylphenol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
4-Chloroaniline	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
4-Chlorophenyl phenyl ether	ND	*	300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
4-Nitroaniline	ND		300	60	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
4-Nitrophenol	ND		3000	750	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Acenaphthene	ND		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Acenaphthylene	ND		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Anthracene	19	J	60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Benzo[a]anthracene	75		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Benzo[a]pyrene	86	J	90	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Benzo[b]fluoranthene	120		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Benzo[g,h,i]perylene	34	J	75	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Benzo[k]fluoranthene	43	J	75	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Benzoic acid	ND	*	7500	2200	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Benzyl alcohol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Bis(2-chloroethoxy)methane	ND	*	300	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Bis(2-chloroethyl)ether	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Bis(2-ethylhexyl) phthalate	330	J B	1800	150	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Butyl benzyl phthalate	ND		600	150	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Carbazole	ND		300	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Chrysene	94		75	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Dibenz(a,h)anthracene	ND		120	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Dibenzofuran	ND		300	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Diethyl phthalate	ND		600	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Dimethyl phthalate	ND		300	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: HC-ST1-20150326-S

Lab Sample ID: 580-48644-4

Date Collected: 03/26/15 14:02

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 64.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		1500	150	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Di-n-octyl phthalate	ND		1500	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Fluoranthene	180		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Fluorene	ND		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Hexachlorobenzene	ND		150	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Hexachlorobutadiene	ND		150	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Hexachlorocyclopentadiene	ND		300	30	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Hexachloroethane	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Indeno[1,2,3-cd]pyrene	45	J ^	120	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Isophorone	ND		300	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Naphthalene	ND		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Nitrobenzene	ND		300	100	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
N-Nitrosodimethylamine	ND		3000	750	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
N-Nitrosodi-n-propylamine	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
N-Nitrosodiphenylamine	ND		150	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Pentachlorophenol	ND		600	60	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Phenanthrene	100	*	60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Phenol	ND		300	45	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10
Pyrene	160		60	15	ug/Kg	☼	04/07/15 09:56	04/08/15 21:13	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	92		28 - 143	04/07/15 09:56	04/08/15 21:13	10
2-Fluorobiphenyl	39	X	42 - 140	04/07/15 09:56	04/08/15 21:13	10
2-Fluorophenol	34	X	36 - 145	04/07/15 09:56	04/08/15 21:13	10
Nitrobenzene-d5	30	X	38 - 141	04/07/15 09:56	04/08/15 21:13	10
Phenol-d5	48		38 - 149	04/07/15 09:56	04/08/15 21:13	10
Terphenyl-d14	92		42 - 151	04/07/15 09:56	04/08/15 21:13	10

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arochlor 1016	ND		0.015	0.0048	mg/Kg	☼	04/08/15 13:57	04/09/15 21:44	1
Arochlor 1221	ND		0.016	0.012	mg/Kg	☼	04/08/15 13:57	04/09/15 21:44	1
Arochlor 1232	ND		0.016	0.010	mg/Kg	☼	04/08/15 13:57	04/09/15 21:44	1
Arochlor 1242	ND		0.015	0.0031	mg/Kg	☼	04/08/15 13:57	04/09/15 21:44	1
Arochlor 1248	ND		0.015	0.0045	mg/Kg	☼	04/08/15 13:57	04/09/15 21:44	1
Arochlor 1254	ND		0.015	0.0031	mg/Kg	☼	04/08/15 13:57	04/09/15 21:44	1
Arochlor 1260	ND		0.015	0.0045	mg/Kg	☼	04/08/15 13:57	04/09/15 21:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	75		45 - 135	04/08/15 13:57	04/09/15 21:44	1
DCB Decachlorobiphenyl	75		50 - 140	04/08/15 13:57	04/09/15 21:44	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		0.58	0.21	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Lead	7.8		0.58	0.056	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Antimony	0.34		0.23	0.049	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Beryllium	0.12	J	0.23	0.041	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Cadmium	0.10	J	0.23	0.022	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Chromium	19		0.58	0.073	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: HC-ST1-20150326-S

Lab Sample ID: 580-48644-4

Date Collected: 03/26/15 14:02

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 64.1

Method: 6020 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	10		0.46	0.11	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Nickel	33		0.58	0.094	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Selenium	ND		1.2	0.23	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Silver	0.021	J	0.23	0.014	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Thallium	ND		0.46	0.15	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10
Zinc	64		5.8	1.3	mg/Kg	☼	04/22/15 17:11	04/23/15 09:53	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.023	0.0070	mg/Kg	☼	04/08/15 11:03	04/08/15 15:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	64		0.10	0.10	%			04/09/15 09:51	1
Total Organic Carbon	4600		2000	44	mg/Kg			04/09/15 14:36	1

Method: PSEP Plumb 1981 - Grain Size (PSEP Plumb 1981)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobbles	0.00				%			04/07/15 12:58	1
Gravel	0.31				%			04/07/15 12:58	1
Sand	95				%			04/07/15 12:58	1
Silt	4.6				%			04/07/15 12:58	1
Clay	0.23				%			04/07/15 12:58	1

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-186214/1-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		5.0	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
1,2-Dichlorobenzene	ND		5.5	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
1,3-Dichlorobenzene	ND		5.0	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
1,4-Dichlorobenzene	ND		5.0	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
1-Methylnaphthalene	ND		3.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,2'-oxybis[1-chloropropane]	ND		25	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4,5-Trichlorophenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4,6-Trichlorophenol	ND		15	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4-Dichlorophenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4-Dimethylphenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4-Dinitrophenol	ND		100	20	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,4-Dinitrotoluene	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2,6-Dinitrotoluene	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Chloronaphthalene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Chlorophenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Methylnaphthalene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Methylphenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Nitroaniline	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
2-Nitrophenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
3 & 4 Methylphenol	ND		20	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
3,3'-Dichlorobenzidine	ND		20	3.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
3-Nitroaniline	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4,6-Dinitro-2-methylphenol	ND		100	10	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Bromophenyl phenyl ether	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Chloro-3-methylphenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Chloroaniline	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Chlorophenyl phenyl ether	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Nitroaniline	ND		10	2.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
4-Nitrophenol	ND		100	25	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Acenaphthene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Acenaphthylene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Anthracene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[a]anthracene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[a]pyrene	ND		3.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[b]fluoranthene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[g,h,i]perylene	ND		2.5	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzo[k]fluoranthene	ND		2.5	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzoic acid	ND		250	75	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Benzyl alcohol	1.50	J	10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Bis(2-chloroethoxy)methane	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Bis(2-chloroethyl)ether	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Bis(2-ethylhexyl) phthalate	6.81	J	60	5.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Butyl benzyl phthalate	10.1	J	20	5.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Carbazole	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Chrysene	ND		2.5	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Dibenz(a,h)anthracene	ND		4.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Dibenzofuran	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Diethyl phthalate	2.55	J	20	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-186214/1-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186214

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dimethyl phthalate	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Di-n-butyl phthalate	5.39	J	50	5.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Di-n-octyl phthalate	ND		50	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Fluoranthene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Fluorene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Hexachlorobenzene	ND		5.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Hexachlorobutadiene	ND		5.0	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Hexachlorocyclopentadiene	ND		10	1.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Hexachloroethane	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Indeno[1,2,3-cd]pyrene	ND	^	4.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Isophorone	ND		10	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Naphthalene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Nitrobenzene	ND		10	3.4	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
N-Nitrosodimethylamine	ND		100	25	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
N-Nitrosodi-n-propylamine	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
N-Nitrosodiphenylamine	ND		5.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Pentachlorophenol	ND		20	2.0	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Phenanthrene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Phenol	ND		10	1.5	ug/Kg		04/07/15 09:56	04/08/15 13:13	1
Pyrene	ND		2.0	0.50	ug/Kg		04/07/15 09:56	04/08/15 13:13	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol	69		28 - 143	04/07/15 09:56	04/08/15 13:13	1
2-Fluorobiphenyl	63		42 - 140	04/07/15 09:56	04/08/15 13:13	1
2-Fluorophenol	67		36 - 145	04/07/15 09:56	04/08/15 13:13	1
Nitrobenzene-d5	67		38 - 141	04/07/15 09:56	04/08/15 13:13	1
Phenol-d5	70		38 - 149	04/07/15 09:56	04/08/15 13:13	1
Terphenyl-d14	72		42 - 151	04/07/15 09:56	04/08/15 13:13	1

Lab Sample ID: LCS 580-186214/2-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	100	67.7		ug/Kg		68	64 - 112
1,3-Dichlorobenzene	100	67.8		ug/Kg		68	64 - 111
1,4-Dichlorobenzene	100	69.2		ug/Kg		69	65 - 110
1-Methylnaphthalene	100	72.8		ug/Kg		73	62 - 118
2,2'-oxybis[1-chloropropane]	100	71.7		ug/Kg		72	41 - 126
2,4,5-Trichlorophenol	100	69.2		ug/Kg		69	57 - 133
2,4,6-Trichlorophenol	100	75.3		ug/Kg		75	62 - 133
2,4-Dichlorophenol	100	68.4		ug/Kg		68	68 - 125
2,4-Dimethylphenol	100	78.0		ug/Kg		78	54 - 139
2,4-Dinitrophenol	200	117		ug/Kg		58	20 - 141
2,4-Dinitrotoluene	100	77.3		ug/Kg		77	68 - 121
2,6-Dinitrotoluene	100	79.7		ug/Kg		80	66 - 123
2-Chloronaphthalene	100	73.0		ug/Kg		73	68 - 112

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186214/2-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	100	76.8		ug/Kg		77	68 - 117
2-Methylnaphthalene	100	70.2		ug/Kg		70	64 - 119
2-Methylphenol	100	75.5		ug/Kg		76	71 - 116
2-Nitroaniline	100	87.5		ug/Kg		88	64 - 112
2-Nitrophenol	100	78.8		ug/Kg		79	67 - 127
3 & 4 Methylphenol	100	76.2		ug/Kg		76	70 - 116
3,3'-Dichlorobenzidine	200	97.7		ug/Kg		49	20 - 103
3-Nitroaniline	100	58.4		ug/Kg		58	27 - 103
4,6-Dinitro-2-methylphenol	200	145		ug/Kg		73	48 - 130
4-Bromophenyl phenyl ether	100	84.2		ug/Kg		84	68 - 122
4-Chloro-3-methylphenol	100	82.8		ug/Kg		83	69 - 121
4-Chloroaniline	100	30.4		ug/Kg		30	20 - 103
4-Chlorophenyl phenyl ether	100	72.6	*	ug/Kg		73	75 - 108
4-Nitroaniline	100	68.7		ug/Kg		69	58 - 108
4-Nitrophenol	200	171		ug/Kg		85	20 - 165
Acenaphthene	100	77.1		ug/Kg		77	68 - 116
Acenaphthylene	100	77.7		ug/Kg		78	68 - 120
Anthracene	100	79.7		ug/Kg		80	73 - 116
Benzo[a]anthracene	100	86.4		ug/Kg		86	76 - 119
Benzo[a]pyrene	100	86.0		ug/Kg		86	72 - 117
Benzo[b]fluoranthene	100	85.3		ug/Kg		85	63 - 132
Benzo[g,h,i]perylene	100	93.5		ug/Kg		93	55 - 139
Benzo[k]fluoranthene	100	82.2		ug/Kg		82	63 - 119
Benzoic acid	201	83.6	J	ug/Kg		42	29 - 158
Benzyl alcohol	100	72.8		ug/Kg		73	55 - 123
Bis(2-chloroethoxy)methane	100	68.0	*	ug/Kg		68	69 - 107
Bis(2-chloroethyl)ether	100	67.8		ug/Kg		68	62 - 110
Bis(2-ethylhexyl) phthalate	100	100		ug/Kg		100	62 - 144
Butyl benzyl phthalate	100	103		ug/Kg		103	69 - 142
Carbazole	100	81.0		ug/Kg		81	76 - 135
Chrysene	100	75.4		ug/Kg		75	75 - 114
Dibenz(a,h)anthracene	100	86.3		ug/Kg		86	56 - 134
Dibenzofuran	100	72.1		ug/Kg		72	72 - 109
Diethyl phthalate	100	80.2		ug/Kg		80	73 - 116
Dimethyl phthalate	100	79.0		ug/Kg		79	78 - 117
Di-n-butyl phthalate	100	96.6		ug/Kg		97	66 - 140
Di-n-octyl phthalate	100	94.9		ug/Kg		95	65 - 141
Fluoranthene	100	79.3		ug/Kg		79	73 - 125
Fluorene	100	75.9		ug/Kg		76	70 - 121
Hexachlorobenzene	100	87.5		ug/Kg		87	66 - 117
Hexachlorobutadiene	100	72.7		ug/Kg		73	65 - 116
Hexachlorocyclopentadiene	100	84.9		ug/Kg		85	46 - 131
Hexachloroethane	100	73.1		ug/Kg		73	62 - 120
Indeno[1,2,3-cd]pyrene	100	95.2	^	ug/Kg		95	56 - 127
Isophorone	100	81.3		ug/Kg		81	67 - 119
Naphthalene	100	70.9		ug/Kg		71	62 - 112
Nitrobenzene	100	76.2		ug/Kg		76	64 - 118
N-Nitrosodimethylamine	100	80.5	J	ug/Kg		80	38 - 133

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186214/2-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodi-n-propylamine	100	78.3		ug/Kg		78	62 - 116
N-Nitrosodiphenylamine	201	160		ug/Kg		80	73 - 115
Pentachlorophenol	200	149		ug/Kg		75	45 - 117
Phenanthrene	100	70.8	*	ug/Kg		71	73 - 106
Phenol	100	71.2		ug/Kg		71	63 - 111
Pyrene	100	77.1		ug/Kg		77	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	79		28 - 143
2-Fluorobiphenyl	70		42 - 140
2-Fluorophenol	76		36 - 145
Nitrobenzene-d5	74		38 - 141
Phenol-d5	77		38 - 149
Terphenyl-d14	79		42 - 151

Lab Sample ID: LCSD 580-186214/3-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	73.5		ug/Kg		74	66 - 115	5	28
1,2-Dichlorobenzene	100	69.5		ug/Kg		69	64 - 112	3	30
1,3-Dichlorobenzene	100	70.1		ug/Kg		70	64 - 111	3	30
1,4-Dichlorobenzene	100	71.7		ug/Kg		72	65 - 110	4	30
1-Methylnaphthalene	100	75.4		ug/Kg		75	62 - 118	3	30
2,2'-oxybis[1-chloropropane]	100	74.9		ug/Kg		75	41 - 126	4	57
2,4,5-Trichlorophenol	100	69.8		ug/Kg		70	57 - 133	1	30
2,4,6-Trichlorophenol	100	78.3		ug/Kg		78	62 - 133	4	30
2,4-Dichlorophenol	100	70.7		ug/Kg		71	68 - 125	3	30
2,4-Dimethylphenol	100	72.7		ug/Kg		73	54 - 139	7	30
2,4-Dinitrophenol	200	139		ug/Kg		70	20 - 141	18	36
2,4-Dinitrotoluene	100	79.5		ug/Kg		79	68 - 121	3	30
2,6-Dinitrotoluene	100	75.6		ug/Kg		76	66 - 123	5	30
2-Chloronaphthalene	100	74.3		ug/Kg		74	68 - 112	2	25
2-Chlorophenol	100	79.7		ug/Kg		80	68 - 117	4	27
2-Methylnaphthalene	100	73.8		ug/Kg		74	64 - 119	5	27
2-Methylphenol	100	79.4		ug/Kg		79	71 - 116	5	25
2-Nitroaniline	100	86.5		ug/Kg		86	64 - 112	1	22
2-Nitrophenol	100	80.9		ug/Kg		81	67 - 127	3	30
3 & 4 Methylphenol	100	81.5		ug/Kg		82	70 - 116	7	27
3,3'-Dichlorobenzidine	200	94.5		ug/Kg		47	20 - 103	3	60
3-Nitroaniline	100	56.1		ug/Kg		56	27 - 103	4	33
4,6-Dinitro-2-methylphenol	200	160		ug/Kg		80	48 - 130	10	22
4-Bromophenyl phenyl ether	100	84.9		ug/Kg		85	68 - 122	1	30
4-Chloro-3-methylphenol	100	87.4		ug/Kg		87	69 - 121	5	27
4-Chloroaniline	100	29.0		ug/Kg		29	20 - 103	5	60
4-Chlorophenyl phenyl ether	100	71.4	*	ug/Kg		71	75 - 108	2	30
4-Nitroaniline	100	68.1		ug/Kg		68	58 - 108	1	32

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186214/3-A

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit	RPD	Limit
4-Nitrophenol	200	160		ug/Kg		80	20 - 165	6	30	
Acenaphthene	100	77.3		ug/Kg		77	68 - 116	0	27	
Acenaphthylene	100	78.9		ug/Kg		79	68 - 120	2	28	
Anthracene	100	82.3		ug/Kg		82	73 - 116	3	27	
Benzo[a]anthracene	100	85.0		ug/Kg		85	76 - 119	2	27	
Benzo[a]pyrene	100	85.5		ug/Kg		85	72 - 117	1	30	
Benzo[b]fluoranthene	100	86.2		ug/Kg		86	63 - 132	1	30	
Benzo[g,h,i]perylene	100	92.1		ug/Kg		92	55 - 139	2	28	
Benzo[k]fluoranthene	100	83.5		ug/Kg		84	63 - 119	2	30	
Benzoic acid	201	143	J *	ug/Kg		71	29 - 158	52	28	
Benzyl alcohol	100	75.3		ug/Kg		75	55 - 123	3	60	
Bis(2-chloroethoxy)methane	100	71.1		ug/Kg		71	69 - 107	4	30	
Bis(2-chloroethyl)ether	100	67.0		ug/Kg		67	62 - 110	1	22	
Bis(2-ethylhexyl) phthalate	100	101		ug/Kg		101	62 - 144	1	30	
Butyl benzyl phthalate	100	106		ug/Kg		106	69 - 142	3	30	
Carbazole	100	81.9		ug/Kg		82	76 - 135	1	30	
Chrysene	100	77.4		ug/Kg		77	75 - 114	3	26	
Dibenz(a,h)anthracene	100	85.8		ug/Kg		86	56 - 134	1	30	
Dibenzofuran	100	73.8		ug/Kg		74	72 - 109	2	30	
Diethyl phthalate	100	80.8		ug/Kg		81	73 - 116	1	26	
Dimethyl phthalate	100	79.0		ug/Kg		79	78 - 117	0	30	
Di-n-butyl phthalate	100	98.0		ug/Kg		98	66 - 140	2	30	
Di-n-octyl phthalate	100	94.2		ug/Kg		94	65 - 141	1	30	
Fluoranthene	100	81.4		ug/Kg		81	73 - 125	3	30	
Fluorene	100	75.8		ug/Kg		76	70 - 121	0	30	
Hexachlorobenzene	100	90.4		ug/Kg		90	66 - 117	3	30	
Hexachlorobutadiene	100	76.6		ug/Kg		77	65 - 116	5	30	
Hexachlorocyclopentadiene	100	82.7		ug/Kg		83	46 - 131	3	29	
Hexachloroethane	100	77.6		ug/Kg		78	62 - 120	6	30	
Indeno[1,2,3-cd]pyrene	100	96.2	^	ug/Kg		96	56 - 127	1	29	
Isophorone	100	84.0		ug/Kg		84	67 - 119	3	30	
Naphthalene	100	74.9		ug/Kg		75	62 - 112	5	26	
Nitrobenzene	100	81.7		ug/Kg		82	64 - 118	7	30	
N-Nitrosodimethylamine	100	76.6	J	ug/Kg		77	38 - 133	5	30	
N-Nitrosodi-n-propylamine	100	82.7		ug/Kg		83	62 - 116	5	28	
N-Nitrosodiphenylamine	201	162		ug/Kg		80	73 - 115	1	30	
Pentachlorophenol	200	156		ug/Kg		78	45 - 117	4	23	
Phenanthrene	100	73.0		ug/Kg		73	73 - 106	3	28	
Phenol	100	72.1		ug/Kg		72	63 - 111	1	26	
Pyrene	100	78.6		ug/Kg		79	70 - 120	2	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	82		28 - 143
2-Fluorobiphenyl	71		42 - 140
2-Fluorophenol	78		36 - 145
Nitrobenzene-d5	79		38 - 141
Phenol-d5	80		38 - 149
Terphenyl-d14	81		42 - 151

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48644-1 MS

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: 96-ST3-20150326-S

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
1,2,4-Trichlorobenzene	ND	F1	405	177	J F1	ug/Kg	☼	44	66 - 115
1,2-Dichlorobenzene	ND	F1	405	ND	F1	ug/Kg	☼	0	64 - 112
1,3-Dichlorobenzene	ND	F1	405	ND	F1	ug/Kg	☼	0	64 - 111
1,4-Dichlorobenzene	ND	F1	405	ND	F1	ug/Kg	☼	0	65 - 110
1-Methylnaphthalene	ND	F1	405	244	F1	ug/Kg	☼	60	62 - 118
2,2'-oxybis[1-chloropropane]	ND	F1	405	180	J	ug/Kg	☼	44	41 - 126
2,4,5-Trichlorophenol	ND		405	408	J	ug/Kg	☼	101	57 - 133
2,4,6-Trichlorophenol	ND		405	402	J	ug/Kg	☼	99	62 - 133
2,4-Dichlorophenol	ND	F1	405	247	J F1	ug/Kg	☼	61	68 - 125
2,4-Dimethylphenol	ND		405	299	J	ug/Kg	☼	74	54 - 139
2,4-Dinitrophenol	ND		811	ND		ug/Kg	☼	NC	20 - 141
2,4-Dinitrotoluene	ND		405	359	J	ug/Kg	☼	89	68 - 121
2,6-Dinitrotoluene	ND		405	324	J	ug/Kg	☼	80	66 - 123
2-Chloronaphthalene	ND	F1	405	242	F1	ug/Kg	☼	60	68 - 112
2-Chlorophenol	ND	F1	405	270	J F1	ug/Kg	☼	67	68 - 117
2-Methylnaphthalene	ND	F1	405	234	F1	ug/Kg	☼	58	64 - 119
2-Methylphenol	ND		405	293	J	ug/Kg	☼	72	71 - 116
2-Nitroaniline	ND		405	375	J	ug/Kg	☼	93	64 - 112
2-Nitrophenol	ND		405	369	J	ug/Kg	☼	91	67 - 127
3 & 4 Methylphenol	ND		405	325	J	ug/Kg	☼	80	70 - 116
3,3'-Dichlorobenzidine	ND	F1	811	ND	F1	ug/Kg	☼	0	20 - 103
3-Nitroaniline	ND		405	189	J	ug/Kg	☼	47	27 - 103
4,6-Dinitro-2-methylphenol	ND	F1	811	ND	F1	ug/Kg	☼	0	48 - 130
4-Bromophenyl phenyl ether	ND		405	415	J	ug/Kg	☼	102	68 - 122
4-Chloro-3-methylphenol	ND		405	339	J	ug/Kg	☼	84	69 - 121
4-Chloroaniline	ND	F1	405	ND	F1	ug/Kg	☼	0	20 - 103
4-Chlorophenyl phenyl ether	ND	* F1	405	304	J	ug/Kg	☼	75	75 - 108
4-Nitroaniline	ND		405	250	J	ug/Kg	☼	62	58 - 108
4-Nitrophenol	ND		811	ND		ug/Kg	☼	NC	20 - 165
Acenaphthene	ND		405	322		ug/Kg	☼	80	68 - 116
Acenaphthylene	ND		405	303		ug/Kg	☼	75	68 - 120
Anthracene	ND		405	348		ug/Kg	☼	86	73 - 116
Benzo[a]anthracene	120	J	405	484		ug/Kg	☼	91	76 - 119
Benzo[a]pyrene	120	J	405	495		ug/Kg	☼	92	72 - 117
Benzo[b]fluoranthene	220	F1	405	517		ug/Kg	☼	74	63 - 132
Benzo[g,h,i]perylene	100	J F1	405	291	F1	ug/Kg	☼	46	55 - 139
Benzo[k]fluoranthene	97	J	405	496		ug/Kg	☼	98	63 - 119
Benzoic acid	ND	*	813	ND		ug/Kg	☼	NC	29 - 158
Benzyl alcohol	ND		405	307	J	ug/Kg	☼	76	55 - 123
Bis(2-chloroethoxy)methane	ND	F1 *	405	256	J F1	ug/Kg	☼	63	69 - 107
Bis(2-chloroethyl)ether	ND	F1	405	166	J F1	ug/Kg	☼	41	62 - 110
Bis(2-ethylhexyl) phthalate	920	J F1 B	405	1240	J	ug/Kg	☼	78	62 - 144
Butyl benzyl phthalate	ND		405	651	J	ug/Kg	☼	NC	69 - 142
Carbazole	ND		405	371	J	ug/Kg	☼	91	76 - 135
Chrysene	140	J F1	405	472		ug/Kg	☼	81	75 - 114
Dibenz(a,h)anthracene	ND		405	312	J	ug/Kg	☼	77	56 - 134
Dibenzofuran	ND		405	307	J	ug/Kg	☼	76	72 - 109
Diethyl phthalate	ND	F1	405	305	J	ug/Kg	☼	75	73 - 116

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48644-1 MS

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: 96-ST3-20150326-S

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Dimethyl phthalate	ND		405	329	J	ug/Kg	☼	81		78 - 117
Di-n-butyl phthalate	ND		405	547	J	ug/Kg	☼	NC		66 - 140
Di-n-octyl phthalate	370	J	405	863	J	ug/Kg	☼	121		65 - 141
Fluoranthene	240	F1	405	595		ug/Kg	☼	87		73 - 125
Fluorene	ND		405	298		ug/Kg	☼	74		70 - 121
Hexachlorobenzene	ND		405	343	J	ug/Kg	☼	85		66 - 117
Hexachlorobutadiene	ND	F1	405	143	J F1	ug/Kg	☼	35		65 - 116
Hexachlorocyclopentadiene	ND	F1	405	ND	F1	ug/Kg	☼	0		46 - 131
Hexachloroethane	ND	F1	405	ND	F1	ug/Kg	☼	0		62 - 120
Indeno[1,2,3-cd]pyrene	120	J F1 ^	405	339	F1 ^	ug/Kg	☼	55		56 - 127
Isophorone	ND		405	343	J	ug/Kg	☼	85		67 - 119
Naphthalene	ND	F1	405	204	F1	ug/Kg	☼	50		62 - 112
Nitrobenzene	ND	F1	405	ND	F1	ug/Kg	☼	0		64 - 118
N-Nitrosodimethylamine	ND		405	ND		ug/Kg	☼	NC		38 - 133
N-Nitrosodi-n-propylamine	ND		405	270	J	ug/Kg	☼	67		62 - 116
N-Nitrosodiphenylamine	ND		814	702		ug/Kg	☼	86		73 - 115
Pentachlorophenol	ND	F1	811	1330	J F1	ug/Kg	☼	164		45 - 117
Phenanthrene	84	J F1 *	405	394		ug/Kg	☼	76		73 - 106
Phenol	ND		405	293	J	ug/Kg	☼	72		63 - 111
Pyrene	220	F1	405	567		ug/Kg	☼	85		70 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol	113		28 - 143
2-Fluorobiphenyl	64		42 - 140
2-Fluorophenol	63		36 - 145
Nitrobenzene-d5	56		38 - 141
Phenol-d5	74		38 - 149
Terphenyl-d14	92		42 - 151

Lab Sample ID: 580-48644-1 MSD

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: 96-ST3-20150326-S

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
1,2,4-Trichlorobenzene	ND	F1	410	135	J F1	ug/Kg	☼	33		66 - 115	27	28
1,2-Dichlorobenzene	ND	F1	410	ND	F1	ug/Kg	☼	0		64 - 112	NC	60
1,3-Dichlorobenzene	ND	F1	410	ND	F1	ug/Kg	☼	0		64 - 111	NC	60
1,4-Dichlorobenzene	ND	F1	410	ND	F1	ug/Kg	☼	0		65 - 110	NC	32
1-Methylnaphthalene	ND	F1	410	218	J F1	ug/Kg	☼	53		62 - 118	11	30
2,2'-oxybis[1-chloropropane]	ND	F1	410	142	J F1	ug/Kg	☼	35		41 - 126	24	60
2,4,5-Trichlorophenol	ND		410	357	J	ug/Kg	☼	87		57 - 133	13	60
2,4,6-Trichlorophenol	ND		410	332	J	ug/Kg	☼	81		62 - 133	19	60
2,4-Dichlorophenol	ND	F1	410	281	J	ug/Kg	☼	68		68 - 125	13	60
2,4-Dimethylphenol	ND		410	311	J	ug/Kg	☼	76		54 - 139	4	60
2,4-Dinitrophenol	ND		820	ND		ug/Kg	☼	NC		20 - 141	NC	60
2,4-Dinitrotoluene	ND		410	324	J	ug/Kg	☼	79		68 - 121	10	31
2,6-Dinitrotoluene	ND		410	302	J	ug/Kg	☼	74		66 - 123	7	60
2-Chloronaphthalene	ND	F1	410	249	F1	ug/Kg	☼	61		68 - 112	3	25

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48644-1 MSD

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: 96-ST3-20150326-S

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Sample		Spike Added	MSD		Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit	
2-Chlorophenol	ND	F1	410	294	J	ug/Kg	*	72	68 - 117	9	27	
2-Methylnaphthalene	ND	F1	410	214	F1	ug/Kg	*	52	64 - 119	9	27	
2-Methylphenol	ND		410	323	J	ug/Kg	*	79	71 - 116	10	25	
2-Nitroaniline	ND		410	426	J	ug/Kg	*	104	64 - 112	13	60	
2-Nitrophenol	ND		410	366	J	ug/Kg	*	89	67 - 127	1	60	
3 & 4 Methylphenol	ND		410	320	J	ug/Kg	*	78	70 - 116	2	27	
3,3'-Dichlorobenzidine	ND	F1	820	370	J	ug/Kg	*	45	20 - 103	NC	60	
3-Nitroaniline	ND		410	211	J	ug/Kg	*	51	27 - 103	11	60	
4,6-Dinitro-2-methylphenol	ND	F1	820	ND	F1	ug/Kg	*	0	48 - 130	NC	60	
4-Bromophenyl phenyl ether	ND		410	346	J	ug/Kg	*	84	68 - 122	18	60	
4-Chloro-3-methylphenol	ND		410	304	J	ug/Kg	*	74	69 - 121	11	27	
4-Chloroaniline	ND	F1	410	123	J	ug/Kg	*	30	20 - 103	NC	60	
4-Chlorophenyl phenyl ether	ND	* F1	410	279	J F1	ug/Kg	*	68	75 - 108	9	60	
4-Nitroaniline	ND		410	280	J	ug/Kg	*	68	58 - 108	11	60	
4-Nitrophenol	ND		820	ND		ug/Kg	*	NC	20 - 165	NC	33	
Acenaphthene	ND		410	314		ug/Kg	*	77	68 - 116	3	27	
Acenaphthylene	ND		410	323		ug/Kg	*	79	68 - 120	6	28	
Anthracene	ND		410	331		ug/Kg	*	81	73 - 116	5	27	
Benzo[a]anthracene	120	J	410	448		ug/Kg	*	81	76 - 119	8	27	
Benzo[a]pyrene	120	J	410	432		ug/Kg	*	76	72 - 117	14	30	
Benzo[b]fluoranthene	220	F1	410	466	F1	ug/Kg	*	61	63 - 132	10	31	
Benzo[g,h,i]perylene	100	J F1	410	259	F1	ug/Kg	*	38	55 - 139	12	28	
Benzo[k]fluoranthene	97	J	410	457		ug/Kg	*	88	63 - 119	8	31	
Benzoic acid	ND	*	822	ND		ug/Kg	*	NC	29 - 158	NC	60	
Benzyl alcohol	ND		410	315	J	ug/Kg	*	77	55 - 123	3	60	
Bis(2-chloroethoxy)methane	ND	F1 *	410	244	J F1	ug/Kg	*	60	69 - 107	5	60	
Bis(2-chloroethyl)ether	ND	F1	410	144	J F1	ug/Kg	*	35	62 - 110	15	60	
Bis(2-ethylhexyl) phthalate	920	J F1 B	410	993	J F1	ug/Kg	*	18	62 - 144	22	60	
Butyl benzyl phthalate	ND		410	544	J	ug/Kg	*	133	69 - 142	18	60	
Carbazole	ND		410	344	J	ug/Kg	*	84	76 - 135	8	60	
Chrysene	140	J F1	410	409	F1	ug/Kg	*	64	75 - 114	14	26	
Dibenz(a,h)anthracene	ND		410	289	J	ug/Kg	*	70	56 - 134	8	30	
Dibenzofuran	ND		410	304	J	ug/Kg	*	74	72 - 109	1	60	
Diethyl phthalate	ND	F1	410	265	J F1	ug/Kg	*	65	73 - 116	14	26	
Dimethyl phthalate	ND		410	367	J	ug/Kg	*	89	78 - 117	11	60	
Di-n-butyl phthalate	ND		410	457	J	ug/Kg	*	112	66 - 140	18	60	
Di-n-octyl phthalate	370	J	410	804	J	ug/Kg	*	105	65 - 141	7	31	
Fluoranthene	240	F1	410	478	F1	ug/Kg	*	58	73 - 125	22	36	
Fluorene	ND		410	320		ug/Kg	*	78	70 - 121	7	31	
Hexachlorobenzene	ND		410	401	J	ug/Kg	*	98	66 - 117	16	60	
Hexachlorobutadiene	ND	F1	410	ND	F1	ug/Kg	*	0	65 - 116	NC	60	
Hexachlorocyclopentadiene	ND	F1	410	ND	F1	ug/Kg	*	0	46 - 131	NC	60	
Hexachloroethane	ND	F1	410	ND	F1	ug/Kg	*	0	62 - 120	NC	60	
Indeno[1,2,3-cd]pyrene	120	J F1 ^	410	304	J ^ F1	ug/Kg	*	46	56 - 127	11	29	
Isophorone	ND		410	300	J	ug/Kg	*	73	67 - 119	13	60	
Naphthalene	ND	F1	410	184	F1	ug/Kg	*	45	62 - 112	10	26	
Nitrobenzene	ND	F1	410	ND	F1	ug/Kg	*	0	64 - 118	NC	60	
N-Nitrosodimethylamine	ND		410	ND		ug/Kg	*	NC	38 - 133	NC	60	

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 580-48644-1 MSD

Matrix: Solid

Analysis Batch: 186325

Client Sample ID: 96-ST3-20150326-S

Prep Type: Total/NA

Prep Batch: 186214

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD		
N-Nitrosodi-n-propylamine	ND		410	280	J	ug/Kg	✱	68	62 - 116	4	28	
N-Nitrosodiphenylamine	ND		823	675		ug/Kg	✱	82	73 - 115	4	60	
Pentachlorophenol	ND	F1	820	1250	J F1	ug/Kg	✱	153	45 - 117	6	68	
Phenanthrene	84	J F1 *	410	360	F1	ug/Kg	✱	67	73 - 106	9	28	
Phenol	ND		410	285	J	ug/Kg	✱	69	63 - 111	3	26	
Pyrene	220	F1	410	453	F1	ug/Kg	✱	56	70 - 120	22	31	
Surrogate	%Recovery	MSD Qualifier	Limits									
2,4,6-Tribromophenol	95		28 - 143									
2-Fluorobiphenyl	66		42 - 140									
2-Fluorophenol	69		36 - 145									
Nitrobenzene-d5	70		38 - 141									
Phenol-d5	79		38 - 149									
Terphenyl-d14	86		42 - 151									

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-186369/1-A

Matrix: Solid

Analysis Batch: 186462

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186369

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arochlor 1016	ND		0.010	0.0032	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
Arochlor 1221	ND		0.011	0.0080	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
Arochlor 1232	ND		0.011	0.0070	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
Arochlor 1242	ND		0.010	0.0021	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
Arochlor 1248	ND		0.010	0.0030	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
Arochlor 1254	ND		0.010	0.0021	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
Arochlor 1260	ND		0.010	0.0030	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87		45 - 135				04/08/15 13:57	04/09/15 18:23	1
DCB Decachlorobiphenyl	89		50 - 140				04/08/15 13:57	04/09/15 18:23	1

Lab Sample ID: LCS 580-186369/2-A

Matrix: Solid

Analysis Batch: 186462

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186369

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
Arochlor 1016	0.100	0.0843		mg/Kg		84	40 - 140	
Arochlor 1260	0.100	0.0846		mg/Kg		85	60 - 130	
Surrogate	%Recovery	LCS Qualifier	Limits					
Tetrachloro-m-xylene	85		45 - 135					
DCB Decachlorobiphenyl	90		50 - 140					

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCSD 580-186369/3-A

Matrix: Solid

Analysis Batch: 186462

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186369

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Arochlor 1016	0.100	0.0904		mg/Kg		90	40 - 140	7	20	
Arochlor 1260	0.100	0.0870		mg/Kg		87	60 - 130	3	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	89		45 - 135
DCB Decachlorobiphenyl	91		50 - 140

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-187545/21-A

Matrix: Solid

Analysis Batch: 187656

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 187545

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND		0.50	0.18	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Lead	ND		0.50	0.048	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Antimony	ND		0.20	0.042	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Beryllium	ND		0.20	0.035	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Cadmium	ND		0.20	0.019	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Chromium	ND		0.50	0.063	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Copper	ND		0.40	0.098	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Nickel	ND		0.50	0.081	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Selenium	ND		1.0	0.20	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Silver	ND		0.20	0.012	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Thallium	ND		0.40	0.13	mg/Kg		04/22/15 17:11	04/23/15 07:45	10
Zinc	ND		5.0	1.1	mg/Kg		04/22/15 17:11	04/23/15 07:45	10

Lab Sample ID: LCS 580-187545/22-A

Matrix: Solid

Analysis Batch: 187656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 187545

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	RPD
Arsenic	200	201		mg/Kg		101	80 - 120	
Lead	50.0	51.8		mg/Kg		104	80 - 120	
Antimony	150	151		mg/Kg		101	80 - 120	
Beryllium	5.00	4.97		mg/Kg		99	80 - 120	
Cadmium	5.00	5.14		mg/Kg		103	80 - 120	
Chromium	20.0	19.0		mg/Kg		95	80 - 120	
Copper	25.0	26.0		mg/Kg		104	80 - 120	
Nickel	50.0	49.5		mg/Kg		99	80 - 120	
Selenium	200	202		mg/Kg		101	80 - 120	
Silver	30.0	32.9		mg/Kg		110	80 - 120	
Thallium	200	204		mg/Kg		102	80 - 120	
Zinc	200	207		mg/Kg		103	80 - 120	

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-187545/23-A

Matrix: Solid

Analysis Batch: 187656

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 187545

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	RPD Limit
							Limits	RPD		
Arsenic	200	201		mg/Kg		101	80 - 120	0	20	
Lead	50.0	51.7		mg/Kg		103	80 - 120	0	20	
Antimony	150	151		mg/Kg		101	80 - 120	0	20	
Beryllium	5.00	4.71		mg/Kg		94	80 - 120	5	20	
Cadmium	5.00	5.21		mg/Kg		104	80 - 120	1	20	
Chromium	20.0	19.0		mg/Kg		95	80 - 120	0	20	
Copper	25.0	25.6		mg/Kg		103	80 - 120	2	20	
Nickel	50.0	49.3		mg/Kg		99	80 - 120	0	20	
Selenium	200	202		mg/Kg		101	80 - 120	0	20	
Silver	30.0	32.5		mg/Kg		108	80 - 120	1	20	
Thallium	200	204		mg/Kg		102	80 - 120	0	20	
Zinc	200	205		mg/Kg		103	80 - 120	1	20	

Lab Sample ID: LCSSRM 580-187545/24-A

Matrix: Solid

Analysis Batch: 187656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 187545

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec.		RPD	RPD Limit
							Limits	RPD		
Arsenic	139	139		mg/Kg		99.9	70.4 - 140.	3		
Lead	133	133		mg/Kg		100	72.9 - 127.	8		
Antimony	88.8	155		mg/Kg		174.1	22.0 - 259.	0		
Beryllium	96.1	87.2		mg/Kg		90.8	74.5 - 125.	9		
Cadmium	96.0	93.3		mg/Kg		97.2	73.2 - 127.	1		
Chromium	136	133		mg/Kg		97.5	69.9 - 129.	4		
Copper	168	168		mg/Kg		100.0	75.6 - 125.	0		
Nickel	123	121		mg/Kg		98.1	73.1 - 128.	5		
Selenium	177	176		mg/Kg		99.4	67.8 - 131.	6		
Silver	40.2	42.5		mg/Kg		105.7	66.2 - 134.	1		
Thallium	138	138		mg/Kg		99.9	68.1 - 131.	9		
Zinc	189	194		mg/Kg		102.4	69.8 - 130.	7		

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-186338/22-A

Matrix: Solid

Analysis Batch: 186338

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186338

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.020	0.0060	mg/Kg		04/08/15 11:03	04/08/15 14:49	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 580-186338/23-A
Matrix: Solid
Analysis Batch: 186388

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 186338

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.138		mg/Kg		83	80 - 120

Lab Sample ID: LCSD 580-186338/24-A
Matrix: Solid
Analysis Batch: 186388

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 186338

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.134		mg/Kg		80	80 - 120	3	20

Method: 9060_PSEP - TOC (Puget Sound)

Lab Sample ID: MB 580-186461/3
Matrix: Solid
Analysis Batch: 186461

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		2000	44	mg/Kg			04/09/15 14:36	1

Lab Sample ID: LCS 580-186461/4
Matrix: Solid
Analysis Batch: 186461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	4620	5600		mg/Kg		121	27.8 - 170

Lab Sample ID: LCSD 580-186461/5
Matrix: Solid
Analysis Batch: 186461

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	4620	5410		mg/Kg		117	27.8 - 170	4	35

Lab Chronicle

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST3-20150326-S

Lab Sample ID: 580-48644-1

Date Collected: 03/26/15 10:30

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 23.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			186214	04/07/15 09:56	ERZ	TAL SEA
Total/NA	Analysis	8270D		10	186325	04/08/15 19:07	AHP	TAL SEA
Total/NA	Prep	3550B			186369	04/08/15 13:57	EKK	TAL SEA
Total/NA	Analysis	8082		1	186462	04/09/15 20:20	EKK	TAL SEA
Total/NA	Prep	3050B			187545	04/22/15 17:11	PAB	TAL SEA
Total/NA	Analysis	6020		10	187656	04/23/15 09:41	FCW	TAL SEA
Total/NA	Prep	7471A			186338	04/08/15 11:03	PAB	TAL SEA
Total/NA	Analysis	7471A		1	186388	04/08/15 15:50	FCW	TAL SEA
Total/NA	Analysis	2540B		1	186415	04/09/15 09:51	ERZ	TAL SEA
Total/NA	Analysis	9060_PSEP		1	186461	04/09/15 14:36	RSB	TAL SEA
Total/NA	Analysis	PSEP Plumb 1981		1	186251	04/07/15 12:58	HJM	TAL SEA

Client Sample ID: 96-ST2-20150326-S

Lab Sample ID: 580-48644-2

Date Collected: 03/26/15 12:15

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 46.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			186214	04/07/15 09:56	ERZ	TAL SEA
Total/NA	Analysis	8270D		10	186325	04/08/15 20:23	AHP	TAL SEA
Total/NA	Prep	3550B			186369	04/08/15 13:57	EKK	TAL SEA
Total/NA	Analysis	8082		1	186462	04/09/15 20:37	EKK	TAL SEA
Total/NA	Prep	3050B			187545	04/22/15 17:11	PAB	TAL SEA
Total/NA	Analysis	6020		10	187656	04/23/15 09:57	FCW	TAL SEA
Total/NA	Prep	7471A			186338	04/08/15 11:03	PAB	TAL SEA
Total/NA	Analysis	7471A		1	186388	04/08/15 15:52	FCW	TAL SEA
Total/NA	Analysis	2540B		1	186415	04/09/15 09:51	ERZ	TAL SEA
Total/NA	Analysis	9060_PSEP		1	186461	04/09/15 14:36	RSB	TAL SEA
Total/NA	Analysis	PSEP Plumb 1981		1	186251	04/07/15 12:58	HJM	TAL SEA

Client Sample ID: 96-ST1-20150326-S

Lab Sample ID: 580-48644-3

Date Collected: 03/26/15 13:40

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 20.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			186214	04/07/15 09:56	ERZ	TAL SEA
Total/NA	Analysis	8270D		10	186325	04/08/15 20:48	AHP	TAL SEA
Total/NA	Prep	3550B			186369	04/08/15 13:57	EKK	TAL SEA
Total/NA	Analysis	8082		1	186462	04/09/15 20:54	EKK	TAL SEA
Total/NA	Prep	3050B			187545	04/22/15 17:11	PAB	TAL SEA
Total/NA	Analysis	6020		10	187656	04/23/15 09:49	FCW	TAL SEA
Total/NA	Prep	7471A			186338	04/08/15 11:03	PAB	TAL SEA
Total/NA	Analysis	7471A		1	186388	04/08/15 15:55	FCW	TAL SEA

TestAmerica Seattle

Lab Chronicle

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Client Sample ID: 96-ST1-20150326-S

Lab Sample ID: 580-48644-3

Date Collected: 03/26/15 13:40

Matrix: Solid

Date Received: 04/01/15 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540B		1	186415	04/09/15 09:51	ERZ	TAL SEA
Total/NA	Analysis	9060_PSEP		1	186461	04/09/15 14:36	RSB	TAL SEA
Total/NA	Analysis	PSEP Plumb 1981		1	186251	04/07/15 12:58	HJM	TAL SEA

Client Sample ID: HC-ST1-20150326-S

Lab Sample ID: 580-48644-4

Date Collected: 03/26/15 14:02

Matrix: Solid

Date Received: 04/01/15 10:10

Percent Solids: 64.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			186214	04/07/15 09:56	ERZ	TAL SEA
Total/NA	Analysis	8270D		10	186325	04/08/15 21:13	AHP	TAL SEA
Total/NA	Prep	3550B			186369	04/08/15 13:57	EKK	TAL SEA
Total/NA	Analysis	8082		1	186462	04/09/15 21:44	EKK	TAL SEA
Total/NA	Prep	3050B			187545	04/22/15 17:11	PAB	TAL SEA
Total/NA	Analysis	6020		10	187656	04/23/15 09:53	FCW	TAL SEA
Total/NA	Prep	7471A			186338	04/08/15 11:03	PAB	TAL SEA
Total/NA	Analysis	7471A		1	186388	04/08/15 15:57	FCW	TAL SEA
Total/NA	Analysis	2540B		1	186415	04/09/15 09:51	ERZ	TAL SEA
Total/NA	Analysis	9060_PSEP		1	186461	04/09/15 14:36	RSB	TAL SEA
Total/NA	Analysis	PSEP Plumb 1981		1	186251	04/07/15 12:58	HJM	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

Sample Summary

Client: Leidos, Inc.
Project/Site: Industrial Facility Sampling

TestAmerica Job ID: 580-48644-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48644-1	96-ST3-20150326-S	Solid	03/26/15 10:30	04/01/15 10:10
580-48644-2	96-ST2-20150326-S	Solid	03/26/15 12:15	04/01/15 10:10
580-48644-3	96-ST1-20150326-S	Solid	03/26/15 13:40	04/01/15 10:10
580-48644-4	HC-ST1-20150326-S	Solid	03/26/15 14:02	04/01/15 10:10

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Chain-of-Custody Record



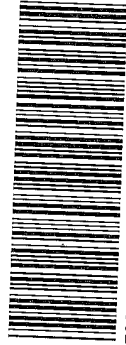
Samples from:
 Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 916-673-1520

Samples sent to:
 Kris Allen
 Test America
 5755 8th Street East
 Tacoma, WA 98424

486044

Sample Information

VistaNumber	SampleName	Sampled	Matrix	#Containers
1500280-01	96-ST3-20150326-S	26-Mar-15 10:30	Sediment	2
1500280-02	96-ST2-20150326-S	26-Mar-15 12:15	Sediment	2
1500280-03	96-ST1-20150326-S	26-Mar-15 13:40	Sediment	2
1500280-04	HC-ST1-20150326-S	26-Mar-15 14:02	Sediment	2



580-48644 Chain of Custody

Special Requests: As per request of Leidos (Corey Wilson), Vista Analytical is shipping to Test America. See original COC

Cooler/TB Dig ¹ cor 0.2 unc 0.1
 Cooler Dsc LG B/W @ Lab
 Wet/Packs Packing 50 BALE
 4cs FEDEX PD

Relinquished (Printed Name/Signature/Date/Time)	Received (Printed Name/Signature/Date/Time)
<i>Beth A. Benech</i> 03/31/15 #24	<i>MICHAEL J. MAKELL</i> 4-1-15/1010
Relinquished (Printed Name/Signature/Date/Time)	Received (Printed Name/Signature/Date/Time)

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Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 580-48644-1

Login Number: 48644

List Source: TestAmerica Seattle

List Number: 1

Creator: Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310


TestAmerica Job ID: 580-48966-1

Client Project/Site: NPDES Sampling Support

For:

Leidos, Inc.
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

Attn: Iris Winstanley



Authorized for release by:
5/8/2015 2:58:21 PM

Kristine Allen, Manager of Project Management
(253)248-4970
kristine.allen@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Job ID: 580-48966-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-48966-1

Comments

No additional comments.

Receipt

The samples were received on 4/14/2015 7:49 AM. The temperatures of the 2 coolers at receipt time were 2.0° C and 6.5° C.

Except:

The following samples were received at the laboratory outside the required temperature criteria: HC-SF-20150413-W (580-48966-1) and HC-NF-20150413-W (580-48966-2). The samples were received at a temperature of 6.5°C.

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with analytical batch 580-187182 recovered above the upper control limit for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HC-SF-20150413-W (580-48966-1), HC-NF-20150413-W (580-48966-2), (CCVIS 580-187182/3), (LCS 580-186883/2-A), (LCSD 580-186883/3-A) and (MB 580-186883/1-A).

Method(s) 8270D: The laboratory control sample (LCS) for 580-186883 recovered outside the upper control limits for the following analyte: Bis(2-ethylhexyl)phthalate. All samples were non-detects for the affected analyte. The following samples are impacted: HC-SF-20150413-W (580-48966-1), HC-NF-20150413-W (580-48966-2), (LCS 580-186883/2-A) and (LCSD 580-186883/3-A)

Method(s) 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 580-186883 recovered outside control limits for the following analytes: Bis(2-ethylhexyl)phthalate, Hexachlorocyclopentadiene and Pentachlorophenol.

Method(s) 8270D: The following sample was diluted prior to analysis due to the nature of the sample matrix: HC-NF-20150413-W (580-48966-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in analytical batch 580-187182 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane, Isophorone, 4-Chloro-3-methylphenol, Nitrobenzene and N-Nitrosodi-n-propylamine. A reporting limit (RL) standard was analyzed to ensure instrument's sensitivity, and the target analytes were detected. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8082: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with 241695.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method(s) SM 2320B: Analysis of the following samples was performed outside of the analytical holding time due to analyst oversight: HC-SF-20150413-W (580-48966-1) and HC-NF-20150413-W (580-48966-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Case Narrative

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Job ID: 580-48966-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Definitions/Glossary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Client Sample ID: HC-SF-20150413-W

Lab Sample ID: 580-48966-1

Date Collected: 04/13/15 19:35

Matrix: Water

Date Received: 04/14/15 07:49

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
1,2-Dichlorobenzene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
1,3-Dichlorobenzene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
1,4-Dichlorobenzene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
1-Methylnaphthalene	ND		0.058	0.029	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,2'-oxybis[1-chloropropane]	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,4,5-Trichlorophenol	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,4,6-Trichlorophenol	ND		0.58	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,4-Dichlorophenol	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,4-Dimethylphenol	ND		1.9	0.29	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,4-Dinitrophenol	ND	^	4.8	0.96	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,4-Dinitrotoluene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,6-Dinitrotoluene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2-Chloronaphthalene	ND		0.058	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
2-Chlorophenol	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
2-Methylphenol	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2-Nitroaniline	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
2-Nitrophenol	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
3 & 4 Methylphenol	0.13	J	0.77	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
3,3'-Dichlorobenzidine	ND		1.9	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
3-Nitroaniline	ND		0.39	0.12	ug/L		04/15/15 13:00	04/19/15 01:20	1
4,6-Dinitro-2-methylphenol	ND	^	3.9	0.96	ug/L		04/15/15 13:00	04/19/15 01:20	1
4-Bromophenyl phenyl ether	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
4-Chloro-3-methylphenol	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
4-Chloroaniline	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
4-Chlorophenyl phenyl ether	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
4-Nitroaniline	ND		0.58	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
4-Nitrophenol	ND		2.9	0.96	ug/L		04/15/15 13:00	04/19/15 01:20	1
Acenaphthene	ND		0.096	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Acenaphthylene	0.029	J	0.077	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Anthracene	ND		0.039	0.0096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Benzo[a]anthracene	ND		0.058	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Benzo[a]pyrene	ND		0.039	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Benzo[b]fluoranthene	ND		0.077	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Benzo[g,h,i]perylene	ND		0.058	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Benzo[k]fluoranthene	ND		0.058	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Benzoic acid	2.2	J	2.9	0.58	ug/L		04/15/15 13:00	04/19/15 01:20	1
Benzyl alcohol	0.34	J	0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Bis(2-chloroethoxy)methane	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Bis(2-chloroethyl)ether	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Bis(2-ethylhexyl) phthalate	ND	*	2.9	1.1	ug/L		04/15/15 13:00	04/19/15 01:20	1
Butyl benzyl phthalate	ND		0.58	0.19	ug/L		04/15/15 13:00	04/19/15 01:20	1
Carbazole	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Chrysene	ND		0.039	0.013	ug/L		04/15/15 13:00	04/19/15 01:20	1
Dibenz(a,h)anthracene	ND		0.058	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Dibenzofuran	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Diethyl phthalate	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Dimethyl phthalate	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Client Sample ID: HC-SF-20150413-W

Lab Sample ID: 580-48966-1

Date Collected: 04/13/15 19:35

Matrix: Water

Date Received: 04/14/15 07:49

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	0.13	J	0.39	0.13	ug/L		04/15/15 13:00	04/19/15 01:20	1
Di-n-octyl phthalate	ND		0.39	0.17	ug/L		04/15/15 13:00	04/19/15 01:20	1
Fluoranthene	0.017	J	0.048	0.013	ug/L		04/15/15 13:00	04/19/15 01:20	1
Fluorene	ND		0.058	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Hexachlorobenzene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Hexachlorobutadiene	ND		0.58	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Hexachlorocyclopentadiene	ND	*	1.9	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Hexachloroethane	ND		0.58	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Indeno[1,2,3-cd]pyrene	ND		0.058	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Isophorone	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Naphthalene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Nitrobenzene	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
N-Nitrosodimethylamine	ND		1.9	0.19	ug/L		04/15/15 13:00	04/19/15 01:20	1
N-Nitrosodi-n-propylamine	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
N-Nitrosodiphenylamine	ND		0.39	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Pentachlorophenol	0.35	J *	0.67	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Phenanthrene	ND		0.077	0.019	ug/L		04/15/15 13:00	04/19/15 01:20	1
Phenol	0.11	J	0.58	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1
Pyrene	0.018	J	0.058	0.013	ug/L		04/15/15 13:00	04/19/15 01:20	1
2,3,4,6-Tetrachlorophenol	ND		0.67	0.096	ug/L		04/15/15 13:00	04/19/15 01:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	110		44 - 125	04/15/15 13:00	04/19/15 01:20	1
2-Fluorobiphenyl	83		50 - 120	04/15/15 13:00	04/19/15 01:20	1
2-Fluorophenol	79		30 - 134	04/15/15 13:00	04/19/15 01:20	1
Nitrobenzene-d5	87		59 - 120	04/15/15 13:00	04/19/15 01:20	1
Phenol-d5	91		52 - 120	04/15/15 13:00	04/19/15 01:20	1
Terphenyl-d14	106		64 - 150	04/15/15 13:00	04/19/15 01:20	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.48	0.047	ug/L		04/16/15 10:51	04/20/15 19:59	1
PCB-1221	ND		0.48	0.25	ug/L		04/16/15 10:51	04/20/15 19:59	1
PCB-1232	ND		0.48	0.067	ug/L		04/16/15 10:51	04/20/15 19:59	1
PCB-1242	ND		0.48	0.062	ug/L		04/16/15 10:51	04/20/15 19:59	1
PCB-1248	ND		0.48	0.066	ug/L		04/16/15 10:51	04/20/15 19:59	1
PCB-1254	ND		0.48	0.0067	ug/L		04/16/15 10:51	04/20/15 19:59	1
PCB-1260	ND		0.48	0.012	ug/L		04/16/15 10:51	04/20/15 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		10 - 150	04/16/15 10:51	04/20/15 19:59	1
DCB Decachlorobiphenyl (Surr)	85		10 - 150	04/16/15 10:51	04/20/15 19:59	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0022		0.0010	0.00027	mg/L		05/05/15 13:20	05/06/15 08:59	1
Antimony	0.00069		0.00040	0.000080	mg/L		05/05/15 13:20	05/06/15 08:59	1
Beryllium	ND		0.00040	0.00010	mg/L		05/05/15 13:20	05/06/15 08:59	1
Cadmium	0.000042	J	0.00040	0.000028	mg/L		05/05/15 13:20	05/06/15 08:59	1
Chromium	0.0035		0.00040	0.00014	mg/L		05/05/15 13:20	05/06/15 08:59	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Client Sample ID: HC-SF-20150413-W

Lab Sample ID: 580-48966-1

Date Collected: 04/13/15 19:35

Matrix: Water

Date Received: 04/14/15 07:49

Method: 200.8 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	0.0061		0.0020	0.00060	mg/L		05/05/15 13:20	05/06/15 08:59	1
Lead	0.0029		0.00040	0.000034	mg/L		05/05/15 13:20	05/06/15 08:59	1
Nickel	0.0038		0.0030	0.00040	mg/L		05/05/15 13:20	05/06/15 08:59	1
Selenium	ND		0.0010	0.00030	mg/L		05/05/15 13:20	05/06/15 08:59	1
Silver	ND		0.00040	0.000030	mg/L		05/05/15 13:20	05/06/15 08:59	1
Thallium	ND		0.0010	0.00014	mg/L		05/05/15 13:20	05/06/15 08:59	1
Zinc	0.031		0.0070	0.0019	mg/L		05/05/15 13:20	05/06/15 08:59	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		05/04/15 12:10	05/04/15 17:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	170		10	10	umhos/cm			04/20/15 15:18	1
Chloride	5.1		0.90	0.30	mg/L			04/14/15 18:00	1
Nitrate as N	0.96		0.90	0.20	mg/L			04/14/15 18:00	1
Sulfate	14		1.2	0.40	mg/L			04/14/15 18:00	1
Alkalinity	58	H	5.0	5.0	mg/L			04/29/15 16:34	1
Bicarbonate Alkalinity as CaCO3	58	H	5.0	5.0	mg/L			04/29/15 16:34	1
Carbonate Alkalinity as CaCO3	ND	H	5.0	5.0	mg/L			04/29/15 16:34	1
Total Suspended Solids	23		4.0	4.0	mg/L			04/16/15 14:32	1
pH	7.14	HF	0.0100	0.0100	SU			04/14/15 15:04	1
Total Organic Carbon	4.6		1.0	0.19	mg/L			04/22/15 21:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	4.6		1.0	0.19	mg/L			04/22/15 21:59	1

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Client Sample ID: HC-NF-20150413-W

Lab Sample ID: 580-48966-2

Date Collected: 04/13/15 20:10

Matrix: Water

Date Received: 04/14/15 07:49

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
1,2-Dichlorobenzene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
1,3-Dichlorobenzene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
1,4-Dichlorobenzene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
1-Methylnaphthalene	ND		0.29	0.14	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,2'-oxybis[1-chloropropane]	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,4,5-Trichlorophenol	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,4,6-Trichlorophenol	ND		2.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,4-Dichlorophenol	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,4-Dimethylphenol	ND		9.6	1.4	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,4-Dinitrophenol	ND	^	24	4.8	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,4-Dinitrotoluene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,6-Dinitrotoluene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2-Chloronaphthalene	ND		0.29	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
2-Chlorophenol	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2-Methylnaphthalene	ND		0.96	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
2-Methylphenol	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2-Nitroaniline	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
2-Nitrophenol	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
3 & 4 Methylphenol	ND		3.8	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
3,3'-Dichlorobenzidine	ND		9.6	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
3-Nitroaniline	ND		1.9	0.57	ug/L		04/15/15 13:00	04/19/15 01:46	5
4,6-Dinitro-2-methylphenol	ND	^	19	4.8	ug/L		04/15/15 13:00	04/19/15 01:46	5
4-Bromophenyl phenyl ether	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
4-Chloro-3-methylphenol	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
4-Chloroaniline	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
4-Chlorophenyl phenyl ether	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
4-Nitroaniline	ND		2.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
4-Nitrophenol	ND		14	4.8	ug/L		04/15/15 13:00	04/19/15 01:46	5
Acenaphthene	ND		0.48	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Acenaphthylene	ND		0.38	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Anthracene	ND		0.19	0.048	ug/L		04/15/15 13:00	04/19/15 01:46	5
Benzo[a]anthracene	ND		0.29	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Benzo[a]pyrene	ND		0.19	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Benzo[b]fluoranthene	ND		0.38	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Benzo[g,h,i]perylene	ND		0.29	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Benzo[k]fluoranthene	ND		0.29	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Benzoic acid	7.4	J	14	2.9	ug/L		04/15/15 13:00	04/19/15 01:46	5
Benzyl alcohol	0.48	J	1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Bis(2-chloroethoxy)methane	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Bis(2-chloroethyl)ether	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Bis(2-ethylhexyl) phthalate	ND	*	14	5.6	ug/L		04/15/15 13:00	04/19/15 01:46	5
Butyl benzyl phthalate	ND		2.9	0.96	ug/L		04/15/15 13:00	04/19/15 01:46	5
Carbazole	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Chrysene	ND		0.19	0.062	ug/L		04/15/15 13:00	04/19/15 01:46	5
Dibenz(a,h)anthracene	ND		0.29	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Dibenzofuran	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Diethyl phthalate	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Dimethyl phthalate	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Client Sample ID: HC-NF-20150413-W

Lab Sample ID: 580-48966-2

Date Collected: 04/13/15 20:10

Matrix: Water

Date Received: 04/14/15 07:49

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		1.9	0.62	ug/L		04/15/15 13:00	04/19/15 01:46	5
Di-n-octyl phthalate	ND		1.9	0.86	ug/L		04/15/15 13:00	04/19/15 01:46	5
Fluoranthene	0.071	J	0.24	0.062	ug/L		04/15/15 13:00	04/19/15 01:46	5
Fluorene	ND		0.29	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Hexachlorobenzene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Hexachlorobutadiene	ND		2.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Hexachlorocyclopentadiene	ND	*	9.6	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Hexachloroethane	ND		2.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Indeno[1,2,3-cd]pyrene	ND		0.29	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Isophorone	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Naphthalene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Nitrobenzene	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
N-Nitrosodimethylamine	ND		9.6	0.96	ug/L		04/15/15 13:00	04/19/15 01:46	5
N-Nitrosodi-n-propylamine	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
N-Nitrosodiphenylamine	ND		1.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Pentachlorophenol	ND	*	3.3	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Phenanthrene	ND		0.38	0.096	ug/L		04/15/15 13:00	04/19/15 01:46	5
Phenol	ND		2.9	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5
Pyrene	0.078	J	0.29	0.062	ug/L		04/15/15 13:00	04/19/15 01:46	5
2,3,4,6-Tetrachlorophenol	ND		3.3	0.48	ug/L		04/15/15 13:00	04/19/15 01:46	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	87		44 - 125	04/15/15 13:00	04/19/15 01:46	5
2-Fluorobiphenyl	80		50 - 120	04/15/15 13:00	04/19/15 01:46	5
2-Fluorophenol	72		30 - 134	04/15/15 13:00	04/19/15 01:46	5
Nitrobenzene-d5	88		59 - 120	04/15/15 13:00	04/19/15 01:46	5
Phenol-d5	82		52 - 120	04/15/15 13:00	04/19/15 01:46	5
Terphenyl-d14	93		64 - 150	04/15/15 13:00	04/19/15 01:46	5

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.47	0.046	ug/L		04/16/15 10:51	04/20/15 20:15	1
PCB-1221	ND		0.47	0.24	ug/L		04/16/15 10:51	04/20/15 20:15	1
PCB-1232	ND		0.47	0.065	ug/L		04/16/15 10:51	04/20/15 20:15	1
PCB-1242	ND		0.47	0.060	ug/L		04/16/15 10:51	04/20/15 20:15	1
PCB-1248	ND		0.47	0.064	ug/L		04/16/15 10:51	04/20/15 20:15	1
PCB-1254	ND		0.47	0.0065	ug/L		04/16/15 10:51	04/20/15 20:15	1
PCB-1260	ND		0.47	0.011	ug/L		04/16/15 10:51	04/20/15 20:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	71		10 - 150	04/16/15 10:51	04/20/15 20:15	1
DCB Decachlorobiphenyl (Surr)	69		10 - 150	04/16/15 10:51	04/20/15 20:15	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0020		0.0010	0.00027	mg/L		05/05/15 13:20	05/06/15 09:03	1
Antimony	0.0013		0.00040	0.000080	mg/L		05/05/15 13:20	05/06/15 09:03	1
Beryllium	ND		0.00040	0.00010	mg/L		05/05/15 13:20	05/06/15 09:03	1
Cadmium	0.000096	J	0.00040	0.000028	mg/L		05/05/15 13:20	05/06/15 09:03	1
Chromium	0.0030		0.00040	0.00014	mg/L		05/05/15 13:20	05/06/15 09:03	1

TestAmerica Seattle

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Client Sample ID: HC-NF-20150413-W

Lab Sample ID: 580-48966-2

Date Collected: 04/13/15 20:10

Matrix: Water

Date Received: 04/14/15 07:49

Method: 200.8 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	0.013		0.0020	0.00060	mg/L		05/05/15 13:20	05/06/15 09:03	1
Lead	0.0065		0.00040	0.000034	mg/L		05/05/15 13:20	05/06/15 09:03	1
Nickel	0.0033		0.0030	0.00040	mg/L		05/05/15 13:20	05/06/15 09:03	1
Selenium	ND		0.0010	0.00030	mg/L		05/05/15 13:20	05/06/15 09:03	1
Silver	ND		0.00040	0.000030	mg/L		05/05/15 13:20	05/06/15 09:03	1
Thallium	ND		0.0010	0.00014	mg/L		05/05/15 13:20	05/06/15 09:03	1
Zinc	0.20		0.0070	0.0019	mg/L		05/05/15 13:20	05/06/15 09:03	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		05/04/15 12:10	05/04/15 17:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	120		10	10	umhos/cm			04/20/15 15:18	1
Chloride	4.0		0.90	0.30	mg/L			04/14/15 18:14	1
Nitrate as N	0.59	J	0.90	0.20	mg/L			04/14/15 18:14	1
Sulfate	10		1.2	0.40	mg/L			04/14/15 18:14	1
Alkalinity	30	H	5.0	5.0	mg/L			04/29/15 16:34	1
Bicarbonate Alkalinity as CaCO3	30	H	5.0	5.0	mg/L			04/29/15 16:34	1
Carbonate Alkalinity as CaCO3	ND	H	5.0	5.0	mg/L			04/29/15 16:34	1
Total Suspended Solids	27		4.0	4.0	mg/L			04/16/15 14:32	1
Chromium, hexavalent	ND		0.012	0.0010	mg/L			04/14/15 14:48	1
pH	7.31	HF	0.0100	0.0100	SU			04/14/15 15:08	1
Total Organic Carbon	4.8		1.0	0.19	mg/L			04/22/15 21:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	4.0		1.0	0.19	mg/L			04/22/15 21:59	1

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-186883/1-A

Matrix: Water

Analysis Batch: 187182

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
1,2-Dichlorobenzene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
1,3-Dichlorobenzene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
1,4-Dichlorobenzene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
1-Methylnaphthalene	ND		0.060	0.030	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,2'-oxybis[1-chloropropane]	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,4,5-Trichlorophenol	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,4,6-Trichlorophenol	ND		0.60	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,4-Dichlorophenol	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,4-Dimethylphenol	ND		2.0	0.30	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,4-Dinitrophenol	ND	^	5.0	1.0	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,4-Dinitrotoluene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,6-Dinitrotoluene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2-Chloronaphthalene	ND		0.060	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
2-Chlorophenol	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
2-Methylphenol	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2-Nitroaniline	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
2-Nitrophenol	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
3 & 4 Methylphenol	ND		0.80	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
3,3'-Dichlorobenzidine	ND		2.0	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
3-Nitroaniline	ND		0.40	0.12	ug/L		04/15/15 13:00	04/18/15 18:23	1
4,6-Dinitro-2-methylphenol	ND	^	4.0	1.0	ug/L		04/15/15 13:00	04/18/15 18:23	1
4-Bromophenyl phenyl ether	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
4-Chloro-3-methylphenol	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
4-Chloroaniline	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
4-Chlorophenyl phenyl ether	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
4-Nitroaniline	ND		0.60	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
4-Nitrophenol	ND		3.0	1.0	ug/L		04/15/15 13:00	04/18/15 18:23	1
Acenaphthene	ND		0.10	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Acenaphthylene	ND		0.080	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Anthracene	ND		0.040	0.010	ug/L		04/15/15 13:00	04/18/15 18:23	1
Benzo[a]anthracene	ND		0.060	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Benzo[a]pyrene	ND		0.040	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Benzo[b]fluoranthene	ND		0.080	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Benzo[g,h,i]perylene	ND		0.060	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Benzo[k]fluoranthene	ND		0.060	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Benzoic acid	ND		3.0	0.60	ug/L		04/15/15 13:00	04/18/15 18:23	1
Benzyl alcohol	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Bis(2-chloroethoxy)methane	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Bis(2-chloroethyl)ether	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Bis(2-ethylhexyl) phthalate	ND		3.0	1.2	ug/L		04/15/15 13:00	04/18/15 18:23	1
Butyl benzyl phthalate	ND		0.60	0.20	ug/L		04/15/15 13:00	04/18/15 18:23	1
Carbazole	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Chrysene	ND		0.040	0.013	ug/L		04/15/15 13:00	04/18/15 18:23	1
Dibenz(a,h)anthracene	ND		0.060	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Dibenzofuran	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Diethyl phthalate	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-186883/1-A

Matrix: Water

Analysis Batch: 187182

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186883

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dimethyl phthalate	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Di-n-butyl phthalate	ND		0.40	0.13	ug/L		04/15/15 13:00	04/18/15 18:23	1
Di-n-octyl phthalate	ND		0.40	0.18	ug/L		04/15/15 13:00	04/18/15 18:23	1
Fluoranthene	ND		0.050	0.013	ug/L		04/15/15 13:00	04/18/15 18:23	1
Fluorene	ND		0.060	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Hexachlorobenzene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Hexachlorobutadiene	ND		0.60	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Hexachlorocyclopentadiene	ND		2.0	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Hexachloroethane	ND		0.60	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Indeno[1,2,3-cd]pyrene	ND		0.060	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Isophorone	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Naphthalene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Nitrobenzene	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
N-Nitrosodimethylamine	ND		2.0	0.20	ug/L		04/15/15 13:00	04/18/15 18:23	1
N-Nitrosodi-n-propylamine	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
N-Nitrosodiphenylamine	ND		0.40	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Pentachlorophenol	ND		0.70	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Phenanthrene	ND		0.080	0.020	ug/L		04/15/15 13:00	04/18/15 18:23	1
Phenol	ND		0.60	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1
Pyrene	ND		0.060	0.013	ug/L		04/15/15 13:00	04/18/15 18:23	1
2,3,4,6-Tetrachlorophenol	ND		0.70	0.10	ug/L		04/15/15 13:00	04/18/15 18:23	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2,4,6-Tribromophenol	72		44 - 125	04/15/15 13:00	04/18/15 18:23	1
2-Fluorobiphenyl	82		50 - 120	04/15/15 13:00	04/18/15 18:23	1
2-Fluorophenol	60		30 - 134	04/15/15 13:00	04/18/15 18:23	1
Nitrobenzene-d5	88		59 - 120	04/15/15 13:00	04/18/15 18:23	1
Phenol-d5	73		52 - 120	04/15/15 13:00	04/18/15 18:23	1
Terphenyl-d14	99		64 - 150	04/15/15 13:00	04/18/15 18:23	1

Lab Sample ID: LCS 580-186883/2-A

Matrix: Water

Analysis Batch: 187182

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
1,2,4-Trichlorobenzene	2.00	1.71		ug/L		86	40 - 125
1,2-Dichlorobenzene	2.00	1.66		ug/L		83	44 - 125
1,3-Dichlorobenzene	2.00	1.57		ug/L		79	40 - 125
1,4-Dichlorobenzene	2.00	1.63		ug/L		82	40 - 125
1-Methylnaphthalene	2.00	1.83		ug/L		91	54 - 125
2,2'-oxybis[1-chloropropane]	2.00	1.67		ug/L		83	44 - 130
2,4,5-Trichlorophenol	2.00	2.12		ug/L		106	66 - 130
2,4,6-Trichlorophenol	2.00	2.13		ug/L		107	55 - 140
2,4-Dichlorophenol	2.00	1.92		ug/L		96	50 - 140
2,4-Dimethylphenol	2.00	1.20	J	ug/L		60	30 - 135
2,4-Dinitrophenol	4.00	4.00	J ^	ug/L		100	24 - 146
2,4-Dinitrotoluene	2.00	2.03		ug/L		102	73 - 126
2,6-Dinitrotoluene	2.00	1.98		ug/L		99	67 - 134

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186883/2-A

Matrix: Water

Analysis Batch: 187182

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloronaphthalene	2.00	2.03		ug/L		101	55 - 125
2-Chlorophenol	2.00	1.71		ug/L		85	57 - 125
2-Methylnaphthalene	2.00	1.71		ug/L		85	56 - 125
2-Methylphenol	2.00	1.78		ug/L		89	60 - 130
2-Nitroaniline	2.00	2.01		ug/L		100	52 - 140
2-Nitrophenol	2.00	1.99		ug/L		100	55 - 140
3 & 4 Methylphenol	2.00	1.70		ug/L		85	60 - 130
3,3'-Dichlorobenzidine	4.00	2.27		ug/L		57	20 - 175
3-Nitroaniline	2.00	1.81		ug/L		90	22 - 124
4,6-Dinitro-2-methylphenol	4.00	4.88	^	ug/L		122	50 - 136
4-Bromophenyl phenyl ether	2.00	1.88		ug/L		94	62 - 132
4-Chloro-3-methylphenol	2.00	1.66		ug/L		83	65 - 145
4-Chloroaniline	2.00	1.33		ug/L		66	20 - 150
4-Chlorophenyl phenyl ether	2.00	1.86		ug/L		93	59 - 125
4-Nitroaniline	2.00	1.62		ug/L		81	49 - 125
4-Nitrophenol	4.00	4.04		ug/L		101	35 - 153
Acenaphthene	2.00	1.83		ug/L		92	63 - 125
Acenaphthylene	2.00	1.75		ug/L		87	62 - 125
Anthracene	2.00	1.69		ug/L		85	50 - 125
Benzo[a]anthracene	2.00	1.92		ug/L		96	65 - 125
Benzo[a]pyrene	2.00	1.63		ug/L		81	45 - 125
Benzo[b]fluoranthene	2.00	2.31		ug/L		116	70 - 129
Benzo[g,h,i]perylene	2.00	2.33		ug/L		117	65 - 153
Benzo[k]fluoranthene	2.00	2.35		ug/L		117	70 - 123
Benzoic acid	4.01	3.67		ug/L		92	20 - 144
Benzyl alcohol	2.00	1.62		ug/L		81	41 - 144
Bis(2-chloroethoxy)methane	2.00	1.89		ug/L		94	59 - 125
Bis(2-chloroethyl)ether	2.00	1.95		ug/L		97	55 - 125
Bis(2-ethylhexyl) phthalate	2.00	9.45	*	ug/L		472	70 - 185
Butyl benzyl phthalate	2.00	2.27		ug/L		113	60 - 167
Carbazole	2.00	1.86		ug/L		93	75 - 142
Chrysene	2.00	2.27		ug/L		114	70 - 125
Dibenz(a,h)anthracene	2.00	1.96		ug/L		98	69 - 154
Dibenzofuran	2.00	1.91		ug/L		96	60 - 125
Diethyl phthalate	2.00	1.95		ug/L		98	60 - 150
Dimethyl phthalate	2.00	1.92		ug/L		96	65 - 155
Di-n-butyl phthalate	2.00	1.91		ug/L		95	55 - 167
Di-n-octyl phthalate	2.00	1.90		ug/L		95	55 - 150
Fluoranthene	2.00	1.86		ug/L		93	70 - 145
Fluorene	2.00	1.92		ug/L		96	69 - 125
Hexachlorobenzene	2.00	1.95		ug/L		98	61 - 125
Hexachlorobutadiene	2.00	1.39		ug/L		70	25 - 125
Hexachlorocyclopentadiene	2.00	0.537	J	ug/L		27	20 - 125
Hexachloroethane	2.00	1.63		ug/L		81	30 - 125
Indeno[1,2,3-cd]pyrene	2.00	2.02		ug/L		101	70 - 136
Isophorone	2.00	1.96		ug/L		98	64 - 125
Naphthalene	2.00	1.83		ug/L		92	56 - 125
Nitrobenzene	2.00	1.94		ug/L		97	62 - 125

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-186883/2-A

Matrix: Water

Analysis Batch: 187182

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodimethylamine	2.00	1.57	J	ug/L		79	33 - 143
N-Nitrosodi-n-propylamine	2.00	1.70		ug/L		85	60 - 120
N-Nitrosodiphenylamine	4.01	2.84		ug/L		71	40 - 135
Pentachlorophenol	4.00	0.964		ug/L		24	20 - 145
Phenanthrene	2.00	1.85		ug/L		93	70 - 125
Phenol	2.00	1.62		ug/L		81	53 - 130
Pyrene	2.00	1.78		ug/L		89	70 - 133
2,3,4,6-Tetrachlorophenol	2.00	1.92		ug/L		96	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	97		44 - 125
2-Fluorobiphenyl	93		50 - 120
2-Fluorophenol	87		30 - 134
Nitrobenzene-d5	99		59 - 120
Phenol-d5	93		52 - 120
Terphenyl-d14	103		64 - 150

Lab Sample ID: LCSD 580-186883/3-A

Matrix: Water

Analysis Batch: 187182

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	2.00	1.80		ug/L		90	40 - 125	5	20
1,2-Dichlorobenzene	2.00	1.68		ug/L		84	44 - 125	1	20
1,3-Dichlorobenzene	2.00	1.66		ug/L		83	40 - 125	5	20
1,4-Dichlorobenzene	2.00	1.68		ug/L		84	40 - 125	2	20
1-Methylnaphthalene	2.00	1.96		ug/L		98	54 - 125	7	20
2,2'-oxybis[1-chloropropane]	2.00	1.70		ug/L		85	44 - 130	2	20
2,4,5-Trichlorophenol	2.00	2.02		ug/L		101	66 - 130	5	20
2,4,6-Trichlorophenol	2.00	2.14		ug/L		107	55 - 140	0	20
2,4-Dichlorophenol	2.00	1.88		ug/L		94	50 - 140	2	20
2,4-Dimethylphenol	2.00	1.20	J	ug/L		60	30 - 135	0	20
2,4-Dinitrophenol	4.00	4.27	J ^	ug/L		107	24 - 146	7	20
2,4-Dinitrotoluene	2.00	1.87		ug/L		93	73 - 126	8	20
2,6-Dinitrotoluene	2.00	1.91		ug/L		95	67 - 134	4	20
2-Chloronaphthalene	2.00	1.99		ug/L		99	55 - 125	2	20
2-Chlorophenol	2.00	1.68		ug/L		84	57 - 125	2	20
2-Methylnaphthalene	2.00	1.77		ug/L		88	56 - 125	3	20
2-Methylphenol	2.00	1.76		ug/L		88	60 - 130	1	20
2-Nitroaniline	2.00	2.12		ug/L		106	52 - 140	6	20
2-Nitrophenol	2.00	1.97		ug/L		98	55 - 140	1	20
3 & 4 Methylphenol	2.00	1.80		ug/L		90	60 - 130	5	20
3,3'-Dichlorobenzidine	4.00	2.22		ug/L		56	20 - 175	2	20
3-Nitroaniline	2.00	1.83		ug/L		92	22 - 124	1	20
4,6-Dinitro-2-methylphenol	4.00	5.15	^	ug/L		129	50 - 136	5	20
4-Bromophenyl phenyl ether	2.00	1.96		ug/L		98	62 - 132	4	20
4-Chloro-3-methylphenol	2.00	1.90		ug/L		95	65 - 145	13	20
4-Chloroaniline	2.00	1.37		ug/L		68	20 - 150	3	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186883/3-A

Matrix: Water

Analysis Batch: 187182

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 186883

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
							Limits	RPD	Limit	
4-Chlorophenyl phenyl ether	2.00	1.85		ug/L		93	59 - 125	0	20	
4-Nitroaniline	2.00	1.72		ug/L		86	49 - 125	6	20	
4-Nitrophenol	4.00	4.01		ug/L		100	35 - 153	1	20	
Acenaphthene	2.00	1.86		ug/L		93	63 - 125	1	20	
Acenaphthylene	2.00	1.75		ug/L		88	62 - 125	0	20	
Anthracene	2.00	1.69		ug/L		85	50 - 125	0	20	
Benzo[a]anthracene	2.00	1.89		ug/L		94	65 - 125	2	20	
Benzo[a]pyrene	2.00	1.62		ug/L		81	45 - 125	1	20	
Benzo[b]fluoranthene	2.00	2.39		ug/L		119	70 - 129	3	20	
Benzo[g,h,i]perylene	2.00	2.39		ug/L		120	65 - 153	2	20	
Benzo[k]fluoranthene	2.00	2.37		ug/L		118	70 - 123	1	20	
Benzoic acid	4.01	3.31		ug/L		82	20 - 144	10	20	
Benzyl alcohol	2.00	1.66		ug/L		83	41 - 144	2	20	
Bis(2-chloroethoxy)methane	2.00	2.07		ug/L		104	59 - 125	9	20	
Bis(2-chloroethyl)ether	2.00	2.05		ug/L		102	55 - 125	5	20	
Bis(2-ethylhexyl) phthalate	2.00	1.87	J *	ug/L		93	70 - 185	134	20	
Butyl benzyl phthalate	2.00	2.34		ug/L		117	60 - 167	3	20	
Carbazole	2.00	1.90		ug/L		95	75 - 142	2	20	
Chrysene	2.00	2.30		ug/L		115	70 - 125	1	20	
Dibenz(a,h)anthracene	2.00	1.85		ug/L		92	69 - 154	6	20	
Dibenzofuran	2.00	1.88		ug/L		94	60 - 125	2	20	
Diethyl phthalate	2.00	2.01		ug/L		100	60 - 150	3	20	
Dimethyl phthalate	2.00	1.94		ug/L		97	65 - 155	1	20	
Di-n-butyl phthalate	2.00	2.12		ug/L		106	55 - 167	10	20	
Di-n-octyl phthalate	2.00	1.87		ug/L		94	55 - 150	1	20	
Fluoranthene	2.00	1.91		ug/L		96	70 - 145	3	20	
Fluorene	2.00	1.89		ug/L		95	69 - 125	1	20	
Hexachlorobenzene	2.00	1.92		ug/L		96	61 - 125	2	20	
Hexachlorobutadiene	2.00	1.42		ug/L		71	25 - 125	2	20	
Hexachlorocyclopentadiene	2.00	0.408	J *	ug/L		20	20 - 125	27	20	
Hexachloroethane	2.00	1.63		ug/L		82	30 - 125	0	20	
Indeno[1,2,3-cd]pyrene	2.00	2.06		ug/L		103	70 - 136	2	20	
Isophorone	2.00	1.95		ug/L		98	64 - 125	0	20	
Naphthalene	2.00	1.90		ug/L		95	56 - 125	4	20	
Nitrobenzene	2.00	2.03		ug/L		102	62 - 125	5	20	
N-Nitrosodimethylamine	2.00	1.54	J	ug/L		77	33 - 143	2	20	
N-Nitrosodi-n-propylamine	2.00	1.79		ug/L		90	60 - 120	5	20	
N-Nitrosodiphenylamine	4.01	2.87		ug/L		71	40 - 135	1	20	
Pentachlorophenol	4.00	1.45	*	ug/L		36	20 - 145	40	20	
Phenanthrene	2.00	1.95		ug/L		98	70 - 125	5	20	
Phenol	2.00	1.79		ug/L		90	53 - 130	10	20	
Pyrene	2.00	1.88		ug/L		94	70 - 133	5	20	
2,3,4,6-Tetrachlorophenol	2.00	1.89		ug/L		94	60 - 130	2	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	99		44 - 125
2-Fluorobiphenyl	90		50 - 120
2-Fluorophenol	79		30 - 134

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186883/3-A
Matrix: Water
Analysis Batch: 187182

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 186883

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5	100		59 - 120
Phenol-d5	93		52 - 120
Terphenyl-d14	102		64 - 150

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 490-241695/1-A
Matrix: Water
Analysis Batch: 242402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 241695

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.049	ug/L		04/16/15 10:51	04/20/15 19:12	1
PCB-1221	ND		0.50	0.26	ug/L		04/16/15 10:51	04/20/15 19:12	1
PCB-1232	ND		0.50	0.070	ug/L		04/16/15 10:51	04/20/15 19:12	1
PCB-1242	ND		0.50	0.064	ug/L		04/16/15 10:51	04/20/15 19:12	1
PCB-1248	ND		0.50	0.069	ug/L		04/16/15 10:51	04/20/15 19:12	1
PCB-1254	ND		0.50	0.0070	ug/L		04/16/15 10:51	04/20/15 19:12	1
PCB-1260	ND		0.50	0.012	ug/L		04/16/15 10:51	04/20/15 19:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		10 - 150	04/16/15 10:51	04/20/15 19:12	1
DCB Decachlorobiphenyl (Surr)	117		10 - 150	04/16/15 10:51	04/20/15 19:12	1

Lab Sample ID: LCS 490-241695/2-A
Matrix: Water
Analysis Batch: 242402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 241695

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	5.00	4.38		ug/L		88	23 - 139
PCB-1260	5.00	4.73		ug/L		95	36 - 144

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	91		10 - 150
DCB Decachlorobiphenyl (Surr)	102		10 - 150

Lab Sample ID: LCSD 490-241695/3-A
Matrix: Water
Analysis Batch: 242402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 241695

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	5.00	4.93		ug/L		99	23 - 139	12	50
PCB-1260	5.00	5.32		ug/L		106	36 - 144	12	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	100		10 - 150
DCB Decachlorobiphenyl (Surr)	113		10 - 150

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 580-188621/14-A
Matrix: Water
Analysis Batch: 188755

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 188621

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00027	mg/L		05/05/15 13:20	05/06/15 08:14	1
Antimony	ND		0.00040	0.000080	mg/L		05/05/15 13:20	05/06/15 08:14	1
Beryllium	ND		0.00040	0.00010	mg/L		05/05/15 13:20	05/06/15 08:14	1
Cadmium	ND		0.00040	0.000028	mg/L		05/05/15 13:20	05/06/15 08:14	1
Chromium	ND		0.00040	0.00014	mg/L		05/05/15 13:20	05/06/15 08:14	1
Copper	ND		0.0020	0.00060	mg/L		05/05/15 13:20	05/06/15 08:14	1
Lead	ND		0.00040	0.000034	mg/L		05/05/15 13:20	05/06/15 08:14	1
Nickel	ND		0.0030	0.00040	mg/L		05/05/15 13:20	05/06/15 08:14	1
Selenium	ND		0.0010	0.00030	mg/L		05/05/15 13:20	05/06/15 08:14	1
Silver	ND		0.00040	0.000030	mg/L		05/05/15 13:20	05/06/15 08:14	1
Thallium	ND		0.0010	0.00014	mg/L		05/05/15 13:20	05/06/15 08:14	1
Zinc	ND		0.0070	0.0019	mg/L		05/05/15 13:20	05/06/15 08:14	1

Lab Sample ID: LCS 580-188621/15-A
Matrix: Water
Analysis Batch: 188755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 188621

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0998		mg/L		100	85 - 115
Antimony	0.100	0.102		mg/L		102	85 - 115
Beryllium	0.100	0.0982		mg/L		98	85 - 115
Cadmium	0.100	0.100		mg/L		100	85 - 115
Chromium	0.100	0.102		mg/L		102	85 - 115
Copper	0.100	0.101		mg/L		101	85 - 115
Lead	0.100	0.100		mg/L		100	85 - 115
Nickel	0.100	0.0994		mg/L		99	85 - 115
Selenium	0.100	0.100		mg/L		100	85 - 115
Silver	0.100	0.0976		mg/L		98	85 - 115
Thallium	0.100	0.0990		mg/L		99	85 - 115
Zinc	0.100	0.100		mg/L		100	85 - 115

Lab Sample ID: LCSD 580-188621/16-A
Matrix: Water
Analysis Batch: 188755

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 188621

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.104		mg/L		104	85 - 115	4	20
Antimony	0.100	0.105		mg/L		105	85 - 115	3	20
Beryllium	0.100	0.104		mg/L		104	85 - 115	6	20
Cadmium	0.100	0.104		mg/L		104	85 - 115	3	20
Chromium	0.100	0.105		mg/L		105	85 - 115	3	20
Copper	0.100	0.106		mg/L		106	85 - 115	5	20
Lead	0.100	0.105		mg/L		105	85 - 115	4	20
Nickel	0.100	0.103		mg/L		103	85 - 115	4	20
Selenium	0.100	0.103		mg/L		103	85 - 115	3	20
Silver	0.100	0.101		mg/L		101	85 - 115	3	20
Thallium	0.100	0.105		mg/L		105	85 - 115	6	20
Zinc	0.100	0.104		mg/L		104	85 - 115	4	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 580-188503/20-A
Matrix: Water
Analysis Batch: 188550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 188503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		05/04/15 12:10	05/04/15 16:47	1

Lab Sample ID: LCS 580-188503/21-A
Matrix: Water
Analysis Batch: 188550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 188503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00193		mg/L		97	85 - 115

Lab Sample ID: LCSD 580-188503/22-A
Matrix: Water
Analysis Batch: 188550

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 188503

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00187		mg/L		94	85 - 115	3	20

Lab Sample ID: 580-48966-1 MS
Matrix: Water
Analysis Batch: 188550

Client Sample ID: HC-SF-20150413-W
Prep Type: Total/NA
Prep Batch: 188503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00200	0.00193		mg/L		97	70 - 130

Lab Sample ID: 580-48966-1 MSD
Matrix: Water
Analysis Batch: 188550

Client Sample ID: HC-SF-20150413-W
Prep Type: Total/NA
Prep Batch: 188503

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00200	0.00190		mg/L		95	70 - 130	1	20

Lab Sample ID: 580-48966-1 DU
Matrix: Water
Analysis Batch: 188550

Client Sample ID: HC-SF-20150413-W
Prep Type: Total/NA
Prep Batch: 188503

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	ND		ND		mg/L		NC	20

Method: 120.1 - Conductivity, Specific Conductance

Lab Sample ID: MB 580-187284/1
Matrix: Water
Analysis Batch: 187284

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		10	10	umhos/cm			04/20/15 15:18	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 120.1 - Conductivity, Specific Conductance (Continued)

Lab Sample ID: LCS 580-187284/2
Matrix: Water
Analysis Batch: 187284

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	500	501		umhos/cm		100	90 - 110

Lab Sample ID: 580-48966-2 DU
Matrix: Water
Analysis Batch: 187284

Client Sample ID: HC-NF-20150413-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	120		120		umhos/cm		0.2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-186908/3
Matrix: Water
Analysis Batch: 186908

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.90	0.30	mg/L			04/14/15 17:17	1
Sulfate	ND		1.2	0.40	mg/L			04/14/15 17:17	1

Lab Sample ID: LCS 580-186908/4
Matrix: Water
Analysis Batch: 186908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.4		mg/L		101	90 - 110
Sulfate	50.0	48.8		mg/L		98	90 - 110

Lab Sample ID: LCSD 580-186908/5
Matrix: Water
Analysis Batch: 186908

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	50.0	50.4		mg/L		101	90 - 110	0	15
Sulfate	50.0	48.8		mg/L		98	90 - 110	0	15

Lab Sample ID: MB 580-186914/5
Matrix: Water
Analysis Batch: 186914

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.90	0.20	mg/L			04/14/15 17:17	1

Lab Sample ID: LCS 580-186914/6
Matrix: Water
Analysis Batch: 186914

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	5.00	5.04		mg/L		101	90 - 110

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 580-186914/1
Matrix: Water
Analysis Batch: 186914

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	5.00	5.05		mg/L		101	90 - 110	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: LCS 580-188181/2
Matrix: Water
Analysis Batch: 188181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	100	105		mg/L		105	85 - 115

Lab Sample ID: 580-48966-1 DU
Matrix: Water
Analysis Batch: 188181

Client Sample ID: HC-SF-20150413-W
Prep Type: Total/NA

Analyte	Sample		DU		Unit	D	RPD	RPD Limit
	Result	Qualifier	Result	Qualifier				
Alkalinity	58	H	60.0		mg/L		3	17
Bicarbonate Alkalinity as CaCO3	58	H	60.0		mg/L		3	20
Carbonate Alkalinity as CaCO3	ND	H	ND		mg/L		NC	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 580-187033/1
Matrix: Water
Analysis Batch: 187033

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Suspended Solids	ND		2.0	2.0	mg/L			04/16/15 14:32	1

Lab Sample ID: LCS 580-187033/2
Matrix: Water
Analysis Batch: 187033

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	30.0	28.8		mg/L		96	70.6 - 120

Method: SM 3500 CR D - Chromium, Hexavalent

Lab Sample ID: MB 580-186832/1
Matrix: Water
Analysis Batch: 186832

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chromium, hexavalent	ND		0.012	0.0010	mg/L			04/14/15 14:46	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: SM 3500 CR D - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 580-186832/2
Matrix: Water
Analysis Batch: 186832

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.200	0.196		mg/L		98	90 - 110

Lab Sample ID: LCSD 580-186832/3
Matrix: Water
Analysis Batch: 186832

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.200	0.194		mg/L		97	90 - 110	1	20

Method: SM 4500 H+ B - pH

Lab Sample ID: 580-48966-1 DU
Matrix: Water
Analysis Batch: 186833

Client Sample ID: HC-SF-20150413-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.14	HF	7.230		SU		1	1

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 580-187561/1
Matrix: Water
Analysis Batch: 187561

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.0	0.19	mg/L			04/22/15 21:59	1

Lab Sample ID: LCS 580-187561/2
Matrix: Water
Analysis Batch: 187561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	15.0	14.2		mg/L		95	85 - 115

Lab Sample ID: 580-48966-1 MS
Matrix: Water
Analysis Batch: 187561

Client Sample ID: HC-SF-20150413-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	4.6		10.0	14.6		mg/L		100	85 - 115

Lab Sample ID: 580-48966-1 MSD
Matrix: Water
Analysis Batch: 187561

Client Sample ID: HC-SF-20150413-W
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	4.6		10.0	14.4		mg/L		98	85 - 115	2	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
 Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 580-48966-1 DU
 Matrix: Water
 Analysis Batch: 187561

Client Sample ID: HC-SF-20150413-W
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	4.6		4.80		mg/L		5	20

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Lab Chronicle

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Client Sample ID: HC-SF-20150413-W

Lab Sample ID: 580-48966-1

Date Collected: 04/13/15 19:35

Matrix: Water

Date Received: 04/14/15 07:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			186883	04/15/15 13:00	ALC	TAL SEA
Total/NA	Analysis	8270D		1	187182	04/19/15 01:20	AHP	TAL SEA
Total/NA	Prep	3510C			241695	04/16/15 10:51	ET	TAL NSH
Total/NA	Analysis	8082		1	242402	04/20/15 19:59	MGH	TAL NSH
Total/NA	Prep	200.8			188621	05/05/15 13:20	PAB	TAL SEA
Total/NA	Analysis	200.8		1	188755	05/06/15 08:59	FCW	TAL SEA
Total/NA	Prep	245.1			188503	05/04/15 12:10	PAB	TAL SEA
Total/NA	Analysis	245.1		1	188550	05/04/15 17:06	FCW	TAL SEA
Total/NA	Analysis	120.1		1	187284	04/20/15 15:18	JSM	TAL SEA
Total/NA	Analysis	300.0		1	186908	04/14/15 18:00	RSB	TAL SEA
Total/NA	Analysis	300.0		1	186914	04/14/15 18:00	RSB	TAL SEA
Total/NA	Analysis	SM 2320B		1	188181	04/29/15 16:34	JLS	TAL SEA
Total/NA	Analysis	SM 2540D		1	187033	04/16/15 14:32	JSM	TAL SEA
Total/NA	Analysis	SM 4500 H+ B		1	186833	04/14/15 15:04	RSB	TAL SEA
Dissolved	Analysis	SM 5310B		1	187561	04/22/15 21:59	RSB	TAL SEA
Total/NA	Analysis	SM 5310B		1	187561	04/22/15 21:59	RSB	TAL SEA

Client Sample ID: HC-NF-20150413-W

Lab Sample ID: 580-48966-2

Date Collected: 04/13/15 20:10

Matrix: Water

Date Received: 04/14/15 07:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			186883	04/15/15 13:00	ALC	TAL SEA
Total/NA	Analysis	8270D		5	187182	04/19/15 01:46	AHP	TAL SEA
Total/NA	Prep	3510C			241695	04/16/15 10:51	ET	TAL NSH
Total/NA	Analysis	8082		1	242402	04/20/15 20:15	MGH	TAL NSH
Total/NA	Prep	200.8			188621	05/05/15 13:20	PAB	TAL SEA
Total/NA	Analysis	200.8		1	188755	05/06/15 09:03	FCW	TAL SEA
Total/NA	Prep	245.1			188503	05/04/15 12:10	PAB	TAL SEA
Total/NA	Analysis	245.1		1	188550	05/04/15 17:16	FCW	TAL SEA
Total/NA	Analysis	120.1		1	187284	04/20/15 15:18	JSM	TAL SEA
Total/NA	Analysis	300.0		1	186908	04/14/15 18:14	RSB	TAL SEA
Total/NA	Analysis	300.0		1	186914	04/14/15 18:14	RSB	TAL SEA
Total/NA	Analysis	SM 2320B		1	188181	04/29/15 16:34	JLS	TAL SEA
Total/NA	Analysis	SM 2540D		1	187033	04/16/15 14:32	JSM	TAL SEA
Total/NA	Analysis	SM 3500 CR D		1	186832	04/14/15 14:48	RSB	TAL SEA
Total/NA	Analysis	SM 4500 H+ B		1	186833	04/14/15 15:08	RSB	TAL SEA
Dissolved	Analysis	SM 5310B		1	187561	04/22/15 21:59	RSB	TAL SEA
Total/NA	Analysis	SM 5310B		1	187561	04/22/15 21:59	RSB	TAL SEA

Lab Chronicle

Client: Leidos, Inc.

Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

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Certification Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-15
Arizona	State Program	9	AZ0473	05-05-16
Arkansas DEQ	State Program	6	88-0737	04-25-16
California	State Program	9	2938	10-31-16
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Illinois	NELAP	5	200010	12-09-15
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	05-31-15
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-15
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-16
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-15
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-16
North Carolina (WW/SW)	State Program	4	387	12-31-15
North Dakota	State Program	8	R-146	06-30-15
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-27-16
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-15
South Carolina	State Program	4	84009 (001)	02-28-16
South Carolina (DW)	State Program	4	84009 (002)	02-23-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15

TestAmerica Seattle

Certification Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Laboratory: TestAmerica Nashville (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-16
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15



Sample Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48966-1	HC-SF-20150413-W	Water	04/13/15 19:35	04/14/15 07:49
580-48966-2	HC-NF-20150413-W	Water	04/13/15 20:10	04/14/15 07:49

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Chain of Custody Record & Laboratory Analysis Request



488866

Assigned Number:	Turn-around Requested:	Page:	1	of	1
Client Company: Leidos	Phone: 425.254.0551	Date:		Ice Present?	
Client Contact: Corey Wilson		No. of Coolers:		Cooler Temp:	
Client Project Name: NPDES Sampling Support					
Client Project #: P010163427	Samplers: Corey Wilson Alex Swanson	Analytical Procedures Incorporated 10000 200th Ave NE Bellevue, WA 98004 (206) 835-8000			

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested						Notes/Comments	
					SPOCs 8270D	Metals 200.8/7470A	pH SM4520H SC 100.1 hours Alkalinity SM2200	TOC SM5310B	DOC SM5310B	TSS 2540D		Hexavalent Chrom EPA 8270
HC-SE-20150413-W	4/13/15	1935	Water	11	✓	✓	✓	✓	✓	✓	✓	
HC-NF-10-20150413-W	4/13/15	2010	Water	12	✓	✓	✓	✓	✓	✓	✓	
Relinquished by: (Signature) Received by: (Signature) Printed Name: Corey Wilson Printed Name: Francis C. Lynch, Jr. Company: Leidos Company: TFS/EH												
Relinquished by: (Signature) Received by: (Signature) Printed Name: Francis C. Lynch, Jr. Printed Name: Corey Wilson Company: TFS/EH Company: Leidos												
Date & Time: 4/14/15 07:49 Date & Time: 4/14/15 07:49												



580-48966 Chain of Custody

4/13/15

IN 1
 Cooler/FB Dig/R cor 6.5 unc 6.19 °C
 Cooler Dsc Lc 8.4/dk/lab 0540
 Wet/Packs Packing 6.6/1.2
 v/c's LC
 I 1
 I 21
 Cooler/FB Dig/R cor 2.0 unc 1.9 °C
 Cooler Dsc Lc 8.4/dk/lab 0540
 Wet/Packs Packing 6.6/1.2
 v/c's LC

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 580-48966-1

Login Number: 48966

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 580-48966-1

Login Number: 48966

List Number: 2

Creator: Ford, Easton

List Source: TestAmerica Nashville

List Creation: 04/15/15 01:46 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-48966-2

Client Project/Site: NPDES Sampling Support

For:

Leidos, Inc.
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

Attn: Iris Winstanley

Kristine D. Allen

Authorized for release by:
5/28/2015 12:27:25 PM

Kristine Allen, Manager of Project Management
(253)248-4970
kristine.allen@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Job ID: 580-48966-2

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-48966-2

Comments

No additional comments.

Receipt

The samples were received on 4/14/2015 7:49 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 6.5° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: HC-SF-20150413-W (580-48966-1) and HC-NF-20150413-W (580-48966-2). The samples were received at a temperature of 6.5°C.

The following samples HC-SF-20150413-W (580-48966-1) and HC-NF-20150413-W (580-48966-2) were activated for Dissolved 200.8 and 245.1 analysis by the client on 5/19/2015. This analysis was not originally requested on the chain-of-custody (COC). The mercury analysis will be performed outside of holding time.

Metals

Method(s) 245.1: The following samples were analyzed outside of holding time: HC-SF-20150413-W (580-48966-1) and HC-NF-20150413-W (580-48966-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Qualifiers

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Client Sample ID: HC-SF-20150413-W

Lab Sample ID: 580-48966-1

Date Collected: 04/13/15 19:35

Matrix: Water

Date Received: 04/14/15 07:49

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00081	J	0.0010	0.00027	mg/L		05/26/15 15:38	05/27/15 21:31	1
Antimony	0.00028	J	0.00040	0.000080	mg/L		05/26/15 15:38	05/27/15 21:31	1
Beryllium	ND		0.00040	0.00010	mg/L		05/26/15 15:38	05/27/15 21:31	1
Cadmium	ND		0.00040	0.000028	mg/L		05/26/15 15:38	05/27/15 21:31	1
Chromium	0.00026	J	0.00040	0.00014	mg/L		05/26/15 15:38	05/27/15 21:31	1
Copper	0.0022		0.0020	0.00060	mg/L		05/26/15 15:38	05/27/15 21:31	1
Lead	0.000059	J	0.00040	0.000034	mg/L		05/26/15 15:38	05/27/15 21:31	1
Nickel	0.00099	J	0.0030	0.00040	mg/L		05/26/15 15:38	05/27/15 21:31	1
Selenium	ND		0.0010	0.00030	mg/L		05/26/15 15:38	05/27/15 21:31	1
Silver	ND		0.00040	0.000030	mg/L		05/26/15 15:38	05/27/15 21:31	1
Thallium	ND		0.0010	0.00014	mg/L		05/26/15 15:38	05/27/15 21:31	1
Zinc	0.0062	J	0.0070	0.0019	mg/L		05/26/15 15:38	05/27/15 21:31	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000044	J H	0.00020	0.000041	mg/L		05/26/15 11:59	05/26/15 16:09	1

Client Sample Results

Client: Leidos, Inc.
 Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Client Sample ID: HC-NF-20150413-W

Lab Sample ID: 580-48966-2

Date Collected: 04/13/15 20:10

Matrix: Water

Date Received: 04/14/15 07:49

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011		0.0010	0.00027	mg/L		05/26/15 15:38	05/27/15 22:13	1
Antimony	0.00098		0.00040	0.000080	mg/L		05/26/15 15:38	05/27/15 22:13	1
Beryllium	ND		0.00040	0.00010	mg/L		05/26/15 15:38	05/27/15 22:13	1
Cadmium	ND		0.00040	0.000028	mg/L		05/26/15 15:38	05/27/15 22:13	1
Chromium	0.0010		0.00040	0.00014	mg/L		05/26/15 15:38	05/27/15 22:13	1
Copper	0.0049		0.0020	0.00060	mg/L		05/26/15 15:38	05/27/15 22:13	1
Lead	0.00018	J	0.00040	0.000034	mg/L		05/26/15 15:38	05/27/15 22:13	1
Nickel	0.0013	J	0.0030	0.00040	mg/L		05/26/15 15:38	05/27/15 22:13	1
Selenium	ND		0.0010	0.00030	mg/L		05/26/15 15:38	05/27/15 22:13	1
Silver	ND		0.00040	0.000030	mg/L		05/26/15 15:38	05/27/15 22:13	1
Thallium	ND		0.0010	0.00014	mg/L		05/26/15 15:38	05/27/15 22:13	1
Zinc	0.11		0.0070	0.0019	mg/L		05/26/15 15:38	05/27/15 22:13	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00011	J H	0.00020	0.000041	mg/L		05/26/15 11:59	05/26/15 16:11	1

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: LCS 580-190359/11-A
Matrix: Water
Analysis Batch: 190580

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190359
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.100	0.0938		mg/L		94	85 - 115
Antimony	0.100	0.0977		mg/L		98	85 - 115
Beryllium	0.100	0.0952		mg/L		95	85 - 115
Cadmium	0.100	0.0967		mg/L		97	85 - 115
Chromium	0.100	0.0964		mg/L		96	85 - 115
Copper	0.100	0.0957		mg/L		96	85 - 115
Lead	0.100	0.0967		mg/L		97	85 - 115
Nickel	0.100	0.0961		mg/L		96	85 - 115
Selenium	0.100	0.0936		mg/L		94	85 - 115
Silver	0.100	0.0958		mg/L		96	85 - 115
Thallium	0.100	0.0977		mg/L		98	85 - 115
Zinc	0.100	0.0942		mg/L		94	85 - 115

Lab Sample ID: LCSD 580-190359/12-A
Matrix: Water
Analysis Batch: 190580

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190359
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	0.100	0.0958		mg/L		96	85 - 115	2	20
Antimony	0.100	0.0985		mg/L		98	85 - 115	1	20
Beryllium	0.100	0.0958		mg/L		96	85 - 115	1	20
Cadmium	0.100	0.0987		mg/L		99	85 - 115	2	20
Chromium	0.100	0.0976		mg/L		98	85 - 115	1	20
Copper	0.100	0.0980		mg/L		98	85 - 115	2	20
Lead	0.100	0.0972		mg/L		97	85 - 115	1	20
Nickel	0.100	0.0978		mg/L		98	85 - 115	2	20
Selenium	0.100	0.0956		mg/L		96	85 - 115	2	20
Silver	0.100	0.0975		mg/L		97	85 - 115	2	20
Thallium	0.100	0.0986		mg/L		99	85 - 115	1	20
Zinc	0.100	0.0954		mg/L		95	85 - 115	1	20

Lab Sample ID: MB 580-189859/5-B
Matrix: Water
Analysis Batch: 190580

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 190359

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00027	mg/L		05/26/15 15:38	05/27/15 21:22	1
Antimony	ND		0.00040	0.000080	mg/L		05/26/15 15:38	05/27/15 21:22	1
Beryllium	ND		0.00040	0.00010	mg/L		05/26/15 15:38	05/27/15 21:22	1
Cadmium	ND		0.00040	0.000028	mg/L		05/26/15 15:38	05/27/15 21:22	1
Chromium	ND		0.00040	0.00014	mg/L		05/26/15 15:38	05/27/15 21:22	1
Copper	ND		0.0020	0.00060	mg/L		05/26/15 15:38	05/27/15 21:22	1
Lead	ND		0.00040	0.000034	mg/L		05/26/15 15:38	05/27/15 21:22	1
Nickel	ND		0.0030	0.00040	mg/L		05/26/15 15:38	05/27/15 21:22	1
Selenium	ND		0.0010	0.00030	mg/L		05/26/15 15:38	05/27/15 21:22	1
Silver	ND		0.00040	0.000030	mg/L		05/26/15 15:38	05/27/15 21:22	1
Thallium	ND		0.0010	0.00014	mg/L		05/26/15 15:38	05/27/15 21:22	1
Zinc	ND		0.0070	0.0019	mg/L		05/26/15 15:38	05/27/15 21:22	1

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-48966-1 MS

Matrix: Water

Analysis Batch: 190580

Client Sample ID: HC-SF-20150413-W

Prep Type: Dissolved

Prep Batch: 190359

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Arsenic	0.00081	J	0.100	0.0987		mg/L		98	70 - 130
Antimony	0.00028	J	0.100	0.102		mg/L		101	70 - 130
Beryllium	ND		0.100	0.0976		mg/L		98	70 - 130
Cadmium	ND		0.100	0.100		mg/L		100	70 - 130
Chromium	0.00026	J	0.100	0.0987		mg/L		98	70 - 130
Copper	0.0022		0.100	0.100		mg/L		98	70 - 130
Lead	0.000059	J	0.100	0.0993		mg/L		99	70 - 130
Nickel	0.00099	J	0.100	0.0994		mg/L		98	70 - 130
Selenium	ND		0.100	0.0978		mg/L		98	70 - 130
Silver	ND		0.100	0.0991		mg/L		99	70 - 130
Thallium	ND		0.100	0.100		mg/L		100	70 - 130
Zinc	0.0062	J	0.100	0.102		mg/L		96	70 - 130

Lab Sample ID: 580-48966-1 MSD

Matrix: Water

Analysis Batch: 190580

Client Sample ID: HC-SF-20150413-W

Prep Type: Dissolved

Prep Batch: 190359

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Arsenic	0.00081	J	0.100	0.0981		mg/L		97	70 - 130	1	20
Antimony	0.00028	J	0.100	0.102		mg/L		102	70 - 130	1	20
Beryllium	ND		0.100	0.0992		mg/L		99	70 - 130	2	20
Cadmium	ND		0.100	0.102		mg/L		102	70 - 130	1	20
Chromium	0.00026	J	0.100	0.0982		mg/L		98	70 - 130	1	20
Copper	0.0022		0.100	0.101		mg/L		99	70 - 130	0	20
Lead	0.000059	J	0.100	0.0987		mg/L		99	70 - 130	1	20
Nickel	0.00099	J	0.100	0.0985		mg/L		97	70 - 130	1	20
Selenium	ND		0.100	0.0968		mg/L		97	70 - 130	1	20
Silver	ND		0.100	0.101		mg/L		101	70 - 130	1	20
Thallium	ND		0.100	0.100		mg/L		100	70 - 130	0	20
Zinc	0.0062	J	0.100	0.102		mg/L		96	70 - 130	0	20

Lab Sample ID: 580-48966-1 DU

Matrix: Water

Analysis Batch: 190580

Client Sample ID: HC-SF-20150413-W

Prep Type: Dissolved

Prep Batch: 190359

Analyte	Sample	Sample	DU		Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Arsenic	0.00081	J	0.000788	J	mg/L		3	20
Antimony	0.00028	J	0.000260	J	mg/L		9	20
Beryllium	ND		ND		mg/L		NC	20
Cadmium	ND		ND		mg/L		NC	20
Chromium	0.00026	J	0.000329	J F5	mg/L		24	20
Copper	0.0022		0.00222		mg/L		2	20
Lead	0.000059	J	0.0000559	J	mg/L		5	20
Nickel	0.00099	J	0.000985	J	mg/L		0.4	20
Selenium	ND		ND		mg/L		NC	20
Silver	ND		ND		mg/L		NC	20
Thallium	ND		ND		mg/L		NC	20
Zinc	0.0062	J	0.00615	J	mg/L		0	20

TestAmerica Seattle

QC Sample Results

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 580-190301/14-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190301

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		05/26/15 11:59	05/26/15 15:25	1

Lab Sample ID: LCS 580-190301/15-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190301

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00200	0.00210		mg/L		105	85 - 115

Lab Sample ID: LCSD 580-190301/16-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190301

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00200	0.00205		mg/L		102	85 - 115	3	20

Lab Chronicle

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Client Sample ID: HC-SF-20150413-W

Date Collected: 04/13/15 19:35

Date Received: 04/14/15 07:49

Lab Sample ID: 580-48966-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			189859	05/19/15 16:39	PAB	TAL SEA
Dissolved	Prep	200.8			190359	05/26/15 15:38	PAB	TAL SEA
Dissolved	Analysis	200.8		1	190580	05/27/15 21:31	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			189859	05/19/15 16:39	PAB	TAL SEA
Dissolved	Prep	245.1			190301	05/26/15 11:59	PAB	TAL SEA
Dissolved	Analysis	245.1		1	190402	05/26/15 16:09	FCW	TAL SEA

Client Sample ID: HC-NF-20150413-W

Date Collected: 04/13/15 20:10

Date Received: 04/14/15 07:49

Lab Sample ID: 580-48966-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			189859	05/19/15 16:39	PAB	TAL SEA
Dissolved	Prep	200.8			190359	05/26/15 15:38	PAB	TAL SEA
Dissolved	Analysis	200.8		1	190580	05/27/15 22:13	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			189859	05/19/15 16:39	PAB	TAL SEA
Dissolved	Prep	245.1			190301	05/26/15 11:59	PAB	TAL SEA
Dissolved	Analysis	245.1		1	190402	05/26/15 16:11	FCW	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

Sample Summary

Client: Leidos, Inc.
Project/Site: NPDES Sampling Support

TestAmerica Job ID: 580-48966-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48966-1	HC-SF-20150413-W	Water	04/13/15 19:35	04/14/15 07:49
580-48966-2	HC-NF-20150413-W	Water	04/13/15 20:10	04/14/15 07:49

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

Chain of Custody Record & Laboratory Analysis Request



4888 W6

Assigned Number: _____ Turn-around Requested: Standard

Client Company: Leidos Phone: 425.254.0551

Client Contact: Cory Wilson

Client Project Name: NPDES Sampling Support

Client Project #: P010163427 Samplers: Cory Wilson Alex Swanson

Page: 1 of 1

Date: _____ Ice Present? _____

No. of Coolers: _____ Cooler Temp: _____

Analysis Requested: TOC SM5510B DOC SM5510B TSS 2540D Hexavalent Chrome EPA 8270 PCB Aroclors EPA 8082

Notes/Comments: _____

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested	Notes/Comments
HC-SF-20150413-W	4/13/15	1935	Water	11	TOC SM5510B	IN 1 Cooler FB Dig/R cor 6.5 unc 6.19 Cooler Dsc Lc Rad/ky@Lab 0540 Wet/Packs Packing 6461e
HC-NF-10-20150413-W	4/13/15	2010	Water	12	DOC SM5510B	IN 1 Cooler FB Dig/R cor 2.0 unc 1.9 Cooler Dsc Lc Blw/ky@Lab 0540 Wet/Packs Packing 6461e

580-48966 Chain of Custody

Relinquished by: [Signature] Received by: [Signature]

Printed Name: Cory Wilson Printed Name: FRANISCO LUNA, J

Company: Leidos Company: TH SEH

Date & Time: 4/14/15 0749 Date & Time: 4/14/15 0749

Comments/Special Instructions

Relinquished by: _____ Received by: _____

Printed Name: _____ Printed Name: _____

Company: _____ Company: _____

Date & Time: _____ Date & Time: _____

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 580-48966-2

Login Number: 48966

List Source: TestAmerica Seattle

List Number: 1

Creator: Abello, Andrea N

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



April 10, 2015

Vista Project I.D.: 1500280

Ms. Iris Winstanley
Leidos
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Dear Ms. Winstanley,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on March 27, 2015. This sample set was analyzed on a standard turn-around time, under your Project Name '1400647'. The work was authorized under your Purchase Order No. PO10163569.

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 NELAC 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 Work Order No. 1500280

Case Narrative

Sample Condition on Receipt:

Two aqueous and six 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 1613

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

These samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

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

EPA Method 1668C

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668C using a ZB-1 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. PCB-11 was found at 4.05 pg/g in the method blank which is above the method quantitation limit. No other analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

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

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1500280-01	96-ST3-20150326-S	26-Mar-15 10:30	27-Mar-15 07:19	Teflon Container Teflon Container
1500280-02	96-ST2-20150326-S	26-Mar-15 12:15	27-Mar-15 07:19	Teflon Container Teflon Container
1500280-03	96-ST1-20150326-S	26-Mar-15 13:40	27-Mar-15 07:19	Teflon Container Teflon Container
1500280-04	HC-ST1-20150326-S	26-Mar-15 14:02	27-Mar-15 07:19	Teflon Container Teflon Container
1500280-05	HC-SF-20150326-S	26-Mar-15 14:40	27-Mar-15 07:19	Amber Glass, 250mL
1500280-06	HC-NF-10-20150326-S	26-Mar-15 15:20	27-Mar-15 07:19	Amber Glass, 250mL
1500280-07	96-ST2-20150326-W	26-Mar-15 11:50	27-Mar-15 07:19	Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L
1500280-08	HC-NF-10-20150326-W	26-Mar-15 15:40	27-Mar-15 07:19	Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L

ANALYTICAL RESULTS

Sample ID: Method Blank							EPA Method 1613B				
Matrix: Solid Sample Size: 10.0 g			QC Batch: B5C0140 Date Extracted: 31-Mar-2015 10:34			Lab Sample: B5C0140-BLK1 Date Analyzed: 02-Apr-15 18:31 Column: ZB-5MS Analyst: MAS					
Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	0.500	0.161		0.0778		IS 13C-2,3,7,8-TCDD	65.5	25 - 164		
1,2,3,7,8-PeCDD	ND	2.50	0.0804		0.230		13C-1,2,3,7,8-PeCDD	63.5	25 - 181		
1,2,3,4,7,8-HxCDD	ND	2.50	0.314		0.231		13C-1,2,3,4,7,8-HxCDD	71.9	32 - 141		
1,2,3,6,7,8-HxCDD	ND	2.50	0.321		0.126		13C-1,2,3,6,7,8-HxCDD	72.5	28 - 130		
1,2,3,7,8,9-HxCDD	ND	2.50	0.322		0.173		13C-1,2,3,7,8,9-HxCDD	74.0	32 - 141		
1,2,3,4,6,7,8-HpCDD	ND	2.50	0.233		0.263		13C-1,2,3,4,6,7,8-HpCDD	78.7	23 - 140		
OCDD	ND	5.00	0.397		0.167		13C-OCDD	62.6	17 - 157		
2,3,7,8-TCDF	ND	0.500	0.0798		0.0289		13C-2,3,7,8-TCDF	58.7	24 - 169		
1,2,3,7,8-PeCDF	ND	2.50	0.0692		0.254		13C-1,2,3,7,8-PeCDF	66.5	24 - 185		
2,3,4,7,8-PeCDF	ND	2.50	0.0708		0.211		13C-2,3,4,7,8-PeCDF	66.0	21 - 178		
1,2,3,4,7,8-HxCDF	ND	2.50	0.0747		0.154		13C-1,2,3,4,7,8-HxCDF	73.1	26 - 152		
1,2,3,6,7,8-HxCDF	ND	2.50	0.0731		0.195		13C-1,2,3,6,7,8-HxCDF	74.7	26 - 123		
2,3,4,6,7,8-HxCDF	ND	2.50	0.0500		0.0805		13C-2,3,4,6,7,8-HxCDF	72.3	28 - 136		
1,2,3,7,8,9-HxCDF	ND	2.50	0.0692		0.195		13C-1,2,3,7,8,9-HxCDF	77.5	29 - 147		
1,2,3,4,6,7,8-HpCDF	ND	2.50	0.132		0.230		13C-1,2,3,4,6,7,8-HpCDF	77.4	28 - 143		
1,2,3,4,7,8,9-HpCDF	ND	2.50	0.0814		0.211		13C-1,2,3,4,7,8,9-HpCDF	75.7	26 - 138		
OCDF	ND	5.00	0.186		0.470		13C-OCDF	66.3	17 - 157		
							CRS 37Cl-2,3,7,8-TCDD	73.1	35 - 197		
							Toxic Equivalent Quotient (TEQ) Data				
							TEQMinWHO2005Dioxin		0.00		
TOTALS											
Total TCDD	ND		0.161								
Total PeCDD	ND		0.117								
Total HxCDD	ND		0.623								
Total HpCDD	ND		0.233								
Total TCDF	ND		0.0798								
Total PeCDF	ND		0.106								
Total HxCDF	ND		0.0887								
Total HpCDF	ND		0.135								

DL - Sample specific estimated detection limit

MDL - Method detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

RL - Reporting limit

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

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

Sample ID: OPR					EPA Method 1613B		
Matrix: Solid	QC Batch: B5C0140	Lab Sample: B5C0140-BS1					
Sample Size: 10.0 g	Date Extracted: 31-Mar-2015 10:34	Date Analyzed: 02-Apr-15 16:55	Column: ZB-5MS	Analyst: MAS			
Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	18.8	20.0	94.0	67 - 158	IS 13C-2,3,7,8-TCDD	82.5	20 - 175
1,2,3,7,8-PeCDD	102	100	102	70 - 142	13C-1,2,3,7,8-PeCDD	81.5	21 - 227
1,2,3,4,7,8-HxCDD	111	100	111	70 - 164	13C-1,2,3,4,7,8-HxCDD	79.7	21 - 193
1,2,3,6,7,8-HxCDD	109	100	109	76 - 134	13C-1,2,3,6,7,8-HxCDD	80.1	25 - 163
1,2,3,7,8,9-HxCDD	106	100	106	64 - 162	13C-1,2,3,7,8,9-HxCDD	83.8	21 - 193
1,2,3,4,6,7,8-HpCDD	104	100	104	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	87.2	26 - 166
OCDD	215	200	108	78 - 144	13C-OCDD	66.4	13 - 199
2,3,7,8-TCDF	19.8	20.0	99.1	75 - 158	13C-2,3,7,8-TCDF	82.7	22 - 152
1,2,3,7,8-PeCDF	106	100	106	80 - 134	13C-1,2,3,7,8-PeCDF	81.0	21 - 192
2,3,4,7,8-PeCDF	109	100	109	68 - 160	13C-2,3,4,7,8-PeCDF	84.2	13 - 328
1,2,3,4,7,8-HxCDF	108	100	108	72 - 134	13C-1,2,3,4,7,8-HxCDF	81.9	19 - 202
1,2,3,6,7,8-HxCDF	107	100	107	84 - 130	13C-1,2,3,6,7,8-HxCDF	83.6	21 - 159
2,3,4,6,7,8-HxCDF	107	100	107	70 - 156	13C-2,3,4,6,7,8-HxCDF	78.1	22 - 176
1,2,3,7,8,9-HxCDF	108	100	108	78 - 130	13C-1,2,3,7,8,9-HxCDF	84.7	17 - 205
1,2,3,4,6,7,8-HpCDF	108	100	108	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	88.2	21 - 158
1,2,3,4,7,8,9-HpCDF	110	100	110	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	80.7	20 - 186
OCDF	209	200	105	63 - 170	13C-OCDF	73.7	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	94.5	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: 96-ST3-20150326-S **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Sediment	Lab Sample: 1500280-01 Date Received: 27-Mar-2015 7:19
Project: 1400647	Sample Size: 97.5 g	QC Batch: B5C0140 Date Extracted: 31-Mar-2015 10:34
Date Collected: 26-Mar-2015 10:30	% Solids: 3.85	Date Analyzed : 02-Apr-15 22:33 Column: ZB-5MS Analyst: MAS 08-Apr-15 16:18 Column: DB-225 Analyst: CVG

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	5.30	1.33			0.0778		IS 13C-2,3,7,8-TCDD	88.4	25 - 164	
1,2,3,7,8-PeCDD	10.5	6.67			0.230		13C-1,2,3,7,8-PeCDD	83.3	25 - 181	
1,2,3,4,7,8-HxCDD	17.7	6.67			0.231		13C-1,2,3,4,7,8-HxCDD	87.8	32 - 141	
1,2,3,6,7,8-HxCDD	45.1	6.67			0.126		13C-1,2,3,6,7,8-HxCDD	88.2	28 - 130	
1,2,3,7,8,9-HxCDD	34.9	6.67			0.173		13C-1,2,3,7,8,9-HxCDD	91.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	1060	6.67			0.263		13C-1,2,3,4,6,7,8-HpCDD	101	23 - 140	
OCDD	9690	13.3			0.167		13C-OCDD	76.8	17 - 157	
2,3,7,8-TCDF	14.1	1.33			0.0289		13C-2,3,7,8-TCDF	91.9	24 - 169	
1,2,3,7,8-PeCDF	8.46	6.67			0.254		13C-1,2,3,7,8-PeCDF	87.4	24 - 185	
2,3,4,7,8-PeCDF	13.1	6.67			0.211		13C-2,3,4,7,8-PeCDF	89.5	21 - 178	
1,2,3,4,7,8-HxCDF	19.6	6.67			0.154		13C-1,2,3,4,7,8-HxCDF	88.3	26 - 152	
1,2,3,6,7,8-HxCDF	15.6	6.67			0.195		13C-1,2,3,6,7,8-HxCDF	90.7	26 - 123	
2,3,4,6,7,8-HxCDF	20.3	6.67			0.0805		13C-2,3,4,6,7,8-HxCDF	86.2	28 - 136	
1,2,3,7,8,9-HxCDF	2.54	6.67			0.195	J	13C-1,2,3,7,8,9-HxCDF	94.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	259	6.67			0.230		13C-1,2,3,4,6,7,8-HpCDF	97.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	14.8	6.67			0.211		13C-1,2,3,4,7,8,9-HpCDF	95.0	26 - 138	
OCDF	517	13.3			0.470		13C-OCDF	82.2	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	98.9	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	53.4
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TOTALS			
Total TCDD	89.7		99.4
Total PeCDD	141		
Total HxCDD	396		
Total HpCDD	1980		
Total TCDF	320		322
Total PeCDF	317		
Total HxCDF	383		
Total HpCDF	639		

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

Sample ID: 96-ST2-20150326-S **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Sediment	Lab Sample: 1500280-02 Date Received: 27-Mar-2015 7:19
Project: 1400647	Sample Size: 31.2 g	QC Batch: B5C0140 Date Extracted: 31-Mar-2015 10:34
Date Collected: 26-Mar-2015 12:15	% Solids: 32.0	Date Analyzed: 02-Apr-15 19:20 Column: ZB-5MS Analyst: MAS 08-Apr-15 16:51 Column: DB-225 Analyst: CVG

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	9.96	0.500			0.0778		IS 13C-2,3,7,8-TCDD	86.0	25 - 164	
1,2,3,7,8-PeCDD	28.1	2.50			0.230		13C-1,2,3,7,8-PeCDD	80.8	25 - 181	
1,2,3,4,7,8-HxCDD	12.0	2.50			0.231		13C-1,2,3,4,7,8-HxCDD	84.5	32 - 141	
1,2,3,6,7,8-HxCDD	50.2	2.50			0.126		13C-1,2,3,6,7,8-HxCDD	84.4	28 - 130	
1,2,3,7,8,9-HxCDD	51.9	2.50			0.173		13C-1,2,3,7,8,9-HxCDD	88.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	747	2.50			0.263		13C-1,2,3,4,6,7,8-HpCDD	93.5	23 - 140	
OCDD	6140	5.00			0.167	E	13C-OCDD	71.4	17 - 157	
2,3,7,8-TCDF	2.18	0.500			0.0289		13C-2,3,7,8-TCDF	90.0	24 - 169	
1,2,3,7,8-PeCDF	2.38	2.50			0.254	J	13C-1,2,3,7,8-PeCDF	85.5	24 - 185	
2,3,4,7,8-PeCDF	2.27	2.50			0.211	J	13C-2,3,4,7,8-PeCDF	88.6	21 - 178	
1,2,3,4,7,8-HxCDF	8.90	2.50			0.154		13C-1,2,3,4,7,8-HxCDF	86.2	26 - 152	
1,2,3,6,7,8-HxCDF	5.66	2.50			0.195		13C-1,2,3,6,7,8-HxCDF	86.6	26 - 123	
2,3,4,6,7,8-HxCDF	7.15	2.50			0.0805		13C-2,3,4,6,7,8-HxCDF	81.8	28 - 136	
1,2,3,7,8,9-HxCDF	1.05	2.50			0.195	J	13C-1,2,3,7,8,9-HxCDF	88.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	85.2	2.50			0.230		13C-1,2,3,4,6,7,8-HpCDF	89.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	5.82	2.50			0.211		13C-1,2,3,4,7,8,9-HpCDF	88.3	26 - 138	
OCDF	159	5.00			0.470		13C-OCDF	75.9	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	101	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	63.0
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TOTALS	
Total TCDD	39.5
Total PeCDD	137
Total HxCDD	529
Total HpCDD	1520
Total TCDF	38.2
Total PeCDF	73.8
Total HxCDF	170
Total HpCDF	255
	74.2

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

Sample ID: 96-ST1-20150326-S **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Sediment	Lab Sample: 1500280-03 Date Received: 27-Mar-2015 7:19
Project: 1400647	Sample Size: 100 g	QC Batch: B5C0140 Date Extracted: 31-Mar-2015 10:34
Date Collected: 26-Mar-2015 13:40	% Solids: 10.0	Date Analyzed: 02-Apr-15 23:21 Column: ZB-5MS Analyst: MAS
		09-Apr-15 11:08 Column: DB-225 Analyst: CVG

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	1.67	0.498			0.0778		IS 13C-2,3,7,8-TCDD	85.1	25 - 164	
1,2,3,7,8-PeCDD	5.94	2.49			0.230		13C-1,2,3,7,8-PeCDD	76.2	25 - 181	
1,2,3,4,7,8-HxCDD	10.3	2.49			0.231		13C-1,2,3,4,7,8-HxCDD	85.9	32 - 141	
1,2,3,6,7,8-HxCDD	27.9	2.49			0.126		13C-1,2,3,6,7,8-HxCDD	83.5	28 - 130	
1,2,3,7,8,9-HxCDD	22.0	2.49			0.173		13C-1,2,3,7,8,9-HxCDD	83.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	700	2.49			0.263		13C-1,2,3,4,6,7,8-HpCDD	95.1	23 - 140	
OCDD	8410	4.98			0.167	E	13C-OCDD	70.0	17 - 157	
2,3,7,8-TCDF	3.65	0.498			0.0289		13C-2,3,7,8-TCDF	90.7	24 - 169	
1,2,3,7,8-PeCDF	2.84	2.49			0.254		13C-1,2,3,7,8-PeCDF	82.2	24 - 185	
2,3,4,7,8-PeCDF	3.19	2.49			0.211		13C-2,3,4,7,8-PeCDF	83.0	21 - 178	
1,2,3,4,7,8-HxCDF	9.77	2.49			0.154		13C-1,2,3,4,7,8-HxCDF	80.3	26 - 152	
1,2,3,6,7,8-HxCDF	7.80	2.49			0.195		13C-1,2,3,6,7,8-HxCDF	84.0	26 - 123	
2,3,4,6,7,8-HxCDF	9.71	2.49			0.0805		13C-2,3,4,6,7,8-HxCDF	80.7	28 - 136	
1,2,3,7,8,9-HxCDF	1.05	2.49			0.195	J	13C-1,2,3,7,8,9-HxCDF	91.2	29 - 147	
1,2,3,4,6,7,8-HpCDF	162	2.49			0.230		13C-1,2,3,4,6,7,8-HpCDF	89.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	8.10	2.49			0.211		13C-1,2,3,4,7,8,9-HpCDF	89.8	26 - 138	
OCDF	424	4.98			0.470		13C-OCDF	75.0	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	100	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin 29.2

TOTALS		
Total TCDD	24.3	25.9
Total PeCDD	52.9	
Total HxCDD	225	
Total HpCDD	1350	
Total TCDF	70.5	71.2
Total PeCDF	92.2	92.4
Total HxCDF	193	
Total HpCDF	439	

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

Sample ID: HC-ST1-20150326-S **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Sediment	Lab Sample: 1500280-04 Date Received: 27-Mar-2015 7:19
Project: 1400647	Sample Size: 19.5 g	QC Batch: B5C0140 Date Extracted: 31-Mar-2015 10:34
Date Collected: 26-Mar-2015 14:02	% Solids: 51.5	Date Analyzed: 02-Apr-15 20:08 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.499		0.153	0.0778		IS 13C-2,3,7,8-TCDD	91.6	25 - 164	
1,2,3,7,8-PeCDD	0.293	2.50			0.230	J	13C-1,2,3,7,8-PeCDD	86.5	25 - 181	
1,2,3,4,7,8-HxCDD	0.284	2.50			0.231	J	13C-1,2,3,4,7,8-HxCDD	90.7	32 - 141	
1,2,3,6,7,8-HxCDD	1.08	2.50			0.126	J	13C-1,2,3,6,7,8-HxCDD	90.1	28 - 130	
1,2,3,7,8,9-HxCDD	0.796	2.50			0.173	J	13C-1,2,3,7,8,9-HxCDD	91.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	19.1	2.50			0.263		13C-1,2,3,4,6,7,8-HpCDD	96.6	23 - 140	
OCDD	173	4.99			0.167		13C-OCDD	71.1	17 - 157	
2,3,7,8-TCDF	0.245	0.499			0.0289	J	13C-2,3,7,8-TCDF	91.0	24 - 169	
1,2,3,7,8-PeCDF	ND	2.50		0.123	0.254		13C-1,2,3,7,8-PeCDF	90.9	24 - 185	
2,3,4,7,8-PeCDF	0.178	2.50			0.211	J	13C-2,3,4,7,8-PeCDF	93.2	21 - 178	
1,2,3,4,7,8-HxCDF	0.372	2.50			0.154	J	13C-1,2,3,4,7,8-HxCDF	88.4	26 - 152	
1,2,3,6,7,8-HxCDF	0.293	2.50			0.195	J	13C-1,2,3,6,7,8-HxCDF	91.9	26 - 123	
2,3,4,6,7,8-HxCDF	0.379	2.50			0.0805	J	13C-2,3,4,6,7,8-HxCDF	87.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	2.50	0.103		0.195		13C-1,2,3,7,8,9-HxCDF	94.0	29 - 147	
1,2,3,4,6,7,8-HpCDF	4.70	2.50			0.230		13C-1,2,3,4,6,7,8-HpCDF	96.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	2.50		0.300	0.211		13C-1,2,3,4,7,8,9-HpCDF	93.9	26 - 138	
OCDF	14.0	4.99			0.470		13C-OCDF	78.5	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	102	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin 0.985

TOTALS	
Total TCDD	0.992
Total PeCDD	2.41
Total HxCDD	8.56
Total HpCDD	37.3
Total TCDF	3.44
Total PeCDF	4.64
Total HxCDF	6.71
Total HpCDF	13.5
	13.8

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

Sample ID: HC-SF-20150326-S **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Sediment	Lab Sample: 1500280-05 Date Received: 27-Mar-2015 7:19
Project: 1400647	Sample Size: 17.9 g	QC Batch: B5C0140 Date Extracted: 31-Mar-2015 10:34
Date Collected: 26-Mar-2015 14:40	% Solids: 57.5	Date Analyzed: 02-Apr-15 20:56 Column: ZB-5MS Analyst: MAS 08-Apr-15 17:55 Column: DB-225 Analyst: CVG

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.487		0.250	0.0778		IS 13C-2,3,7,8-TCDD	93.4	25 - 164	
1,2,3,7,8-PeCDD	0.815	2.44			0.230	J	13C-1,2,3,7,8-PeCDD	85.9	25 - 181	
1,2,3,4,7,8-HxCDD	1.07	2.44			0.231	J	13C-1,2,3,4,7,8-HxCDD	90.8	32 - 141	
1,2,3,6,7,8-HxCDD	3.17	2.44			0.126		13C-1,2,3,6,7,8-HxCDD	89.8	28 - 130	
1,2,3,7,8,9-HxCDD	2.19	2.44			0.173	J	13C-1,2,3,7,8,9-HxCDD	90.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	59.0	2.44			0.263		13C-1,2,3,4,6,7,8-HpCDD	97.7	23 - 140	
OCDD	505	4.87			0.167		13C-OCDD	73.5	17 - 157	
2,3,7,8-TCDF	0.623	0.487			0.0289		13C-2,3,7,8-TCDF	96.7	24 - 169	
1,2,3,7,8-PeCDF	0.471	2.44			0.254	J	13C-1,2,3,7,8-PeCDF	91.8	24 - 185	
2,3,4,7,8-PeCDF	0.576	2.44			0.211	J	13C-2,3,4,7,8-PeCDF	93.7	21 - 178	
1,2,3,4,7,8-HxCDF	1.13	2.44			0.154	J	13C-1,2,3,4,7,8-HxCDF	89.1	26 - 152	
1,2,3,6,7,8-HxCDF	0.738	2.44			0.195	J	13C-1,2,3,6,7,8-HxCDF	91.5	26 - 123	
2,3,4,6,7,8-HxCDF	0.985	2.44			0.0805	J	13C-2,3,4,6,7,8-HxCDF	87.5	28 - 136	
1,2,3,7,8,9-HxCDF	0.220	2.44			0.195	J	13C-1,2,3,7,8,9-HxCDF	94.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	13.2	2.44			0.230		13C-1,2,3,4,6,7,8-HpCDF	96.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	0.829	2.44			0.211	J	13C-1,2,3,4,7,8,9-HpCDF	92.1	26 - 138	
OCDF	28.4	4.87			0.470		13C-OCDF	79.0	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	103	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin 2.90

TOTALS										
Total TCDD	3.09			4.76						
Total PeCDD	6.20			7.42						
Total HxCDD	23.0									
Total HpCDD	111									
Total TCDF	12.7			13.0						
Total PeCDF	11.3			11.9						
Total HxCDF	20.6									
Total HpCDF	40.5									

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

Sample ID: HC-NF-10-20150326-S **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Sediment	Lab Sample: 1500280-06 Date Received: 27-Mar-2015 7:19
Project: 1400647	Sample Size: 12.9 g	QC Batch: B5C0140 Date Extracted: 31-Mar-2015 10:34
Date Collected: 26-Mar-2015 15:20	% Solids: 77.6	Date Analyzed: 02-Apr-15 21:45 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.499		0.357	0.0778		IS 13C-2,3,7,8-TCDD	95.7	25 - 164	
1,2,3,7,8-PeCDD	1.11	2.49			0.230	J	13C-1,2,3,7,8-PeCDD	85.0	25 - 181	
1,2,3,4,7,8-HxCDD	1.76	2.49			0.231	J	13C-1,2,3,4,7,8-HxCDD	88.0	32 - 141	
1,2,3,6,7,8-HxCDD	4.38	2.49			0.126		13C-1,2,3,6,7,8-HxCDD	90.2	28 - 130	
1,2,3,7,8,9-HxCDD	3.43	2.49			0.173		13C-1,2,3,7,8,9-HxCDD	88.4	32 - 141	
1,2,3,4,6,7,8-HpCDD	81.5	2.49			0.263		13C-1,2,3,4,6,7,8-HpCDD	94.7	23 - 140	
OCDD	665	4.99			0.167		13C-OCDD	69.2	17 - 157	
2,3,7,8-TCDF	ND	0.499		0.259	0.0289		13C-2,3,7,8-TCDF	94.4	24 - 169	
1,2,3,7,8-PeCDF	0.373	2.49			0.254	J	13C-1,2,3,7,8-PeCDF	90.7	24 - 185	
2,3,4,7,8-PeCDF	0.440	2.49			0.211	J	13C-2,3,4,7,8-PeCDF	93.8	21 - 178	
1,2,3,4,7,8-HxCDF	1.37	2.49			0.154	J	13C-1,2,3,4,7,8-HxCDF	89.3	26 - 152	
1,2,3,6,7,8-HxCDF	0.694	2.49			0.195	J	13C-1,2,3,6,7,8-HxCDF	92.2	26 - 123	
2,3,4,6,7,8-HxCDF	0.899	2.49			0.0805	J	13C-2,3,4,6,7,8-HxCDF	86.5	28 - 136	
1,2,3,7,8,9-HxCDF	0.295	2.49			0.195	J	13C-1,2,3,7,8,9-HxCDF	93.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	9.85	2.49			0.230		13C-1,2,3,4,6,7,8-HpCDF	95.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	0.624	2.49			0.211	J	13C-1,2,3,4,7,8,9-HpCDF	90.3	26 - 138	
OCDF	13.4	4.99			0.470		13C-OCDF	76.3	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	102	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	3.66
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TOTALS			
Total TCDD	1.24		1.70
Total PeCDD	4.84		4.99
Total HxCDD	28.5		
Total HpCDD	143		
Total TCDF	2.71		4.49
Total PeCDF	10.4		
Total HxCDF	23.1		
Total HpCDF	27.8		

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

Sample ID: Method Blank							EPA Method 1613B				
Matrix: Aqueous Sample Size: 1.00 L			QC Batch: B5D0003 Date Extracted: 01-Apr-2015 8:17			Lab Sample: B5D0003-BLK1 Date Analyzed: 03-Apr-15 17:25 Column: ZB-5MS Analyst: MAS					
Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	5.00	0.498		0.943		IS 13C-2,3,7,8-TCDD	84.2	25 - 164		
1,2,3,7,8-PeCDD	ND	25.0	0.965		4.51		13C-1,2,3,7,8-PeCDD	77.3	25 - 181		
1,2,3,4,7,8-HxCDD	ND	25.0	2.78		2.21		13C-1,2,3,4,7,8-HxCDD	75.7	32 - 141		
1,2,3,6,7,8-HxCDD	ND	25.0	2.69		1.93		13C-1,2,3,6,7,8-HxCDD	75.1	28 - 130		
1,2,3,7,8,9-HxCDD	ND	25.0	2.94		2.02		13C-1,2,3,7,8,9-HxCDD	74.8	32 - 141		
1,2,3,4,6,7,8-HpCDD	ND	25.0	1.97		2.98		13C-1,2,3,4,6,7,8-HpCDD	76.7	23 - 140		
OCDD	ND	50.0	3.30		3.57		13C-OCDD	61.9	17 - 157		
2,3,7,8-TCDF	ND	5.00	0.646		0.984		13C-2,3,7,8-TCDF	83.3	24 - 169		
1,2,3,7,8-PeCDF	ND	25.0	1.01		2.50		13C-1,2,3,7,8-PeCDF	81.0	24 - 185		
2,3,4,7,8-PeCDF	ND	25.0	0.628		1.73		13C-2,3,4,7,8-PeCDF	81.5	21 - 178		
1,2,3,4,7,8-HxCDF	ND	25.0	0.791		1.36		13C-1,2,3,4,7,8-HxCDF	77.3	26 - 152		
1,2,3,6,7,8-HxCDF	ND	25.0	0.840		1.56		13C-1,2,3,6,7,8-HxCDF	79.2	26 - 123		
2,3,4,6,7,8-HxCDF	ND	25.0	0.669		2.05		13C-2,3,4,6,7,8-HxCDF	74.9	28 - 136		
1,2,3,7,8,9-HxCDF	ND	25.0	0.925		1.34		13C-1,2,3,7,8,9-HxCDF	78.0	29 - 147		
1,2,3,4,6,7,8-HpCDF	ND	25.0	1.62		1.46		13C-1,2,3,4,6,7,8-HpCDF	76.9	28 - 143		
1,2,3,4,7,8,9-HpCDF	ND	25.0	0.633		1.75		13C-1,2,3,4,7,8,9-HpCDF	74.7	26 - 138		
OCDF	ND	50.0	1.47		2.98		13C-OCDF	65.2	17 - 157		
							CRS 37Cl-2,3,7,8-TCDD	108	35 - 197		
							Toxic Equivalent Quotient (TEQ) Data				
							TEQMinWHO2005Dioxin		0.00		
TOTALS											
Total TCDD	ND		0.498								
Total PeCDD	ND		0.965								
Total HxCDD	ND		3.39								
Total HpCDD	ND		1.97								
Total TCDF	ND		1.45								
Total PeCDF	ND		1.03								
Total HxCDF	ND		0.984								
Total HpCDF	ND		1.73								

DL - Sample specific estimated detection limit

MDL - Method detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

RL - Reporting limit

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

Sample ID: OPR					EPA Method 1613B		
Matrix: Aqueous Sample Size: 1.00 L		QC Batch: B5D0003 Date Extracted: 01-Apr-2015 8:17		Lab Sample: B5D0003-BS1 Date Analyzed: 03-Apr-15 15:48 Column: ZB-5MS Analyst: MAS			
Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	193	200	96.3	67 - 158	IS 13C-2,3,7,8-TCDD	77.7	20 - 175
1,2,3,7,8-PeCDD	1060	1000	106	70 - 142	13C-1,2,3,7,8-PeCDD	71.0	21 - 227
1,2,3,4,7,8-HxCDD	1100	1000	110	70 - 164	13C-1,2,3,4,7,8-HxCDD	69.4	21 - 193
1,2,3,6,7,8-HxCDD	1150	1000	115	76 - 134	13C-1,2,3,6,7,8-HxCDD	67.9	25 - 163
1,2,3,7,8,9-HxCDD	1110	1000	111	64 - 162	13C-1,2,3,7,8,9-HxCDD	67.9	21 - 193
1,2,3,4,6,7,8-HpCDD	1100	1000	110	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	69.1	26 - 166
OCDD	2210	2000	111	78 - 144	13C-OCDD	56.7	13 - 199
2,3,7,8-TCDF	204	200	102	75 - 158	13C-2,3,7,8-TCDF	78.7	22 - 152
1,2,3,7,8-PeCDF	1090	1000	109	80 - 134	13C-1,2,3,7,8-PeCDF	78.2	21 - 192
2,3,4,7,8-PeCDF	1100	1000	110	68 - 160	13C-2,3,4,7,8-PeCDF	79.6	13 - 328
1,2,3,4,7,8-HxCDF	1100	1000	110	72 - 134	13C-1,2,3,4,7,8-HxCDF	73.2	19 - 202
1,2,3,6,7,8-HxCDF	1100	1000	110	84 - 130	13C-1,2,3,6,7,8-HxCDF	74.5	21 - 159
2,3,4,6,7,8-HxCDF	1090	1000	109	70 - 156	13C-2,3,4,6,7,8-HxCDF	71.2	22 - 176
1,2,3,7,8,9-HxCDF	1090	1000	109	78 - 130	13C-1,2,3,7,8,9-HxCDF	71.2	17 - 205
1,2,3,4,6,7,8-HpCDF	1100	1000	110	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	71.3	21 - 158
1,2,3,4,7,8,9-HpCDF	1130	1000	113	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	67.6	20 - 186
OCDF	2160	2000	108	63 - 170	13C-OCDF	59.4	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	104	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: 96-ST2-20150326-W **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Aqueous	Lab Sample: 1500280-07 Date Received: 27-Mar-2015 7:19
Project: 1400647	Sample Size: 1.01 L	QC Batch: B5D0003 Date Extracted: 01-Apr-2015 8:17
Date Collected: 26-Mar-2015 11:50		Date Analyzed: 03-Apr-15 19:01 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	4.95	0.730		0.943		IS 13C-2,3,7,8-TCDD	82.8	25 - 164	
1,2,3,7,8-PeCDD	ND	24.8	0.517		4.51		13C-1,2,3,7,8-PeCDD	81.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	24.8	1.96		2.21		13C-1,2,3,4,7,8-HxCDD	79.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	24.8	2.00		1.93		13C-1,2,3,6,7,8-HxCDD	83.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	24.8	2.04		2.02		13C-1,2,3,7,8,9-HxCDD	84.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	3.58	24.8			2.98	J	13C-1,2,3,4,6,7,8-HpCDD	87.0	23 - 140	
OCDD	29.6	49.5			3.57	J	13C-OCDD	71.8	17 - 157	
2,3,7,8-TCDF	ND	4.95	0.682		0.984		13C-2,3,7,8-TCDF	89.8	24 - 169	
1,2,3,7,8-PeCDF	ND	24.8	0.574		2.50		13C-1,2,3,7,8-PeCDF	82.9	24 - 185	
2,3,4,7,8-PeCDF	ND	24.8	0.542		1.73		13C-2,3,4,7,8-PeCDF	92.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	24.8	0.457		1.36		13C-1,2,3,4,7,8-HxCDF	82.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	24.8	0.483		1.56		13C-1,2,3,6,7,8-HxCDF	82.1	26 - 123	
2,3,4,6,7,8-HxCDF	ND	24.8	0.537		2.05		13C-2,3,4,6,7,8-HxCDF	78.6	28 - 136	
1,2,3,7,8,9-HxCDF	ND	24.8	0.769		1.34		13C-1,2,3,7,8,9-HxCDF	82.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	24.8	1.22		1.46		13C-1,2,3,4,6,7,8-HpCDF	90.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	24.8	0.866		1.75		13C-1,2,3,4,7,8,9-HpCDF	82.3	26 - 138	
OCDF	ND	49.5		1.38	2.98		13C-OCDF	73.6	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	102	35 - 197	

Toxic Equivalent Quotient (TEQ) Data											
								TEQMinWHO2005Dioxin	0.0447		

TOTALS										
Total TCDD	ND		0.730							
Total PeCDD	ND		0.842							
Total HxCDD	ND		3.01							
Total HpCDD	7.95									
Total TCDF	ND		1.25							
Total PeCDF	ND		0.740							
Total HxCDF	ND		0.930							
Total HpCDF	ND		2.30							

DL - Sample specific estimated detection limit MDL - Method detection limit LCL-UCL- Lower control limit - upper control limit
 EMPC - Estimated maximum possible concentration RL - Reporting limit Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: HC-NF-10-20150326-W **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Aqueous	Lab Sample: 1500280-08 Date Received: 27-Mar-2015 7:19
Project: 1400647	Sample Size: 1.02 L	QC Batch: B5D0003 Date Extracted: 01-Apr-2015 8:17
Date Collected: 26-Mar-2015 15:40		Date Analyzed: 03-Apr-15 19:50 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	4.92		7.85	0.943		IS 13C-2,3,7,8-TCDD	83.3	25 - 164	
1,2,3,7,8-PeCDD	ND	24.6	0.756		4.51		13C-1,2,3,7,8-PeCDD	77.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	24.6	2.12		2.21		13C-1,2,3,4,7,8-HxCDD	72.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND	24.6	2.11		1.93		13C-1,2,3,6,7,8-HxCDD	72.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	24.6	2.19		2.02		13C-1,2,3,7,8,9-HxCDD	74.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	24.6		5.88	2.98		13C-1,2,3,4,6,7,8-HpCDD	76.7	23 - 140	
OCDD	50.2	49.2			3.57		13C-OCDD	61.8	17 - 157	
2,3,7,8-TCDF	1.58	4.92			0.984	J	13C-2,3,7,8-TCDF	83.3	24 - 169	
1,2,3,7,8-PeCDF	ND	24.6	0.754		2.50		13C-1,2,3,7,8-PeCDF	75.4	24 - 185	
2,3,4,7,8-PeCDF	ND	24.6	0.888		1.73		13C-2,3,4,7,8-PeCDF	81.7	21 - 178	
1,2,3,4,7,8-HxCDF	1.51	24.6			1.36	J	13C-1,2,3,4,7,8-HxCDF	72.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	24.6	0.985		1.56		13C-1,2,3,6,7,8-HxCDF	71.8	26 - 123	
2,3,4,6,7,8-HxCDF	ND	24.6	1.11		2.05		13C-2,3,4,6,7,8-HxCDF	70.4	28 - 136	
1,2,3,7,8,9-HxCDF	ND	24.6	1.58		1.34		13C-1,2,3,7,8,9-HxCDF	74.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	4.09	24.6			1.46	J	13C-1,2,3,4,6,7,8-HpCDF	75.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	24.6	1.73		1.75		13C-1,2,3,4,7,8,9-HpCDF	72.7	26 - 138	
OCDF	7.39	49.2			2.98	J	13C-OCDF	64.2	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	108	35 - 197	

Toxic Equivalent Quotient (TEQ) Data	
TEQMinWHO2005Dioxin	0.367

TOTALS	
Total TCDD	ND 8.83
Total PeCDD	ND 1.06
Total HxCDD	ND 3.50
Total HpCDD	6.43 12.3
Total TCDF	3.48
Total PeCDF	1.24 2.20
Total HxCDF	3.03 4.41
Total HpCDF	7.48

DL - Sample specific estimated detection limit MDL - Method detection limit LCL-UCL- Lower control limit - upper control limit
 EMPC - Estimated maximum possible concentration RL - Reporting limit Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: Method Blank

EPA Method 1668C

Matrix: Solid	QC Batch: B5C0139	Lab Sample: B5C0139-BLK1
Sample Size: 10.0 g	Date Extracted: 31-Mar-2015 10:31	Date Analyzed: 01-Apr-15 18:28 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	ND	2.50	1.45		0.320		PCB-43/49	ND	5.00	0.639		0.879	
PCB-2	ND	2.50	1.24		0.240		PCB-44	ND	2.50	0.795		0.745	
PCB-3	ND	2.50	1.23		0.323		PCB-45	ND	2.50	0.699		0.402	
PCB-4/10	ND	5.00	3.61		1.14		PCB-46	ND	2.50	0.766		0.537	
PCB-5/8	ND	5.00	2.63		1.76		PCB-47	ND	2.50	0.578		2.19	
PCB-6	ND	2.50	2.70		1.00		PCB-48/75	ND	5.00	0.522		0.983	
PCB-7/9	ND	5.00	2.66		1.34		PCB-50	ND	2.50	0.726		0.603	
PCB-11	4.05	2.50			3.48		PCB-51	ND	2.50	0.626		0.789	
PCB-12/13	ND	5.00	2.37		1.37		PCB-52/69	ND	5.00	0.563		0.722	
PCB-14	ND	2.50	2.04		0.337		PCB-53	ND	2.50	0.640		0.331	
PCB-15	ND	2.50	2.09		0.634		PCB-54	ND	2.50	0.552		0.275	
PCB-16/32	ND	5.00	0.567		0.430		PCB-55	ND	2.50	0.403		0.416	
PCB-17	ND	2.50	0.621		0.658		PCB-56/60	ND	5.00	0.448		0.825	
PCB-18	ND	2.50	0.671		0.696		PCB-57	ND	2.50	0.457		0.354	
PCB-19	ND	2.50	0.800		0.612		PCB-58	ND	2.50	0.450		0.589	
PCB-20/21/33	ND	7.50	0.374		2.47		PCB-61/70	ND	5.00	0.455		1.20	
PCB-22	ND	2.50	0.372		0.964		PCB-62	ND	2.50	0.510		0.597	
PCB-23	ND	2.50	0.358		0.543		PCB-63	ND	2.50	0.440		0.524	
PCB-24/27	ND	5.00	0.458		0.742		PCB-65	ND	2.50	0.526		0.842	
PCB-25	ND	2.50	0.395		0.768		PCB-66/76	ND	5.00	0.434		1.31	
PCB-26	ND	2.50	0.350		0.766		PCB-67	ND	2.50	0.469		0.486	
PCB-28	ND	2.50	0.350		1.12		PCB-68	ND	2.50	0.430		0.658	
PCB-29	ND	2.50	0.358		0.949		PCB-73	ND	2.50	0.515		0.454	
PCB-30	ND	2.50	0.506		0.355		PCB-74	ND	2.50	0.422		0.781	
PCB-31	ND	2.50	0.346		0.809		PCB-77	ND	2.50	0.395		0.748	
PCB-34	ND	2.50	0.333		1.57		PCB-78	ND	2.50	0.438		0.385	
PCB-35	ND	2.50	0.358		0.565		PCB-79	ND	2.50	0.427		0.633	
PCB-36	ND	2.50	0.346		0.406		PCB-80	ND	2.50	0.374		0.336	
PCB-37	ND	2.50	0.333		0.389		PCB-81	ND	2.50	0.400		0.674	
PCB-38	ND	2.50	0.362		0.528		PCB-82	ND	2.50	1.51		0.981	
PCB-39	ND	2.50	0.357		0.461		PCB-83	ND	2.50	0.960		0.440	
PCB-40	ND	2.50	0.808		0.927		PCB-84/92	ND	5.00	1.29		1.01	
PCB-41/64/71/72	ND	10.0	0.518		1.70		PCB-85/116	ND	5.00	1.15		1.64	
PCB-42/59	ND	5.00	0.560		0.899		PCB-86	ND	2.50	1.55		1.79	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: Method Blank

EPA Method 1668C

Matrix: Solid	QC Batch: B5C0139	Lab Sample: B5C0139-BLK1
Sample Size: 10.0 g	Date Extracted: 31-Mar-2015 10:31	Date Analyzed: 01-Apr-15 18:28 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-87/117/125	ND	7.50	1.00		0.880		PCB-133/142	ND	5.00	0.665		1.04	
PCB-88/91	ND	5.00	1.44		1.25		PCB-134/143	ND	5.00	0.649		1.05	
PCB-89	ND	2.50	1.39		1.22		PCB-135	ND	2.50	1.27		1.47	
PCB-90/101	ND	5.00	1.15		1.19		PCB-136	ND	2.50	0.885		0.776	
PCB-93	ND	2.50	1.53		2.53		PCB-137	ND	2.50	0.614		0.541	
PCB-94	ND	2.50	1.43		0.874		PCB-138/163/164	ND	7.50	0.481		0.809	
PCB-95/98/102	ND	7.50	1.26		1.38		PCB-139/149	ND	5.00	1.16		1.49	
PCB-96	ND	2.50	1.08		0.588		PCB-140	ND	2.50	1.30		1.20	
PCB-97	ND	2.50	1.23		0.675		PCB-141	ND	2.50	0.626		0.678	
PCB-99	ND	2.50	1.11		0.474		PCB-144	ND	2.50	1.18		1.38	
PCB-100	ND	2.50	1.22		0.511		PCB-145	ND	2.50	0.925		1.05	
PCB-103	ND	2.50	1.22		0.428		PCB-146/165	ND	5.00	0.559		0.792	
PCB-104	ND	2.50	0.932		0.876		PCB-147	ND	2.50	1.30		5.26	
PCB-105	ND	2.50	0.540		0.462		PCB-148	ND	2.50	1.24		1.45	
PCB-106/118	ND	5.00	0.821		0.728		PCB-150	ND	2.50	0.896		0.801	
PCB-107/109	ND	5.00	0.840		0.631		PCB-151	ND	2.50	1.24		1.16	
PCB-108/112	ND	5.00	1.14		0.844		PCB-152	ND	2.50	0.865		0.744	
PCB-110	ND	2.50	0.938		0.555		PCB-153	ND	2.50	0.505		0.484	
PCB-111/115	ND	5.00	0.860		1.24		PCB-154	ND	2.50	1.14		0.837	
PCB-113	ND	2.50	1.04		0.495		PCB-155	ND	2.50	0.844		0.767	
PCB-114	ND	2.50	0.560		0.418		PCB-156	ND	2.50	0.431		0.534	
PCB-119	ND	2.50	0.849		0.383		PCB-157	ND	2.50	0.456		0.485	
PCB-120	ND	2.50	0.804		0.622		PCB-158/160	ND	5.00	0.449		0.915	
PCB-121	ND	2.50	0.920		0.978		PCB-159	ND	2.50	0.442		0.578	
PCB-122	ND	2.50	0.666		0.619		PCB-166	ND	2.50	0.473		0.425	
PCB-123	ND	2.50	0.896		0.494		PCB-167	ND	2.50	0.453		0.653	
PCB-124	ND	2.50	0.861		0.813		PCB-168	ND	2.50	0.445		0.502	
PCB-126	ND	2.50	0.611		0.543		PCB-169	ND	2.50		0.426	0.767	
PCB-127	ND	2.50	0.580		0.326		PCB-170	ND	2.50	0.464		0.758	
PCB-128/162	ND	5.00	0.522		1.08		PCB-171	ND	2.50	0.481		0.372	
PCB-129	ND	2.50	0.671		0.567		PCB-172	ND	2.50	0.517		0.857	
PCB-130	ND	2.50	0.786		0.798		PCB-173	ND	2.50	0.634		0.507	
PCB-131	ND	2.50	0.715		0.731		PCB-174	ND	2.50	0.543		0.797	
PCB-132/161	ND	5.00	0.540		1.05		PCB-175	ND	2.50	0.507		0.679	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL - Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: Method Blank

EPA Method 1668C

Matrix: Solid	QC Batch: B5C0139	Lab Sample: B5C0139-BLK1
Sample Size: 10.0 g	Date Extracted: 31-Mar-2015 10:31	Date Analyzed: 01-Apr-15 18:28 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-176	ND	2.50	0.365		0.729		Total triCB	ND	2.50	0.800			
PCB-177	ND	2.50	0.553		0.404		Total tetraCB	ND	2.50	0.808			
PCB-178	ND	2.50	0.494		0.610		Total pentaCB	ND	2.50	1.55			
PCB-179	ND	2.50	0.381		0.418		Total hexaCB	ND	2.50		0.426		
PCB-180	ND	2.50	0.483		0.420		Total heptaCB	ND	2.50	0.634			
PCB-181	ND	2.50	0.519		1.26		Total octaCB	0.491	2.50				J
PCB-182/187	ND	5.00	0.467		1.33		Total nonaCB	ND	2.50	0.471			
PCB-183	ND	2.50	0.434		0.638		DecaCB	ND	2.50	0.468			
PCB-184	ND	2.50	0.397		0.597		Total PCB	4.54	2.50				
PCB-185	ND	2.50	0.498		0.557								
PCB-186	ND	2.50	0.364		0.421								
PCB-188	ND	2.50	0.349		0.759								
PCB-189	ND	2.50	0.314		0.483								
PCB-190	ND	2.50	0.345		0.686								
PCB-191	ND	2.50	0.376		0.447								
PCB-192	ND	2.50	0.403		0.528								
PCB-193	ND	2.50	0.378		0.836								
PCB-194	0.491	2.50			0.645	J							
PCB-195	ND	2.50	0.338		0.722								
PCB-196/203	ND	5.00	0.754		0.983								
PCB-197	ND	2.50	0.536		0.794								
PCB-198	ND	2.50	0.829		0.792								
PCB-199	ND	2.50	0.843		0.615								
PCB-200	ND	2.50	0.604		0.795								
PCB-201	ND	2.50	0.571		0.317								
PCB-202	ND	2.50	0.614		0.759								
PCB-204	ND	2.50	0.582		0.543								
PCB-205	ND	2.50	0.239		0.471								
PCB-206	ND	2.50	0.471		0.852								
PCB-207	ND	2.50	0.251		0.402								
PCB-208	ND	2.50	0.254		0.441								
PCB-209	ND	2.50	0.468		1.10								
Total monoCB	ND	2.50	1.45										
Total diCB	4.05	2.50											

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: Method Blank

EPA Method 1668C

Matrix: Solid	QC Batch: B5C0139	Lab Sample: B5C0139-BLK1
Sample Size: 10.0 g	Date Extracted: 31-Mar-2015 10:31	Date Analyzed: 01-Apr-15 18:28 Column: ZB-1 Analyst: DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	43.3	5 - 145		13C-PCB-157	92.5	10 - 145	
13C-PCB-3	54.8	5 - 145		13C-PCB-159	92.3	10 - 145	
13C-PCB-4	50.9	5 - 145		13C-PCB-167	93.5	10 - 145	
13C-PCB-11	70.5	5 - 145		13C-PCB-169	96.3	10 - 145	
13C-PCB-9	58.2	5 - 145		13C-PCB-170	82.1	10 - 145	
13C-PCB-19	68.6	5 - 145		13C-PCB-180	81.1	10 - 145	
13C-PCB-28	83.0	5 - 145		13C-PCB-188	75.9	10 - 145	
13C-PCB-32	79.6	5 - 145		13C-PCB-189	87.2	10 - 145	
13C-PCB-37	90.4	5 - 145		13C-PCB-194	90.1	10 - 145	
13C-PCB-47	80.8	5 - 145		13C-PCB-202	69.2	10 - 145	
13C-PCB-52	80.1	5 - 145		13C-PCB-206	92.3	10 - 145	
13C-PCB-54	69.3	5 - 145		13C-PCB-208	80.7	10 - 145	
13C-PCB-70	85.6	5 - 145		13C-PCB-209	93.7	10 - 145	
13C-PCB-77	94.1	10 - 145		CRS 13C-PCB-79	97.8	10 - 145	
13C-PCB-80	86.1	10 - 145		13C-PCB-178	83.3	10 - 145	
13C-PCB-81	91.4	10 - 145					
13C-PCB-95	83.7	10 - 145					
13C-PCB-97	93.2	10 - 145					
13C-PCB-101	88.0	10 - 145					
13C-PCB-104	80.8	10 - 145					
13C-PCB-105	101	10 - 145					
13C-PCB-114	96.8	10 - 145					
13C-PCB-118	97.1	10 - 145					
13C-PCB-123	97.8	10 - 145					
13C-PCB-126	108	10 - 145					
13C-PCB-127	103	10 - 145					
13C-PCB-138	91.8	10 - 145					
13C-PCB-141	90.8	10 - 145					
13C-PCB-153	91.0	10 - 145					
13C-PCB-155	68.8	10 - 145					
13C-PCB-156	94.4	10 - 145					

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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 1668C

Matrix: Solid
Sample Size: 10.0 g

QC Batch: B5C0139
Date Extracted: 31-Mar-2015 10:31

Lab Sample: B5C0139-BS1
Date Analyzed: 01-Apr-15 16:19 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PCB-1	388	500	77.7	60 - 135	IS 13C-PCB-1	62.4	15 - 145
PCB-3	396	500	79.2	60 - 135	IS 13C-PCB-3	74.9	15 - 145
PCB-4/10	846	1000	84.6	60 - 135	IS 13C-PCB-4	66.1	15 - 145
PCB-15	443	500	88.6	60 - 135	IS 13C-PCB-11	82.4	15 - 145
PCB-19	452	500	90.5	60 - 135	IS 13C-PCB-9	70.4	15 - 145
PCB-37	454	500	90.7	60 - 135	IS 13C-PCB-19	82.7	15 - 145
PCB-54	504	500	101	60 - 135	IS 13C-PCB-28	77.1	15 - 145
PCB-77	472	500	94.3	60 - 135	IS 13C-PCB-32	87.4	15 - 145
PCB-81	457	500	91.4	60 - 135	IS 13C-PCB-37	95.2	15 - 145
PCB-104	475	500	95.0	60 - 135	IS 13C-PCB-47	87.9	15 - 145
PCB-105	388	500	77.6	60 - 135	IS 13C-PCB-52	88.5	15 - 145
PCB-106/118	947	1000	94.7	60 - 135	IS 13C-PCB-54	76.2	15 - 145
PCB-114	401	500	80.2	60 - 135	IS 13C-PCB-70	95.6	15 - 145
PCB-123	485	500	97.1	60 - 135	IS 13C-PCB-77	99.8	40 - 145
PCB-126	405	500	81.1	60 - 135	IS 13C-PCB-80	92.4	40 - 145
PCB-155	499	500	99.9	60 - 135	IS 13C-PCB-81	102	40 - 145
PCB-156	449	500	89.7	60 - 135	IS 13C-PCB-95	87.6	40 - 145
PCB-157	462	500	92.5	60 - 135	IS 13C-PCB-97	99.2	40 - 145
PCB-167	459	500	91.8	60 - 135	IS 13C-PCB-101	90.8	40 - 145
PCB-169	475	500	95.1	60 - 135	IS 13C-PCB-104	82.5	40 - 145
PCB-188	458	500	91.7	60 - 135	IS 13C-PCB-105	111	40 - 145
PCB-189	469	500	93.7	60 - 135	IS 13C-PCB-114	103	40 - 145
PCB-202	480	500	96.0	60 - 135	IS 13C-PCB-118	102	40 - 145
PCB-205	445	500	89.1	60 - 135	IS 13C-PCB-123	104	40 - 145
PCB-206	474	500	94.8	60 - 135	IS 13C-PCB-126	116	40 - 145
PCB-208	472	500	94.3	60 - 135	IS 13C-PCB-127	113	40 - 145
PCB-209	448	500	89.7	60 - 135	IS 13C-PCB-138	98.5	40 - 145
					IS 13C-PCB-141	99.7	40 - 145
					IS 13C-PCB-153	95.6	40 - 145
					IS 13C-PCB-155	68.6	40 - 145
					IS 13C-PCB-156	101	40 - 145
					IS 13C-PCB-157	99.2	40 - 145
					IS 13C-PCB-159	100	40 - 145
					IS 13C-PCB-167	101	40 - 145
					IS 13C-PCB-169	103	40 - 145
					IS 13C-PCB-170	89.5	40 - 145
					IS 13C-PCB-180	87.8	40 - 145
					IS 13C-PCB-188	81.3	40 - 145
					IS 13C-PCB-189	95.5	40 - 145
					IS 13C-PCB-194	97.2	40 - 145

Sample ID: OPR

EPA Method 1668C

Matrix: Solid
Sample Size: 10.0 g

QC Batch: B5C0139
Date Extracted: 31-Mar-2015 10:31

Lab Sample: B5C0139-BS1
Date Analyzed: 01-Apr-15 16:19 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
					IS 13C-PCB-202	74.8	40 - 145
					IS 13C-PCB-206	100	40 - 145
					IS 13C-PCB-208	87.0	40 - 145
					IS 13C-PCB-209	100	40 - 145
					CRS 13C-PCB-79	103	40 - 145
					CRS 13C-PCB-178	91.4	40 - 145

LCL-UCL - Lower control limit - upper control limit

Sample ID: 96-ST3-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data				
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-01	Date Received:	27-Mar-2015	7:19			
Project:	1400647	Sample Size:	85.5 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015	10:31			
Date Collected:	26-Mar-2015 10:30	% Solids:	3.85	Date Analyzed :	02-Apr-15 12:50	Column:	ZB-1	Analyst:	DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	17.5	7.61			0.320		PCB-44	336	7.61			0.745	
PCB-2	17.8	7.61			0.240		PCB-45	29.9	7.61			0.402	
PCB-3	24.4	7.61			0.323		PCB-46	11.5	7.61			0.537	
PCB-4/10	12.9	15.2			1.14	J	PCB-47	91.1	7.61			2.19	
PCB-5/8	46.3	15.2			1.76		PCB-48/75	27.0	15.2			0.983	
PCB-6	11.5	7.61			1.00		PCB-50	ND	7.61	3.50		0.603	
PCB-7/9	ND	15.2	14.1		1.34		PCB-51	7.28	7.61			0.789	J
PCB-11	177	7.61			3.48	B	PCB-52/69	621	15.2			0.722	
PCB-12/13	17.8	15.2			1.37		PCB-53	32.0	7.61			0.331	
PCB-14	ND	7.61	14.2		0.337		PCB-54	ND	7.61	2.66		0.275	
PCB-15	113	7.61			0.634		PCB-55	14.1	7.61			0.416	
PCB-16/32	48.7	15.2			0.430		PCB-56/60	266	15.2			0.825	
PCB-17	32.1	7.61			0.658		PCB-57	ND	7.61		2.48	0.354	
PCB-18	82.6	7.61			0.696		PCB-58	ND	7.61		1.94	0.589	
PCB-19	ND	7.61		9.06	0.612		PCB-61/70	812	15.2			1.20	
PCB-20/21/33	80.3	22.8			2.47		PCB-62	ND	7.61	3.35		0.597	
PCB-22	59.3	7.61			0.964		PCB-63	14.0	7.61			0.524	
PCB-23	ND	7.61	2.35		0.543		PCB-65	ND	7.61	3.45		0.842	
PCB-24/27	7.50	15.2			0.742	J	PCB-66/76	440	15.2			1.31	
PCB-25	13.4	7.61			0.768		PCB-67	11.0	7.61			0.486	
PCB-26	25.3	7.61			0.766		PCB-68	1.39	7.61			0.658	J
PCB-28	160	7.61			1.12		PCB-73	ND	7.61	3.21		0.454	
PCB-29	ND	7.61	2.35		0.949		PCB-74	189	7.61			0.781	
PCB-30	ND	7.61	1.57		0.355		PCB-77	179	7.61			0.748	
PCB-31	137	7.61			0.809		PCB-78	ND	7.61	2.96		0.385	
PCB-34	ND	7.61	2.19		1.57		PCB-79	44.2	7.61			0.633	
PCB-35	15.8	7.61			0.565		PCB-80	ND	7.61	2.23		0.336	
PCB-36	ND	7.61	3.10		0.406		PCB-81	11.5	7.61			0.674	
PCB-37	133	7.61			0.389		PCB-82	250	7.61			0.981	
PCB-38	ND	7.61	5.46		0.528		PCB-83	ND	7.61	2.91		0.440	
PCB-39	ND	7.61	3.20		0.461		PCB-84/92	815	15.2			1.01	
PCB-40	6.27	7.61			0.927	J	PCB-85/116	525	15.2			1.64	
PCB-41/64/71/72	96.0	30.4			1.70		PCB-86	ND	7.61	4.68		1.79	
PCB-42/59	64.1	15.2			0.899		PCB-87/117/125	864	22.8			0.880	
PCB-43/49	279	15.2			0.879		PCB-88/91	309	15.2			1.25	

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: 96-ST3-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data				
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-01	Date Received:	27-Mar-2015	7:19			
Project:	1400647	Sample Size:	85.5 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015	10:31			
Date Collected:	26-Mar-2015 10:30	% Solids:	3.85	Date Analyzed:	02-Apr-15 12:50	Column:	ZB-1	Analyst:	DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	9.29	7.61			1.22		PCB-136	306	7.61			0.776	
PCB-90/101	2520	15.2			1.19		PCB-137	130	7.61			0.541	
PCB-93	ND	7.61	4.04		2.53		PCB-138/163/164	4790	22.8			0.809	
PCB-94	ND	7.61		5.98	0.874		PCB-139/149	2850	15.2			1.49	
PCB-95/98/102	1380	22.8			1.38		PCB-140	19.5	7.61			1.20	
PCB-96	ND	7.61	3.95		0.588		PCB-141	761	7.61			0.678	
PCB-97	575	7.61			0.675		PCB-144	124	7.61			1.38	
PCB-99	1240	7.61			0.474		PCB-145	ND	7.61	6.07		1.05	
PCB-100	5.78	7.61			0.511	J	PCB-146/165	706	15.2			0.792	
PCB-103	12.4	7.61			0.428		PCB-147	80.5	7.61			5.26	
PCB-104	ND	7.61	3.41		0.876		PCB-148	ND	7.61	8.12		1.45	
PCB-105	1100	7.61			0.462		PCB-150	ND	7.61		3.36	0.801	
PCB-106/118	2860	15.2			0.728		PCB-151	707	7.61			1.16	
PCB-107/109	216	15.2			0.631		PCB-152	ND	7.61	5.68		0.744	
PCB-108/112	88.1	15.2			0.844		PCB-153	4270	7.61			0.484	
PCB-110	2710	7.61			0.555		PCB-154	43.8	7.61			0.837	
PCB-111/115	36.8	15.2			1.24		PCB-155	ND	7.61	5.54		0.767	
PCB-113	11.1	7.61			0.495		PCB-156	424	7.61			0.534	
PCB-114	49.9	7.61			0.418		PCB-157	132	7.61			0.485	
PCB-119	37.4	7.61			0.383		PCB-158/160	419	15.2			0.915	
PCB-120	9.79	7.61			0.622		PCB-159	ND	7.61	12.3		0.578	
PCB-121	ND	7.61	2.43		0.978		PCB-166	17.9	7.61			0.425	
PCB-122	36.6	7.61			0.619		PCB-167	239	7.61			0.653	
PCB-123	66.3	7.61			0.494		PCB-168	ND	7.61	9.43		0.502	
PCB-124	167	7.61			0.813		PCB-169	ND	7.61	21.0		0.767	
PCB-126	42.5	7.61			0.543		PCB-170	1070	7.61			0.758	
PCB-127	ND	7.61	8.12		0.326		PCB-171	264	7.61			0.372	
PCB-128/162	805	15.2			1.08		PCB-172	260	7.61			0.857	
PCB-129	183	7.61			0.567		PCB-173	31.9	7.61			0.507	
PCB-130	232	7.61			0.798		PCB-174	1450	7.61			0.797	
PCB-131	ND	7.61	15.1		0.731		PCB-175	41.7	7.61			0.679	
PCB-132/161	872	15.2			1.05		PCB-176	106	7.61			0.729	
PCB-133/142	135	15.2			1.04		PCB-177	821	7.61			0.404	
PCB-134/143	195	15.2			1.05		PCB-178	315	7.61			0.610	
PCB-135	453	7.61			1.47		PCB-179	572	7.61			0.418	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: 96-ST3-20150326-S

EPA Method 1668C

Client Data			Sample Data			Laboratory Data					
Name:	Leidos		Matrix:	Sediment		Lab Sample:	1500280-01	Date Received:	27-Mar-2015 7:19		
Project:	1400647		Sample Size:	85.5 g		QC Batch:	B5C0139	Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 10:30		% Solids:	3.85		Date Analyzed :	02-Apr-15 12:50	Column:	ZB-1	Analyst:	DMS

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	2970	7.61			0.420		Total octaCB	4580	7.61				B
PCB-181	ND	7.61	6.53		1.26		Total nonaCB	4680	7.61				
PCB-182/187	1760	15.2			1.33		DecaCB	2810	7.61				
PCB-183	482	7.61			0.638		Total PCB	62600	7.61				B
PCB-184	ND	7.61		3.03	0.597								
PCB-185	193	7.61			0.557								
PCB-186	ND	7.61	3.32		0.421								
PCB-188	7.02	7.61			0.759	J							
PCB-189	50.0	7.61			0.483								
PCB-190	284	7.61			0.686								
PCB-191	35.3	7.61			0.447								
PCB-192	ND	7.61	5.07		0.528								
PCB-193	162	7.61			0.836								
PCB-194	736	7.61			0.645	B							
PCB-195	364	7.61			0.722								
PCB-196/203	1130	15.2			0.983								
PCB-197	33.4	7.61			0.794								
PCB-198	82.2	7.61			0.792								
PCB-199	1420	7.61			0.615								
PCB-200	108	7.61			0.795								
PCB-201	156	7.61			0.317								
PCB-202	519	7.61			0.759								
PCB-204	ND	7.61	4.89		0.543								
PCB-205	28.5	7.61			0.471								
PCB-206	3240	7.61			0.852								
PCB-207	168	7.61			0.402								
PCB-208	1270	7.61			0.441								
PCB-209	2810	7.61			1.10								
Total monoCB	59.7	7.61											
Total diCB	379	7.61				B							
Total triCB	795	7.61		804									
Total tetraCB	3580	7.61		3590									
Total pentaCB	15900	7.61											
Total hexaCB	18900	7.61											
Total heptaCB	10900	7.61											

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: 96-ST3-20150326-S

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-01	Date Received:	27-Mar-2015 7:19
Project:	1400647	Sample Size:	85.5 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015 10:31
Date Collected:	26-Mar-2015 10:30	% Solids:	3.85	Date Analyzed:	02-Apr-15 12:50	Column:	ZB-1
				Analyst:	DMS		

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	72.7	5 -145		13C-PCB-170	52.9	10 -145	
13C-PCB-3	76.2	5 -145		13C-PCB-180	73.2	10 -145	
13C-PCB-4	79.9	5 -145		13C-PCB-188	97.8	10 -145	
13C-PCB-11	79.1	5 -145		13C-PCB-189	47.2	10 -145	
13C-PCB-9	84.8	5 -145		13C-PCB-194	133	10 -145	
13C-PCB-19	77.9	5 -145		13C-PCB-202	63.7	10 -145	
13C-PCB-28	80.0	5 -145		13C-PCB-206	129	10 -145	
13C-PCB-32	81.4	5 -145		13C-PCB-208	124	10 -145	
13C-PCB-37	83.6	5 -145		13C-PCB-209	125	10 -145	
13C-PCB-47	85.0	5 -145		CRS 13C-PCB-79	84.7	10 -145	
13C-PCB-52	88.0	5 -145		13C-PCB-178	82.8	10 -145	
13C-PCB-54	81.5	5 -145					
13C-PCB-70	86.8	5 -145					
13C-PCB-77	77.4	10 -145					
13C-PCB-80	87.7	10 -145					
13C-PCB-81	80.9	10 -145					
13C-PCB-95	97.1	10 -145					
13C-PCB-97	99.3	10 -145					
13C-PCB-101	96.2	10 -145					
13C-PCB-104	85.6	10 -145					
13C-PCB-105	129	10 -145					
13C-PCB-114	134	10 -145					
13C-PCB-118	89.8	10 -145					
13C-PCB-123	93.4	10 -145					
13C-PCB-126	113	10 -145					
13C-PCB-127	128	10 -145					
13C-PCB-138	98.1	10 -145					
13C-PCB-141	110	10 -145					
13C-PCB-153	112	10 -145					
13C-PCB-155	72.8	10 -145					
13C-PCB-156	82.2	10 -145					
13C-PCB-157	82.0	10 -145					
13C-PCB-159	88.6	10 -145					
13C-PCB-167	85.4	10 -145					
13C-PCB-169	53.1	10 -145					

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: 96-ST2-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data				
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-02	Date Received:	27-Mar-2015	7:19			
Project:	1400647	Sample Size:	31.2 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015	10:31			
Date Collected:	26-Mar-2015 12:15	% Solids:	32.0	Date Analyzed :	01-Apr-15 20:37	Column:	ZB-1	Analyst:	DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	13.8	25.0			0.320	J, D	PCB-44	356	25.0			0.745	D
PCB-2	8.74	25.0			0.240	J, D	PCB-45	58.1	25.0			0.402	D
PCB-3	17.1	25.0			0.323	J, D	PCB-46	29.6	25.0			0.537	D
PCB-4/10	30.3	49.9			1.14	J, D	PCB-47	92.9	25.0			2.19	D
PCB-5/8	86.7	49.9			1.76	D	PCB-48/75	48.1	49.9			0.983	J, D
PCB-6	20.8	25.0			1.00	J, D	PCB-50	ND	25.0	5.48		0.603	D
PCB-7/9	ND	49.9	23.2		1.34	D	PCB-51	17.1	25.0			0.789	J, D
PCB-11	170	25.0			3.48	B, D	PCB-52/69	531	49.9			0.722	D
PCB-12/13	ND	49.9	28.8		1.37	D	PCB-53	69.3	25.0			0.331	D
PCB-14	ND	25.0	24.8		0.337	D	PCB-54	ND	25.0	4.16		0.275	D
PCB-15	111	25.0			0.634	D	PCB-55	13.9	25.0			0.416	J, D
PCB-16/32	115	49.9			0.430	D	PCB-56/60	216	49.9			0.825	D
PCB-17	63.7	25.0			0.658	D	PCB-57	ND	25.0	3.94		0.354	D
PCB-18	174	25.0			0.696	D	PCB-58	ND	25.0	3.89		0.589	D
PCB-19	21.8	25.0			0.612	J, D	PCB-61/70	480	49.9			1.20	D
PCB-20/21/33	133	74.9			2.47	D	PCB-62	ND	25.0	5.28		0.597	D
PCB-22	85.2	25.0			0.964	D	PCB-63	12.5	25.0			0.524	J, D
PCB-23	ND	25.0	4.89		0.543	D	PCB-65	ND	25.0	5.44		0.842	D
PCB-24/27	16.0	49.9			0.742	J, D	PCB-66/76	323	49.9			1.31	D
PCB-25	20.6	25.0			0.768	J, D	PCB-67	15.0	25.0			0.486	J, D
PCB-26	42.8	25.0			0.766	D	PCB-68	ND	25.0	4.45		0.658	D
PCB-28	248	25.0			1.12	D	PCB-73	ND	25.0	5.29		0.454	D
PCB-29	ND	25.0	4.89		0.949	D	PCB-74	143	25.0			0.781	D
PCB-30	ND	25.0	4.46		0.355	D	PCB-77	75.5	25.0			0.748	D
PCB-31	205	25.0			0.809	D	PCB-78	ND	25.0	4.29		0.385	D
PCB-34	ND	25.0	4.55		1.57	D	PCB-79	19.1	25.0			0.633	J, D
PCB-35	ND	25.0		13.1	0.565	D	PCB-80	ND	25.0	3.49		0.336	D
PCB-36	ND	25.0	6.91		0.406	D	PCB-81	6.48	25.0			0.674	J, D
PCB-37	140	25.0			0.389	D	PCB-82	203	25.0			0.981	D
PCB-38	ND	25.0	7.23		0.528	D	PCB-83	ND	25.0	9.87		0.440	D
PCB-39	ND	25.0	7.12		0.461	D	PCB-84/92	710	49.9			1.01	D
PCB-40	28.1	25.0			0.927	D	PCB-85/116	228	49.9			1.64	D
PCB-41/64/71/72	258	99.9			1.70	D	PCB-86	ND	25.0	15.9		1.79	D
PCB-42/59	100	49.9			0.899	D	PCB-87/117/125	542	74.9			0.880	D
PCB-43/49	268	49.9			0.879	D	PCB-88/91	248	49.9			1.25	D

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: 96-ST2-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-02		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	31.2 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 12:15			% Solids:	32.0		Date Analyzed:	01-Apr-15 20:37		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	ND	25.0	14.6		1.22	D	PCB-136	316	25.0			0.776	D
PCB-90/101	1540	49.9			1.19	D	PCB-137	142	25.0			0.541	D
PCB-93	ND	25.0	14.1		2.53	D	PCB-138/163/164	2920	74.9			0.809	D
PCB-94	ND	25.0		6.32	0.874	D	PCB-139/149	2260	49.9			1.49	D
PCB-95/98/102	1390	74.9			1.38	D	PCB-140	18.2	25.0			1.20	J, D
PCB-96	7.68	25.0			0.588	J, D	PCB-141	574	25.0			0.678	D
PCB-97	397	25.0			0.675	D	PCB-144	140	25.0			1.38	D
PCB-99	556	25.0			0.474	D	PCB-145	ND	25.0	8.78		1.05	D
PCB-100	7.04	25.0			0.511	J, D	PCB-146/165	401	49.9			0.792	D
PCB-103	13.1	25.0			0.428	J, D	PCB-147	58.2	25.0			5.26	D
PCB-104	ND	25.0	11.3		0.876	D	PCB-148	ND	25.0	11.7		1.45	D
PCB-105	414	25.0			0.462	D	PCB-150	ND	25.0	8.51		0.801	D
PCB-106/118	1280	49.9			0.728	D	PCB-151	636	25.0			1.16	D
PCB-107/109	94.9	49.9			0.631	D	PCB-152	ND	25.0	8.21		0.744	D
PCB-108/112	79.2	49.9			0.844	D	PCB-153	2260	25.0			0.484	D
PCB-110	2190	25.0			0.555	D	PCB-154	29.1	25.0			0.837	D
PCB-111/115	24.1	49.9			1.24	J, D	PCB-155	ND	25.0	8.01		0.767	D
PCB-113	ND	25.0	10.9		0.495	D	PCB-156	220	25.0			0.534	D
PCB-114	20.1	25.0			0.418	J, D	PCB-157	74.5	25.0			0.485	D
PCB-119	27.7	25.0			0.383	D	PCB-158/160	322	49.9			0.915	D
PCB-120	6.85	25.0			0.622	J, D	PCB-159	ND	25.0	11.5		0.578	D
PCB-121	ND	25.0	8.50		0.978	D	PCB-166	10.2	25.0			0.425	J, D
PCB-122	ND	25.0		10.6	0.619	D	PCB-167	125	25.0			0.653	D
PCB-123	31.2	25.0			0.494	D	PCB-168	7.11	25.0			0.502	J, D
PCB-124	80.5	25.0			0.813	D	PCB-169	ND	25.0	13.4		0.767	D
PCB-126	ND	25.0		16.4	0.543	D	PCB-170	892	25.0			0.758	D
PCB-127	ND	25.0	12.7		0.326	D	PCB-171	238	25.0			0.372	D
PCB-128/162	495	49.9			1.08	D	PCB-172	159	25.0			0.857	D
PCB-129	147	25.0			0.567	D	PCB-173	15.3	25.0			0.507	J, D
PCB-130	211	25.0			0.798	D	PCB-174	1020	25.0			0.797	D
PCB-131	ND	25.0	17.2		0.731	D	PCB-175	36.8	25.0			0.679	D
PCB-132/161	819	49.9			1.05	D	PCB-176	117	25.0			0.729	D
PCB-133/142	82.1	49.9			1.04	D	PCB-177	575	25.0			0.404	D
PCB-134/143	142	49.9			1.05	D	PCB-178	225	25.0			0.610	D
PCB-135	355	25.0			1.47	D	PCB-179	414	25.0			0.418	D

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: 96-ST2-20150326-S

EPA Method 1668C

Client Data			Sample Data			Laboratory Data					
Name:	Leidos		Matrix:	Sediment		Lab Sample:	1500280-02	Date Received:	27-Mar-2015 7:19		
Project:	1400647		Sample Size:	31.2 g		QC Batch:	B5C0139	Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 12:15		% Solids:	32.0		Date Analyzed :	01-Apr-15 20:37	Column:	ZB-1	Analyst:	DMS

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	2080	25.0			0.420	D	Total octaCB	2470	25.0		2510		B
PCB-181	ND	25.0	9.17		1.26	D	Total nonaCB	425	25.0				
PCB-182/187	1220	49.9			1.33	D	DecaCB	144	25.0				
PCB-183	507	25.0			0.638	D	Total PCB	38800	25.0				B
PCB-184	ND	25.0	7.41		0.597	D							
PCB-185	112	25.0			0.557	D							
PCB-186	ND	25.0	6.81		0.421	D							
PCB-188	ND	25.0	6.52		0.759	D							
PCB-189	33.1	25.0			0.483	D							
PCB-190	179	25.0			0.686	D							
PCB-191	35.8	25.0			0.447	D							
PCB-192	ND	25.0	7.12		0.528	D							
PCB-193	106	25.0			0.836	D							
PCB-194	457	25.0			0.645	B, D							
PCB-195	208	25.0			0.722	D							
PCB-196/203	715	49.9			0.983	D							
PCB-197	ND	25.0		18.3	0.794	D							
PCB-198	ND	25.0		16.5	0.792	D							
PCB-199	767	25.0			0.615	D							
PCB-200	82.0	25.0			0.795	D							
PCB-201	79.0	25.0			0.317	D							
PCB-202	143	25.0			0.759	D							
PCB-204	ND	25.0	10.1		0.543	D							
PCB-205	21.6	25.0			0.471	J, D							
PCB-206	295	25.0			0.852	D							
PCB-207	39.3	25.0			0.402	D							
PCB-208	90.4	25.0			0.441	D							
PCB-209	144	25.0			1.10	D							
Total monoCB	39.6	25.0											
Total diCB	419	25.0				B							
Total triCB	1260	25.0		1280									
Total tetraCB	3160	25.0											
Total pentaCB	10100	25.0											
Total hexaCB	12800	25.0											
Total heptaCB	7970	25.0											

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: 96-ST2-20150326-S

EPA Method 1668C

Client Data		Sample Data		Laboratory Data					
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-02	Date Received:	27-Mar-2015 7:19		
Project:	1400647	Sample Size:	31.2 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 12:15	% Solids:	32.0	Date Analyzed :	01-Apr-15 20:37	Column:	ZB-1	Analyst:	DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	87.1	5 -145	D	13C-PCB-170	71.7	10 -145	D
13C-PCB-3	93.5	5 -145	D	13C-PCB-180	74.9	10 -145	D
13C-PCB-4	79.6	5 -145	D	13C-PCB-188	70.6	10 -145	D
13C-PCB-11	71.0	5 -145	D	13C-PCB-189	71.7	10 -145	D
13C-PCB-9	83.3	5 -145	D	13C-PCB-194	90.7	10 -145	D
13C-PCB-19	86.2	5 -145	D	13C-PCB-202	58.4	10 -145	D
13C-PCB-28	81.9	5 -145	D	13C-PCB-206	88.9	10 -145	D
13C-PCB-32	86.8	5 -145	D	13C-PCB-208	79.9	10 -145	D
13C-PCB-37	76.2	5 -145	D	13C-PCB-209	86.9	10 -145	D
13C-PCB-47	77.7	5 -145	D	CRS 13C-PCB-79	82.1	10 -145	D
13C-PCB-52	78.8	5 -145	D	13C-PCB-178	81.5	10 -145	D
13C-PCB-54	78.9	5 -145	D				
13C-PCB-70	80.7	5 -145	D				
13C-PCB-77	74.1	10 -145	D				
13C-PCB-80	80.9	10 -145	D				
13C-PCB-81	79.2	10 -145	D				
13C-PCB-95	89.4	10 -145	D				
13C-PCB-97	86.7	10 -145	D				
13C-PCB-101	86.4	10 -145	D				
13C-PCB-104	78.3	10 -145	D				
13C-PCB-105	98.1	10 -145	D				
13C-PCB-114	97.1	10 -145	D				
13C-PCB-118	80.5	10 -145	D				
13C-PCB-123	86.9	10 -145	D				
13C-PCB-126	95.0	10 -145	D				
13C-PCB-127	98.2	10 -145	D				
13C-PCB-138	84.5	10 -145	D				
13C-PCB-141	85.9	10 -145	D				
13C-PCB-153	87.0	10 -145	D				
13C-PCB-155	69.9	10 -145	D				
13C-PCB-156	83.2	10 -145	D				
13C-PCB-157	82.6	10 -145	D				
13C-PCB-159	82.3	10 -145	D				
13C-PCB-167	87.1	10 -145	D				
13C-PCB-169	81.6	10 -145	D				

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: 96-ST1-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-03		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	93.5 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 13:40			% Solids:	10.0		Date Analyzed :	01-Apr-15 21:41		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	37.5	26.6			0.320	D	PCB-44	889	26.6			0.745	D
PCB-2	21.8	26.6			0.240	J, D	PCB-45	133	26.6			0.402	D
PCB-3	41.8	26.6			0.323	D	PCB-46	58.2	26.6			0.537	D
PCB-4/10	67.2	53.2			1.14	D	PCB-47	203	26.6			2.19	D
PCB-5/8	223	53.2			1.76	D	PCB-48/75	124	53.2			0.983	D
PCB-6	52.5	26.6			1.00	D	PCB-50	ND	26.6	12.1		0.603	D
PCB-7/9	27.9	53.2			1.34	J, D	PCB-51	42.2	26.6			0.789	D
PCB-11	610	26.6			3.48	B, D	PCB-52/69	1350	53.2			0.722	D
PCB-12/13	45.5	53.2			1.37	J, D	PCB-53	129	26.6			0.331	D
PCB-14	ND	26.6	29.1		0.337	D	PCB-54	ND	26.6	9.17		0.275	D
PCB-15	318	26.6			0.634	D	PCB-55	ND	26.6		25.3	0.416	D
PCB-16/32	285	53.2			0.430	D	PCB-56/60	568	53.2			0.825	D
PCB-17	155	26.6			0.658	D	PCB-57	6.56	26.6			0.354	J, D
PCB-18	421	26.6			0.696	D	PCB-58	ND	26.6	9.30		0.589	D
PCB-19	52.9	26.6			0.612	D	PCB-61/70	1280	53.2			1.20	D
PCB-20/21/33	302	79.8			2.47	D	PCB-62	ND	26.6	11.9		0.597	D
PCB-22	192	26.6			0.964	D	PCB-63	ND	26.6		25.5	0.524	D
PCB-23	ND	26.6	7.23		0.543	D	PCB-65	ND	26.6	12.3		0.842	D
PCB-24/27	46.1	53.2			0.742	J, D	PCB-66/76	847	53.2			1.31	D
PCB-25	56.8	26.6			0.768	D	PCB-67	28.4	26.6			0.486	D
PCB-26	111	26.6			0.766	D	PCB-68	ND	26.6	10.1		0.658	D
PCB-28	587	26.6			1.12	D	PCB-73	ND	26.6	11.6		0.454	D
PCB-29	ND	26.6	7.24		0.949	D	PCB-74	397	26.6			0.781	D
PCB-30	ND	26.6	5.03		0.355	D	PCB-77	226	26.6			0.748	D
PCB-31	474	26.6			0.809	D	PCB-78	ND	26.6	11.1		0.385	D
PCB-34	ND	26.6	6.73		1.57	D	PCB-79	46.5	26.6			0.633	D
PCB-35	34.1	26.6			0.565	D	PCB-80	ND	26.6	8.47		0.336	D
PCB-36	ND	26.6	8.75		0.406	D	PCB-81	23.5	26.6			0.674	J, D
PCB-37	321	26.6			0.389	D	PCB-82	409	26.6			0.981	D
PCB-38	ND	26.6	9.15		0.528	D	PCB-83	ND	26.6	14.3		0.440	D
PCB-39	ND	26.6	9.01		0.461	D	PCB-84/92	1330	53.2			1.01	D
PCB-40	137	26.6			0.927	D	PCB-85/116	538	53.2			1.64	D
PCB-41/64/71/72	638	106			1.70	D	PCB-86	ND	26.6	22.9		1.79	D
PCB-42/59	244	53.2			0.899	D	PCB-87/117/125	1200	79.8			0.880	D
PCB-43/49	619	53.2			0.879	D	PCB-88/91	476	53.2			1.25	D

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: 96-ST1-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-03		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	93.5 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 13:40			% Solids:	10.0		Date Analyzed:	01-Apr-15 21:41		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	23.6	26.6			1.22	J, D	PCB-136	558	26.6			0.776	D
PCB-90/101	3410	53.2			1.19	D	PCB-137	200	26.6			0.541	D
PCB-93	ND	26.6	22.4		2.53	D	PCB-138/163/164	5440	79.8			0.809	D
PCB-94	19.5	26.6			0.874	J, D	PCB-139/149	3910	53.2			1.49	D
PCB-95/98/102	2590	79.8			1.38	D	PCB-140	35.7	26.6			1.20	D
PCB-96	ND	26.6		6.16	0.588	D	PCB-141	1010	26.6			0.678	D
PCB-97	900	26.6			0.675	D	PCB-144	184	26.6			1.38	D
PCB-99	1310	26.6			0.474	D	PCB-145	ND	26.6	15.4		1.05	D
PCB-100	10.7	26.6			0.511	J, D	PCB-146/165	744	53.2			0.792	D
PCB-103	ND	26.6		20.5	0.428	D	PCB-147	79.2	26.6			5.26	D
PCB-104	ND	26.6	15.1		0.876	D	PCB-148	ND	26.6	20.5		1.45	D
PCB-105	1050	26.6			0.462	D	PCB-150	ND	26.6	14.9		0.801	D
PCB-106/118	3170	53.2			0.728	D	PCB-151	1120	26.6			1.16	D
PCB-107/109	201	53.2			0.631	D	PCB-152	ND	26.6	14.4		0.744	D
PCB-108/112	136	53.2			0.844	D	PCB-153	4330	26.6			0.484	D
PCB-110	3930	26.6			0.555	D	PCB-154	52.9	26.6			0.837	D
PCB-111/115	47.1	53.2			1.24	J, D	PCB-155	ND	26.6	14.0		0.767	D
PCB-113	ND	26.6	14.4		0.495	D	PCB-156	450	26.6			0.534	D
PCB-114	60.5	26.6			0.418	D	PCB-157	114	26.6			0.485	D
PCB-119	50.2	26.6			0.383	D	PCB-158/160	516	53.2			0.915	D
PCB-120	11.3	26.6			0.622	J, D	PCB-159	ND	26.6	20.9		0.578	D
PCB-121	ND	26.6	13.5		0.978	D	PCB-166	20.7	26.6			0.425	J, D
PCB-122	34.3	26.6			0.619	D	PCB-167	215	26.6			0.653	D
PCB-123	51.8	26.6			0.494	D	PCB-168	ND	26.6	16.2		0.502	D
PCB-124	170	26.6			0.813	D	PCB-169	ND	26.6	29.2		0.767	D
PCB-126	41.9	26.6			0.543	D	PCB-170	1420	26.6			0.758	D
PCB-127	ND	26.6	27.3		0.326	D	PCB-171	432	26.6			0.372	D
PCB-128/162	815	53.2			1.08	D	PCB-172	305	26.6			0.857	D
PCB-129	231	26.6			0.567	D	PCB-173	ND	26.6		38.6	0.507	D
PCB-130	387	26.6			0.798	D	PCB-174	2040	26.6			0.797	D
PCB-131	ND	26.6	26.0		0.731	D	PCB-175	ND	26.6		46.8	0.679	D
PCB-132/161	1410	53.2			1.05	D	PCB-176	171	26.6			0.729	D
PCB-133/142	135	53.2			1.04	D	PCB-177	1120	26.6			0.404	D
PCB-134/143	239	53.2			1.05	D	PCB-178	312	26.6			0.610	D
PCB-135	678	26.6			1.47	D	PCB-179	674	26.6			0.418	D

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: 96-ST1-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-03		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	93.5 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 13:40			% Solids:	10.0		Date Analyzed :	01-Apr-15 21:41		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	3730	26.6			0.420	D	Total octaCB	4020	26.6		4060		B
PCB-181	ND	26.6	15.7		1.26	D	Total nonaCB	897	26.6				
PCB-182/187	1990	53.2			1.33	D	DecaCB	292	26.6				
PCB-183	709	26.6			0.638	D	Total PCB	75400	26.6				B
PCB-184	ND	26.6	8.91		0.597	D							
PCB-185	226	26.6			0.557	D							
PCB-186	ND	26.6	8.19		0.421	D							
PCB-188	ND	26.6	7.84		0.759	D							
PCB-189	47.6	26.6			0.483	D							
PCB-190	271	26.6			0.686	D							
PCB-191	61.8	26.6			0.447	D							
PCB-192	ND	26.6	12.2		0.528	D							
PCB-193	193	26.6			0.836	D							
PCB-194	827	26.6			0.645	B, D							
PCB-195	421	26.6			0.722	D							
PCB-196/203	950	53.2			0.983	D							
PCB-197	42.1	26.6			0.794	D							
PCB-198	37.0	26.6			0.792	D							
PCB-199	1090	26.6			0.615	D							
PCB-200	138	26.6			0.795	D							
PCB-201	159	26.6			0.317	D							
PCB-202	359	26.6			0.759	D							
PCB-204	ND	26.6	22.9		0.543	D							
PCB-205	ND	26.6		36.6	0.471	D							
PCB-206	623	26.6			0.852	D							
PCB-207	79.0	26.6			0.402	D							
PCB-208	195	26.6			0.441	D							
PCB-209	292	26.6			1.10	D							
Total monoCB	101	26.6											
Total diCB	1340	26.6				B							
Total triCB	3040	26.6											
Total tetraCB	7990	26.6		8040									
Total pentaCB	21200	26.6											
Total hexaCB	22900	26.6											
Total heptaCB	13700	26.6		13800									

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: 96-ST1-20150326-S

EPA Method 1668C

Client Data		Sample Data		Laboratory Data	
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-03
Project:	1400647	Sample Size:	93.5 g	Date Received:	27-Mar-2015 7:19
Date Collected:	26-Mar-2015 13:40	% Solids:	10.0	QC Batch:	B5C0139
				Date Analyzed:	01-Apr-15 21:41
				Column:	ZB-1
				Analyst:	DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	118	5 -145	D	13C-PCB-170	60.2	10 -145	D
13C-PCB-3	114	5 -145	D	13C-PCB-180	71.2	10 -145	D
13C-PCB-4	103	5 -145	D	13C-PCB-188	90.0	10 -145	D
13C-PCB-11	90.0	5 -145	D	13C-PCB-189	51.7	10 -145	D
13C-PCB-9	105	5 -145	D	13C-PCB-194	107	10 -145	D
13C-PCB-19	103	5 -145	D	13C-PCB-202	59.5	10 -145	D
13C-PCB-28	98.6	5 -145	D	13C-PCB-206	110	10 -145	D
13C-PCB-32	96.0	5 -145	D	13C-PCB-208	105	10 -145	D
13C-PCB-37	88.6	5 -145	D	13C-PCB-209	109	10 -145	D
13C-PCB-47	107	5 -145	D	CRS 13C-PCB-79	105	10 -145	D
13C-PCB-52	112	5 -145	D	13C-PCB-178	85.4	10 -145	D
13C-PCB-54	109	5 -145	D				
13C-PCB-70	108	5 -145	D				
13C-PCB-77	96.4	10 -145	D				
13C-PCB-80	108	10 -145	D				
13C-PCB-81	98.5	10 -145	D				
13C-PCB-95	103	10 -145	D				
13C-PCB-97	109	10 -145	D				
13C-PCB-101	105	10 -145	D				
13C-PCB-104	100	10 -145	D				
13C-PCB-105	125	10 -145	D				
13C-PCB-114	125	10 -145	D				
13C-PCB-118	93.9	10 -145	D				
13C-PCB-123	108	10 -145	D				
13C-PCB-126	113	10 -145	D				
13C-PCB-127	124	10 -145	D				
13C-PCB-138	101	10 -145	D				
13C-PCB-141	112	10 -145	D				
13C-PCB-153	116	10 -145	D				
13C-PCB-155	81.4	10 -145	D				
13C-PCB-156	89.4	10 -145	D				
13C-PCB-157	88.6	10 -145	D				
13C-PCB-159	95.9	10 -145	D				
13C-PCB-167	92.6	10 -145	D				
13C-PCB-169	75.9	10 -145	D				

RL - Reporting limit
 EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
 MDL - Method detection limit

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: HC-ST1-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-04		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	19.1 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 14:02			% Solids:	51.5		Date Analyzed :	02-Apr-15 13:54		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	1.58	2.54			0.320	J	PCB-44	35.0	2.54			0.745	
PCB-2	1.50	2.54			0.240	J	PCB-45	6.49	2.54			0.402	
PCB-3	2.24	2.54			0.323	J	PCB-46	ND	2.54		3.06	0.537	
PCB-4/10	ND	5.08	5.80		1.14		PCB-47	11.2	2.54			2.19	
PCB-5/8	14.9	5.08			1.76		PCB-48/75	5.94	5.08			0.983	
PCB-6	ND	2.54	4.29		1.00		PCB-50	ND	2.54	1.02		0.603	
PCB-7/9	ND	5.08	4.24		1.34		PCB-51	2.32	2.54			0.789	J
PCB-11	9.92	2.54			3.48	B	PCB-52/69	46.7	5.08			0.722	
PCB-12/13	ND	5.08	4.47		1.37		PCB-53	6.91	2.54			0.331	
PCB-14	ND	2.54	3.85		0.337		PCB-54	ND	2.54	0.777		0.275	
PCB-15	15.4	2.54			0.634		PCB-55	1.04	2.54			0.416	J
PCB-16/32	19.2	5.08			0.430		PCB-56/60	17.8	5.08			0.825	
PCB-17	9.11	2.54			0.658		PCB-57	ND	2.54	0.726		0.354	
PCB-18	21.6	2.54			0.696		PCB-58	ND	2.54	0.715		0.589	
PCB-19	3.10	2.54			0.612		PCB-61/70	47.5	5.08			1.20	
PCB-20/21/33	17.0	7.63			2.47		PCB-62	ND	2.54	0.994		0.597	
PCB-22	11.9	2.54			0.964		PCB-63	1.21	2.54			0.524	J
PCB-23	ND	2.54	0.818		0.543		PCB-65	ND	2.54	1.02		0.842	
PCB-24/27	2.71	5.08			0.742	J	PCB-66/76	30.6	5.08			1.31	
PCB-25	2.98	2.54			0.768		PCB-67	1.15	2.54			0.486	J
PCB-26	4.21	2.54			0.766		PCB-68	ND	2.54	0.838		0.658	
PCB-28	34.9	2.54			1.12		PCB-73	ND	2.54	1.02		0.454	
PCB-29	ND	2.54	0.819		0.949		PCB-74	13.6	2.54			0.781	
PCB-30	ND	2.54	0.623		0.355		PCB-77	7.03	2.54			0.748	
PCB-31	26.6	2.54			0.809		PCB-78	ND	2.54	0.783		0.385	
PCB-34	ND	2.54	0.761		1.57		PCB-79	1.87	2.54			0.633	J
PCB-35	ND	2.54	1.37		0.565		PCB-80	ND	2.54	0.621		0.336	
PCB-36	ND	2.54	1.33		0.406		PCB-81	0.673	2.54			0.674	J
PCB-37	15.5	2.54			0.389		PCB-82	13.4	2.54			0.981	
PCB-38	ND	2.54	1.39		0.528		PCB-83	ND	2.54	1.20		0.440	
PCB-39	ND	2.54	1.37		0.461		PCB-84/92	52.0	5.08			1.01	
PCB-40	ND	2.54		1.25	0.927		PCB-85/116	22.4	5.08			1.64	
PCB-41/64/71/72	20.2	10.2			1.70		PCB-86	ND	2.54	1.92		1.79	
PCB-42/59	10.9	5.08			0.899		PCB-87/117/125	43.8	7.63			0.880	
PCB-43/49	31.2	5.08			0.879		PCB-88/91	18.9	5.08			1.25	

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: HC-ST1-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-04		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	19.1 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 14:02			% Solids:	51.5		Date Analyzed:	02-Apr-15 13:54		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	ND	2.54		1.21	1.22		PCB-136	40.0	2.54			0.776	
PCB-90/101	144	5.08			1.19		PCB-137	10.9	2.54			0.541	
PCB-93	ND	2.54	1.72		2.53		PCB-138/163/164	295	7.63			0.809	
PCB-94	ND	2.54	1.62		0.874		PCB-139/149	267	5.08			1.49	
PCB-95/98/102	114	7.63			1.38		PCB-140	1.39	2.54			1.20	J
PCB-96	ND	2.54	1.67		0.588		PCB-141	65.1	2.54			0.678	
PCB-97	32.8	2.54			0.675		PCB-144	15.9	2.54			1.38	
PCB-99	53.5	2.54			0.474		PCB-145	ND	2.54	1.62		1.05	
PCB-100	ND	2.54	1.89		0.511		PCB-146/165	44.3	5.08			0.792	
PCB-103	ND	2.54	1.88		0.428		PCB-147	5.06	2.54			5.26	
PCB-104	ND	2.54	1.44		0.876		PCB-148	ND	2.54	2.16		1.45	
PCB-105	42.8	2.54			0.462		PCB-150	ND	2.54	1.57		0.801	
PCB-106/118	130	5.08			0.728		PCB-151	90.0	2.54			1.16	
PCB-107/109	9.03	5.08			0.631		PCB-152	ND	2.54	1.51		0.744	
PCB-108/112	5.33	5.08			0.844		PCB-153	282	2.54			0.484	
PCB-110	175	2.54			0.555		PCB-154	ND	2.54		1.84	0.837	
PCB-111/115	2.53	5.08			1.24	J	PCB-155	ND	2.54	1.48		0.767	
PCB-113	0.567	2.54			0.495	J	PCB-156	23.2	2.54			0.534	
PCB-114	1.73	2.54			0.418	J	PCB-157	6.40	2.54			0.485	
PCB-119	2.15	2.54			0.383	J	PCB-158/160	28.3	5.08			0.915	
PCB-120	0.398	2.54			0.622	J	PCB-159	ND	2.54	1.16		0.578	
PCB-121	ND	2.54	1.04		0.978		PCB-166	0.970	2.54			0.425	J
PCB-122	ND	2.54		1.30	0.619		PCB-167	11.4	2.54			0.653	
PCB-123	ND	2.54		2.27	0.494		PCB-168	0.803	2.54			0.502	J
PCB-124	7.46	2.54			0.813		PCB-169	ND	2.54	1.36		0.767	
PCB-126	2.03	2.54			0.543	J	PCB-170	113	2.54			0.758	
PCB-127	ND	2.54	1.25		0.326		PCB-171	34.5	2.54			0.372	
PCB-128/162	40.8	5.08			1.08		PCB-172	25.1	2.54			0.857	
PCB-129	9.46	2.54			0.567		PCB-173	2.98	2.54			0.507	
PCB-130	17.4	2.54			0.798		PCB-174	180	2.54			0.797	
PCB-131	ND	2.54	1.77		0.731		PCB-175	4.90	2.54			0.679	
PCB-132/161	75.6	5.08			1.05		PCB-176	19.6	2.54			0.729	
PCB-133/142	7.22	5.08			1.04		PCB-177	93.4	2.54			0.404	
PCB-134/143	14.3	5.08			1.05		PCB-178	28.3	2.54			0.610	
PCB-135	42.6	2.54			1.47		PCB-179	72.6	2.54			0.418	

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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: HC-ST1-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-04		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	19.1 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 14:02			% Solids:	51.5		Date Analyzed :	02-Apr-15 13:54		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	328	2.54			0.420		Total octaCB	421	2.54		425		B
PCB-181	ND	2.54	1.24		1.26		Total nonaCB	58.1	2.54				
PCB-182/187	184	5.08			1.33		DecaCB	14.8	2.54				
PCB-183	69.9	2.54			0.638		Total PCB	4510	2.54				B
PCB-184	ND	2.54	0.810		0.597								
PCB-185	22.0	2.54			0.557								
PCB-186	ND	2.54	0.744		0.421								
PCB-188	ND	2.54	0.712		0.759								
PCB-189	4.31	2.54			0.483								
PCB-190	26.1	2.54			0.686								
PCB-191	4.70	2.54			0.447								
PCB-192	ND	2.54	0.964		0.528								
PCB-193	17.1	2.54			0.836								
PCB-194	73.7	2.54			0.645	B							
PCB-195	34.2	2.54			0.722								
PCB-196/203	123	5.08			0.983								
PCB-197	ND	2.54		3.56	0.794								
PCB-198	6.67	2.54			0.792								
PCB-199	123	2.54			0.615								
PCB-200	14.4	2.54			0.795								
PCB-201	15.1	2.54			0.317								
PCB-202	27.3	2.54			0.759								
PCB-204	ND	2.54	1.44		0.543								
PCB-205	3.71	2.54			0.471								
PCB-206	41.0	2.54			0.852								
PCB-207	5.70	2.54			0.402								
PCB-208	11.4	2.54			0.441								
PCB-209	14.8	2.54			1.10								
Total monoCB	5.31	2.54											
Total diCB	40.2	2.54				B							
Total triCB	169	2.54											
Total tetraCB	299	2.54		304									
Total pentaCB	874	2.54		879									
Total hexaCB	1400	2.54											
Total heptaCB	1230	2.54											

RL - Reporting limit

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MDL - Method detection limit

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

Sample ID: HC-ST1-20150326-S

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-04	Date Received:	27-Mar-2015 7:19
Project:	1400647	Sample Size:	19.1 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015 10:31
Date Collected:	26-Mar-2015 14:02	% Solids:	51.5	Date Analyzed:	02-Apr-15 13:54	Column:	ZB-1
				Analyst:	DMS		

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	43.4	5 -145		13C-PCB-170	78.3	10 -145	
13C-PCB-3	56.9	5 -145		13C-PCB-180	76.5	10 -145	
13C-PCB-4	66.5	5 -145		13C-PCB-188	87.6	10 -145	
13C-PCB-11	81.6	5 -145		13C-PCB-189	73.3	10 -145	
13C-PCB-9	79.5	5 -145		13C-PCB-194	103	10 -145	
13C-PCB-19	71.2	5 -145		13C-PCB-202	65.6	10 -145	
13C-PCB-28	96.9	5 -145		13C-PCB-206	86.8	10 -145	
13C-PCB-32	80.6	5 -145		13C-PCB-208	98.5	10 -145	
13C-PCB-37	79.1	5 -145		13C-PCB-209	88.9	10 -145	
13C-PCB-47	86.1	5 -145		CRS 13C-PCB-79	90.3	10 -145	
13C-PCB-52	82.6	5 -145		13C-PCB-178	81.5	10 -145	
13C-PCB-54	85.7	5 -145					
13C-PCB-70	92.9	5 -145					
13C-PCB-77	85.3	10 -145					
13C-PCB-80	92.8	10 -145					
13C-PCB-81	85.7	10 -145					
13C-PCB-95	96.8	10 -145					
13C-PCB-97	99.0	10 -145					
13C-PCB-101	94.1	10 -145					
13C-PCB-104	84.7	10 -145					
13C-PCB-105	100	10 -145					
13C-PCB-114	102	10 -145					
13C-PCB-118	92.9	10 -145					
13C-PCB-123	99.4	10 -145					
13C-PCB-126	99.6	10 -145					
13C-PCB-127	104	10 -145					
13C-PCB-138	102	10 -145					
13C-PCB-141	103	10 -145					
13C-PCB-153	91.0	10 -145					
13C-PCB-155	73.7	10 -145					
13C-PCB-156	90.1	10 -145					
13C-PCB-157	89.8	10 -145					
13C-PCB-159	91.1	10 -145					
13C-PCB-167	92.6	10 -145					
13C-PCB-169	85.3	10 -145					

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MDL - Method detection limit

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Sample ID: HC-SF-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-05		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	17.5 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 14:40			% Solids:	57.5		Date Analyzed :	02-Apr-15 14:59		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	2.85	2.48			0.320		PCB-44	44.9	2.48			0.745	
PCB-2	3.28	2.48			0.240		PCB-45	6.59	2.48			0.402	
PCB-3	3.44	2.48			0.323		PCB-46	3.42	2.48			0.537	
PCB-4/10	2.98	4.97			1.14	J	PCB-47	14.7	2.48			2.19	
PCB-5/8	11.6	4.97			1.76		PCB-48/75	7.01	4.97			0.983	
PCB-6	ND	2.48		2.85	1.00		PCB-50	ND	2.48	1.27		0.603	
PCB-7/9	ND	4.97	3.03		1.34		PCB-51	2.43	2.48			0.789	J
PCB-11	17.1	2.48			3.48	B	PCB-52/69	73.2	4.97			0.722	
PCB-12/13	ND	4.97	3.26		1.37		PCB-53	7.69	2.48			0.331	
PCB-14	ND	2.48	2.81		0.337		PCB-54	ND	2.48	0.964		0.275	
PCB-15	19.0	2.48			0.634		PCB-55	ND	2.48		1.44	0.416	
PCB-16/32	19.7	4.97			0.430		PCB-56/60	30.3	4.97			0.825	
PCB-17	9.97	2.48			0.658		PCB-57	ND	2.48	0.871		0.354	
PCB-18	26.0	2.48			0.696		PCB-58	0.306	2.48			0.589	J
PCB-19	2.38	2.48			0.612	J	PCB-61/70	85.4	4.97			1.20	
PCB-20/21/33	22.7	7.45			2.47		PCB-62	ND	2.48	1.30		0.597	
PCB-22	15.4	2.48			0.964		PCB-63	2.10	2.48			0.524	J
PCB-23	ND	2.48	1.23		0.543		PCB-65	ND	2.48	1.34		0.842	
PCB-24/27	3.35	4.97			0.742	J	PCB-66/76	54.9	4.97			1.31	
PCB-25	4.37	2.48			0.768		PCB-67	1.72	2.48			0.486	J
PCB-26	6.58	2.48			0.766		PCB-68	0.521	2.48			0.658	J
PCB-28	44.8	2.48			1.12		PCB-73	ND	2.48	1.21		0.454	
PCB-29	ND	2.48	1.23		0.949		PCB-74	24.4	2.48			0.781	
PCB-30	ND	2.48	0.620		0.355		PCB-77	14.2	2.48			0.748	
PCB-31	37.5	2.48			0.809		PCB-78	ND	2.48	1.02		0.385	
PCB-34	ND	2.48	1.14		1.57		PCB-79	4.16	2.48			0.633	
PCB-35	ND	2.48	2.29		0.565		PCB-80	ND	2.48	0.747		0.336	
PCB-36	ND	2.48	2.22		0.406		PCB-81	0.859	2.48			0.674	J
PCB-37	22.2	2.48			0.389		PCB-82	27.7	2.48			0.981	
PCB-38	ND	2.48	2.32		0.528		PCB-83	ND	2.48	1.35		0.440	
PCB-39	ND	2.48	2.28		0.461		PCB-84/92	88.4	4.97			1.01	
PCB-40	2.00	2.48			0.927	J	PCB-85/116	48.1	4.97			1.64	
PCB-41/64/71/72	19.2	9.94			1.70		PCB-86	ND	2.48	2.17		1.79	
PCB-42/59	11.6	4.97			0.899		PCB-87/117/125	87.5	7.45			0.880	
PCB-43/49	40.3	4.97			0.879		PCB-88/91	35.6	4.97			1.25	

RL - Reporting limit
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The results are reported in dry weight. The sample size is reported in wet weight.

Sample ID: HC-SF-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data				
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-05	Date Received:	27-Mar-2015	7:19			
Project:	1400647	Sample Size:	17.5 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015	10:31			
Date Collected:	26-Mar-2015 14:40	% Solids:	57.5	Date Analyzed :	02-Apr-15 14:59	Column:	ZB-1	Analyst:	DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	1.46	2.48			1.22	J	PCB-136	40.4	2.48			0.776	
PCB-90/101	250	4.97			1.19		PCB-137	13.6	2.48			0.541	
PCB-93	ND	2.48	1.92		2.53		PCB-138/163/164	423	7.45			0.809	
PCB-94	ND	2.48		1.03	0.874		PCB-139/149	322	4.97			1.49	
PCB-95/98/102	169	7.45			1.38		PCB-140	1.90	2.48			1.20	J
PCB-96	ND	2.48	2.32		0.588		PCB-141	77.0	2.48			0.678	
PCB-97	60.6	2.48			0.675		PCB-144	14.7	2.48			1.38	
PCB-99	117	2.48			0.474		PCB-145	ND	2.48	1.99		1.05	
PCB-100	ND	2.48		1.39	0.511		PCB-146/165	70.9	4.97			0.792	
PCB-103	ND	2.48	2.61		0.428		PCB-147	9.12	2.48			5.26	
PCB-104	ND	2.48	2.00		0.876		PCB-148	ND	2.48	2.67		1.45	
PCB-105	93.6	2.48			0.462		PCB-150	ND	2.48	1.93		0.801	
PCB-106/118	256	4.97			0.728		PCB-151	84.4	2.48			1.16	
PCB-107/109	20.0	4.97			0.631		PCB-152	ND	2.48	1.87		0.744	
PCB-108/112	9.27	4.97			0.844		PCB-153	387	2.48			0.484	
PCB-110	304	2.48			0.555		PCB-154	4.73	2.48			0.837	
PCB-111/115	3.93	4.97			1.24	J	PCB-155	ND	2.48	1.82		0.767	
PCB-113	ND	2.48	1.44		0.495		PCB-156	37.2	2.48			0.534	
PCB-114	3.93	2.48			0.418		PCB-157	12.2	2.48			0.485	
PCB-119	4.37	2.48			0.383		PCB-158/160	42.4	4.97			0.915	
PCB-120	0.920	2.48			0.622	J	PCB-159	ND	2.48	1.18		0.578	
PCB-121	ND	2.48	1.16		0.978		PCB-166	1.69	2.48			0.425	J
PCB-122	3.36	2.48			0.619		PCB-167	21.9	2.48			0.653	
PCB-123	5.64	2.48			0.494		PCB-168	1.06	2.48			0.502	J
PCB-124	15.9	2.48			0.813		PCB-169	ND	2.48	1.62		0.767	
PCB-126	4.34	2.48			0.543		PCB-170	108	2.48			0.758	
PCB-127	ND	2.48	1.45		0.326		PCB-171	31.2	2.48			0.372	
PCB-128/162	77.1	4.97			1.08		PCB-172	23.9	2.48			0.857	
PCB-129	17.9	2.48			0.567		PCB-173	3.21	2.48			0.507	
PCB-130	29.2	2.48			0.798		PCB-174	143	2.48			0.797	
PCB-131	ND	2.48	1.71		0.731		PCB-175	4.14	2.48			0.679	
PCB-132/161	108	4.97			1.05		PCB-176	14.4	2.48			0.729	
PCB-133/142	12.0	4.97			1.04		PCB-177	83.9	2.48			0.404	
PCB-134/143	17.8	4.97			1.05		PCB-178	33.5	2.48			0.610	
PCB-135	51.5	2.48			1.47		PCB-179	61.1	2.48			0.418	

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: HC-SF-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data				
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-05	Date Received:	27-Mar-2015	7:19			
Project:	1400647	Sample Size:	17.5 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015	10:31			
Date Collected:	26-Mar-2015 14:40	% Solids:	57.5	Date Analyzed :	02-Apr-15 14:59	Column:	ZB-1	Analyst:	DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	292	2.48			0.420		Total octaCB	390	2.48				B
PCB-181	ND	2.48	0.956		1.26		Total nonaCB	115	2.48				
PCB-182/187	198	4.97			1.33		DecaCB	231	2.48				
PCB-183	60.7	2.48			0.638		Total PCB	6080	2.48				B
PCB-184	ND	2.48	0.638		0.597								
PCB-185	19.2	2.48			0.557								
PCB-186	ND	2.48	0.586		0.421								
PCB-188	ND	2.48	0.561		0.759								
PCB-189	5.09	2.48			0.483								
PCB-190	24.3	2.48			0.686								
PCB-191	3.63	2.48			0.447								
PCB-192	ND	2.48	0.742		0.528								
PCB-193	14.5	2.48			0.836								
PCB-194	67.2	2.48			0.645	B							
PCB-195	32.3	2.48			0.722								
PCB-196/203	108	4.97			0.983								
PCB-197	3.82	2.48			0.794								
PCB-198	4.83	2.48			0.792								
PCB-199	110	2.48			0.615								
PCB-200	10.3	2.48			0.795								
PCB-201	13.7	2.48			0.317								
PCB-202	36.0	2.48			0.759								
PCB-204	ND	2.48	1.20		0.543								
PCB-205	3.60	2.48			0.471								
PCB-206	75.1	2.48			0.852								
PCB-207	11.0	2.48			0.402								
PCB-208	28.9	2.48			0.441								
PCB-209	231	2.48			1.10								
Total monoCB	9.56	2.48											
Total diCB	50.6	2.48		53.4		B							
Total triCB	215	2.48											
Total tetraCB	452	2.48		453									
Total pentaCB	1610	2.48											
Total hexaCB	1880	2.48											
Total heptaCB	1120	2.48											

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: HC-SF-20150326-S

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-05	Date Received:	27-Mar-2015 7:19
Project:	1400647	Sample Size:	17.5 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015 10:31
Date Collected:	26-Mar-2015 14:40	% Solids:	57.5	Date Analyzed:	02-Apr-15 14:59	Column:	ZB-1
				Analyst:	DMS		

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	49.7	5 -145		13C-PCB-170	64.2	10 -145	
13C-PCB-3	69.0	5 -145		13C-PCB-180	77.9	10 -145	
13C-PCB-4	79.3	5 -145		13C-PCB-188	81.9	10 -145	
13C-PCB-11	86.2	5 -145		13C-PCB-189	58.0	10 -145	
13C-PCB-9	85.6	5 -145		13C-PCB-194	111	10 -145	
13C-PCB-19	78.5	5 -145		13C-PCB-202	63.7	10 -145	
13C-PCB-28	82.9	5 -145		13C-PCB-206	124	10 -145	
13C-PCB-32	78.8	5 -145		13C-PCB-208	124	10 -145	
13C-PCB-37	63.9	5 -145		13C-PCB-209	122	10 -145	
13C-PCB-47	83.6	5 -145		CRS 13C-PCB-79	90.4	10 -145	
13C-PCB-52	90.3	5 -145		13C-PCB-178	82.7	10 -145	
13C-PCB-54	89.9	5 -145					
13C-PCB-70	100	5 -145					
13C-PCB-77	87.9	10 -145					
13C-PCB-80	99.4	10 -145					
13C-PCB-81	88.5	10 -145					
13C-PCB-95	97.0	10 -145					
13C-PCB-97	100	10 -145					
13C-PCB-101	97.6	10 -145					
13C-PCB-104	69.5	10 -145					
13C-PCB-105	101	10 -145					
13C-PCB-114	102	10 -145					
13C-PCB-118	91.1	10 -145					
13C-PCB-123	94.2	10 -145					
13C-PCB-126	97.7	10 -145					
13C-PCB-127	99.3	10 -145					
13C-PCB-138	95.9	10 -145					
13C-PCB-141	97.6	10 -145					
13C-PCB-153	100	10 -145					
13C-PCB-155	74.0	10 -145					
13C-PCB-156	92.0	10 -145					
13C-PCB-157	90.9	10 -145					
13C-PCB-159	92.9	10 -145					
13C-PCB-167	90.6	10 -145					
13C-PCB-169	71.1	10 -145					

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

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

Sample ID: HC-NF-10-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-06		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	12.9 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 15:20			% Solids:	77.6		Date Analyzed:	02-Apr-15 16:03		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	1.15	2.49			0.320	J	PCB-44	30.3	2.49			0.745	
PCB-2	1.48	2.49			0.240	J	PCB-45	7.75	2.49			0.402	
PCB-3	2.20	2.49			0.323	J	PCB-46	6.05	2.49			0.537	
PCB-4/10	ND	4.98	4.10		1.14		PCB-47	8.86	2.49			2.19	
PCB-5/8	4.43	4.98			1.76	J	PCB-48/75	3.37	4.98			0.983	J
PCB-6	ND	2.49	2.94		1.00		PCB-50	ND	2.49	1.24		0.603	
PCB-7/9	ND	4.98	2.91		1.34		PCB-51	4.47	2.49			0.789	
PCB-11	15.7	2.49			3.48	B	PCB-52/69	47.3	4.98			0.722	
PCB-12/13	ND	4.98	3.64		1.37		PCB-53	13.9	2.49			0.331	
PCB-14	ND	2.49	3.14		0.337		PCB-54	ND	2.49	0.939		0.275	
PCB-15	10.2	2.49			0.634		PCB-55	1.71	2.49			0.416	J
PCB-16/32	12.2	4.98			0.430		PCB-56/60	16.8	4.98			0.825	
PCB-17	4.26	2.49			0.658		PCB-57	ND	2.49	0.950		0.354	
PCB-18	11.1	2.49			0.696		PCB-58	ND	2.49	0.936		0.589	
PCB-19	3.23	2.49			0.612		PCB-61/70	35.3	4.98			1.20	
PCB-20/21/33	7.64	7.47			2.47		PCB-62	ND	2.49	1.16		0.597	
PCB-22	5.41	2.49			0.964		PCB-63	1.40	2.49			0.524	J
PCB-23	ND	2.49	1.00		0.543		PCB-65	ND	2.49	1.19		0.842	
PCB-24/27	2.19	4.98			0.742	J	PCB-66/76	27.0	4.98			1.31	
PCB-25	ND	2.49	1.10		0.768		PCB-67	ND	2.49	0.975		0.486	
PCB-26	ND	2.49	0.978		0.766		PCB-68	ND	2.49		1.19	0.658	
PCB-28	15.8	2.49			1.12		PCB-73	ND	2.49	1.17		0.454	
PCB-29	ND	2.49	1.00		0.949		PCB-74	11.7	2.49			0.781	
PCB-30	ND	2.49	0.888		0.355		PCB-77	7.26	2.49			0.748	
PCB-31	10.4	2.49			0.809		PCB-78	ND	2.49	1.02		0.385	
PCB-34	ND	2.49	0.930		1.57		PCB-79	2.19	2.49			0.633	J
PCB-35	ND	2.49	1.72		0.565		PCB-80	ND	2.49	0.832		0.336	
PCB-36	ND	2.49	1.66		0.406		PCB-81	1.12	2.49			0.674	J
PCB-37	9.48	2.49			0.389		PCB-82	28.5	2.49			0.981	
PCB-38	ND	2.49	1.74		0.528		PCB-83	ND	2.49	2.13		0.440	
PCB-39	ND	2.49	1.71		0.461		PCB-84/92	109	4.98			1.01	
PCB-40	ND	2.49	1.83		0.927		PCB-85/116	28.5	4.98			1.64	
PCB-41/64/71/72	20.6	9.96			1.70		PCB-86	ND	2.49	3.42		1.79	
PCB-42/59	11.8	4.98			0.899		PCB-87/117/125	65.7	7.47			0.880	
PCB-43/49	22.2	4.98			0.879		PCB-88/91	42.8	4.98			1.25	

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: HC-NF-10-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data				
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-06	Date Received:	27-Mar-2015	7:19			
Project:	1400647	Sample Size:	12.9 g	QC Batch:	B5C0139	Date Extracted:	31-Mar-2015	10:31			
Date Collected:	26-Mar-2015 15:20	% Solids:	77.6	Date Analyzed:	02-Apr-15 16:03	Column:	ZB-1	Analyst:	DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	2.97	2.49			1.22		PCB-136	43.3	2.49			0.776	
PCB-90/101	188	4.98			1.19		PCB-137	13.6	2.49			0.541	
PCB-93	ND	2.49	2.99		2.53		PCB-138/163/164	344	7.47			0.809	
PCB-94	ND	2.49		1.67	0.874		PCB-139/149	281	4.98			1.49	
PCB-95/98/102	227	7.47			1.38		PCB-140	ND	2.49	2.99		1.20	
PCB-96	ND	2.49		0.636	0.588		PCB-141	67.7	2.49			0.678	
PCB-97	54.7	2.49			0.675		PCB-144	14.1	2.49			1.38	
PCB-99	67.7	2.49			0.474		PCB-145	ND	2.49	2.12		1.05	
PCB-100	ND	2.49		0.996	0.511		PCB-146/165	55.5	4.98			0.792	
PCB-103	2.48	2.49			0.428	J	PCB-147	6.07	2.49			5.26	
PCB-104	ND	2.49	2.45		0.876		PCB-148	ND	2.49	2.84		1.45	
PCB-105	ND	2.49	1.42		0.462		PCB-150	ND	2.49	2.06		0.801	
PCB-106/118	138	4.98			0.728		PCB-151	75.2	2.49			1.16	
PCB-107/109	10.3	4.98			0.631		PCB-152	ND	2.49	1.99		0.744	
PCB-108/112	11.4	4.98			0.844		PCB-153	271	2.49			0.484	
PCB-110	296	2.49			0.555		PCB-154	4.24	2.49			0.837	
PCB-111/115	3.01	4.98			1.24	J	PCB-155	ND	2.49	1.94		0.767	
PCB-113	1.04	2.49			0.495	J	PCB-156	25.0	2.49			0.534	
PCB-114	2.55	2.49			0.418		PCB-157	8.21	2.49			0.485	
PCB-119	3.63	2.49			0.383		PCB-158/160	36.8	4.98			0.915	
PCB-120	ND	2.49	1.78		0.622		PCB-159	ND	2.49	1.64		0.578	
PCB-121	ND	2.49	1.80		0.978		PCB-166	ND	2.49		1.17	0.425	
PCB-122	2.19	2.49			0.619	J	PCB-167	13.5	2.49			0.653	
PCB-123	3.82	2.49			0.494		PCB-168	ND	2.49	1.32		0.502	
PCB-124	8.45	2.49			0.813		PCB-169	ND	2.49	2.20		0.767	
PCB-126	2.71	2.49			0.543		PCB-170	85.1	2.49			0.758	
PCB-127	ND	2.49	1.66		0.326		PCB-171	26.9	2.49			0.372	
PCB-128/162	58.2	4.98			1.08		PCB-172	19.3	2.49			0.857	
PCB-129	16.3	2.49			0.567		PCB-173	ND	2.49		2.24	0.507	
PCB-130	27.9	2.49			0.798		PCB-174	125	2.49			0.797	
PCB-131	ND	2.49	2.11		0.731		PCB-175	ND	2.49		3.02	0.679	
PCB-132/161	118	4.98			1.05		PCB-176	11.2	2.49			0.729	
PCB-133/142	12.9	4.98			1.04		PCB-177	63.6	2.49			0.404	
PCB-134/143	23.4	4.98			1.05		PCB-178	20.4	2.49			0.610	
PCB-135	47.1	2.49			1.47		PCB-179	43.6	2.49			0.418	

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: HC-NF-10-20150326-S

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Sediment		Lab Sample:	1500280-06		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	12.9 g		QC Batch:	B5C0139		Date Extracted:	31-Mar-2015 10:31		
Date Collected:	26-Mar-2015 15:20			% Solids:	77.6		Date Analyzed :	02-Apr-15 16:03		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/g)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	221	2.49			0.420		Total octaCB	249	2.49				B
PCB-181	ND	2.49	1.33		1.26		Total nonaCB	53.6	2.49				
PCB-182/187	121	4.98			1.33		DecaCB	10.1	2.49				
PCB-183	48.3	2.49			0.638		Total PCB	4410	2.49				B
PCB-184	ND	2.49	0.805		0.597								
PCB-185	13.9	2.49			0.557								
PCB-186	ND	2.49	0.740		0.421								
PCB-188	ND	2.49	0.708		0.759								
PCB-189	3.58	2.49			0.483								
PCB-190	17.3	2.49			0.686								
PCB-191	3.43	2.49			0.447								
PCB-192	ND	2.49	1.03		0.528								
PCB-193	10.7	2.49			0.836								
PCB-194	44.4	2.49			0.645	B							
PCB-195	18.7	2.49			0.722								
PCB-196/203	67.9	4.98			0.983								
PCB-197	3.68	2.49			0.794								
PCB-198	3.94	2.49			0.792								
PCB-199	68.8	2.49			0.615								
PCB-200	8.79	2.49			0.795								
PCB-201	10.1	2.49			0.317								
PCB-202	20.8	2.49			0.759								
PCB-204	ND	2.49	2.36		0.543								
PCB-205	2.03	2.49			0.471	J							
PCB-206	37.7	2.49			0.852								
PCB-207	3.80	2.49			0.402								
PCB-208	12.0	2.49			0.441								
PCB-209	10.1	2.49			1.10								
Total monoCB	4.83	2.49											
Total diCB	30.4	2.49				B							
Total triCB	81.6	2.49											
Total tetraCB	281	2.49		282									
Total pentaCB	1300	2.49											
Total hexaCB	1560	2.49		1570									
Total heptaCB	834	2.49		839									

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

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: HC-NF-10-20150326-S

EPA Method 1668C

Client Data		Sample Data		Laboratory Data	
Name:	Leidos	Matrix:	Sediment	Lab Sample:	1500280-06
Project:	1400647	Sample Size:	12.9 g	Date Received:	27-Mar-2015 7:19
Date Collected:	26-Mar-2015 15:20	% Solids:	77.6	QC Batch:	B5C0139
				Date Analyzed :	02-Apr-15 16:03
				Column:	ZB-1
				Analyst:	DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	45.5	5 -145		13C-PCB-170	72.3	10 -145	
13C-PCB-3	59.8	5 -145		13C-PCB-180	76.0	10 -145	
13C-PCB-4	75.5	5 -145		13C-PCB-188	93.0	10 -145	
13C-PCB-11	74.7	5 -145		13C-PCB-189	60.1	10 -145	
13C-PCB-9	89.8	5 -145		13C-PCB-194	106	10 -145	
13C-PCB-19	64.6	5 -145		13C-PCB-202	63.7	10 -145	
13C-PCB-28	95.4	5 -145		13C-PCB-206	109	10 -145	
13C-PCB-32	73.7	5 -145		13C-PCB-208	115	10 -145	
13C-PCB-37	79.7	5 -145		13C-PCB-209	106	10 -145	
13C-PCB-47	100	5 -145		CRS 13C-PCB-79	105	10 -145	
13C-PCB-52	97.8	5 -145		13C-PCB-178	95.1	10 -145	
13C-PCB-54	97.4	5 -145					
13C-PCB-70	97.4	5 -145					
13C-PCB-77	97.1	10 -145					
13C-PCB-80	99.0	10 -145					
13C-PCB-81	94.6	10 -145					
13C-PCB-95	105	10 -145					
13C-PCB-97	110	10 -145					
13C-PCB-101	104	10 -145					
13C-PCB-104	97.0	10 -145					
13C-PCB-105	123	10 -145					
13C-PCB-114	116	10 -145					
13C-PCB-118	91.3	10 -145					
13C-PCB-123	101	10 -145					
13C-PCB-126	104	10 -145					
13C-PCB-127	125	10 -145					
13C-PCB-138	101	10 -145					
13C-PCB-141	109	10 -145					
13C-PCB-153	110	10 -145					
13C-PCB-155	82.8	10 -145					
13C-PCB-156	89.0	10 -145					
13C-PCB-157	84.5	10 -145					
13C-PCB-159	94.6	10 -145					
13C-PCB-167	91.9	10 -145					
13C-PCB-169	76.1	10 -145					

RL - Reporting limit
 EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
 MDL - Method detection limit

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: Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch: B5C0136	Lab Sample: B5C0136-BLK1
Sample Size: 1.00 L	Date Extracted: 31-Mar-2015 8:42	Date Analyzed: 31-Mar-15 19:40 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	ND	5.00	1.36		1.21		PCB-43/49	ND	10.0	1.08		3.38	
PCB-2	ND	5.00	1.27		1.75		PCB-44	ND	5.00	1.30		2.48	
PCB-3	ND	5.00	1.26		1.49		PCB-45	ND	5.00	1.18		1.96	
PCB-4/10	ND	10.0	6.52		5.64		PCB-46	ND	5.00	1.29		2.49	
PCB-5/8	ND	10.0	4.85		3.59		PCB-47	2.41	5.00			4.42	J
PCB-6	ND	5.00	4.98		3.10		PCB-48/75	ND	10.0	0.853		2.09	
PCB-7/9	ND	10.0	4.92		6.22		PCB-50	ND	5.00	1.20		1.40	
PCB-11	ND	5.00	4.55		3.86		PCB-51	ND	5.00	1.06		1.42	
PCB-12/13	ND	10.0	4.61		5.01		PCB-52/69	ND	10.0	0.950		3.64	
PCB-14	ND	5.00	3.97		3.98		PCB-53	ND	5.00	1.08		1.12	
PCB-15	ND	5.00	4.05		2.53		PCB-54	ND	5.00	0.909		1.51	
PCB-16/32	ND	10.0	1.08		2.87		PCB-55	ND	5.00	0.728		1.19	
PCB-17	ND	5.00	1.18		1.37		PCB-56/60	ND	10.0	0.810		2.19	
PCB-18	ND	5.00	1.27		2.57		PCB-57	ND	5.00	0.823		0.857	
PCB-19	ND	5.00	1.48		2.38		PCB-58	ND	5.00	0.811		1.81	
PCB-20/21/33	ND	15.0	0.870		10.3		PCB-61/70	ND	10.0	0.819		2.40	
PCB-22	ND	5.00	0.866		3.17		PCB-62	ND	5.00	0.833		1.46	
PCB-23	ND	5.00	0.832		1.35		PCB-63	ND	5.00	0.793		0.696	
PCB-24/27	ND	10.0	0.870		3.16		PCB-65	ND	5.00	0.859		0.953	
PCB-25	ND	5.00	0.918		3.34		PCB-66/76	ND	10.0	0.782		2.82	
PCB-26	ND	5.00	0.814		2.19		PCB-67	ND	5.00	0.845		1.22	
PCB-28	ND	5.00	0.814		2.90		PCB-68	ND	5.00	0.703		1.24	
PCB-29	ND	5.00	0.832		1.60		PCB-73	ND	5.00	0.869		1.56	
PCB-30	ND	5.00	0.936		2.09		PCB-74	ND	5.00	0.760		1.53	
PCB-31	ND	5.00	0.805		4.29		PCB-77	ND	5.00	0.767		1.34	
PCB-34	ND	5.00	0.774		2.34		PCB-78	ND	5.00	0.854		0.990	
PCB-35	ND	5.00	0.847		1.65		PCB-79	ND	5.00	0.772		1.60	
PCB-36	ND	5.00	0.819		2.69		PCB-80	ND	5.00	0.676		1.98	
PCB-37	ND	5.00	0.789		1.92		PCB-81	ND	5.00	0.780		2.34	
PCB-38	ND	5.00	0.857		1.56		PCB-82	ND	5.00	2.46		1.69	
PCB-39	ND	5.00	0.844		2.60		PCB-83	ND	5.00	1.49		1.32	
PCB-40	ND	5.00	1.32		3.08		PCB-84/92	ND	10.0	1.99		3.38	
PCB-41/64/71/72	ND	20.0	0.846		5.57		PCB-85/116	ND	10.0	1.77		2.83	
PCB-42/59	ND	10.0	0.915		2.84		PCB-86	ND	5.00	2.39		2.34	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch: B5C0136	Lab Sample: B5C0136-BLK1
Sample Size: 1.00 L	Date Extracted: 31-Mar-2015 8:42	Date Analyzed: 31-Mar-15 19:40 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-87/117/125	ND	15.0	1.55		3.79		PCB-133/142	ND	10.0	1.33		2.19	
PCB-88/91	ND	5.00	2.01		3.25		PCB-134/143	ND	10.0	1.30		2.40	
PCB-89	ND	5.00	2.14		1.84		PCB-135	ND	5.00	3.08		2.90	
PCB-90/101	ND	10.0	1.76		1.92		PCB-136	ND	5.00	2.15		2.89	
PCB-93	ND	5.00	2.12		1.47		PCB-137	ND	5.00	1.18		2.08	
PCB-94	ND	5.00	1.99		1.91		PCB-138/163/164	ND	15.0	1.04		2.68	
PCB-95/98/102	ND	15.0	1.75		6.58		PCB-139/149	ND	10.0	2.82		7.87	
PCB-96	ND	5.00	1.52		2.16		PCB-140	ND	5.00	3.16		3.52	
PCB-97	ND	5.00	1.90		1.24		PCB-141	ND	5.00	1.20		1.15	
PCB-99	ND	5.00	1.70		1.94		PCB-144	ND	5.00	2.87		3.22	
PCB-100	ND	5.00	1.72		2.03		PCB-145	ND	5.00	2.25		1.73	
PCB-103	ND	5.00	1.71		2.28		PCB-146/165	ND	10.0	1.12		1.91	
PCB-104	ND	5.00	1.31		0.931		PCB-147	ND	5.00	3.16		3.62	
PCB-105	ND	5.00	0.960		2.21		PCB-148	ND	5.00	3.01		1.68	
PCB-106/118	ND	10.0	1.41		2.44		PCB-150	ND	5.00	2.18		1.14	
PCB-107/109	ND	10.0	1.37		1.98		PCB-151	ND	5.00	3.01		3.59	
PCB-108/112	ND	10.0	1.76		1.86		PCB-152	ND	5.00	2.10		1.82	
PCB-110	ND	5.00	1.45		1.94		PCB-153	ND	5.00	1.01		1.83	
PCB-111/115	ND	10.0	1.33		0.768		PCB-154	ND	5.00	2.76		2.78	
PCB-113	ND	5.00	1.59		1.31		PCB-155	ND	5.00	2.05		1.45	
PCB-114	ND	5.00	0.966		1.81		PCB-156	ND	5.00	0.806		1.74	
PCB-119	ND	5.00	1.31		0.949		PCB-157	ND	5.00	0.837		1.17	
PCB-120	ND	5.00	1.24		1.01		PCB-158/160	ND	10.0	0.973		1.99	
PCB-121	ND	5.00	1.28		1.94		PCB-159	ND	5.00	0.865		1.20	
PCB-122	ND	5.00	1.15		1.84		PCB-166	ND	5.00	0.926		0.920	
PCB-123	ND	5.00	1.46		1.35		PCB-167	ND	5.00	0.916		1.65	
PCB-124	ND	5.00	1.40		1.79		PCB-168	ND	5.00	0.890		0.933	
PCB-126	ND	5.00	1.10		2.05		PCB-169	ND	5.00	0.922		1.12	
PCB-127	ND	5.00	1.07		0.808		PCB-170	ND	5.00	0.917		1.38	
PCB-128/162	ND	10.0	1.02		1.68		PCB-171	ND	5.00	0.933		1.61	
PCB-129	ND	5.00	1.45		1.11		PCB-172	ND	5.00	1.00		1.46	
PCB-130	ND	5.00	1.51		2.21		PCB-173	ND	5.00	1.23		1.49	
PCB-131	ND	5.00	1.43		1.46		PCB-174	ND	5.00	1.05		1.42	
PCB-132/161	ND	10.0	1.08		2.34		PCB-175	ND	5.00	1.24		3.15	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch: B5C0136	Lab Sample: B5C0136-BLK1
Sample Size: 1.00 L	Date Extracted: 31-Mar-2015 8:42	Date Analyzed: 31-Mar-15 19:40 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-176	ND	5.00	0.894		2.17		Total triCB	ND	5.00	1.48			
PCB-177	ND	5.00	1.07		1.34		Total tetraCB	2.41	5.00				J
PCB-178	ND	5.00	1.21		2.25		Total pentaCB	ND	5.00	2.46			
PCB-179	ND	5.00	0.935		1.57		Total hexaCB	ND	5.00	3.16			
PCB-180	ND	5.00	0.938		0.610		Total heptaCB	ND	5.00	1.24			
PCB-181	ND	5.00	1.01		1.01		Total octaCB	ND	5.00	2.41			
PCB-182/187	ND	10.0	1.14		6.20		Total nonaCB	ND	5.00	1.48			
PCB-183	ND	5.00	1.06		3.29		DecaCB	ND	5.00	1.60			
PCB-184	ND	5.00	0.972		1.25		Total PCB	2.41	5.00				J
PCB-185	ND	5.00	0.967		1.47								
PCB-186	ND	5.00	0.893		2.43								
PCB-188	ND	5.00	0.855		1.08								
PCB-189	ND	5.00	0.644		1.49								
PCB-190	ND	5.00	0.681		1.70								
PCB-191	ND	5.00	0.730		1.96								
PCB-192	ND	5.00	0.782		1.69								
PCB-193	ND	5.00	0.734		1.46								
PCB-194	ND	5.00	1.01		1.71								
PCB-195	ND	5.00	1.15		1.47								
PCB-196/203	ND	10.0	2.15		6.35								
PCB-197	ND	5.00	1.53		1.80								
PCB-198	ND	5.00	2.37		3.78								
PCB-199	ND	5.00	2.41		4.05								
PCB-200	ND	5.00	1.72		1.75								
PCB-201	ND	5.00	1.63		1.02								
PCB-202	ND	5.00	1.75		1.55								
PCB-204	ND	5.00	1.66		1.48								
PCB-205	ND	5.00	0.814		1.53								
PCB-206	ND	5.00	1.48		1.32								
PCB-207	ND	5.00	0.816		1.51								
PCB-208	ND	5.00	0.827		1.34								
PCB-209	ND	5.00	1.60		1.86								
Total monoCB	ND	5.00	1.36										
Total diCB	ND	5.00	6.52										

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch: B5C0136	Lab Sample: B5C0136-BLK1
Sample Size: 1.00 L	Date Extracted: 31-Mar-2015 8:42	Date Analyzed: 31-Mar-15 19:40 Column: ZB-1 Analyst: DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	60.0	5 - 145		13C-PCB-157	99.2	10 - 145	
13C-PCB-3	70.5	5 - 145		13C-PCB-159	97.7	10 - 145	
13C-PCB-4	68.4	5 - 145		13C-PCB-167	98.9	10 - 145	
13C-PCB-11	89.2	5 - 145		13C-PCB-169	102	10 - 145	
13C-PCB-9	77.6	5 - 145		13C-PCB-170	95.8	10 - 145	
13C-PCB-19	75.2	5 - 145		13C-PCB-180	93.3	10 - 145	
13C-PCB-28	87.8	5 - 145		13C-PCB-188	76.2	10 - 145	
13C-PCB-32	83.7	5 - 145		13C-PCB-189	94.1	10 - 145	
13C-PCB-37	102	5 - 145		13C-PCB-194	97.5	10 - 145	
13C-PCB-47	93.3	5 - 145		13C-PCB-202	65.3	10 - 145	
13C-PCB-52	95.5	5 - 145		13C-PCB-206	99.2	10 - 145	
13C-PCB-54	80.7	5 - 145		13C-PCB-208	89.7	10 - 145	
13C-PCB-70	94.7	5 - 145		13C-PCB-209	97.1	10 - 145	
13C-PCB-77	92.6	10 - 145		CRS 13C-PCB-79	91.9	10 - 145	
13C-PCB-80	94.6	10 - 145		13C-PCB-178	88.7	10 - 145	
13C-PCB-81	91.6	10 - 145					
13C-PCB-95	102	10 - 145					
13C-PCB-97	102	10 - 145					
13C-PCB-101	98.2	10 - 145					
13C-PCB-104	97.8	10 - 145					
13C-PCB-105	98.0	10 - 145					
13C-PCB-114	96.5	10 - 145					
13C-PCB-118	97.3	10 - 145					
13C-PCB-123	101	10 - 145					
13C-PCB-126	100	10 - 145					
13C-PCB-127	101	10 - 145					
13C-PCB-138	93.9	10 - 145					
13C-PCB-141	92.0	10 - 145					
13C-PCB-153	91.4	10 - 145					
13C-PCB-155	70.8	10 - 145					
13C-PCB-156	102	10 - 145					

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

LCL-UCL- Lower control limit - upper control limit

Sample ID: OPR

EPA Method 1668C

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B5C0136
Date Extracted: 31-Mar-2015 8:42

Lab Sample: B5C0136-BS1
Date Analyzed: 31-Mar-15 17:31 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PCB-1	951	1000	95.1	60 - 135	IS 13C-PCB-1	51.9	15 - 145
PCB-3	936	1000	93.6	60 - 135	IS 13C-PCB-3	61.8	15 - 145
PCB-4/10	1780	2000	89.0	60 - 135	IS 13C-PCB-4	65.0	15 - 145
PCB-15	847	1000	84.7	60 - 135	IS 13C-PCB-9	69.9	15 - 145
PCB-19	963	1000	96.3	60 - 135	IS 13C-PCB-11	78.5	15 - 145
PCB-37	810	1000	81.0	60 - 135	IS 13C-PCB-19	64.7	15 - 145
PCB-54	914	1000	91.4	60 - 135	IS 13C-PCB-28	68.6	15 - 145
PCB-77	831	1000	83.1	60 - 135	IS 13C-PCB-32	68.5	15 - 145
PCB-81	828	1000	82.8	60 - 135	IS 13C-PCB-37	82.5	15 - 145
PCB-104	944	1000	94.4	60 - 135	IS 13C-PCB-47	94.0	15 - 145
PCB-105	812	1000	81.2	60 - 135	IS 13C-PCB-52	102	15 - 145
PCB-106/118	1930	2000	96.5	60 - 135	IS 13C-PCB-54	87.1	15 - 145
PCB-114	829	1000	82.9	60 - 135	IS 13C-PCB-70	96.1	15 - 145
PCB-123	1010	1000	101	60 - 135	IS 13C-PCB-77	94.0	40 - 145
PCB-126	837	1000	83.7	60 - 135	IS 13C-PCB-80	98.4	40 - 145
PCB-155	993	1000	99.3	60 - 135	IS 13C-PCB-81	93.8	40 - 145
PCB-156	907	1000	90.7	60 - 135	IS 13C-PCB-95	98.0	40 - 145
PCB-157	921	1000	92.1	60 - 135	IS 13C-PCB-97	97.9	40 - 145
PCB-167	920	1000	92.0	60 - 135	IS 13C-PCB-101	94.4	40 - 145
PCB-169	956	1000	95.6	60 - 135	IS 13C-PCB-104	96.0	40 - 145
PCB-188	928	1000	92.8	60 - 135	IS 13C-PCB-105	89.0	40 - 145
PCB-189	934	1000	93.4	60 - 135	IS 13C-PCB-114	87.6	40 - 145
PCB-202	1200	1000	120	60 - 135	IS 13C-PCB-118	92.8	40 - 145
PCB-205	829	1000	82.9	60 - 135	IS 13C-PCB-123	93.9	40 - 145
PCB-206	924	1000	92.4	60 - 135	IS 13C-PCB-126	92.0	40 - 145
PCB-208	976	1000	97.6	60 - 135	IS 13C-PCB-127	85.5	40 - 145
PCB-209	888	1000	88.8	60 - 135	IS 13C-PCB-138	88.4	40 - 145
					IS 13C-PCB-141	85.6	40 - 145
					IS 13C-PCB-153	83.2	40 - 145
					IS 13C-PCB-155	64.5	40 - 145
					IS 13C-PCB-156	94.1	40 - 145
					IS 13C-PCB-157	91.7	40 - 145
					IS 13C-PCB-159	90.1	40 - 145
					IS 13C-PCB-167	91.5	40 - 145
					IS 13C-PCB-169	94.0	40 - 145
					IS 13C-PCB-170	87.4	40 - 145
					IS 13C-PCB-180	86.0	40 - 145
					IS 13C-PCB-188	67.3	40 - 145
					IS 13C-PCB-189	88.2	40 - 145
					IS 13C-PCB-194	95.0	40 - 145

Sample ID: OPR

EPA Method 1668C

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B5C0136
Date Extracted: 31-Mar-2015 8:42

Lab Sample: B5C0136-BS1
Date Analyzed: 31-Mar-15 17:31 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
					IS 13C-PCB-202	57.6	40 - 145
					IS 13C-PCB-206	94.3	40 - 145
					IS 13C-PCB-208	87.5	40 - 145
					IS 13C-PCB-209	97.1	40 - 145
					CRS 13C-PCB-79	95.4	40 - 145
					CRS 13C-PCB-178	83.0	40 - 145

LCL-UCL - Lower control limit - upper control limit

Sample ID: 96-ST2-20150326-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Aqueous		Lab Sample:	1500280-07		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	1.04 L		QC Batch:	B5C0136		Date Extracted:	31-Mar-2015 8:42		
Date Collected:	26-Mar-2015 11:50						Date Analyzed :	31-Mar-15 20:44		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	ND	4.81	1.21		1.21		PCB-44	6.60	4.81			2.48	
PCB-2	ND	4.81	1.11		1.75		PCB-45	ND	4.81	1.39		1.96	
PCB-3	ND	4.81	1.11		1.49		PCB-46	ND	4.81	1.52		2.49	
PCB-4/10	ND	9.62	7.58		5.64		PCB-47	2.14	4.81			4.42	B, J
PCB-5/8	ND	9.62	5.40		3.59		PCB-48/75	ND	9.62	1.02		2.09	
PCB-6	ND	4.81	5.55		3.10		PCB-50	ND	4.81	1.45		1.40	
PCB-7/9	ND	9.62	5.48		6.22		PCB-51	ND	4.81	1.24		1.42	
PCB-11	6.55	4.81			3.86		PCB-52/69	9.00	9.62			3.64	J
PCB-12/13	ND	9.62	4.88		5.01		PCB-53	1.72	4.81			1.12	J
PCB-14	ND	4.81	4.21		3.98		PCB-54	ND	4.81	1.10		1.51	
PCB-15	ND	4.81	4.29		2.53		PCB-55	ND	4.81	0.979		1.19	
PCB-16/32	7.03	9.62			2.87	J	PCB-56/60	3.46	9.62			2.19	J
PCB-17	2.69	4.81			1.37	J	PCB-57	ND	4.81	1.05		0.857	
PCB-18	8.11	4.81			2.57		PCB-58	ND	4.81	1.03		1.81	
PCB-19	2.54	4.81			2.38	J	PCB-61/70	6.58	9.62			2.40	J
PCB-20/21/33	2.65	14.4			10.3	J	PCB-62	ND	4.81	0.997		1.46	
PCB-22	1.54	4.81			3.17	J	PCB-63	ND	4.81	1.01		0.696	
PCB-23	ND	4.81	0.989		1.35		PCB-65	ND	4.81	1.03		0.953	
PCB-24/27	1.16	9.62			3.16	J	PCB-66/76	ND	9.62		4.31	2.82	
PCB-25	ND	4.81	1.09		3.34		PCB-67	ND	4.81	1.07		1.22	
PCB-26	0.944	4.81			2.19	J	PCB-68	ND	4.81	0.841		1.24	
PCB-28	5.08	4.81			2.90		PCB-73	ND	4.81	1.02		1.56	
PCB-29	ND	4.81	0.989		1.60		PCB-74	1.78	4.81			1.53	J
PCB-30	ND	4.81	1.06		2.09		PCB-77	ND	4.81	1.05		1.34	
PCB-31	4.19	4.81			4.29	J	PCB-78	ND	4.81	1.12		0.990	
PCB-34	ND	4.81	0.920		2.34		PCB-79	ND	4.81	1.04		1.60	
PCB-35	ND	4.81	1.12		1.65		PCB-80	ND	4.81	0.909		1.98	
PCB-36	ND	4.81	1.08		2.69		PCB-81	ND	4.81	1.02		2.34	
PCB-37	ND	4.81	1.04		1.92		PCB-82	3.14	4.81			1.69	J
PCB-38	ND	4.81	1.13		1.56		PCB-83	ND	4.81	2.44		1.32	
PCB-39	ND	4.81	1.11		2.60		PCB-84/92	8.86	9.62			3.38	J
PCB-40	ND	4.81	1.58		3.08		PCB-85/116	3.05	9.62			2.83	J
PCB-41/64/71/72	4.89	19.2			5.57	J	PCB-86	ND	4.81	3.93		2.34	
PCB-42/59	ND	9.62		1.87	2.84		PCB-87/117/125	7.25	14.4			3.79	J
PCB-43/49	4.79	9.62			3.38	J	PCB-88/91	2.37	4.81			3.25	J

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

LCL-UCL- Lower control limit - upper control limit

Sample ID: 96-ST2-20150326-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Aqueous		Lab Sample:	1500280-07		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	1.04 L		QC Batch:	B5C0136		Date Extracted:	31-Mar-2015 8:42		
Date Collected:	26-Mar-2015 11:50						Date Analyzed :	31-Mar-15 20:44		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	ND	4.81	3.47		1.84		PCB-136	ND	4.81		3.11	2.89	
PCB-90/101	20.0	9.62			1.92		PCB-137	ND	4.81		1.40	2.08	
PCB-93	ND	4.81	3.31		1.47		PCB-138/163/164	29.2	14.4			2.68	
PCB-94	ND	4.81	3.11		1.91		PCB-139/149	20.6	9.62			7.87	
PCB-95/98/102	17.4	14.4			6.58		PCB-140	ND	4.81	3.86		3.52	
PCB-96	ND	4.81	2.20		2.16		PCB-141	6.24	4.81			1.15	
PCB-97	4.40	4.81			1.24	J	PCB-144	ND	4.81	3.51		3.22	
PCB-99	7.72	4.81			1.94		PCB-145	ND	4.81	2.75		1.73	
PCB-100	ND	4.81	2.50		2.03		PCB-146/165	ND	9.62		4.05	1.91	
PCB-103	ND	4.81	2.49		2.28		PCB-147	ND	4.81	3.85		3.62	
PCB-104	ND	4.81	1.91		0.931		PCB-148	ND	4.81	3.67		1.68	
PCB-105	5.91	4.81			2.21		PCB-150	ND	4.81	2.66		1.14	
PCB-106/118	15.2	9.62			2.44		PCB-151	6.59	4.81			3.59	
PCB-107/109	ND	9.62	2.26		1.98		PCB-152	ND	4.81	2.57		1.82	
PCB-108/112	ND	9.62	2.89		1.86		PCB-153	27.2	4.81			1.83	
PCB-110	24.1	4.81			1.94		PCB-154	ND	4.81	3.37		2.78	
PCB-111/115	ND	9.62	2.19		0.768		PCB-155	ND	4.81	2.51		1.45	
PCB-113	ND	4.81	2.58		1.31		PCB-156	2.73	4.81			1.74	J
PCB-114	ND	4.81	1.10		1.81		PCB-157	ND	4.81	0.989		1.17	
PCB-119	ND	4.81	2.16		0.949		PCB-158/160	2.98	9.62			1.99	J
PCB-120	ND	4.81	2.04		1.01		PCB-159	ND	4.81	1.02		1.20	
PCB-121	ND	4.81	1.99		1.94		PCB-166	ND	4.81	1.09		0.920	
PCB-122	ND	4.81	1.31		1.84		PCB-167	1.63	4.81			1.65	J
PCB-123	ND	4.81	2.41		1.35		PCB-168	ND	4.81	1.07		0.933	
PCB-124	1.56	4.81			1.79	J	PCB-169	ND	4.81	1.09		1.12	
PCB-126	ND	4.81	1.21		2.05		PCB-170	7.70	4.81			1.38	
PCB-127	ND	4.81	1.27		0.808		PCB-171	ND	4.81		1.78	1.61	
PCB-128/162	4.08	9.62			1.68	J	PCB-172	ND	4.81		1.65	1.46	
PCB-129	1.35	4.81			1.11	J	PCB-173	ND	4.81	1.01		1.49	
PCB-130	2.44	4.81			2.21	J	PCB-174	8.48	4.81			1.42	
PCB-131	ND	4.81	1.72		1.46		PCB-175	ND	4.81	1.01		3.15	
PCB-132/161	ND	9.62		6.56	2.34		PCB-176	ND	4.81	0.730		2.17	
PCB-133/142	1.20	9.62			2.19	J	PCB-177	4.27	4.81			1.34	J
PCB-134/143	ND	9.62		1.36	2.40		PCB-178	2.20	4.81			2.25	J
PCB-135	3.68	4.81			2.90	J	PCB-179	3.20	4.81			1.57	J

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

LCL-UCL- Lower control limit - upper control limit

Sample ID: 96-ST2-20150326-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data					
Name:	Leidos	Matrix:	Aqueous	Lab Sample:	1500280-07	Date Received:	27-Mar-2015	7:19				
Project:	1400647	Sample Size:	1.04 L	QC Batch:	B5C0136	Date Extracted:	31-Mar-2015	8:42				
Date Collected:	26-Mar-2015 11:50			Date Analyzed :	31-Mar-15 20:44	Column:	ZB-1	Analyst:	DMS			

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	20.9	4.81			0.610		Total octaCB	16.0	4.81		23.1		
PCB-181	ND	4.81	0.828		1.01		Total nonaCB	2.70	4.81				J
PCB-182/187	12.2	9.62			6.20		DecaCB	2.78	4.81				J
PCB-183	4.83	4.81			3.29		Total PCB	404	4.81				B
PCB-184	ND	4.81	0.794		1.25								
PCB-185	1.83	4.81			1.47	J							
PCB-186	ND	4.81	0.729		2.43								
PCB-188	ND	4.81	0.698		1.08								
PCB-189	ND	4.81	0.593		1.49								
PCB-190	1.90	4.81			1.70	J							
PCB-191	0.869	4.81			1.96	J							
PCB-192	ND	4.81	0.643		1.69								
PCB-193	ND	4.81		1.54	1.46								
PCB-194	ND	4.81		3.74	1.71								
PCB-195	1.92	4.81			1.47	J							
PCB-196/203	7.26	9.62			6.35	J							
PCB-197	ND	4.81	1.46		1.80								
PCB-198	ND	4.81	2.25		3.78								
PCB-199	6.83	4.81			4.05								
PCB-200	ND	4.81		1.39	1.75								
PCB-201	ND	4.81	1.55		1.02								
PCB-202	ND	4.81		1.91	1.55								
PCB-204	ND	4.81	1.58		1.48								
PCB-205	ND	4.81	1.05		1.53								
PCB-206	2.70	4.81			1.32	J							
PCB-207	ND	4.81	1.05		1.51								
PCB-208	ND	4.81	1.07		1.34								
PCB-209	2.78	4.81			1.86	J							
Total monoCB	ND	4.81	1.21										
Total diCB	6.55	4.81											
Total triCB	35.9	4.81											
Total tetraCB	40.9	4.81		47.1		B							
Total pentaCB	121	4.81											
Total hexaCB	110	4.81		126									
Total heptaCB	68.3	4.81		73.3									

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: 96-ST2-20150326-W

EPA Method 1668C

Client Data		Sample Data		Laboratory Data	
Name:	Leidos	Matrix:	Aqueous	Lab Sample:	1500280-07
Project:	1400647	Sample Size:	1.04 L	Date Received:	27-Mar-2015 7:19
Date Collected:	26-Mar-2015 11:50			QC Batch:	B5C0136
				Date Analyzed :	31-Mar-15 20:44
				Column:	ZB-1
				Analyst:	DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	52.0	5 -145		13C-PCB-170	94.5	10 -145	
13C-PCB-3	62.4	5 -145		13C-PCB-180	92.2	10 -145	
13C-PCB-4	60.0	5 -145		13C-PCB-188	77.3	10 -145	
13C-PCB-11	85.1	5 -145		13C-PCB-189	90.6	10 -145	
13C-PCB-9	70.4	5 -145		13C-PCB-194	102	10 -145	
13C-PCB-19	71.4	5 -145		13C-PCB-202	65.4	10 -145	
13C-PCB-28	104	5 -145		13C-PCB-206	105	10 -145	
13C-PCB-32	81.0	5 -145		13C-PCB-208	97.0	10 -145	
13C-PCB-37	97.5	5 -145		13C-PCB-209	103	10 -145	
13C-PCB-47	107	5 -145		CRS 13C-PCB-79	96.0	10 -145	
13C-PCB-52	108	5 -145		13C-PCB-178	90.4	10 -145	
13C-PCB-54	88.8	5 -145					
13C-PCB-70	99.1	5 -145					
13C-PCB-77	94.0	10 -145					
13C-PCB-80	99.4	10 -145					
13C-PCB-81	92.1	10 -145					
13C-PCB-95	114	10 -145					
13C-PCB-97	109	10 -145					
13C-PCB-101	107	10 -145					
13C-PCB-104	118	10 -145					
13C-PCB-105	96.1	10 -145					
13C-PCB-114	95.5	10 -145					
13C-PCB-118	104	10 -145					
13C-PCB-123	108	10 -145					
13C-PCB-126	101	10 -145					
13C-PCB-127	94.3	10 -145					
13C-PCB-138	93.2	10 -145					
13C-PCB-141	91.4	10 -145					
13C-PCB-153	90.4	10 -145					
13C-PCB-155	77.3	10 -145					
13C-PCB-156	100	10 -145					
13C-PCB-157	99.8	10 -145					
13C-PCB-159	96.4	10 -145					
13C-PCB-167	97.3	10 -145					
13C-PCB-169	97.0	10 -145					

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-NF-10-20150326-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data					
Name:	Leidos			Matrix:	Aqueous		Lab Sample:	1500280-08	Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	1.01 L		QC Batch:	B5C0136	Date Extracted:	31-Mar-2015 8:42		
Date Collected:	26-Mar-2015 15:40						Date Analyzed :	31-Mar-15 21:48 Column: ZB-1 Analyst: DMS				

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	ND	4.95	2.00		1.21		PCB-44	8.77	4.95			2.48	
PCB-2	ND	4.95	1.84		1.75		PCB-45	1.93	4.95			1.96	J
PCB-3	ND	4.95	1.83		1.49		PCB-46	ND	4.95	1.06		2.49	
PCB-4/10	ND	9.91	7.51		5.64		PCB-47	3.05	4.95			4.42	B, J
PCB-5/8	ND	9.91	5.64		3.59		PCB-48/75	1.07	9.91			2.09	J
PCB-6	ND	4.95	5.78		3.10		PCB-50	ND	4.95	1.29		1.40	
PCB-7/9	ND	9.91	5.72		6.22		PCB-51	0.929	4.95			1.42	J
PCB-11	6.85	4.95			3.86		PCB-52/69	11.5	9.91			3.64	
PCB-12/13	ND	9.91	5.55		5.01		PCB-53	1.98	4.95			1.12	J
PCB-14	ND	4.95	4.78		3.98		PCB-54	ND	4.95	0.982		1.51	
PCB-15	ND	4.95	4.88		2.53		PCB-55	ND	4.95	0.798		1.19	
PCB-16/32	7.62	9.91			2.87	J	PCB-56/60	2.88	9.91			2.19	J
PCB-17	2.80	4.95			1.37	J	PCB-57	ND	4.95	0.894		0.857	
PCB-18	10.8	4.95			2.57		PCB-58	ND	4.95	0.881		1.81	
PCB-19	2.48	4.95			2.38	J	PCB-61/70	8.67	9.91			2.40	J
PCB-20/21/33	3.10	14.9			10.3	J	PCB-62	ND	4.95	0.962		1.46	
PCB-22	2.66	4.95			3.17	J	PCB-63	ND	4.95	0.861		0.696	
PCB-23	ND	4.95	0.801		1.35		PCB-65	ND	4.95	0.992		0.953	
PCB-24/27	ND	9.91	0.960		3.16		PCB-66/76	4.79	9.91			2.82	J
PCB-25	ND	4.95	0.883		3.34		PCB-67	ND	4.95	0.918		1.22	
PCB-26	ND	4.95	0.783		2.19		PCB-68	ND	4.95	0.811		1.24	
PCB-28	ND	4.95		5.35	2.90		PCB-73	ND	4.95	0.894		1.56	
PCB-29	ND	4.95	0.801		1.60		PCB-74	2.02	4.95			1.53	J
PCB-30	ND	4.95	1.02		2.09		PCB-77	ND	4.95	0.882		1.34	
PCB-31	5.53	4.95			4.29		PCB-78	ND	4.95	0.980		0.990	
PCB-34	ND	4.95	0.745		2.34		PCB-79	ND	4.95	0.847		1.60	
PCB-35	ND	4.95	0.875		1.65		PCB-80	ND	4.95	0.742		1.98	
PCB-36	ND	4.95	0.846		2.69		PCB-81	ND	4.95	0.894		2.34	
PCB-37	1.78	4.95			1.92	J	PCB-82	2.88	4.95			1.69	J
PCB-38	ND	4.95	0.885		1.56		PCB-83	ND	4.95	1.94		1.32	
PCB-39	ND	4.95	0.872		2.60		PCB-84/92	9.06	9.91			3.38	J
PCB-40	ND	4.95	1.52		3.08		PCB-85/116	ND	9.91		3.07	2.83	
PCB-41/64/71/72	7.09	19.8			5.57	J	PCB-86	ND	4.95	3.12		2.34	
PCB-42/59	2.51	9.91			2.84	J	PCB-87/117/125	ND	14.9		8.03	3.79	
PCB-43/49	5.66	9.91			3.38	J	PCB-88/91	2.86	4.95			3.25	J

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-NF-10-20150326-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Aqueous		Lab Sample:	1500280-08		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	1.01 L		QC Batch:	B5C0136		Date Extracted:	31-Mar-2015 8:42		
Date Collected:	26-Mar-2015 15:40						Date Analyzed :	31-Mar-15 21:48		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	ND	4.95	2.62		1.84		PCB-136	3.14	4.95			2.89	J
PCB-90/101	24.0	9.91			1.92		PCB-137	1.64	4.95			2.08	J
PCB-93	ND	4.95	2.65		1.47		PCB-138/163/164	34.4	14.9			2.68	
PCB-94	ND	4.95	2.49		1.91		PCB-139/149	24.2	9.91			7.87	
PCB-95/98/102	18.2	14.9			6.58		PCB-140	ND	4.95	3.31		3.52	
PCB-96	ND	4.95	1.81		2.16		PCB-141	6.25	4.95			1.15	
PCB-97	ND	4.95		5.71	1.24		PCB-144	2.85	4.95			3.22	J
PCB-99	9.33	4.95			1.94		PCB-145	ND	4.95	2.35		1.73	
PCB-100	ND	4.95	2.06		2.03		PCB-146/165	6.10	9.91			1.91	J
PCB-103	ND	4.95	2.05		2.28		PCB-147	ND	4.95	3.30		3.62	
PCB-104	ND	4.95	1.57		0.931		PCB-148	ND	4.95	3.14		1.68	
PCB-105	6.18	4.95			2.21		PCB-150	ND	4.95	2.28		1.14	
PCB-106/118	ND	9.91		18.8	2.44		PCB-151	6.98	4.95			3.59	
PCB-107/109	1.89	9.91			1.98	J	PCB-152	ND	4.95	2.20		1.82	
PCB-108/112	1.52	9.91			1.86	J	PCB-153	34.2	4.95			1.83	
PCB-110	27.8	4.95			1.94		PCB-154	ND	4.95	2.89		2.78	
PCB-111/115	ND	9.91	1.74		0.768		PCB-155	ND	4.95	2.15		1.45	
PCB-113	ND	4.95	1.95		1.31		PCB-156	3.65	4.95			1.74	J
PCB-114	ND	4.95	1.35		1.81		PCB-157	ND	4.95	1.24		1.17	
PCB-119	ND	4.95	1.72		0.949		PCB-158/160	3.63	9.91			1.99	J
PCB-120	ND	4.95	1.62		1.01		PCB-159	ND	4.95	1.28		1.20	
PCB-121	ND	4.95	1.59		1.94		PCB-166	ND	4.95	1.37		0.920	
PCB-122	ND	4.95	1.61		1.84		PCB-167	1.55	4.95			1.65	J
PCB-123	ND	4.95	1.85		1.35		PCB-168	ND	4.95	1.29		0.933	
PCB-124	1.34	4.95			1.79	J	PCB-169	ND	4.95	1.37		1.12	
PCB-126	ND	4.95	1.47		2.05		PCB-170	7.99	4.95			1.38	
PCB-127	ND	4.95	1.56		0.808		PCB-171	2.89	4.95			1.61	J
PCB-128/162	5.72	9.91			1.68	J	PCB-172	2.12	4.95			1.46	J
PCB-129	1.90	4.95			1.11	J	PCB-173	ND	4.95	1.41		1.49	
PCB-130	2.57	4.95			2.21	J	PCB-174	11.5	4.95			1.42	
PCB-131	ND	4.95	2.07		1.46		PCB-175	ND	4.95	1.36		3.15	
PCB-132/161	9.13	9.91			2.34	J	PCB-176	1.52	4.95			2.17	J
PCB-133/142	ND	9.91	1.93		2.19		PCB-177	ND	4.95		6.23	1.34	
PCB-134/143	ND	9.91	1.88		2.40		PCB-178	3.27	4.95			2.25	J
PCB-135	5.36	4.95			2.90		PCB-179	4.65	4.95			1.57	J

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

LCL-UCL- Lower control limit - upper control limit

Sample ID: HC-NF-10-20150326-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Aqueous		Lab Sample:	1500280-08		Date Received:	27-Mar-2015 7:19		
Project:	1400647			Sample Size:	1.01 L		QC Batch:	B5C0136		Date Extracted:	31-Mar-2015 8:42		
Date Collected:	26-Mar-2015 15:40						Date Analyzed :	31-Mar-15 21:48		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	23.3	4.95			0.610		Total octaCB	14.8	4.95		21.5		
PCB-181	ND	4.95	1.15		1.01		Total nonaCB	ND	4.95		3.26		J
PCB-182/187	15.1	9.91			6.20		DecaCB	2.18	4.95				J
PCB-183	ND	4.95		4.38	3.29		Total PCB	459	4.95				B
PCB-184	ND	4.95	1.07		1.25								
PCB-185	ND	4.95	1.11		1.47								
PCB-186	ND	4.95	0.979		2.43								
PCB-188	ND	4.95	0.937		1.08								
PCB-189	ND	4.95	0.759		1.49								
PCB-190	2.87	4.95			1.70	J							
PCB-191	ND	4.95	0.836		1.96								
PCB-192	ND	4.95	0.895		1.69								
PCB-193	1.65	4.95			1.46	J							
PCB-194	4.54	4.95			1.71	J							
PCB-195	1.94	4.95			1.47	J							
PCB-196/203	8.31	9.91			6.35	J							
PCB-197	ND	4.95	1.96		1.80								
PCB-198	ND	4.95	3.04		3.78								
PCB-199	ND	4.95		6.73	4.05								
PCB-200	ND	4.95	2.21		1.75								
PCB-201	ND	4.95	2.09		1.02								
PCB-202	ND	4.95	2.25		1.55								
PCB-204	ND	4.95	2.13		1.48								
PCB-205	ND	4.95	0.948		1.53								
PCB-206	ND	4.95		3.26	1.32								
PCB-207	ND	4.95	0.946		1.51								
PCB-208	ND	4.95	0.959		1.34								
PCB-209	2.18	4.95			1.86	J							
Total monoCB	ND	4.95	2.00										
Total diCB	6.85	4.95											
Total triCB	36.7	4.95		42.1									
Total tetraCB	62.9	4.95				B							
Total pentaCB	105	4.95		141									
Total hexaCB	153	4.95											
Total heptaCB	76.9	4.95		87.5									

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-NF-10-20150326-W

EPA Method 1668C

Client Data		Sample Data		Laboratory Data			
Name:	Leidos	Matrix:	Aqueous	Lab Sample:	1500280-08	Date Received:	27-Mar-2015 7:19
Project:	1400647	Sample Size:	1.01 L	QC Batch:	B5C0136	Date Extracted:	31-Mar-2015 8:42
Date Collected:	26-Mar-2015 15:40			Date Analyzed :	31-Mar-15 21:48	Column:	ZB-1 Analyst: DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	58.3	5 -145		13C-PCB-170	82.6	10 -145	
13C-PCB-3	68.5	5 -145		13C-PCB-180	80.1	10 -145	
13C-PCB-4	64.2	5 -145		13C-PCB-188	68.6	10 -145	
13C-PCB-11	77.9	5 -145		13C-PCB-189	80.2	10 -145	
13C-PCB-9	70.2	5 -145		13C-PCB-194	88.0	10 -145	
13C-PCB-19	67.5	5 -145		13C-PCB-202	56.2	10 -145	
13C-PCB-28	86.1	5 -145		13C-PCB-206	86.3	10 -145	
13C-PCB-32	73.2	5 -145		13C-PCB-208	81.1	10 -145	
13C-PCB-37	86.4	5 -145		13C-PCB-209	87.6	10 -145	
13C-PCB-47	88.5	5 -145		CRS 13C-PCB-79	96.5	10 -145	
13C-PCB-52	95.1	5 -145		13C-PCB-178	89.0	10 -145	
13C-PCB-54	79.3	5 -145					
13C-PCB-70	90.5	5 -145					
13C-PCB-77	86.1	10 -145					
13C-PCB-80	91.6	10 -145					
13C-PCB-81	84.6	10 -145					
13C-PCB-95	98.3	10 -145					
13C-PCB-97	94.0	10 -145					
13C-PCB-101	94.1	10 -145					
13C-PCB-104	96.7	10 -145					
13C-PCB-105	85.5	10 -145					
13C-PCB-114	85.6	10 -145					
13C-PCB-118	89.4	10 -145					
13C-PCB-123	93.1	10 -145					
13C-PCB-126	93.1	10 -145					
13C-PCB-127	86.1	10 -145					
13C-PCB-138	84.5	10 -145					
13C-PCB-141	83.3	10 -145					
13C-PCB-153	81.6	10 -145					
13C-PCB-155	69.7	10 -145					
13C-PCB-156	89.1	10 -145					
13C-PCB-157	87.1	10 -145					
13C-PCB-159	85.1	10 -145					
13C-PCB-167	86.5	10 -145					
13C-PCB-169	87.1	10 -145					

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	Method Detection Limit as determined by 40 CFR 136, Appendix B.
EMPC	Estimated Maximum Possible Concentration
M	Estimated Maximum Possible Concentration (CA Region 2)
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Michigan Department of Natural Resources	9932
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Department of Health & Human Services	06700
Oregon Laboratory Accreditation Program	4042-003
Pennsylvania Department of Environmental Protection	011
South Carolina Department of Health	87002001
Tennessee Department of Environment & Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	3138
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160



CHAIN OF CUSTODY

FOR LABORATORY USE ONLY
 Laboratory Project ID: 1500280
 Storage ID: WR-2
 Storage Secured Yes No
 Temp: 2.2/1.4 °C

Project I.D.: 1400647 P.O.# PO10163569 Sampler: Corey Wilson
 (Name)

TAT: (Check One):
 Standard: 21 Days
 Rush (surcharge may apply):
 14 days 7 days Specify: _____

Invoice to: Name Iris Winstanley Company Leidos Address 18912 N Creek Plwy Ste 101 City Bothell State WA Zip 98011 Ph# 425.205.5189 Fax#
 Relinquished by: (Signature and Printed Name) [Signature] Corey Wilson Date: 2/26/15 Time: 1800 Received by: (Signature and Printed Name) [Signature] Benedict B. Benedict Date: 03/27/15 Time: 0800
 Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 • Fax (916) 673-0106

Method of Shipment: Fedex Overnight

Add Analysis(es) Requested

ATTN: Sample Receiving

Tracking No.: _____

Sample ID	Date	Time	Location/Sample Description	Container(s)		Add Analysis(es) Requested																															
				Quantity	Type	EPA1613	EPA8290	EPA8280	EPA1668	EPA1614	CARB429	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERES	PBDE	PAH	WHO-29											
① 96-ST3-20150326-S	3/26/15	1030	Sediment Trap	2	O	O	✓												✓	✓																	
② 96-ST2-20150326-S		1215	Sediment Trap	2	O	SD	✓												✓	✓																	
③ 96-ST1-20150326-S		1340	Sediment Trap	2	O	SD	✓												✓	✓																	
④ HC-ST1-20150326-S		1402	Sediment Trap	2	O	SD	✓												✓	✓																	
HC-SF-20150326-S		1440	Stream Bed Sediment	1	G	SD	✓												✓	✓																	
HC-NF-10-20150326-S		1520	Stream Bed Sediment	1	G	SD	✓												✓	✓																	
96-ST2-20150326-W		1150	Baseflow Discharge	4	A	AQ	✓												✓	✓																	
HC-NF-10-20150326-W		1540	Baseflow Discharge	4	A	AQ	✓												✓	✓																	

Special Instructions/Comments: For samples ①②③④, please extract as much solids as possible and containerize any material not needed for Congener and Dioxin analysis. Please send material to Test America per directive of Leidos PM. Email and phone communication to follow.

SEND DOCUMENTATION AND RESULTS TO:

Name: _____
 Company: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____ Fax: _____
 Email: _____
 Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, AQ = Aqueous, O = Other Sediment Trap Solids

Container Types: A = 1 Liter Amber, G = Glass Jar
 P = PUF, T = MMS Train, O = Other IL Teflon lined HDPE
 *Bottle Preservative Type: T = Thiosulfate, O = Other _____

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1500280 TAT Sfel

Samples Arrival:	Date/Time: <u>03/27/15 0719</u>	Initials: <u>Bill</u> <u>UPB</u>	Location: <u>WR-2</u>
Logged In:	Date/Time: <u>03/27/15 1240</u>	Initials: <u>UPB</u>	Location: <u>WR-2</u>
Delivered By:	<u>FedEx</u>	UPS	On Trac
Preservation:	<u>Ice</u>	Blue Ice	Dry Ice
Temp °C: <u>1.3</u> (uncorrected)	Time: <u>0757</u>	Thermometer ID: <u>IR-1</u>	Hand Delivered
Temp °C: <u>1.4</u> (corrected)			Other

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill <u>1 of 2</u> Trk # <u>8066 6087 7450</u>	<input checked="" type="checkbox"/>		
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?			<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?	<input checked="" type="checkbox"/>		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Na ₂ S ₂ O ₃ Preservation Documented?			
Shipping Container	Vista	<u>Client</u>	None
	Retain	Return	Dispose

Comments:

HC-SF-20150326-S 250ml jar 3/27/15
HC-NF-10-20150326-S ↓ teflon teflon
96-ST1-20150326-S 1L Nalgene bottle A & B containers
96-ST2-20150326-S
HC-ST1-20150326-S
96-ST3-20150326-S

Chain of Custody Anomaly/Sample Acceptance Form



Client: Leidos
Contact: Iris Winstanley
Email: iriswinstanley@leidos.com
Phone: (425) 205-5189

Workorder Number: 1500280
Date Received: 27-Mar-15 07:19
Documented by/date: B.Benedict 03/27/2015

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank you,

Martha Maier
mmaier@vista-analytical.com
916-673-1520

The following information or item is needed to proceed with analysis:

- | | | |
|--|---|---|
| <input type="checkbox"/> Complete Chain-of-Custody | <input type="checkbox"/> Preservative | <input type="checkbox"/> Collector's Name |
| <input type="checkbox"/> Test Method Requested | <input type="checkbox"/> Sample Identification | <input type="checkbox"/> Sample Type |
| <input type="checkbox"/> Analyte List Requested | <input type="checkbox"/> Sample Collection Date and/or Time | <input type="checkbox"/> Sample Location |
| <input checked="" type="checkbox"/> Other: COC list 4 containers of sample 96-ST2-20150326-W; received 2 containers. | | |

The following anomalies were noted. Authorization is needed to proceed with analysis.

- | | | | | |
|---|---|-----|----|--------|
| <input type="checkbox"/> Temperature outside < 6°C Range | Samples Affected: _____ | | | |
| Temperature _____ °C | Ice Present? | Yes | No | Melted |
| <input checked="" type="checkbox"/> Sample ID Discrepancy: See Comments | <input type="checkbox"/> Insufficient Sample Size | | | |
| <input type="checkbox"/> Sample Holding Time Missed | <input type="checkbox"/> Sample Container(s) Broken | | | |
| <input type="checkbox"/> Custody Seals Broken | <input type="checkbox"/> Incorrect Container Type | | | |

Comments:

COC ID: HC-NF-10-20150326-W
Label ID: NF-HC-10-20150326-W 2 of 4 containers with this ID, collection time on label: 1540

Client Authorization

Proceed with Analysis: YES NO

Signature and Date

MM 3/29/15

Client Comments/Instructions COC ID correct, per email

April 28, 2015

Vista Project I.D.: 1500335

Ms. Iris Winstanley
Leidos
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

Dear Ms. Winstanley,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on April 15, 2015. This sample set was analyzed on a standard turn-around time, under your Project Name 'NPDES Sampling Support'.

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 NELAC 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 Work Order No. 1500335

Case Narrative

Sample Condition on Receipt:

Two water 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 1613

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

These samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

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

EPA Method 1668C

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668C using a ZB-1 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

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

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1500335-01	HC-SF-20150413-W	13-Apr-15 19:35	15-Apr-15 09:02	Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L
1500335-02	HC-NF-10-20150413-W	13-Apr-15 20:10	15-Apr-15 09:02	Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L Amber Glass NM Bottle, 1L

ANALYTICAL RESULTS

Sample ID: Method Blank **EPA Method 1613B**

Matrix: Aqueous	QC Batch: B5D0082	Lab Sample: B5D0082-BLK1
Sample Size: 1.00 L	Date Extracted: 23-Apr-2015 8:19	Date Analyzed: 27-Apr-15 13:28 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	5.00	0.844		1.08		IS 13C-2,3,7,8-TCDD	84.5	25 - 164	
1,2,3,7,8-PeCDD	ND	25.0	1.81		3.94		13C-1,2,3,7,8-PeCDD	60.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	25.0	2.66		3.00		13C-1,2,3,4,7,8-HxCDD	75.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	25.0	2.69		4.20		13C-1,2,3,6,7,8-HxCDD	73.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	25.0	2.82		5.70		13C-1,2,3,7,8,9-HxCDD	72.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	25.0	4.30		3.51		13C-1,2,3,4,6,7,8-HpCDD	61.0	23 - 140	
OCDD	ND	50.0	3.75		6.94		13C-OCDD	45.3	17 - 157	
2,3,7,8-TCDF	ND	5.00	0.749		0.902		13C-2,3,7,8-TCDF	82.9	24 - 169	
1,2,3,7,8-PeCDF	ND	25.0	0.838		3.43		13C-1,2,3,7,8-PeCDF	61.5	24 - 185	
2,3,4,7,8-PeCDF	ND	25.0	0.850		2.21		13C-2,3,4,7,8-PeCDF	61.1	21 - 178	
1,2,3,4,7,8-HxCDF	ND	25.0	1.17		2.96		13C-1,2,3,4,7,8-HxCDF	68.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	25.0	1.23		4.01		13C-1,2,3,6,7,8-HxCDF	71.5	26 - 123	
2,3,4,6,7,8-HxCDF	ND	25.0	0.766		2.61		13C-2,3,4,6,7,8-HxCDF	72.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	25.0	1.04		2.38		13C-1,2,3,7,8,9-HxCDF	72.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	25.0	1.12		2.64		13C-1,2,3,4,6,7,8-HpCDF	64.4	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	25.0	1.28		4.82		13C-1,2,3,4,7,8,9-HpCDF	59.9	26 - 138	
OCDF	ND	50.0	1.78		7.05		13C-OCDF	49.0	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	117	35 - 197	

Toxic Equivalent Quotient (TEQ) Data
 TEQMinWHO2005Dioxin 0.00

TOTALS		
Total TCDD	ND	0.844
Total PeCDD	ND	1.81
Total HxCDD	ND	5.04
Total HpCDD	ND	4.30
Total TCDF	ND	0.749
Total PeCDF	ND	1.35
Total HxCDF	ND	1.36
Total HpCDF	ND	1.83

DL - Sample specific estimated detection limit MDL - Method detection limit LCL-UCL- Lower control limit - upper control limit
 EMPC - Estimated maximum possible concentration RL - Reporting limit Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: OPR					EPA Method 1613B		
Matrix: Aqueous Sample Size: 1.00 L		QC Batch: B5D0082 Date Extracted: 23-Apr-2015 8:19		Lab Sample: B5D0082-BS1 Date Analyzed: 27-Apr-15 11:04 Column: ZB-5MS Analyst: MAS			
Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	192	200	95.8	67 - 158	IS 13C-2,3,7,8-TCDD	73.7	20 - 175
1,2,3,7,8-PeCDD	1010	1000	101	70 - 142	13C-1,2,3,7,8-PeCDD	66.4	21 - 227
1,2,3,4,7,8-HxCDD	1090	1000	109	70 - 164	13C-1,2,3,4,7,8-HxCDD	71.3	21 - 193
1,2,3,6,7,8-HxCDD	1060	1000	106	76 - 134	13C-1,2,3,6,7,8-HxCDD	73.0	25 - 163
1,2,3,7,8,9-HxCDD	1060	1000	106	64 - 162	13C-1,2,3,7,8,9-HxCDD	72.8	21 - 193
1,2,3,4,6,7,8-HpCDD	1050	1000	105	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	73.9	26 - 166
OCDD	2080	2000	104	78 - 144	13C-OCDD	54.7	13 - 199
2,3,7,8-TCDF	191	200	95.6	75 - 158	13C-2,3,7,8-TCDF	77.4	22 - 152
1,2,3,7,8-PeCDF	1020	1000	102	80 - 134	13C-1,2,3,7,8-PeCDF	68.8	21 - 192
2,3,4,7,8-PeCDF	1030	1000	103	68 - 160	13C-2,3,4,7,8-PeCDF	73.3	13 - 328
1,2,3,4,7,8-HxCDF	1040	1000	104	72 - 134	13C-1,2,3,4,7,8-HxCDF	65.3	19 - 202
1,2,3,6,7,8-HxCDF	1030	1000	103	84 - 130	13C-1,2,3,6,7,8-HxCDF	68.9	21 - 159
2,3,4,6,7,8-HxCDF	1040	1000	104	70 - 156	13C-2,3,4,6,7,8-HxCDF	70.9	22 - 176
1,2,3,7,8,9-HxCDF	1020	1000	102	78 - 130	13C-1,2,3,7,8,9-HxCDF	73.2	17 - 205
1,2,3,4,6,7,8-HpCDF	1040	1000	104	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	71.1	21 - 158
1,2,3,4,7,8,9-HpCDF	1060	1000	106	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	68.9	20 - 186
OCDF	1980	2000	98.8	63 - 170	13C-OCDF	56.6	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	110	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: HC-SF-20150413-W **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Water	Lab Sample: 1500335-01 Date Received: 15-Apr-2015 9:02
Project: NPDES Sampling Support	Sample Size: 1.01 L	QC Batch: B5D0082 Date Extracted: 23-Apr-2015 8:19
Date Collected: 13-Apr-2015 19:35		Date Analyzed: 27-Apr-15 17:28 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	4.93	0.714		1.08		IS 13C-2,3,7,8-TCDD	85.8	25 - 164	
1,2,3,7,8-PeCDD	ND	24.7	1.63		3.94		13C-1,2,3,7,8-PeCDD	72.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	24.7	3.20		3.00		13C-1,2,3,4,7,8-HxCDD	73.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	24.7	3.34		4.20		13C-1,2,3,6,7,8-HxCDD	75.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	24.7	3.34		5.70		13C-1,2,3,7,8,9-HxCDD	75.0	32 - 141	
1,2,3,4,6,7,8-HpCDD	33.7	24.7			3.51		13C-1,2,3,4,6,7,8-HpCDD	70.1	23 - 140	
OCDD	272	49.3			6.94		13C-OCDD	52.0	17 - 157	
2,3,7,8-TCDF	ND	4.93	1.27		0.902		13C-2,3,7,8-TCDF	88.1	24 - 169	
1,2,3,7,8-PeCDF	ND	24.7	1.40		3.43		13C-1,2,3,7,8-PeCDF	74.5	24 - 185	
2,3,4,7,8-PeCDF	ND	24.7	0.950		2.21		13C-2,3,4,7,8-PeCDF	77.8	21 - 178	
1,2,3,4,7,8-HxCDF	ND	24.7	0.796		2.96		13C-1,2,3,4,7,8-HxCDF	72.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	24.7	1.18		4.01		13C-1,2,3,6,7,8-HxCDF	79.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	24.7	0.653		2.61		13C-2,3,4,6,7,8-HxCDF	76.3	28 - 136	
1,2,3,7,8,9-HxCDF	ND	24.7	0.938		2.38		13C-1,2,3,7,8,9-HxCDF	74.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	12.1	24.7			2.64	J	13C-1,2,3,4,6,7,8-HpCDF	73.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	24.7	1.25		4.82		13C-1,2,3,4,7,8,9-HpCDF	65.1	26 - 138	
OCDF	16.0	49.3			7.05	J	13C-OCDF	57.3	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	111	35 - 197	

Toxic Equivalent Quotient (TEQ) Data	
TEQMinWHO2005Dioxin	0.544

TOTALS										
Total TCDD	ND		1.27							
Total PeCDD	ND		2.34							
Total HxCDD	5.04			7.66						
Total HpCDD	61.4									
Total TCDF	ND		1.27							
Total PeCDF	2.62									
Total HxCDF	9.20			10.8						
Total HpCDF	22.3									

DL - Sample specific estimated detection limit MDL - Method detection limit LCL-UCL- Lower control limit - upper control limit
 EMPC - Estimated maximum possible concentration RL - Reporting limit Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: HC-NF-10-20150413-W **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Leidos	Matrix: Water	Lab Sample: 1500335-02 Date Received: 15-Apr-2015 9:02
Project: NPDES Sampling Support	Sample Size: 1.02 L	QC Batch: B5D0082 Date Extracted: 23-Apr-2015 8:19
Date Collected: 13-Apr-2015 20:10		Date Analyzed: 27-Apr-15 18:16 Column: ZB-5MS Analyst: MAS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	4.92	0.829		1.08		IS 13C-2,3,7,8-TCDD	84.5	25 - 164	
1,2,3,7,8-PeCDD	ND	24.6	1.50		3.94		13C-1,2,3,7,8-PeCDD	71.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	24.6	4.43		3.00		13C-1,2,3,4,7,8-HxCDD	72.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	24.6	3.49		4.20		13C-1,2,3,6,7,8-HxCDD	78.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	24.6	4.84		5.70		13C-1,2,3,7,8,9-HxCDD	73.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	61.5	24.6			3.51		13C-1,2,3,4,6,7,8-HpCDD	71.9	23 - 140	
OCDD	480	49.2			6.94		13C-OCDD	52.8	17 - 157	
2,3,7,8-TCDF	ND	4.92	0.928		0.902		13C-2,3,7,8-TCDF	89.1	24 - 169	
1,2,3,7,8-PeCDF	ND	24.6	1.25		3.43		13C-1,2,3,7,8-PeCDF	76.1	24 - 185	
2,3,4,7,8-PeCDF	ND	24.6	1.19		2.21		13C-2,3,4,7,8-PeCDF	79.1	21 - 178	
1,2,3,4,7,8-HxCDF	1.14	24.6			2.96	J	13C-1,2,3,4,7,8-HxCDF	74.0	26 - 152	
1,2,3,6,7,8-HxCDF	ND	24.6		0.601	4.01		13C-1,2,3,6,7,8-HxCDF	78.8	26 - 123	
2,3,4,6,7,8-HxCDF	ND	24.6	0.444		2.61		13C-2,3,4,6,7,8-HxCDF	75.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND	24.6	0.546		2.38		13C-1,2,3,7,8,9-HxCDF	75.0	29 - 147	
1,2,3,4,6,7,8-HpCDF	11.3	24.6			2.64	J	13C-1,2,3,4,6,7,8-HpCDF	76.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	24.6	1.40		4.82		13C-1,2,3,4,7,8,9-HpCDF	67.1	26 - 138	
OCDF	18.0	49.2			7.05	J	13C-OCDF	57.8	17 - 157	
							CRS 37Cl-2,3,7,8-TCDD	114	35 - 197	

Toxic Equivalent Quotient (TEQ) Data	
TEQMinWHO2005Dioxin	0.991

TOTALS										
Total TCDD	ND		1.56							
Total PeCDD	ND		1.50							
Total HxCDD	7.53			11.2						
Total HpCDD	111									
Total TCDF	ND		0.928							
Total PeCDF	1.76			4.79						
Total HxCDF	16.2			16.8						
Total HpCDF	28.0									

DL - Sample specific estimated detection limit MDL - Method detection limit LCL-UCL- Lower control limit - upper control limit
 EMPC - Estimated maximum possible concentration RL - Reporting limit Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch: B5D0057	Lab Sample: B5D0057-BLK1
Sample Size: 1.00 L	Date Extracted: 17-Apr-2015 8:25	Date Analyzed: 21-Apr-15 12:00 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	ND	5.00	3.55		1.21		PCB-43/49	ND	10.0	1.67		3.38	
PCB-2	ND	5.00	2.24		1.75		PCB-44	ND	5.00	2.08		2.48	
PCB-3	ND	5.00	2.24		1.49		PCB-45	ND	5.00	1.82		1.96	
PCB-4/10	ND	10.0	12.0		5.64		PCB-46	ND	5.00	2.00		2.49	
PCB-5/8	ND	10.0	8.10		3.59		PCB-47	3.63	5.00			4.42	J
PCB-6	ND	5.00	8.32		3.10		PCB-48/75	ND	10.0	1.37		2.09	
PCB-7/9	ND	10.0	8.22		6.22		PCB-50	ND	5.00	1.93		1.40	
PCB-11	ND	5.00	7.07		3.86		PCB-51	ND	5.00	1.63		1.42	
PCB-12/13	ND	10.0	7.17		5.01		PCB-52/69	ND	10.0	1.47		3.64	
PCB-14	ND	5.00	6.18		3.98		PCB-53	ND	5.00	1.67		1.12	
PCB-15	ND	5.00	6.30		2.53		PCB-54	ND	5.00	1.47		1.51	
PCB-16/32	ND	10.0	1.84		2.87		PCB-55	ND	5.00	1.02		1.19	
PCB-17	ND	5.00	1.02		1.37		PCB-56/60	ND	10.0	1.14		2.19	
PCB-18	ND	5.00	2.17		2.57		PCB-57	ND	5.00	1.11		0.857	
PCB-19	ND	5.00	1.33		2.38		PCB-58	ND	5.00	1.09		1.81	
PCB-20/21/33	ND	15.0	1.41		10.3		PCB-61/70	ND	10.0	1.10		2.40	
PCB-22	ND	5.00	1.40		3.17		PCB-62	ND	5.00	1.34		1.46	
PCB-23	ND	5.00	1.35		1.35		PCB-63	ND	5.00	1.07		0.696	
PCB-24/27	ND	10.0	0.748		3.16		PCB-65	ND	5.00	1.38		0.953	
PCB-25	ND	5.00	1.49		3.34		PCB-66/76	ND	10.0	1.05		2.82	
PCB-26	ND	5.00	1.32		2.19		PCB-67	ND	5.00	1.14		1.22	
PCB-28	ND	5.00	1.32		2.90		PCB-68	ND	5.00	1.13		1.24	
PCB-29	ND	5.00	1.35		1.60		PCB-73	ND	5.00	1.34		1.56	
PCB-30	ND	5.00	0.840		2.09		PCB-74	ND	5.00	1.02		1.53	
PCB-31	ND	5.00	1.31		4.29		PCB-77	ND	5.00	0.938		1.34	
PCB-34	ND	5.00	1.26		2.34		PCB-78	ND	5.00	0.978		0.990	
PCB-35	ND	5.00	1.26		1.65		PCB-79	ND	5.00	1.08		1.60	
PCB-36	ND	5.00	1.22		2.69		PCB-80	ND	5.00	0.950		1.98	
PCB-37	ND	5.00	1.18		1.92		PCB-81	ND	5.00	0.892		2.34	
PCB-38	ND	5.00	1.28		1.56		PCB-82	ND	5.00	3.30		1.69	
PCB-39	ND	5.00	1.26		2.60		PCB-83	ND	5.00	1.95		1.32	
PCB-40	ND	5.00	2.12		3.08		PCB-84/92	ND	10.0	2.82		3.38	
PCB-41/64/71/72	ND	20.0	1.36		5.57		PCB-85/116	ND	10.0	2.33		2.83	
PCB-42/59	ND	10.0	1.47		2.84		PCB-86	ND	5.00	3.14		2.34	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch: B5D0057	Lab Sample: B5D0057-BLK1
Sample Size: 1.00 L	Date Extracted: 17-Apr-2015 8:25	Date Analyzed: 21-Apr-15 12:00 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-87/117/125	ND	15.0	2.04		3.79		PCB-133/142	ND	10.0	2.17		2.19	
PCB-88/91	ND	5.00	3.24		3.25		PCB-134/143	ND	10.0	2.01		2.40	
PCB-89	ND	5.00	3.04		1.84		PCB-135	ND	5.00	2.57		2.90	
PCB-90/101	ND	10.0	2.51		1.92		PCB-136	ND	5.00	1.79		2.89	
PCB-93	ND	5.00	3.43		1.47		PCB-137	ND	5.00	1.89		2.08	
PCB-94	ND	5.00	3.22		1.91		PCB-138/163/164	ND	15.0	1.57		2.68	
PCB-95/98/102	ND	15.0	2.83		6.58		PCB-139/149	ND	10.0	2.35		7.87	
PCB-96	ND	5.00	2.65		2.16		PCB-140	ND	5.00	2.63		3.52	
PCB-97	ND	5.00	2.50		1.24		PCB-141	ND	5.00	1.93		1.15	
PCB-99	ND	5.00	2.42		1.94		PCB-144	ND	5.00	2.39		3.22	
PCB-100	ND	5.00	3.00		2.03		PCB-145	ND	5.00	1.87		1.73	
PCB-103	ND	5.00	2.99		2.28		PCB-146/165	ND	10.0	1.82		1.91	
PCB-104	ND	5.00	2.29		0.931		PCB-147	ND	5.00	2.63		3.62	
PCB-105	ND	5.00	1.45		2.21		PCB-148	ND	5.00	2.50		1.68	
PCB-106/118	ND	10.0	1.70		2.44		PCB-150	ND	5.00	1.81		1.14	
PCB-107/109	ND	10.0	1.83		1.98		PCB-151	ND	5.00	2.50		3.59	
PCB-108/112	ND	10.0	2.31		1.86		PCB-152	ND	5.00	1.75		1.82	
PCB-110	ND	5.00	1.90		1.94		PCB-153	ND	5.00	1.65		1.83	
PCB-111/115	ND	10.0	1.75		0.768		PCB-154	ND	5.00	2.30		2.78	
PCB-113	ND	5.00	2.26		1.31		PCB-155	ND	5.00	1.71		1.45	
PCB-114	ND	5.00	1.45		1.81		PCB-156	ND	5.00	1.50		1.74	
PCB-119	ND	5.00	1.72		0.949		PCB-157	ND	5.00	1.56		1.17	
PCB-120	ND	5.00	1.63		1.01		PCB-158/160	ND	10.0	1.47		1.99	
PCB-121	ND	5.00	2.07		1.94		PCB-159	ND	5.00	1.50		1.20	
PCB-122	ND	5.00	1.73		1.84		PCB-166	ND	5.00	1.61		0.920	
PCB-123	ND	5.00	1.96		1.35		PCB-167	ND	5.00	1.50		1.65	
PCB-124	ND	5.00	1.88		1.79		PCB-168	ND	5.00	1.45		0.933	
PCB-126	ND	5.00	1.57		2.05		PCB-169	ND	5.00		1.23	1.12	
PCB-127	ND	5.00	1.60		0.808		PCB-170	ND	5.00	1.71		1.38	
PCB-128/162	ND	10.0	1.77		1.68		PCB-171	ND	5.00	1.74		1.61	
PCB-129	ND	5.00	2.19		1.11		PCB-172	ND	5.00	1.87		1.46	
PCB-130	ND	5.00	2.42		2.21		PCB-173	ND	5.00	2.29		1.49	
PCB-131	ND	5.00	2.33		1.46		PCB-174	ND	5.00	1.96		1.42	
PCB-132/161	ND	10.0	1.76		2.34		PCB-175	ND	5.00	1.71		3.15	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch: B5D0057	Lab Sample: B5D0057-BLK1
Sample Size: 1.00 L	Date Extracted: 17-Apr-2015 8:25	Date Analyzed: 21-Apr-15 12:00 Column: ZB-1 Analyst: DMS

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-176	ND	5.00	1.23		2.17		Total triCB	ND	5.00	2.17			
PCB-177	ND	5.00	2.00		1.34		Total tetraCB	3.63	5.00				J
PCB-178	ND	5.00	1.67		2.25		Total pentaCB	ND	5.00	3.43			
PCB-179	ND	5.00	1.29		1.57		Total hexaCB	ND	5.00		1.23		
PCB-180	ND	5.00	1.75		0.610		Total heptaCB	ND	5.00	2.29			
PCB-181	ND	5.00	1.87		1.01		Total octaCB	ND	5.00	2.05			
PCB-182/187	ND	10.0	1.58		6.20		Total nonaCB	ND	5.00	1.70			
PCB-183	ND	5.00	1.46		3.29		DecaCB	ND	5.00	1.78			
PCB-184	ND	5.00	1.34		1.25		Total PCB	3.63	5.00				J
PCB-185	ND	5.00	1.80		1.47								
PCB-186	ND	5.00	1.23		2.43								
PCB-188	ND	5.00	1.18		1.08								
PCB-189	ND	5.00	1.19		1.49								
PCB-190	ND	5.00	1.27		1.70								
PCB-191	ND	5.00	1.36		1.96								
PCB-192	ND	5.00	1.46		1.69								
PCB-193	ND	5.00	1.37		1.46								
PCB-194	ND	5.00	0.951		1.71								
PCB-195	ND	5.00	1.08		1.47								
PCB-196/203	ND	10.0	1.84		6.35								
PCB-197	ND	5.00	1.30		1.80								
PCB-198	ND	5.00	2.02		3.78								
PCB-199	ND	5.00	2.05		4.05								
PCB-200	ND	5.00	1.47		1.75								
PCB-201	ND	5.00	1.39		1.02								
PCB-202	ND	5.00	1.50		1.55								
PCB-204	ND	5.00	1.42		1.48								
PCB-205	ND	5.00	0.763		1.53								
PCB-206	ND	5.00	1.70		1.32								
PCB-207	ND	5.00	0.842		1.51								
PCB-208	ND	5.00	0.853		1.34								
PCB-209	ND	5.00	1.78		1.86								
Total monoCB	ND	5.00	3.55										
Total diCB	ND	5.00	12.0										

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: Method Blank

EPA Method 1668C

Matrix: Aqueous	QC Batch: B5D0057	Lab Sample: B5D0057-BLK1
Sample Size: 1.00 L	Date Extracted: 17-Apr-2015 8:25	Date Analyzed: 21-Apr-15 12:00 Column: ZB-1 Analyst: DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	30.6	5 - 145		13C-PCB-157	84.1	10 - 145	
13C-PCB-3	50.8	5 - 145		13C-PCB-159	87.5	10 - 145	
13C-PCB-4	46.2	5 - 145		13C-PCB-167	89.3	10 - 145	
13C-PCB-11	70.1	5 - 145		13C-PCB-169	80.8	10 - 145	
13C-PCB-9	57.8	5 - 145		13C-PCB-170	72.2	10 - 145	
13C-PCB-19	46.7	5 - 145		13C-PCB-180	73.5	10 - 145	
13C-PCB-28	72.4	5 - 145		13C-PCB-188	79.7	10 - 145	
13C-PCB-32	54.0	5 - 145		13C-PCB-189	72.2	10 - 145	
13C-PCB-37	87.1	5 - 145		13C-PCB-194	98.2	10 - 145	
13C-PCB-47	72.4	5 - 145		13C-PCB-202	64.2	10 - 145	
13C-PCB-52	75.1	5 - 145		13C-PCB-206	88.3	10 - 145	
13C-PCB-54	59.5	5 - 145		13C-PCB-208	96.7	10 - 145	
13C-PCB-70	84.0	5 - 145		13C-PCB-209	77.0	10 - 145	
13C-PCB-77	95.3	10 - 145		CRS 13C-PCB-79	98.3	10 - 145	
13C-PCB-80	83.6	10 - 145		13C-PCB-178	93.3	10 - 145	
13C-PCB-81	91.9	10 - 145					
13C-PCB-95	72.4	10 - 145					
13C-PCB-97	86.7	10 - 145					
13C-PCB-101	80.3	10 - 145					
13C-PCB-104	61.8	10 - 145					
13C-PCB-105	88.6	10 - 145					
13C-PCB-114	86.7	10 - 145					
13C-PCB-118	88.5	10 - 145					
13C-PCB-123	88.0	10 - 145					
13C-PCB-126	90.5	10 - 145					
13C-PCB-127	89.0	10 - 145					
13C-PCB-138	92.1	10 - 145					
13C-PCB-141	91.2	10 - 145					
13C-PCB-153	91.6	10 - 145					
13C-PCB-155	58.7	10 - 145					
13C-PCB-156	84.8	10 - 145					

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: OPR

EPA Method 1668C

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B5D0057
Date Extracted: 17-Apr-2015 8:25

Lab Sample: B5D0057-BS1
Date Analyzed: 21-Apr-15 09:52 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PCB-1	922	1000	92.2	60 - 135	IS 13C-PCB-1	63.1	15 - 145
PCB-3	915	1000	91.5	60 - 135	IS 13C-PCB-3	76.7	15 - 145
PCB-4/10	1830	2000	91.7	60 - 135	IS 13C-PCB-4	69.4	15 - 145
PCB-15	950	1000	95.0	60 - 135	IS 13C-PCB-11	78.1	15 - 145
PCB-19	1210	1000	121	60 - 135	IS 13C-PCB-9	72.8	15 - 145
PCB-37	809	1000	80.9	60 - 135	IS 13C-PCB-19	55.3	15 - 145
PCB-54	1040	1000	104	60 - 135	IS 13C-PCB-28	71.3	15 - 145
PCB-77	1010	1000	101	60 - 135	IS 13C-PCB-32	59.7	15 - 145
PCB-81	1030	1000	103	60 - 135	IS 13C-PCB-37	82.0	15 - 145
PCB-104	1030	1000	103	60 - 135	IS 13C-PCB-47	79.4	15 - 145
PCB-105	908	1000	90.8	60 - 135	IS 13C-PCB-52	82.0	15 - 145
PCB-106/118	2060	2000	103	60 - 135	IS 13C-PCB-54	76.5	15 - 145
PCB-114	927	1000	92.7	60 - 135	IS 13C-PCB-70	87.8	15 - 145
PCB-123	1030	1000	103	60 - 135	IS 13C-PCB-77	97.9	40 - 145
PCB-126	962	1000	96.2	60 - 135	IS 13C-PCB-80	86.5	40 - 145
PCB-155	1060	1000	106	60 - 135	IS 13C-PCB-81	88.7	40 - 145
PCB-156	1050	1000	105	60 - 135	IS 13C-PCB-95	80.6	40 - 145
PCB-157	1080	1000	108	60 - 135	IS 13C-PCB-97	89.1	40 - 145
PCB-167	1050	1000	105	60 - 135	IS 13C-PCB-101	84.5	40 - 145
PCB-169	1090	1000	109	60 - 135	IS 13C-PCB-104	71.1	40 - 145
PCB-188	1050	1000	105	60 - 135	IS 13C-PCB-105	98.5	40 - 145
PCB-189	1090	1000	109	60 - 135	IS 13C-PCB-114	95.2	40 - 145
PCB-202	1110	1000	111	60 - 135	IS 13C-PCB-118	90.4	40 - 145
PCB-205	873	1000	87.3	60 - 135	IS 13C-PCB-123	89.9	40 - 145
PCB-206	1010	1000	101	60 - 135	IS 13C-PCB-126	97.3	40 - 145
PCB-208	1020	1000	102	60 - 135	IS 13C-PCB-127	92.9	40 - 145
PCB-209	1030	1000	103	60 - 135	IS 13C-PCB-138	90.8	40 - 145
					IS 13C-PCB-141	89.7	40 - 145
					IS 13C-PCB-153	90.9	40 - 145
					IS 13C-PCB-155	59.9	40 - 145
					IS 13C-PCB-156	86.9	40 - 145
					IS 13C-PCB-157	86.0	40 - 145
					IS 13C-PCB-159	88.6	40 - 145
					IS 13C-PCB-167	89.7	40 - 145
					IS 13C-PCB-169	85.8	40 - 145
					IS 13C-PCB-170	77.0	40 - 145
					IS 13C-PCB-180	76.8	40 - 145
					IS 13C-PCB-188	76.2	40 - 145
					IS 13C-PCB-189	74.3	40 - 145
					IS 13C-PCB-194	87.6	40 - 145

Sample ID: OPR

EPA Method 1668C

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B5D0057
Date Extracted: 17-Apr-2015 8:25

Lab Sample: B5D0057-BS1
Date Analyzed: 21-Apr-15 09:52 Column: ZB-1 Analyst: DMS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
					IS 13C-PCB-202	64.1	40 - 145
					IS 13C-PCB-206	83.8	40 - 145
					IS 13C-PCB-208	82.5	40 - 145
					IS 13C-PCB-209	79.3	40 - 145
					CRS 13C-PCB-79	104	40 - 145
					CRS 13C-PCB-178	96.5	40 - 145

LCL-UCL - Lower control limit - upper control limit

Sample ID: HC-SF-20150413-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Water		Lab Sample:	1500335-01		Date Received:	15-Apr-2015 9:02		
Project:	NPDES Sampling Support			Sample Size:	1.03 L		QC Batch:	B5D0057		Date Extracted:	17-Apr-2015 8:25		
Date Collected:	13-Apr-2015 19:35						Date Analyzed :	22-Apr-15 12:05		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	ND	4.86	2.26		1.21		PCB-44	17.2	4.86			2.48	
PCB-2	ND	4.86	1.87		1.75		PCB-45	ND	4.86	1.75		1.96	
PCB-3	ND	4.86	1.87		1.49		PCB-46	ND	4.86	1.92		2.49	
PCB-4/10	ND	9.72	3.43		5.64		PCB-47	ND	4.86		5.81	4.42	
PCB-5/8	ND	9.72	2.53		3.59		PCB-48/75	2.67	9.72			2.09	J
PCB-6	ND	4.86	2.60		3.10		PCB-50	ND	4.86	1.66		1.40	
PCB-7/9	ND	9.72	2.57		6.22		PCB-51	ND	4.86	1.57		1.42	
PCB-11	27.9	4.86			3.86		PCB-52/69	24.5	9.72			3.64	
PCB-12/13	ND	9.72	2.58		5.01		PCB-53	2.06	4.86			1.12	J
PCB-14	ND	4.86	2.22		3.98		PCB-54	ND	4.86	1.26		1.51	
PCB-15	3.01	4.86			2.53	J	PCB-55	ND	4.86	1.06		1.19	
PCB-16/32	5.36	9.72			2.87	J	PCB-56/60	9.85	9.72			2.19	
PCB-17	3.28	4.86			1.37	J	PCB-57	ND	4.86	1.14		0.857	
PCB-18	7.95	4.86			2.57		PCB-58	ND	4.86	1.12		1.81	
PCB-19	ND	4.86	1.37		2.38		PCB-61/70	24.4	9.72			2.40	
PCB-20/21/33	5.09	14.6			10.3	J	PCB-62	ND	4.86	1.37		1.46	
PCB-22	3.77	4.86			3.17	J	PCB-63	ND	4.86	1.10		0.696	
PCB-23	ND	4.86	0.993		1.35		PCB-65	ND	4.86	1.41		0.953	
PCB-24/27	ND	9.72	0.899		3.16		PCB-66/76	13.4	9.72			2.82	
PCB-25	ND	4.86	1.10		3.34		PCB-67	ND	4.86	1.17		1.22	
PCB-26	1.59	4.86			2.19	J	PCB-68	ND	4.86	1.15		1.24	
PCB-28	8.51	4.86			2.90		PCB-73	ND	4.86	1.29		1.56	
PCB-29	ND	4.86	0.993		1.60		PCB-74	6.04	4.86			1.53	
PCB-30	ND	4.86	0.869		2.09		PCB-77	4.24	4.86			1.34	J
PCB-31	ND	4.86		7.29	4.29		PCB-78	ND	4.86	1.20		0.990	
PCB-34	ND	4.86	0.924		2.34		PCB-79	2.12	4.86			1.60	J
PCB-35	ND	4.86	1.03		1.65		PCB-80	ND	4.86	0.988		1.98	
PCB-36	ND	4.86	0.995		2.69		PCB-81	ND	4.86	1.09		2.34	
PCB-37	4.20	4.86			1.92	J	PCB-82	7.68	4.86			1.69	
PCB-38	ND	4.86	1.04		1.56		PCB-83	ND	4.86	1.91		1.32	
PCB-39	ND	4.86	1.03		2.60		PCB-84/92	23.7	9.72			3.38	
PCB-40	ND	4.86		2.28	3.08		PCB-85/116	13.2	9.72			2.83	
PCB-41/64/71/72	12.7	19.4			5.57	J	PCB-86	ND	4.86	3.07		2.34	
PCB-42/59	ND	9.72		4.03	2.84		PCB-87/117/125	23.4	14.6			3.79	
PCB-43/49	11.1	9.72			3.38		PCB-88/91	10.4	4.86			3.25	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-SF-20150413-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Water		Lab Sample:	1500335-01		Date Received:	15-Apr-2015 9:02		
Project:	NPDES Sampling Support			Sample Size:	1.03 L		QC Batch:	B5D0057		Date Extracted:	17-Apr-2015 8:25		
Date Collected:	13-Apr-2015 19:35						Date Analyzed:	22-Apr-15 12:05		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	ND	4.86	2.69		1.84		PCB-136	9.45	4.86			2.89	
PCB-90/101	62.6	9.72			1.92		PCB-137	6.28	4.86			2.08	
PCB-93	ND	4.86	2.98		1.47		PCB-138/163/164	111	14.6			2.68	
PCB-94	ND	4.86	2.80		1.91		PCB-139/149	78.9	9.72			7.87	
PCB-95/98/102	44.3	14.6			6.58		PCB-140	ND	4.86	3.36		3.52	
PCB-96	ND	4.86	2.07		2.16		PCB-141	19.5	4.86			1.15	
PCB-97	15.8	4.86			1.24		PCB-144	4.42	4.86			3.22	J
PCB-99	28.6	4.86			1.94		PCB-145	ND	4.86	2.39		1.73	
PCB-100	ND	4.86	2.34		2.03		PCB-146/165	17.6	9.72			1.91	
PCB-103	ND	4.86	2.33		2.28		PCB-147	ND	4.86		3.11	3.62	
PCB-104	ND	4.86	1.79		0.931		PCB-148	ND	4.86	3.20		1.68	
PCB-105	25.8	4.86			2.21		PCB-150	ND	4.86	2.32		1.14	
PCB-106/118	63.0	9.72			2.44		PCB-151	20.3	4.86			3.59	
PCB-107/109	5.34	9.72			1.98	J	PCB-152	ND	4.86	2.24		1.82	
PCB-108/112	ND	9.72		2.34	1.86		PCB-153	101	4.86			1.83	
PCB-110	77.3	4.86			1.94		PCB-154	ND	4.86	2.94		2.78	
PCB-111/115	ND	9.72		1.58	0.768		PCB-155	ND	4.86	2.18		1.45	
PCB-113	ND	4.86	2.00		1.31		PCB-156	9.82	4.86			1.74	
PCB-114	1.90	4.86			1.81	J	PCB-157	3.24	4.86			1.17	J
PCB-119	ND	4.86		1.16	0.949		PCB-158/160	11.8	9.72			1.99	
PCB-120	ND	4.86	1.60		1.01		PCB-159	ND	4.86	1.73		1.20	
PCB-121	ND	4.86	1.80		1.94		PCB-166	ND	4.86	1.85		0.920	
PCB-122	ND	4.86	2.45		1.84		PCB-167	5.42	4.86			1.65	
PCB-123	ND	4.86	1.90		1.35		PCB-168	ND	4.86	1.57		0.933	
PCB-124	4.00	4.86			1.79	J	PCB-169	ND	4.86	1.99		1.12	
PCB-126	2.04	4.86			2.05	J	PCB-170	24.0	4.86			1.38	
PCB-127	ND	4.86	2.39		0.808		PCB-171	7.47	4.86			1.61	
PCB-128/162	19.8	9.72			1.68		PCB-172	6.28	4.86			1.46	
PCB-129	5.17	4.86			1.11		PCB-173	ND	4.86	1.64		1.49	
PCB-130	9.38	4.86			2.21		PCB-174	37.3	4.86			1.42	
PCB-131	ND	4.86	2.51		1.46		PCB-175	ND	4.86	1.27		3.15	
PCB-132/161	23.0	9.72			2.34		PCB-176	3.17	4.86			2.17	J
PCB-133/142	ND	9.72		3.35	2.19		PCB-177	20.0	4.86			1.34	
PCB-134/143	5.73	9.72			2.40	J	PCB-178	9.27	4.86			2.25	
PCB-135	11.3	4.86			2.90		PCB-179	14.6	4.86			1.57	

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

LCL-UCL- Lower control limit - upper control limit

Sample ID: HC-SF-20150413-W

EPA Method 1668C

Client Data			Sample Data			Laboratory Data					
Name:	Leidos		Matrix:	Water		Lab Sample:	1500335-01		Date Received:	15-Apr-2015 9:02	
Project:	NPDES Sampling Support		Sample Size:	1.03 L		QC Batch:	B5D0057		Date Extracted:	17-Apr-2015 8:25	
Date Collected:	13-Apr-2015 19:35					Date Analyzed :	22-Apr-15 12:05		Column:	ZB-1 Analyst: DMS	

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	66.4	4.86			0.610		Total octaCB	90.5	4.86		93.9		
PCB-181	ND	4.86	1.34		1.01		Total nonaCB	28.6	4.86				
PCB-182/187	46.6	9.72			6.20		DecaCB	13.8	4.86				
PCB-183	15.1	4.86			3.29		Total PCB	1480	4.86				B
PCB-184	ND	4.86	0.994		1.25								
PCB-185	4.43	4.86			1.47	J							
PCB-186	ND	4.86	0.913		2.43								
PCB-188	ND	4.86	0.874		1.08								
PCB-189	ND	4.86	0.976		1.49								
PCB-190	6.00	4.86			1.70								
PCB-191	ND	4.86		1.43	1.96								
PCB-192	ND	4.86	1.04		1.69								
PCB-193	ND	4.86		2.88	1.46								
PCB-194	18.4	4.86			1.71								
PCB-195	5.94	4.86			1.47								
PCB-196/203	25.3	9.72			6.35								
PCB-197	ND	4.86	1.64		1.80								
PCB-198	1.50	4.86			3.78	J							
PCB-199	25.7	4.86			4.05								
PCB-200	3.47	4.86			1.75	J							
PCB-201	ND	4.86		3.40	1.02								
PCB-202	10.2	4.86			1.55								
PCB-204	ND	4.86	1.78		1.48								
PCB-205	ND	4.86	1.40		1.53								
PCB-206	19.5	4.86			1.32								
PCB-207	2.40	4.86			1.51	J							
PCB-208	6.70	4.86			1.34								
PCB-209	13.8	4.86			1.86								
Total monoCB	ND	4.86	2.26										
Total diCB	30.9	4.86											
Total triCB	39.7	4.86		47.0									
Total tetraCB	130	4.86		142		B							
Total pentaCB	409	4.86		414									
Total hexaCB	473	4.86		479									
Total heptaCB	261	4.86		265									

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-SF-20150413-W

EPA Method 1668C

Client Data		Sample Data		Laboratory Data	
Name:	Leidos	Matrix:	Water	Lab Sample:	1500335-01
Project:	NPDES Sampling Support	Sample Size:	1.03 L	Date Received:	15-Apr-2015 9:02
Date Collected:	13-Apr-2015 19:35			QC Batch:	B5D0057
				Date Analyzed :	22-Apr-15 12:05
				Column:	ZB-1
				Analyst:	DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	66.1	5 -145		13C-PCB-170	77.0	10 -145	
13C-PCB-3	83.5	5 -145		13C-PCB-180	80.7	10 -145	
13C-PCB-4	65.0	5 -145		13C-PCB-188	85.8	10 -145	
13C-PCB-11	80.0	5 -145		13C-PCB-189	71.0	10 -145	
13C-PCB-9	75.3	5 -145		13C-PCB-194	94.7	10 -145	
13C-PCB-19	69.3	5 -145		13C-PCB-202	78.8	10 -145	
13C-PCB-28	78.3	5 -145		13C-PCB-206	93.3	10 -145	
13C-PCB-32	68.0	5 -145		13C-PCB-208	95.1	10 -145	
13C-PCB-37	85.7	5 -145		13C-PCB-209	87.7	10 -145	
13C-PCB-47	79.7	5 -145		CRS 13C-PCB-79	101	10 -145	
13C-PCB-52	84.9	5 -145		13C-PCB-178	104	10 -145	
13C-PCB-54	76.1	5 -145					
13C-PCB-70	88.3	5 -145					
13C-PCB-77	85.3	10 -145					
13C-PCB-80	87.2	10 -145					
13C-PCB-81	81.7	10 -145					
13C-PCB-95	83.4	10 -145					
13C-PCB-97	91.1	10 -145					
13C-PCB-101	89.8	10 -145					
13C-PCB-104	79.8	10 -145					
13C-PCB-105	88.6	10 -145					
13C-PCB-114	90.3	10 -145					
13C-PCB-118	86.3	10 -145					
13C-PCB-123	89.9	10 -145					
13C-PCB-126	84.7	10 -145					
13C-PCB-127	86.9	10 -145					
13C-PCB-138	92.7	10 -145					
13C-PCB-141	91.9	10 -145					
13C-PCB-153	93.3	10 -145					
13C-PCB-155	75.7	10 -145					
13C-PCB-156	84.9	10 -145					
13C-PCB-157	84.7	10 -145					
13C-PCB-159	87.5	10 -145					
13C-PCB-167	88.6	10 -145					
13C-PCB-169	76.6	10 -145					

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-NF-10-20150413-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Water		Lab Sample:	1500335-02		Date Received:	15-Apr-2015 9:02		
Project:	NPDES Sampling Support			Sample Size:	1.02 L		QC Batch:	B5D0057		Date Extracted:	17-Apr-2015 8:25		
Date Collected:	13-Apr-2015 20:10						Date Analyzed :	22-Apr-15 13:09		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-1	ND	4.88	1.22		1.21		PCB-44	33.2	4.88			2.48	
PCB-2	ND	4.88	1.12		1.75		PCB-45	3.95	4.88			1.96	J
PCB-3	ND	4.88	1.12		1.49		PCB-46	1.85	4.88			2.49	J
PCB-4/10	ND	9.76	4.65		5.64		PCB-47	8.42	4.88			4.42	B
PCB-5/8	6.84	9.76			3.59	J	PCB-48/75	4.24	9.76			2.09	J
PCB-6	ND	4.88	3.67		3.10		PCB-50	ND	4.88	2.25		1.40	
PCB-7/9	ND	9.76	3.63		6.22		PCB-51	1.86	4.88			1.42	J
PCB-11	60.3	4.88			3.86		PCB-52/69	50.9	9.76			3.64	
PCB-12/13	ND	9.76	3.87		5.01		PCB-53	4.66	4.88			1.12	J
PCB-14	ND	4.88	3.33		3.98		PCB-54	ND	4.88	1.71		1.51	
PCB-15	5.06	4.88			2.53		PCB-55	ND	4.88	2.18		1.19	
PCB-16/32	12.6	9.76			2.87		PCB-56/60	19.0	9.76			2.19	
PCB-17	5.90	4.88			1.37		PCB-57	ND	4.88	2.23		0.857	
PCB-18	18.2	4.88			2.57		PCB-58	ND	4.88	2.19		1.81	
PCB-19	3.16	4.88			2.38	J	PCB-61/70	48.8	9.76			2.40	
PCB-20/21/33	10.5	14.6			10.3	J	PCB-62	ND	4.88	2.18		1.46	
PCB-22	6.50	4.88			3.17		PCB-63	ND	4.88	2.14		0.696	
PCB-23	ND	4.88	1.99		1.35		PCB-65	ND	4.88	2.25		0.953	
PCB-24/27	1.88	9.76			3.16	J	PCB-66/76	28.8	9.76			2.82	
PCB-25	ND	4.88	2.20		3.34		PCB-67	ND	4.88	2.28		1.22	
PCB-26	ND	4.88		2.95	2.19		PCB-68	ND	4.88	1.84		1.24	
PCB-28	14.3	4.88			2.90		PCB-73	ND	4.88	2.18		1.56	
PCB-29	ND	4.88	1.99		1.60		PCB-74	12.5	4.88			1.53	
PCB-30	ND	4.88	0.789		2.09		PCB-77	7.21	4.88			1.34	
PCB-31	11.9	4.88			4.29		PCB-78	ND	4.88	2.54		0.990	
PCB-34	ND	4.88	1.85		2.34		PCB-79	2.81	4.88			1.60	J
PCB-35	ND	4.88	2.09		1.65		PCB-80	ND	4.88	2.02		1.98	
PCB-36	ND	4.88	2.02		2.69		PCB-81	ND	4.88	2.32		2.34	
PCB-37	6.28	4.88			1.92		PCB-82	22.8	4.88			1.69	
PCB-38	ND	4.88	2.11		1.56		PCB-83	ND	4.88	2.88		1.32	
PCB-39	ND	4.88	2.08		2.60		PCB-84/92	60.6	9.76			3.38	
PCB-40	5.82	4.88			3.08		PCB-85/116	18.7	9.76			2.83	
PCB-41/64/71/72	25.2	19.5			5.57		PCB-86	ND	4.88	4.64		2.34	
PCB-42/59	8.13	9.76			2.84	J	PCB-87/117/125	54.0	14.6			3.79	
PCB-43/49	22.3	9.76			3.38		PCB-88/91	16.1	4.88			3.25	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-NF-10-20150413-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Water		Lab Sample:	1500335-02		Date Received:	15-Apr-2015 9:02		
Project:	NPDES Sampling Support			Sample Size:	1.02 L		QC Batch:	B5D0057		Date Extracted:	17-Apr-2015 8:25		
Date Collected:	13-Apr-2015 20:10						Date Analyzed:	22-Apr-15 13:09		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-89	ND	4.88	4.24		1.84		PCB-136	17.9	4.88			2.89	
PCB-90/101	146	9.76			1.92		PCB-137	11.2	4.88			2.08	
PCB-93	ND	4.88	3.64		1.47		PCB-138/163/164	217	14.6			2.68	
PCB-94	ND	4.88	3.42		1.91		PCB-139/149	132	9.76			7.87	
PCB-95/98/102	105	14.6			6.58		PCB-140	ND	4.88	2.82		3.52	
PCB-96	ND	4.88	2.33		2.16		PCB-141	47.8	4.88			1.15	
PCB-97	40.8	4.88			1.24		PCB-144	ND	4.88		5.34	3.22	
PCB-99	51.3	4.88			1.94		PCB-145	ND	4.88	2.00		1.73	
PCB-100	ND	4.88	2.65		2.03		PCB-146/165	31.8	9.76			1.91	
PCB-103	ND	4.88	2.63		2.28		PCB-147	ND	4.88		2.03	3.62	
PCB-104	ND	4.88	2.02		0.931		PCB-148	ND	4.88	2.68		1.68	
PCB-105	46.9	4.88			2.21		PCB-150	ND	4.88	1.94		1.14	
PCB-106/118	123	9.76			2.44		PCB-151	35.5	4.88			3.59	
PCB-107/109	ND	9.76		8.62	1.98		PCB-152	ND	4.88	1.87		1.82	
PCB-108/112	ND	9.76		4.82	1.86		PCB-153	177	4.88			1.83	
PCB-110	160	4.88			1.94		PCB-154	ND	4.88	2.46		2.78	
PCB-111/115	ND	9.76		3.29	0.768		PCB-155	ND	4.88	1.83		1.45	
PCB-113	ND	4.88	3.15		1.31		PCB-156	20.7	4.88			1.74	
PCB-114	ND	4.88	2.76		1.81		PCB-157	6.52	4.88			1.17	
PCB-119	ND	4.88		2.16	0.949		PCB-158/160	24.0	9.76			1.99	
PCB-120	ND	4.88	2.41		1.01		PCB-159	ND	4.88	3.71		1.20	
PCB-121	ND	4.88	2.20		1.94		PCB-166	ND	4.88	1.43		0.920	
PCB-122	ND	4.88	3.28		1.84		PCB-167	10.6	4.88			1.65	
PCB-123	ND	4.88	3.38		1.35		PCB-168	ND	4.88	1.19		0.933	
PCB-124	7.12	4.88			1.79		PCB-169	ND	4.88	1.66		1.12	
PCB-126	ND	4.88	3.48		2.05		PCB-170	63.0	4.88			1.38	
PCB-127	ND	4.88	3.46		0.808		PCB-171	17.1	4.88			1.61	
PCB-128/162	36.5	9.76			1.68		PCB-172	12.4	4.88			1.46	
PCB-129	ND	4.88		9.79	1.11		PCB-173	ND	4.88	2.90		1.49	
PCB-130	12.0	4.88			2.21		PCB-174	82.0	4.88			1.42	
PCB-131	ND	4.88	1.90		1.46		PCB-175	ND	4.88	2.15		3.15	
PCB-132/161	64.1	9.76			2.34		PCB-176	7.65	4.88			2.17	
PCB-133/142	6.57	9.76			2.19	J	PCB-177	42.1	4.88			1.34	
PCB-134/143	10.5	9.76			2.40		PCB-178	15.5	4.88			2.25	
PCB-135	22.4	4.88			2.90		PCB-179	27.0	4.88			1.57	

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-NF-10-20150413-W

EPA Method 1668C

Client Data				Sample Data			Laboratory Data						
Name:	Leidos			Matrix:	Water		Lab Sample:	1500335-02		Date Received:	15-Apr-2015 9:02		
Project:	NPDES Sampling Support			Sample Size:	1.02 L		QC Batch:	B5D0057		Date Extracted:	17-Apr-2015 8:25		
Date Collected:	13-Apr-2015 20:10						Date Analyzed :	22-Apr-15 13:09		Column:	ZB-1 Analyst: DMS		

Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers	Analyte	Conc. (pg/L)	RL	DL	EMPC	MDL	Qualifiers
PCB-180	164	4.88			0.610		Total octaCB	159	4.88				
PCB-181	ND	4.88	2.37		1.01		Total nonaCB	33.3	4.88				
PCB-182/187	91.6	9.76			6.20		DecaCB	10.2	4.88				
PCB-183	36.7	4.88			3.29		Total PCB	2990	4.88				B
PCB-184	ND	4.88	1.69		1.25								
PCB-185	11.3	4.88			1.47								
PCB-186	ND	4.88	1.55		2.43								
PCB-188	ND	4.88	1.48		1.08								
PCB-189	ND	4.88	1.82		1.49								
PCB-190	12.2	4.88			1.70								
PCB-191	4.67	4.88			1.96	J							
PCB-192	ND	4.88	1.84		1.69								
PCB-193	6.74	4.88			1.46								
PCB-194	27.8	4.88			1.71								
PCB-195	15.8	4.88			1.47								
PCB-196/203	42.4	9.76			6.35								
PCB-197	ND	4.88	2.46		1.80								
PCB-198	ND	4.88	3.81		3.78								
PCB-199	47.8	4.88			4.05								
PCB-200	5.89	4.88			1.75								
PCB-201	6.11	4.88			1.02								
PCB-202	12.8	4.88			1.55								
PCB-204	ND	4.88	2.67		1.48								
PCB-205	ND	4.88	3.61		1.53								
PCB-206	22.0	4.88			1.32								
PCB-207	3.39	4.88			1.51	J							
PCB-208	7.88	4.88			1.34								
PCB-209	10.2	4.88			1.86								
Total monoCB	ND	4.88	1.22										
Total diCB	72.2	4.88											
Total triCB	91.2	4.88		94.2									
Total tetraCB	290	4.88				B							
Total pentaCB	852	4.88		871									
Total hexaCB	885	4.88		902									
Total heptaCB	594	4.88											

RL - Reporting limit

DL - Sample specific estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

MDL - Method detection limit

Sample ID: HC-NF-10-20150413-W

EPA Method 1668C

Client Data		Sample Data		Laboratory Data	
Name:	Leidos	Matrix:	Water	Lab Sample:	1500335-02
Project:	NPDES Sampling Support	Sample Size:	1.02 L	Date Received:	15-Apr-2015 9:02
Date Collected:	13-Apr-2015 20:10			QC Batch:	B5D0057
				Date Analyzed :	22-Apr-15 13:09
				Column:	ZB-1
				Analyst:	DMS

Labeled Standard	%R	LCL-UCL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
IS 13C-PCB-1	78.0	5 -145		13C-PCB-170	71.5	10 -145	
13C-PCB-3	93.0	5 -145		13C-PCB-180	75.8	10 -145	
13C-PCB-4	76.2	5 -145		13C-PCB-188	80.3	10 -145	
13C-PCB-11	88.9	5 -145		13C-PCB-189	62.3	10 -145	
13C-PCB-9	83.6	5 -145		13C-PCB-194	96.6	10 -145	
13C-PCB-19	71.0	5 -145		13C-PCB-202	70.6	10 -145	
13C-PCB-28	76.9	5 -145		13C-PCB-206	113	10 -145	
13C-PCB-32	74.4	5 -145		13C-PCB-208	110	10 -145	
13C-PCB-37	93.4	5 -145		13C-PCB-209	120	10 -145	
13C-PCB-47	98.9	5 -145		CRS 13C-PCB-79	96.1	10 -145	
13C-PCB-52	103	5 -145		13C-PCB-178	92.4	10 -145	
13C-PCB-54	104	5 -145					
13C-PCB-70	97.3	5 -145					
13C-PCB-77	85.2	10 -145					
13C-PCB-80	94.9	10 -145					
13C-PCB-81	86.4	10 -145					
13C-PCB-95	110	10 -145					
13C-PCB-97	102	10 -145					
13C-PCB-101	99.1	10 -145					
13C-PCB-104	116	10 -145					
13C-PCB-105	91.0	10 -145					
13C-PCB-114	94.3	10 -145					
13C-PCB-118	87.6	10 -145					
13C-PCB-123	90.9	10 -145					
13C-PCB-126	86.8	10 -145					
13C-PCB-127	90.5	10 -145					
13C-PCB-138	89.4	10 -145					
13C-PCB-141	91.6	10 -145					
13C-PCB-153	95.4	10 -145					
13C-PCB-155	92.2	10 -145					
13C-PCB-156	84.0	10 -145					
13C-PCB-157	82.1	10 -145					
13C-PCB-159	86.2	10 -145					
13C-PCB-167	84.5	10 -145					
13C-PCB-169	71.5	10 -145					

RL - Reporting limit
EMPC - Estimated maximum possible concentration

DL - Sample specific estimated detection limit
MDL - Method detection limit

LCL-UCL - Lower control limit - upper control limit

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	Method Detection Limit as determined by 40 CFR 136, Appendix B.
EMPC	Estimated Maximum Possible Concentration
M	Estimated Maximum Possible Concentration (CA Region 2)
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Michigan Department of Natural Resources	9932
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
North Carolina Department of Health & Human Services	06700
Oregon Laboratory Accreditation Program	4042-003
Pennsylvania Department of Environmental Protection	011
South Carolina Department of Health	87002001
Tennessee Department of Environment & Conservation	TN02996
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	3138
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Chain of Custody Record & Laboratory Analysis Request

1500335



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

0.9°C

ARI Assigned Number:	Turn-around Requested:	Page: 1 of 1
ART Client Company: Leidos	Phone: 425-354-0551	Date: 4/13/15
Client Contact: Corey Wilson 4		Ice Present?
Client Project Name: NPDES Sampling Support		No. of Coolers:
Client Project #:	Samplers: Corey Wilson Alex Swanson	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested			Notes/Comments
					EPA 1613 2378-TOTY 10PF	EPA 1668 Totals	EPA 1668 209 Compounds	
HC-SF-20150413-W	4/13/15	1935	Water	4	✓	✓	✓	
HC-NF-10-20150413-W	4/13/15	2010	Water	4	✓	✓	✓	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Corey Wilson	Printed Name: Megan Gay	Printed Name: Megan Gay	Printed Name: B. Benedict
	Company: Leidos	Company: Leidos	Company: Leidos	Company: Viata Analytical
	Date & Time: 4/13/15 2136	Date & Time: 4/13/15 2136	Date & Time: 4/14/15 1010	Date & Time: 04/15/15 0909

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1500335 TAT Std

Samples Arrival:	Date/Time 04/15/15 0902	Initials: PBB	Location: WR-2
			Shelf/Rack: NA
Logged In:	Date/Time 04/15/15 1031	Initials: PBB	Location: WR-2
			Shelf/Rack: A2
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
		<input type="checkbox"/> Other	
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 0.8 (uncorrected)	Time: 0908	Thermometer ID: IR-1	
Temp °C: 0.9 (corrected)			

		YES	NO	NA
Adequate Sample Volume Received?	A&B containers	<input checked="" type="checkbox"/>		
Holding Time Acceptable?		<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?		<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?		<input checked="" type="checkbox"/>		
Shipping Documentation Present?		<input checked="" type="checkbox"/>		
Airbill	Trk # 2015 4880 3008	<input checked="" type="checkbox"/>		
Sample Container Intact?		<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?				<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?		<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?			<input checked="" type="checkbox"/>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				<input checked="" type="checkbox"/>
Na ₂ S ₂ O ₃ Preservation Documented?	COC			<input checked="" type="checkbox"/> None
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	<input type="checkbox"/> Retain	<input type="checkbox"/> Return
				<input type="checkbox"/> Dispose

Comments:

EXTRACTION INFORMATION

Process Sheet

Workorder: **1500335**

Prep Expiration: 04/12/2016
Client: Leidos

Workorder Due: 06-May-15 00:00

TAT: 21

Method: **1668C Full List**
Matrix: **Aqueous**
Client Matrix: Water
Also run: **Percent Solids**

Prep Batch: BSD0057

Prep Data Entered: M.T 4/20/15
Date and Initials

Initial Sequence: S5D0029E

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1500335-01 "B"	<input checked="" type="checkbox"/>	HC-SF-20150413-W	15-Apr-15 09:02	WR-2 A-2	
1500335-02 "B"	<input type="checkbox"/>	HC-NF-10-20150413-W	15-Apr-15 09:02	WR-2 A-2	

Vista PM: Martha Maier

Vial Box ID: ABDJD

Sample Reconciled By: M.T 4/17/15

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

INST HRMS-4 Date/Time IN: 4/17/15 9:25 Date/Time OUT: 4/20/15 10:30

Pan #	SampID	Source ID	SampType	Initial and Date:		Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	MJT 4/17/2015			
				Pan Tare Wt. (gms)	MJT 4/17/2015					MJT 4/17/2015	pH Before	pH After	Acid Added
	1500316-01		Sample	1.29	MJT 4/17/2015	9.79	1.30			7	2	10	0
	1500330-01		Sample	1.28		10.21	1.28			5	2	10	0
	1500330-02		Sample	1.29		12.49	1.30			5	2	10	0
	1500335-01		Sample	1.29		8.28	1.29			7	2	10	0
	1500335-02		Sample	1.27		8.57	1.28			6	2	10	0
	1500336-01		Sample	1.29		8.25	1.31			7	2	20	0
	1500339-01		Sample	1.29	MJT 4/20/15	14.77	1.31			7	2	20	0
	B5D0057-MB		QC							5	2	10	0
	B5D0057-OPR		QC							5	2	10	0

(A) acid was added in drops u.T 4/7/15

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 1668C 40 PCB CA

Method: 1668C Full List

B5D0057

Chemist: M.T

Prep Date/Time: 17-Apr-15 08:25

Prepared using: HRMS - Separatory Funnel

C	VISTA Sample ID	Bottle + Sample (mL)	Bottle Only (mL)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	^{PS} CRS CHEM/WIT DATE	NA AP CHEM/ DATE	CSD0055 ABSG CHEM/ DATE	NA AA CHEM/ DATE	NA Florisil CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	B5D0057-BLK1	NA	NA	(1.000)	M.T. 4/17/15	M.T. 4/17/15	NA	M.T. 4/17/15	NA	NA	M.T. 4/17/15
<input type="checkbox"/>	B5D0057-BS1	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500316-01	1505.14	497.30	1.00784	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500330-01	1518.69	499.26	1.01943	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500330-02	1500.57	499.85	1.00072	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500335-01	1532.90	504.17	1.02873	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500335-02	1528.22	503.85	1.02437	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500336-01	1176.43	402.45	0.77398	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500339-01	1295.47	388.11	0.90736	↓	↓	↓	↓	↓	↓	↓

IS Name	NS Name	^{PS} CRS Name	RS Name	Cycle Time	APP: <u>SEFUN</u> SOX SDS	Check Out: Chemist/Date: <u>M.T. 4/17/15</u>
PCDD/F	PCDD/F	PCDD/F	PCDD/F	Start Date/Time	SOLV: <u>DCM</u>	Check In: Chemist/Date: <u>↓ Empty</u>
PCB <u>14L2202, 10ml</u> ^{V2}	PCB <u>14L2204, 10ml</u> ^{V2}	PCB <u>14L2201, 10ml</u> ^{V3}	PCB <u>14L2203, 10ml</u> ^{V3}	<u>NA</u>	Other <u>NA</u>	Balance ID: <u>HRMS-4</u>
PAH	PAH	PAH	PAH	Stop Date/Time	Final Volume(s) <u>20ml</u> <u>C9</u>	
				<u>NA</u>		

Comments:

Process Sheet

Workorder: **1500335**

Prep Expiration: 04/12/2016
Client: Leidos

Workorder Due: 06-May-15 00:00

TAT: 21

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

Prep Batch: BSD0082

Prep Data Entered: 4/24/15 SR
Date and Initials

Initial Sequence: S5D0041

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1500335-01	<input checked="" type="checkbox"/>	HC-SF-20150413-W	15-Apr-15 09:02	WR-2 A-2	"A" J
1500335-02	<input checked="" type="checkbox"/>	HC-NF-10-20150413-W	15-Apr-15 09:02	WR-2 A-2	J

Vista PM: Martha Maier

Vial Box ID: Seal

Sample Reconciled By: B. Smith 4/23/15

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 1613 Full List

B5D0082

Chemist: B. Smith

Prep Date/Time: 23-Apr-15 08:19

Prepared using: HRMS - SPE Extraction

C	VISTA Sample ID	Bottle + Sample (mL)	Bottle Only (mL)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	N/A	CSD0081	CSD0081	CSD0082	RS CHEM/WIT DATE
							AP CHEM/DATE	ABSG CHEM/DATE	AA CHEM/DATE	Florisil CHEM/DATE	
<input type="checkbox"/>	B5D0082-BLK1	MA	MA	(1.000)	BMS 4/23/15	4/24/15	N/A	Don 4/24/15	Don 4/24/15	SR 4/24/15	SR 4/24/15
<input type="checkbox"/>	B5D0082-BS1	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500335-01	1516.80	503.16	1.01364	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1500335-02	1520.61	503.43	1.01718	↓	↓	↓	↓	↓	↓	↓

IS Name <u>V6</u>	NS Name <u>V12</u>	CRS Name <u>V7</u>	RS Name <u>V6</u>	Cycle Time	APP: SEFUN SOX <u>SDS</u>	Check Out: <u>BMS 4/23/15</u>
PCDD/F <u>4H2704, 10µL</u>	PCDD/F <u>13L1101, 10µL</u>	PCDD/F <u>14H2705, 10µL</u>	PCDD/F <u>14H2706, 10µL</u>	Start Date/Time <u>4/23/15 15:08</u>	SOLV: <u>Tol</u>	Check In: <u>empty ↓</u>
PCB _____	PCB _____	PCB _____	PCB _____	Stop Date/Time <u>4/24/15 7:45</u>	Other <u>SPE</u>	Balance ID: <u>HRMS-2</u>
PAH _____	PAH _____	PAH _____	PAH _____	Final Volume(s) <u>20µL</u>	<u>C14</u>	

Comments:

SAMPLE DATA

EPA Method 1613

Client ID: Method Blank
Lab ID: B5D0082-BLK1

Filename: 150427D1 S:5 Acq:27-APR-15 13:28:41
GC Column ID: ZB-5MS ICal: 1613VG7-1-7-15

wt/vol: 1.000

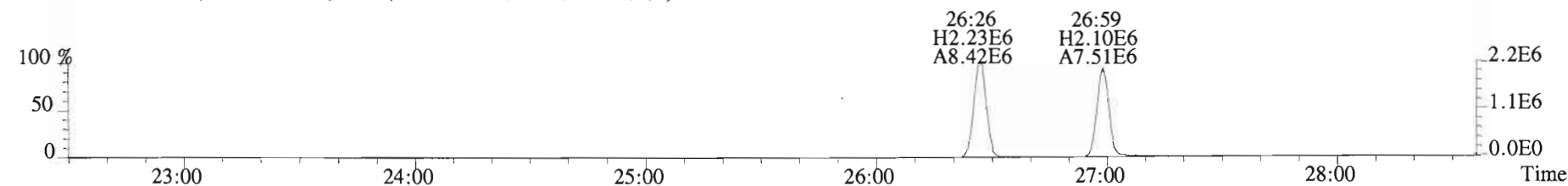
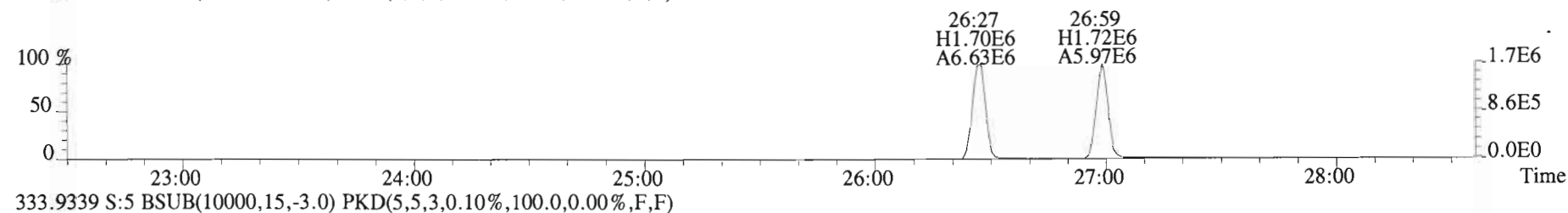
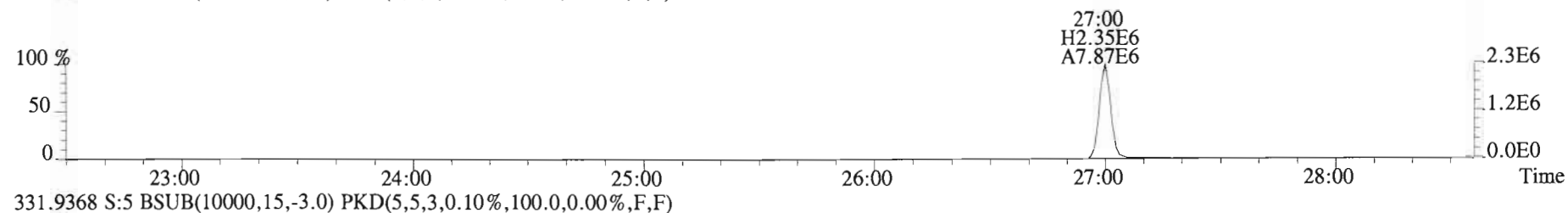
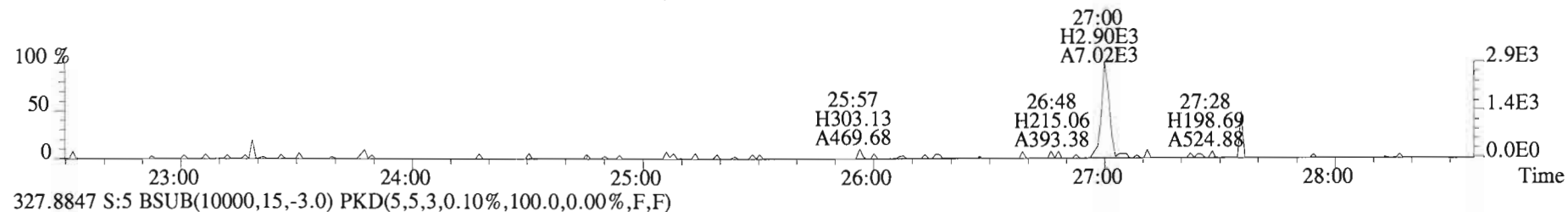
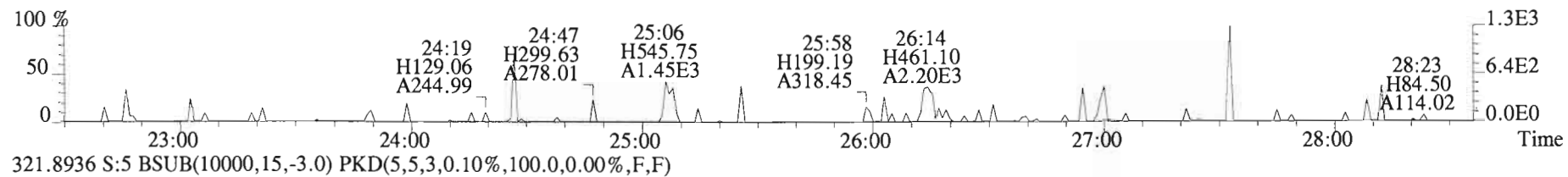
ConCal: ST150427D1-1
EndCAL: NA

Page 4 of 4

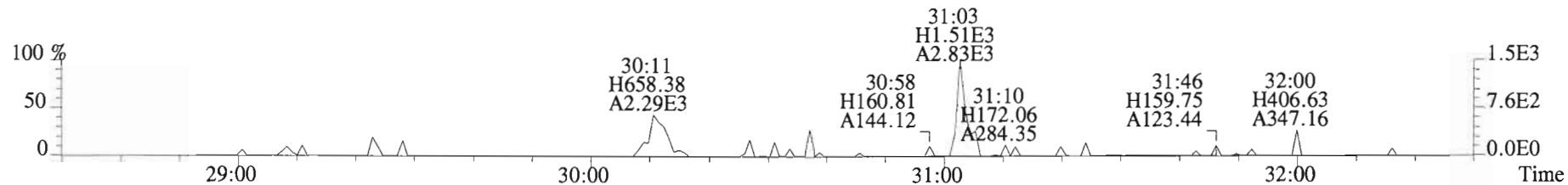
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2,3,7,8-TCDD	*	* n	1.17	Not F _η	*	*	421	2.5	0.844		Total Tetra-Dioxins	*	*		421	0.844
1,2,3,7,8-PeCDD	*	* n	0.91	Not F _η	*	*	714	2.5	1.81		Total Penta-Dioxins	*	*		714	1.81
1,2,3,4,7,8-HxCDD	*	* n	1.08	Not F _η	*	*	464	2.5	2.66		Total Hexa-Dioxins	*	*		856	5.04
1,2,3,6,7,8-HxCDD	*	* n	1.06	Not F _η	*	*	464	2.5	2.69		Total Hepta-Dioxins	*	*		632	4.30
1,2,3,7,8,9-HxCDD	*	* n	0.93	Not F _η	*	*	464	2.5	2.82		Total Tetra-Furans	*	*		485	0.749
1,2,3,4,6,7,8-HpCDD	*	* n	1.10	Not F _η	*	*	632	2.5	4.30		Total Penta-Furans	0.0000	0.0000		538	1.35
OCDD	*	* n	0.95	Not F _η	*	*	914	1.0	3.75		Total Hexa-Furans	*	*		561	1.36
											Total Hepta-Furans	*	*		585	1.83
2,3,7,8-TCDF	*	* n	1.07	Not F _η	*	*	485	2.5	0.749							
1,2,3,7,8-PeCDF	*	* n	1.07	Not F _η	*	*	336	2.5	0.838							
2,3,4,7,8-PeCDF	*	* n	1.03	Not F _η	*	*	336	2.5	0.850							
1,2,3,4,7,8-HxCDF	*	* n	1.38	Not F _η	*	*	561	2.5	1.17							
1,2,3,6,7,8-HxCDF	*	* n	1.26	Not F _η	*	*	561	2.5	1.23							
2,3,4,6,7,8-HxCDF	*	* n	1.29	Not F _η	*	*	324	2.5	0.766							
1,2,3,7,8,9-HxCDF	*	* n	1.19	Not F _η	*	*	324	2.5	1.04							
1,2,3,4,6,7,8-HpCDF	*	* n	1.61	Not F _η	*	*	386	2.5	1.12							
1,2,3,4,7,8,9-HpCDF	*	* n	1.53	Not F _η	*	*	377	2.5	1.28							
OCDF	*	* n	1.10	Not F _η	*	*	253	2.5	1.78							
											Rec	Qual				
IS	13C-2,3,7,8-TCDD	1.35e+07	0.79 y	1.06	26:59	1.020	1691.0				84.5					
IS	13C-1,2,3,7,8-PeCDD	1.07e+07	0.63 y	1.18	31:20	1.185	1211.2				60.6					
IS	13C-1,2,3,4,7,8-HxCDD	7.08e+06	1.30 y	0.72	34:42	1.014	1499.4				75.0					
IS	13C-1,2,3,6,7,8-HxCDD	7.14e+06	1.25 y	0.74	34:48	1.017	1478.5				73.9					
IS	13C-1,2,3,7,8,9-HxCDD	8.07e+06	1.24 y	0.85	35:07	1.027	1442.5				72.1					
IS	13C-1,2,3,4,6,7,8-HpCDD	5.23e+06	1.05 y	0.65	38:32	1.126	1220.3				61.0					
IS	13C-OCDD	9.07e+06	0.86 y	0.76	41:56	1.226	1810.6				45.3					
IS	13C-2,3,7,8-TCDF	1.98e+07	0.78 y	0.92	26:15	0.993	1658.5				82.9					
IS	13C-1,2,3,7,8-PeCDF	1.48e+07	1.61 y	0.92	30:11	1.141	1230.9				61.5					
IS	13C-2,3,4,7,8-PeCDF	1.48e+07	1.64 y	0.93	31:04	1.174	1221.4				61.1					
IS	13C-1,2,3,4,7,8-HxCDF	8.85e+06	0.51 y	0.98	33:46	0.987	1376.9				68.8					
IS	13C-1,2,3,6,7,8-HxCDF	1.02e+07	0.51 y	1.08	33:55	0.991	1430.5				71.5					
IS	13C-2,3,4,6,7,8-HxCDF	9.80e+06	0.51 y	1.03	34:31	1.009	1457.3				72.9					
IS	13C-1,2,3,7,8,9-HxCDF	8.13e+06	0.50 y	0.86	35:31	1.038	1441.0				72.1					
IS	13C-1,2,3,4,6,7,8-HpCDF	6.10e+06	0.43 y	0.72	37:23	1.093	1288.9				64.4					
IS	13C-1,2,3,4,7,8,9-HpCDF	5.48e+06	0.43 y	0.70	39:06	1.143	1198.3				59.9					
IS	13C-OCDF	1.09e+07	0.89 y	0.85	42:11	1.233	1958.3				49.0					
C/Up	37C1-2,3,7,8-TCDD	7.87e+06		1.12	27:00	1.021	936.52				117					
RS/RT	13C-1,2,3,4-TCDD	1.50e+07	0.79 y	1.00	26:27	*	2000.0									
RS	13C-1,2,3,4-TCDF	2.60e+07	0.76 y	1.00	25:07	*	2000.0									
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.31e+07	0.51 y	1.00	34:12	*	2000.0									

Integrations
by MS
Analyst: MS
Reviewed
by MS
Analyst: MS
Date: 4/29/15
Date: 4/29/15

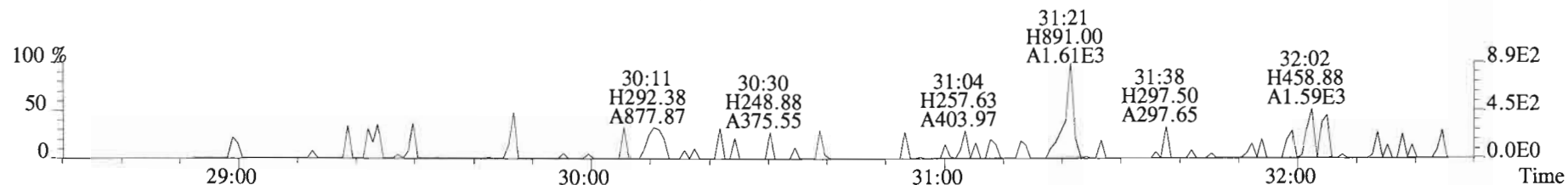
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319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



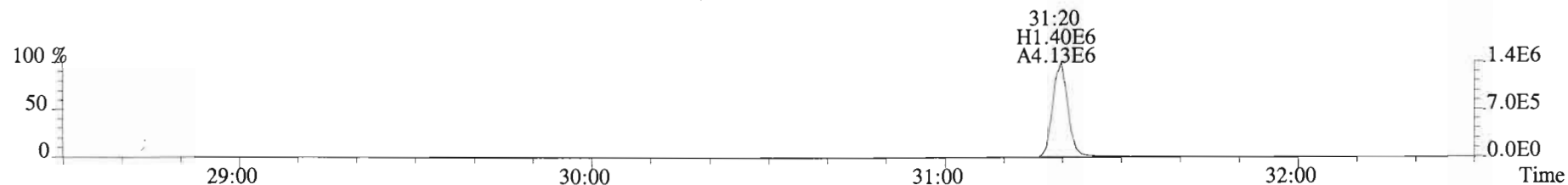
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Sample#5 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BLK1 Method Blank 1 Exp:OCDD_DB5
353.8576 S:5 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



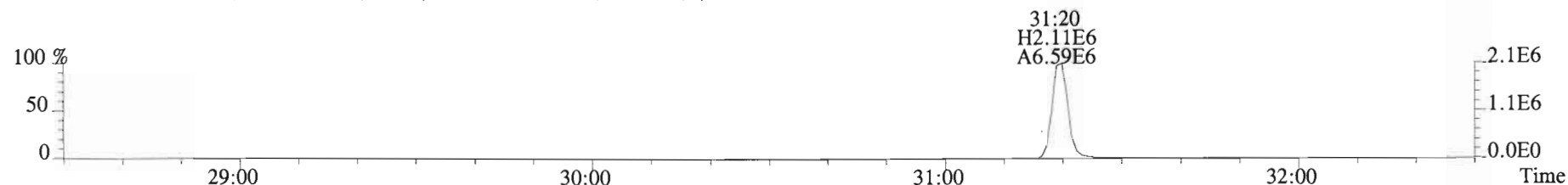
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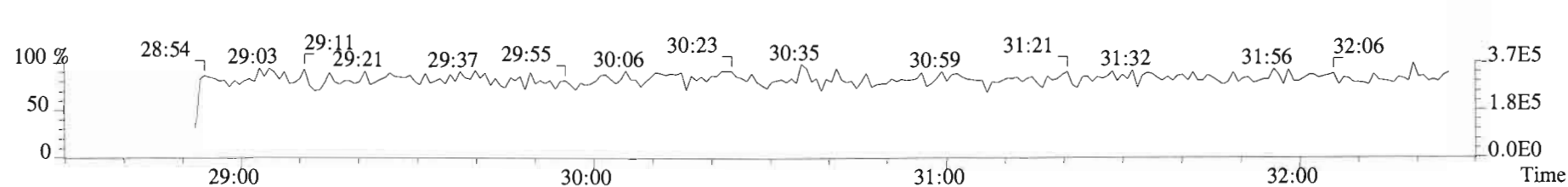
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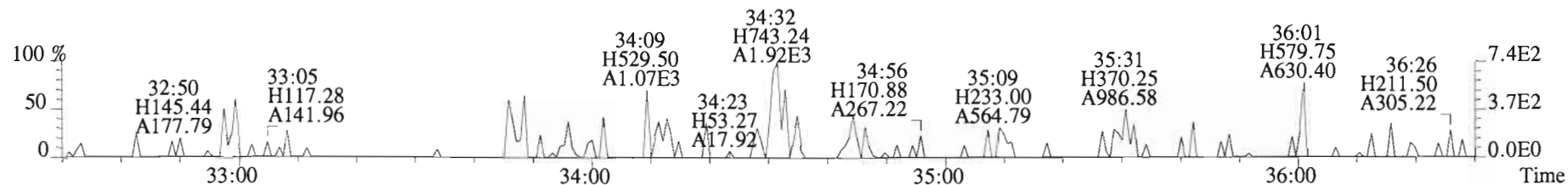
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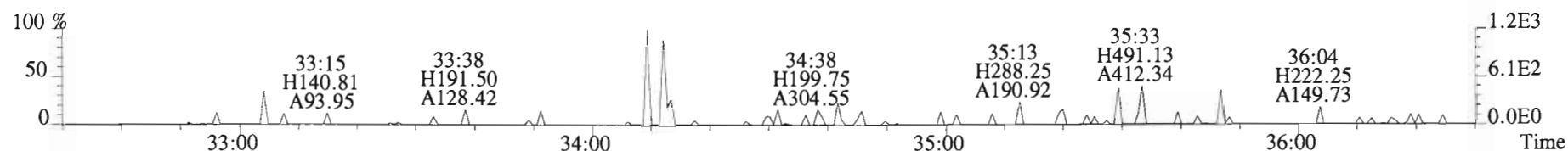
366.9792 S:5 F:2



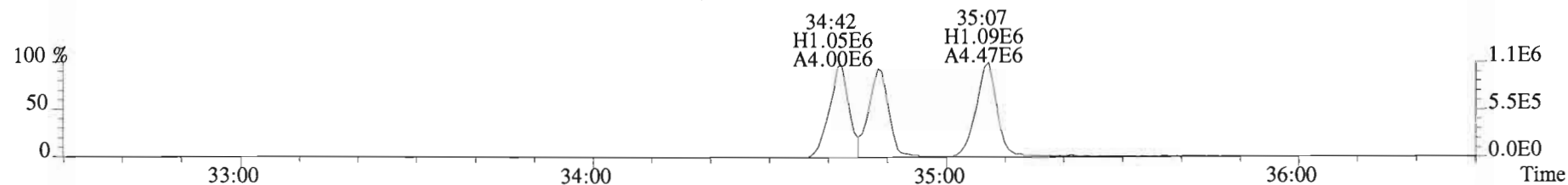
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389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



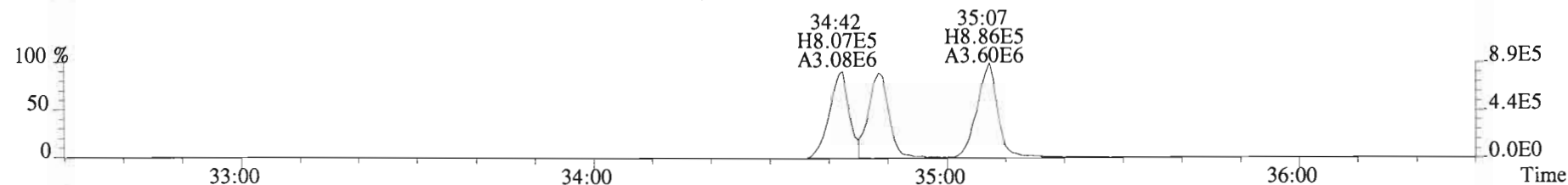
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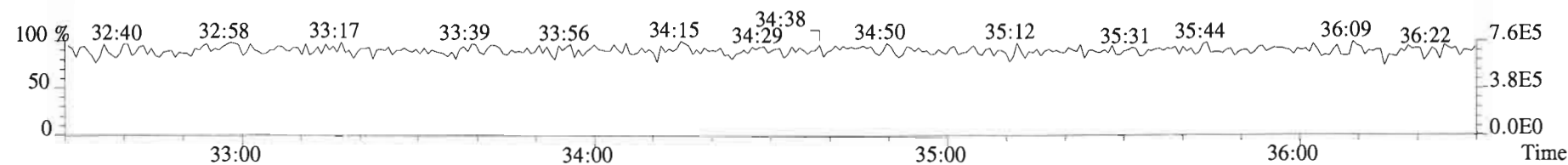
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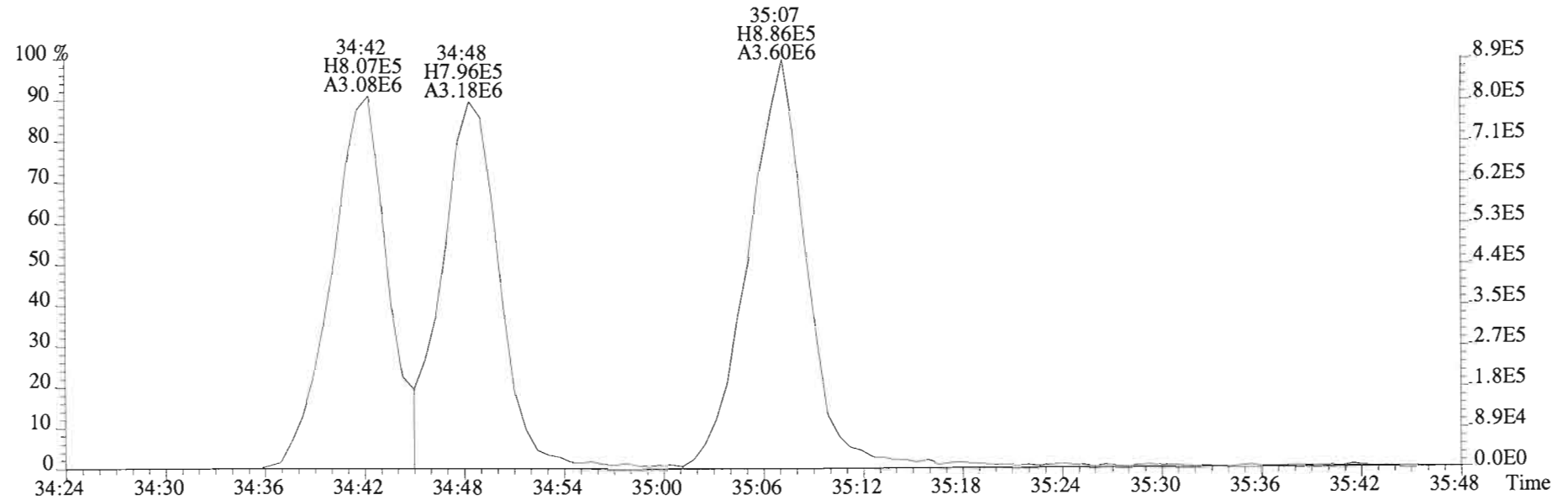
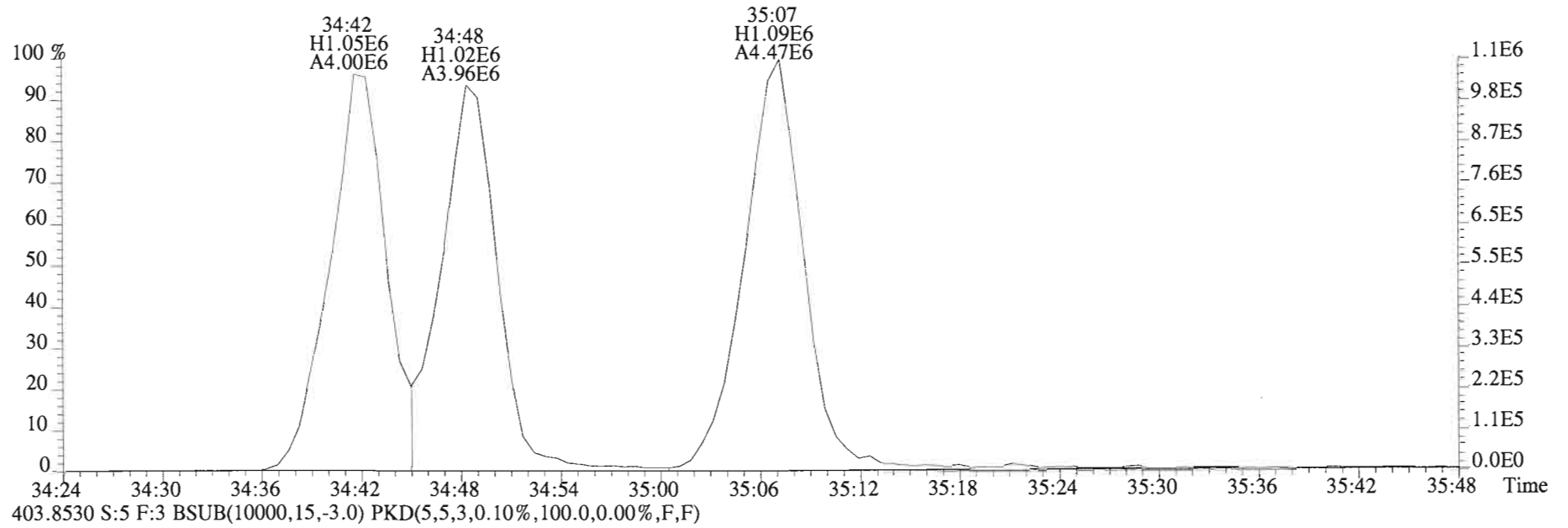
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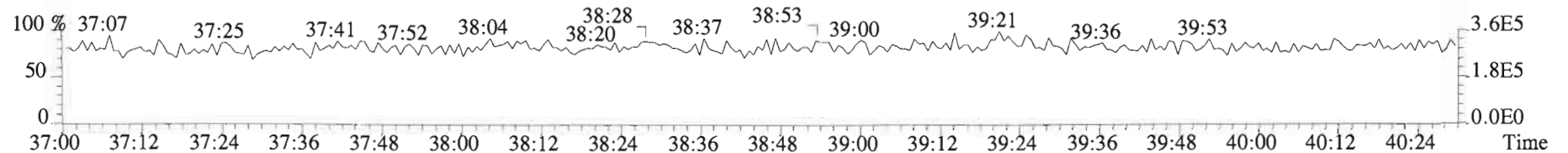
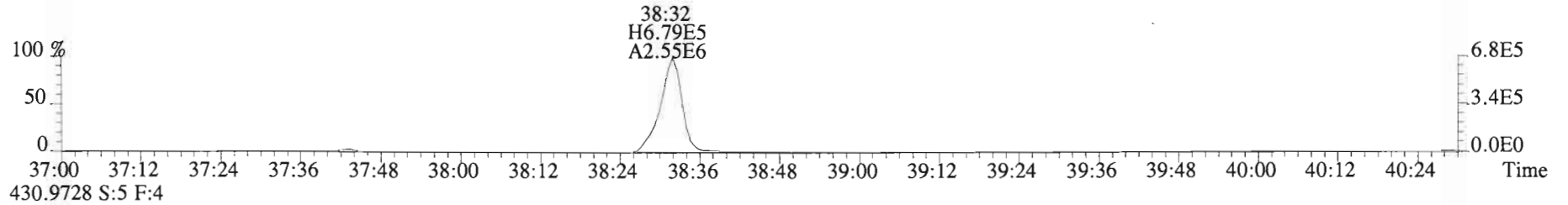
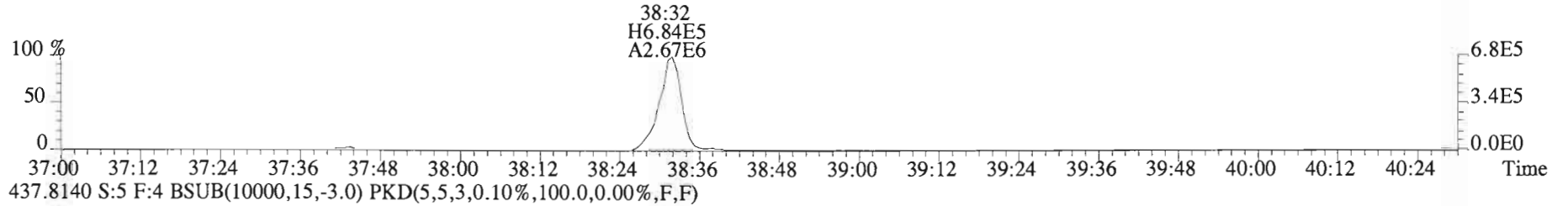
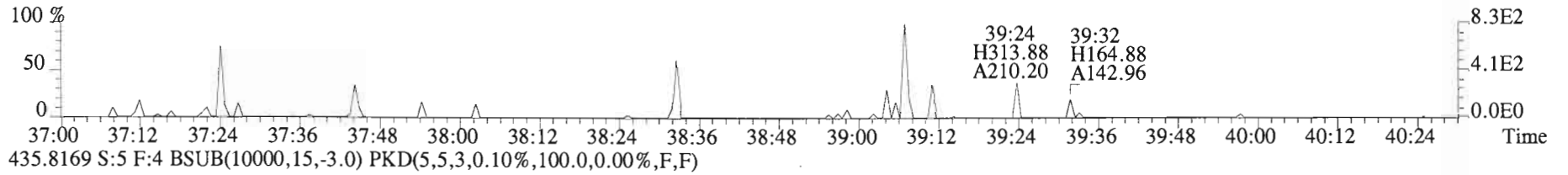
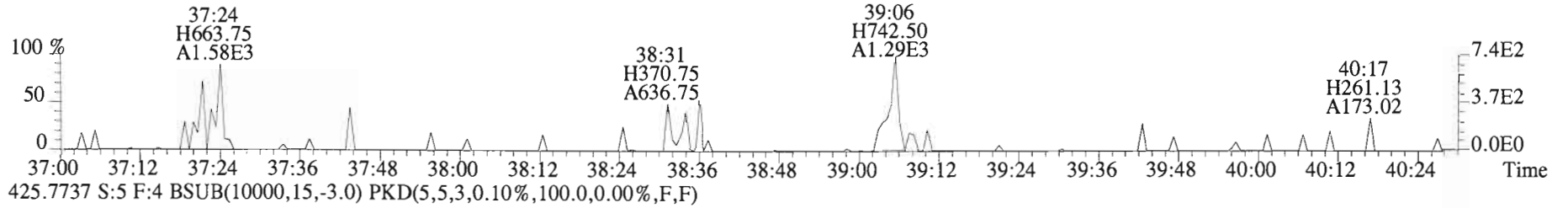
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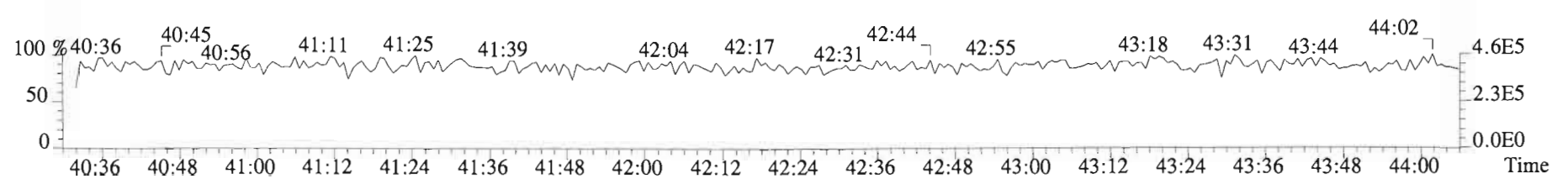
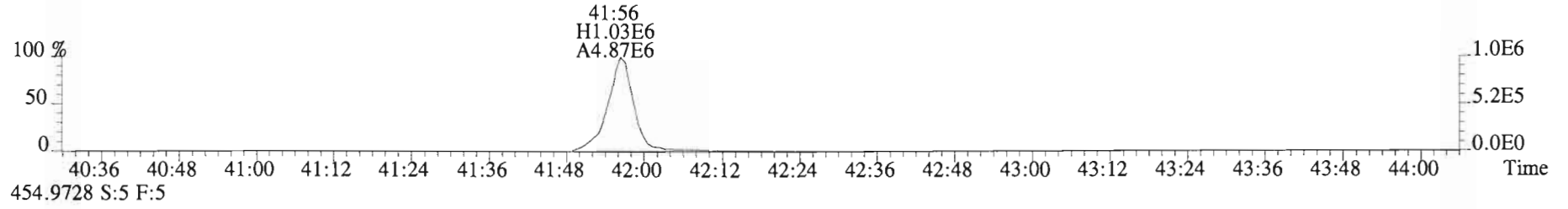
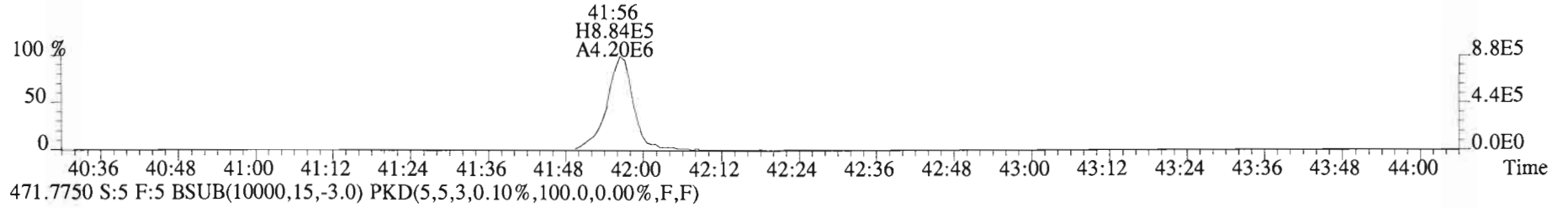
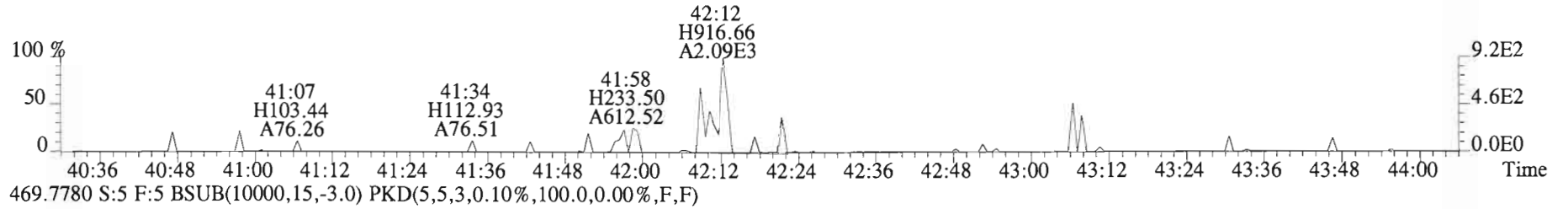
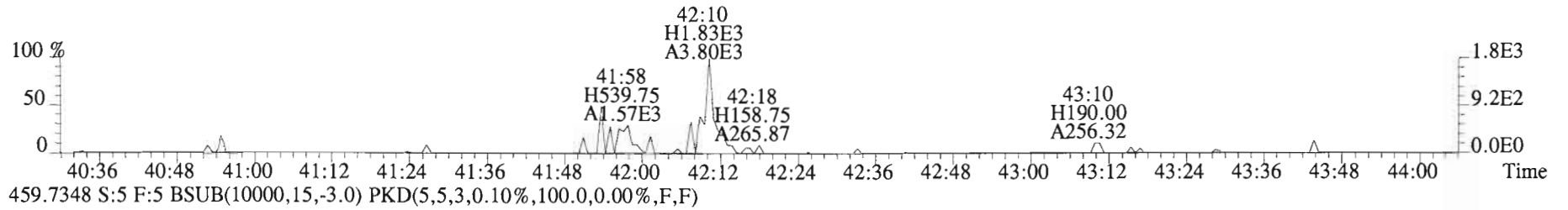
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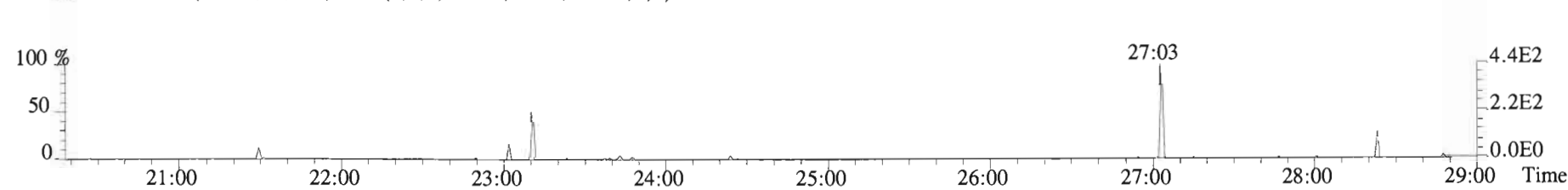
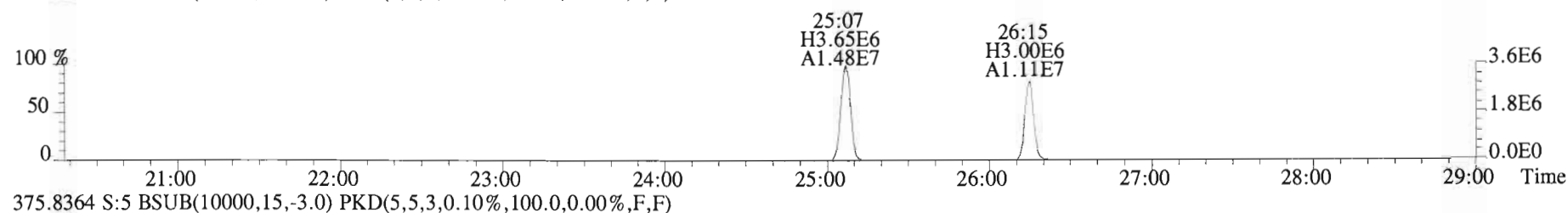
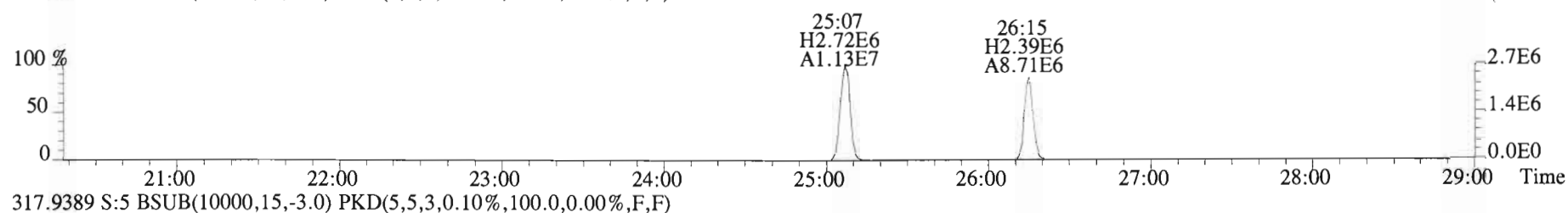
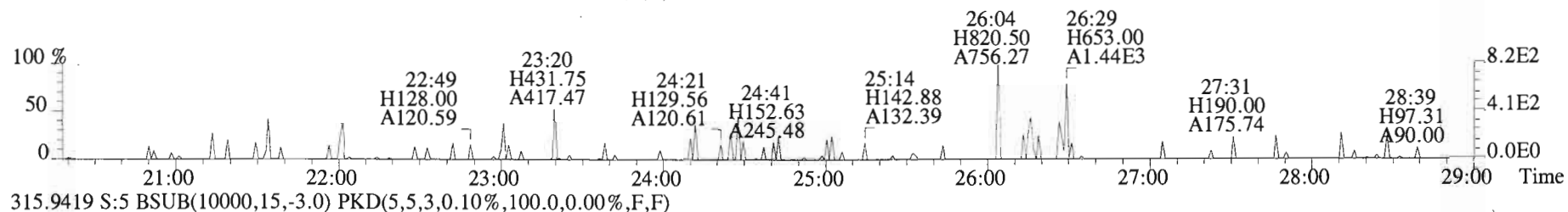
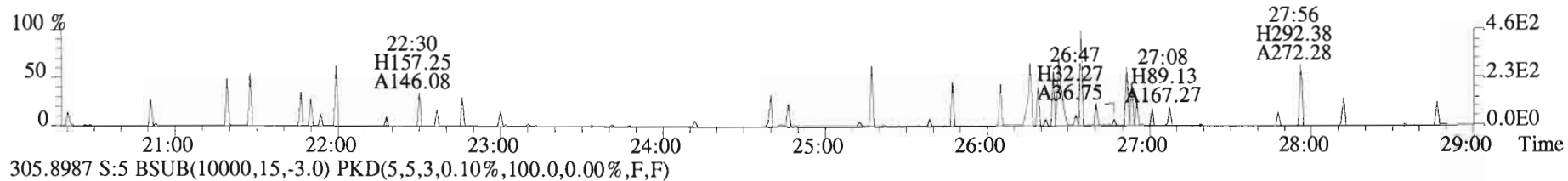
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423.7767 S:5 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



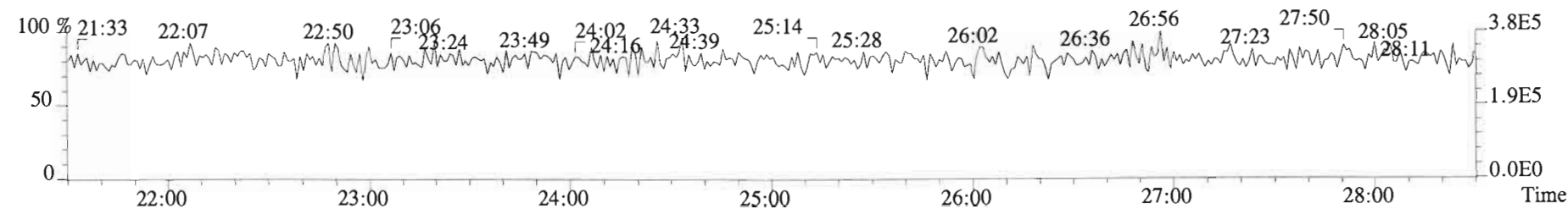
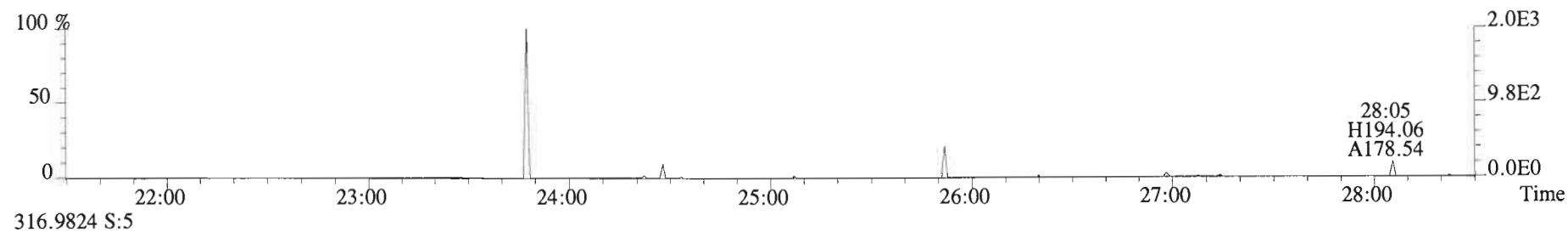
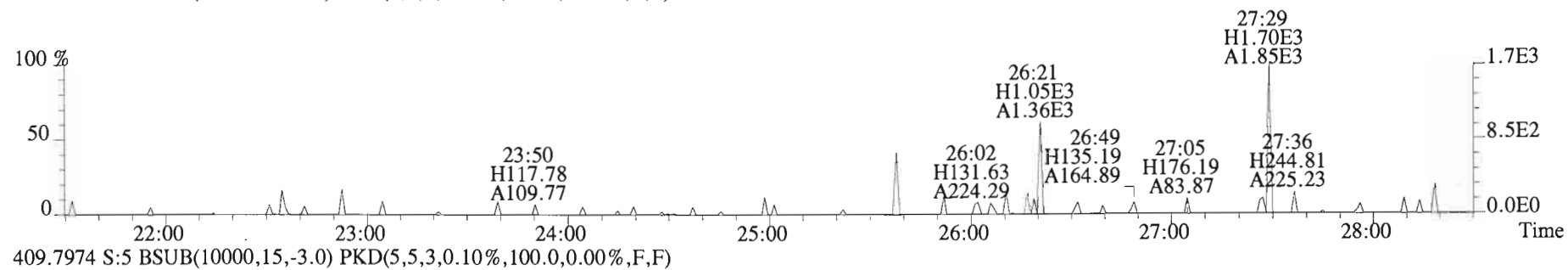
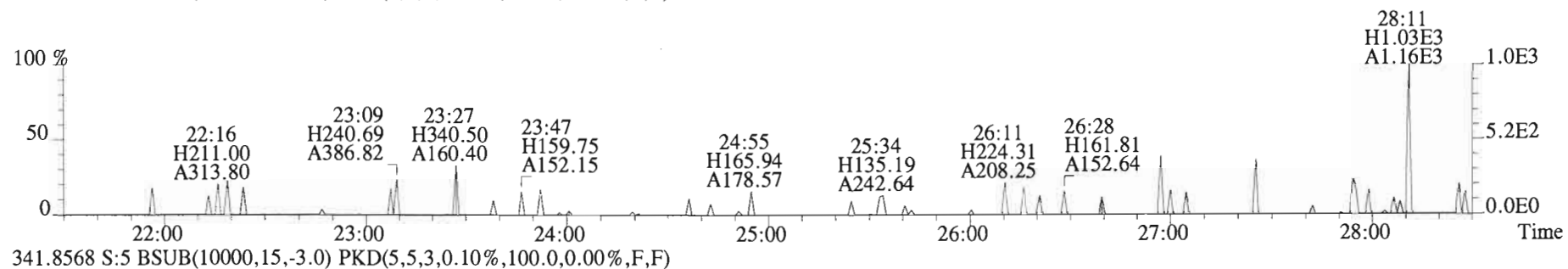
File:150427D1 #1-389 Acq:27-APR-2015 13:28:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BLK1 Method Blank 1 Exp:OCDD_DB5
457.7377 S:5 F:5 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



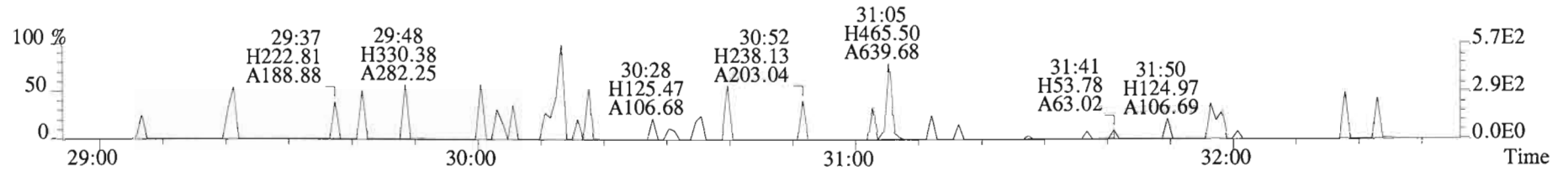
File:150427D1 #1-551 Acq:27-APR-2015 13:28:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG-7 Text:B5D0082-BLK1 Method Blank 1 Exp:OCDD_DB5
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



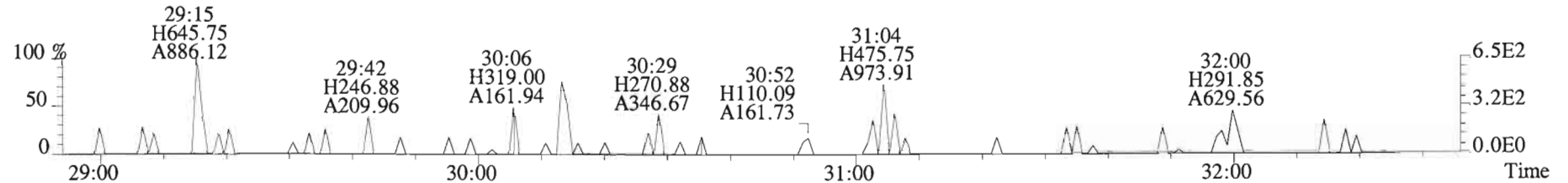
File:150427D1 #1-551 Acq:27-APR-2015 13:28:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BLK1 Method Blank 1 Exp:OCDD_DB5
339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



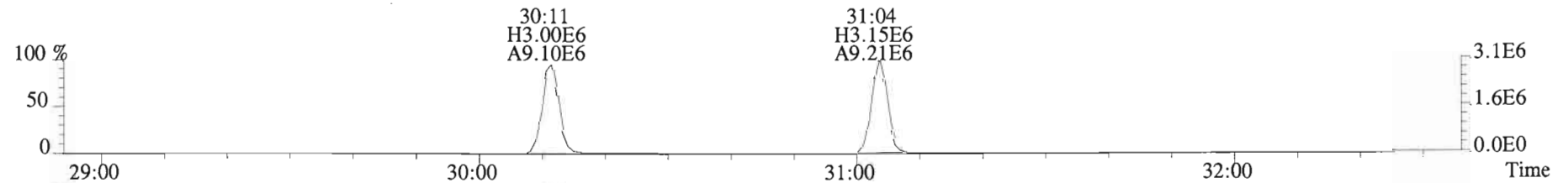
File:150427D1 #1-251 Acq:27-APR-2015 13:28:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BLK1 Method Blank 1 Exp:OCDD_DB5
339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



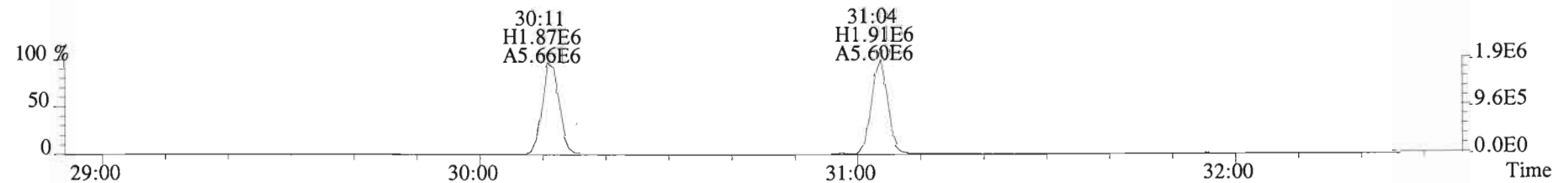
341.8568 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



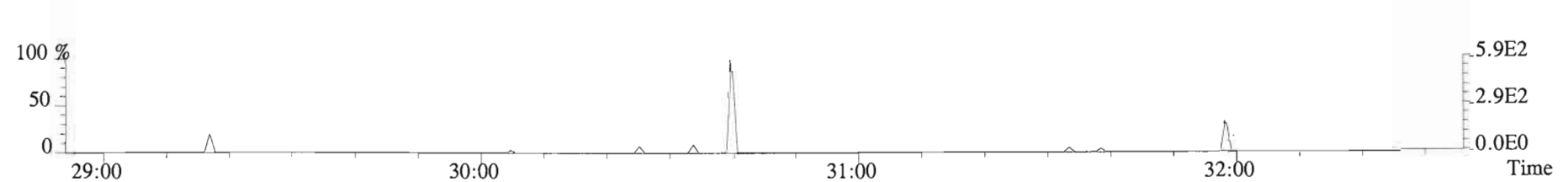
351.9000 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



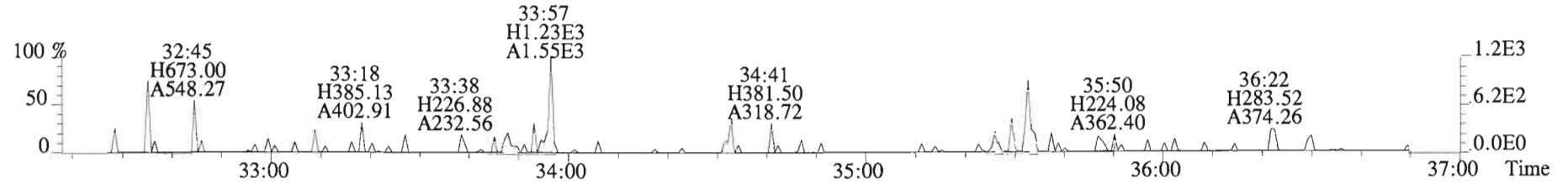
353.8970 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



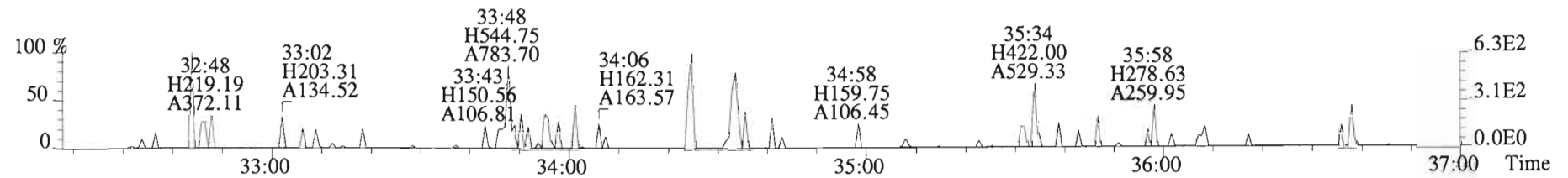
409.7974 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



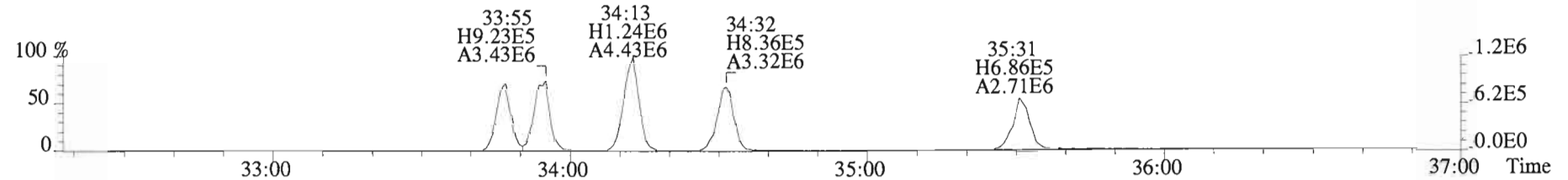
File:150427D1 #1-392 Acq:27-APR-2015 13:28:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BLK1 Method Blank 1 Exp:OCDD_DB5
373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



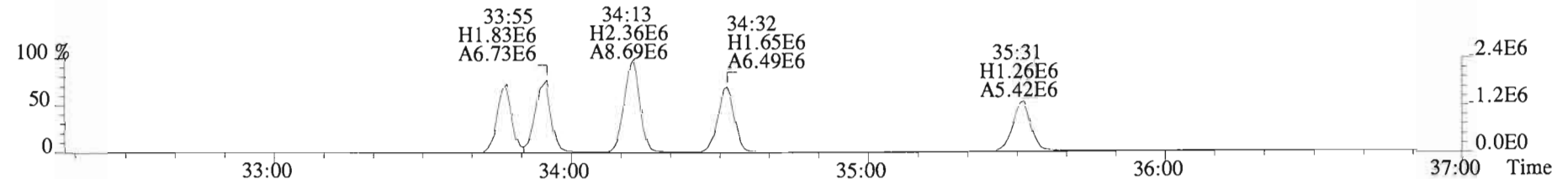
375.8178 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



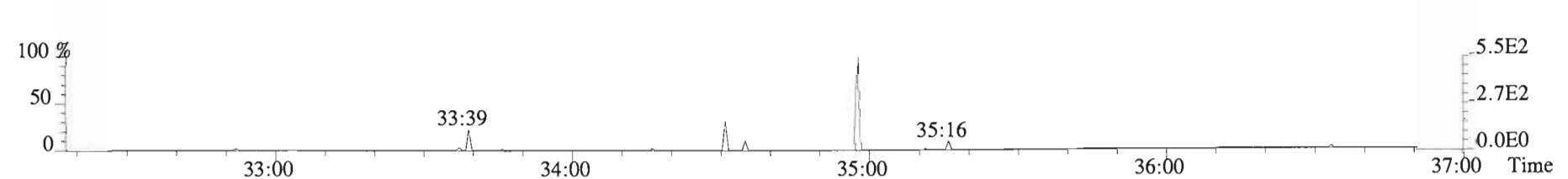
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



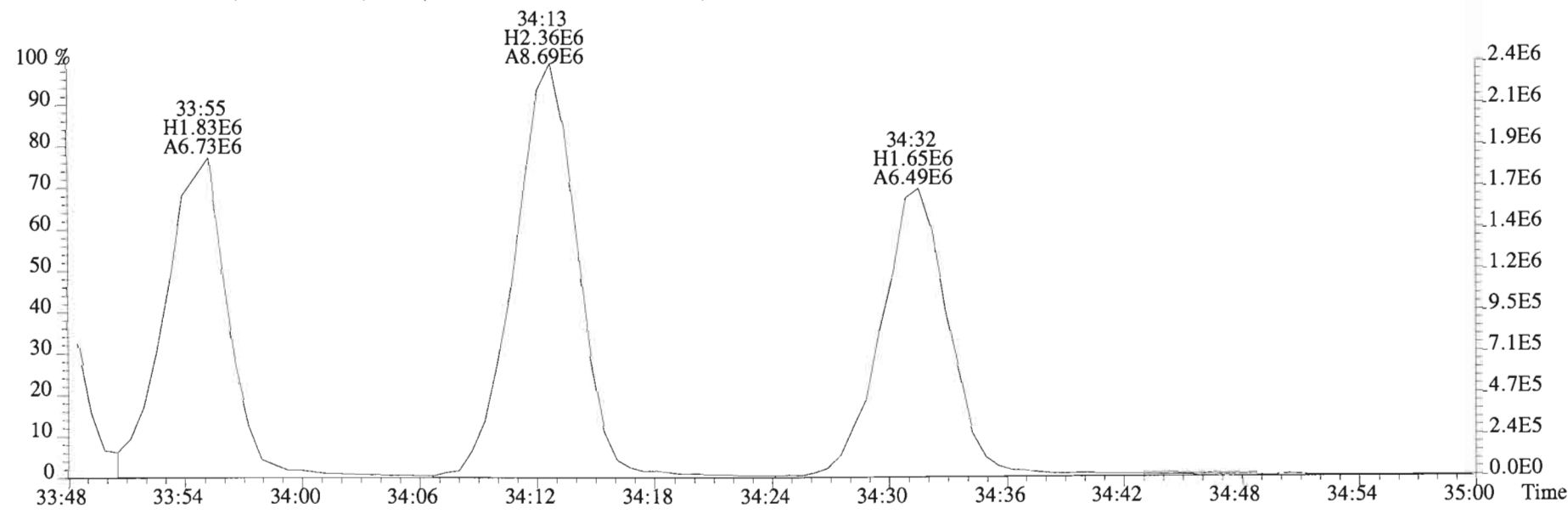
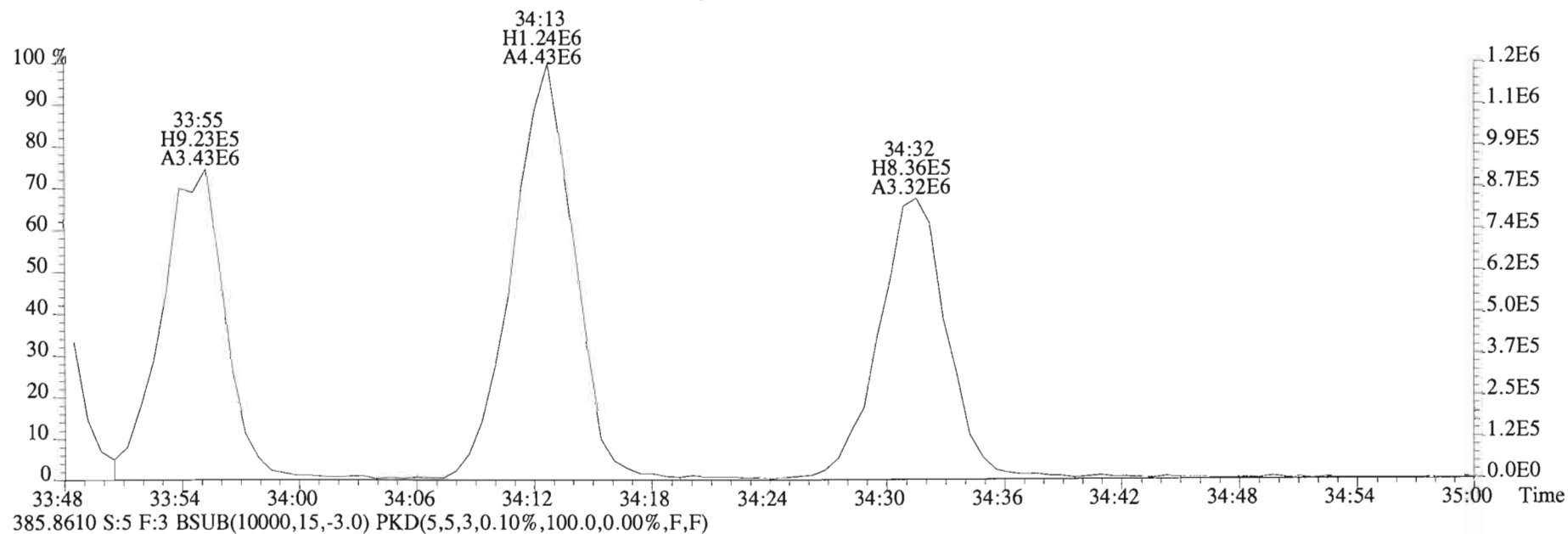
385.8610 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



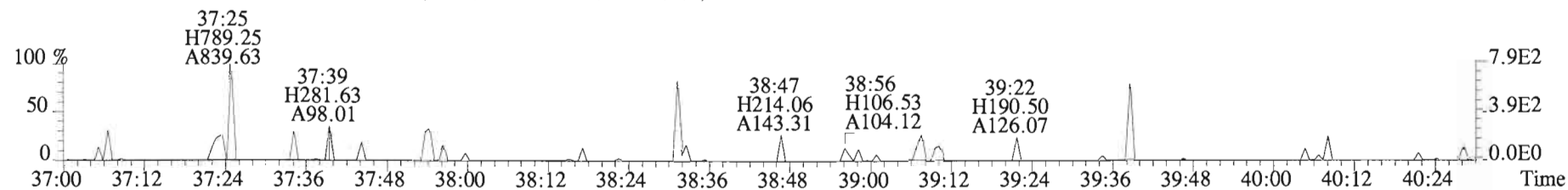
445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



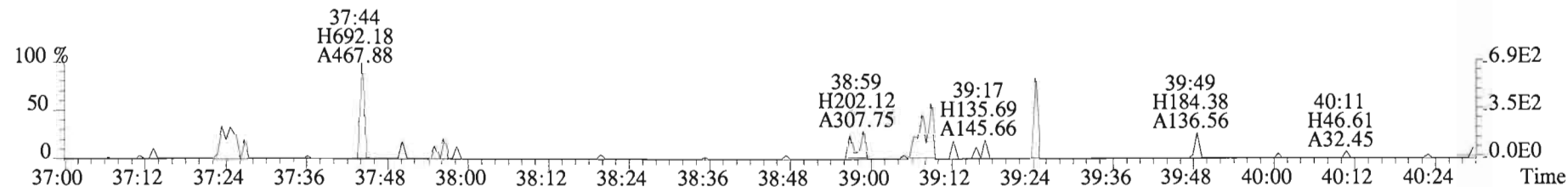
File:150427D1 #1-392 Acq:27-APR-2015 13:28:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG-7 Text:B5D0082-BLK1 Method Blank 1 Exp:OCDD_DB5
383.8639 S:5 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



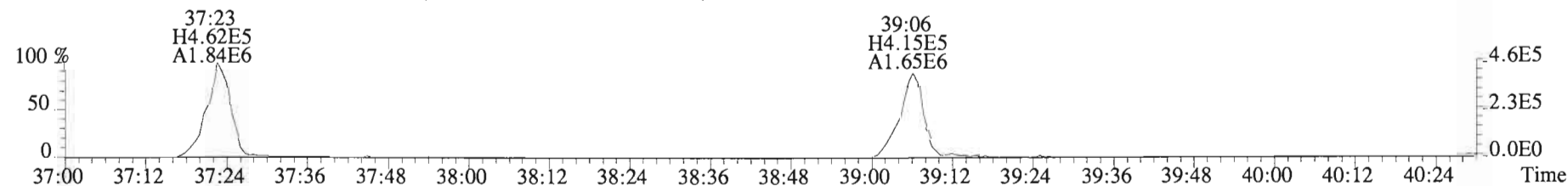
File:150427D1 #1-326 Acq:27-APR-2015 13:28:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BLK1 Method Blank 1 Exp:OCDD_DB5
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



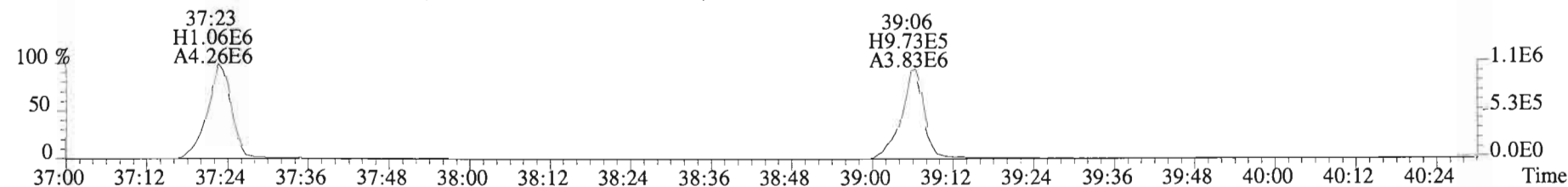
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



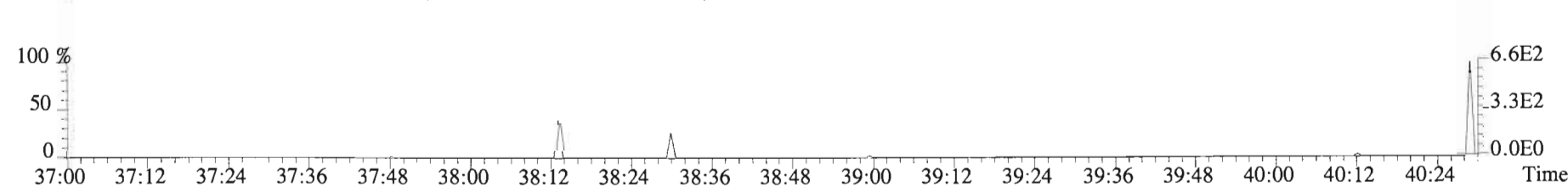
417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



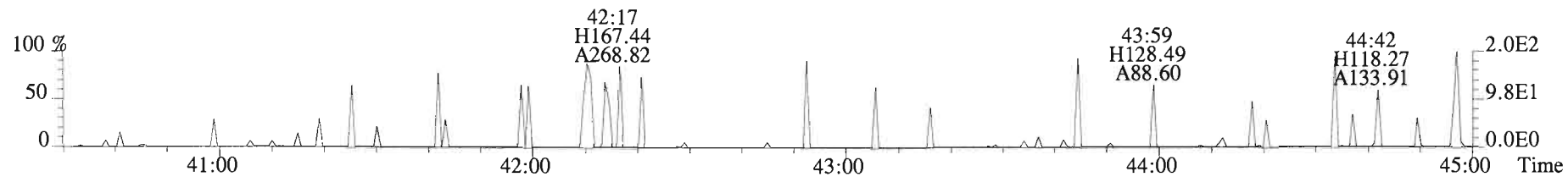
419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



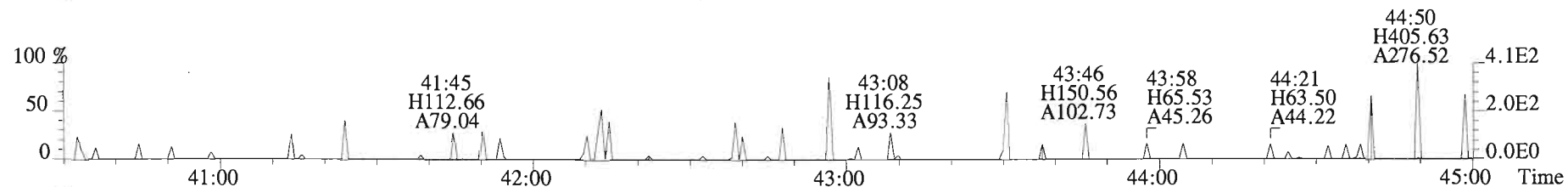
479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



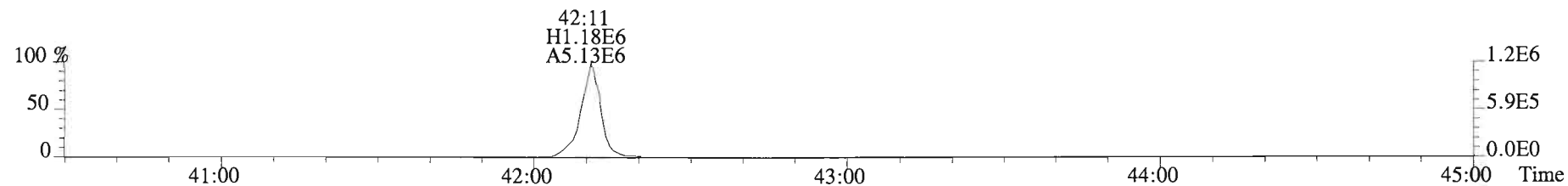
File:150427D1 #1-389 Acq:27-APR-2015 13:28:41 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG-7 Text: B5D0082-BLK1 Method Blank 1 Exp: OCDD_DB5
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



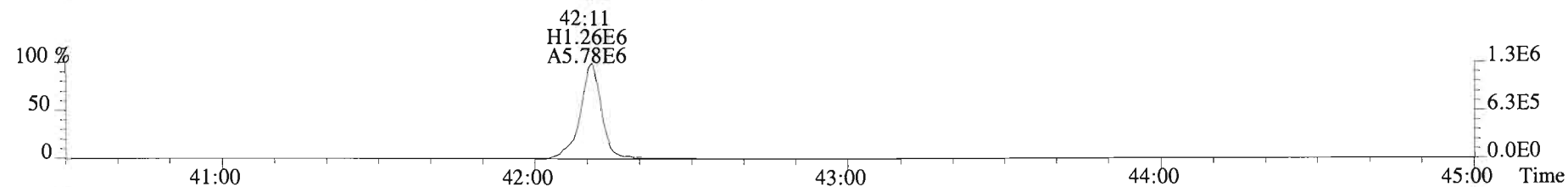
443.7398 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



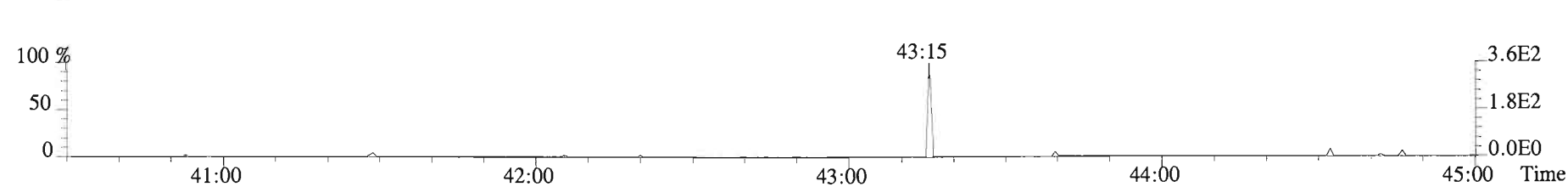
453.7831 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



FORM 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B5D0082-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): AQUEOUS OPR Data Filename: 150427D1-2

Ext. Date: 4-23-15 Shift: Day Analysis Date: 27-APR-15 Time: 11:04:58

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

NATIVE ANALYTES	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
2,3,7,8-TCDD	10	9.58	6.7 - 15.8 7.3 - 14.6 (2)
1,2,3,7,8-PeCDD	50	50.7	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	54.5	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	53.0	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	52.8	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	52.6	35.0 - 70.0
OCDD	100	104	78.0 - 144.0
2,3,7,8-TCDF	10	9.56	7.5 - 15.8 8.0 - 14.7 (2)
1,2,3,7,8-PeCDF	50	51.2	40.0 - 67.0
2,3,4,7,8-PeCDF	50	51.4	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	51.9	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	51.4	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	51.9	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	51.1	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	52.2	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	53.0	39.0 - 69.0
OCDF	100	98.8	63.0 - 170.0

(1) Contract-required concentration limits for OPR
as specified in Table 6, Method 1613. 10/94

(2) Contract-required concentration limits for OPR
as specified in Table 6a, Method 1613. 10/94

Analyst: mi

Date: 4/29/15

FORM 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B5D0082-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): AQUEOUS OPR Data Filename: 150427D1-2

Ext. Date: 4-23-15 Shift: Day Analysis Date: 27-APR-15 Time: 11:04:58

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

LABELED COMPOUNDS	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
13C-2,3,7,8-TCDD	100	73.7	20.0 - 175.0 25.0 - 141.0 (2)
13C-1,2,3,7,8-PeCDD	100	66.4	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	71.3	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	73.0	25.0 - 163.0
13C-1,2,3,7,8,9-HxCDD	100	72.8	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	73.9	26.0 - 166.0
13C-OCDD	200	109	26.0 - 397.0
13C-2,3,7,8-TCDF	100	77.4	22.0 - 152.0 26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	68.8	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	73.3	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	65.3	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	68.9	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	70.9	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	73.2	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	71.1	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	68.9	20.0 - 186.0
13C-OCDF	200	113	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	43.9	12.4 - 76.4

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94

(2) Contract-required concentration limits for OPR as specified in Table 6a, Method 1613. 10/94

Analyst: JM

Date: 4/28/15

Client ID: OPR
Lab ID: B5D0082-BS1

Filename: 150427D1 S:2 Acq:27-APR-15 11:04:58
GC Column ID: ZB-SMS ICal: 1613VG7-1-7-15 wt/vol: 1.000

ConCal: ST150427D1-1
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	2.01e+06	0.76 y	1.17	27:00	1.001	9.5765	*	2.5	*	*	Total Tetra-Dioxins	9.88	10.1	*	*	
1,2,3,7,8-PeCDD	8.26e+06	0.61 y	0.91	31:21	1.001	50.678	*	2.5	*	*	Total Penta-Dioxins	51.0	51.3	*	*	
1,2,3,4,7,8-HxCDD	7.78e+06	1.27 y	1.08	34:43	1.000	54.500	*	2.5	*	*	Total Hexa-Dioxins	161	162	*	*	
1,2,3,6,7,8-HxCDD	7.82e+06	1.25 y	1.06	34:49	1.000	52.983	*	2.5	*	*	Total Hepta-Dioxins	53.1	54.0	*	*	
1,2,3,7,8,9-HxCDD	7.88e+06	1.24 y	0.93	35:08	1.000	52.815	*	2.5	*	*	Total Tetra-Furans	9.59	9.89	*	*	
1,2,3,4,6,7,8-HpCDD	7.23e+06	1.06 y	1.10	38:33	1.001	52.561	*	2.5	*	*	Total Penta-Furans	104.23	105.05	*	*	
OCDD	1.06e+07	0.91 y	0.95	41:57	1.000	103.84	*	2.5	*	*	Total Hexa-Furans	207	208	*	*	
											Total Hepta-Furans	105	107	*	*	
2,3,7,8-TCDF	2.63e+06	0.79 y	1.07	26:17	1.001	9.5567	*	2.5	*	*						
1,2,3,7,8-PeCDF	1.26e+07	1.59 y	1.07	30:12	1.000	51.197	*	2.5	*	*						
2,3,4,7,8-PeCDF	1.31e+07	1.60 y	1.03	31:05	1.000	51.409	*	2.5	*	*						
1,2,3,4,7,8-HxCDF	1.19e+07	1.28 y	1.38	33:48	1.000	51.913	*	2.5	*	*						
1,2,3,6,7,8-HxCDF	1.24e+07	1.28 y	1.26	33:56	1.000	51.382	*	2.5	*	*						
2,3,4,6,7,8-HxCDF	1.26e+07	1.28 y	1.29	34:33	1.000	51.938	*	2.5	*	*						
1,2,3,7,8,9-HxCDF	9.85e+06	1.29 y	1.19	35:32	1.000	51.105	*	2.5	*	*						
1,2,3,4,6,7,8-HpCDF	1.11e+07	1.09 y	1.61	37:24	1.000	52.180	*	2.5	*	*						
1,2,3,4,7,8,9-HpCDF	1.00e+07	1.08 y	1.53	39:07	1.000	53.023	*	2.5	*	*						
OCDF	1.34e+07	0.91 y	1.10	42:11	1.000	98.764	*	2.5	*	*						
											Rec	Qual				
IS	13C-2,3,7,8-TCDD	1.79e+07	0.77 y	1.06	26:59	1.020	73.724				73.7					
IS	13C-1,2,3,7,8-PeCDD	1.79e+07	0.63 y	1.18	31:20	1.185	66.414				66.4					
IS	13C-1,2,3,4,7,8-HxCDD	1.32e+07	1.32 y	0.72	34:42	1.014	71.300				71.3					
IS	13C-1,2,3,6,7,8-HxCDD	1.39e+07	1.18 y	0.74	34:49	1.018	72.952				73.0					
IS	13C-1,2,3,7,8,9-HxCDD	1.60e+07	1.25 y	0.85	35:07	1.027	72.759				72.8					
IS	13C-1,2,3,4,6,7,8-HpCDD	1.25e+07	1.06 y	0.65	38:32	1.126	73.881				73.9					
IS	13C-OCDD	2.16e+07	0.87 y	0.76	41:57	1.226	109.42				54.7					
IS	13C-2,3,7,8-TCDF	2.57e+07	0.75 y	0.92	26:15	0.992	77.379				77.4					
IS	13C-1,2,3,7,8-PeCDF	2.29e+07	1.59 y	0.92	30:12	1.142	68.758				68.8					
IS	13C-2,3,4,7,8-PeCDF	2.47e+07	1.60 y	0.93	31:04	1.175	73.267				73.3					
IS	13C-1,2,3,4,7,8-HxCDF	1.65e+07	0.52 y	0.98	33:47	0.988	65.269				65.3					
IS	13C-1,2,3,6,7,8-HxCDF	1.92e+07	0.50 y	1.08	33:55	0.991	68.885				68.9					
IS	13C-2,3,4,6,7,8-HxCDF	1.88e+07	0.52 y	1.03	34:32	1.009	70.914				70.9					
IS	13C-1,2,3,7,8,9-HxCDF	1.63e+07	0.52 y	0.86	35:32	1.039	73.232				73.2					
IS	13C-1,2,3,4,6,7,8-HpCDF	1.32e+07	0.45 y	0.72	37:23	1.093	71.084				71.1					
IS	13C-1,2,3,4,7,8,9-HpCDF	1.24e+07	0.44 y	0.70	39:06	1.143	68.860				68.9					
IS	13C-OCDF	2.48e+07	0.90 y	0.85	42:11	1.233	113.12				56.6					
C/Up	37C1-2,3,7,8-TCDD	1.12e+07		1.12	27:00	1.021	43.859				110					
RS/RT	13C-1,2,3,4-TCDD	2.29e+07	0.80 y	1.00	26:27	*	100.00									
RS	13C-1,2,3,4-TCDF	3.61e+07	0.79 y	1.00	25:07	*	100.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	2.58e+07	0.52 y	1.00	34:12	*	100.00									

Integrations
by mm
Analyst: mm
Date: 4/26/15
Reviewed
by mm
Analyst: mm
Date: 4/26/15

Client ID: OPR
Lab ID: B5D0082-BS1

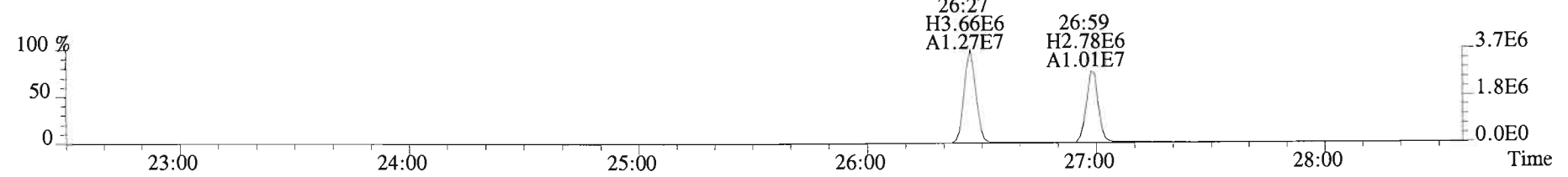
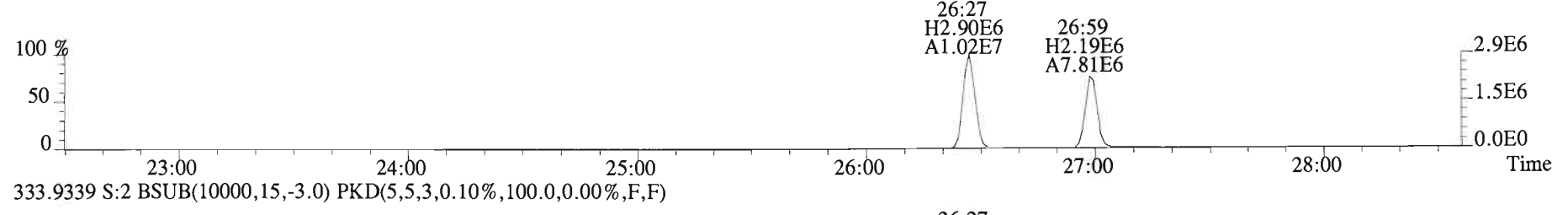
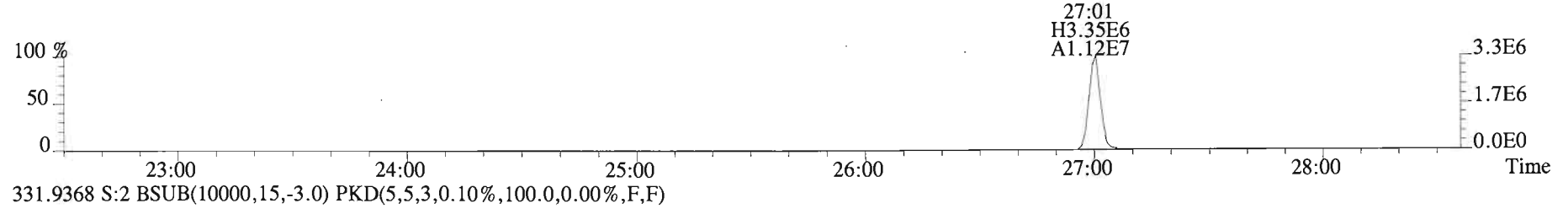
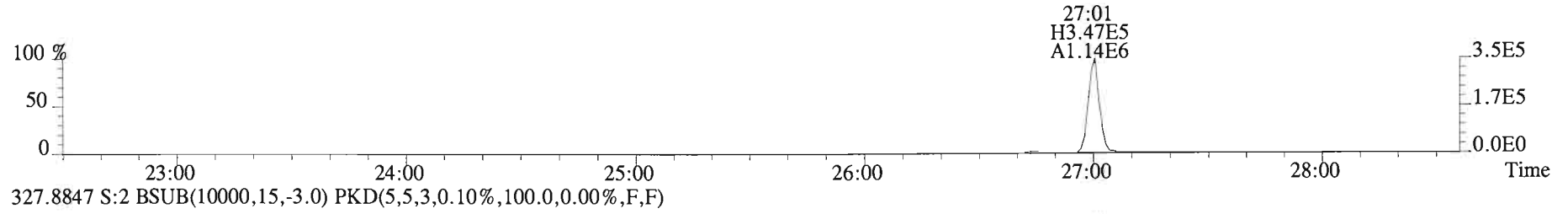
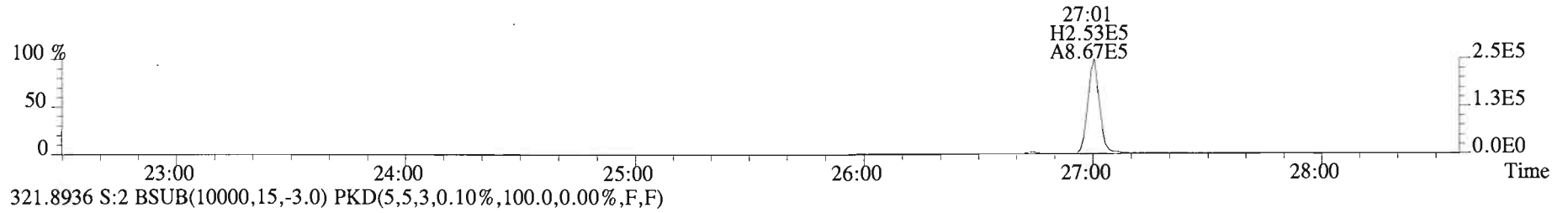
Filename: 150427D1 S:2 Acq:27-APR-15 11:04:58
GC Column ID: ZB-5MS ICal: 1613VG7-1-7-15 wt/vol: 1.000

ConCal: ST150427D1-1
EndCAL: NA

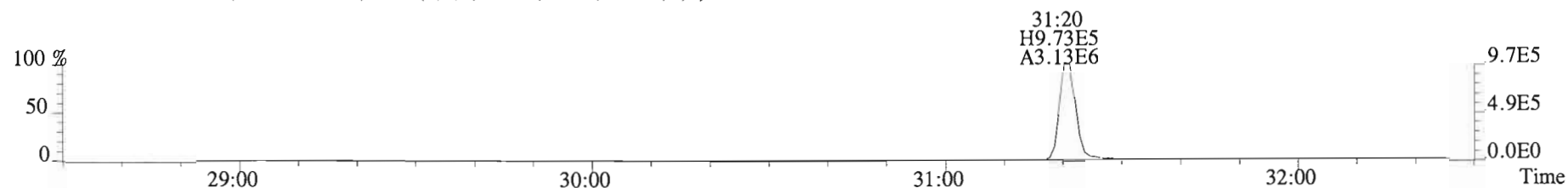
Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	2.01e+06	0.76 y	1.17	27:00	1.001	191.53	*	2.5	*	*	Total Tetra-Dioxins	198	201	*	*	
1,2,3,7,8-PeCDD	8.26e+06	0.61 y	0.91	31:21	1.001	1013.6	*	2.5	*	*	Total Penta-Dioxins	1020	1030	*	*	
1,2,3,4,7,8-HxCDD	7.78e+06	1.27 y	1.08	34:43	1.000	1090.0	*	2.5	*	*	Total Hexa-Dioxins	3220	3250	*	*	
1,2,3,6,7,8-HxCDD	7.82e+06	1.25 y	1.06	34:49	1.000	1059.7	*	2.5	*	*	Total Hepta-Dioxins	1060	1080	*	*	
1,2,3,7,8,9-HxCDD	7.88e+06	1.24 y	0.93	35:08	1.000	1056.3	*	2.5	*	*	Total Tetra-Furans	192	198	*	*	
1,2,3,4,6,7,8-HpCDD	7.23e+06	1.06 y	1.10	38:33	1.001	1051.2	*	2.5	*	*	Total Penta-Furans	2084.5	2101.1	*	*	
OCDD	1.06e+07	0.91 y	0.95	41:57	1.000	2076.7	*	2.5	*	*	Total Hexa-Furans	4130	4170	*	*	
											Total Hepta-Furans	2100	2140	*	*	
2,3,7,8-TCDF	2.63e+06	0.79 y	1.07	26:17	1.001	191.13	*	2.5	*	*						
1,2,3,7,8-PeCDF	1.26e+07	1.59 y	1.07	30:12	1.000	1023.9	*	2.5	*	*						
2,3,4,7,8-PeCDF	1.31e+07	1.60 y	1.03	31:05	1.000	1028.2	*	2.5	*	*						
1,2,3,4,7,8-HxCDF	1.19e+07	1.28 y	1.38	33:48	1.000	1038.3	*	2.5	*	*						
1,2,3,6,7,8-HxCDF	1.24e+07	1.28 y	1.26	33:56	1.000	1027.6	*	2.5	*	*						
2,3,4,6,7,8-HxCDF	1.26e+07	1.28 y	1.29	34:33	1.000	1038.8	*	2.5	*	*						
1,2,3,7,8,9-HxCDF	9.85e+06	1.29 y	1.19	35:32	1.000	1022.1	*	2.5	*	*						
1,2,3,4,6,7,8-HpCDF	1.11e+07	1.09 y	1.61	37:24	1.000	1043.6	*	2.5	*	*						
1,2,3,4,7,8,9-HpCDF	1.00e+07	1.08 y	1.53	39:07	1.000	1060.5	*	2.5	*	*						
OCDF	1.34e+07	0.91 y	1.10	42:11	1.000	1975.3	*	2.5	*	*						
											Rec	Qual				
IS 13C-2,3,7,8-TCDD	1.79e+07	0.77 y	1.06	26:59	1.020	1474.5					73.7					
IS 13C-1,2,3,7,8-PeCDD	1.79e+07	0.63 y	1.18	31:20	1.185	1328.3					66.4					
IS 13C-1,2,3,4,7,8-HxCDD	1.32e+07	1.32 y	0.72	34:42	1.014	1426.0					71.3					
IS 13C-1,2,3,6,7,8-HxCDD	1.39e+07	1.18 y	0.74	34:49	1.018	1459.0					73.0					
IS 13C-1,2,3,7,8,9-HxCDD	1.60e+07	1.25 y	0.85	35:07	1.027	1455.2					72.8					
IS 13C-1,2,3,4,6,7,8-HpCDD	1.25e+07	1.06 y	0.65	38:32	1.126	1477.6					73.9					
IS 13C-OCDD	2.16e+07	0.87 y	0.76	41:57	1.226	2188.4					54.7					
IS 13C-2,3,7,8-TCDF	2.57e+07	0.75 y	0.92	26:15	0.992	1547.6					77.4					
IS 13C-1,2,3,7,8-PeCDF	2.29e+07	1.59 y	0.92	30:12	1.142	1375.2					68.8					
IS 13C-2,3,4,7,8-PeCDF	2.47e+07	1.60 y	0.93	31:04	1.175	1465.3					73.3					
IS 13C-1,2,3,4,7,8-HxCDF	1.65e+07	0.52 y	0.98	33:47	0.988	1305.4					65.3					
IS 13C-1,2,3,6,7,8-HxCDF	1.92e+07	0.50 y	1.08	33:55	0.991	1377.7					68.9					
IS 13C-2,3,4,6,7,8-HxCDF	1.88e+07	0.52 y	1.03	34:32	1.009	1418.3					70.9					
IS 13C-1,2,3,7,8,9-HxCDF	1.63e+07	0.52 y	0.86	35:32	1.039	1464.6					73.2					
IS 13C-1,2,3,4,6,7,8-HpCDF	1.32e+07	0.45 y	0.72	37:23	1.093	1421.7					71.1					
IS 13C-1,2,3,4,7,8,9-HpCDF	1.24e+07	0.44 y	0.70	39:06	1.143	1377.2					68.9					
IS 13C-OCDF	2.48e+07	0.90 y	0.85	42:11	1.233	2262.4					56.6					
C/Up 37C1-2,3,7,8-TCDD	1.12e+07		1.12	27:00	1.021	877.18					110					
RS/RT 13C-1,2,3,4-TCDD	2.29e+07	0.80 y	1.00	26:27	*	2000.0										
RS 13C-1,2,3,4-TCDF	3.61e+07	0.79 y	1.00	25:07	*	2000.0										
RS/RT 13C-1,2,3,4,6,9-HxCDF	2.58e+07	0.52 y	1.00	34:12	*	2000.0										

Integrations
by MS
Analyst: _____
Reviewed by _____
Date: 4/24/15 Date: _____

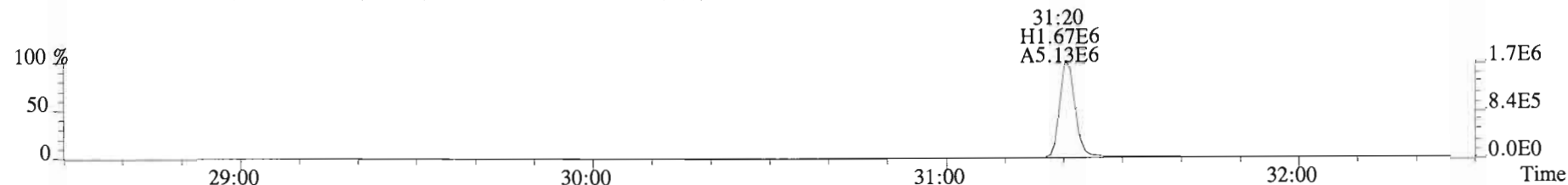
File:150427D1 #1-552 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



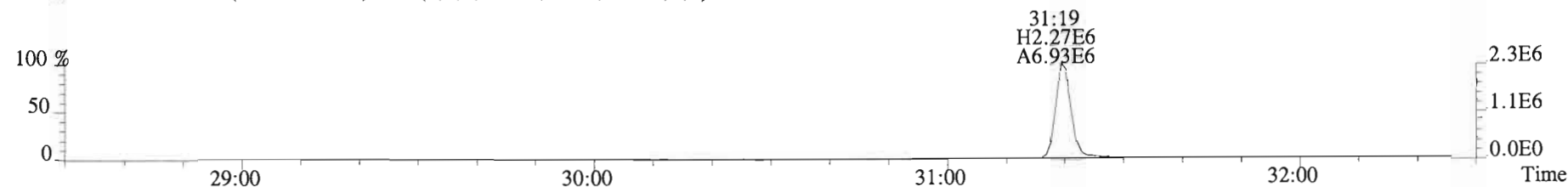
File:150427D1 #1-250 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



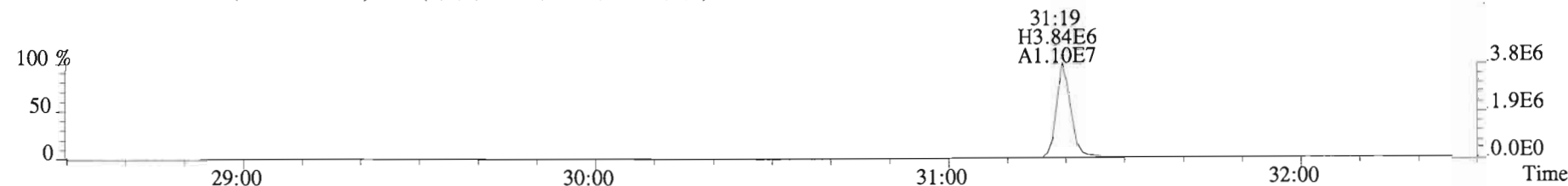
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



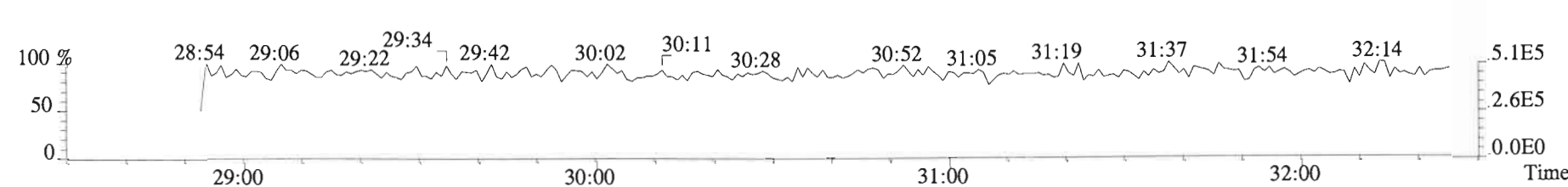
365.8978 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



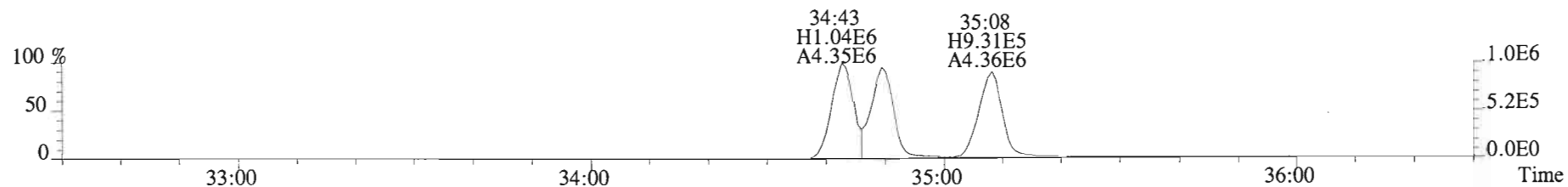
367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



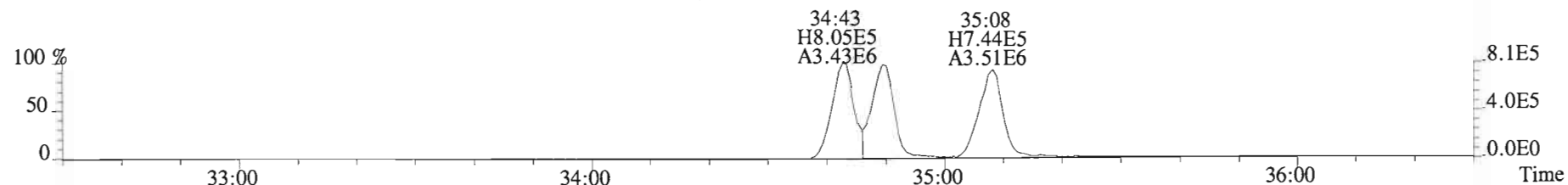
366.9792 S:2 F:2



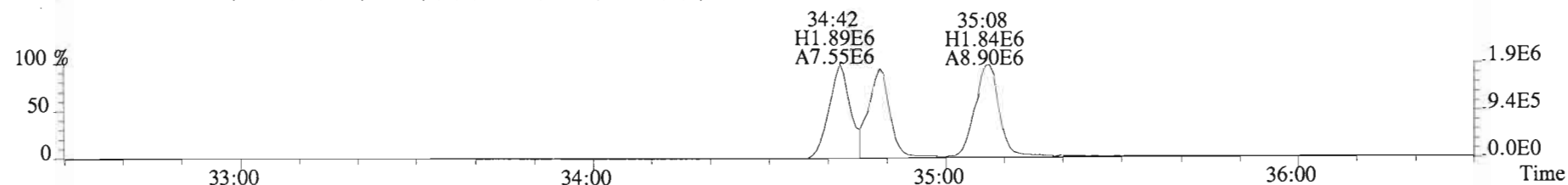
File:150427D1 #1-393 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
389.8156 S:2 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



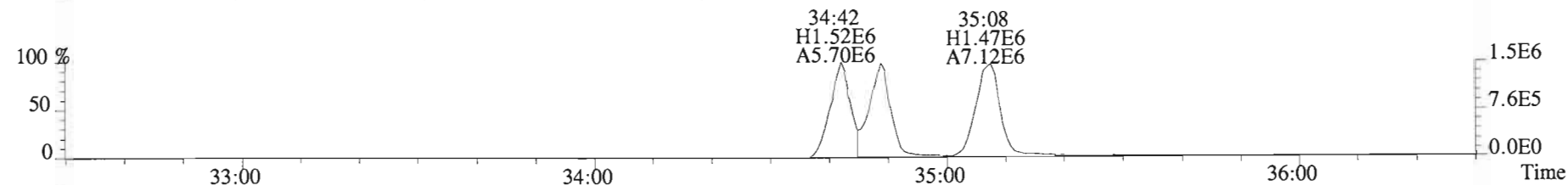
391.8127 S:2 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



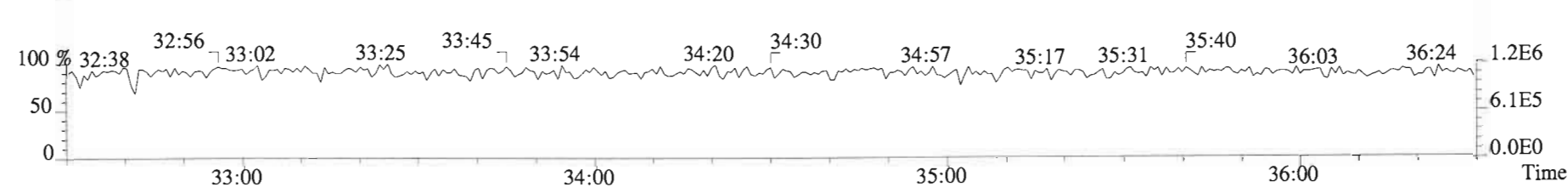
401.8559 S:2 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



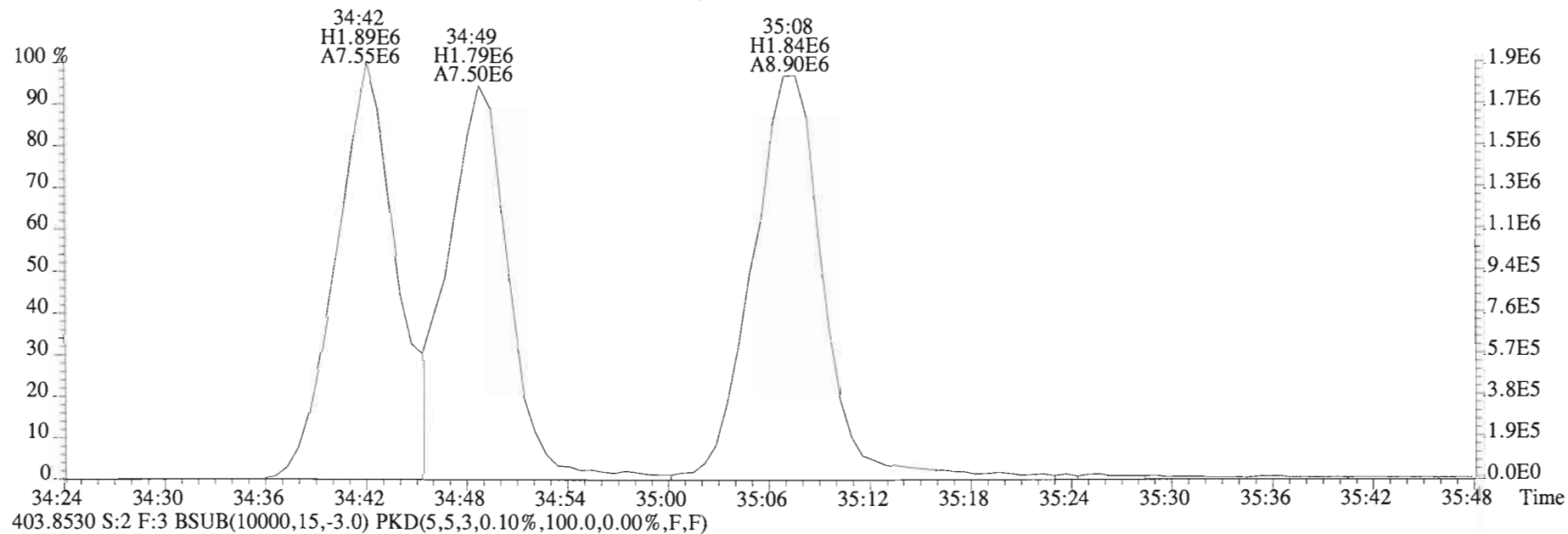
403.8530 S:2 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



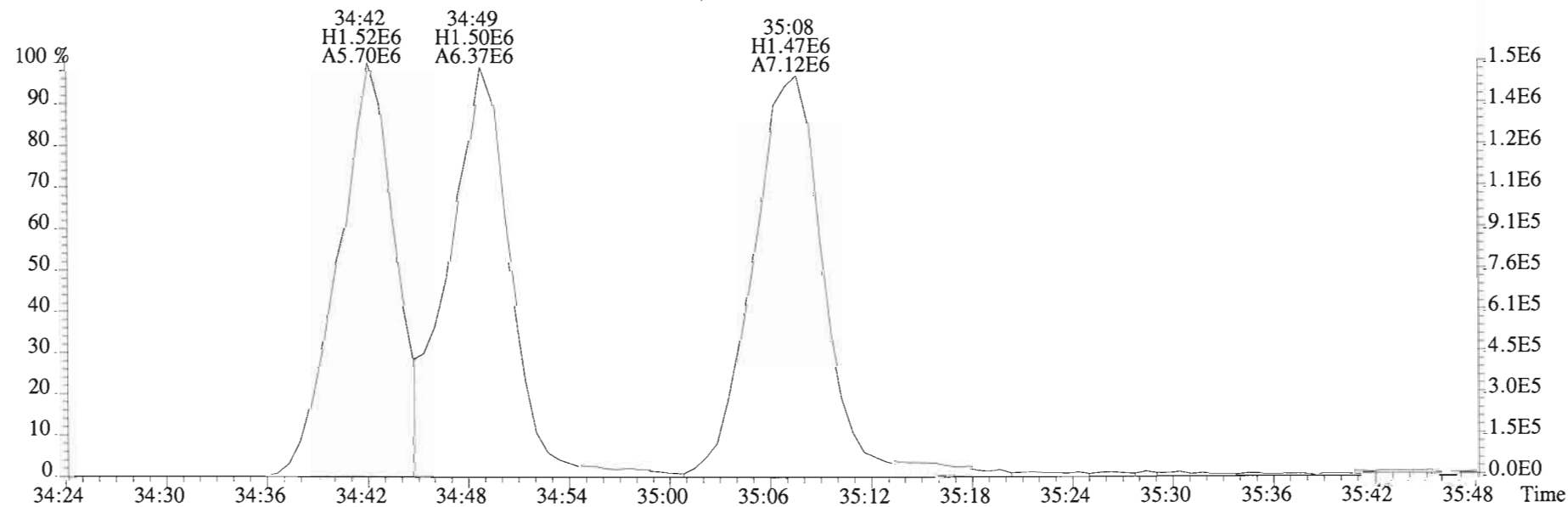
380.9760 S:2 F:3



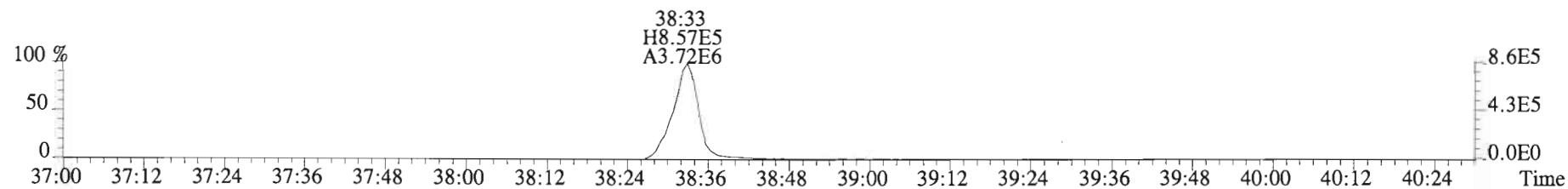
File:150427D1 #1-393 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
401.8559 S:2 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



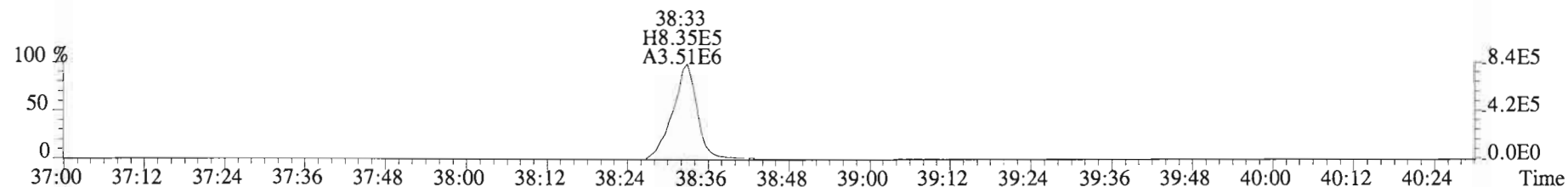
403.8530 S:2 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



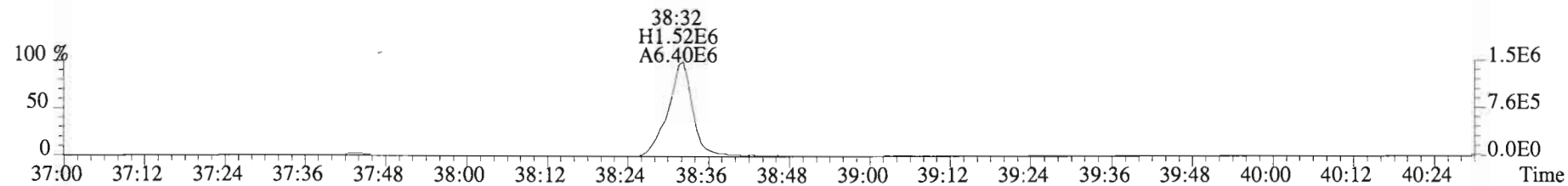
File:150427D1 #1-326 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



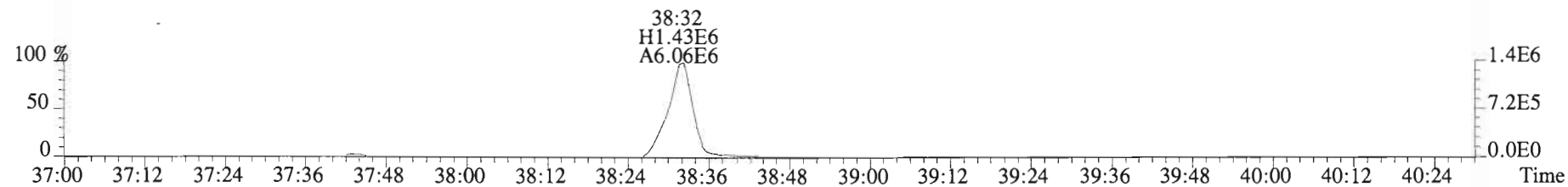
425.7737 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



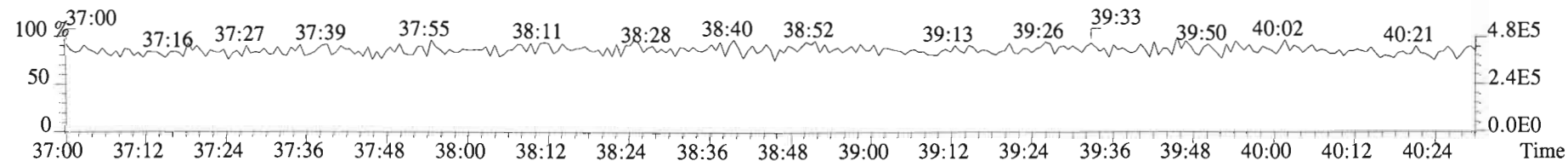
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



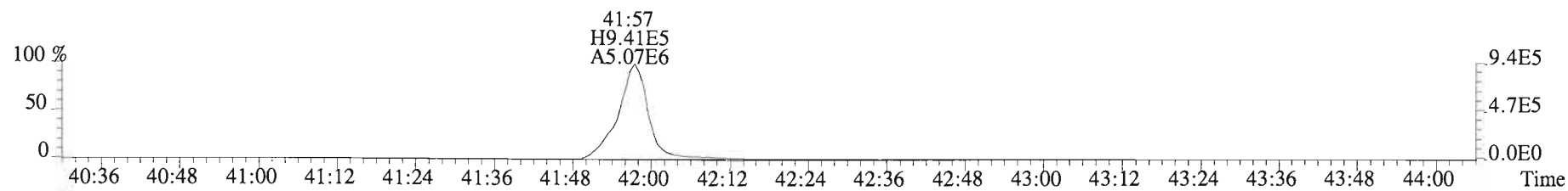
437.8140 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



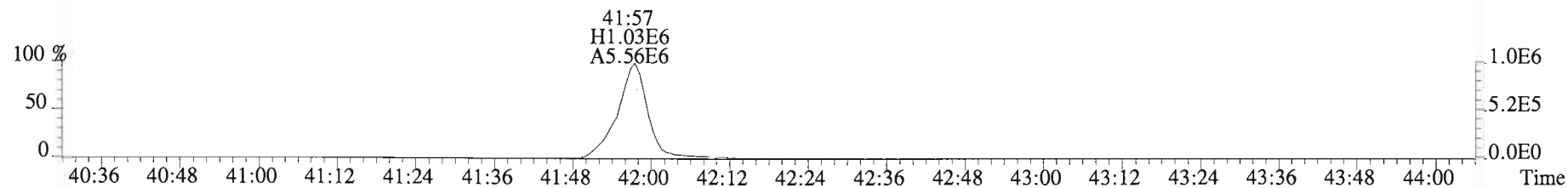
430.9728 S:2 F:4



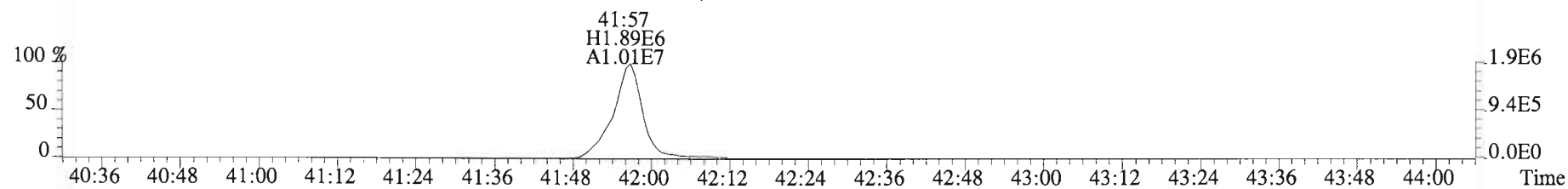
File:150427D1 #1-388 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



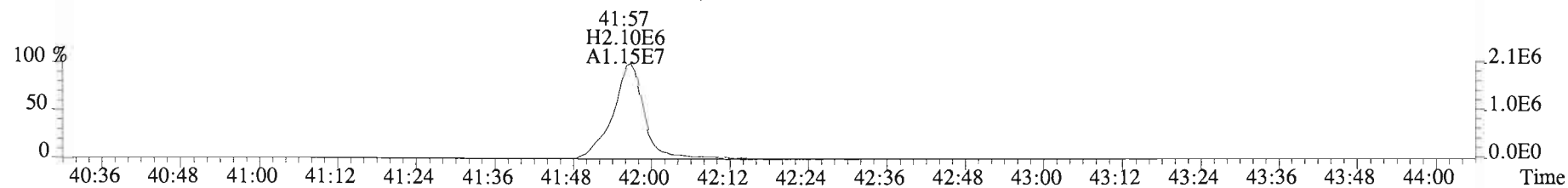
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



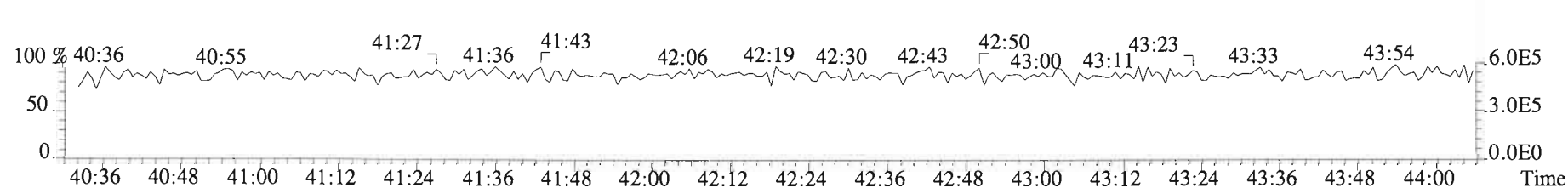
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



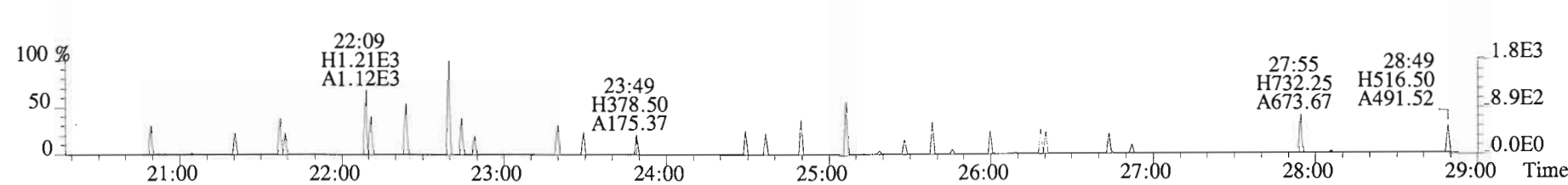
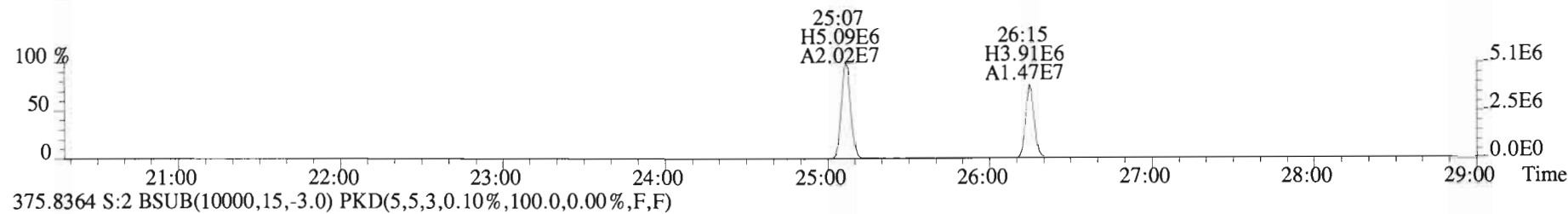
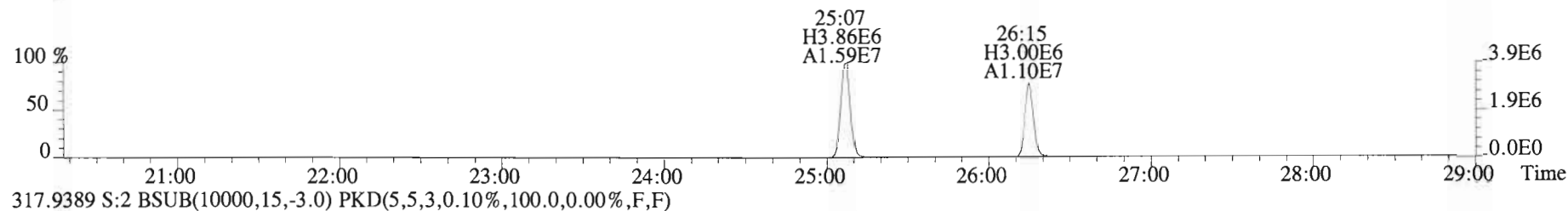
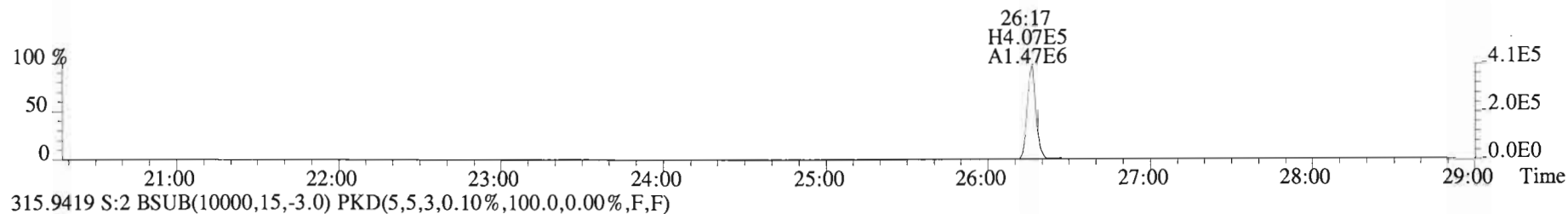
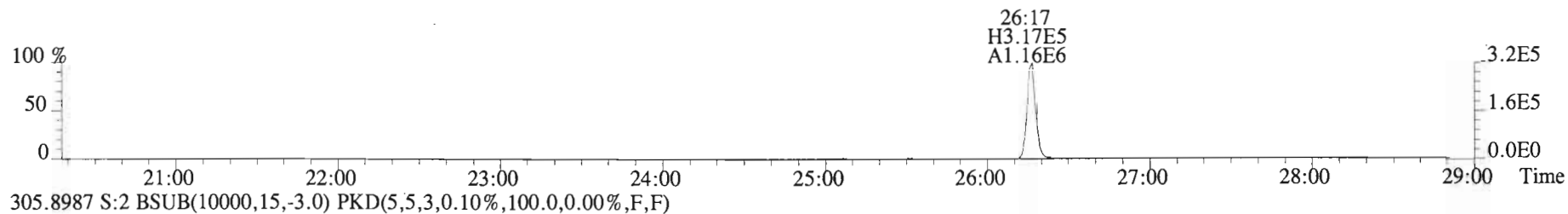
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



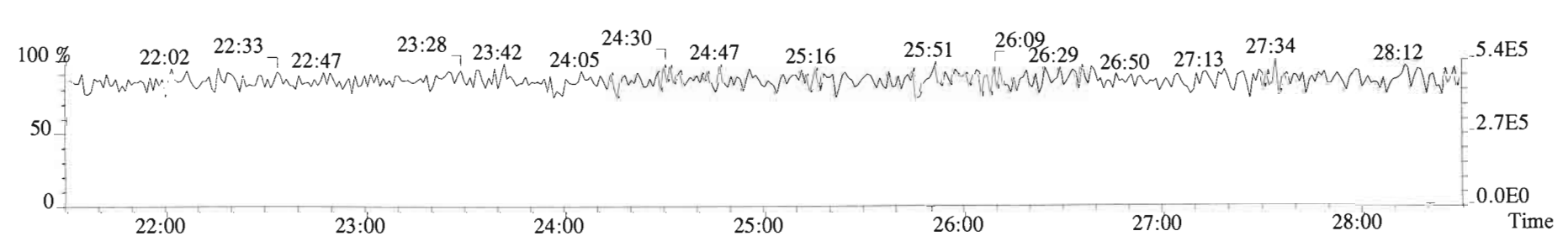
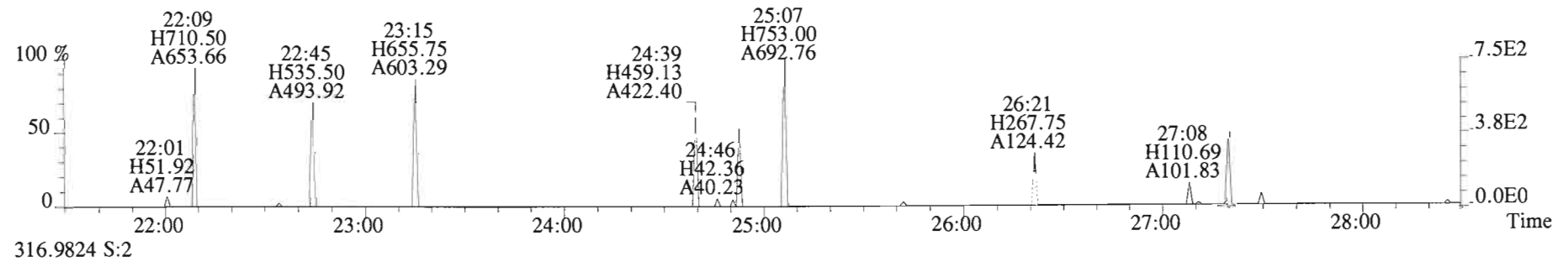
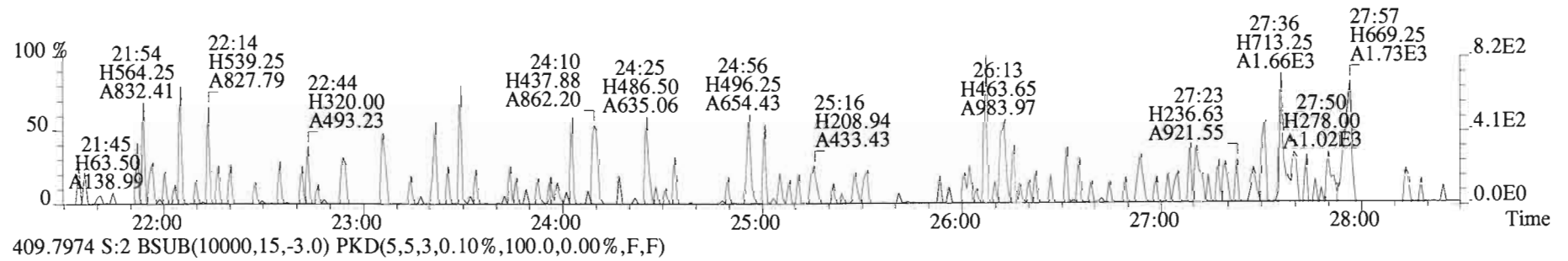
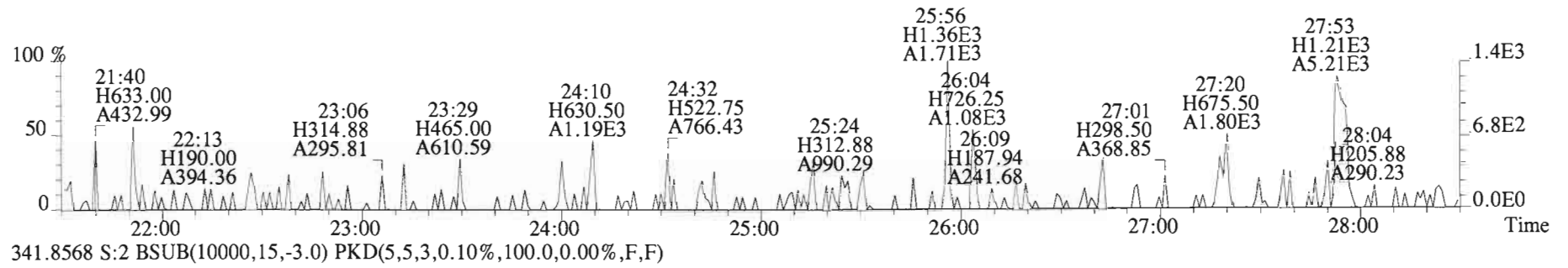
454.9728 S:2 F:5



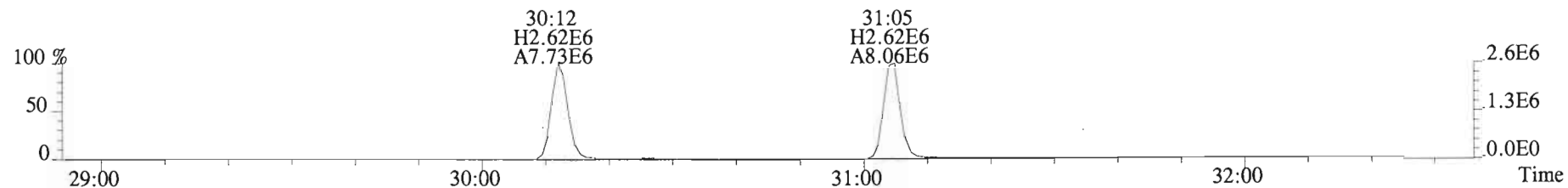
File:150427D1 #1-552 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



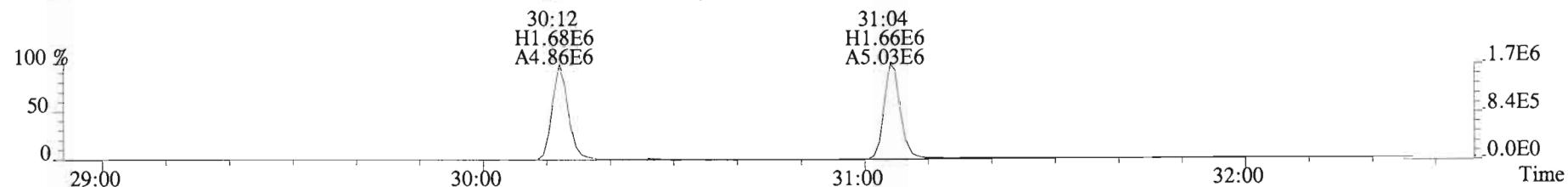
File:150427D1 #1-552 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
 339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



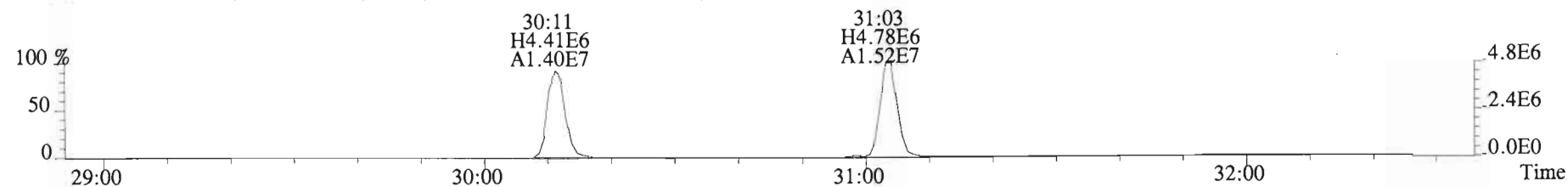
File:150427D1 #1-250 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



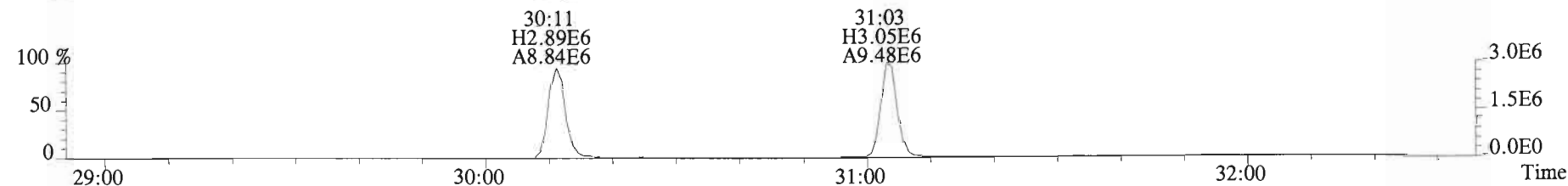
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



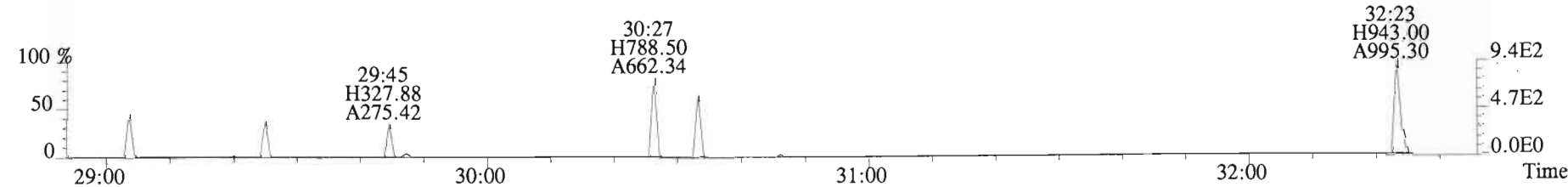
351.9000 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



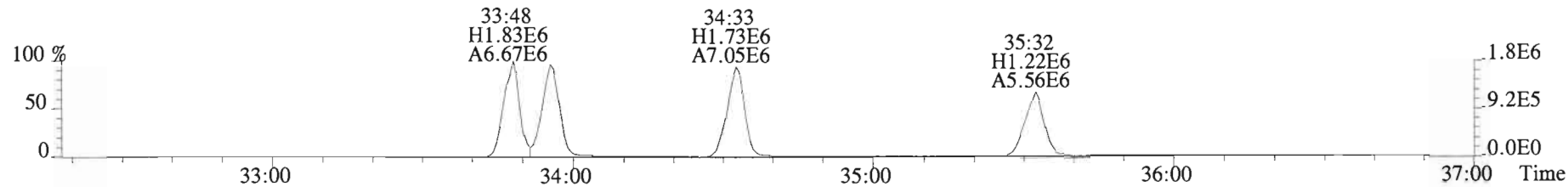
353.8970 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



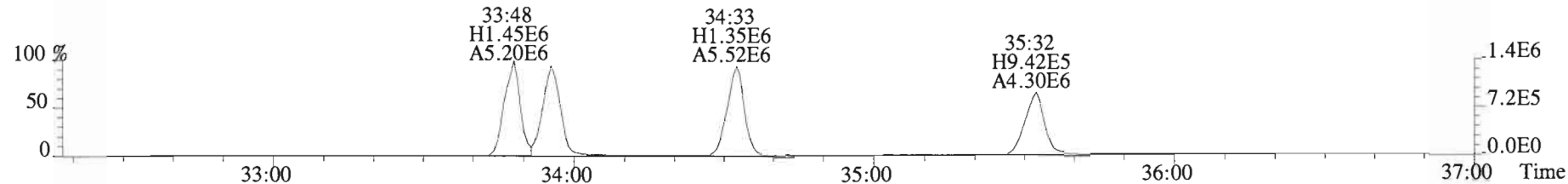
409.7974 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



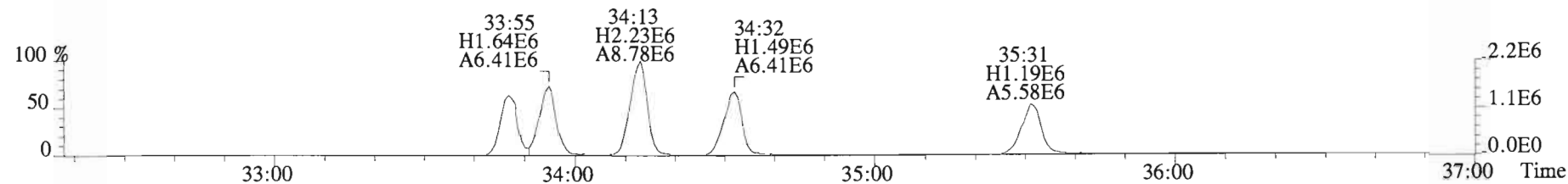
File:150427D1 #1-393 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



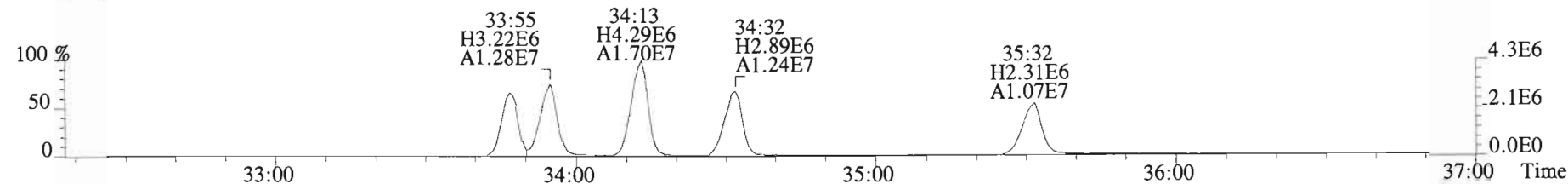
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



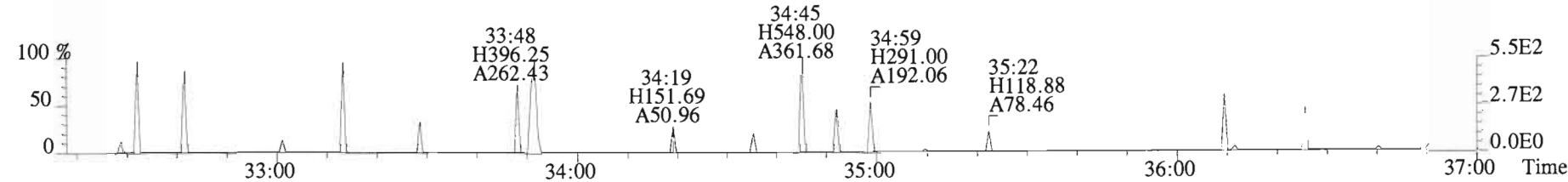
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



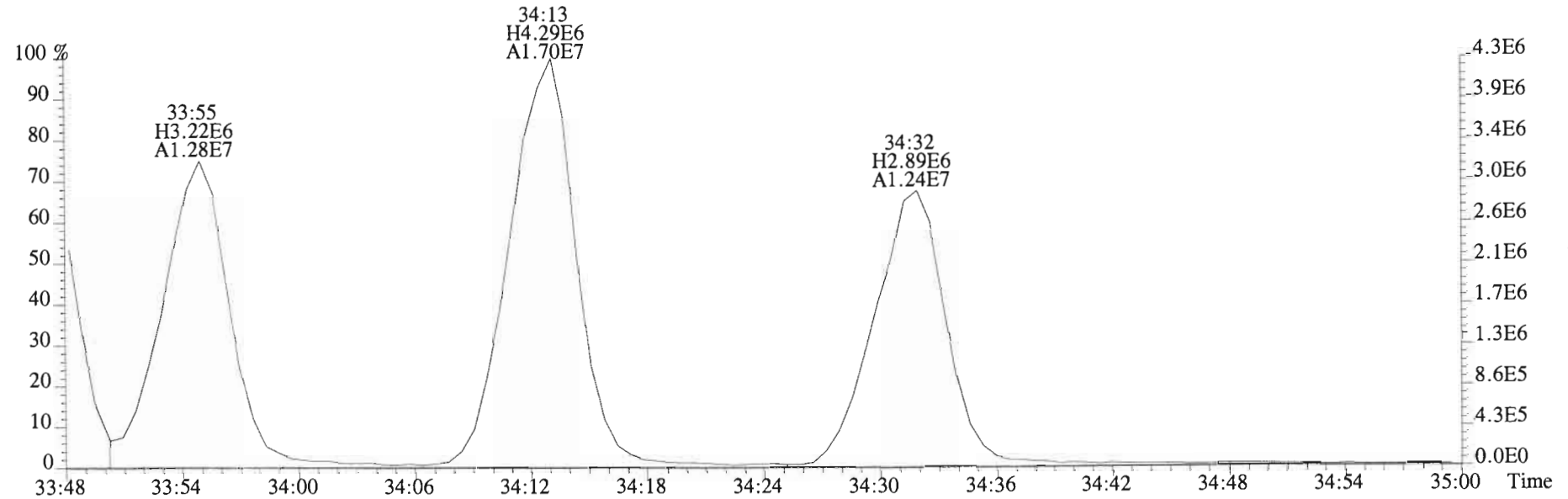
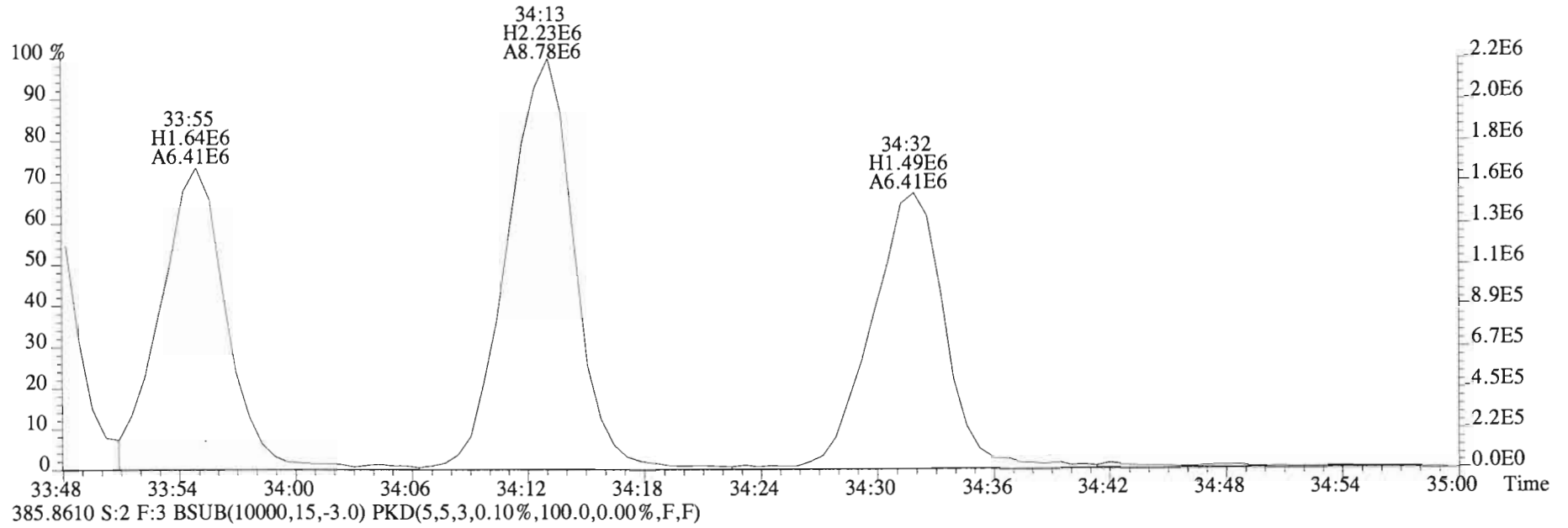
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



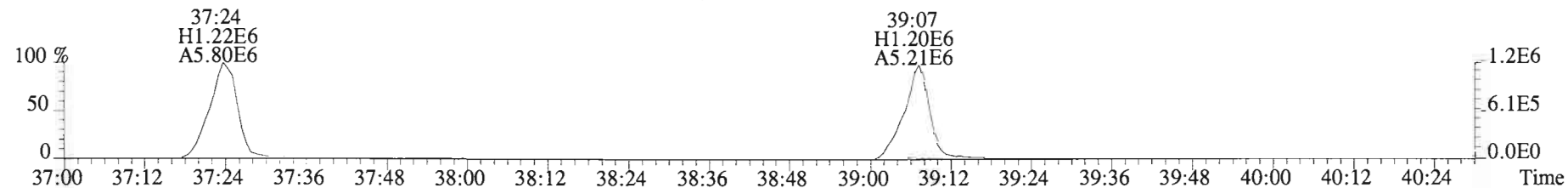
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



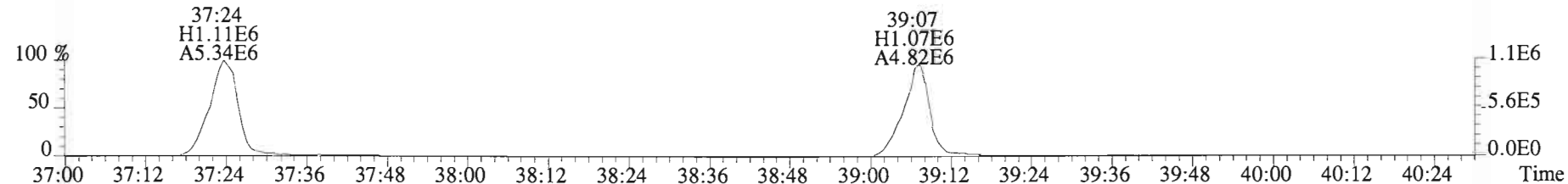
File:150427D1 #1-393 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



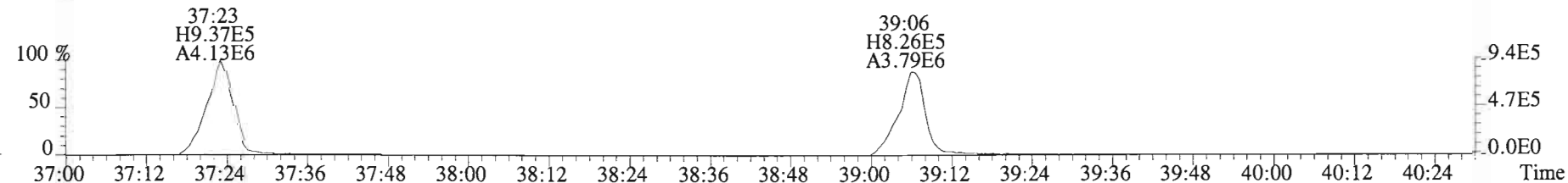
File:150427D1 #1-326 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



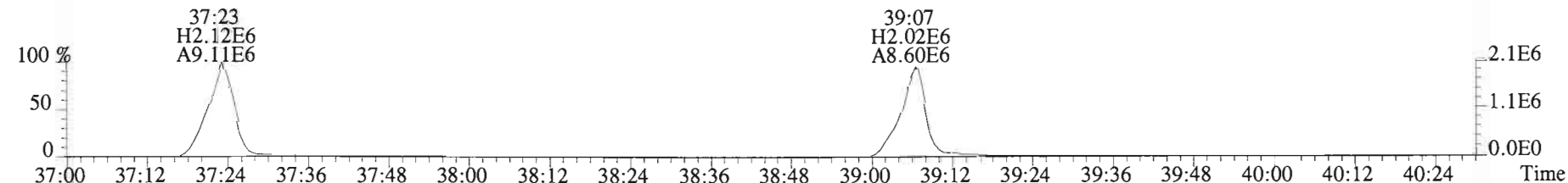
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



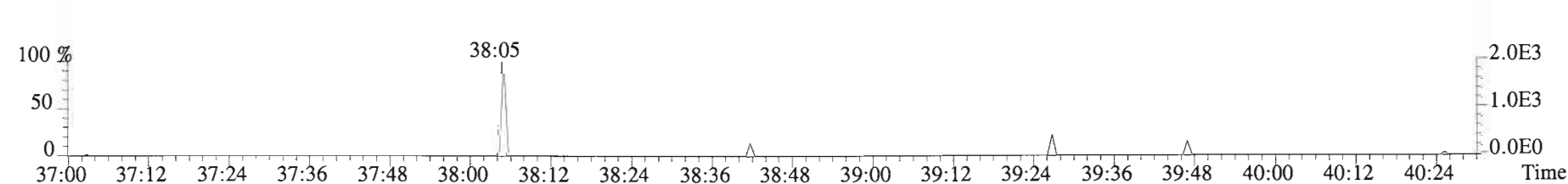
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



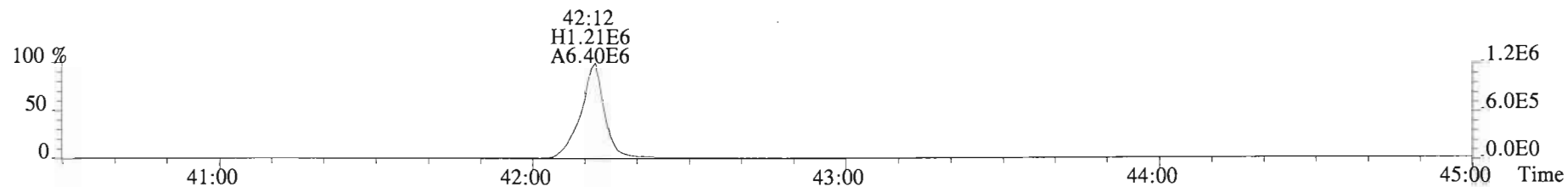
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



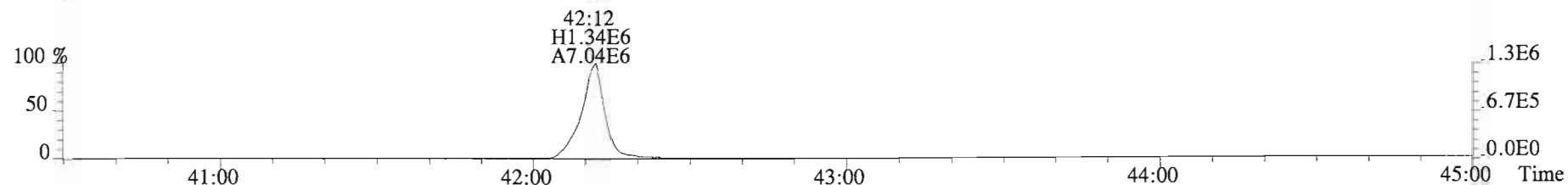
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



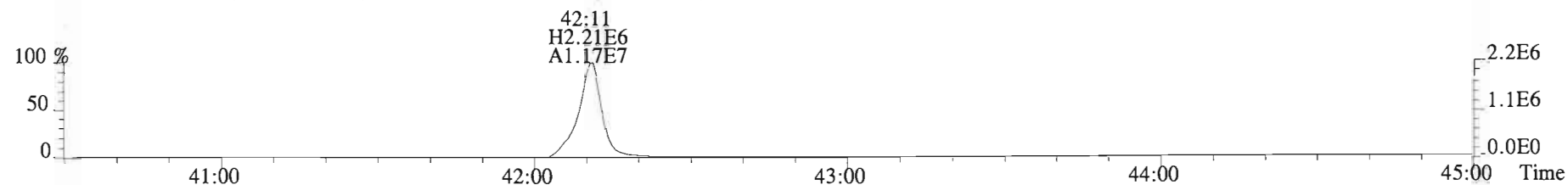
File:150427D1 #1-388 Acq:27-APR-2015 11:04:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-7 Text:B5D0082-BS1 OPR 1 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



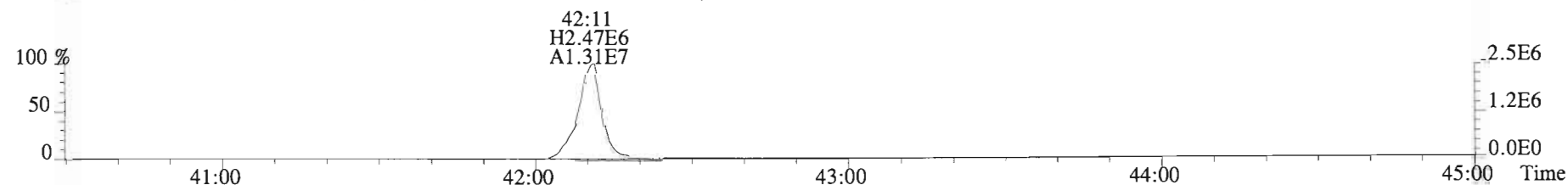
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



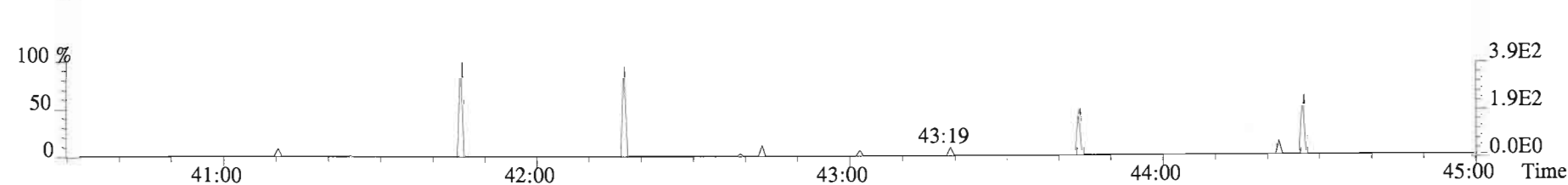
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	* n	1.17	NotF _η	*	*		471	2.5	0.714	Total Tetra-Dioxins	*	*		841	1.27
1,2,3,7,8-PeCDD	*	* n	0.91	NotF _η	*	*		991	2.5	1.63	Total Penta-Dioxins	*	*		1420	2.34
1,2,3,4,7,8-HxCDD	*	* n	1.08	NotF _η	*	*		849	2.5	3.20	Total Hexa-Dioxins	5.04	7.66		*	*
1,2,3,6,7,8-HxCDD	*	* n	1.06	NotF _η	*	*		849	2.5	3.34	Total Hepta-Dioxins	61.4	61.4		*	*
1,2,3,7,8,9-HxCDD	*	* n	0.93	NotF _η	*	*		849	2.5	3.34	Total Tetra-Furans	*	*		1090	1.27
1,2,3,4,6,7,8-HpCDD	1.87e+05	1.08 y	1.10	38:33	1.000	33.668		*	2.5	*	Total Penta-Furans	2.6151	2.6151		*	*
OCDD	1.12e+06	0.92 y	0.95	41:58	1.000	272.04		*	2.5	*	Total Hexa-Furans	9.20	10.8		*	*
											Total Hepta-Furans	22.3	22.3		*	*
2,3,7,8-TCDF	*	* n	1.07	NotF _η	*	*		1090	2.5	1.27						
1,2,3,7,8-PeCDF	*	* n	1.07	NotF _η	*	*		845	2.5	1.40						
2,3,4,7,8-PeCDF	*	* n	1.03	NotF _η	*	*		558	2.5	0.950						
1,2,3,4,7,8-HxCDF	*	* n	1.38	NotF _η	*	*		1500	1.0	0.796						
1,2,3,6,7,8-HxCDF	*	* n	1.26	NotF _η	*	*		2240	1.0	1.18						
2,3,4,6,7,8-HxCDF	*	* n	1.29	NotF _η	*	*		1140	1.0	0.653						
1,2,3,7,8,9-HxCDF	*	* n	1.19	NotF _η	*	*		451	2.5	0.938						
1,2,3,4,6,7,8-HpCDF	1.15e+05	1.13 y	1.61	37:24	1.000	12.136		*	2.5	*						
1,2,3,4,7,8,9-HpCDF	*	* n	1.53	NotF _η	*	*		597	2.5	1.25						
OCDF	9.39e+04	0.90 y	1.10	42:12	1.000	16.006		*	2.5	*						
											Rec	Qual				
IS 13C-2,3,7,8-TCDD	1.81e+07	0.78 y	1.06	26:60	1.020	1692.8					85.8					
IS 13C-1,2,3,7,8-PeCDD	1.69e+07	0.62 y	1.18	31:21	1.184	1421.7					72.1					
IS 13C-1,2,3,4,7,8-HxCDD	1.14e+07	1.27 y	0.72	34:42	1.014	1447.5					73.4					
IS 13C-1,2,3,6,7,8-HxCDD	1.20e+07	1.27 y	0.74	34:49	1.018	1490.8					75.6					
IS 13C-1,2,3,7,8,9-HxCDD	1.39e+07	1.26 y	0.85	35:08	1.027	1480.3					75.0					
IS 13C-1,2,3,4,6,7,8-HpCDD	9.93e+06	1.10 y	0.65	38:33	1.126	1384.1					70.1					
IS 13C-OCDD	1.72e+07	0.85 y	0.76	41:57	1.226	2050.3					52.0					
IS 13C-2,3,7,8-TCDF	2.56e+07	0.77 y	0.92	26:16	0.993	1737.6					88.1					
IS 13C-1,2,3,7,8-PeCDF	2.18e+07	1.55 y	0.92	30:12	1.141	1470.7					74.5					
IS 13C-2,3,4,7,8-PeCDF	2.30e+07	1.60 y	0.93	31:04	1.174	1535.8					77.8					
IS 13C-1,2,3,4,7,8-HxCDF	1.55e+07	0.51 y	0.98	33:47	0.987	1436.0					72.8					
IS 13C-1,2,3,6,7,8-HxCDF	1.86e+07	0.50 y	1.08	33:55	0.991	1563.7					79.3					
IS 13C-2,3,4,6,7,8-HxCDF	1.70e+07	0.51 y	1.03	34:32	1.009	1506.1					76.3					
IS 13C-1,2,3,7,8,9-HxCDF	1.39e+07	0.51 y	0.86	35:32	1.038	1468.0					74.4					
IS 13C-1,2,3,4,6,7,8-HpCDF	1.16e+07	0.44 y	0.72	37:24	1.093	1458.2					73.9					
IS 13C-1,2,3,4,7,8,9-HpCDF	9.83e+06	0.44 y	0.70	39:07	1.143	1284.0					65.1					
IS 13C-OCDF	2.11e+07	0.89 y	0.85	42:12	1.233	2262.9					57.3					
C/Up 37C1-2,3,7,8-TCDD	9.88e+06		1.12	27:01	1.021	876.58					111					
RS/RT 13C-1,2,3,4-TCDD	1.99e+07	0.81 y	1.00	26:28	*	1973.1						Integrations	Reviewed			
RS 13C-1,2,3,4-TCDF	3.17e+07	0.77 y	1.00	25:08	*	1973.1						by	by			
RS/RT 13C-1,2,3,4,6,9-HxCDF	2.17e+07	0.52 y	1.00	34:13	*	1973.1						Analyst: <u>MD</u>	Analyst: <u>[Signature]</u>			
												Date: <u>4/29/15</u>	Date: <u>4/28/15</u>			

Totals class: HxCDD EMPC

Entry #: 23

Run: 15 File: 150427D1 S: 10 I: 1 F: 3
Acquired: 27-APR-15 17:28:09 Processed: 28-APR-15 08:31:38

Total Concentration: 7.6632 Unnamed Concentration: 7.663

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
33:08	1.199e+04	7.532e+03	1.59 n	1.687e+04	2.6229
33:59	1.779e+04	1.463e+04	1.22 y	3.242e+04	5.0404

Totals class: HpCDD EMPC

Entry #: 25

Run: 15 File: 150427D1 S: 10 I: 1 F: 4
Acquired: 27-APR-15 17:28:09 Processed: 28-APR-15 08:31:38

Total Concentration: 61.449 Unnamed Concentration: 27.781

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
37:44	8.026e+04	7.414e+04	1.08 y	1.544e+05	27.781	
38:33	9.702e+04	9.010e+04	1.08 y	1.871e+05	33.668	1,2,3,4,6,7,8-HpCDD

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 15 File: 150427D1 S: 10 I: 1 F: 1
Acquired: 27-APR-15 17:28:09 Processed: 28-APR-15 08:31:38

Total Concentration: 2.6151 Unnamed Concentration: 2.615

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:56	1.893e+04	1.231e+04	1.54 y	3.123e+04	2.6151

Totals class: HxCDF EMPC

Entry #: 33

Run: 15 File: 150427D1 S: 10 I: 1 F: 3
Acquired: 27-APR-15 17:28:09 Processed: 28-APR-15 08:31:38

Total Concentration: 10.793 Unnamed Concentration: 10.793

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:35	1.159e+04	7.472e+03	1.55 n	1.674e+04	1.5891
32:45	3.934e+04	3.428e+04	1.15 y	7.362e+04	6.9901
33:18	1.369e+04	9.630e+03	1.42 y	2.332e+04	2.2142

Totals class: HpCDF EMPC

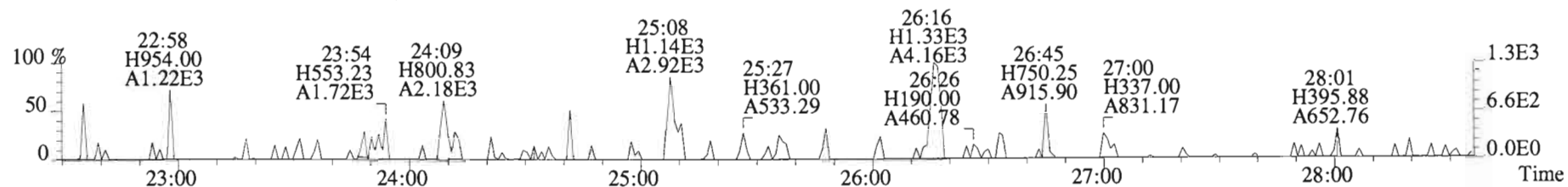
Entry #: 35

Run: 15 File: 150427D1 S: 10 I: 1 F: 4
Acquired: 27-APR-15 17:28:09 Processed: 28-APR-15 08:31:38

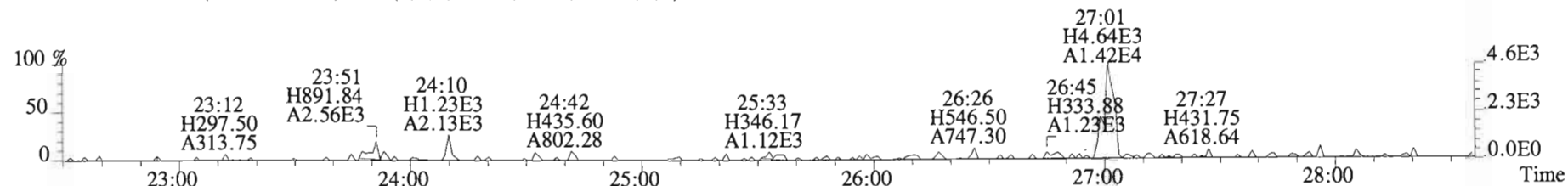
Total Concentration: 22.271 Unnamed Concentration: 10.135

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
37:24	6.083e+04	5.368e+04	1.13 y	1.145e+05	12.136	1,2,3,4,6,7,8-HpCDF
37:55	4.450e+04	4.164e+04	1.07 y	8.614e+04	10.135	

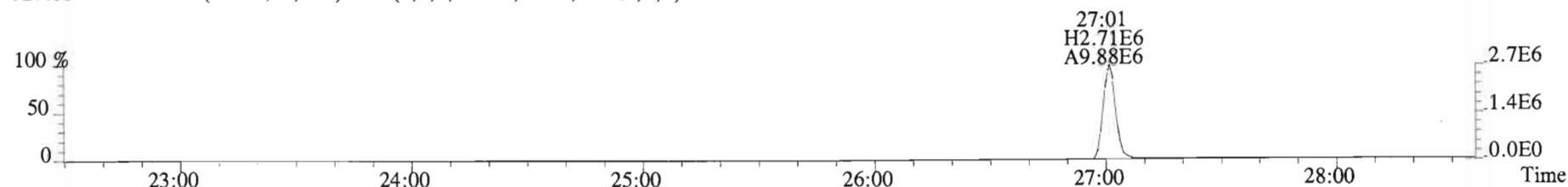
File:150427D1 #1-551 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
319.8965 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



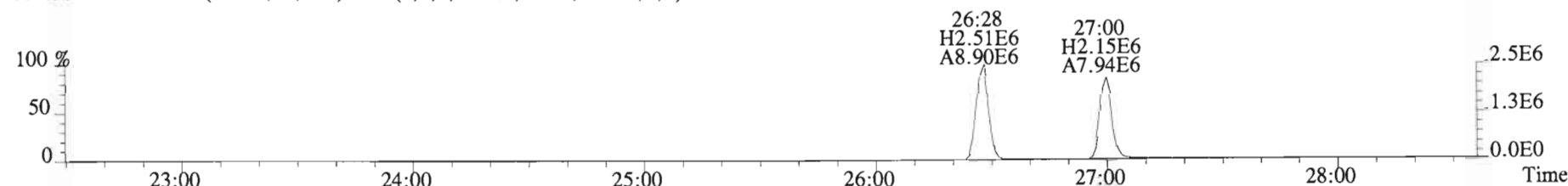
321.8936 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



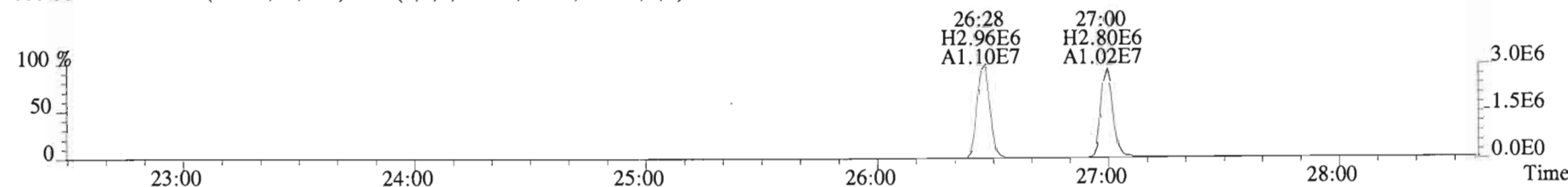
327.8847 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



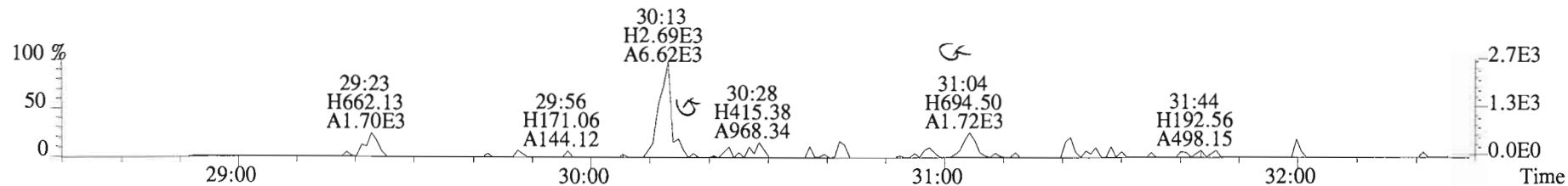
331.9368 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



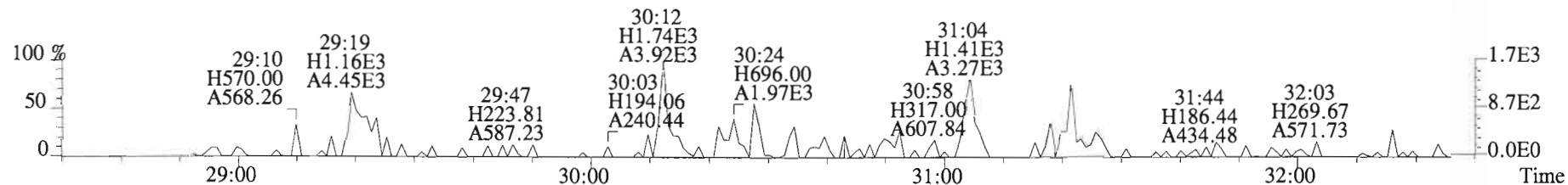
333.9339 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



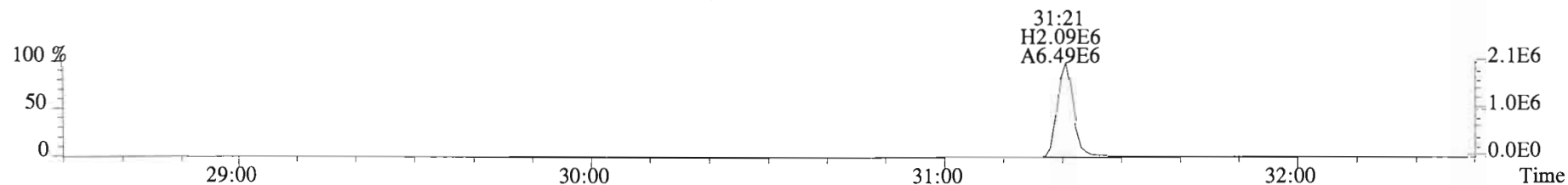
File:150427D1 #1-251 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
353.8576 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



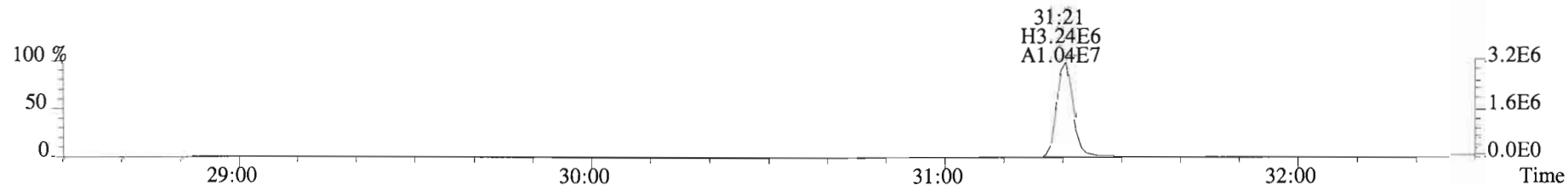
355.8546 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



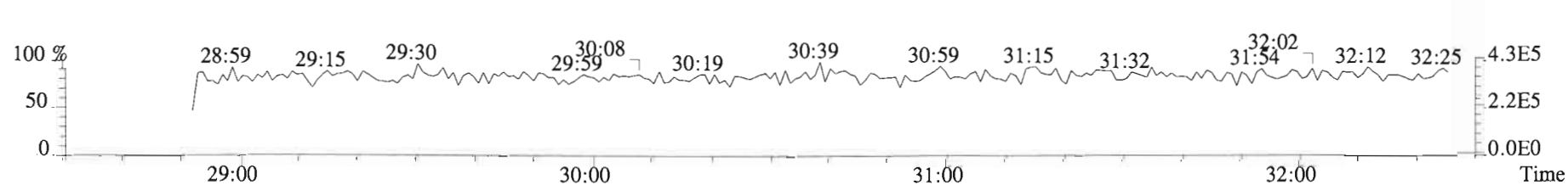
365.8978 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



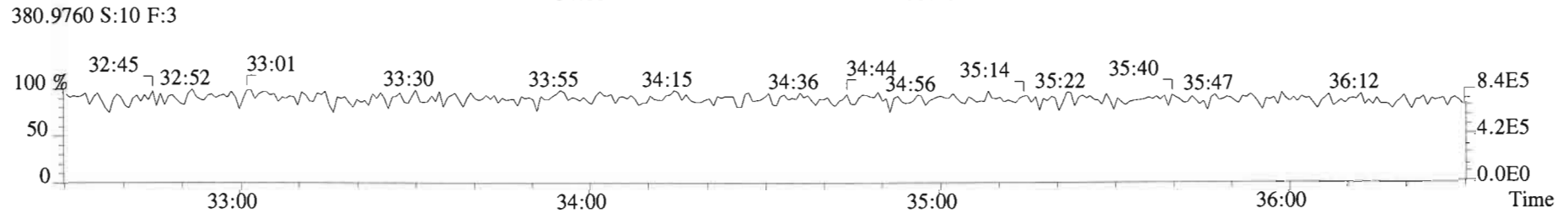
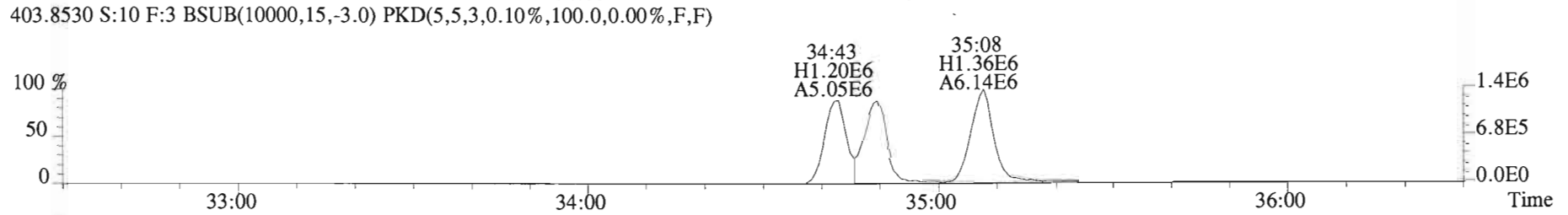
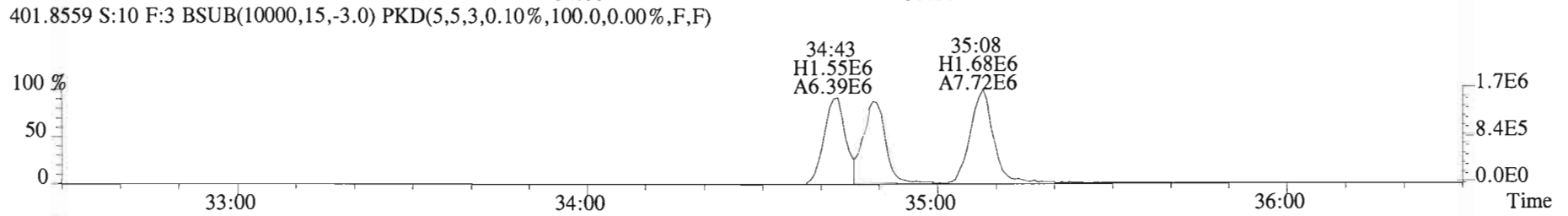
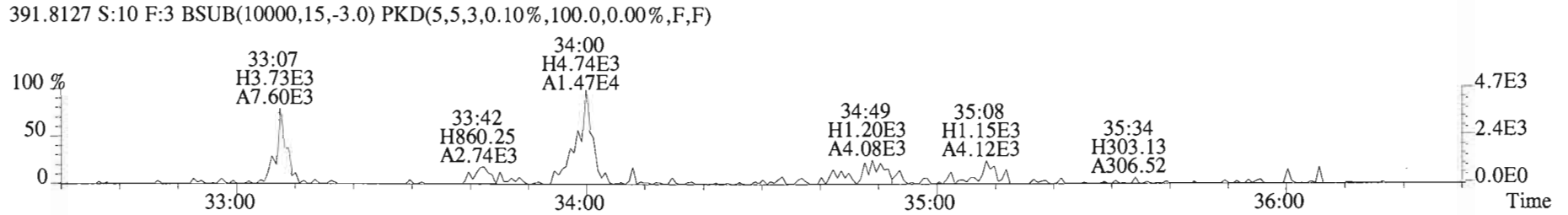
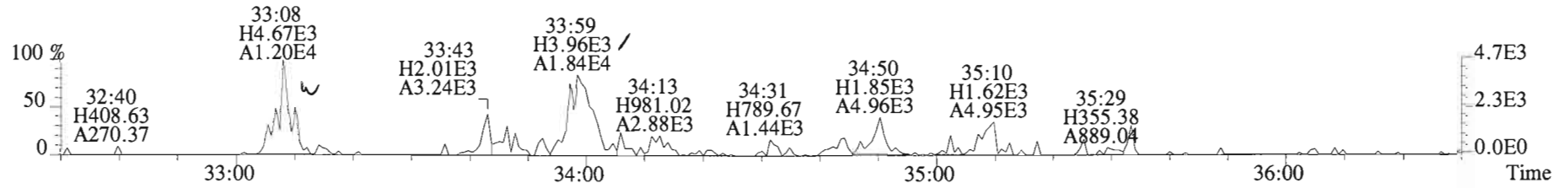
367.8949 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



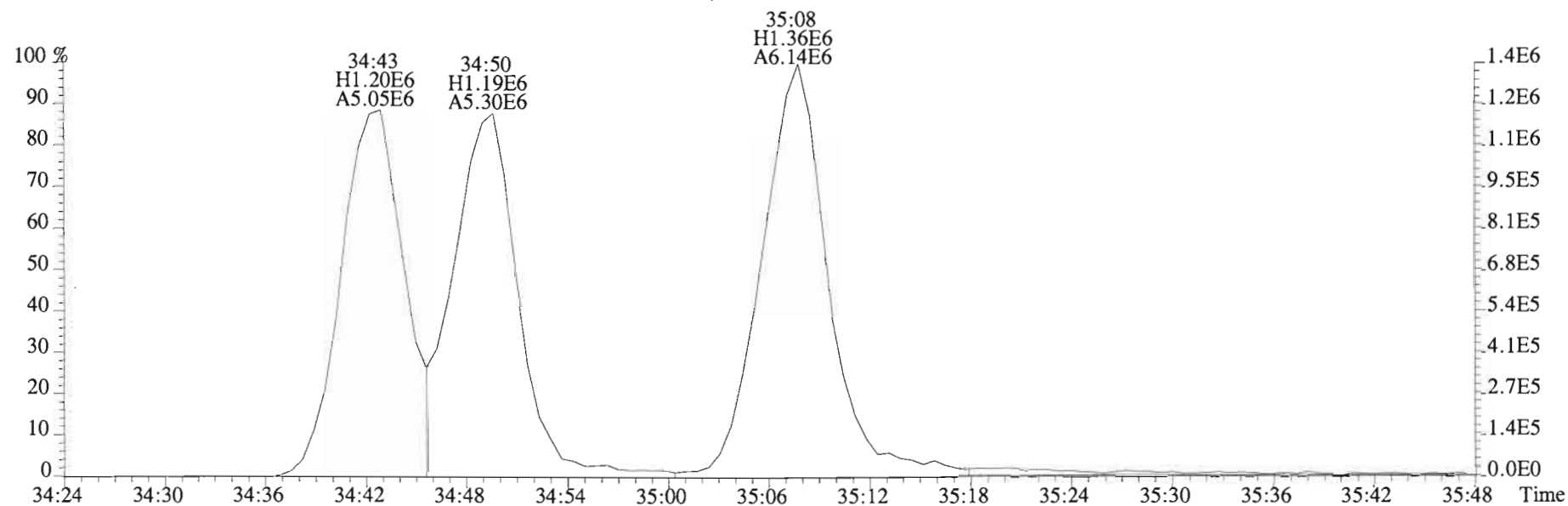
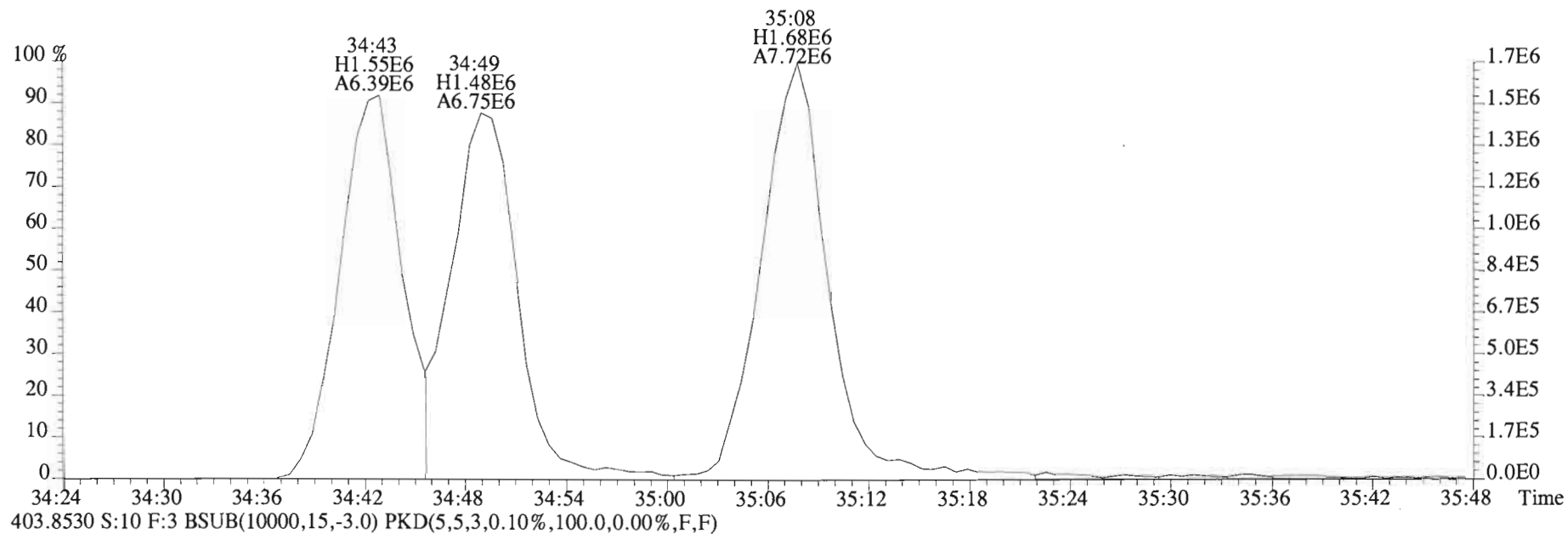
366.9792 S:10 F:2



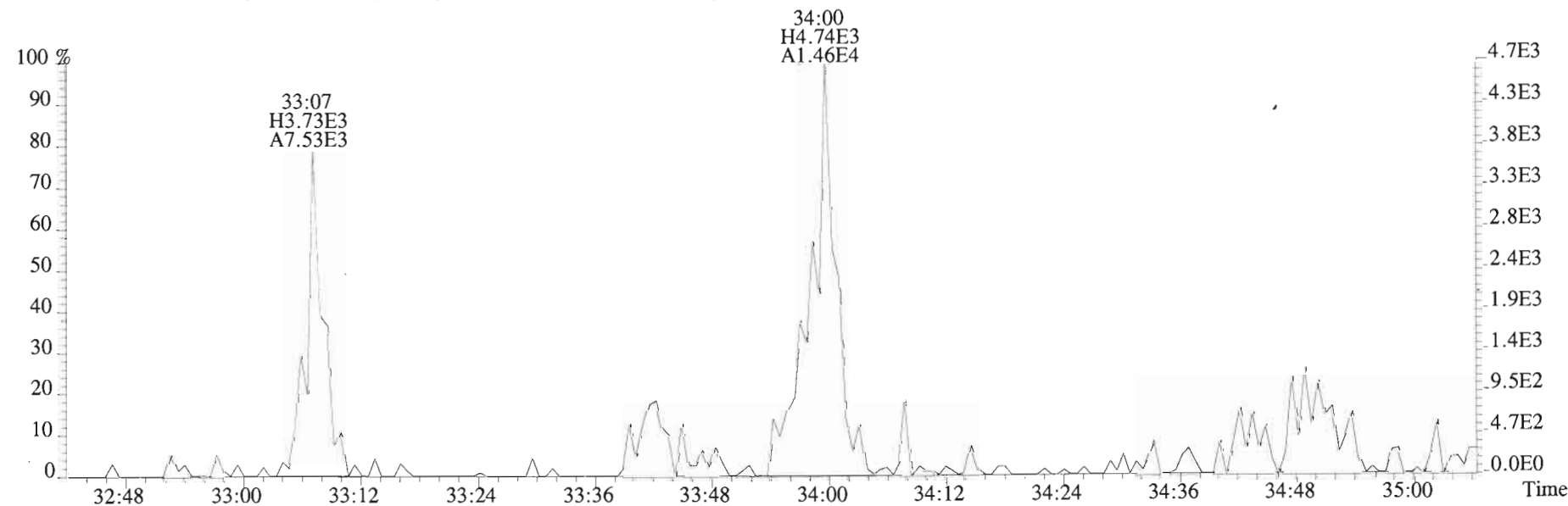
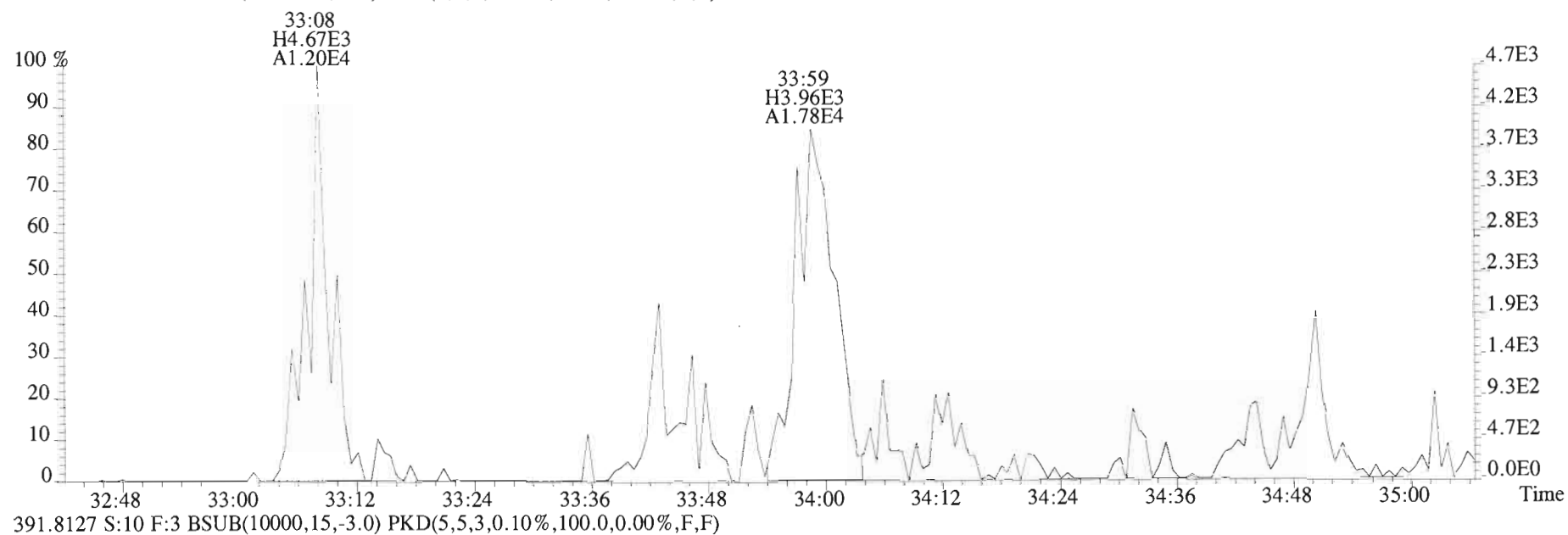
File:150427D1 #1-393 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
389.8156 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



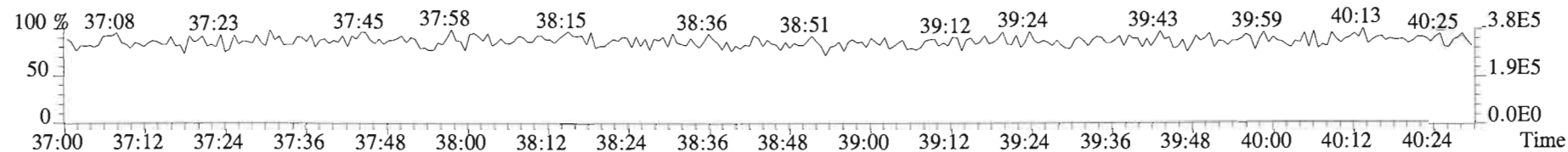
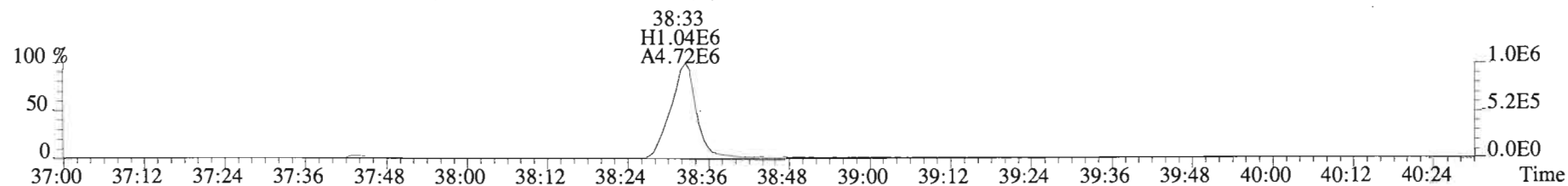
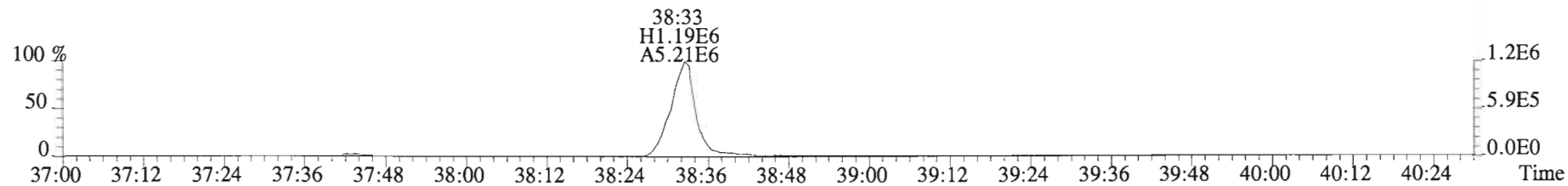
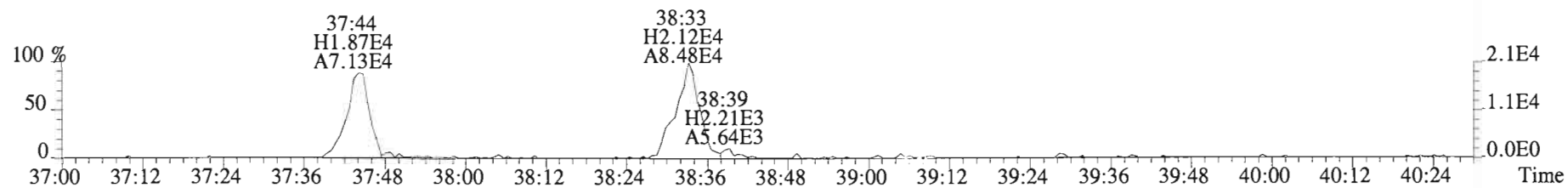
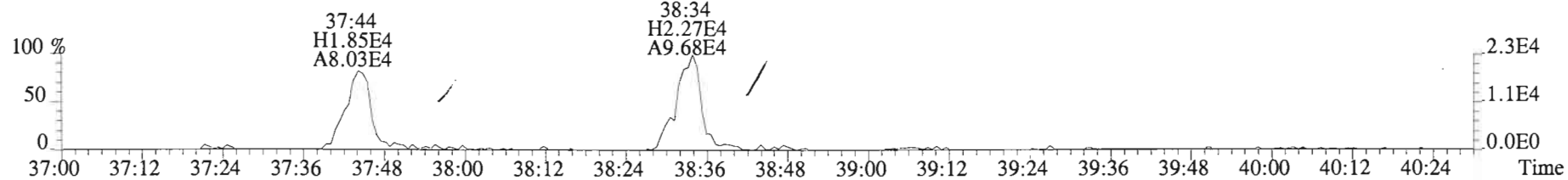
File:150427D1 #1-393 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text: Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
401.8559 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



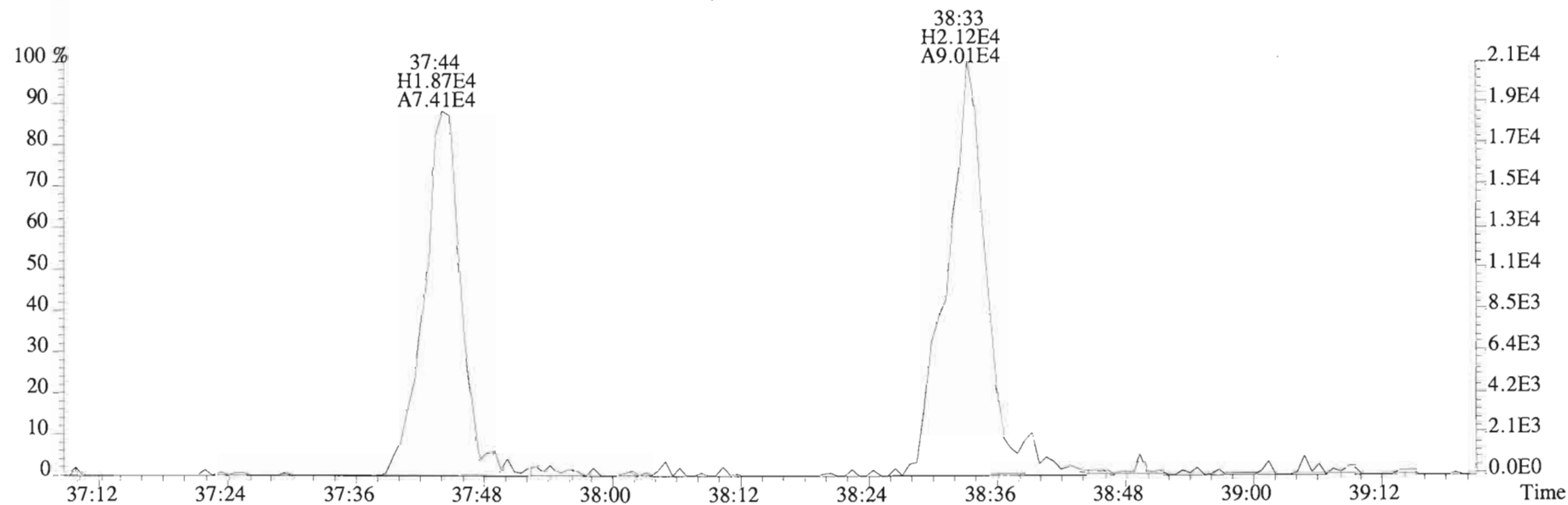
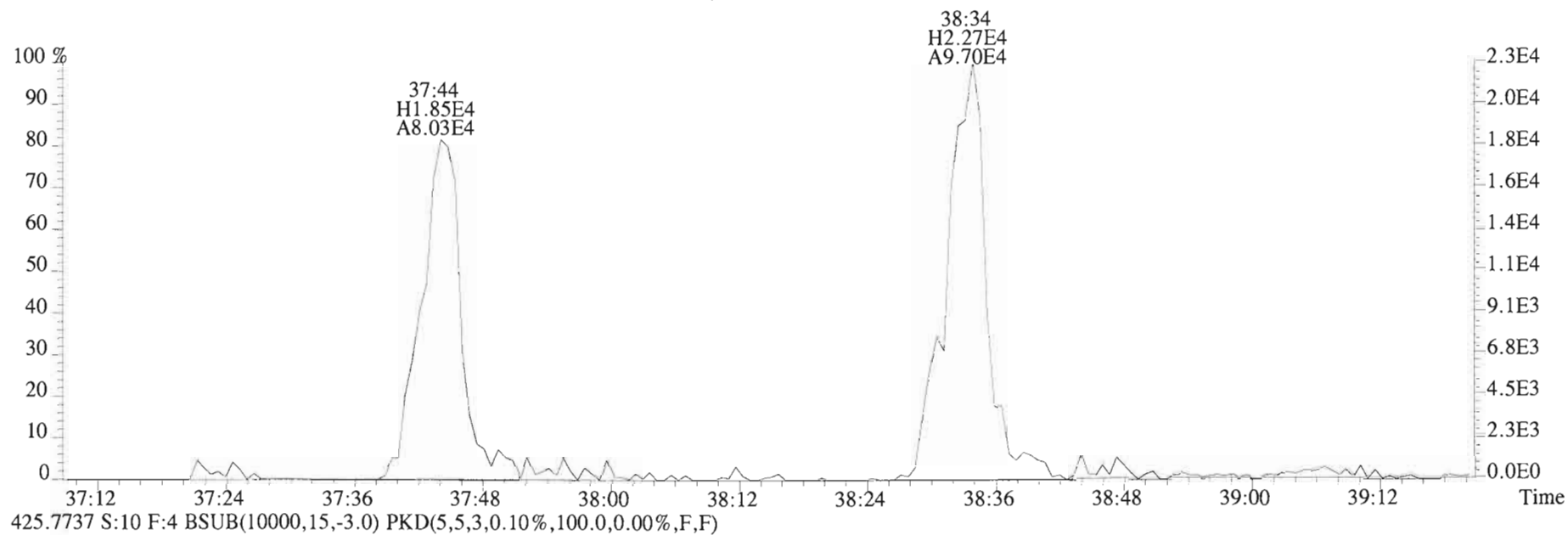
File:150427D1 #1-393 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
389.8156 S:10 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



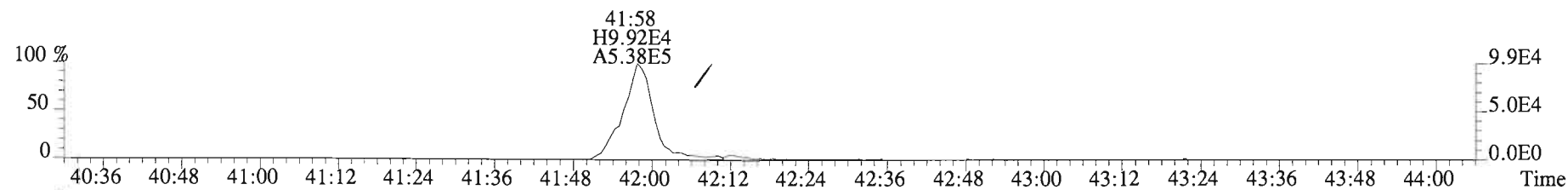
File:150427D1 #1-325 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



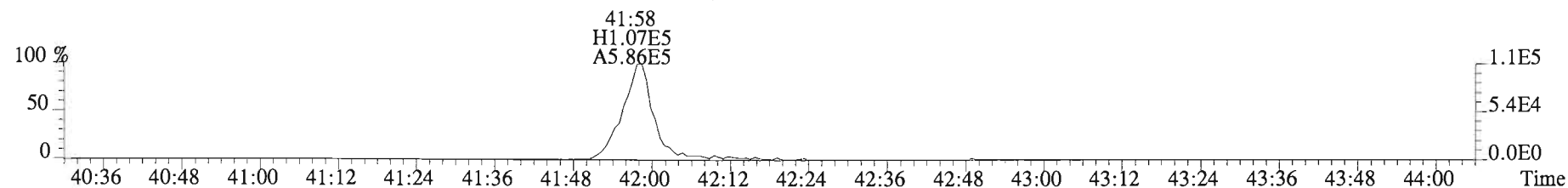
File:150427D1 #1-325 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



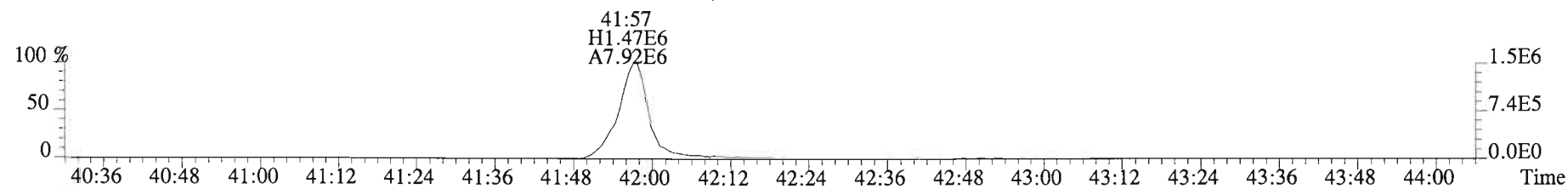
File:150427D1 #1-389 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
457.7377 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



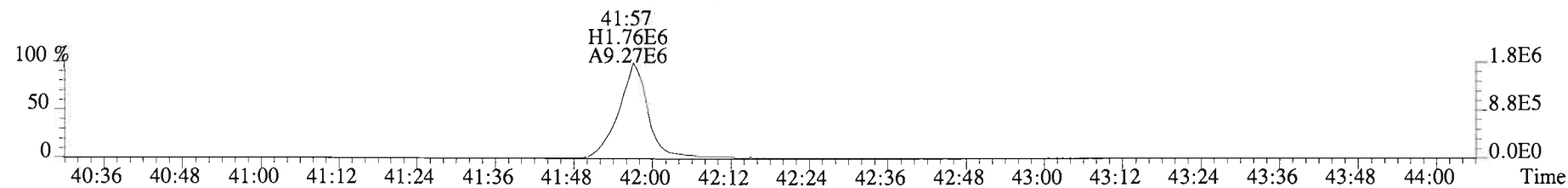
459.7348 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



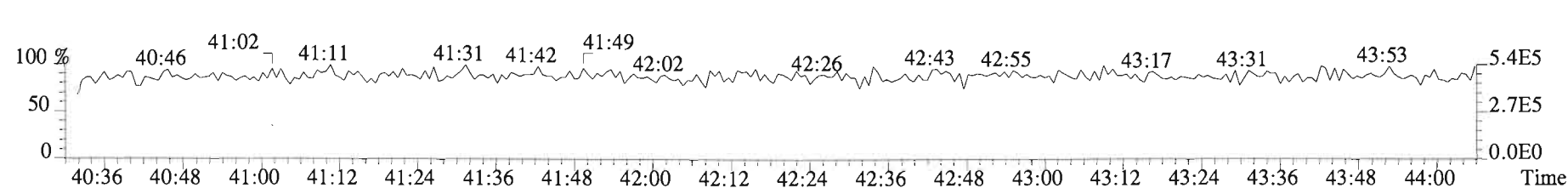
469.7780 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



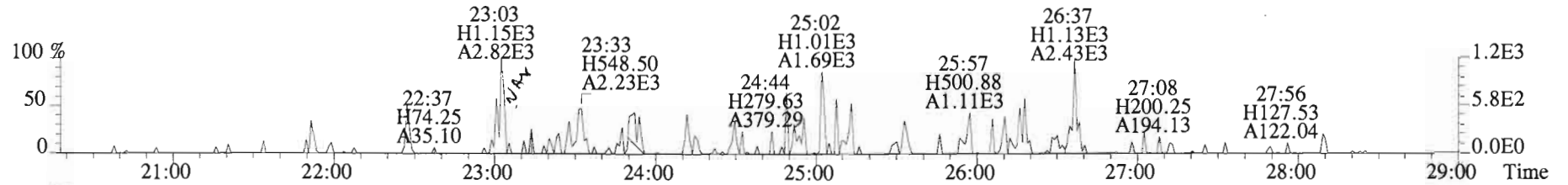
471.7750 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



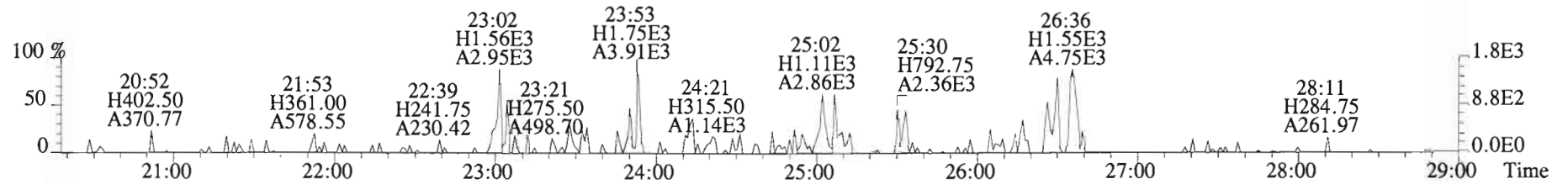
454.9728 S:10 F:5



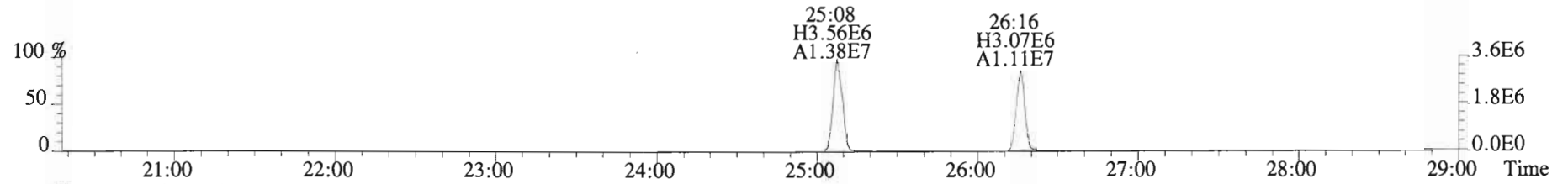
File:150427D1 #1-551 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
303.9016 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



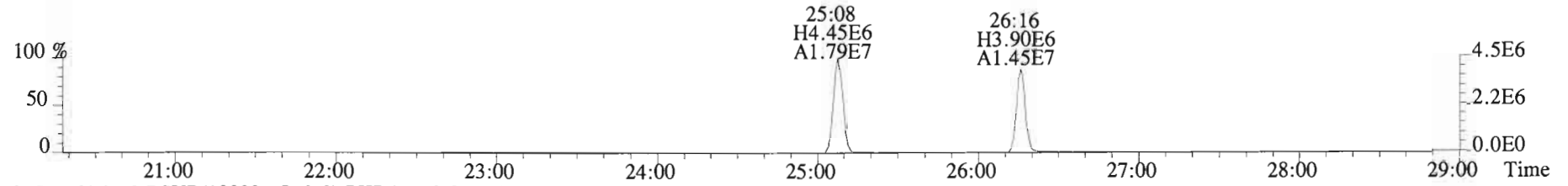
305.8987 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



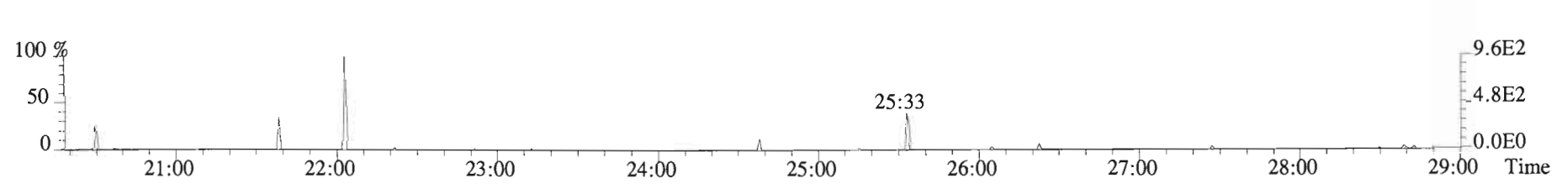
315.9419 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



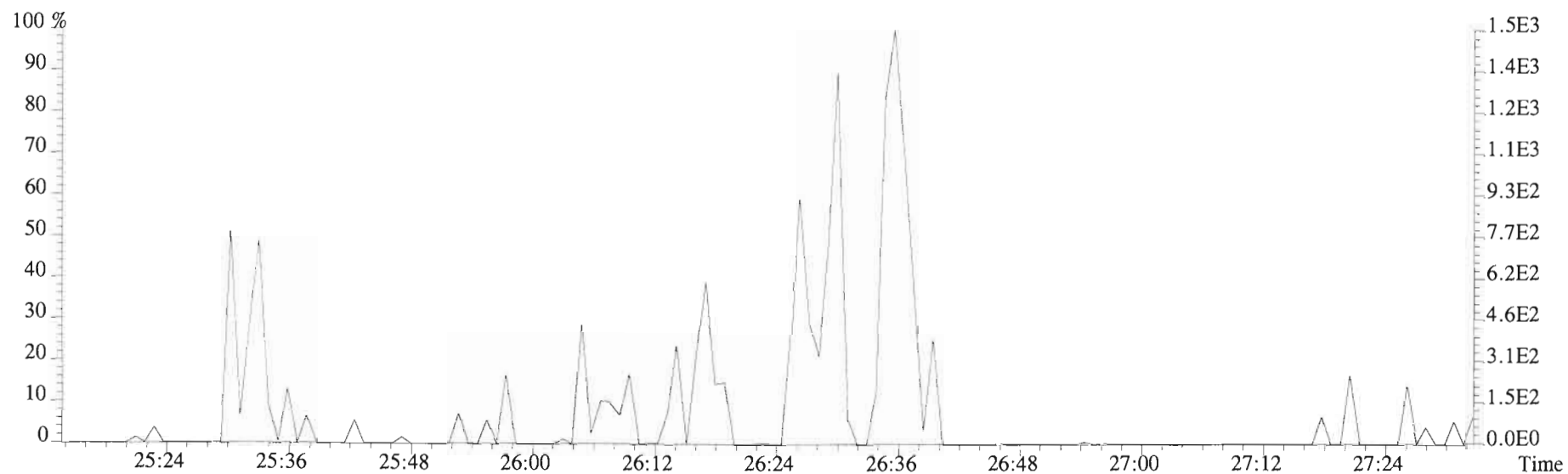
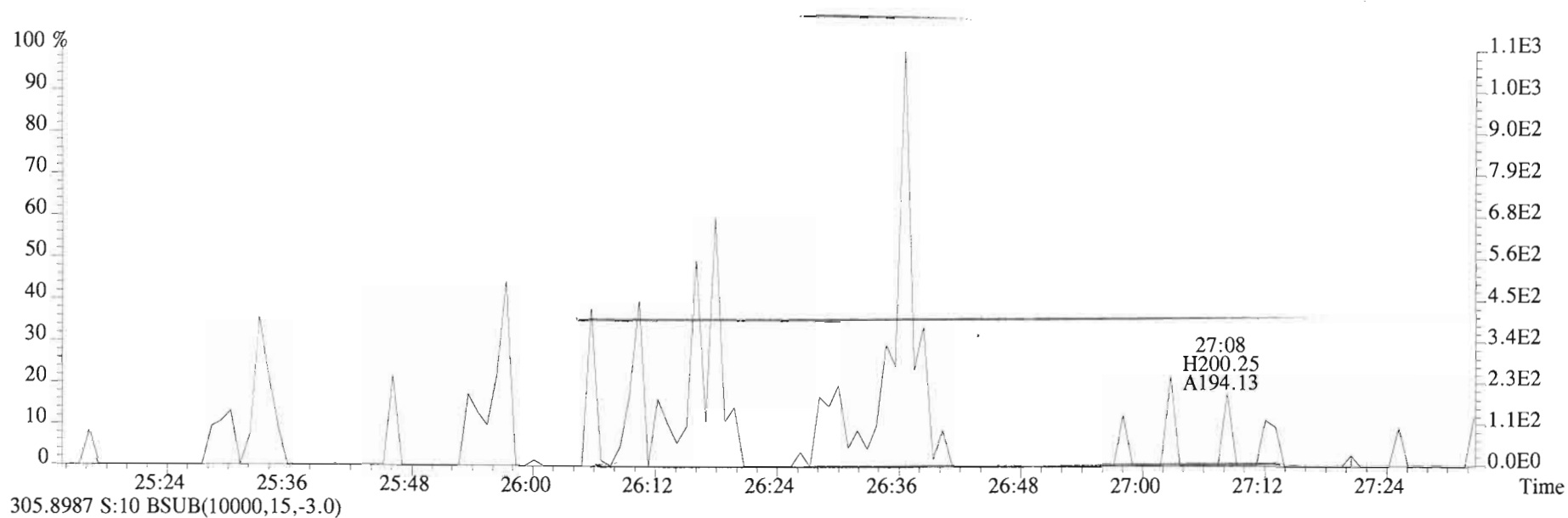
317.9389 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



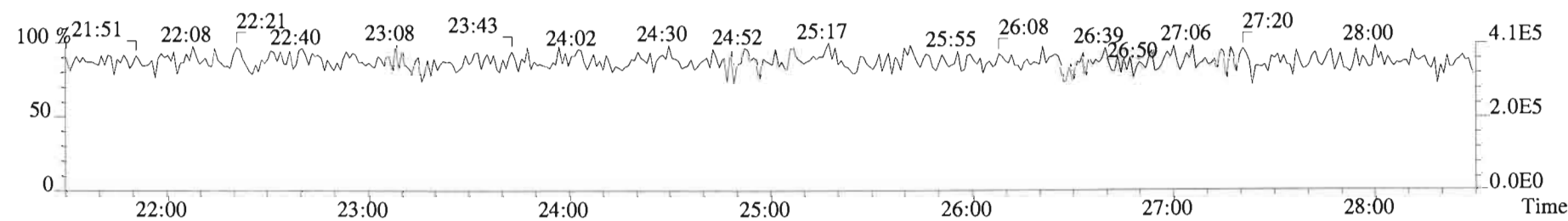
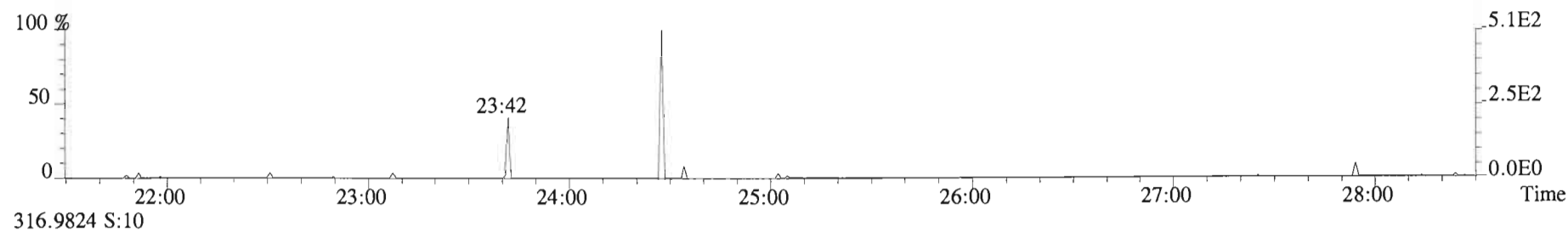
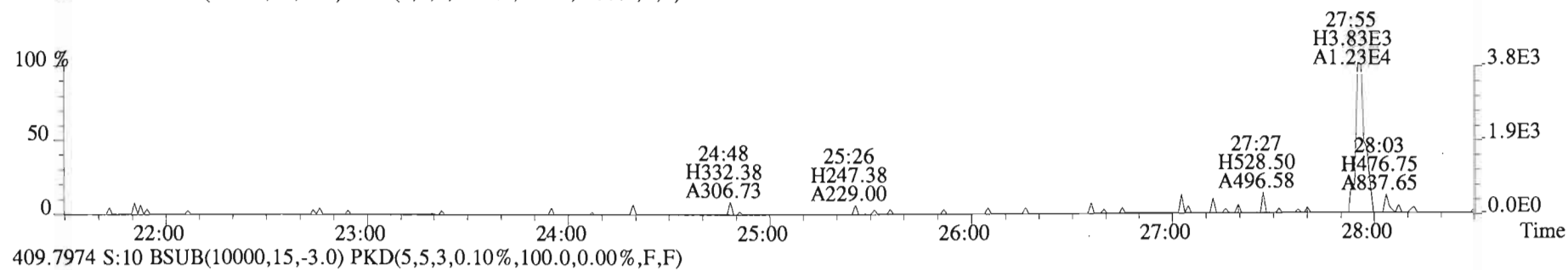
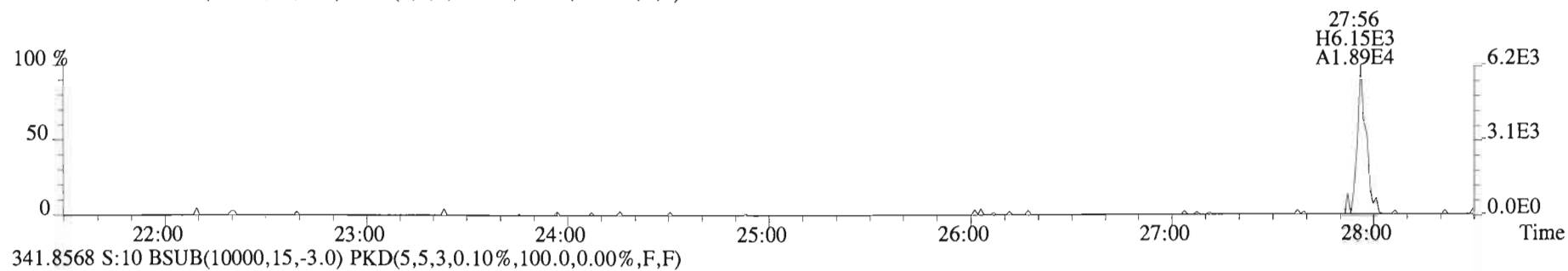
375.8364 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



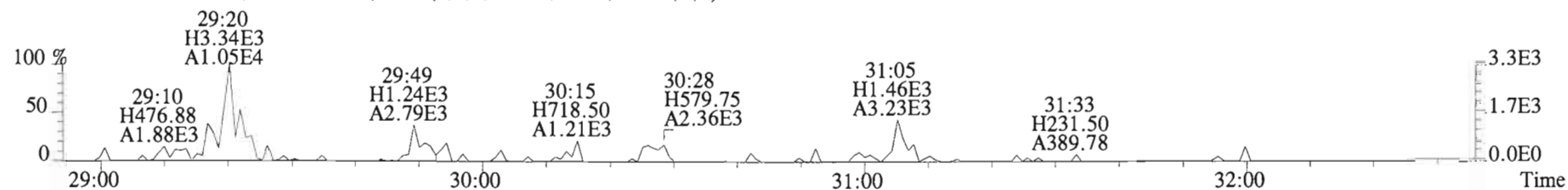
File:150427D1 #1-551 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text: Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
303.9016 S:10 BSUB(10000,15,-3.0)



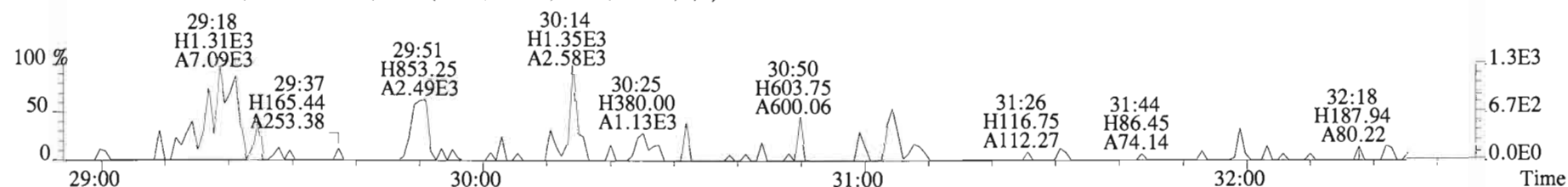
File:150427D1 #1-551 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text: Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
339.8597 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



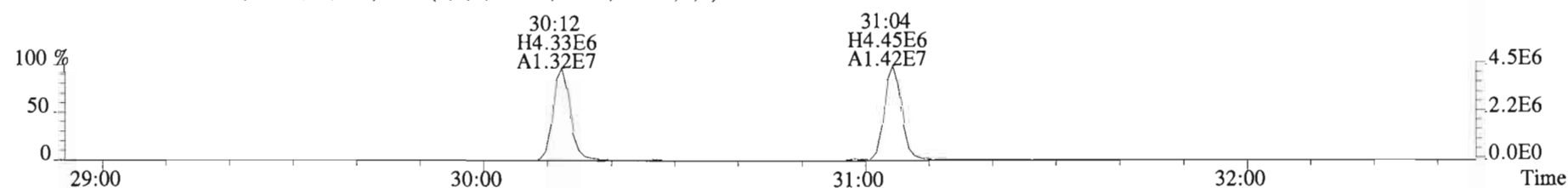
File:150427D1 #1-251 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
339.8597 S:10 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



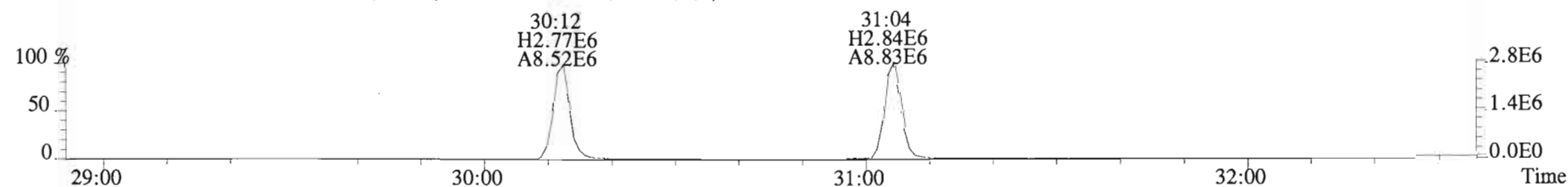
341.8568 S:10 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



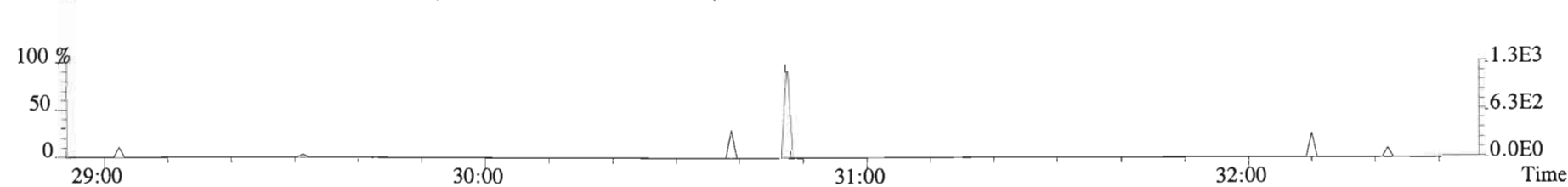
351.9000 S:10 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



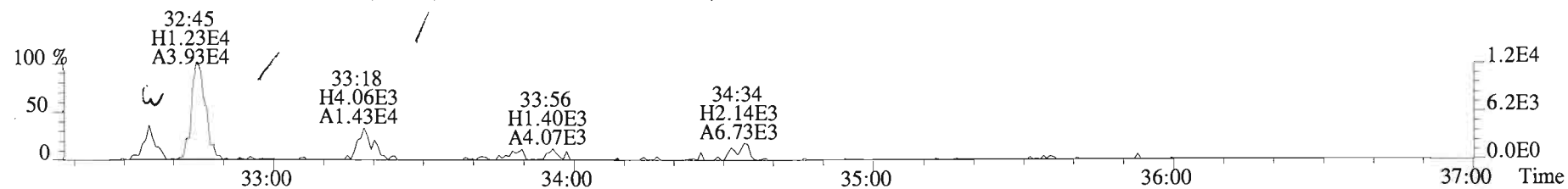
353.8970 S:10 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



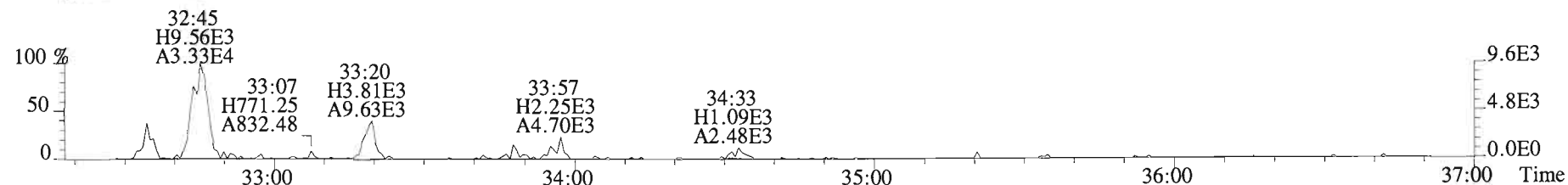
409.7974 S:10 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



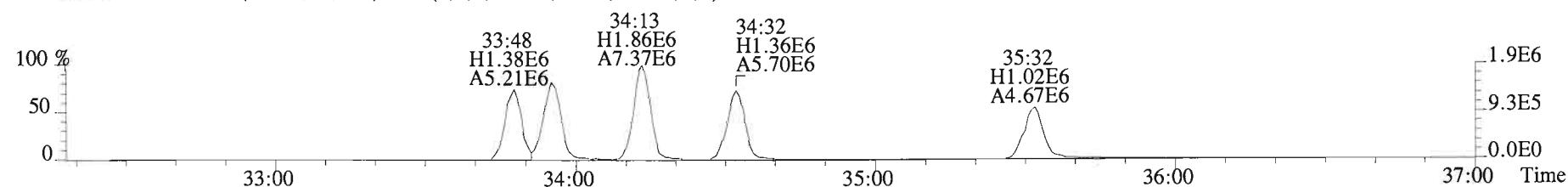
File:150427D1 #1-393 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
373.8207 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



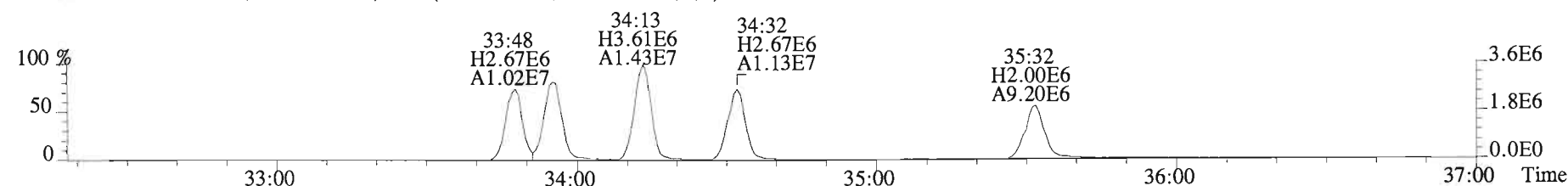
375.8178 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



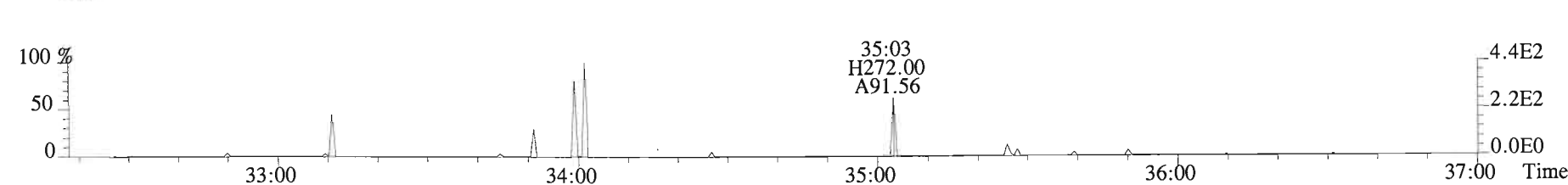
383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



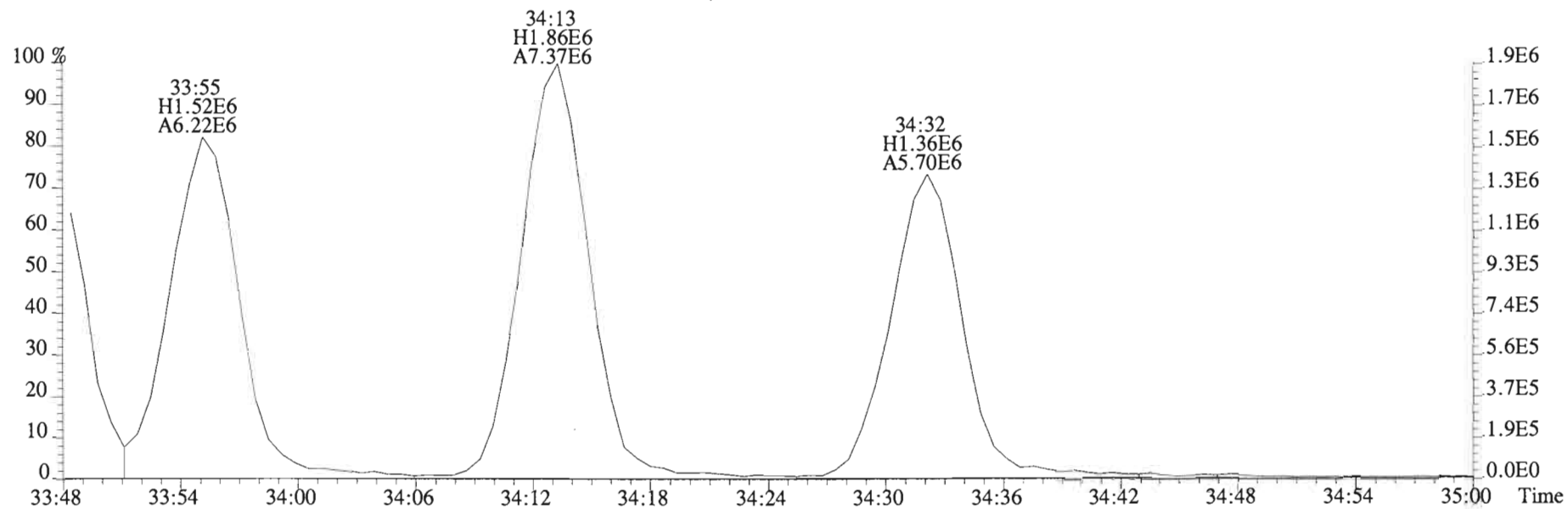
385.8610 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



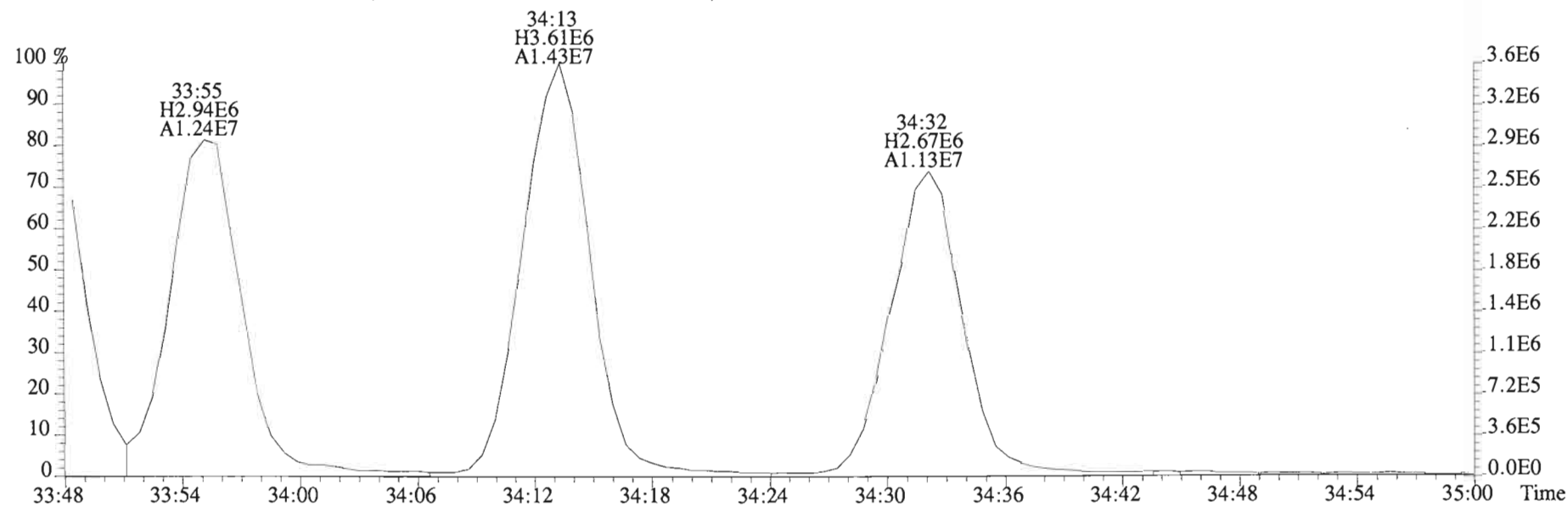
445.7555 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



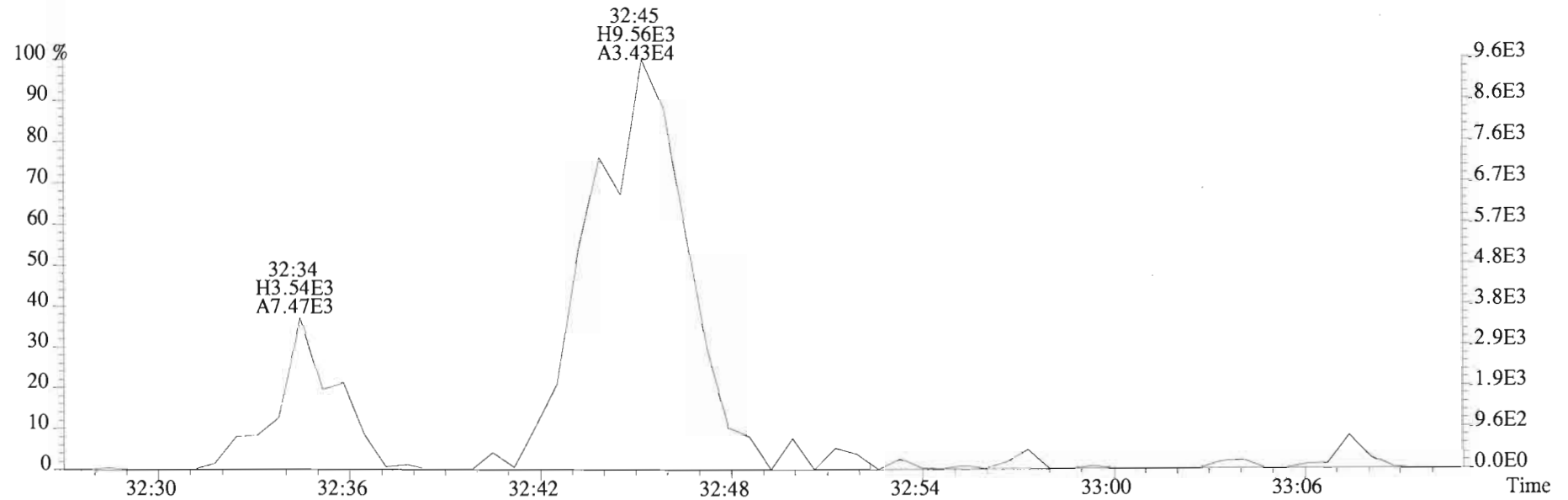
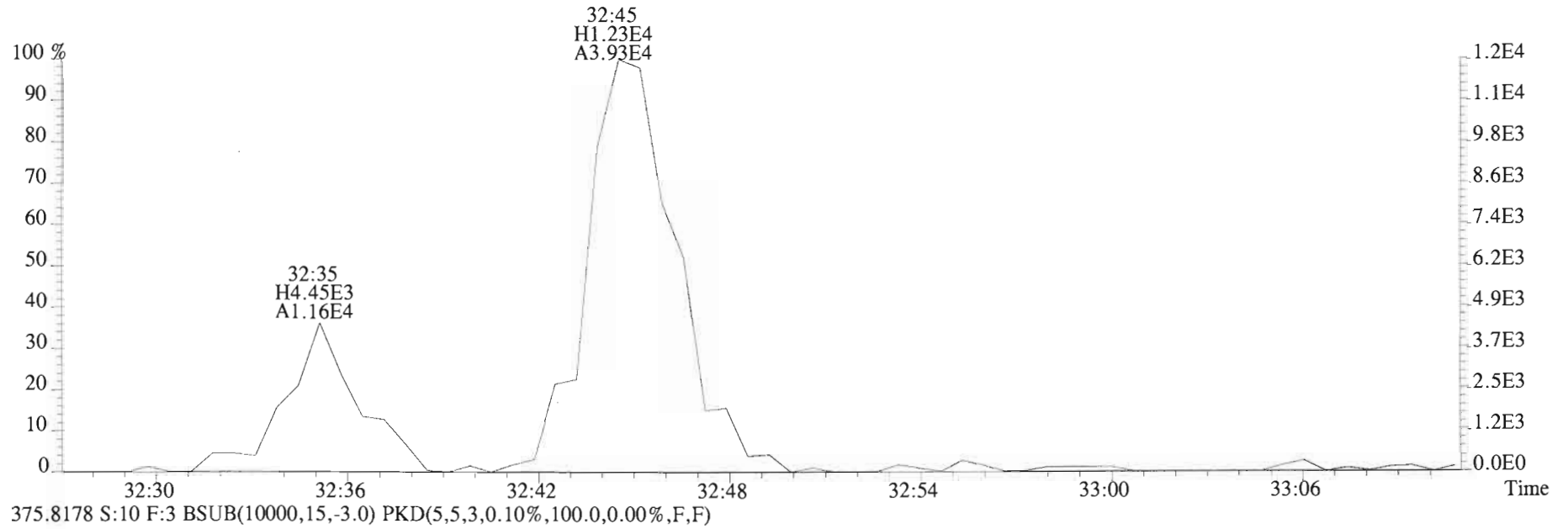
File:150427D1 #1-393 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text: Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



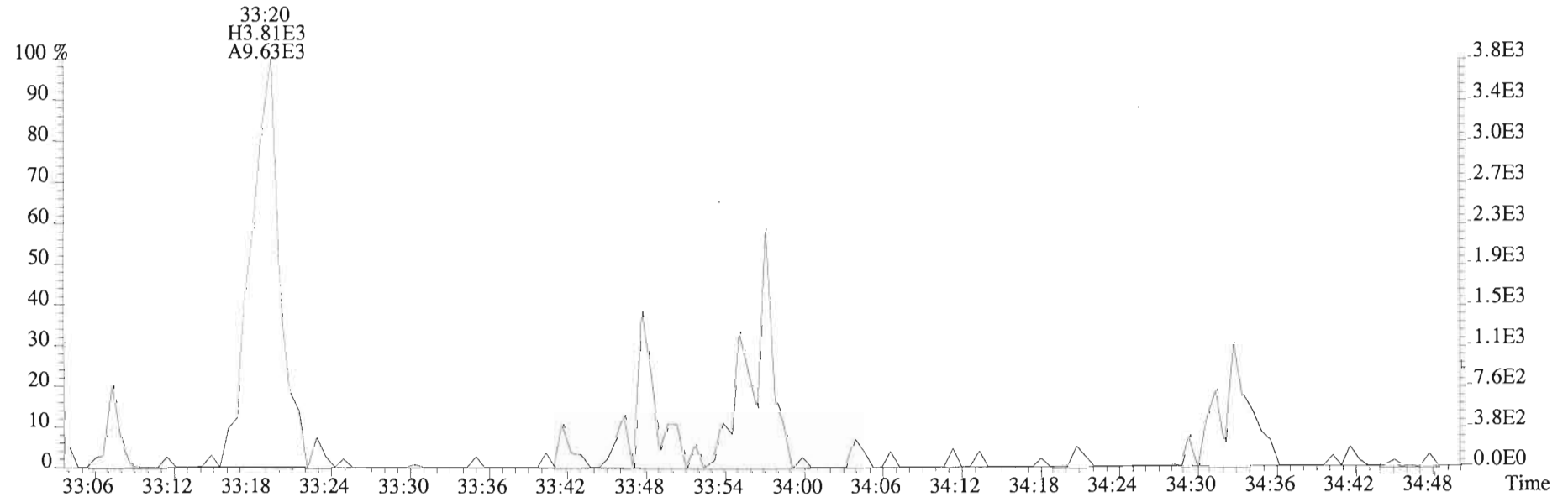
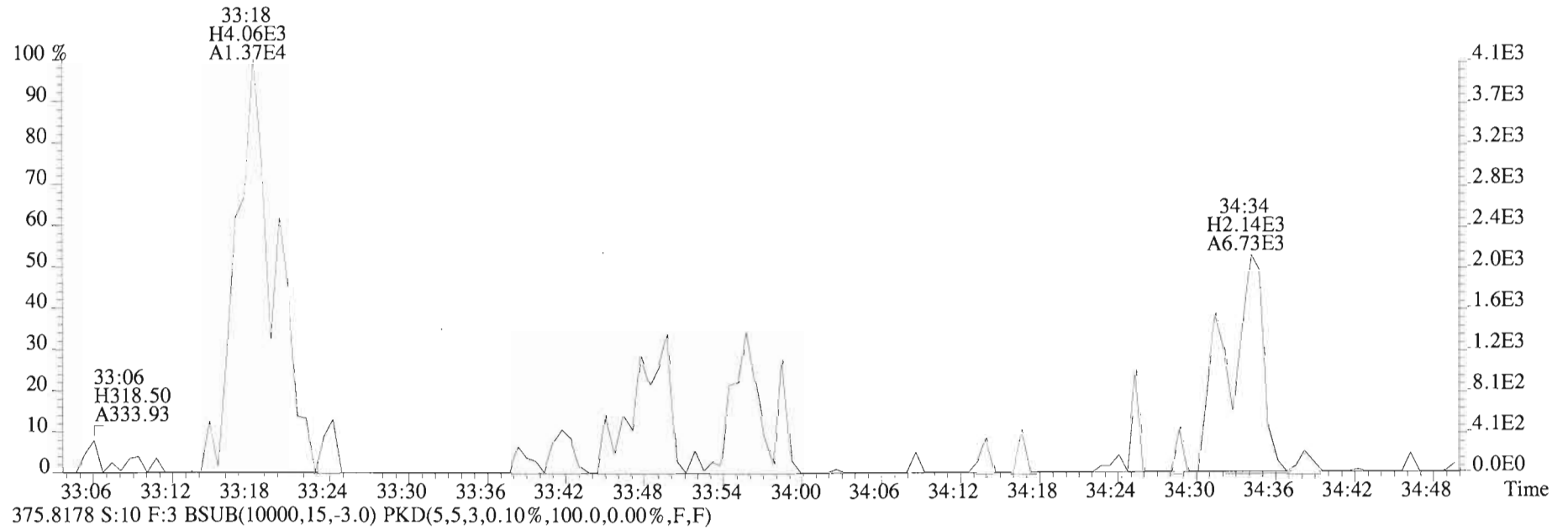
385.8610 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



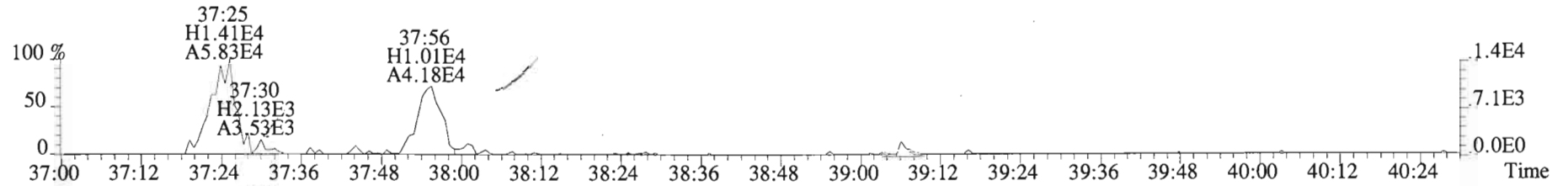
File:150427D1 #1-393 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
373.8207 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



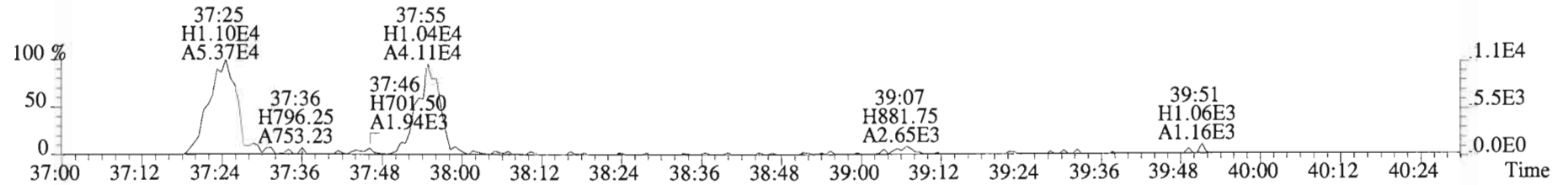
File:150427D1 #1-393 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
373.8207 S:10 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



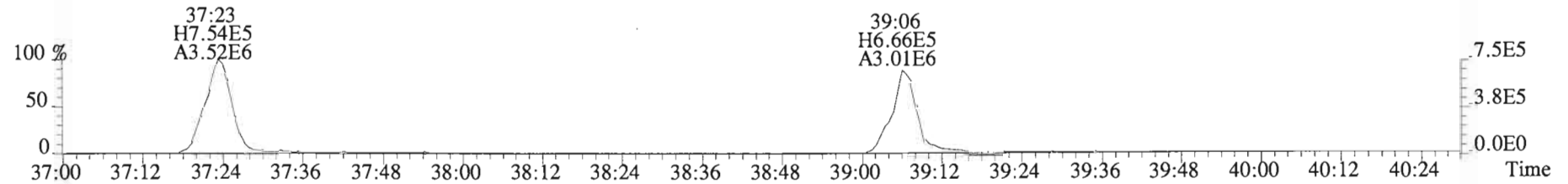
File:150427D1 #1-325 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
407.7818 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



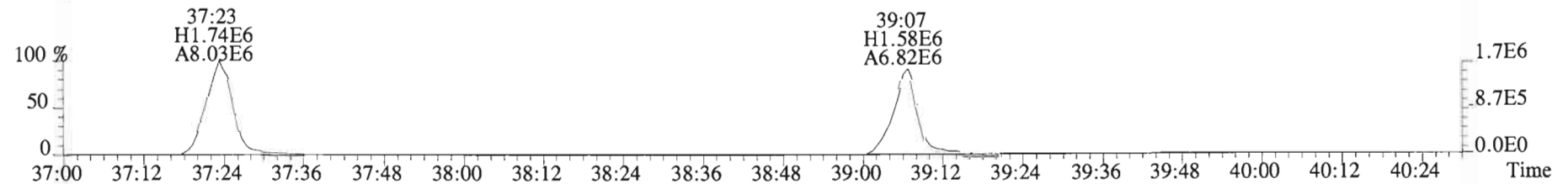
409.7788 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



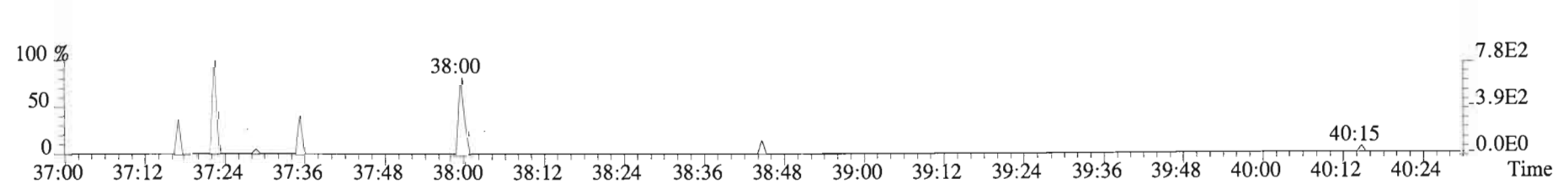
417.8253 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



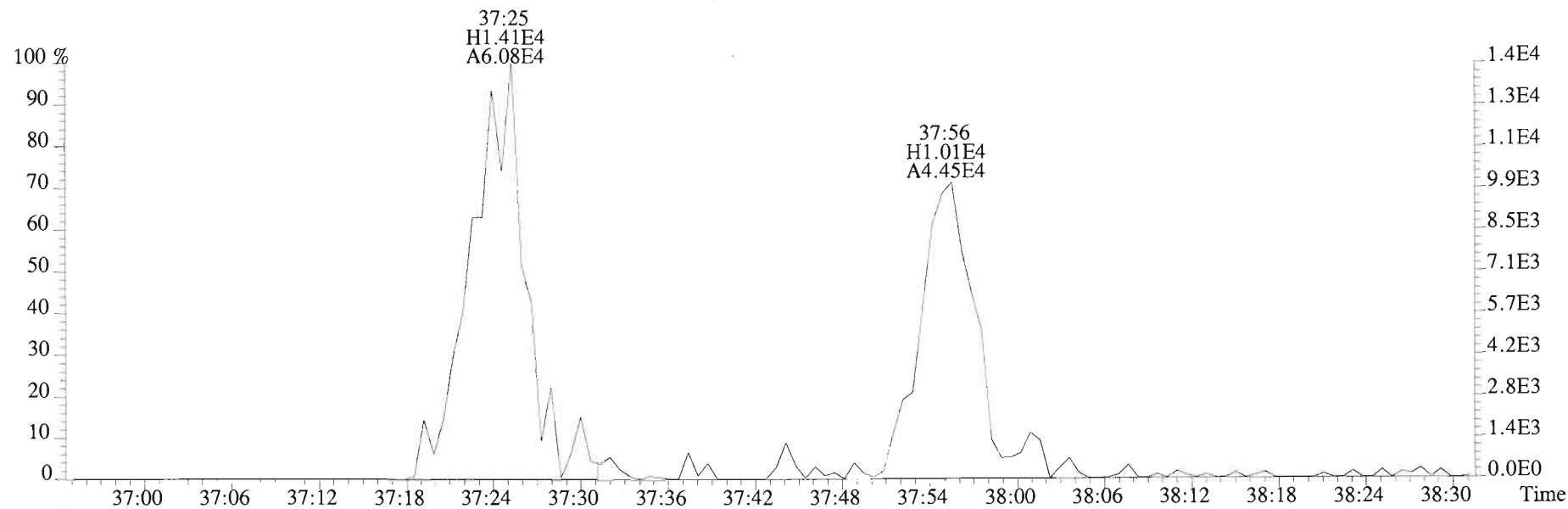
419.8220 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



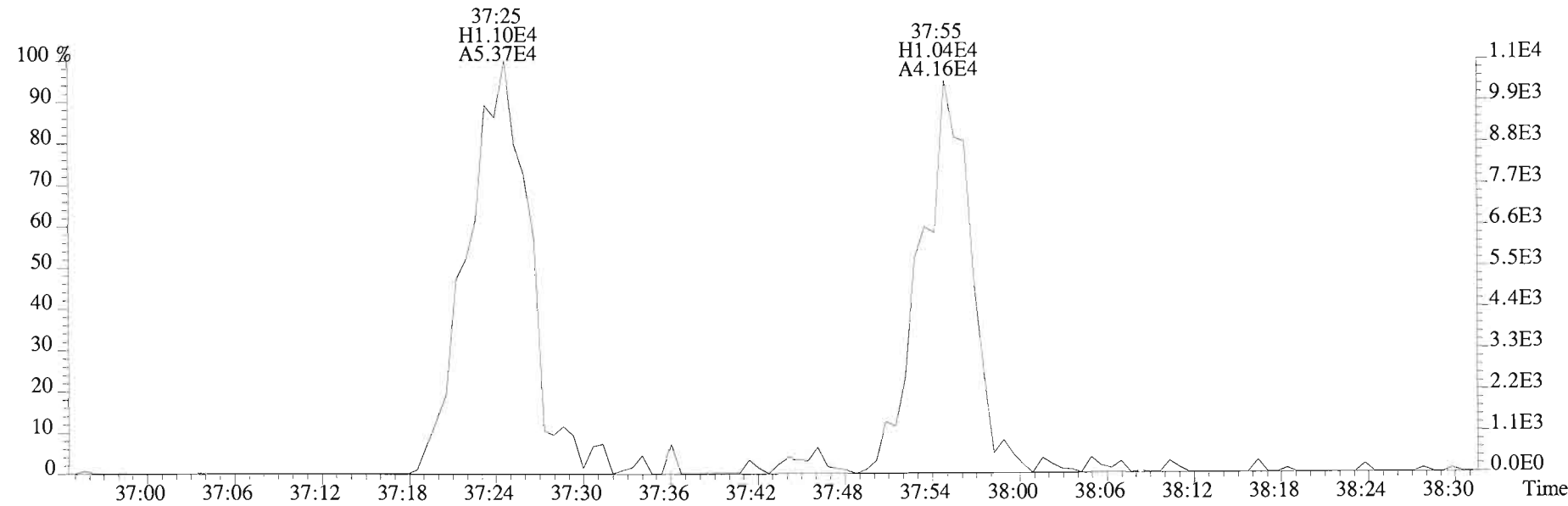
479.7165 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



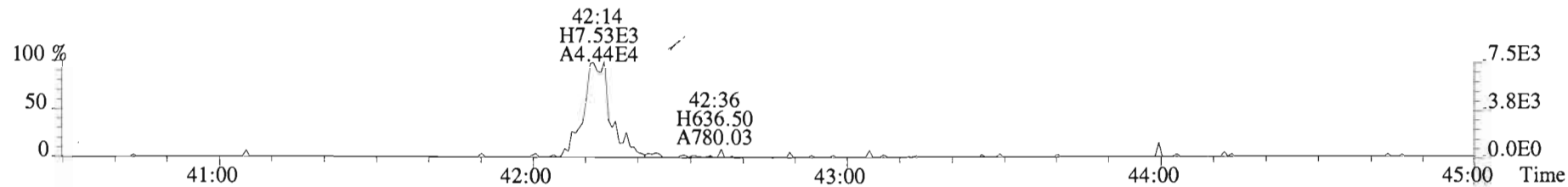
File:150427D1 #1-325 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text: Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
407.7818 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



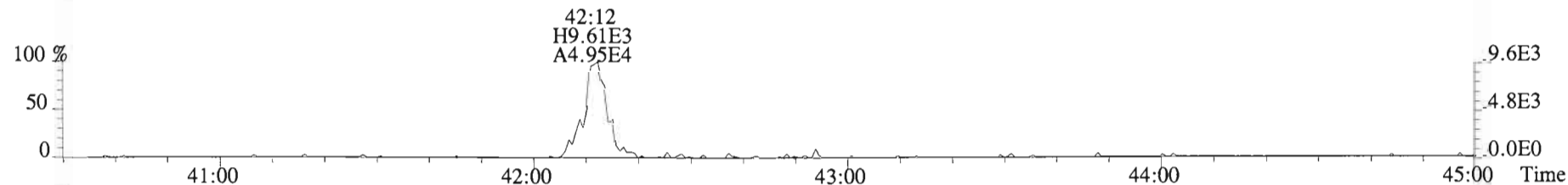
409.7788 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



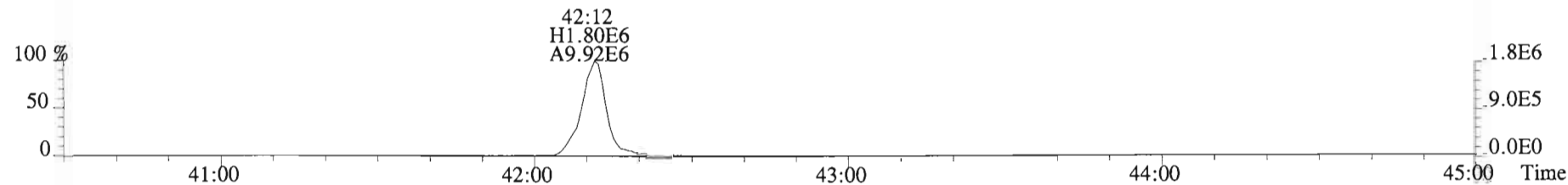
File:150427D1 #1-389 Acq:27-APR-2015 17:28:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory VG-7 Text:1500335-01 HC-SF-20150413-W 1.01364 Exp:OCDD_DB5
441.7428 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



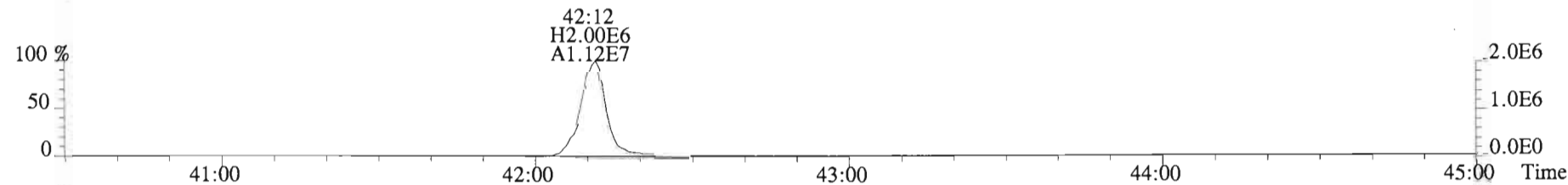
443.7398 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



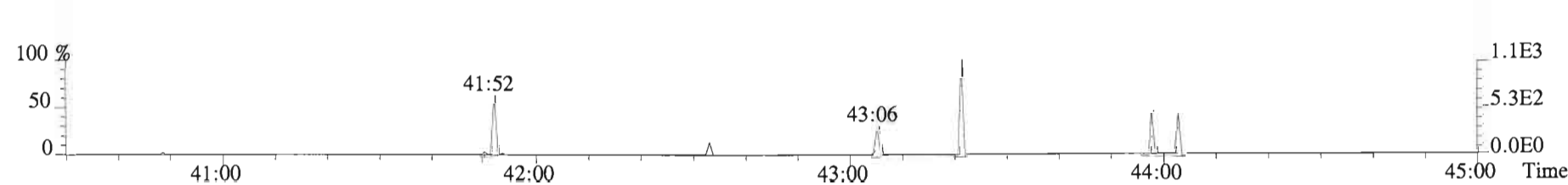
453.7831 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: HC-NF-10-20150413-W
Lab ID: 1500335-02

Filename: 150427D1 S:11 Acq:27-APR-15 18:16:04
GC Column ID: ZB-5MS ICal: 1613VG7-1-7-15

wt/vol: 1.017

ConCal: ST150427D1-1
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	* n	1.17	NotF η	*	*	*	546	2.5	0.829	Total Tetra-Dioxins	*	*		1020	1.56
1,2,3,7,8-PeCDD	*	* n	0.91	NotF η	*	*	*	918	2.5	1.50	Total Penta-Dioxins	*	*		918	1.50
1,2,3,4,7,8-HxCDD	*	* n	1.08	NotF η	*	*	*	1180	2.5	4.43	Total Hexa-Dioxins	7.53	11.2		*	*
1,2,3,6,7,8-HxCDD	*	* n	1.06	NotF η	*	*	*	2370	1.0	3.49	Total Hepta-Dioxins	111	111		*	*
1,2,3,7,8,9-HxCDD	*	* n	0.93	NotF η	*	*	*	1180	2.5	4.84	Total Tetra-Furans	*	*		773	0.928
1,2,3,4,6,7,8-HpCDD	3.53e+05	0.99 y	1.10	38:33	1.000	61.520	*	*	2.5	*	Total Penta-Furans	1.7572	4.7856		*	*
OCDD	2.03e+06	0.86 y	0.95	41:58	1.000	480.49	*	*	2.5	*	Total Hexa-Furans	16.2	16.8		*	*
											Total Hepta-Furans	28.0	28.0		*	*
2,3,7,8-TCDF	*	* n	1.07	NotF η	*	*	*	773	2.5	0.928						
1,2,3,7,8-PeCDF	*	* n	1.07	NotF η	*	*	*	733	2.5	1.25						
2,3,4,7,8-PeCDF	*	* n	1.03	NotF η	*	*	*	733	2.5	1.19						
1,2,3,4,7,8-HxCDF	1.27e+04	1.31 y	1.38	33:47	1.000	1.1426	*	*	2.5	*						
1,2,3,6,7,8-HxCDF	7.13e+03	0.97 n	1.26	33:56	1.000	0.60132	*	*	2.5	*						
2,3,4,6,7,8-HxCDF	*	* n	1.29	NotF η	*	*	*	799	1.0	0.444						
1,2,3,7,8,9-HxCDF	*	* n	1.19	NotF η	*	*	*	657	1.0	0.546						
1,2,3,4,6,7,8-HpCDF	1.11e+05	1.04 y	1.61	37:24	1.000	11.266	*	*	2.5	*						
1,2,3,4,7,8,9-HpCDF	*	* n	1.53	NotF η	*	*	*	636	2.5	1.40						
OCDF	1.07e+05	0.88 y	1.10	42:12	1.000	17.981	*	*	2.5	*						
IS	13C-2,3,7,8-TCDD	1.78e+07	0.79 y	1.06	27:00	1.020	1662.3				Rec	Qual				
IS	13C-1,2,3,7,8-PeCDD	1.66e+07	0.62 y	1.18	31:21	1.185	1401.2				84.5					
IS	13C-1,2,3,4,7,8-HxCDD	1.14e+07	1.25 y	0.72	34:42	1.014	1430.4				71.3					
IS	13C-1,2,3,6,7,8-HxCDD	1.26e+07	1.25 y	0.74	34:49	1.018	1543.2				72.7					
IS	13C-1,2,3,7,8,9-HxCDD	1.36e+07	1.24 y	0.85	35:07	1.027	1440.7				78.5					
IS	13C-1,2,3,4,6,7,8-HpCDD	1.02e+07	1.11 y	0.65	38:33	1.126	1414.4				73.3					
IS	13C-OCDD	1.75e+07	0.88 y	0.76	41:57	1.226	2076.5				71.9					
IS	13C-2,3,7,8-TCDF	2.57e+07	0.77 y	0.92	26:16	0.993	1752.5				52.8					
IS	13C-1,2,3,7,8-PeCDF	2.20e+07	1.60 y	0.92	30:12	1.142	1495.5				89.1					
IS	13C-2,3,4,7,8-PeCDF	2.32e+07	1.57 y	0.93	31:04	1.174	1556.0				76.1					
IS	13C-1,2,3,4,7,8-HxCDF	1.58e+07	0.53 y	0.98	33:47	0.988	1454.5				79.1					
IS	13C-1,2,3,6,7,8-HxCDF	1.85e+07	0.50 y	1.08	33:55	0.991	1549.0				74.0					
IS	13C-2,3,4,6,7,8-HxCDF	1.68e+07	0.51 y	1.03	34:32	1.009	1478.8				78.8					
IS	13C-1,2,3,7,8,9-HxCDF	1.40e+07	0.50 y	0.86	35:32	1.038	1474.5				75.2					
IS	13C-1,2,3,4,6,7,8-HpCDF	1.20e+07	0.45 y	0.72	37:23	1.093	1501.1				75.0					
IS	13C-1,2,3,4,7,8,9-HpCDF	1.02e+07	0.44 y	0.70	39:07	1.143	1320.2				76.3					
IS	13C-OCDF	2.13e+07	0.90 y	0.85	42:11	1.233	2272.1				67.1					
C/Up	37C1-2,3,7,8-TCDD	1.01e+07		1.12	27:01	1.021	896.47				57.8					
RS/RT	13C-1,2,3,4-TCDD	1.98e+07	0.80 y	1.00	26:28	*	1966.2				114					
RS	13C-1,2,3,4-TCDF	3.14e+07	0.77 y	1.00	25:07	*	1966.2									
RS/RT	13C-1,2,3,4,6,9-HxCDF	2.17e+07	0.52 y	1.00	34:13	*	1966.2									

Integrations
by
Analyst: MI
Date: 4/29/15
Reviewed
by
Analyst: [Signature]
Date: 4/28/15

Totals class: HxCDD EMPC

Entry #: 23

Run: 16 File: 150427D1 S: 11 I: 1 F: 3
Acquired: 27-APR-15 18:16:04 Processed: 28-APR-15 08:31:40

Total Concentration: 11.192 Unnamed Concentration: 11.192

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
33:07	1.315e+04	1.309e+04	1.01 n	2.376e+04	3.6622
33:58	2.783e+04	2.103e+04	1.32 y	4.885e+04	7.5302

Totals class: HpcDD EMPC

Entry #: 25

Run: 16 File: 150427D1 S: 11 I: 1 F: 4
Acquired: 27-APR-15 18:16:04 Processed: 28-APR-15 08:31:40

Total Concentration: 111.44 Unnamed Concentration: 49.924

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
37:44	1.450e+05	1.416e+05	1.02 y	2.866e+05	49.924
38:33	1.756e+05	1.775e+05	0.99 y	3.532e+05	61.520 1,2,3,4,6,7,8-HpCDD

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 16 File: 150427D1 S: 11 I: 1 F: 1
Acquired: 27-APR-15 18:16:04 Processed: 28-APR-15 08:31:40

Total Concentration: 3.0284 Unnamed Concentration: 3.028

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:55	2.229e+04	1.727e+04	1.29 n	3.667e+04	3.0284

Totals class: PeCDF EMPC

Entry #: 31

Run: 16

File: 150427D1

S: 11 I: 1 F: 2

Acquired: 27-APR-15 18:16:04

Processed: 28-APR-15 08:31:40

Total Concentration: 1.7572

Unnamed Concentration: 1.757

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
29:17	1.311e+04	8.163e+03	1.61 y	2.128e+04	1.7572

Totals class: HxCDF EMPC

Entry #: 33

Run: 16 File: 150427D1 S: 11 I: 1 F: 3
Acquired: 27-APR-15 18:16:04 Processed: 28-APR-15 08:31:40

Total Concentration: 16.800 Unnamed Concentration: 15.056

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:35	1.349e+04	1.172e+04	1.15 y	2.521e+04	2.3757
32:45	4.105e+04	3.008e+04	1.36 y	7.112e+04	6.7035
33:18	3.554e+04	2.788e+04	1.27 y	6.341e+04	5.9772
33:47	7.186e+03	5.500e+03	1.31 y	1.269e+04	1.1426 1,2,3,4,7,8-HxCDF
33:56	3.947e+03	4.050e+03	0.97 n	7.130e+03	0.60132 1,2,3,6,7,8-HxCDF

Totals class: HpCDF EMPC

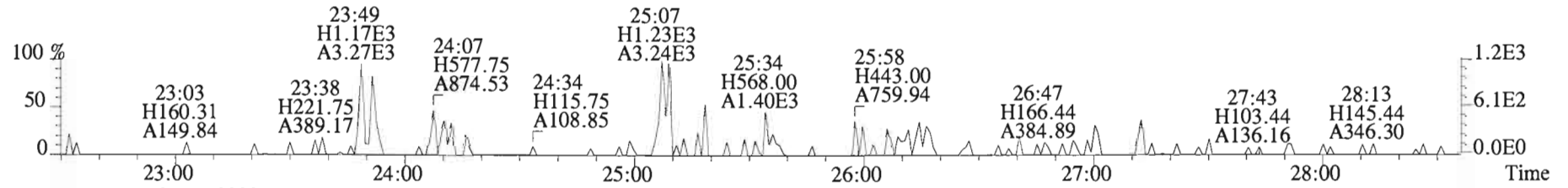
Entry #: 35

Run: 16 File: 150427D1 S: 11 I: 1 F: 4
Acquired: 27-APR-15 18:16:04 Processed: 28-APR-15 08:31:40

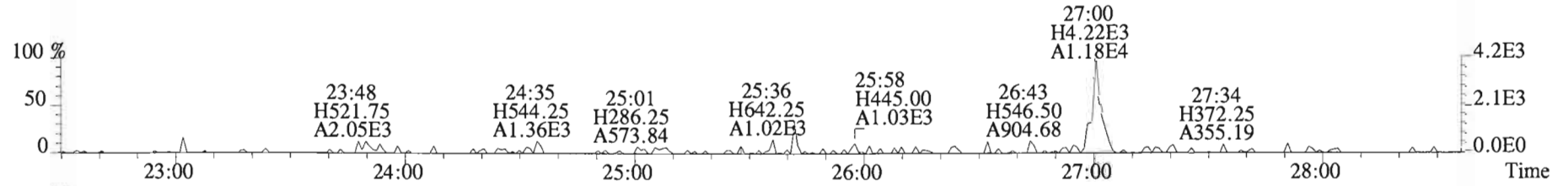
Total Concentration: 28.026 Unnamed Concentration: 16.760

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
37:24	5.648e+04	5.413e+04	1.04 y	1.106e+05	11.266	1,2,3,4,6,7,8-HpCDF
37:55	7.376e+04	7.438e+04	0.99 y	1.481e+05	16.760	

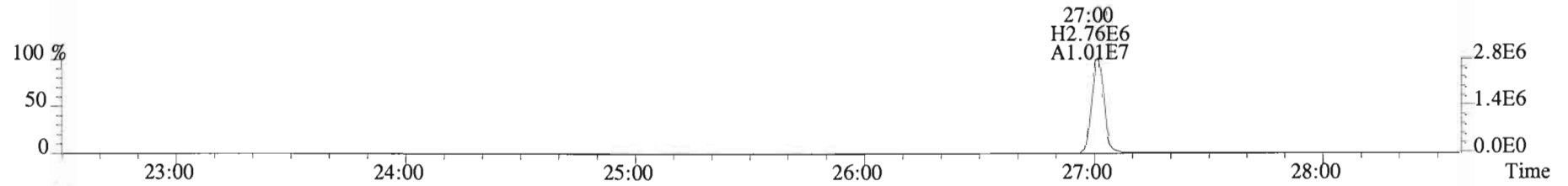
File:150427D1 #1-551 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
319.8965 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



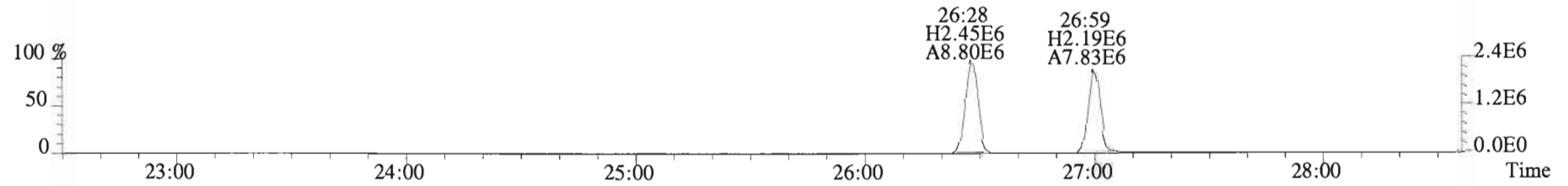
321.8936 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



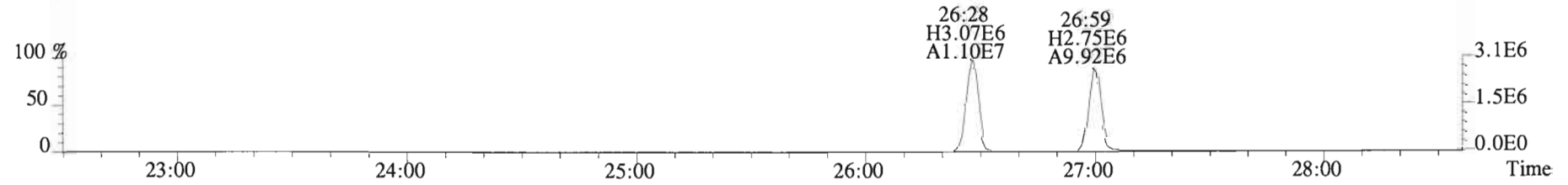
327.8847 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



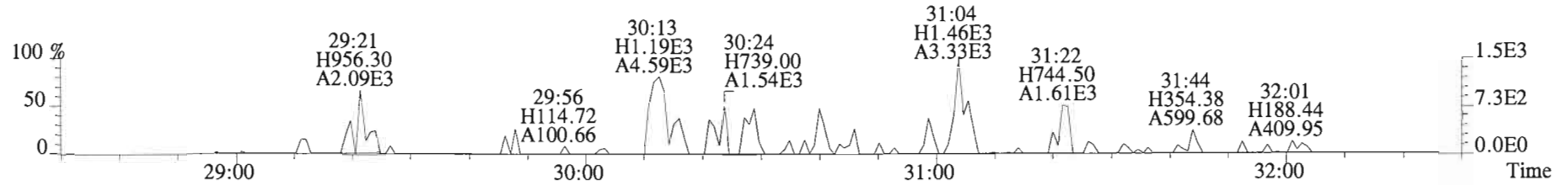
331.9368 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



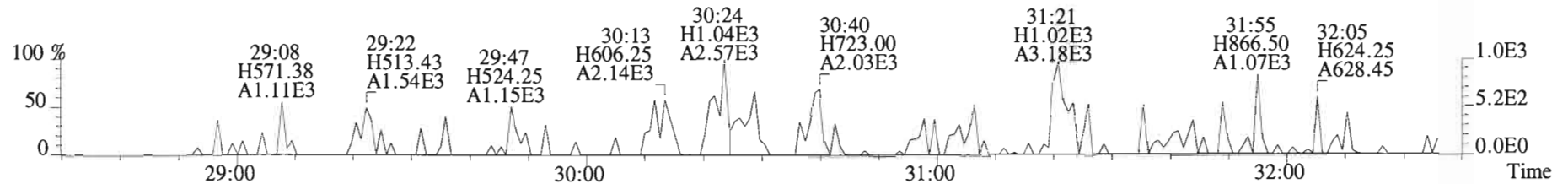
333.9339 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



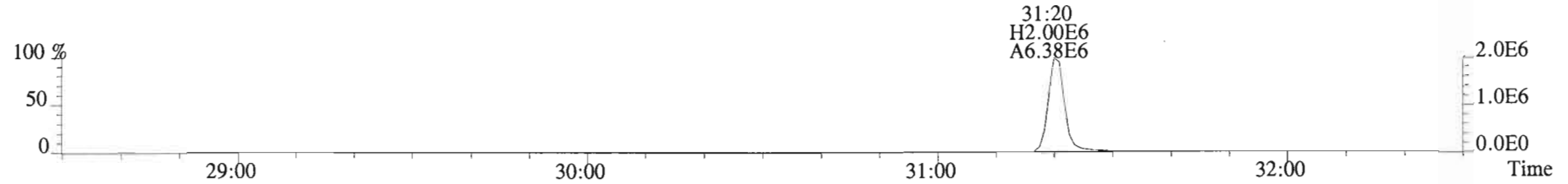
File:150427D1 #1-251 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



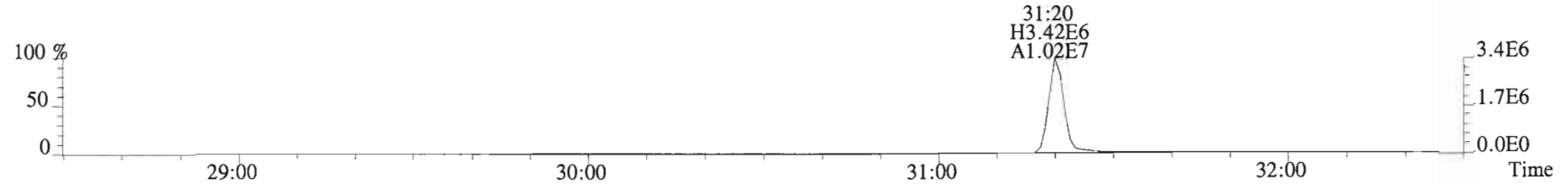
355.8546 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



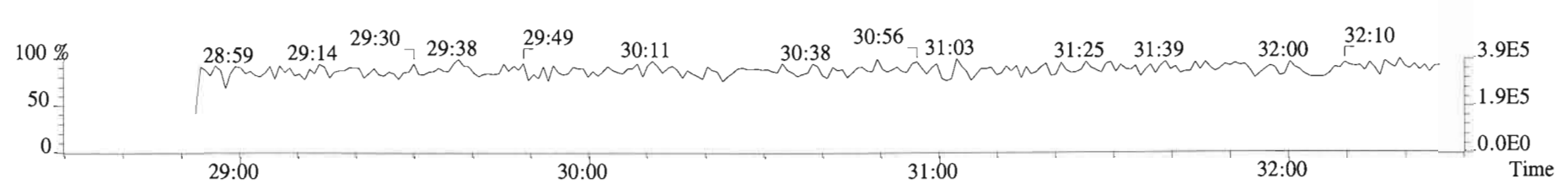
365.8978 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



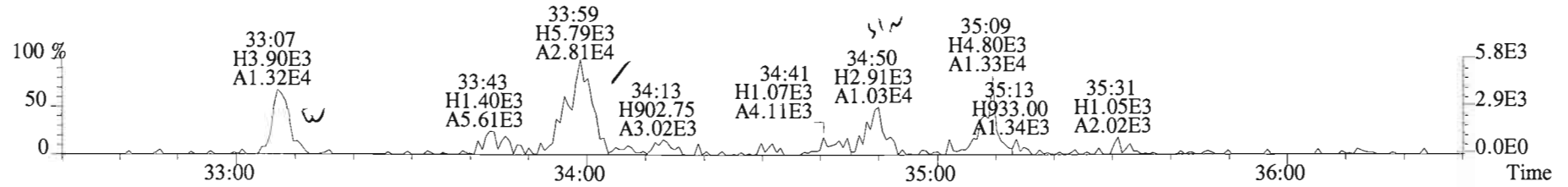
367.8949 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



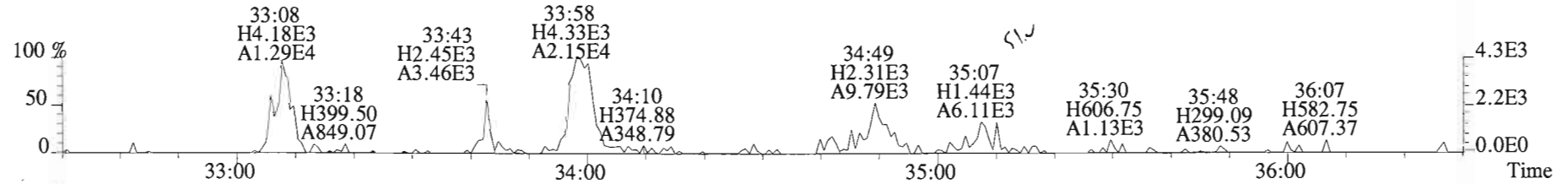
366.9792 S:11 F:2



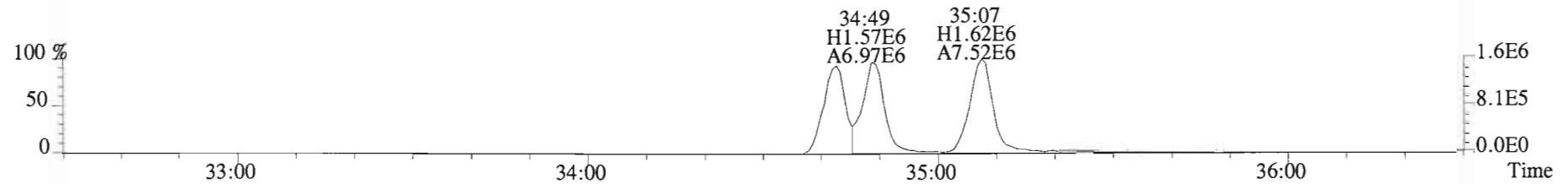
File:150427D1 #1-392 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
 389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



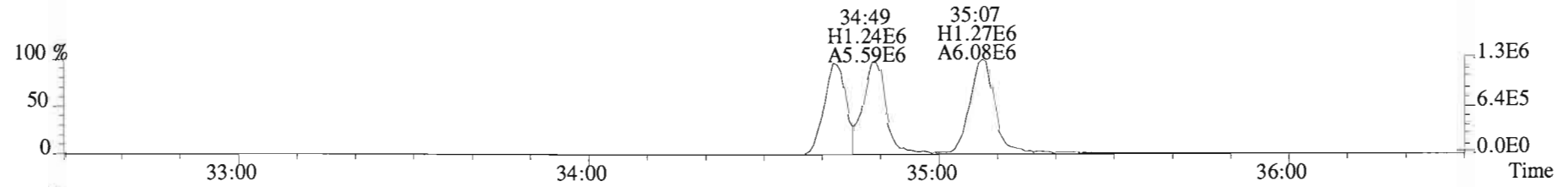
391.8127 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



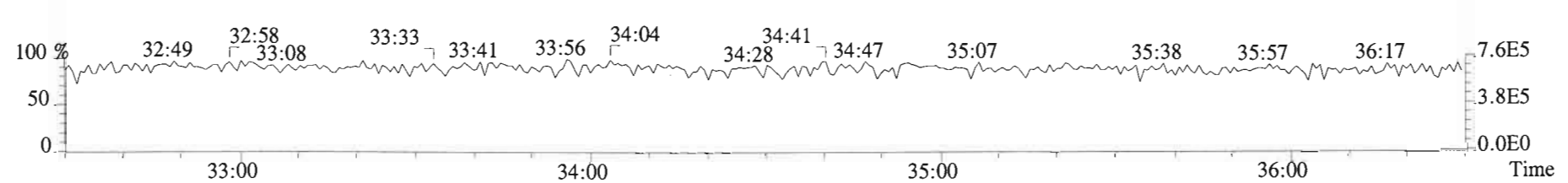
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



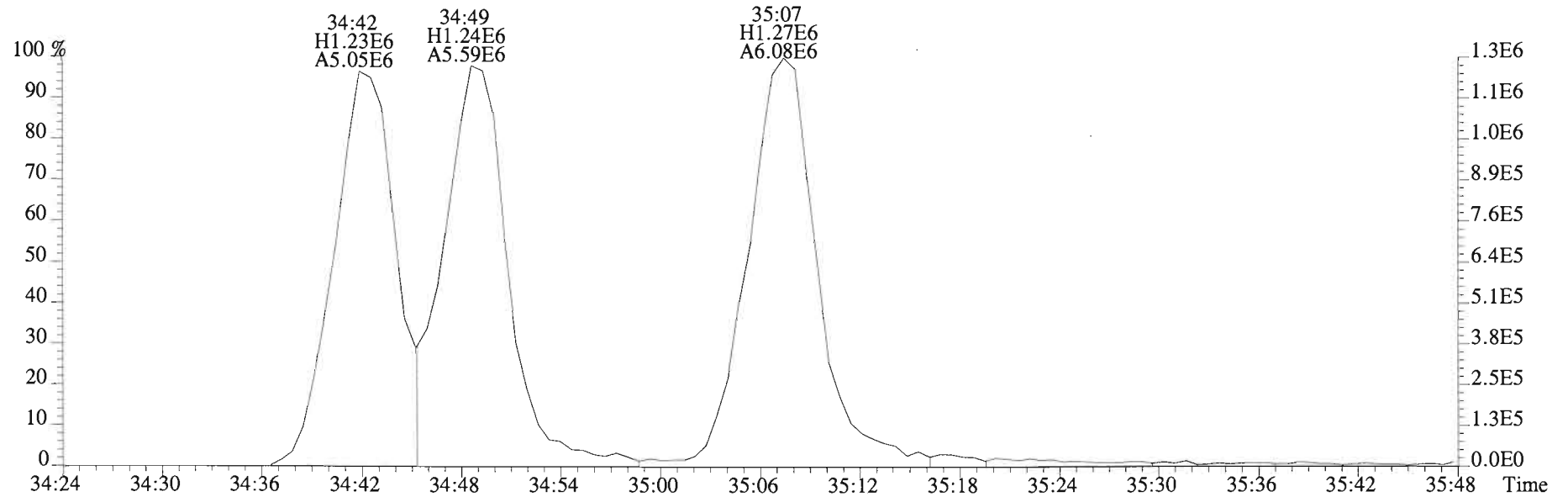
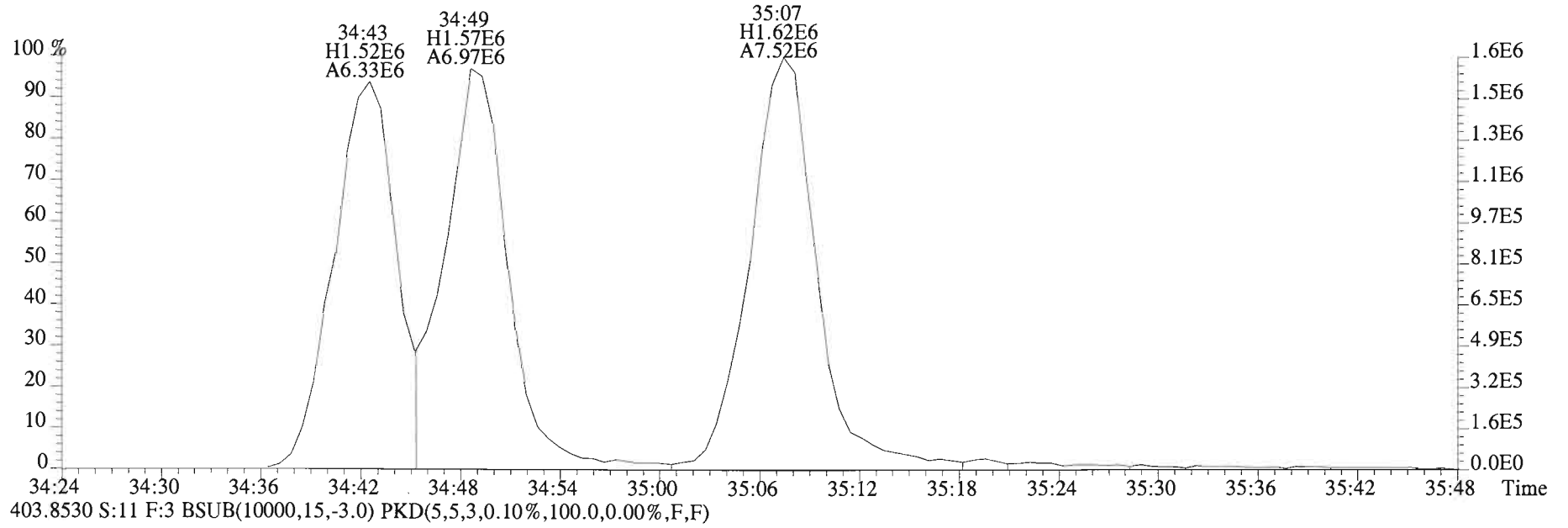
403.8530 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



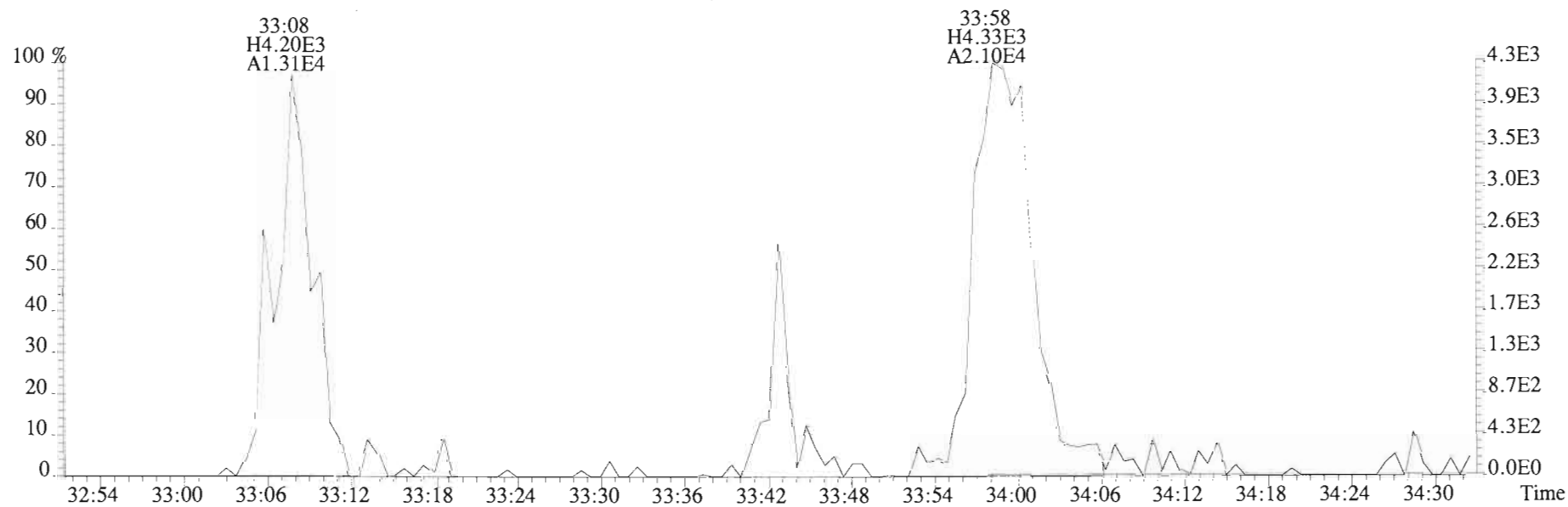
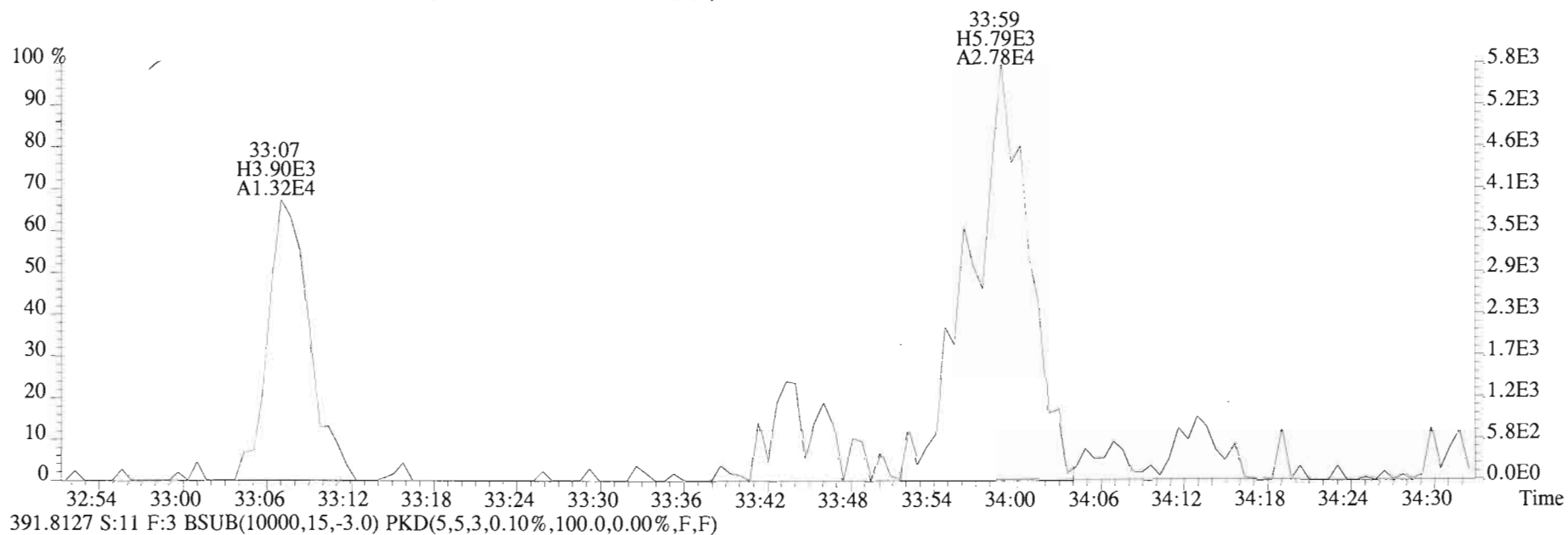
380.9760 S:11 F:3



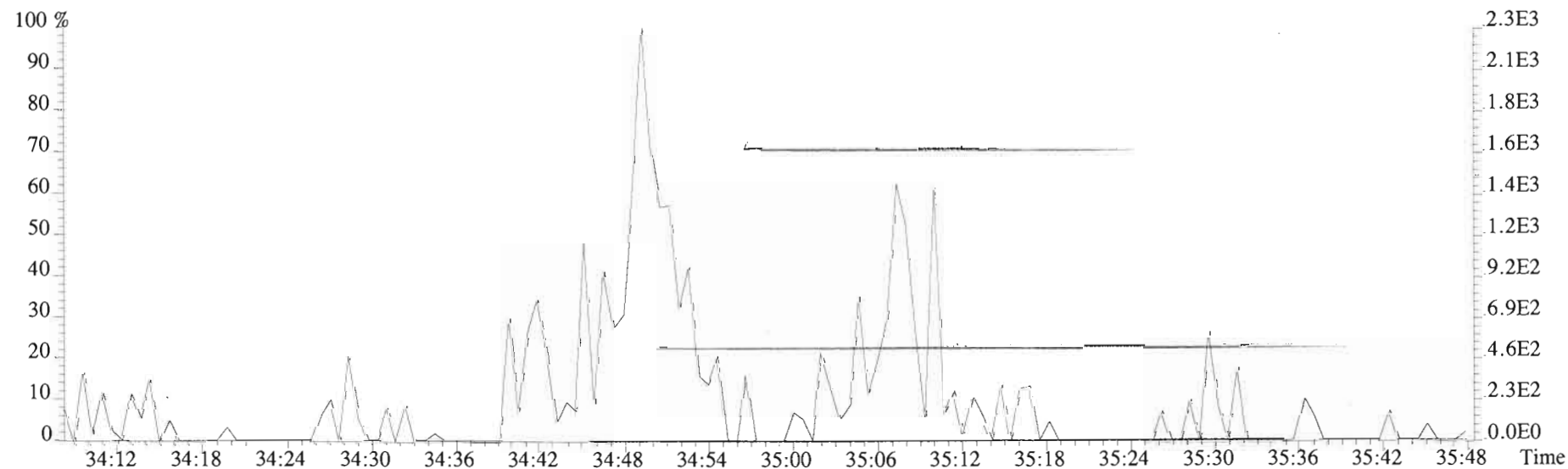
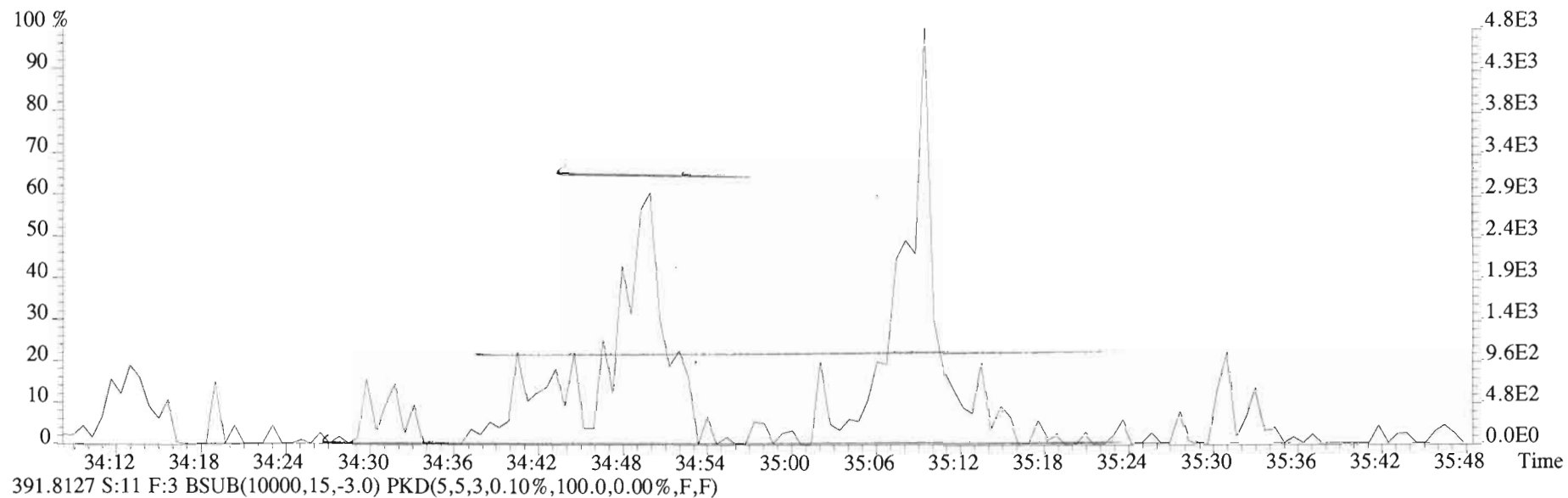
File:150427D1 #1-392 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



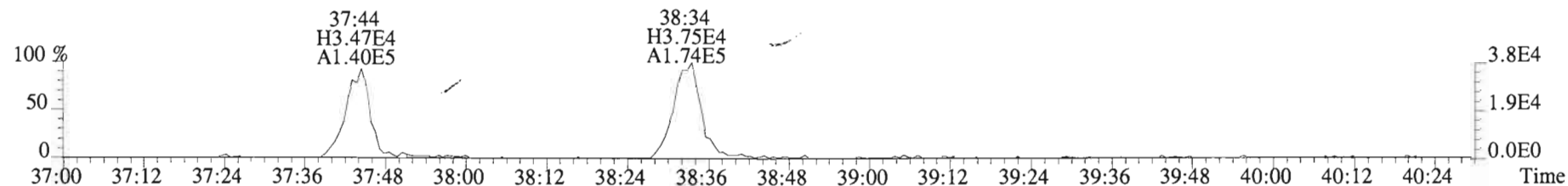
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Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



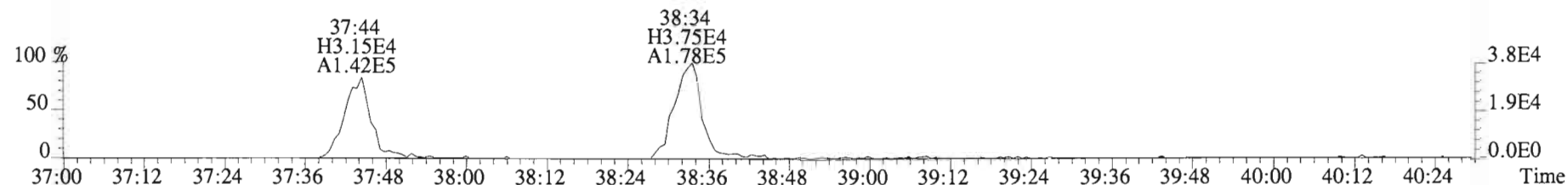
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Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
389.8156 S:11 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



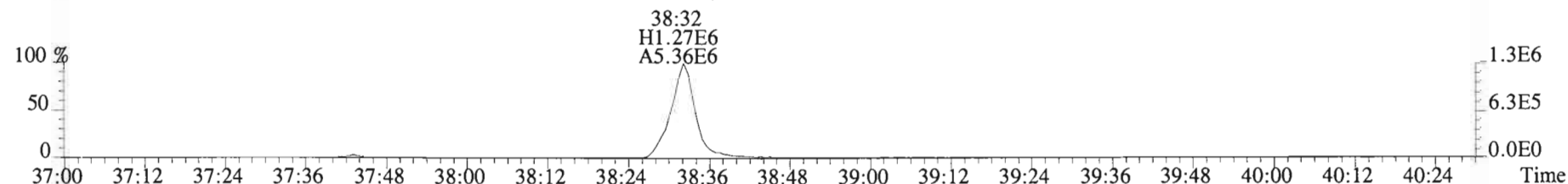
File:150427D1 #1-326 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



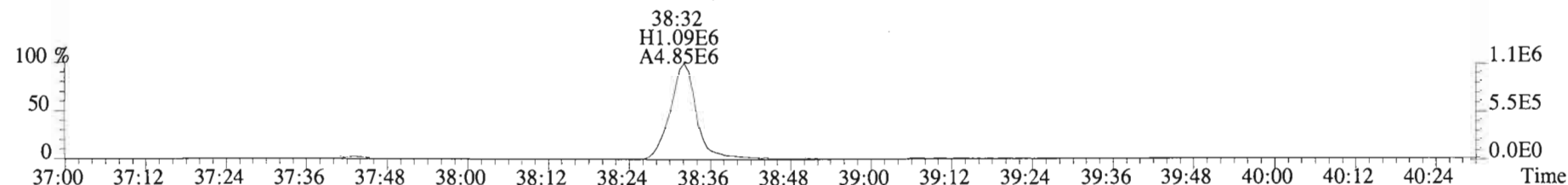
425.7737 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



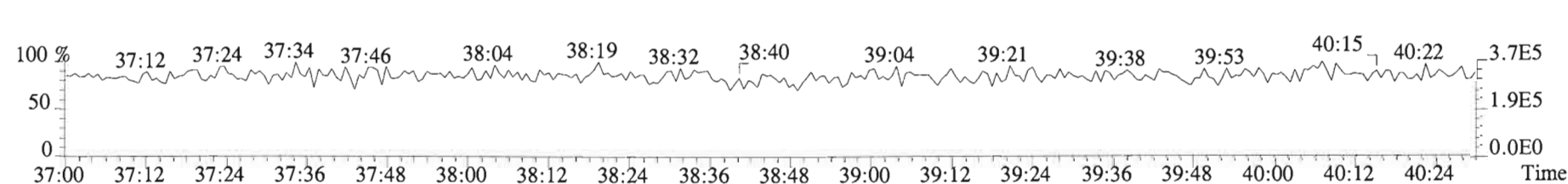
435.8169 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



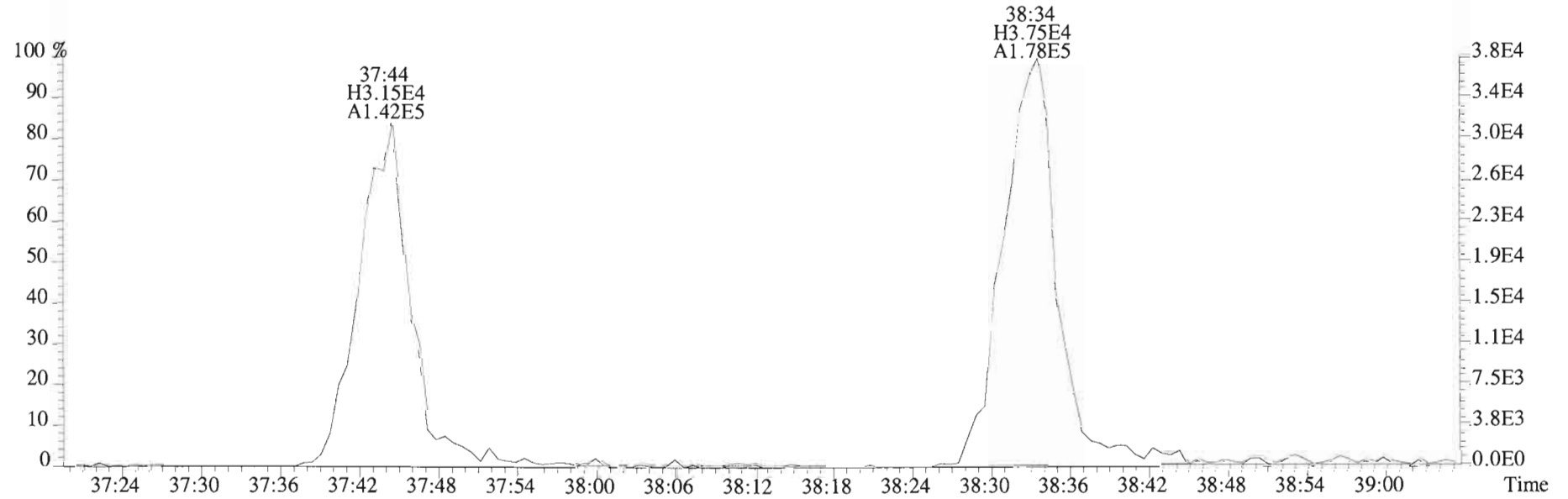
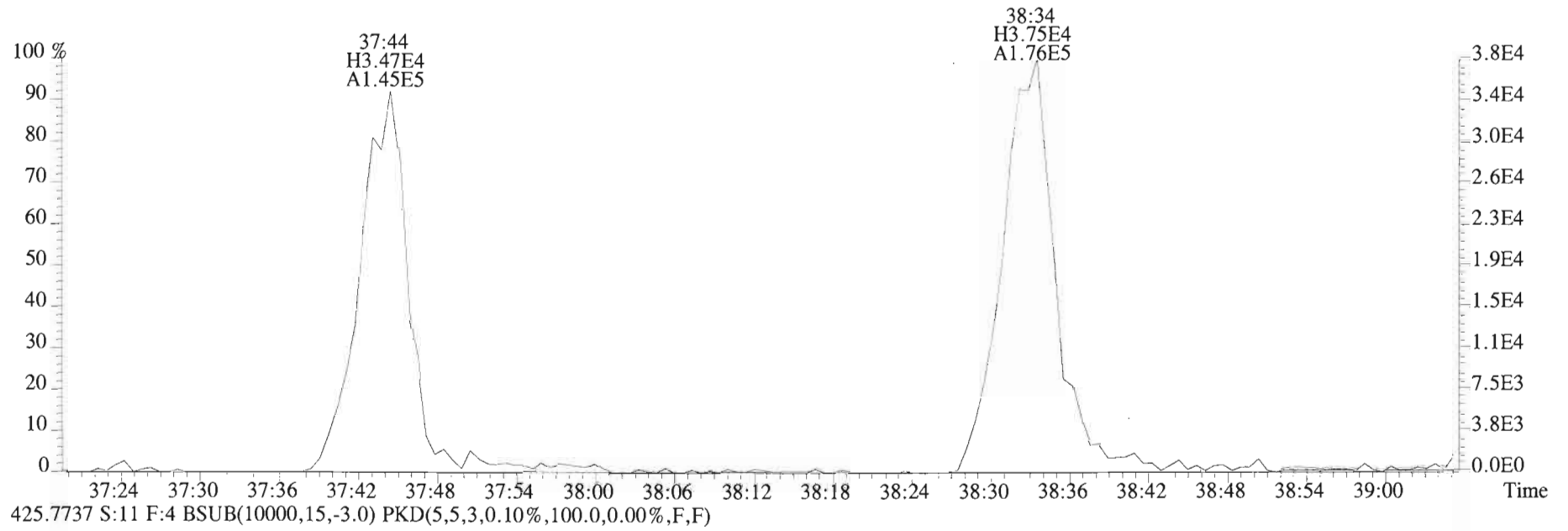
437.8140 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



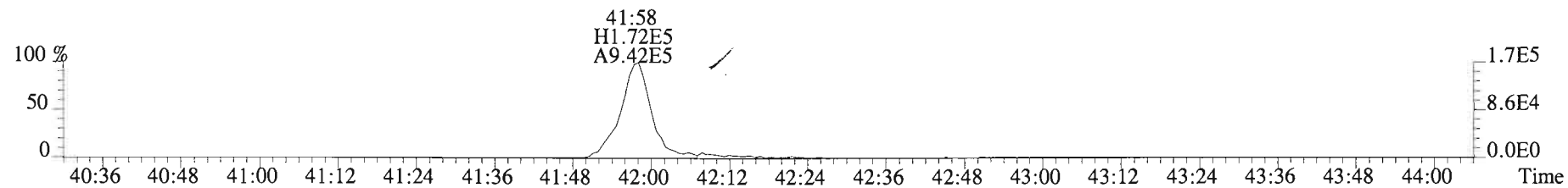
430.9728 S:11 F:4



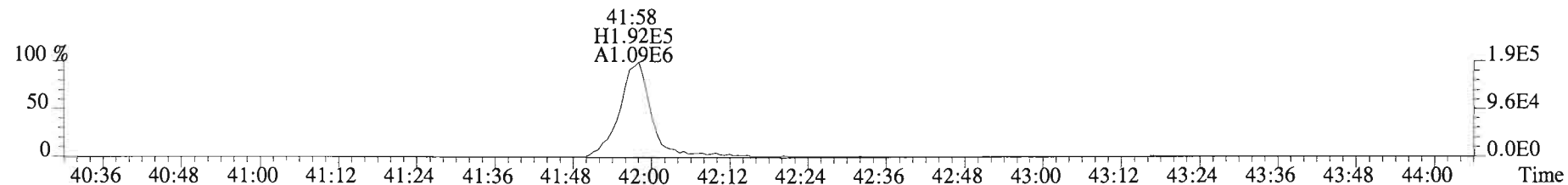
File:150427D1 #1-326 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text: Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



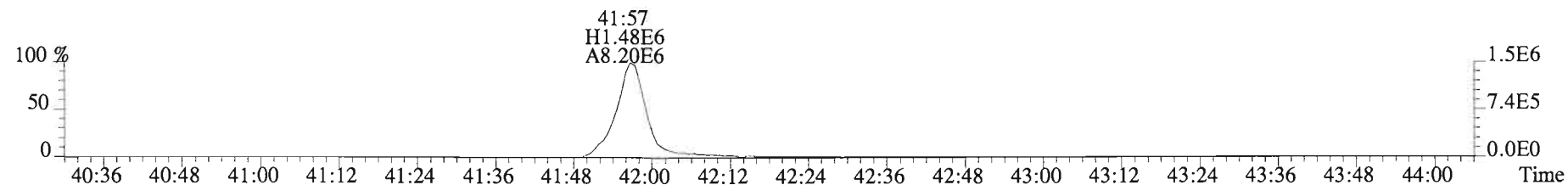
File:150427D1 #1-388 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
457.7377 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



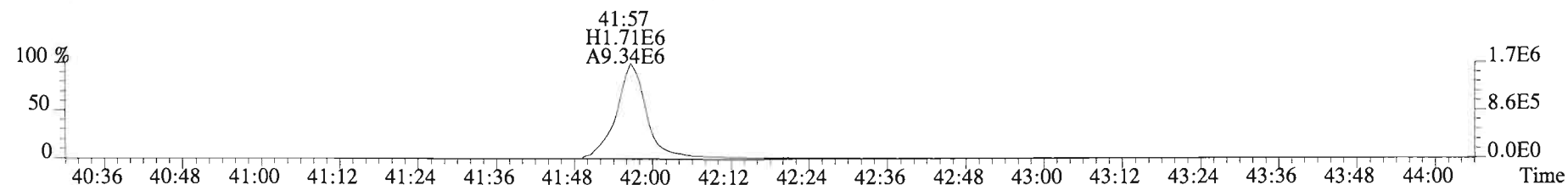
459.7348 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



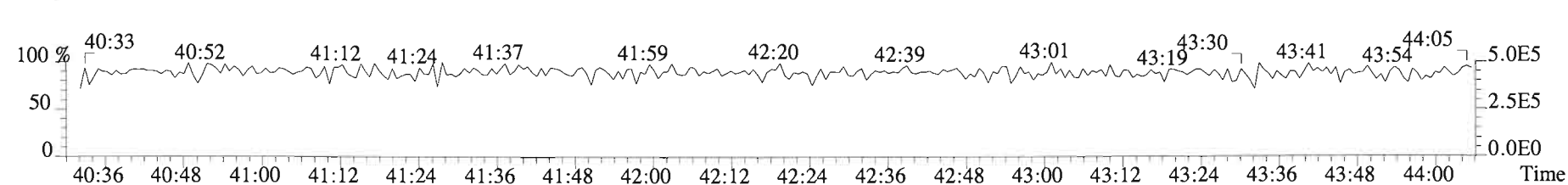
469.7780 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



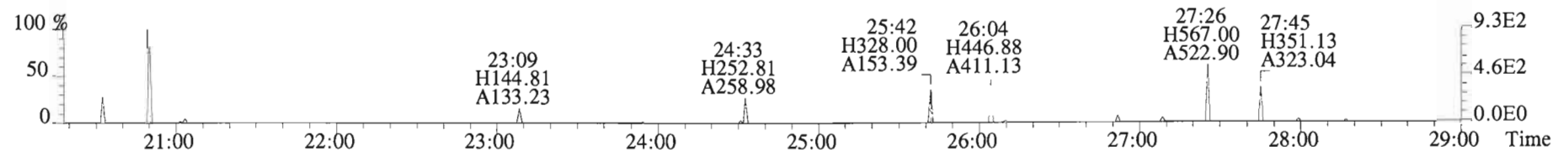
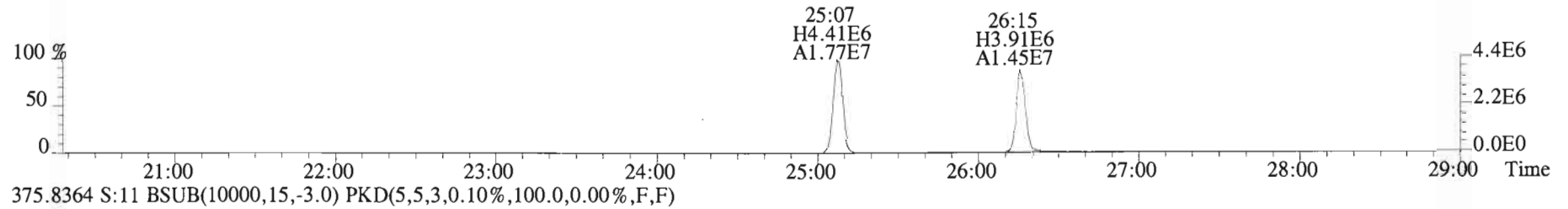
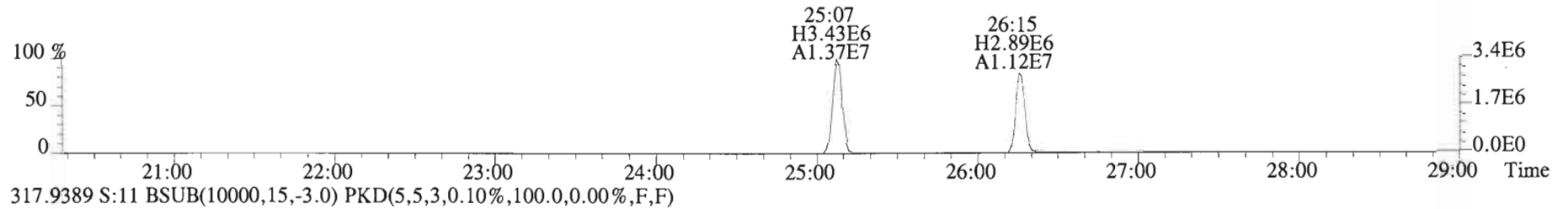
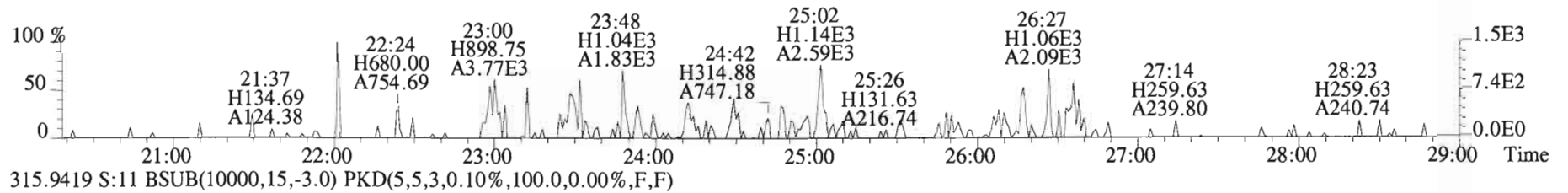
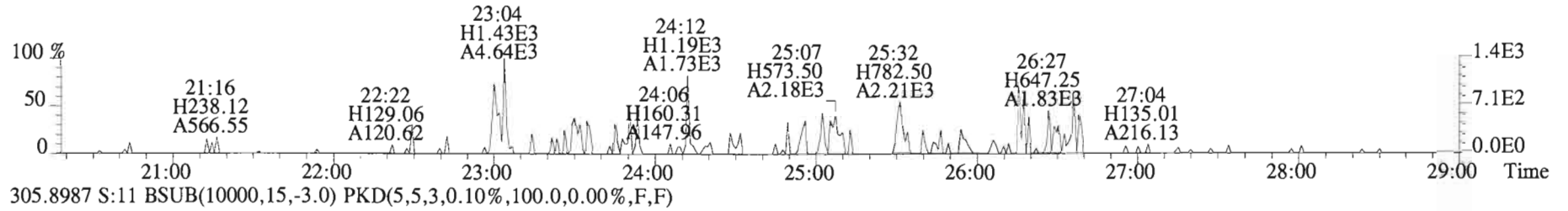
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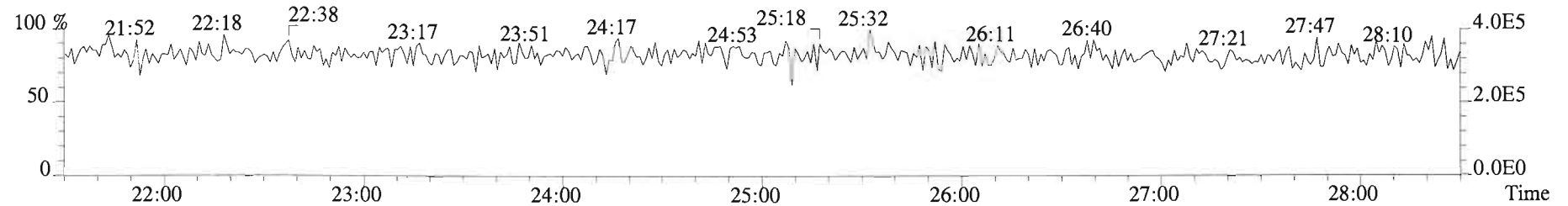
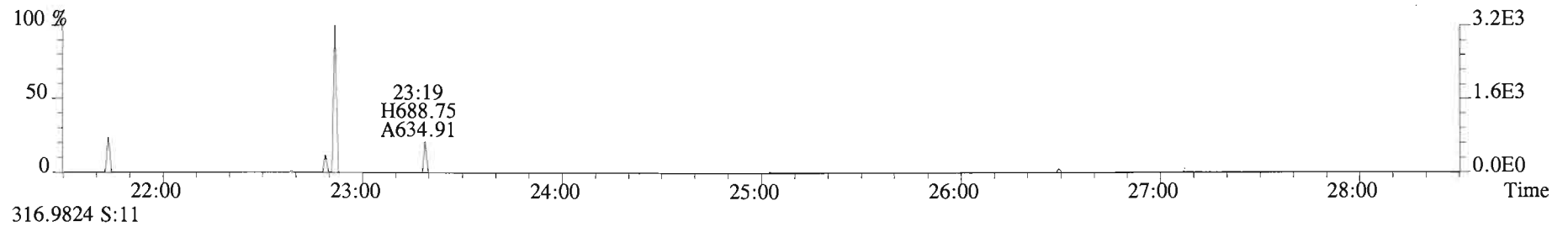
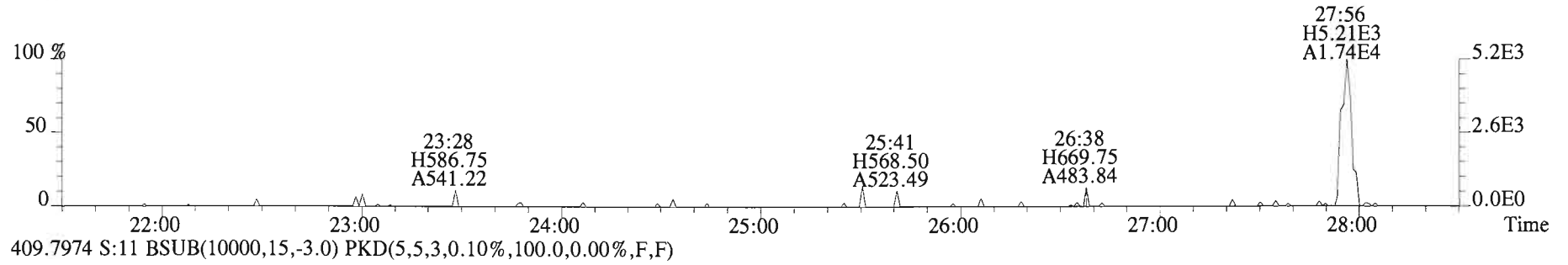
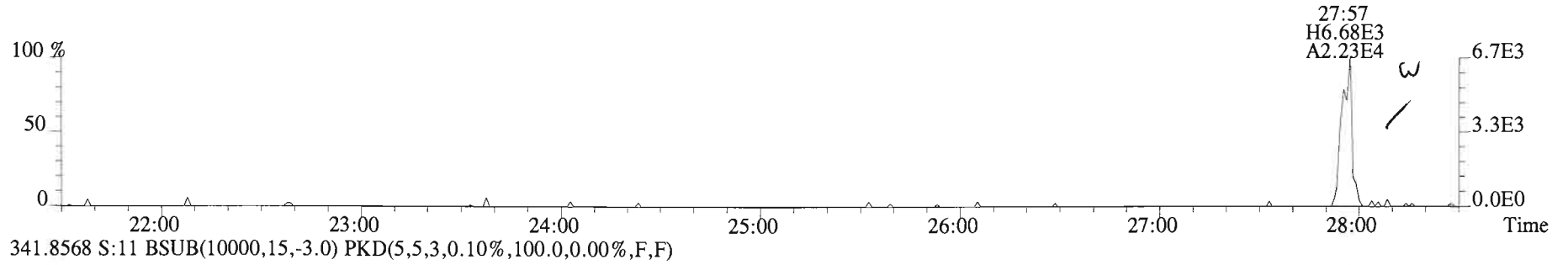
454.9728 S:11 F:5



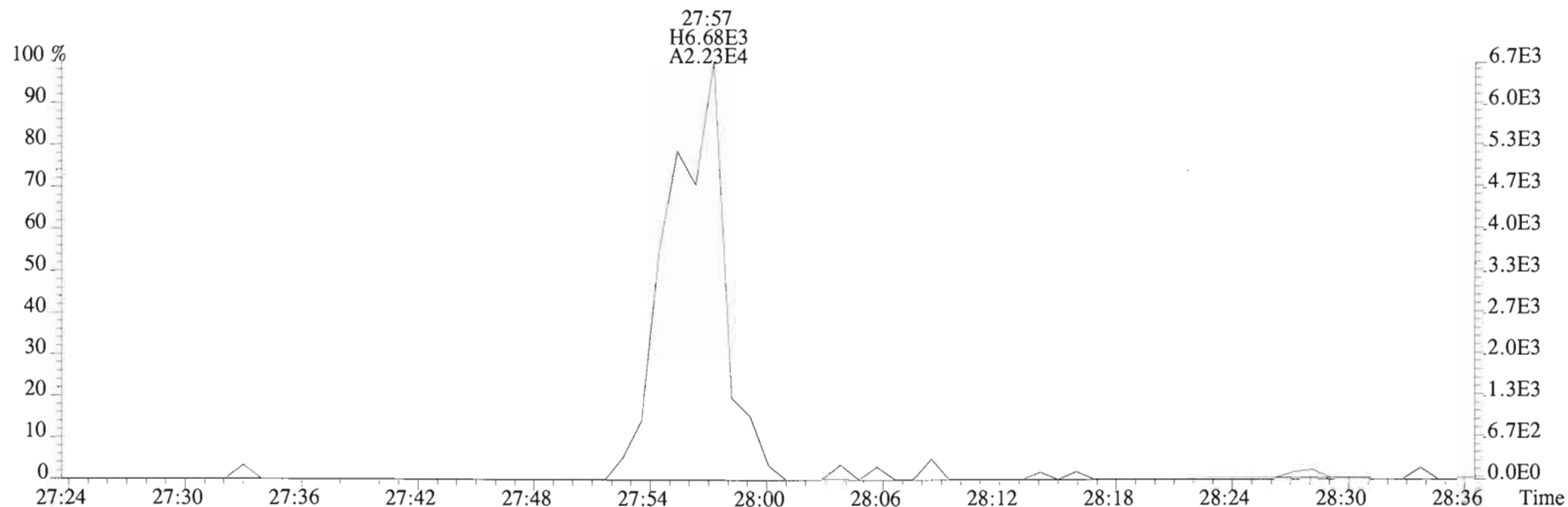
File:150427D1 #1-551 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



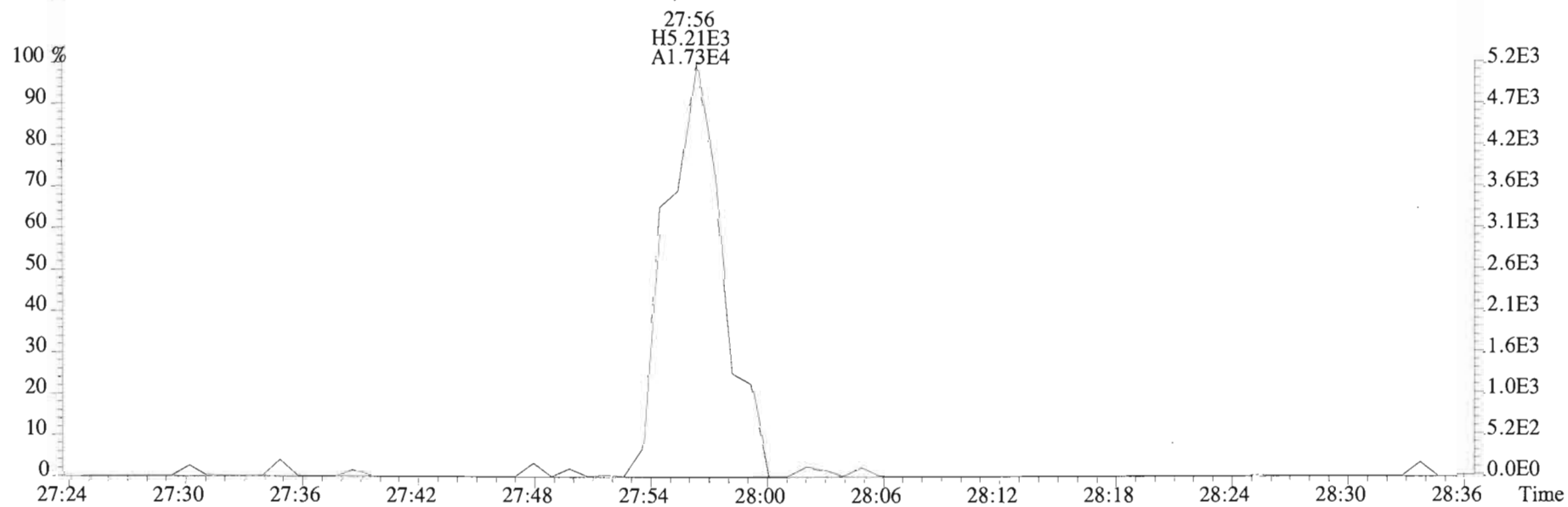
File:150427D1 #1-551 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text: Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
339.8597 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



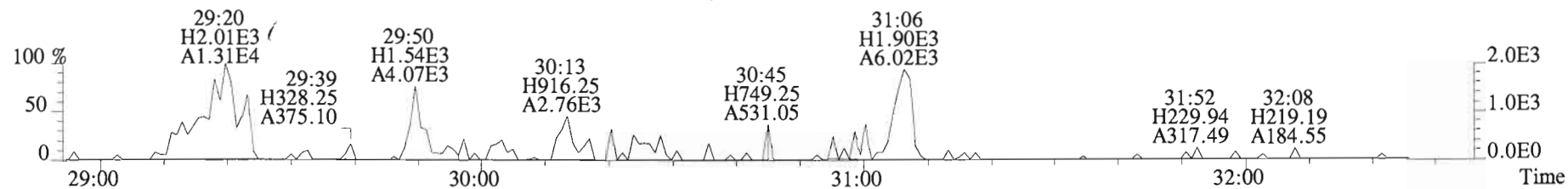
File:150427D1 #1-551 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
339.8597 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



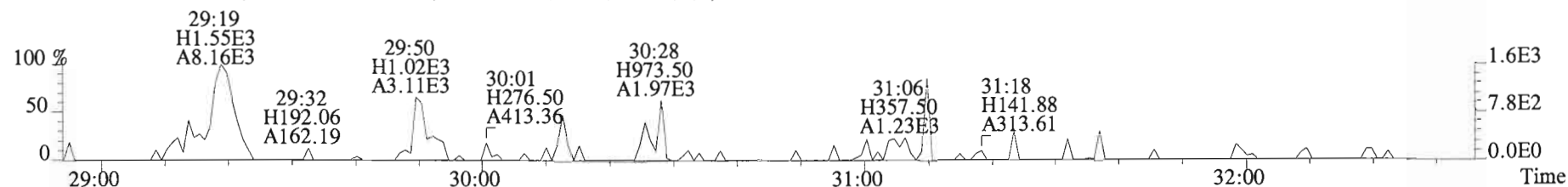
341.8568 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



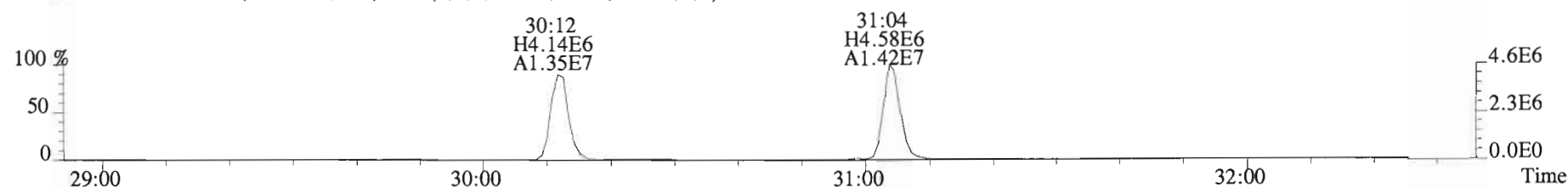
File:150427D1 #1-251 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
339.8597 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



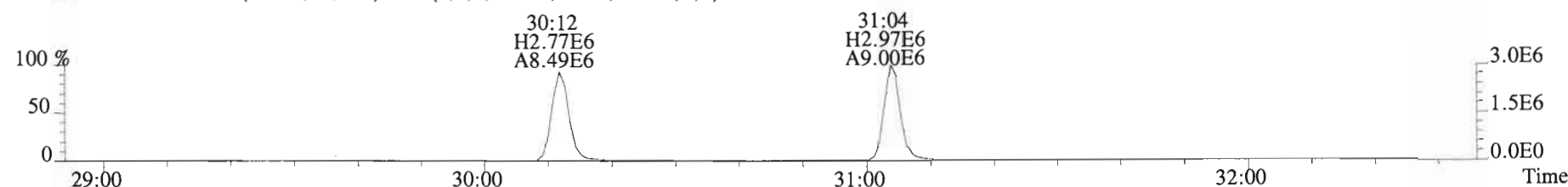
341.8568 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



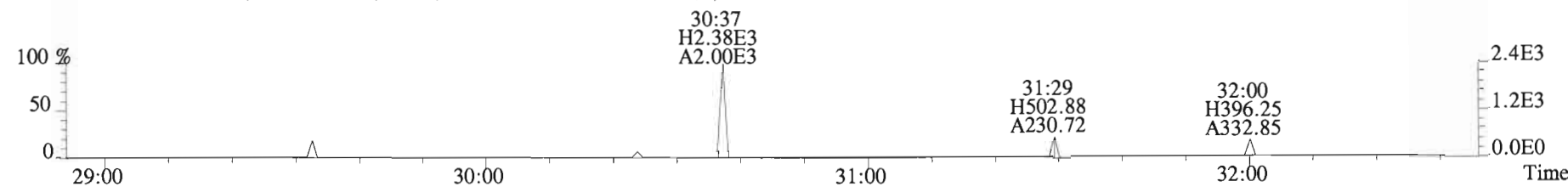
351.9000 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



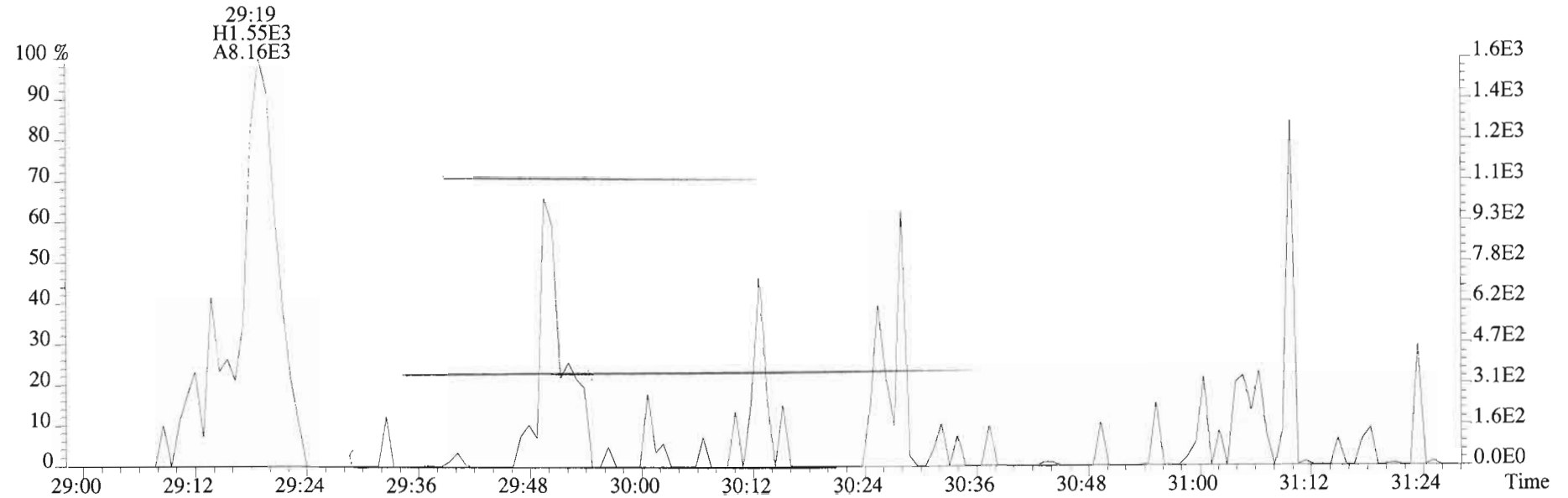
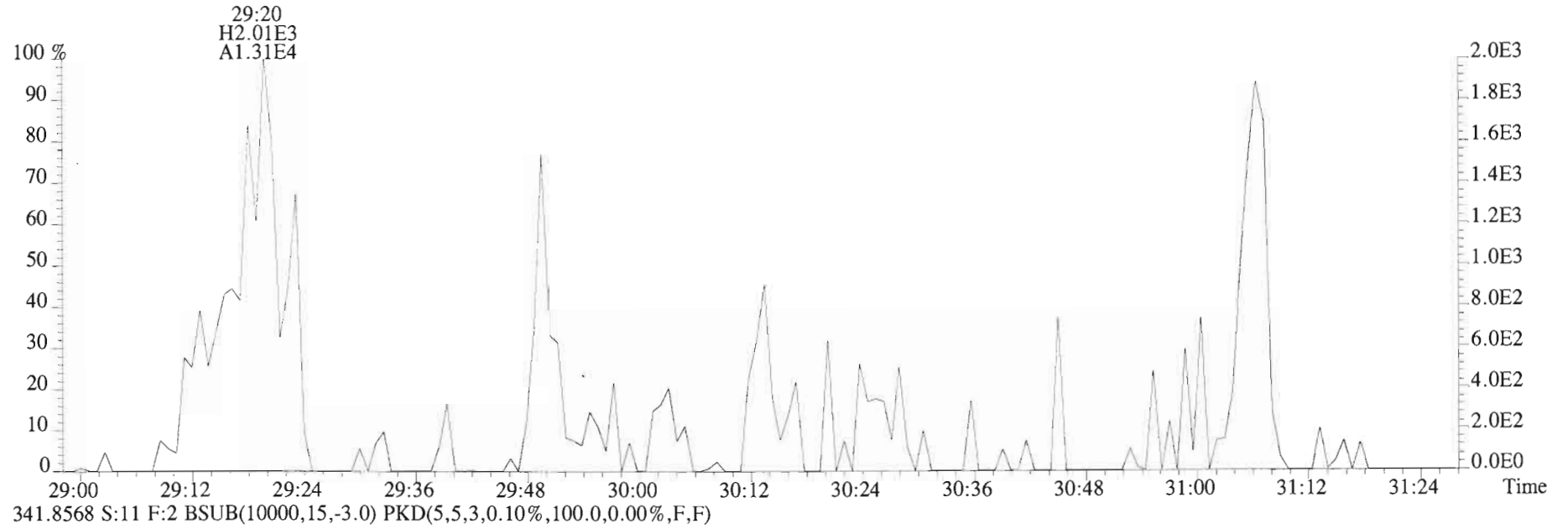
353.8970 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



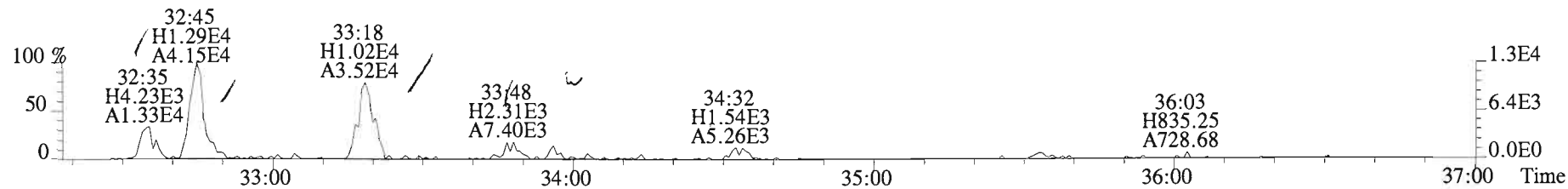
409.7974 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



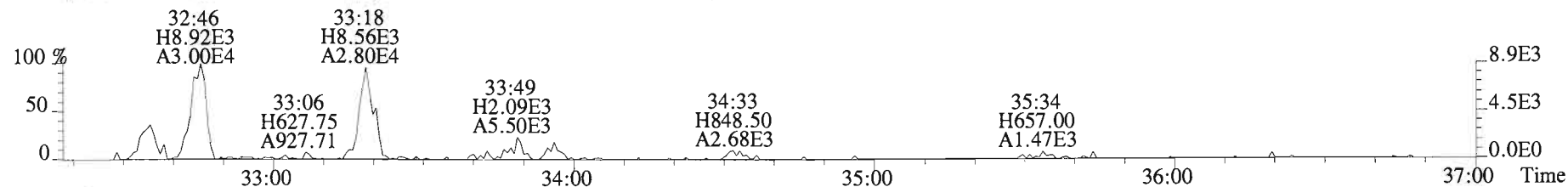
File:150427D1 #1-251 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
339.8597 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



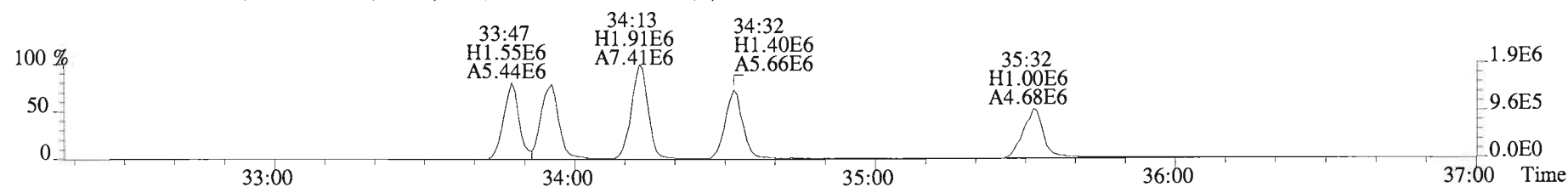
File:150427D1 #1-392 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



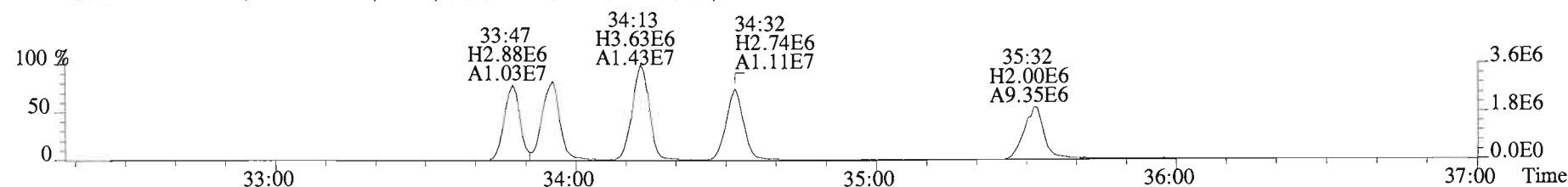
375.8178 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



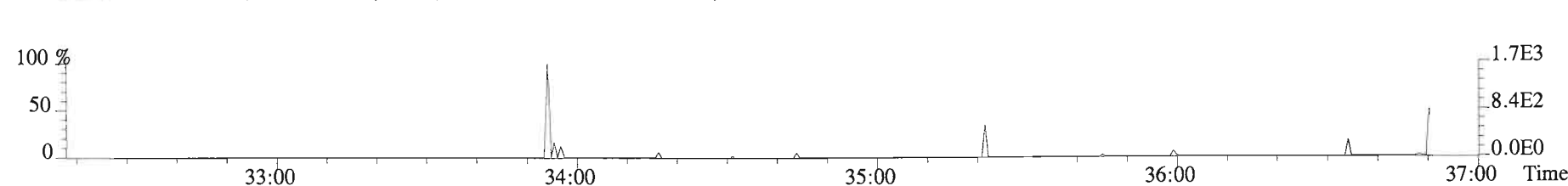
383.8639 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



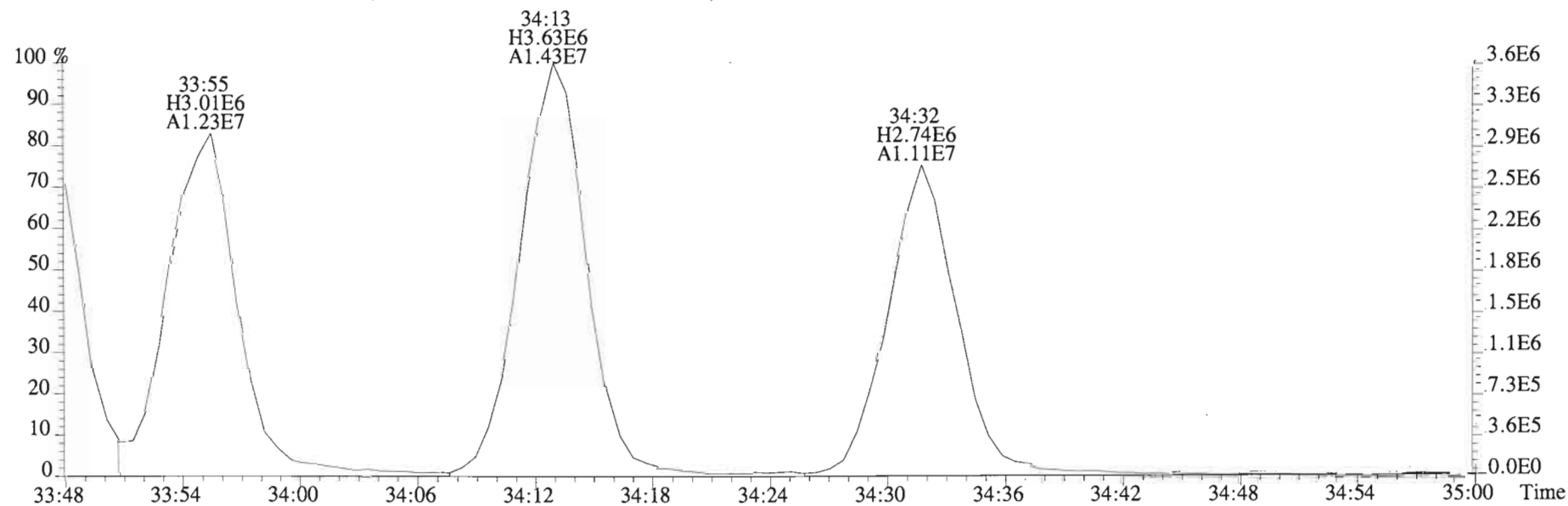
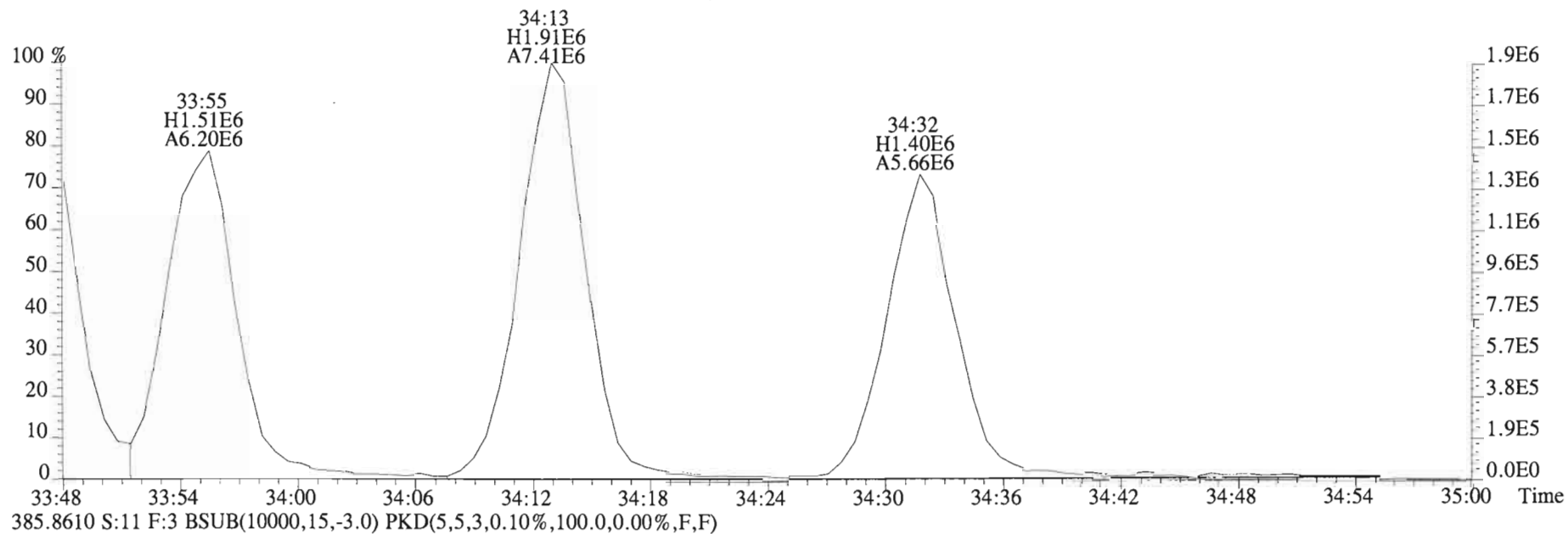
385.8610 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



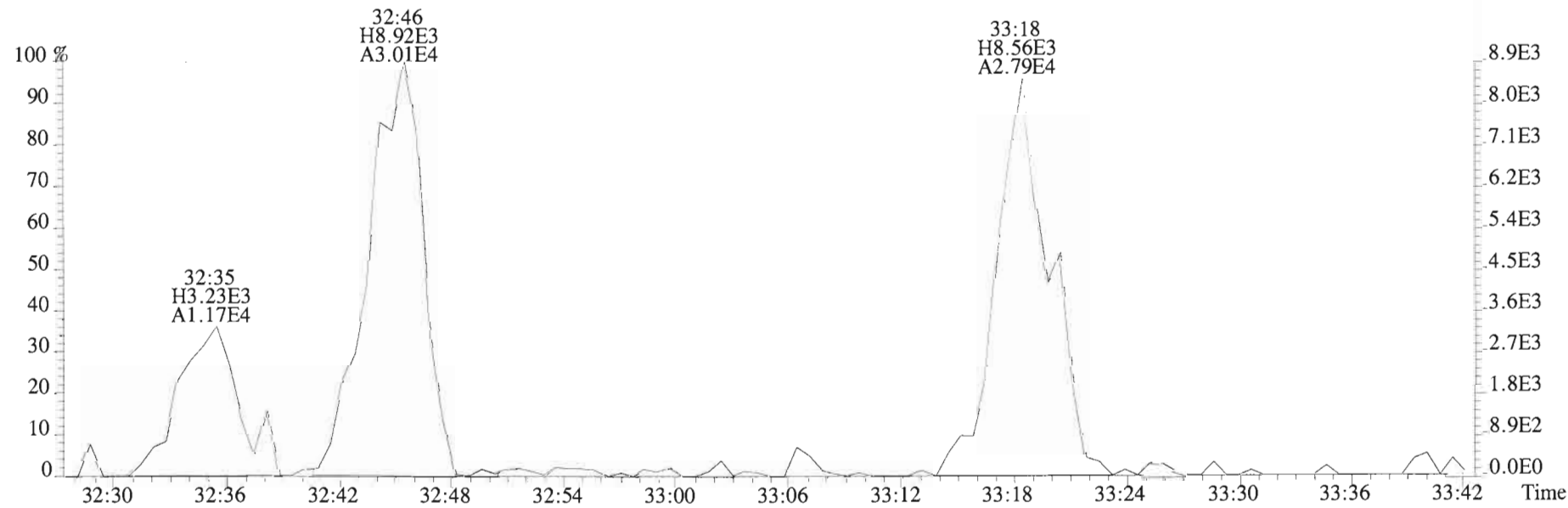
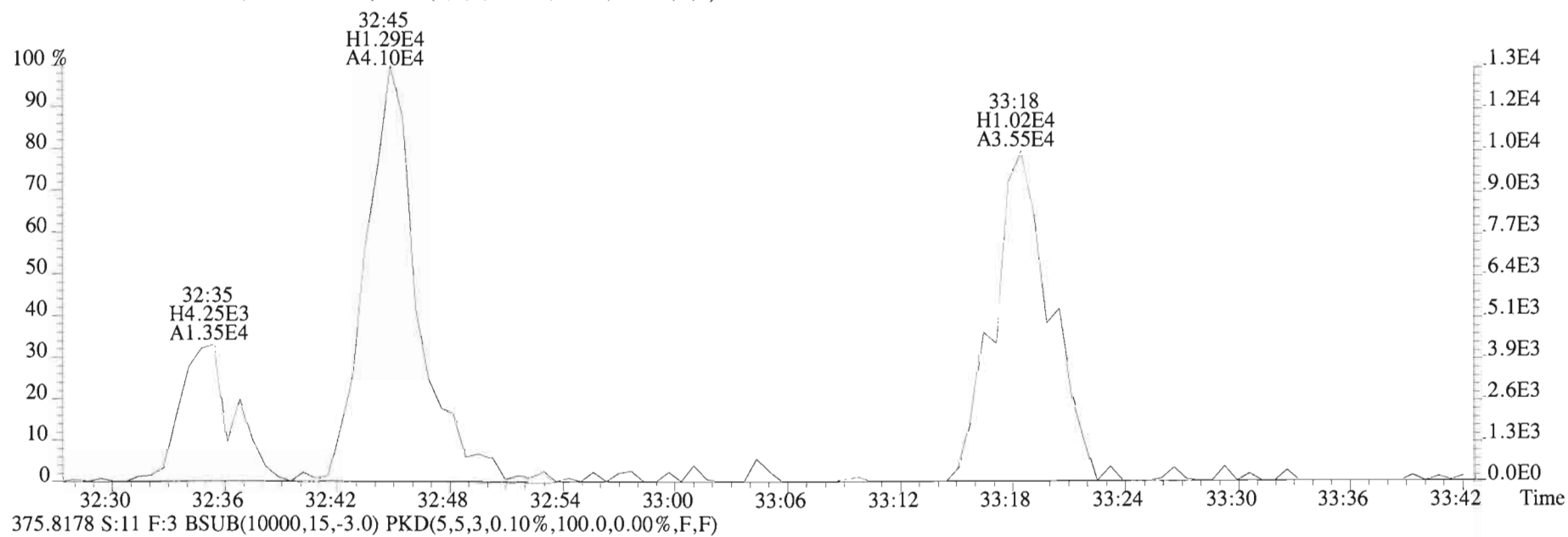
445.7555 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



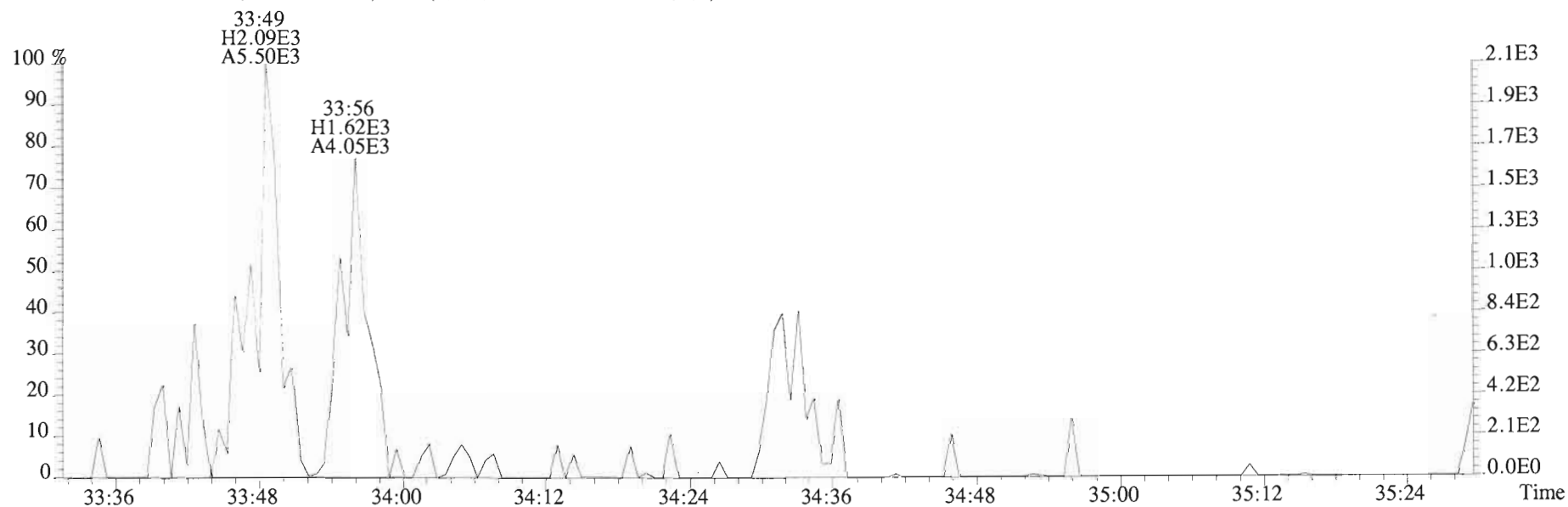
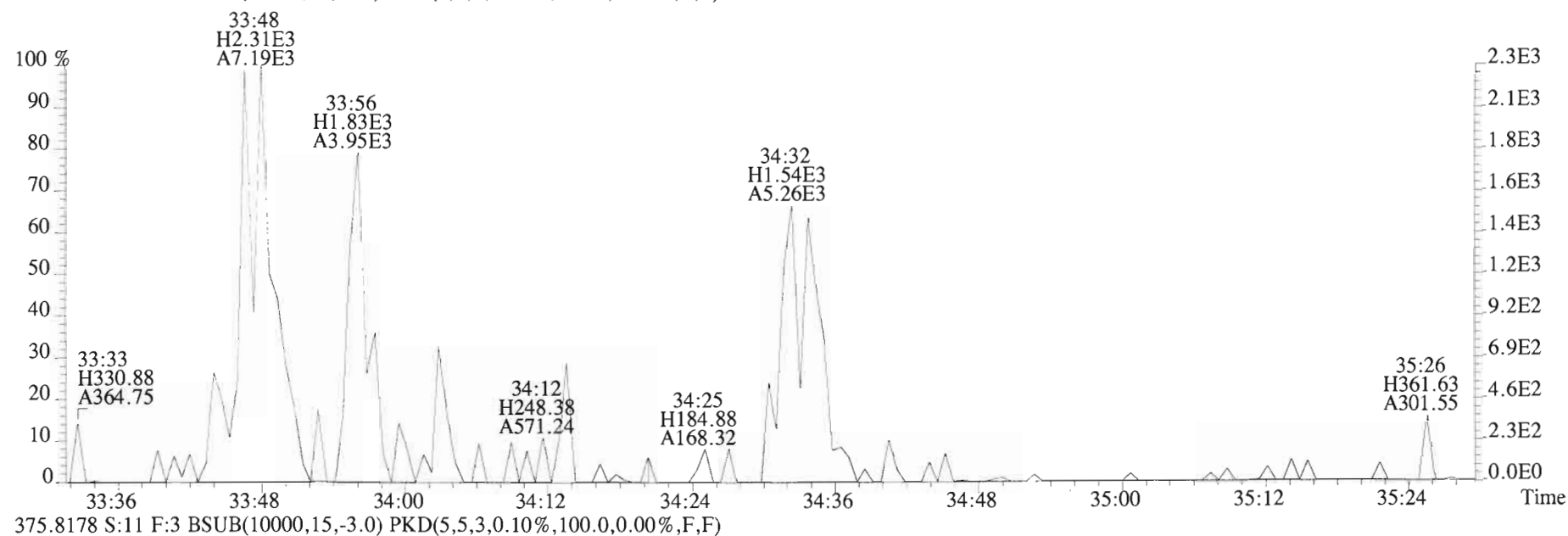
File:150427D1 #1-392 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
383.8639 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



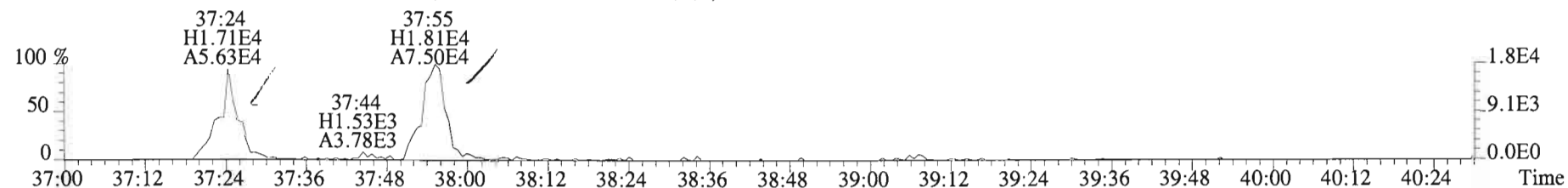
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Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



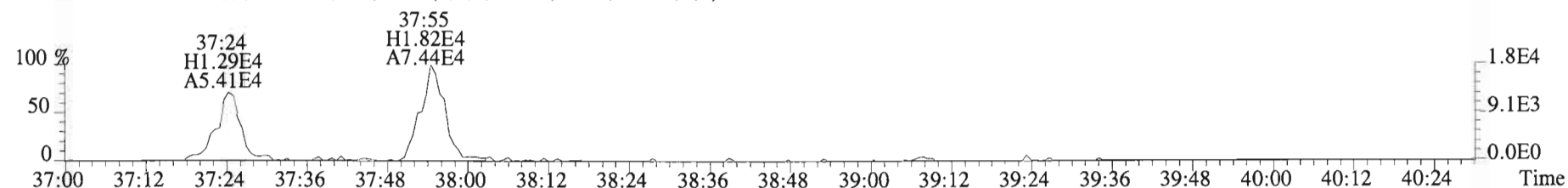
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Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



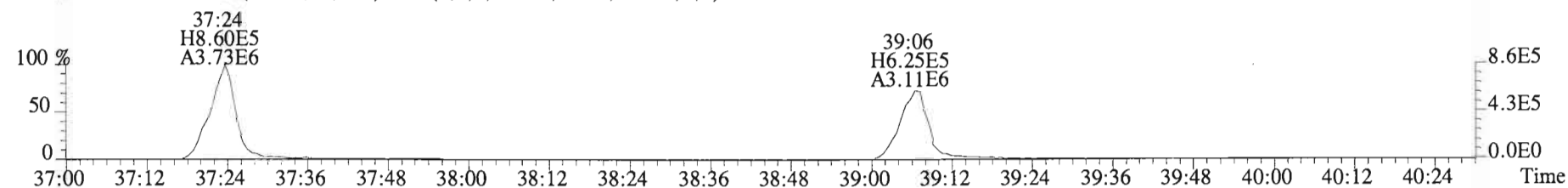
File:150427D1 #1-326 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text: Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



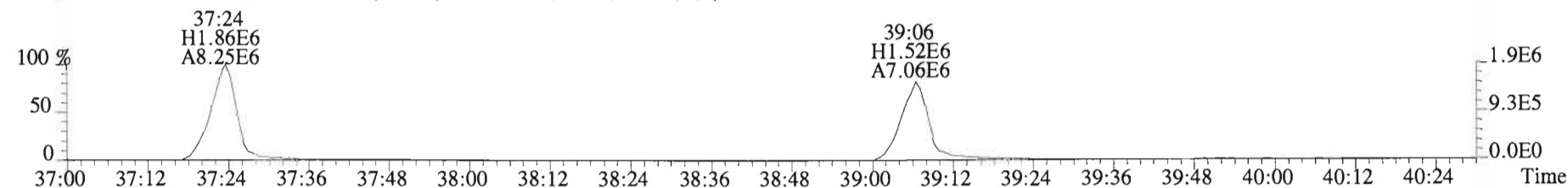
409.7788 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



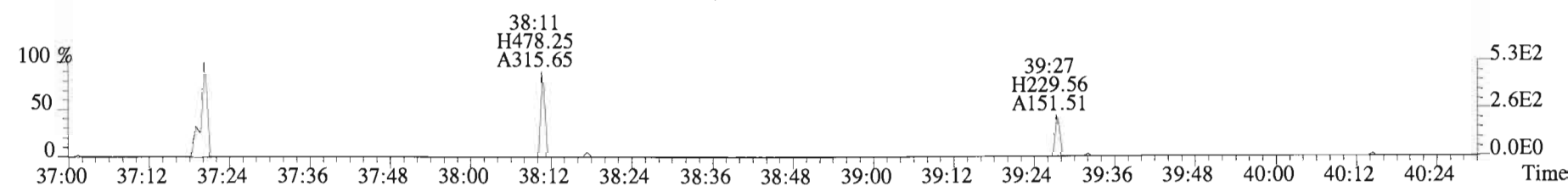
417.8253 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



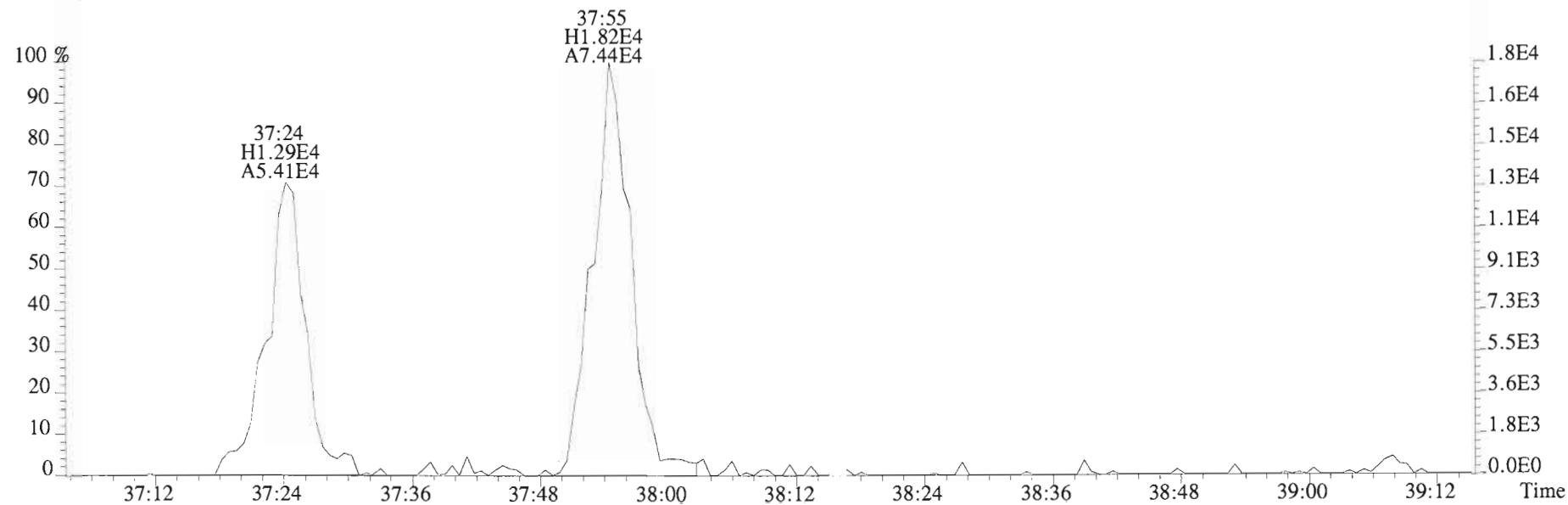
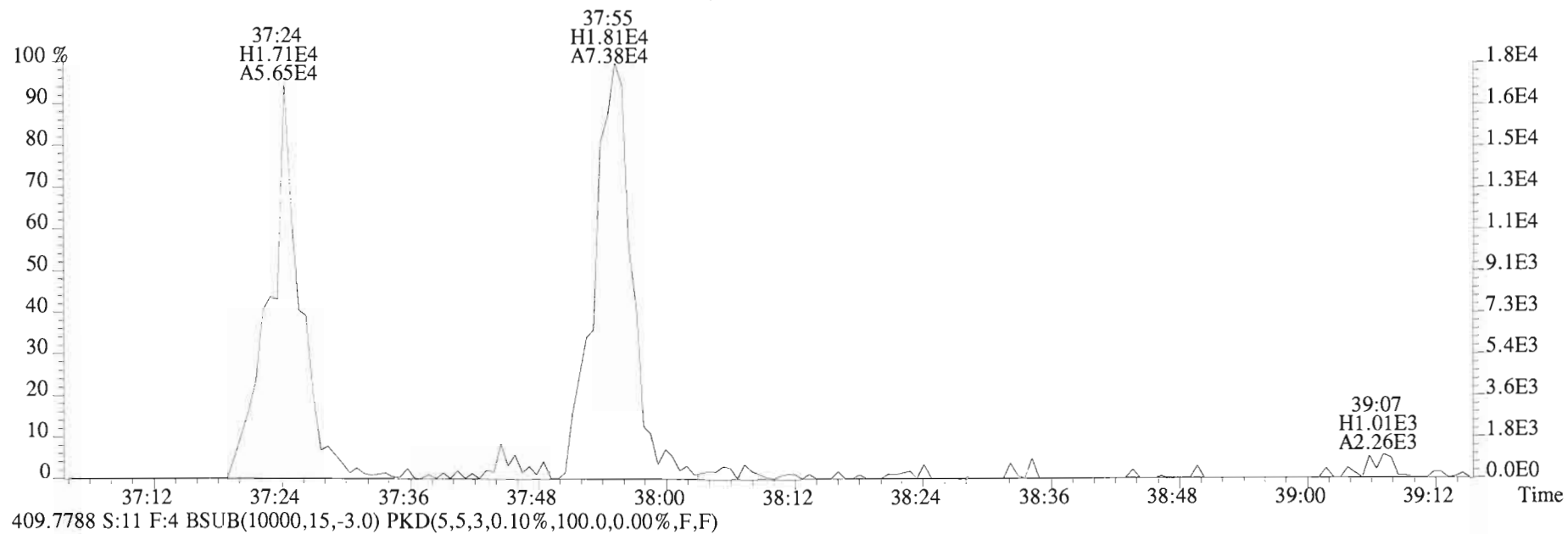
419.8220 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



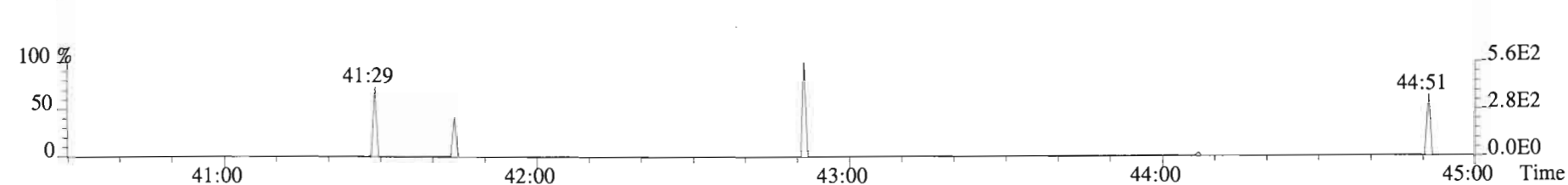
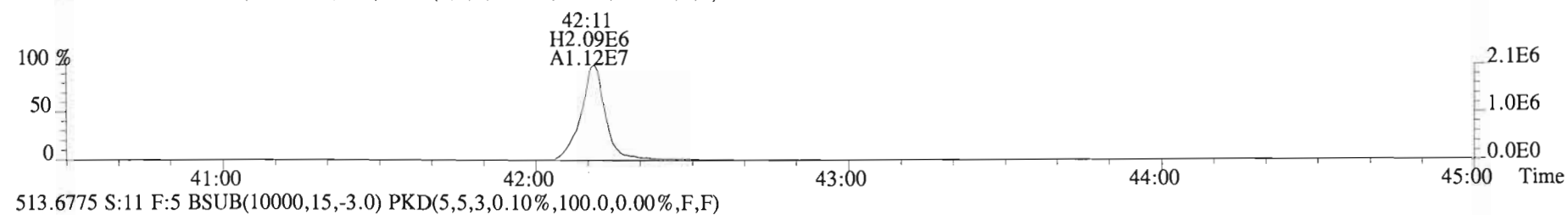
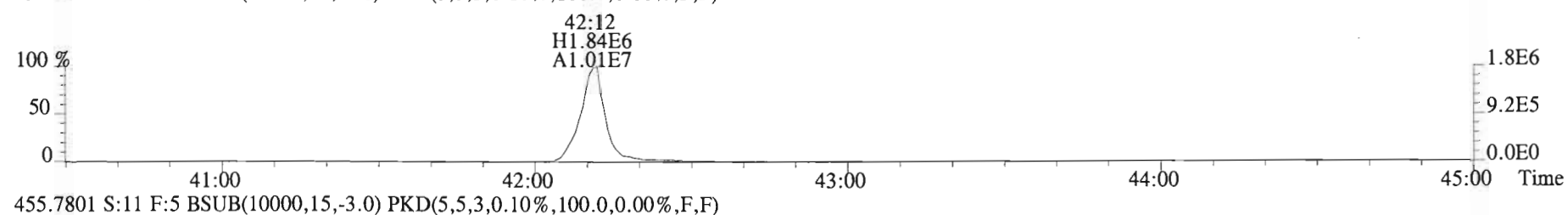
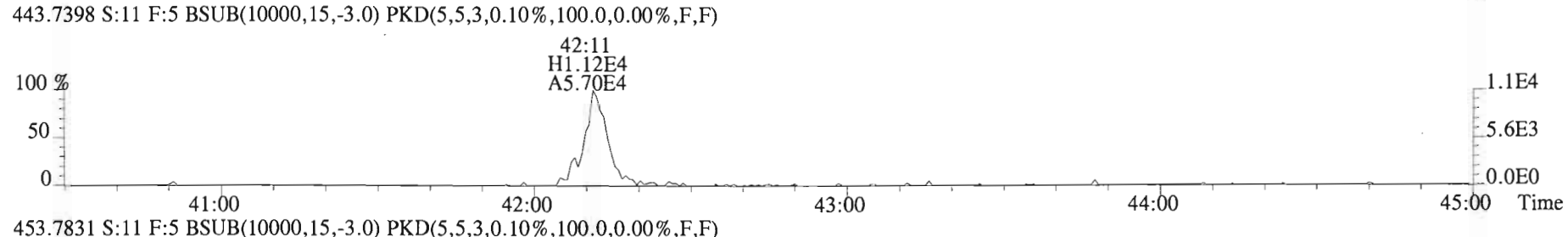
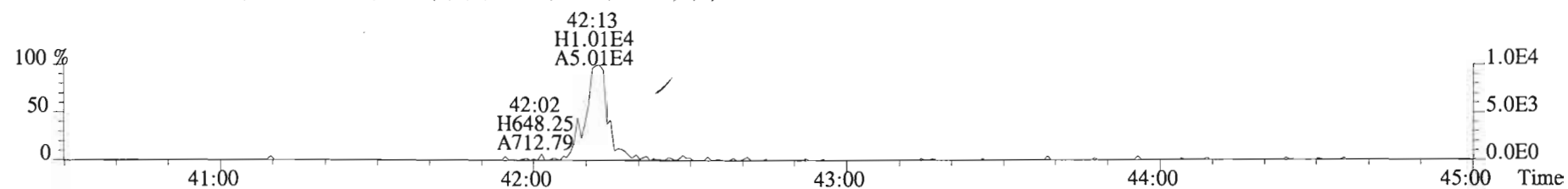
479.7165 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:150427D1 #1-326 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:150427D1 #1-388 Acq:27-APR-2015 18:16:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG-7 Text:1500335-02 HC-NF-10-20150413-W 1.01718 Exp:OCDD_DB5
441.7428 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



SAMPLE DATA
EPA Method 1668C

Client ID: Method Blank
Lab ID: B5D0057-BLK1

Filename: 150421E1 S:4 Acq:21-APR-15 12:00:58
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.000

ConCal: ST150421E1-1
EndCAL: ST150421E1-2

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	*	* n	Not F η	1.33	*		2930	2.5	3.55	*	0.997-1.007	
Mono	PCB-2	*	* n	Not F η	1.30	*		2930	2.5	2.24	*	0.983-0.993	
Mono	PCB-3	*	* n	Not F η	1.30	*		2930	2.5	2.24	*	0.996-1.006	
Di	PCB-4/10	*	* n	Not F η	1.67	*		18000	2.5	12.0	*	0.997-1.007	
Di	PCB-7/9	*	* n	Not F η	1.25	*		18000	2.5	8.22	*	0.864-0.872	
Di	PCB-6	*	* n	Not F η	1.24	*		18000	2.5	8.32	*	0.888-0.897	
Di	PCB-5/8	*	* n	Not F η	1.27	*		18000	2.5	8.10	*	0.905-0.915	
Di	PCB-14	*	* n	Not F η	1.47	*		18000	2.5	6.18	*	0.948-0.958	
Di	PCB-11	*	* n	Not F η	1.28	*		18000	2.5	7.07	*	0.995-1.005	
Di	PCB-12/13	*	* n	Not F η	1.27	*		18000	2.5	7.17	*	1.011-1.021	
Di	PCB-15	*	* n	Not F η	1.44	*		18000	2.5	6.30	*	1.023-1.031	
Tri	PCB-19	*	* n	Not F η	1.18	*		1540	2.5	1.33	*	0.996-1.006	
Tri	PCB-30	*	* n	Not F η	1.87	*		1540	2.5	0.840	*	1.033-1.043	
Tri	PCB-18	*	* n	Not F η	0.89	*		3060	2.5	2.17	*	0.949-0.959	
Tri	PCB-17	*	* n	Not F η	0.96	*		1540	2.5	1.02	*	0.956-0.966	
Tri	PCB-24/27	*	* n	Not F η	1.30	*		1540	2.5	0.748	*	0.977-0.987	
Tri	PCB-16/32	*	* n	Not F η	1.05	*		3060	2.5	1.84	*	0.996-1.006	
Tri	PCB-34	*	* n	Not F η	1.30	*		2860	2.5	1.26	*	0.955-0.965	
Tri	PCB-23	*	* n	Not F η	1.21	*		2860	2.5	1.35	*	0.958-0.968	
Tri	PCB-29	*	* n	Not F η	1.21	*		2860	2.5	1.35	*	0.967-0.977	
Tri	PCB-26	*	* n	Not F η	1.24	*		2860	2.5	1.32	*	0.974-0.984	
Tri	PCB-25	*	* n	Not F η	1.10	*		2860	2.5	1.49	*	0.980-0.990	
Tri	PCB-31	*	* n	Not F η	1.25	*		2860	2.5	1.31	*	0.992-1.002	
Tri	PCB-28	*	* n	Not F η	1.24	*		2860	2.5	1.32	*	0.996-1.006	
Tri	PCB-20/21/33	*	* n	Not F η	1.16	*		2860	2.5	1.41	*	1.016-1.026	
Tri	PCB-22	*	* n	Not F η	1.16	*		2860	2.5	1.40	*	1.032-1.042	
Tri	PCB-36	*	* n	Not F η	1.30	*		2860	2.5	1.22	*	0.929-0.939	
Tri	PCB-39	*	* n	Not F η	1.26	*		2860	2.5	1.26	*	0.943-0.953	
Tri	PCB-38	*	* n	Not F η	1.24	*		2860	2.5	1.28	*	0.967-0.977	
Tri	PCB-35	*	* n	Not F η	1.26	*		2860	2.5	1.26	*	0.982-0.992	
Tri	PCB-37	*	* n	Not F η	1.35	*		2860	2.5	1.18	*	0.996-1.006	
Tetra	PCB-54	*	* n	Not F η	1.02	*		2920	2.5	1.47	*	0.996-1.006	
Tetra	PCB-50	*	* n	Not F η	0.78	*		2920	2.5	1.93	*	1.037-1.047	
Tetra	PCB-53	*	* n	Not F η	1.14	*		2920	2.5	1.67	*	0.941-0.951	
Tetra	PCB-51	*	* n	Not F η	1.16	*		2920	2.5	1.63	*	0.952-0.962	
Tetra	PCB-45	*	* n	Not F η	1.04	*		2920	2.5	1.82	*	0.965-0.975	
Tetra	PCB-46	*	* n	Not F η	0.95	*		2920	2.5	2.00	*	0.981-0.991	

Integrations by:

Analyst: Dms

Date: 4/22/15

Reviewed by: [Signature] Date: 4/23/15

Client ID: Method Blank
Lab ID: B5D0057-BLK1

Filename: 150421E1 S:4 Acq:21-APR-15 12:00:58
GC Column ID: ZB-1 ICAL: PCBVG8-1-14-15 wt/vol: 1.000

ConCal: ST150421E1-1
EndCAL: ST150421E1-2

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	*	* n	NotF η	1.29	*		2920	2.5	1.47	*	0.996-1.006	
Tetra	PCB-73	*	* n	NotF η	1.41	*		2920	2.5	1.34	*	0.999-1.009	
Tetra	PCB-43/49	*	* n	NotF η	1.14	*		2920	2.5	1.67	*	1.005-1.015	
Tetra	PCB-47	1.53e+05	0.76 y	31:54	1.20	3.630		*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-48/75	*	* n	NotF η	1.33	*		2920	2.5	1.37	*	0.999-1.009	
Tetra	PCB-65	*	* n	NotF η	1.32	*		2920	2.5	1.38	*	1.007-1.017	
Tetra	PCB-62	*	* n	NotF η	1.36	*		2920	2.5	1.34	*	1.011-1.021	
Tetra	PCB-44	*	* n	NotF η	0.87	*		2920	2.5	2.08	*	1.020-1.030	
Tetra	PCB-42/59	*	* n	NotF η	1.24	*		2920	2.5	1.47	*	1.027-1.037	
Tetra	PCB-41/64/71/72	*	* n	NotF η	1.34	*		2920	2.5	1.36	*	1.045-1.055	
Tetra	PCB-68	*	* n	NotF η	1.61	*		2920	2.5	1.13	*	1.053-1.063	
Tetra	PCB-40	*	* n	NotF η	0.86	*		2920	2.5	2.12	*	1.061-1.071	
Tetra	PCB-57	*	* n	NotF η	1.12	*		2920	2.5	1.11	*	0.965-0.975	
Tetra	PCB-67	*	* n	NotF η	1.09	*		2920	2.5	1.14	*	0.974-0.984	
Tetra	PCB-58	*	* n	NotF η	1.14	*		2920	2.5	1.09	*	0.977-0.987	
Tetra	PCB-63	*	* n	NotF η	1.16	*		2920	2.5	1.07	*	0.981-0.991	
Tetra	PCB-74	*	* n	NotF η	1.21	*		2920	2.5	1.02	*	0.989-0.999	
Tetra	PCB-61/70	*	* n	NotF η	1.13	*		2920	2.5	1.10	*	0.995-1.005	
Tetra	PCB-76/66	*	* n	NotF η	1.18	*		2920	2.5	1.05	*	1.000-1.010	
Tetra	PCB-80	*	* n	NotF η	1.32	*		2920	2.5	0.950	*	0.995-1.005	
Tetra	PCB-55	*	* n	NotF η	1.23	*		2920	2.5	1.02	*	1.004-1.014	
Tetra	PCB-56/60	*	* n	NotF η	1.11	*		2920	2.5	1.14	*	1.018-1.028	
Tetra	PCB-79	*	* n	NotF η	1.16	*		2920	2.5	1.08	*	1.048-1.058	
Tetra	PCB-78	*	* n	NotF η	1.18	*		2920	2.5	0.978	*	0.982-0.992	
Tetra	PCB-81	*	* n	NotF η	1.29	*		2920	2.5	0.892	*	0.995-1.005	
Tetra	PCB-77	*	* n	NotF η	1.29	*		2920	2.5	0.938	*	0.995-1.005	
Penta	PCB-104	*	* n	NotF η	1.26	*		2690	2.5	2.29	*	0.996-1.006	
Penta	PCB-96	*	* n	NotF η	1.09	*		2690	2.5	2.65	*	1.034-1.044	
Penta	PCB-103	*	* n	NotF η	0.97	*		2690	2.5	2.99	*	1.051-1.061	
Penta	PCB-100	*	* n	NotF η	0.96	*		2690	2.5	3.00	*	1.061-1.071	
Penta	PCB-94	*	* n	NotF η	1.13	*		2690	2.5	3.22	*	0.980-0.990	
Penta	PCB-95/98/102	*	* n	NotF η	1.29	*		2690	2.5	2.83	*	0.994-1.004	
Penta	PCB-93	*	* n	NotF η	1.06	*		2690	2.5	3.43	*	0.998-1.008	
Penta	PCB-88/91	*	* n	NotF η	1.12	*		2690	2.5	3.24	*	1.006-1.016	
Penta	PCB-121	*	* n	NotF η	1.76	*		2690	2.5	2.07	*	1.009-1.019	
Penta	PCB-84/92	*	* n	NotF η	1.07	*		2690	2.5	2.82	*	0.985-0.995	
Penta	PCB-89	*	* n	NotF η	1.00	*		2690	2.5	3.04	*	0.990-1.000	

Analyst: Dmj

Date: 4/22/15

Client ID: Method Blank
Lab ID: B5D0057-BLK1

Filename: 150421E1 S:4 Acq:21-APR-15 12:00:58
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.000

ConCal: ST150421E1-1
EndCAL: ST150421E1-2

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	*	* n	NotF η	1.21	*		2690	2.5	2.51	*	0.995-1.005	
Penta	PCB-113	*	* n	NotF η	1.34	*		2690	2.5	2.26	*	1.002-1.012	
Penta	PCB-99	*	* n	NotF η	1.25	*		2690	2.5	2.42	*	1.004-1.014	
Penta	PCB-119	*	* n	NotF η	1.88	*		2690	2.5	1.72	*	0.982-0.992	
Penta	PCB-108/112	*	* n	NotF η	1.41	*		2690	2.5	2.31	*	0.986-0.996	
Penta	PCB-83	*	* n	NotF η	1.66	*		2690	2.5	1.95	*	0.990-1.000	
Penta	PCB-97	*	* n	NotF η	1.30	*		2690	2.5	2.50	*	0.995-1.005	
Penta	PCB-86	*	* n	NotF η	1.03	*		2690	2.5	3.14	*	0.999-1.009	
Penta	PCB-87/117/125	*	* n	NotF η	1.59	*		2690	2.5	2.04	*	1.002-1.012	
Penta	PCB-111/115	*	* n	NotF η	1.86	*		2690	2.5	1.75	*	1.006-1.016	
Penta	PCB-85/116	*	* n	NotF η	1.39	*		2690	2.5	2.33	*	1.010-1.020	
Penta	PCB-120	*	* n	NotF η	1.99	*		2690	2.5	1.63	*	1.016-1.026	
Penta	PCB-110	*	* n	NotF η	1.70	*		2690	2.5	1.90	*	1.019-1.029	
Penta	PCB-82	*	* n	NotF η	0.74	*		2690	2.5	3.30	*	0.971-0.981	
Penta	PCB-124	*	* n	NotF η	1.30	*		2690	2.5	1.88	*	0.988-0.998	
Penta	PCB-107/109	*	* n	NotF η	1.34	*		2690	2.5	1.83	*	0.991-1.001	
Penta	PCB-123	*	* n	NotF η	1.25	*		2690	2.5	1.96	*	0.995-1.005	
Penta	PCB-106/118	*	* n	NotF η	1.29	*		2690	2.5	1.70	*	0.996-1.006	
Penta	PCB-114	*	* n	NotF η	1.45	*		2410	2.5	1.45	*	0.995-1.005	
Penta	PCB-122	*	* n	NotF η	1.22	*		2410	2.5	1.73	*	0.999-1.009	
Penta	PCB-105	*	* n	NotF η	1.56	*		2410	2.5	1.45	*	0.995-1.005	
Penta	PCB-127	*	* n	NotF η	1.31	*		2410	2.5	1.60	*	0.995-1.005	
Penta	PCB-126	*	* n	NotF η	1.41	*		2410	2.5	1.57	*	0.995-1.005	
Hexa	PCB-155	*	* n	NotF η	1.20	*		1700	2.5	1.71	*	0.966-1.006	
Hexa	PCB-150	*	* n	NotF η	1.13	*		1700	2.5	1.81	*	1.030-1.040	
Hexa	PCB-152	*	* n	NotF η	1.17	*		1700	2.5	1.75	*	1.043-1.053	
Hexa	PCB-145	*	* n	NotF η	1.09	*		1700	2.5	1.87	*	1.055-1.065	
Hexa	PCB-136	*	* n	NotF η	1.14	*		1700	2.5	1.79	*	1.063-1.073	
Hexa	PCB-148	*	* n	NotF η	0.82	*		1700	2.5	2.50	*	1.066-1.076	
Hexa	PCB-154	*	* n	NotF η	0.89	*		1700	2.5	2.30	*	1.079-1.089	
Hexa	PCB-151	*	* n	NotF η	0.82	*		1700	2.5	2.50	*	1.097-1.107	
Hexa	PCB-135	*	* n	NotF η	0.80	*		1700	2.5	2.57	*	1.101-1.113	
Hexa	PCB-144	*	* n	NotF η	0.86	*		1700	2.5	2.39	*	1.105-1.116	
Hexa	PCB-147	*	* n	NotF η	0.78	*		1700	2.5	2.63	*	1.108-1.120	
Hexa	PCB-139/149	*	* n	NotF η	0.87	*		1700	2.5	2.35	*	1.115-1.127	
Hexa	PCB-140	*	* n	NotF η	0.78	*		1700	2.5	2.63	*	1.120-1.132	
Hexa	PCB-134/143	*	* n	NotF η	0.93	*		2500	2.5	2.01	*	0.970-0.980	

Analyst: DMS

Date: 4/22/15

Client ID: Method Blank
Lab ID: B5D0057-BLK1

Filename: 150421E1 S:4 Acq:21-APR-15 12:00:58
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.000

ConCal: ST150421E1-1
EndCAL: ST150421E1-2

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	*	*	n NotF _η	0.91	*		2640	2.5	2.17	*	0.977-0.987	
Hexa	PCB-131	*	*	n NotF _η	0.85	*		2640	2.5	2.33	*	0.981-0.991	
Hexa	PCB-146/165	*	*	n NotF _η	1.08	*		2640	2.5	1.82	*	0.986-0.996	
Hexa	PCB-132/161	*	*	n NotF _η	1.12	*		2640	2.5	1.76	*	0.992-1.002	
Hexa	PCB-153	*	*	n NotF _η	1.20	*		2640	2.5	1.65	*	0.996-1.006	
Hexa	PCB-168	*	*	n NotF _η	1.36	*		2640	2.5	1.45	*	1.000-1.010	
Hexa	PCB-141	*	*	n NotF _η	1.16	*		2640	2.5	1.93	*	0.995-1.005	
Hexa	PCB-137	*	*	n NotF _η	1.18	*		2640	2.5	1.89	*	1.004-1.014	
Hexa	PCB-130	*	*	n NotF _η	0.92	*		2640	2.5	2.42	*	1.006-1.016	
Hexa	PCB-138/163/164	*	*	n NotF _η	1.38	*		2640	2.5	1.57	*	0.996-1.006	
Hexa	PCB-158/160	*	*	n NotF _η	1.48	*		2640	2.5	1.47	*	1.001-1.011	
Hexa	PCB-129	*	*	n NotF _η	0.99	*		2640	2.5	2.19	*	1.007-1.017	
Hexa	PCB-166	*	*	n NotF _η	1.14	*		2640	2.5	1.61	*	0.988-0.998	
Hexa	PCB-159	*	*	n NotF _η	1.22	*		2640	2.5	1.50	*	0.995-1.005	
Hexa	PCB-128/162	*	*	n NotF _η	1.03	*		2640	2.5	1.77	*	1.002-1.012	
Hexa	PCB-167	*	*	n NotF _η	1.18	*		2640	2.5	1.50	*	0.995-1.005	
Hexa	PCB-156	*	*	n NotF _η	1.27	*		2640	2.5	1.50	*	0.995-1.005	
Hexa	PCB-157	*	*	n NotF _η	1.22	*		2640	2.5	1.56	*	0.995-1.005	
Hexa	PCB-169	5.14e+04	0.83	n 50:18	1.07	1.228	P	*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-188	*	*	n NotF _η	1.52	*		2630	2.5	1.18	*	0.996-1.006	
Hepta	PCB-184	*	*	n NotF _η	1.34	*		2630	2.5	1.34	*	1.006-1.016	
Hepta	PCB-179	*	*	n NotF _η	1.39	*		2630	2.5	1.29	*	1.024-1.034	
Hepta	PCB-176	*	*	n NotF _η	1.45	*		2630	2.5	1.23	*	1.035-1.045	
Hepta	PCB-186	*	*	n NotF _η	1.46	*		2630	2.5	1.23	*	1.049-1.059	
Hepta	PCB-178	*	*	n NotF _η	1.07	*		2630	2.5	1.67	*	1.061-1.071	
Hepta	PCB-175	*	*	n NotF _η	1.05	*		2630	2.5	1.71	*	1.069-1.079	
Hepta	PCB-182/187	*	*	n NotF _η	1.14	*		2630	2.5	1.58	*	1.073-1.083	
Hepta	PCB-183	*	*	n NotF _η	1.22	*		2630	2.5	1.46	*	1.080-1.090	
Hepta	PCB-185	*	*	n NotF _η	1.40	*		2630	2.5	1.80	*	0.950-0.960	
Hepta	PCB-174	*	*	n NotF _η	1.29	*		2630	2.5	1.96	*	0.958-0.968	
Hepta	PCB-181	*	*	n NotF _η	1.35	*		2630	2.5	1.87	*	0.960-0.970	
Hepta	PCB-177	*	*	n NotF _η	1.27	*		2630	2.5	2.00	*	0.963-0.973	
Hepta	PCB-171	*	*	n NotF _η	1.46	*		2630	2.5	1.74	*	0.969-0.979	
Hepta	PCB-173	*	*	n NotF _η	1.10	*		2630	2.5	2.29	*	0.978-0.988	
Hepta	PCB-172	*	*	n NotF _η	1.35	*		2630	2.5	1.87	*	0.987-0.997	
Hepta	PCB-192	*	*	n NotF _η	1.74	*		2630	2.5	1.46	*	0.991-1.001	
Hepta	PCB-180	*	*	n NotF _η	1.45	*		2630	2.5	1.75	*	0.995-1.005	

Analyst: DMJ

Date: 4/22/15

Client ID: Method Blank
Lab ID: B5D0057-BLK1

Filename: 150421E1 S:4 Acq:21-APR-15 12:00:58
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.000

ConCal: ST150421E1-1
EndCAL: ST150421E1-2

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	*	* n	Not F η	1.85	*		2630	2.5	1.37	*	0.999-1.009	
Hepta	PCB-191	*	* n	Not F η	1.86	*		2630	2.5	1.36	*	1.005-1.015	
Hepta	PCB-170	*	* n	Not F η	1.67	*		2630	2.5	1.71	*	0.995-1.005	
Hepta	PCB-190	*	* n	Not F η	2.25	*		2630	2.5	1.27	*	0.999-1.009	
Hepta	PCB-189	*	* n	Not F η	1.67	*		2630	2.5	1.19	*	0.995-1.005	
Octa	PCB-202	*	* n	Not F η	1.02	*		1390	2.5	1.50	*	0.995-1.005	
Octa	PCB-201	*	* n	Not F η	1.10	*		1390	2.5	1.39	*	1.005-1.015	
Octa	PCB-204	*	* n	Not F η	1.07	*		1390	2.5	1.42	*	1.009-1.019	
Octa	PCB-197	*	* n	Not F η	1.17	*		1390	2.5	1.30	*	1.015-1.025	
Octa	PCB-200	*	* n	Not F η	1.03	*		1390	2.5	1.47	*	1.034-1.044	
Octa	PCB-198	*	* n	Not F η	0.75	*		1390	2.5	2.02	*	1.062-1.072	
Octa	PCB-199	*	* n	Not F η	0.74	*		1390	2.5	2.05	*	1.064-1.074	
Octa	PCB-196/203	*	* n	Not F η	0.83	*		1390	2.5	1.84	*	1.070-1.080	
Octa	PCB-195	*	* n	Not F η	1.14	*		1450	2.5	1.08	*	0.979-0.989	
Octa	PCB-194	*	* n	Not F η	1.29	*		1450	2.5	0.951	*	0.995-1.005	
Octa	PCB-205	*	* n	Not F η	1.61	*		1450	2.5	0.763	*	1.001-1.010	
Nona	PCB-208	*	* n	Not F η	1.01	*		1470	2.5	0.853	*	0.995-1.005	
Nona	PCB-207	*	* n	Not F η	1.03	*		1470	2.5	0.842	*	1.001-1.011	
Nona	PCB-206	*	* n	Not F η	0.88	*		1470	2.5	1.70	*	0.995-1.005	
Deca	PCB-209	*	* n	Not F η	1.35	*		1850	2.5	1.78	*	0.995-1.005	

Analyst: DMS

Date: 4/22/15

Client ID: Method Blank
Lab ID: B5D0057-BLK1

Filename: 150421E1 S:4 Acq:21-APR-15 12:00:58
GC Column ID: ZB-1 ICal: PCBG8-1-14-15 wt/vol:1.0000

ConCal: ST150421E1-1
EndCAL: ST150421E1-1

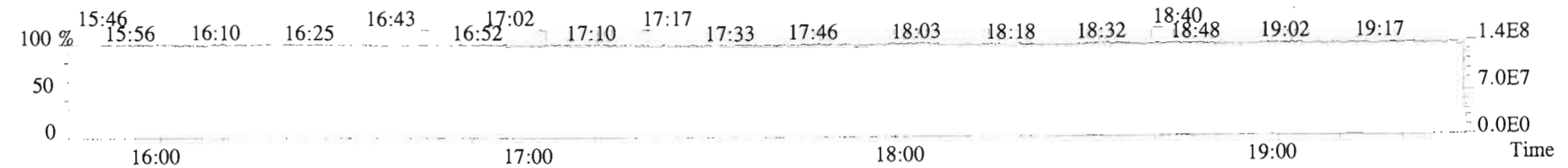
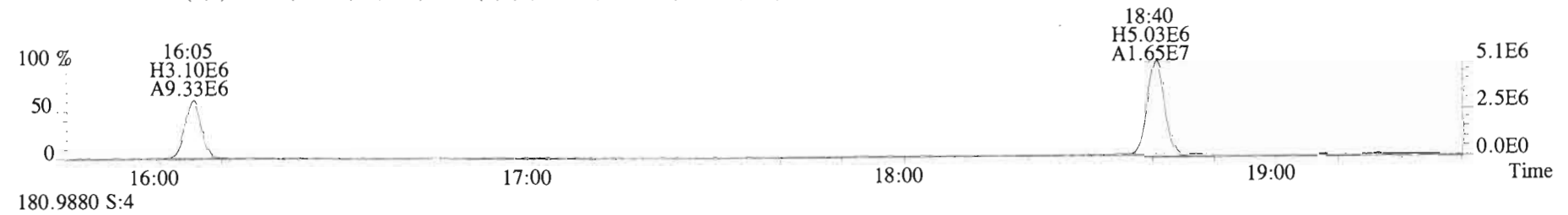
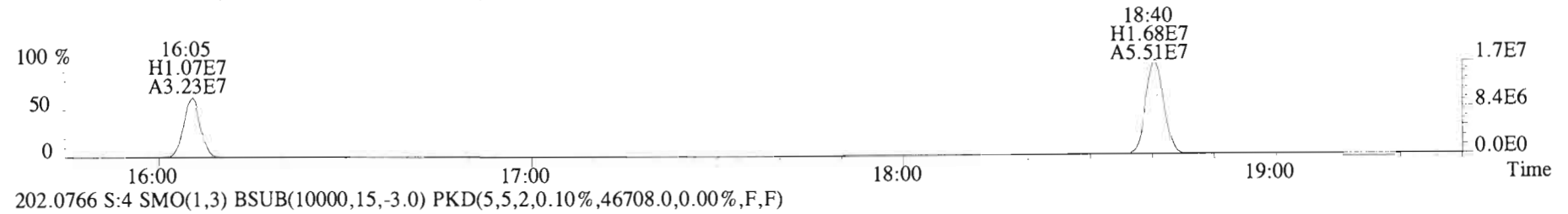
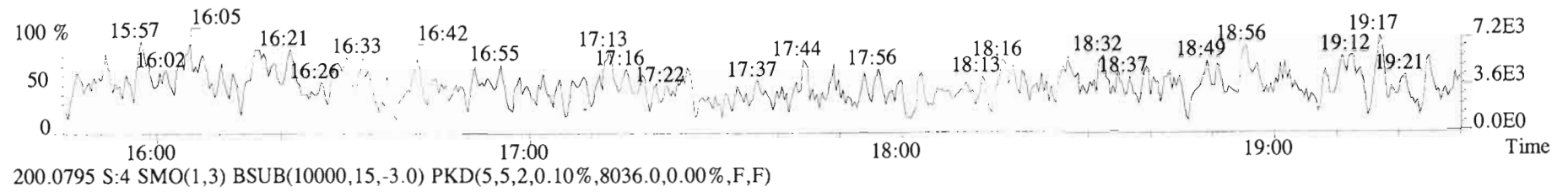
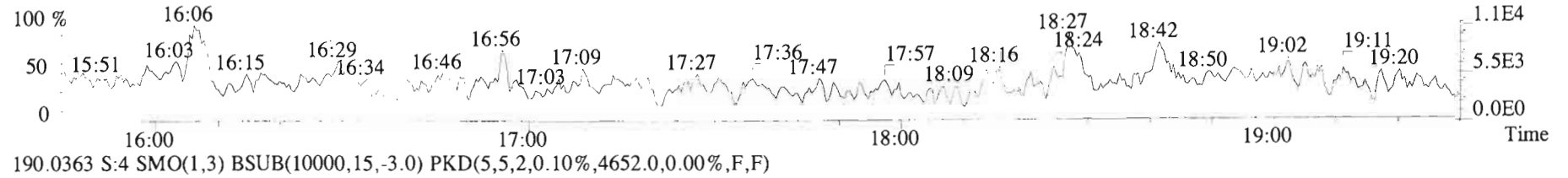
DMS
4/23/15
2-1

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	4.16e+07	3.46 y	0.91	16:05	0.623	0.619-0.625		612	30.6											
13C-PCB-3	7.16e+07	3.34 y	0.94	18:40	0.723	0.718-0.726		1020	50.8	13C-PCB-79	1.27e+08	0.79 y	1.02	37:41	1.029	1.024-1.033			1970	98.3
13C-PCB-4	4.13e+07	1.61 y	0.60	20:00	0.774	0.770-0.778		924	46.2	13C-PCB-178	4.15e+07	0.45 y	0.64	45:31	0.984	0.980-0.989			1870	93.3
13C-PCB-9	8.31e+07	1.59 y	0.96	21:46	0.843	0.839-0.847		1160	57.8											
13C-PCB-11	1.00e+08	1.61 y	0.95	25:08	0.973	0.968-0.978		1400	70.1	PS vs. IS										
13C-PCB-19	3.92e+07	1.12 y	0.56	24:07	0.934	0.929-0.939		933	46.7	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-28	8.39e+07	1.00 y	1.07	28:58	1.003	0.999-1.009		1450	72.4	13C-PCB-79	1.27e+08	0.79 y	1.02	37:41	0.968	0.963-0.973			2140	107
13C-PCB-32	6.68e+07	1.12 y	0.83	27:02	1.046	1.041-1.051		1080	54.0	13C-PCB-178	4.15e+07	0.45 y	0.84	45:31	0.925	0.920-0.930			2540	127
13C-PCB-37	9.08e+07	1.03 y	0.96	32:50	1.137	1.131-1.143		1740	87.1											
13C-PCB-47	7.04e+07	0.77 y	0.77	31:53	0.870	0.867-0.875		1450	72.4											
13C-PCB-52	6.77e+07	0.79 y	0.71	31:23	0.857	0.853-0.861		1500	75.1											
13C-PCB-54	7.99e+07	0.79 y	1.06	27:52	0.761	0.757-0.765		1190	59.5											
13C-PCB-70	1.06e+08	0.80 y	0.99	35:24	0.966	0.961-0.971		1680	84.0											
13C-PCB-77	1.16e+08	0.80 y	0.96	39:30	1.078	1.073-1.083		1910	95.3											
13C-PCB-80	1.08e+08	0.80 y	1.02	35:49	0.978	0.973-0.983		1670	83.6											
13C-PCB-81	1.16e+08	0.78 y	1.00	38:55	1.062	1.057-1.067		1840	91.9											
13C-PCB-95	4.95e+07	1.62 y	0.70	35:42	0.913	0.908-0.918		1450	72.4	RS										
13C-PCB-97	5.58e+07	1.59 y	0.66	38:40	0.988	0.984-0.994		1730	86.7	Name	Resp	RA	RRF	RT	Conc					
13C-PCB-101	6.03e+07	1.63 y	0.77	37:23	0.956	0.951-0.961		1610	80.3	13C-PCB-15	1.50e+08	1.59 y	1.00	25:50	2000					
13C-PCB-104	5.85e+07	1.61 y	0.97	32:32	0.832	0.828-0.836		1240	61.8	13C-PCB-31	1.08e+08	1.01 y	1.00	28:52	2000					
13C-PCB-105	7.44e+07	1.56 y	1.20	42:56	0.929	0.924-0.934		1770	88.6	13C-PCB-60	1.27e+08	0.78 y	1.00	36:38	2000					
13C-PCB-114	7.61e+07	1.59 y	1.26	42:05	0.910	0.905-0.915		1730	86.7	13C-PCB-111	9.79e+07	1.61 y	1.00	39:07	2000					
13C-PCB-118	8.11e+07	1.61 y	0.94	41:25	1.059	1.054-1.064		1770	88.5	13C-PCB-128	6.99e+07	1.25 y	1.00	46:14	2000					
13C-PCB-123	7.59e+07	1.59 y	0.88	41:14	1.054	1.049-1.059		1760	88.0	13C-PCB-205	5.22e+07	0.88 y	1.00	53:55	2000					
13C-PCB-126	7.12e+07	1.58 y	1.13	45:10	0.977	0.972-0.982		1810	90.5											
13C-PCB-127	7.82e+07	1.56 y	1.26	43:16	0.936	0.931-0.941		1780	89.0											
13C-PCB-138	7.20e+07	1.28 y	1.12	44:40	0.966	0.961-0.971		1840	92.1											
13C-PCB-141	6.96e+07	1.26 y	1.09	43:50	0.948	0.943-0.953		1820	91.2											
13C-PCB-153	8.14e+07	1.27 y	1.27	43:05	0.932	0.927-0.937		1830	91.6											
13C-PCB-155	4.99e+07	1.30 y	0.87	36:55	0.944	0.939-0.949		1170	58.7											
13C-PCB-156	8.00e+07	1.30 y	1.35	47:55	1.036	1.032-1.042		1700	84.8											
13C-PCB-157	8.32e+07	1.31 y	1.42	48:12	1.043	1.037-1.047		1680	84.1											
13C-PCB-159	8.36e+07	1.27 y	1.37	45:57	0.994	0.989-0.999		1750	87.5											
13C-PCB-167	8.61e+07	1.28 y	1.38	46:38	1.009	1.004-1.014		1790	89.3											
13C-PCB-169	7.80e+07	1.29 y	1.38	50:18	1.088	1.084-1.094		1620	80.8											
13C-PCB-170	3.04e+07	0.47 y	0.60	50:40	1.096	1.091-1.103		1440	72.2											
13C-PCB-180	3.88e+07	0.47 y	0.76	49:12	1.064	1.059-1.069		1470	73.5											
13C-PCB-188	5.64e+07	0.46 y	1.01	42:43	0.924	0.919-0.929		1590	79.7											
13C-PCB-189	4.04e+07	0.44 y	0.80	52:08	1.128	1.124-1.136		1440	72.2											
13C-PCB-194	3.82e+07	0.87 y	0.75	53:38	0.995	0.990-1.000		1960	98.2											
13C-PCB-202	4.43e+07	0.90 y	0.99	48:08	1.041	1.036-1.046		1280	64.2											
13C-PCB-206	3.39e+07	0.78 y	0.73	55:17	1.025	1.020-1.301		1770	88.3											
13C-PCB-208	5.47e+07	0.78 y	1.08	52:54	0.981	0.977-0.987		1930	96.7											
13C-PCB-209	2.86e+07	1.20 y	0.71	56:35	1.049	1.045-1.055		1540	77.0											

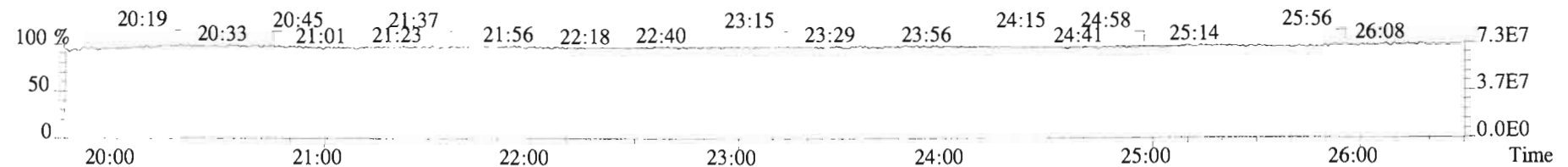
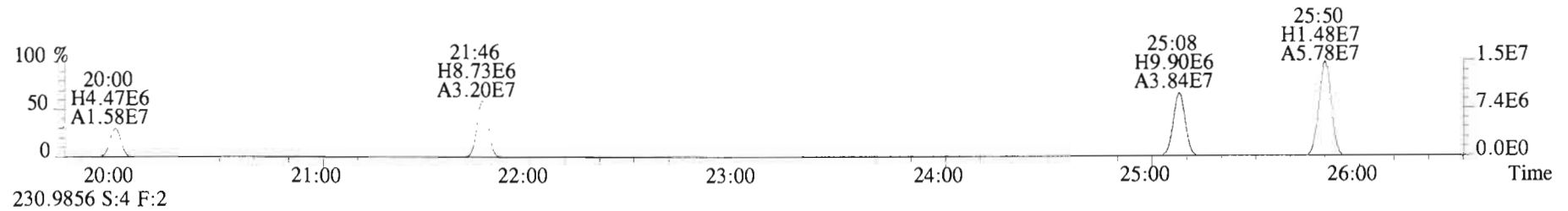
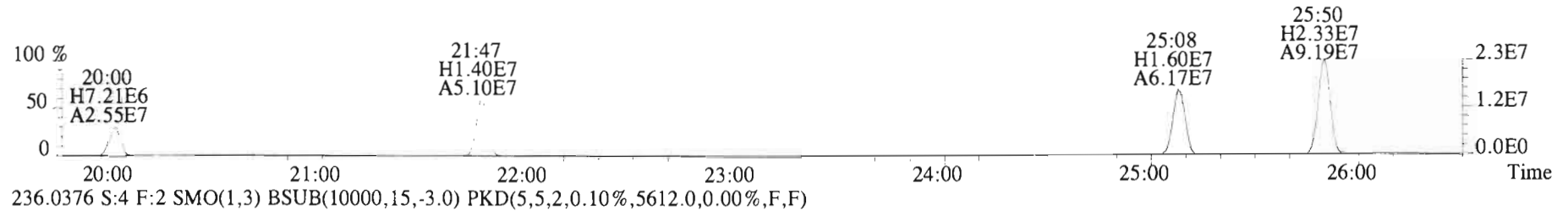
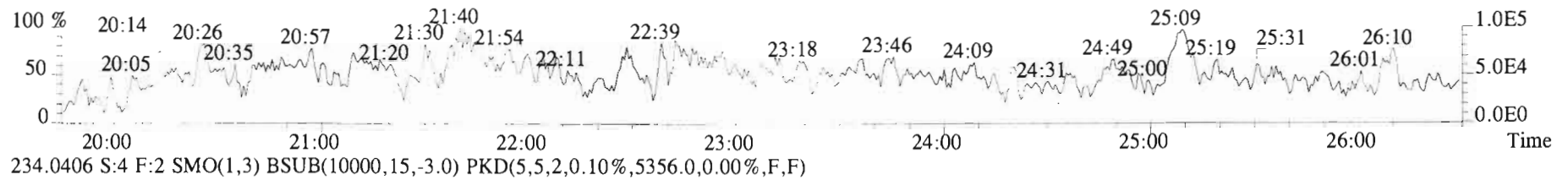
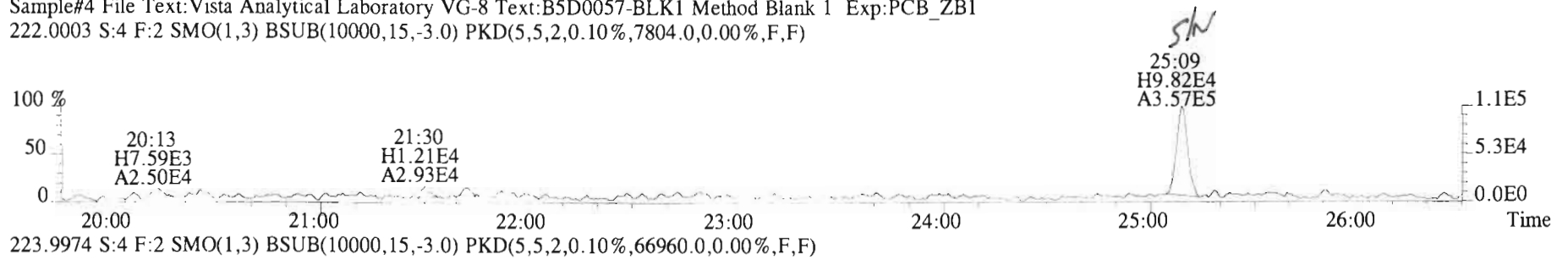
Analyst: DMS

Date: 4/22/15

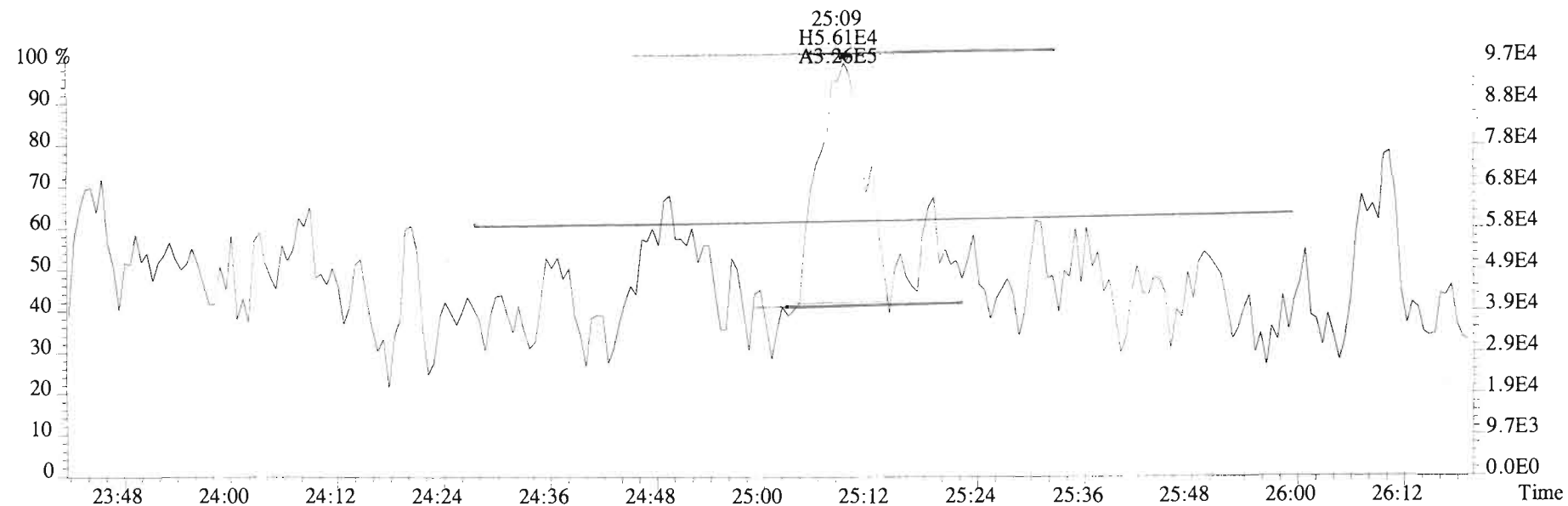
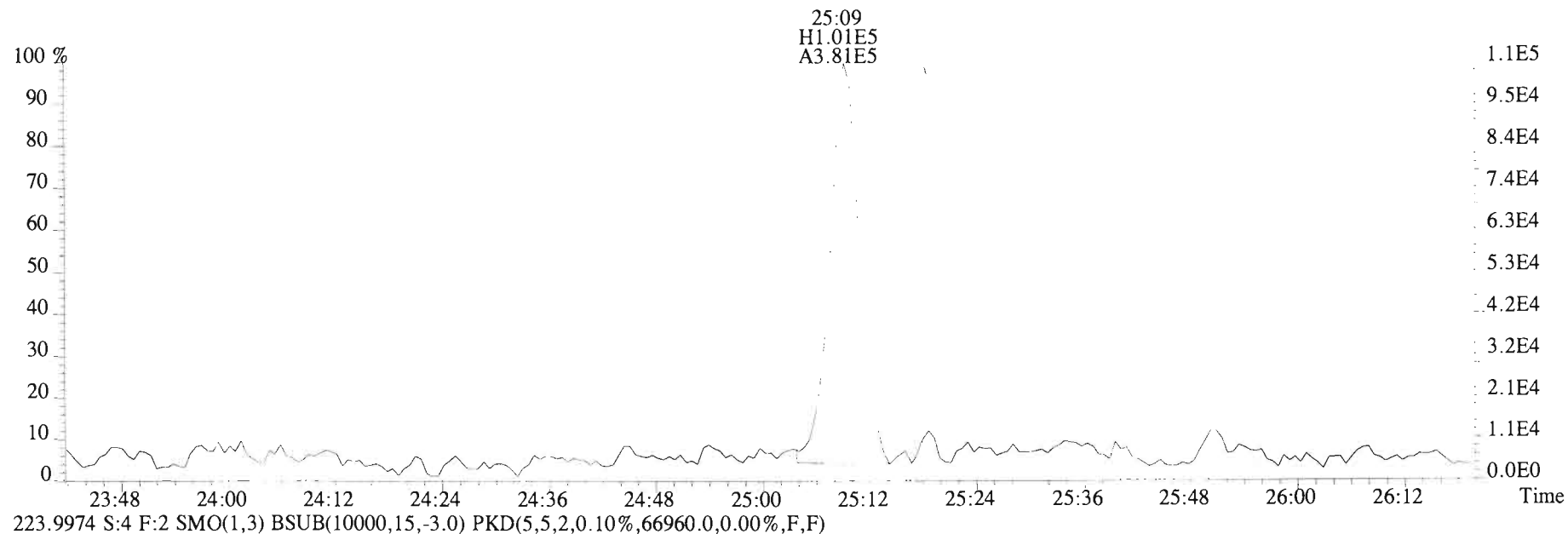
File:150421E1 #1-867 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
188.0393 S:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,5756.0,0.00%,F,F)



File:150421E1 #1-757 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
 222.0003 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7804.0,0.00%,F,F)



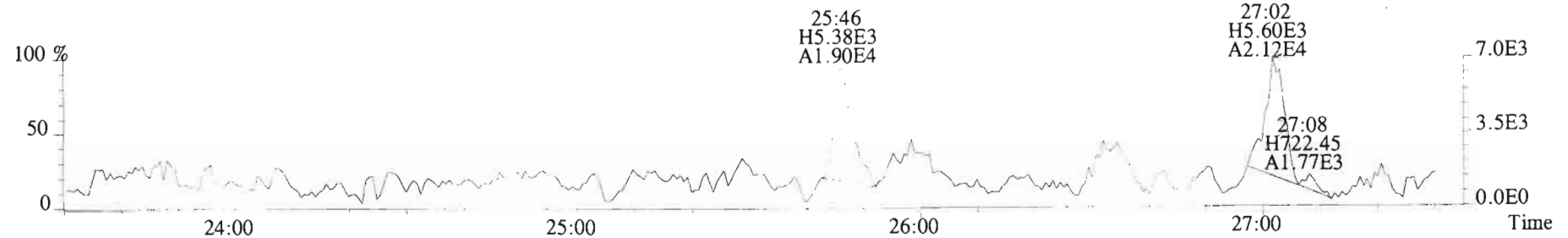
File:150421E1 #1-757 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
222.0003 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7804.0,0.00%,F,F)



File:150421E1 #1-757 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
255.9613 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3292.0,0.00%,F,F)



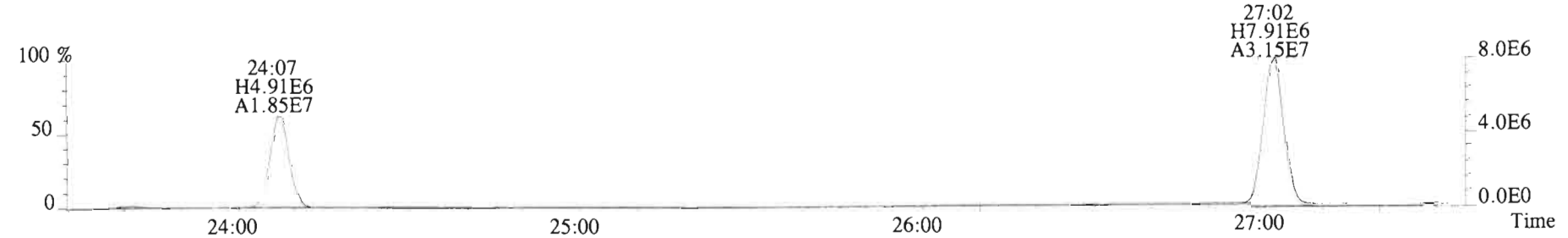
257.9584 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1544.0,0.00%,F,F)



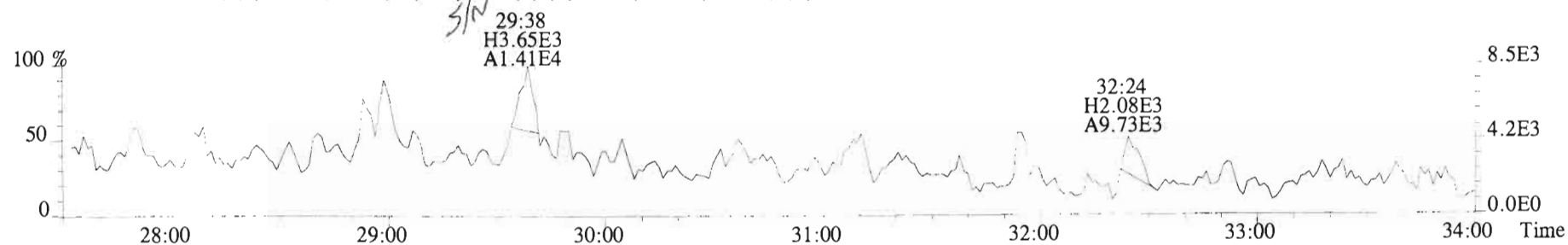
268.0016 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,34728.0,0.00%,F,F)



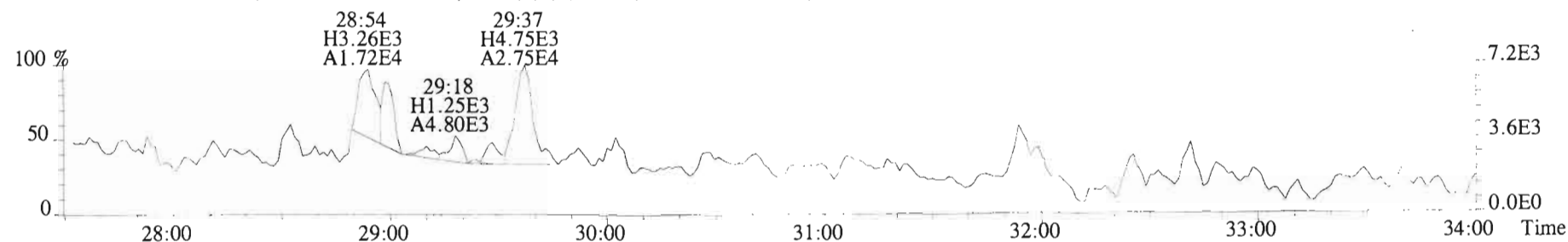
269.9986 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,35796.0,0.00%,F,F)



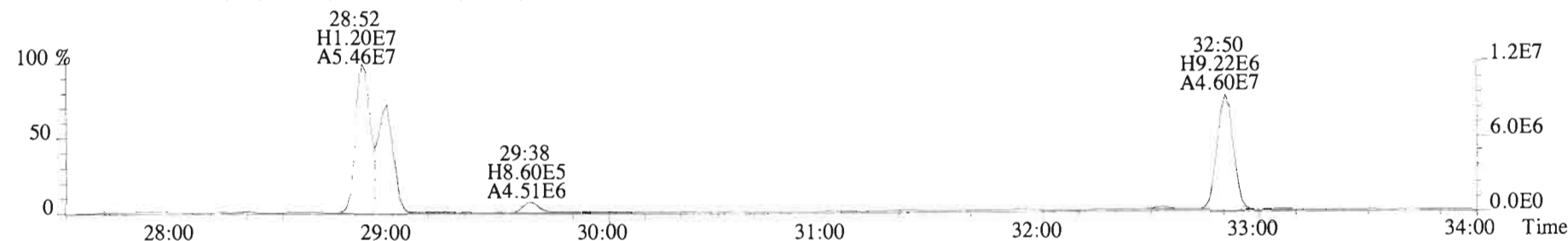
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
255.9613 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3472.0,0.00%,F,F)



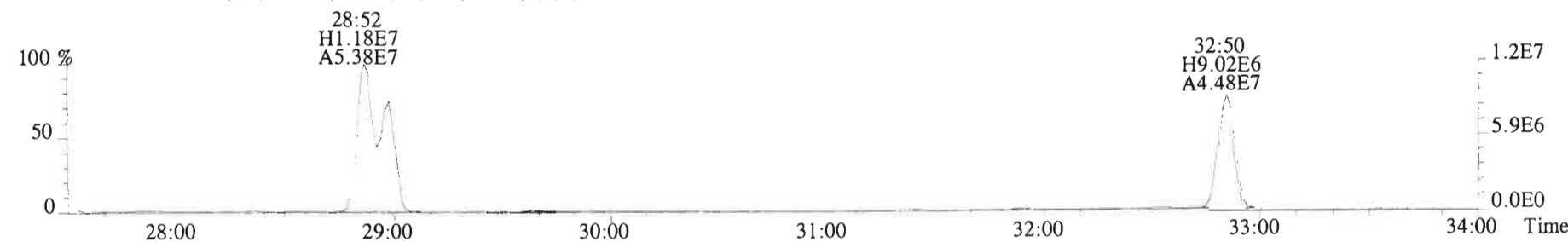
257.9584 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2864.0,0.00%,F,F)



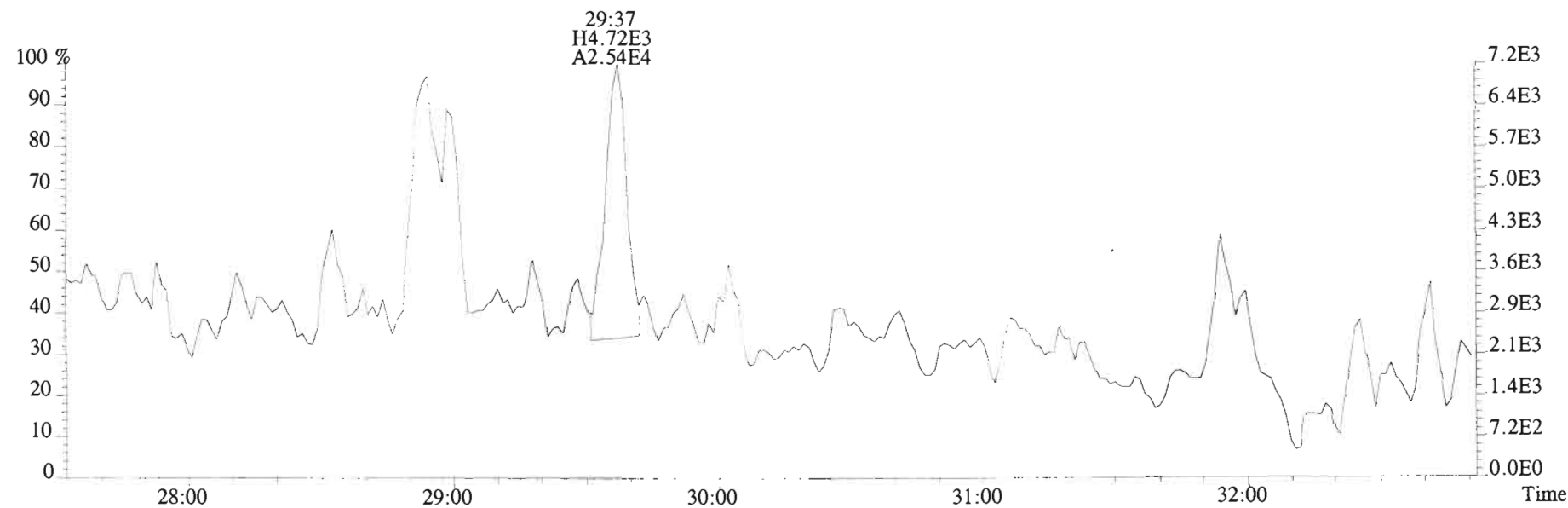
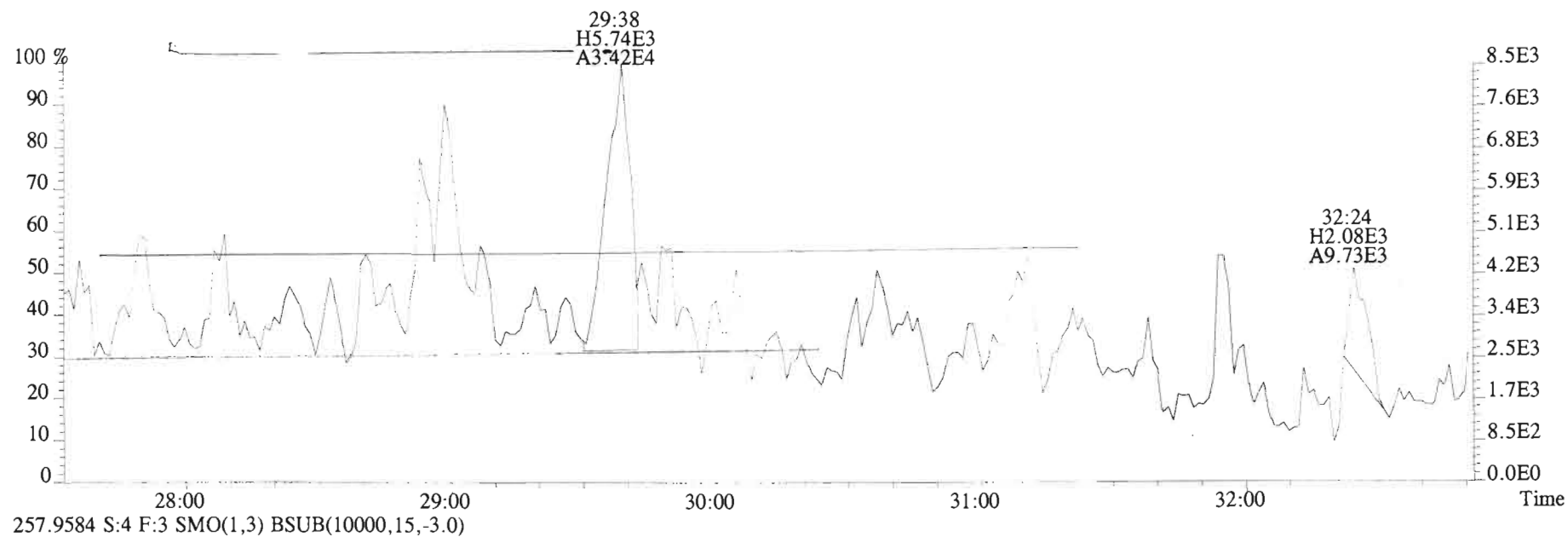
268.0016 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,124832.0,0.00%,F,F)



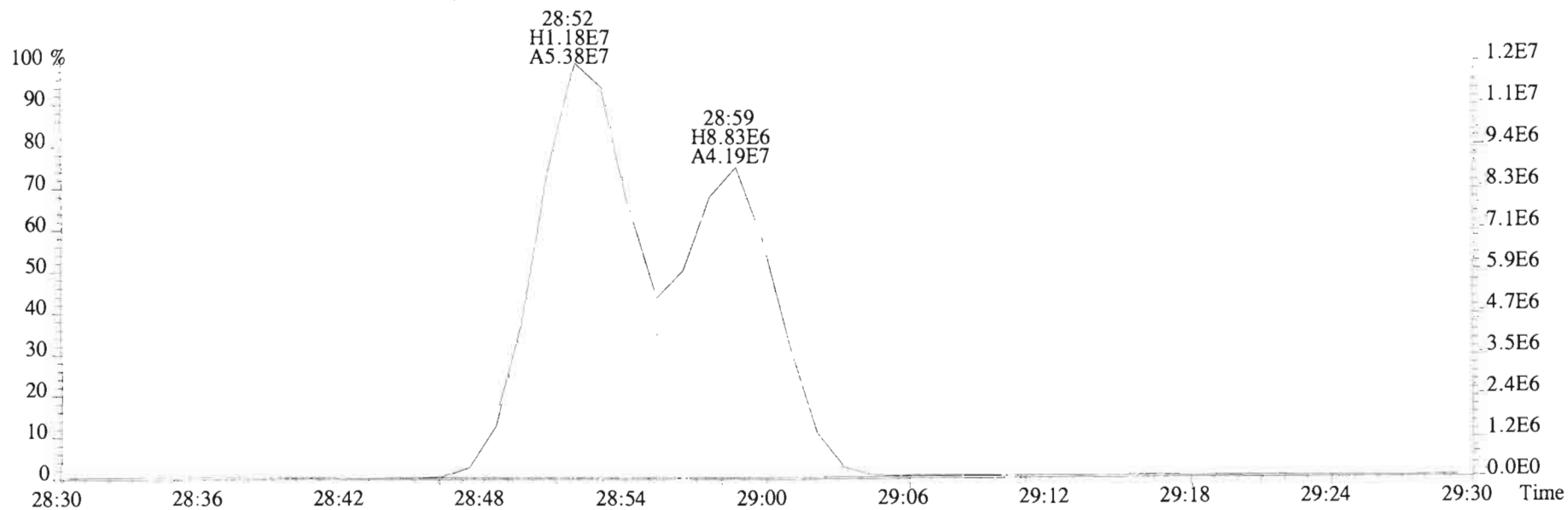
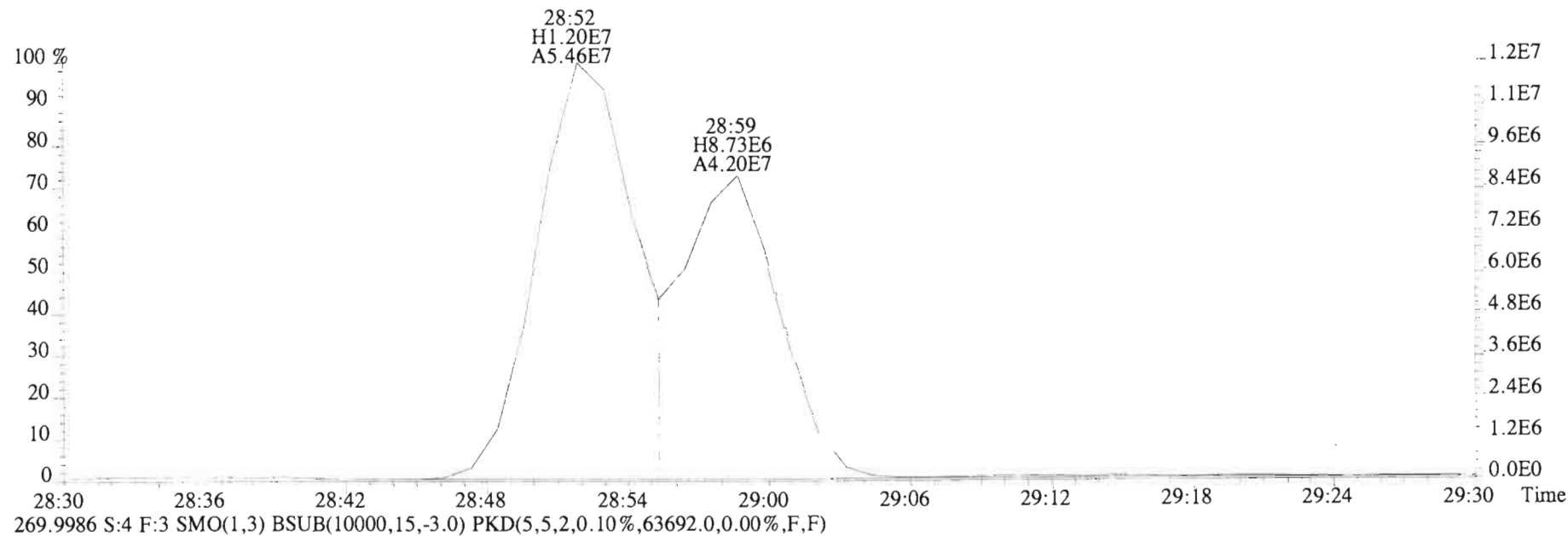
269.9986 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,63692.0,0.00%,F,F)



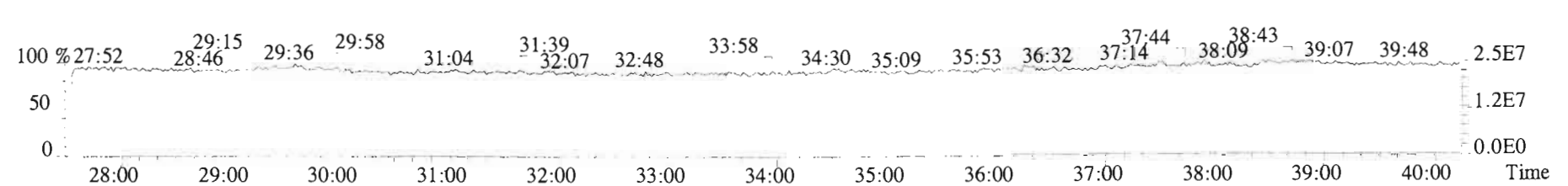
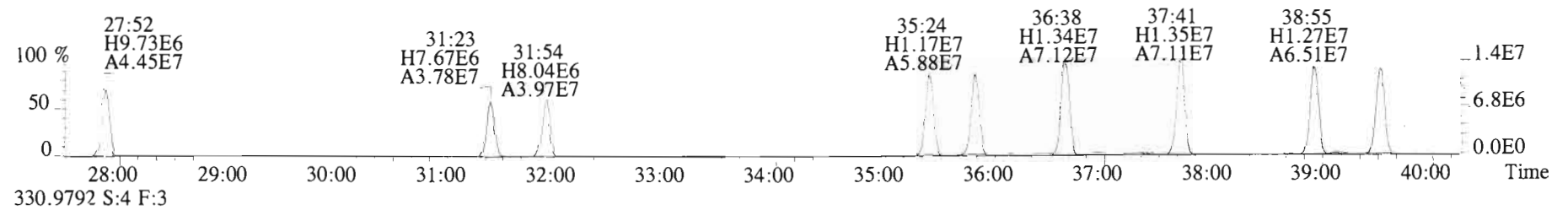
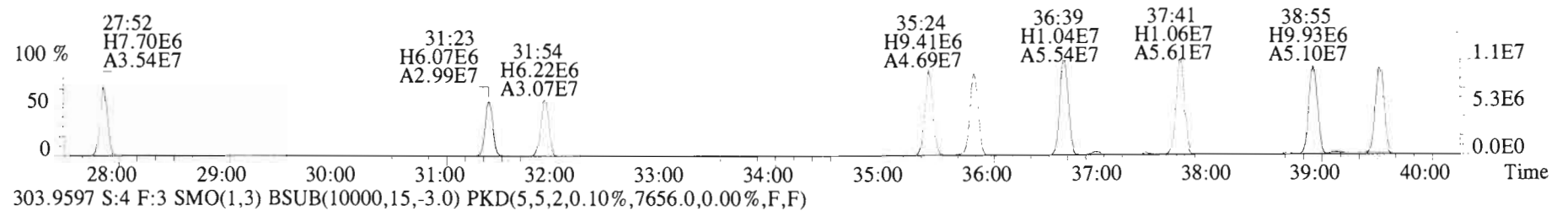
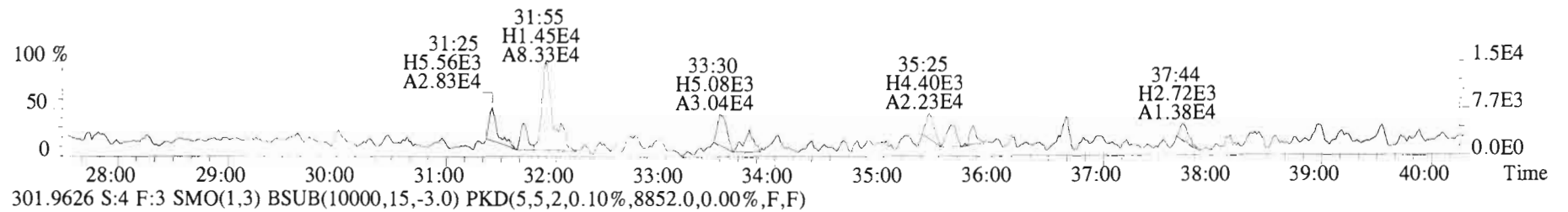
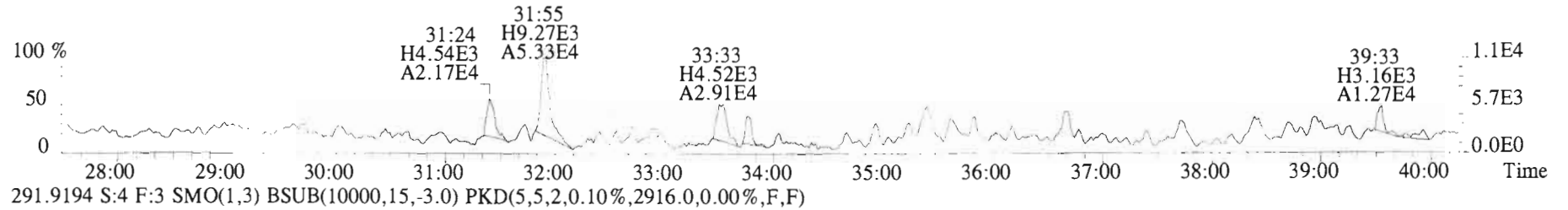
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
255.9613 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0)



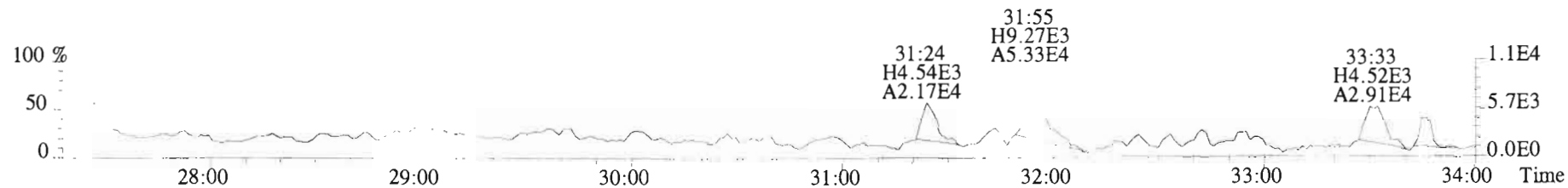
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
268.0016 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,124832.0,0.00%,F,F)



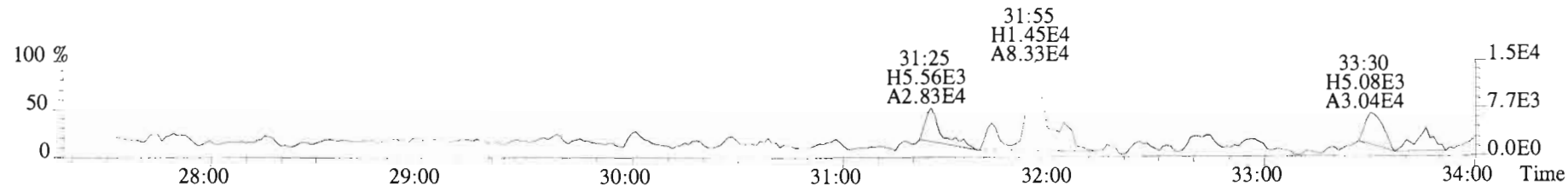
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
 289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2764.0,0.00%,F,F)



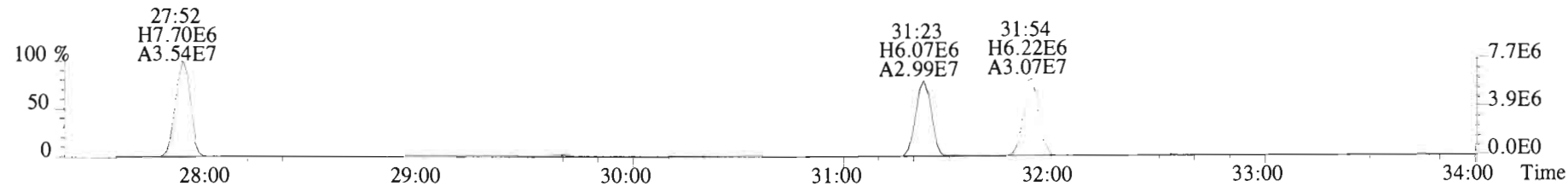
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2764.0,0.00%,F,F)



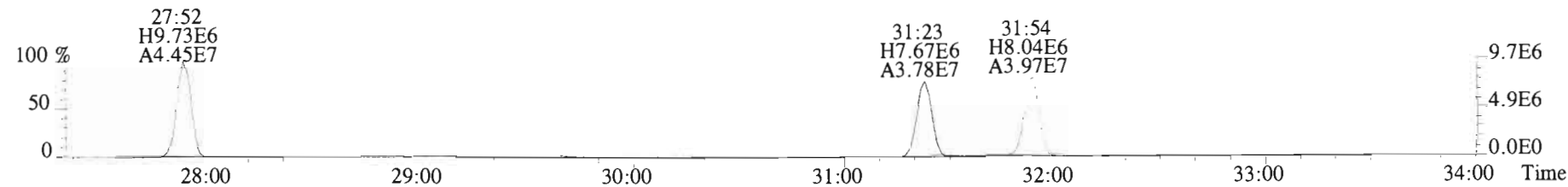
291.9194 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2916.0,0.00%,F,F)



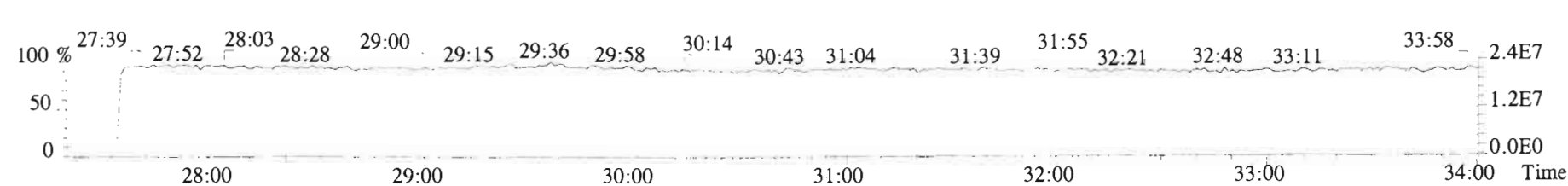
301.9626 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,8852.0,0.00%,F,F)



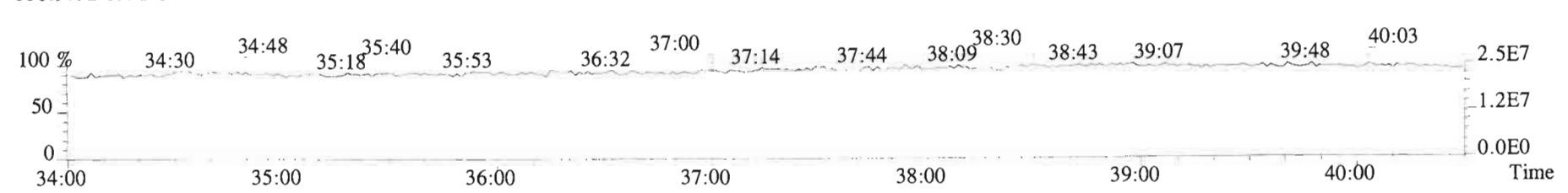
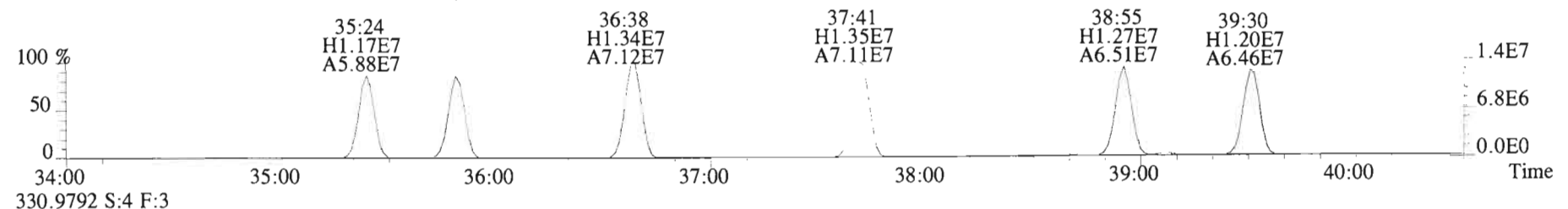
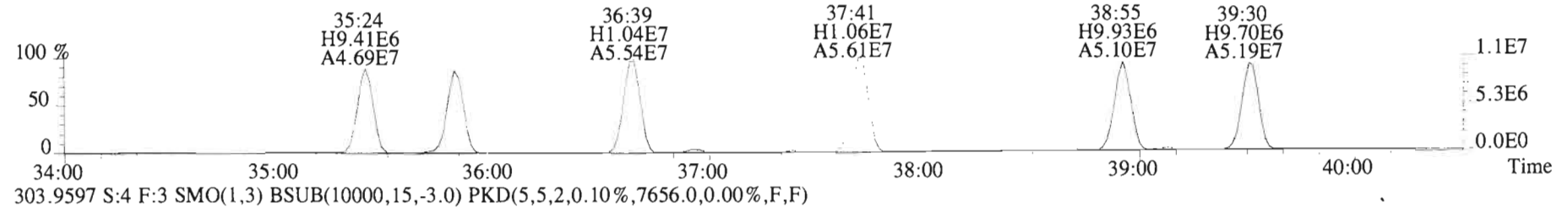
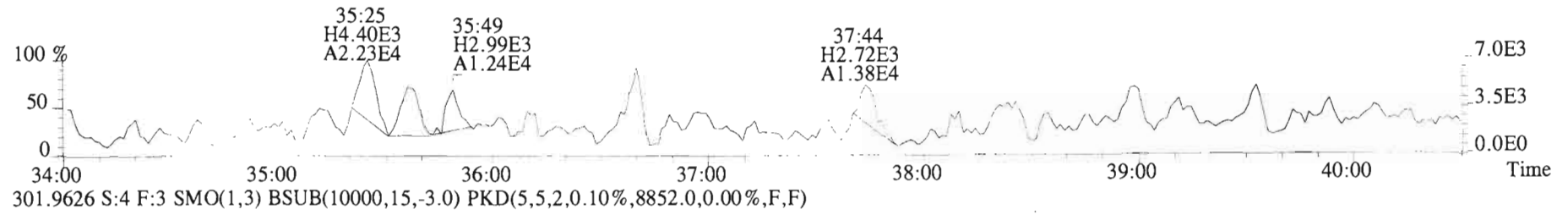
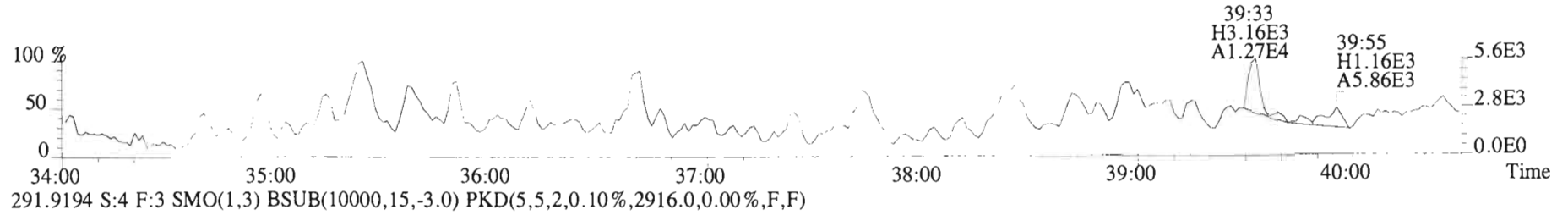
303.9597 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7656.0,0.00%,F,F)



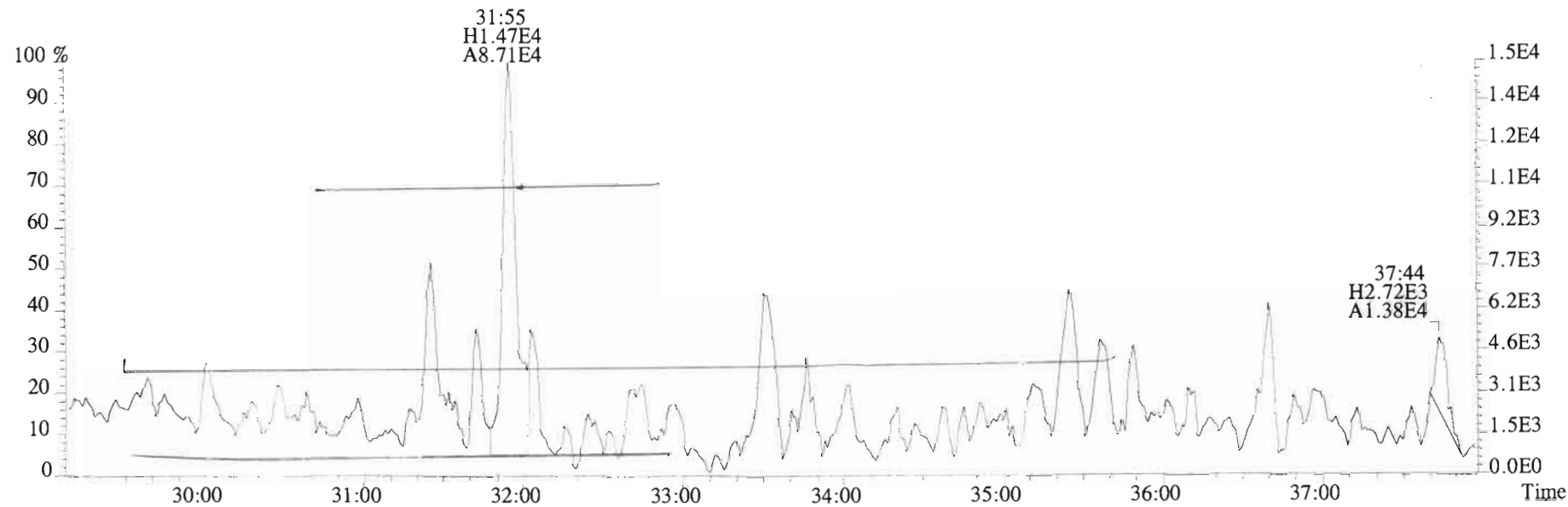
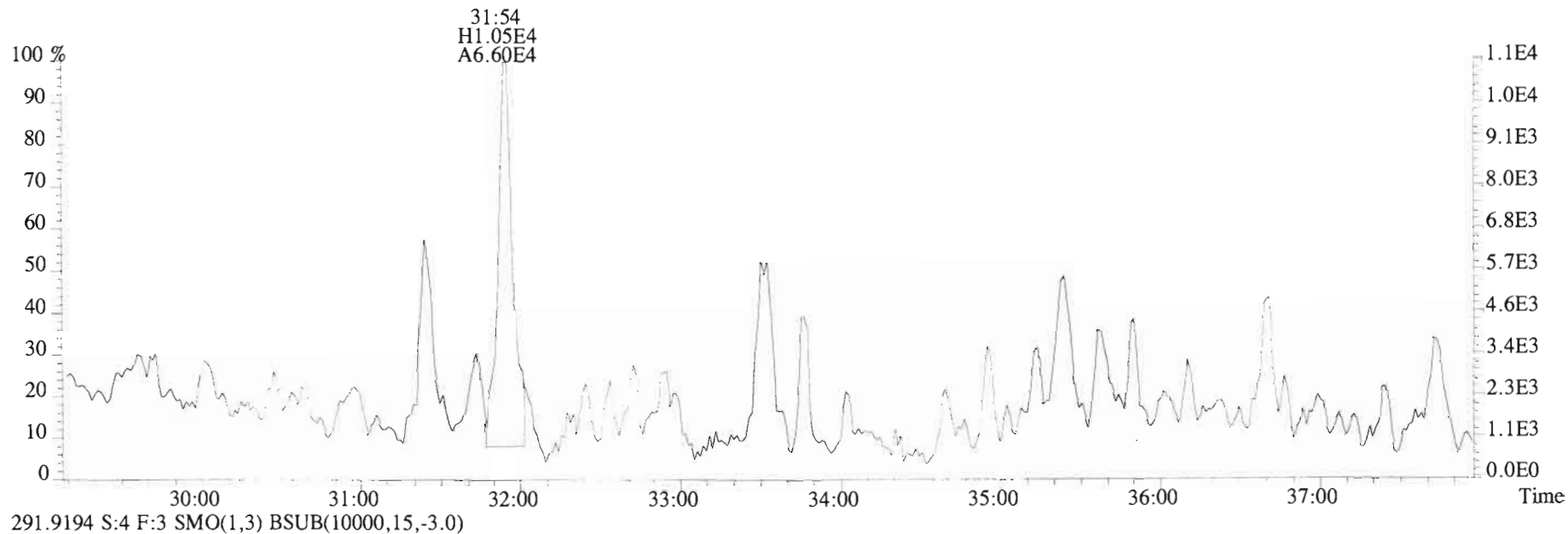
330.9792 S:4 F:3



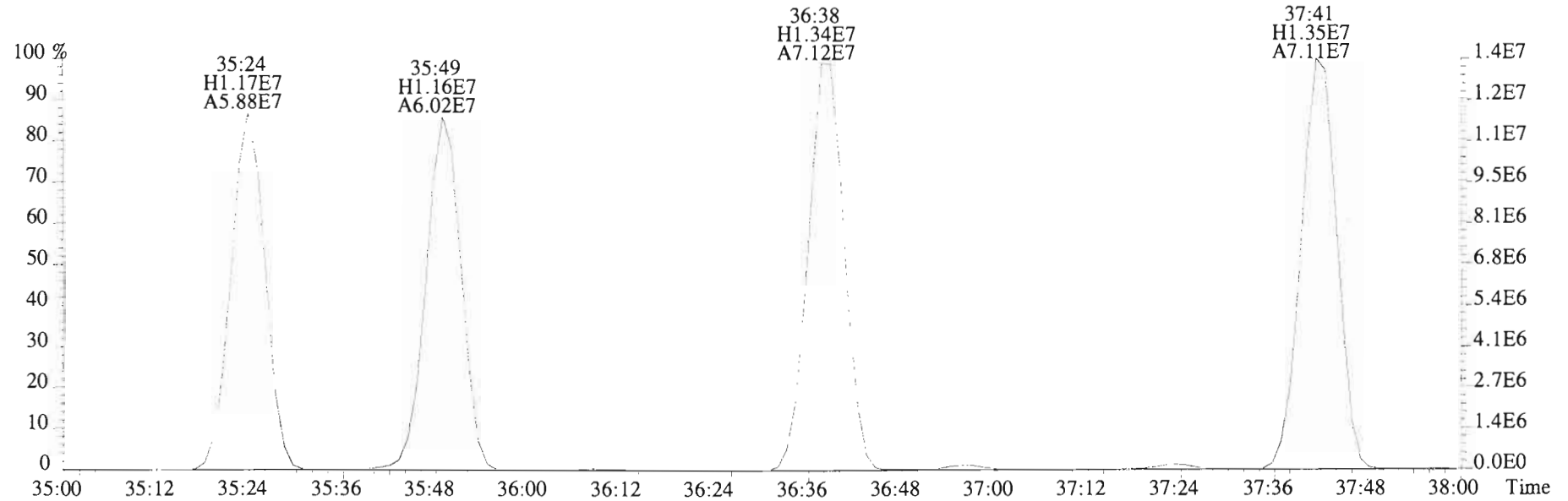
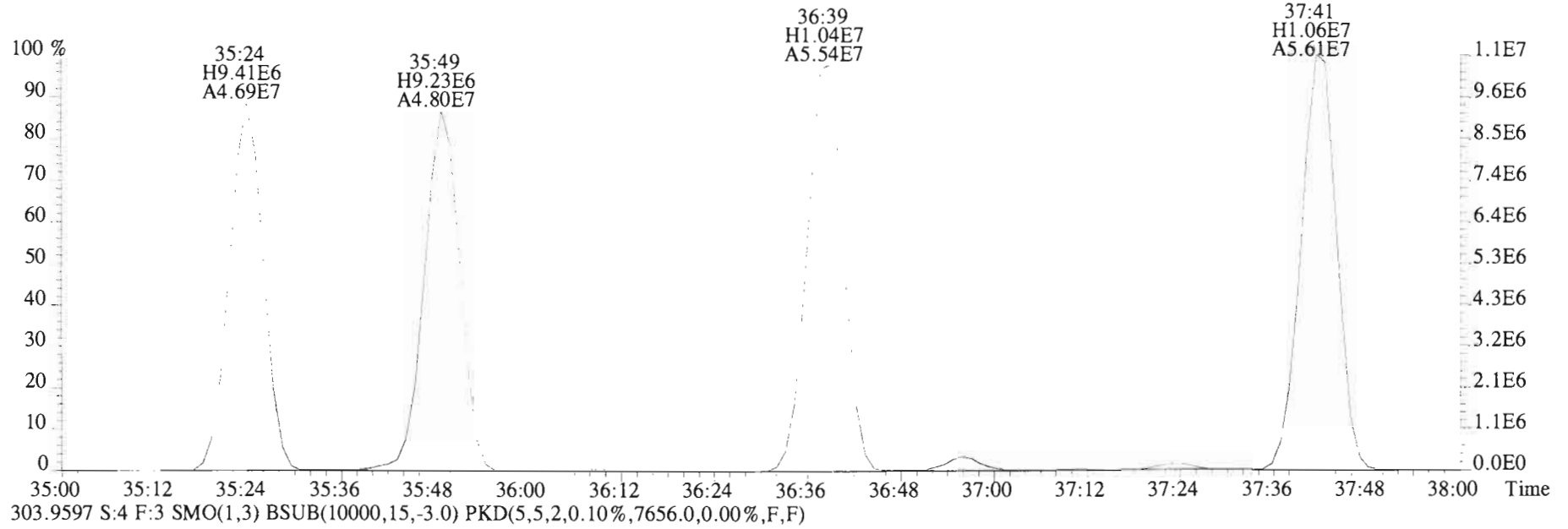
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2764.0,0.00%,F,F)



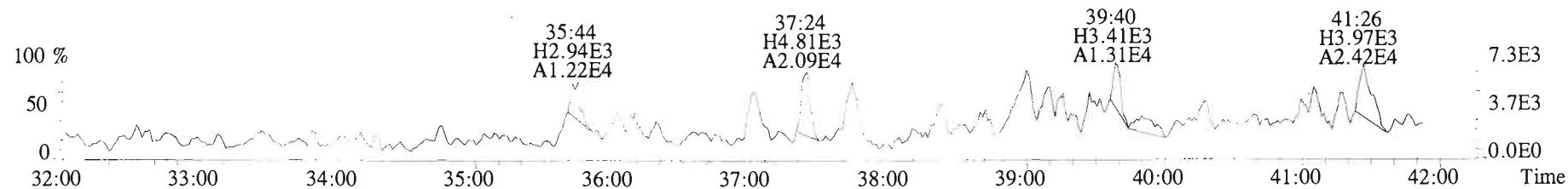
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0)



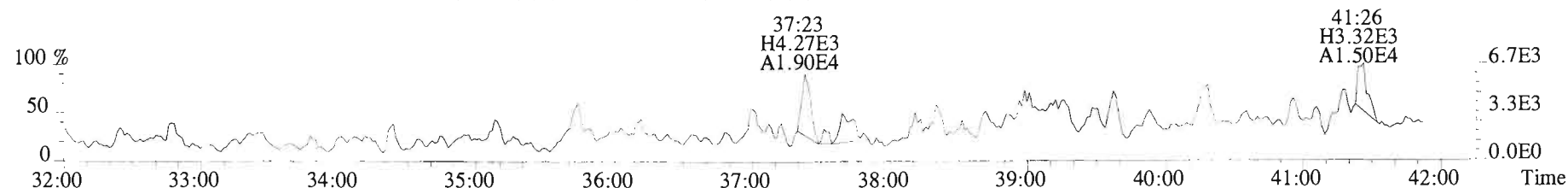
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
301.9626 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,8852.0,0.00%,F,F)



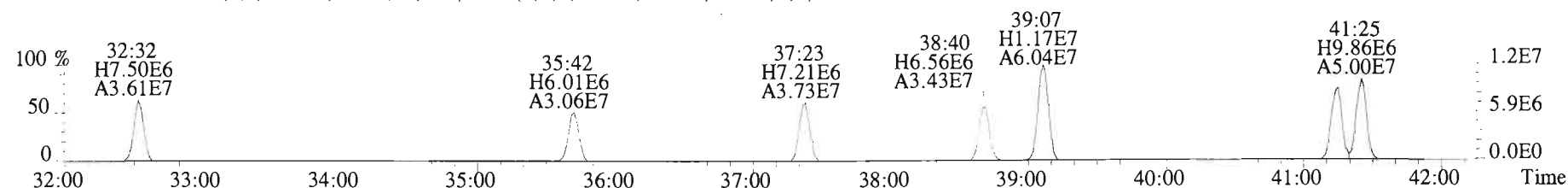
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2896.0,0.00%,F,F)



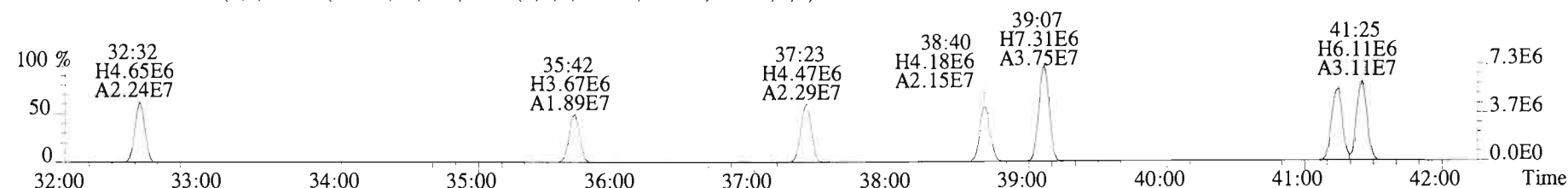
327.8775 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2692.0,0.00%,F,F)



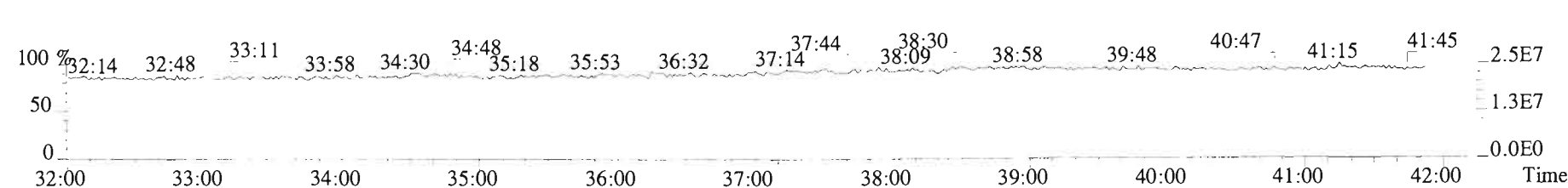
337.9207 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3136.0,0.00%,F,F)



339.9177 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3304.0,0.00%,F,F)

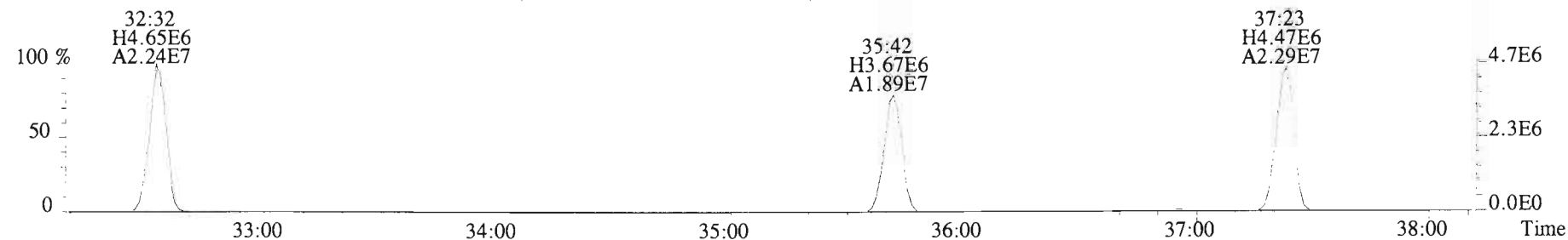
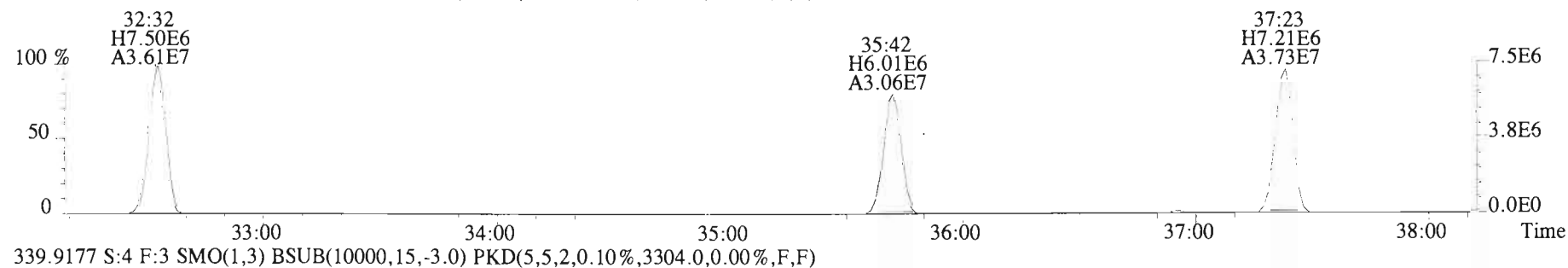
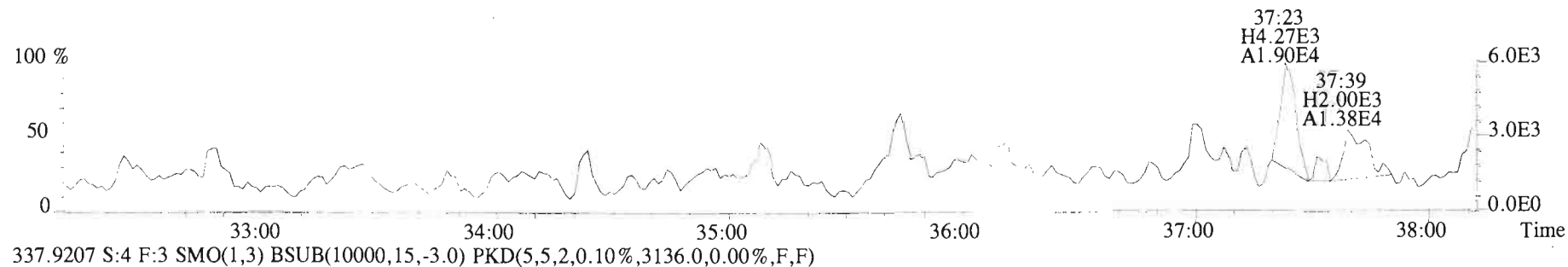
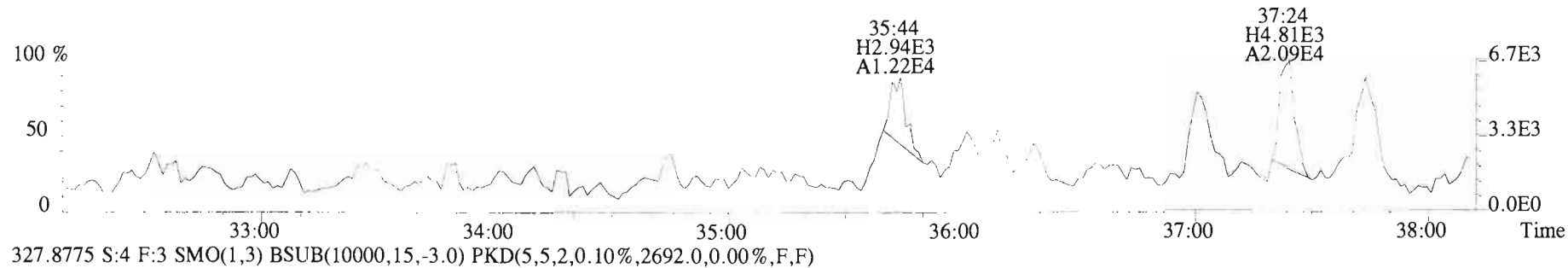


330.9792 S:4 F:3

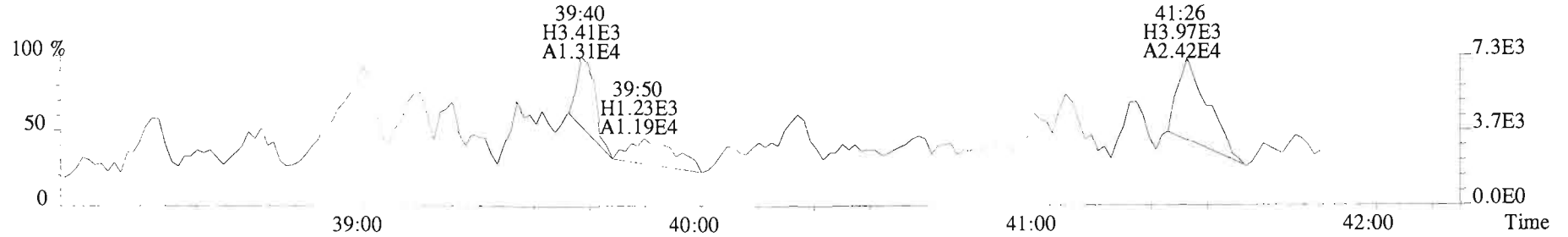


File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2896.0,0.00%,F,F)

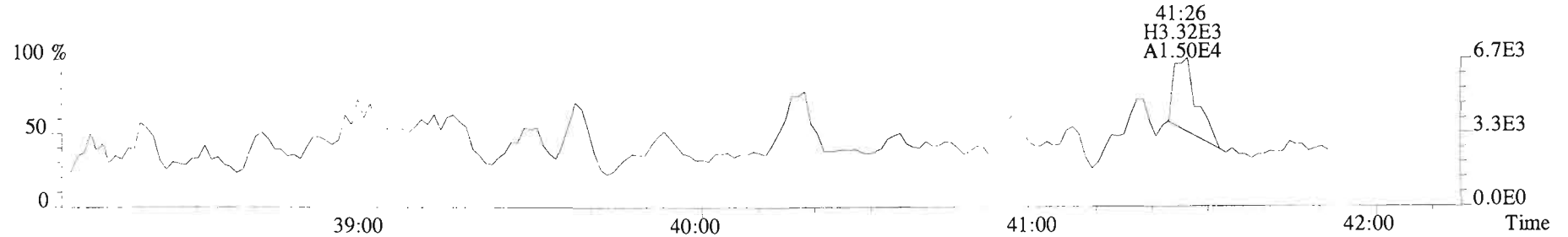
SN



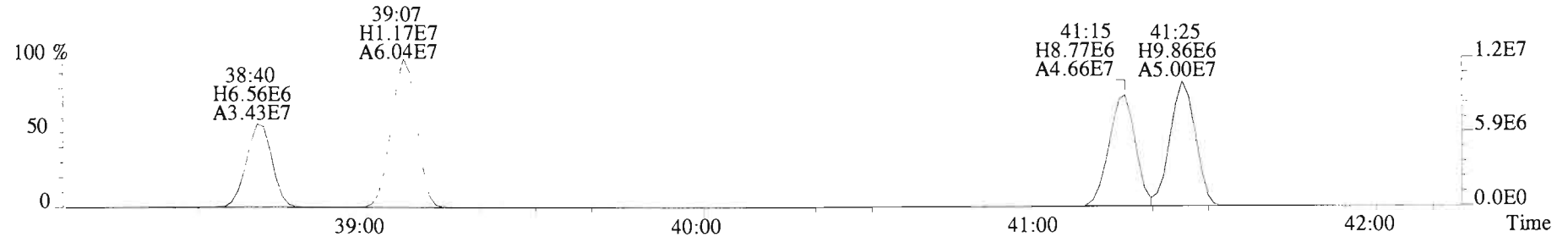
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2896.0,0.00%,F,F)



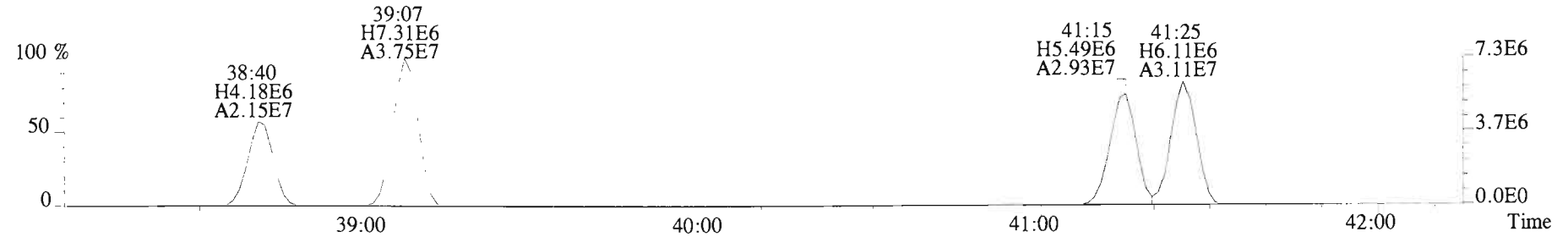
327.8775 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2692.0,0.00%,F,F)



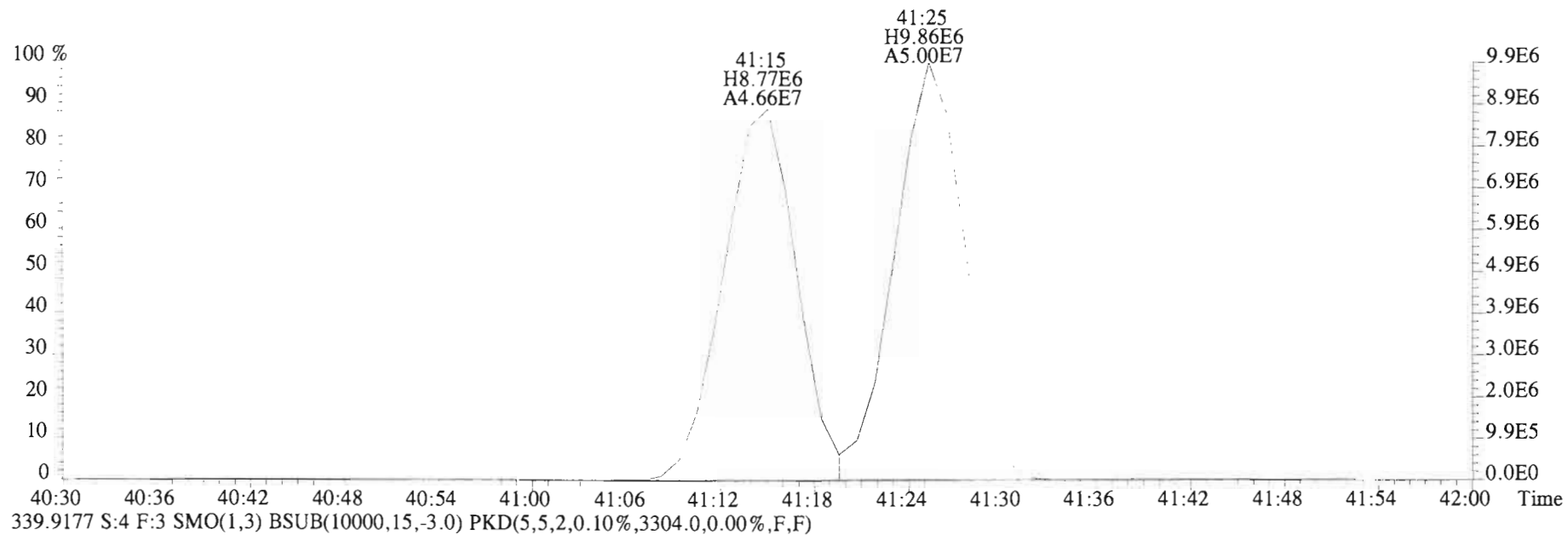
337.9207 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3136.0,0.00%,F,F)



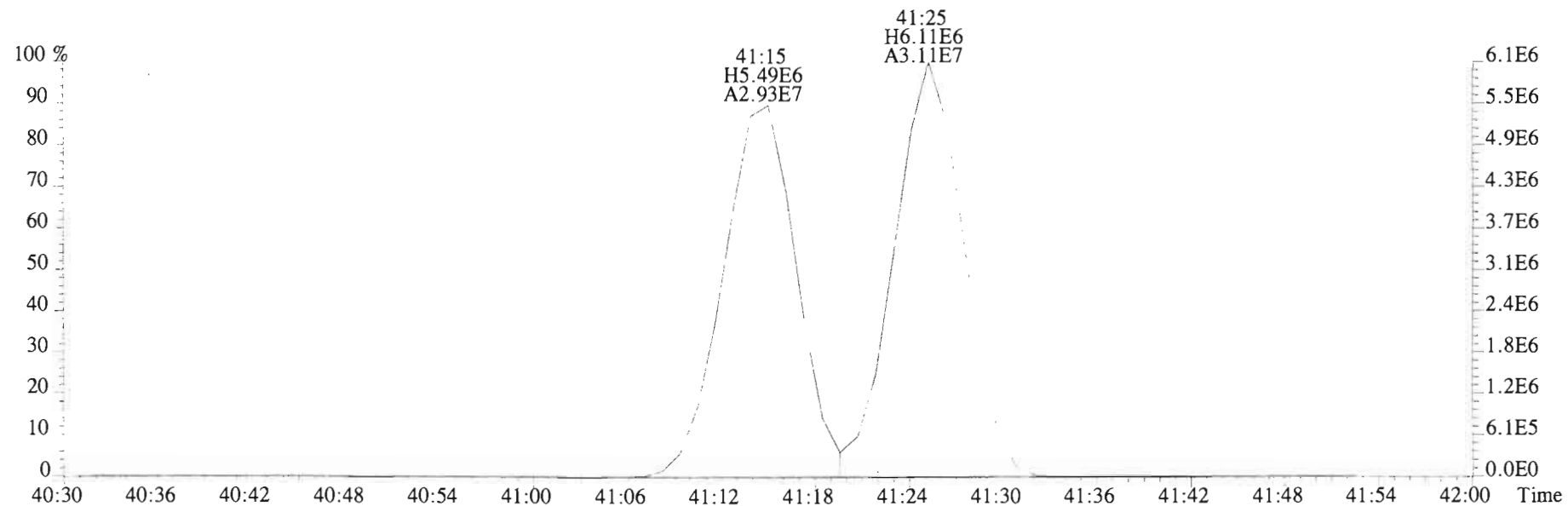
339.9177 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3304.0,0.00%,F,F)



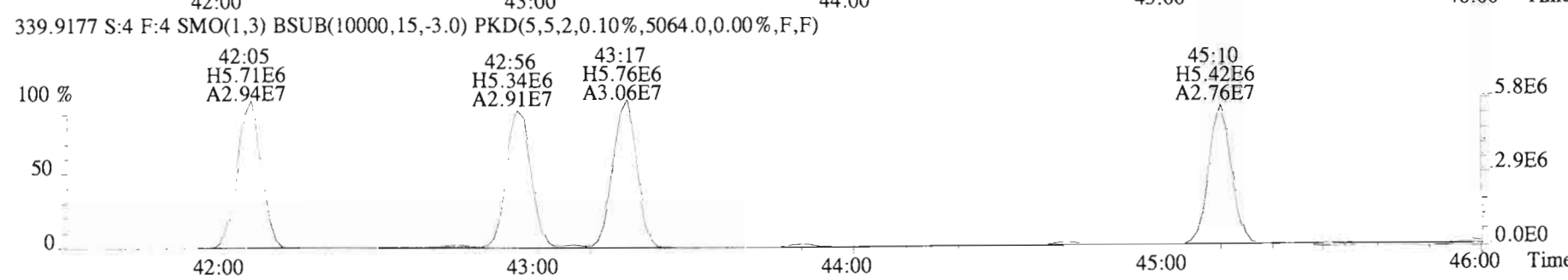
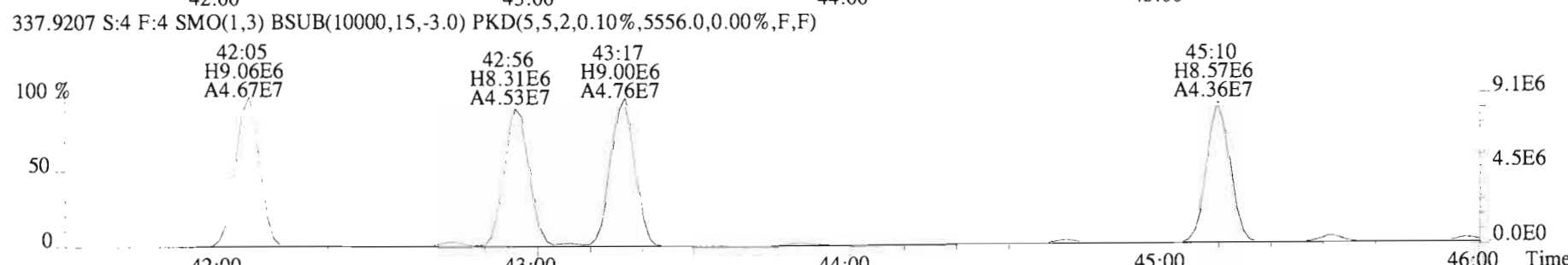
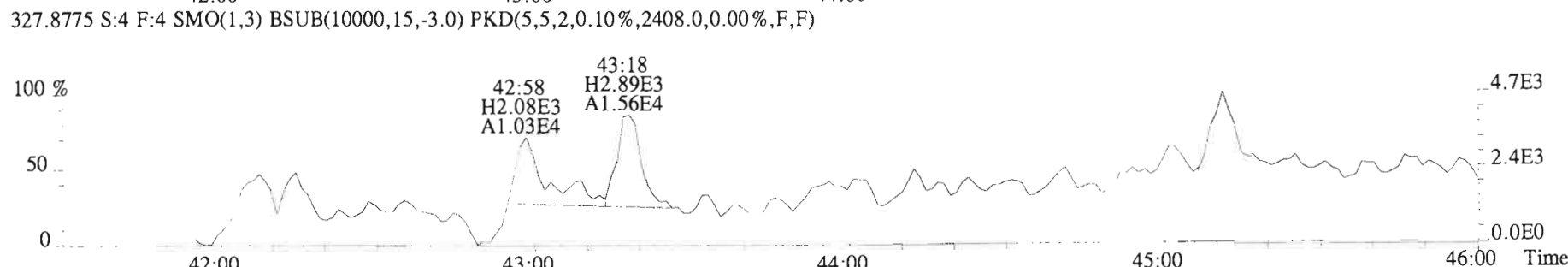
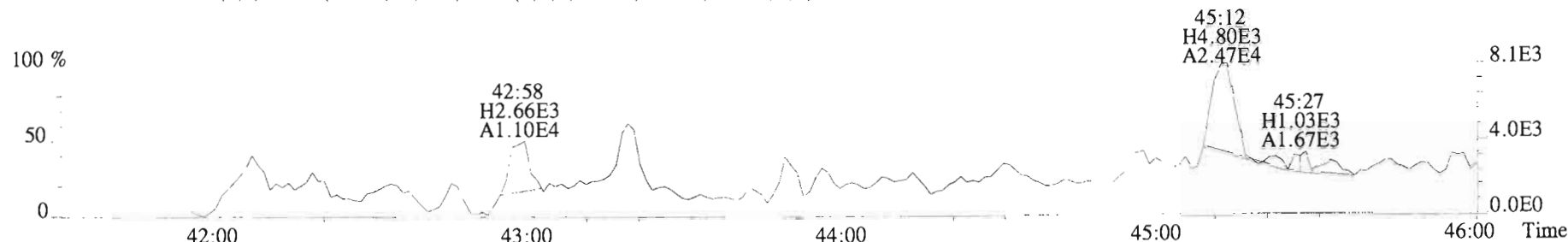
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
337.9207 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3136.0,0.00%,F,F)



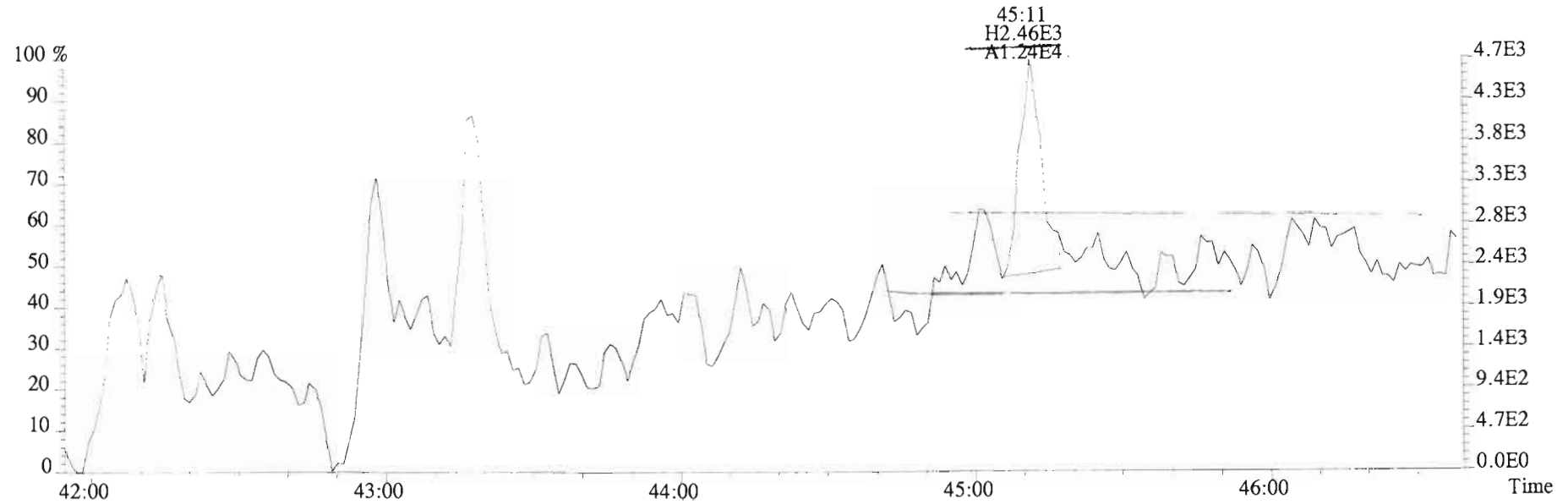
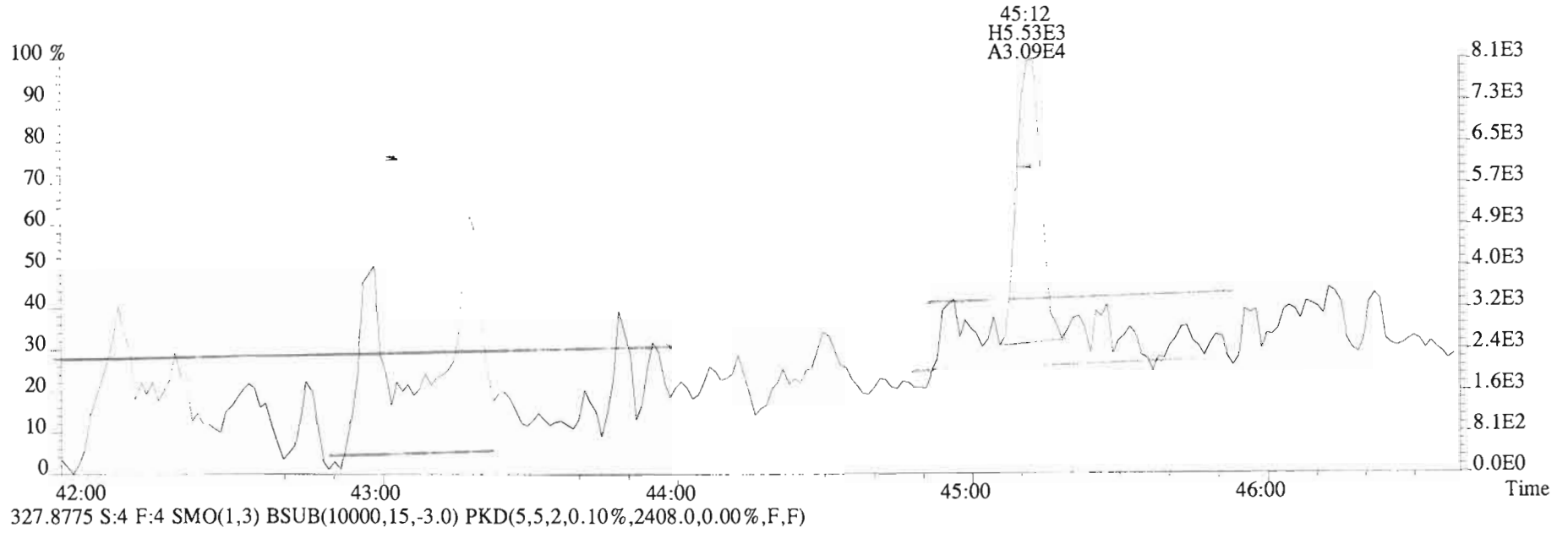
339.9177 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3304.0,0.00%,F,F)



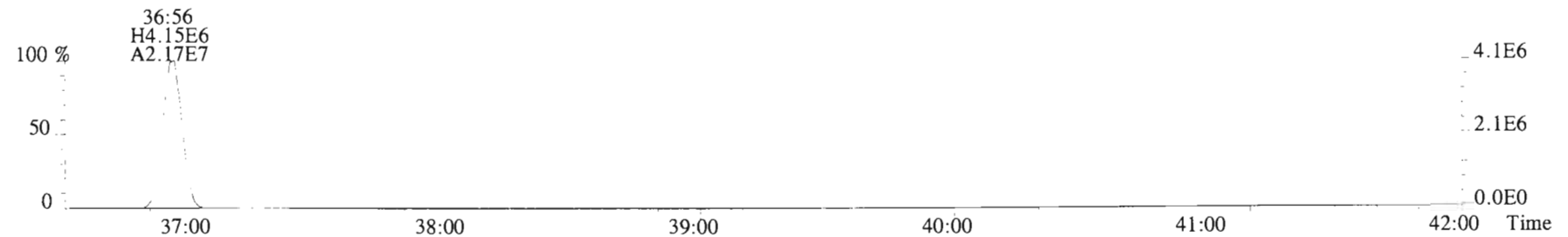
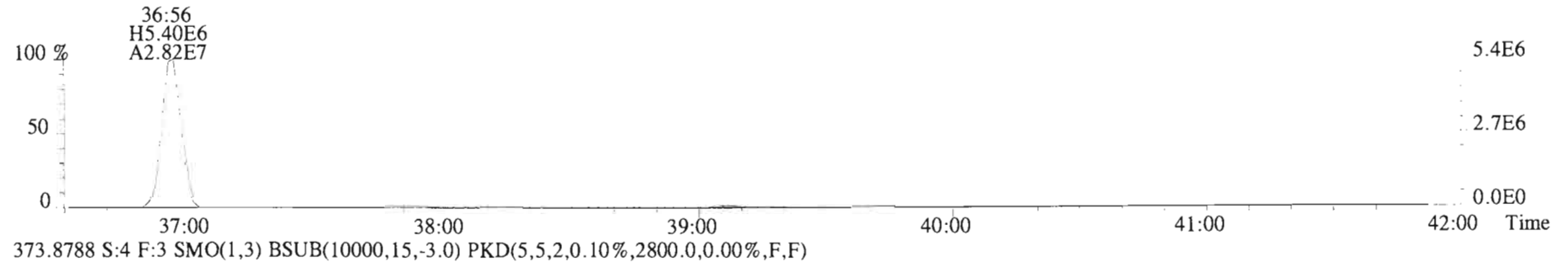
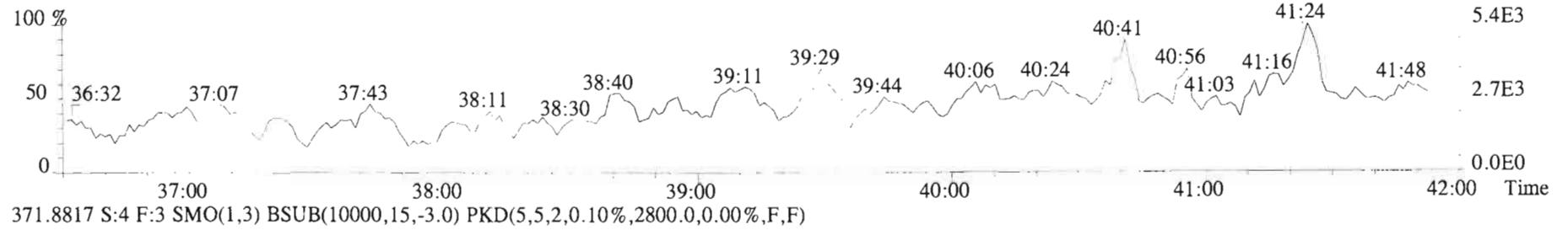
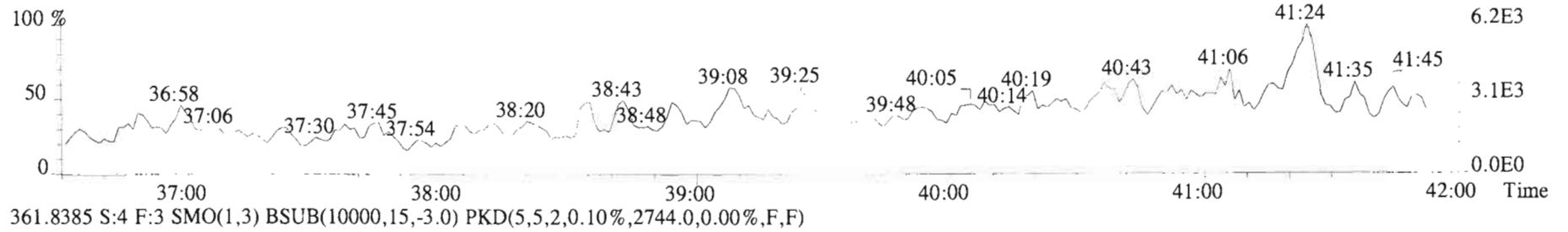
File:150421E1 #1-555 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
325.8804 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2644.0,0.00%,F,F)



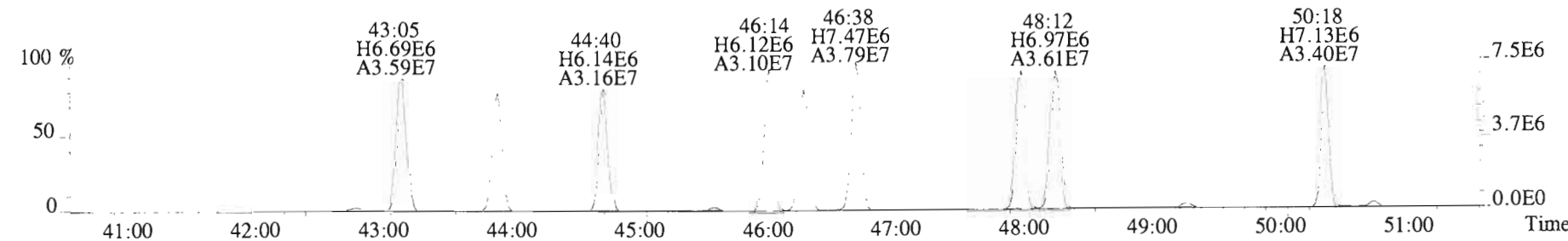
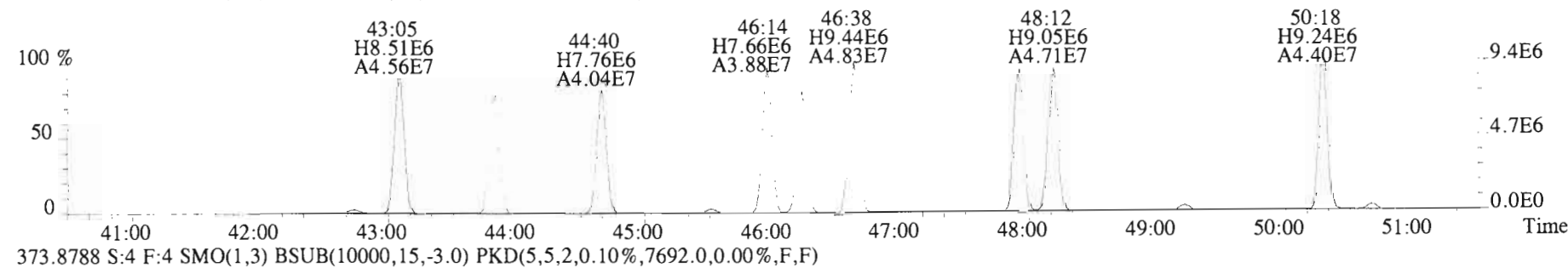
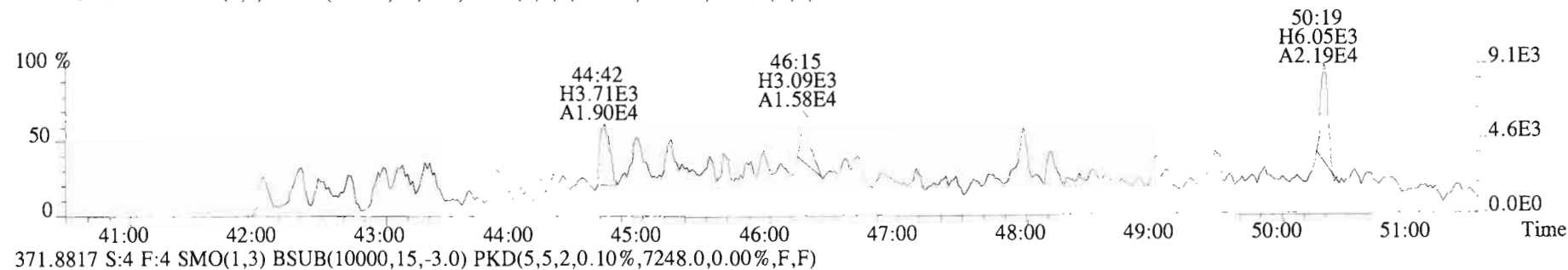
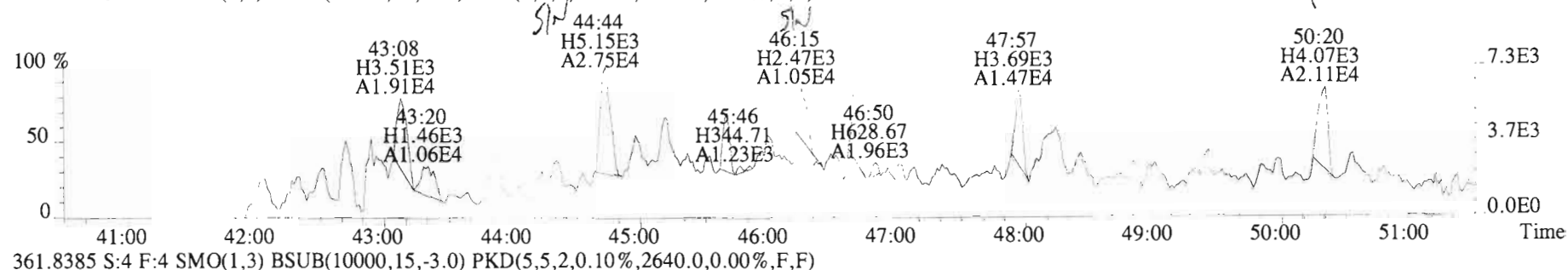
File:150421E1 #1-555 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
325.8804 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2644.0,0.00%,F,F)



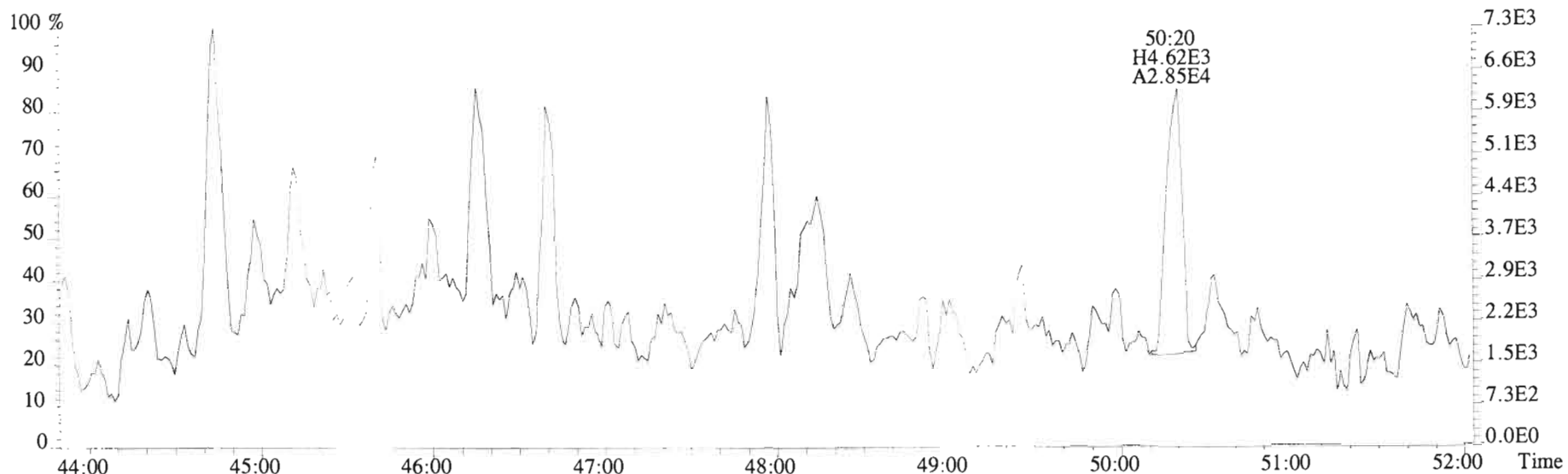
File:150421E1 #1-758 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
359.8415 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2688.0,0.00%,F,F)



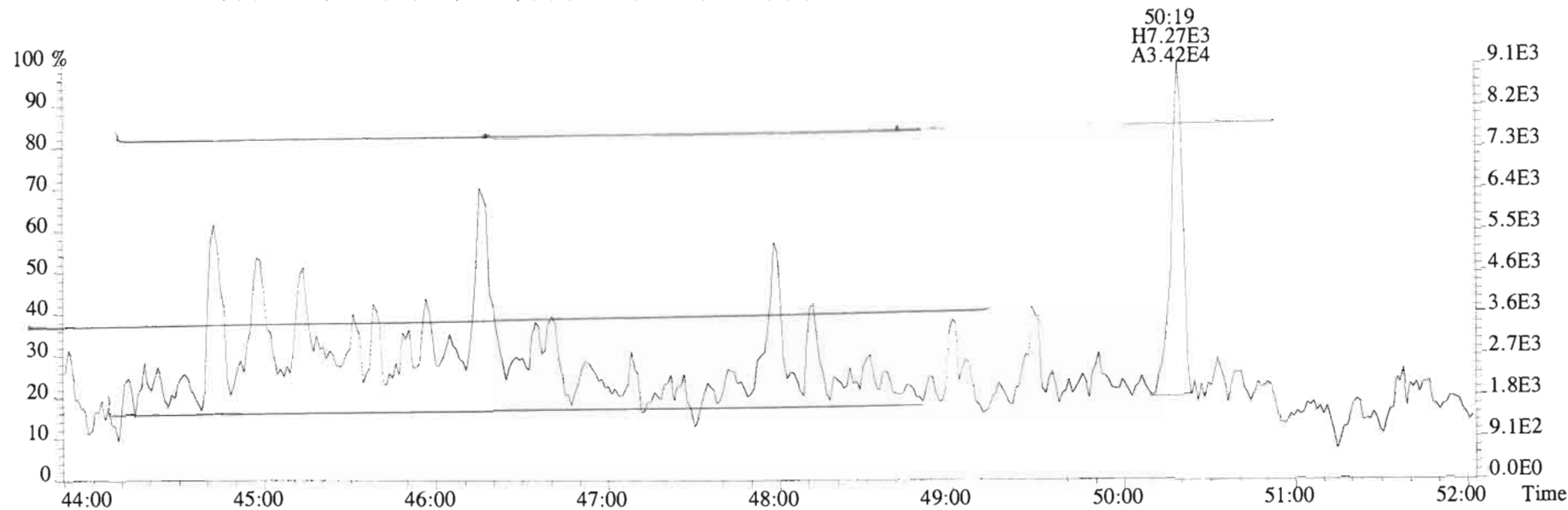
File:150421E1 #1-555 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
 359.8415 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2588.0,0.00%,F,F)



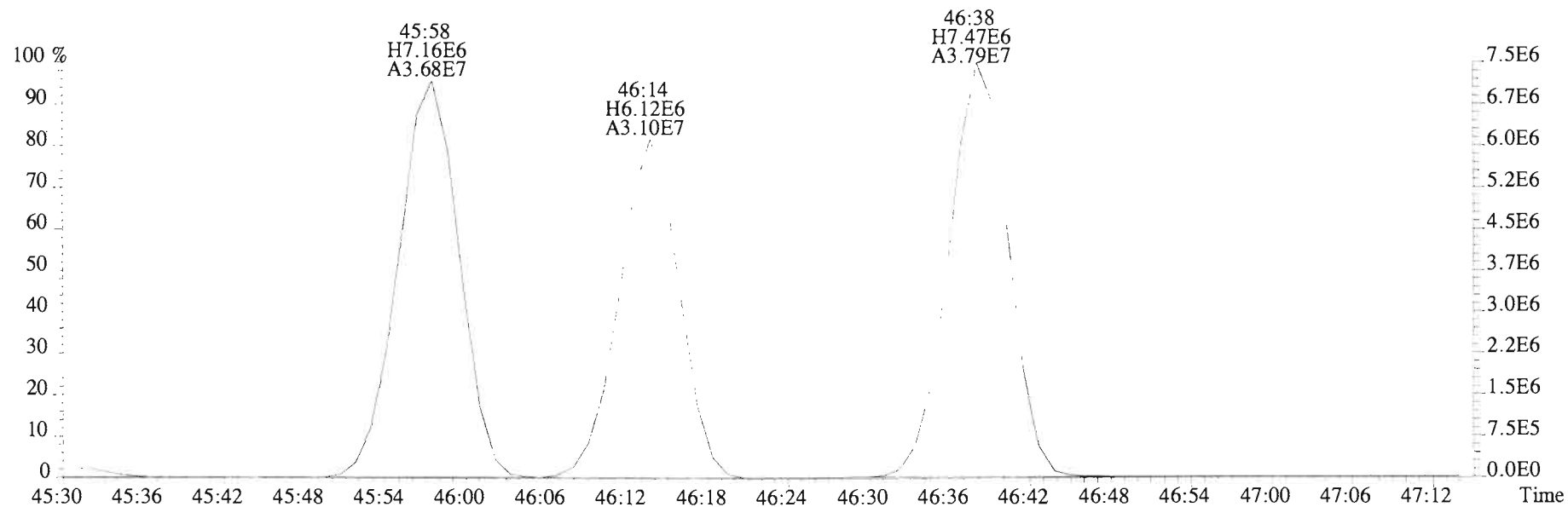
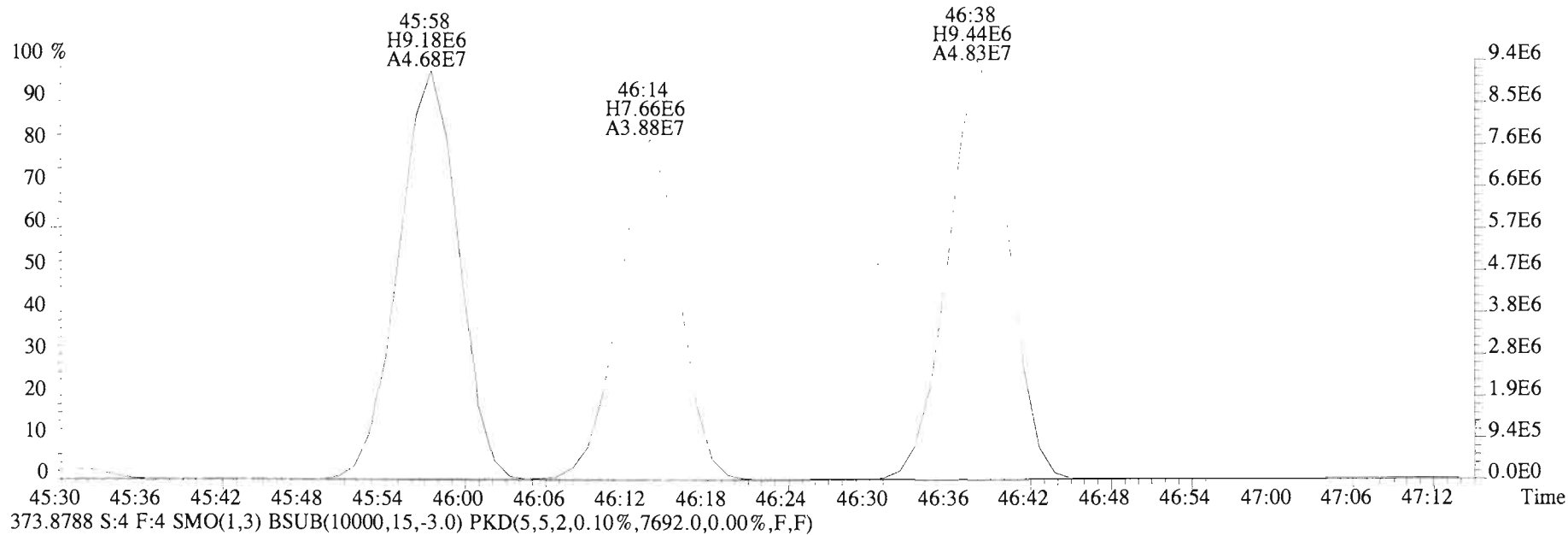
File:150421E1 #1-555 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
359.8415 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2588.0,0.00%,F,F)



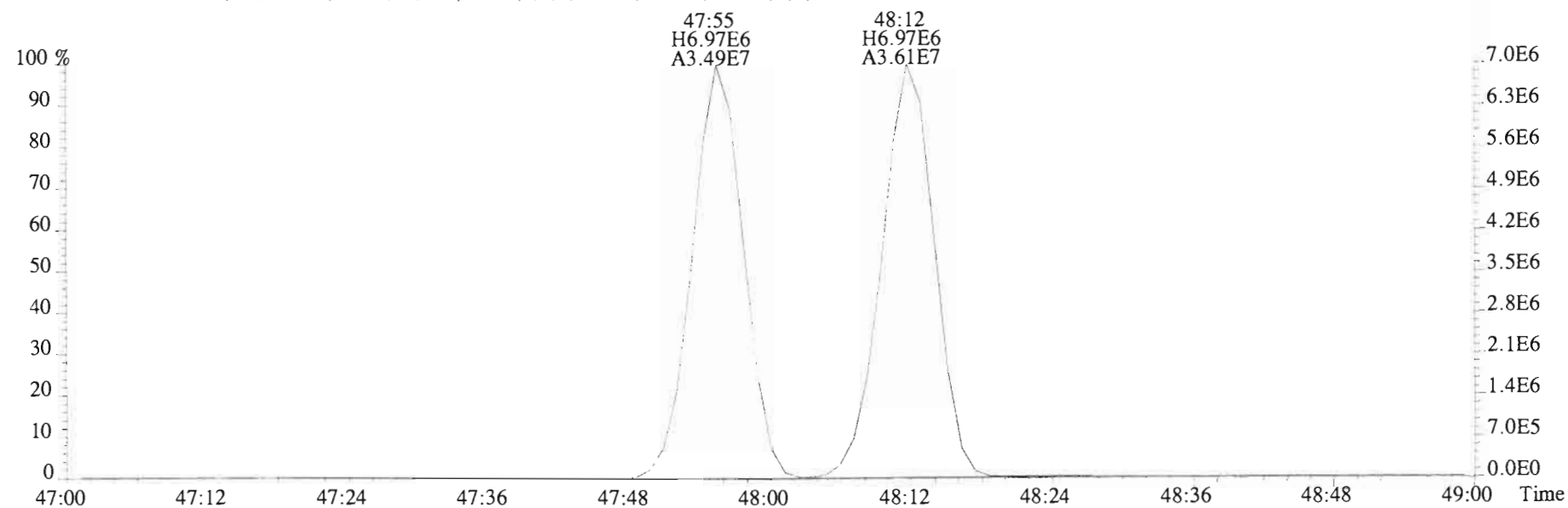
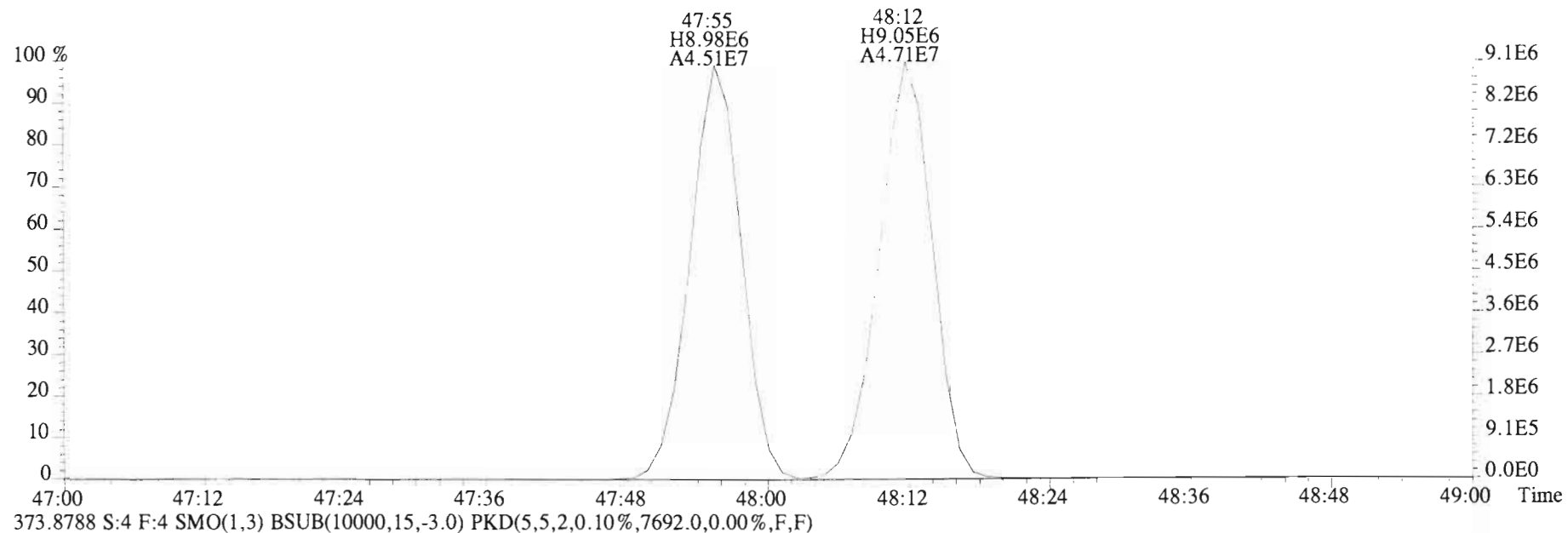
361.8385 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2640.0,0.00%,F,F)



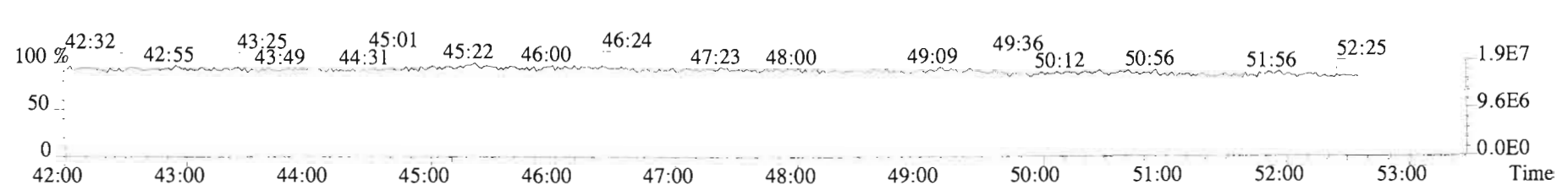
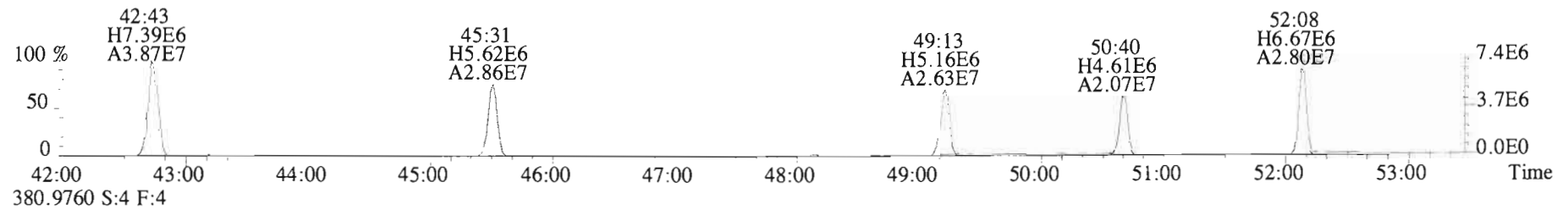
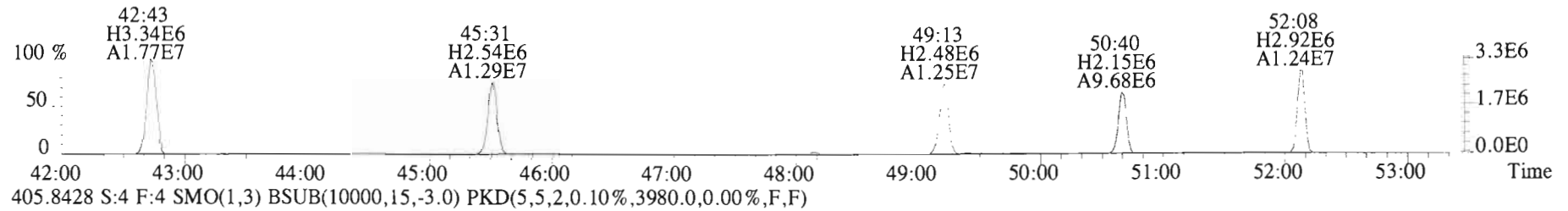
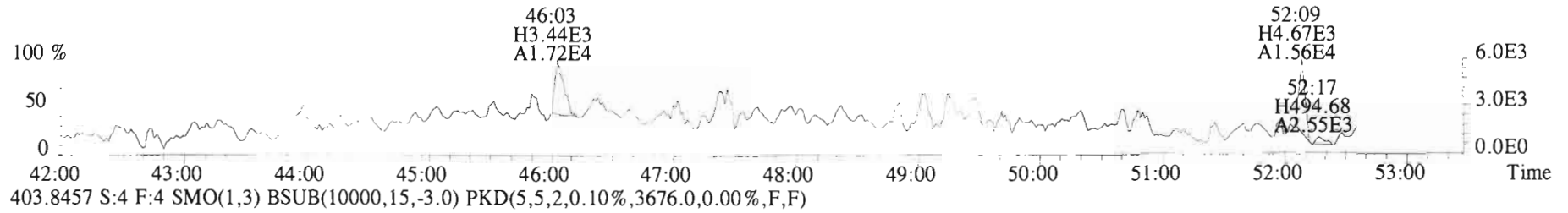
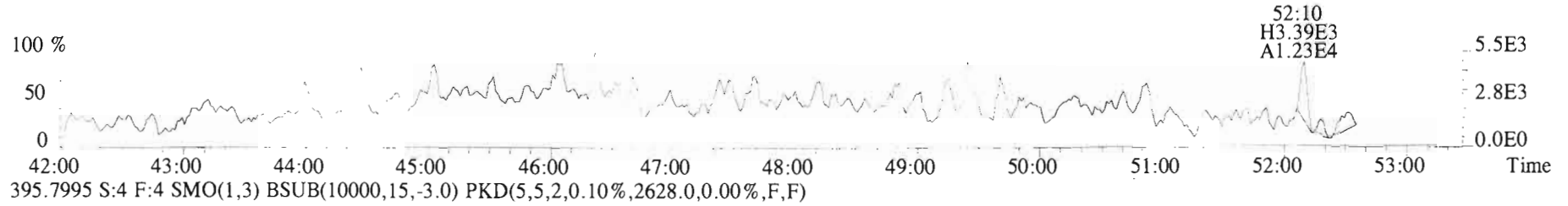
File:150421E1 #1-555 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
371.8817 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7248.0,0.00%,F,F)



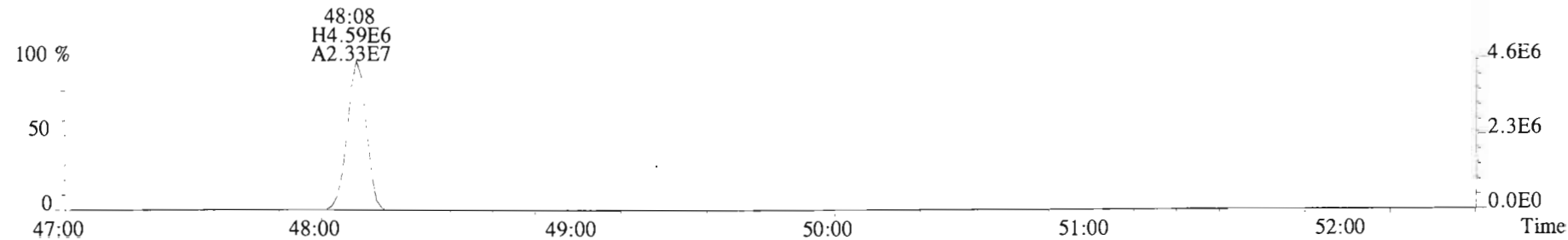
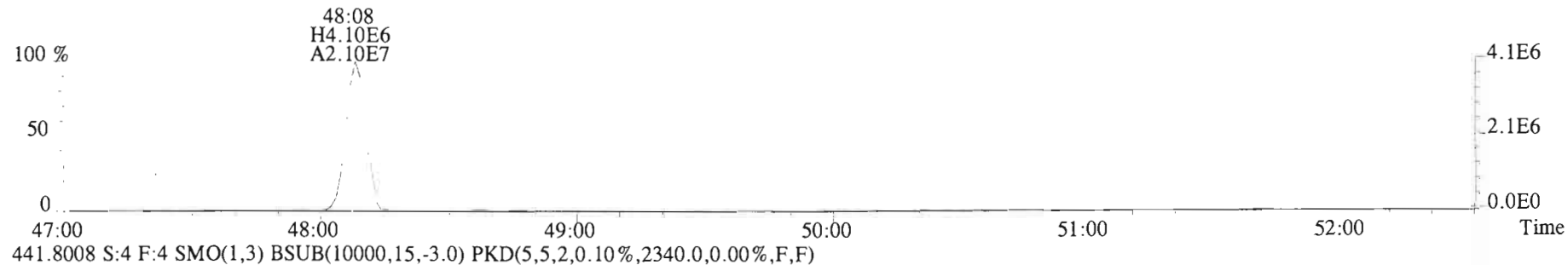
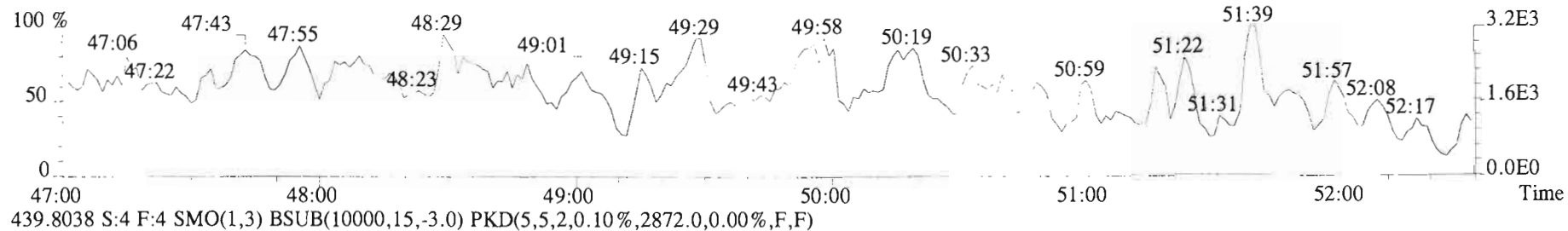
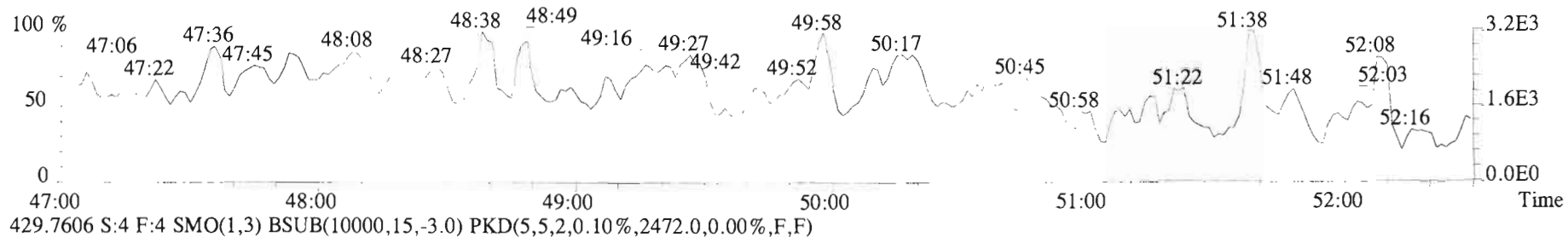
File:150421E1 #1-555 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
371.8817 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7248.0,0.00%,F,F)



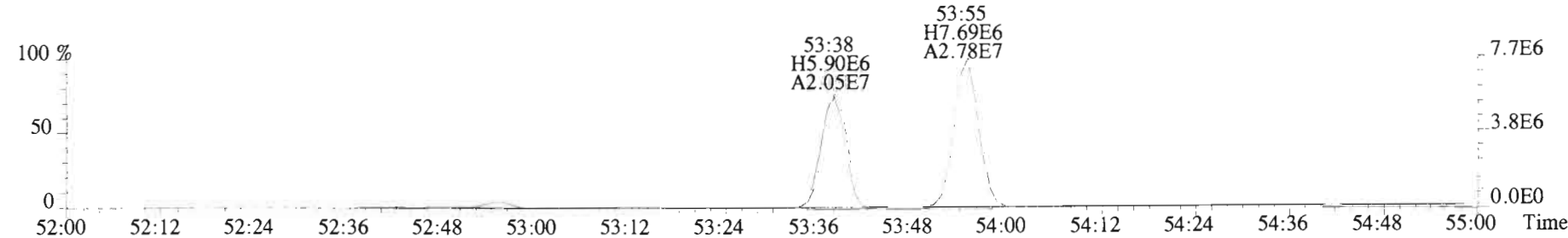
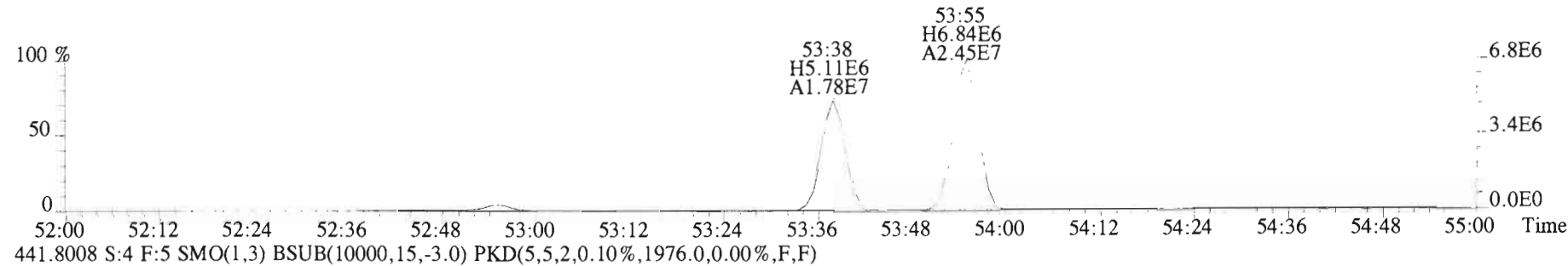
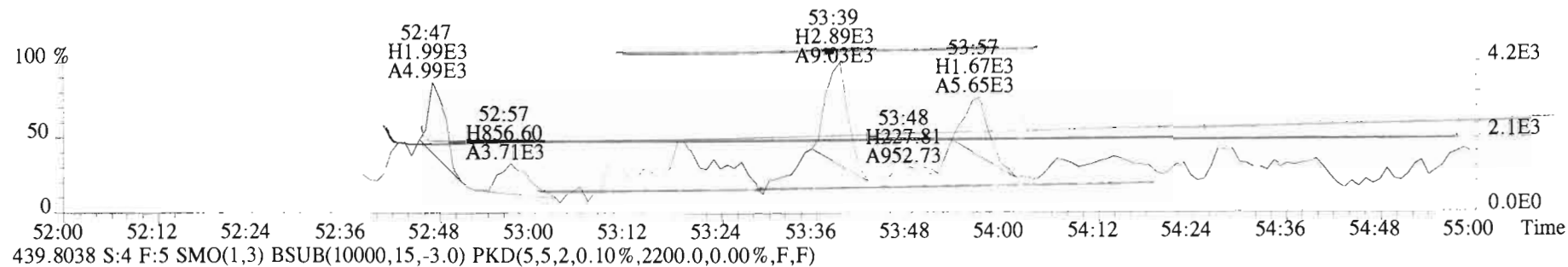
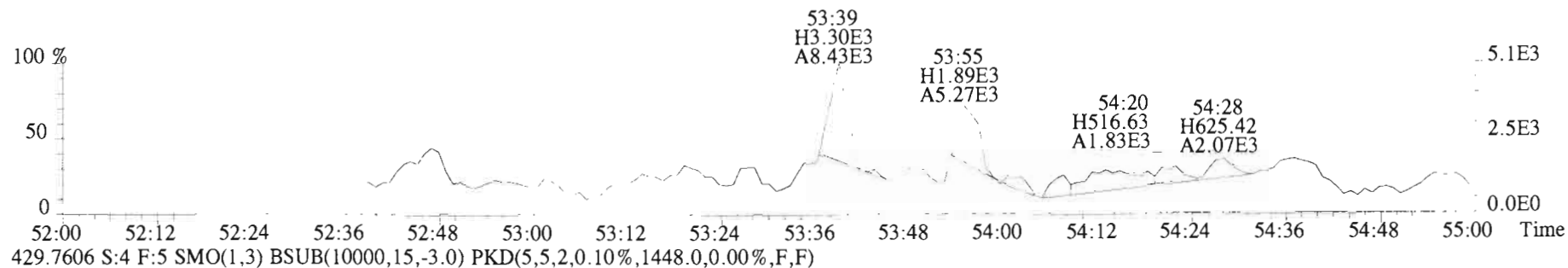
File:150421E1 #1-555 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
393.8025 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3064.0,0.00%,F,F)



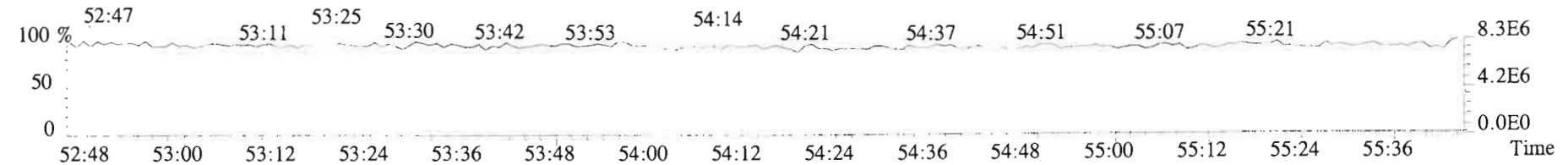
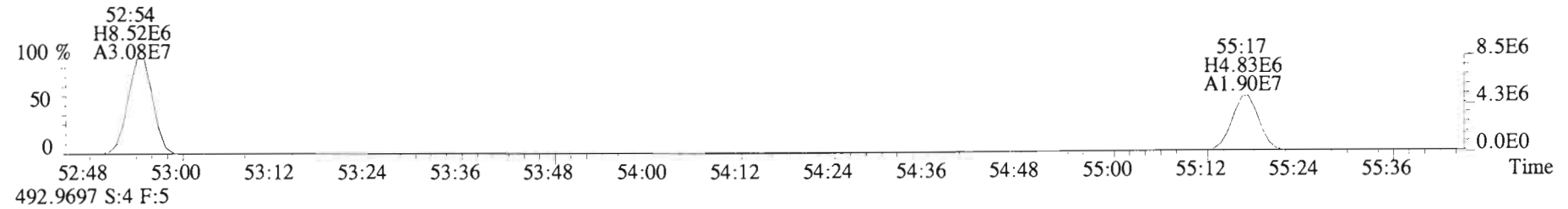
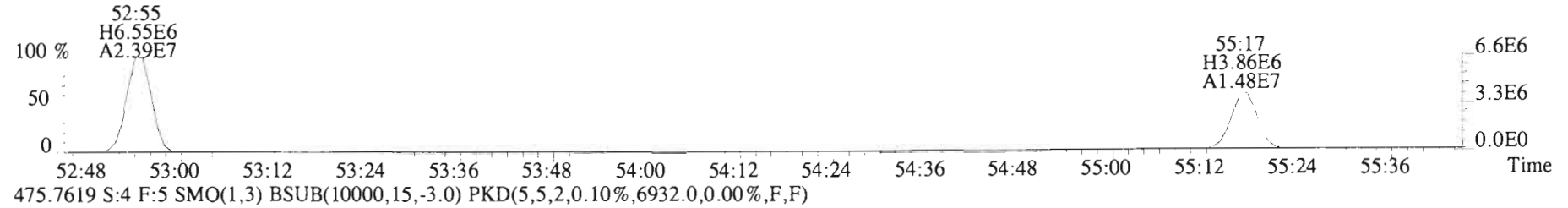
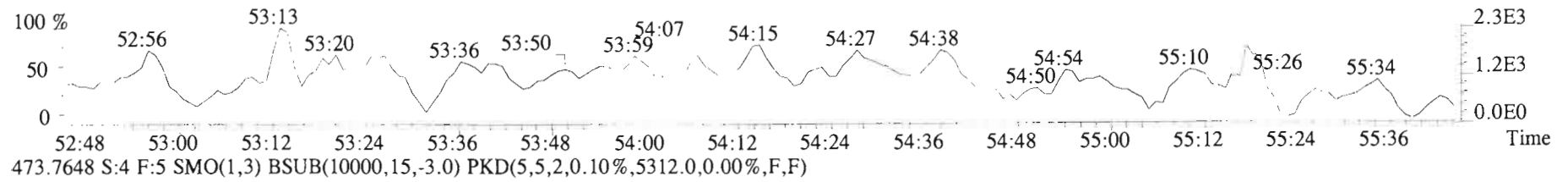
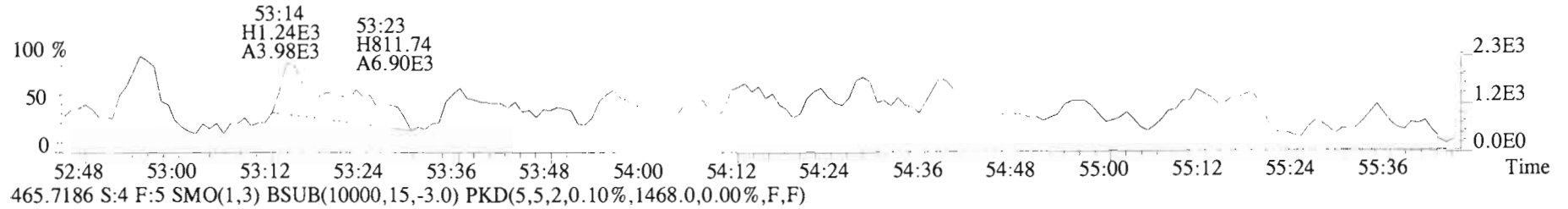
File:150421E1 #1-555 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
427.7635 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2580.0,0.00%,F,F)



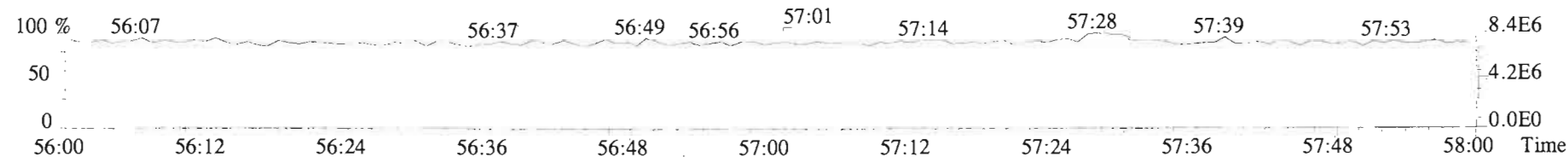
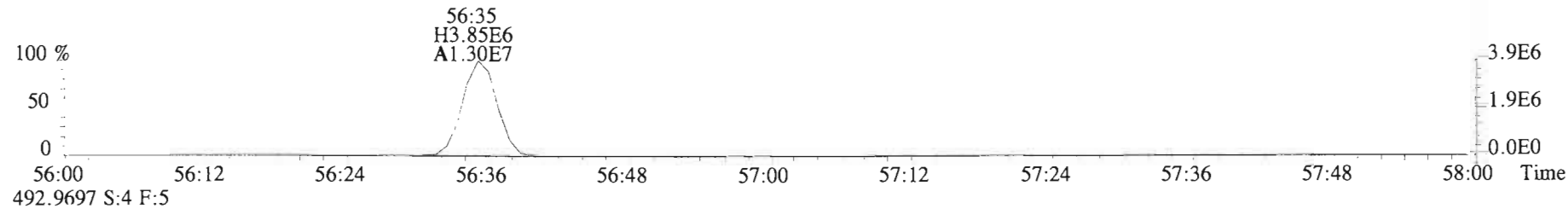
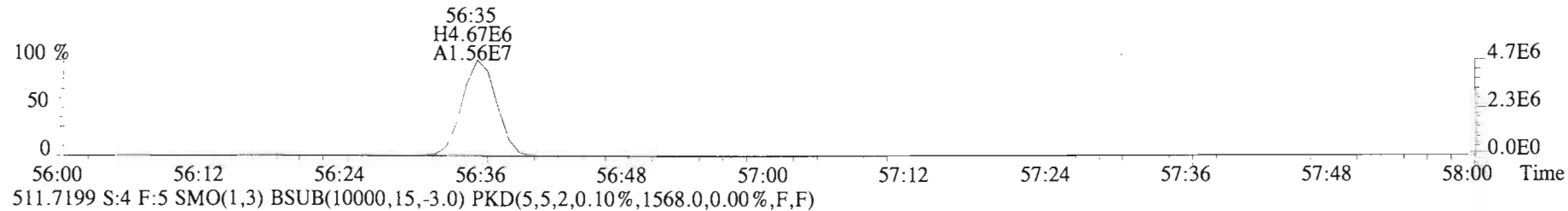
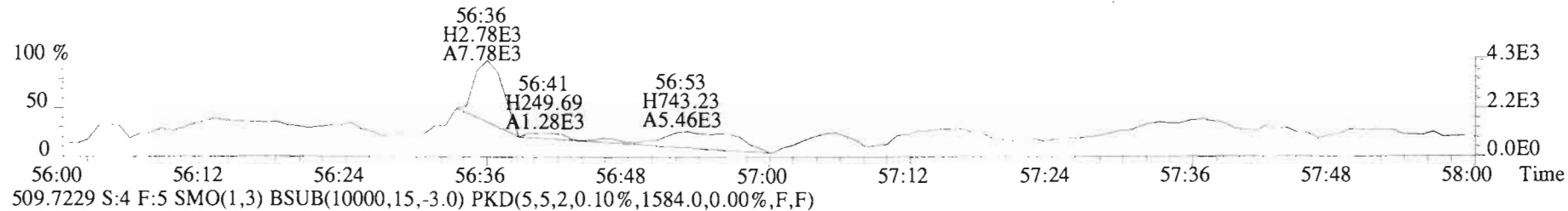
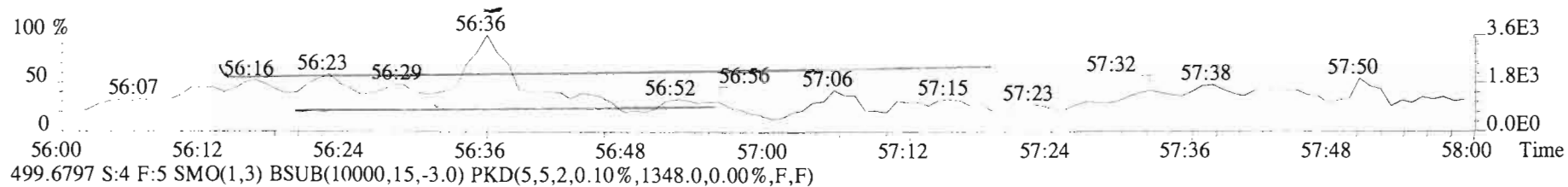
File:150421E1 #1-429 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
427.7635 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1504.0,0.00%,F,F)



File:150421E1 #1-429 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
463.7216 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1364.0,0.00%,F,F)



File:150421E1 #1-429 Acq:21-APR-2015 12:00:58 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BLK1 Method Blank 1 Exp:PCB_ZB1
497.6826 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1620.0,0.00%,F,F)



Lab Name: Vista Analytical Laboratory OPR Data Filename: B5D0057-BS1

Matrix : AQUEOUS Ext. Date: 4-17-15 Analysis Date: 21-APR-15 Time: 09:52:53

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

NATIVE ANALYTES	SPIKE	CONC.	OPR CONC.	Labeled Compounds	SPIKE	CONC.	OPR CONC.	Clean Up Standard	SPIKE	CONC.	OPR CONC.
	CONC.	FOUND	LIMITS		CONC.	FOUND	LIMITS		CONC.	FOUND	LIMITS
	(ng/mL)	(ng/mL)	(ng/mL)		(ng/mL)	(ng/mL)	(ng/mL)		(ng/mL)	(ng/mL)	(ng/mL)
PCB-1	50	46.1	30.0-67.5	13C-PCB-1	100	63.1	15-145	13C-PCB-79	100	104.5	40-145
PCB-3	50	45.8	30.0-67.5	13C-PCB-3	100	76.7	15-145	13C-PCB-178	100	96.5	40-145
PCB-4/10	100	91.7	60.0-135	13C-PCB-4	100	69.4	15-145				
PCB-15	50	47.5	30.0-67.5	13C-PCB-11	100	78.1	15-145				
PCB-19	50	60.7	30.0-67.5	13C-PCB-19	100	55.3	15-145				
PCB-37	50	40.5	30.0-67.5	13C-PCB-37	100	82.0	15-145				
PCB-54	50	52.2	30.0-67.5	13C-PCB-54	100	76.5	15-145				
PCB-81	50	51.6	30.0-67.5	13C-PCB-81	100	88.7	40-145				
PCB-77	50	50.4	30.0-67.5	13C-PCB-77	100	97.9	40-145				
PCB-104	50	51.4	30.0-67.5	13C-PCB-104	100	71.1	40-145				
PCB-123	50	51.6	30.0-67.5	13C-PCB-123	100	89.9	40-145				
PCB-106/118	100	102.9	60.0-135	13C-PCB-118	100	90.4	40-145				
PCB-114	50	46.4	30.0-67.5	13C-PCB-114	100	95.2	40-145				
PCB-105	50	45.4	30.0-67.5	13C-PCB-105	100	98.5	40-145				
PCB-126	50	48.1	30.0-67.5	13C-PCB-126	100	97.3	40-145				
PCB-155	50	52.8	30.0-67.5	13C-PCB-155	100	59.9	40-145				
PCB-167	50	52.7	30.0-67.5	13C-PCB-167	100	89.7	40-145				
PCB-156	50	52.6	30.0-67.5	13C-PCB-156	100	86.9	40-145				
PCB-157	50	53.8	30.0-67.5	13C-PCB-157	100	86.0	40-145				
PCB-169	50	54.4	30.0-67.5	13C-PCB-169	100	85.8	40-145				
PCB-188	50	52.6	30.0-67.5	13C-PCB-188	100	76.2	40-145				
PCB-189	50	54.3	30.0-67.5	13C-PCB-189	100	74.3	40-145				
PCB-202	50	55.3	30.0-67.5	13C-PCB-202	100	64.1	40-145				
PCB-205	50	43.7	30.0-67.5	13C-PCB-194	100	87.6	40-145				
PCB-208	50	50.9	30.0-67.5	13C-PCB-208	100	82.5	40-145				
PCB-206	50	50.3	30.0-67.5	13C-PCB-206	100	83.8	40-145				
PCB-209	50	51.6	30.0-67.5	13C-PCB-209	100	79.3	40-145				

Analyst: DMSDate: 4/22/15

Client ID: OPR
Lab ID: B5D0057-BS1

Filename: 150421E1 S:2 Acq:21-APR-15 09:52:53
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.0000 EndCAL: ST150421E1-2

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	5.51e+07	2.96	y	1.33	16:07	1.001	0.997-1.007	46.1052	PCB-52/69	8.82e+07	0.76	y	1.29	31:25	1.001	0.996-1.006	105.584
PCB-2	6.75e+07	2.98	y	1.30	18:28	0.988	0.983-0.993	46.2084	PCB-73	4.67e+07	0.77	y	1.41	31:32	1.005	0.999-1.009	51.1953
PCB-3	6.70e+07	2.97	y	1.30	18:42	1.001	0.996-1.006	45.7545	PCB-43/49	7.60e+07	0.76	y	1.14	31:42	1.010	1.005-1.015	103.194
PCB-4/10	9.92e+07	1.59	y	1.67	20:03	1.002	0.997-1.007	91.6511	PCB-47	4.37e+07	0.76	y	1.20	31:55	1.001	0.996-1.006	53.9900
PCB-7/9	1.31e+08	1.61	y	1.25	21:49	0.868	0.864-0.872	96.0860	PCB-48/75	9.04e+07	0.77	y	1.33	32:02	1.004	0.999-1.009	100.993
PCB-6	6.65e+07	1.64	y	1.24	22:28	0.894	0.888-0.897	49.2035	PCB-65	4.49e+07	0.75	y	1.32	32:17	1.012	1.007-1.017	50.5276
PCB-5/8	1.39e+08	1.60	y	1.27	22:53	0.910	0.905-0.915	100.123	PCB-62	4.57e+07	0.78	y	1.36	32:23	1.015	1.011-1.021	49.8077
PCB-14	8.00e+07	1.63	y	1.47	23:58	0.954	0.948-0.958	46.7823	PCB-44	3.32e+07	0.77	y	0.87	32:41	1.025	1.020-1.030	56.4902
PCB-11	7.13e+07	1.64	y	1.28	25:10	1.001	0.995-1.005	47.7774	PCB-42/59	8.86e+07	0.75	y	1.24	32:55	1.032	1.027-1.037	106.156
PCB-12/13	1.44e+08	1.63	y	1.27	25:33	1.017	1.011-1.021	97.8859	PCB-41/64/71/72	1.92e+08	0.76	y	1.34	33:30	1.050	1.045-1.055	212.039
PCB-15	7.96e+07	1.61	y	1.44	25:51	1.029	1.023-1.031	47.4888	PCB-68	5.41e+07	0.77	y	1.61	33:46	1.059	1.053-1.063	49.7554
PCB-19	3.49e+07	1.07	y	1.18	24:09	1.001	0.996-1.006	60.6944	PCB-40	3.19e+07	0.75	y	0.86	33:59	1.065	1.061-1.071	55.1573
PCB-30	5.60e+07	1.08	y	1.87	25:02	1.037	1.033-1.043	61.6372	PCB-57	5.28e+07	0.76	y	1.12	34:20	0.970	0.965-0.975	48.8323
PCB-18	3.88e+07	1.09	y	0.89	25:47	0.954	0.949-0.959	56.8131	PCB-67	5.43e+07	0.76	y	1.09	34:38	0.978	0.974-0.984	51.4509
PCB-17	4.25e+07	1.08	y	0.96	25:58	0.961	0.956-0.966	57.7236	PCB-58	5.53e+07	0.78	y	1.14	34:46	0.982	0.977-0.987	50.3844
PCB-24/27	1.14e+08	1.06	y	1.30	26:32	0.982	0.977-0.987	114.018	PCB-63	5.68e+07	0.76	y	1.16	34:55	0.986	0.981-0.991	50.5607
PCB-16/32	9.43e+07	1.08	y	1.05	27:02	1.000	0.996-1.006	116.946	PCB-74	5.87e+07	0.77	y	1.21	35:12	0.994	0.989-0.999	50.0467
PCB-34	4.88e+07	0.95	y	1.30	27:49	0.960	0.955-0.965	47.3308	PCB-61/70	1.11e+08	0.77	y	1.13	35:23	1.000	0.995-1.005	102.105
PCB-23	3.82e+07	0.97	y	1.21	27:56	0.964	0.958-0.968	39.8413	PCB-76/66	6.15e+08	0.76	y	1.18	35:35	1.005	1.000-1.010	101.167
PCB-29	4.27e+07	0.94	y	1.21	28:10	0.972	0.967-0.977	44.5207	PCB-80	6.53e+07	0.78	y	1.32	35:50	1.000	0.995-1.005	50.3749
PCB-26	4.06e+07	0.93	y	1.24	28:22	0.979	0.974-0.984	41.3665	PCB-55	6.47e+07	0.76	y	1.23	36:09	1.009	1.004-1.014	53.7226
PCB-25	3.40e+07	0.95	y	1.10	28:32	0.984	0.980-0.990	39.0473	PCB-56/60	1.13e+08	0.77	y	1.11	36:39	1.023	1.018-1.028	104.562
PCB-31	4.35e+07	0.96	y	1.25	28:53	0.997	0.992-1.002	43.7787	PCB-79	6.24e+07	0.76	y	1.16	37:42	1.053	1.048-1.058	54.9490
PCB-28	4.12e+07	0.95	y	1.24	29:00	1.001	0.996-1.006	41.9511	PCB-78	6.42e+07	0.77	y	1.18	38:25	0.987	0.982-0.992	55.6469
PCB-20/21/33	1.22e+08	0.96	y	1.16	29:37	1.022	1.016-1.026	133.141	PCB-81	6.52e+07	0.76	y	1.29	38:56	1.000	0.995-1.005	51.5621
PCB-22	4.38e+07	0.99	y	1.16	30:03	1.037	1.032-1.042	47.5115	PCB-77	6.80e+07	0.78	y	1.29	39:32	1.001	0.995-1.005	50.4451
PCB-36	3.98e+07	0.98	y	1.30	30:40	0.934	0.929-0.939	37.2625	PCB-104	3.53e+07	1.62	y	1.26	32:33	1.000	0.996-1.006	51.3913
PCB-39	4.35e+07	0.98	y	1.26	31:08	0.948	0.943-0.953	41.9197	PCB-96	3.28e+07	1.59	y	1.09	33:50	1.039	1.034-1.044	55.3500
PCB-38	4.43e+07	0.99	y	1.24	31:55	0.972	0.967-0.977	43.3603	PCB-103	2.93e+07	1.58	y	0.97	34:21	1.055	1.051-1.061	55.6346
PCB-35	4.13e+07	0.99	y	1.26	32:25	0.987	0.982-0.992	39.9346	PCB-100	2.95e+07	1.59	y	0.96	34:43	1.067	1.061-1.071	56.3791
PCB-37	4.49e+07	0.97	y	1.35	32:52	1.001	0.996-1.006	40.4725	PCB-94	2.65e+07	1.59	y	1.13	35:11	0.986	0.980-0.990	52.6607
PCB-54	4.80e+07	0.77	y	1.02	27:53	1.001	0.996-1.006	52.1596	PCB-95/98/102	8.83e+07	1.58	y	1.29	35:40	0.999	0.994-1.004	153.846
PCB-50	3.67e+07	0.76	y	0.78	29:02	1.042	1.037-1.047	52.4794	PCB-93	2.58e+07	1.63	y	1.06	35:48	1.003	0.998-1.008	54.5946
PCB-53	3.81e+07	0.76	y	1.14	29:41	0.946	0.941-0.951	51.7896	PCB-88/91	5.62e+07	1.61	y	1.12	36:05	1.011	1.006-1.016	112.335
PCB-51	3.81e+07	0.76	y	1.16	30:01	0.956	0.952-0.962	50.7358	PCB-121	4.04e+07	1.55	y	1.76	36:12	1.014	1.009-1.019	51.4735
PCB-45	3.38e+07	0.75	y	1.04	30:27	0.970	0.965-0.975	50.1645	PCB-84/92	5.72e+07	1.59	y	1.07	37:00	0.990	0.985-0.995	104.295
PCB-46	3.26e+07	0.76	y	0.95	30:57	0.986	0.981-0.991	53.1587	PCB-89	2.81e+07	1.60	y	1.00	37:12	0.995	0.990-1.000	55.1759

Integrations

by
Analyst: DMS

Date: 4/22/15

Reviewed

by
Analyst: 4/2

Date: 4/23/15

Client ID: OPR
Lab ID: B5D0057-BS1

Filename: 150421E1 S:2 Acq:21-APR-15 09:52:53
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.0000 EndCAL: ST150421E1-2

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-90/101	6.37e+07	1.60	y	1.21	37:23	1.000	0.995-1.005	103.219	PCB-133/142	6.62e+07	1.24	y	0.91	42:19	0.982	0.977-0.987	107.453
PCB-113	3.78e+07	1.61	y	1.34	37:38	1.007	1.002-1.012	55.1154	PCB-131	3.02e+07	1.25	y	0.85	42:28	0.986	0.981-0.991	52.8034
PCB-99	3.06e+07	1.58	y	1.25	37:44	1.009	1.004-1.014	47.8667	PCB-146/165	7.77e+07	1.24	y	1.08	42:42	0.991	0.986-0.996	105.995
PCB-119	4.33e+07	1.57	y	1.88	38:11	0.987	0.982-0.992	49.7182	PCB-132/161	7.57e+07	1.25	y	1.12	42:56	0.997	0.992-1.002	99.9293
PCB-108/112	6.85e+07	1.59	y	1.41	38:20	0.991	0.986-0.996	105.159	PCB-153	3.94e+07	1.27	y	1.20	43:06	1.000	0.996-1.006	48.5535
PCB-83	4.11e+07	1.59	y	1.66	38:30	0.995	0.990-1.000	53.3965	PCB-168	4.67e+07	1.24	y	1.36	43:19	1.005	1.000-1.010	50.7798
PCB-97	3.13e+07	1.62	y	1.30	38:42	1.000	0.995-1.005	52.0301	PCB-141	3.42e+07	1.23	y	1.16	43:50	1.000	0.995-1.005	51.5226
PCB-86	2.10e+07	1.72	y	1.03	38:51	1.004	0.999-1.009	43.8791	PCB-137	3.89e+07	1.23	y	1.18	44:13	1.009	1.004-1.014	57.4633
B-87/117/125	1.09e+08	1.55	y	1.59	38:57	1.007	1.002-1.012	147.930	PCB-130	2.79e+07	1.29	y	0.92	44:20	1.011	1.006-1.016	52.6988
PCB-111/115	8.93e+07	1.61	y	1.86	39:08	1.012	1.006-1.016	103.859	PCB-138/163/164	1.22e+08	1.23	y	1.38	44:42	1.001	0.996-1.006	148.571
PCB-85/116	6.37e+07	1.61	y	1.39	39:16	1.015	1.010-1.020	98.7444	PCB-158/160	8.85e+07	1.24	y	1.48	44:57	1.006	1.001-1.011	100.777
PCB-120	4.89e+07	1.59	y	1.99	39:29	1.021	1.016-1.026	53.1022	PCB-129	3.01e+07	1.23	y	0.99	45:11	1.012	1.007-1.017	51.0753
PCB-110	3.96e+07	1.62	y	1.70	39:38	1.025	1.019-1.029	50.2685	PCB-166	4.36e+07	1.26	y	1.14	45:39	0.993	0.988-0.998	53.7518
PCB-82	2.56e+07	1.61	y	0.74	40:16	0.977	0.971-0.981	55.0052	PCB-159	4.68e+07	1.24	y	1.22	45:59	1.001	0.995-1.005	53.8824
PCB-124	4.13e+07	1.58	y	1.30	40:56	0.993	0.988-0.998	50.6467	PCB-128/162	7.85e+07	1.26	y	1.03	46:15	1.007	1.002-1.012	106.836
PCB-107/109	8.64e+07	1.59	y	1.34	41:05	0.996	0.991-1.001	103.373	PCB-167	4.53e+07	1.23	y	1.18	46:39	1.000	0.995-1.005	52.7099
PCB-123	4.04e+07	1.59	y	1.25	41:15	1.000	0.995-1.005	51.5933	PCB-156	4.59e+07	1.25	y	1.27	47:57	1.001	0.995-1.005	52.6221
- PCB-106/118	8.89e+07	1.58	y	1.29	41:27	1.001	0.996-1.006	102.872	PCB-157	4.68e+07	1.27	y	1.22	48:13	1.000	0.995-1.005	53.7724
- PCB-114	4.72e+07	1.59	y	1.45	42:05	1.000	0.995-1.005	46.3685	PCB-169	4.06e+07	1.27	y	1.07	50:19	1.000	0.995-1.005	54.4128
PCB-122	4.45e+07	1.57	y	1.22	42:13	1.003	0.999-1.009	52.0128	PCB-188	3.63e+07	1.06	y	1.52	42:45	1.001	0.996-1.006	52.6342
PCB-105	4.91e+07	1.60	y	1.56	42:57	1.000	0.995-1.005	45.4209	PCB-184	3.21e+07	1.07	y	1.34	43:12	1.011	1.006-1.016	53.0520
PCB-127	4.24e+07	1.61	y	1.31	43:17	1.000	0.995-1.005	47.4466	PCB-179	3.44e+07	1.07	y	1.39	43:58	1.029	1.024-1.034	54.6563
PCB-126	4.36e+07	1.58	y	1.41	45:11	1.000	0.995-1.005	48.0794	PCB-176	3.64e+07	1.07	y	1.45	44:26	1.040	1.035-1.045	55.2424
PCB-155	2.60e+07	1.29	y	1.20	36:57	1.001	0.966-1.006	52.7719	PCB-186	3.54e+07	1.05	y	1.46	45:03	1.055	1.049-1.059	53.6791
PCB-150	2.70e+07	1.25	y	1.13	38:13	1.035	1.030-1.040	58.2108	PCB-178	2.67e+07	1.05	y	1.07	45:32	1.066	1.061-1.071	54.8032
PCB-152	2.70e+07	1.31	y	1.17	38:41	1.048	1.043-1.053	56.0803	PCB-175	2.63e+07	1.07	y	1.05	45:53	1.074	1.069-1.079	55.5025
PCB-145	2.67e+07	1.30	y	1.09	39:08	1.060	1.055-1.065	59.4008	PCB-182/187	5.50e+07	1.06	y	1.14	46:03	1.078	1.073-1.083	106.900
PCB-136	2.96e+07	1.29	y	1.14	39:27	1.069	1.063-1.073	62.8610	PCB-183	3.01e+07	1.03	y	1.22	46:22	1.085	1.080-1.090	54.3208
PCB-148	2.06e+07	1.29	y	0.82	39:33	1.071	1.066-1.076	61.2507	PCB-185	2.56e+07	1.09	y	1.40	47:02	0.956	0.950-0.960	53.5869
PCB-154	2.31e+07	1.28	y	0.89	40:02	1.084	1.079-1.089	63.0672	PCB-174	2.36e+07	1.03	y	1.29	47:23	0.963	0.958-0.968	53.7541
PCB-151	2.18e+07	1.31	y	0.82	40:41	1.102	1.097-1.107	64.7738	PCB-181	2.58e+07	1.07	y	1.35	47:30	0.965	0.960-0.970	56.1983
PCB-135	2.04e+07	1.28	y	0.80	40:53	1.107	1.101-1.113	62.1583	PCB-177	2.32e+07	1.06	y	1.27	47:40	0.969	0.963-0.973	53.8358
PCB-144	2.36e+07	1.29	y	0.86	41:00	1.111	1.105-1.116	67.0341	PCB-171	2.59e+07	1.06	y	1.46	47:57	0.974	0.969-0.979	52.2910
PCB-147	1.91e+07	1.26	y	0.78	41:08	1.114	1.108-1.120	59.6527	PCB-173	2.11e+07	1.05	y	1.10	48:23	0.983	0.978-0.988	56.0969
PCB-139/149	4.41e+07	1.27	y	0.87	41:24	1.121	1.115-1.127	122.927	PCB-172	2.53e+07	1.05	y	1.35	48:50	0.992	0.987-0.997	54.8936
- PCB-140	2.03e+07	1.29	y	0.78	41:35	1.126	1.120-1.132	63.4421	PCB-192	3.12e+07	1.06	y	1.74	49:01	0.996	0.991-1.001	52.7616
- PCB-134/143	6.51e+07	1.25	y	0.93	42:02	0.976	0.970-0.980	103.292	PCB-180	2.52e+07	1.05	y	1.45	49:14	1.000	0.995-1.005	51.1933

Integrations

by

Analyst: DMS

Date: 4/22/15

Client ID: OPR
Lab ID: B5D0057-BS1

Filename: 150421E1 S:2 Acq:21-APR-15 09:52:53
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.0000

ConCal: ST150421E1-1
EndCAL: ST150421E1-2

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-193	3.36e+07	1.06 y	1.85	49:26	1.004	0.999-1.009		53.2866
PCB-191	3.27e+07	1.05 y	1.86	49:41	1.009	1.005-1.015		51.6934
PCB-170	2.37e+07	1.03 y	1.67	50:42	1.000	0.995-1.005		52.2922
PCB-190	3.20e+07	1.07 y	2.25	50:51	1.003	0.999-1.009		52.3239
PCB-189	3.17e+07	1.07 y	1.67	52:10	1.000	0.995-1.005		54.2766
PCB-202	2.09e+07	0.91 y	1.02	48:09	1.000	0.995-1.005		55.3028
PCB-201	2.29e+07	0.90 y	1.10	48:38	1.010	1.005-1.015		56.4034
PCB-204	2.15e+07	0.92 y	1.07	48:47	1.014	1.009-1.019		53.8831
PCB-197	2.44e+07	0.92 y	1.17	49:06	1.020	1.015-1.025		56.2513
PCB-200	2.10e+07	0.91 y	1.03	49:58	1.038	1.034-1.044		54.5676
PCB-198	1.58e+07	1.02 y	0.75	51:16	1.065	1.062-1.072		56.4463
PCB-199	1.55e+07	0.84 y	0.74	51:22	1.067	1.064-1.074		56.1622
- PCB-196/203	3.34e+07	0.93 y	0.83	51:38	1.073	1.070-1.080		108.627
- PCB-195	1.92e+07	0.87 y	1.14	52:47	0.984	0.979-0.989		48.0222
PCB-194	1.88e+07	0.90 y	1.29	53:39	1.000	0.995-1.005		41.6031
PCB-205	2.46e+07	0.89 y	1.61	53:55	1.005	1.001-1.010		43.6518
PCB-208	2.48e+07	1.37 y	1.01	52:55	1.000	0.995-1.005		50.9329
PCB-207	2.46e+07	1.32 y	1.03	53:14	1.006	1.001-1.011		49.8445
PCB-206	1.46e+07	1.33 y	0.88	55:17	1.000	0.995-1.005		50.3213
PCB-209	2.10e+07	1.21 y	1.35	56:36	1.000	0.995-1.005		51.6129

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	1.90e+08	2.96 y	16:07	1.31	138.068
Total Di-PCB	8.17e+08	1.59 y	20:03	1.32	581.305
Total Tri-PCB	3.80e+08	1.07 y	24:09	1.20	467.832
Total Tetra-PCB	6.97e+08	0.95 y	27:49	1.23	709.859
Total Penta-PCB	2.09e+09	0.77 y	27:53	1.17	2200.76
Total Hexa-PCB	1.42e+09	1.62 y	32:33	1.24	2137.11
Total Hepta-PCB	2.30e+08	1.59 y	42:05	1.39	242.299
Total Octa-PCB	3.29e+08	1.29 y	36:57	0.94	853.631
Total Nona-PCB	1.11e+09	1.25 y	42:02	1.13	1484.92
Total Deca-PCB	7.06e+08	1.06 y	42:45	1.37	1313.14
Total PCB Conc:	1.75e+08	0.91 y	48:09	0.95	497.644
Total PCB Conc:	6.71e+07	0.87 y	52:47	1.35	142.756
Total PCB Conc:	6.54e+07	1.37 y	52:55	0.99	154.147
Total PCB Conc:	2.10e+07	1.21 y	56:36	1.35	51.6129

Total PCB Conc:10851.2060210

Integrations

by

Analyst: DMS

Date: 4/22/15

Client ID: OPR
Lab ID: B5D0057-BS1

Filename: 150421E1 S:2 Acq:21-APR-15 09:52:53
GC Column ID: ZB-1 ICal: PCVVG8-1-14-15 wt/vol:1.0000

ConCal: ST150421E1-1
EndCAL: ST150421E1-1

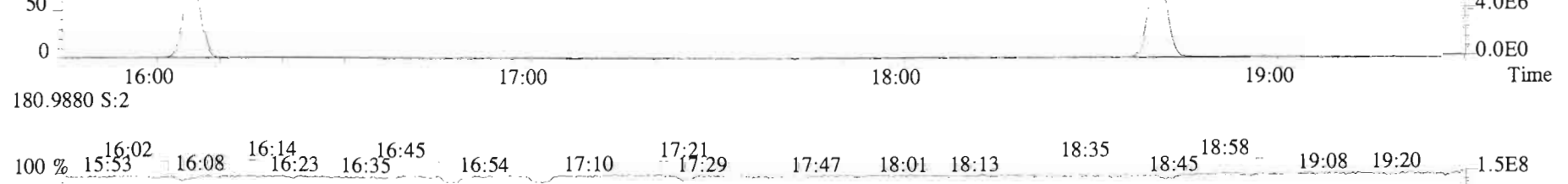
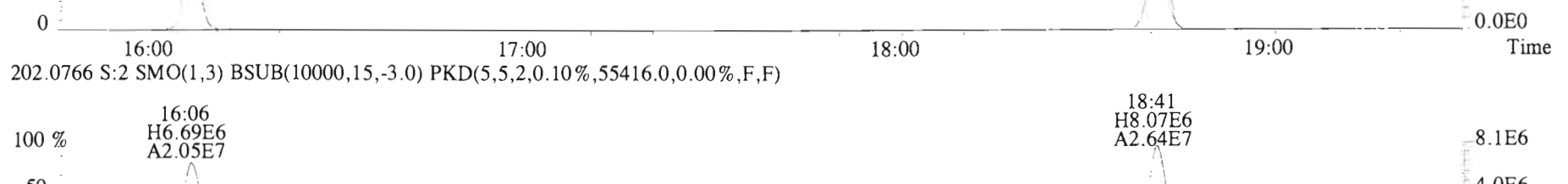
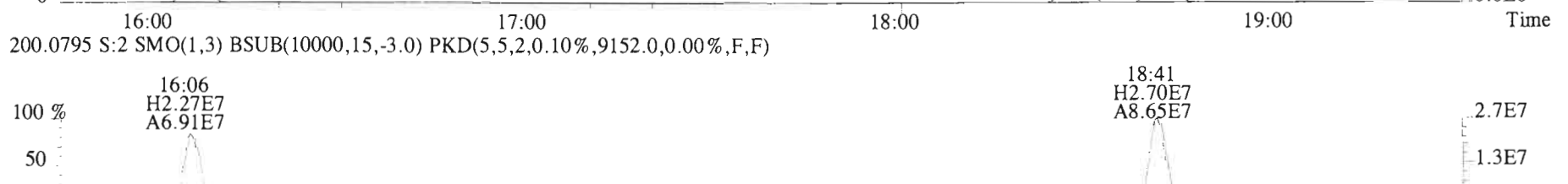
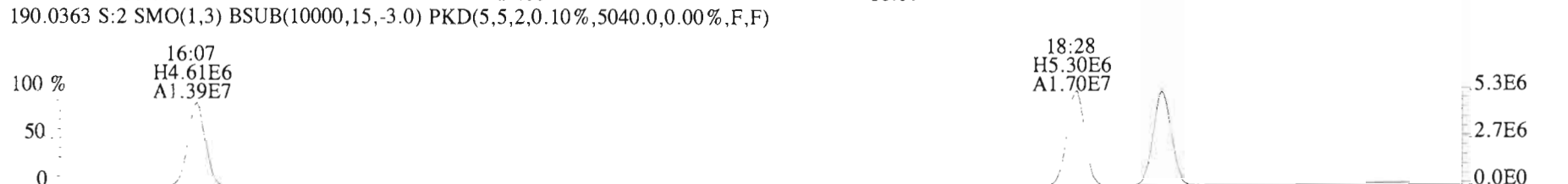
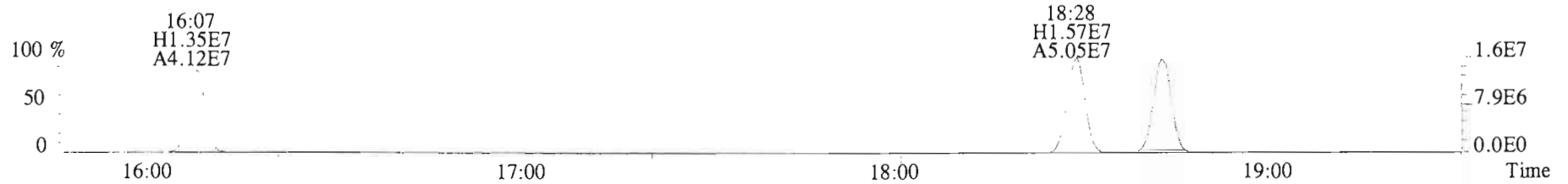
DMS
2-1 4/23/15

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	8.96e+07	3.37 y	0.91	16:06	0.623	0.619-0.625		63.1	63.1											
13C-PCB-3	1.13e+08	3.28 y	0.94	18:41	0.723	0.718-0.726		76.7	76.7		13C-PCB-79	1.18e+08	0.79 y	1.02	37:41	1.029	1.024-1.033		104	104
13C-PCB-4	6.47e+07	1.62 y	0.60	20:00	0.774	0.770-0.778		69.4	69.4		13C-PCB-178	3.60e+07	0.47 y	0.64	45:31	0.984	0.980-0.989		96.5	96.5
13C-PCB-9	1.09e+08	1.61 y	0.96	21:47	0.843	0.839-0.847		72.8	72.8											
13C-PCB-11	1.16e+08	1.57 y	0.95	25:08	0.972	0.968-0.978		78.1	78.1											
13C-PCB-19	4.85e+07	1.11 y	0.56	24:08	0.934	0.929-0.939		55.3	55.3											
13C-PCB-28	7.94e+07	1.02 y	1.07	28:59	1.003	0.999-1.009		71.3	71.3		13C-PCB-79	1.18e+08	0.79 y	1.02	37:41	0.968	0.963-0.973		118	118
13C-PCB-32	7.70e+07	1.11 y	0.83	27:02	1.046	1.041-1.051		59.7	59.7		13C-PCB-178	3.60e+07	0.47 y	0.84	45:31	0.925	0.920-0.930		126	126
13C-PCB-37	8.22e+07	1.02 y	0.96	32:50	1.137	1.131-1.143		82.0	82.0											
13C-PCB-47	6.76e+07	0.79 y	0.77	31:54	0.871	0.867-0.875		79.4	79.4											
13C-PCB-52	6.47e+07	0.79 y	0.71	31:23	0.857	0.853-0.861		82.0	82.0											
13C-PCB-54	8.98e+07	0.79 y	1.06	27:52	0.761	0.757-0.765		76.5	76.5											
13C-PCB-70	9.67e+07	0.81 y	0.99	35:24	0.966	0.961-0.971		87.8	87.8											
13C-PCB-77	1.05e+08	0.80 y	0.96	39:30	1.078	1.073-1.083		97.9	97.9											
13C-PCB-80	9.79e+07	0.80 y	1.02	35:49	0.978	0.973-0.983		86.5	86.5											
13C-PCB-81	9.80e+07	0.77 y	1.00	38:55	1.062	1.057-1.067		88.7	88.7											
13C-PCB-95	4.45e+07	1.59 y	0.70	35:42	0.913	0.908-0.918		80.6	80.6											
13C-PCB-97	4.63e+07	1.61 y	0.66	38:41	0.989	0.984-0.994		89.1	89.1											
13C-PCB-101	5.12e+07	1.56 y	0.77	37:23	0.956	0.951-0.961		84.5	84.5											
13C-PCB-104	5.43e+07	1.59 y	0.97	32:33	0.832	0.828-0.836		71.1	71.1											
13C-PCB-105	6.93e+07	1.60 y	1.20	42:56	0.929	0.924-0.934		98.5	98.5											
13C-PCB-114	7.00e+07	1.61 y	1.26	42:05	0.910	0.905-0.915		95.2	95.2											
13C-PCB-118	6.69e+07	1.64 y	0.94	41:25	1.059	1.054-1.064		90.4	90.4											
13C-PCB-123	6.26e+07	1.59 y	0.88	41:14	1.054	1.049-1.059		89.9	89.9											
13C-PCB-126	6.42e+07	1.57 y	1.13	45:10	0.977	0.972-0.982		97.3	97.3											
13C-PCB-127	6.84e+07	1.59 y	1.26	43:16	0.936	0.931-0.941		92.9	92.9											
13C-PCB-138	5.95e+07	1.27 y	1.12	44:40	0.966	0.961-0.971		90.8	90.8											
13C-PCB-141	5.74e+07	1.28 y	1.09	43:50	0.948	0.943-0.953		89.7	89.7											
13C-PCB-153	6.78e+07	1.27 y	1.27	43:05	0.932	0.927-0.937		90.9	90.9											
13C-PCB-155	4.12e+07	1.33 y	0.87	36:55	0.944	0.939-0.949		59.9	59.9											
13C-PCB-156	6.87e+07	1.32 y	1.35	47:55	1.036	1.032-1.042		86.9	86.9											
13C-PCB-157	7.14e+07	1.31 y	1.42	48:12	1.043	1.037-1.047		86.0	86.0											
13C-PCB-159	7.10e+07	1.26 y	1.37	45:57	0.994	0.989-0.999		88.6	88.6											
13C-PCB-167	7.26e+07	1.31 y	1.38	46:38	1.009	1.004-1.014		89.7	89.7											
13C-PCB-169	6.94e+07	1.30 y	1.38	50:19	1.088	1.084-1.094		85.8	85.8											
13C-PCB-170	2.72e+07	0.47 y	0.60	50:41	1.096	1.091-1.103		77.0	77.0											
13C-PCB-180	3.40e+07	0.46 y	0.76	49:13	1.065	1.059-1.069		76.8	76.8											
13C-PCB-188	4.53e+07	0.46 y	1.01	42:43	0.924	0.919-0.929		76.2	76.2											
13C-PCB-189	3.49e+07	0.46 y	0.80	52:09	1.128	1.124-1.136		74.3	74.3											
13C-PCB-194	3.50e+07	0.88 y	0.75	53:38	0.995	0.990-1.000		87.6	87.6											
13C-PCB-202	3.71e+07	0.92 y	0.99	48:08	1.041	1.036-1.046		64.1	64.1											
13C-PCB-206	3.30e+07	0.78 y	0.73	55:16	1.025	1.020-1.301		83.8	83.8											
13C-PCB-208	4.80e+07	0.80 y	1.08	52:54	0.981	0.977-0.987		82.5	82.5											
13C-PCB-209	3.02e+07	1.24 y	0.71	56:36	1.050	1.045-1.055		79.3	79.3											

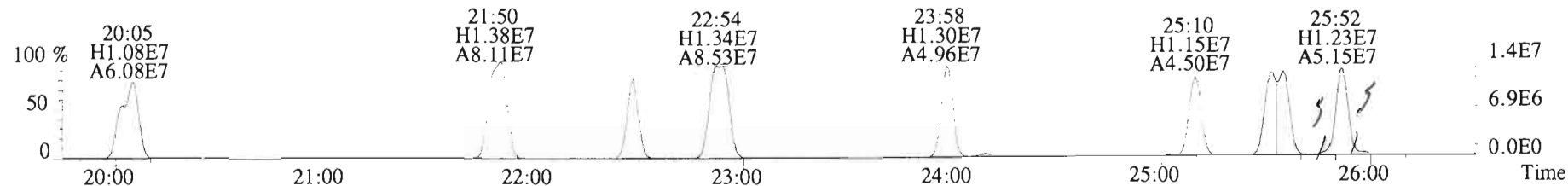
Analyst: DMS

Date: 4/22/15

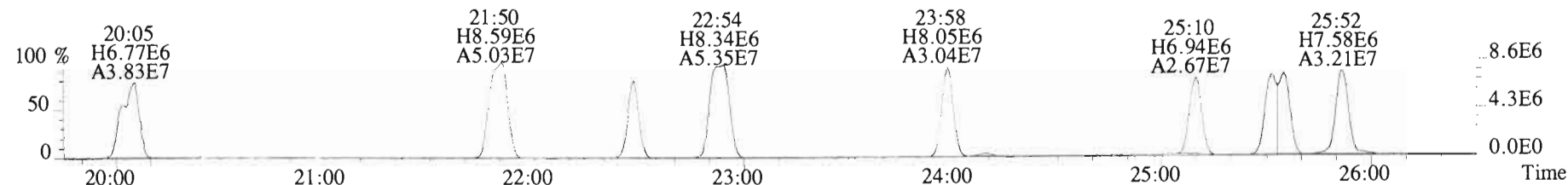
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Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
188.0393 S:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4124.0,0.00%,F,F)



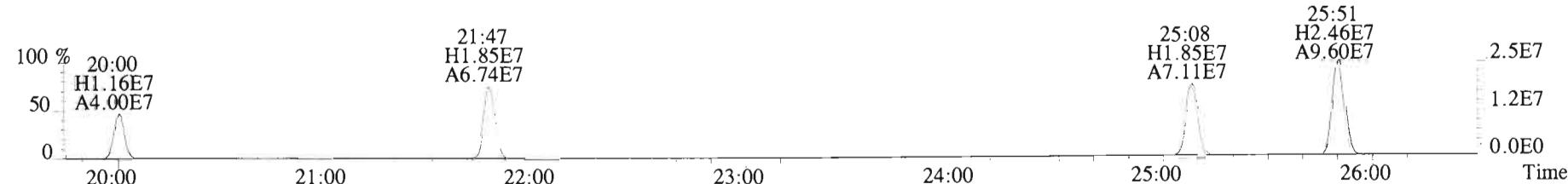
File:150421E1 #1-757 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 222.0003 S:2 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,9816.0,0.00%,F,F)



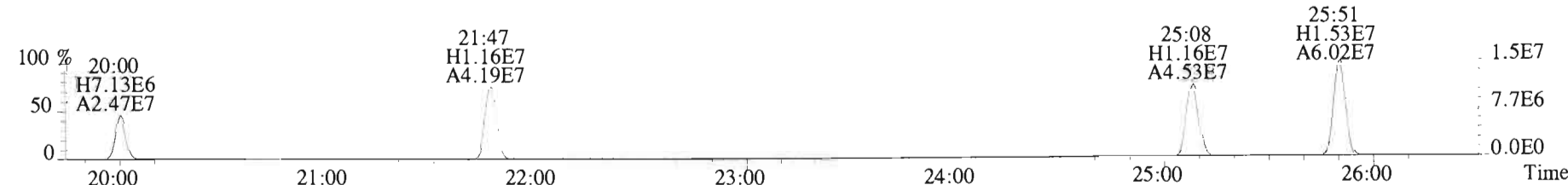
223.9974 S:2 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,62108.0,0.00%,F,F)



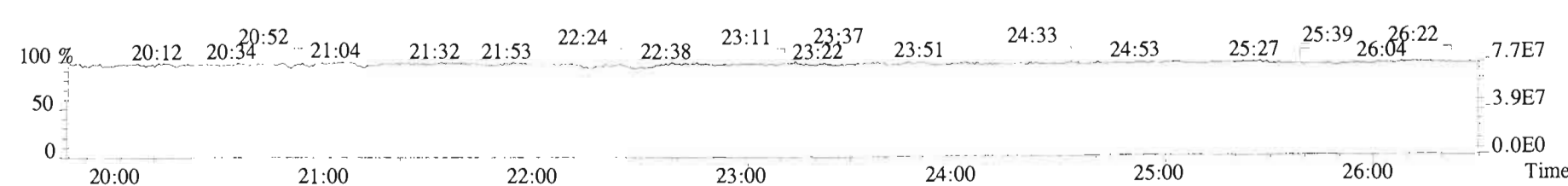
234.0406 S:2 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6036.0,0.00%,F,F)



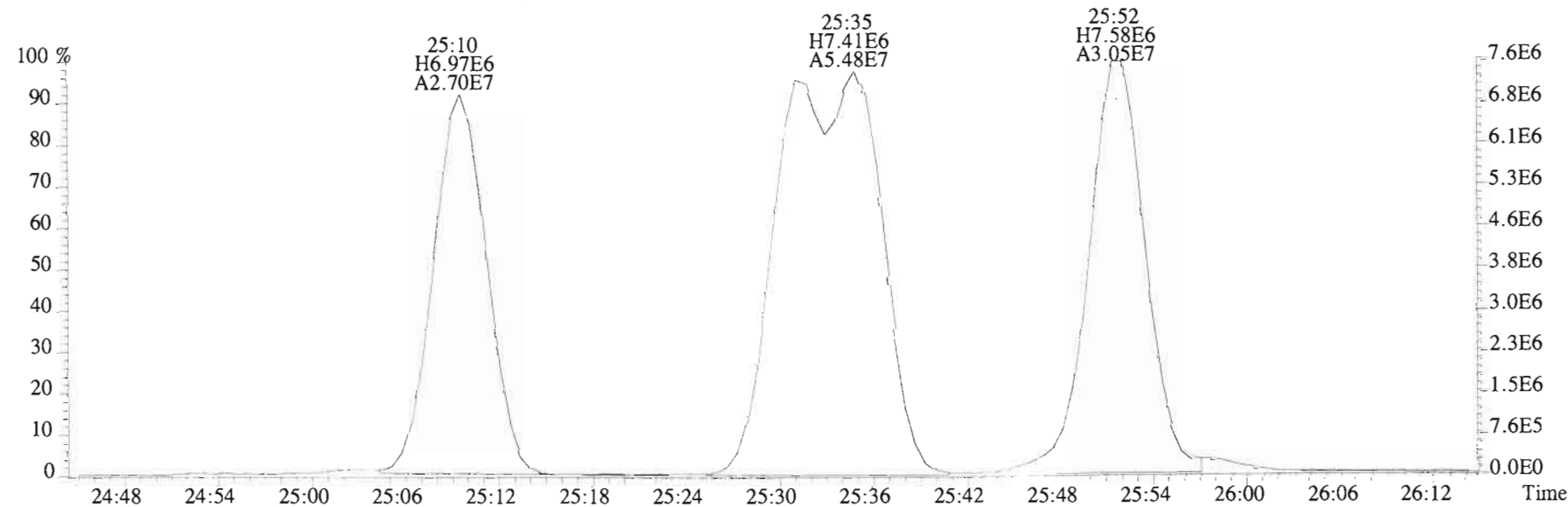
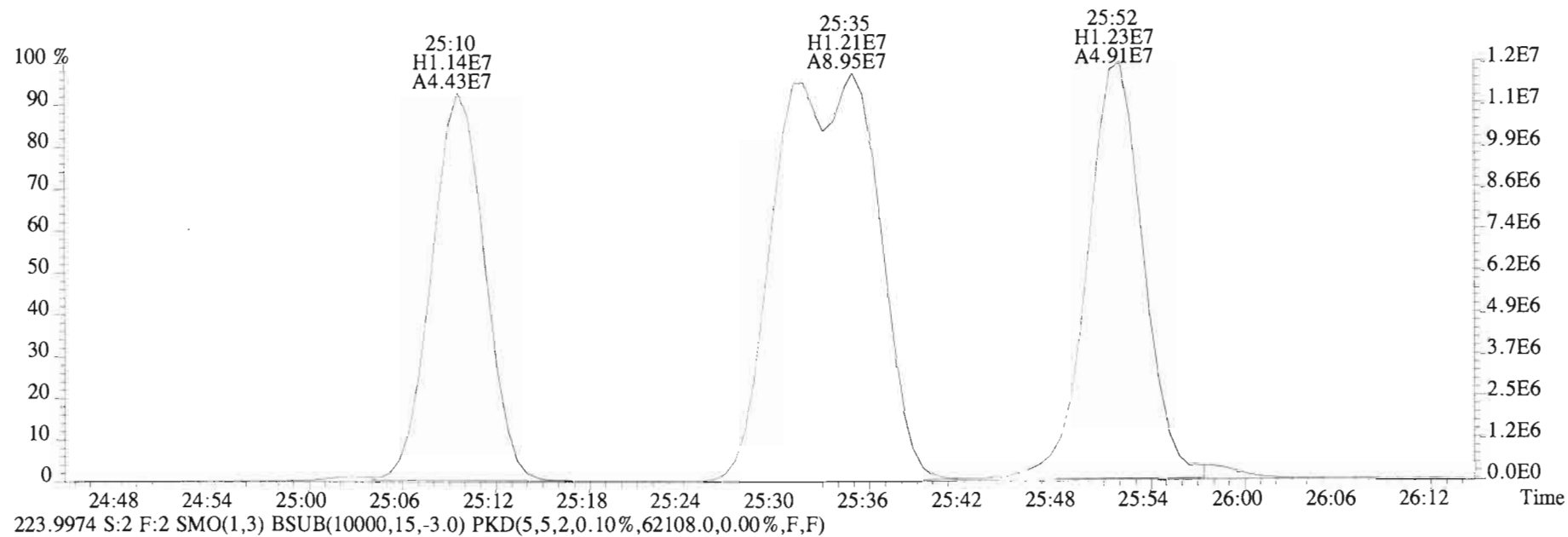
236.0376 S:2 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6408.0,0.00%,F,F)



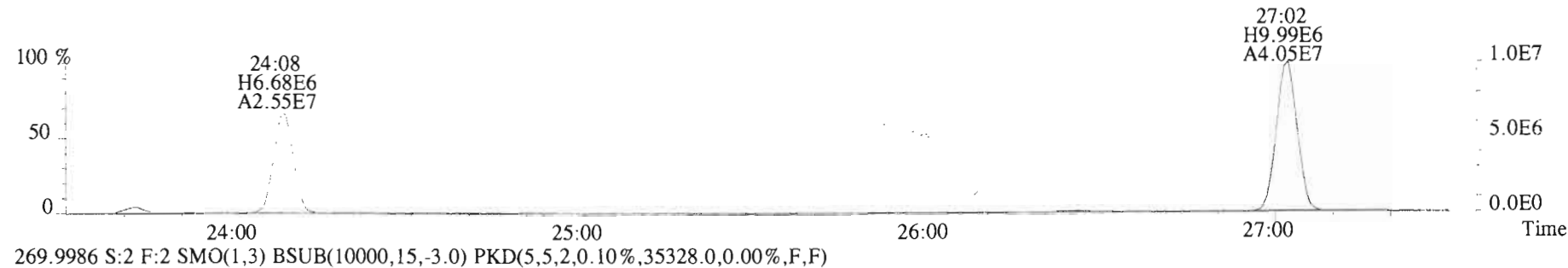
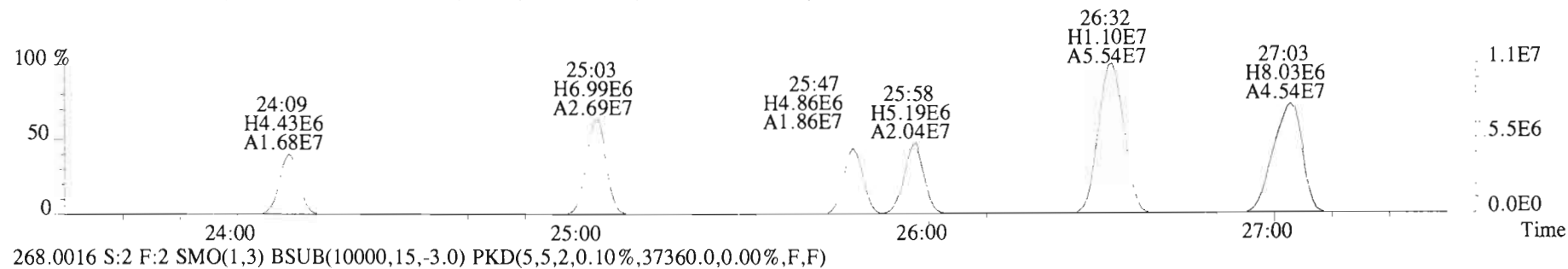
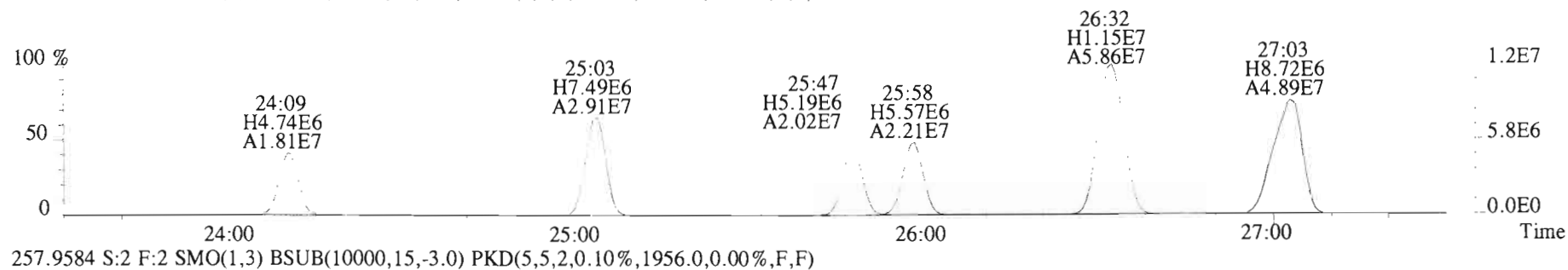
230.9856 S:2 F:2



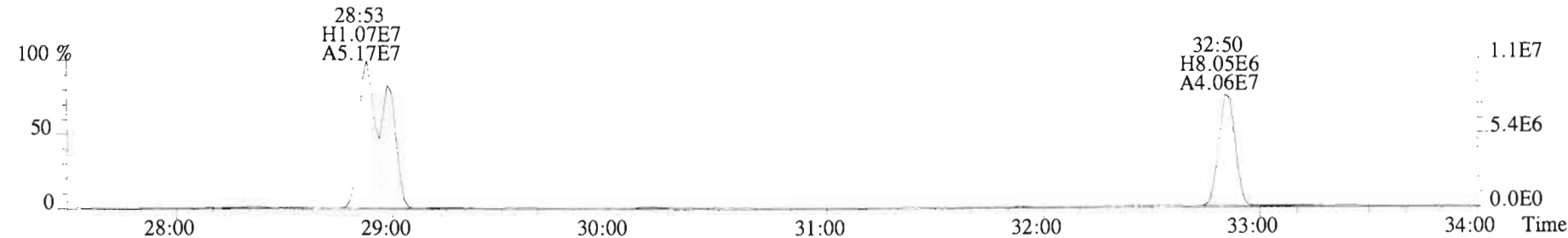
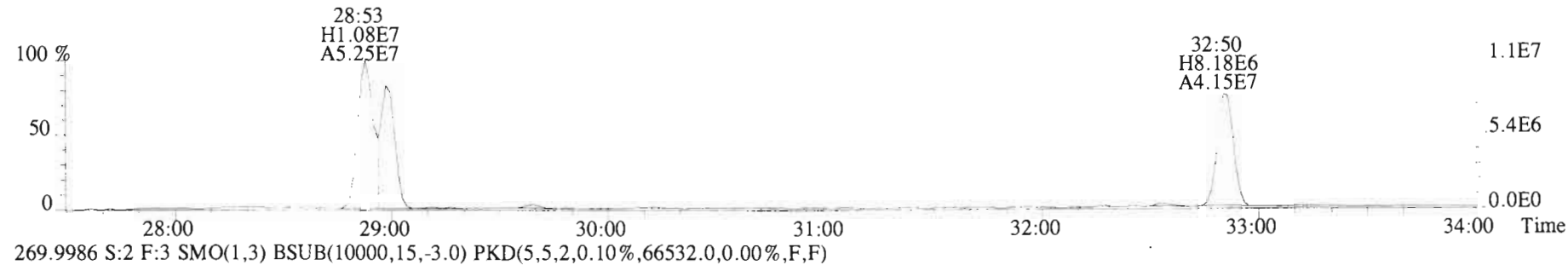
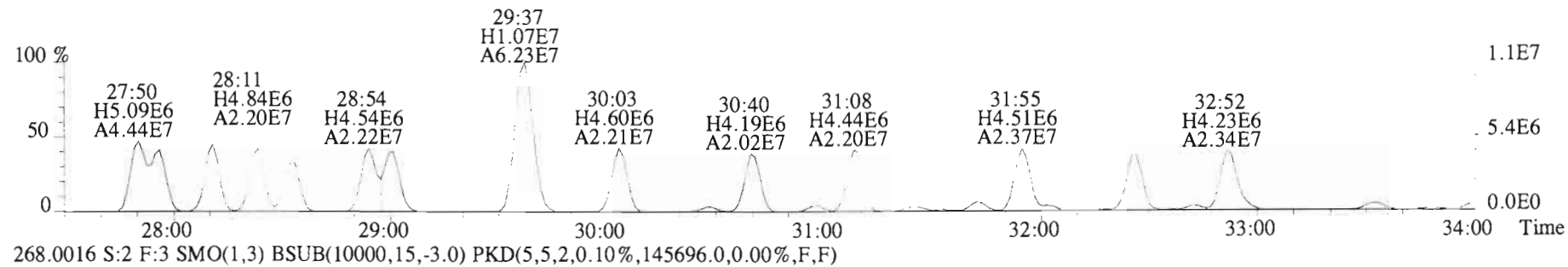
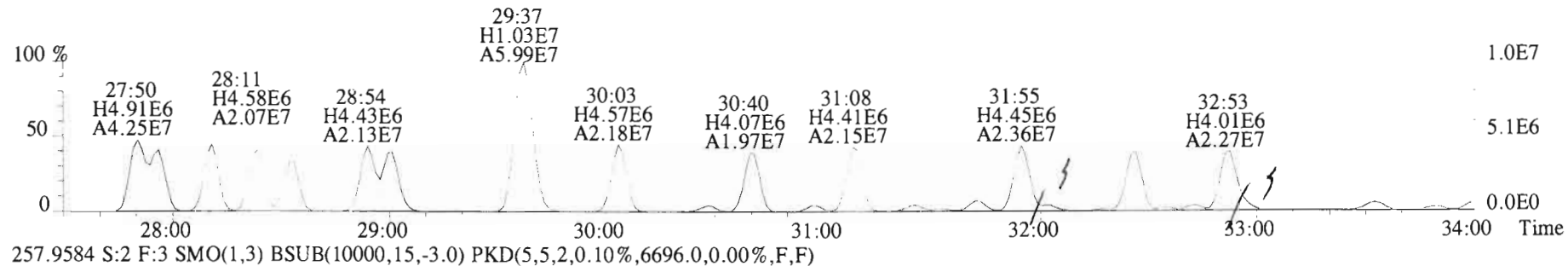
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Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
222.0003 S:2 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,9816.0,0.00%,F,F)



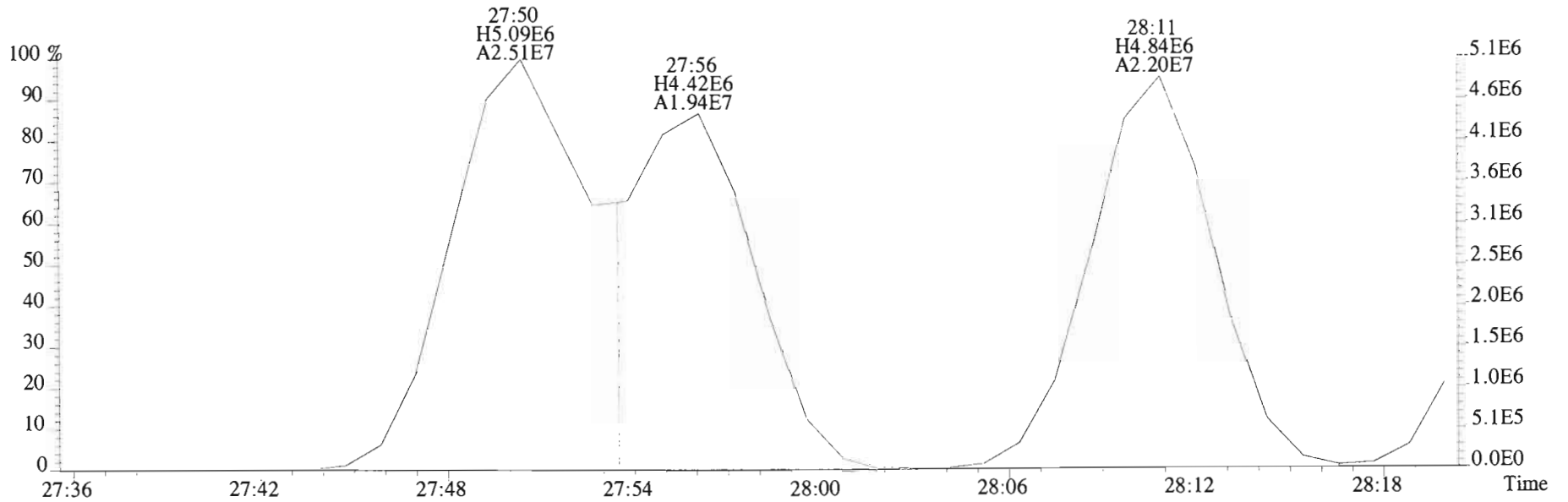
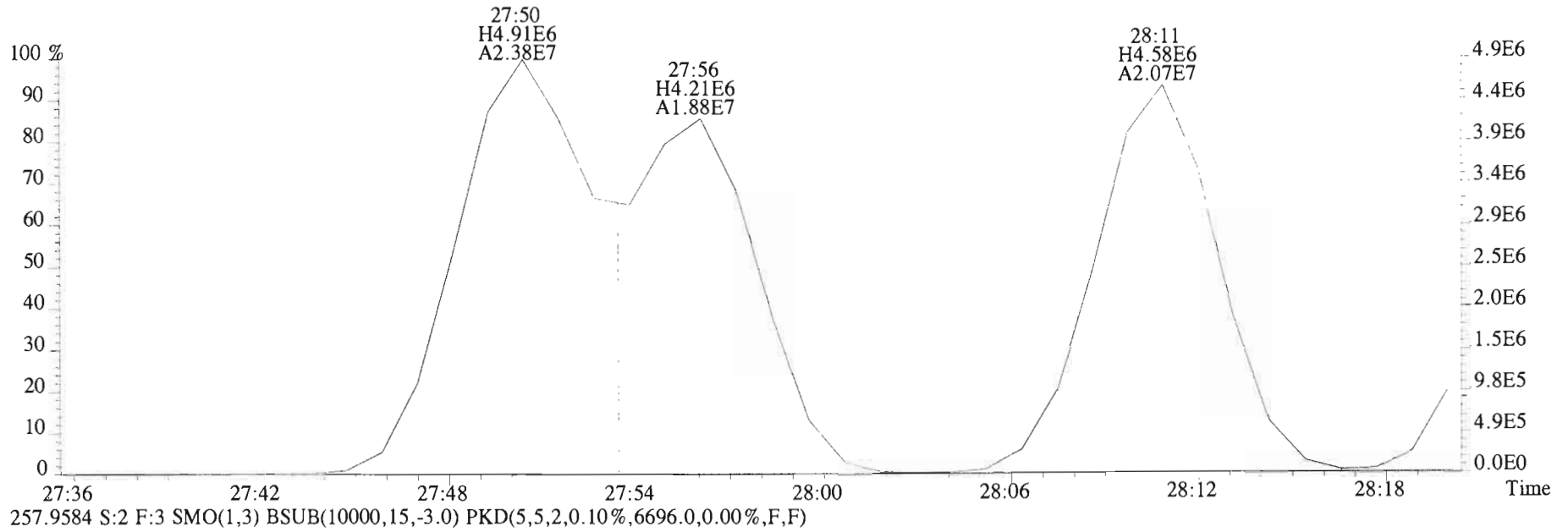
File:150421E1 #1-757 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 255.9613 S:2 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3692.0,0.00%,F,F)



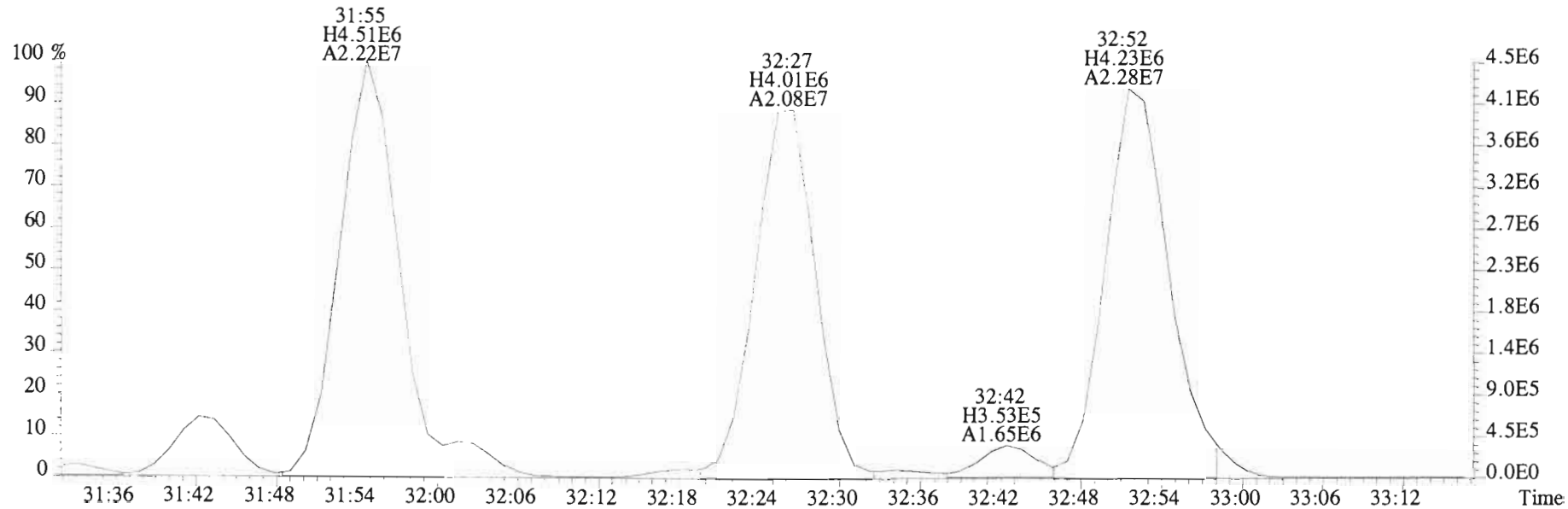
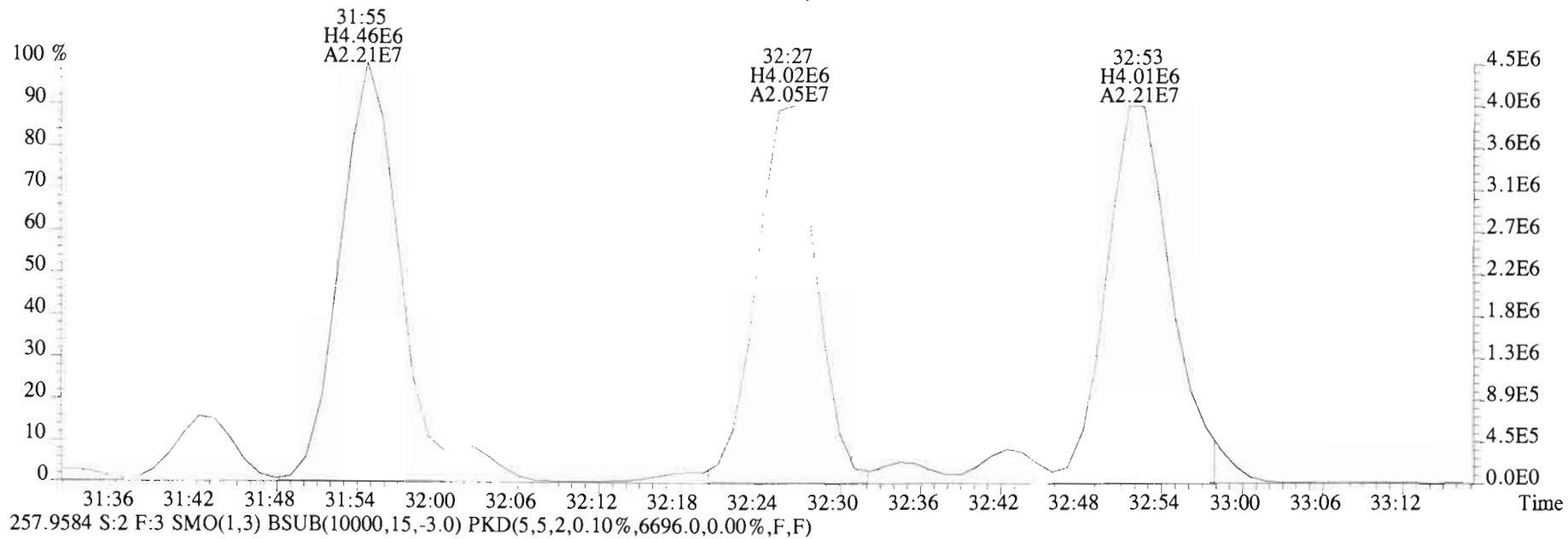
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 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 255.9613 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,5272.0,0.00%,F,F)



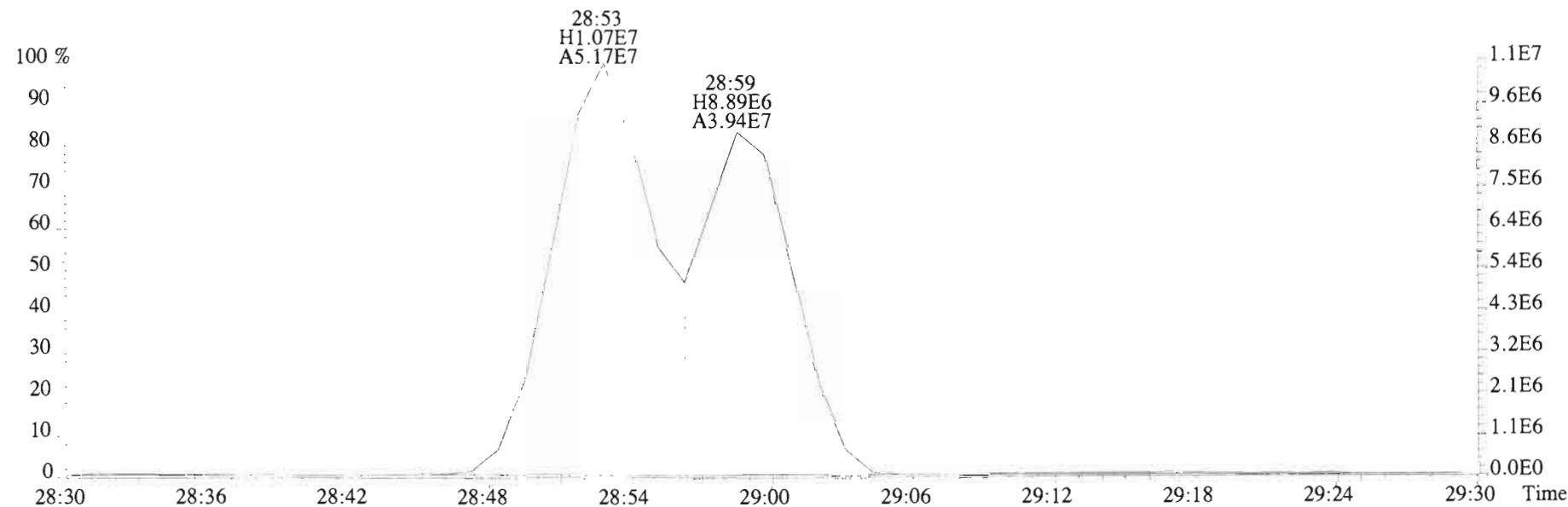
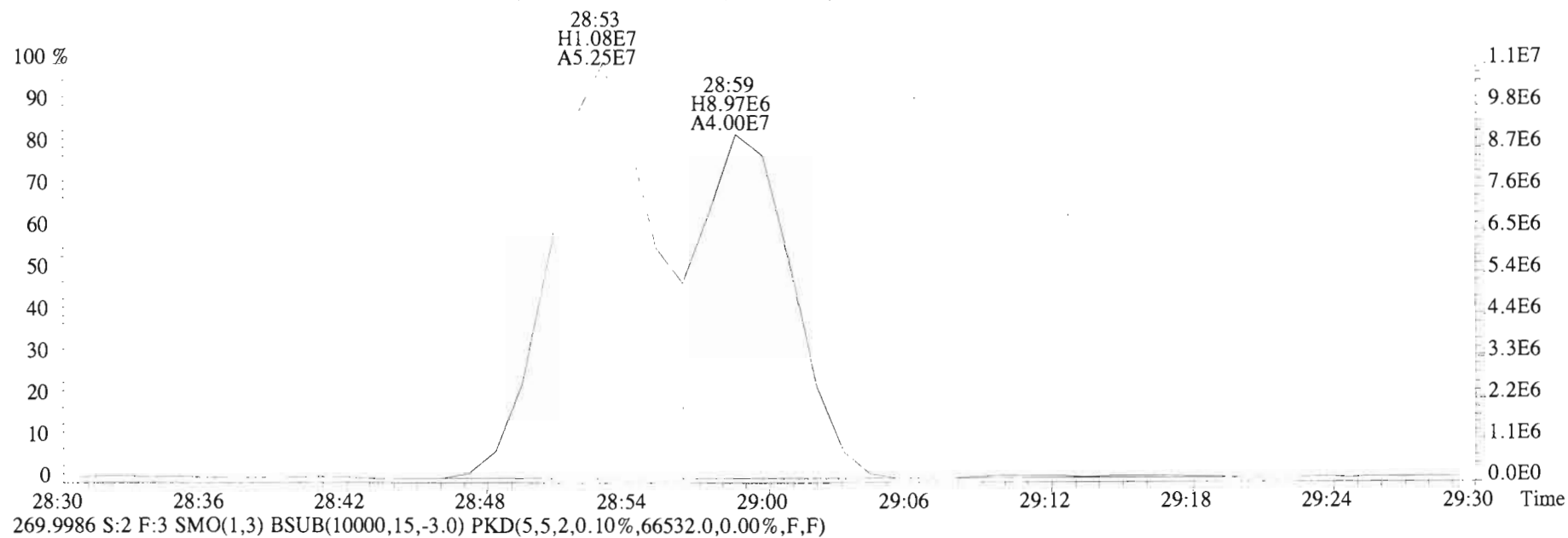
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Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
255.9613 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,5272.0,0.00%,F,F)



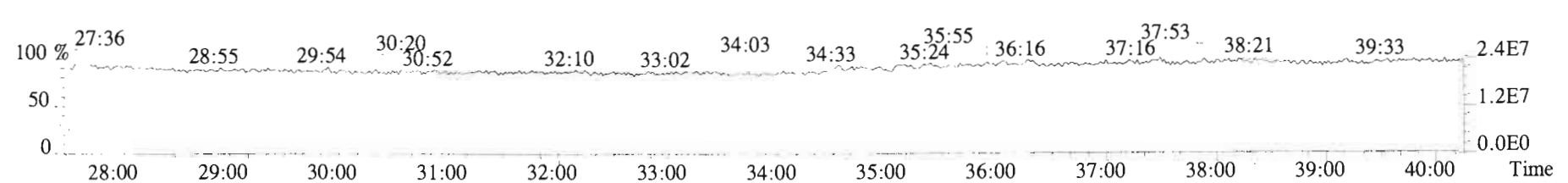
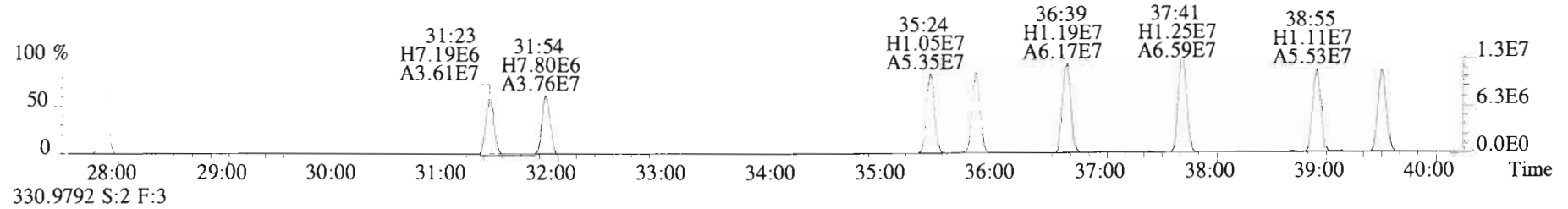
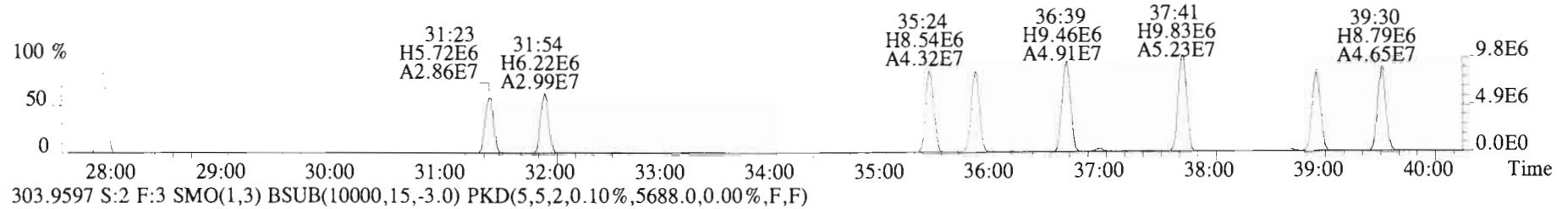
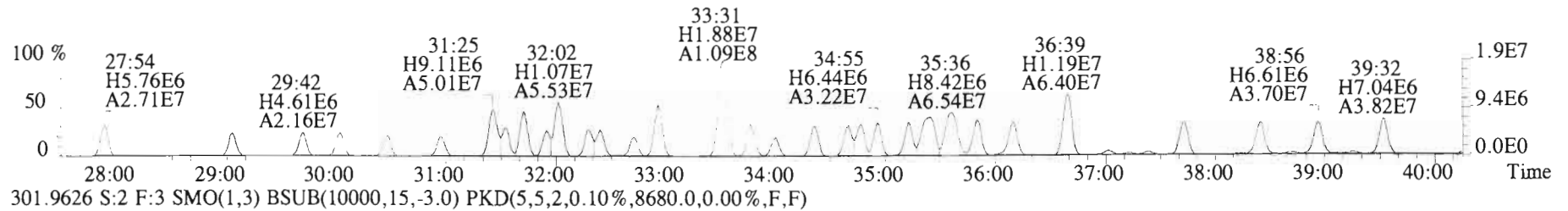
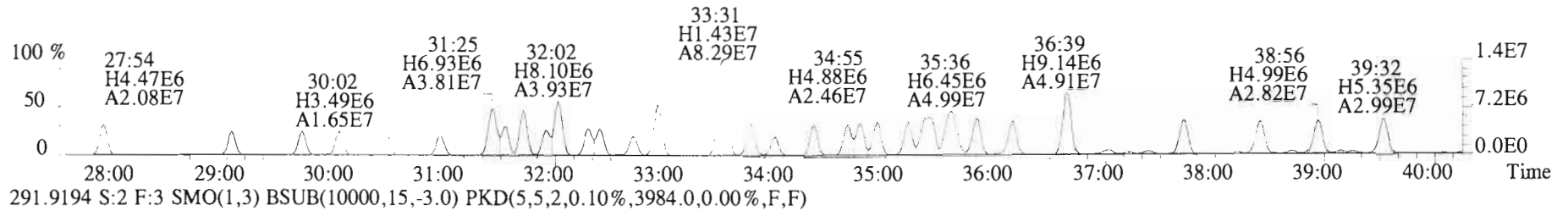
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
255.9613 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,5272.0,0.00%,F,F)



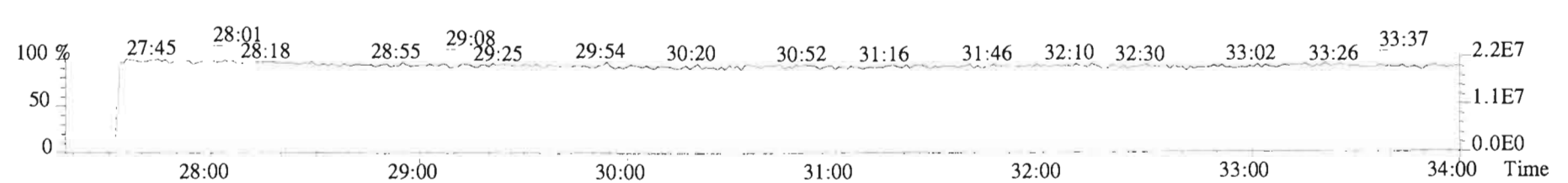
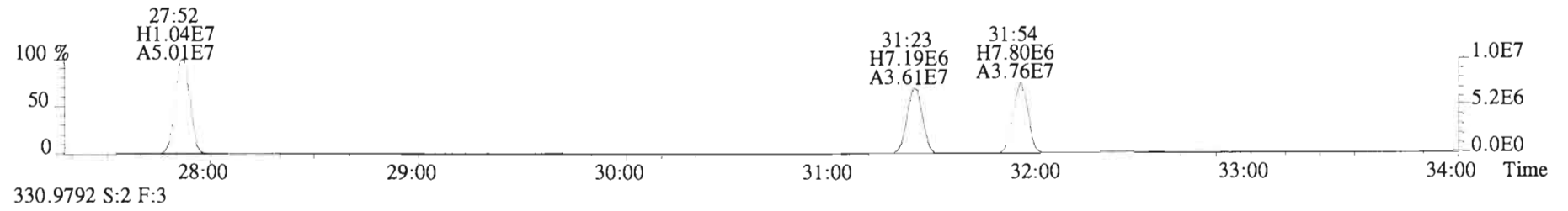
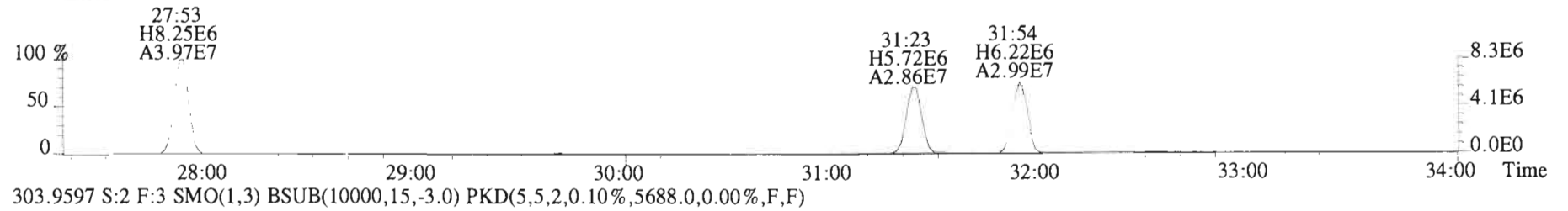
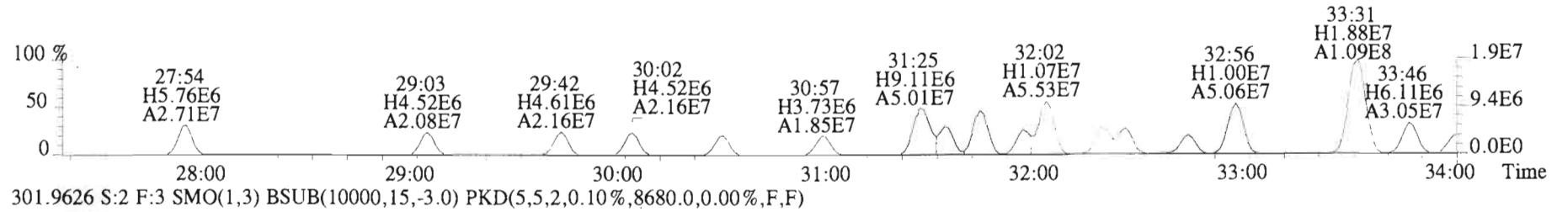
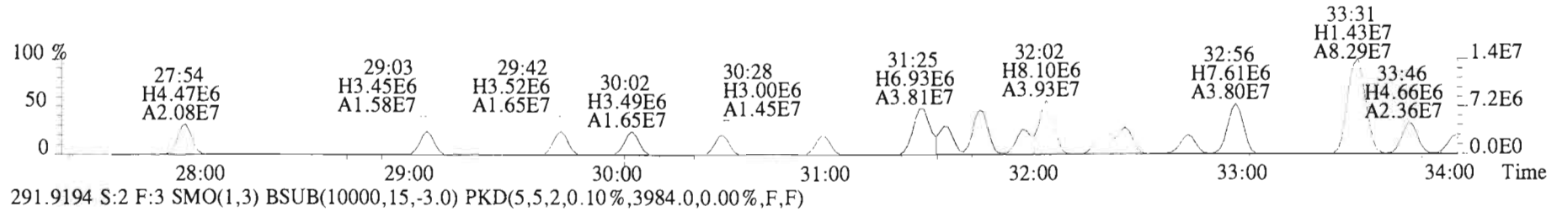
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-8 Text: B5D0057-BS1 OPR 1 Exp: PCB_ZB1
268.0016 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,145696.0,0.00%,F,F)



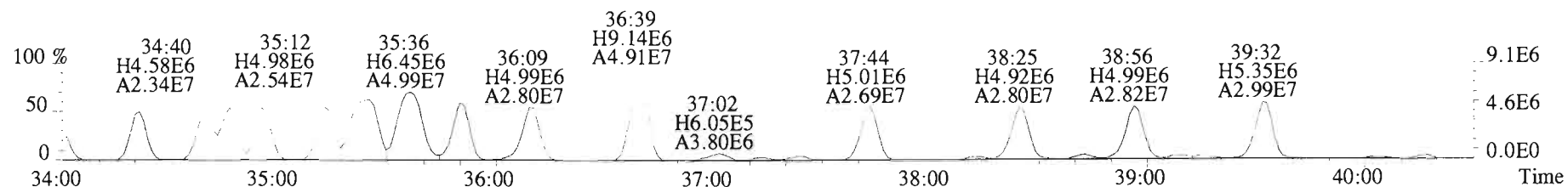
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Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
289.9224 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7468.0,0.00%,F,F)



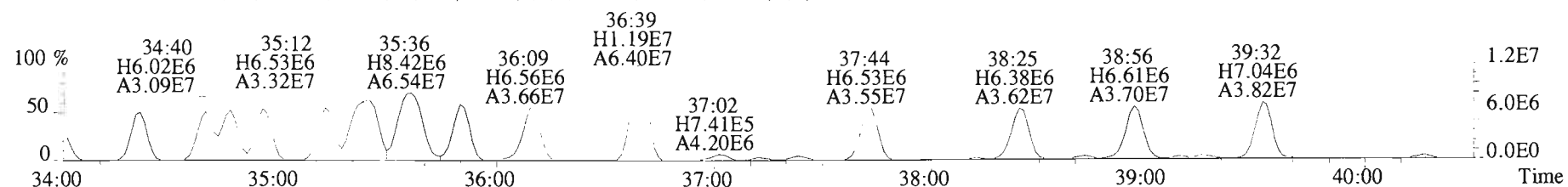
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
289.9224 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7468.0,0.00%,F,F)



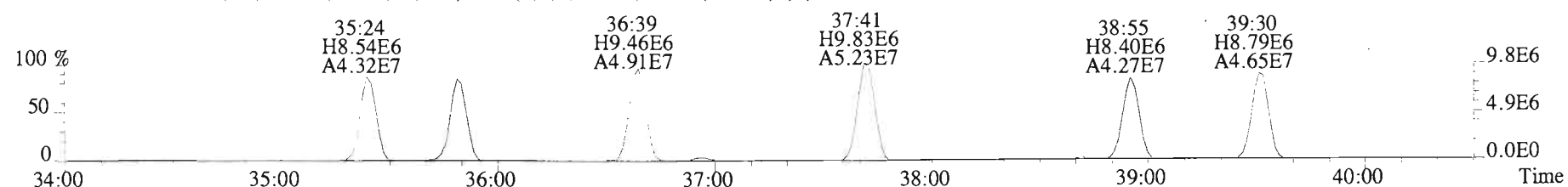
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
289.9224 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7468.0,0.00%,F,F)



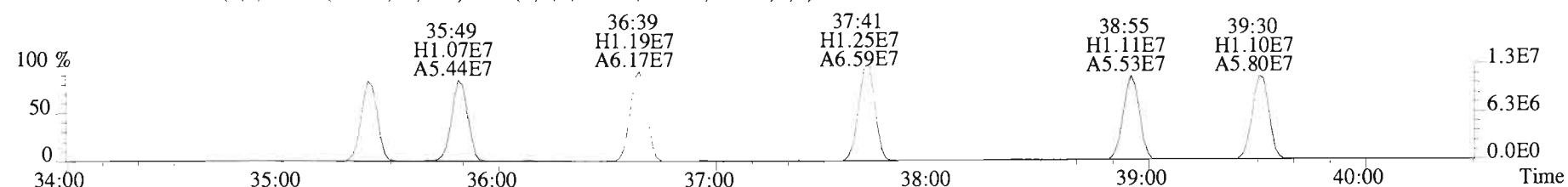
291.9194 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3984.0,0.00%,F,F)



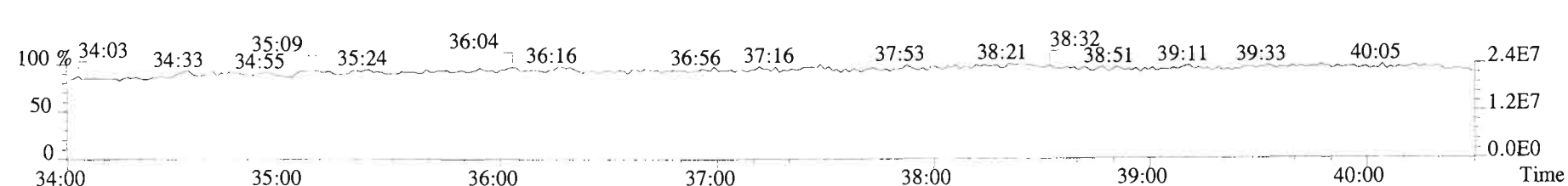
301.9626 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,8680.0,0.00%,F,F)



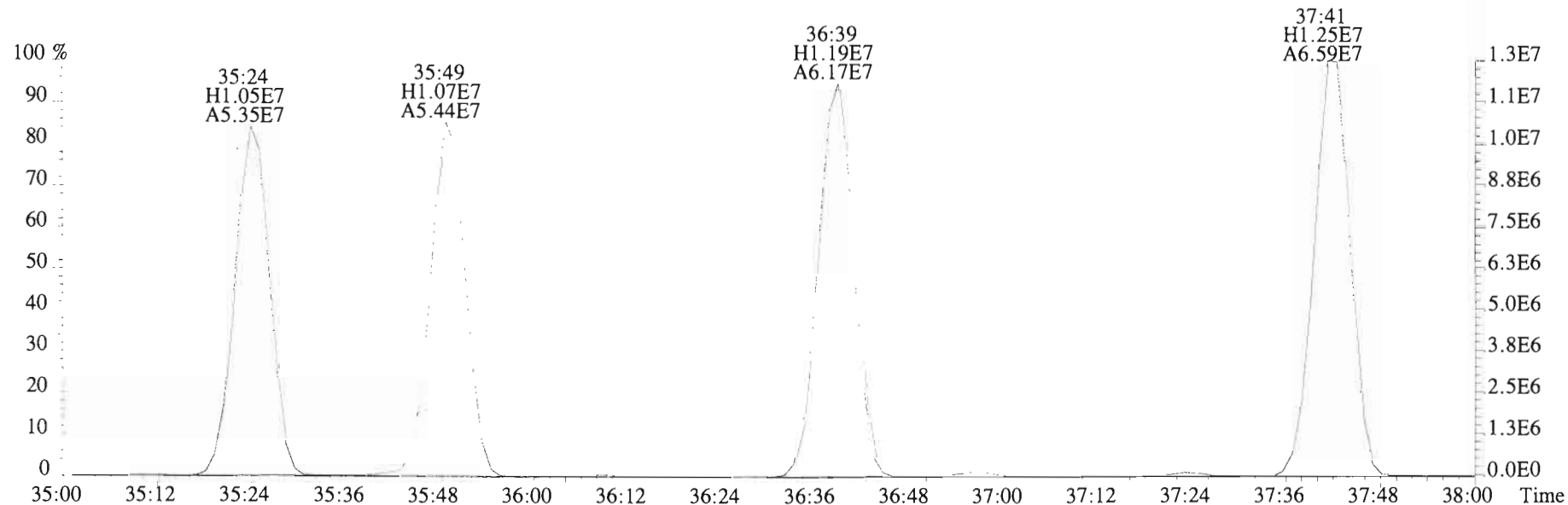
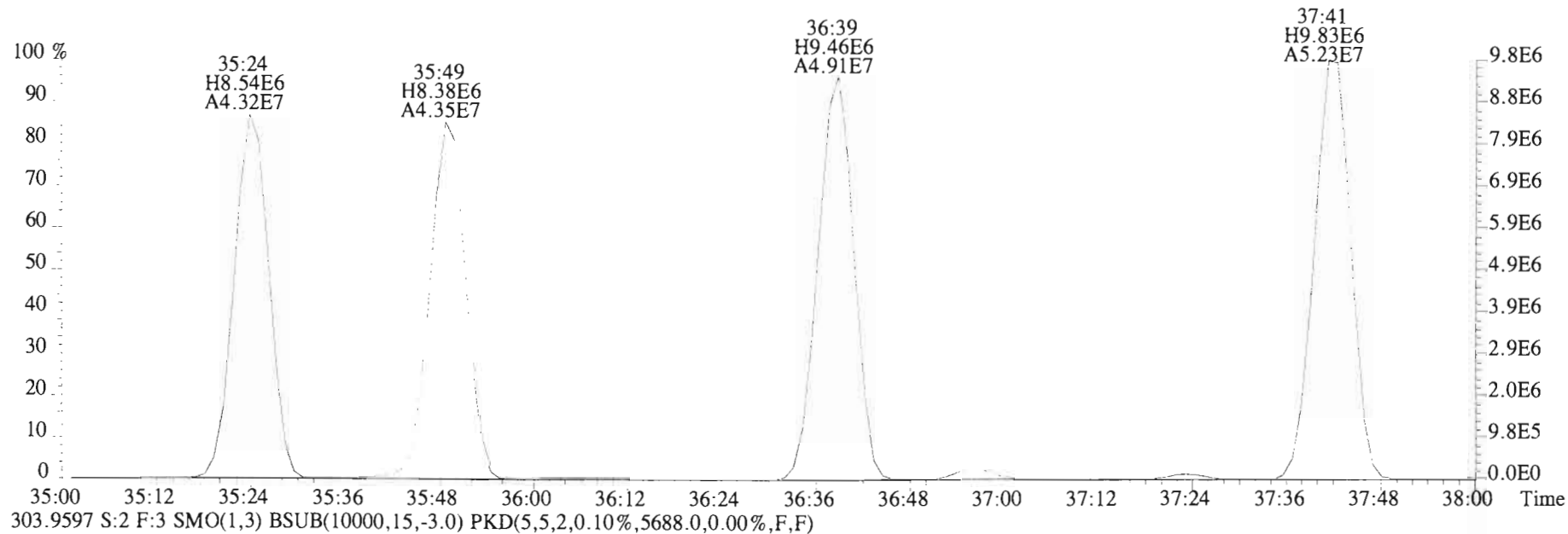
303.9597 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,5688.0,0.00%,F,F)



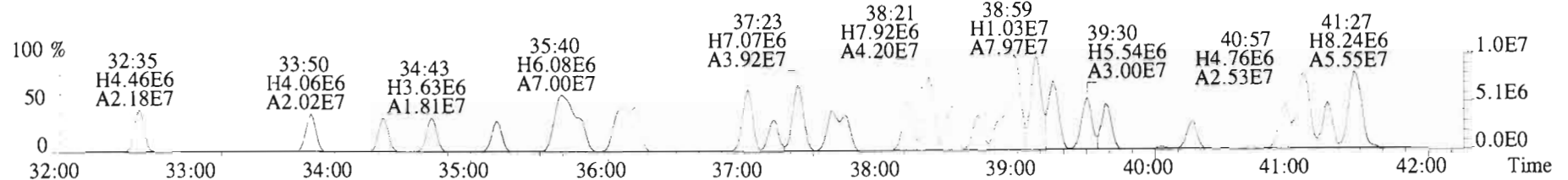
330.9792 S:2 F:3



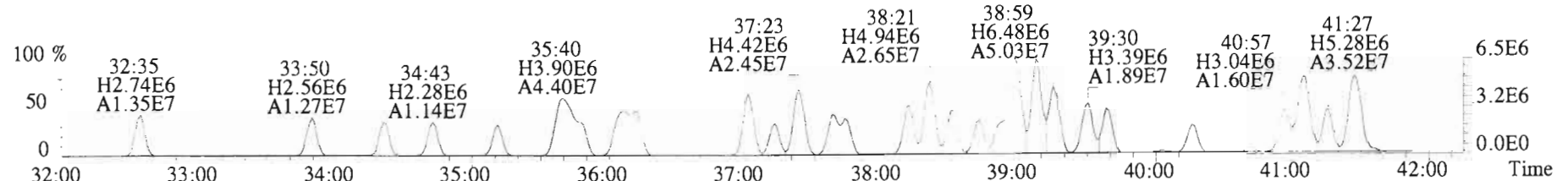
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
301.9626 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,8680.0,0.00%,F,F)



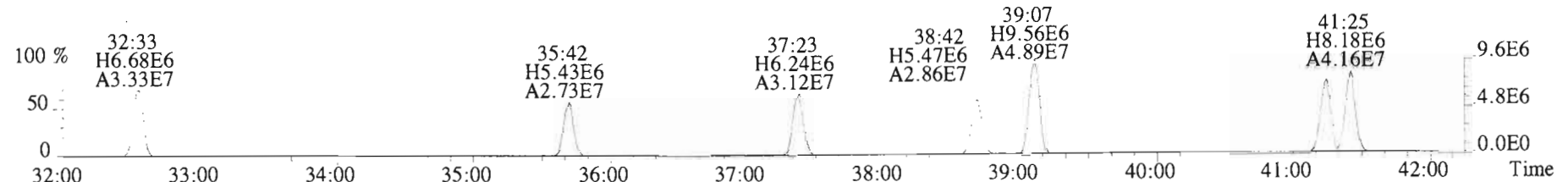
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
325.8804 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1672.0,0.00%,F,F)



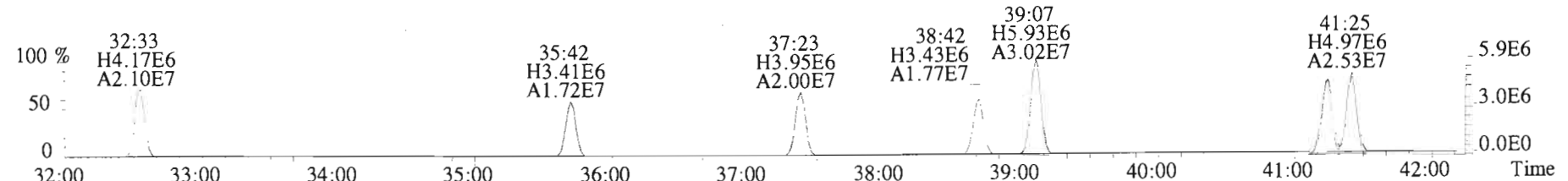
327.8775 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2676.0,0.00%,F,F)



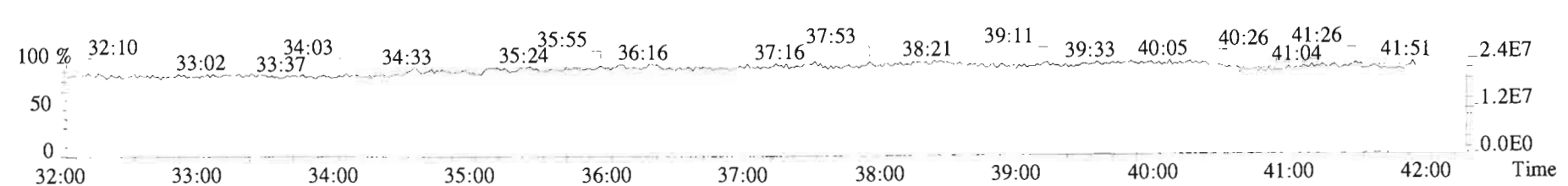
337.9207 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2684.0,0.00%,F,F)



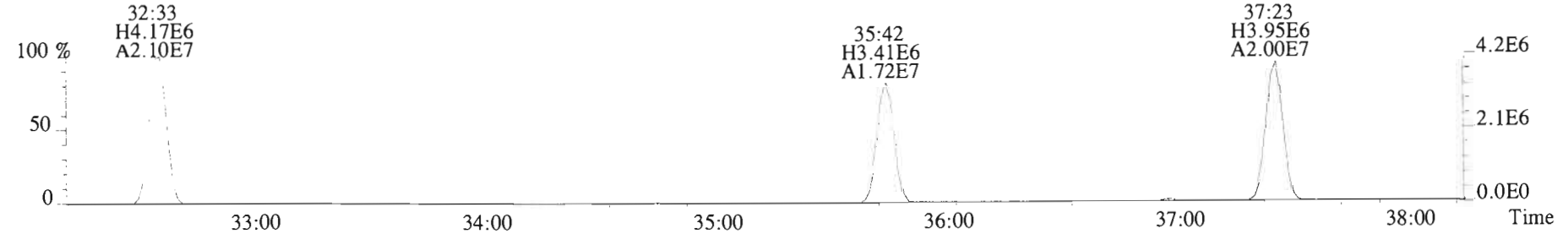
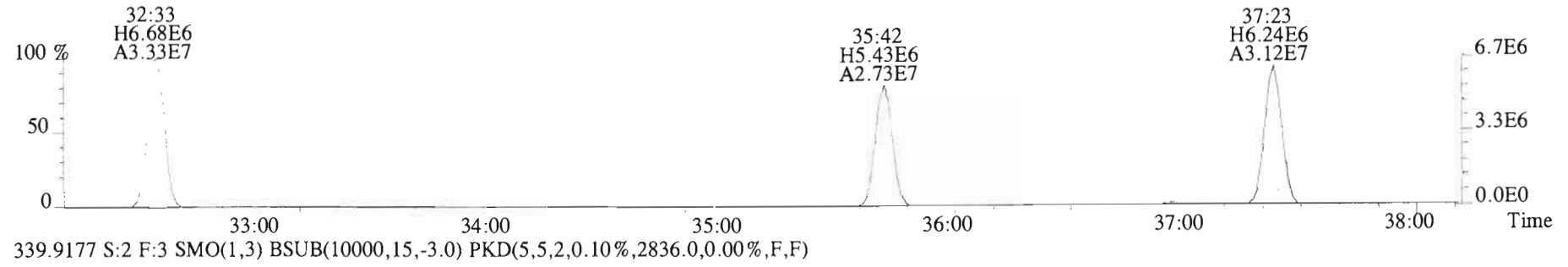
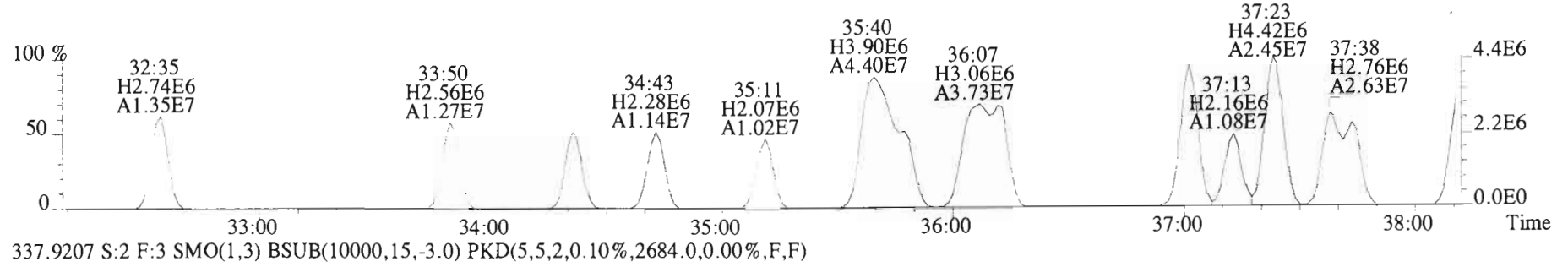
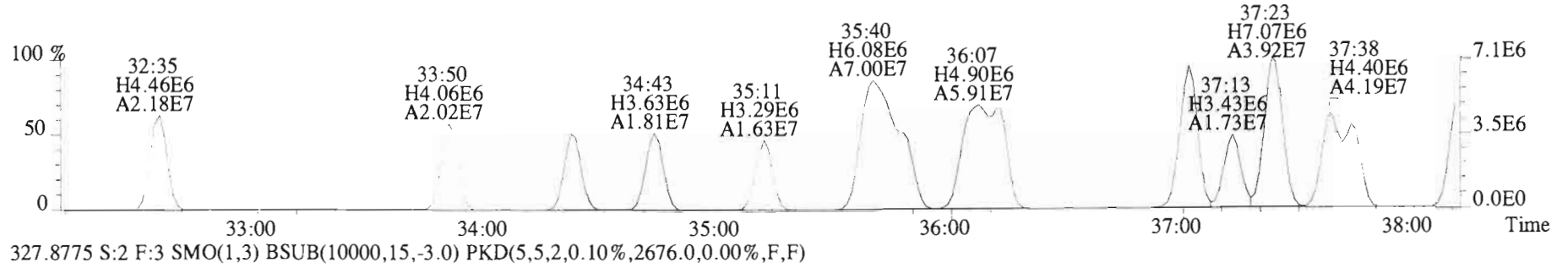
339.9177 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2836.0,0.00%,F,F)



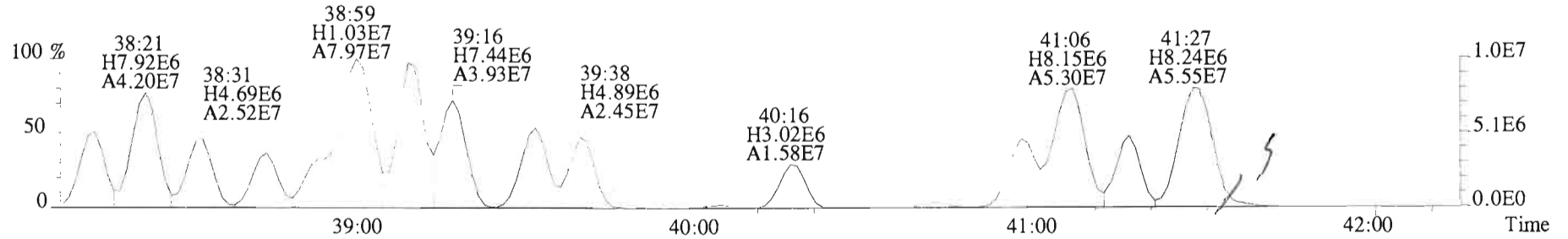
330.9792 S:2 F:3



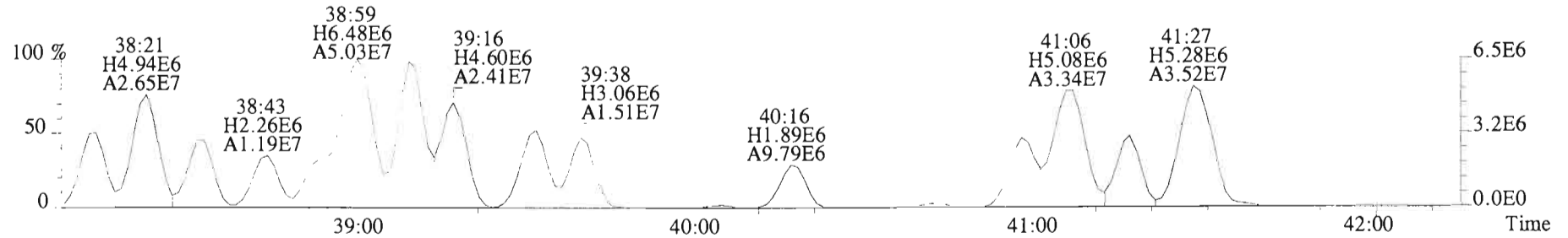
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 325.8804 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1672.0,0.00%,F,F)



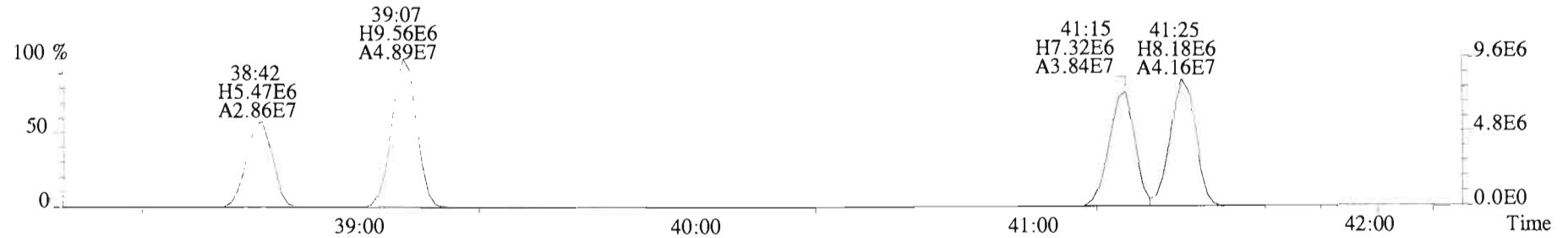
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
325.8804 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1672.0,0.00%,F,F)



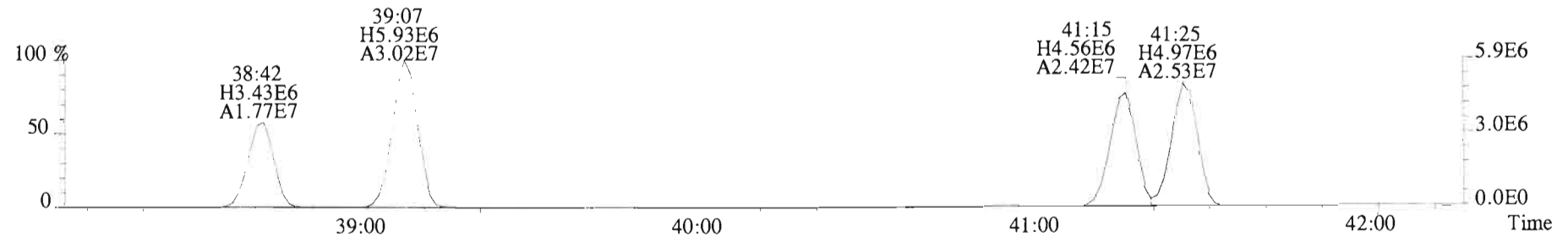
327.8775 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2676.0,0.00%,F,F)



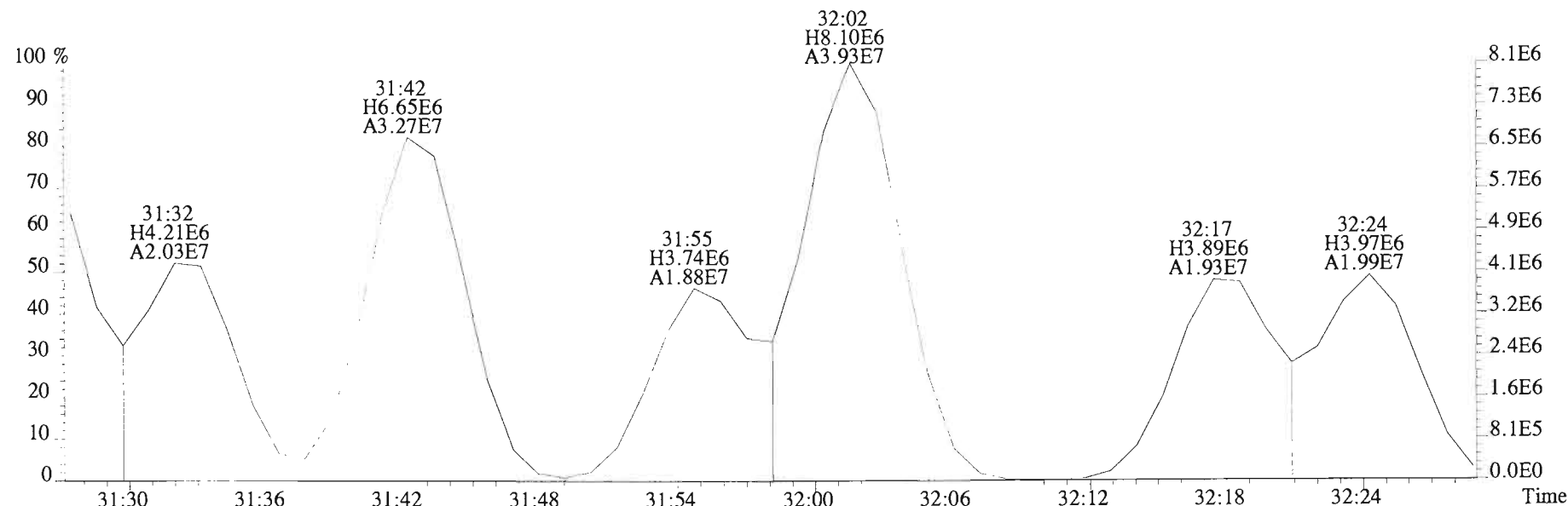
337.9207 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2684.0,0.00%,F,F)



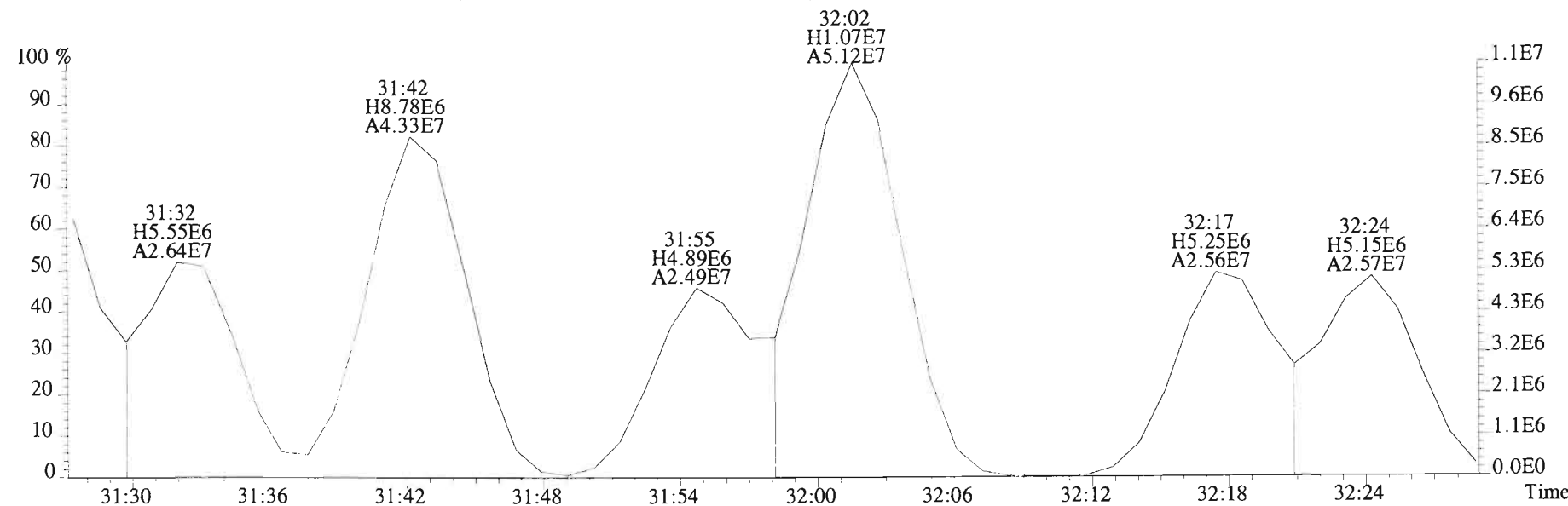
339.9177 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2836.0,0.00%,F,F)



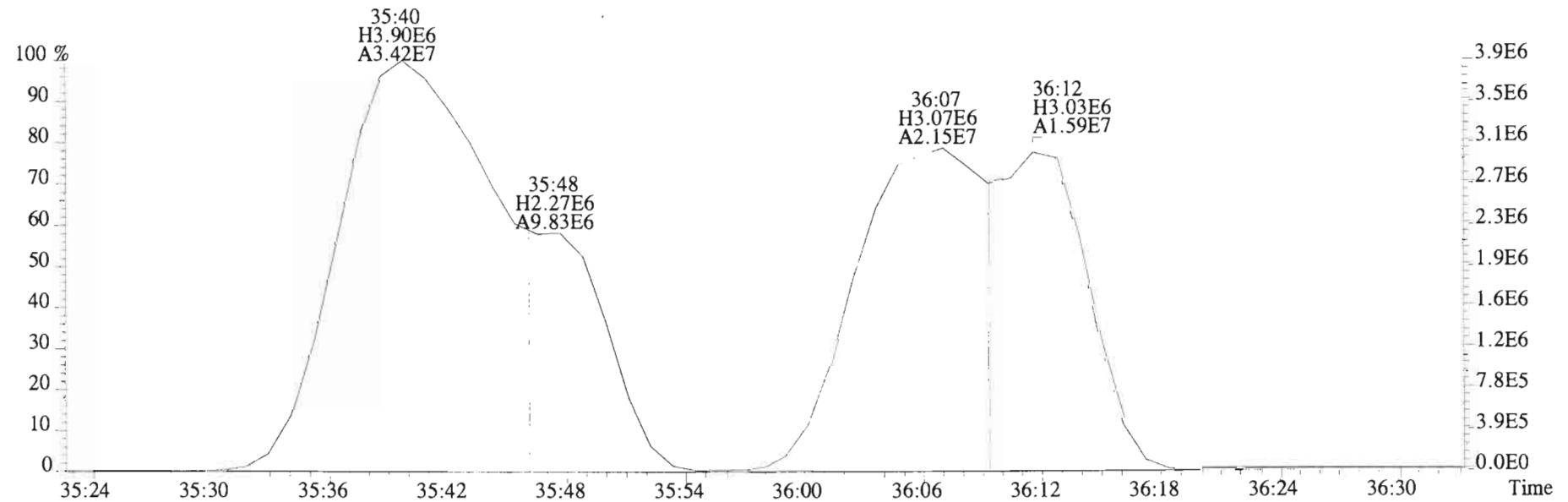
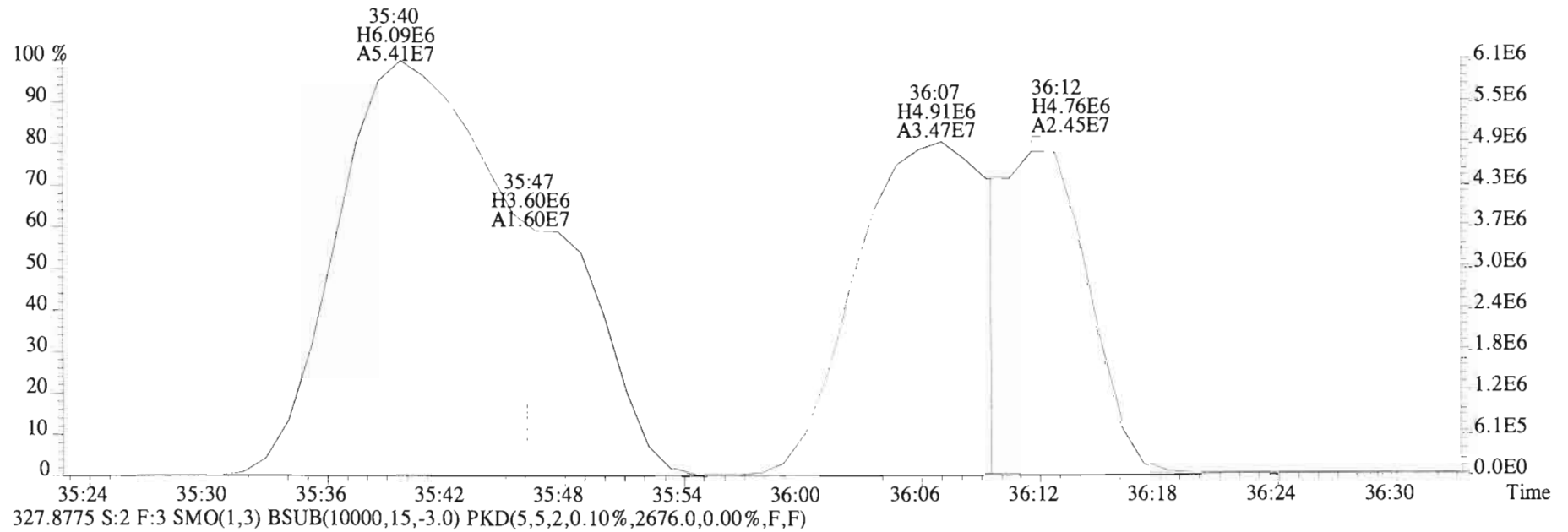
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 289.9224 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7468.0,0.00%,F,F)



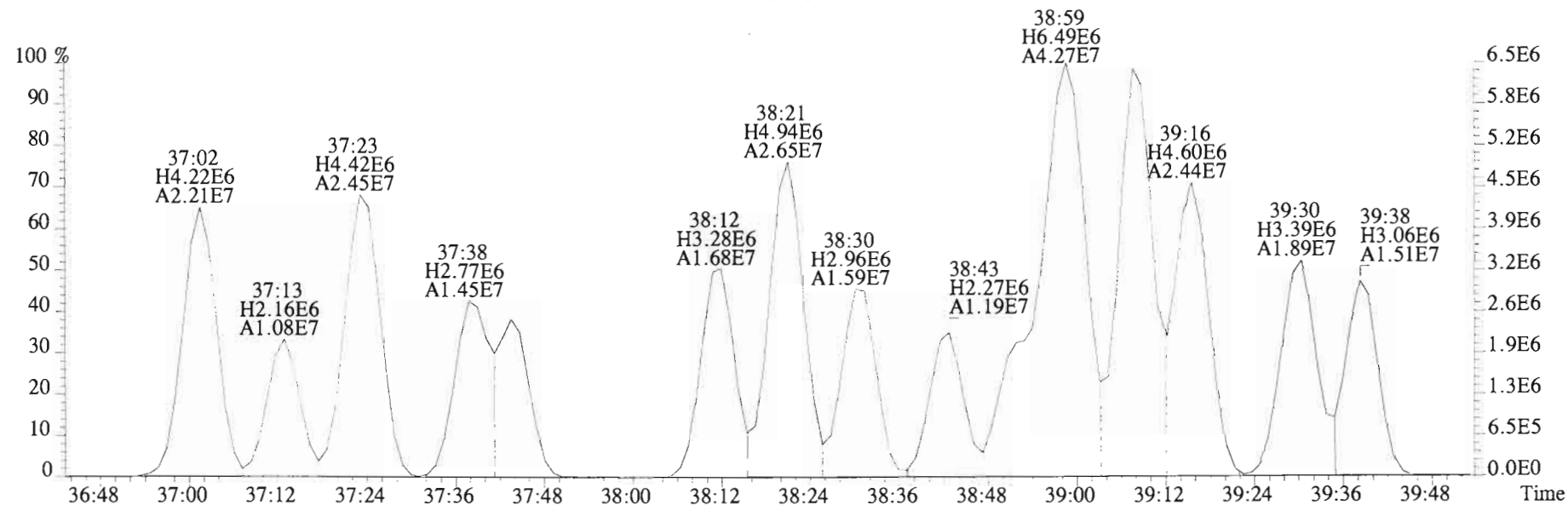
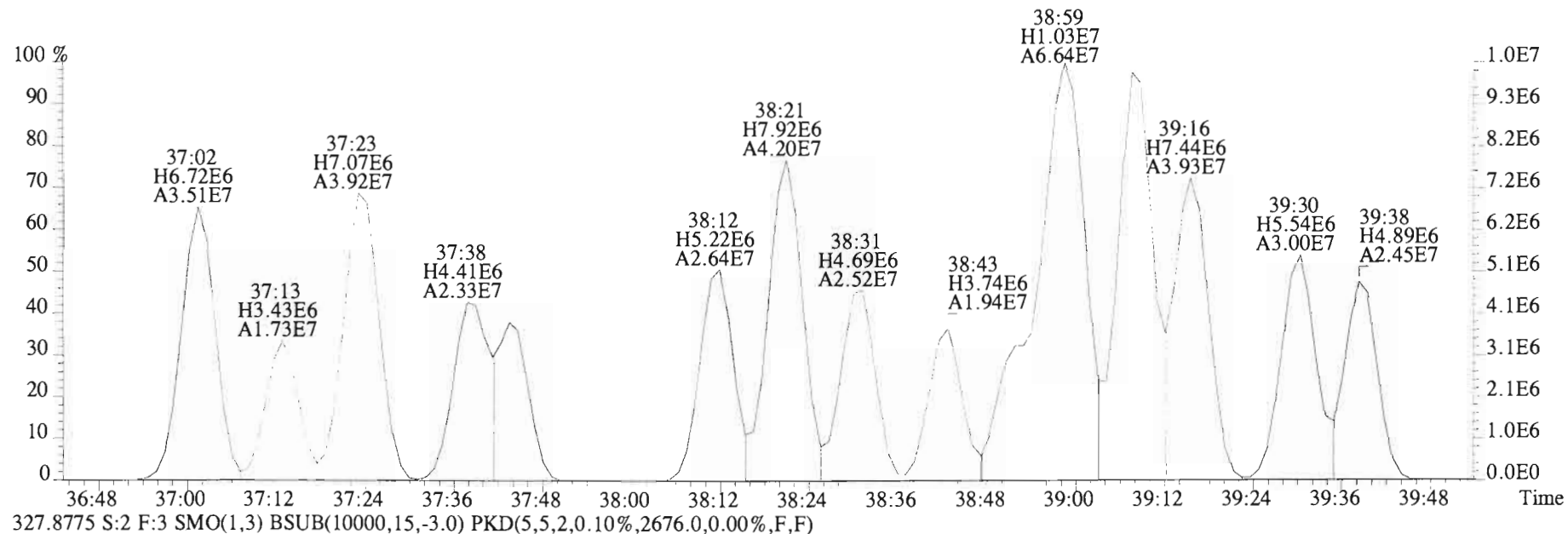
291.9194 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3984.0,0.00%,F,F)



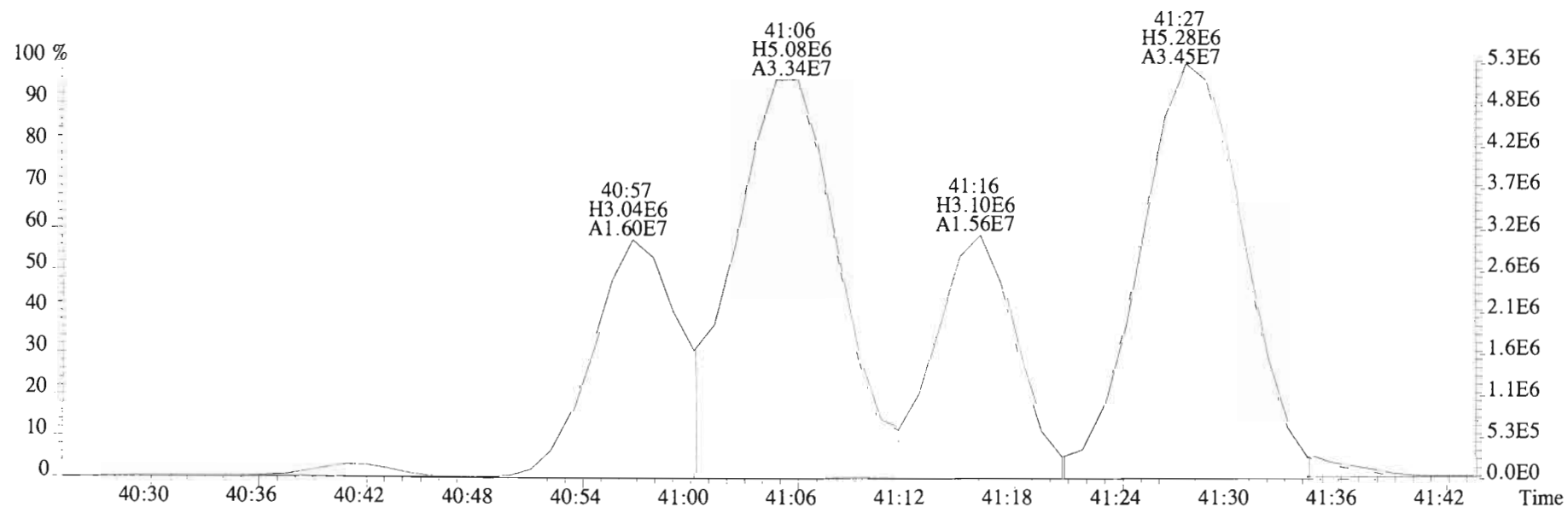
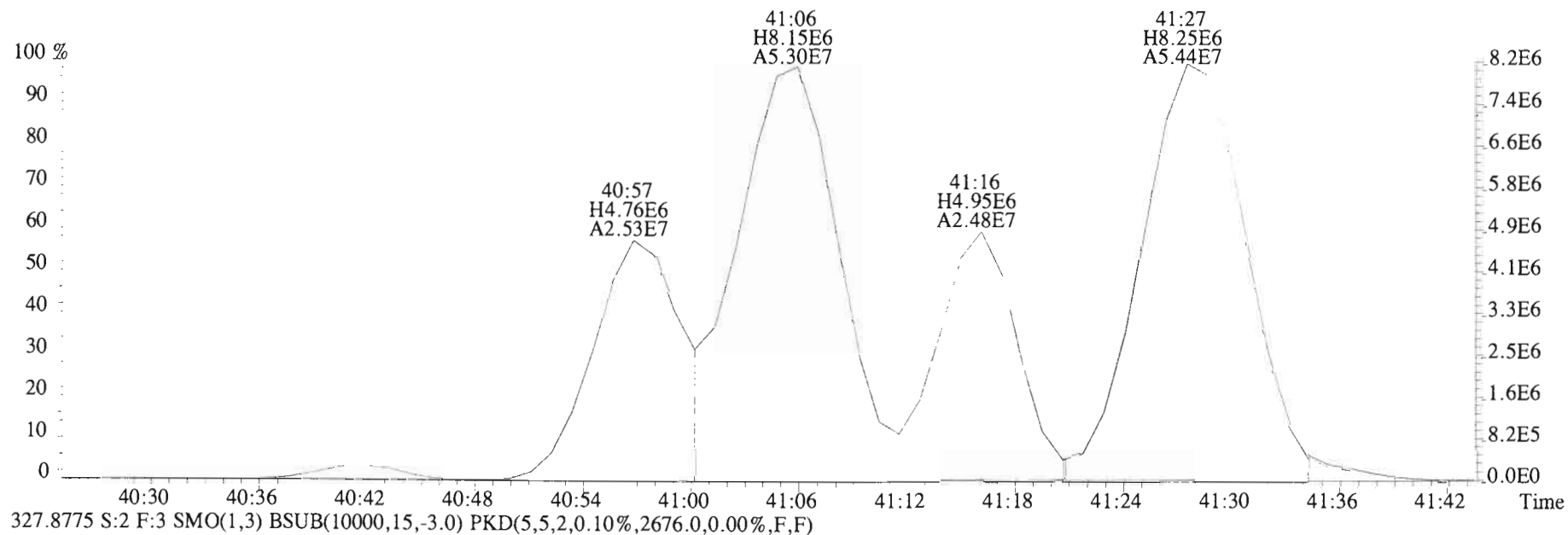
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 325.8804 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1672.0,0.00%,F,F)



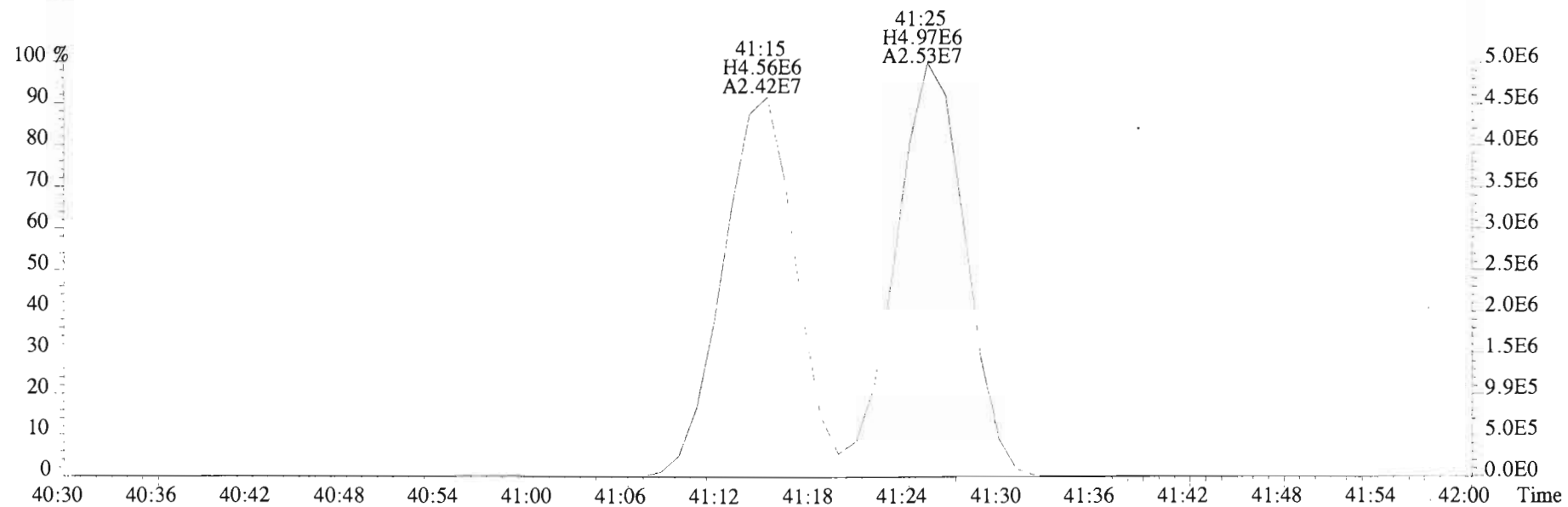
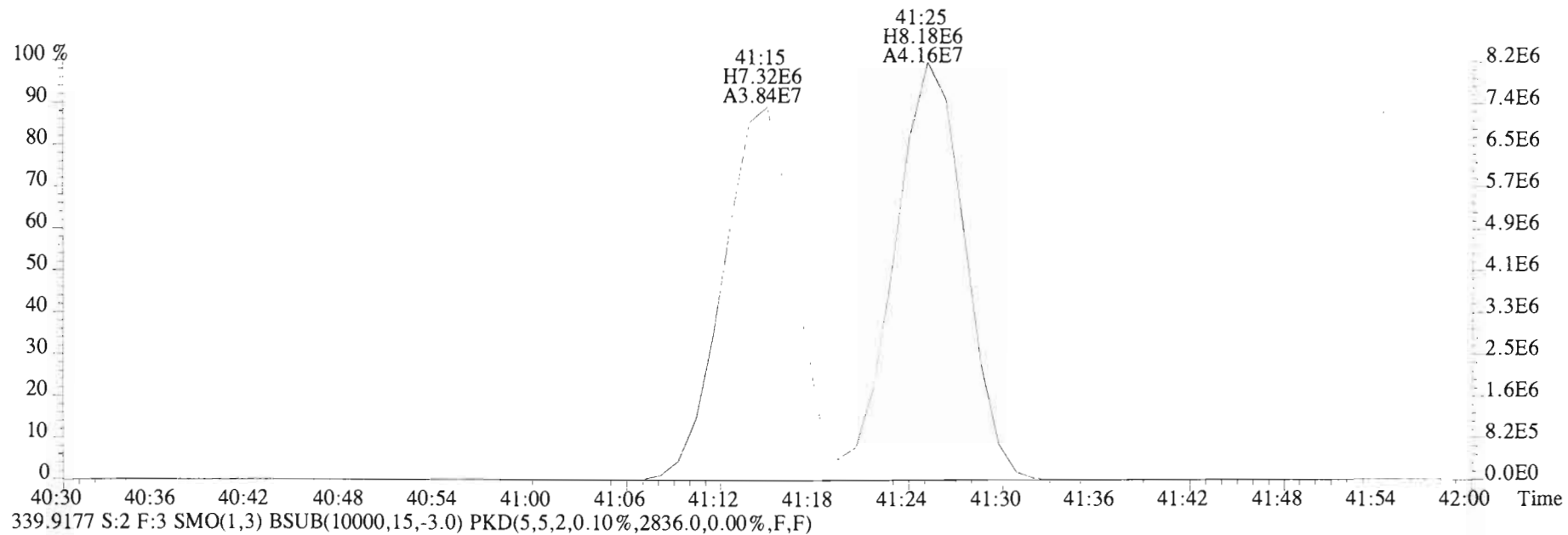
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 325.8804 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1672.0,0.00%,F,F)



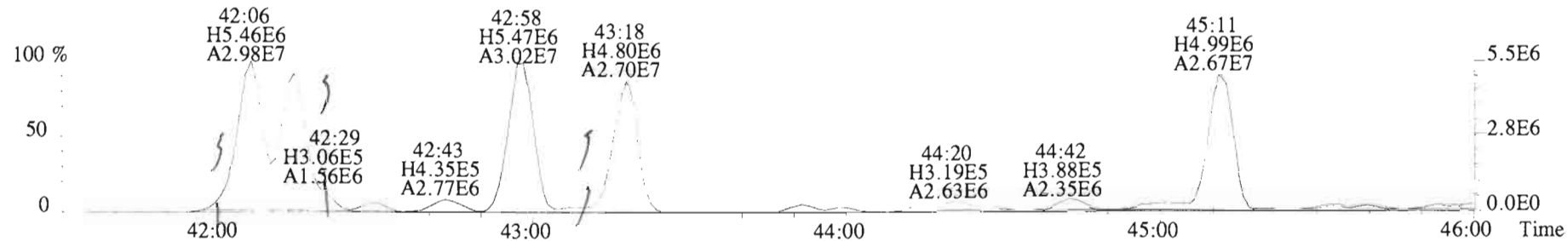
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 325.8804 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1672.0,0.00%,F,F)



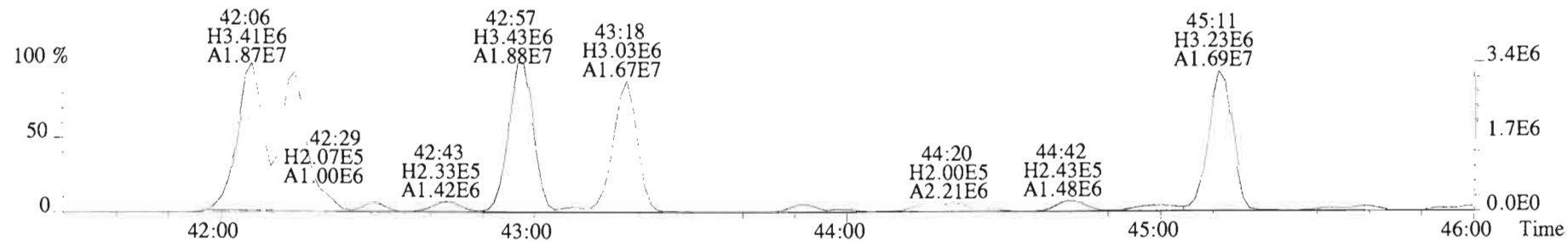
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
337.9207 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2684.0,0.00%,F,F)



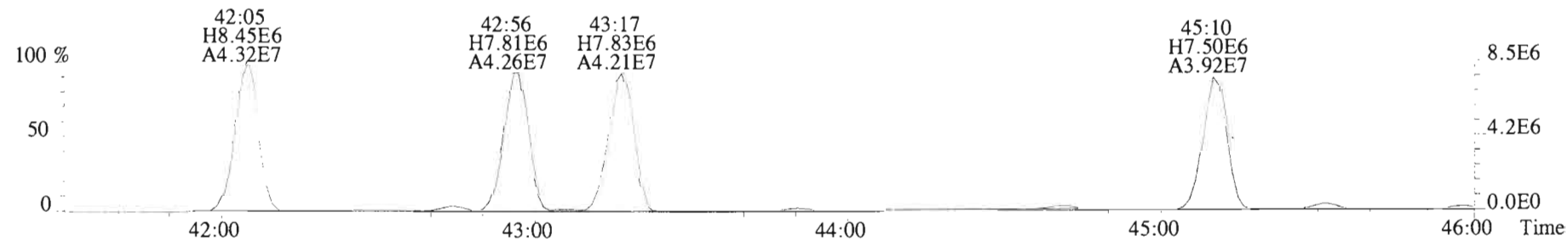
File:150421E1 #1-555 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 325.8804 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7376.0,0.00%,F,F)



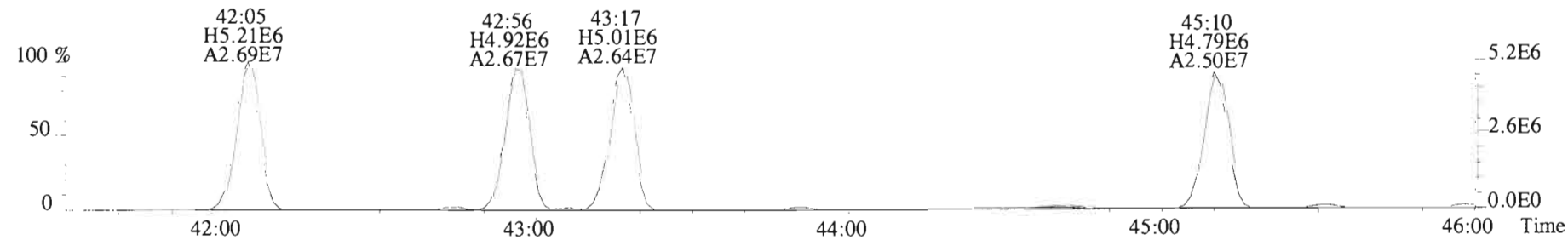
327.8775 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4552.0,0.00%,F,F)



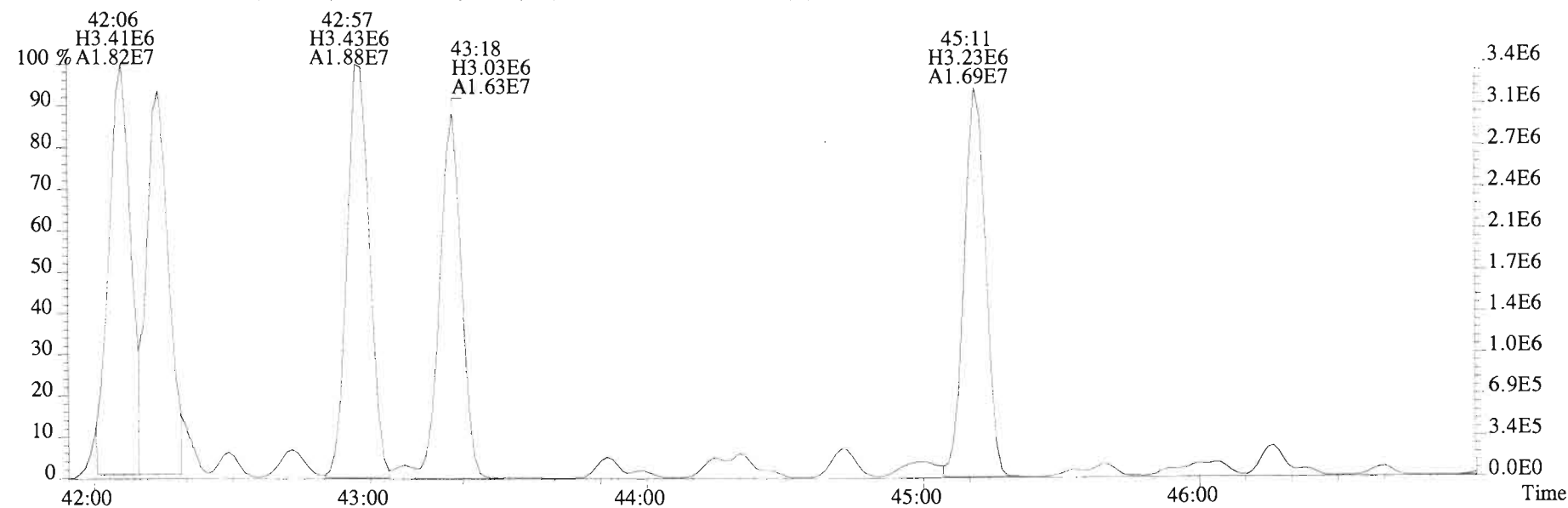
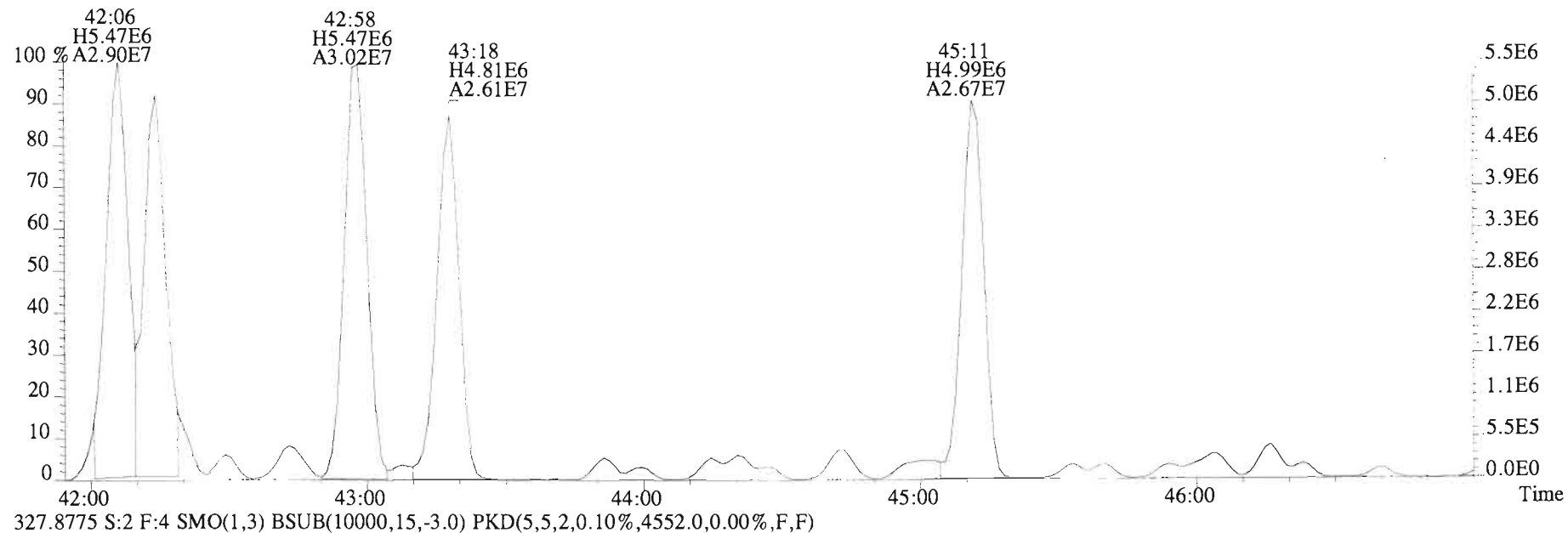
337.9207 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4896.0,0.00%,F,F)



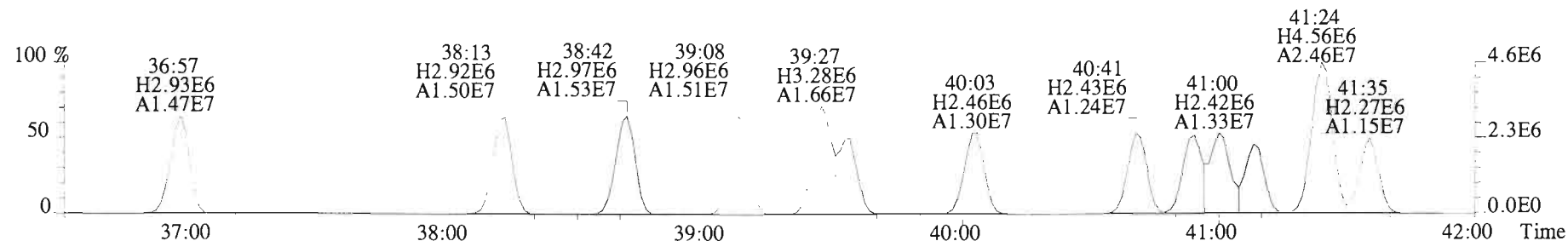
339.9177 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3204.0,0.00%,F,F)



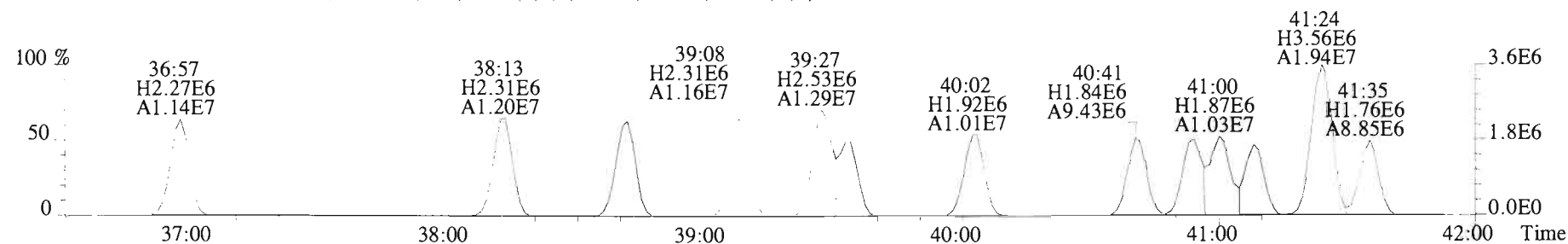
File:150421E1 #1-555 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
325.8804 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7376.0,0.00%,F,F)



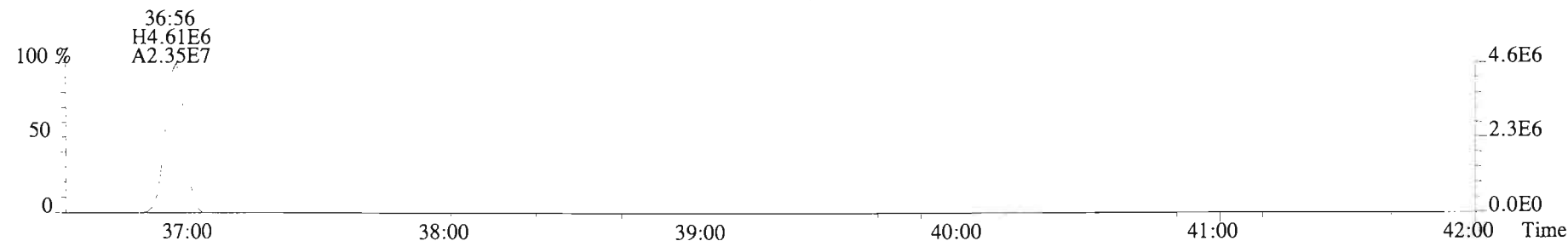
File:150421E1 #1-758 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
359.8415 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1764.0,0.00%,F,F)



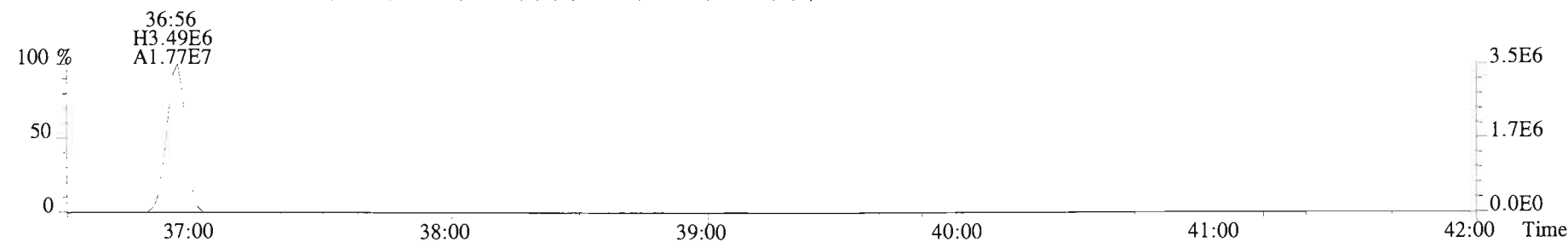
361.8385 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1940.0,0.00%,F,F)



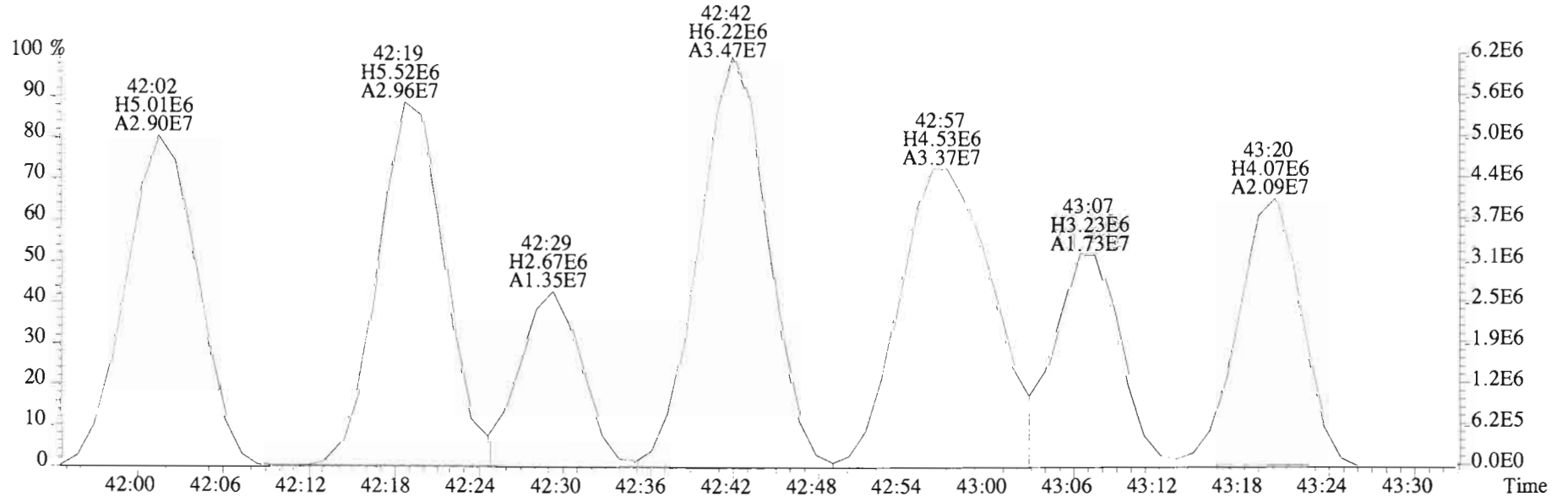
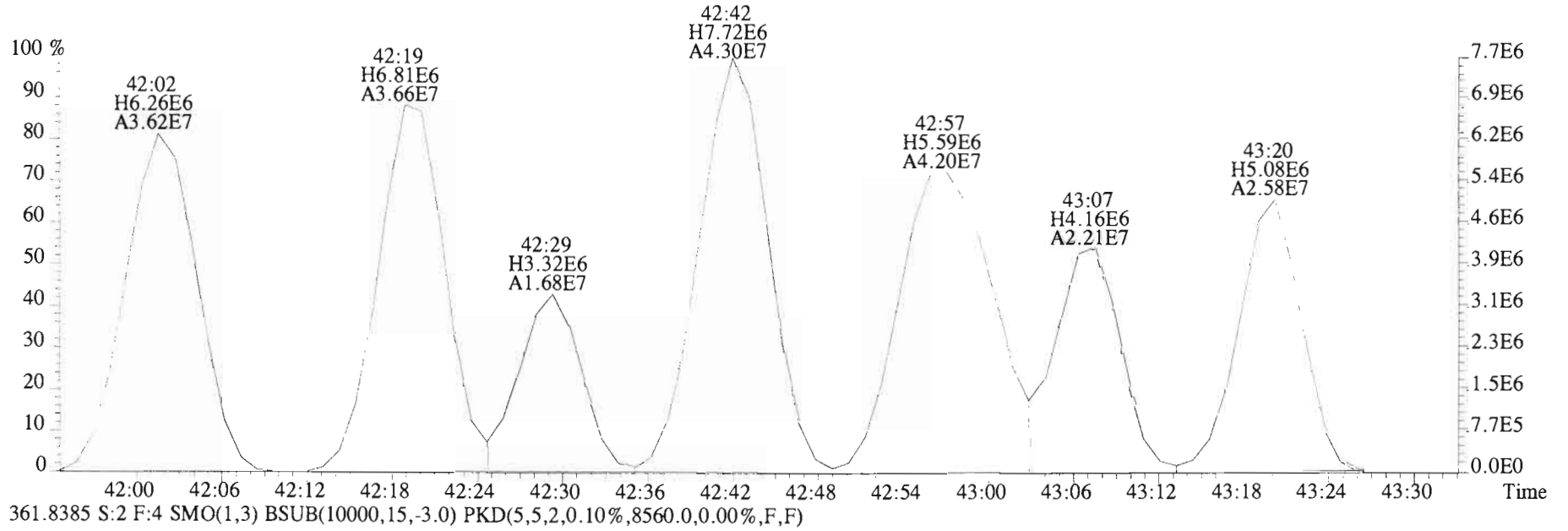
371.8817 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2248.0,0.00%,F,F)



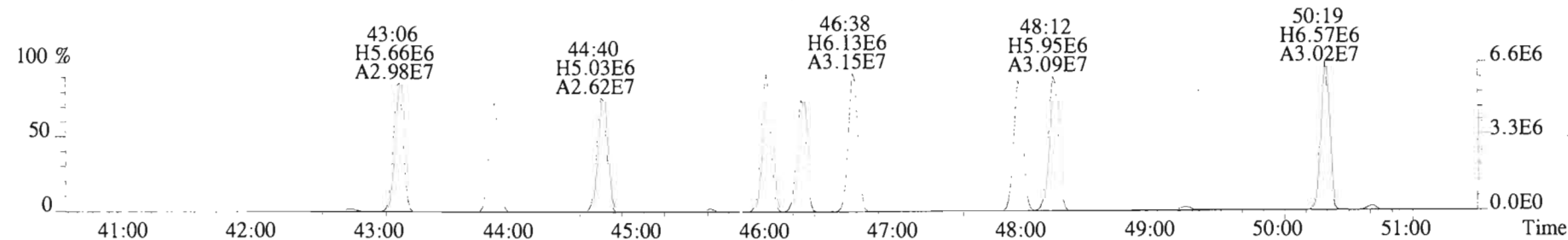
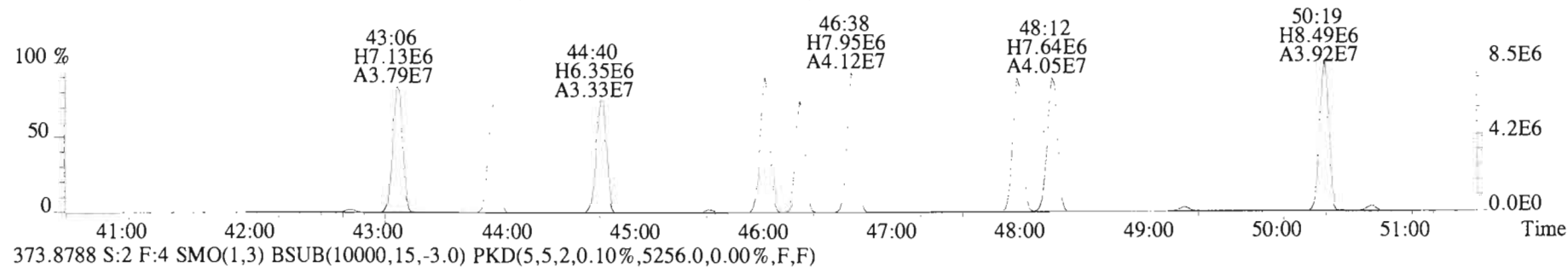
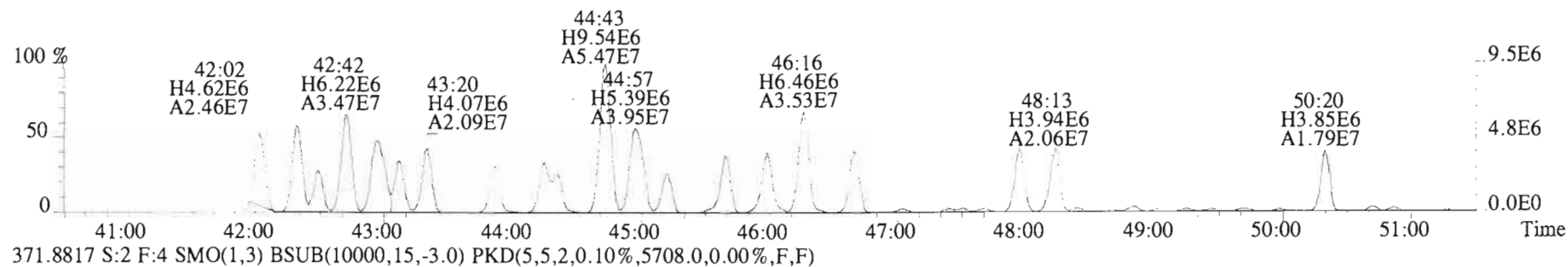
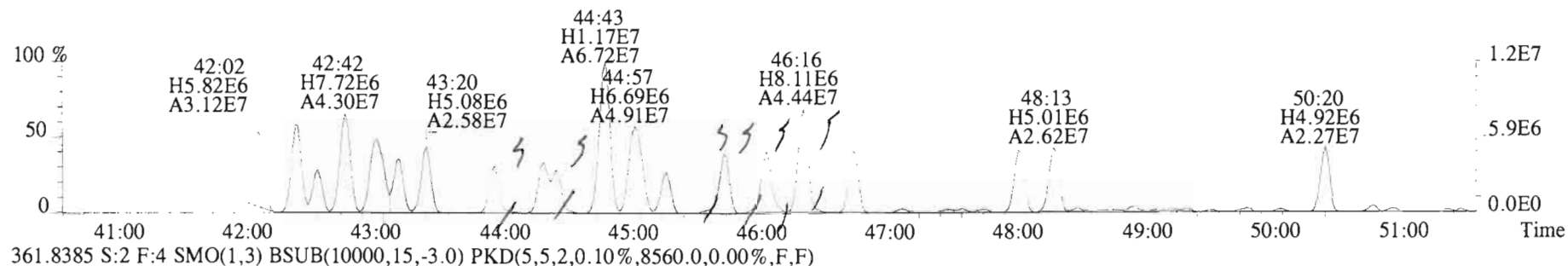
373.8788 S:2 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2444.0,0.00%,F,F)



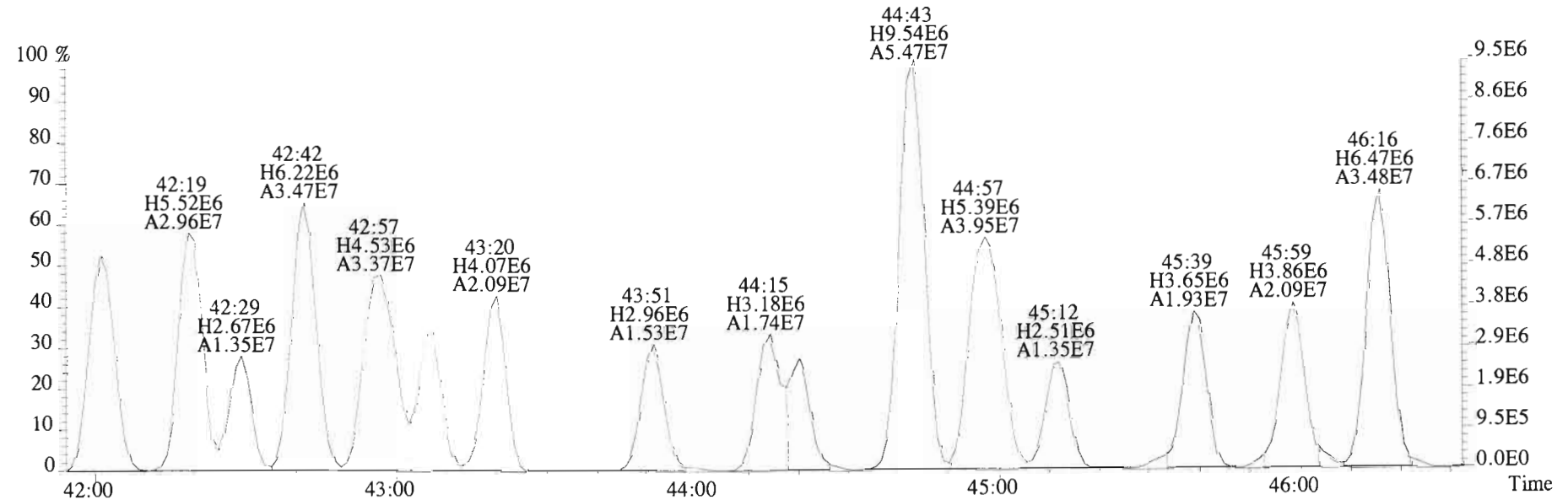
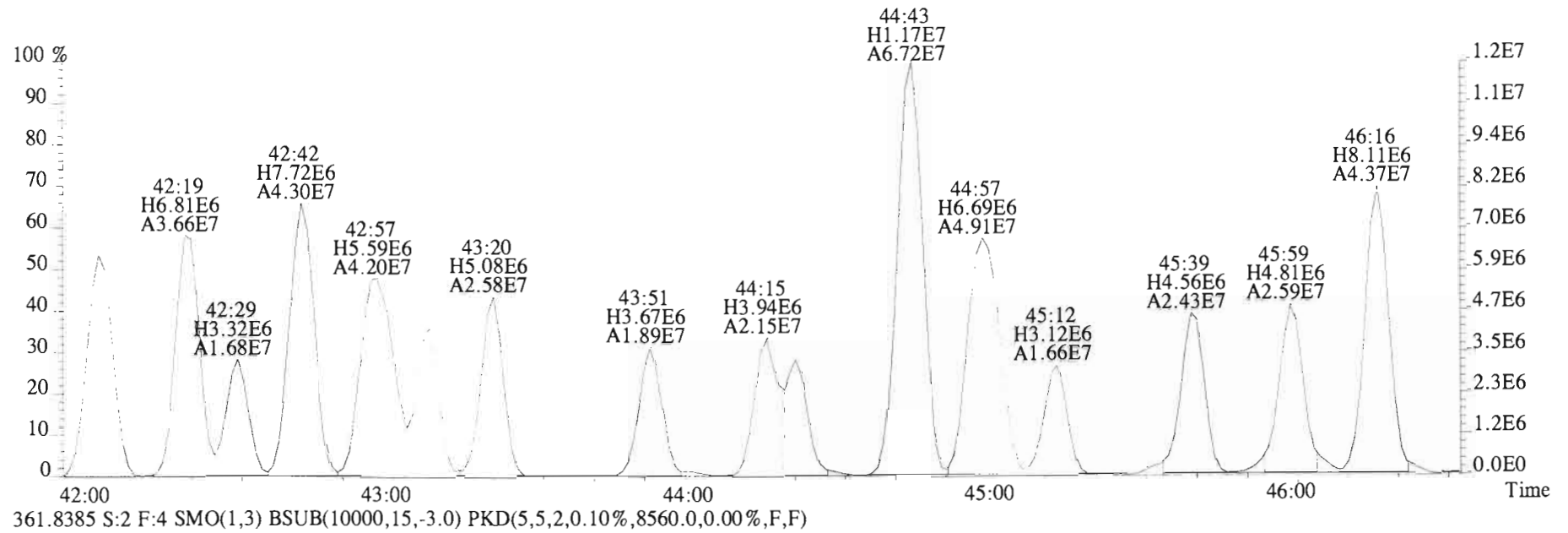
File:150421E1 #1-555 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 359.8415 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3588.0,0.00%,F,F)



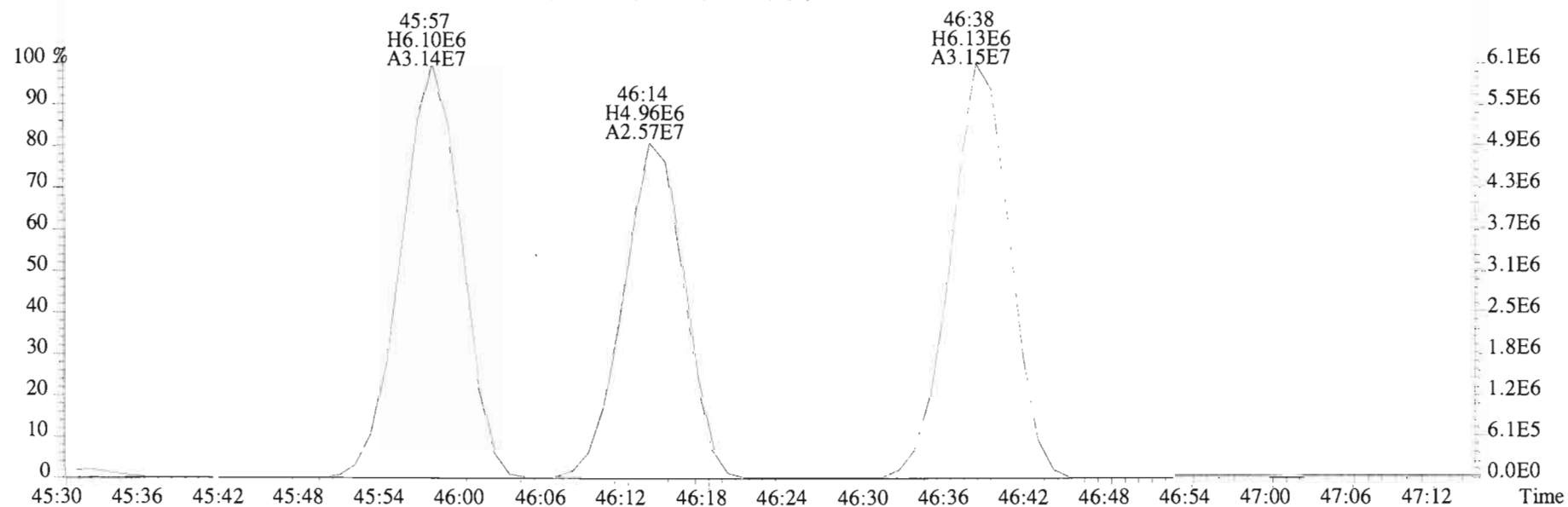
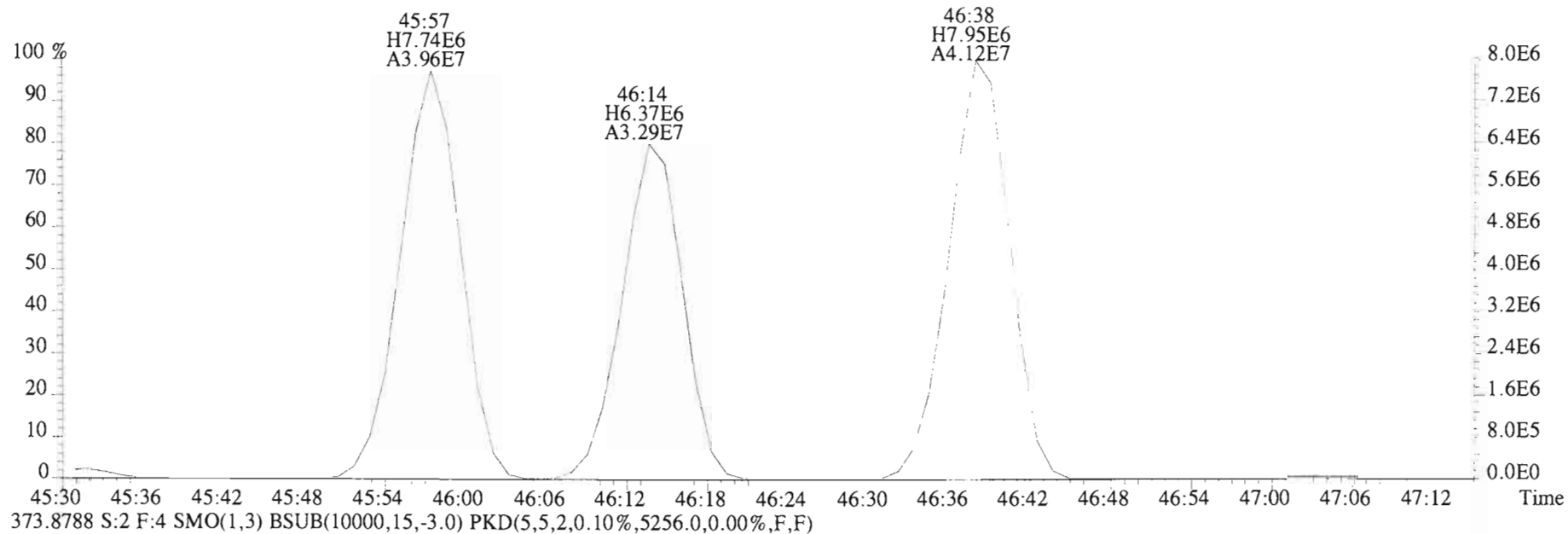
File:150421E1 #1-555 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
359.8415 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3588.0,0.00%,F,F)



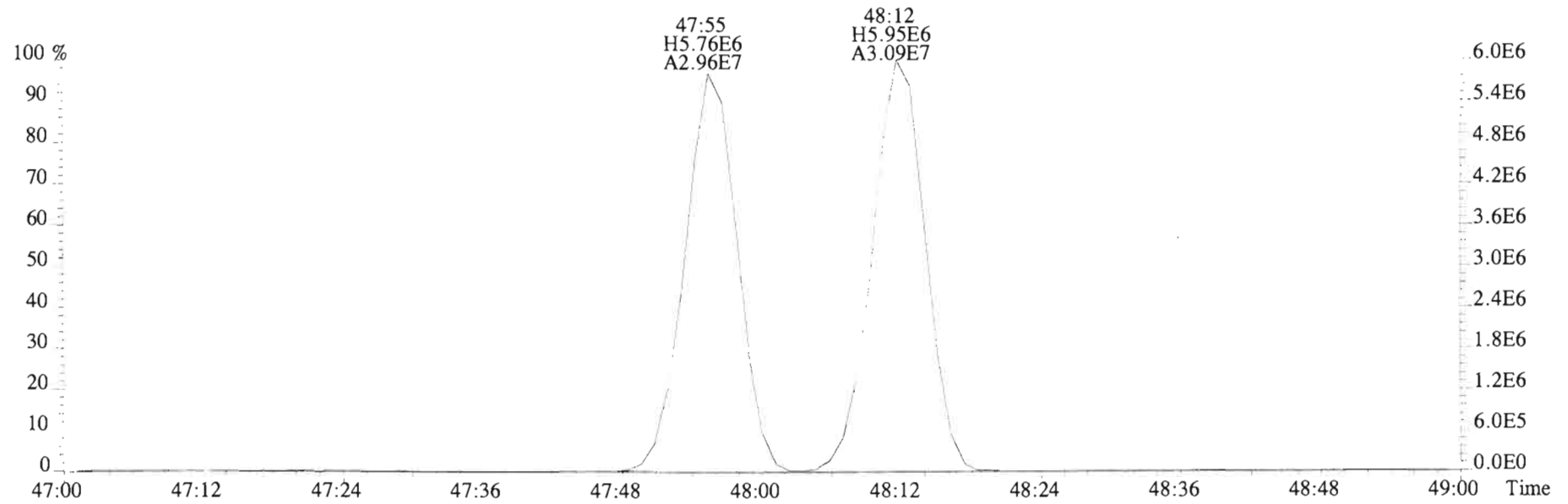
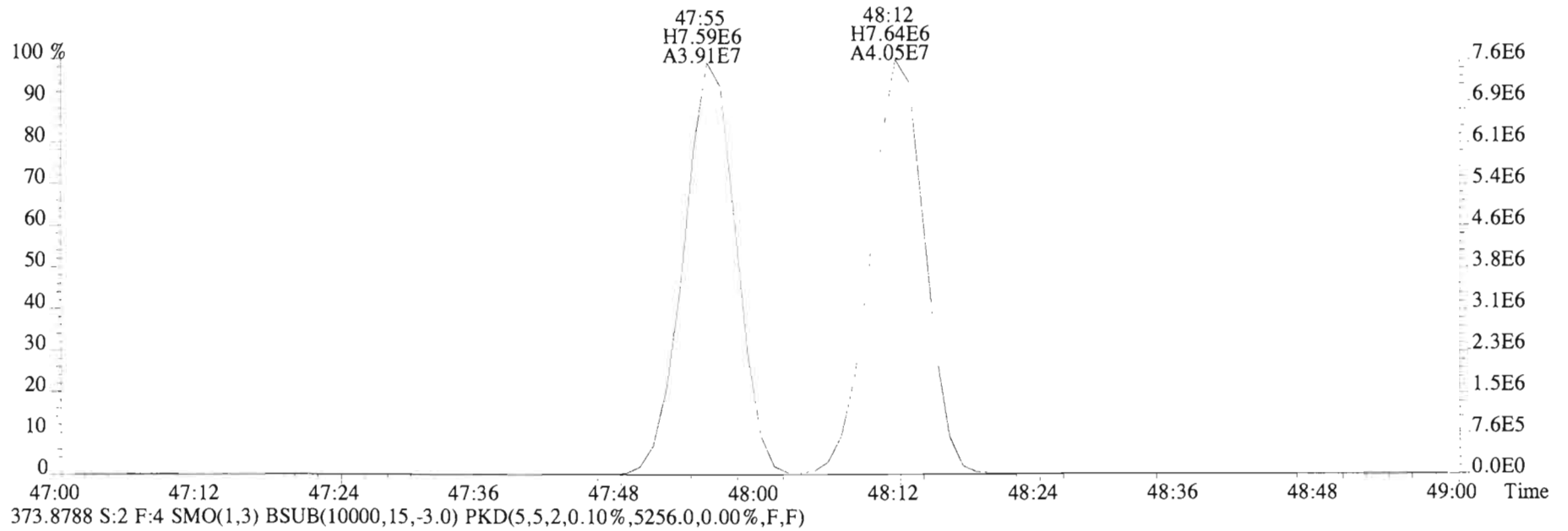
File:150421E1 #1-555 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
 359.8415 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3588.0,0.00%,F,F)



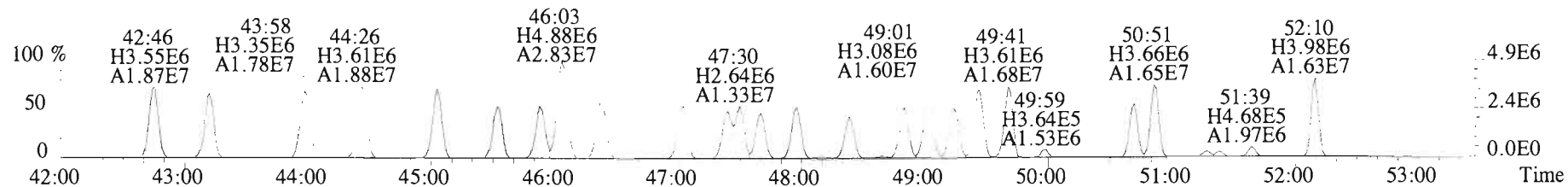
File:150421E1 #1-555 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
371.8817 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,5708.0,0.00%,F,F)



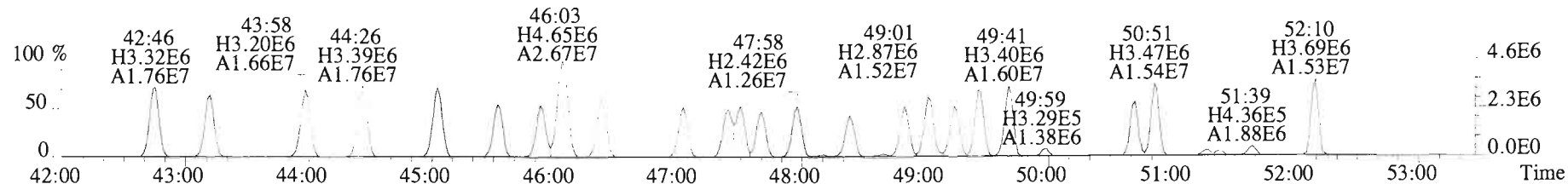
File: 150421E1 #1-555 Acq: 21-APR-2015 09:52:53 GC E1+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG-8 Text: B5D0057-BS1 OPR 1 Exp: PCB_ZB1
371.8817 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,5708.0,0.00%,F,F)



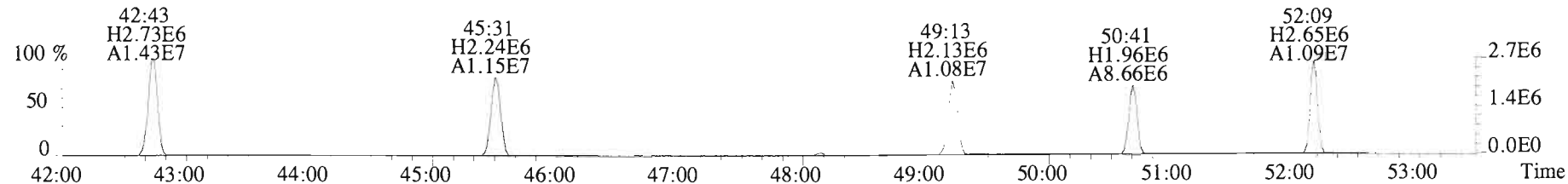
File:150421E1 #1-555 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
393.8025 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6000.0,0.00%,F,F)



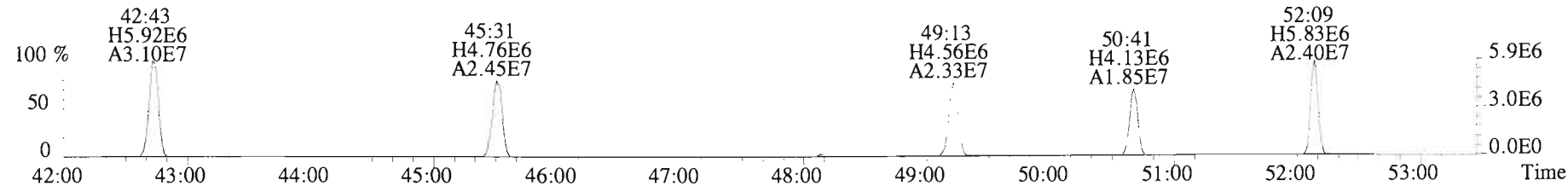
395.7995 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6112.0,0.00%,F,F)



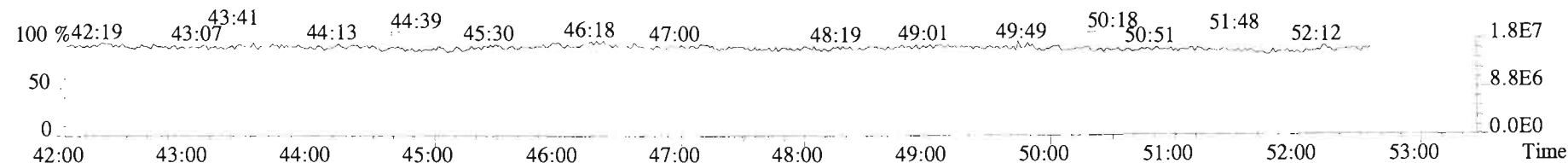
403.8457 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2904.0,0.00%,F,F)



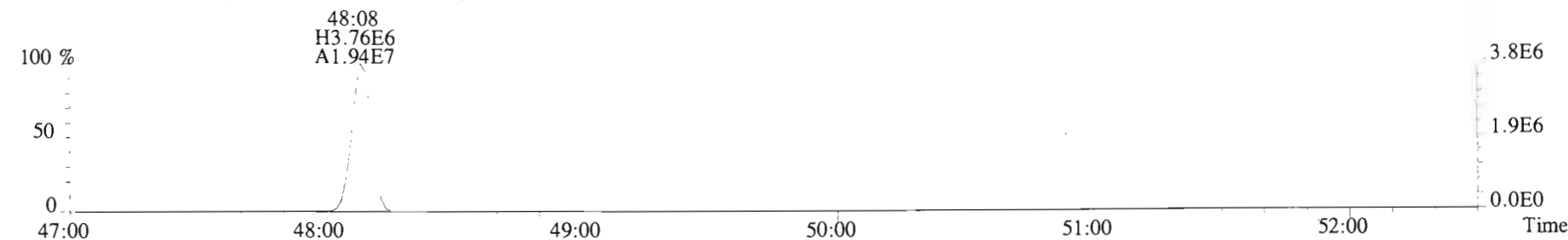
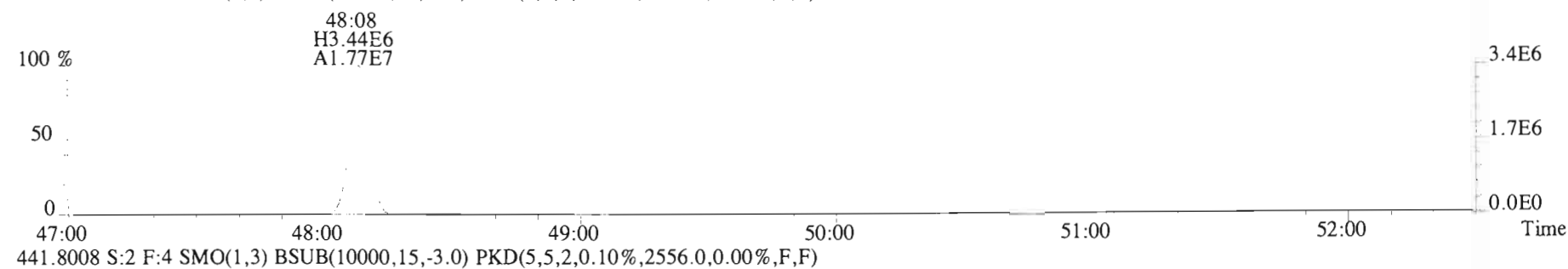
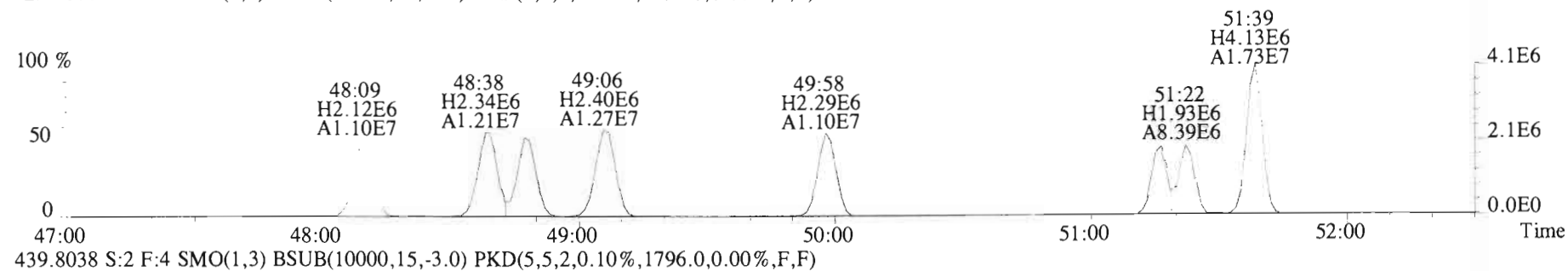
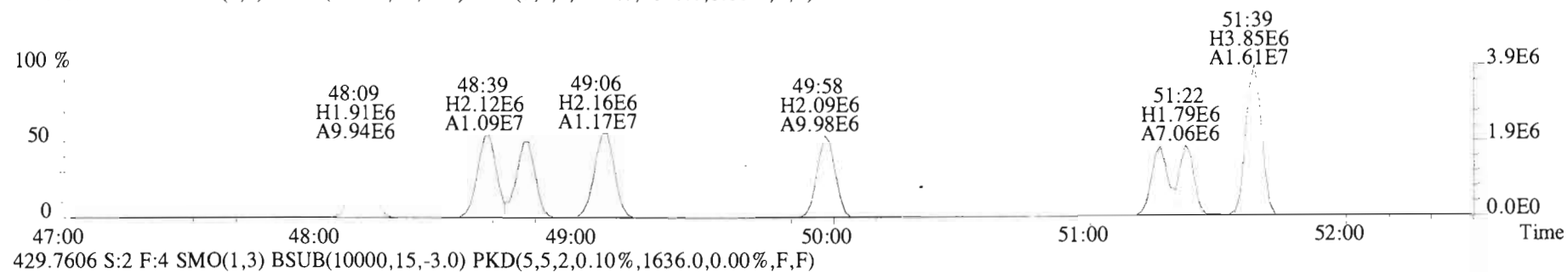
405.8428 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2632.0,0.00%,F,F)



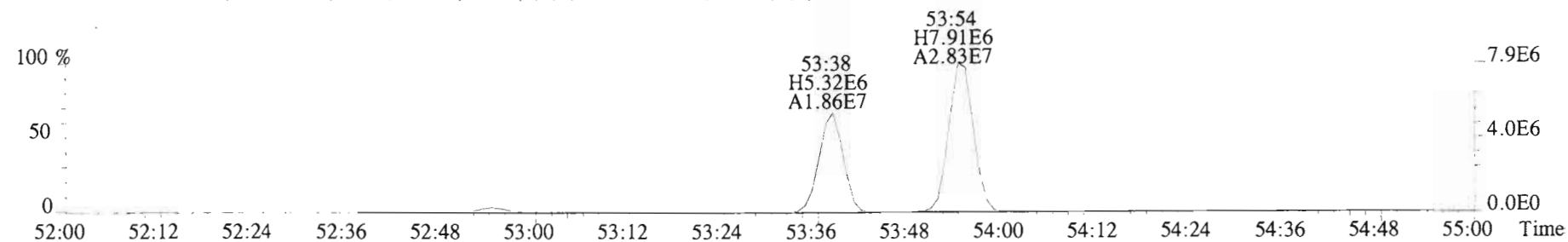
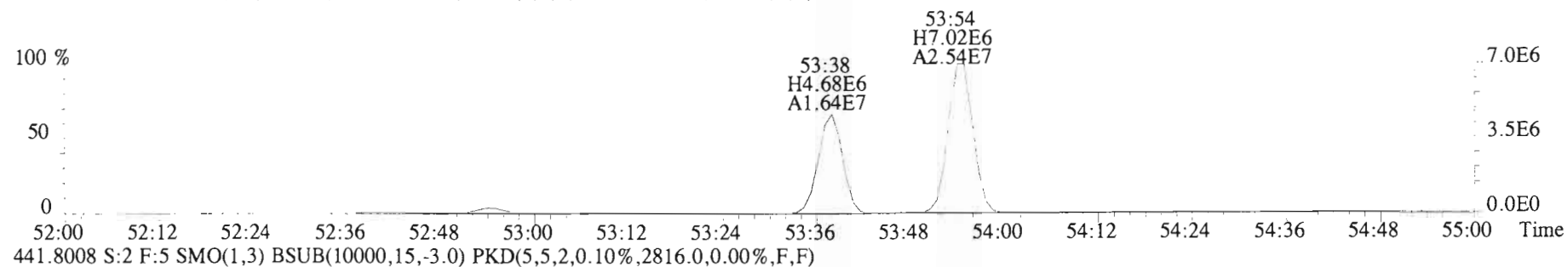
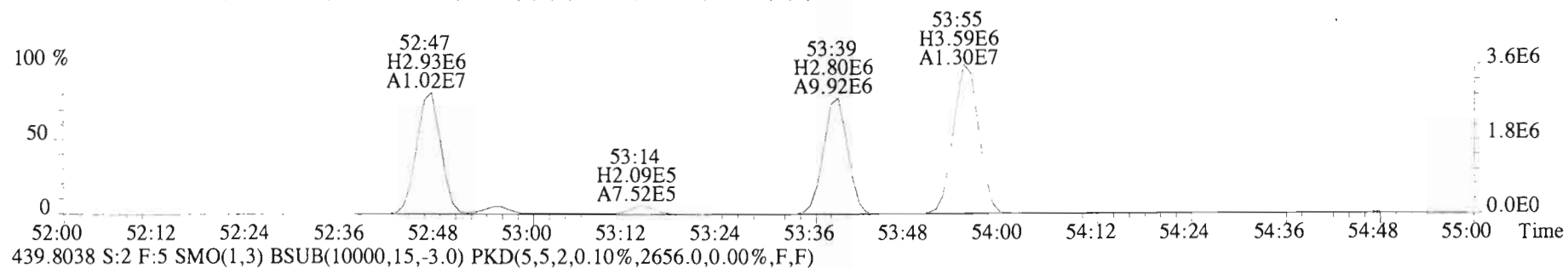
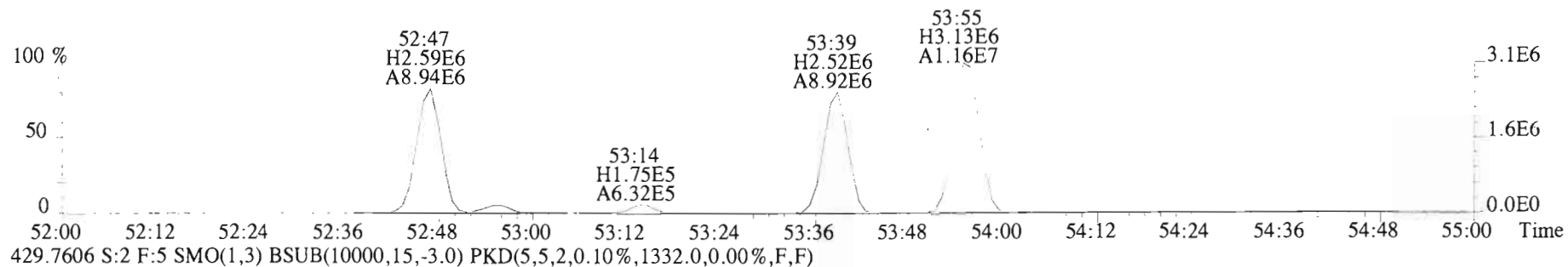
380.9760 S:2 F:4



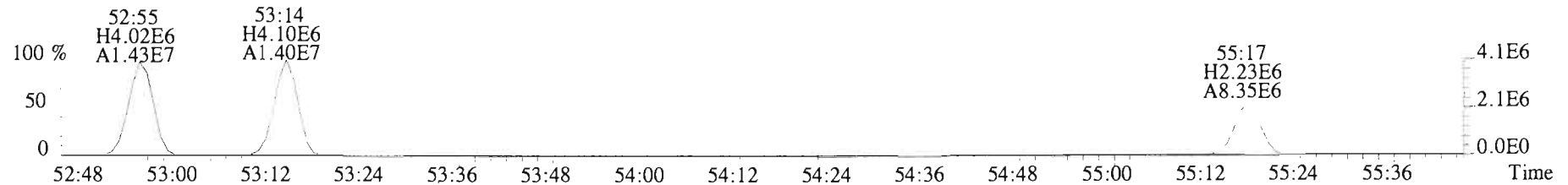
File:150421E1 #1-555 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
427.7635 S:2 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1640.0,0.00%,F,F)



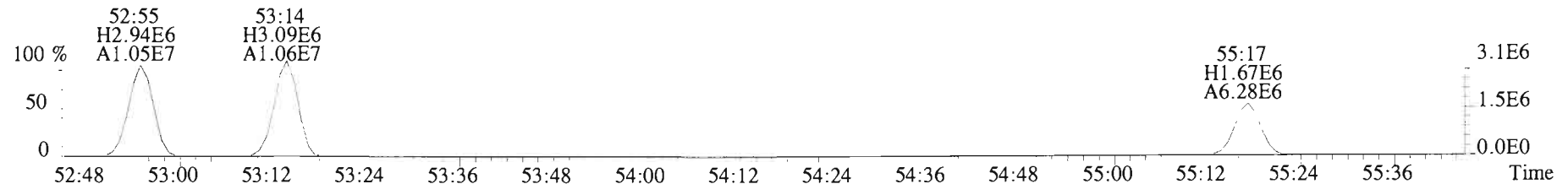
File:150421E1 #1-430 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
427.7635 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1564.0,0.00%,F,F)



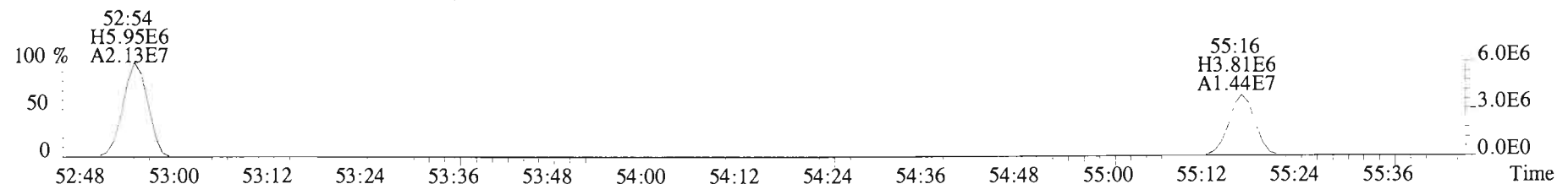
File:150421E1 #1-430 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
463.7216 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3172.0,0.00%,F,F)



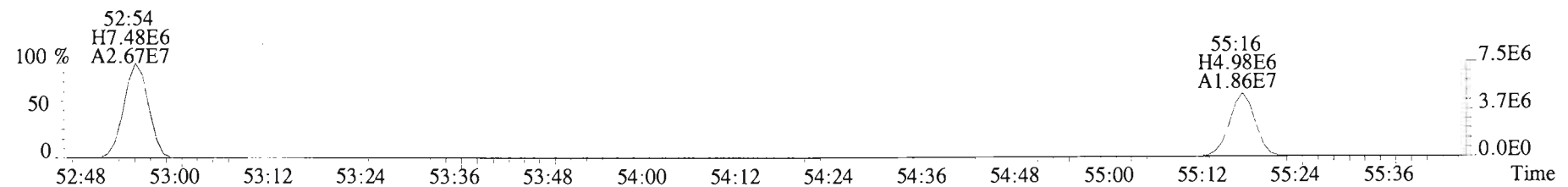
463.7216 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3172.0,0.00%,F,F)



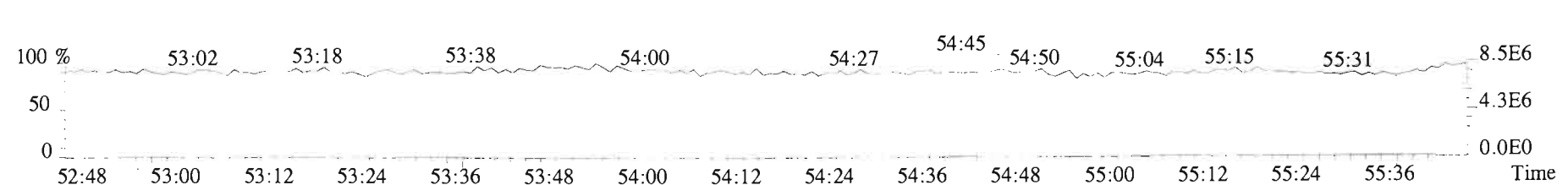
465.7186 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2648.0,0.00%,F,F)



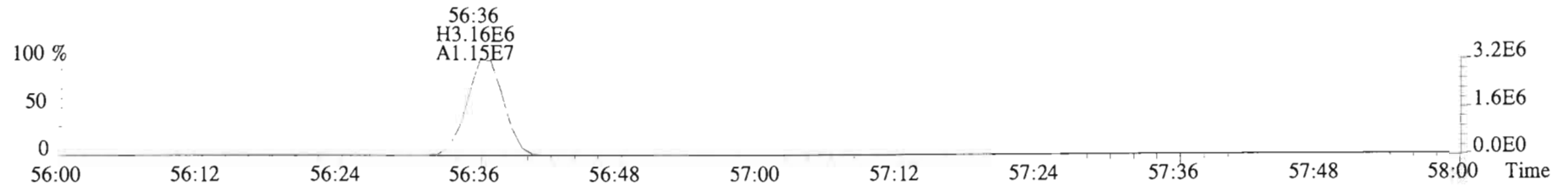
473.7648 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6180.0,0.00%,F,F)



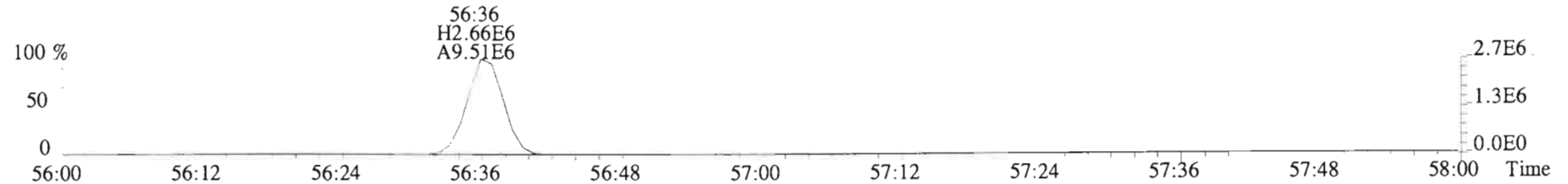
475.7619 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4268.0,0.00%,F,F)



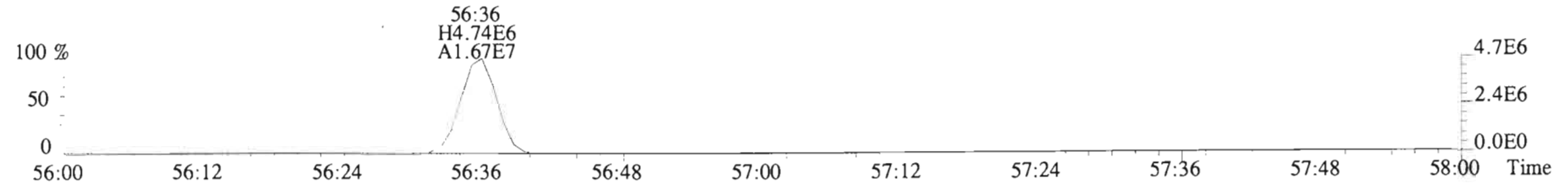
File:150421E1 #1-430 Acq:21-APR-2015 09:52:53 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG-8 Text:B5D0057-BS1 OPR 1 Exp:PCB_ZB1
497.6826 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1196.0,0.00%,F,F)



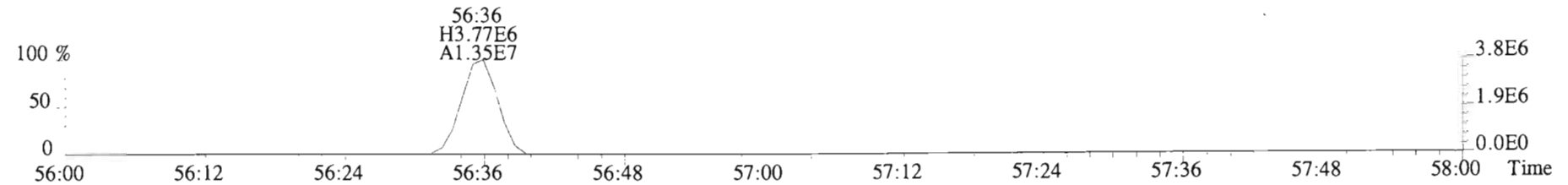
499.6797 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1284.0,0.00%,F,F)



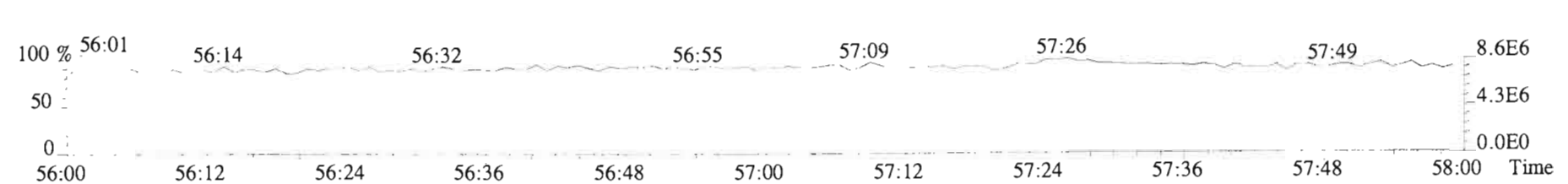
509.7229 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1328.0,0.00%,F,F)



511.7199 S:2 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1500.0,0.00%,F,F)



492.9697 S:2 F:5



Client ID: HC-SF-20150413-W
Lab ID: 1500335-01

Filename: 150422E1 S:3 Acq:22-APR-15 12:05:54
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.029

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	*	*	n NotF η	1.33	*		3790	2.5	2.26	*	0.997-1.007	
Mono	PCB-2	*	*	n NotF η	1.30	*		3790	2.5	1.87	*	0.983-0.993	
Mono	PCB-3	*	*	n NotF η	1.30	*		3790	2.5	1.87	*	0.996-1.006	
Di	PCB-4/10	*	*	n NotF η	1.67	*		6770	2.5	3.43	*	0.997-1.007	
Di	PCB-7/9	*	*	n NotF η	1.25	*		6770	2.5	2.57	*	0.864-0.872	
Di	PCB-6	*	*	n NotF η	1.24	*		6770	2.5	2.60	*	0.888-0.897	
Di	PCB-5/8	*	*	n NotF η	1.27	*		6770	2.5	2.53	*	0.905-0.915	
Di	PCB-14	*	*	n NotF η	1.47	*		6770	2.5	2.22	*	0.948-0.958	
Di	PCB-11	1.83e+06	1.58	y 25:10	1.28	27.91		*	2.5	*	1.001	0.995-1.005	
Di	PCB-12/13	*	*	n NotF η	1.27	*		6770	2.5	2.58	*	1.011-1.021	
Di	PCB-15	2.21e+05	1.46	y 25:52	1.44	3.007		*	2.5	*	1.028	1.023-1.031	
Tri	PCB-19	*	*	n NotF η	1.18	*		2100	2.5	1.37	*	0.996-1.006	
Tri	PCB-30	*	*	n NotF η	1.87	*		2100	2.5	0.869	*	1.033-1.043	
Tri	PCB-18	2.65e+05	1.09	y 25:48	0.89	7.950		*	2.5	*	0.954	0.949-0.959	
Tri	PCB-17	1.18e+05	1.12	y 25:58	0.96	3.284		*	2.5	*	0.961	0.956-0.966	
Tri	PCB-24/27	*	*	n NotF η	1.30	*		2100	2.5	0.899	*	0.977-0.987	
Tri	PCB-16/32	2.11e+05	1.08	y 27:02	1.05	5.355		*	2.5	*	1.000	0.996-1.006	
Tri	PCB-34	*	*	n NotF η	1.30	*		2030	2.5	0.924	*	0.955-0.965	
Tri	PCB-23	*	*	n NotF η	1.21	*		2030	2.5	0.993	*	0.958-0.968	
Tri	PCB-29	*	*	n NotF η	1.21	*		2030	2.5	0.993	*	0.967-0.977	
Tri	PCB-26	7.82e+04	1.05	y 28:23	1.24	1.593		*	2.5	*	0.979	0.974-0.984	
Tri	PCB-25	*	*	n NotF η	1.10	*		2030	2.5	1.10	*	0.980-0.990	
Tri	PCB-31	3.62e+05	0.85	n 28:54	1.25	7.295	R	*	2.5	*	0.997	0.992-1.002	
Tri	PCB-28	4.18e+05	1.09	y 29:00	1.24	8.505		*	2.5	*	1.001	0.996-1.006	
Tri	PCB-20/21/33	2.34e+05	1.13	y 29:38	1.16	5.094		*	2.5	*	1.022	1.016-1.026	
Tri	PCB-22	1.74e+05	1.06	y 30:03	1.16	3.766		*	2.5	*	1.037	1.032-1.042	
Tri	PCB-36	*	*	n NotF η	1.30	*		2030	2.5	0.995	*	0.929-0.939	
Tri	PCB-39	*	*	n NotF η	1.26	*		2030	2.5	1.03	*	0.943-0.953	
Tri	PCB-38	*	*	n NotF η	1.24	*		2030	2.5	1.04	*	0.967-0.977	
Tri	PCB-35	*	*	n NotF η	1.26	*		2030	2.5	1.03	*	0.982-0.992	
Tri	PCB-37	2.22e+05	0.93	y 32:52	1.35	4.199		*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-54	*	*	n NotF η	1.02	*		2270	2.5	1.26	*	0.996-1.006	
Tetra	PCB-50	*	*	n NotF η	0.78	*		2270	2.5	1.66	*	1.037-1.047	
Tetra	PCB-53	6.42e+04	0.83	y 29:42	1.14	2.056		*	2.5	*	0.946	0.941-0.951	
Tetra	PCB-51	*	*	n NotF η	1.16	*		2270	2.5	1.57	*	0.952-0.962	
Tetra	PCB-45	*	*	n NotF η	1.04	*		2270	2.5	1.75	*	0.965-0.975	
Tetra	PCB-46	*	*	n NotF η	0.95	*		2270	2.5	1.92	*	0.981-0.991	

Integrations by:

Analyst: Dms

Date: 4/23/15

Reviewed by: [Signature]

Date: 4/29/15

Client ID: HC-SF-20150413-W
Lab ID: 1500335-01

Filename: 150422E1 S:3 Acq:22-APR-15 12:05:54
GC Column ID: ZB-1 ICAL: PCBVG8-1-14-15 wt/vol: 1.029

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	8.70e+05	0.76	y 31:24	1.29	24.53		*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-73	*	*	n NotF η	1.41	*		2270	2.5	1.29	*	0.999-1.009	
Tetra	PCB-43/49	3.47e+05	0.66	y 31:42	1.14	11.08		*	2.5	*	1.010	1.005-1.015	
Tetra	PCB-47	1.93e+05	0.95	n 31:55	1.20	5.811	R	*	2.5	*	1.001	0.996-1.006	
Tetra	PCB-48/75	9.85e+04	0.72	y 32:02	1.33	2.674		*	2.5	*	1.004	0.999-1.009	
Tetra	PCB-65	*	*	n NotF η	1.32	*		2270	2.5	1.41	*	1.007-1.017	
Tetra	PCB-62	*	*	n NotF η	1.36	*		2270	2.5	1.37	*	1.011-1.021	
Tetra	PCB-44	4.17e+05	0.79	y 32:42	0.87	17.24		*	2.5	*	1.025	1.020-1.030	
Tetra	PCB-42/59	1.38e+05	0.90	n 32:56	1.24	4.029	R	*	2.5	*	1.032	1.027-1.037	
Tetra	PCB-41/64/71/72	4.73e+05	0.83	y 33:31	1.34	12.73		*	2.5	*	1.051	1.045-1.055	
Tetra	PCB-68	*	*	n NotF η	1.61	*		2270	2.5	1.15	*	1.053-1.063	
Tetra	PCB-40	5.43e+04	1.00	n 34:00	0.86	2.278	R	*	2.5	*	1.066	1.061-1.071	
Tetra	PCB-57	*	*	n NotF η	1.12	*		2270	2.5	1.14	*	0.965-0.975	
Tetra	PCB-67	*	*	n NotF η	1.09	*		2270	2.5	1.17	*	0.974-0.984	
Tetra	PCB-58	*	*	n NotF η	1.14	*		2270	2.5	1.12	*	0.977-0.987	
Tetra	PCB-63	*	*	n NotF η	1.16	*		2270	2.5	1.10	*	0.981-0.991	
Tetra	PCB-74	2.92e+05	0.88	y 35:12	1.21	6.036		*	2.5	*	0.994	0.989-0.999	
Tetra	PCB-61/70	1.09e+06	0.78	y 35:25	1.13	24.37		*	2.5	*	1.000	0.995-1.005	
Tetra	PCB-76/66	6.32e+05	0.75	y 35:39	1.18	13.43		*	2.5	*	1.007	1.000-1.010	
Tetra	PCB-80	*	*	n NotF η	1.32	*		2270	2.5	0.988	*	0.995-1.005	
Tetra	PCB-55	*	*	n NotF η	1.23	*		2270	2.5	1.06	*	1.004-1.014	
Tetra	PCB-56/60	4.41e+05	0.68	y 36:39	1.11	9.855		*	2.5	*	1.023	1.018-1.028	
Tetra	PCB-79	9.94e+04	0.85	y 37:44	1.16	2.119		*	2.5	*	1.053	1.048-1.058	
Tetra	PCB-78	*	*	n NotF η	1.18	*		2270	2.5	1.20	*	0.982-0.992	
Tetra	PCB-81	*	*	n NotF η	1.29	*		2270	2.5	1.09	*	0.995-1.005	
Tetra	PCB-77	2.05e+05	0.81	y 39:32	1.29	4.245		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-104	*	*	n NotF η	1.26	*		1760	2.5	1.79	*	0.996-1.006	
Penta	PCB-96	*	*	n NotF η	1.09	*		1760	2.5	2.07	*	1.034-1.044	
Penta	PCB-103	*	*	n NotF η	0.97	*		1760	2.5	2.33	*	1.051-1.061	
Penta	PCB-100	*	*	n NotF η	0.96	*		1760	2.5	2.34	*	1.061-1.071	
Penta	PCB-94	*	*	n NotF η	1.13	*		1760	2.5	2.80	*	0.980-0.990	
Penta	PCB-95/98/102	1.07e+06	1.59	y 35:43	1.29	44.33		*	2.5	*	1.000	0.994-1.004	
Penta	PCB-93	*	*	n NotF η	1.06	*		1760	2.5	2.98	*	0.998-1.008	
Penta	PCB-88/91	2.18e+05	1.72	y 36:08	1.12	10.42		*	2.5	*	1.012	1.006-1.016	
Penta	PCB-121	*	*	n NotF η	1.76	*		1760	2.5	1.80	*	1.009-1.019	
Penta	PCB-84/92	5.58e+05	1.54	y 37:02	1.07	23.69		*	2.5	*	0.990	0.985-0.995	
Penta	PCB-89	*	*	n NotF η	1.00	*		1760	2.5	2.69	*	0.990-1.000	

Analyst DMS

Date: 4/23/15

Client ID: HC-SF-20150413-W
Lab ID: 1500335-01

Filename: 150422E1 S:3 Acq:22-APR-15 12:05:54
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.029

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	1.66e+06	1.62	y 37:24	1.21	62.62		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-113	*	*	n NotF η	1.34	*		1760	2.5	2.00	*	1.002-1.012	
Penta	PCB-99	7.86e+05	1.70	y 37:44	1.25	28.60		*	2.5	*	1.009	1.004-1.014	
Penta	PCB-119	4.18e+04	1.80	n 38:12	1.88	1.161	R	*	2.5	*	0.987	0.982-0.992	
Penta	PCB-108/112	6.30e+04	1.28	n 38:21	1.41	2.336	R	*	2.5	*	0.991	0.986-0.996	
Penta	PCB-83	*	*	n NotF η	1.66	*		1760	2.5	1.91	*	0.990-1.000	
Penta	PCB-97	3.93e+05	1.72	y 38:43	1.30	15.79		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-86	*	*	n NotF η	1.03	*		1760	2.5	3.07	*	0.999-1.009	
Penta	PCB-87/117/125	7.14e+05	1.52	y 39:00	1.59	23.42		*	2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	5.63e+04	2.07	n 39:09	1.86	1.583	R	*	2.5	*	1.012	1.006-1.016	
Penta	PCB-85/116	3.52e+05	1.44	y 39:16	1.39	13.20		*	2.5	*	1.015	1.010-1.020	
Penta	PCB-120	*	*	n NotF η	1.99	*		1760	2.5	1.60	*	1.016-1.026	
Penta	PCB-110	2.52e+06	1.54	y 39:40	1.70	77.31		*	2.5	*	1.025	1.019-1.029	
Penta	PCB-82	1.44e+05	1.33	y 40:17	0.74	7.676		*	2.5	*	0.976	0.971-0.981	
Penta	PCB-124	1.32e+05	1.67	y 40:58	1.30	4.005		*	2.5	*	0.993	0.988-0.998	
Penta	PCB-107/109	1.81e+05	1.70	y 41:08	1.34	5.345		*	2.5	*	0.997	0.991-1.001	
Penta	PCB-123	*	*	n NotF η	1.25	*		1760	2.5	1.90	*	0.995-1.005	
Penta	PCB-106/118	2.10e+06	1.49	y 41:27	1.29	63.01		*	2.5	*	1.000	0.996-1.006	
Penta	PCB-114	6.84e+04	1.61	y 42:07	1.45	1.896		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-122	*	*	n NotF η	1.22	*		2200	2.5	2.45	*	0.999-1.009	
Penta	PCB-105	9.34e+05	1.75	y 42:58	1.56	25.77		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	*	n NotF η	1.31	*		2200	2.5	2.39	*	0.995-1.005	
Penta	PCB-126	6.01e+04	1.44	y 45:14	1.41	2.037		*	2.5	*	1.001	0.995-1.005	
Hexa	PCB-155	*	*	n NotF η	1.20	*		1840	2.5	2.18	*	0.966-1.006	
Hexa	PCB-150	*	*	n NotF η	1.13	*		1840	2.5	2.32	*	1.030-1.040	
Hexa	PCB-152	*	*	n NotF η	1.17	*		1840	2.5	2.24	*	1.043-1.053	
Hexa	PCB-145	*	*	n NotF η	1.09	*		1840	2.5	2.39	*	1.055-1.065	
Hexa	PCB-136	2.27e+05	1.38	y 39:27	1.14	9.453		*	2.5	*	1.068	1.063-1.073	
Hexa	PCB-148	*	*	n NotF η	0.82	*		1840	2.5	3.20	*	1.066-1.076	
Hexa	PCB-154	*	*	n NotF η	0.89	*		1840	2.5	2.94	*	1.079-1.089	
Hexa	PCB-151	3.49e+05	1.36	y 40:42	0.82	20.26		*	2.5	*	1.102	1.097-1.107	
Hexa	PCB-135	1.89e+05	1.18	y 40:55	0.80	11.25		*	2.5	*	1.108	1.101-1.113	
Hexa	PCB-144	7.96e+04	1.41	y 41:01	0.86	4.417		*	2.5	*	1.111	1.105-1.116	
Hexa	PCB-147	5.10e+04	1.03	n 41:09	0.78	3.107	R	*	2.5	*	1.114	1.108-1.120	
Hexa	PCB-139/149	1.45e+06	1.17	y 41:24	0.87	78.95		*	2.5	*	1.121	1.115-1.127	
Hexa	PCB-140	*	*	n NotF η	0.78	*		1840	2.5	3.36	*	1.120-1.132	
Hexa	PCB-134/143	1.39e+05	1.27	y 42:03	0.93	5.734		*	2.5	*	0.975	0.970-0.980	

Analyst: DMS

Date: 4/23/15

Client ID: HC-SF-20150413-W
Lab ID: 1500335-01

Filename: 150422E1 S:3 Acq:22-APR-15 12:05:54
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.029

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	7.90e+04	0.86	n 42:20	0.91	3.349	R	*	2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	*	n NotF η	0.85	*		1860	2.5	2.51	*	0.981-0.991	
Hexa	PCB-146/165	4.95e+05	1.15	y 42:44	1.08	17.64		*	2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	6.68e+05	1.26	y 42:59	1.12	23.01		*	2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	3.13e+06	1.26	y 43:07	1.20	100.7		*	2.5	*	1.000	0.996-1.006	
Hexa	PCB-168	*	*	n NotF η	1.36	*		1860	2.5	1.57	*	1.000-1.010	
Hexa	PCB-141	4.96e+05	1.38	y 43:53	1.16	19.54		*	2.5	*	1.001	0.995-1.005	
Hexa	PCB-137	1.62e+05	1.06	y 44:16	1.18	6.278		*	2.5	*	1.010	1.004-1.014	
Hexa	PCB-130	1.89e+05	1.40	y 44:22	0.92	9.379		*	2.5	*	1.012	1.006-1.016	
Hexa	PCB-138/163/164	3.46e+06	1.24	y 44:43	1.38	110.7		*	2.5	*	1.000	0.996-1.006	
Hexa	PCB-158/160	3.95e+05	1.23	y 44:57	1.48	11.81		*	2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	1.16e+05	1.29	y 45:14	0.99	5.166		*	2.5	*	1.012	1.007-1.017	
Hexa	PCB-166	*	*	n NotF η	1.14	*		1860	2.5	1.85	*	0.988-0.998	
Hexa	PCB-159	*	*	n NotF η	1.22	*		1860	2.5	1.73	*	0.995-1.005	
Hexa	PCB-128/162	5.36e+05	1.10	y 46:16	1.03	19.77		*	2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	1.71e+05	1.37	y 46:41	1.18	5.420		*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-156	3.12e+05	1.26	y 47:58	1.27	9.818		*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-157	1.04e+05	1.34	y 48:14	1.22	3.242		*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	*	*	n NotF η	1.07	*		1860	2.5	1.99	*	0.995-1.005	
Hepta	PCB-188	*	*	n NotF η	1.52	*		1310	2.5	0.874	*	0.996-1.006	
Hepta	PCB-184	*	*	n NotF η	1.34	*		1310	2.5	0.994	*	1.006-1.016	
Hepta	PCB-179	3.85e+05	0.90	y 44:00	1.39	14.56		*	2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	8.77e+04	0.92	y 44:27	1.45	3.173		*	2.5	*	1.040	1.035-1.045	
Hepta	PCB-186	*	*	n NotF η	1.46	*		1310	2.5	0.913	*	1.049-1.059	
Hepta	PCB-178	1.89e+05	1.15	y 45:33	1.07	9.273		*	2.5	*	1.065	1.061-1.071	
Hepta	PCB-175	*	*	n NotF η	1.05	*		1310	2.5	1.27	*	1.069-1.079	
Hepta	PCB-182/187	1.01e+06	1.12	y 46:03	1.14	46.64		*	2.5	*	1.077	1.073-1.083	
Hepta	PCB-183	3.50e+05	1.18	y 46:23	1.22	15.08		*	2.5	*	1.085	1.080-1.090	
Hepta	PCB-185	8.29e+04	1.12	y 47:02	1.40	4.427		*	2.5	*	0.955	0.950-0.960	
Hepta	PCB-174	6.40e+05	0.96	y 47:24	1.29	37.29		*	2.5	*	0.962	0.958-0.968	
Hepta	PCB-181	*	*	n NotF η	1.35	*		1310	2.5	1.34	*	0.960-0.970	
Hepta	PCB-177	3.38e+05	1.08	y 47:40	1.27	20.02		*	2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	1.45e+05	1.14	y 47:59	1.46	7.468		*	2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	*	*	n NotF η	1.10	*		1310	2.5	1.64	*	0.978-0.988	
Hepta	PCB-172	1.13e+05	1.14	y 48:51	1.35	6.280		*	2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	*	n NotF η	1.74	*		1310	2.5	1.04	*	0.991-1.001	
Hepta	PCB-180	1.28e+06	1.02	y 49:15	1.45	66.44		*	2.5	*	1.000	0.995-1.005	

Analyst: *Dms*

Date: *4/23/15*

Client ID: HC-SF-20150413-W
Lab ID: 1500335-01

Filename: 150422E1 S:3 Acq:22-APR-15 12:05:54
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.029

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	7.10e+04	0.73	n 49:28	1.85	2.876	R	*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	3.55e+04	1.63	n 49:42	1.86	1.432	R	*	2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	4.06e+05	0.94	y 50:42	1.67	24.00		*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	1.37e+05	0.93	y 50:52	2.25	6.000		*	2.5	*	1.003	0.999-1.009	
Hepta	PCB-189	*	*	n NotF η	1.67	*		1310	2.5	0.976	*	0.995-1.005	
Octa	PCB-202	1.77e+05	0.95	y 48:10	1.02	10.21		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	6.34e+04	1.12	n 48:39	1.10	3.398	R	*	2.5	*	1.010	1.005-1.015	
Octa	PCB-204	*	*	n NotF η	1.07	*		1320	2.5	1.78	*	1.009-1.019	
Octa	PCB-197	*	*	n NotF η	1.17	*		1320	2.5	1.64	*	1.015-1.025	
Octa	PCB-200	6.12e+04	0.86	y 49:58	1.03	3.475		*	2.5	*	1.037	1.034-1.044	
Octa	PCB-198	1.92e+04	0.86	y 51:18	0.75	1.496		*	2.5	*	1.065	1.062-1.072	
Octa	PCB-199	3.24e+05	0.80	y 51:24	0.74	25.67		*	2.5	*	1.067	1.064-1.074	
Octa	PCB-196/203	3.57e+05	0.84	y 51:40	0.83	25.32		*	2.5	*	1.073	1.070-1.080	
Octa	PCB-195	7.91e+04	1.02	y 52:48	1.14	5.939		*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	2.77e+05	0.96	y 53:41	1.29	18.37		*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	*	*	n NotF η	1.61	*		1560	2.5	1.40	*	1.001-1.010	
Nona	PCB-208	1.16e+05	1.26	y 52:57	1.01	6.699		*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	4.21e+04	1.35	y 53:16	1.03	2.399		*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	1.95e+05	1.48	y 55:20	0.88	19.53		*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	1.92e+05	1.23	y 56:39	1.35	13.78		*	2.5	*	1.000	0.995-1.005	

Analyst: DMS

Date: 4/23/15

Client ID: HC-SF-20150413-W
Lab ID: 1500335-01

Filename: 150422E1 S:3 Acq:22-APR-15 12:05:54
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.0287 EndCAL: NA

ConCal: ST150422E1-1

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	*	* n	NotFnd	1.31	*
Total Di-PCB	2.05e+06	1.58 y	25:10	1.32	30.9161
Total Tri-PCB	5.93e+05	1.09 y	25:48	1.20	16.5890
Total Tri-PCB	1.13e+06	1.05 y	28:23	1.23	23.1575
Sum:39.7465					
Total Tetra-PCB	5.03e+06	0.83 y	29:42	1.17	130.377
Total Penta-PCB	1.08e+07	1.59 y	35:43	1.24	379.420
Total Penta-PCB	1.06e+06	1.61 y	42:07	1.39	29.7057
Sum:409.126					
Total Hexa-PCB	2.29e+06	1.38 y	39:27	0.94	124.328
Total Hexa-PCB	1.04e+07	1.27 y	42:03	1.13	348.179
Sum:472.507					
Total Hepta-PCB	5.16e+06	0.90 y	44:00	1.37	260.645
Total Octa-PCB	9.38e+05	0.95 y	48:10	0.95	66.1678
Total Octa-PCB	3.57e+05	1.02 y	52:48	1.35	24.3042
Sum:90.4720					
Total Nona-PCB	3.53e+05	1.26 y	52:57	0.99	28.6261
Total Deca-PCB	1.92e+05	1.23 y	56:39	1.35	13.7803

Total PCB Conc: ~~1514.84980900~~

1480

Integrations

by

Analyst: DMS

Date: 4/28/15

Client ID: HC-SF-20150413-W
Lab ID: 1500335-01

Filename: 150422E1 S:3 Acq:22-APR-15 12:05:54
GC Column ID: ZB-1 ICal: PCVBG8-1-14-15 wt/vol:1.0287

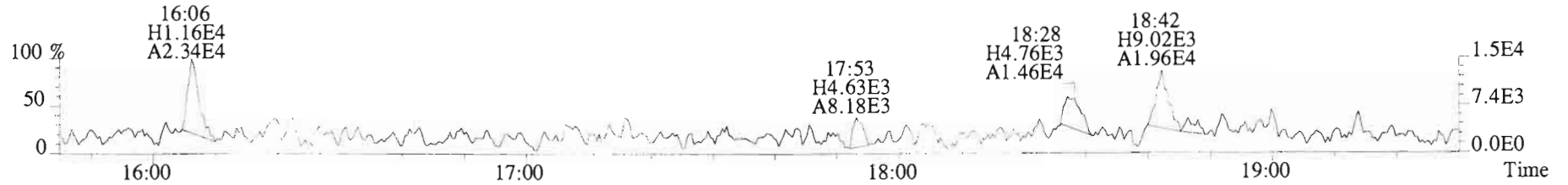
ConCal: ST150422E1-1
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	7.82e+07	3.21	y	0.91	16:06	0.623	0.619-0.625	1290	66.1											
13C-PCB-3	1.02e+08	3.24	y	0.94	18:41	0.723	0.718-0.726	1620	83.5		13C-PCB-79	9.08e+07	0.78	y	1.02	37:42	1.029	1.024-1.033	1960	101
13C-PCB-4	5.05e+07	1.57	y	0.60	20:00	0.774	0.770-0.778	1260	65.0		13C-PCB-178	2.81e+07	0.46	y	0.64	45:32	0.985	0.980-0.989	2020	104
13C-PCB-9	9.42e+07	1.53	y	0.96	21:47	0.843	0.839-0.847	1460	75.3											
13C-PCB-11	9.94e+07	1.53	y	0.95	25:09	0.973	0.968-0.978	1560	80.0											
13C-PCB-19	5.06e+07	1.11	y	0.56	24:08	0.934	0.929-0.939	1350	69.3											
13C-PCB-28	7.73e+07	1.01	y	1.07	28:59	1.003	0.999-1.009	1520	78.3		13C-PCB-79	9.08e+07	0.78	y	1.02	37:42	0.968	0.963-0.973	2390	123
13C-PCB-32	7.31e+07	1.10	y	0.83	27:02	1.046	1.041-1.051	1320	68.0		13C-PCB-178	2.81e+07	0.46	y	0.84	45:32	0.925	0.920-0.930	2500	129
13C-PCB-37	7.61e+07	1.04	y	0.96	32:52	1.138	1.131-1.143	1670	85.7											
13C-PCB-47	5.41e+07	0.80	y	0.77	31:54	0.870	0.867-0.875	1550	79.7											
13C-PCB-52	5.34e+07	0.79	y	0.71	31:24	0.857	0.853-0.861	1650	84.9											
13C-PCB-54	7.13e+07	0.80	y	1.06	27:52	0.760	0.757-0.765	1480	76.1											
13C-PCB-70	7.75e+07	0.80	y	0.99	35:25	0.966	0.961-0.971	1720	88.3											
13C-PCB-77	7.27e+07	0.80	y	0.96	39:32	1.079	1.073-1.083	1660	85.3											
13C-PCB-80	7.87e+07	0.80	y	1.02	35:50	0.978	0.973-0.983	1690	87.2											
13C-PCB-81	7.20e+07	0.77	y	1.00	38:56	1.062	1.057-1.067	1590	81.7											
13C-PCB-95	3.62e+07	1.62	y	0.70	35:43	0.913	0.908-0.918	1620	83.4											
13C-PCB-97	3.72e+07	1.66	y	0.66	38:42	0.989	0.984-0.994	1770	91.1											
13C-PCB-101	4.28e+07	1.61	y	0.77	37:24	0.956	0.951-0.961	1750	89.8											
13C-PCB-104	4.80e+07	1.65	y	0.97	32:33	0.832	0.828-0.836	1550	79.8											
13C-PCB-105	4.52e+07	1.56	y	1.20	42:58	0.929	0.924-0.934	1720	88.6											
13C-PCB-114	4.82e+07	1.55	y	1.26	42:06	0.910	0.905-0.915	1760	90.3											
13C-PCB-118	5.02e+07	1.62	y	0.94	41:26	1.059	1.054-1.064	1680	86.3											
13C-PCB-123	4.92e+07	1.65	y	0.88	41:16	1.055	1.049-1.059	1750	89.9											
13C-PCB-126	4.05e+07	1.59	y	1.13	45:12	0.977	0.972-0.982	1650	84.7											
13C-PCB-127	4.64e+07	1.57	y	1.26	43:18	0.936	0.931-0.941	1690	86.9											
13C-PCB-138	4.41e+07	1.26	y	1.12	44:42	0.966	0.961-0.971	1800	92.7											
13C-PCB-141	4.26e+07	1.27	y	1.09	43:51	0.948	0.943-0.953	1790	91.9											
13C-PCB-153	5.05e+07	1.28	y	1.27	43:07	0.932	0.927-0.937	1810	93.3											
13C-PCB-155	4.10e+07	1.29	y	0.87	36:56	0.944	0.939-0.949	1470	75.7											
13C-PCB-156	4.87e+07	1.26	y	1.35	47:58	1.037	1.032-1.042	1650	84.9											
13C-PCB-157	5.10e+07	1.29	y	1.42	48:14	1.043	1.037-1.047	1650	84.7											
13C-PCB-159	5.09e+07	1.30	y	1.37	45:59	0.994	0.989-0.999	1700	87.5											
13C-PCB-167	5.20e+07	1.25	y	1.38	46:40	1.009	1.004-1.014	1720	88.6											
13C-PCB-169	4.50e+07	1.26	y	1.38	50:21	1.089	1.084-1.094	1490	76.6											
13C-PCB-170	1.97e+07	0.47	y	0.60	50:42	1.096	1.091-1.103	1500	77.0											
13C-PCB-180	2.59e+07	0.46	y	0.76	49:15	1.065	1.059-1.069	1570	80.7											
13C-PCB-188	3.70e+07	0.47	y	1.01	42:45	0.924	0.919-0.929	1670	85.8											
13C-PCB-189	2.42e+07	0.46	y	0.80	52:10	1.128	1.124-1.136	1380	71.0											
13C-PCB-194	2.27e+07	0.89	y	0.75	53:40	0.995	0.990-1.000	1840	94.7											
13C-PCB-202	3.31e+07	0.92	y	0.99	48:10	1.041	1.036-1.046	1530	78.8											
13C-PCB-206	2.21e+07	0.78	y	0.73	55:19	1.025	1.020-1.301	1810	93.3											
13C-PCB-208	3.32e+07	0.80	y	1.08	52:56	0.981	0.977-0.987	1850	95.1											
13C-PCB-209	2.01e+07	1.24	y	0.71	56:38	1.050	1.045-1.055	1710	87.7											

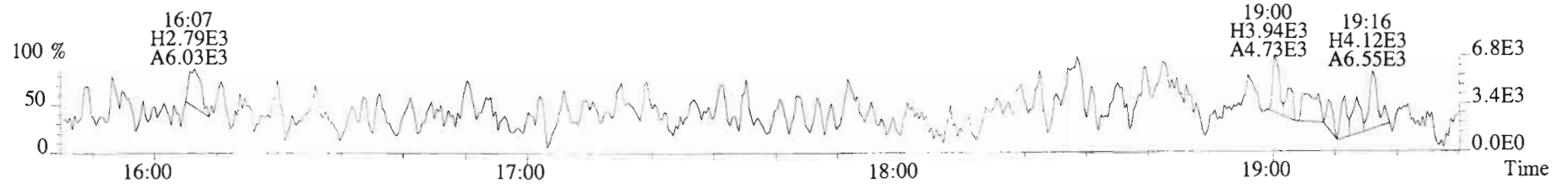
Analyst: Dms

Date: 4/23/15

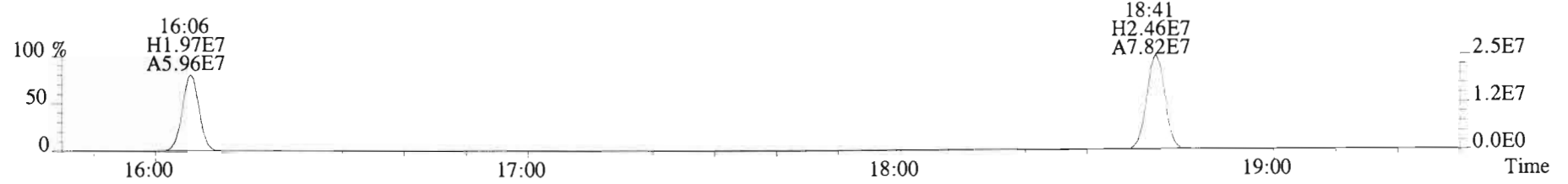
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
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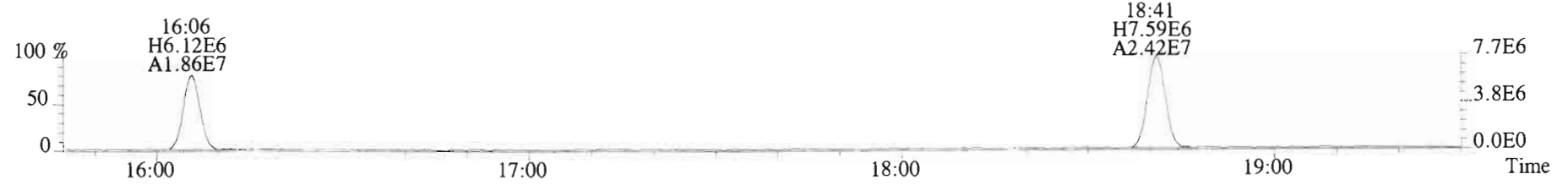
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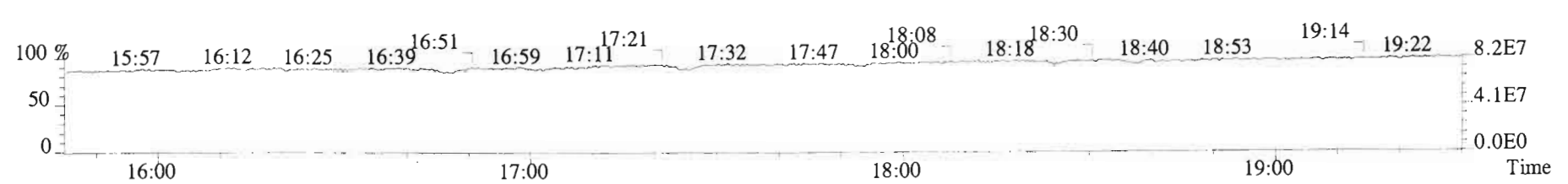
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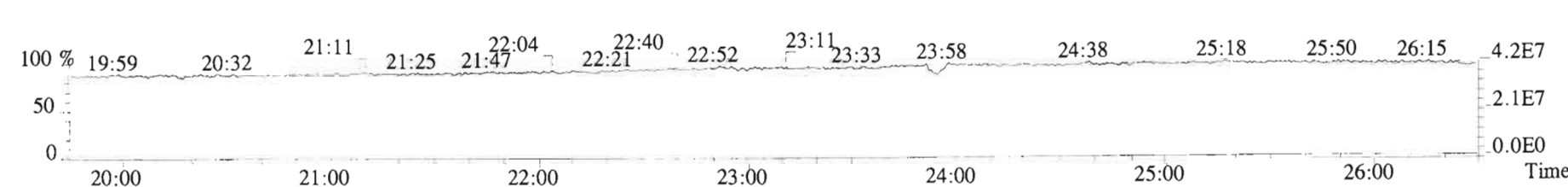
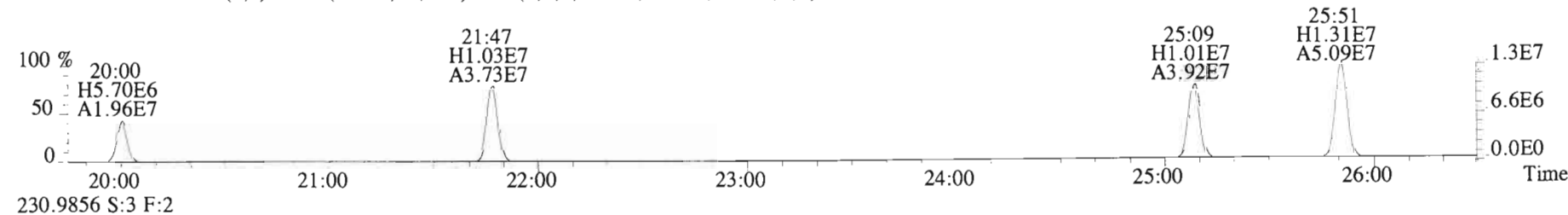
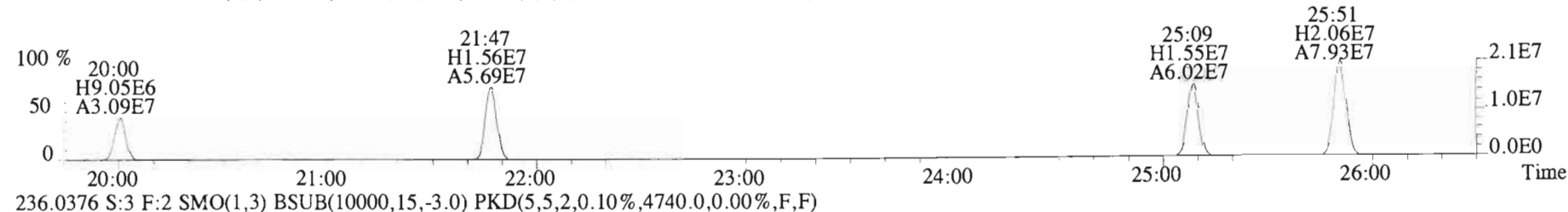
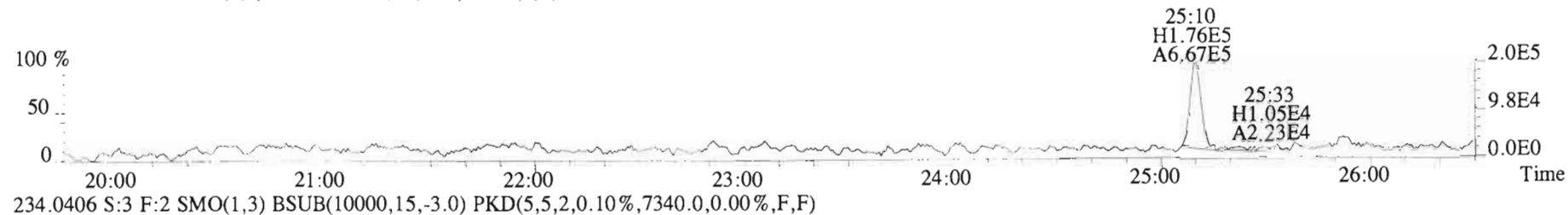
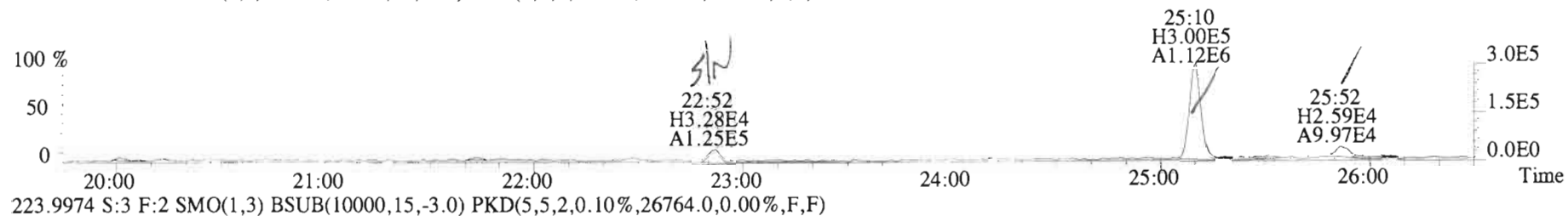
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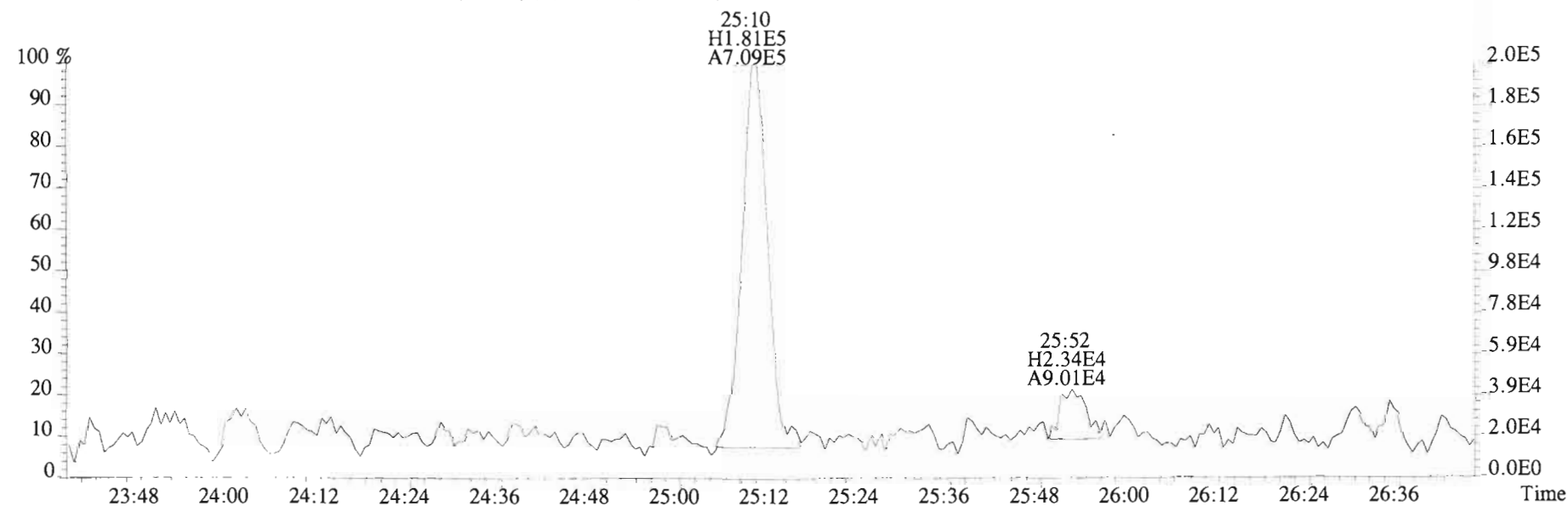
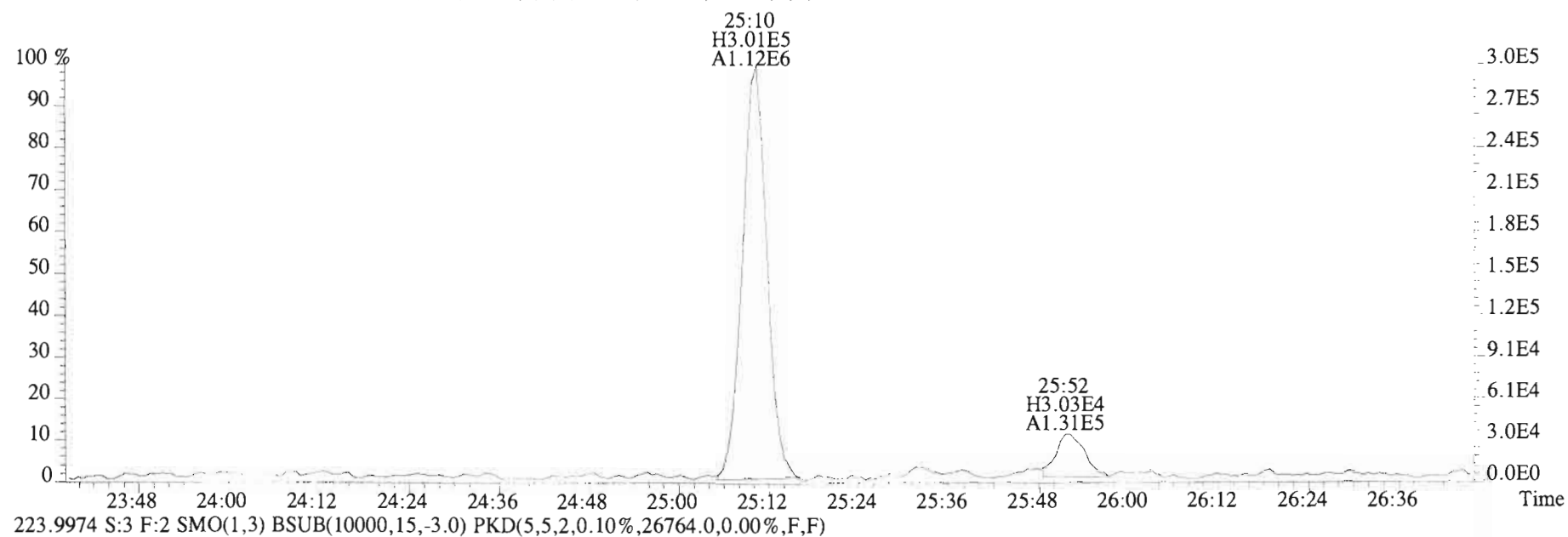
180.9880 S:3



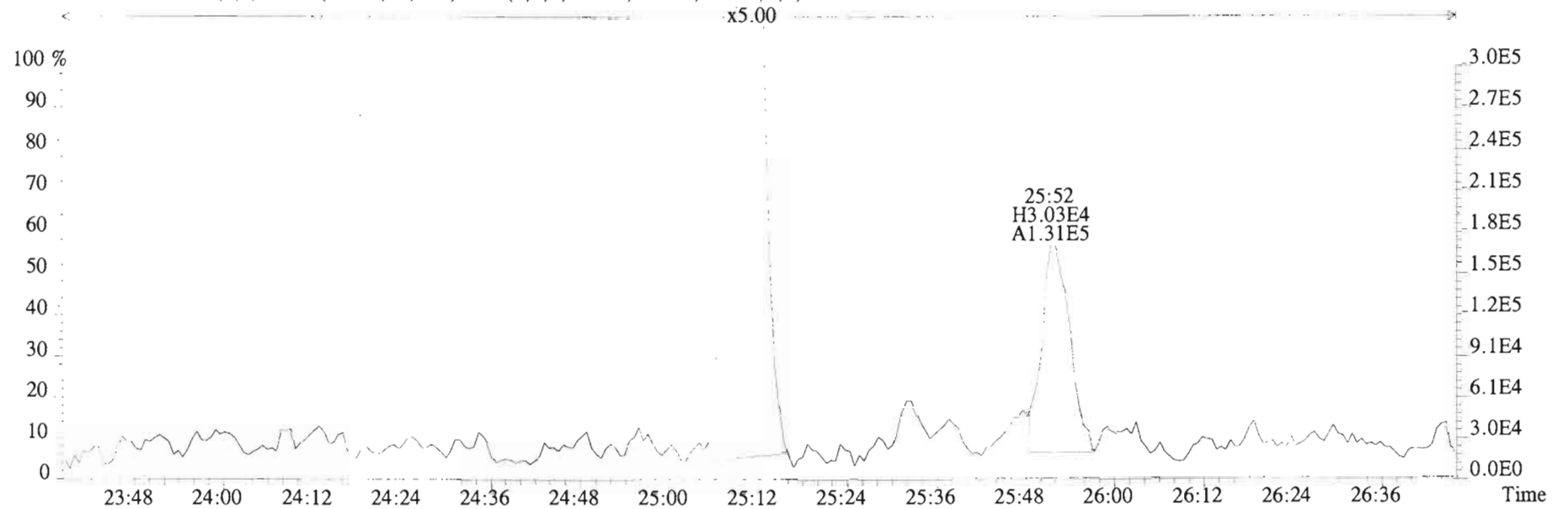
File:150422E1 #1-757 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
222.0003 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6480.0,0.00%,F,F)



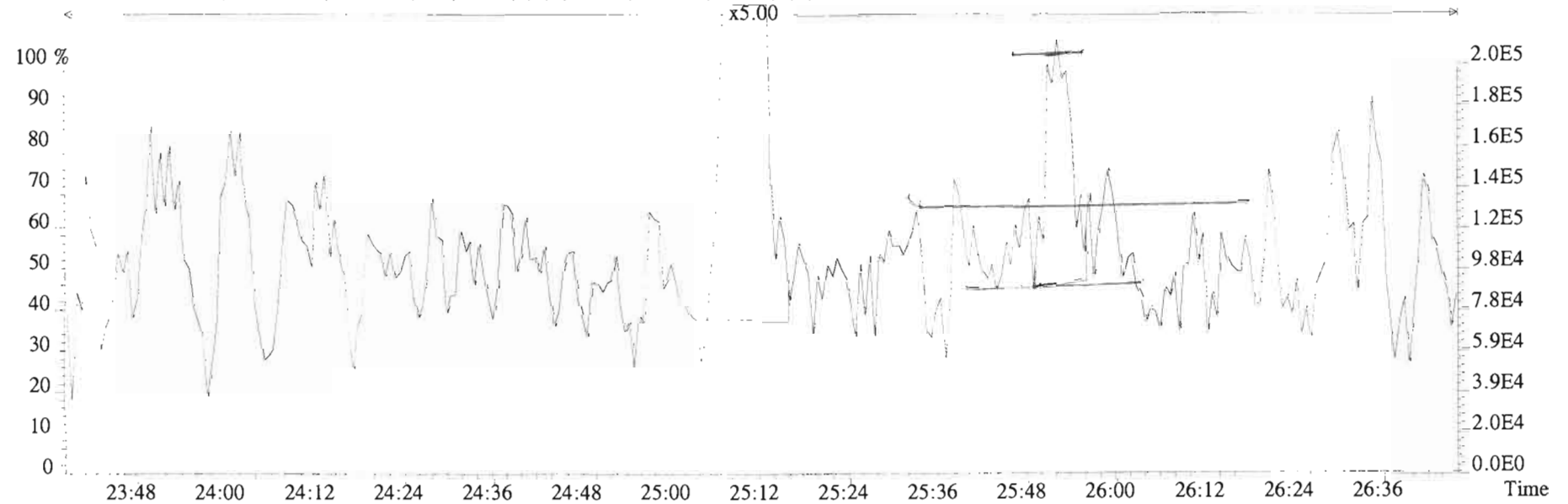
File:150422E1 #1-757 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
222.0003 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6480.0,0.00%,F,F)



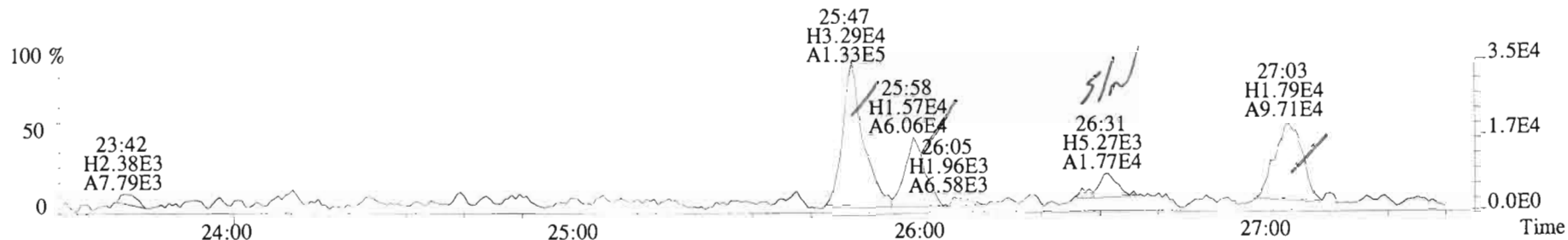
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
222.0003 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6480.0,0.00%,F,F)



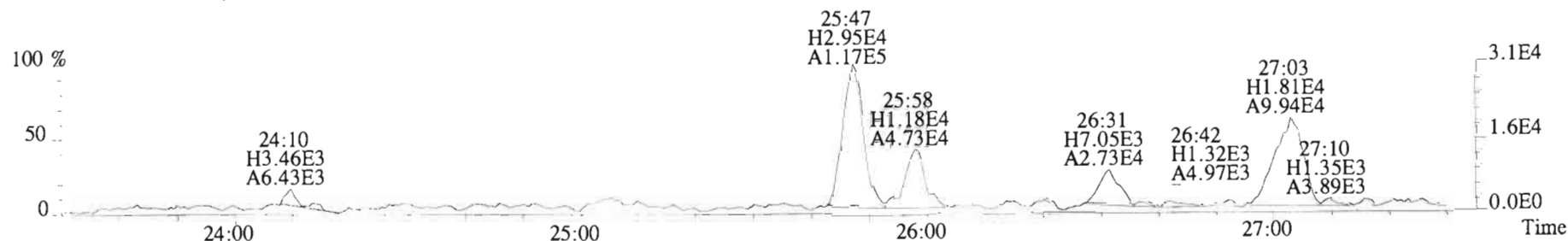
223.9974 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,26764.0,0.00%,F,F)



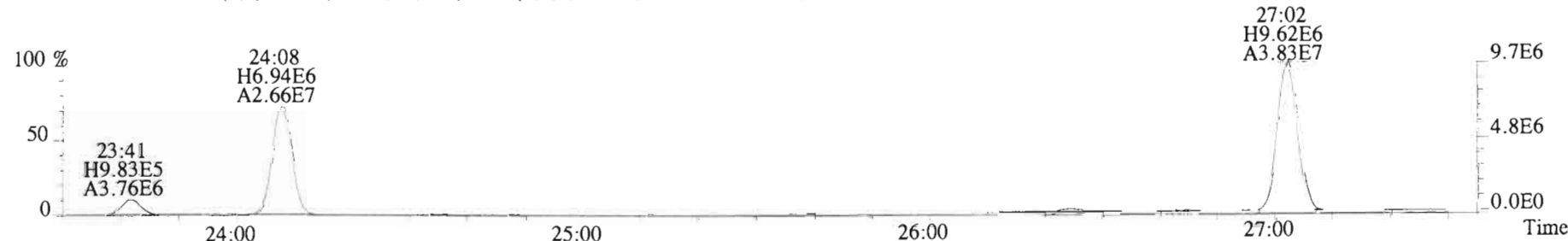
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
255.9613 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2984.0,0.00%,F,F)



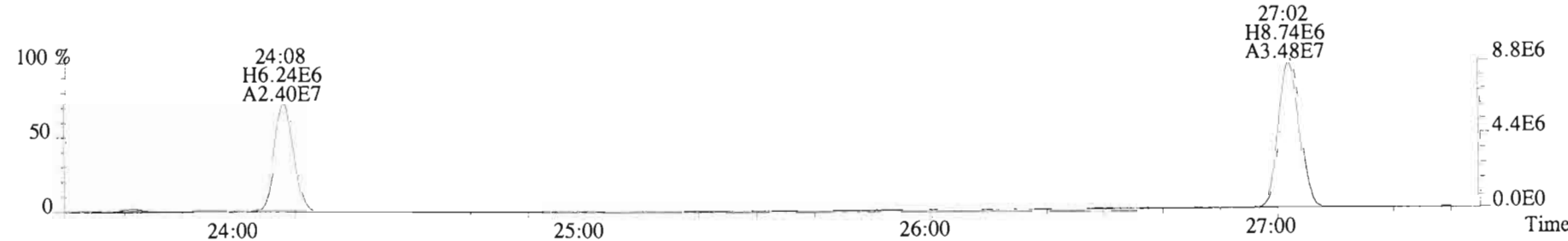
257.9584 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2096.0,0.00%,F,F)



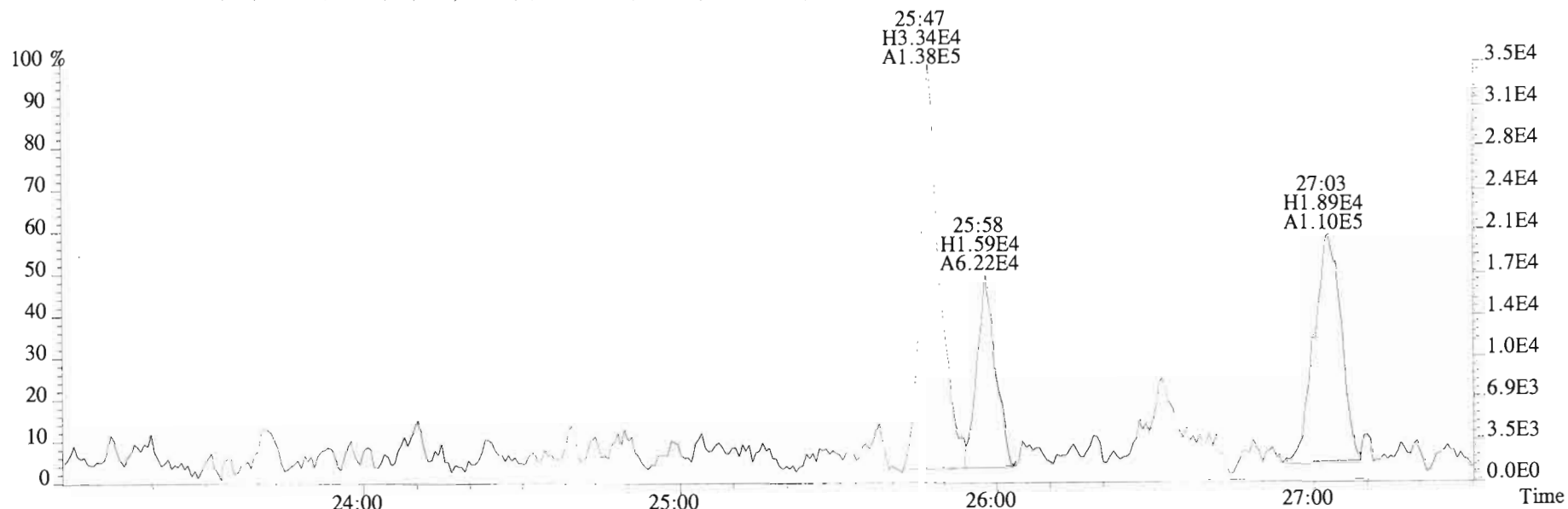
268.0016 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,41984.0,0.00%,F,F)



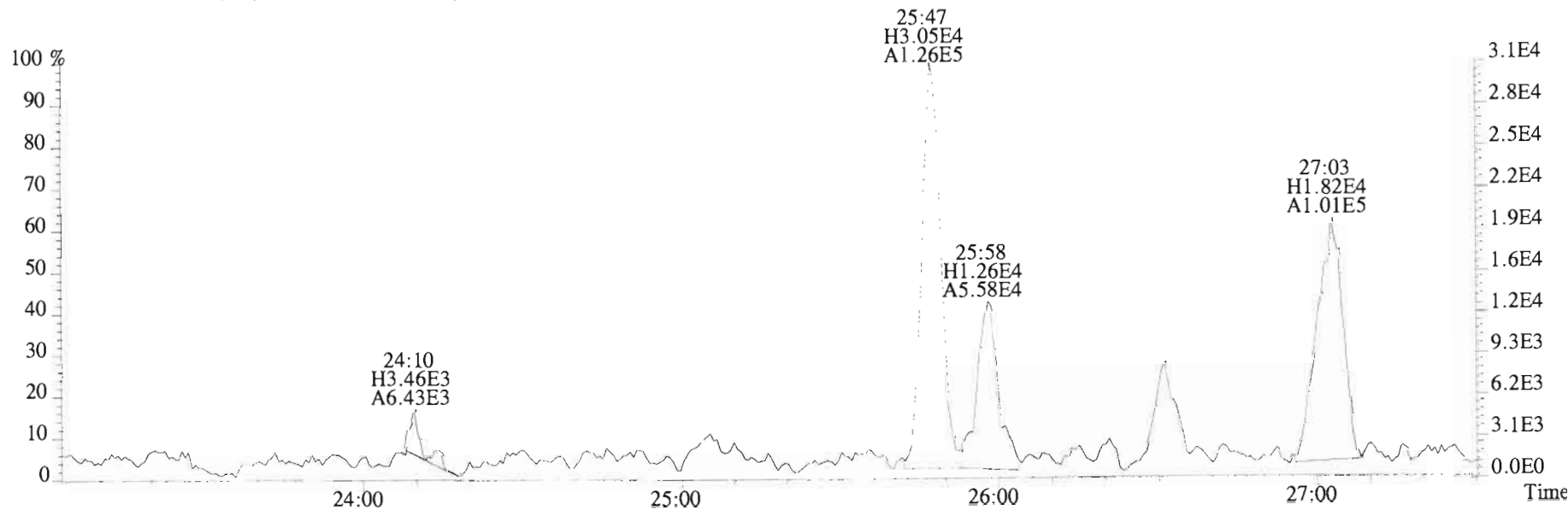
269.9986 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,24256.0,0.00%,F,F)



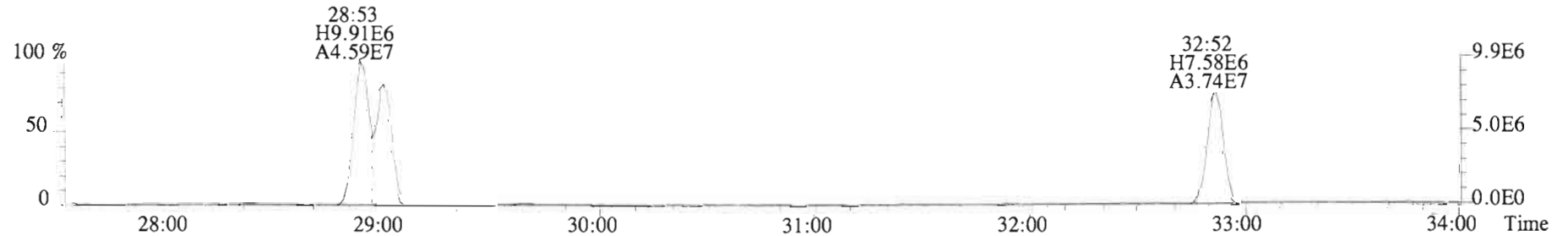
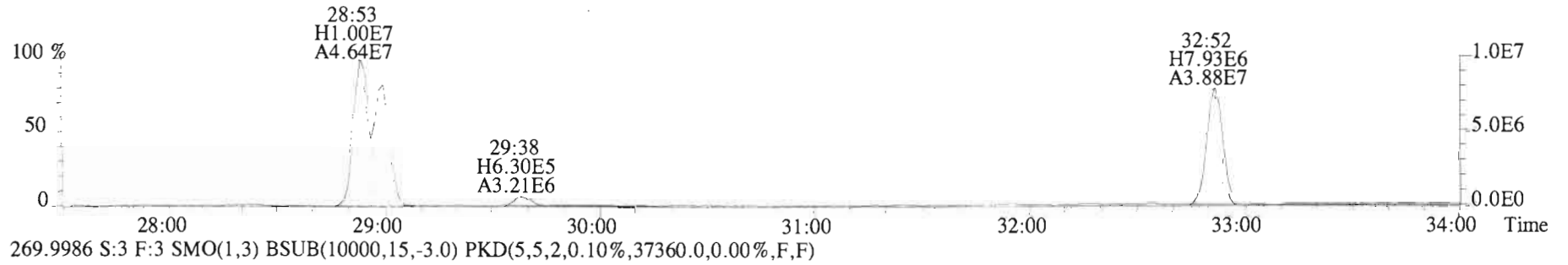
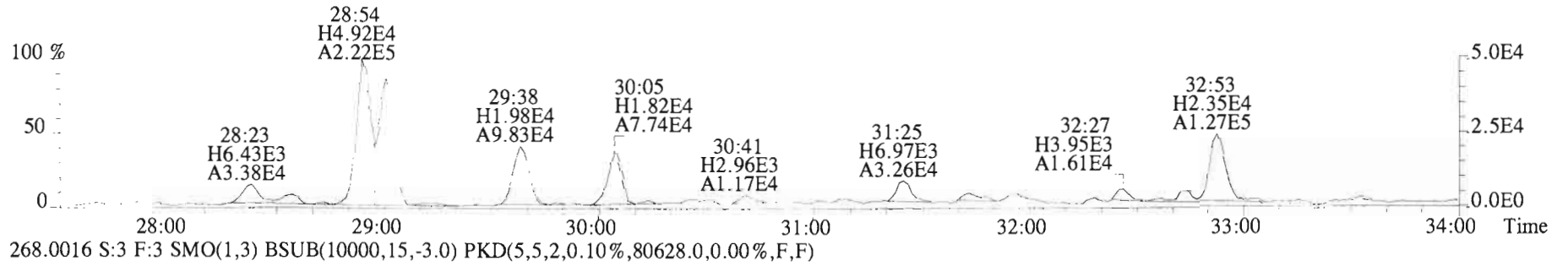
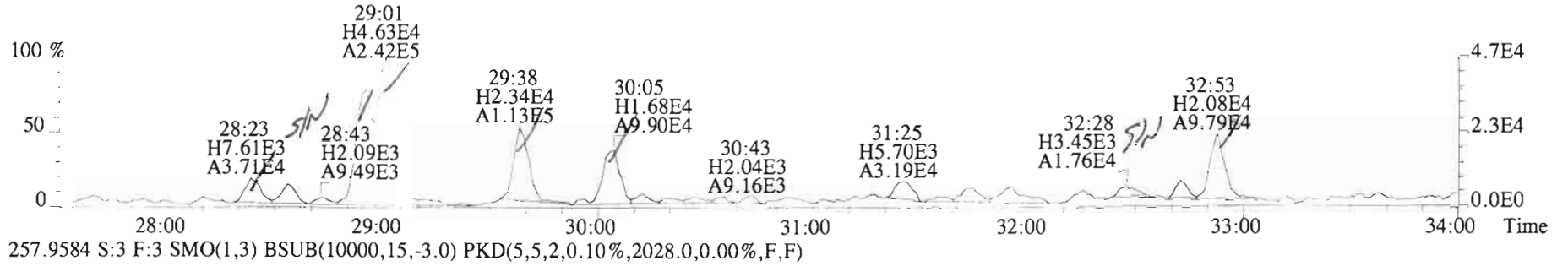
File:150422E1 #1-757 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
255.9613 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2984.0,0.00%,F,F)



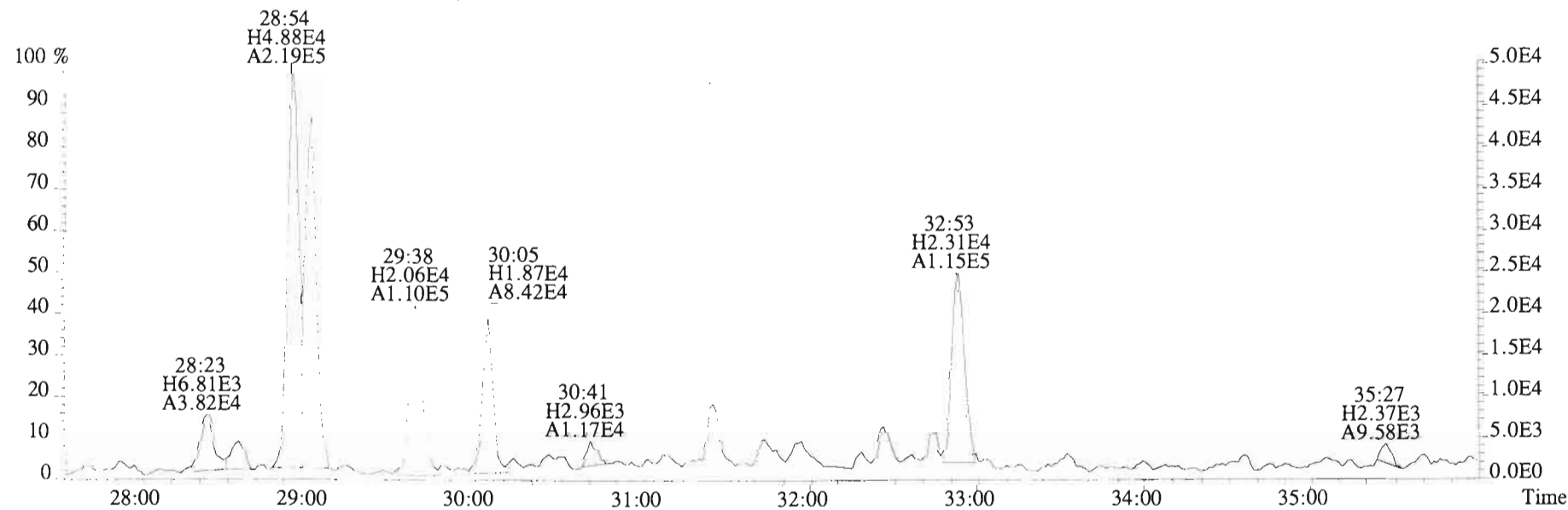
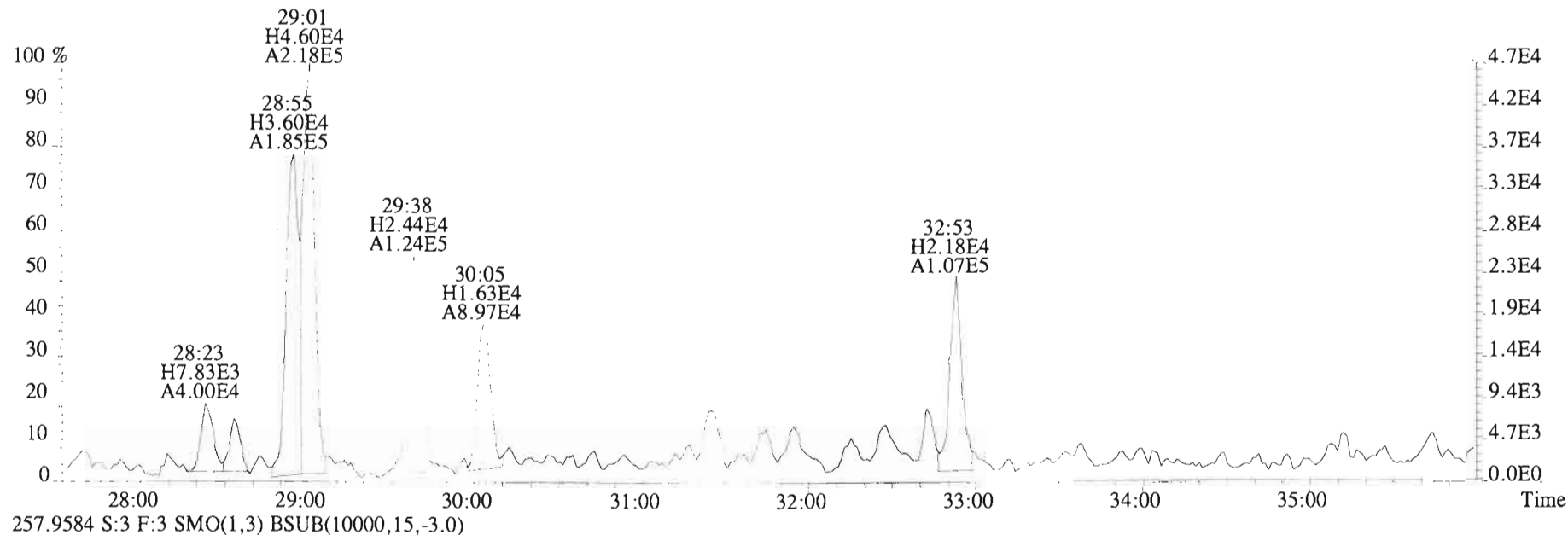
257.9584 S:3 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2096.0,0.00%,F,F)



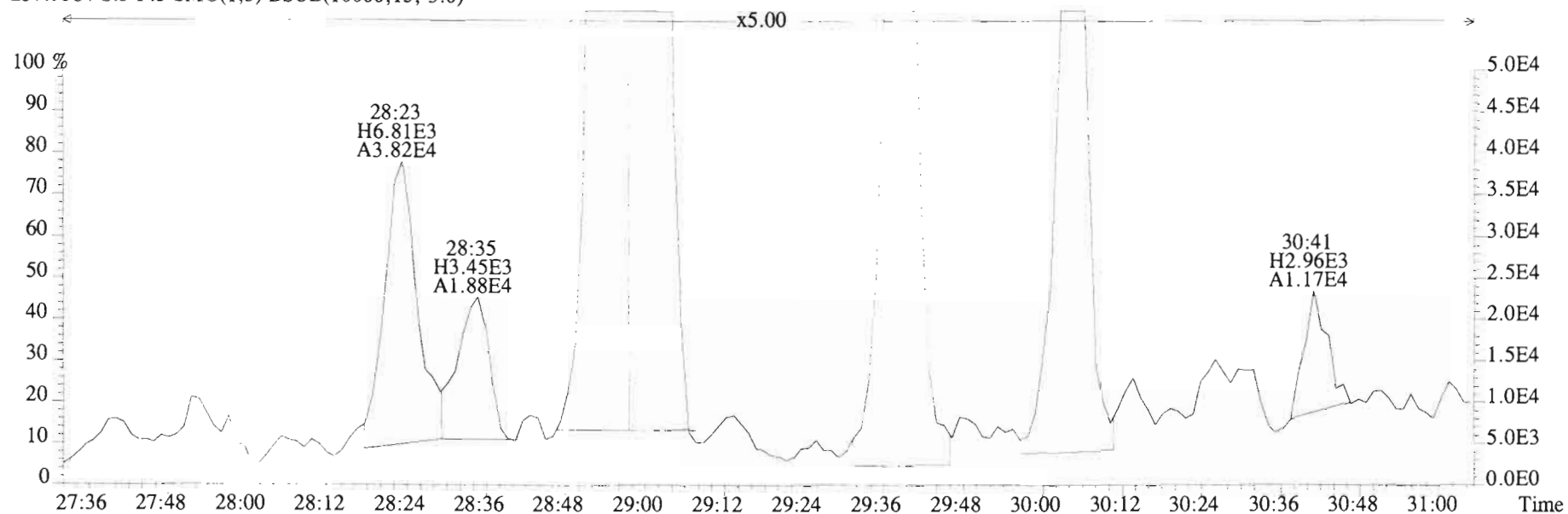
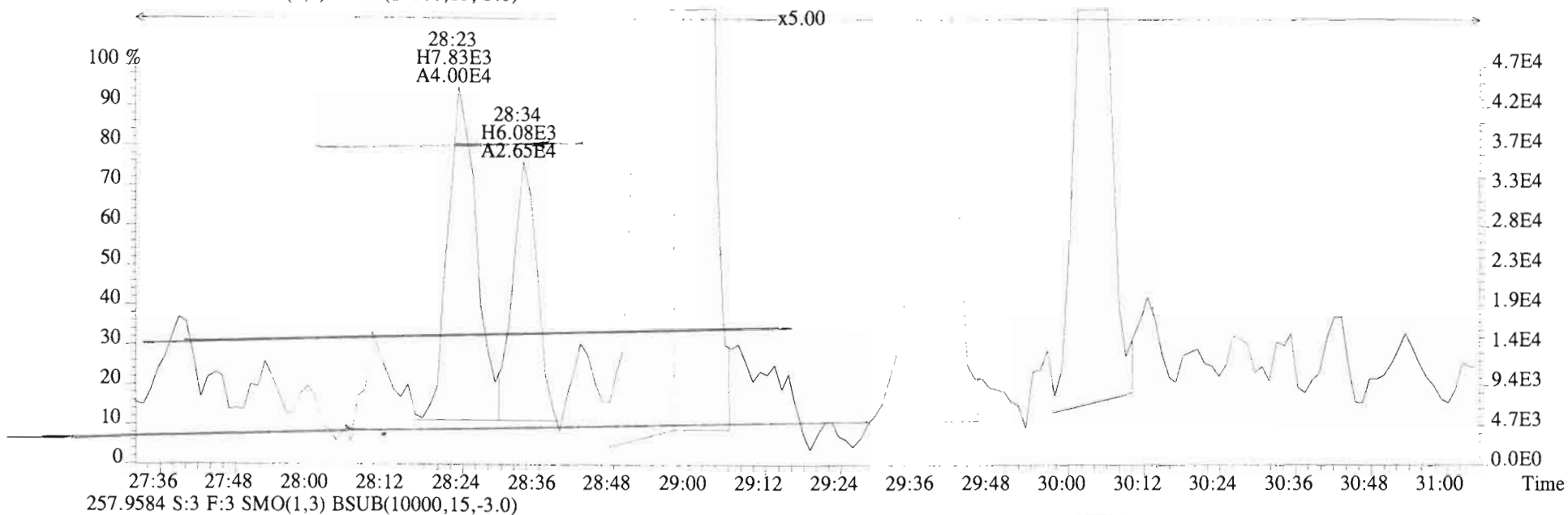
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
255.9613 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2932.0,0.00%,F,F)



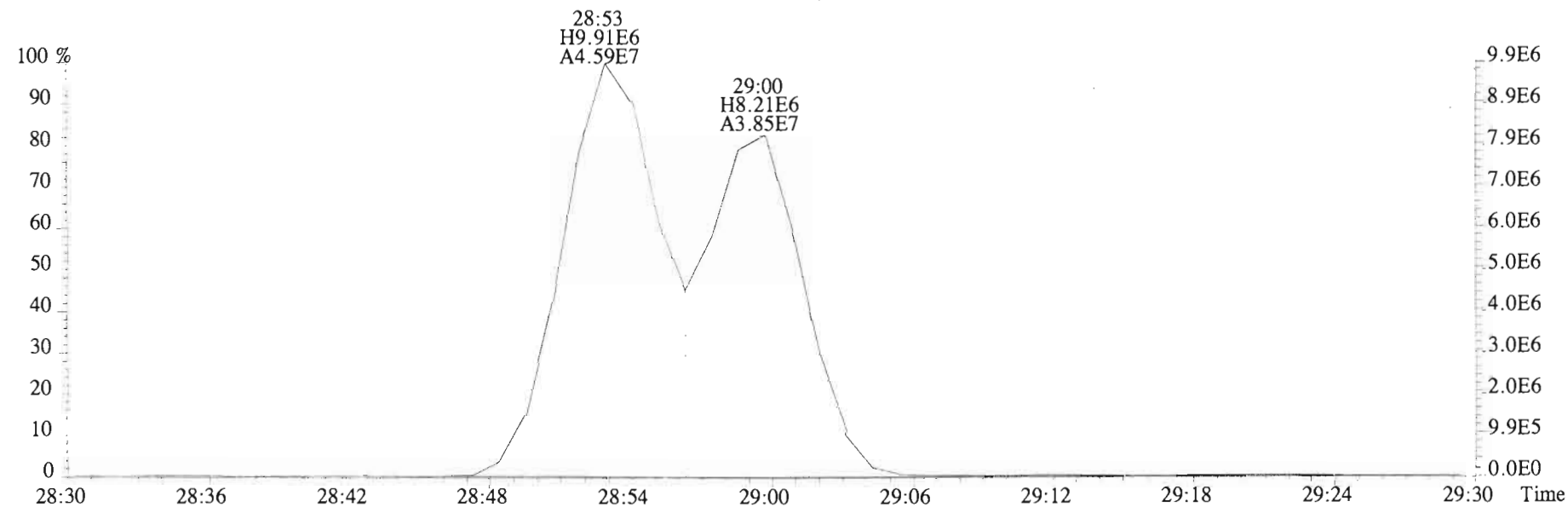
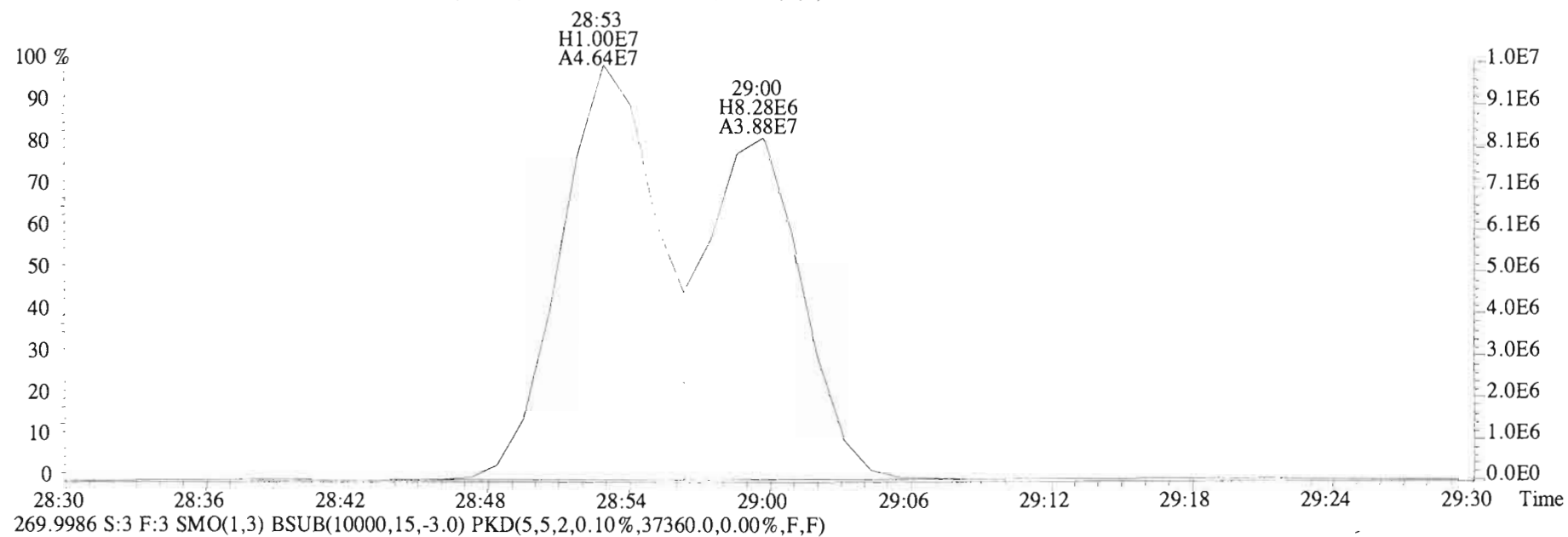
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
255.9613 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0)



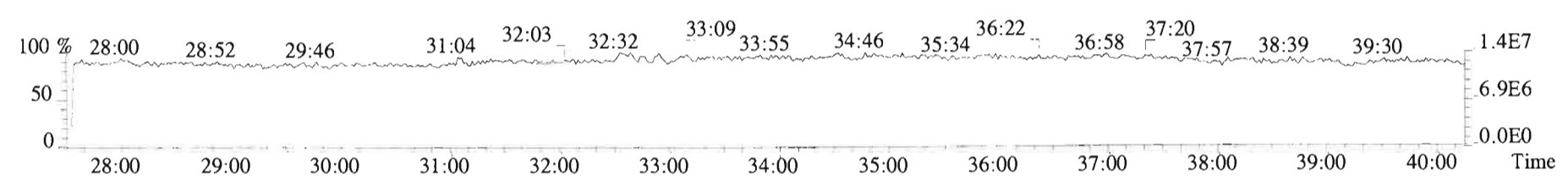
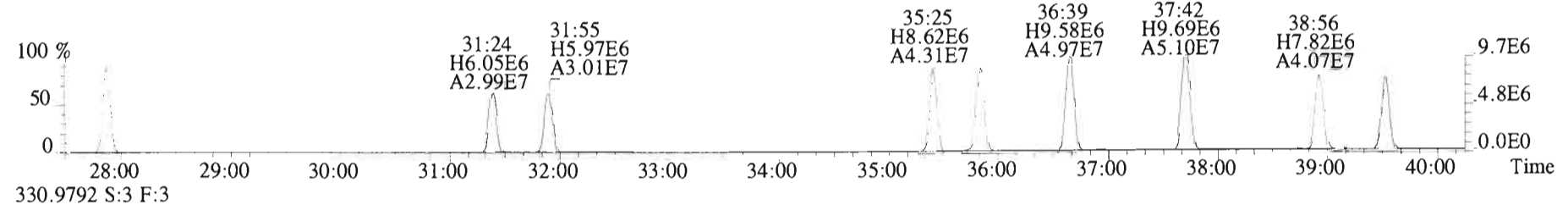
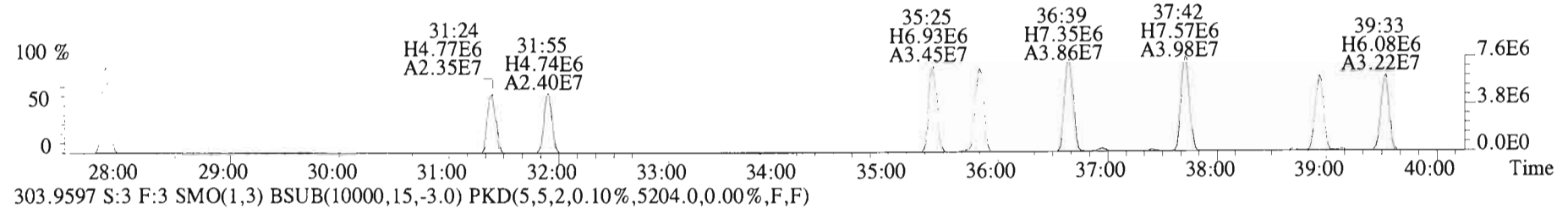
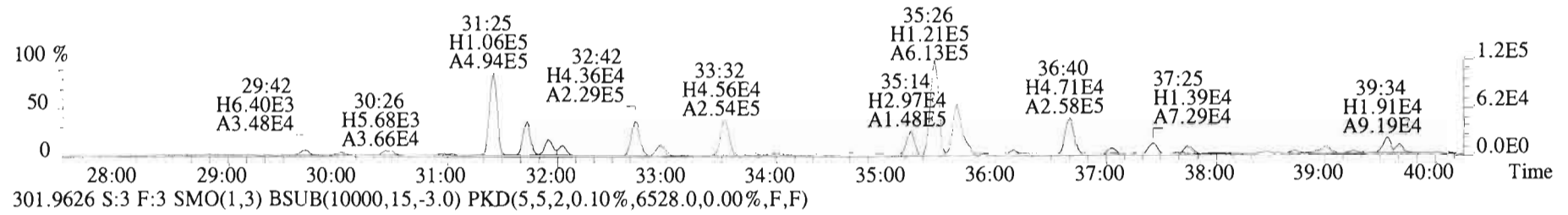
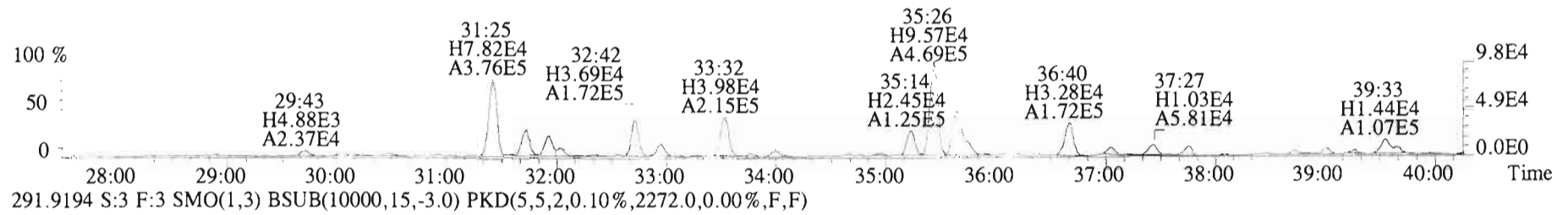
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 255.9613 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0)



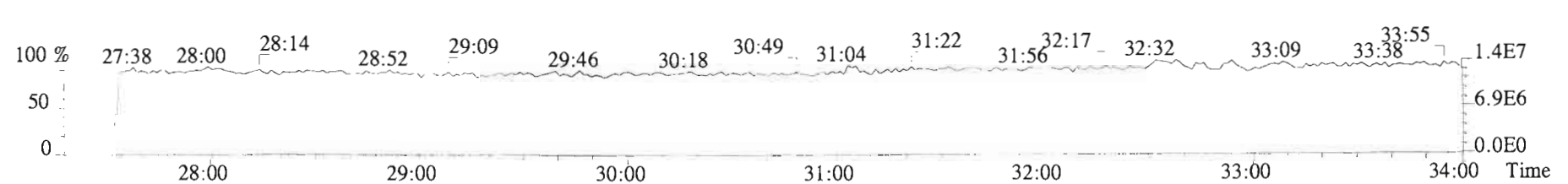
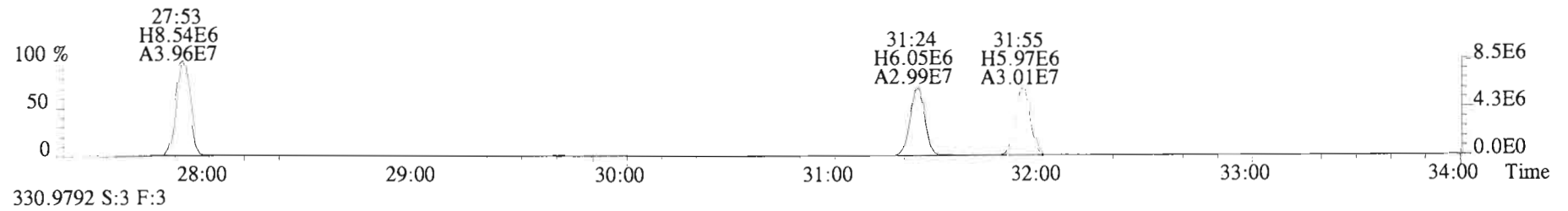
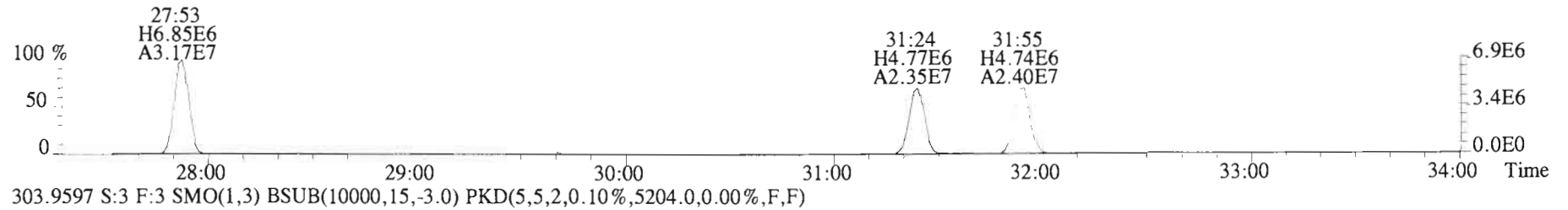
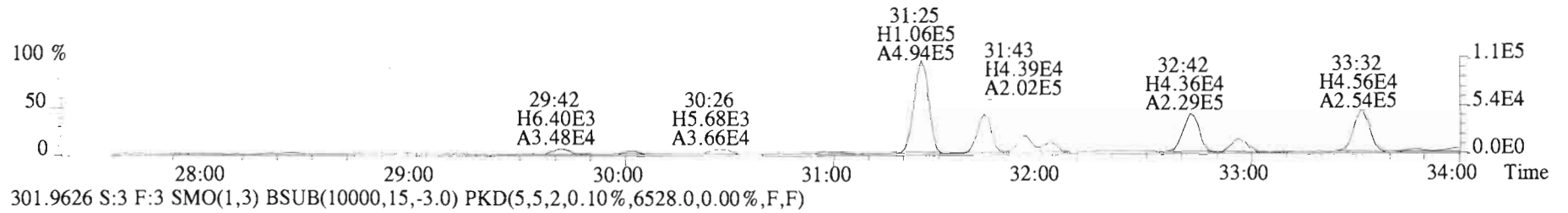
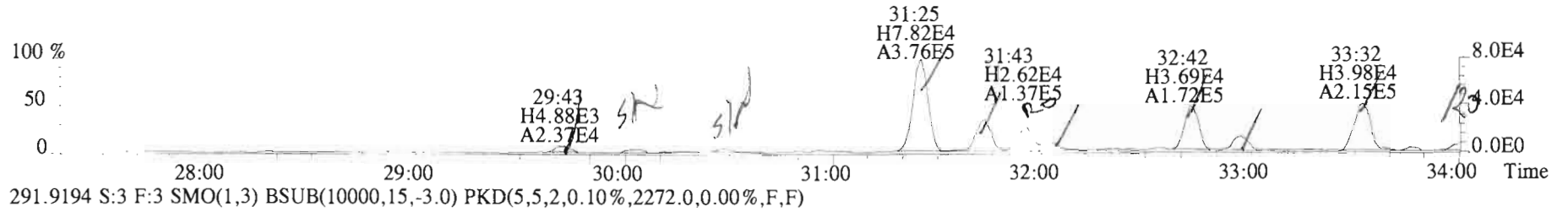
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
268.0016 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,80628.0,0.00%,F,F)



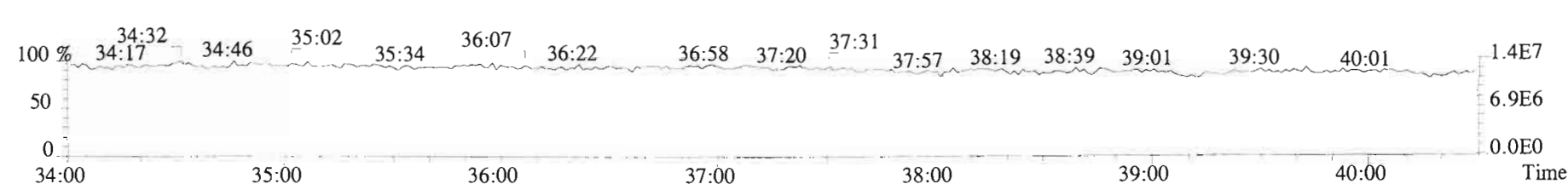
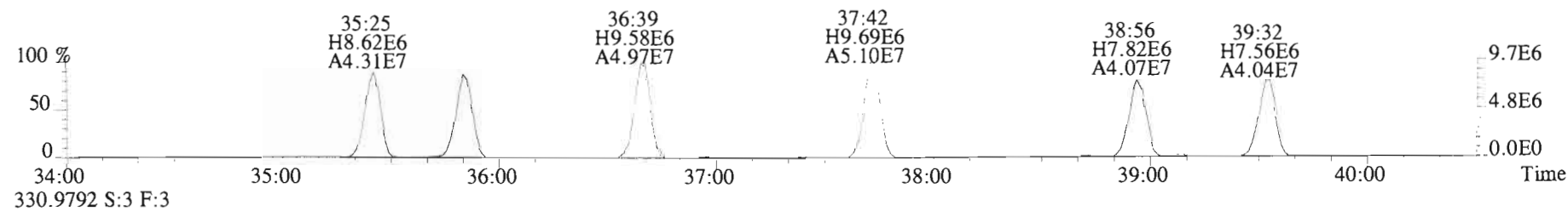
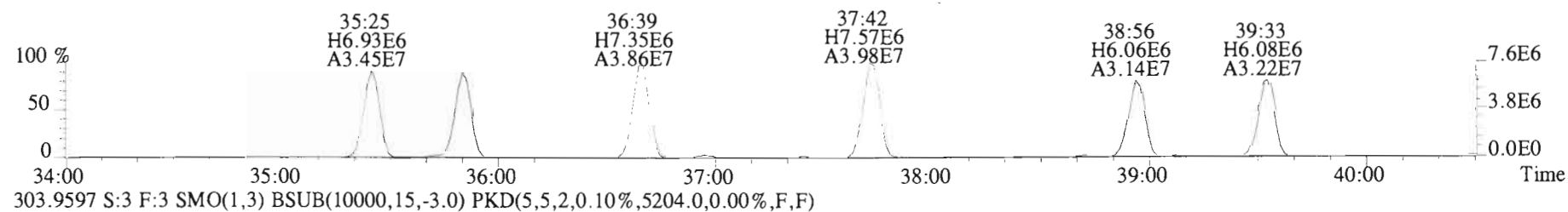
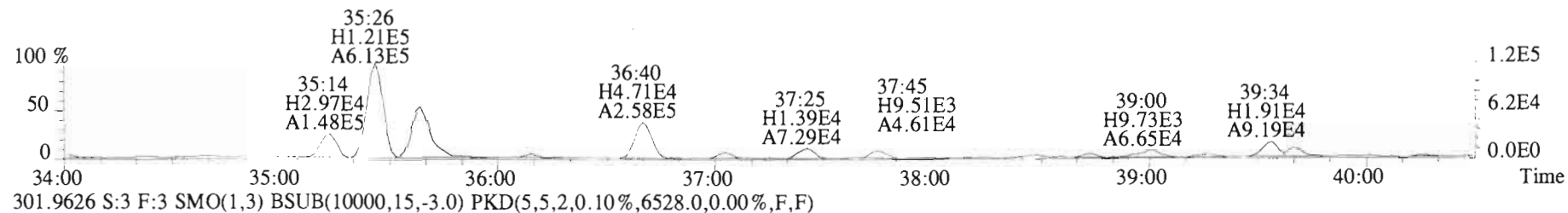
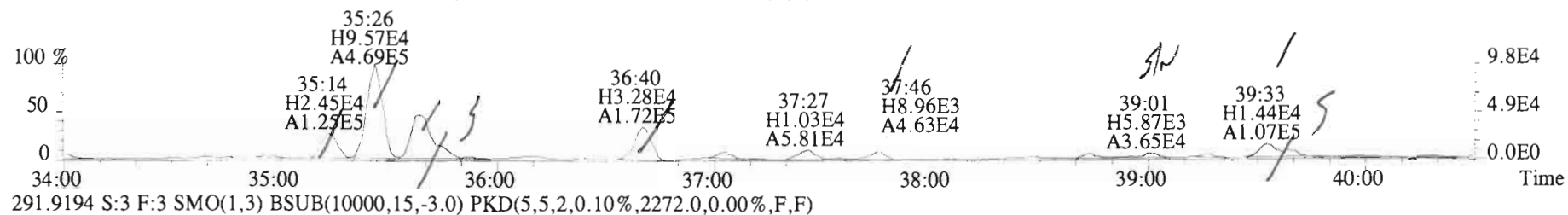
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
289.9224 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2168.0,0.00%,F,F)



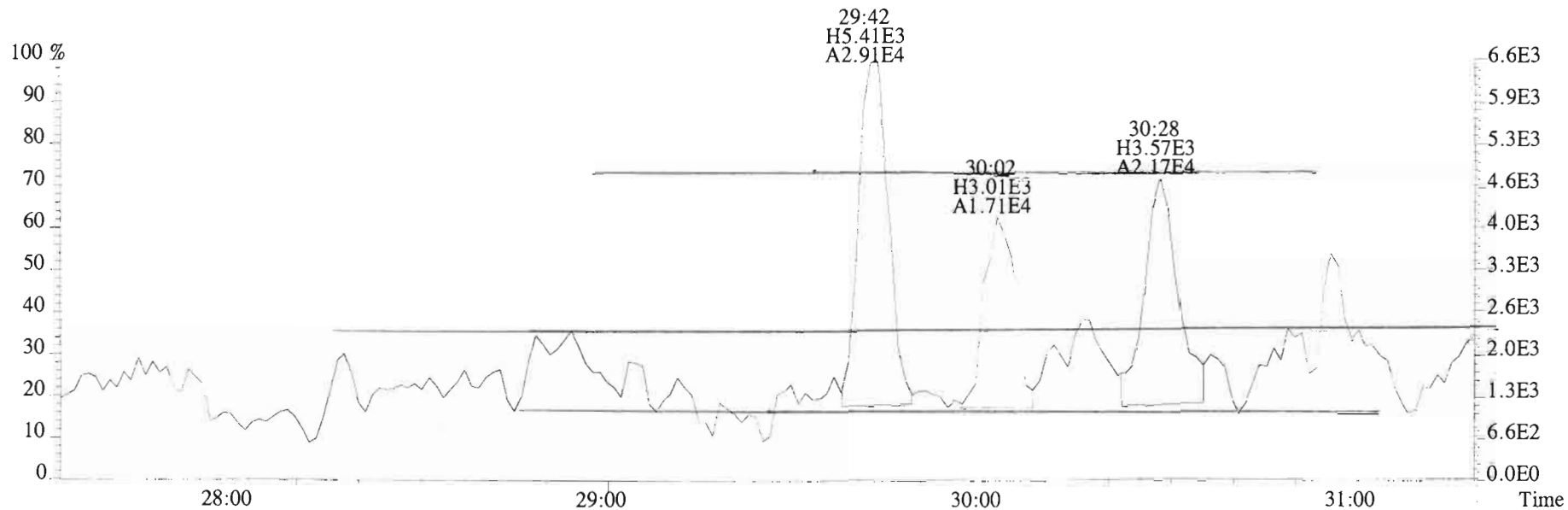
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
289.9224 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2168.0,0.00%,F,F)



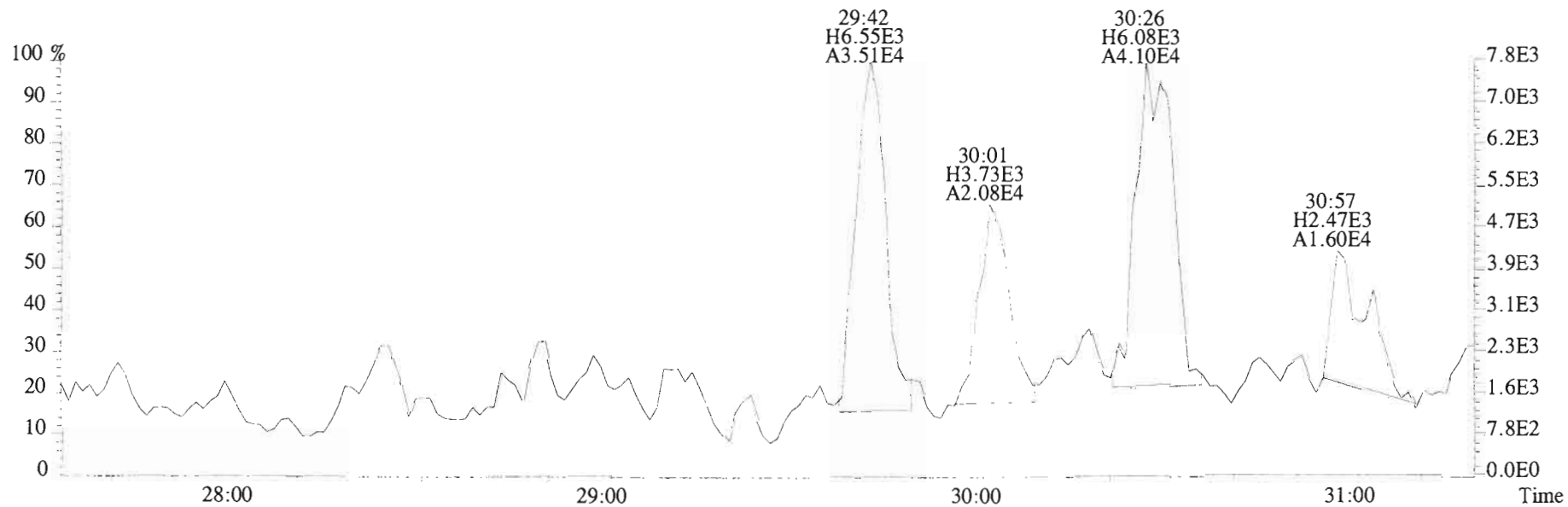
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
289.9224 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2168.0,0.00%,F,F)



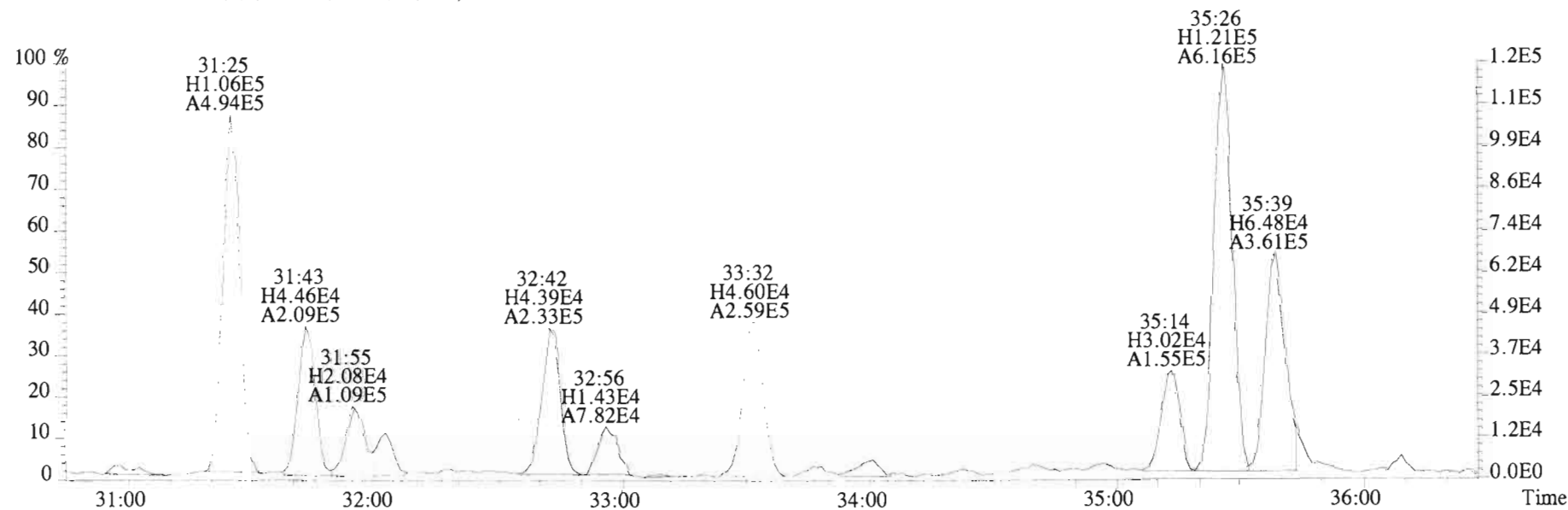
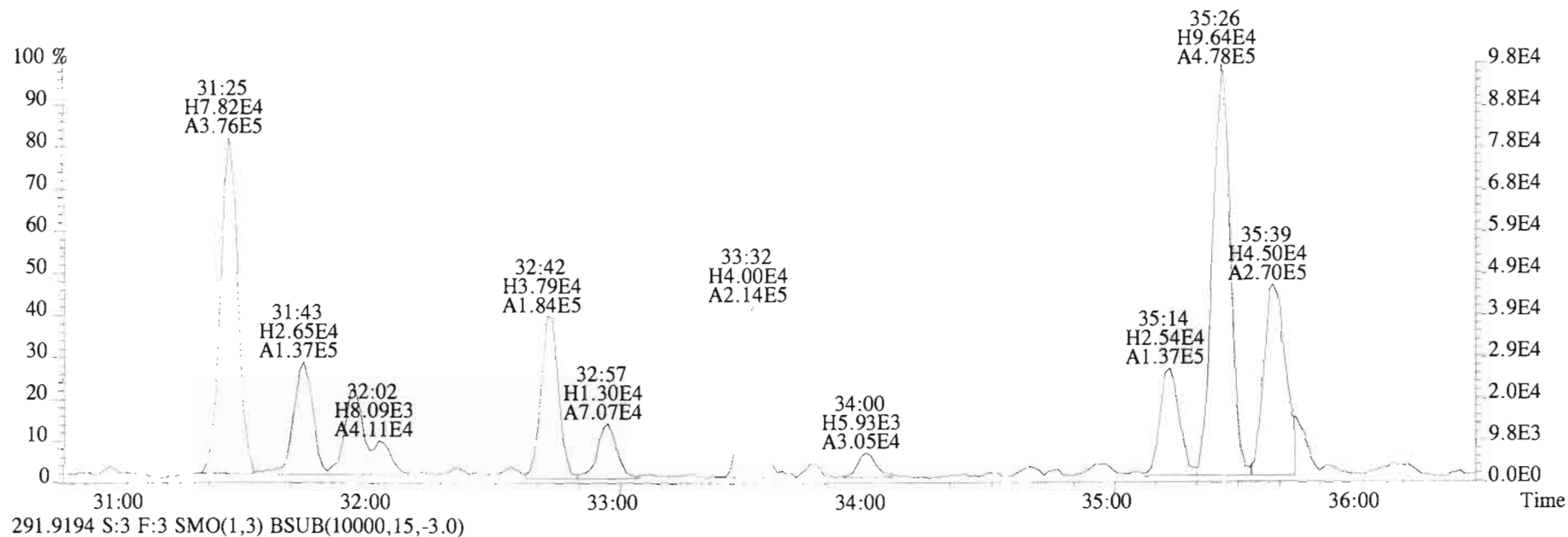
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 Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
 289.9224 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2168.0,0.00%,F,F)



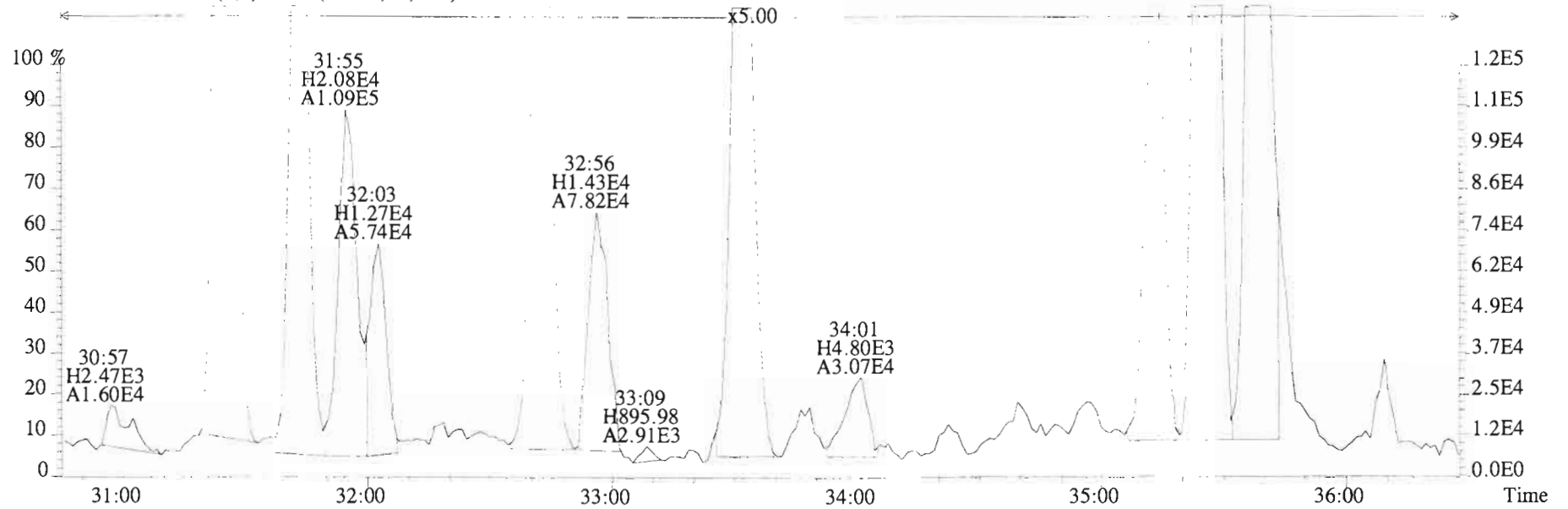
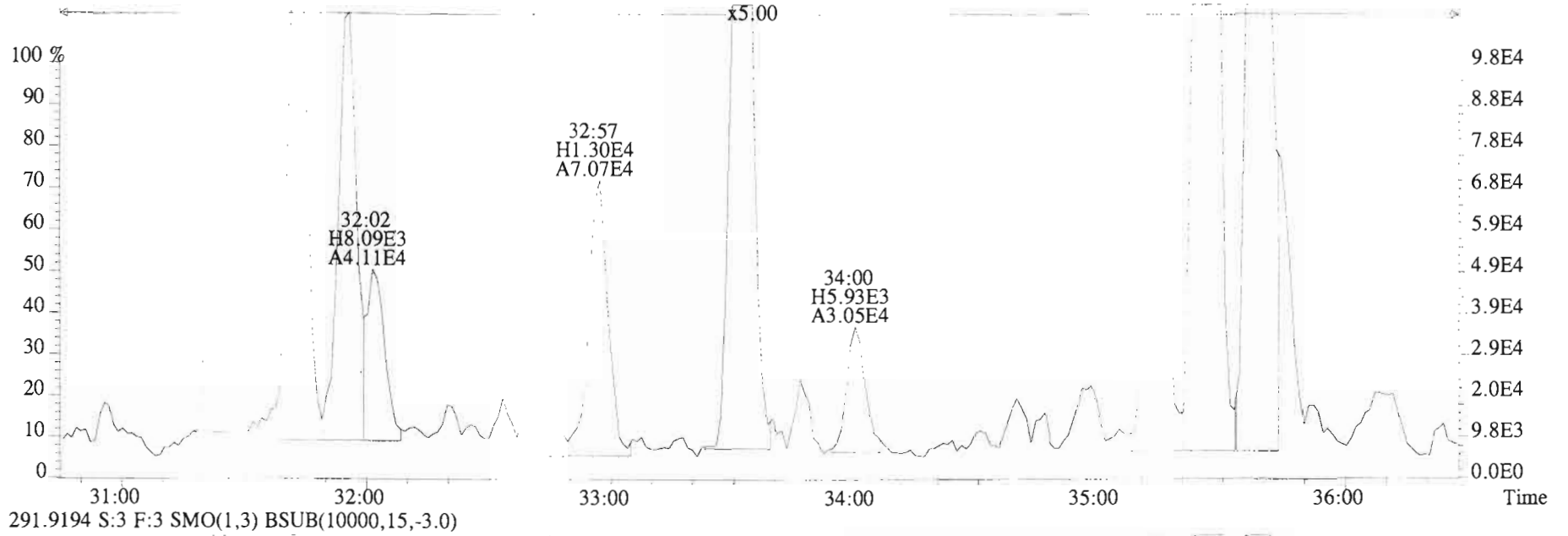
291.9194 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2272.0,0.00%,F,F)



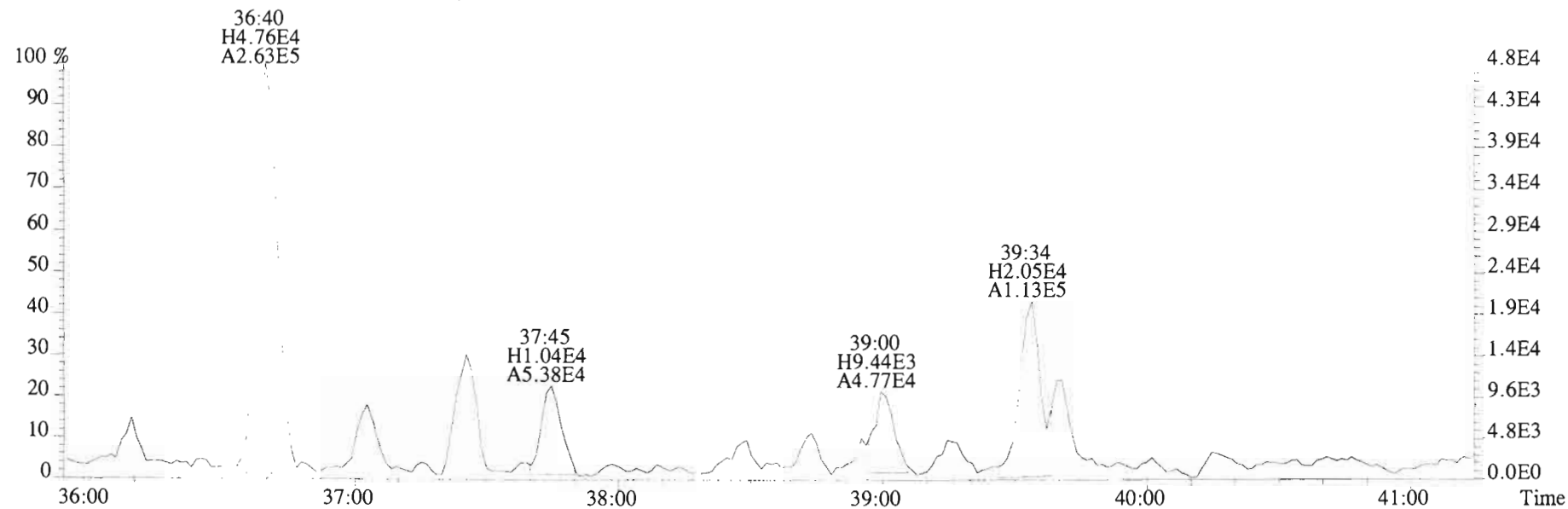
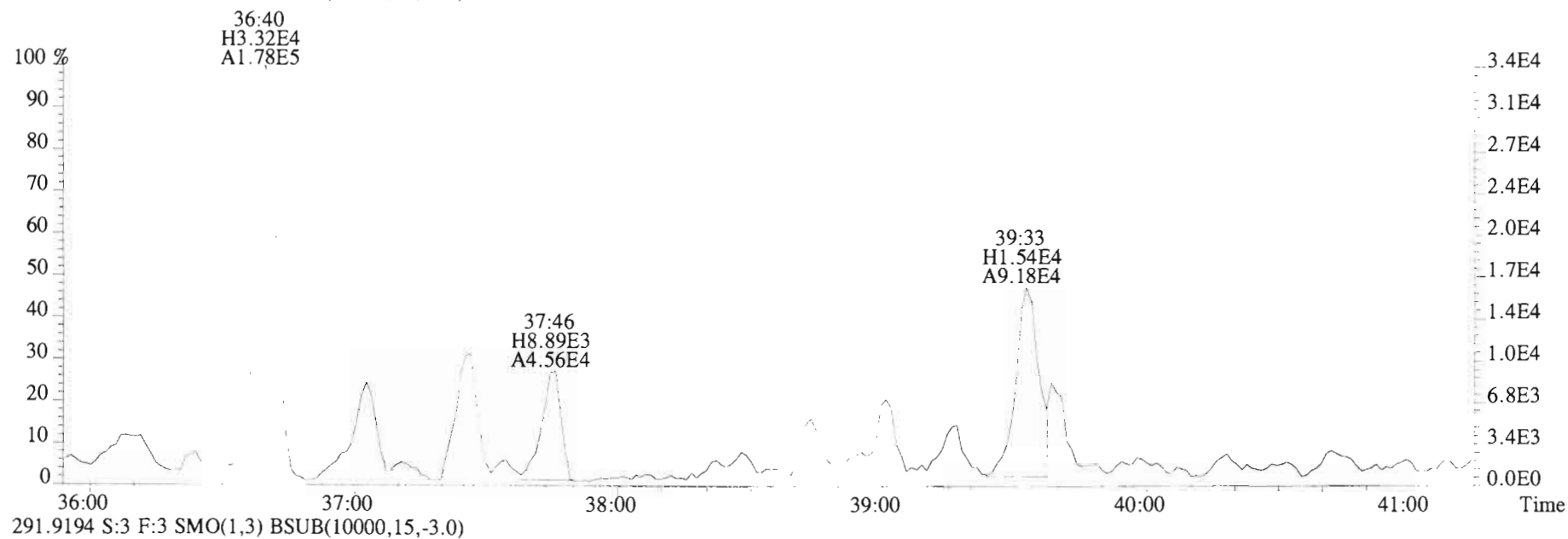
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 Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
 289.9224 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0)



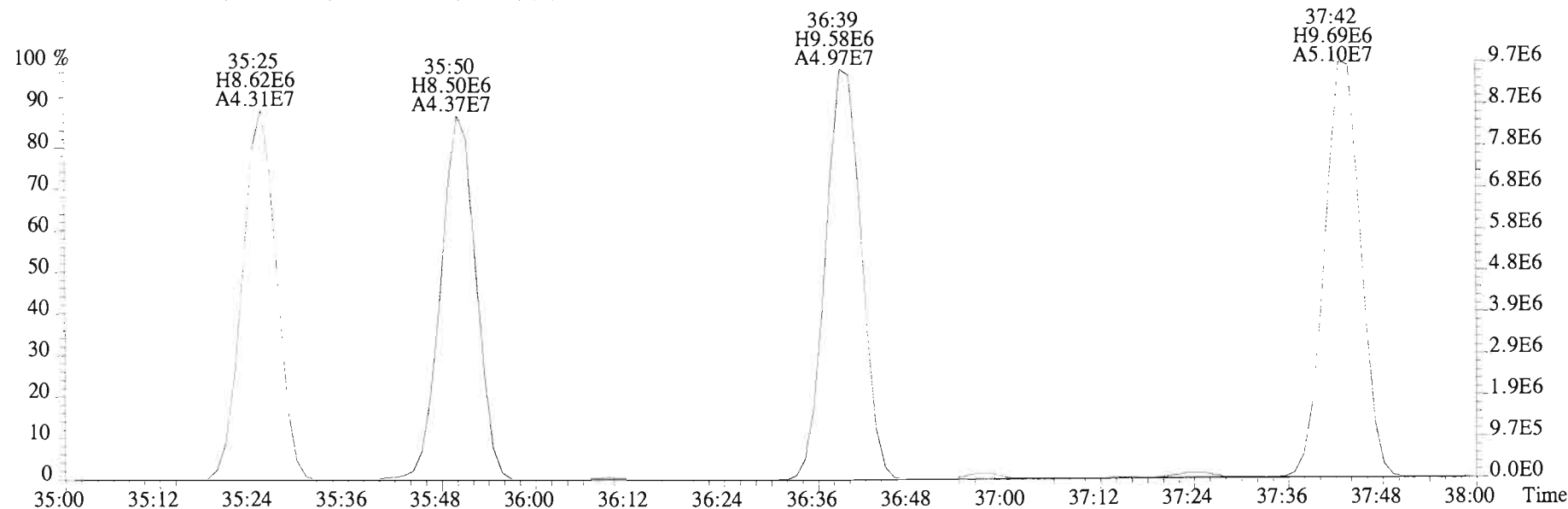
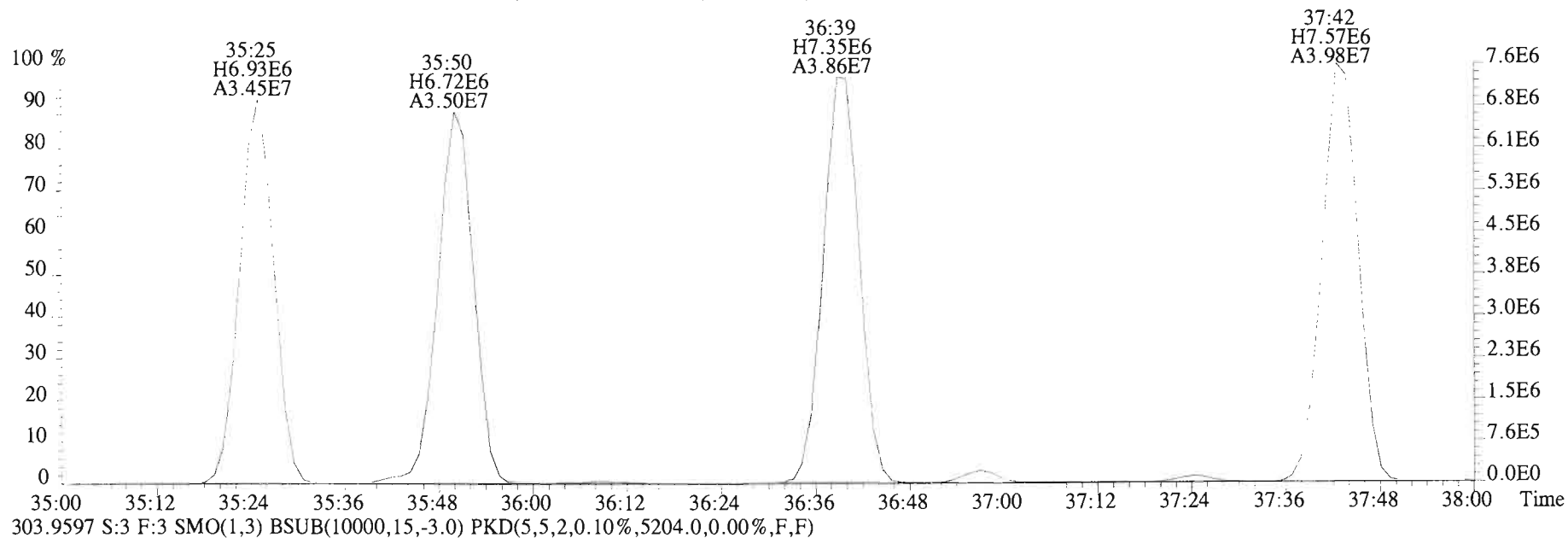
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 Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
 289.9224 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0)



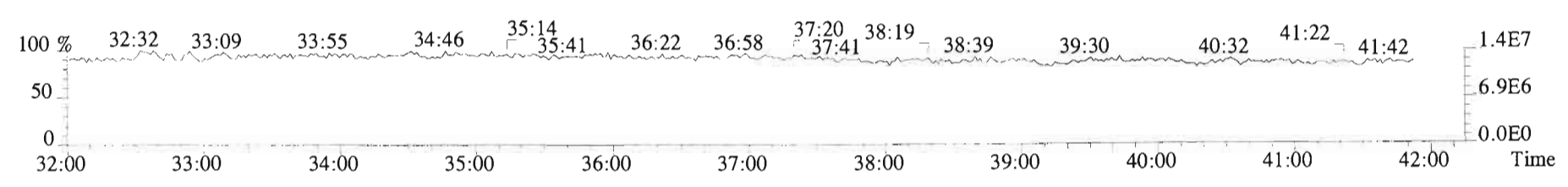
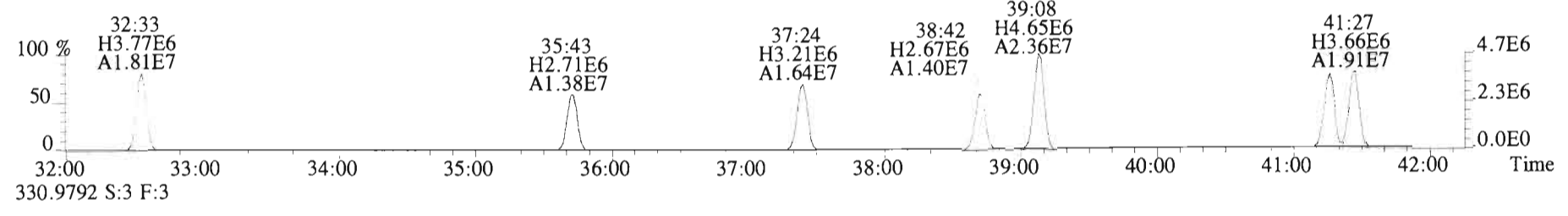
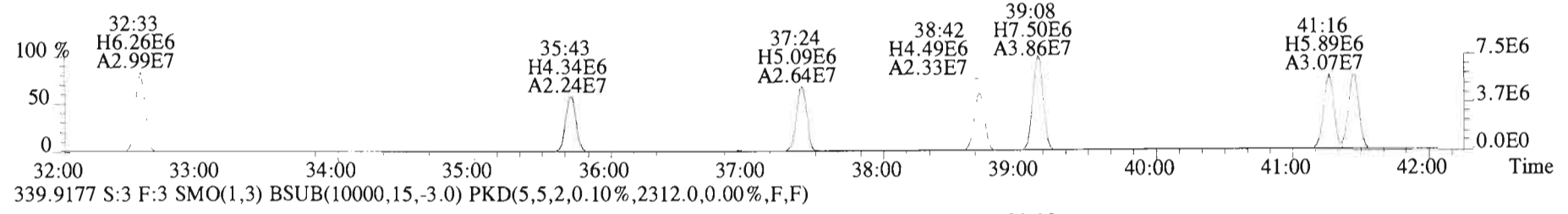
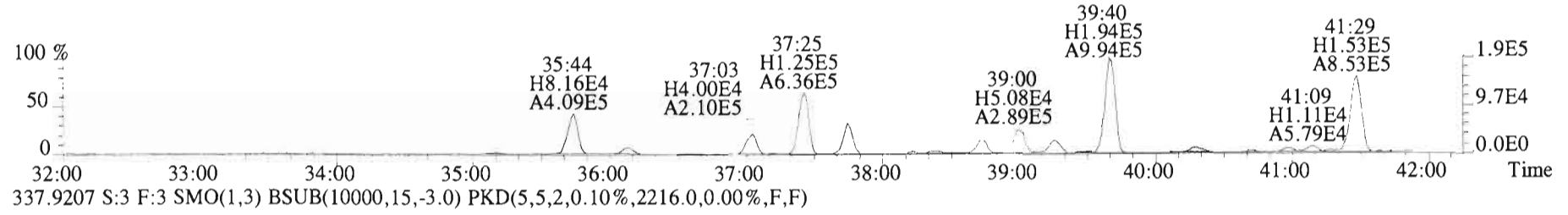
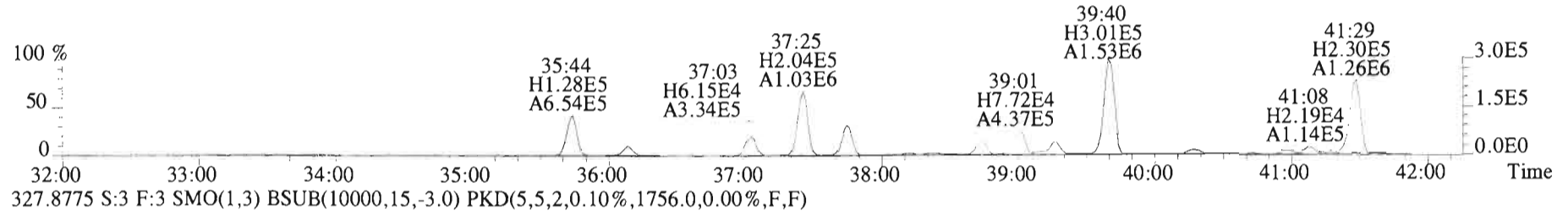
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
289.9224 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0)



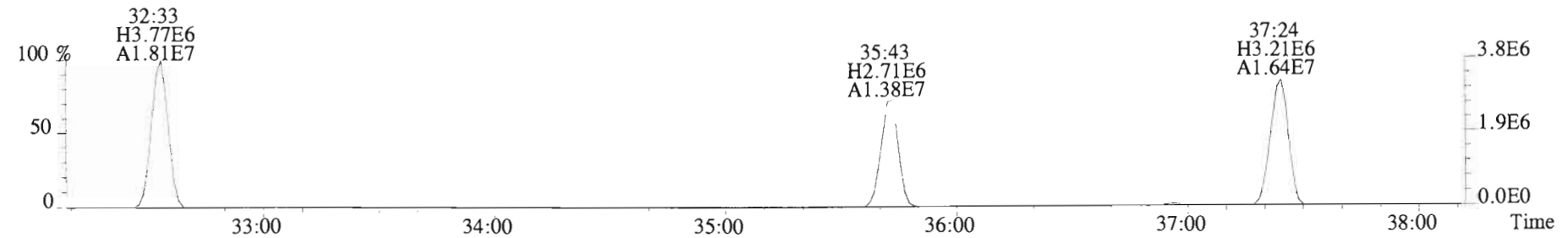
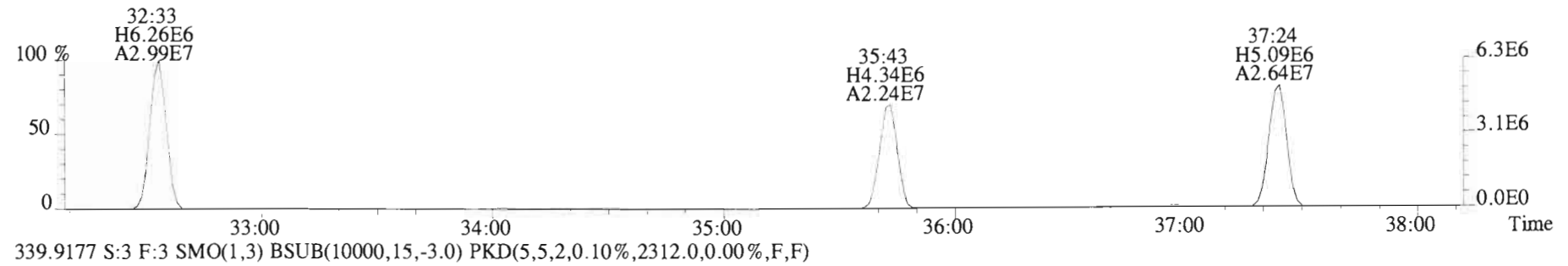
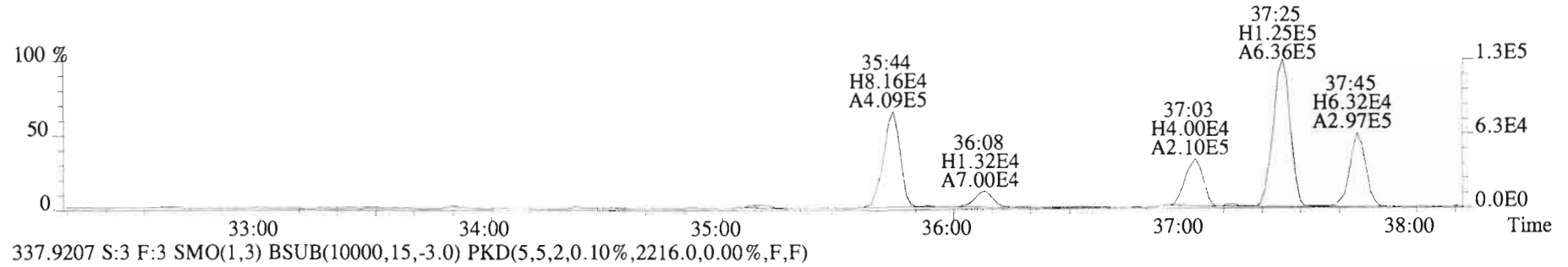
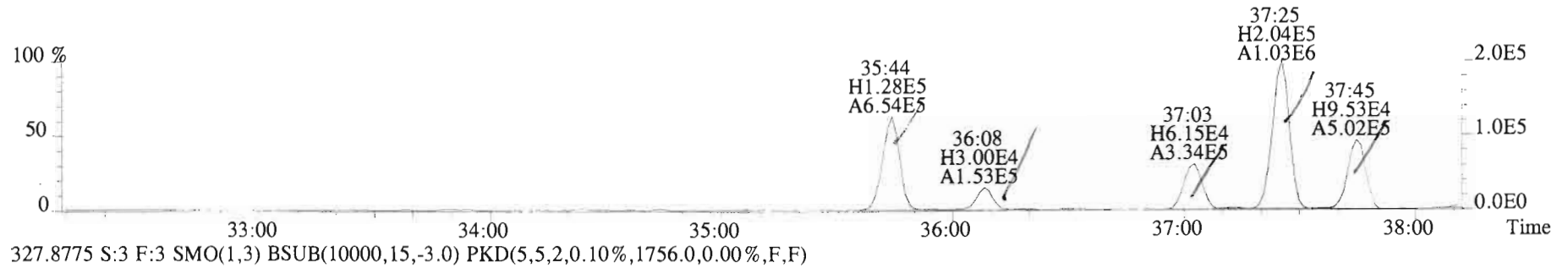
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
301.9626 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6528.0,0.00%,F,F)



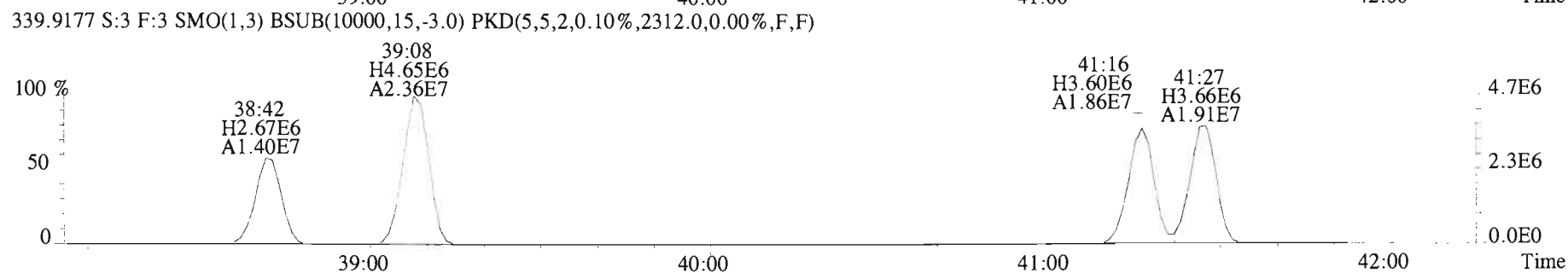
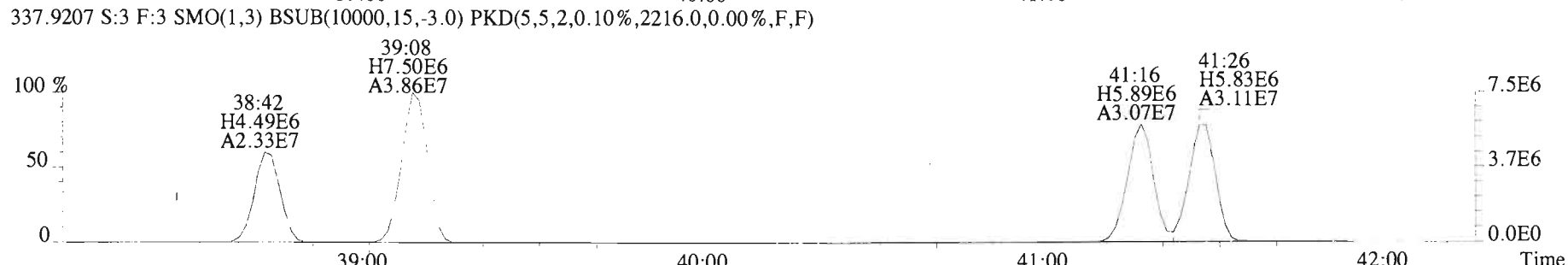
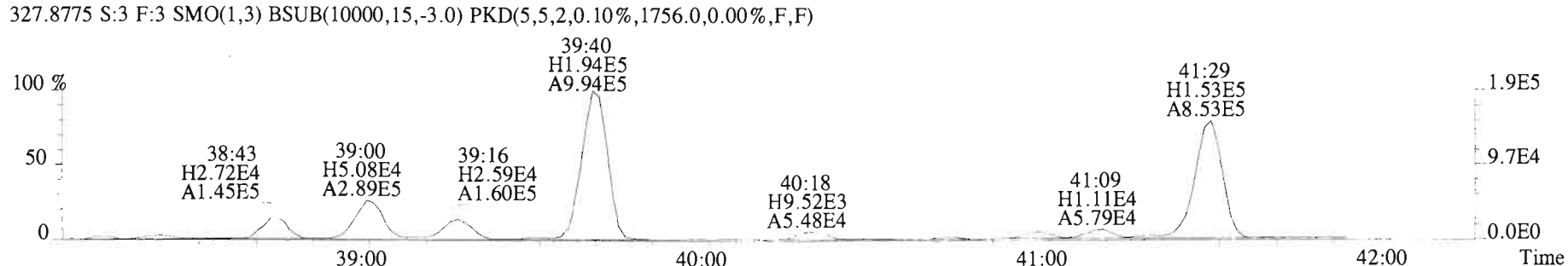
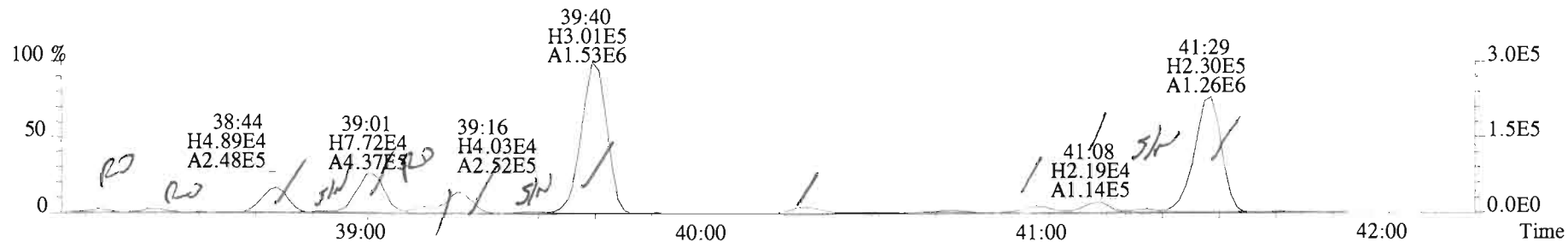
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
325.8804 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1776.0,0.00%,F,F)



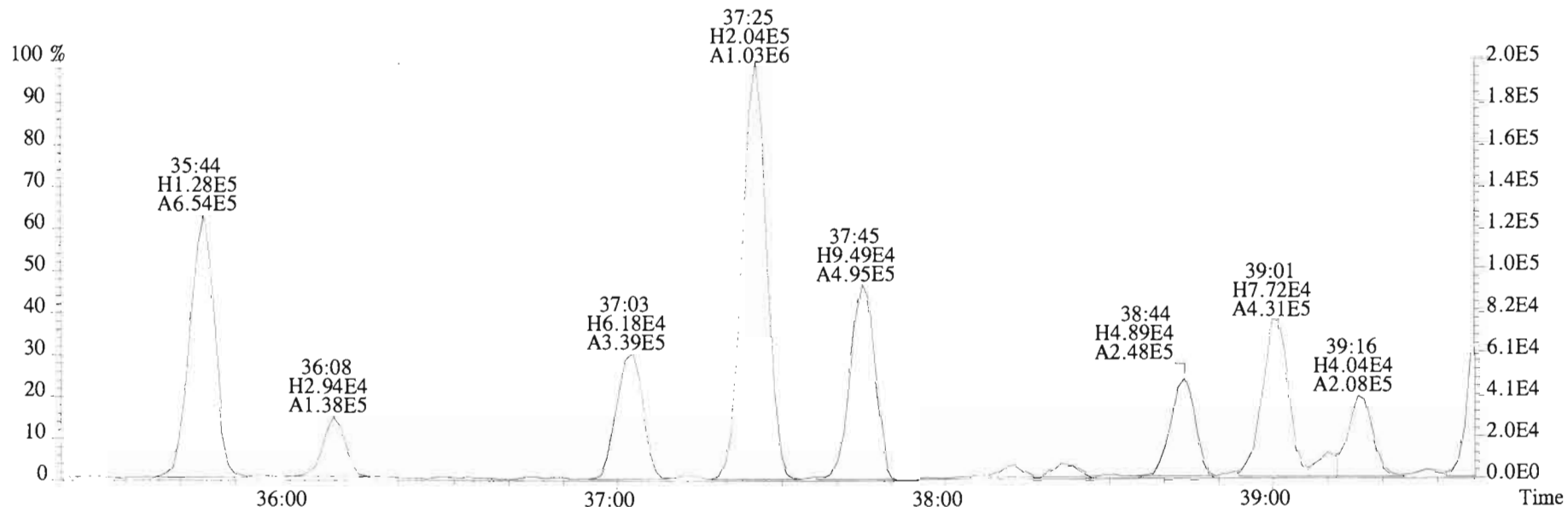
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
325.8804 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1776.0,0.00%,F,F)



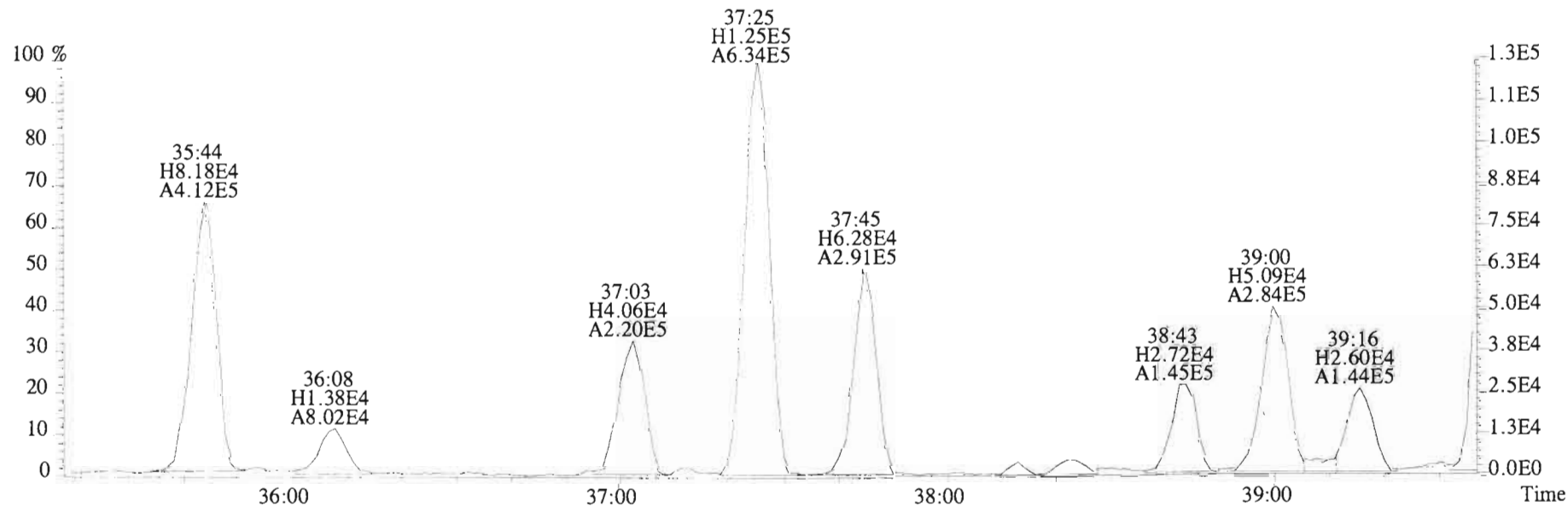
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
 325.8804 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1776.0,0.00%,F,F)



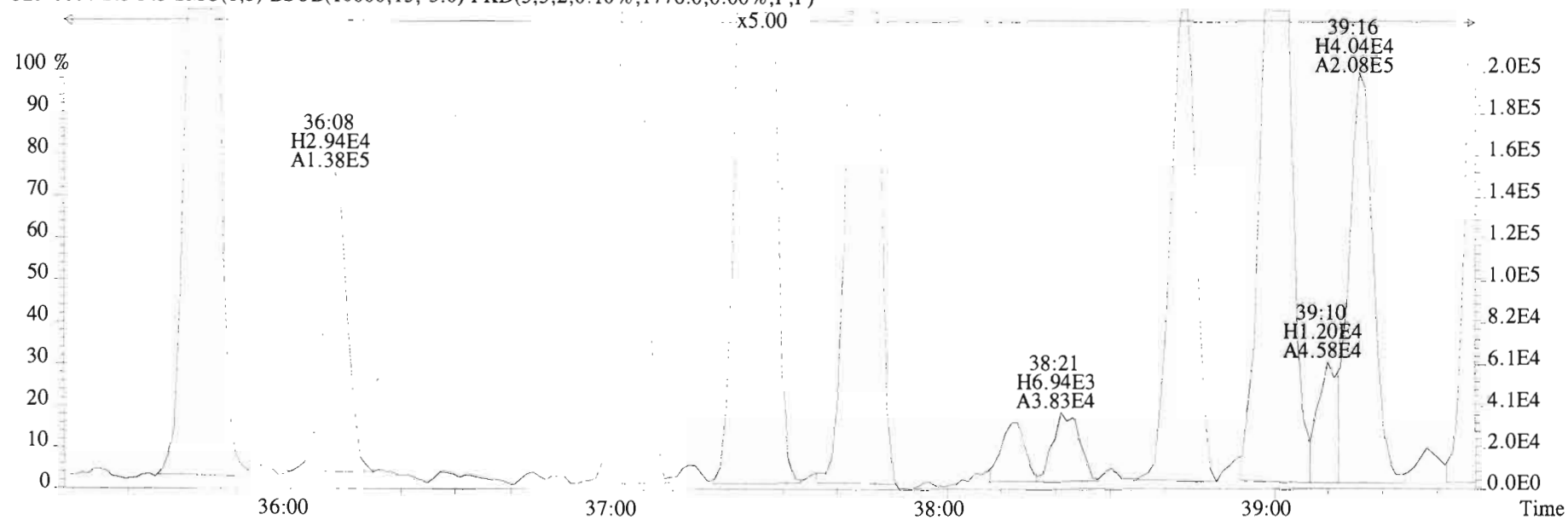
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
 325.8804 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1776.0,0.00%,F,F)



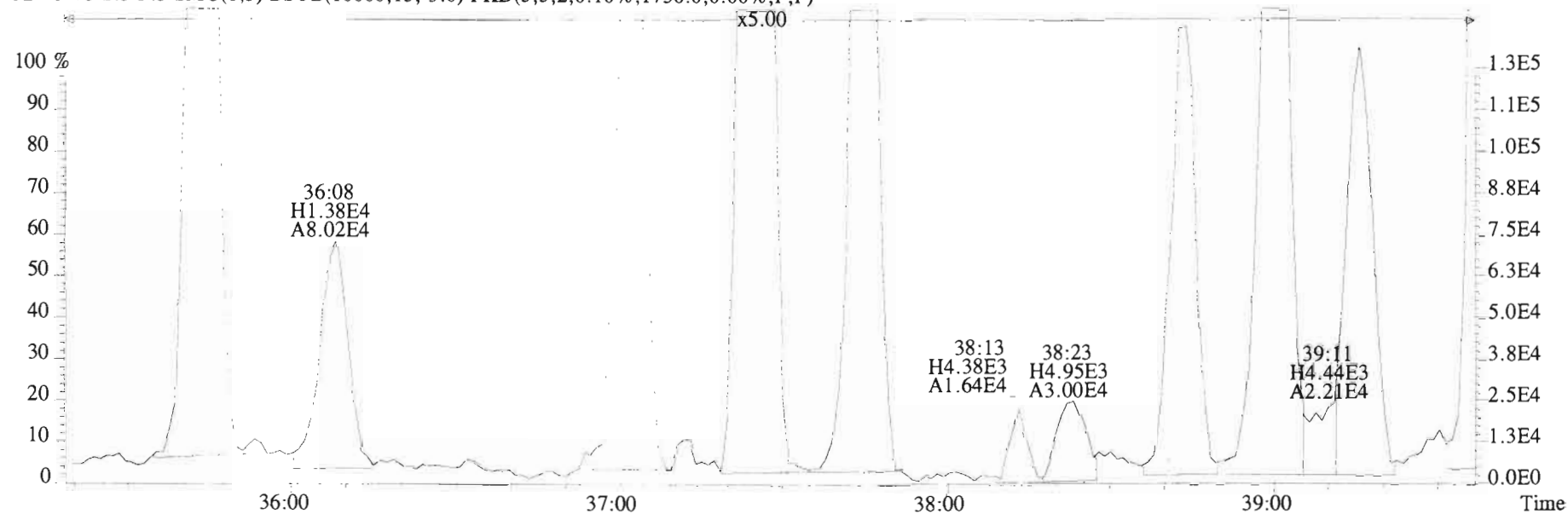
327.8775 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1756.0,0.00%,F,F)



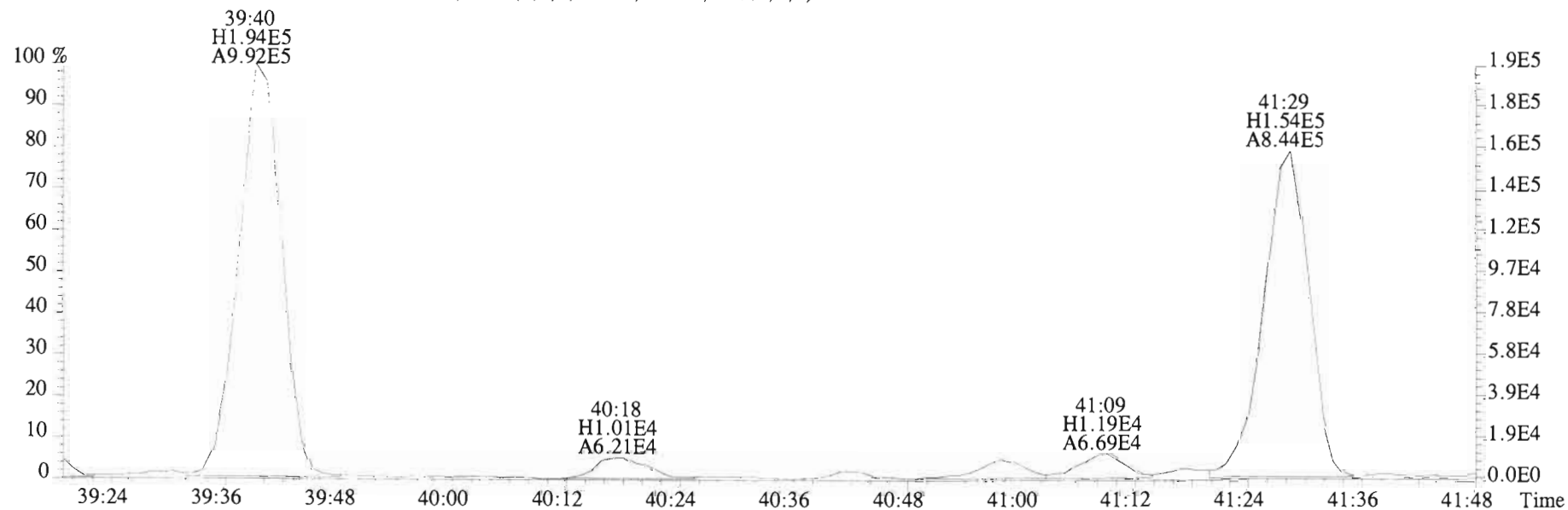
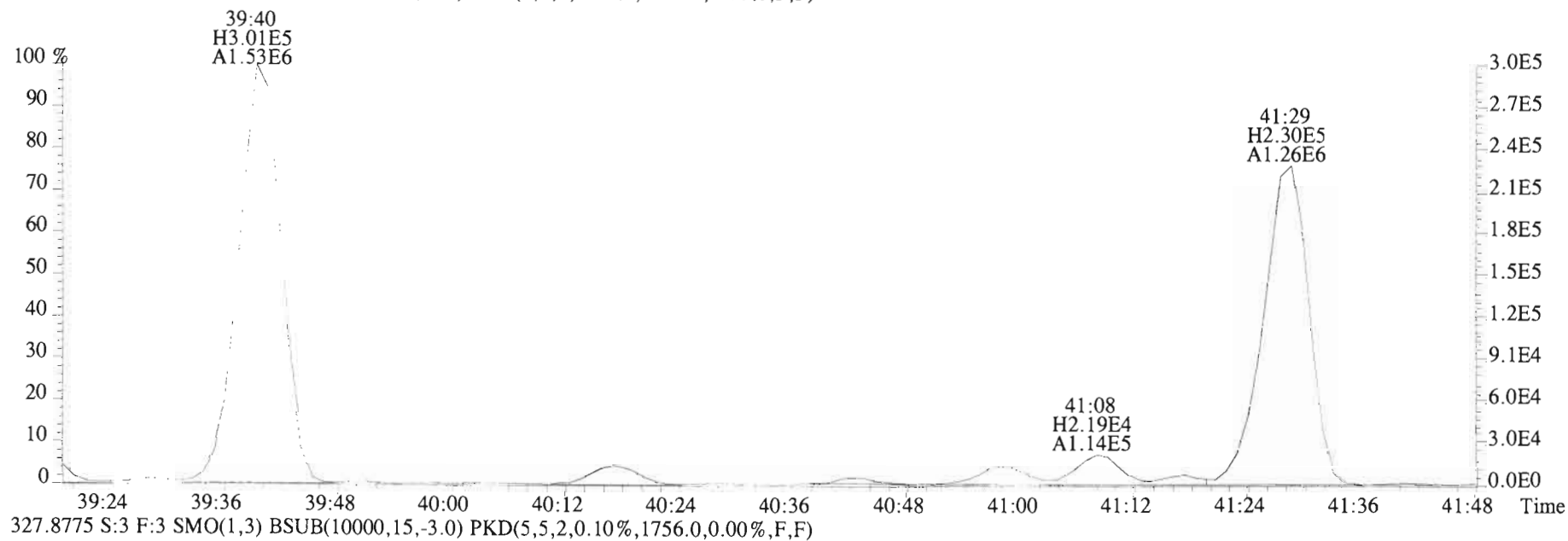
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
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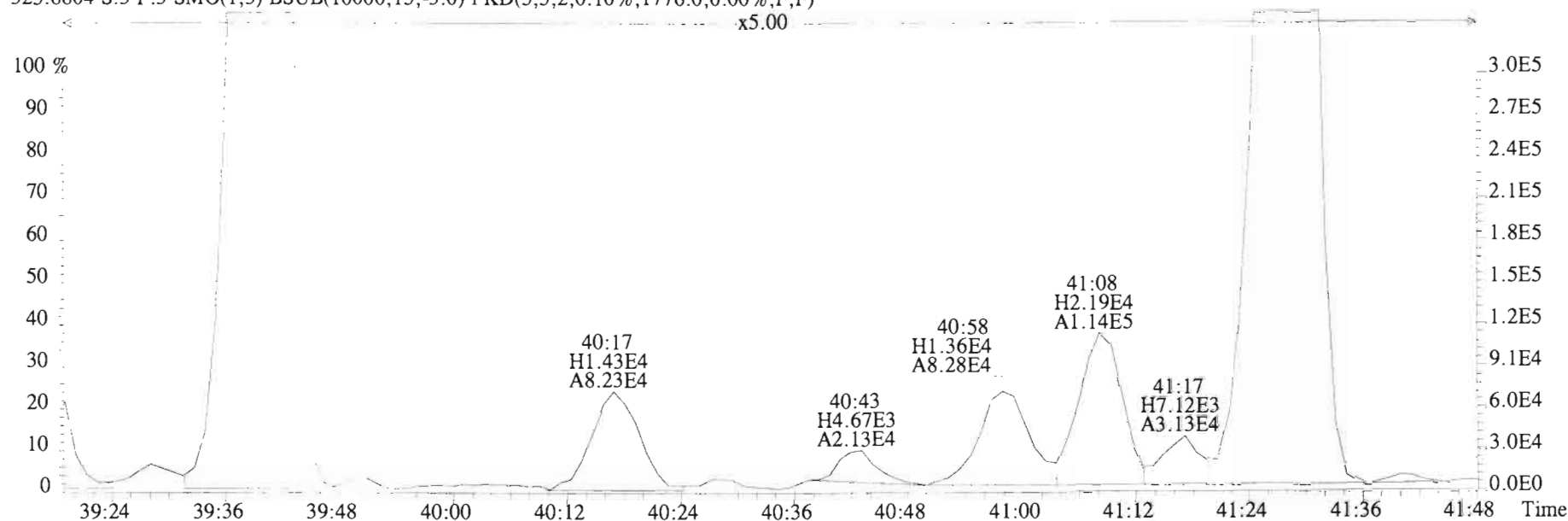
327.8775 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1756.0,0.00%,F,F)



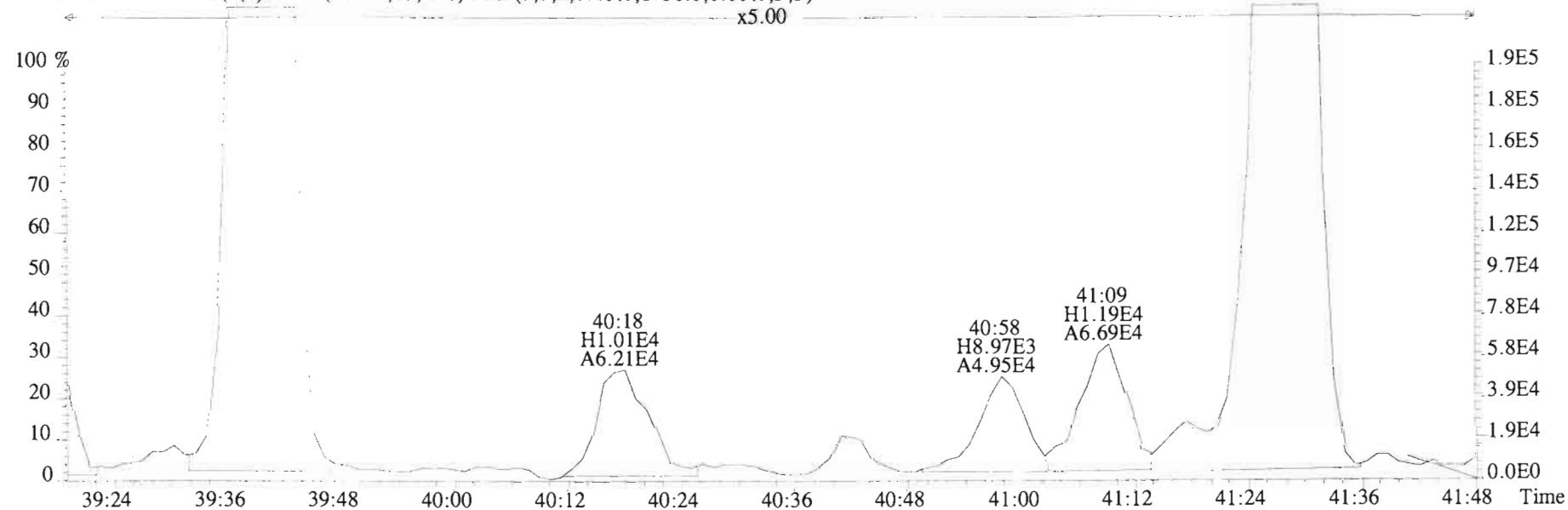
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
325.8804 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1776.0,0.00%,F,F)



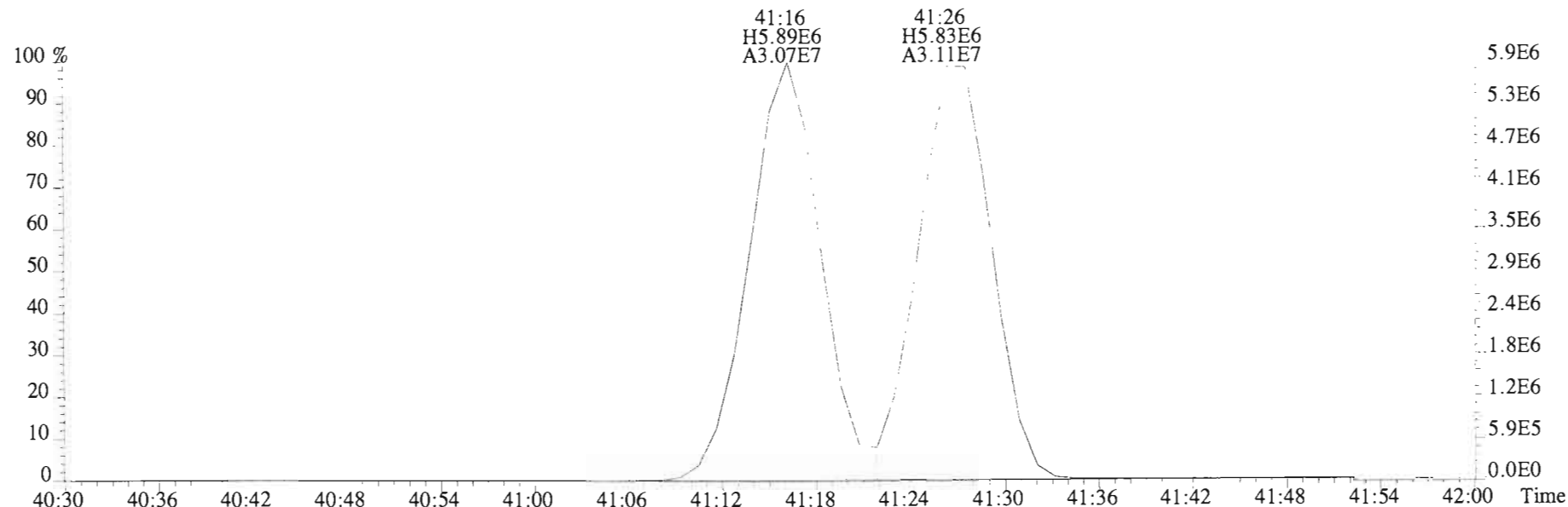
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
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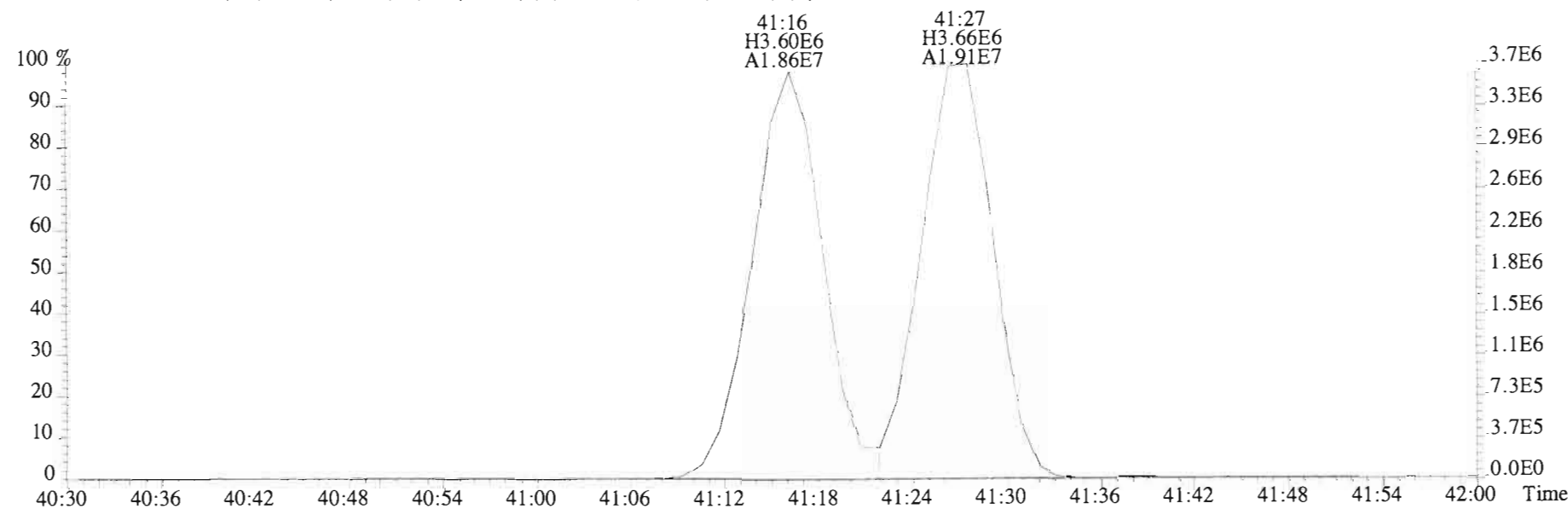
327.8775 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1756.0,0.00%,F,F)



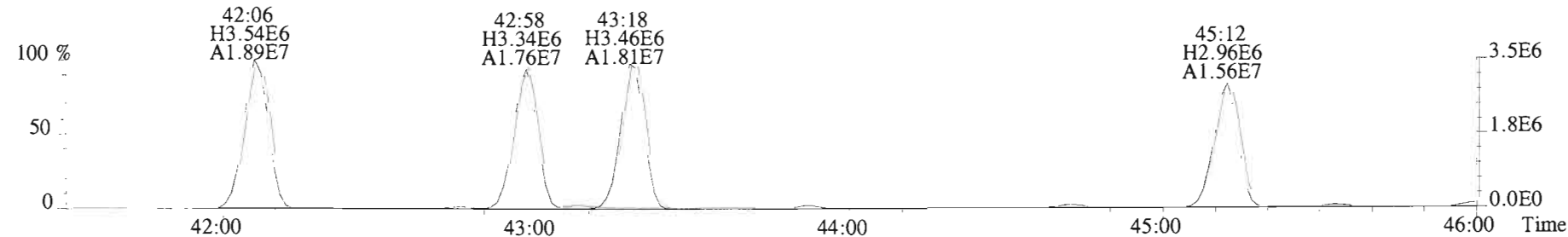
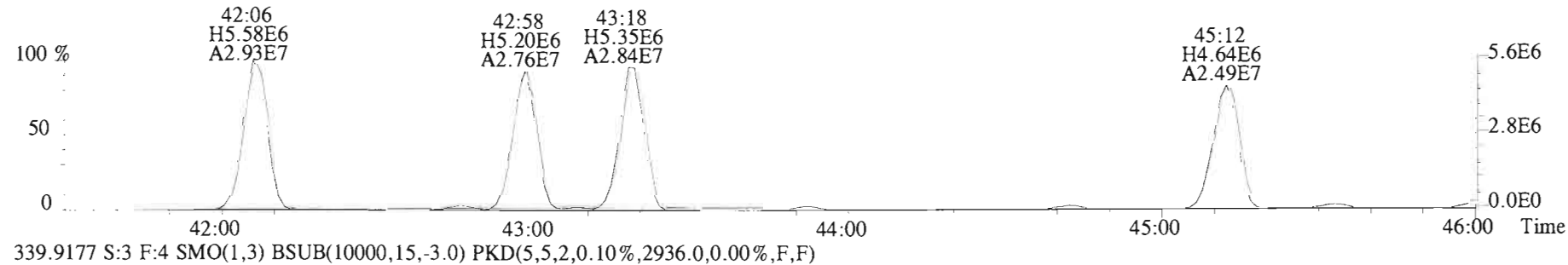
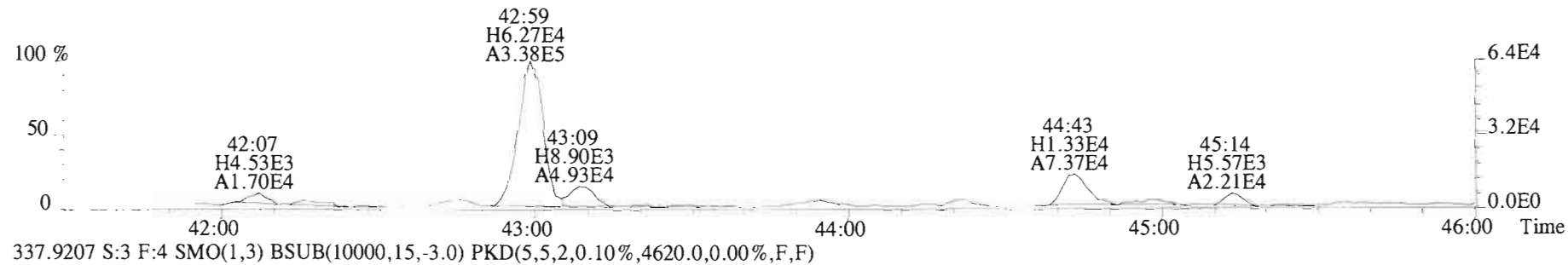
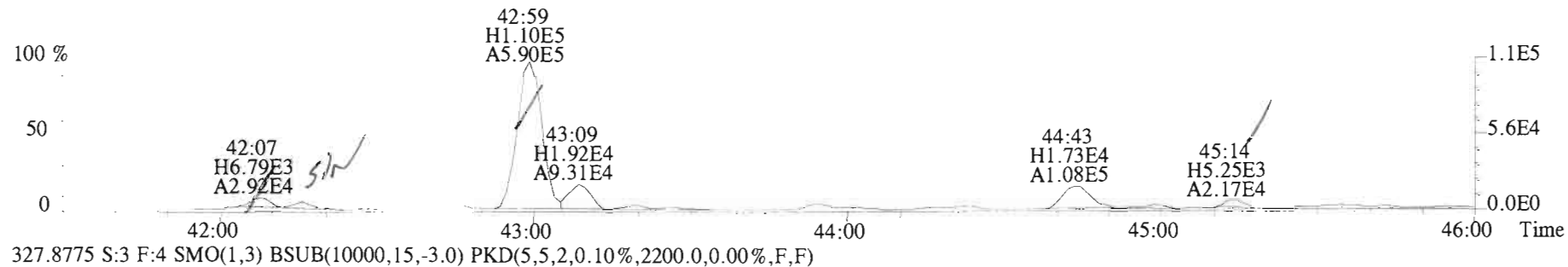
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
337.9207 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2216.0,0.00%,F,F)



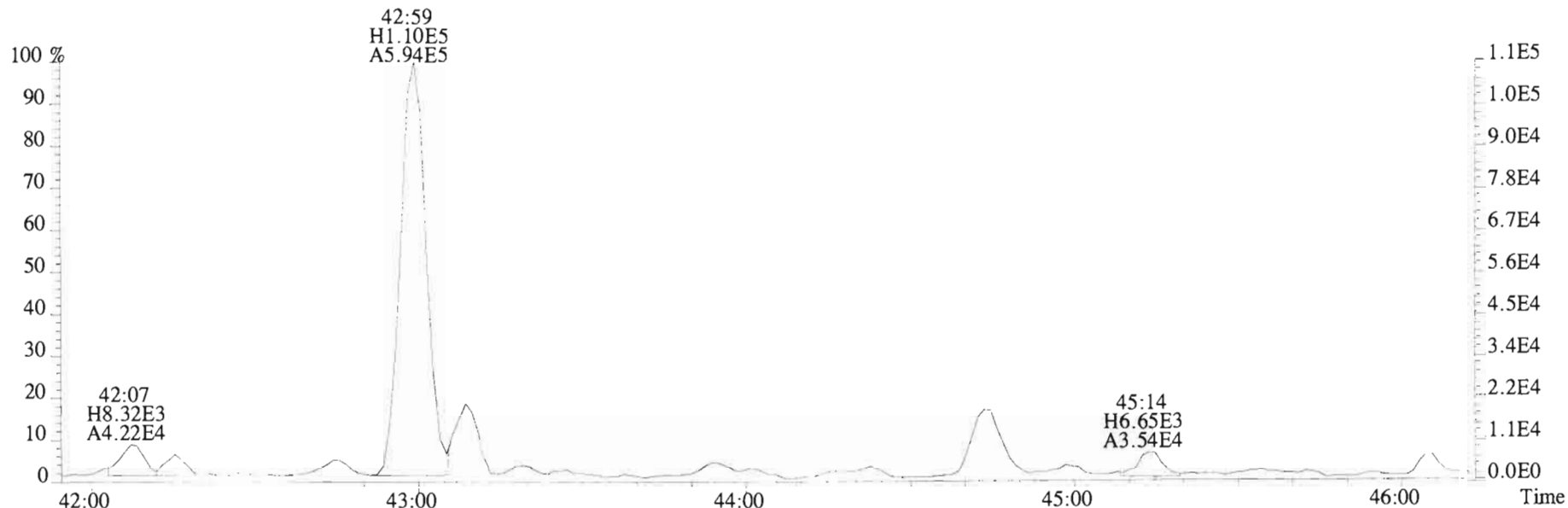
339.9177 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2312.0,0.00%,F,F)



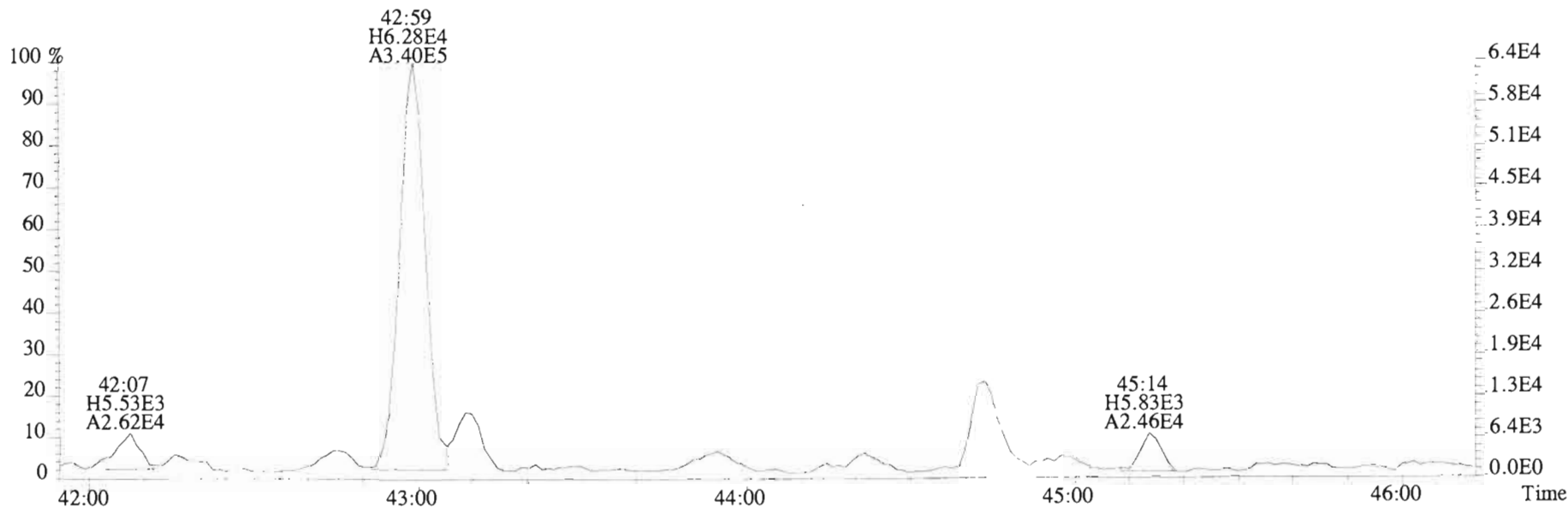
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
325.8804 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2684.0,0.00%,F,F)



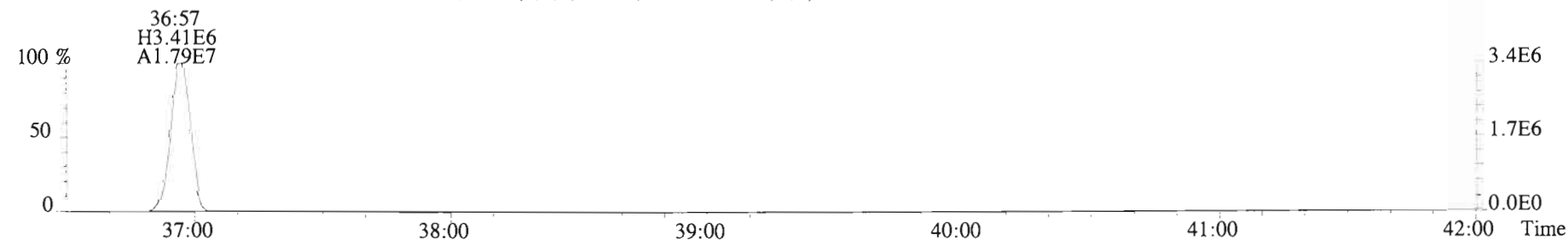
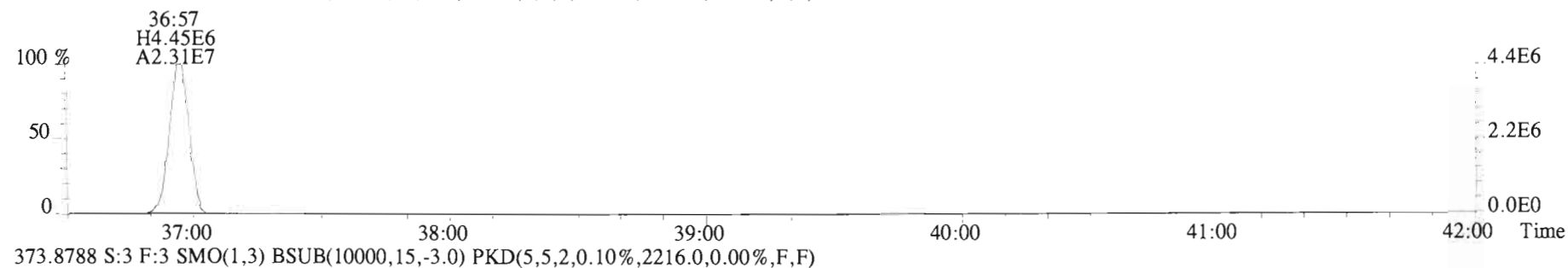
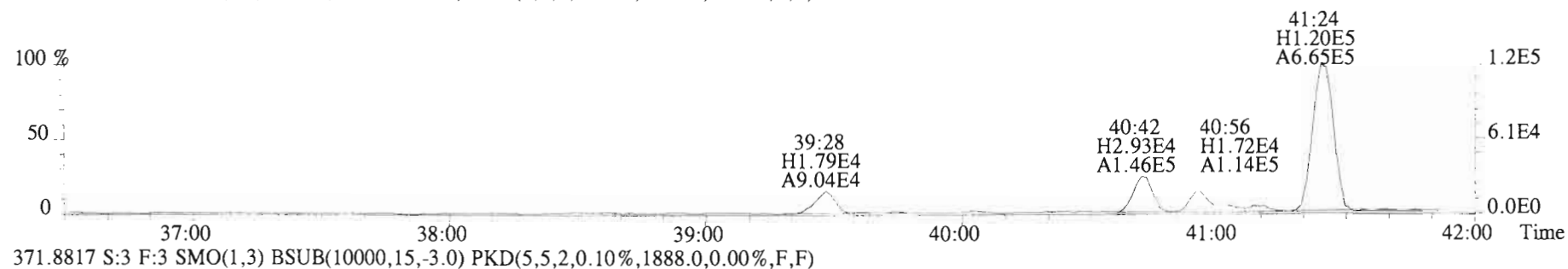
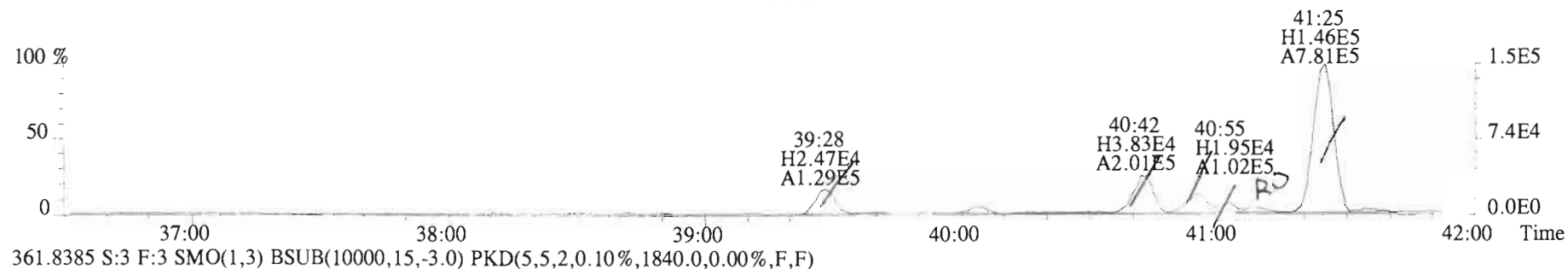
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
325.8804 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2684.0,0.00%,F,F)



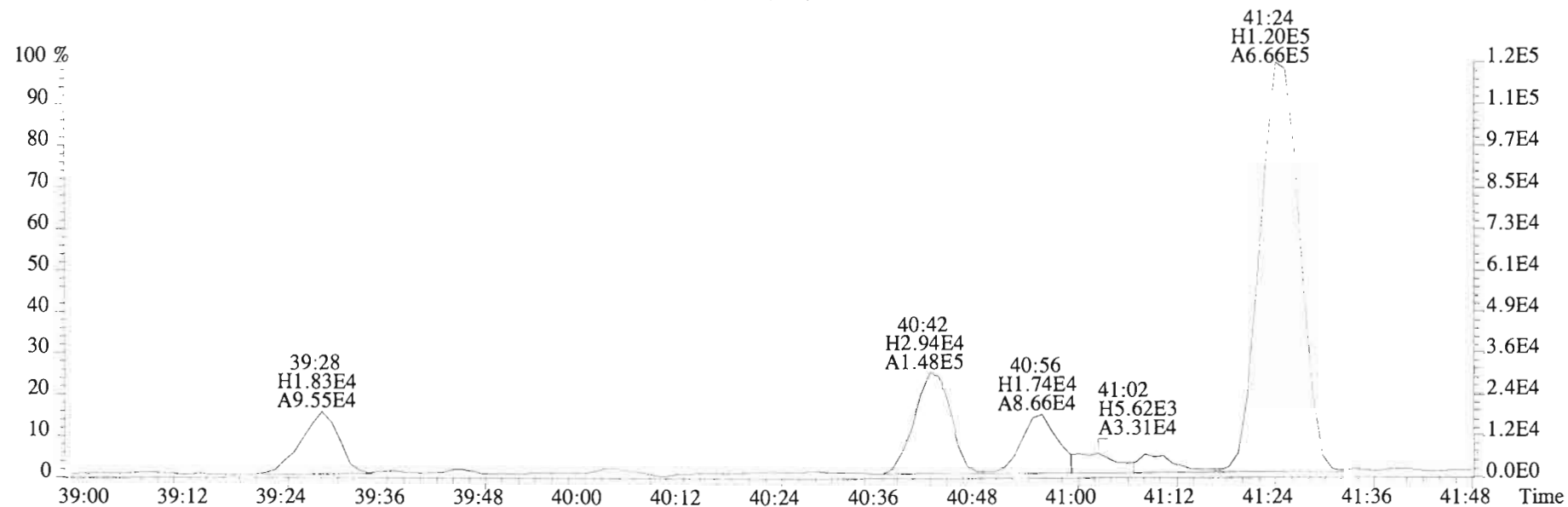
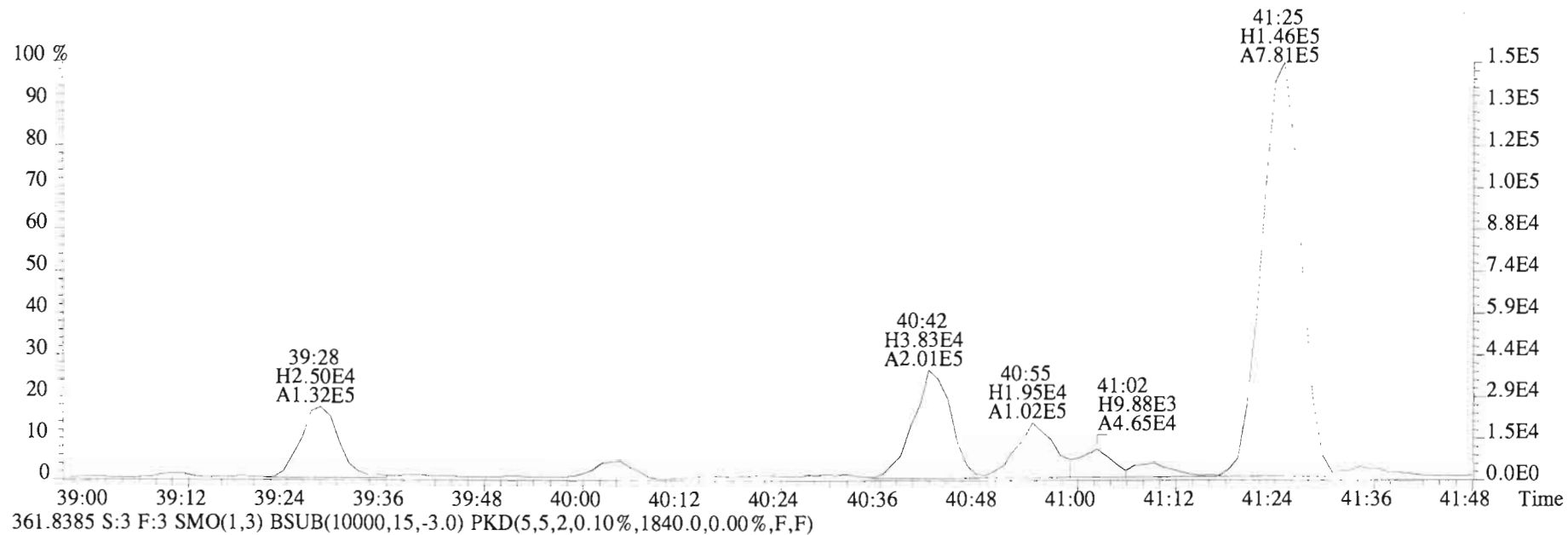
327.8775 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2200.0,0.00%,F,F)



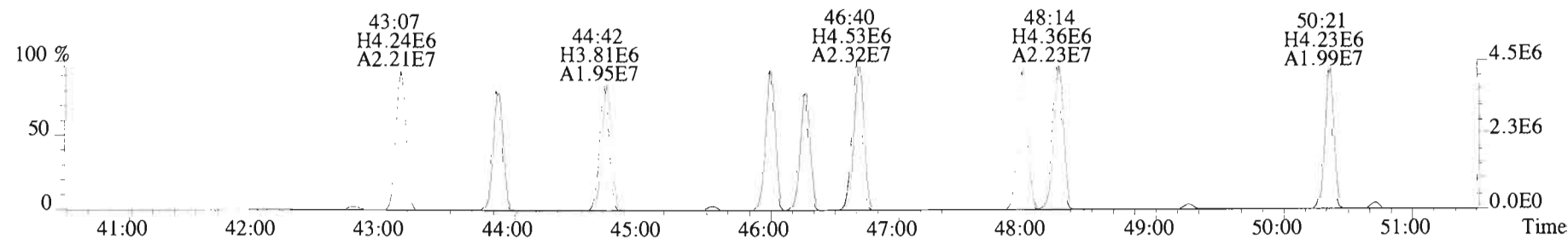
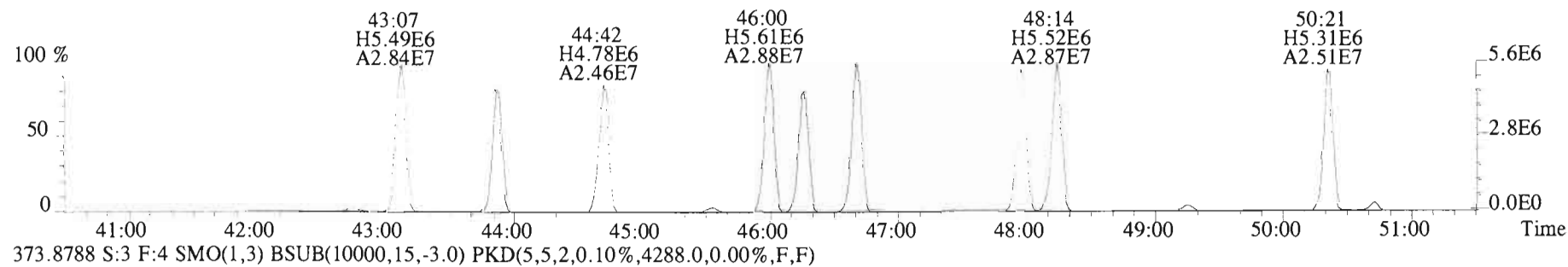
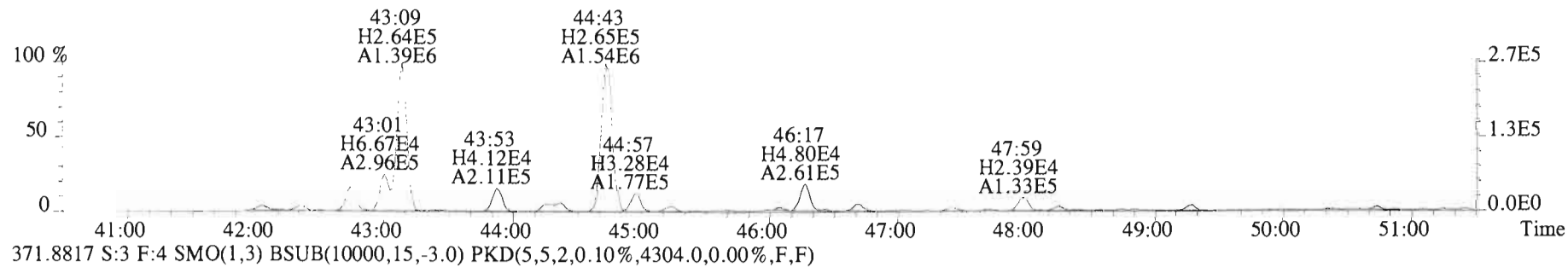
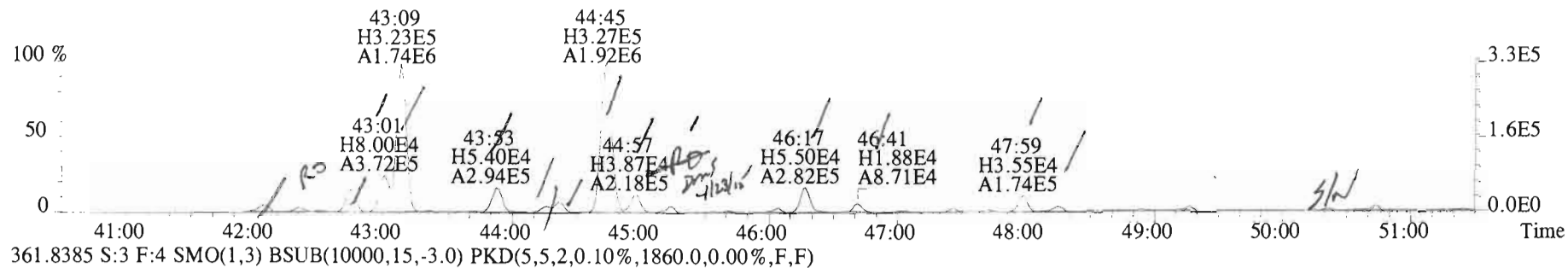
File:150422E1 #1-758 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
359.8415 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1784.0,0.00%,F,F)



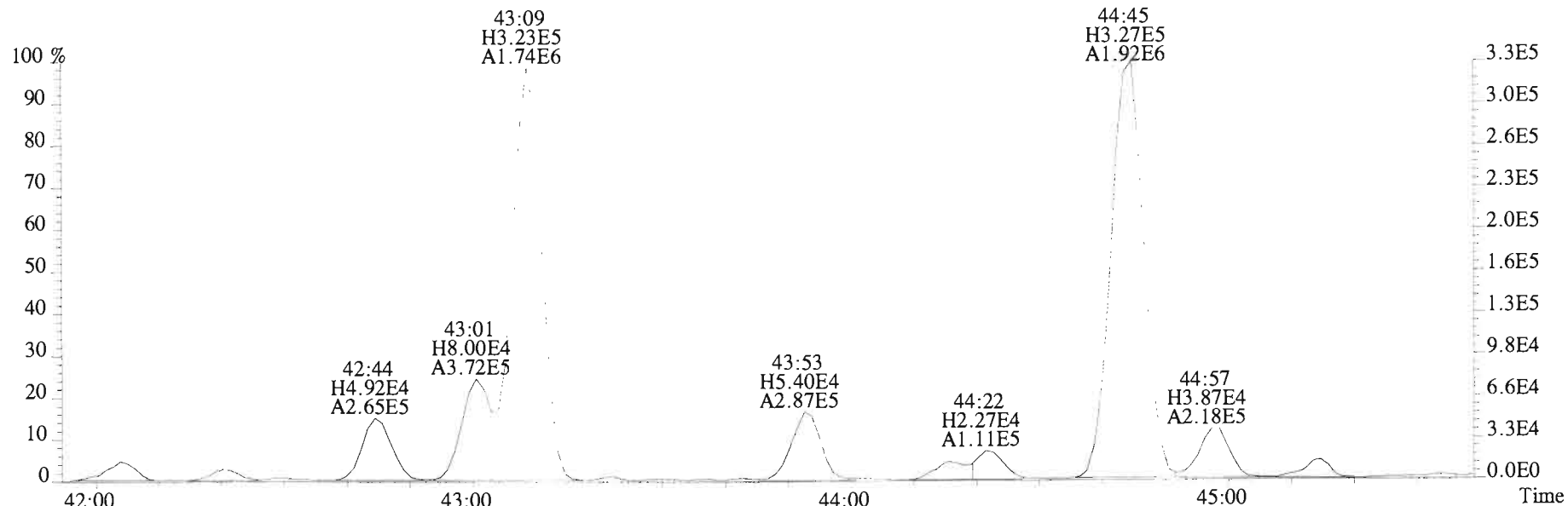
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
359.8415 S:3 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1784.0,0.00%,F,F)



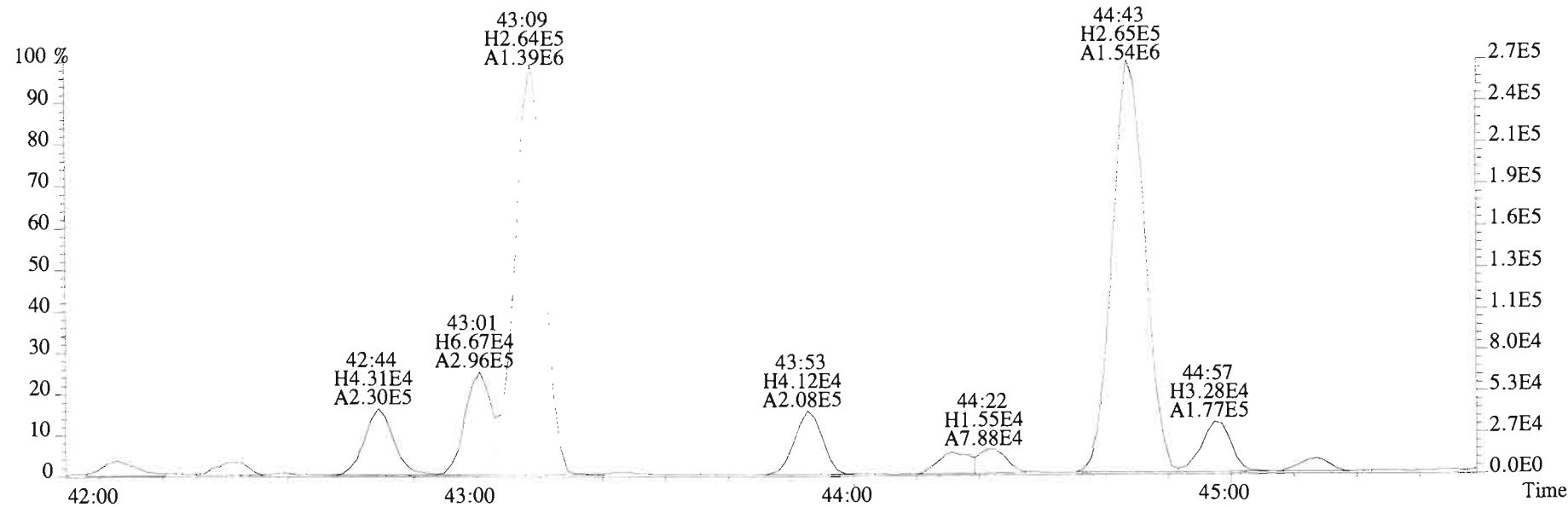
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 359.8415 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1788.0,0.00%,F,F)



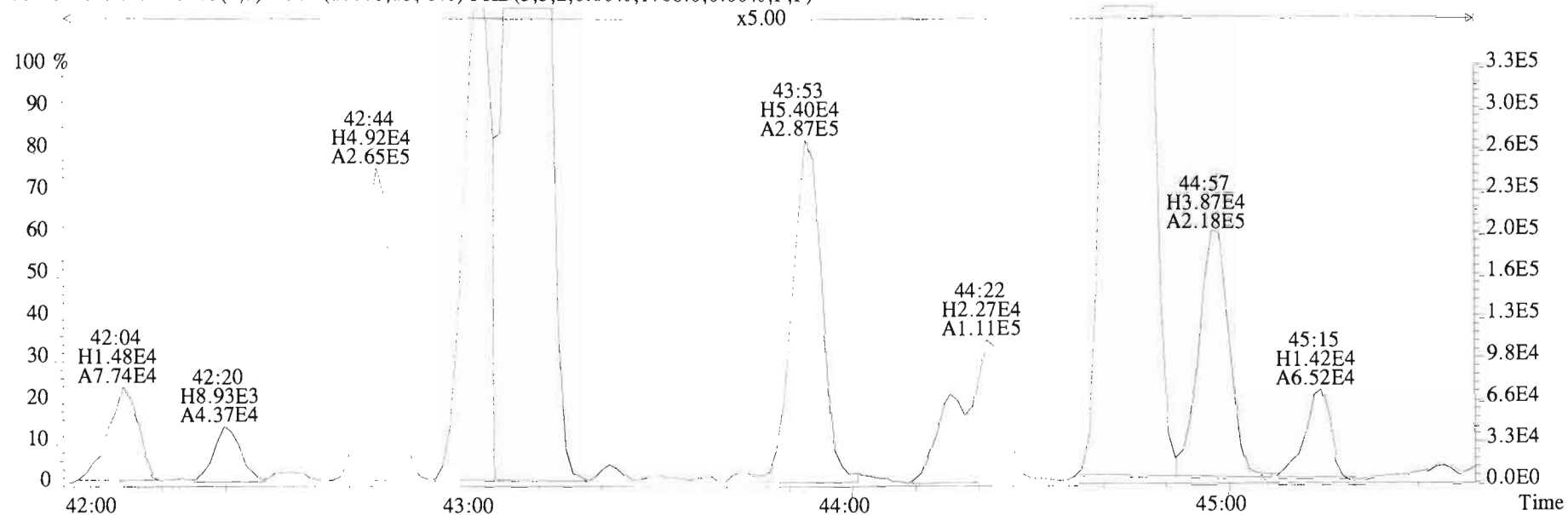
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 359.8415 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1788.0,0.00%,F,F)



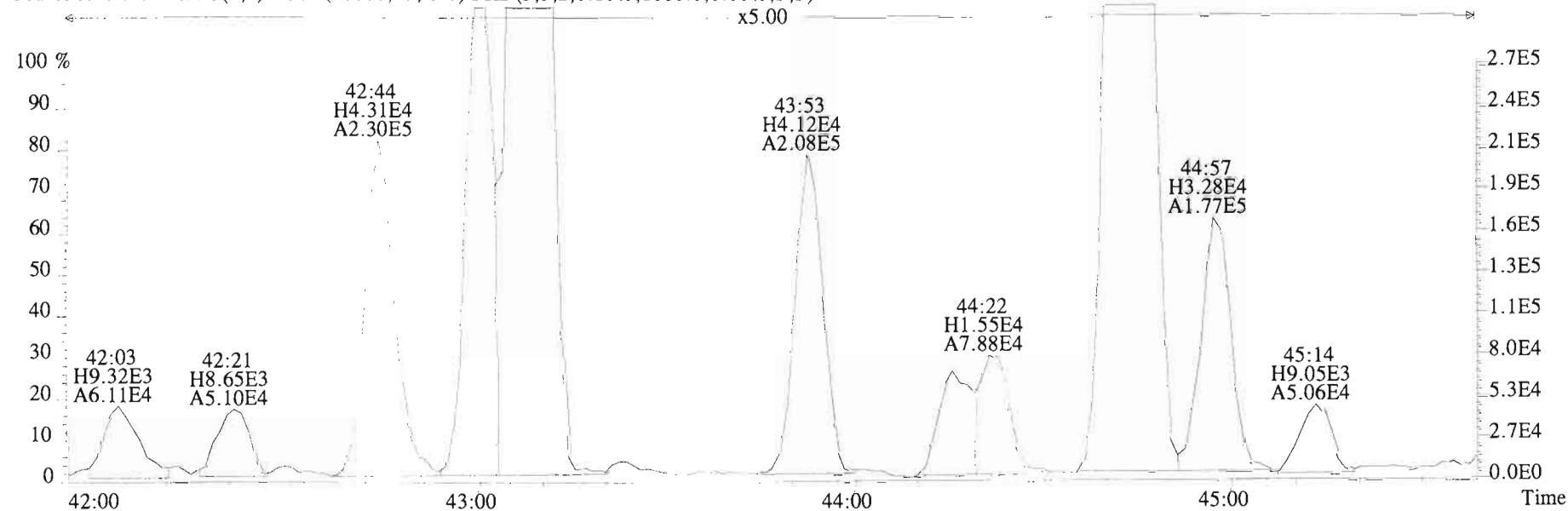
361.8385 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1860.0,0.00%,F,F)



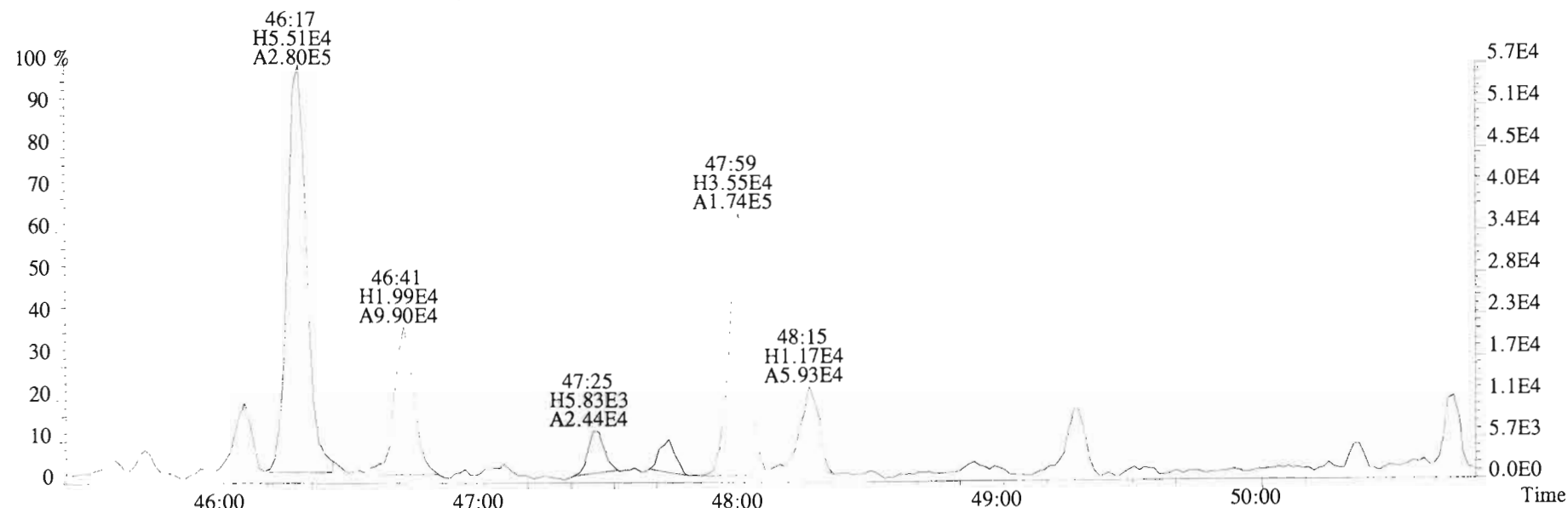
File:150422E1 #1-555 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
359.8415 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1788.0,0.00%,F,F)



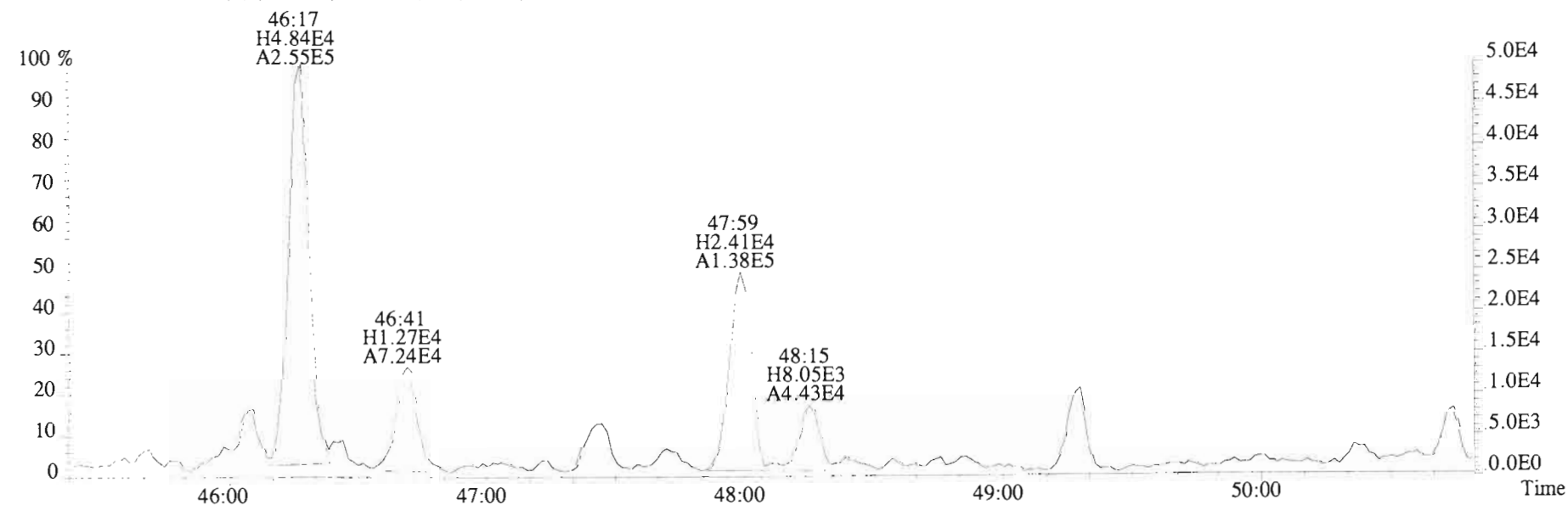
361.8385 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1860.0,0.00%,F,F)



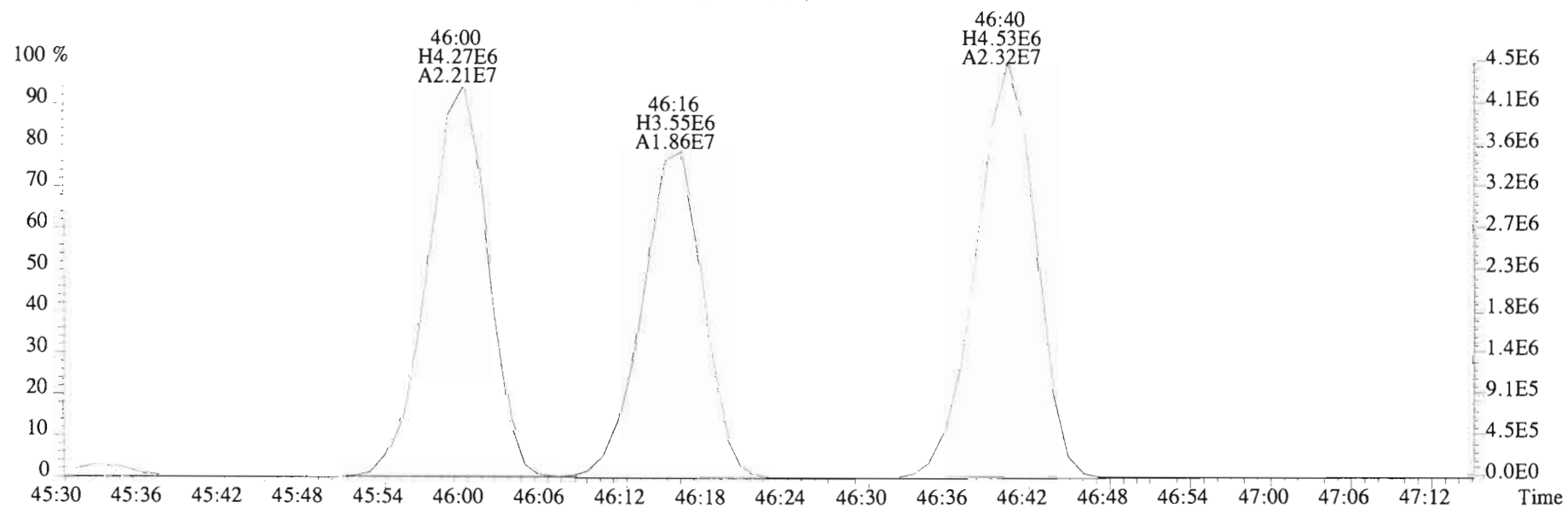
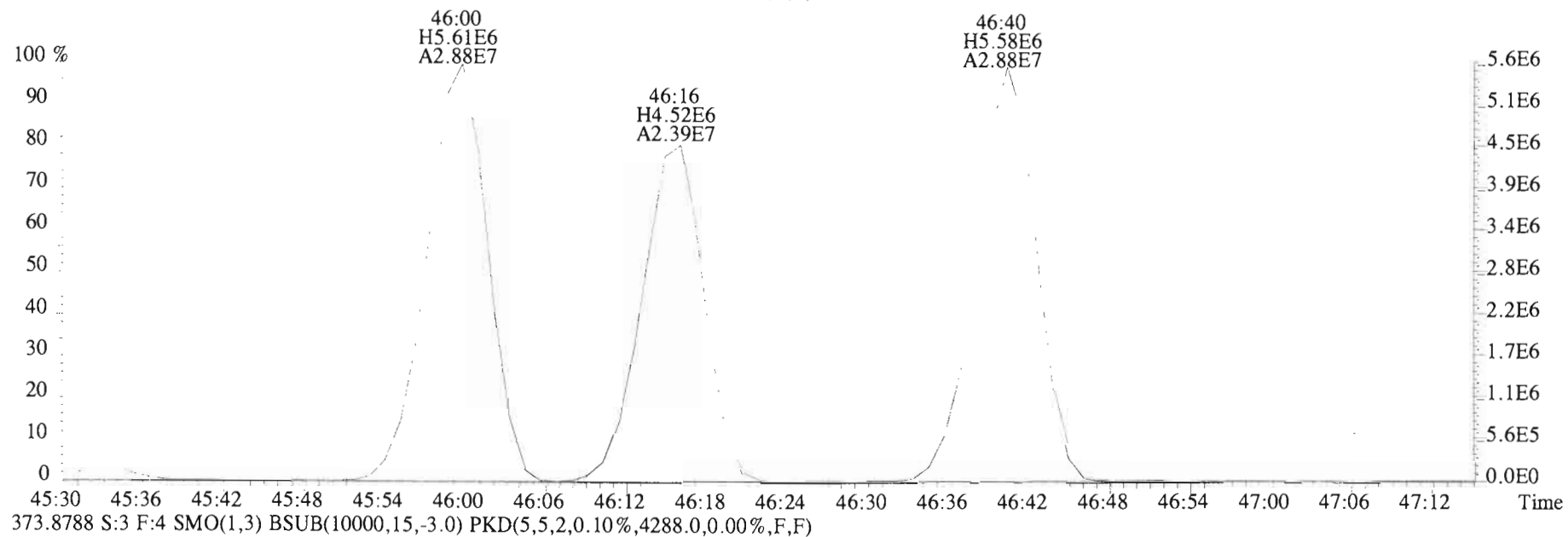
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
359.8415 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1788.0,0.00%,F,F)



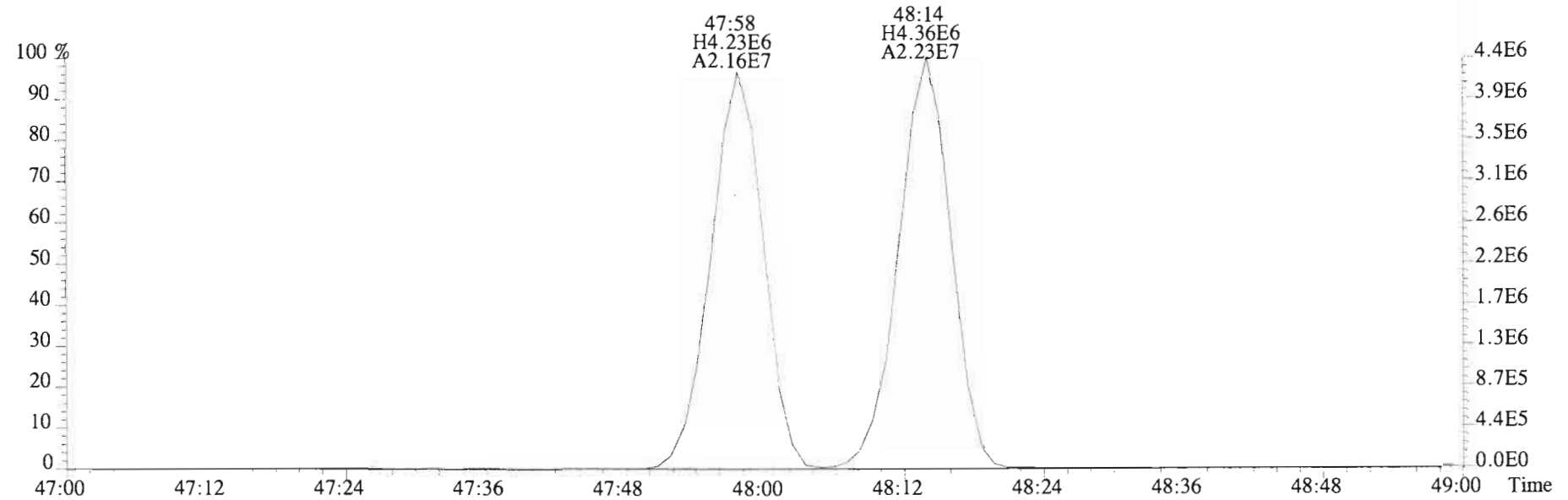
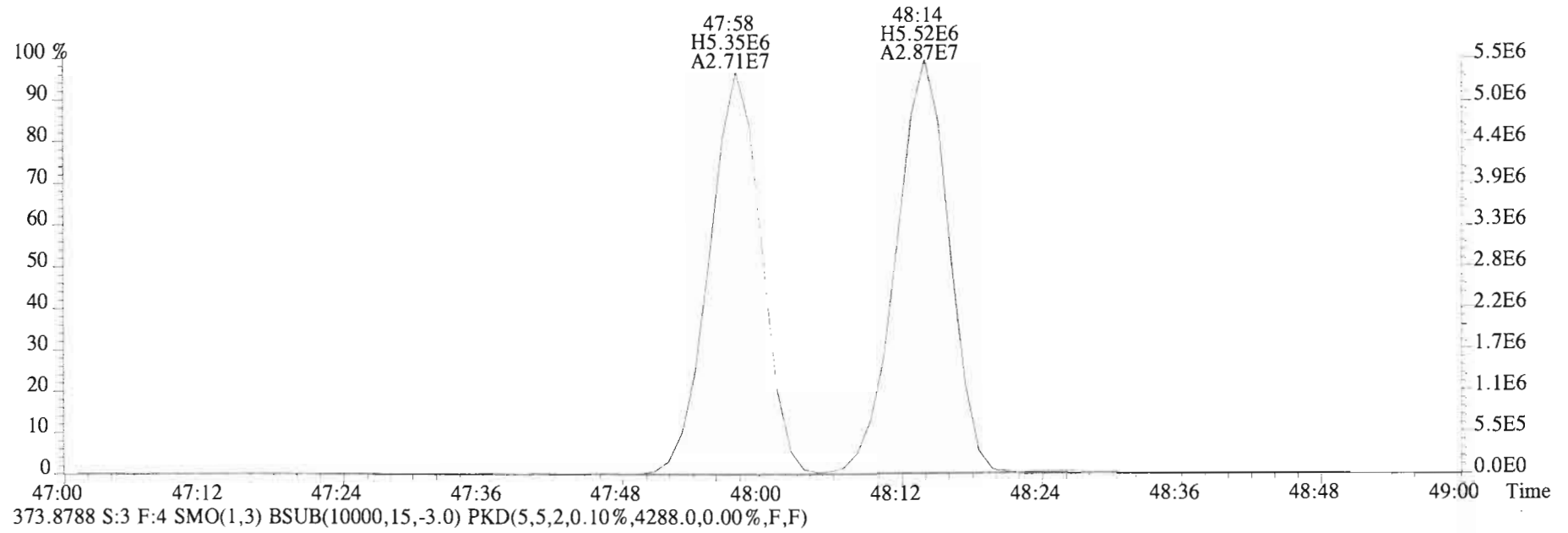
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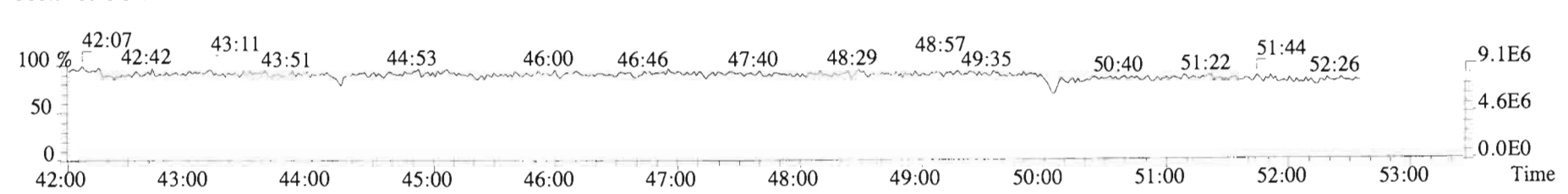
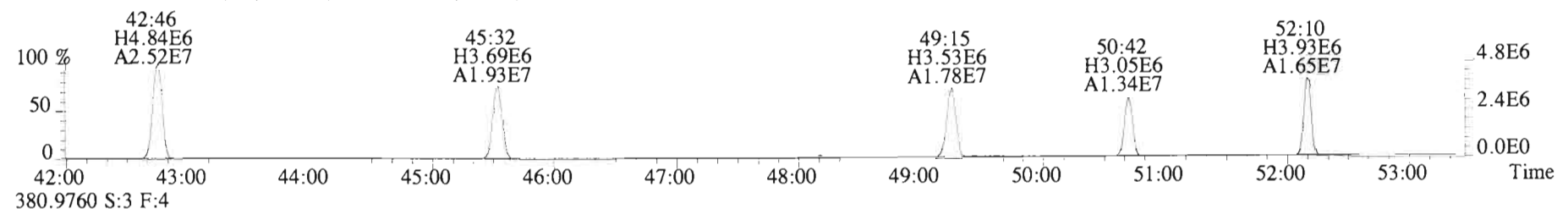
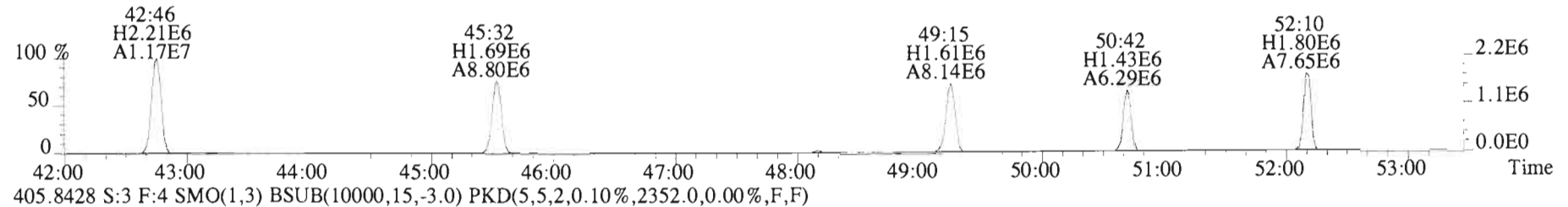
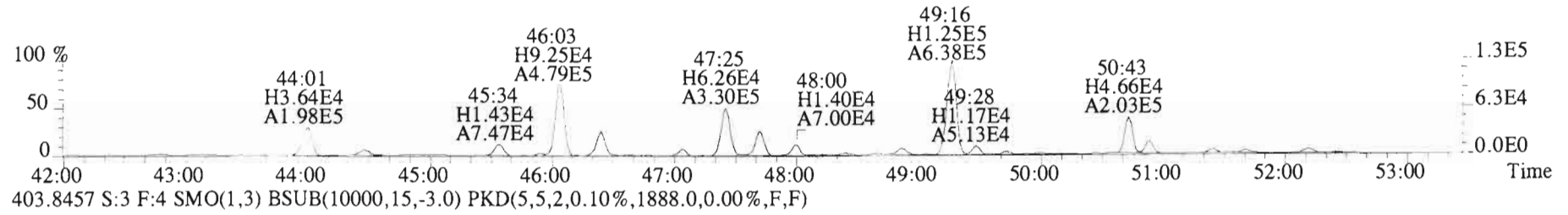
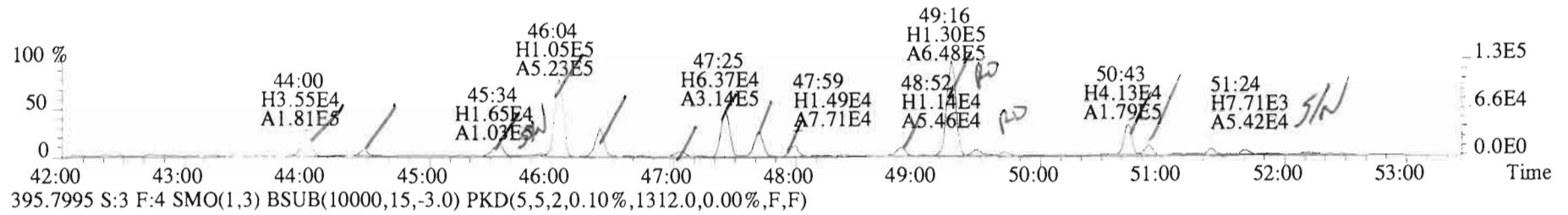
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
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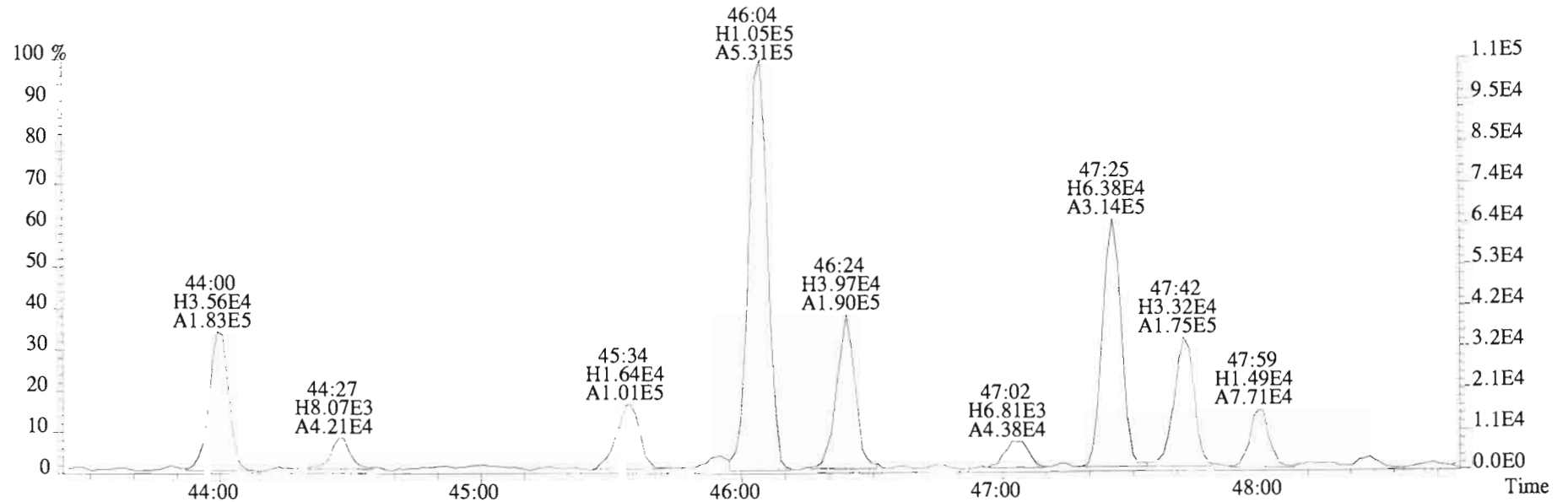
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Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
371.8817 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4304.0,0.00%,F,F)



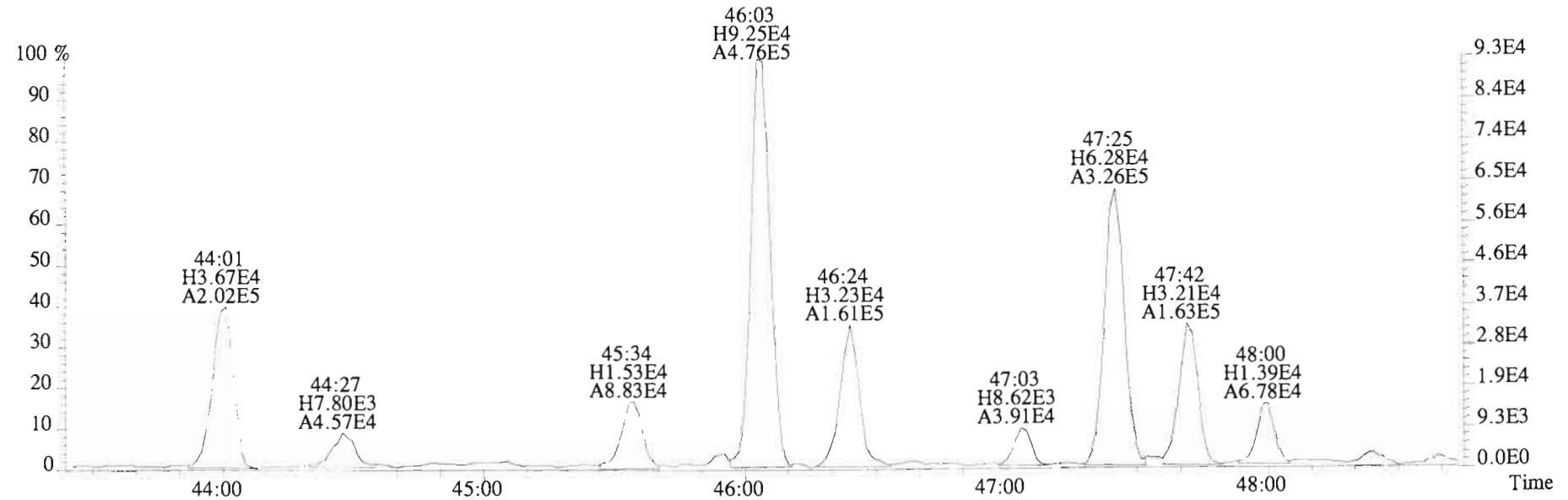
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 Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
 393.8025 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1692.0,0.00%,F,F)



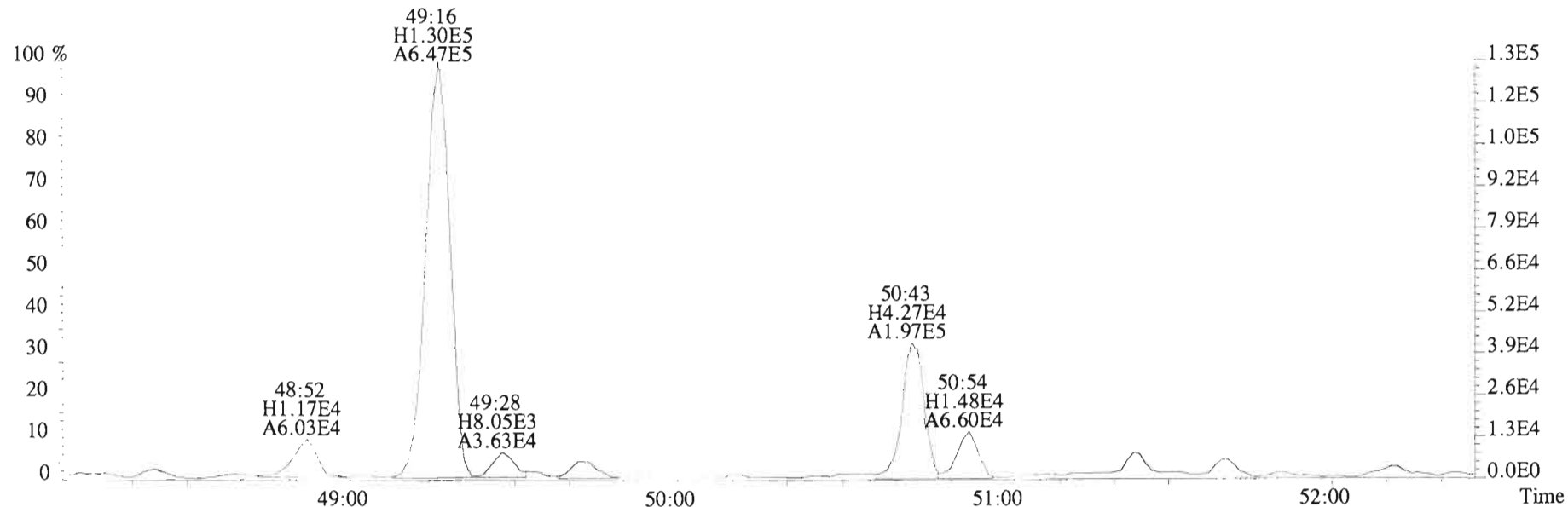
File:150422E1 #1-555 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
 393.8025 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1692.0,0.00%,F,F)



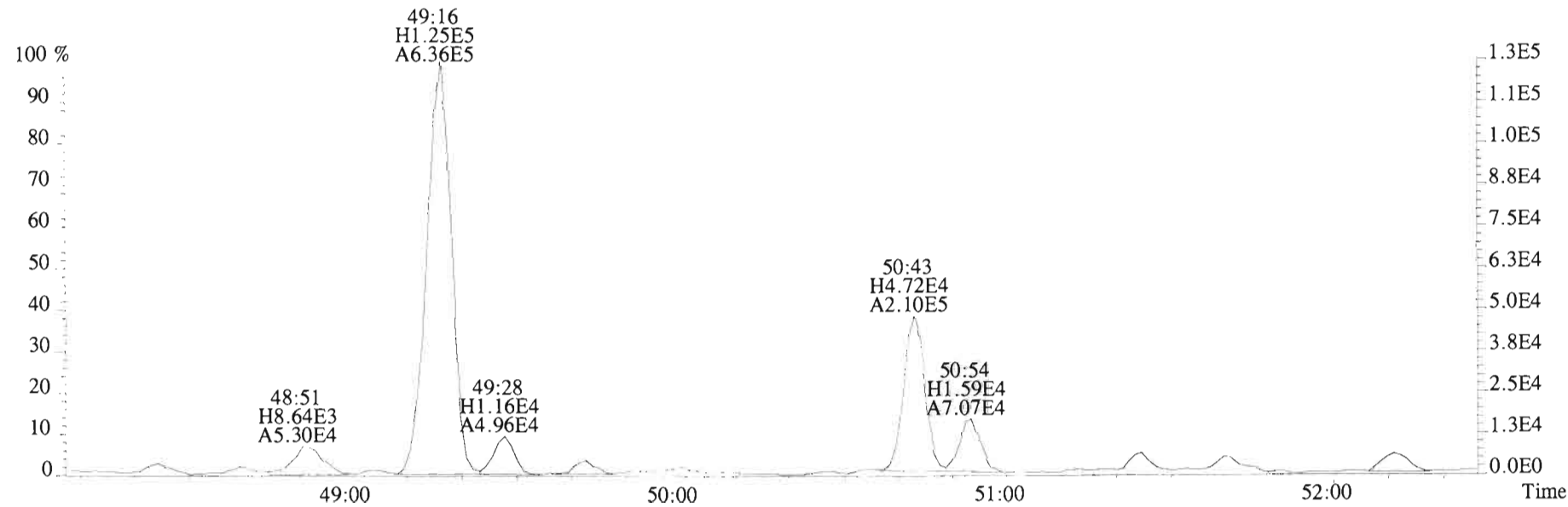
395.7995 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1312.0,0.00%,F,F)



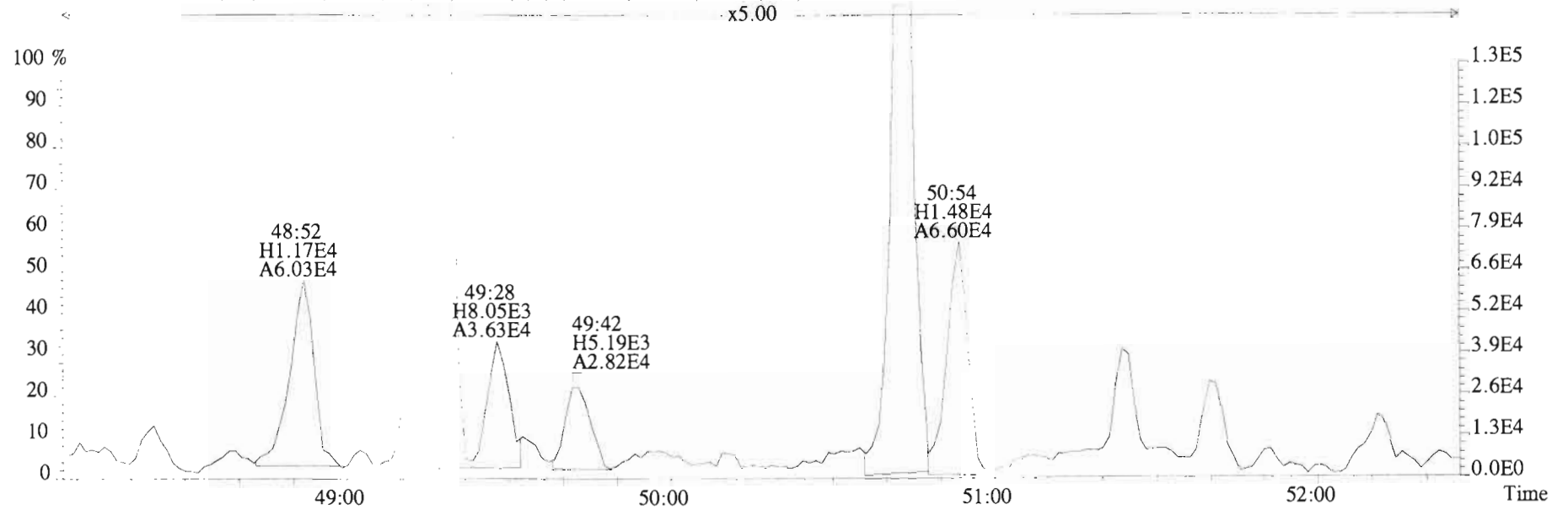
File:150422E1 #1-555 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
393.8025 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1692.0,0.00%,F,F)



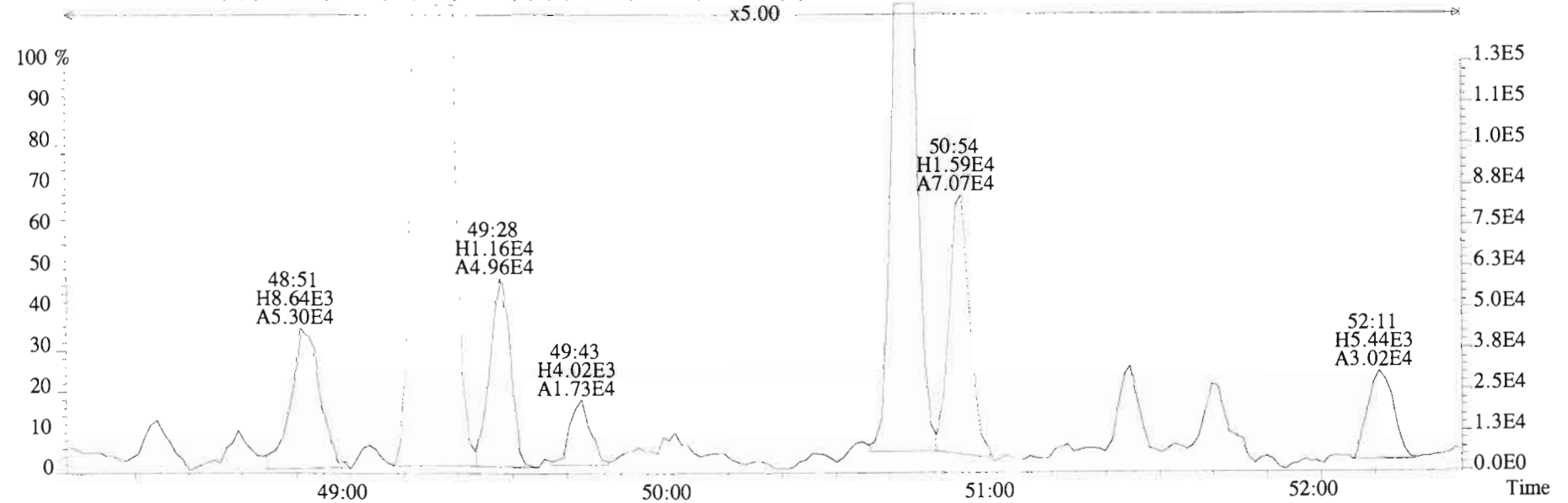
395.7995 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1312.0,0.00%,F,F)



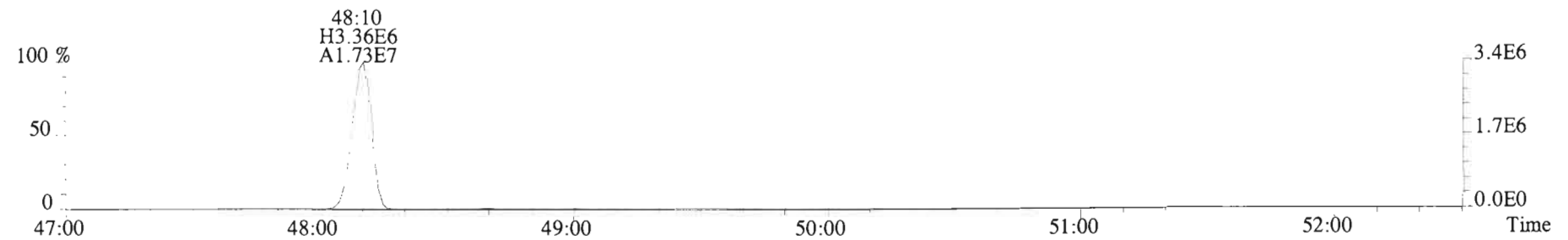
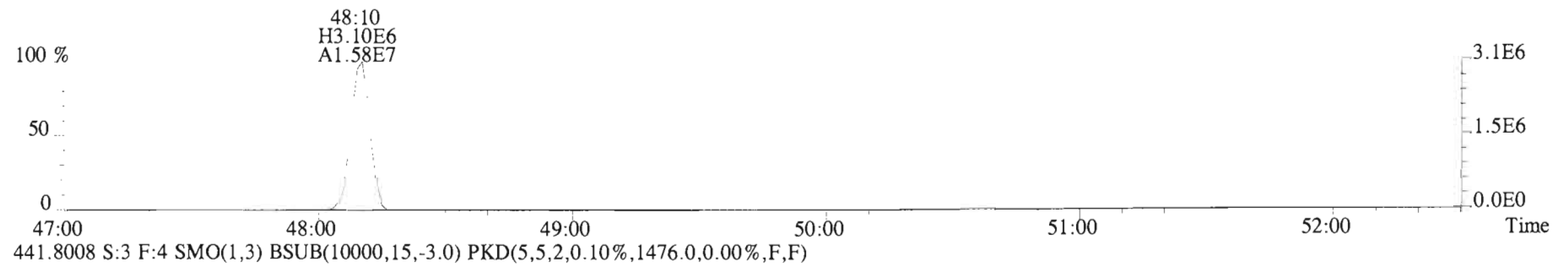
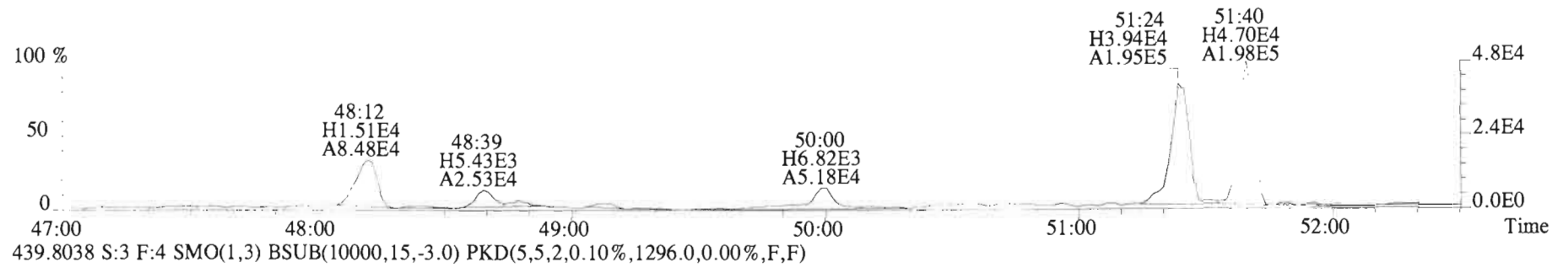
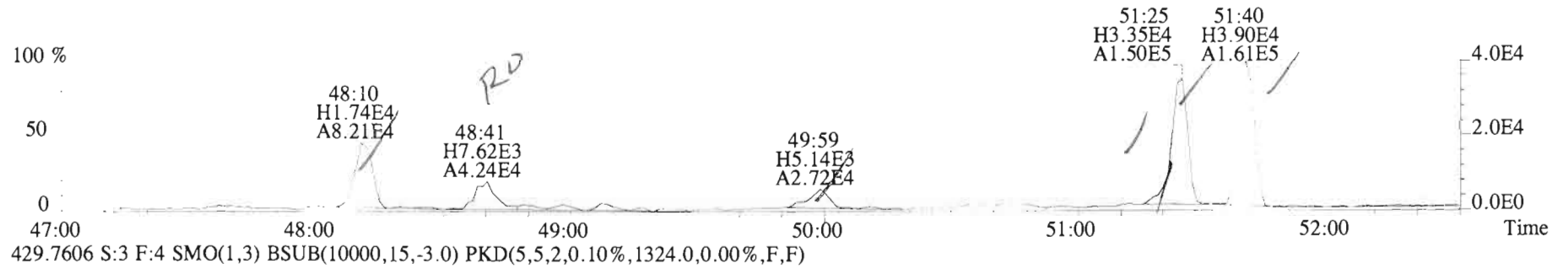
File:150422E1 #1-555 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
393.8025 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1692.0,0.00%,F,F)



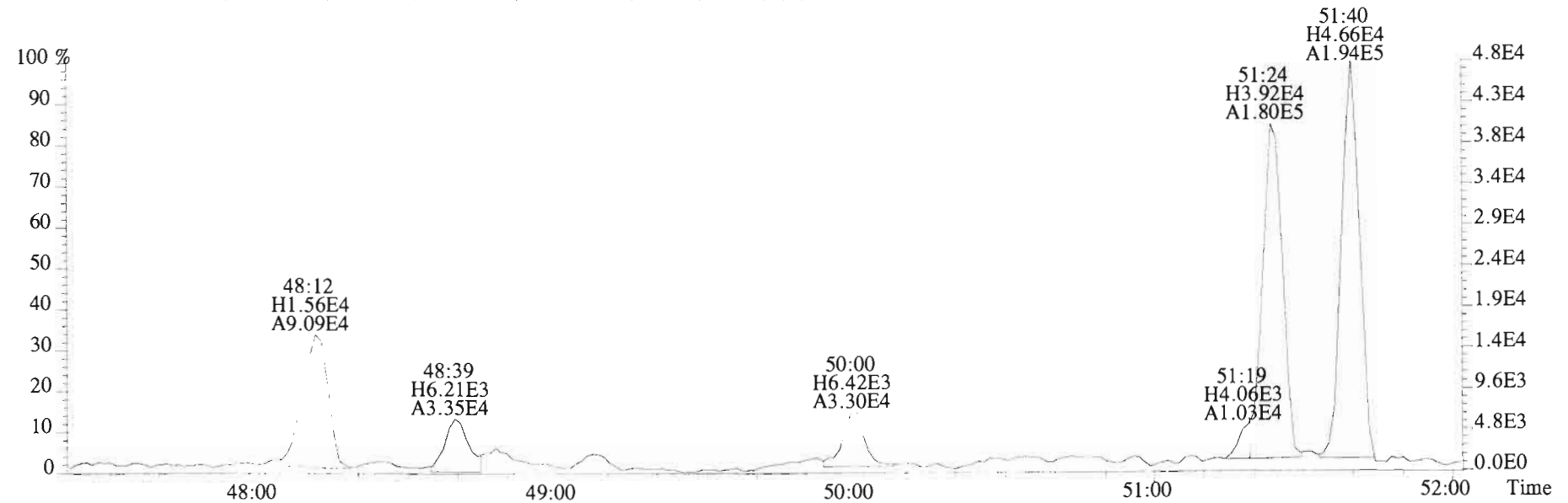
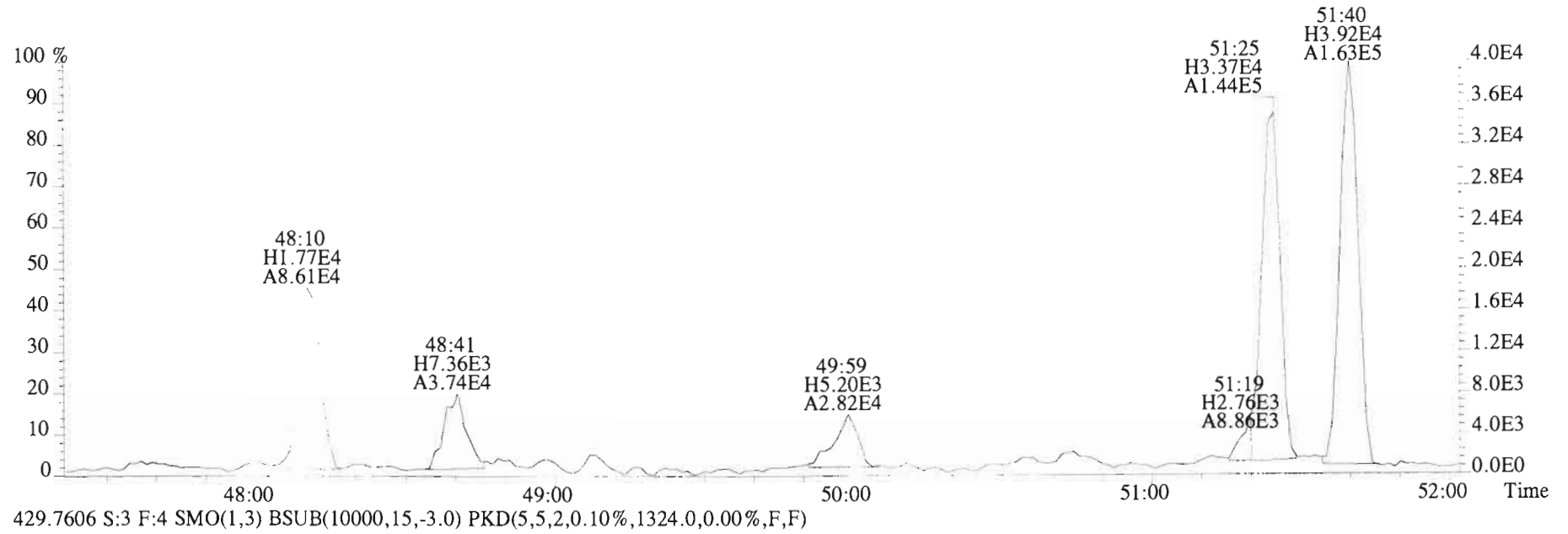
395.7995 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1312.0,0.00%,F,F)



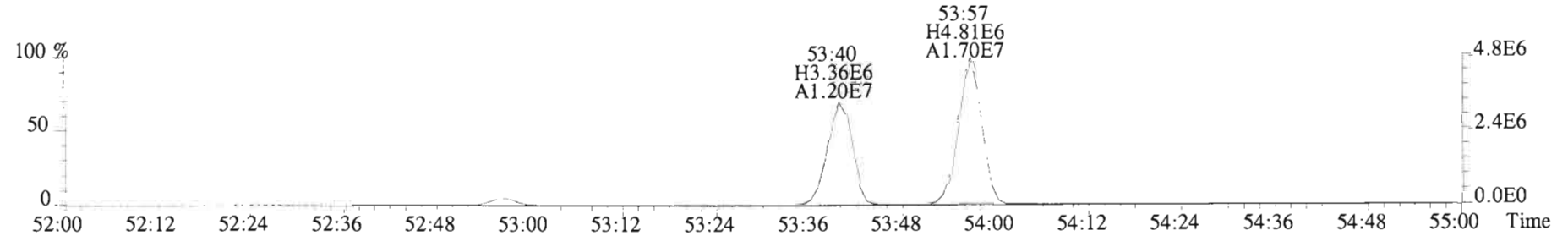
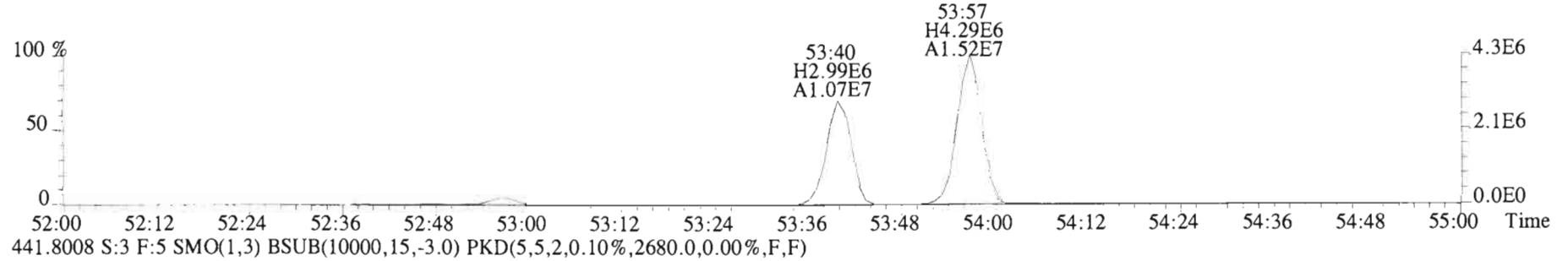
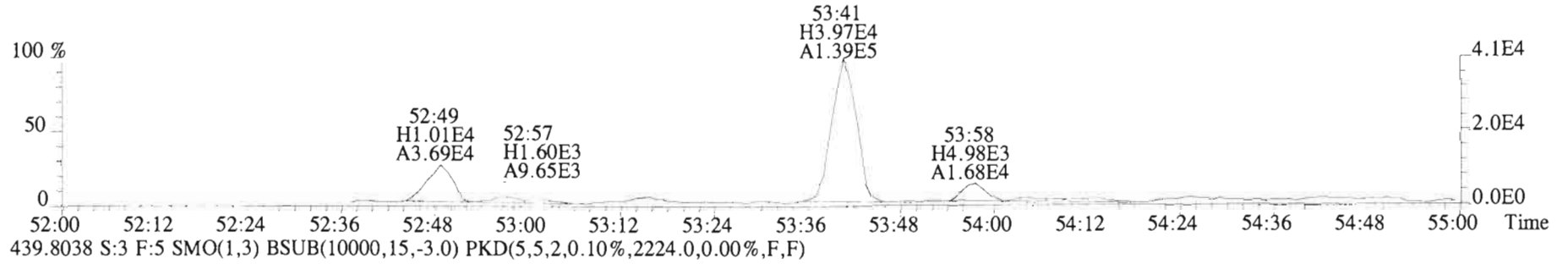
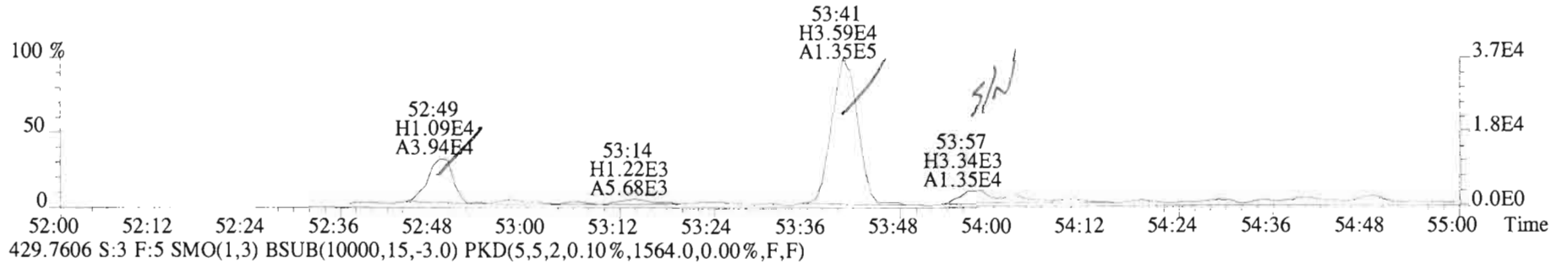
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Sample#3 File Text: Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
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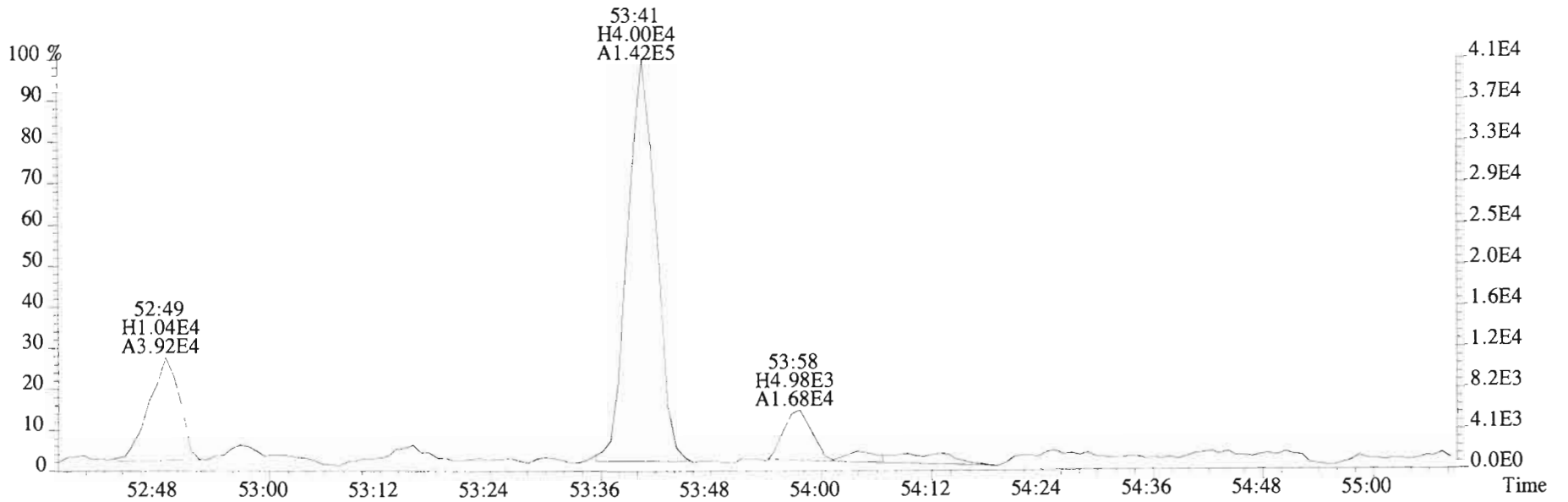
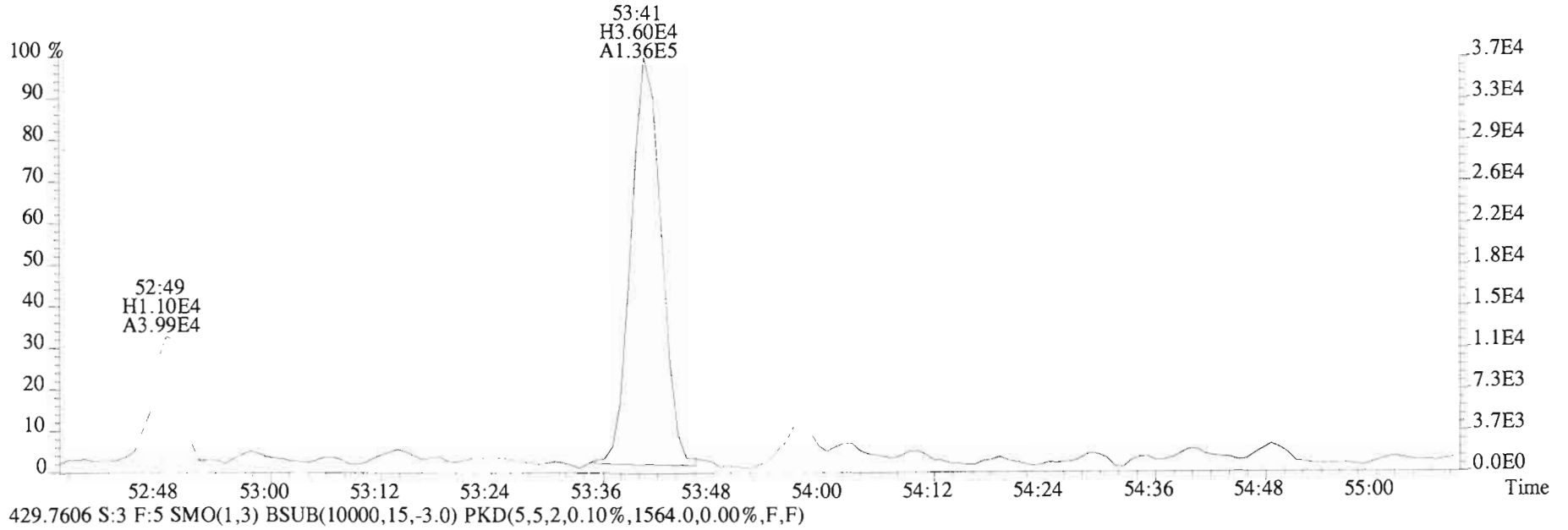
File:150422E1 #1-555 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
 427.7635 S:3 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1144.0,0.00%,F,F)



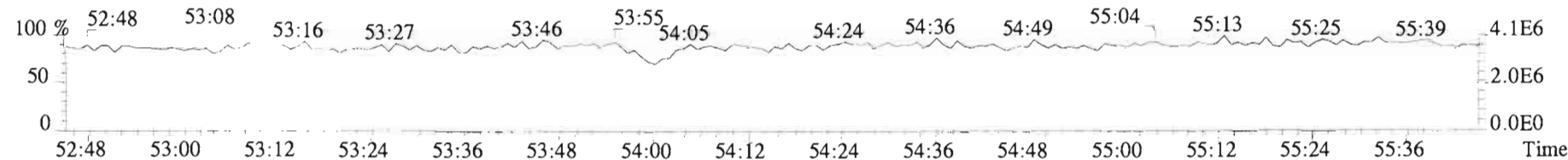
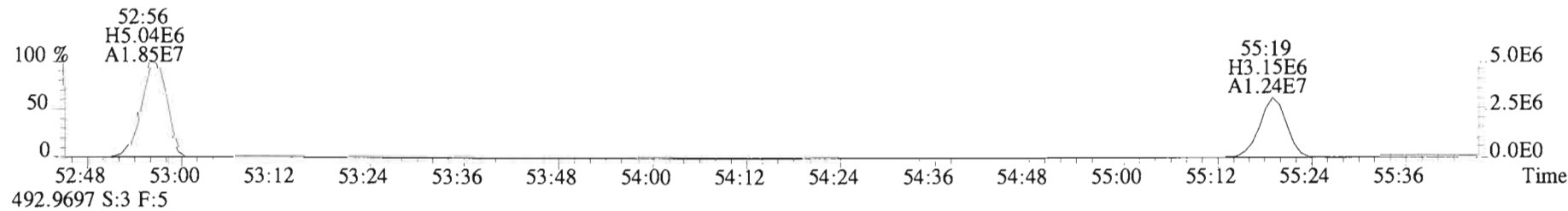
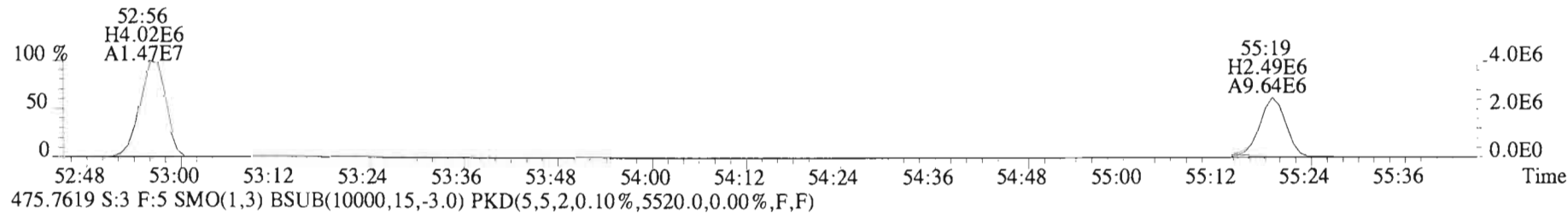
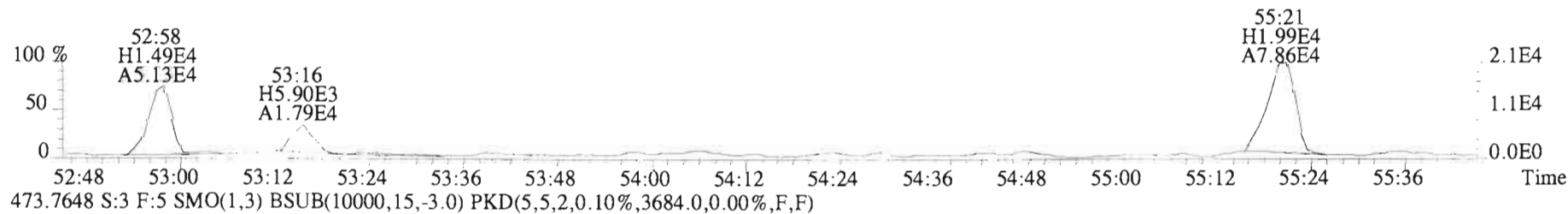
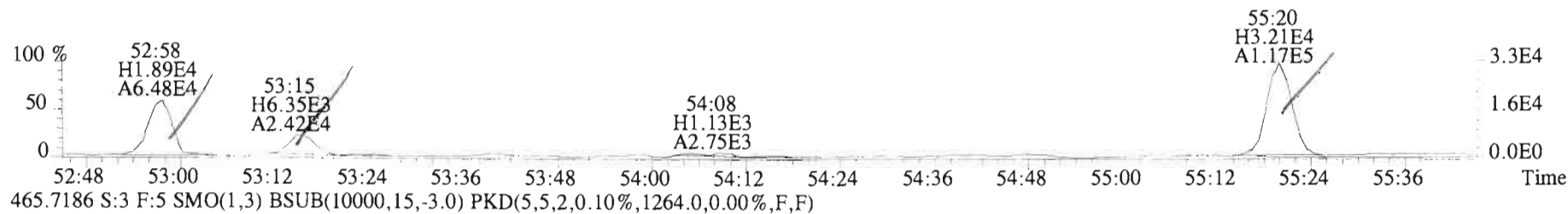
File:150422E1 #1-430 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
427.7635 S:3 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1348.0,0.00%,F,F)



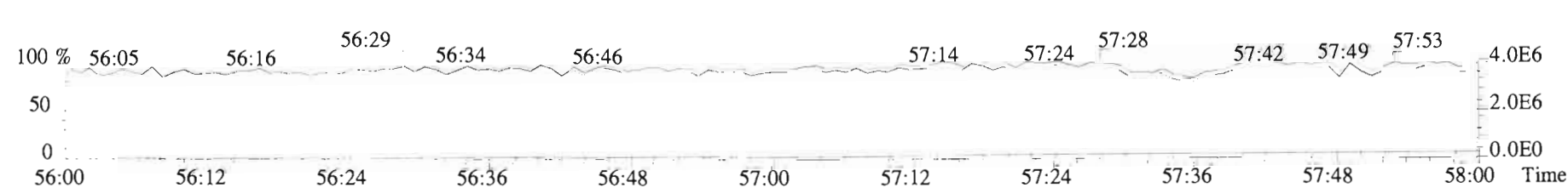
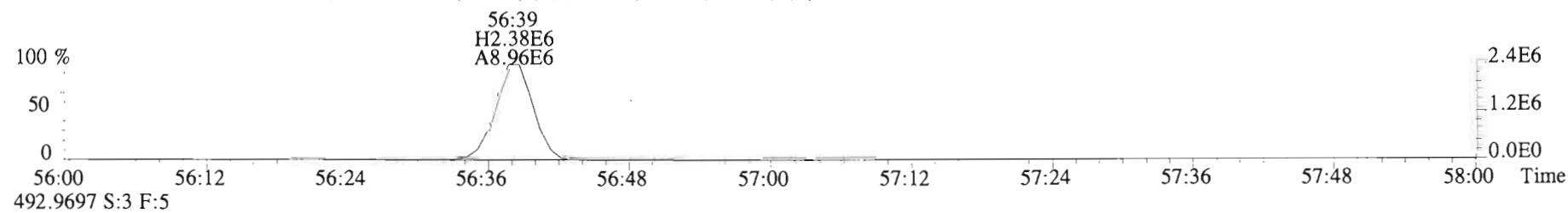
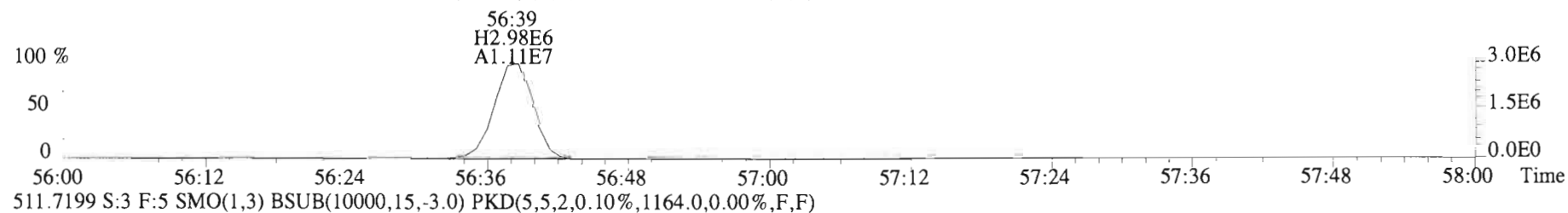
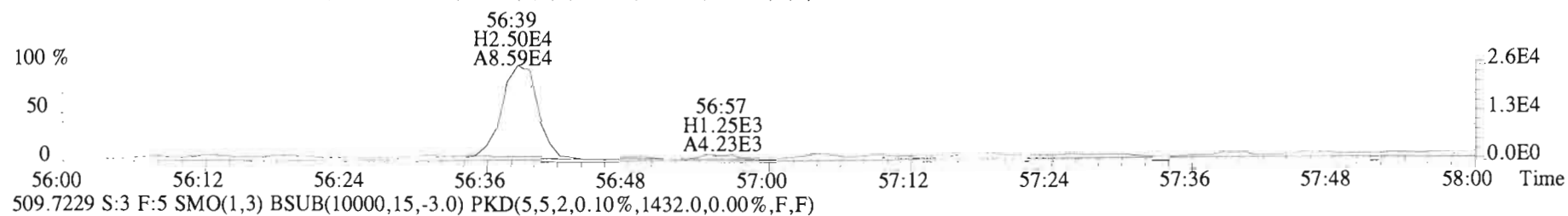
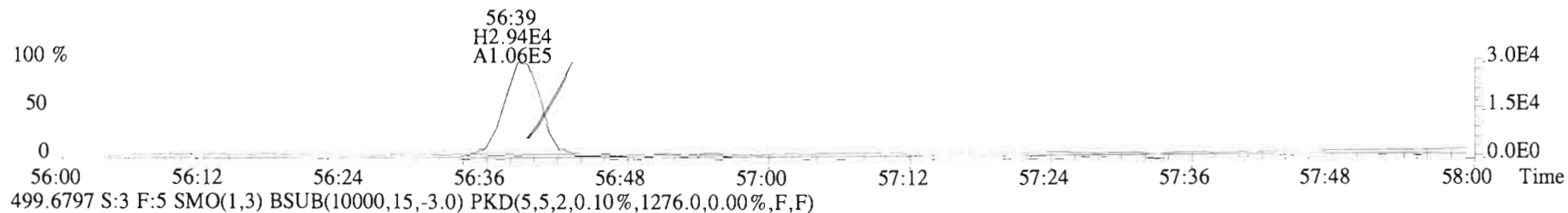
File:150422E1 #1-430 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
427.7635 S:3 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1348.0,0.00%,F,F)



File:150422E1 #1-430 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
463.7216 S:3 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1156.0,0.00%,F,F)



File:150422E1 #1-430 Acq:22-APR-2015 12:05:54 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG-8 Text:1500335-01 HC-SF-20150413-W 1 Exp:PCB_ZB1
497.6826 S:3 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1200.0,0.00%,F,F)



Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Mono	PCB-1	*	*	n NotF η	1.33	*		2430	2.5	1.22	*	0.997-1.007	
Mono	PCB-2	*	*	n NotF η	1.30	*		2430	2.5	1.12	*	0.983-0.993	
Mono	PCB-3	*	*	n NotF η	1.30	*		2430	2.5	1.12	*	0.996-1.006	
Di	PCB-4/10	*	*	n NotF η	1.67	*		10700	2.5	4.65	*	0.997-1.007	
Di	PCB-7/9	*	*	n NotF η	1.25	*		10700	2.5	3.63	*	0.864-0.872	
Di	PCB-6	*	*	n NotF η	1.24	*		10700	2.5	3.67	*	0.888-0.897	
Di	PCB-5/8	4.83e+05	1.39	y 22:52	1.27	6.845		*	2.5	*	0.909	0.905-0.915	
Di	PCB-14	*	*	n NotF η	1.47	*		10700	2.5	3.33	*	0.948-0.958	
Di	PCB-11	4.54e+06	1.52	y 25:11	1.28	60.30		*	2.5	*	1.001	0.995-1.005	
Di	PCB-12/13	*	*	n NotF η	1.27	*		10700	2.5	3.87	*	1.011-1.021	
Di	PCB-15	4.28e+05	1.49	y 25:53	1.44	5.065		*	2.5	*	1.029	1.023-1.031	
Tri	PCB-19	1.03e+05	1.19	y 24:10	1.18	3.161		*	2.5	*	1.001	0.996-1.006	
Tri	PCB-30	*	*	n NotF η	1.87	*		1950	2.5	0.789	*	1.033-1.043	
Tri	PCB-18	6.84e+05	1.07	y 25:48	0.89	18.17		*	2.5	*	0.954	0.949-0.959	
Tri	PCB-17	2.40e+05	1.01	y 25:58	0.96	5.905		*	2.5	*	0.960	0.956-0.966	
Tri	PCB-24/27	1.04e+05	1.15	y 26:32	1.30	1.876		*	2.5	*	0.981	0.977-0.987	
Tri	PCB-16/32	5.62e+05	1.05	y 27:03	1.05	12.61		*	2.5	*	1.000	0.996-1.006	
Tri	PCB-34	*	*	n NotF η	1.30	*		2940	2.5	1.85	*	0.955-0.965	
Tri	PCB-23	*	*	n NotF η	1.21	*		2940	2.5	1.99	*	0.958-0.968	
Tri	PCB-29	*	*	n NotF η	1.21	*		2940	2.5	1.99	*	0.967-0.977	
Tri	PCB-26	1.04e+05	1.22	n 28:24	1.24	2.951	R	*	2.5	*	0.979	0.974-0.984	
Tri	PCB-25	*	*	n NotF η	1.10	*		2940	2.5	2.20	*	0.980-0.990	
Tri	PCB-31	4.26e+05	0.88	y 28:55	1.25	11.94		*	2.5	*	0.997	0.992-1.002	
Tri	PCB-28	5.05e+05	1.02	y 29:01	1.24	14.32		*	2.5	*	1.000	0.996-1.006	
Tri	PCB-20/21/33	3.45e+05	1.00	y 29:40	1.16	10.45		*	2.5	*	1.022	1.016-1.026	
Tri	PCB-22	2.16e+05	0.98	y 30:04	1.16	6.501		*	2.5	*	1.036	1.032-1.042	
Tri	PCB-36	*	*	n NotF η	1.30	*		2940	2.5	2.02	*	0.929-0.939	
Tri	PCB-39	*	*	n NotF η	1.26	*		2940	2.5	2.08	*	0.943-0.953	
Tri	PCB-38	*	*	n NotF η	1.24	*		2940	2.5	2.11	*	0.967-0.977	
Tri	PCB-35	*	*	n NotF η	1.26	*		2940	2.5	2.09	*	0.982-0.992	
Tri	PCB-37	2.64e+05	0.90	y 32:53	1.35	6.276		*	2.5	*	1.000	0.996-1.006	
Tetra	PCB-54	*	*	n NotF η	1.02	*		3500	2.5	1.71	*	0.996-1.006	
Tetra	PCB-50	*	*	n NotF η	0.78	*		3500	2.5	2.25	*	1.037-1.047	
Tetra	PCB-53	1.46e+05	0.71	y 29:42	1.14	4.657		*	2.5	*	0.945	0.941-0.951	
Tetra	PCB-51	5.95e+04	0.77	y 30:03	1.16	1.857		*	2.5	*	0.956	0.952-0.962	
Tetra	PCB-45	1.13e+05	0.77	y 30:29	1.04	3.947		*	2.5	*	0.970	0.965-0.975	
Tetra	PCB-46	4.84e+04	0.69	y 30:58	0.95	1.849		*	2.5	*	0.986	0.981-0.991	

Integrations by:

Analyst: Dms

Date: 4/23/15

Reviewed by: [Signature]

Date: 4/24/15

Client ID: HC-NF-10-20150413-W
Lab ID: 1500335-02

Filename: 150422E1 S:4 Acq:22-APR-15 13:09:57
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.024

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Tetra	PCB-52/69	1.81e+06	0.73	y 31:26	1.29	50.92	*	2.5	*	*	1.001	0.996-1.006	
Tetra	PCB-73	*	*	n NotF η	1.41	*	3500	2.5	2.18	*	*	0.999-1.009	
Tetra	PCB-43/49	7.02e+05	0.78	y 31:44	1.14	22.32	*	2.5	*	*	1.010	1.005-1.015	
Tetra	PCB-47	2.90e+05	0.78	y 31:56	1.20	8.421	*	2.5	*	*	1.001	0.996-1.006	
Tetra	PCB-48/75	1.62e+05	0.82	y 32:03	1.33	4.245	*	2.5	*	*	1.004	0.999-1.009	
Tetra	PCB-65	*	*	n NotF η	1.32	*	3500	2.5	2.25	*	*	1.007-1.017	
Tetra	PCB-62	*	*	n NotF η	1.36	*	3500	2.5	2.18	*	*	1.011-1.021	
Tetra	PCB-44	8.31e+05	0.71	y 32:44	0.87	33.23	*	2.5	*	*	1.026	1.020-1.030	
Tetra	PCB-42/59	2.88e+05	0.69	y 32:58	1.24	8.128	*	2.5	*	*	1.033	1.027-1.037	
Tetra	PCB-41/64/71/72	9.68e+05	0.71	y 33:33	1.34	25.20	*	2.5	*	*	1.051	1.045-1.055	
Tetra	PCB-68	*	*	n NotF η	1.61	*	3500	2.5	1.84	*	*	1.053-1.063	
Tetra	PCB-40	1.43e+05	0.71	y 34:00	0.86	5.820	*	2.5	*	*	1.065	1.061-1.071	
Tetra	PCB-57	*	*	n NotF η	1.12	*	3500	2.5	2.23	*	*	0.965-0.975	
Tetra	PCB-67	*	*	n NotF η	1.09	*	3500	2.5	2.28	*	*	0.974-0.984	
Tetra	PCB-58	*	*	n NotF η	1.14	*	3500	2.5	2.19	*	*	0.977-0.987	
Tetra	PCB-63	*	*	n NotF η	1.16	*	3500	2.5	2.14	*	*	0.981-0.991	
Tetra	PCB-74	5.55e+05	0.67	y 35:15	1.21	12.51	*	2.5	*	*	0.994	0.989-0.999	
Tetra	PCB-61/70	2.01e+06	0.77	y 35:28	1.13	48.75	*	2.5	*	*	1.000	0.995-1.005	
Tetra	PCB-76/66	1.24e+06	0.77	y 35:40	1.18	28.82	*	2.5	*	*	1.006	1.000-1.010	
Tetra	PCB-80	*	*	n NotF η	1.32	*	3500	2.5	2.02	*	*	0.995-1.005	
Tetra	PCB-55	*	*	n NotF η	1.23	*	3500	2.5	2.18	*	*	1.004-1.014	
Tetra	PCB-56/60	7.70e+05	0.72	y 36:42	1.11	18.99	*	2.5	*	*	1.023	1.018-1.028	
Tetra	PCB-79	1.19e+05	0.80	y 37:46	1.16	2.805	*	2.5	*	*	1.052	1.048-1.058	
Tetra	PCB-78	*	*	n NotF η	1.18	*	3500	2.5	2.54	*	*	0.982-0.992	
Tetra	PCB-81	*	*	n NotF η	1.29	*	3500	2.5	2.32	*	*	0.995-1.005	
Tetra	PCB-77	2.89e+05	0.77	y 39:38	1.29	7.206	*	2.5	*	*	1.001	0.995-1.005	
Penta	PCB-104	*	*	n NotF η	1.26	*	2200	2.5	2.02	*	*	0.996-1.006	
Penta	PCB-96	*	*	n NotF η	1.09	*	2200	2.5	2.33	*	*	1.034-1.044	
Penta	PCB-103	*	*	n NotF η	0.97	*	2200	2.5	2.63	*	*	1.051-1.061	
Penta	PCB-100	*	*	n NotF η	0.96	*	2200	2.5	2.65	*	*	1.061-1.071	
Penta	PCB-94	*	*	n NotF η	1.13	*	2200	2.5	3.42	*	*	0.980-0.990	
Penta	PCB-95/98/102	2.72e+06	1.54	y 35:46	1.29	104.9	*	2.5	*	*	1.001	0.994-1.004	
Penta	PCB-93	*	*	n NotF η	1.06	*	2200	2.5	3.64	*	*	0.998-1.008	
Penta	PCB-88/91	3.64e+05	1.52	y 36:10	1.12	16.08	*	2.5	*	*	1.012	1.006-1.016	
Penta	PCB-121	*	*	n NotF η	1.76	*	2200	2.5	2.20	*	*	1.009-1.019	
Penta	PCB-84/92	1.29e+06	1.62	y 37:04	1.07	60.57	*	2.5	*	*	0.990	0.985-0.995	
Penta	PCB-89	*	*	n NotF η	1.00	*	2200	2.5	4.24	*	*	0.990-1.000	

Analyst: DMJ

Date: 4/23/15

Client ID: HC-NF-10-20150413-W
Lab ID: 1500335-02

Filename: 150422E1 S:4 Acq:22-APR-15 13:09:57
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.024

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Penta	PCB-90/101	3.50e+06	1.52	y 37:27	1.21	146.1		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-113	*	*	n NotF η	1.34	*		2200	2.5	3.15	*	1.002-1.012	
Penta	PCB-99	1.27e+06	1.52	y 37:46	1.25	51.33		*	2.5	*	1.009	1.004-1.014	
Penta	PCB-119	7.13e+04	1.22	n 38:15	1.88	2.158	R	*	2.5	*	0.988	0.982-0.992	
Penta	PCB-108/112	1.19e+05	2.24	n 38:25	1.41	4.821	R	*	2.5	*	0.992	0.986-0.996	
Penta	PCB-83	*	*	n NotF η	1.66	*		2200	2.5	2.88	*	0.990-1.000	
Penta	PCB-97	9.31e+05	1.66	y 38:45	1.30	40.78		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-86	*	*	n NotF η	1.03	*		2200	2.5	4.64	*	0.999-1.009	
Penta	PCB-87/117/125	1.51e+06	1.56	y 39:02	1.59	53.98		*	2.5	*	1.008	1.002-1.012	
Penta	PCB-111/115	1.07e+05	1.29	n 39:13	1.86	3.286	R	*	2.5	*	1.012	1.006-1.016	
Penta	PCB-85/116	4.58e+05	1.58	y 39:18	1.39	18.70		*	2.5	*	1.015	1.010-1.020	
Penta	PCB-120	*	*	n NotF η	1.99	*		2200	2.5	2.41	*	1.016-1.026	
Penta	PCB-110	4.79e+06	1.61	y 39:42	1.70	160.0		*	2.5	*	1.025	1.019-1.029	
Penta	PCB-82	3.55e+05	1.50	y 40:19	0.74	22.83		*	2.5	*	0.975	0.971-0.981	
Penta	PCB-124	1.94e+05	1.35	y 41:01	1.30	7.115		*	2.5	*	0.992	0.988-0.998	
Penta	PCB-107/109	2.41e+05	1.97	n 41:12	1.34	8.615	R	*	2.5	*	0.997	0.991-1.001	
Penta	PCB-123	*	*	n NotF η	1.25	*		2200	2.5	3.38	*	0.995-1.005	
Penta	PCB-106/118	3.40e+06	1.61	y 41:31	1.29	122.7		*	2.5	*	1.000	0.996-1.006	
Penta	PCB-114	*	*	n NotF η	1.45	*		2430	2.5	2.76	*	0.995-1.005	
Penta	PCB-122	*	*	n NotF η	1.22	*		2430	2.5	3.28	*	0.999-1.009	
Penta	PCB-105	1.59e+06	1.55	y 43:02	1.56	46.88		*	2.5	*	1.000	0.995-1.005	
Penta	PCB-127	*	*	n NotF η	1.31	*		2430	2.5	3.46	*	0.995-1.005	
Penta	PCB-126	*	*	n NotF η	1.41	*		2430	2.5	3.48	*	0.995-1.005	
Hexa	PCB-155	*	*	n NotF η	1.20	*		1370	2.5	1.83	*	0.966-1.006	
Hexa	PCB-150	*	*	n NotF η	1.13	*		1370	2.5	1.94	*	1.030-1.040	
Hexa	PCB-152	*	*	n NotF η	1.17	*		1370	2.5	1.87	*	1.043-1.053	
Hexa	PCB-145	*	*	n NotF η	1.09	*		1370	2.5	2.00	*	1.055-1.065	
Hexa	PCB-136	4.28e+05	1.23	y 39:30	1.14	17.86		*	2.5	*	1.068	1.063-1.073	
Hexa	PCB-148	*	*	n NotF η	0.82	*		1370	2.5	2.68	*	1.066-1.076	
Hexa	PCB-154	*	*	n NotF η	0.89	*		1370	2.5	2.46	*	1.079-1.089	
Hexa	PCB-151	6.09e+05	1.40	y 40:45	0.82	35.49		*	2.5	*	1.102	1.097-1.107	
Hexa	PCB-135	3.75e+05	1.22	y 40:58	0.80	22.44		*	2.5	*	1.108	1.101-1.113	
Hexa	PCB-144	9.59e+04	0.92	n 41:06	0.86	5.343	R	*	2.5	*	1.111	1.105-1.116	
Hexa	PCB-147	3.32e+04	0.77	n 41:12	0.78	2.028	R	*	2.5	*	1.114	1.108-1.120	
Hexa	PCB-139/149	2.41e+06	1.25	y 41:27	0.87	132.1		*	2.5	*	1.121	1.115-1.127	
Hexa	PCB-140	*	*	n NotF η	0.78	*		1370	2.5	2.82	*	1.120-1.132	
Hexa	PCB-134/143	2.36e+05	1.34	y 42:07	0.93	10.49		*	2.5	*	0.975	0.970-0.980	

Analyst: DMS

Date: 4/23/15

Client ID: HC-NF-10-20150413-W
Lab ID: 1500335-02

Filename: 150422E1 S:4 Acq:22-APR-15 13:09:57
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.024

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hexa	PCB-133/142	1.44e+05	1.21	y 42:24	0.91	6.570	*	*	2.5	*	0.982	0.977-0.987	
Hexa	PCB-131	*	*	n NotF η	0.85	*	*	1120	2.5	1.90	*	0.981-0.991	
Hexa	PCB-146/165	8.32e+05	1.17	y 42:48	1.08	31.81	*	*	2.5	*	0.991	0.986-0.996	
Hexa	PCB-132/161	1.73e+06	1.22	y 43:03	1.12	64.13	*	*	2.5	*	0.997	0.992-1.002	
Hexa	PCB-153	5.13e+06	1.27	y 43:13	1.20	177.2	*	*	2.5	*	1.001	0.996-1.006	
Hexa	PCB-168	*	*	n NotF η	1.36	*	*	1120	2.5	1.19	*	1.000-1.010	
Hexa	PCB-141	1.10e+06	1.28	y 43:56	1.16	47.81	*	*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-137	2.62e+05	1.31	y 44:21	1.18	11.15	*	*	2.5	*	1.010	1.004-1.014	
Hexa	PCB-130	2.21e+05	1.34	y 44:27	0.92	12.04	*	*	2.5	*	1.012	1.006-1.016	
Hexa	PCB-138/163/164	5.97e+06	1.23	y 44:49	1.38	217.5	*	*	2.5	*	1.001	0.996-1.006	
Hexa	PCB-158/160	7.05e+05	1.35	y 45:02	1.48	24.00	*	*	2.5	*	1.006	1.001-1.011	
Hexa	PCB-129	1.93e+05	1.51	n 45:17	0.99	9.788	R	*	2.5	*	1.012	1.007-1.017	
Hexa	PCB-166	*	*	n NotF η	1.14	*	*	1120	2.5	1.43	*	0.988-0.998	
Hexa	PCB-159	*	*	n NotF η	1.22	*	*	3120	2.5	3.71	*	0.995-1.005	
Hexa	PCB-128/162	8.88e+05	1.27	y 46:21	1.03	36.54	*	*	2.5	*	1.006	1.002-1.012	
Hexa	PCB-167	2.92e+05	1.12	y 46:48	1.18	10.63	*	*	2.5	*	1.001	0.995-1.005	
Hexa	PCB-156	5.94e+05	1.37	y 48:05	1.27	20.71	*	*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-157	1.84e+05	1.08	y 48:20	1.22	6.522	*	*	2.5	*	1.000	0.995-1.005	
Hexa	PCB-169	*	*	n NotF η	1.07	*	*	1120	2.5	1.66	*	0.995-1.005	
Hepta	PCB-188	*	*	n NotF η	1.52	*	*	1660	2.5	1.48	*	0.996-1.006	
Hepta	PCB-184	*	*	n NotF η	1.34	*	*	1660	2.5	1.69	*	1.006-1.016	
Hepta	PCB-179	6.08e+05	1.05	y 44:03	1.39	26.98	*	*	2.5	*	1.029	1.024-1.034	
Hepta	PCB-176	1.80e+05	1.13	y 44:31	1.45	7.646	*	*	2.5	*	1.040	1.035-1.045	
Hepta	PCB-186	*	*	n NotF η	1.46	*	*	1660	2.5	1.55	*	1.049-1.059	
Hepta	PCB-178	2.70e+05	1.02	y 45:38	1.07	15.52	*	*	2.5	*	1.066	1.061-1.071	
Hepta	PCB-175	*	*	n NotF η	1.05	*	*	1660	2.5	2.15	*	1.069-1.079	
Hepta	PCB-182/187	1.69e+06	1.05	y 46:08	1.14	91.63	*	*	2.5	*	1.078	1.073-1.083	
Hepta	PCB-183	7.27e+05	1.05	y 46:29	1.22	36.66	*	*	2.5	*	1.086	1.080-1.090	
Hepta	PCB-185	1.81e+05	1.08	y 47:08	1.40	11.32	*	*	2.5	*	0.955	0.950-0.960	
Hepta	PCB-174	1.21e+06	1.04	y 47:29	1.29	82.02	*	*	2.5	*	0.962	0.958-0.968	
Hepta	PCB-181	*	*	n NotF η	1.35	*	*	1660	2.5	2.37	*	0.960-0.970	
Hepta	PCB-177	6.08e+05	0.98	y 47:47	1.27	42.11	*	*	2.5	*	0.968	0.963-0.973	
Hepta	PCB-171	2.84e+05	0.92	y 48:04	1.46	17.12	*	*	2.5	*	0.974	0.969-0.979	
Hepta	PCB-173	*	*	n NotF η	1.10	*	*	1660	2.5	2.90	*	0.978-0.988	
Hepta	PCB-172	1.92e+05	1.16	y 48:58	1.35	12.41	*	*	2.5	*	0.992	0.987-0.997	
Hepta	PCB-192	*	*	n NotF η	1.74	*	*	1660	2.5	1.84	*	0.991-1.001	
Hepta	PCB-180	2.71e+06	0.97	y 49:21	1.45	164.0	*	*	2.5	*	1.000	0.995-1.005	

Analyst: *DMS*

Date: *4/23/15*

Client ID: HC-NF-10-20150413-W
Lab ID: 1500335-02

Filename: 150422E1 S:4 Acq:22-APR-15 13:09:57
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.024

ConCal: ST150422E1-1
EndCAL: NA

Type	Name	Resp	RA	RT	RRF	Conc	Qual	noise	Fac	DL	RRT	LCL	UCL
Hepta	PCB-193	1.42e+05	1.07	y 49:34	1.85	6.744	*	*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-191	9.92e+04	1.10	y 49:49	1.86	4.672	*	*	2.5	*	1.009	1.005-1.015	
Hepta	PCB-170	9.03e+05	1.15	y 50:48	1.67	63.01	*	*	2.5	*	1.000	0.995-1.005	
Hepta	PCB-190	2.35e+05	0.97	y 50:59	2.25	12.20	*	*	2.5	*	1.004	0.999-1.009	
Hepta	PCB-189	*	*	n NotF η	1.67	*	*	1660	2.5	1.82	*	0.995-1.005	
Octa	PCB-202	1.82e+05	0.90	y 48:15	1.02	12.84	*	*	2.5	*	1.000	0.995-1.005	
Octa	PCB-201	9.29e+04	1.00	y 48:46	1.10	6.106	*	*	2.5	*	1.011	1.005-1.015	
Octa	PCB-204	*	*	n NotF η	1.07	*	*	1430	2.5	2.67	*	1.009-1.019	
Octa	PCB-197	*	*	n NotF η	1.17	*	*	1430	2.5	2.46	*	1.015-1.025	
Octa	PCB-200	8.46e+04	0.80	y 50:03	1.03	5.892	*	*	2.5	*	1.037	1.034-1.044	
Octa	PCB-198	*	*	n NotF η	0.75	*	*	1430	2.5	3.81	*	1.062-1.072	
Octa	PCB-199	4.92e+05	0.97	y 51:29	0.74	47.76	*	*	2.5	*	1.067	1.064-1.074	
Octa	PCB-196/203	4.88e+05	0.83	y 51:45	0.83	42.36	*	*	2.5	*	1.073	1.070-1.080	
Octa	PCB-195	1.40e+05	0.98	y 52:54	1.14	15.80	*	*	2.5	*	0.984	0.979-0.989	
Octa	PCB-194	2.80e+05	0.86	y 53:46	1.29	27.85	*	*	2.5	*	1.000	0.995-1.005	
Octa	PCB-205	*	*	n NotF η	1.61	*	*	2040	2.5	3.61	*	1.001-1.010	
Nona	PCB-208	1.03e+05	1.47	y 53:02	1.01	7.876	*	*	2.5	*	1.000	0.995-1.005	
Nona	PCB-207	4.48e+04	1.35	y 53:21	1.03	3.393	*	*	2.5	*	1.006	1.001-1.011	
Nona	PCB-206	1.74e+05	1.35	y 55:27	0.88	22.02	*	*	2.5	*	1.000	0.995-1.005	
Deca	PCB-209	1.27e+05	1.13	y 56:45	1.35	10.24	*	*	2.5	*	1.000	0.995-1.005	

Analyst: DMS

Date: 4/23/15

Client ID: HC-NF-10-20150413-W
Lab ID: 1500335-02

Filename: 150422E1 S:4 Acq:22-APR-15 13:09:57
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.0244 EndCAL: NA

ConCal: ST150422E1-1

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	*	* n	NotFnd	1.31	*
Total Di-PCB	5.45e+06	1.39 y	22:52	1.32	72.2066
Total Tri-PCB	1.69e+06	1.19 y	24:10	1.20	41.7279
Total Tri-PCB	1.76e+06	0.88 y	28:55	1.23	49.4900
					Sum:91.2178
Total Tetra-PCB	1.05e+07	0.71 y	29:42	1.17	289.673
Total Penta-PCB	2.08e+07	1.54 y	35:46	1.24	805.109
Total Penta-PCB	1.59e+06	1.55 y	43:02	1.39	46.8811
					Sum:851.990
Total Hexa-PCB	3.83e+06	1.23 y	39:30	0.94	207.901
Total Hexa-PCB	1.83e+07	1.34 y	42:07	1.13	677.056
					Sum:884.957
Total Hepta-PCB	1.00e+07	1.05 y	44:03	1.37	593.997
Total Octa-PCB	1.34e+06	0.90 y	48:15	0.95	114.958
Total Octa-PCB	4.21e+05	0.98 y	52:54	1.35	43.6485
					Sum:158.606
Total Nona-PCB	3.21e+05	1.47 y	53:02	0.99	33.2851
Total Deca-PCB	1.27e+05	1.13 y	56:45	1.35	10.2421

Total PCB Conc: ~~3625~~ 16463600

2990

Integrations

by

Analyst: DMS

Date: 4/23/14

Client ID: HC-NF-10-20150413-W
 Lab ID: 1500335-02

Filename: 150422E1 S:4 Acq:22-APR-15 13:09:57
 GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol:1.0244

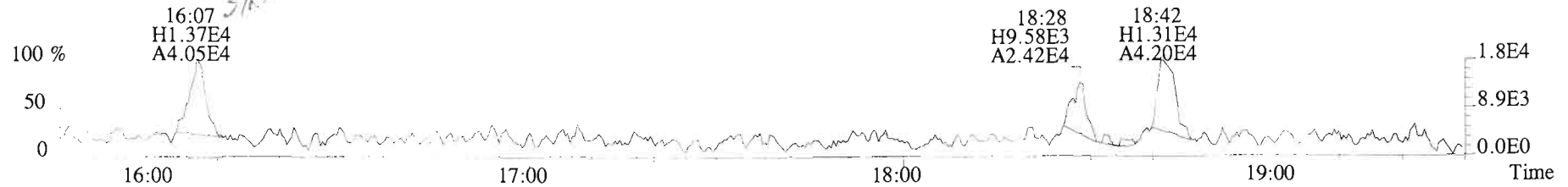
ConCal: ST150422E1-1
 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	9.59e+07	3.41 y	0.91	16:06	0.622	0.619-0.625		1520	78.0											
13C-PCB-3	1.18e+08	3.38 y	0.94	18:41	0.722	0.718-0.726		1820	93.0	13C-PCB-79	7.25e+07	0.77 y	1.02	37:46	1.029	1.024-1.033		1880	96.1	
13C-PCB-4	6.15e+07	1.58 y	0.60	20:01	0.774	0.770-0.778		1490	76.2	13C-PCB-178	2.29e+07	0.47 y	0.64	45:37	0.985	0.980-0.989		1800	92.4	
13C-PCB-9	1.09e+08	1.54 y	0.96	21:48	0.843	0.839-0.847		1630	83.6											
13C-PCB-11	1.15e+08	1.56 y	0.95	25:09	0.972	0.968-0.978		1740	88.9	PS vs. IS										
13C-PCB-19	5.39e+07	1.10 y	0.56	24:09	0.934	0.929-0.939		1390	71.0	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	
13C-PCB-28	5.58e+07	0.98 y	1.07	29:01	1.004	0.999-1.009		1500	76.9	13C-PCB-79	7.25e+07	0.77 y	1.02	37:46	0.969	0.963-0.973		2170	111	
13C-PCB-32	8.31e+07	1.11 y	0.83	27:03	1.046	1.041-1.051		1450	74.4	13C-PCB-178	2.29e+07	0.47 y	0.84	45:37	0.924	0.920-0.930		2380	122	
13C-PCB-37	6.09e+07	1.03 y	0.96	32:53	1.138	1.131-1.143		1820	93.4											
13C-PCB-47	5.61e+07	0.76 y	0.77	31:55	0.870	0.867-0.875		1930	98.9											
13C-PCB-52	5.39e+07	0.78 y	0.71	31:25	0.856	0.853-0.861		2000	103											
13C-PCB-54	8.10e+07	0.78 y	1.06	27:53	0.760	0.757-0.765		2020	104											
13C-PCB-70	7.14e+07	0.80 y	0.99	35:27	0.966	0.961-0.971		1900	97.3											
13C-PCB-77	6.07e+07	0.81 y	0.96	39:35	1.079	1.073-1.083		1660	85.2											
13C-PCB-80	7.16e+07	0.80 y	1.02	35:53	0.978	0.973-0.983		1850	94.9											
13C-PCB-81	6.37e+07	0.80 y	1.00	38:59	1.062	1.057-1.067		1690	86.4											
13C-PCB-95	3.93e+07	1.59 y	0.70	35:44	0.912	0.908-0.918		2150	110	RS										
13C-PCB-97	3.43e+07	1.61 y	0.66	38:44	0.989	0.984-0.994		1990	102	Name	Resp	RA	RRF	RT	Conc					
13C-PCB-101	3.88e+07	1.59 y	0.77	37:26	0.955	0.951-0.961		1930	99.1	13C-PCB-15	1.35e+08	1.57 y	1.00	25:52	1950					
13C-PCB-104	5.72e+07	1.58 y	0.97	32:35	0.832	0.828-0.836		2260	116	13C-PCB-31	6.78e+07	0.96 y	1.00	28:54	1950					
13C-PCB-105	4.25e+07	1.54 y	1.20	43:02	0.929	0.924-0.934		1780	91.0	13C-PCB-60	7.38e+07	0.78 y	1.00	36:42	1950					
13C-PCB-114	4.60e+07	1.58 y	1.26	42:10	0.910	0.905-0.915		1840	94.3	13C-PCB-111	5.11e+07	1.65 y	1.00	39:11	1950					
13C-PCB-118	4.19e+07	1.61 y	0.94	41:30	1.059	1.054-1.064		1710	87.6	13C-PCB-128	3.89e+07	1.26 y	1.00	46:20	1950					
13C-PCB-123	4.09e+07	1.64 y	0.88	41:20	1.055	1.049-1.059		1780	90.9	13C-PCB-205	2.11e+07	0.89 y	1.00	54:03	1950					
13C-PCB-126	3.80e+07	1.55 y	1.13	45:17	0.977	0.972-0.982		1700	86.8											
13C-PCB-127	4.43e+07	1.60 y	1.26	43:23	0.936	0.931-0.941		1770	90.5											
13C-PCB-138	3.89e+07	1.28 y	1.12	44:46	0.966	0.961-0.971		1740	89.4											
13C-PCB-141	3.89e+07	1.28 y	1.09	43:55	0.948	0.943-0.953		1790	91.6											
13C-PCB-153	4.72e+07	1.28 y	1.27	43:11	0.932	0.927-0.937		1860	95.4											
13C-PCB-155	4.10e+07	1.26 y	0.87	36:59	0.944	0.939-0.949		1800	92.2											
13C-PCB-156	4.41e+07	1.24 y	1.35	48:04	1.037	1.032-1.042		1640	84.0											
13C-PCB-157	4.52e+07	1.30 y	1.42	48:20	1.043	1.037-1.047		1600	82.1											
13C-PCB-159	4.59e+07	1.24 y	1.37	46:05	0.995	0.989-0.999		1680	86.2											
13C-PCB-167	4.54e+07	1.29 y	1.38	46:46	1.009	1.004-1.014		1650	84.5											
13C-PCB-169	3.84e+07	1.25 y	1.38	50:27	1.089	1.084-1.094		1400	71.5											
13C-PCB-170	1.68e+07	0.48 y	0.60	50:47	1.096	1.091-1.103		1400	71.5											
13C-PCB-180	2.23e+07	0.46 y	0.76	49:21	1.065	1.059-1.069		1480	75.8											
13C-PCB-188	3.16e+07	0.47 y	1.01	42:48	0.924	0.919-0.929		1570	80.3											
13C-PCB-189	1.94e+07	0.47 y	0.80	52:17	1.128	1.124-1.136		1220	62.3											
13C-PCB-194	1.52e+07	0.90 y	0.75	53:46	0.995	0.990-1.000		1890	96.6											
13C-PCB-202	2.71e+07	0.90 y	0.99	48:15	1.041	1.036-1.046		1380	70.6											
13C-PCB-206	1.75e+07	0.78 y	0.73	55:26	1.026	1.020-1.301		2200	113											
13C-PCB-208	2.51e+07	0.79 y	1.08	53:01	0.981	0.977-0.987		2140	110											
13C-PCB-209	1.80e+07	1.15 y	0.71	56:44	1.050	1.045-1.055		2350	120											

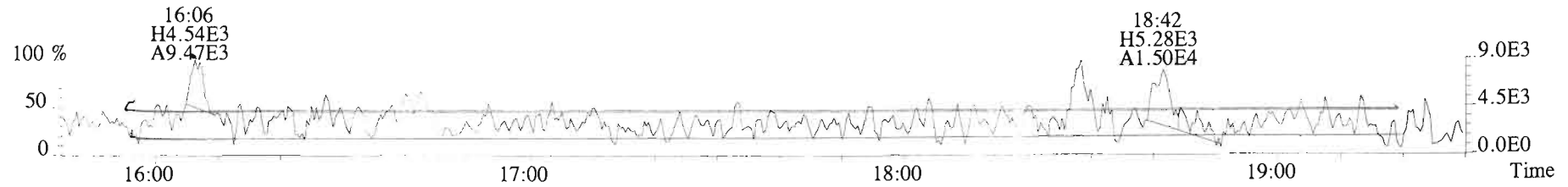
Analyst: *DMS*

Date: *4/23/14*

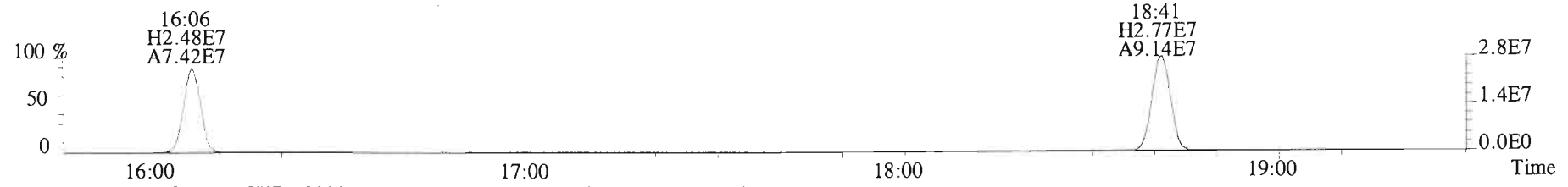
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Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
188.0393 S:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4308.0,0.00%,F,F)



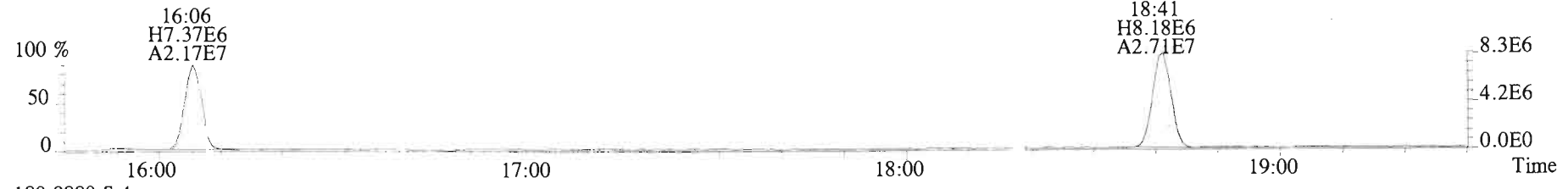
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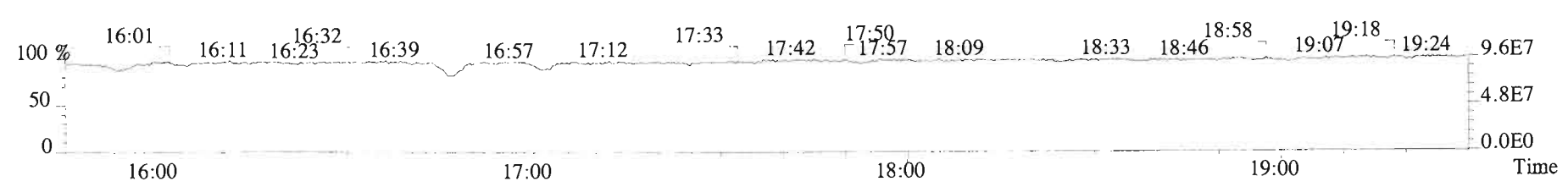
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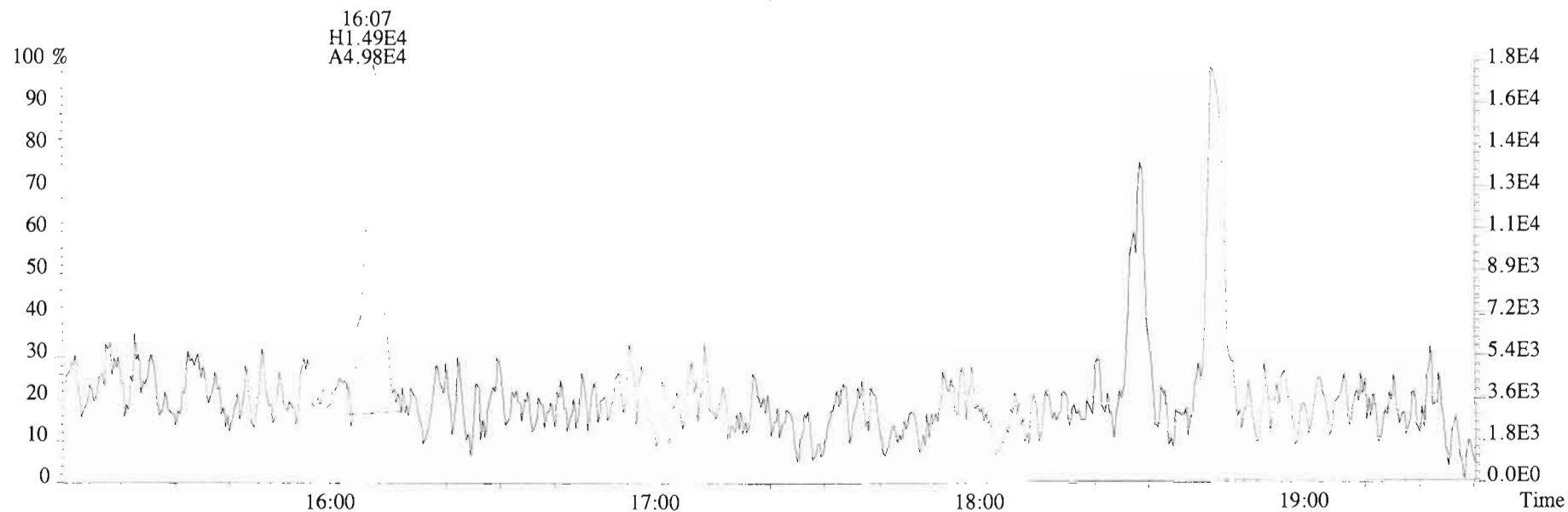
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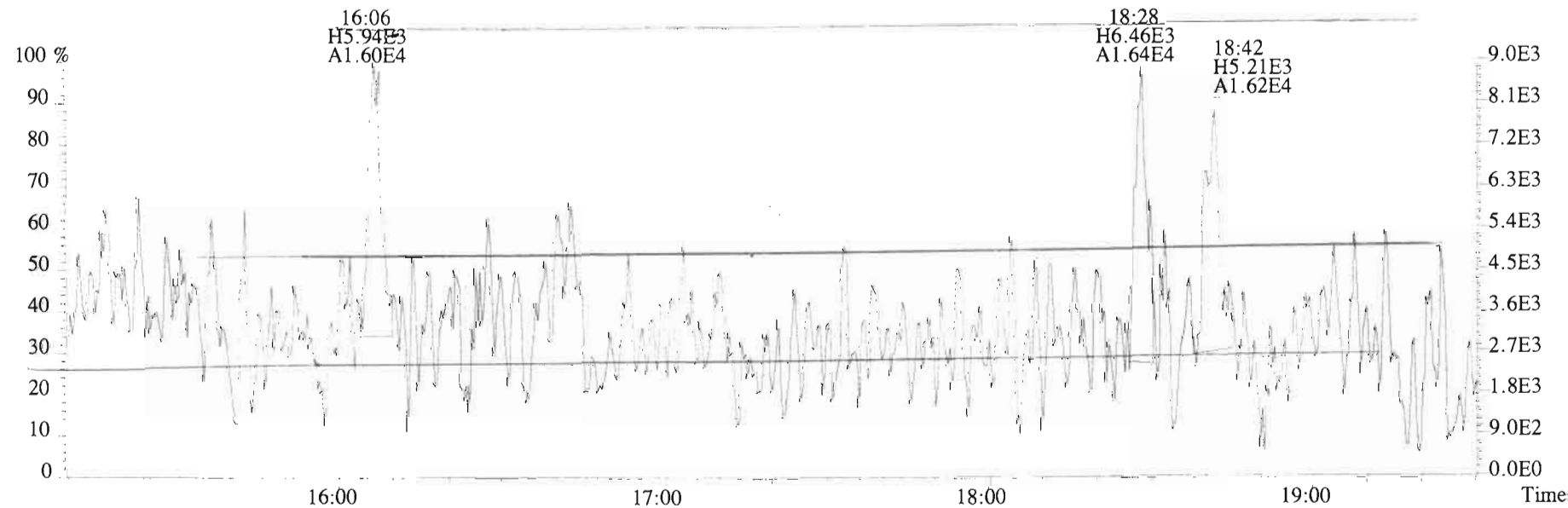
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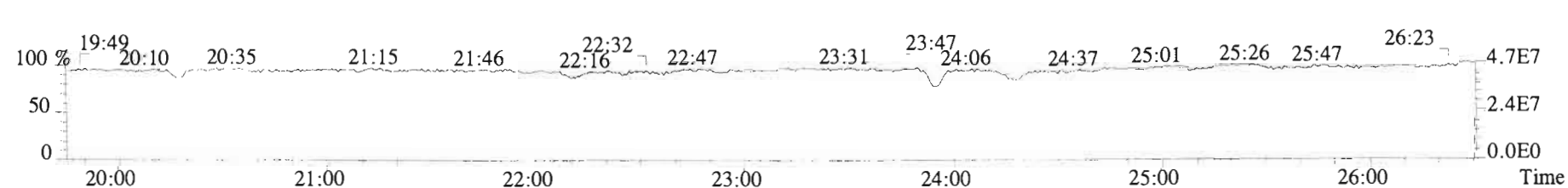
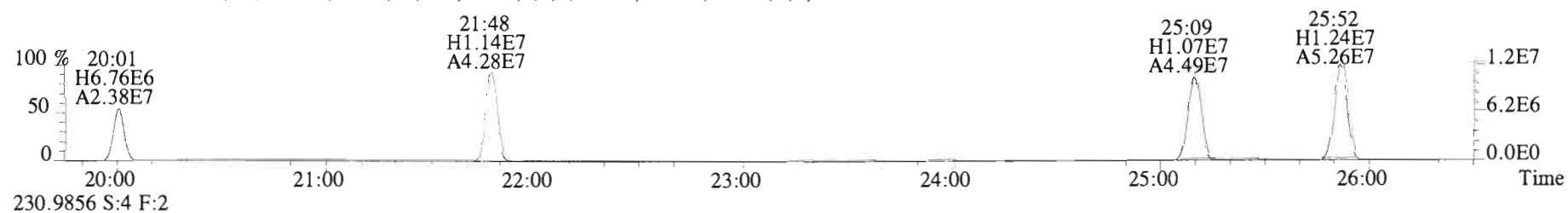
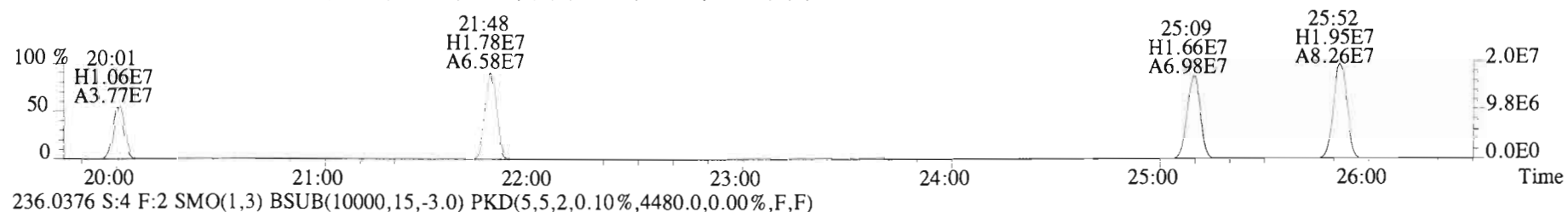
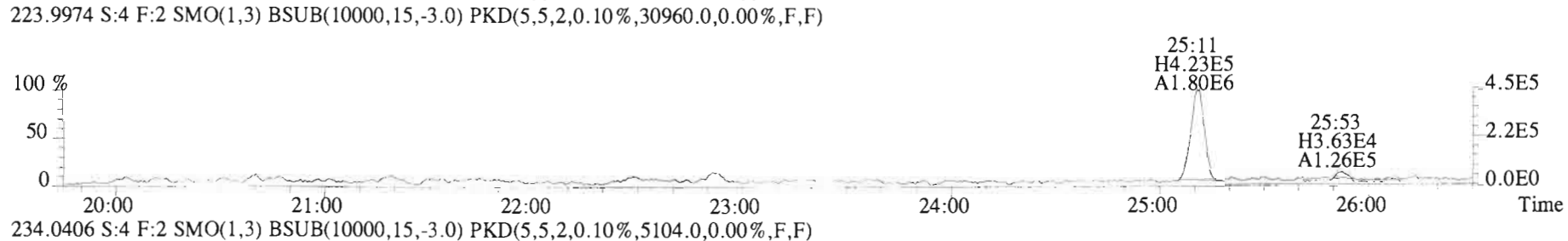
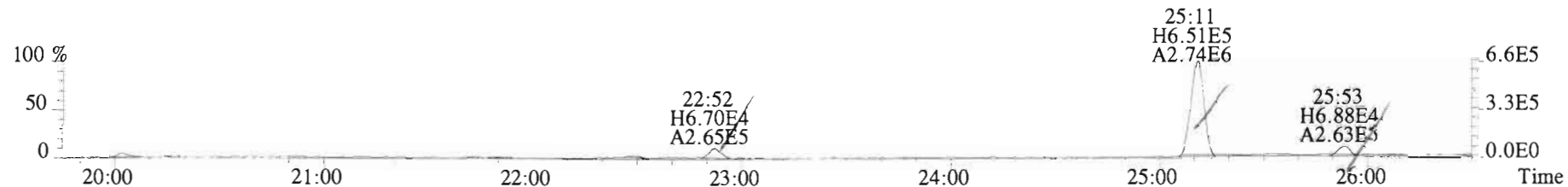
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Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
188.0393 S:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4308.0,0.00%,F,F)



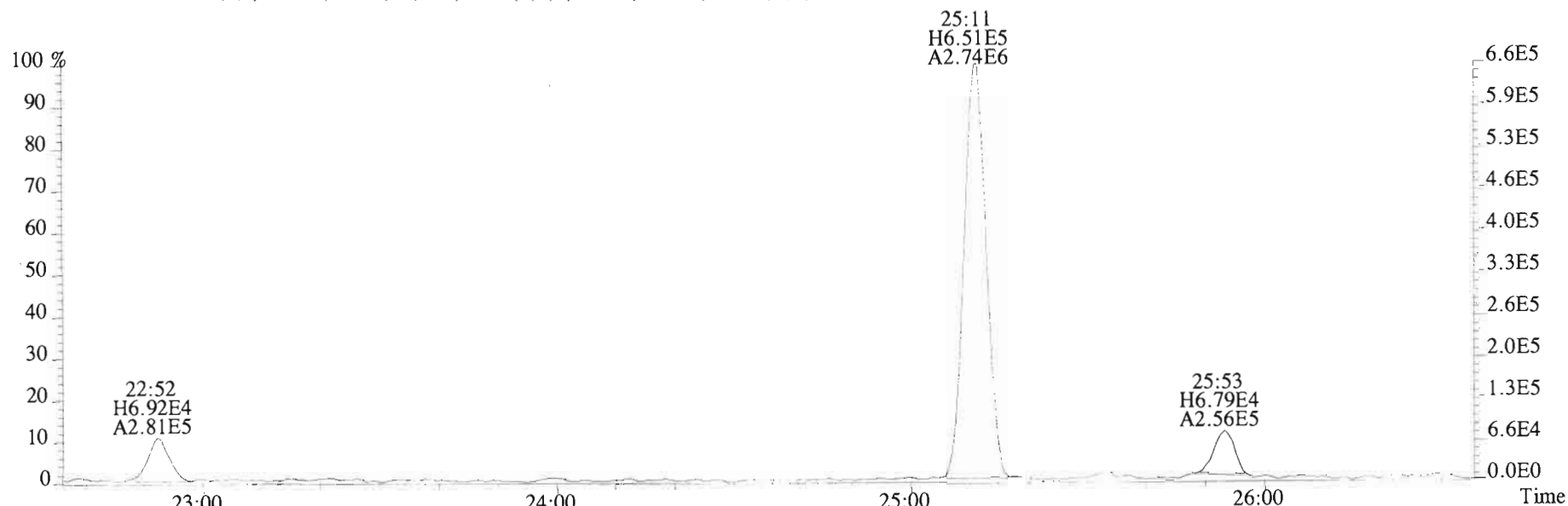
190.0363 S:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4088.0,0.00%,F,F)



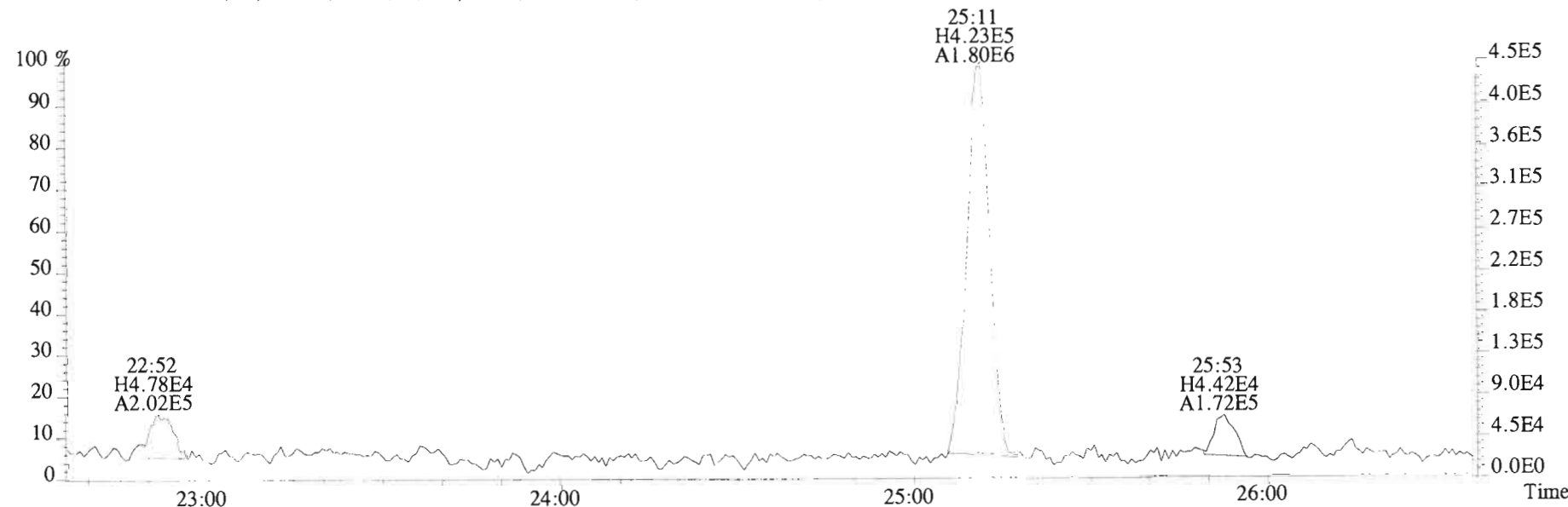
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
222.0003 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6768.0,0.00%,F,F)



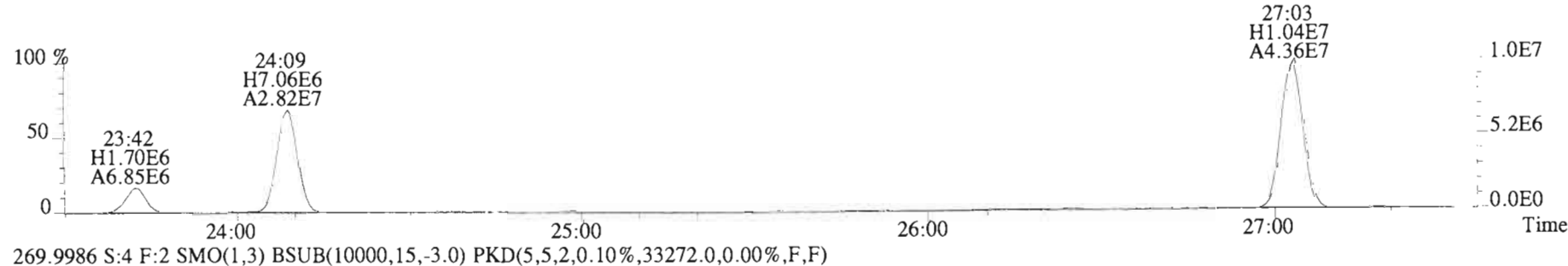
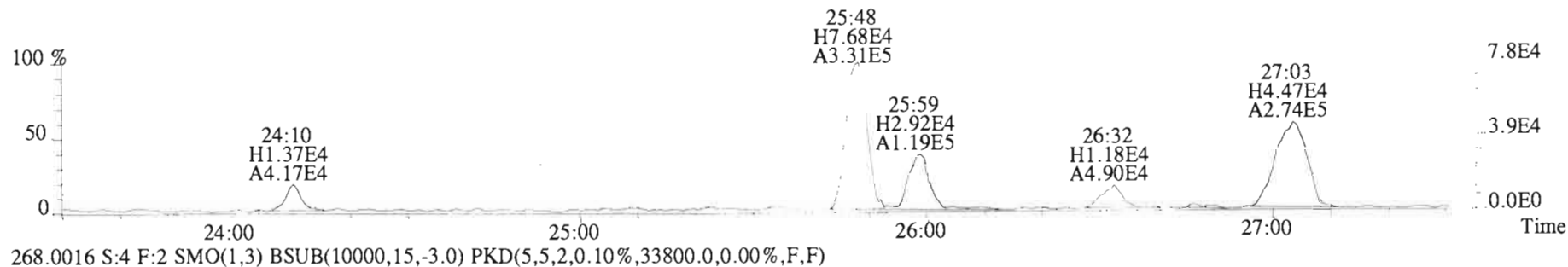
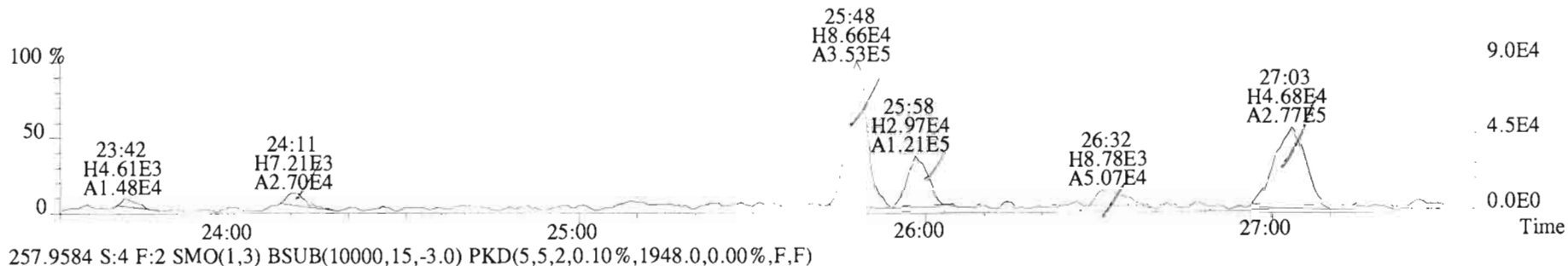
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
222.0003 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6768.0,0.00%,F,F)



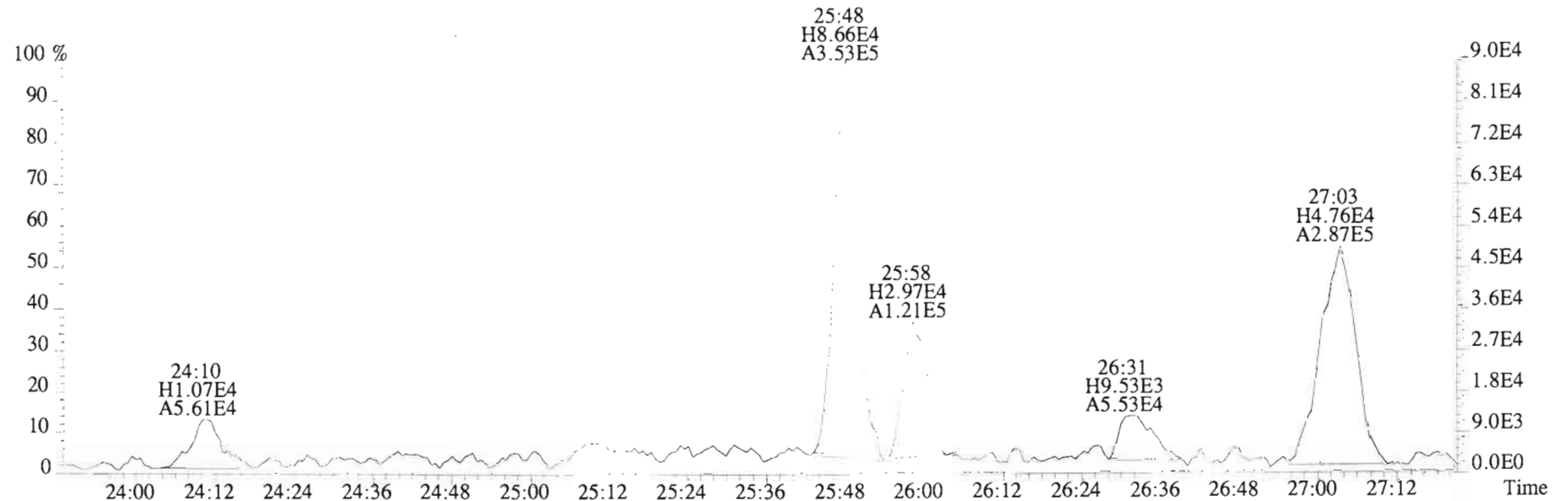
223.9974 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,30960.0,0.00%,F,F)



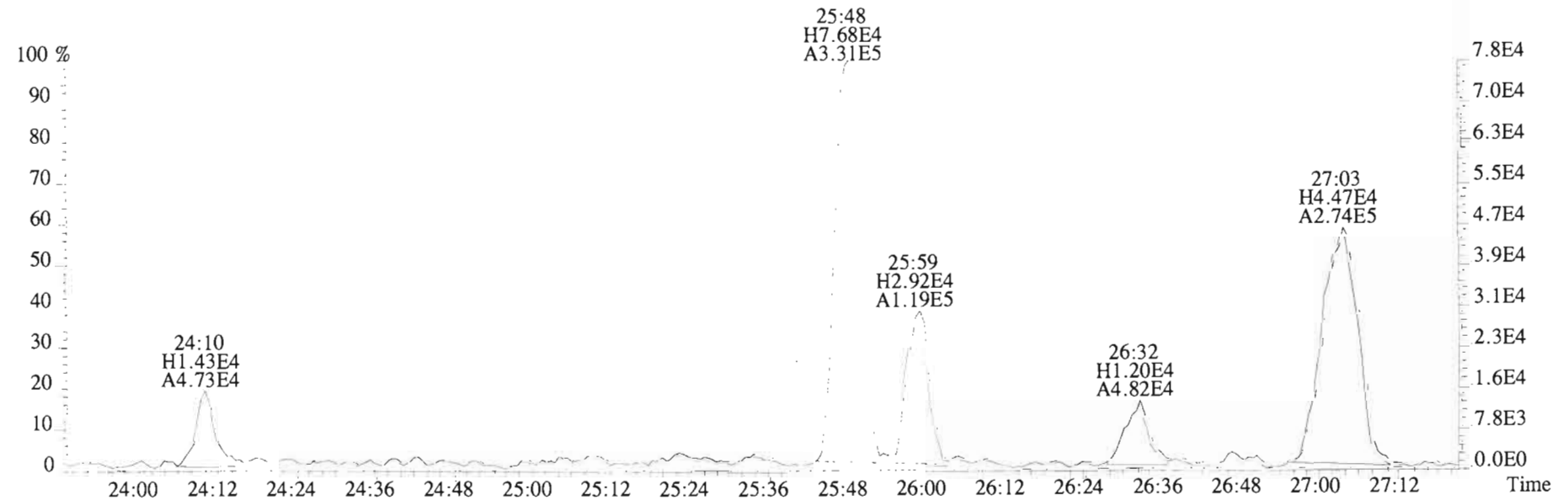
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 255.9613 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3888.0,0.00%,F,F)



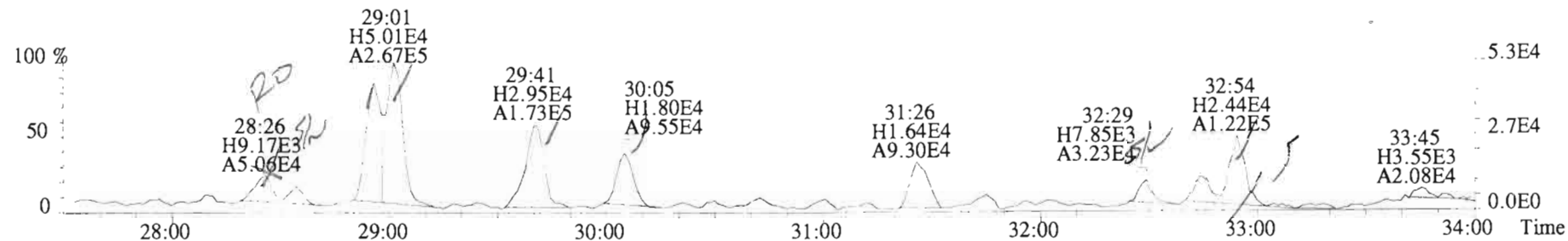
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
255.9613 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3888.0,0.00%,F,F)



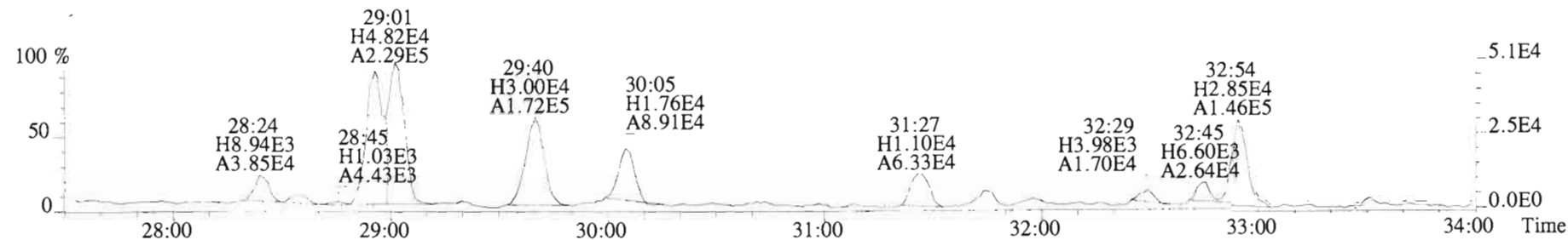
257.9584 S:4 F:2 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1948.0,0.00%,F,F)



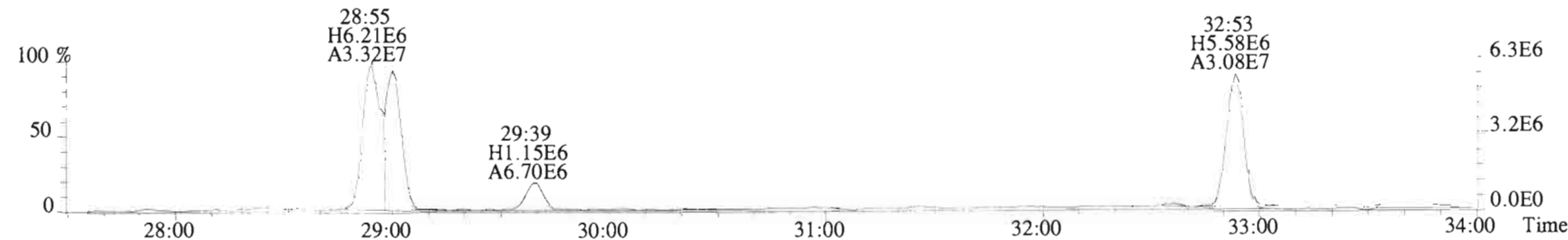
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
255.9613 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3308.0,0.00%,F,F)



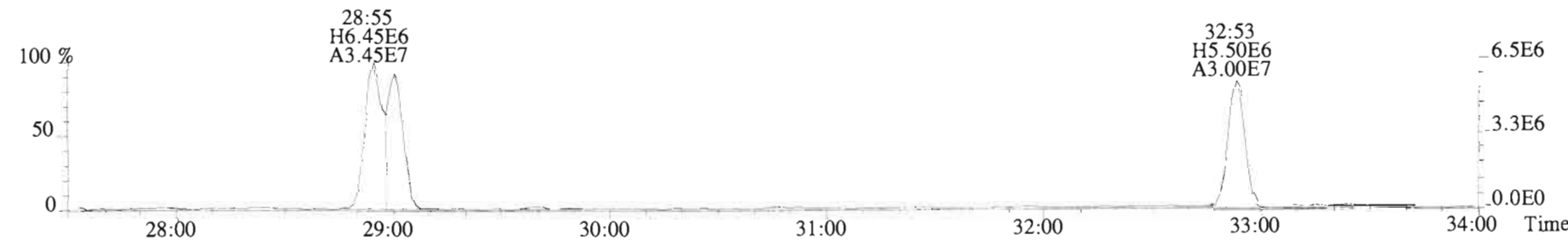
257.9584 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2940.0,0.00%,F,F)



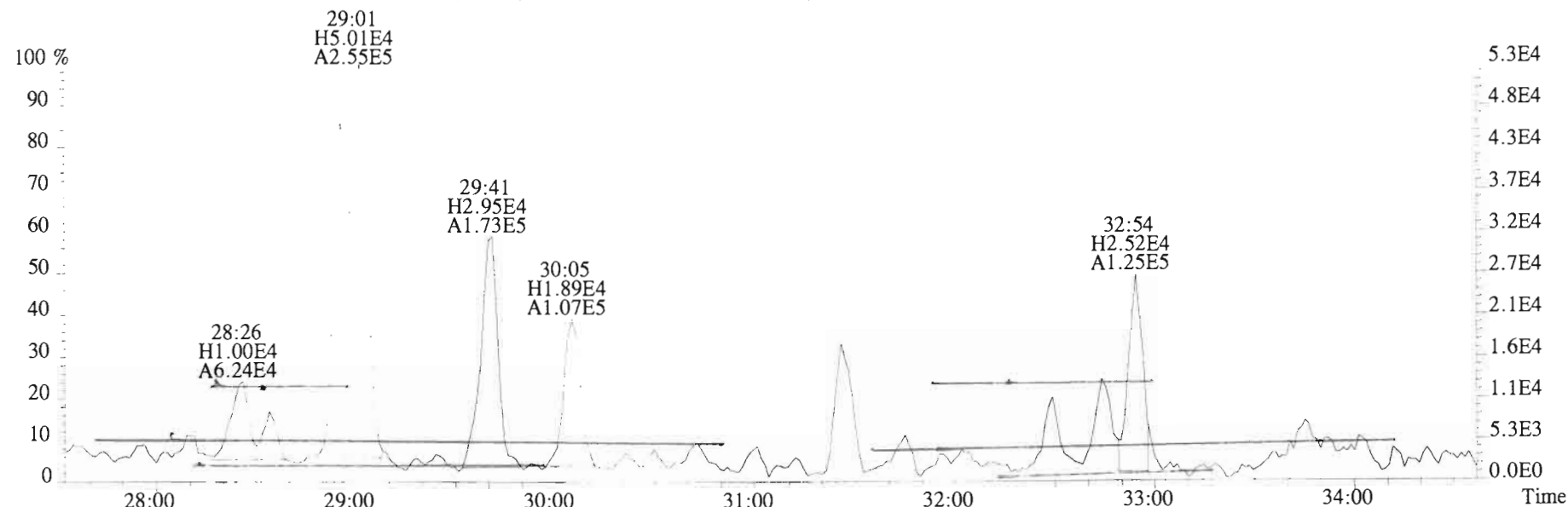
268.0016 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,107824.0,0.00%,F,F)



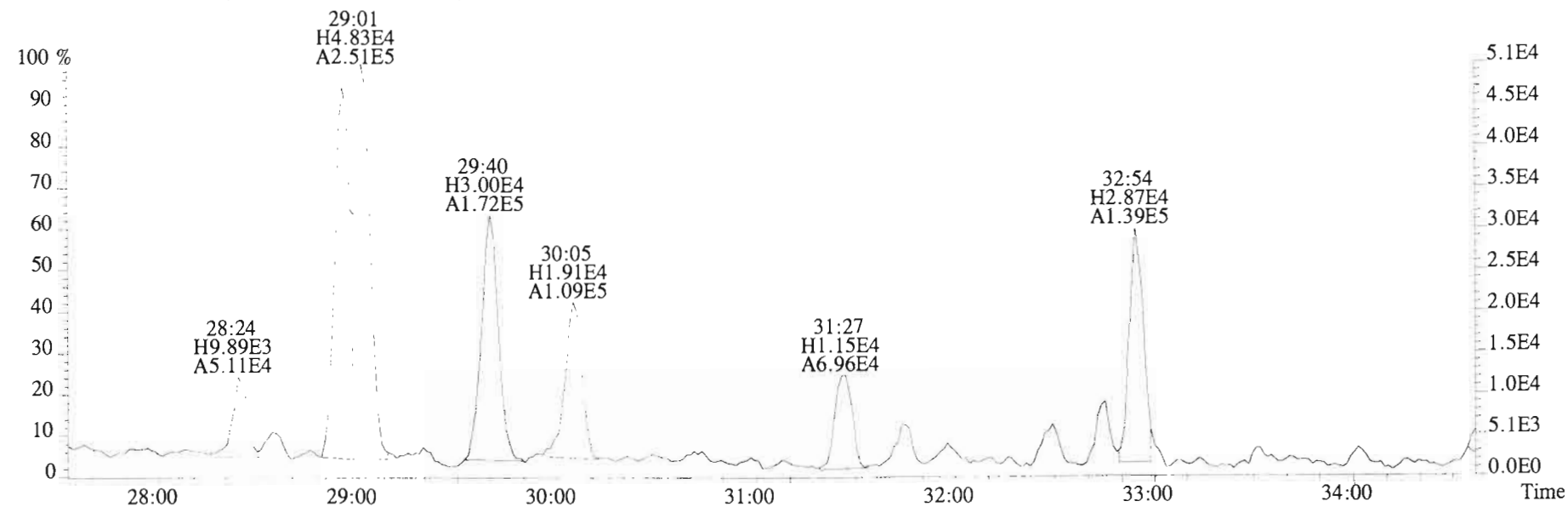
269.9986 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,68992.0,0.00%,F,F)



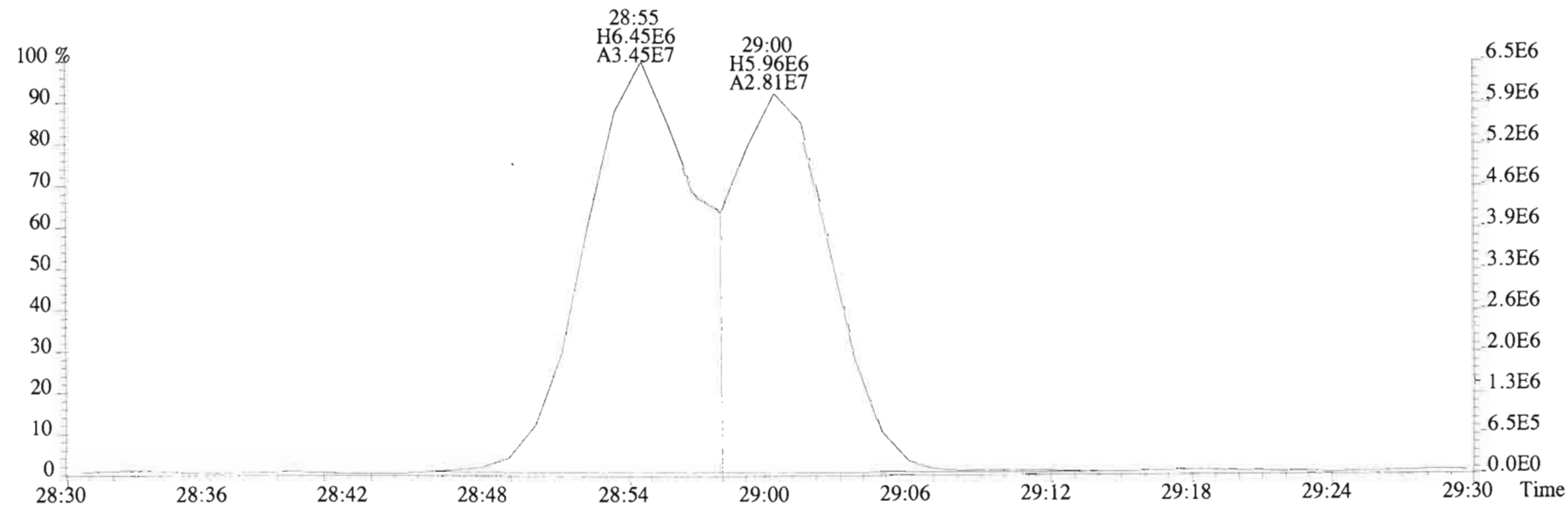
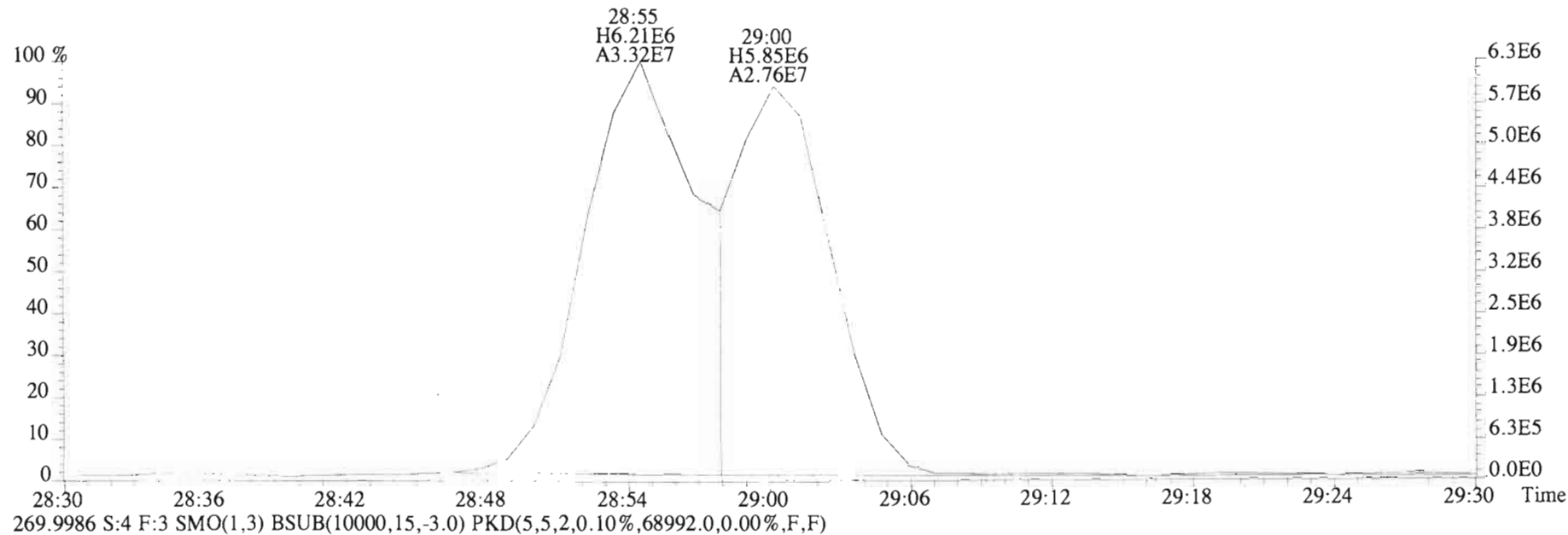
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 255.9613 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3308.0,0.00%,F,F)



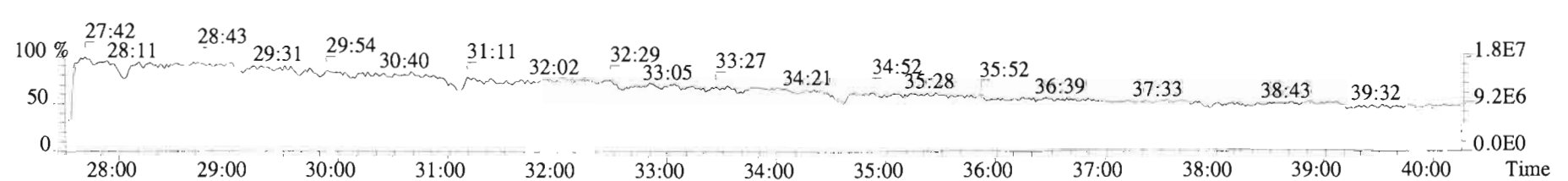
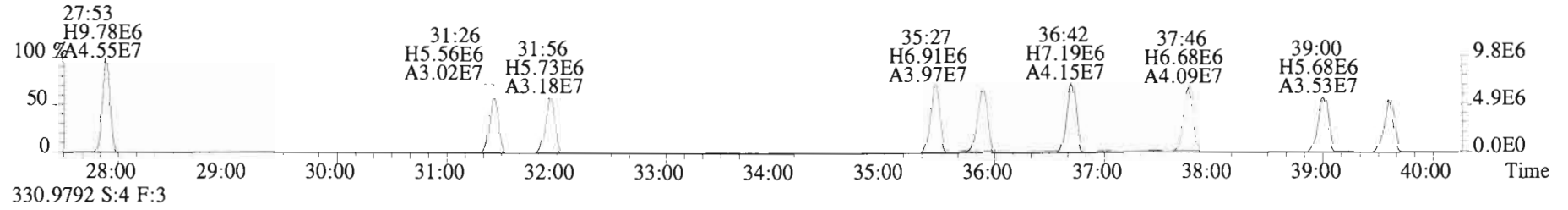
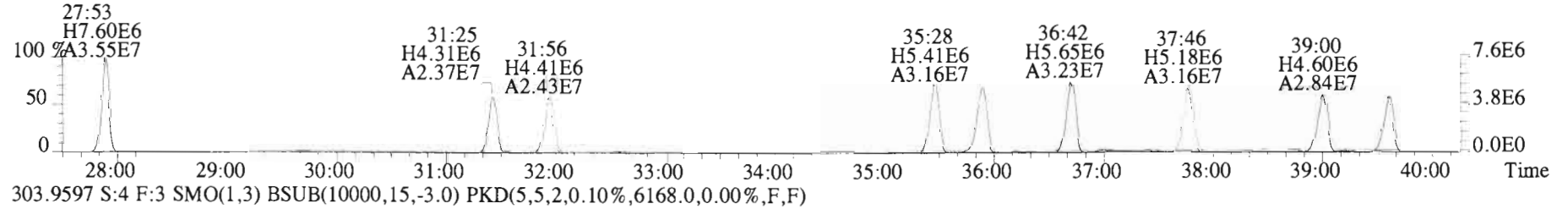
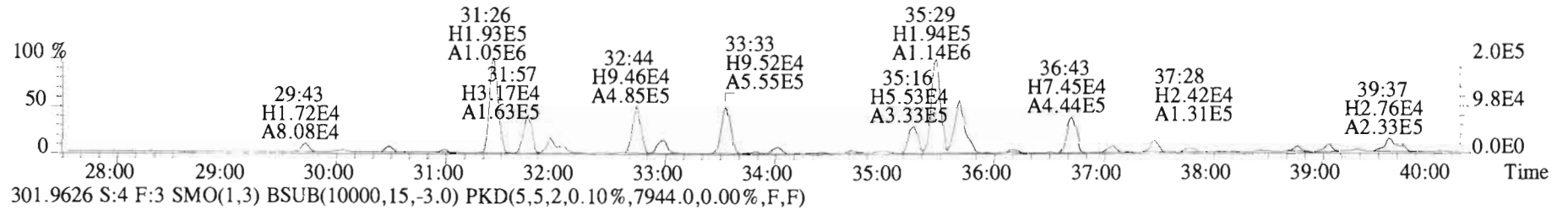
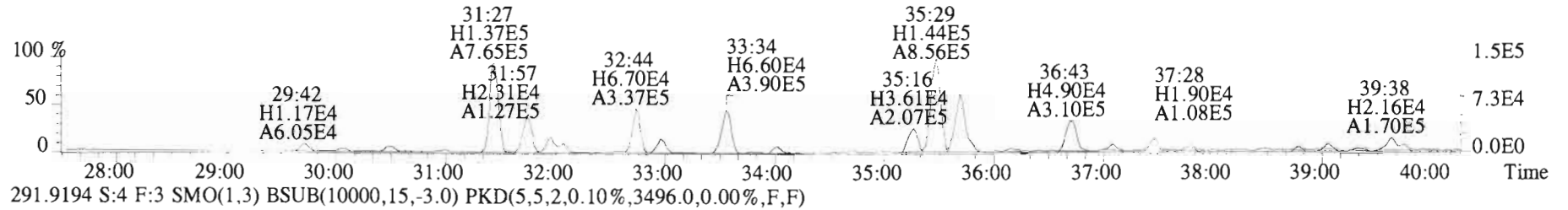
257.9584 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2940.0,0.00%,F,F)



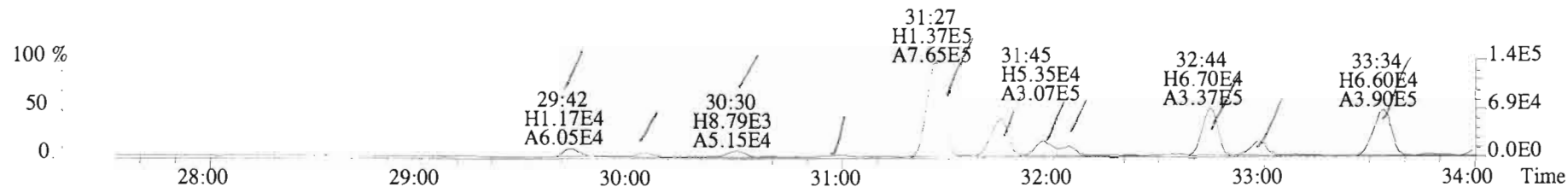
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
268.0016 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,107824.0,0.00%,F,F)



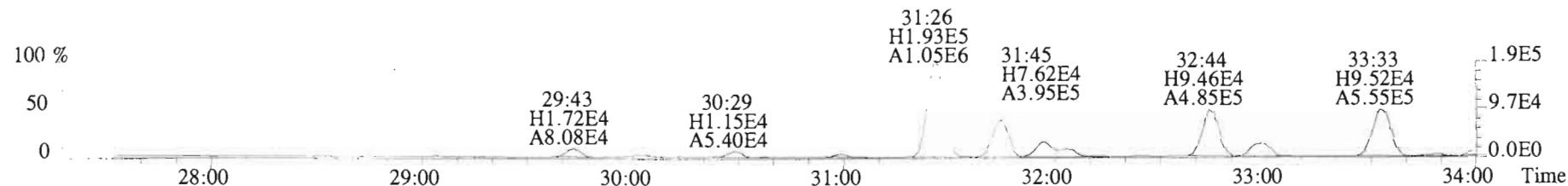
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3356.0,0.00%,F,F)



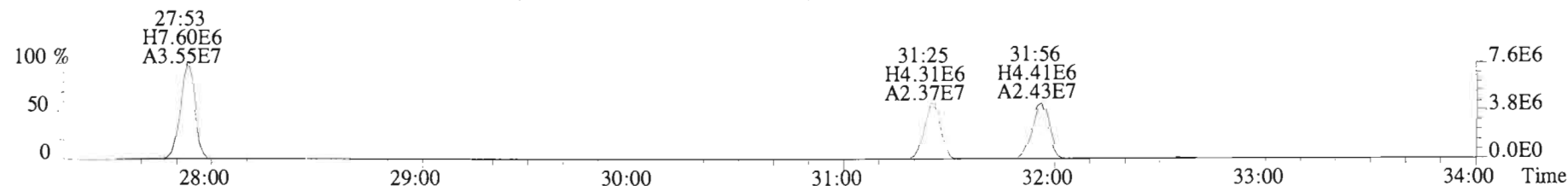
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3356.0,0.00%,F,F)



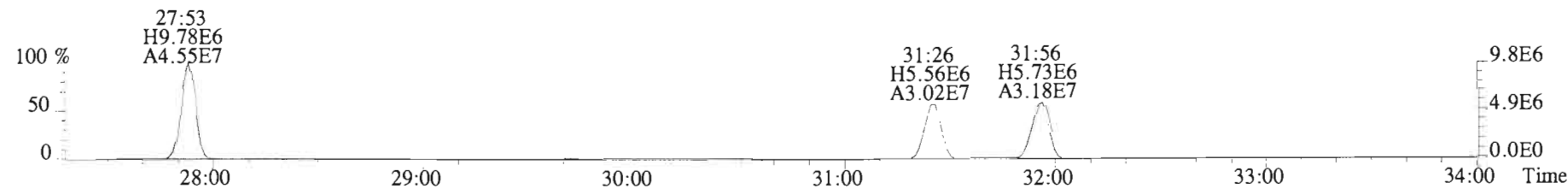
291.9194 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3496.0,0.00%,F,F)



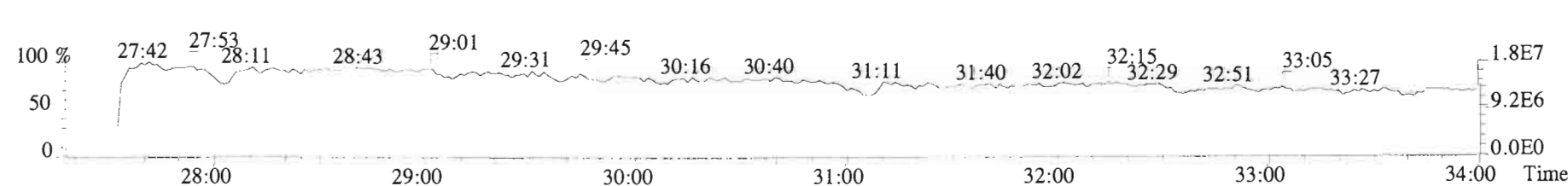
301.9626 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7944.0,0.00%,F,F)



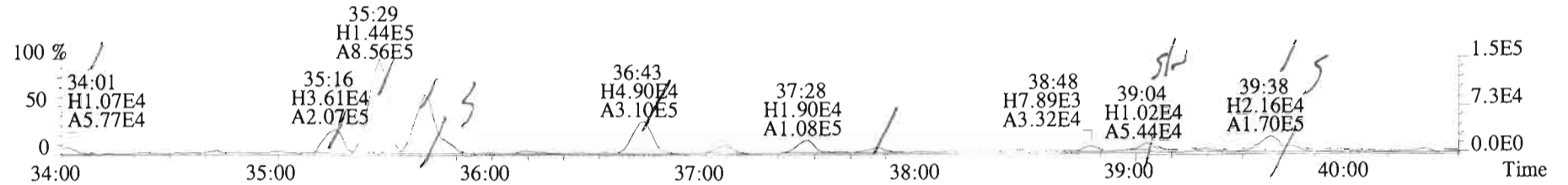
303.9597 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6168.0,0.00%,F,F)



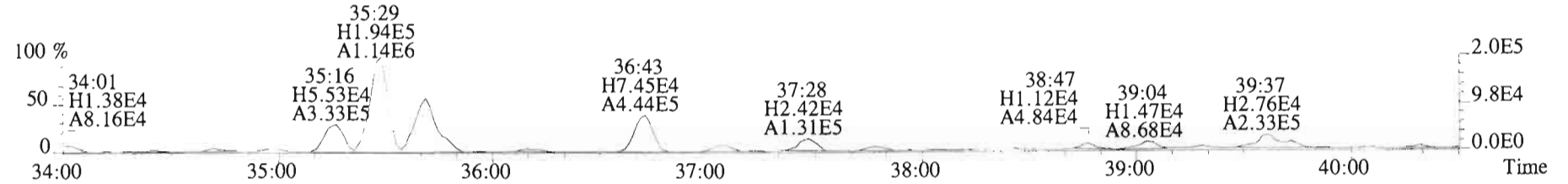
330.9792 S:4 F:3



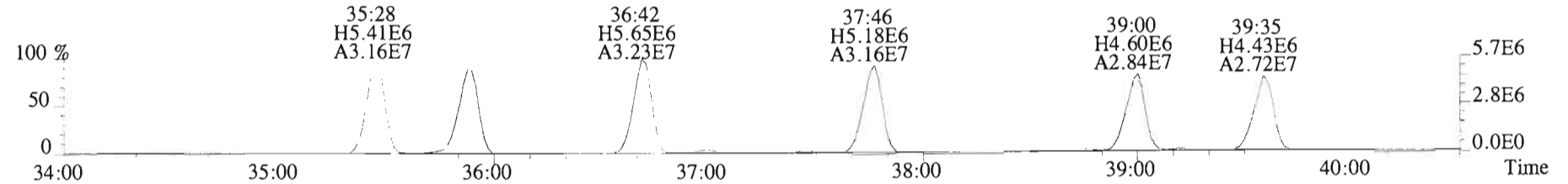
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3356.0,0.00%,F,F)



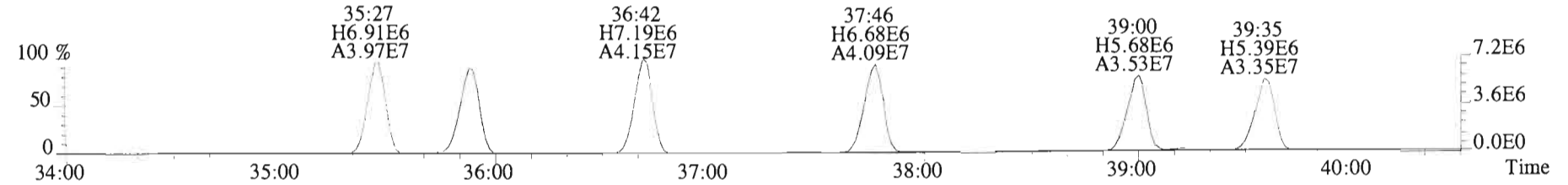
291.9194 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3496.0,0.00%,F,F)



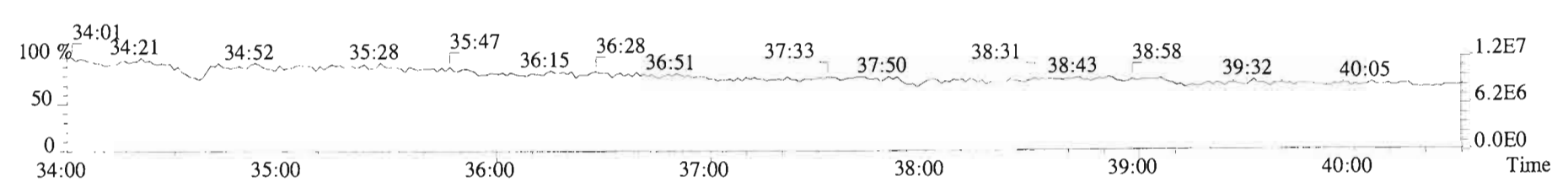
301.9626 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7944.0,0.00%,F,F)



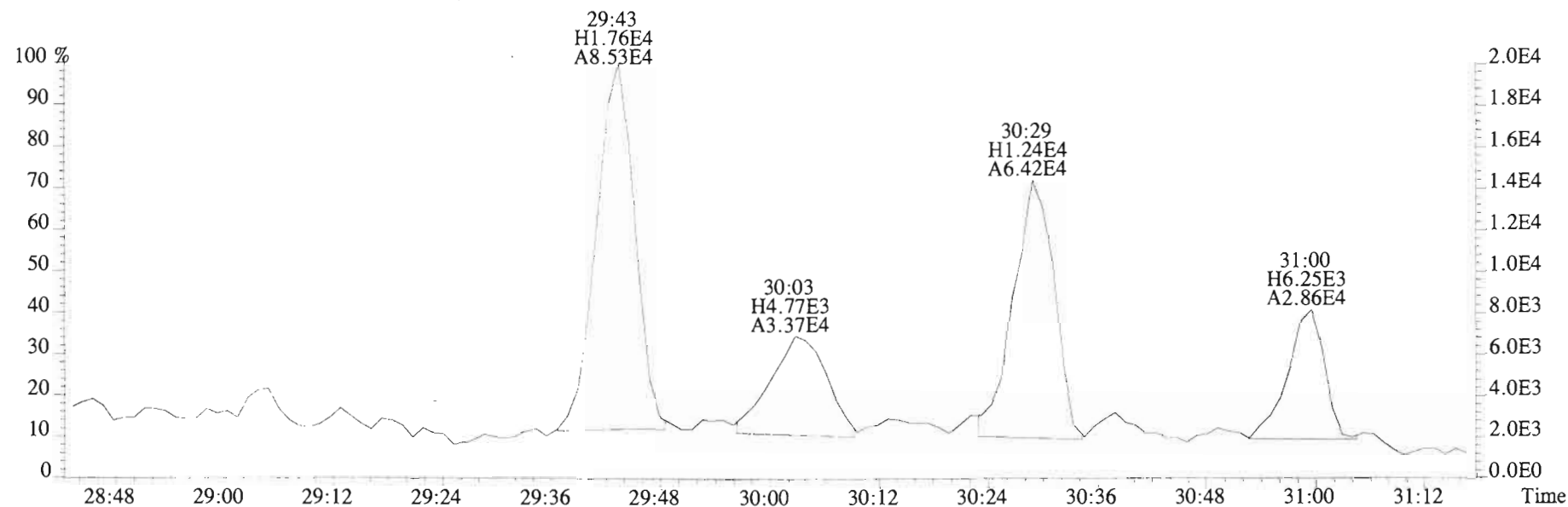
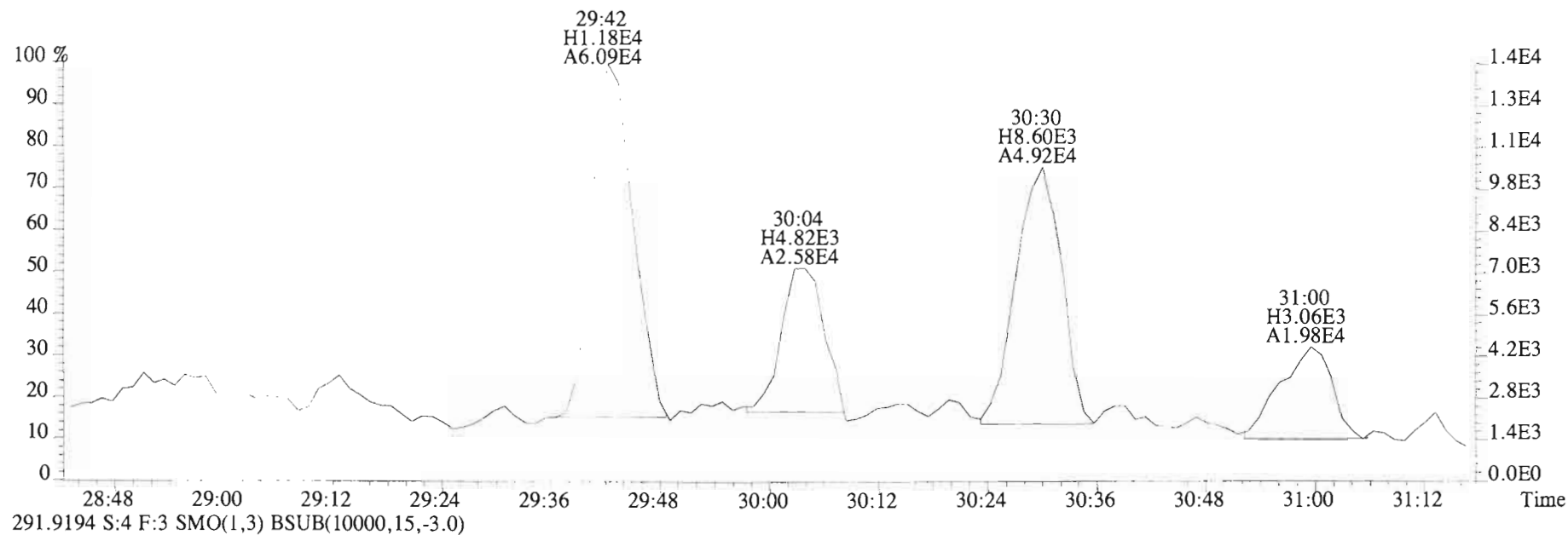
303.9597 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,6168.0,0.00%,F,F)



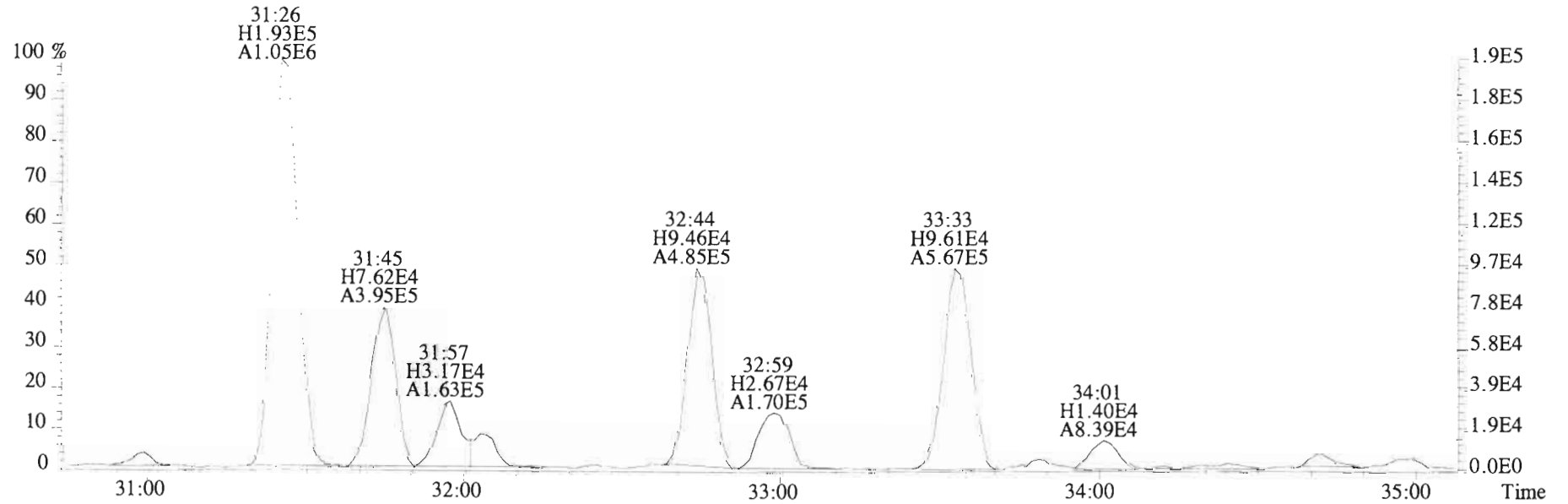
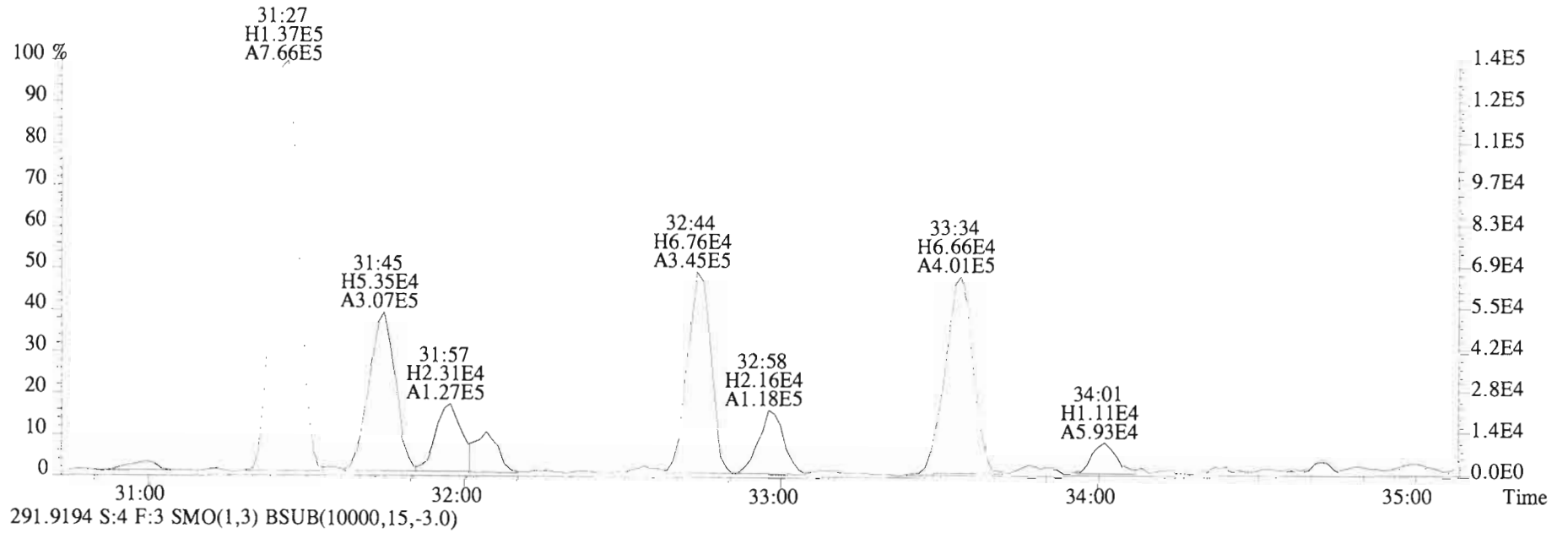
330.9792 S:4 F:3



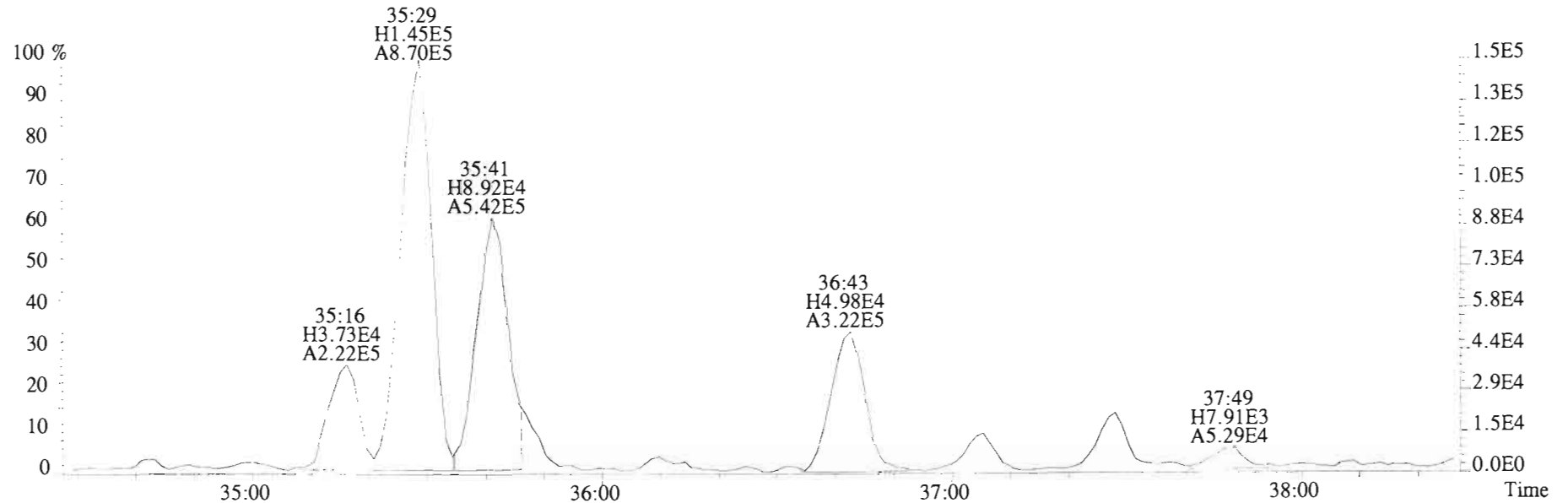
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0)



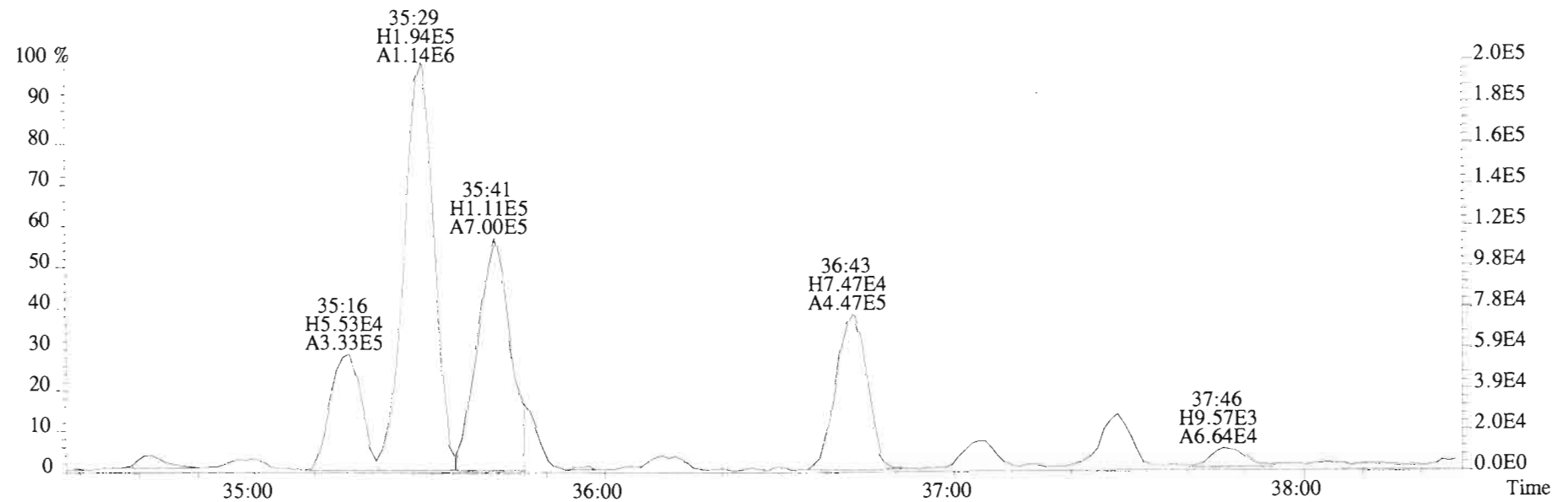
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0)



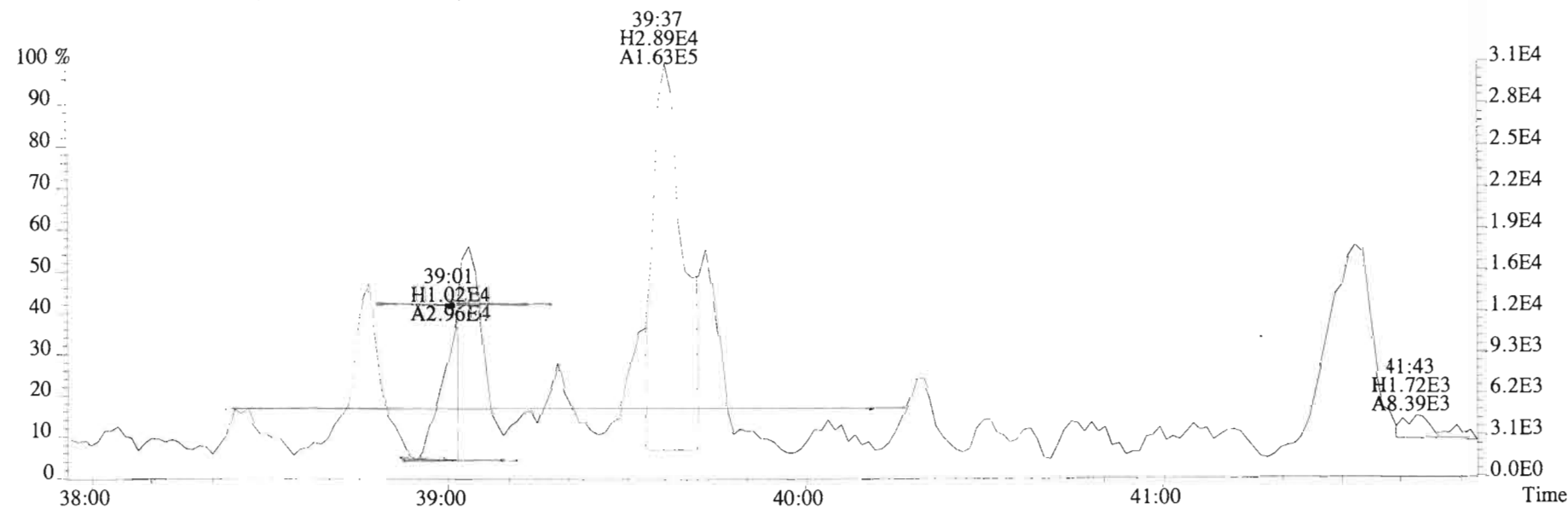
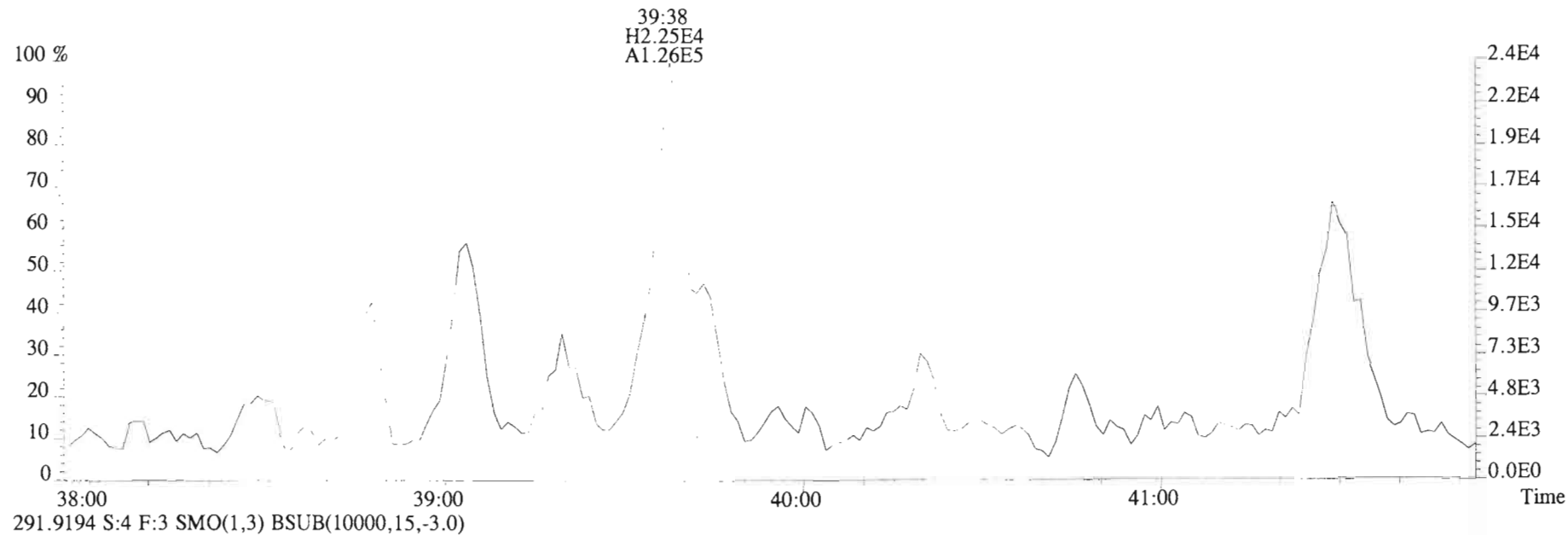
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0)



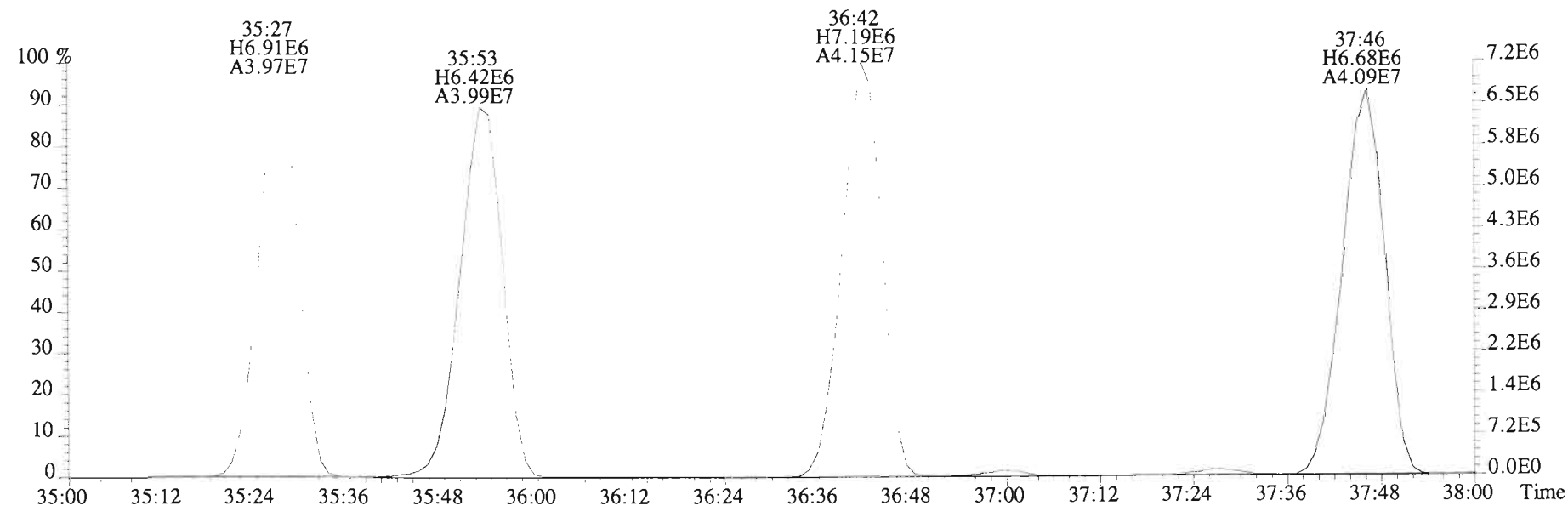
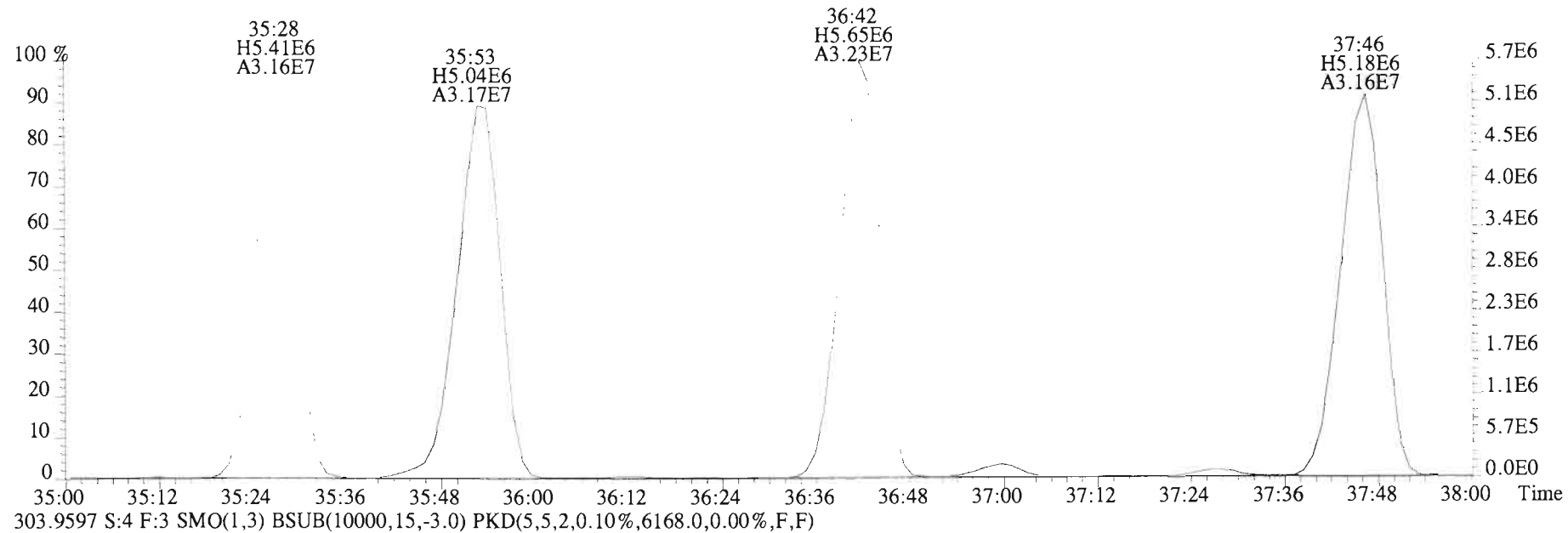
291.9194 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0)



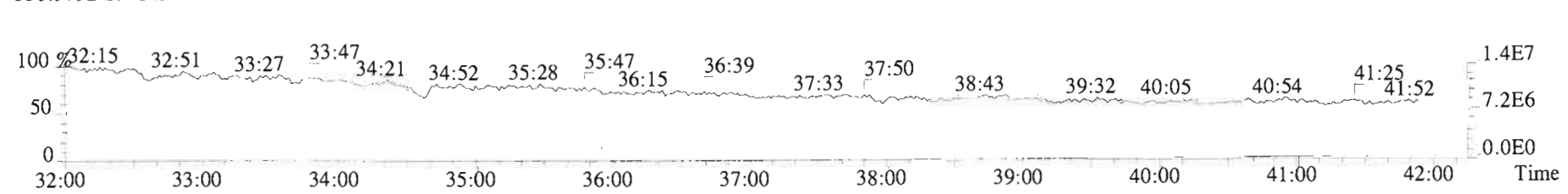
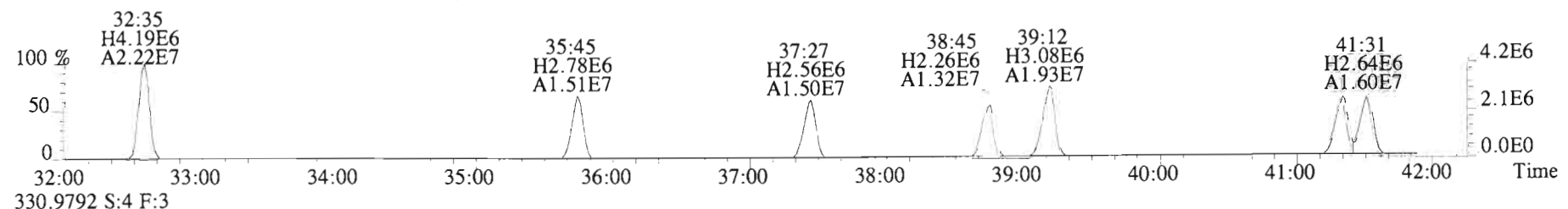
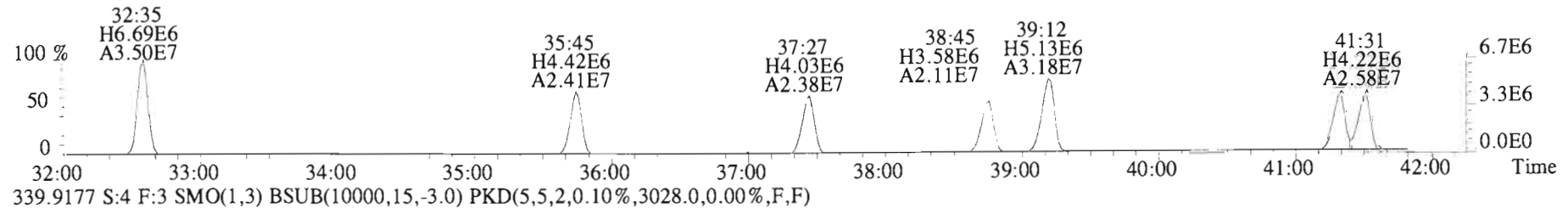
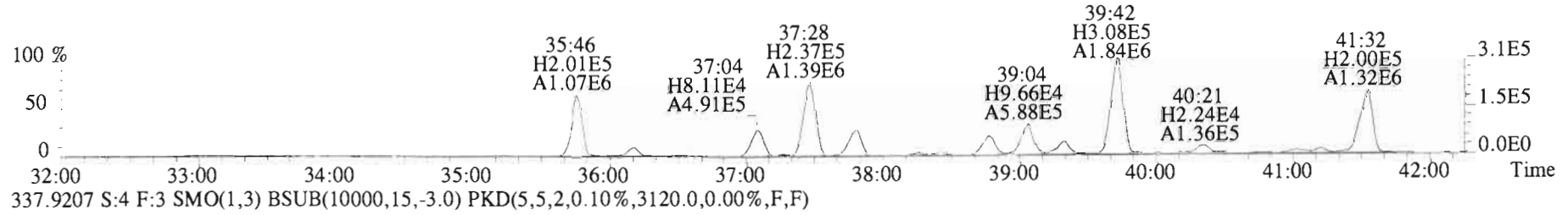
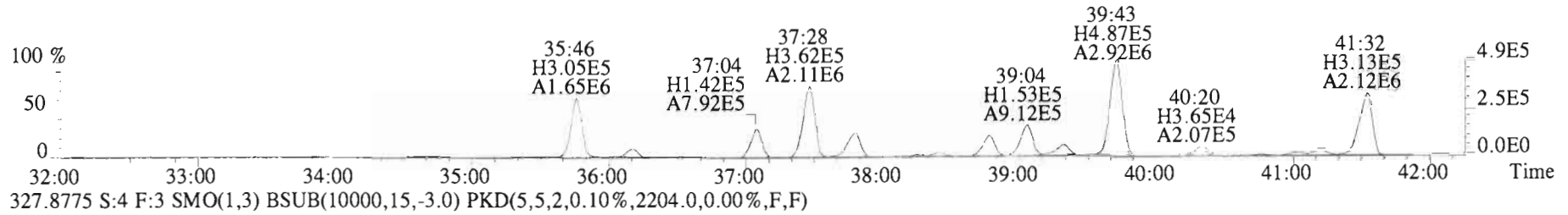
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
289.9224 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0)



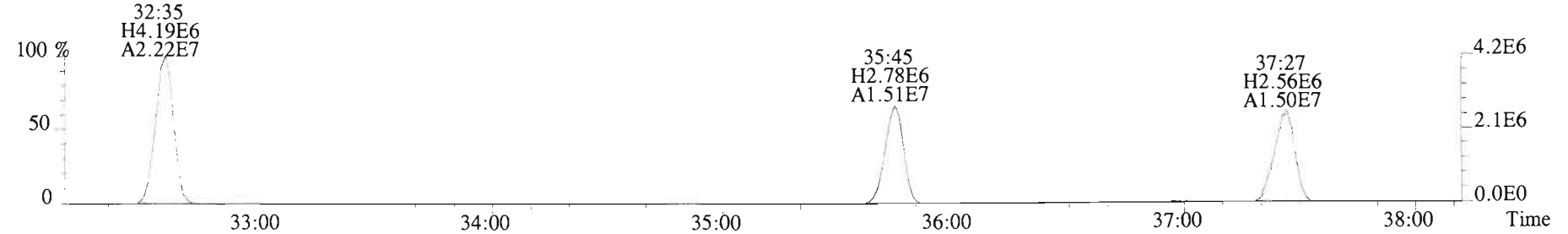
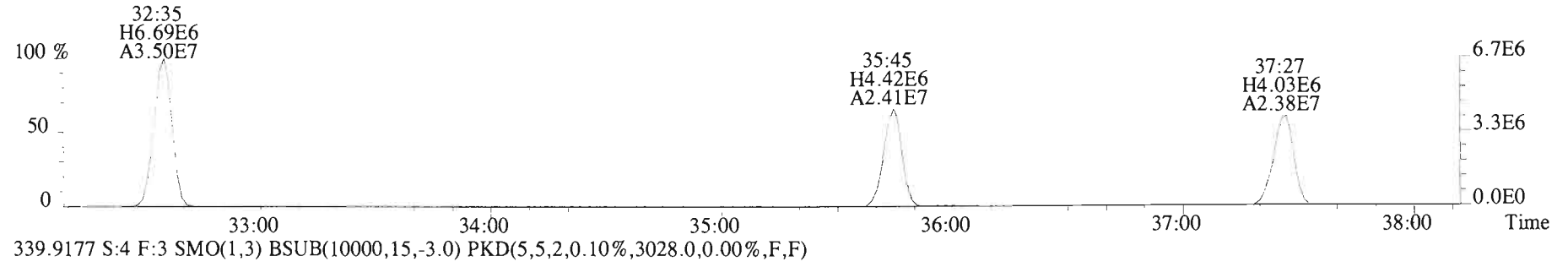
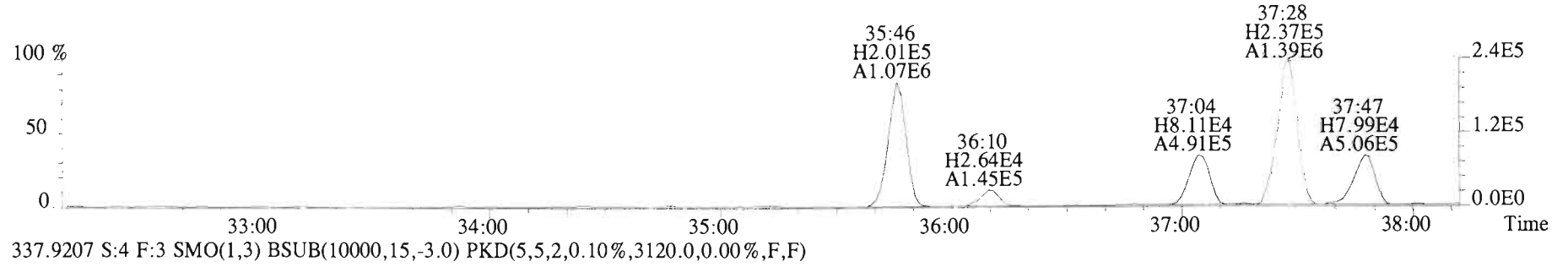
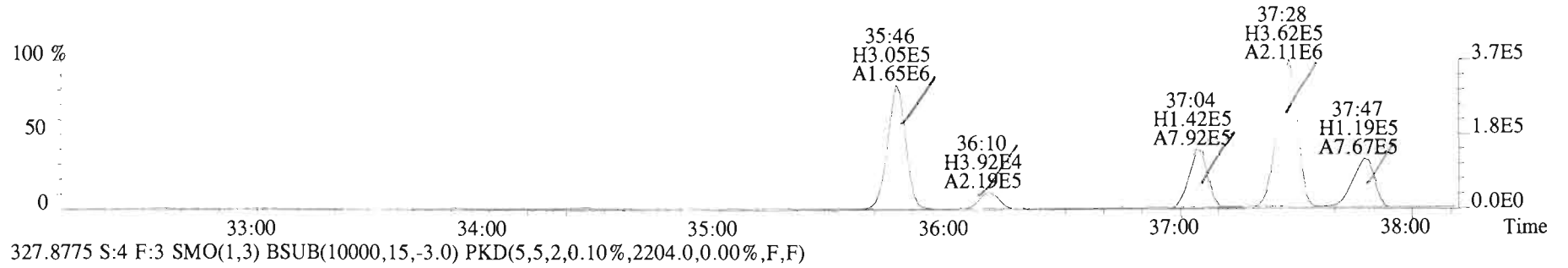
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
301.9626 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,7944.0,0.00%,F,F)



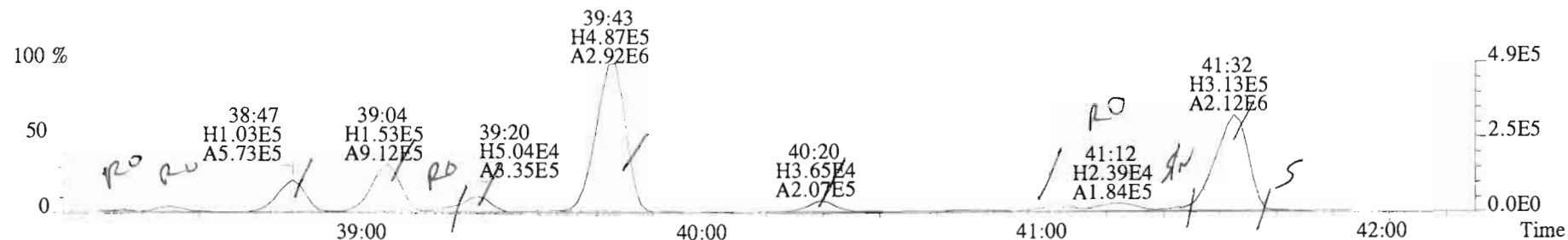
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2856.0,0.00%,F,F)



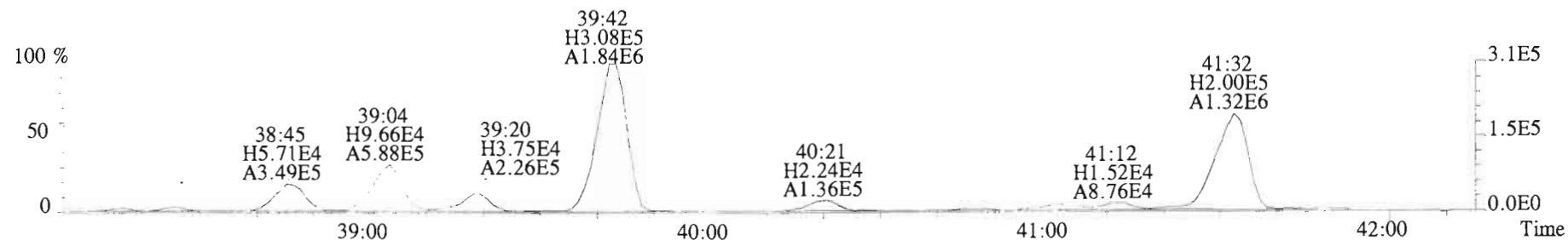
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2856.0,0.00%,F,F)



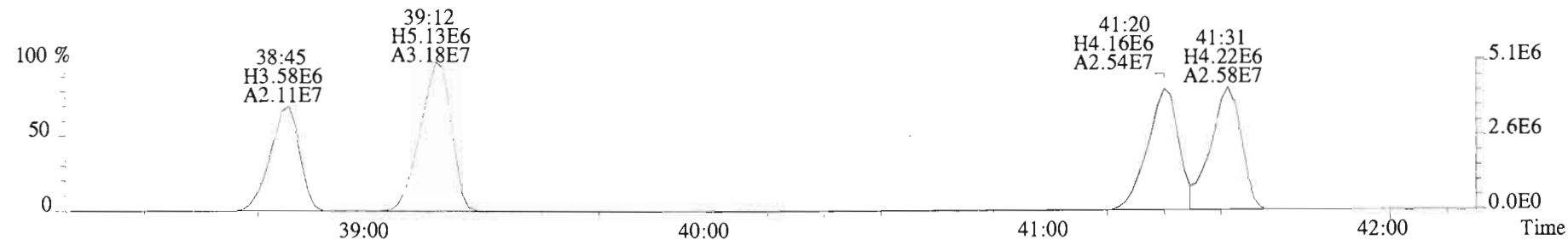
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2856.0,0.00%,F,F)



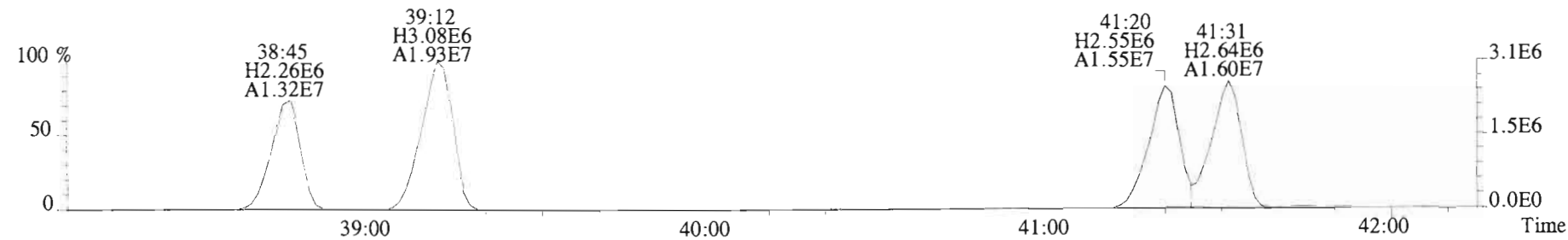
327.8775 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2204.0,0.00%,F,F)



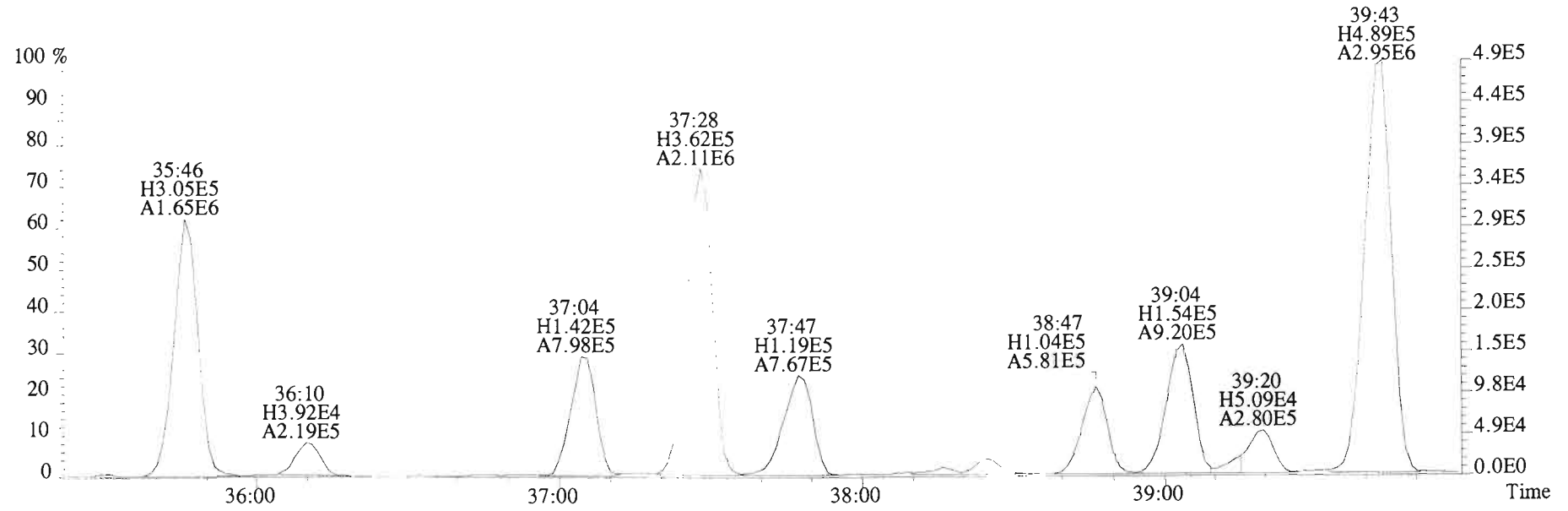
337.9207 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3120.0,0.00%,F,F)



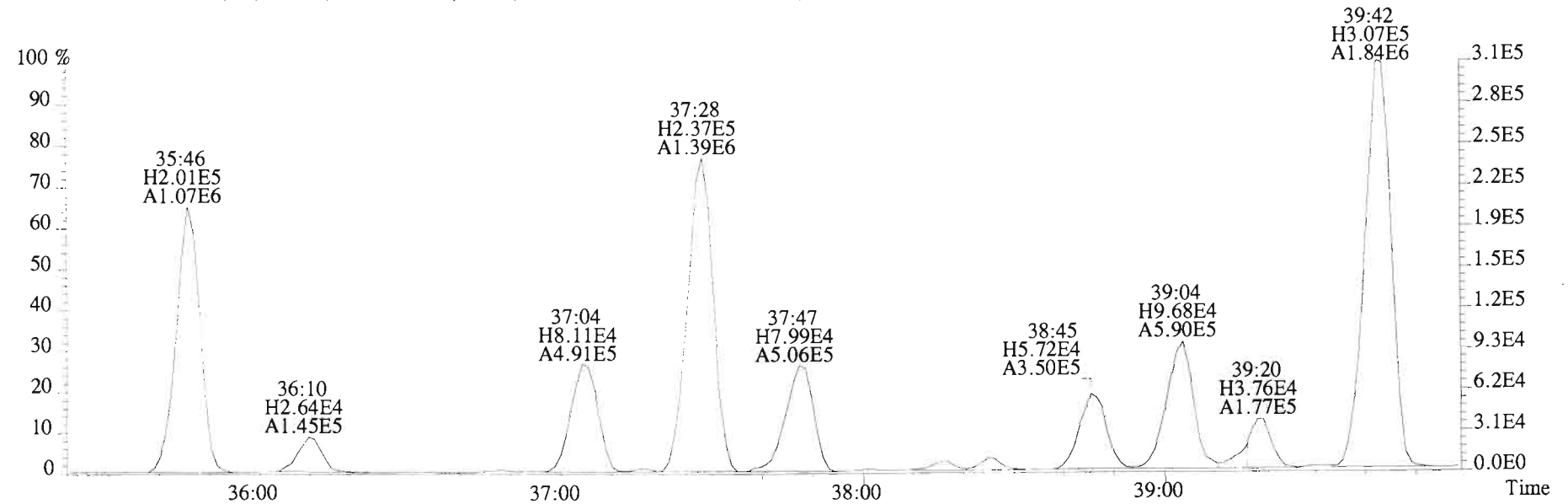
339.9177 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3028.0,0.00%,F,F)



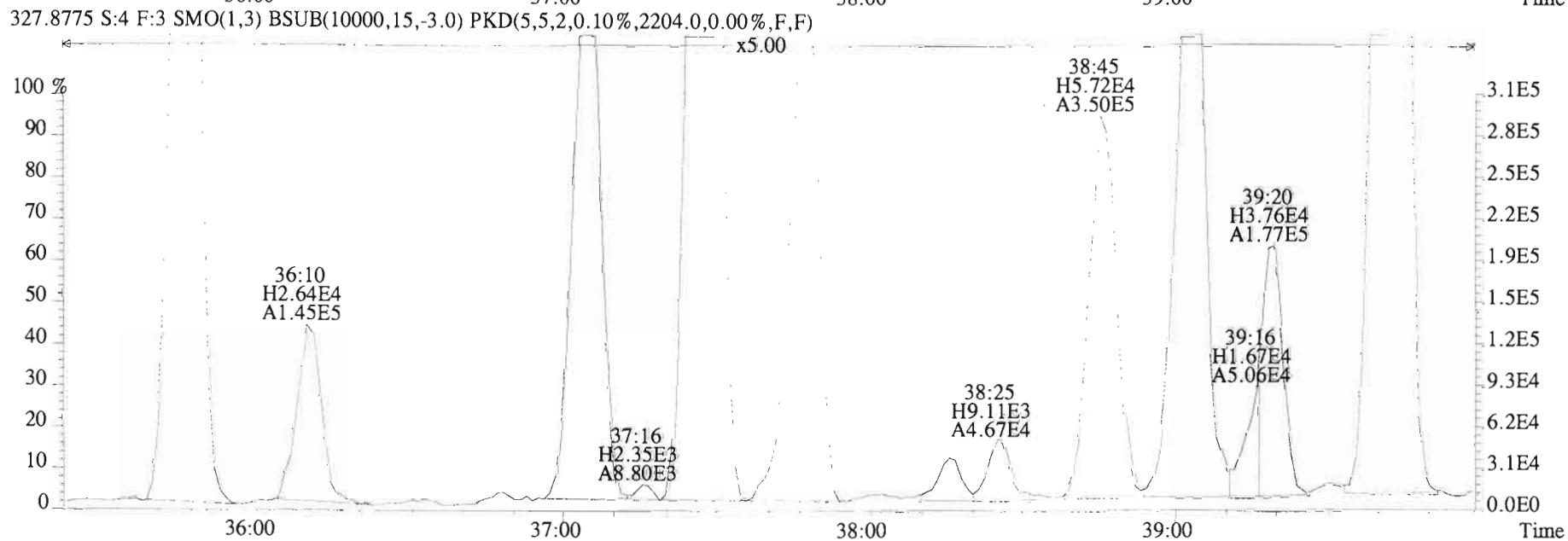
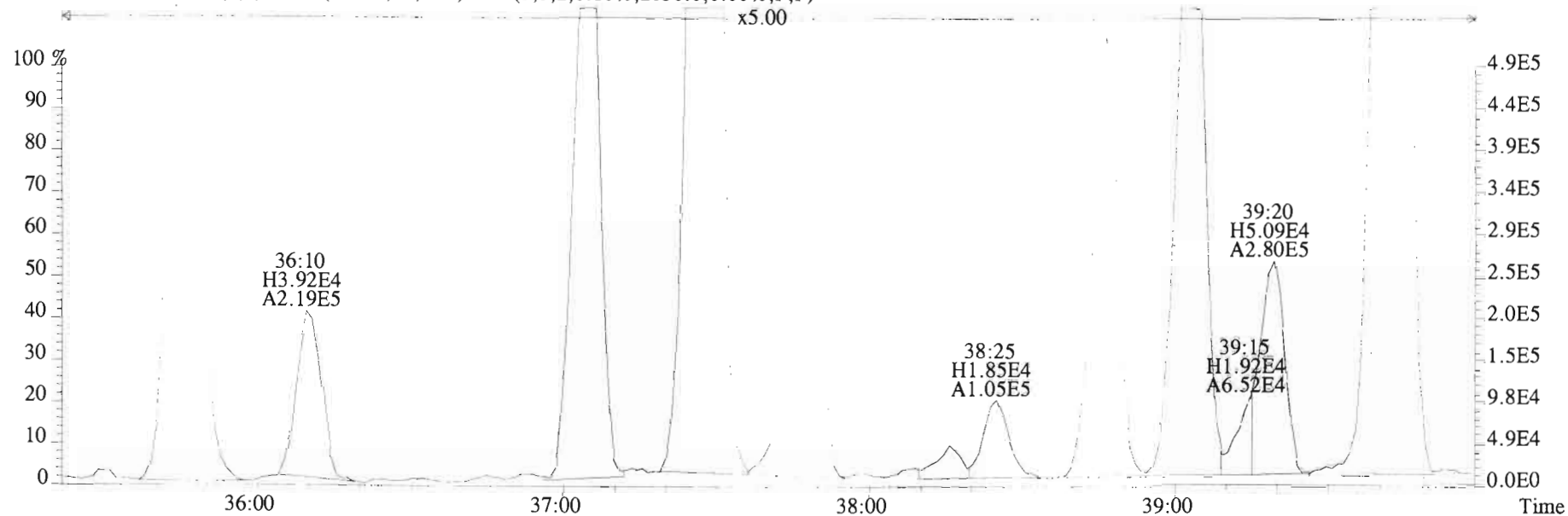
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2856.0,0.00%,F,F)



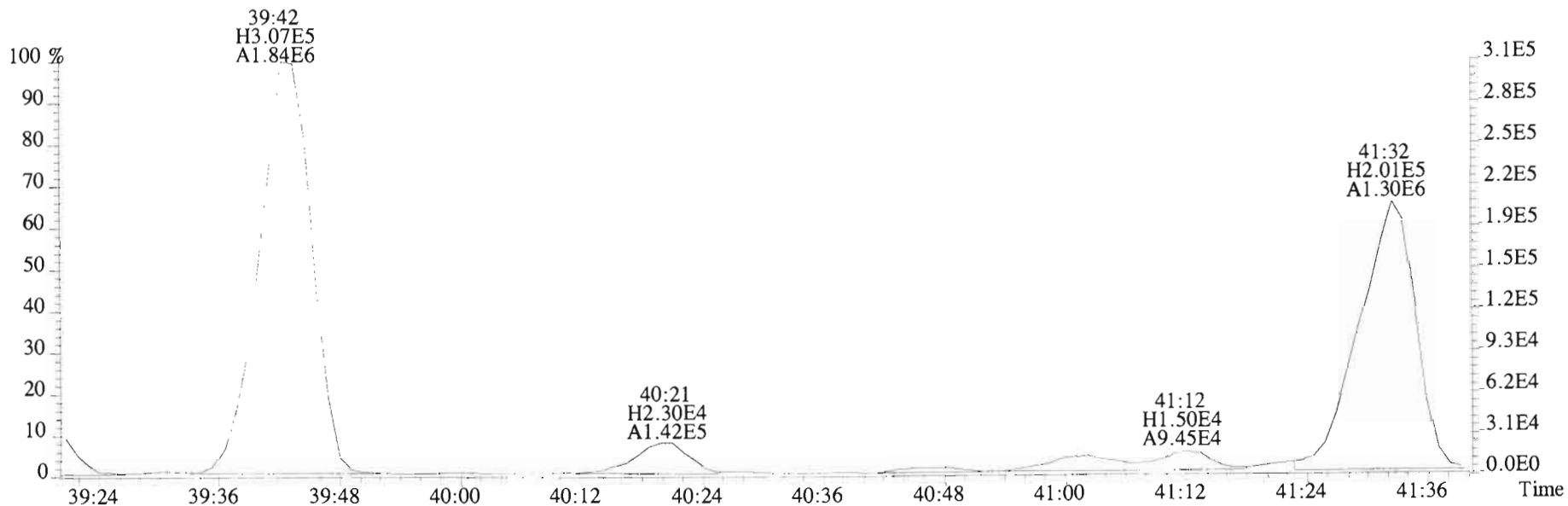
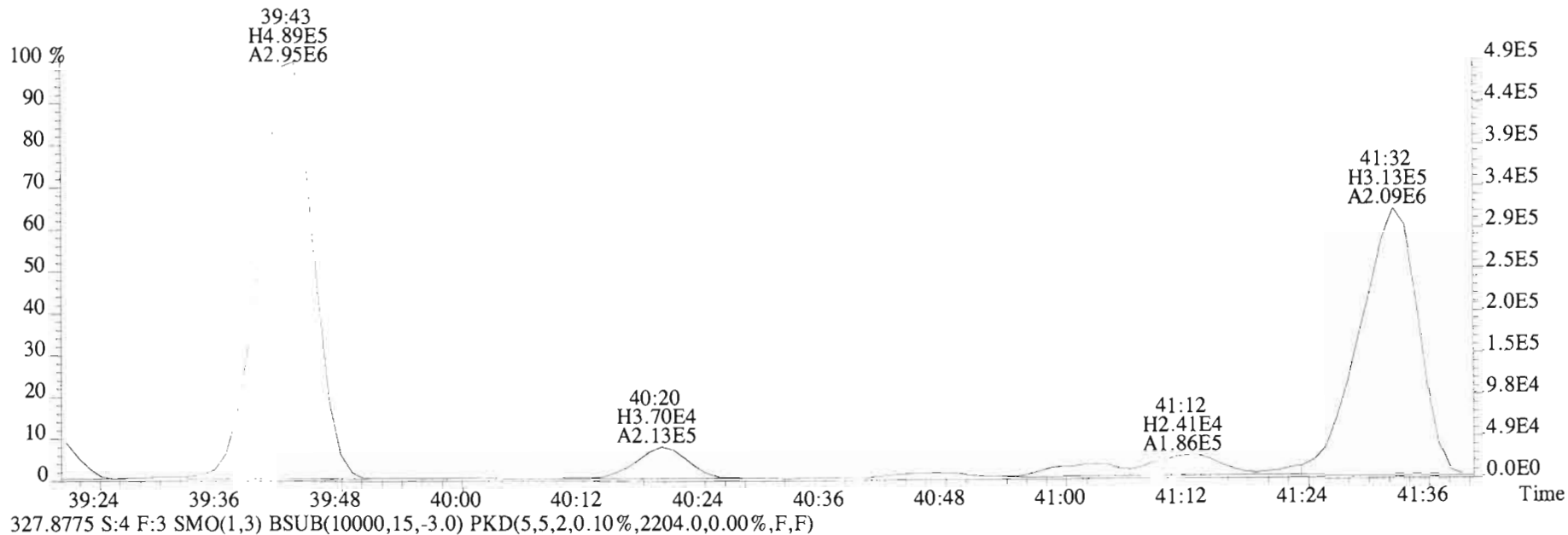
327.8775 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2204.0,0.00%,F,F)



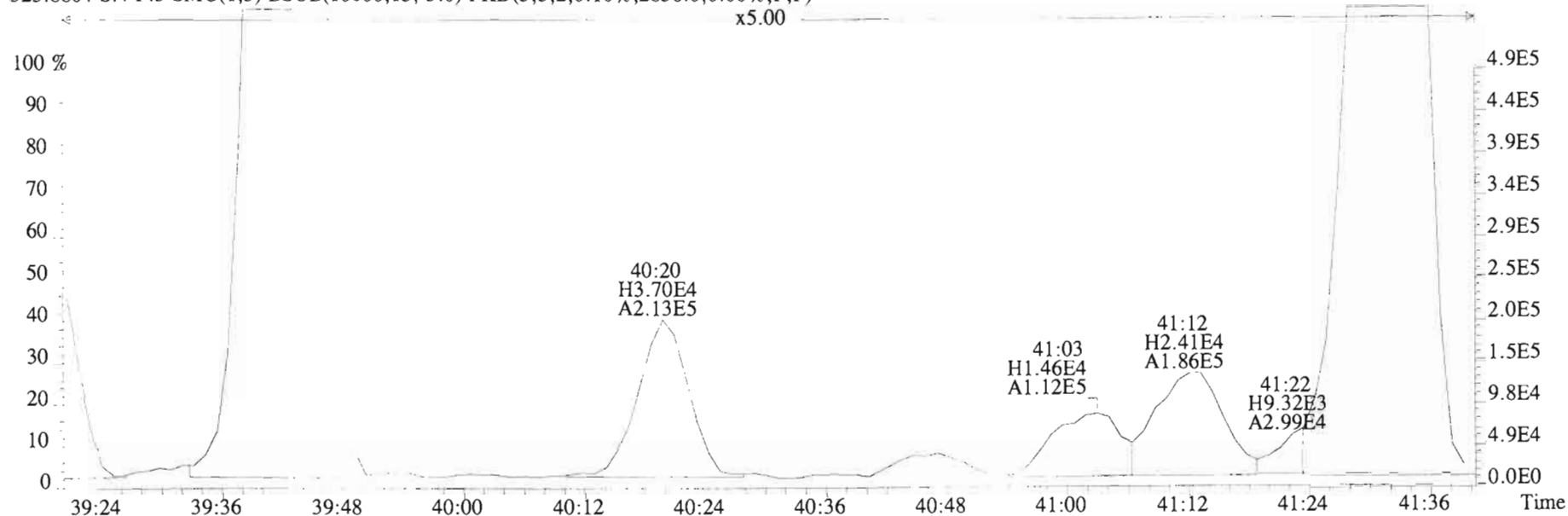
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 Sample#4 File Text: Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
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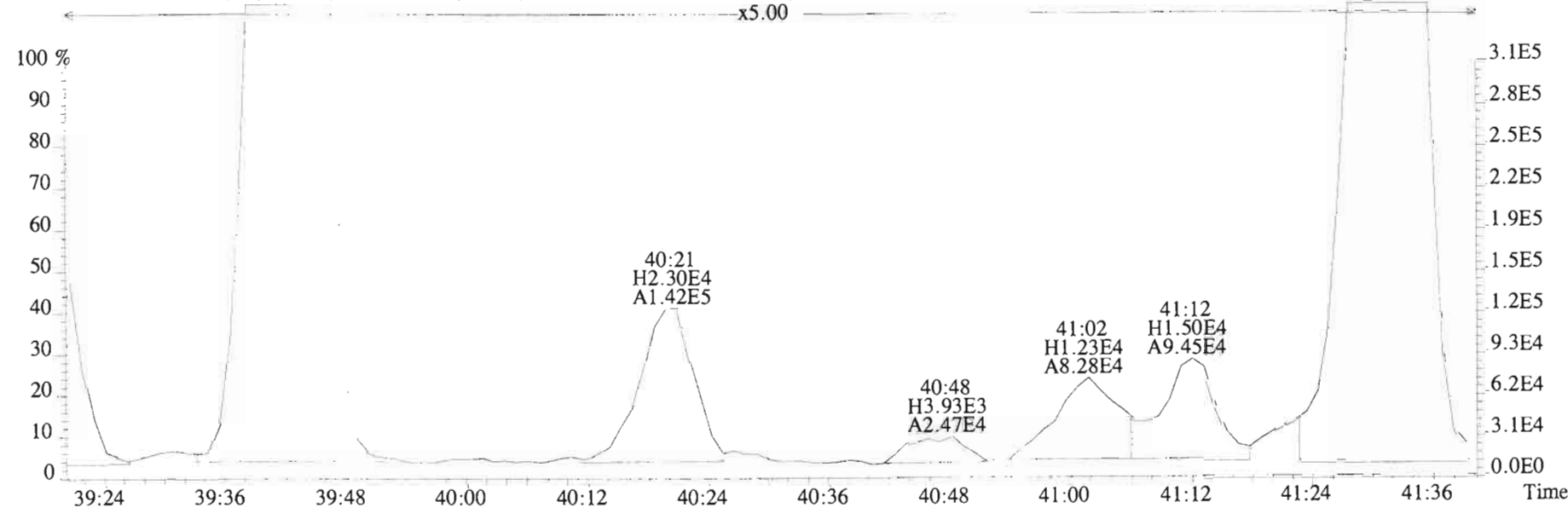
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Sample#4 File Text: Vista Analytical Laboratory VG-8 Text: 1500335-02 HC-NF-10-20150413-W 1 Exp: PCB_ZB1
325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2856.0,0.00%,F,F)



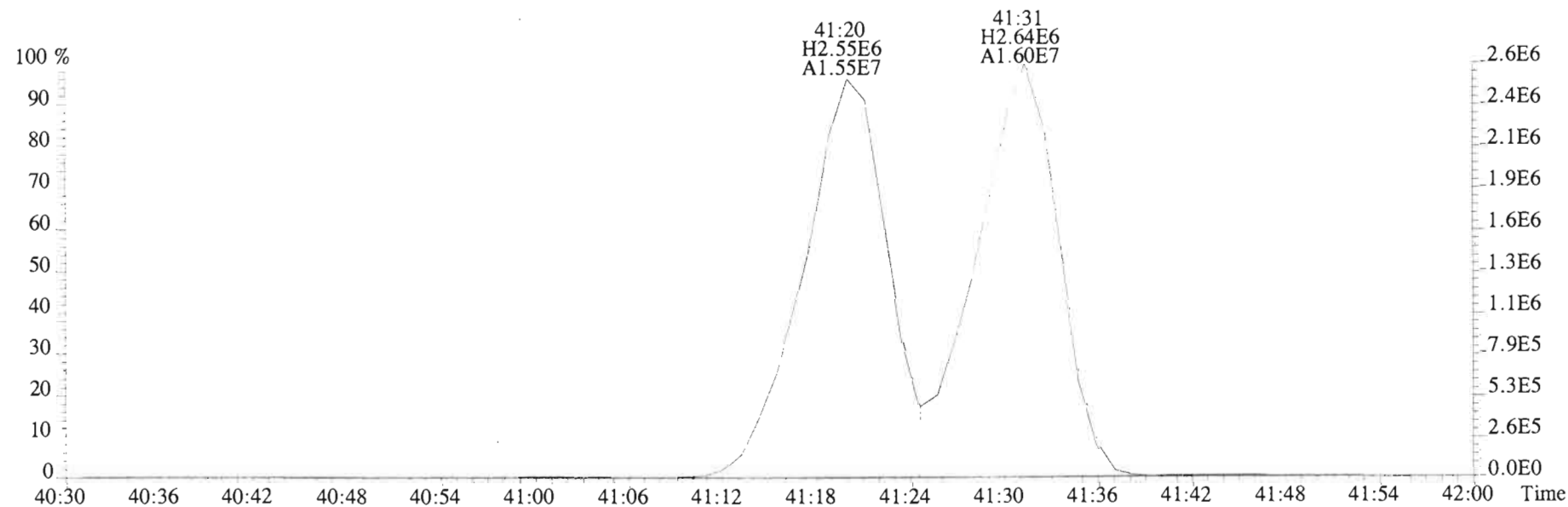
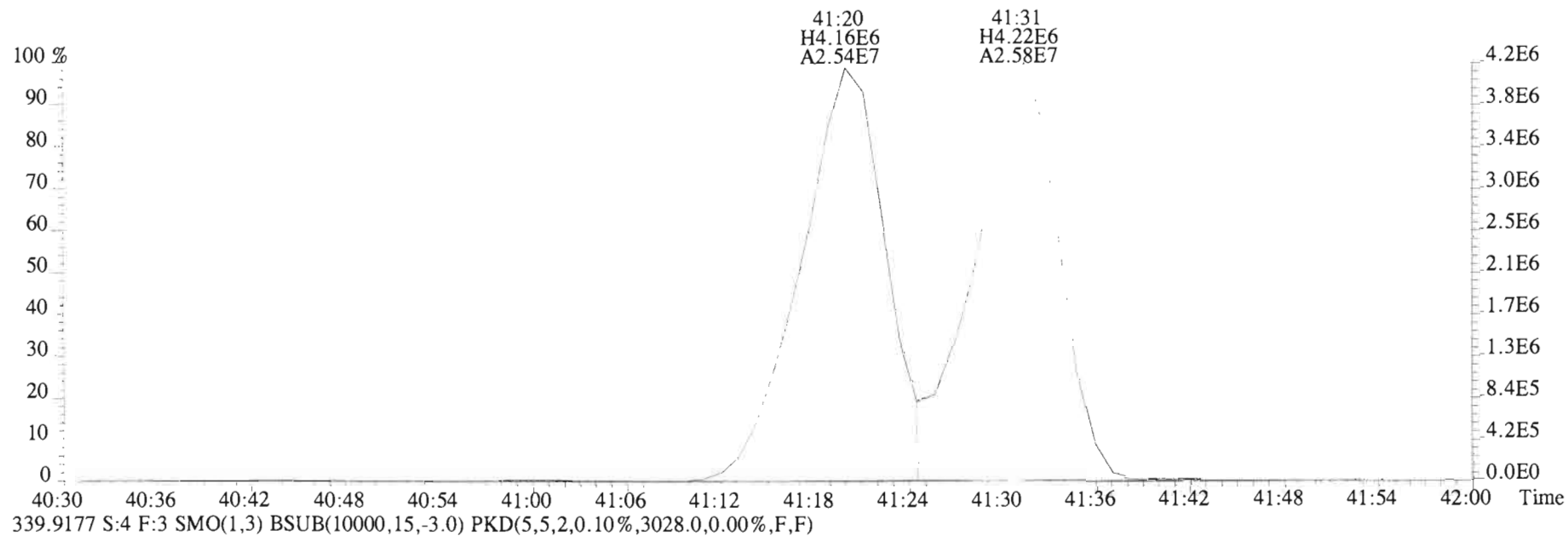
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 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 325.8804 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2856.0,0.00%,F,F)



327.8775 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2204.0,0.00%,F,F)



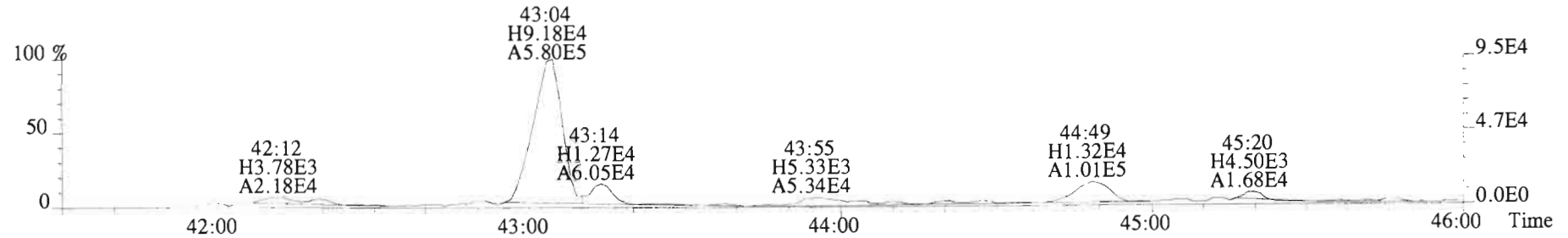
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
337.9207 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3120.0,0.00%,F,F)



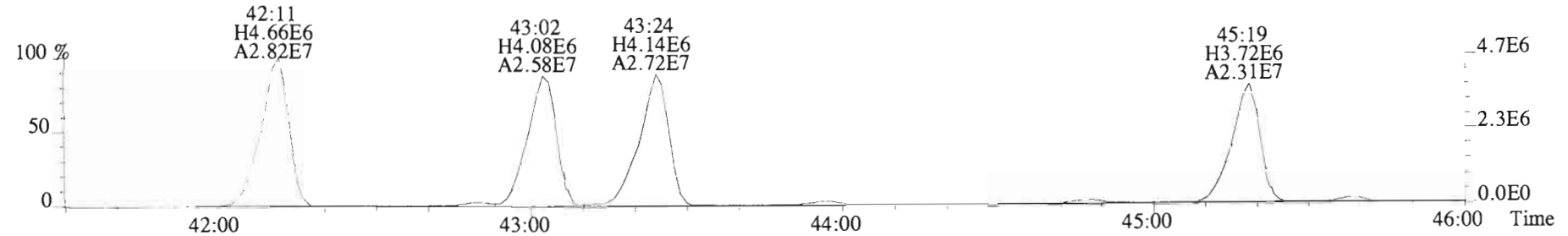
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
325.8804 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3508.0,0.00%,F,F)



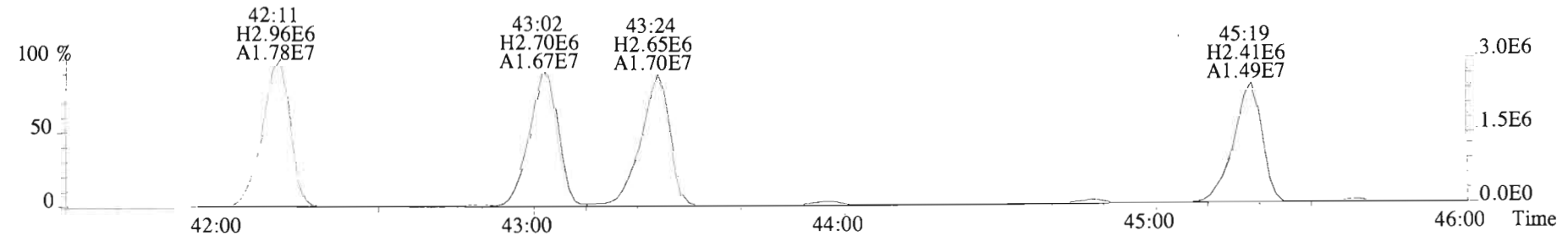
327.8775 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2428.0,0.00%,F,F)



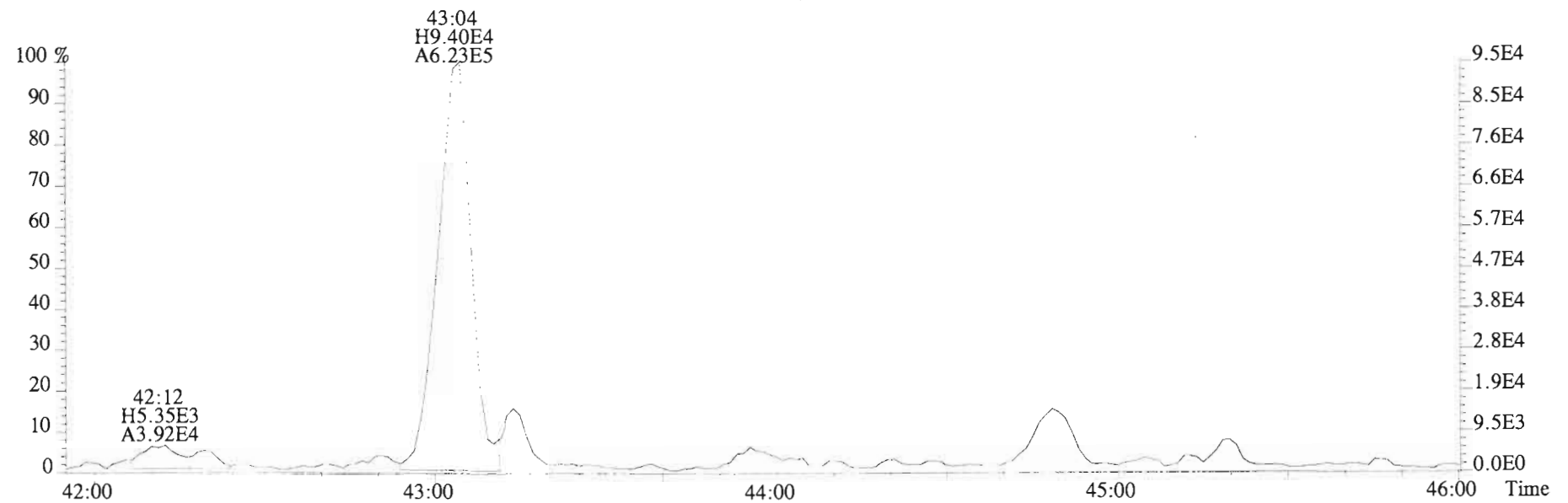
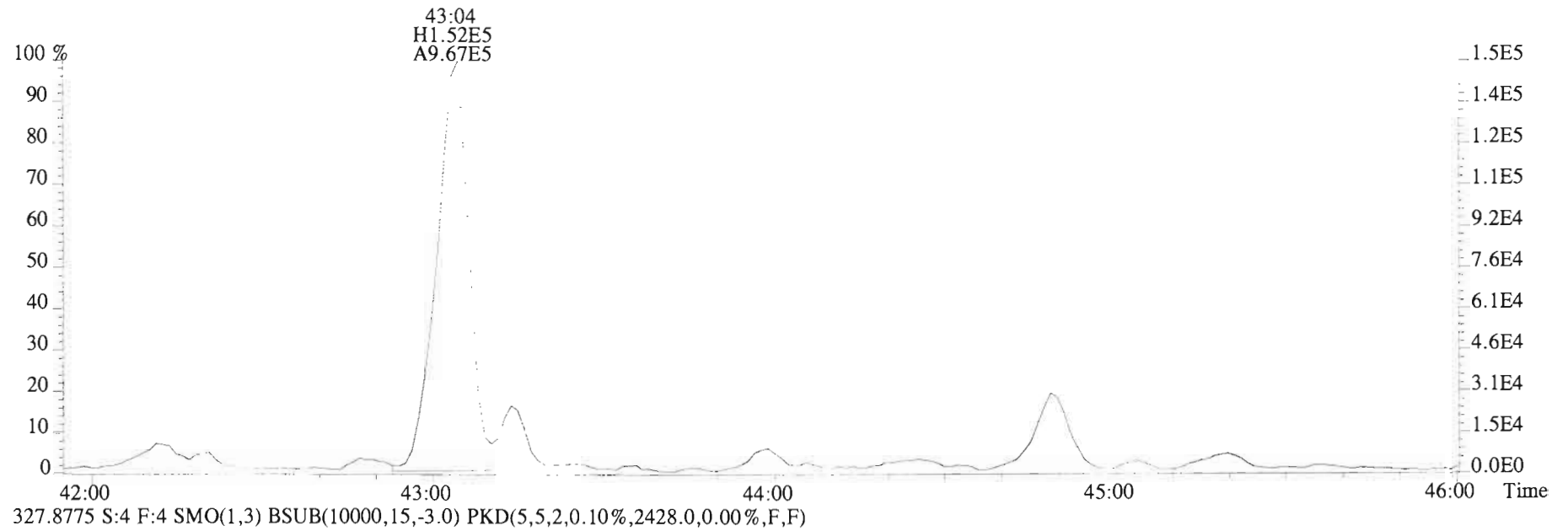
337.9207 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4916.0,0.00%,F,F)



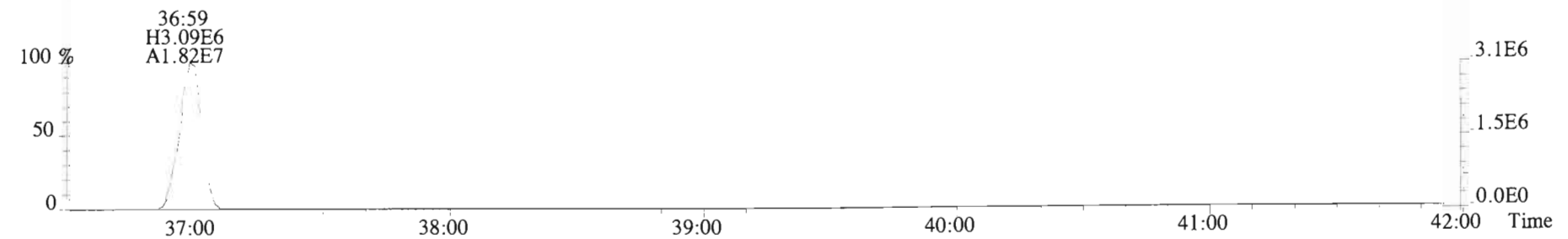
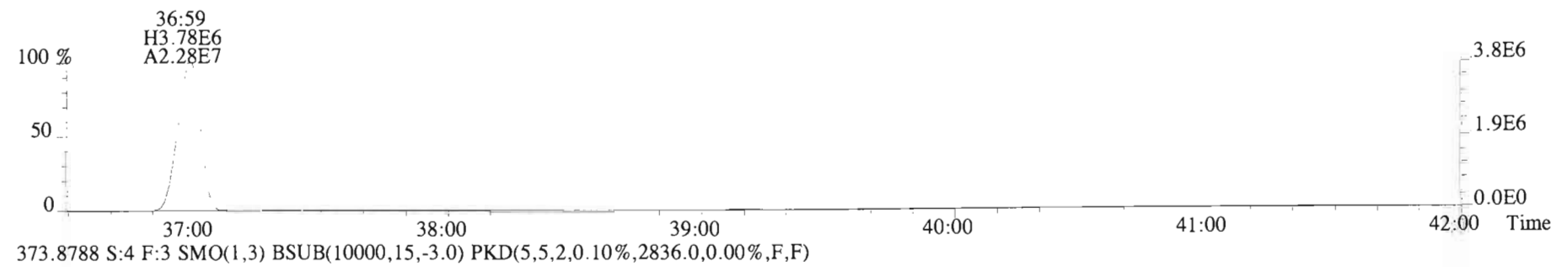
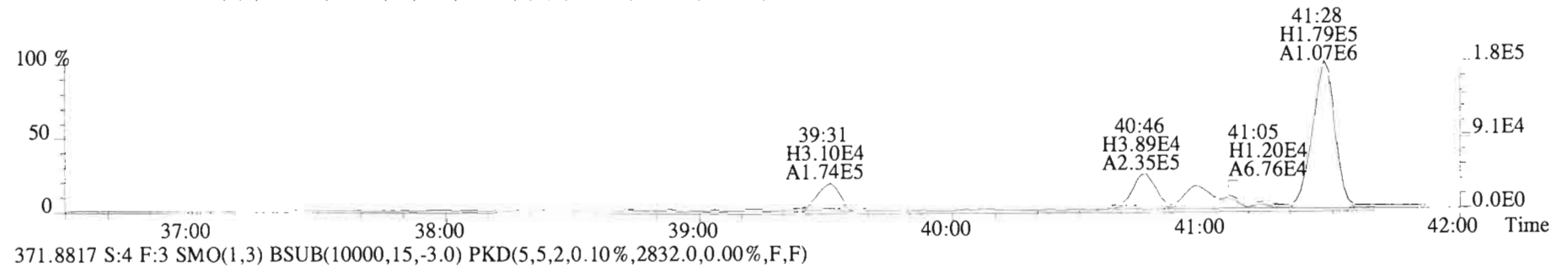
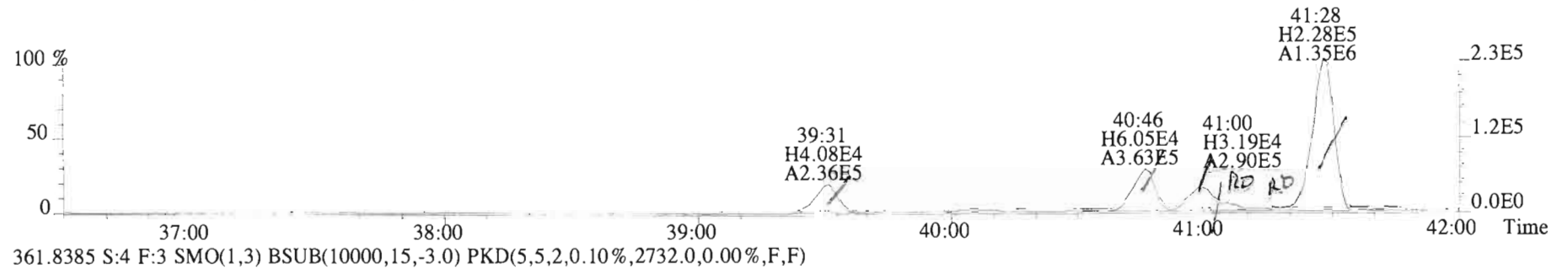
339.9177 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3912.0,0.00%,F,F)



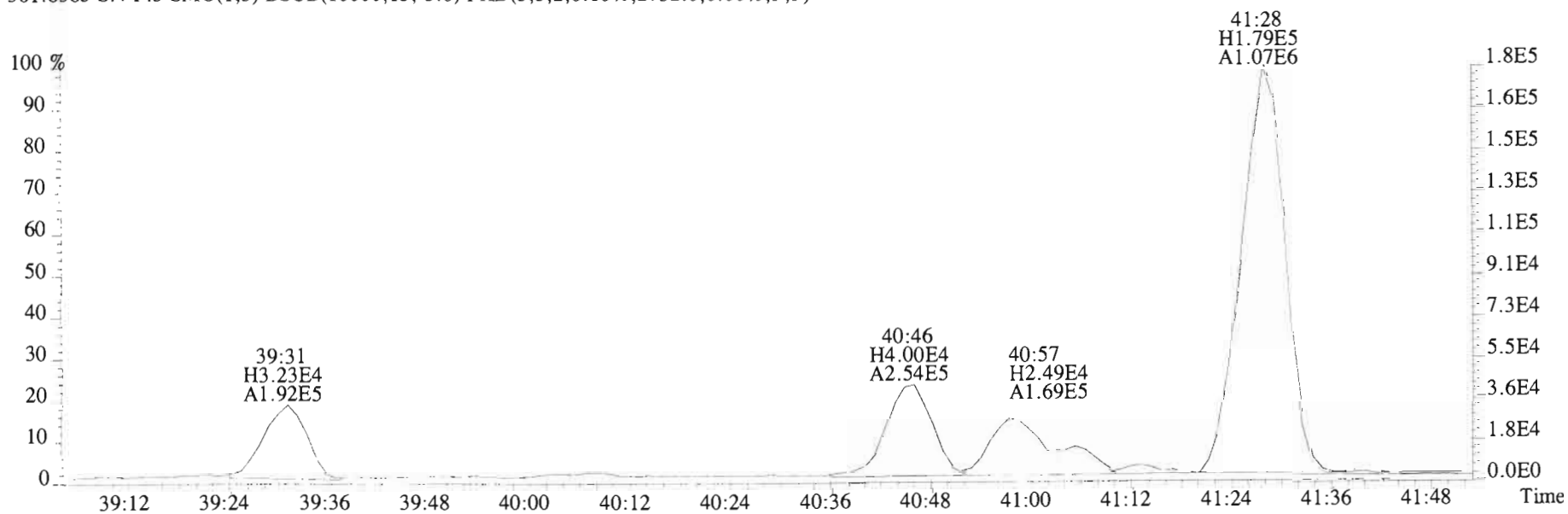
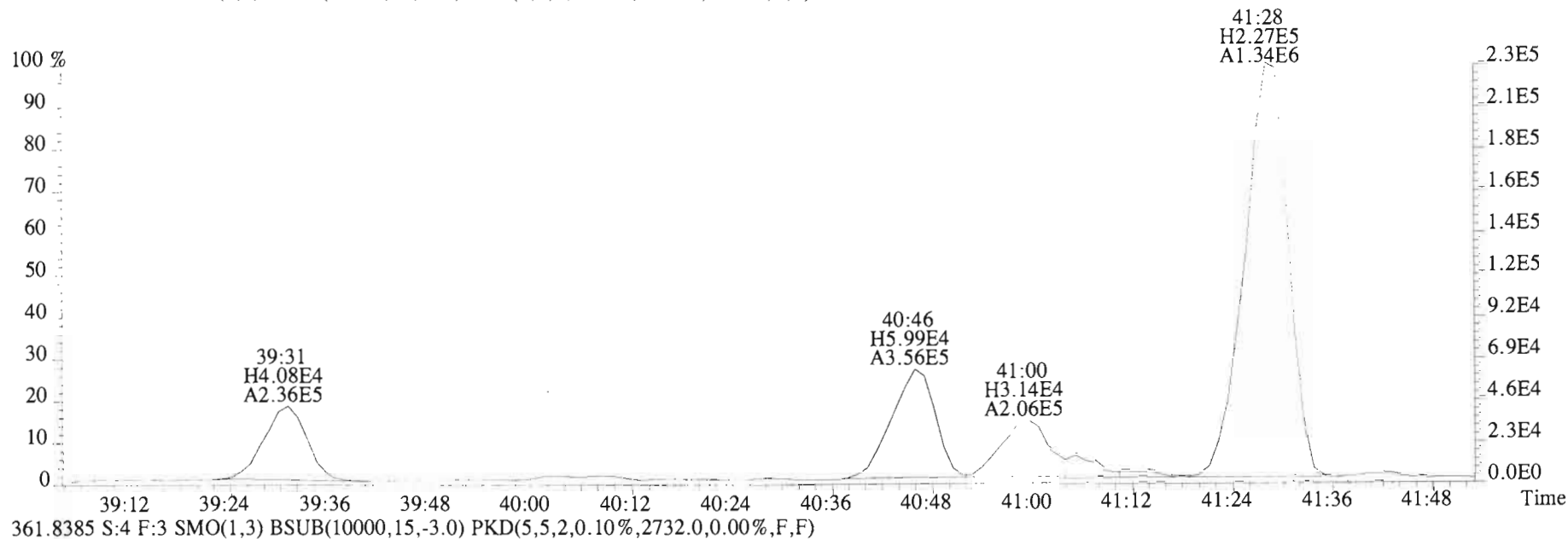
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
325.8804 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3508.0,0.00%,F,F)



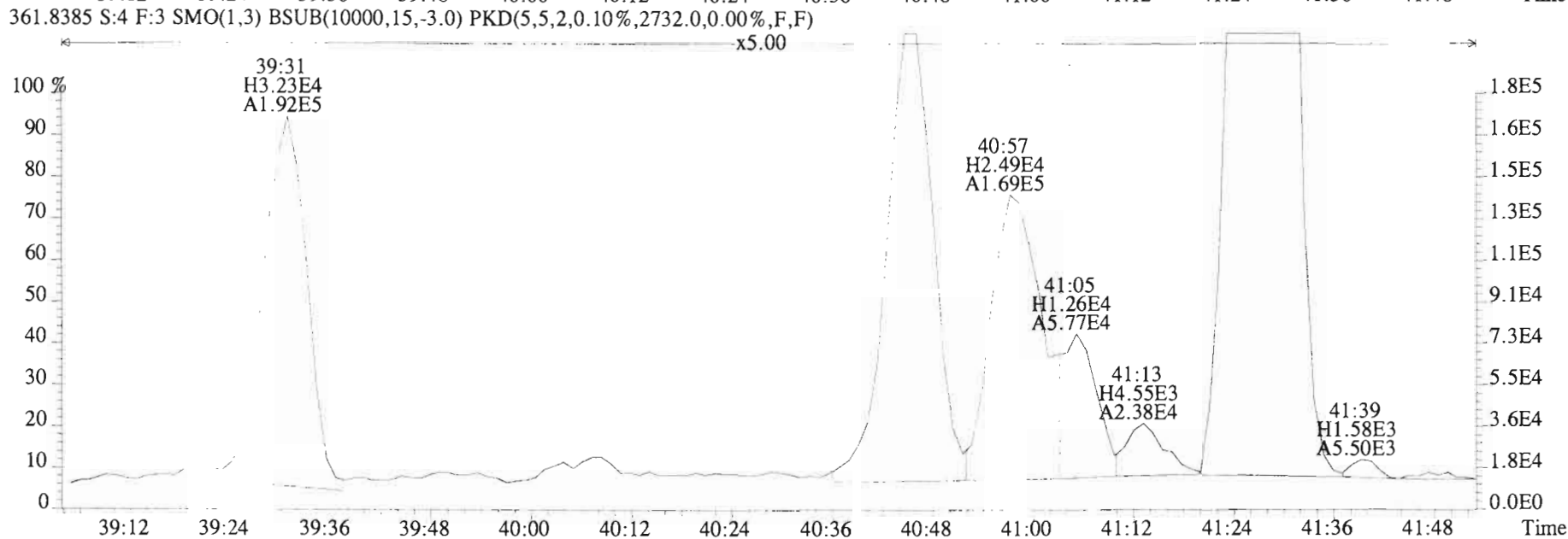
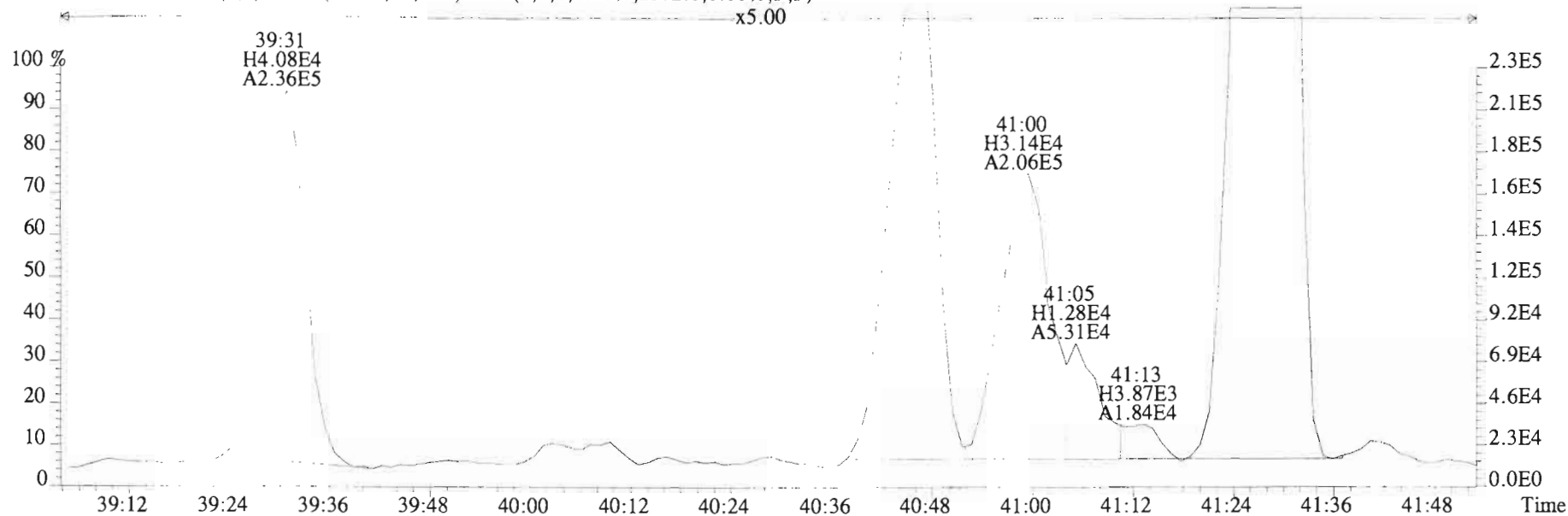
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
359.8415 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2372.0,0.00%,F,F)



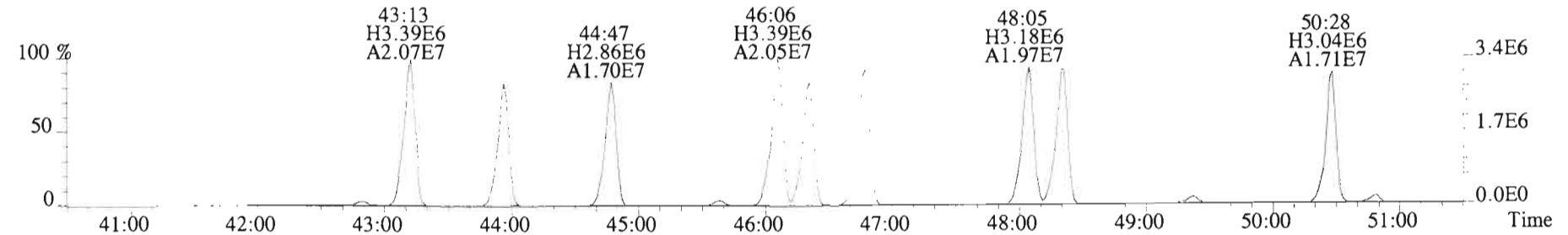
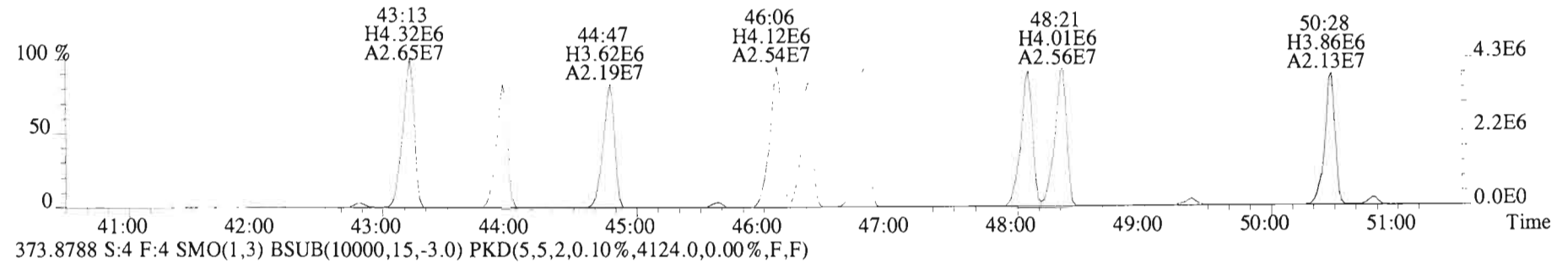
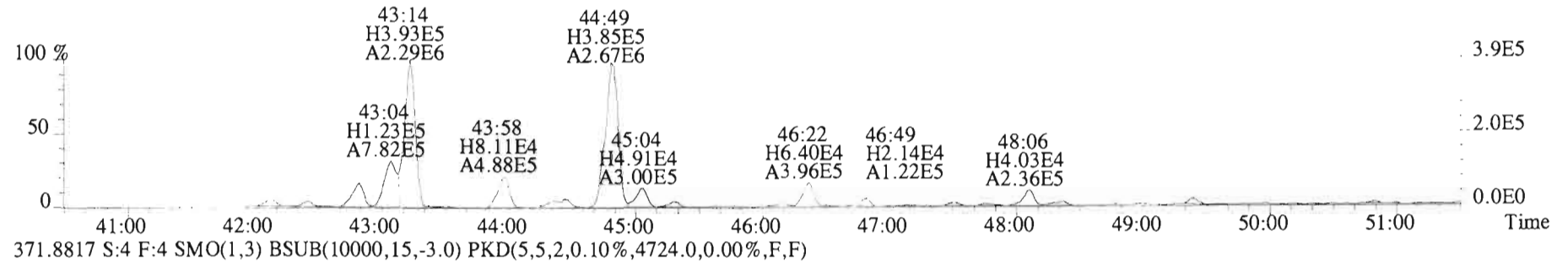
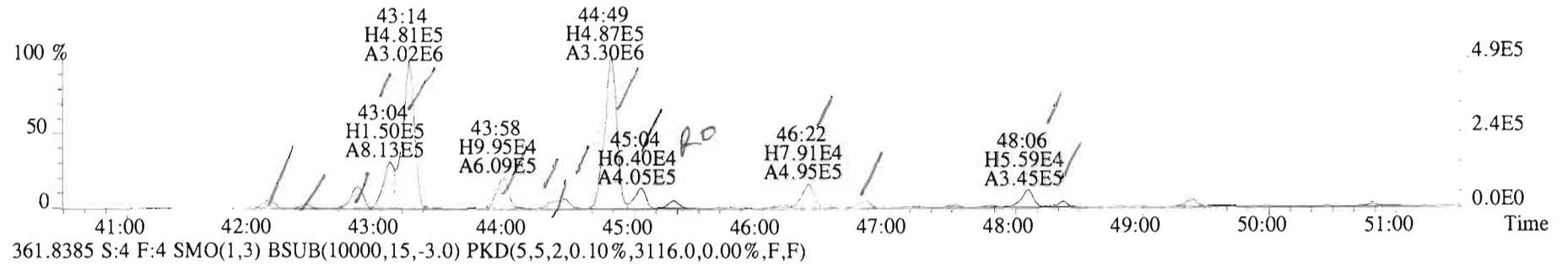
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
359.8415 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2372.0,0.00%,F,F)



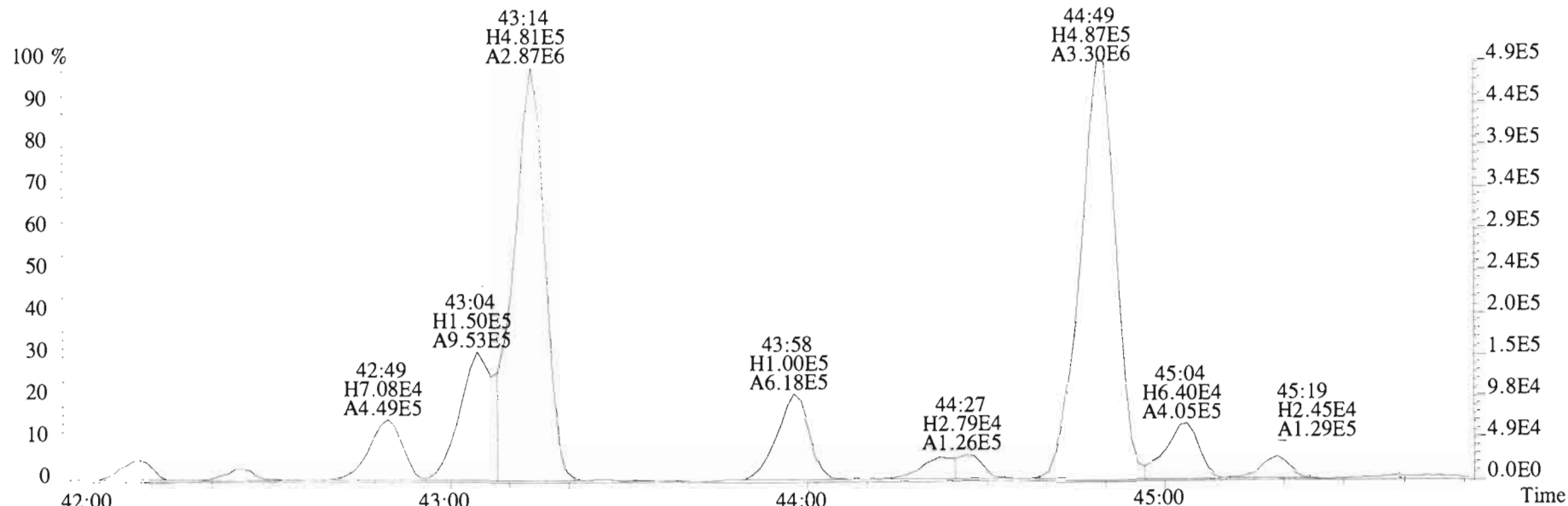
File:150422E1 #1-758 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text: Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 359.8415 S:4 F:3 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2372.0,0.00%,F,F)



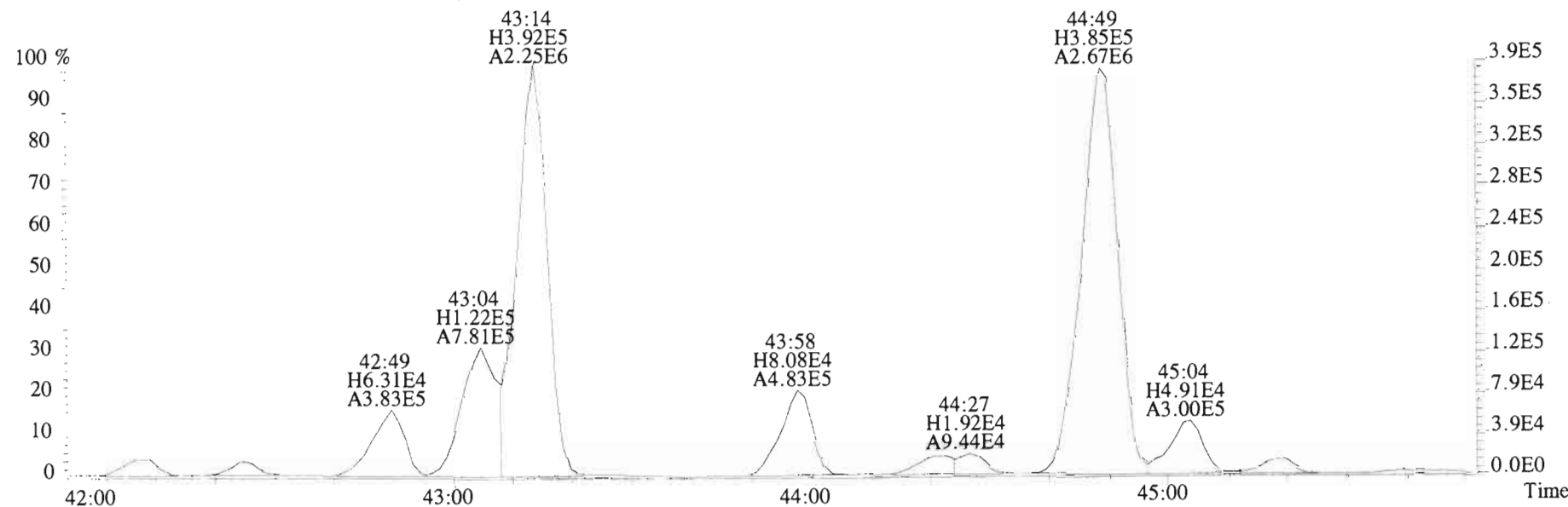
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 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 359.8415 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2864.0,0.00%,F,F)



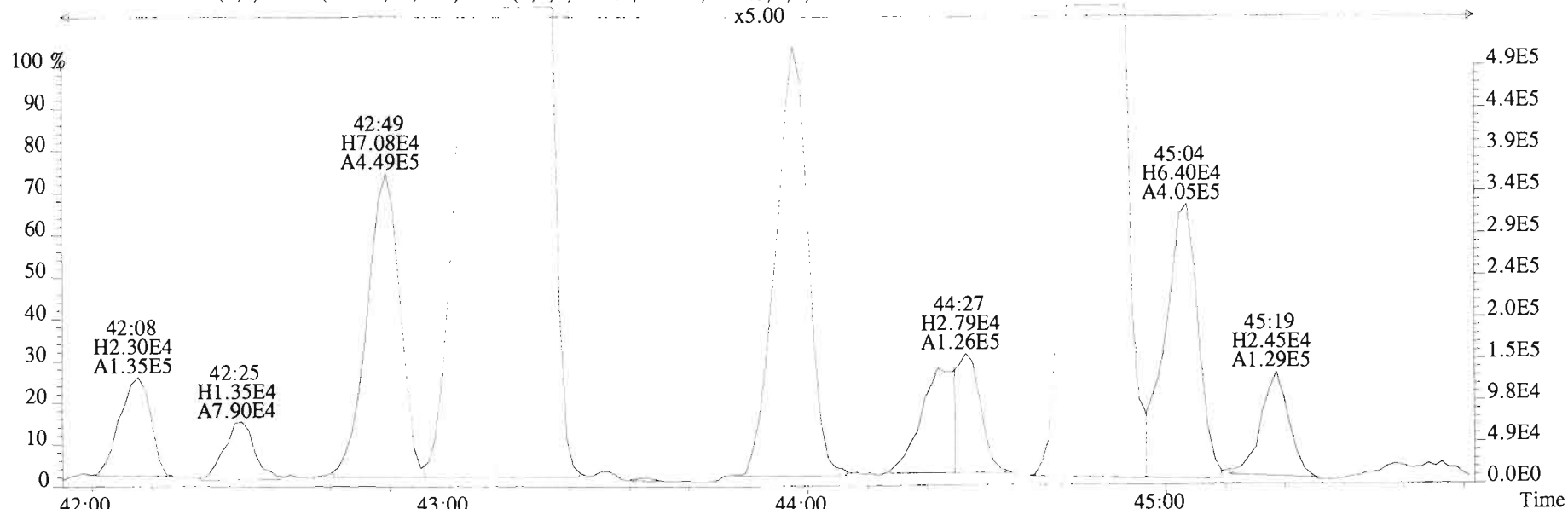
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 359.8415 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2864.0,0.00%,F,F)



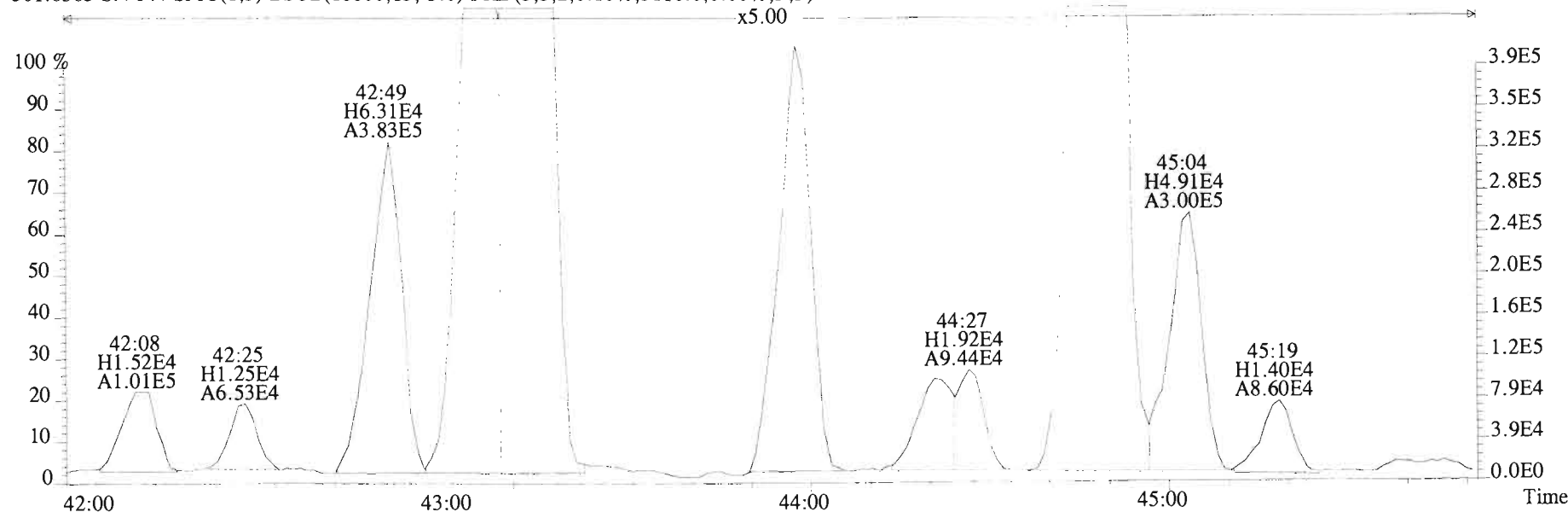
361.8385 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3116.0,0.00%,F,F)



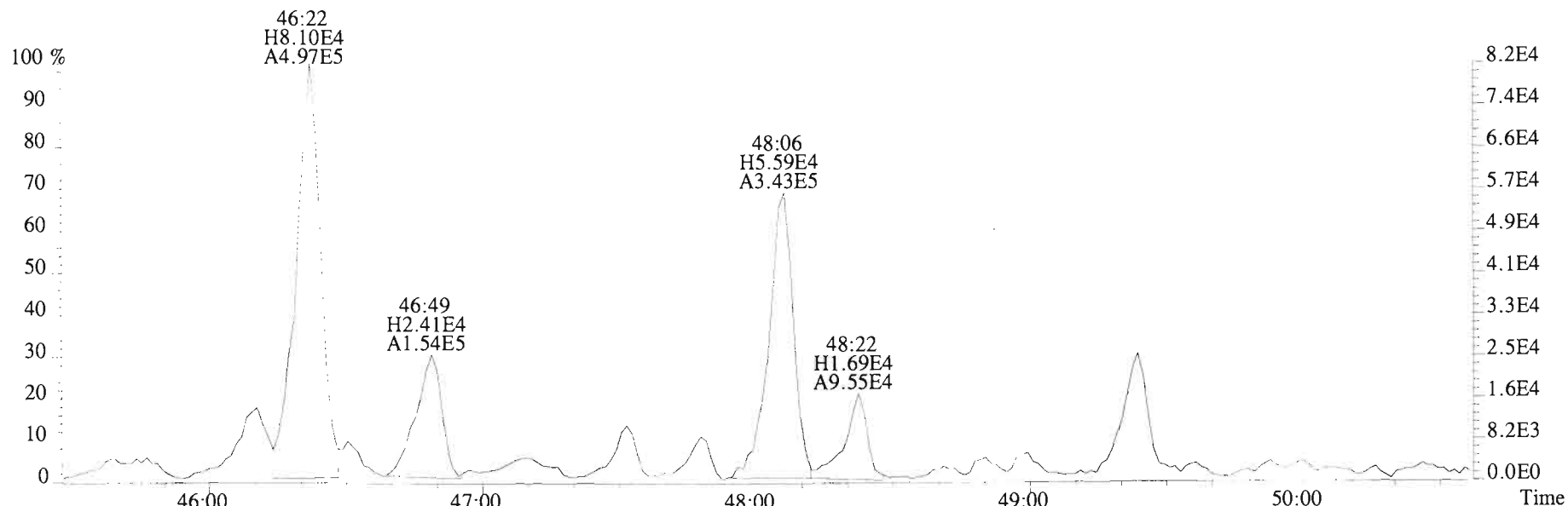
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 359.8415 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2864.0,0.00%,F,F)



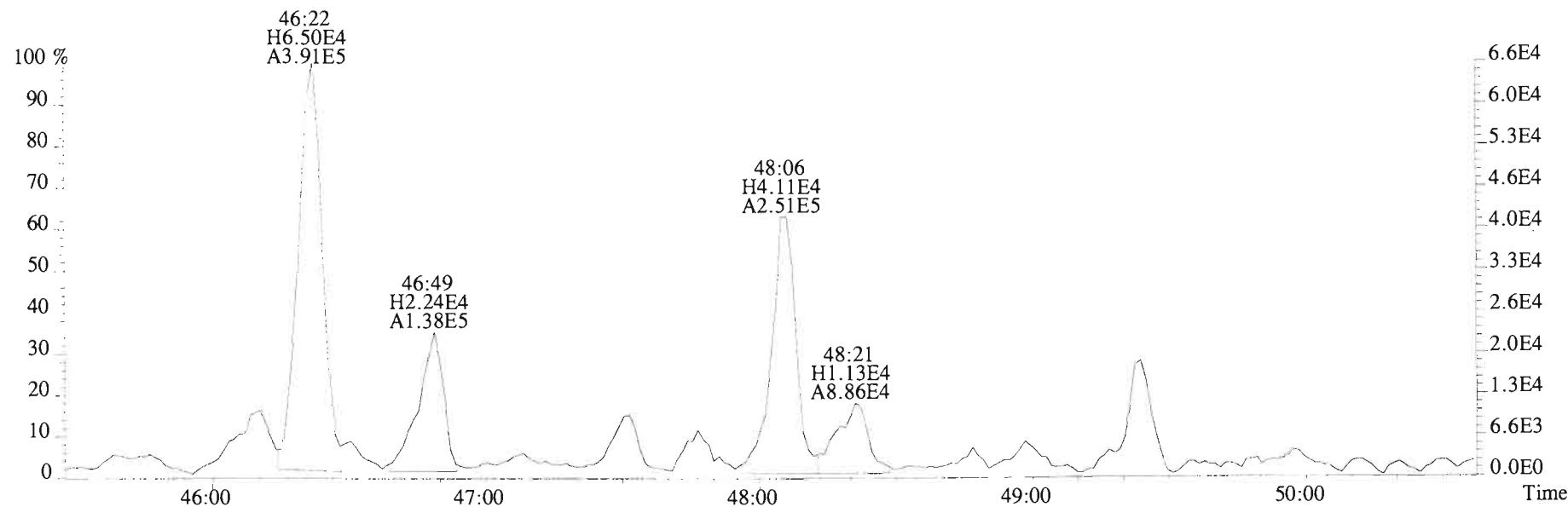
361.8385 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3116.0,0.00%,F,F)



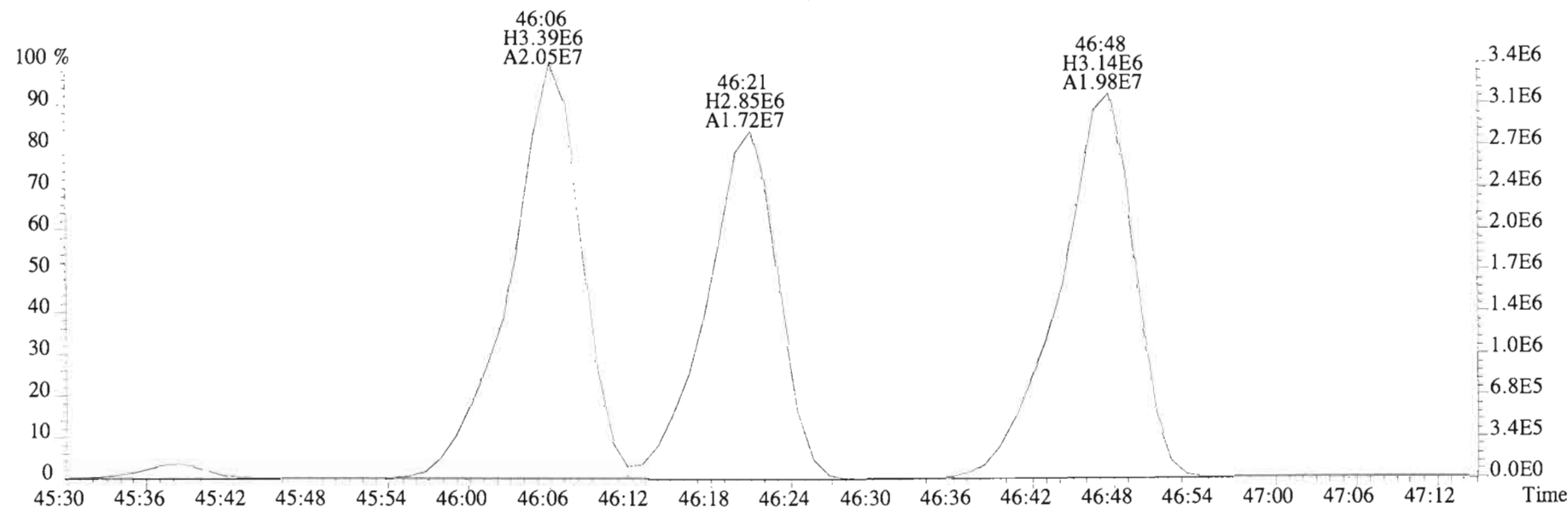
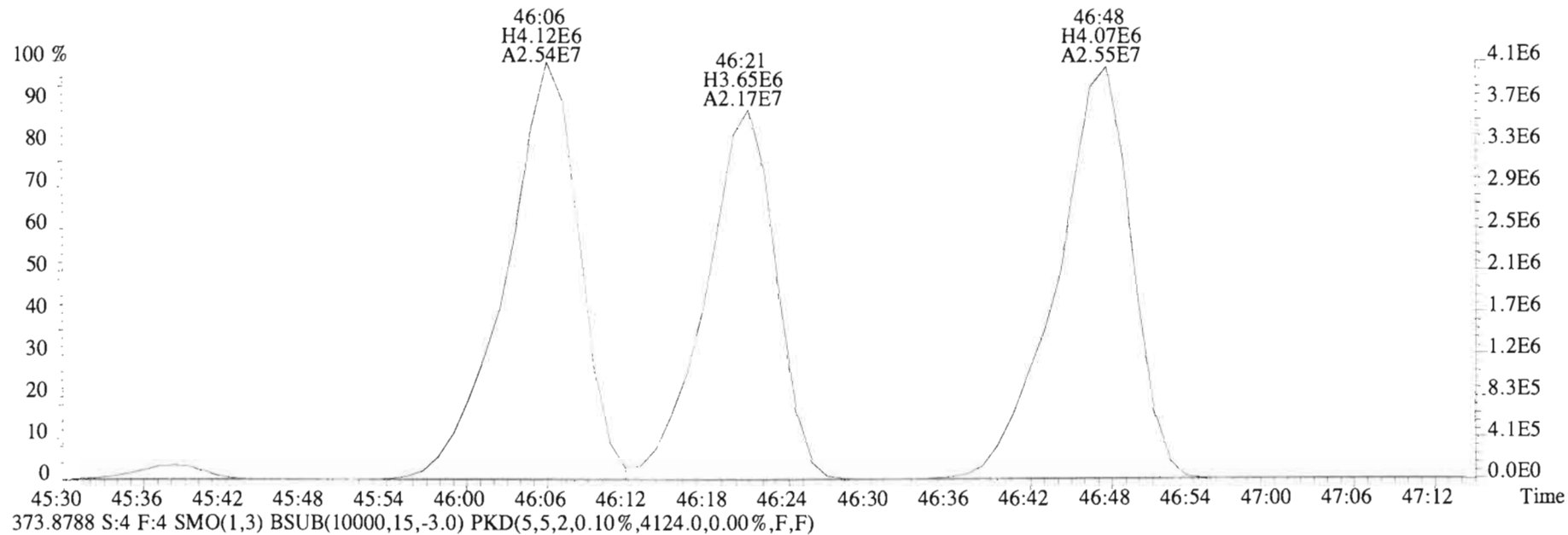
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
359.8415 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,2864.0,0.00%,F,F)



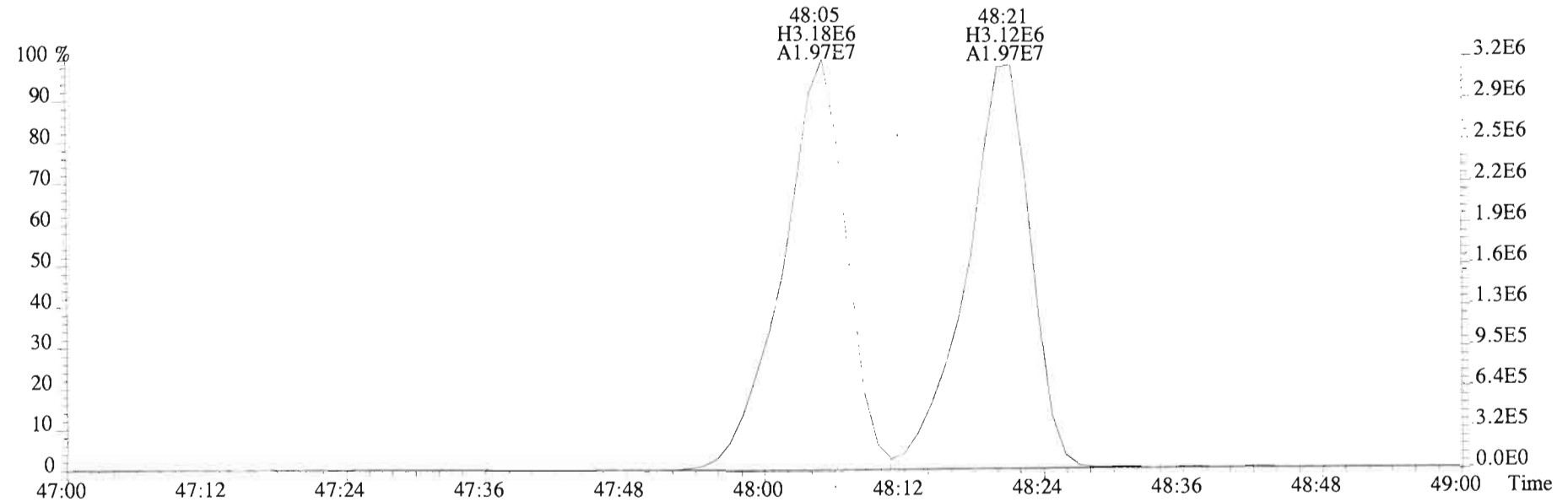
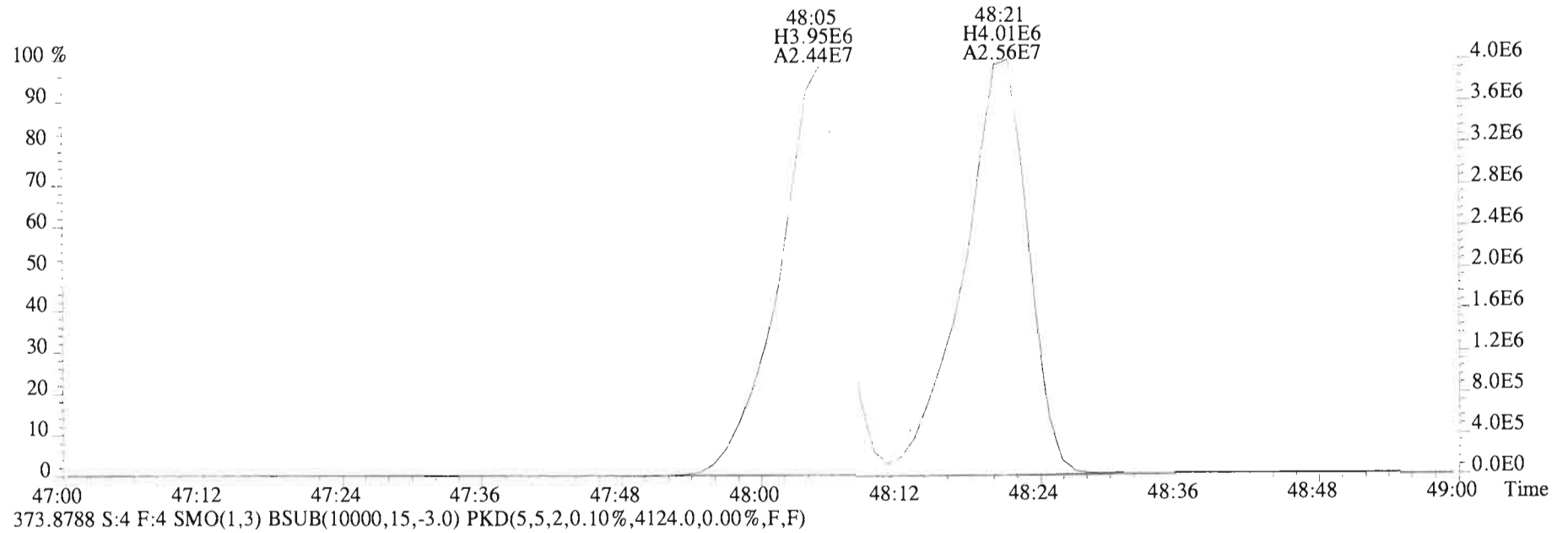
361.8385 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,3116.0,0.00%,F,F)



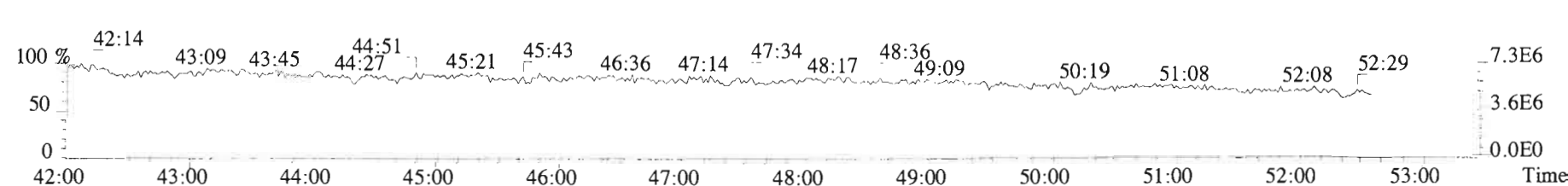
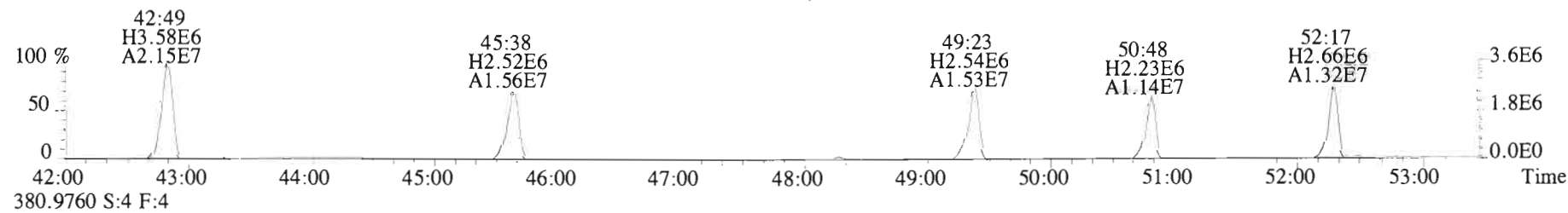
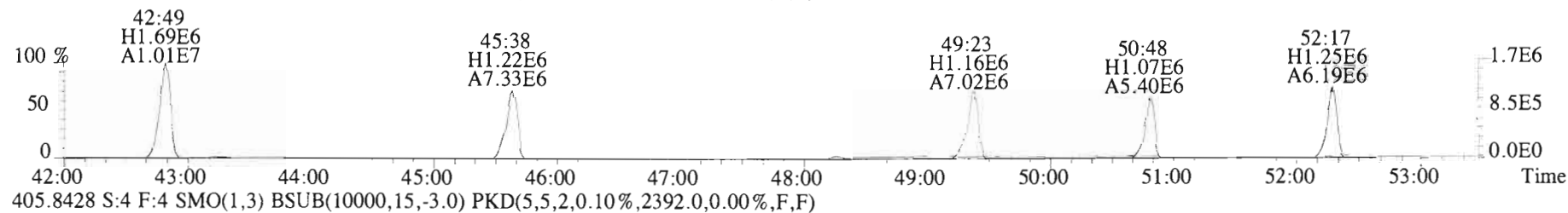
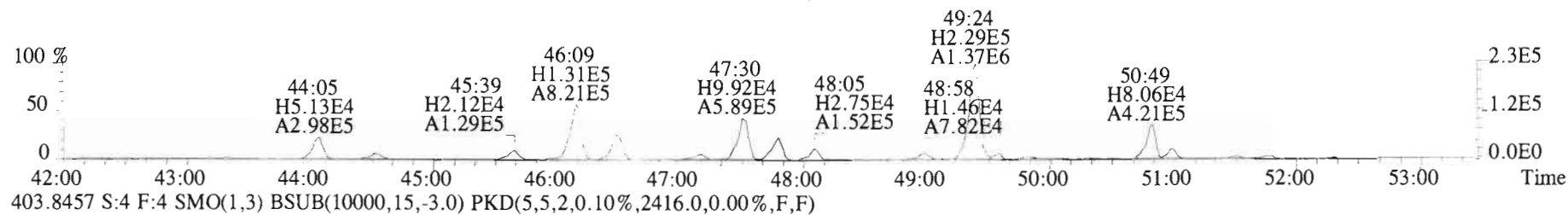
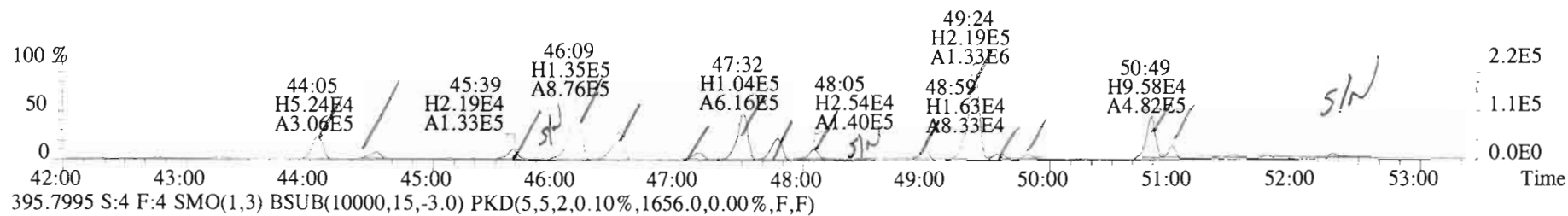
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
371.8817 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4724.0,0.00%,F,F)



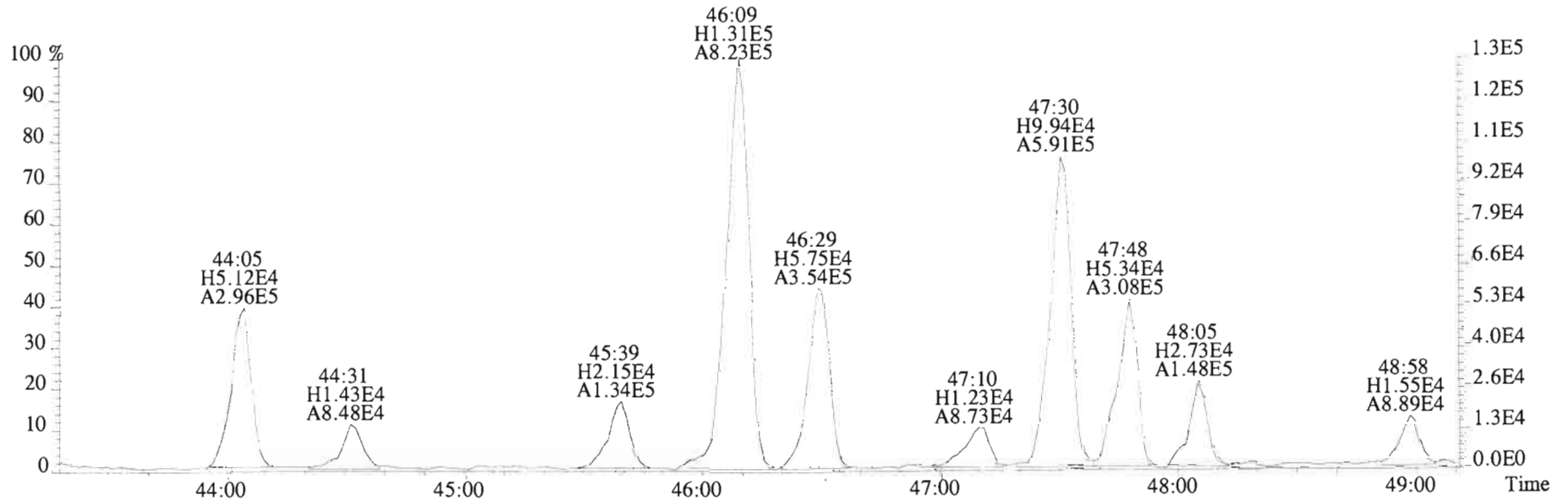
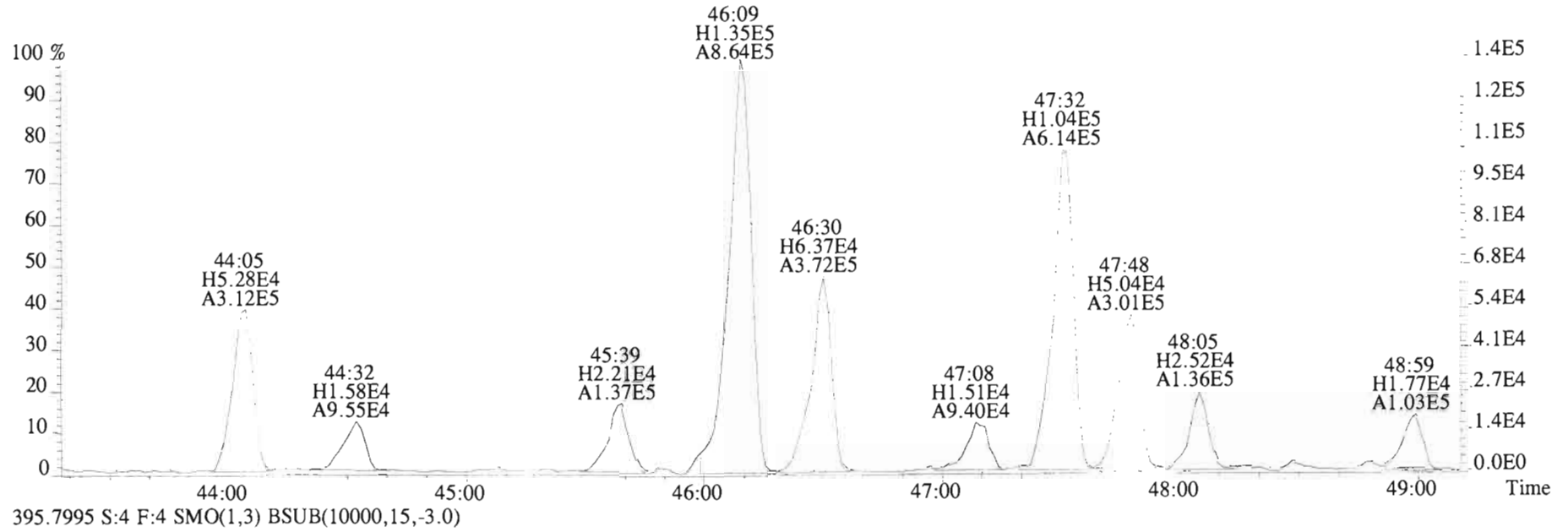
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
371.8817 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,4724.0,0.00%,F,F)



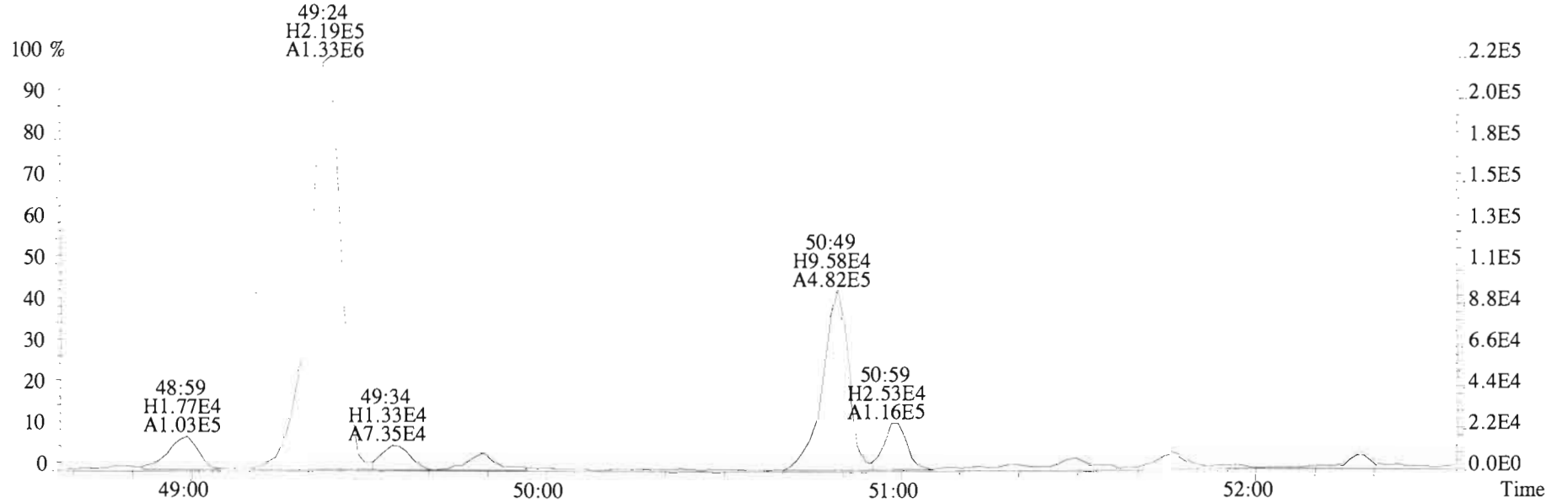
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
393.8025 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1688.0,0.00%,F,F)



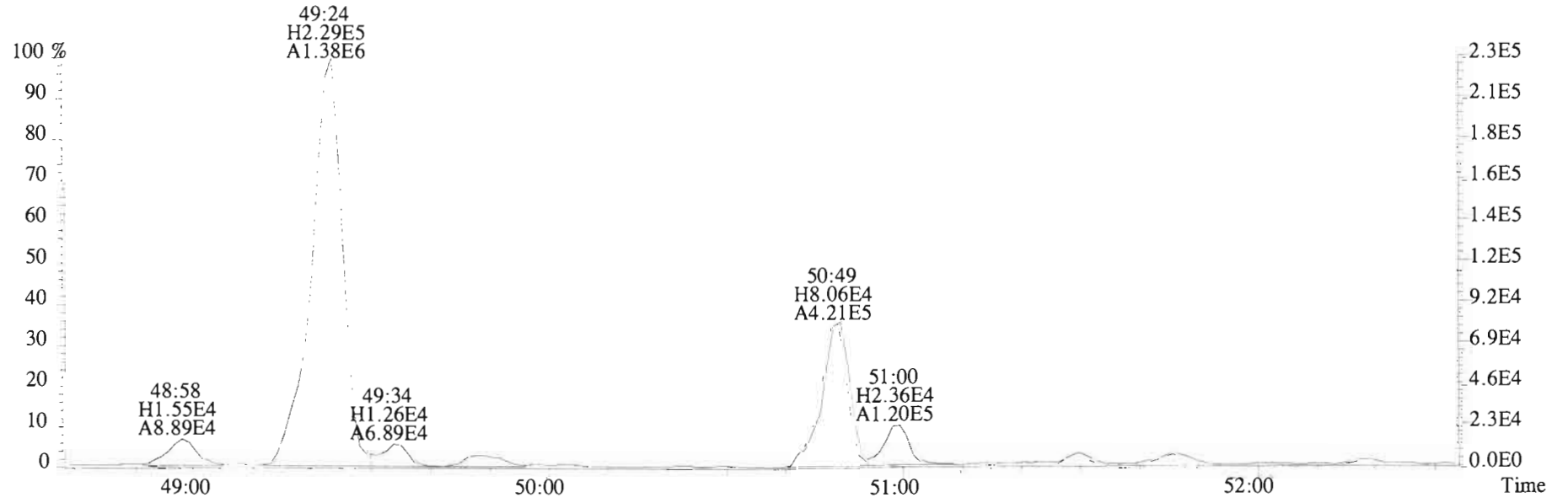
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 Sample#4 File Text: Vista Analytical Laboratory VG-8 Text: 1500335-02 HC-NF-10-20150413-W 1 Exp: PCB_ZB1
 393.8025 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0)



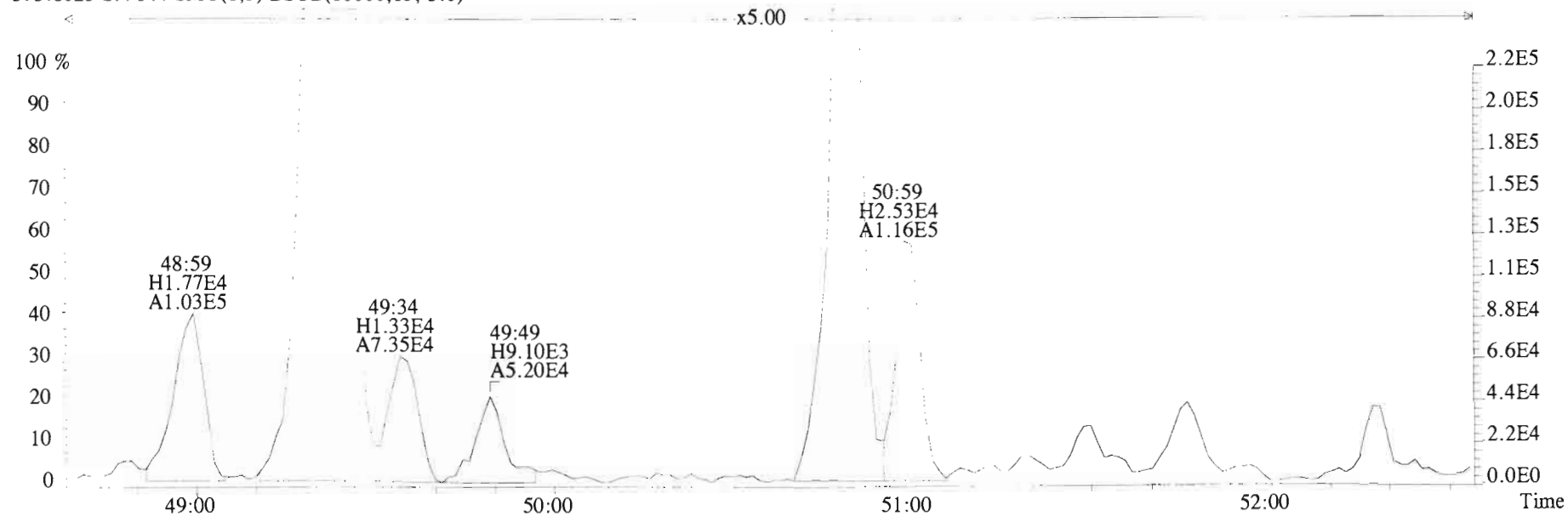
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 393.8025 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0)



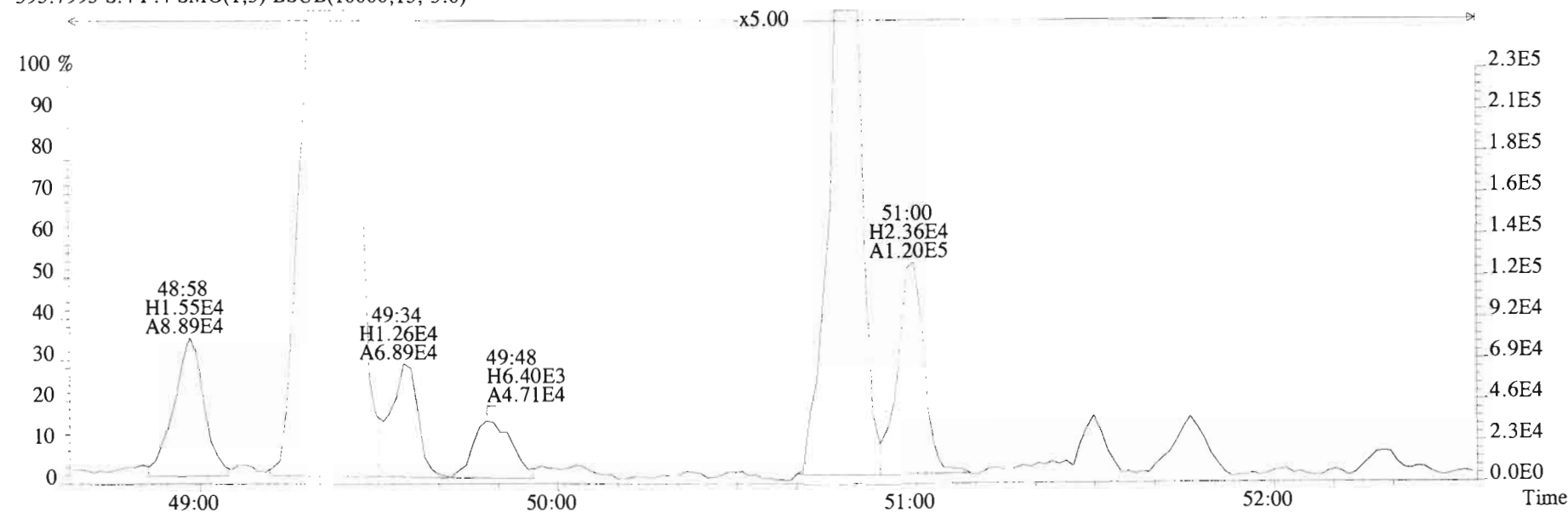
395.7995 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0)



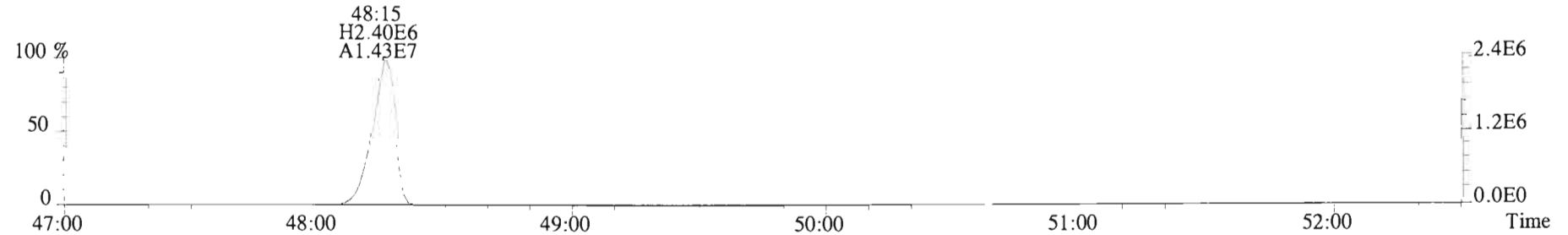
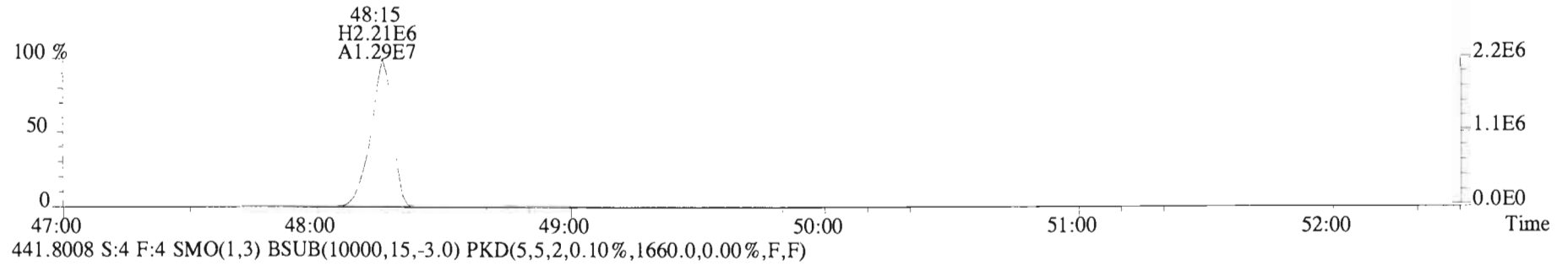
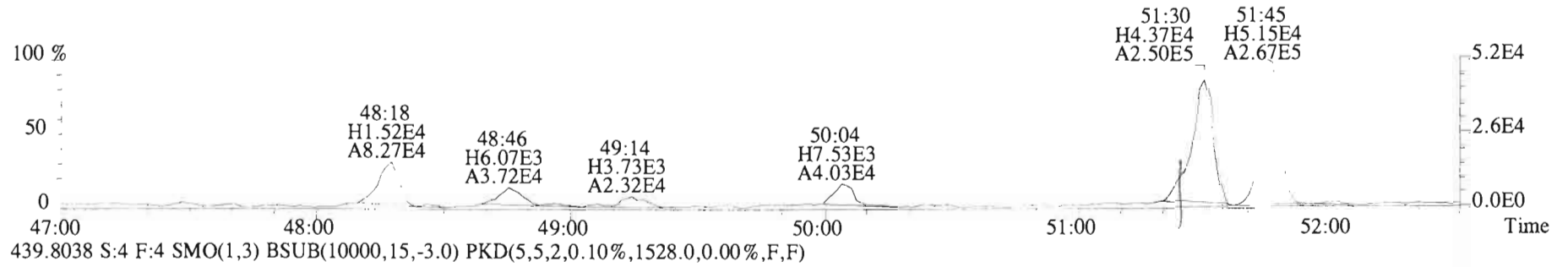
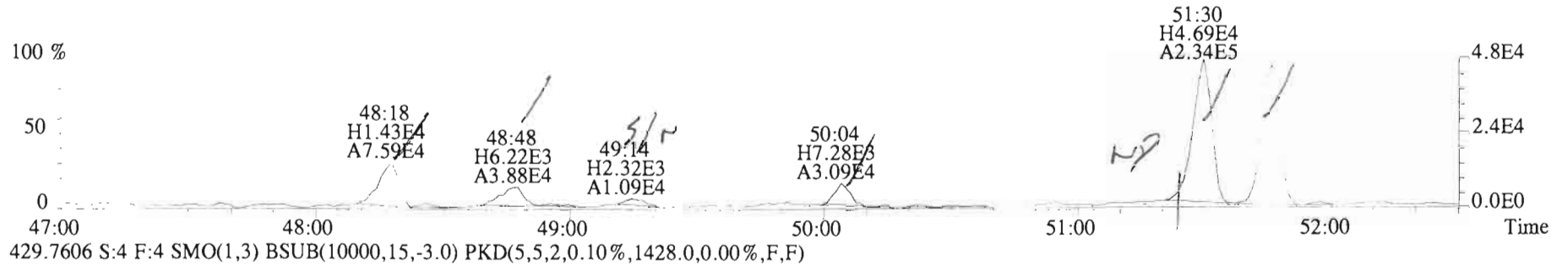
File:150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
 393.8025 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0)



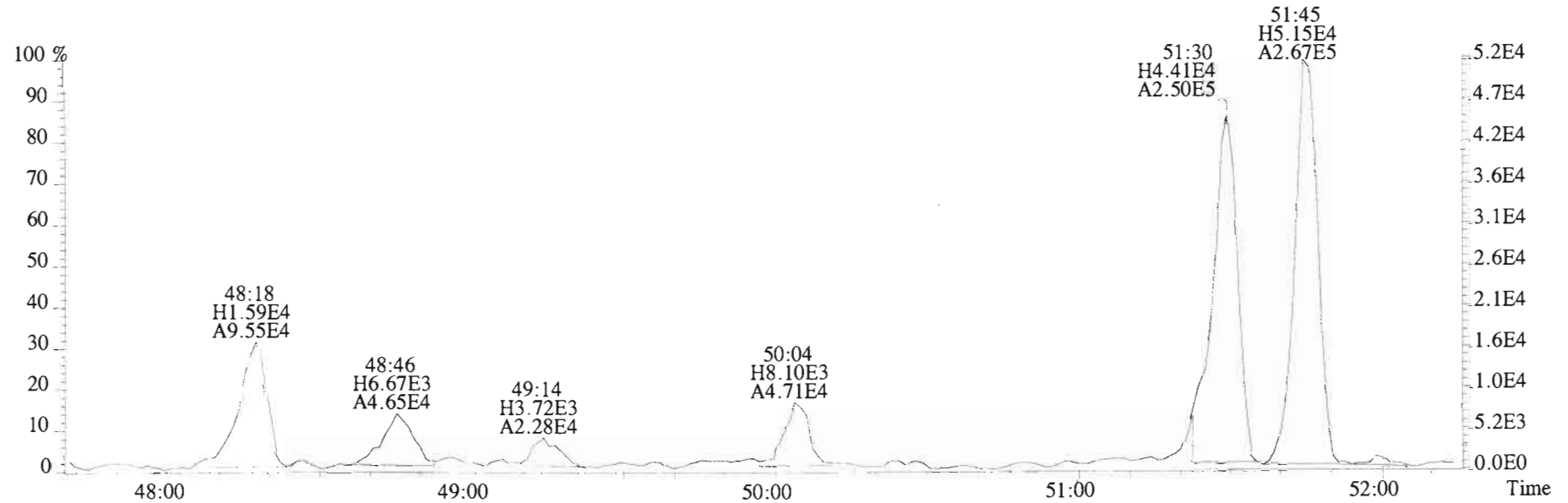
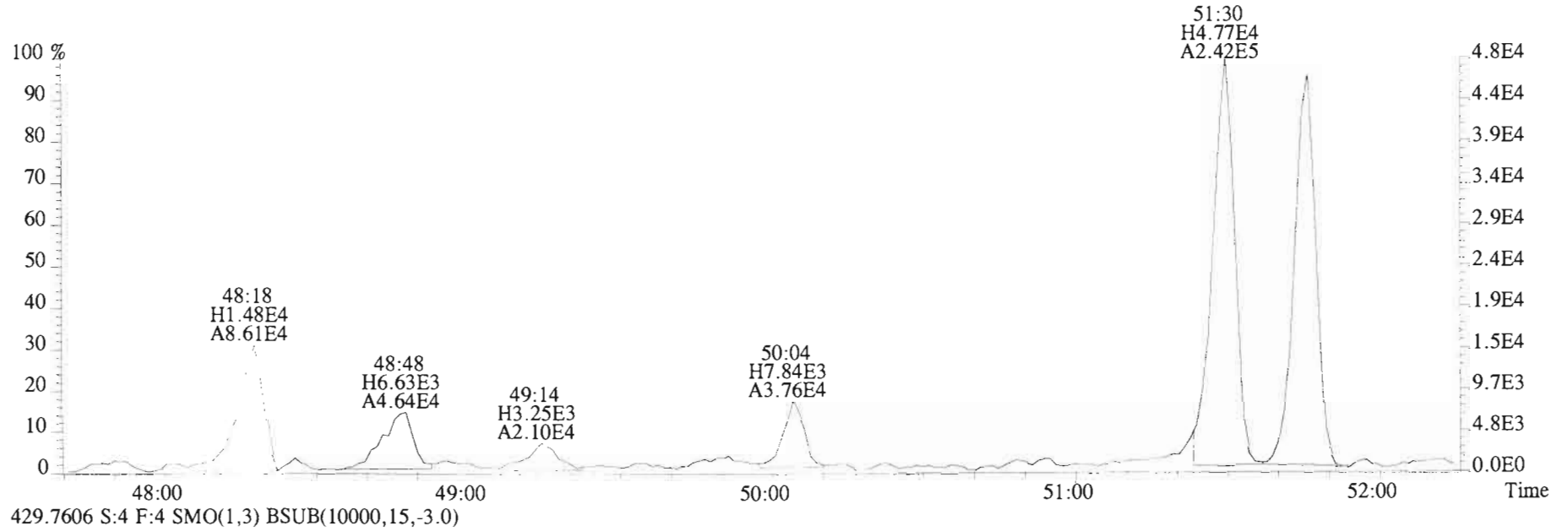
395.7995 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0)



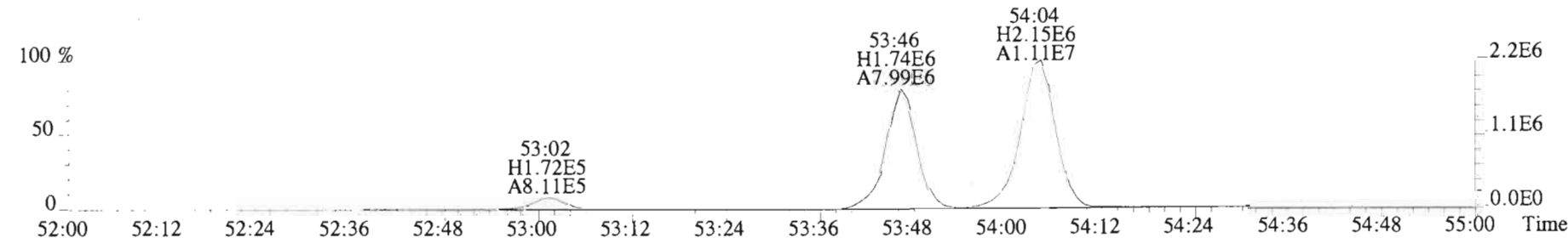
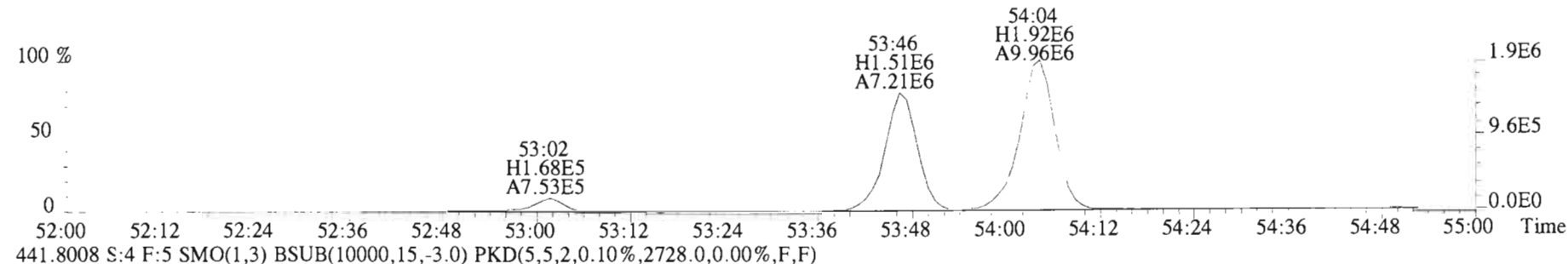
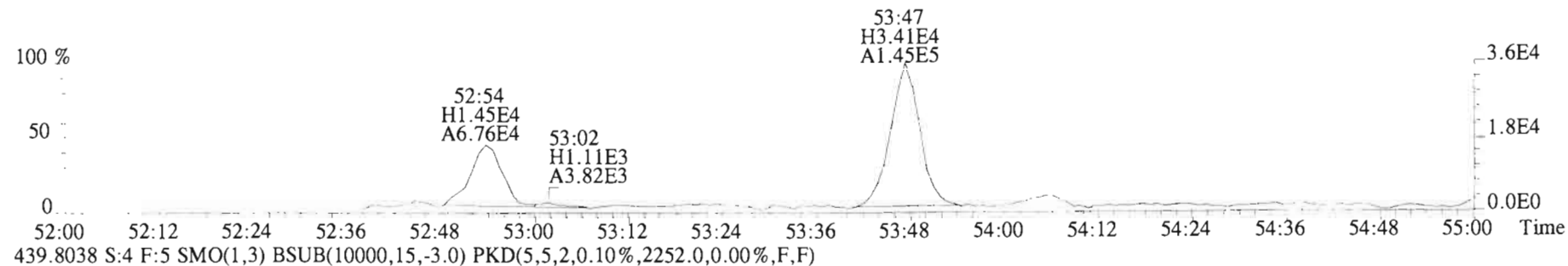
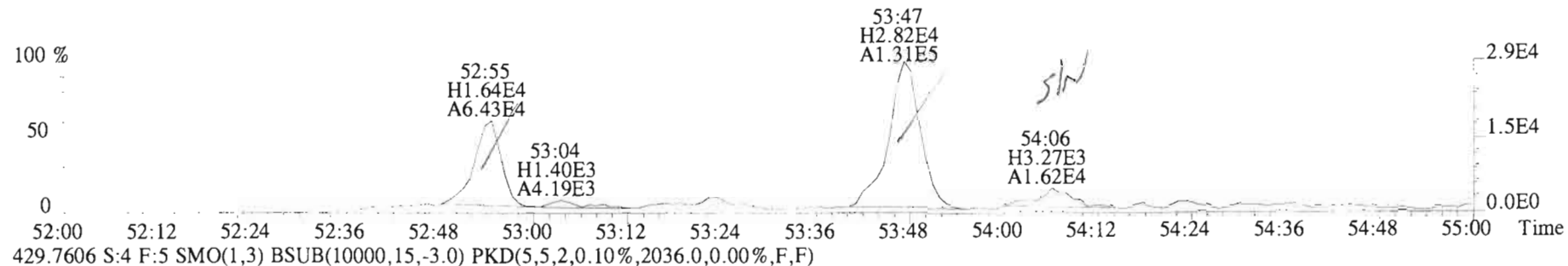
File: 150422E1 #1-555 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG-8 Text: 1500335-02 HC-NF-10-20150413-W 1 Exp: PCB_ZB1
427.7635 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1360.0,0.00%,F,F)



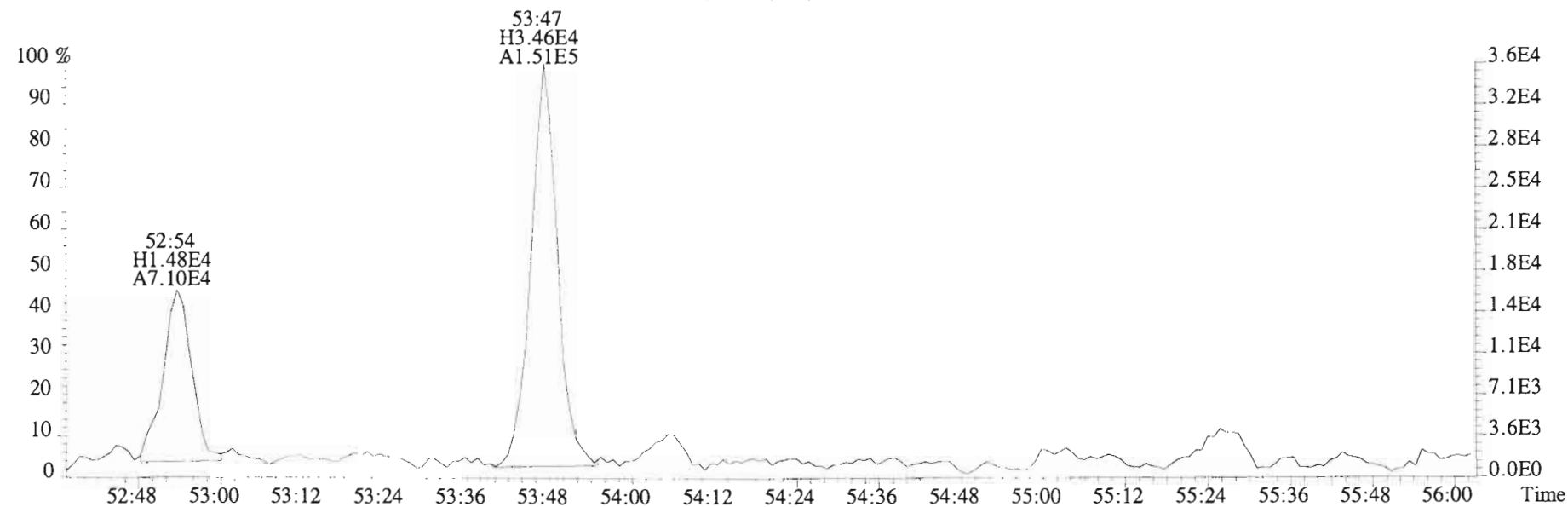
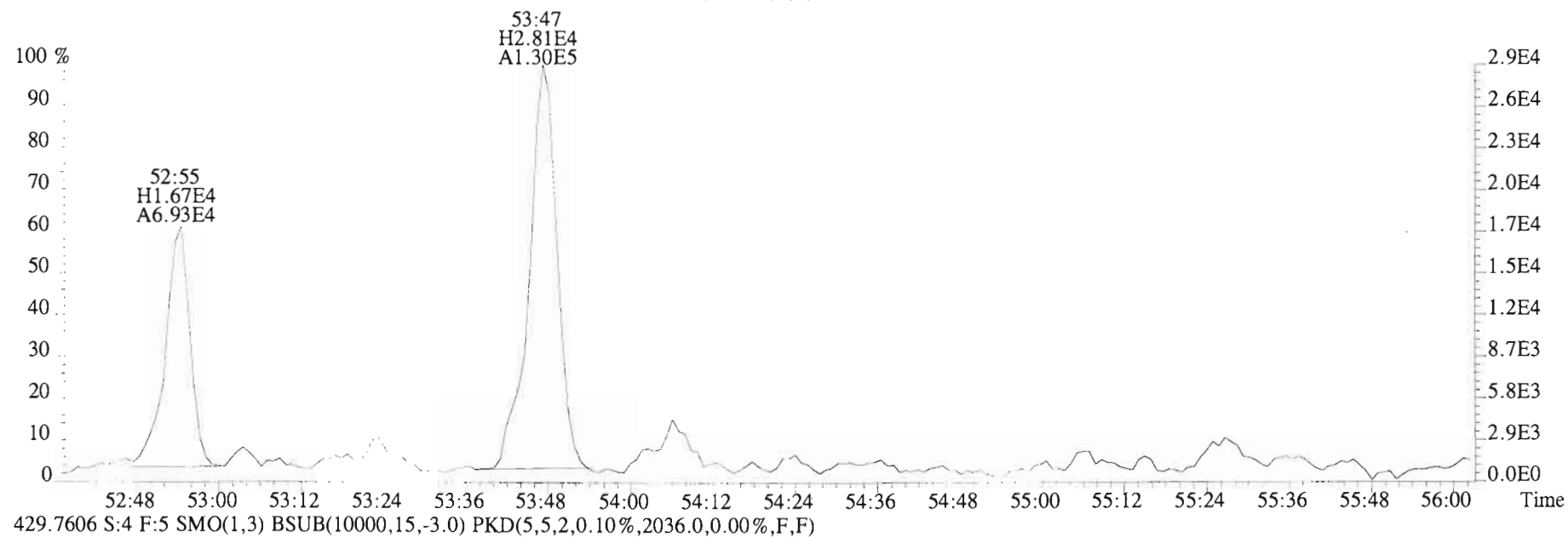
File: 150422E1 #1-555 Acq: 22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG-8 Text: 1500335-02 HC-NF-10-20150413-W 1 Exp: PCB_ZB1
427.7635 S:4 F:4 SMO(1,3) BSUB(10000,15,-3.0)



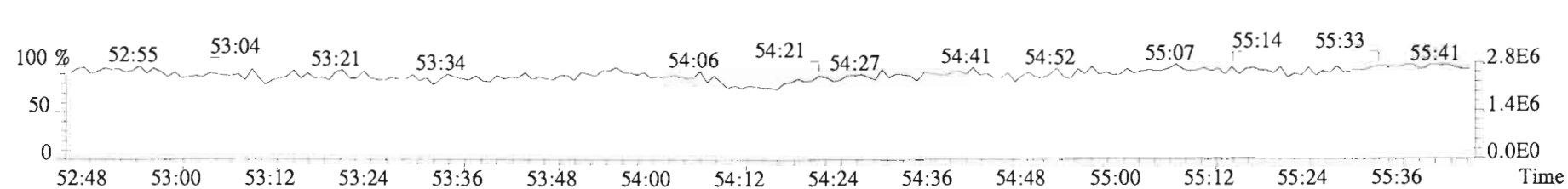
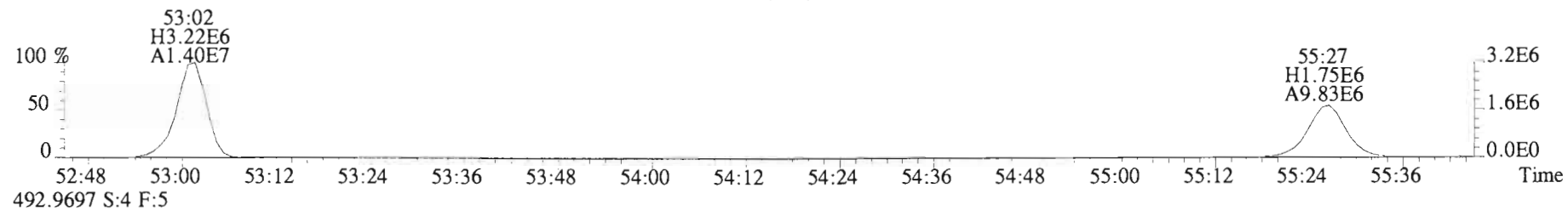
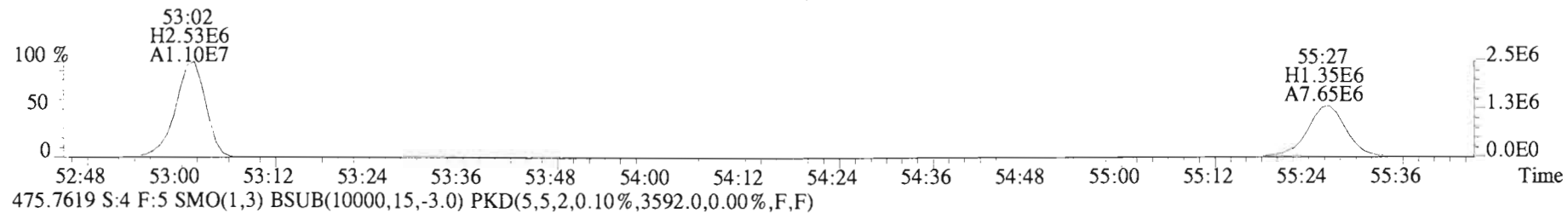
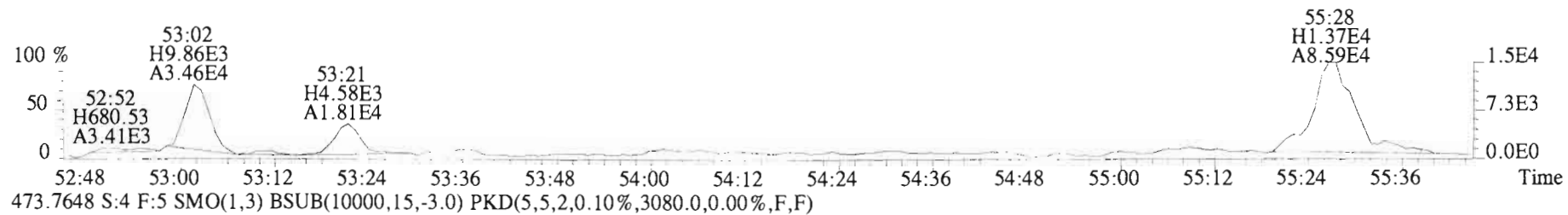
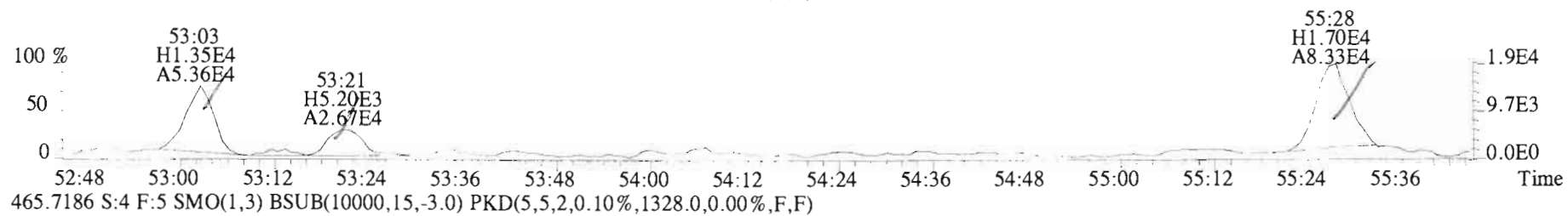
File:150422E1 #1-429 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
427.7635 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1524.0,0.00%,F,F)



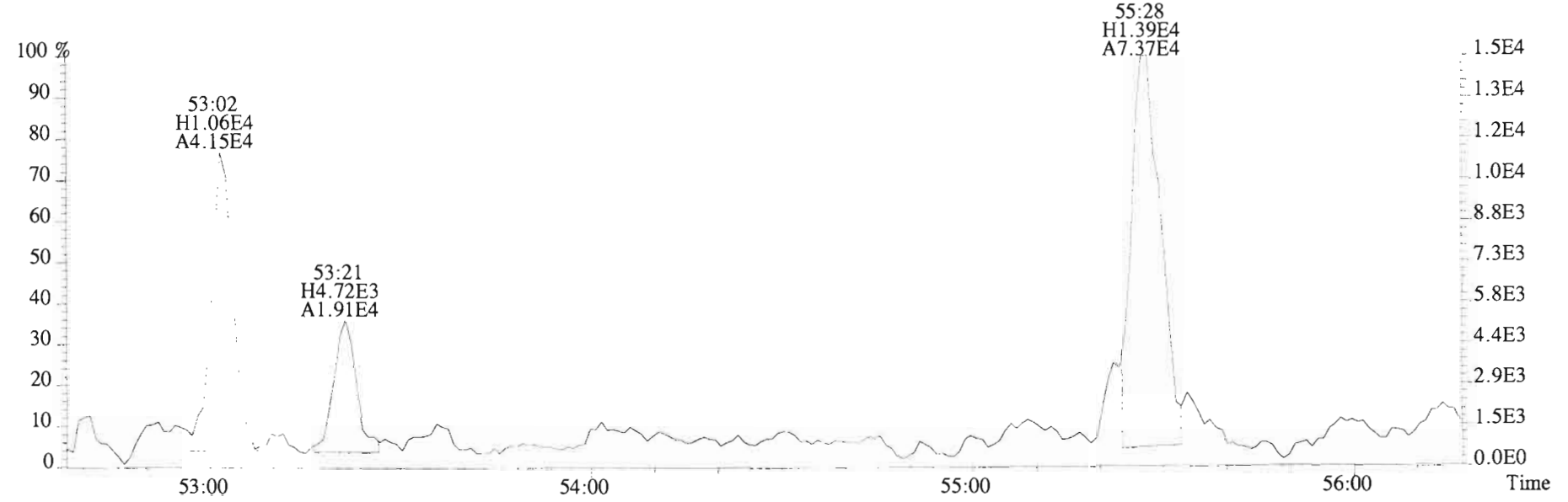
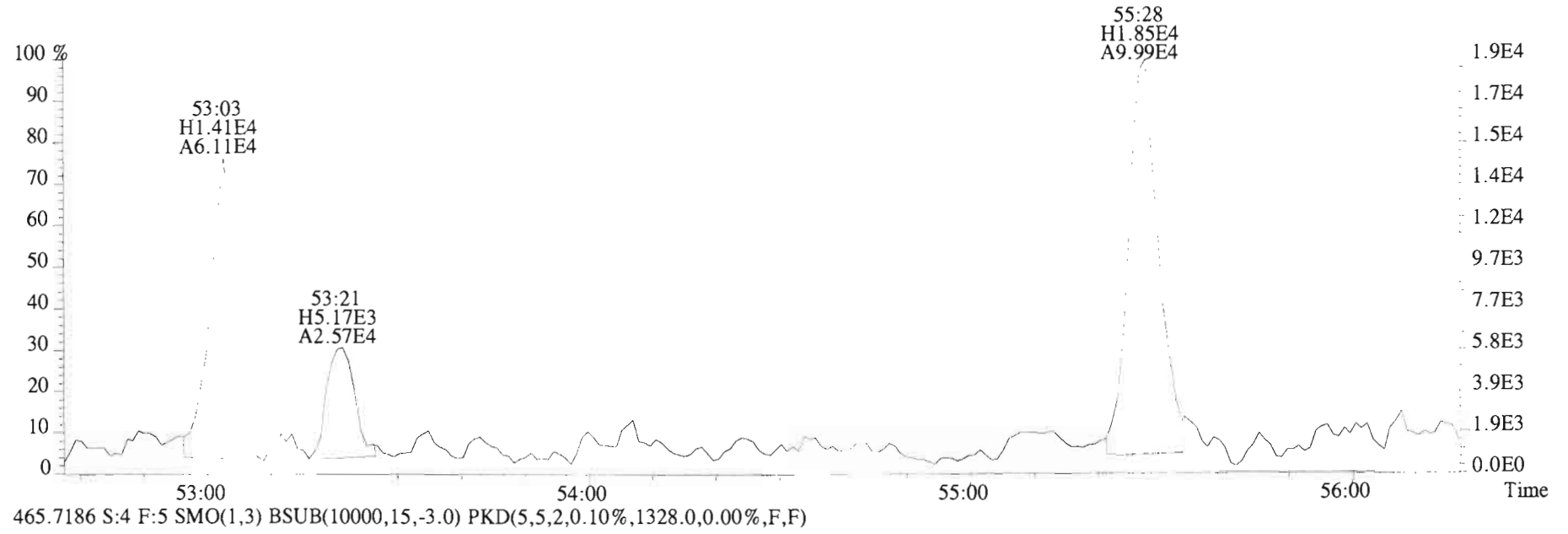
File:150422E1 #1-429 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
427.7635 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1524.0,0.00%,F,F)



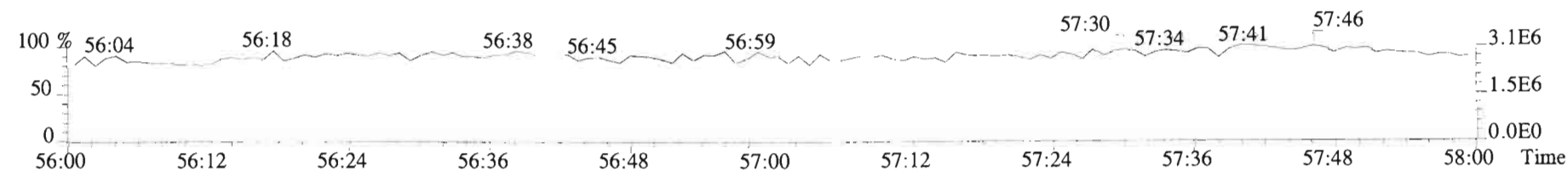
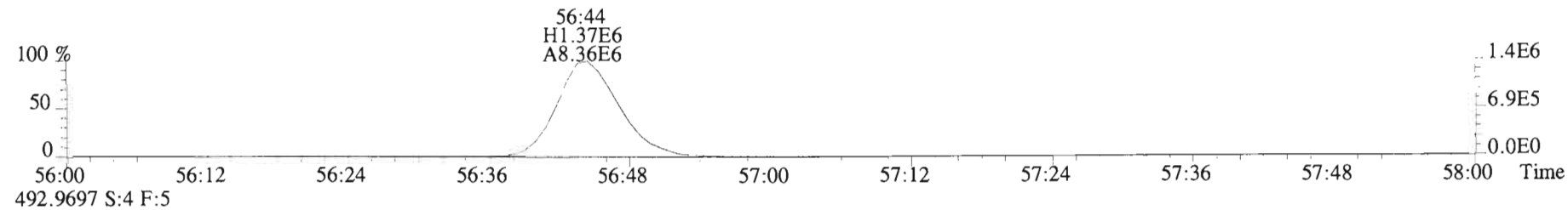
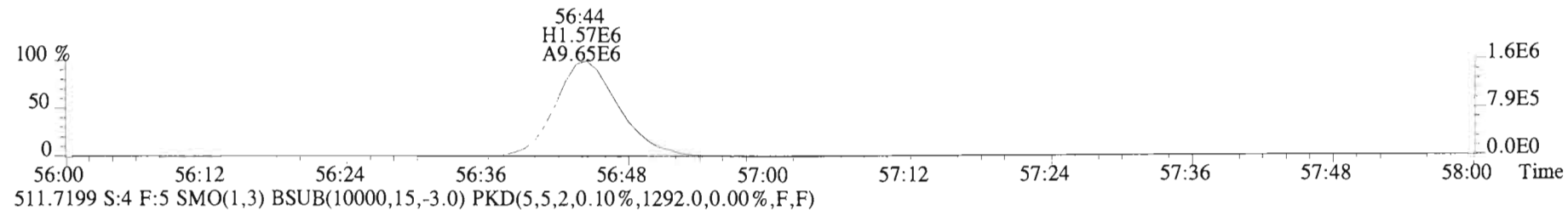
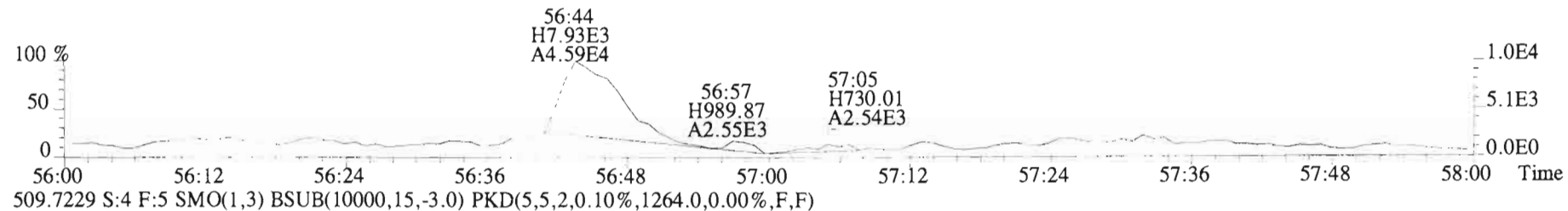
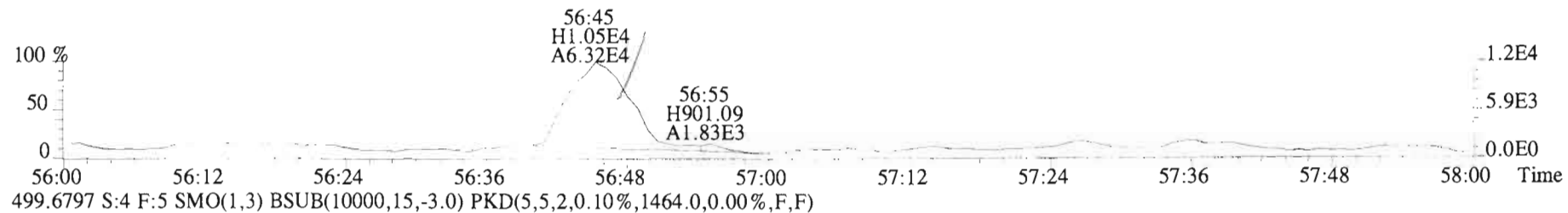
File: 150422E1 #1-429 Acq: 22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG-8 Text: 1500335-02 HC-NF-10-20150413-W 1 Exp: PCB_ZB1
463.7216 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1760.0,0.00%,F,F)



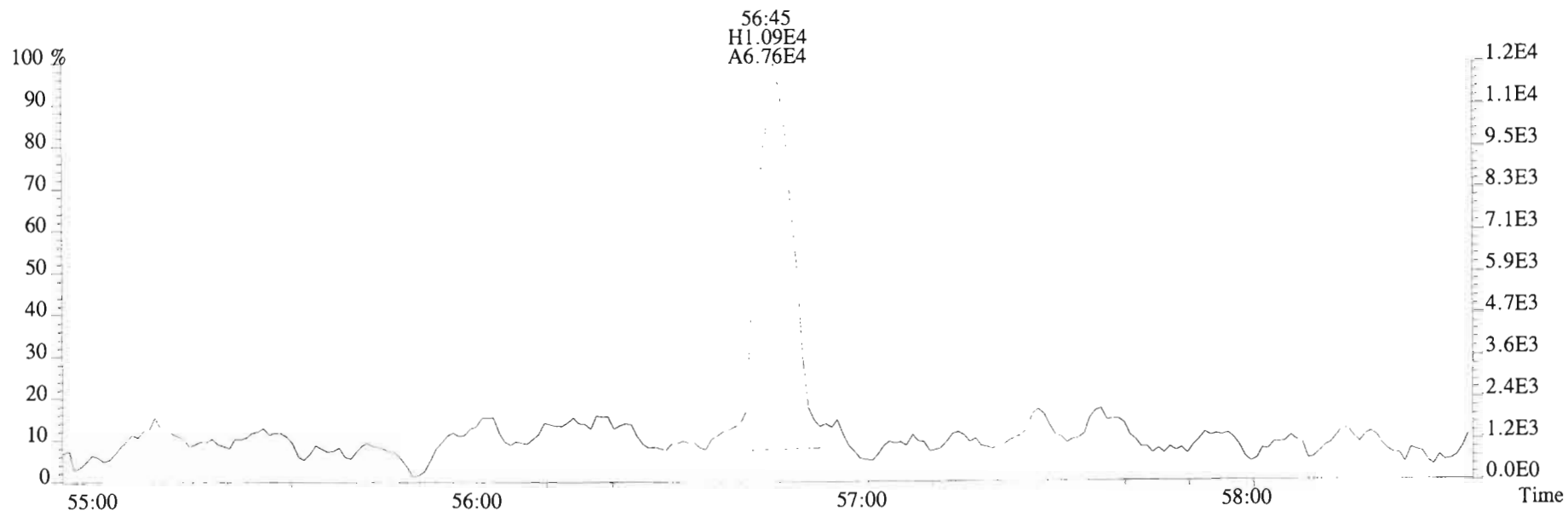
File:150422E1 #1-429 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
463.7216 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1760.0,0.00%,F,F)



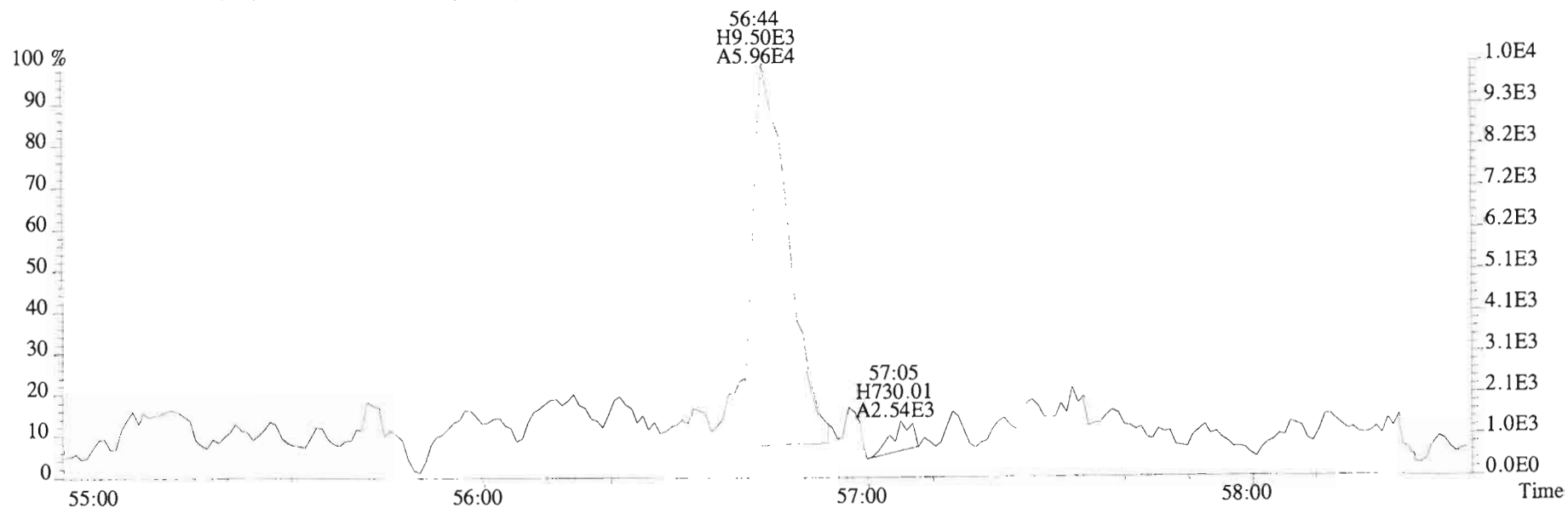
File:150422E1 #1-429 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
497.6826 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1428.0,0.00%,F,F)



File:150422E1 #1-429 Acq:22-APR-2015 13:09:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG-8 Text:1500335-02 HC-NF-10-20150413-W 1 Exp:PCB_ZB1
497.6826 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1428.0,0.00%,F,F)



499.6797 S:4 F:5 SMO(1,3) BSUB(10000,15,-3.0) PKD(5,5,2,0.10%,1464.0,0.00%,F,F)



CONTINUING CALIBRATION

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST150427D1-1

Contract No.: SAS No.:

Initial Calibration Date: 1-7-15

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 150427D1 S#1 Analysis Date: 27-APR-15 Time: 10:17:08

NATIVE ANALYTES	M/Z'S	ION	QC	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
	FORMING RATIO (1)	ABUND. RATIO	LIMITS (2)			
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	y	9.30	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	y	47.1	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	48.7	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	51.2	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	50.0	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	y	48.3	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	101	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	y	8.88	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	49.3	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	47.9	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	y	47.5	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.32	1.05-1.43	y	50.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.28	1.05-1.43	y	48.9	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.30	1.05-1.43	y	49.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.08	0.88-1.20	y	49.1	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.09	0.88-1.20	y	48.0	43.0 - 58.0
OCDF	M+2/M+4	0.92	0.76-1.02	y	94.6	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: mm

Date: 4/27/15

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 1-7-15

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 150427D1 S#1 Analysis Date: 27-APR-15 Time: 10:17:08

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	0.81	0.65-0.89	y	95.2	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	76.9	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	104	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	94.3	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.20	1.05-1.43	y	101	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.08	0.88-1.20	y	104	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	168	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.75	0.65-0.89	y	101	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	y	84.6	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	y	86.2	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	89.8	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	94.5	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	95.3	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	96.7	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.44	0.37-0.51	y	104	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	94.9	77.0 - 129.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	y	169	96.0 - 415.0
CLEANUP STANDARD (3) 37Cl-2,3,7,8-TCDD					9.73	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: MM

Date: 4/27/15

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: 1-7-15

RT Window Data Filename: 150427D1 S#1 Analysis Date: 27-APR-15 Time: 10:17:08

ZB-5MS IS Data Filename: 150427D1 S#1 Analysis Date: 27-APR-15 Time: 10:17:08

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)	23:47	1,3,6,8-TCDF (F)	21:49
1,2,8,9-TCDD (L)	27:46	1,2,8,9-TCDF (L)	27:55
1,2,4,7,9-PeCDD (F)	29:18	1,3,4,6,8-PeCDF (F)	27:51
1,2,3,8,9-PeCDD (L)	31:40	1,2,3,8,9-PeCDF (L)	31:54
1,2,4,6,7,9-HxCDD (F)	33:05	1,2,3,4,6,8-HxCDF (F)	32:32
1,2,3,7,8,9-HxCDD (L)	35:06	1,2,3,7,8,9-HxCDF (L)	35:30
1,2,3,4,6,7,9-HpCDD (F)	37:42	1,2,3,4,6,7,8-HpCDF (F)	37:22
1,2,3,4,6,7,8-HpCDD (L)	38:31	1,2,3,4,7,8,9-HpCDF (L)	39:05

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

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

<25%

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

Analyst: mi

Date: 4/27/15

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 1-7-15

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 150427D1 S#1 Analysis Date: 27-APR-15 Time: 10:17:08

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

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		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	1.001	0.999-1.002

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

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.020	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.185	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.992	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.142	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.175	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.021	0.989-1.052

Analyst: MM

Date: 4/27/15

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 1-7-15

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

VER Data Filename: 150427D1 #1 Analysis Date: 27-APR-15 Time: 10:17:08

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

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

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.987	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	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	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	1.143	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	1.233	1.091-1.371

Analyst: MI

Date: 4/27/15

Client ID: 1613 CS3 15A0501
Lab ID: ST150427D1-1

Filename: 150427D1 S:1 Acq:27-APR-15 10:17:08
GC Column ID: ZB-5MS ICal: 1613VG7-1-7-15 wt/vol: 1.000

ConCal: ST150427D1-1
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	2.54e+06	0.77 y	1.17	26:58	1.001	9.2968		*	2.5	*	Total Tetra-Dioxins	54.6	55.0	*	*	
1,2,3,7,8-PeCDD	8.95e+06	0.61 y	0.91	31:19	1.000	47.064		*	2.5	*	Total Penta-Dioxins	150	151	*	*	
1,2,3,4,7,8-HxCDD	8.98e+06	1.27 y	1.08	34:41	1.000	48.746		*	2.5	*	Total Hexa-Dioxins	194	196	*	*	
1,2,3,6,7,8-HxCDD	8.68e+06	1.27 y	1.06	34:47	1.000	51.219		*	2.5	*	Total Hepta-Dioxins	122	124	*	*	
1,2,3,7,8,9-HxCDD	9.20e+06	1.24 y	0.93	35:06	1.001	50.047		*	2.5	*	Total Tetra-Furans	28.5	29.0	*	*	
1,2,3,4,6,7,8-HpCDD	8.32e+06	1.06 y	1.10	38:31	1.000	48.297		*	2.5	*	Total Penta-Furans	202.10	202.75	*	*	
OCDD	1.41e+07	0.89 y	0.95	41:56	1.000	100.53		*	2.5	*	Total Hexa-Furans	241	243	*	*	
											Total Hepta-Furans	97.2	98.9	*	*	
2,3,7,8-TCDF	3.14e+06	0.80 y	1.07	26:13	1.001	8.8831		*	2.5	*						
1,2,3,7,8-PeCDF	1.46e+07	1.60 y	1.07	30:10	1.000	49.344		*	2.5	*						
2,3,4,7,8-PeCDF	1.40e+07	1.58 y	1.03	31:02	1.001	47.876		*	2.5	*						
1,2,3,4,7,8-HxCDF	1.33e+07	1.27 y	1.38	33:46	1.000	47.521		*	2.5	*						
1,2,3,6,7,8-HxCDF	1.48e+07	1.32 y	1.26	33:54	1.000	50.298		*	2.5	*						
2,3,4,6,7,8-HxCDF	1.41e+07	1.28 y	1.29	34:30	1.000	48.888		*	2.5	*						
1,2,3,7,8,9-HxCDF	1.12e+07	1.30 y	1.19	35:30	1.000	49.348		*	2.5	*						
1,2,3,4,6,7,8-HpCDF	1.36e+07	1.08 y	1.61	37:22	1.000	49.061		*	2.5	*						
1,2,3,4,7,8,9-HpCDF	1.11e+07	1.09 y	1.53	39:05	1.000	48.047		*	2.5	*						
OCDF	1.71e+07	0.92 y	1.10	42:10	1.000	94.642		*	2.5	*						
											Rec	Qual				
IS 13C-2,3,7,8-TCDD	2.33e+07	0.81 y	1.06	26:57	1.020	95.212					95.2					
IS 13C-1,2,3,7,8-PeCDD	2.09e+07	0.63 y	1.18	31:18	1.185	76.942					76.9					
IS 13C-1,2,3,4,7,8-HxCDD	1.71e+07	1.25 y	0.72	34:40	1.014	103.59					104					
IS 13C-1,2,3,6,7,8-HxCDD	1.59e+07	1.23 y	0.74	34:47	1.018	94.332					94.3					
IS 13C-1,2,3,7,8,9-HxCDD	1.97e+07	1.20 y	0.85	35:05	1.027	100.91					101					
IS 13C-1,2,3,4,6,7,8-HpCDD	1.56e+07	1.08 y	0.65	38:30	1.127	104.07					104					
IS 13C-OCDD	2.95e+07	0.90 y	0.76	41:55	1.227	168.43					84.2					
IS 13C-2,3,7,8-TCDF	3.30e+07	0.75 y	0.92	26:12	0.992	101.46					101					
IS 13C-1,2,3,7,8-PeCDF	2.76e+07	1.55 y	0.92	30:09	1.142	84.557					84.6					
IS 13C-2,3,4,7,8-PeCDF	2.84e+07	1.54 y	0.93	31:01	1.175	86.231					86.2					
IS 13C-1,2,3,4,7,8-HxCDF	2.02e+07	0.51 y	0.98	33:45	0.987	89.843					89.8					
IS 13C-1,2,3,6,7,8-HxCDF	2.35e+07	0.51 y	1.08	33:53	0.991	94.545					94.5					
IS 13C-2,3,4,6,7,8-HxCDF	2.24e+07	0.52 y	1.03	34:30	1.009	95.258					95.3					
IS 13C-1,2,3,7,8,9-HxCDF	1.91e+07	0.52 y	0.86	35:29	1.039	96.741					96.7					
IS 13C-1,2,3,4,6,7,8-HpCDF	1.72e+07	0.44 y	0.72	37:21	1.093	104.25					104					
IS 13C-1,2,3,4,7,8,9-HpCDF	1.52e+07	0.44 y	0.70	39:04	1.143	94.909					94.9					
IS 13C-OCDF	3.29e+07	0.89 y	0.85	42:09	1.233	168.93					84.5					
C/Up 37C1-2,3,7,8-TCDD	2.51e+06		1.12	26:57	1.021	9.7311					24.3					
RS/RT 13C-1,2,3,4-TCDD	2.31e+07	0.80 y	1.00	26:24	*	100.00										
RS 13C-1,2,3,4-TCDF	3.54e+07	0.78 y	1.00	25:04	*	100.00										
RS/RT 13C-1,2,3,4,6,9-HxCDF	2.29e+07	0.51 y	1.00	34:10	*	100.00										

Integrations
by
Analyst: MM
Reviewed
by
Analyst: _____
Date: 4/27/15
Date: _____

Vista Analytical Laboratory - Injection Log Run file: 150427D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
150427D1	1	ST150427D1-1	MAS	27-APR-15	10:17:08	ST150427D1-1	NA
150427D1	2	B5D0082-BS1	MAS	27-APR-15	11:04:58	ST150427D1-1	NA
150427D1	3	150423_OPR	MAS	27-APR-15	11:52:49	ST150427D1-1	NA
150427D1	4	SOLVENT BLANK	MAS	27-APR-15	12:40:45	ST150427D1-1	NA
150427D1	5	B5D0082-BLK1	MAS	27-APR-15	13:28:41	ST150427D1-1	NA
150427D1	6	150423_MB	MAS	27-APR-15	14:16:38	ST150427D1-1	NA
150427D1	7	150423_QC_1	MAS	27-APR-15	15:04:33	ST150427D1-1	NA
150427D1	8	1500351-01	MAS	27-APR-15	15:52:29	ST150427D1-1	NA
150427D1	9	1500351-02	MAS	27-APR-15	16:40:21	ST150427D1-1	NA
150427D1	10	1500335-01	MAS	27-APR-15	17:28:09	ST150427D1-1	NA
150427D1	11	1500335-02	MAS	27-APR-15	18:16:04	ST150427D1-1	NA
150427D1	12	SOLVENT BLANK	MAS	27-APR-15	19:04:01	ST150427D1-1	NA

CALIBRATION STANDARDS REVIEW CHECKLIST



Beg. Calibration ID: ST 15042701-1

End Calibration ID: NA

	Beg.	End		Beg.	End
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA	Mass resolution > 10,000?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Concentration within range?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	▪ Method 1614 > 5,000; CARB 429 > 8,000	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
First and last eluters present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	TCDD/TCDF valleys < 25%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Peaks integrated correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Manual integrations included?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8280 CS1 Ending Standard		<input type="checkbox"/>
Correct ICAL referenced?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-Ratios within limits		<input type="checkbox"/>
Run Log:			-S/N > 2.5:1		<input checked="" type="checkbox"/>
-Data file matches Conc Cal ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-CS1 within 12-hour clock		<input type="checkbox"/>
-Correct instrument listed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
-Samples within 12-hour clock?	<input checked="" type="checkbox"/> y	<input type="checkbox"/> n			

Comments:

Reviewed by: [Signature] 4/28/11
Initials & Date

* Ending standard criteria applicable to 8290 only.

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150421E1-1 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150421E1 S#1 Analysis Date: 21-APR-15 Time: 08:48:49

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. CONC. FOUND	CONC. RANGE (ng/mL)
PCB-1	2.95	2.66-3.60	y	41.7	37.5-62.5	PCB-52/69	0.75	0.65-0.89	y	98.6	75.0-125
PCB-2	2.95	2.66-3.60	y	42.0	37.5-62.5	PCB-73	0.76	0.65-0.89	y	45.8	37.5-62.5
PCB-3	2.93	2.66-3.60	y	41.8	37.5-62.5	PCB-43/49	0.76	0.65-0.89	y	91.9	75.0-125
PCB-4/10	1.59	1.33-1.79	y	85.7	75-125	PCB-47	0.76	0.65-0.89	y	49.2	37.5-62.5
PCB-7/9	1.60	1.33-1.79	y	85.9	75-125	PCB-48/75	0.76	0.65-0.89	y	95.3	75.0-125
PCB-6	1.62	1.33-1.79	y	43.3	37.5-62.5	PCB-65	0.75	0.65-0.89	y	47.0	37.5-62.5
PCB-5/8	1.60	1.33-1.79	y	86.6	75-125	PCB-62	0.77	0.65-0.89	y	50.1	37.5-62.5
PCB-14	1.61	1.33-1.79	y	42.7	37.5-62.5	PCB-44	0.77	0.65-0.89	y	52.8	37.5-62.5
PCB-11	1.62	1.33-1.79	y	43.0	37.5-62.5	PCB-42/59	0.76	0.65-0.89	y	97.2	75.0-125
PCB-12/13	1.61	1.33-1.79	y	86.7	75-125	PCB-41/64/71/72	0.76	0.65-0.89	y	195.4	150-250
PCB-15	1.61	1.33-1.79	y	43.1	37.5-62.5	PCB-68	0.76	0.65-0.89	y	47.0	37.5-62.5
PCB-19	1.06	0.88-1.20	y	52.3	37.5-62.5	PCB-40	0.76	0.65-0.89	y	48.3	37.5-62.5
PCB-30	1.06	0.88-1.20	y	54.9	37.5-62.5	PCB-57	0.76	0.65-0.89	y	49.4	37.5-62.5
PCB-18	1.06	0.88-1.20	y	49.0	37.5-62.5	PCB-67	0.76	0.65-0.89	y	47.8	37.5-62.5
PCB-17	1.08	0.88-1.20	y	48.9	37.5-62.5	PCB-58	0.77	0.65-0.89	y	49.1	37.5-62.5
PCB-24/27	1.07	0.88-1.20	y	94.8	75.0-125	PCB-63	0.76	0.65-0.89	y	48.3	37.5-62.5
PCB-16/32	1.06	0.88-1.20	y	102.8	75.0-125	PCB-74	0.77	0.65-0.89	y	48.3	37.5-62.5
PCB-34	0.98	0.88-1.20	y	44.6	37.5-62.5	PCB-61/70	0.76	0.65-0.89	y	96.5	75.0-125
PCB-23	1.00	0.88-1.20	y	43.1	37.5-62.5	PCB-76/66	0.77	0.65-0.89	y	97.1	75.0-125
PCB-29	0.97	0.88-1.20	y	44.2	37.5-62.5	PCB-80	0.77	0.65-0.89	y	48.8	37.5-62.5
PCB-26	1.00	0.88-1.20	y	45.0	37.5-62.5	PCB-55	0.75	0.65-0.89	y	48.5	37.5-62.5
PCB-25	0.99	0.88-1.20	y	44.4	37.5-62.5	PCB-56/60	0.76	0.65-0.89	y	96.3	75.0-125
PCB-31	0.96	0.88-1.20	y	42.3	37.5-62.5	PCB-79	0.77	0.65-0.89	y	49.2	37.5-62.5
PCB-28	0.99	0.88-1.20	y	41.0	37.5-62.5	PCB-78	0.76	0.65-0.89	y	51.2	37.5-62.5
PCB-20/21/33	0.98	0.88-1.20	y	131.1	112.5-225	PCB-81	0.77	0.65-0.89	y	50.1	37.5-62.5
PCB-22	1.00	0.88-1.20	y	40.9	37.5-62.5	PCB-77	0.80	0.65-0.89	y	49.9	37.5-62.5
PCB-36	0.98	0.88-1.20	y	37.8	37.5-62.5	PCB-104	1.61	1.32-1.78	y	50.1	37.5-62.5
PCB-39	0.98	0.88-1.20	y	40.2	37.5-62.5	PCB-96	1.59	1.32-1.78	y	50.5	37.5-62.5
PCB-38	0.98	0.88-1.20	y	38.4	37.5-62.5	PCB-103	1.59	1.32-1.78	y	50.6	37.5-62.5
PCB-35	0.98	0.88-1.20	y	38.3	37.5-62.5	PCB-100	1.60	1.32-1.78	y	50.1	37.5-62.5
PCB-37	1.01	0.88-1.20	y	40.2	37.5-62.5	PCB-94	1.59	1.32-1.78	y	50.8	37.5-62.5
PCB-54	0.75	0.65-0.89	y	48.3	37.5-62.5	PCB-95/98/102	1.60	1.32-1.78	y	149.7	112.5-225
PCB-50	0.76	0.65-0.89	y	49.9	37.5-62.5	PCB-93	1.54	1.32-1.78	y	48.7	37.5-62.5
PCB-53	0.76	0.65-0.89	y	47.3	37.5-62.5	PCB-88/91	1.57	1.32-1.78	y	97.4	75.0-125
PCB-51	0.76	0.65-0.89	y	44.5	37.5-62.5	PCB-121	1.63	1.32-1.78	y	52.0	37.5-62.5
PCB-45	0.75	0.65-0.89	y	46.4	37.5-62.5						
PCB-46	0.76	0.65-0.89	y	48.1	37.5-62.5						

Analyst: DMS

Date: 4/21/15

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150421E1-1 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150421E1 S#1 Analysis Date: 21-APR-15 Time: 08:48:49

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. CONC. FOUND	CONC. RANGE (ng/mL)
PCB-84/92	1.61	1.32-1.78	y	101.1	75.0-125	PCB-140	1.27	1.05-1.43	y	49.3	37.5-62.5
PCB-89	1.57	1.32-1.78	y	50.5	37.5-62.5	PCB-134/143	1.26	1.05-1.43	y	96.8	75.0-125
PCB-90/101	1.59	1.32-1.78	y	98.2	75.0-125	PCB-133/142	1.26	1.05-1.43	y	98.3	75.0-125
PCB-113	1.56	1.32-1.78	y	50.1	37.5-62.5	PCB-131	1.25	1.05-1.43	y	51.1	37.5-62.5
PCB-99	1.60	1.32-1.78	y	48.2	37.5-62.5	PCB-146/165	1.26	1.05-1.43	y	100.1	75.0-125
PCB-119	1.60	1.32-1.78	y	50.3	37.5-62.5	PCB-132/161	1.24	1.05-1.43	y	93.9	75.0-125
PCB-108/112	1.59	1.32-1.78	y	99.3	75.0-125	PCB-153	1.25	1.05-1.43	y	47.2	37.5-62.5
PCB-83	1.60	1.32-1.78	y	49.2	37.5-62.5	PCB-168	1.25	1.05-1.43	y	48.1	37.5-62.5
PCB-97	1.61	1.32-1.78	y	49.4	37.5-62.5	PCB-141	1.23	1.05-1.43	y	49.7	37.5-62.5
PCB-86	1.55	1.32-1.78	y	53.1	37.5-62.5	PCB-137	1.20	1.05-1.43	y	51.7	37.5-62.5
PCB-87/117/125	1.59	1.32-1.78	y	142.2	112.5-225	PCB-130	1.25	1.05-1.43	y	52.9	37.5-62.5
PCB-111/115	1.59	1.32-1.78	y	94.3	75.0-125	PCB-138/163/164	1.24	1.05-1.43	y	139.3	112.5-225
PCB-85/116	1.62	1.32-1.78	y	95.7	75.0-125	PCB-158/160	1.24	1.05-1.43	y	95.6	75.0-125
PCB-120	1.59	1.32-1.78	y	47.7	37.5-62.5	PCB-129	1.26	1.05-1.43	y	47.5	37.5-62.5
PCB-110	1.61	1.32-1.78	y	47.3	37.5-62.5	PCB-166	1.25	1.05-1.43	y	50.5	37.5-62.5
PCB-82	1.59	1.32-1.78	y	51.0	37.5-62.5	PCB-159	1.25	1.05-1.43	y	51.2	37.5-62.5
PCB-124	1.58	1.32-1.78	y	48.1	37.5-62.5	PCB-128/162	1.24	1.05-1.43	y	101.3	75.0-125
PCB-107/109	1.60	1.32-1.78	y	98.9	75.0-125	PCB-167	1.25	1.05-1.43	y	50.0	37.5-62.5
PCB-123	1.64	1.32-1.78	y	50.0	37.5-62.5	PCB-156	1.23	1.05-1.43	y	50.2	37.5-62.5
PCB-106/118	1.59	1.32-1.78	y	99.7	75.0-125	PCB-157	1.26	1.05-1.43	y	49.5	37.5-62.5
PCB-114	1.54	1.32-1.78	y	44.0	37.5-62.5	PCB-169	1.25	1.05-1.43	y	51.9	37.5-62.5
PCB-122	1.60	1.32-1.78	y	43.9	37.5-62.5	PCB-188	1.07	0.89-1.21	y	50.3	37.5-62.5
PCB-105	1.54	1.32-1.78	y	42.8	37.5-62.5	PCB-184	1.07	0.89-1.21	y	50.5	37.5-62.5
PCB-127	1.69	1.32-1.78	y	44.1	37.5-62.5	PCB-179	1.08	0.89-1.21	y	50.5	37.5-62.5
PCB-126	1.59	1.32-1.78	y	45.2	37.5-62.5	PCB-176	1.06	0.89-1.21	y	50.5	37.5-62.5
PCB-155	1.29	1.05-1.43	y	50.1	37.5-62.5	PCB-186	1.07	0.89-1.21	y	49.1	37.5-62.5
PCB-150	1.27	1.05-1.43	y	49.9	37.5-62.5	PCB-178	1.08	0.89-1.21	y	48.6	37.5-62.5
PCB-152	1.28	1.05-1.43	y	47.8	37.5-62.5	PCB-175	1.07	0.89-1.21	y	49.1	37.5-62.5
PCB-145	1.26	1.05-1.43	y	48.6	37.5-62.5	PCB-182/187	1.07	0.89-1.21	y	97.6	75.0-125
PCB-136	1.28	1.05-1.43	y	47.1	37.5-62.5	PCB-183	1.07	0.89-1.21	y	48.3	37.5-62.5
PCB-148	1.29	1.05-1.43	y	50.3	37.5-62.5	PCB-185	1.06	0.89-1.21	y	51.9	37.5-62.5
PCB-154	1.31	1.05-1.43	y	48.8	37.5-62.5	PCB-174	1.05	0.89-1.21	y	55.0	37.5-62.5
PCB-151	1.27	1.05-1.43	y	49.5	37.5-62.5	PCB-181	1.07	0.89-1.21	y	49.9	37.5-62.5
PCB-135	1.25	1.05-1.43	y	52.4	37.5-62.5	PCB-177	1.07	0.89-1.21	y	50.3	37.5-62.5
PCB-144	1.27	1.05-1.43	y	46.6	37.5-62.5	PCB-171	1.06	0.89-1.21	y	49.3	37.5-62.5
PCB-147	1.28	1.05-1.43	y	48.6	37.5-62.5	PCB-173	1.06	0.89-1.21	y	53.9	37.5-62.5
PCB-139/149	1.26	1.05-1.43	y	97.5	75.0-125	PCB-172	1.06	0.89-1.21	y	51.2	37.5-62.5

Analyst: DMS

Date: 4/21/15

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150421E1-1 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150421E1 S#1 Analysis Date: 21-APR-15 Time: 08:48:49

ANALYTES	ION	QC	PASS	CONC.	CONC.
	ABUND.	LIMITS		FOUND	RANGE
	RATIO			(ng/mL)	
PCB-192	1.05	0.89-1.21	y	50.2	37.5-62.5
PCB-180	1.04	0.89-1.21	y	48.5	37.5-62.5
PCB-193	1.06	0.89-1.21	y	49.4	37.5-62.5
PCB-191	1.06	0.89-1.21	y	49.0	37.5-62.5
PCB-170	1.05	0.89-1.21	y	48.7	37.5-62.5
PCB-190	1.06	0.89-1.21	y	48.7	37.5-62.5
PCB-189	1.06	0.89-1.21	y	50.7	37.5-62.5
PCB-202	0.93	0.76-1.02	y	50.4	37.5-62.5
PCB-201	0.92	0.76-1.02	y	51.8	37.5-62.5
PCB-204	0.93	0.76-1.02	y	48.4	37.5-62.5
PCB-197	0.92	0.76-1.02	y	49.6	37.5-62.5
PCB-200	0.92	0.76-1.02	y	49.9	37.5-62.5
PCB-198	0.90	0.76-1.02	y	51.0	37.5-62.5
PCB-199	0.90	0.76-1.02	y	48.4	37.5-62.5
PCB-196/203	0.92	0.76-1.02	y	96.0	75.0-125
PCB-195	0.89	0.76-1.02	y	47.3	37.5-62.5
PCB-194	0.89	0.76-1.02	y	40.2	37.5-62.5
PCB-205	0.91	0.76-1.02	y	40.1	37.5-62.5
PCB-208	1.33	1.14-1.54	y	47.5	37.5-62.5
PCB-207	1.34	1.14-1.54	y	47.2	37.5-62.5
PCB-206	1.34	1.14-1.54	y	47.1	37.5-62.5
PCB-209	1.18	0.99-1.33	y	49.3	37.5-62.5

Analyst: DMS

Date: 4/21/15

LABELED 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150421E1-1 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150421E1 S#1 Analysis Date: 21-APR-15 Time: 08:48:49

LABELED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. CONC. FOUND	CONC. RANGE (ng/mL)	LABELED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
13C-PCB-1	3.35	2.66-3.60	y	116.4	50.0-145	13C-PCB-169	1.28	1.05-1.43	y	96.2	50 - 145
13C-PCB-3	3.34	2.66-3.60	y	118.0	50.0-145	13C-PCB-188	0.45	0.38-0.52	y	91.2	50 - 145
13C-PCB-4	1.59	1.33-1.79	y	95.8	50.0-145	13C-PCB-180	0.47	0.38-0.52	y	85.2	50 - 145
13C-PCB-9	1.58	1.33-1.79	y	98.7	50.0-145	13C-PCB-170	0.47	0.38-0.52	y	85.0	50 - 145
13C-PCB-11	1.56	1.33-1.79	y	101.1	50.0-145	13C-PCB-189	0.45	0.38-0.52	y	81.7	50 - 145
13C-PCB-19	1.10	0.88-1.20	y	88.6	50.0-145	13C-PCB-202	0.91	0.76-1.02	y	77.3	50 - 145
13C-PCB-32	1.08	0.88-1.20	y	95.1	50.0-145	13C-PCB-194	0.89	0.76-1.02	y	103.7	50 - 145
13C-PCB-28	1.01	0.88-1.20	y	88.5	50.0-145	13C-PCB-208	0.78	0.65-0.89	y	102.2	50 - 145
13C-PCB-37	1.04	0.88-1.20	y	101.6	50.0-145	13C-PCB-206	0.77	0.65-0.89	y	98.5	50 - 145
13C-PCB-54	0.79	0.65-0.89	y	102.5	50.0-145	13C-PCB-209	1.21	0.99-1.33	y	88.2	50 - 145
13C-PCB-52	0.79	0.65-0.89	y	112.2	50.0-145						
13C-PCB-47	0.79	0.65-0.89	y	104.4	50.0-145						
13C-PCB-70	0.79	0.65-0.89	y	101.2	50.0-145						
13C-PCB-80	0.79	0.65-0.89	y	101.4	50.0-145						
13C-PCB-81	0.79	0.65-0.89	y	95.0	50.0-145						
13C-PCB-77	0.81	0.65-0.89	y	96.4	50.0-145						
13C-PCB-104	1.61	1.32-1.78	y	106.5	50.0-145						
13C-PCB-95	1.60	1.32-1.78	y	105.5	50.0-145						
13C-PCB-101	1.61	1.32-1.78	y	103.2	50.0-145	CRS vs. RS					
13C-PCB-97	1.64	1.32-1.78	y	103.7	50.0-145						
13C-PCB-123	1.59	1.32-1.78	y	101.4	50.0-145	13C-PCB-79	0.79	0.65-0.89	y	99.7	75 - 125
13C-PCB-118	1.62	1.32-1.78	y	98.5	50.0-145	13C-PCB-178	0.47	0.38-0.52	y	89.3	75 - 125
13C-PCB-114	1.59	1.32-1.78	y	111.4	50.0-145						
13C-PCB-105	1.57	1.32-1.78	y	116.5	50.0-145						
13C-PCB-127	1.58	1.32-1.78	y	114.0	50.0-145						
13C-PCB-126	1.60	1.32-1.78	y	112.4	50.0-145						
13C-PCB-155	1.31	1.05-1.43	y	84.4	50.0-145						
13C-PCB-153	1.30	1.05-1.43	y	106.9	50.0-145						
13C-PCB-141	1.28	1.05-1.43	y	102.0	50.0-145						
13C-PCB-138	1.27	1.05-1.43	y	104.6	50.0-145						
13C-PCB-159	1.29	1.05-1.43	y	100.8	50.0-145						
13C-PCB-167	1.28	1.05-1.43	y	101.9	50.0-145						
13C-PCB-156	1.30	1.05-1.43	y	98.5	50.0-145						
13C-PCB-157	1.29	1.05-1.43	y	98.0	50.0-145						

Analyst: DMS
Date: 4/21/15

Client ID: PCB CS3 14L1801
Lab ID: ST150421E2-1

Filename: 150421E2 S:1 Acq:21-APR-15 22:54:45
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.0000 EndCAL: ST150421E2-1

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	1.21e+08	2.99	y	1.33	16:06	1.001	0.997-1.007	48.3221	PCB-52/69	1.20e+08	0.75	y	1.29	31:25	1.001	0.996-1.006	105.792
PCB-2	1.24e+08	3.01	y	1.30	18:27	0.988	0.983-0.993	46.8525	PCB-73	5.76e+07	0.78	y	1.41	31:32	1.005	0.999-1.009	46.4974
PCB-3	1.23e+08	2.97	y	1.30	18:41	1.001	0.996-1.006	46.3568	PCB-43/49	9.88e+07	0.77	y	1.14	31:42	1.010	1.005-1.015	98.9427
									PCB-47	5.02e+07	0.77	y	1.20	31:54	1.001	0.996-1.006	47.0303
PCB-4/10	1.88e+08	1.61	y	1.67	20:03	1.002	0.997-1.007	91.3592	PCB-48/75	1.24e+08	0.77	y	1.33	32:01	1.004	0.999-1.009	105.293
PCB-7/9	2.31e+08	1.61	y	1.25	21:49	0.868	0.864-0.872	89.1119	PCB-65	6.22e+07	0.77	y	1.32	32:17	1.013	1.007-1.017	53.0141
PCB-6	1.15e+08	1.61	y	1.24	22:28	0.894	0.888-0.897	44.8443	PCB-62	6.09e+07	0.77	y	1.36	32:24	1.016	1.011-1.021	50.3736
PCB-5/8	2.35e+08	1.60	y	1.27	22:52	0.910	0.905-0.915	89.5658	PCB-44	4.31e+07	0.78	y	0.87	32:41	1.025	1.020-1.030	55.5552
PCB-14	1.36e+08	1.62	y	1.47	23:57	0.953	0.948-0.958	46.3347	PCB-42/59	1.08e+08	0.77	y	1.24	32:56	1.033	1.027-1.037	98.4185
PCB-11	1.18e+08	1.63	y	1.28	25:09	1.001	0.995-1.005	46.0125	PCB-41/64/71/72	2.36e+08	0.77	y	1.34	33:31	1.051	1.045-1.055	197.888
PCB-12/13	1.27e+08	1.63	y	1.27	25:34	1.017	1.011-1.021	50.1797	PCB-68	6.93e+07	0.77	y	1.61	33:46	1.059	1.053-1.063	48.3212
PCB-15	1.36e+08	1.61	y	1.44	25:51	1.029	1.023-1.031	47.2539	PCB-40	3.74e+07	0.78	y	0.86	33:59	1.066	1.061-1.071	48.9749
									PCB-57	6.16e+07	0.77	y	1.12	34:20	0.970	0.965-0.975	48.4718
PCB-19	6.31e+07	1.07	y	1.18	24:08	1.001	0.996-1.006	51.1490	PCB-67	6.20e+07	0.85	y	1.09	34:39	0.979	0.974-0.984	50.1113
PCB-30	9.73e+07	1.06	y	1.87	25:02	1.038	1.033-1.043	49.8919	PCB-58	6.71e+07	0.70	y	1.14	34:46	0.982	0.977-0.987	52.0669
PCB-18	6.46e+07	1.07	y	0.89	25:46	0.953	0.949-0.959	49.4112	PCB-63	6.60e+07	0.77	y	1.16	34:55	0.986	0.981-0.991	50.0637
PCB-17	7.00e+07	1.07	y	0.96	25:57	0.960	0.956-0.966	49.6001	PCB-74	7.04e+07	0.76	y	1.21	35:12	0.994	0.989-0.999	51.1787
PCB-24/27	1.86e+08	1.07	y	1.30	26:31	0.981	0.977-0.987	96.8340	PCB-61/70	1.26e+08	0.78	y	1.13	35:23	1.000	0.995-1.005	98.7318
PCB-16/32	1.55e+08	1.07	y	1.05	27:02	1.000	0.996-1.006	100.319	PCB-76/66	1.27e+08	0.79	y	1.18	35:36	1.006	1.000-1.010	94.7187
PCB-34	8.13e+07	1.01	y	1.30	27:49	0.960	0.955-0.965	44.5554	PCB-80	7.18e+07	0.78	y	1.32	35:50	1.000	0.995-1.005	49.5203
PCB-23	7.65e+07	1.03	y	1.21	27:55	0.964	0.958-0.968	45.0609	PCB-55	6.75e+07	0.77	y	1.23	36:09	1.009	1.004-1.014	50.1342
PCB-29	8.19e+07	1.00	y	1.21	28:10	0.972	0.967-0.977	48.2272	PCB-56/60	1.18e+08	0.78	y	1.11	36:39	1.023	1.018-1.028	97.4948
PCB-26	7.61e+07	1.02	y	1.24	28:22	0.979	0.974-0.984	43.8378	PCB-79	6.24e+07	0.77	y	1.16	37:42	1.053	1.048-1.058	49.1292
PCB-25	7.13e+07	1.02	y	1.10	28:32	0.985	0.980-0.990	46.2809	PCB-78	6.04e+07	0.78	y	1.18	38:24	0.987	0.982-0.992	51.1188
PCB-31	7.70e+07	1.02	y	1.25	28:53	0.997	0.992-1.002	43.8497	PCB-81	6.54e+07	0.77	y	1.29	38:56	1.000	0.995-1.005	50.4939
PCB-28	8.66e+07	1.04	y	1.24	29:00	1.001	0.996-1.006	49.8694	PCB-77	6.73e+07	0.79	y	1.29	39:31	1.000	0.995-1.005	51.6186
PCB-20/21/33	2.24e+08	0.99	y	1.16	29:37	1.022	1.016-1.026	137.799									
PCB-22	7.28e+07	1.03	y	1.16	30:03	1.037	1.032-1.042	44.5946	PCB-104	4.33e+07	1.61	y	1.26	32:33	1.001	0.996-1.006	50.1136
PCB-36	6.76e+07	1.00	y	1.30	30:40	0.934	0.929-0.939	44.2192	PCB-96	3.74e+07	1.60	y	1.09	33:49	1.039	1.034-1.044	50.0405
PCB-39	7.39e+07	1.03	y	1.26	31:08	0.948	0.943-0.953	49.8358	PCB-103	3.22e+07	1.57	y	0.97	34:21	1.056	1.051-1.061	48.6214
PCB-38	7.81e+07	1.04	y	1.24	31:55	0.972	0.967-0.977	53.4649	PCB-100	3.25e+07	1.60	y	0.96	34:43	1.067	1.061-1.071	49.2530
PCB-35	7.79e+07	1.05	y	1.26	32:25	0.987	0.982-0.992	52.7112	PCB-94	2.78e+07	1.61	y	1.13	35:11	0.986	0.980-0.990	53.4605
PCB-37	7.85e+07	1.03	y	1.35	32:52	1.001	0.996-1.006	49.4926	PCB-95/98/102	1.14e+08	1.58	y	1.29	35:42	1.000	0.994-1.004	193.215
									PCB-93	1.14e+08	1.58	y	1.06	35:42	1.000	0.998-1.008	234.523
PCB-54	6.93e+07	0.77	y	1.02	27:53	1.001	0.996-1.006	50.9540	PCB-88/91	5.46e+07	1.59	y	1.12	36:05	1.011	1.006-1.016	105.684
PCB-50	5.14e+07	0.76	y	0.78	29:03	1.043	1.037-1.047	49.7430	PCB-121	3.88e+07	1.63	y	1.76	36:11	1.014	1.009-1.019	47.9405
PCB-53	5.00e+07	0.77	y	1.14	29:41	0.946	0.941-0.951	50.1043	PCB-84/92	5.41e+07	1.61	y	1.07	37:01	0.991	0.985-0.995	104.638
PCB-51	5.04e+07	0.78	y	1.16	30:02	0.957	0.952-0.962	49.4415	PCB-89	2.51e+07	1.62	y	1.00	37:12	0.996	0.990-1.000	52.2894
PCB-45	4.71e+07	0.77	y	1.04	30:27	0.970	0.965-0.975	51.5538									
PCB-46	4.03e+07	0.77	y	0.95	30:57	0.986	0.981-0.991	48.4225									

Integrations Reviewed
by Analyst: DMS
Date: 4/22/15

Client ID: PCB CS3 14L1801
Lab ID: ST150421E2-1

Filename: 150421E2 S:1 Acq:21-APR-15 22:54:45 ConCal: ST150421E1-1
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.0000 EndCAL: ST150421E2-1

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-90/101	5.93e+07	1.61	y	1.21	37:23	1.000	0.995-1.005	101.935	PCB-133/142	6.13e+07	1.26	y	0.91	42:19	0.982	0.977-0.987	102.694
PCB-113	6.25e+07	1.61	y	1.34	37:40	1.008	1.002-1.012	96.7325	PCB-131	2.83e+07	1.28	y	0.85	42:29	0.986	0.981-0.991	50.9576
PCB-99	6.25e+07	1.61	y	1.25	37:40	1.008	1.004-1.014	103.804	PCB-146/165	7.46e+07	1.28	y	1.08	42:42	0.991	0.986-0.996	104.956
PCB-119	3.89e+07	1.60	y	1.88	38:11	0.988	0.982-0.992	50.4928	PCB-132/161	7.45e+07	1.28	y	1.12	42:57	0.997	0.992-1.002	101.462
PCB-108/112	5.87e+07	1.59	y	1.41	38:20	0.991	0.986-0.996	101.856	PCB-153	3.74e+07	1.27	y	1.20	43:06	1.000	0.996-1.006	47.6134
PCB-83	3.53e+07	1.59	y	1.66	38:30	0.996	0.990-1.000	51.8094	PCB-168	4.56e+07	1.25	y	1.36	43:19	1.005	1.000-1.010	51.2171
PCB-97	2.69e+07	1.59	y	1.30	38:41	1.000	0.995-1.005	50.5171	PCB-141	3.37e+07	1.26	y	1.16	43:51	1.000	0.995-1.005	52.7594
PCB-86	*	*	n	1.03	NotFnd	*	0.999-1.009	*	PCB-137	3.20e+07	1.26	y	1.18	44:13	1.009	1.004-1.014	49.2466
B-87/117/125	1.17e+08	1.60	y	1.59	38:56	1.007	1.002-1.012	179.496	PCB-130	2.92e+07	1.24	y	0.92	44:20	1.011	1.006-1.016	57.4566
PCB-111/115	8.06e+07	1.62	y	1.86	39:08	1.012	1.006-1.016	105.982	PCB-138/163/164	1.18e+08	1.27	y	1.38	44:42	1.001	0.996-1.006	152.188
PCB-85/116	5.44e+07	1.61	y	1.39	39:15	1.015	1.010-1.020	95.3567	PCB-158/160	8.61e+07	1.28	y	1.48	44:57	1.006	1.001-1.011	104.139
PCB-120	4.02e+07	1.59	y	1.99	39:29	1.021	1.016-1.026	49.3923	PCB-129	2.82e+07	1.28	y	0.99	45:11	1.012	1.007-1.017	50.9892
PCB-110	3.58e+07	1.61	y	1.70	39:38	1.025	1.019-1.029	51.2620	PCB-166	4.28e+07	1.25	y	1.14	45:39	0.993	0.988-0.998	56.6429
PCB-82	2.22e+07	1.64	y	0.74	40:16	0.977	0.971-0.981	54.8559	PCB-159	4.81e+07	1.26	y	1.22	45:58	1.000	0.995-1.005	59.4223
PCB-124	3.87e+07	1.61	y	1.30	40:56	0.993	0.988-0.998	54.4391	PCB-128/162	7.50e+07	1.26	y	1.03	46:16	1.007	1.002-1.012	109.593
PCB-107/109	7.51e+07	1.66	y	1.34	41:05	0.996	0.991-1.001	103.015	PCB-167	4.22e+07	1.24	y	1.18	46:39	1.000	0.995-1.005	52.9349
PCB-123	3.54e+07	1.53	y	1.25	41:15	1.000	0.995-1.005	51.8673	PCB-156	4.23e+07	1.26	y	1.27	47:56	1.000	0.995-1.005	52.9572
PCB-106/118	7.75e+07	1.62	y	1.29	41:27	1.001	0.996-1.006	105.024	PCB-157	4.23e+07	1.28	y	1.22	48:13	1.001	0.995-1.005	52.2605
PCB-114	6.40e+07	1.62	y	1.45	42:05	1.000	0.995-1.005	49.9114	PCB-169	3.66e+07	1.24	y	1.07	50:20	1.000	0.995-1.005	55.3520
PCB-122	5.79e+07	1.66	y	1.22	42:14	1.004	0.999-1.009	53.7803									
PCB-105	6.42e+07	1.55	y	1.56	42:57	1.000	0.995-1.005	49.1042	PCB-188	3.22e+07	1.06	y	1.52	42:44	1.000	0.996-1.006	49.9644
PCB-127	5.72e+07	1.68	y	1.31	43:17	1.000	0.995-1.005	50.3785	PCB-184	2.86e+07	1.07	y	1.34	43:11	1.011	1.006-1.016	50.4475
PCB-126	5.55e+07	1.64	y	1.41	45:11	1.000	0.995-1.005	49.8201	PCB-179	2.92e+07	1.08	y	1.39	43:58	1.029	1.024-1.034	49.6559
									PCB-176	3.00e+07	1.06	y	1.45	44:26	1.040	1.035-1.045	48.7301
PCB-155	2.70e+07	1.26	y	1.20	36:56	1.000	0.966-1.006	51.1885	PCB-186	3.14e+07	1.08	y	1.46	45:02	1.054	1.049-1.059	50.9885
PCB-150	2.41e+07	1.32	y	1.13	38:12	1.035	1.030-1.040	48.5434	PCB-178	2.14e+07	1.05	y	1.07	45:32	1.066	1.061-1.071	47.1353
PCB-152	2.42e+07	1.28	y	1.17	38:40	1.047	1.043-1.053	46.9856	PCB-175	2.14e+07	1.04	y	1.05	45:53	1.074	1.069-1.079	48.2984
PCB-145	2.32e+07	1.27	y	1.09	39:07	1.060	1.055-1.065	48.1897	PCB-182/187	4.49e+07	1.05	y	1.14	46:03	1.078	1.073-1.083	93.3067
PCB-136	2.52e+07	1.27	y	1.14	39:27	1.069	1.063-1.073	50.0373	PCB-183	2.45e+07	1.07	y	1.22	46:22	1.085	1.080-1.090	47.3881
PCB-148	1.61e+07	1.32	y	0.82	39:33	1.071	1.066-1.076	44.7493	PCB-185	2.06e+07	1.07	y	1.40	47:02	0.956	0.950-0.960	53.3766
PCB-154	1.90e+07	1.27	y	0.89	40:02	1.084	1.079-1.089	48.3689	PCB-174	1.80e+07	1.03	y	1.29	47:23	0.963	0.958-0.968	50.8208
PCB-151	1.80e+07	1.26	y	0.82	40:41	1.102	1.097-1.107	49.9577	PCB-181	2.01e+07	1.07	y	1.35	47:30	0.965	0.960-0.970	54.2320
PCB-135	1.69e+07	1.26	y	0.80	40:53	1.107	1.101-1.113	48.0376	PCB-177	1.78e+07	1.04	y	1.27	47:40	0.969	0.963-0.973	51.0874
PCB-144	1.83e+07	1.37	y	0.86	41:00	1.111	1.105-1.116	48.5975	PCB-171	2.00e+07	1.07	y	1.46	47:57	0.974	0.969-0.979	50.0213
PCB-147	1.60e+07	1.16	y	0.78	41:08	1.114	1.108-1.120	46.6157	PCB-173	1.62e+07	1.07	y	1.10	48:23	0.983	0.978-0.988	53.3189
PCB-139/149	3.60e+07	1.30	y	0.87	41:24	1.121	1.115-1.127	93.9976	PCB-172	1.94e+07	1.05	y	1.35	48:50	0.992	0.987-0.997	52.2387
PCB-140	1.60e+07	1.26	y	0.78	41:35	1.126	1.120-1.132	46.6824	PCB-192	2.45e+07	1.04	y	1.74	49:01	0.996	0.991-1.001	51.2808
PCB-134/143	5.36e+07	1.27	y	0.93	42:01	0.975	0.970-0.980	87.5831	PCB-180	1.94e+07	1.05	y	1.45	49:14	1.000	0.995-1.005	48.7771

Integrations
by
Analyst: DMS
Date: 4/22/15

Client ID: PCB CS3 14L1801
Lab ID: ST150421E2-1

Filename: 150421E2 S:1 Acq:21-APR-15 22:54:45
GC Column ID: ZB-1 ICal: PCVBG8-1-14-15 wt/vol: 1.0000
ConCal: ST150421E1-1
EndCAL: ST150421E2-1

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RT	RRF	Conc		
PCB-193	2.74e+07	1.06	y	1.85	49:26	1.004	0.999-1.009	53.8090	Total Mono-PCB	3.68e+08	2.99	y	16:06	1.31	141.531	
PCB-191	2.48e+07	1.05	y	1.86	49:40	1.009	1.005-1.015	48.5027	Total Di-PCB	1.40e+09	1.61	y	20:03	1.32	551.802	
PCB-170	1.77e+07	1.06	y	1.67	50:41	1.001	0.995-1.005	51.5902	Total Tri-PCB	6.36e+08	1.07	y	24:08	1.20	397.206	
PCB-190	2.34e+07	1.06	y	2.25	50:51	1.004	0.999-1.009	50.5713	Total Tri-PCB	1.28e+09	1.01	y	27:49	1.23	790.895	Sum:1188.10
PCB-189	2.32e+07	1.06	y	1.67	52:10	1.000	0.995-1.005	51.8717	Total Tetra-PCB	2.50e+09	0.77	y	27:53	1.17	2127.46	
									Total Penta-PCB	1.32e+09	1.61	y	32:33	1.24	2113.48	
PCB-202	1.54e+07	0.92	y	1.02	48:09	1.000	0.995-1.005	52.7096	Total Penta-PCB	3.31e+08	1.62	y	42:05	1.39	280.049	Sum:2393.53
PCB-201	1.65e+07	0.94	y	1.10	48:39	1.011	1.005-1.015	52.4706	Total Hexa-PCB	2.80e+08	1.26	y	36:56	0.94	671.951	
PCB-204	1.57e+07	0.88	y	1.07	48:48	1.014	1.009-1.019	50.9096	Total Hexa-PCB	1.05e+09	1.27	y	42:01	1.13	1481.39	Sum:2153.34
PCB-197	1.73e+07	0.94	y	1.17	49:06	1.020	1.015-1.025	51.6502	Total Hepta-PCB	5.64e+08	1.06	y	42:44	1.37	1224.67	
PCB-200	1.53e+07	0.92	y	1.03	49:58	1.038	1.034-1.044	51.5359	Total Octa-PCB	1.23e+08	0.92	y	48:09	0.95	449.488	
PCB-198	1.02e+07	0.92	y	0.75	51:15	1.065	1.062-1.072	47.0609	Total Octa-PCB	7.81e+07	0.90	y	52:47	1.35	161.649	Sum:611.137
PCB-199	1.08e+07	0.95	y	0.74	51:22	1.067	1.064-1.074	50.4815	Total Nona-PCB	6.20e+07	1.33	y	52:56	0.99	159.180	
- PCB-196/203	2.21e+07	0.93	y	0.83	51:38	1.073	1.070-1.080	92.6695	Total Deca-PCB	1.45e+07	1.20	y	56:37	1.35	50.2322	
- PCB-195	2.12e+07	0.90	y	1.14	52:47	0.984	0.979-0.989	51.8955								
PCB-194	2.26e+07	0.90	y	1.29	53:39	1.000	0.995-1.005	48.7711								
PCB-205	2.94e+07	0.93	y	1.61	53:56	1.005	1.001-1.010	50.9555								Total PCB Conc:10688.5999600
PCB-208	2.33e+07	1.33	y	1.01	52:56	1.000	0.995-1.005	52.6572								
PCB-207	2.27e+07	1.34	y	1.03	53:14	1.006	1.001-1.011	50.5397								
PCB-206	1.49e+07	1.34	y	0.88	55:18	1.000	0.995-1.005	53.2908								
PCB-209	1.45e+07	1.20	y	1.35	56:37	1.000	0.995-1.005	50.2322								

Integrations
by
Analyst: DMS
Date: 4/22/15

Client ID: PCB CS3 14L1801
Lab ID: ST150421E2-1

Filename: 150421E2 S:1 Acq:21-APR-15 22:54:45
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol:1.0000

ConCal: ST150421E1-1
EndCAL: ST150421E2-1

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.88e+08	3.38	y	0.91	16:05	0.623	0.619-0.625	99.8	99.8											
13C-PCB-3	2.04e+08	3.39	y	0.94	18:40	0.723	0.718-0.726	104	104		13C-PCB-79	1.06e+08	0.80	y	1.02	37:41	1.029	1.024-1.033	97.3	97.3
13C-PCB-4	1.23e+08	1.61	y	0.60	20:00	0.774	0.770-0.778	99.6	99.6		13C-PCB-178	2.54e+07	0.46	y	0.64	45:30	0.984	0.980-0.989	82.8	82.8
13C-PCB-9	2.07e+08	1.59	y	0.96	21:46	0.843	0.839-0.847	104	104											
13C-PCB-11	1.99e+08	1.59	y	0.95	25:08	0.973	0.968-0.978	101	101											
13C-PCB-19	1.04e+08	1.10	y	0.56	24:07	0.934	0.929-0.939	89.5	89.5											
13C-PCB-28	1.41e+08	1.04	y	1.07	28:58	1.003	0.999-1.009	103	103		13C-PCB-79	1.06e+08	0.80	y	1.02	37:41	0.968	0.963-0.973	103	103
13C-PCB-32	1.48e+08	1.12	y	0.83	27:02	1.046	1.041-1.051	86.3	86.3		13C-PCB-178	2.54e+07	0.46	y	0.84	45:30	0.924	0.920-0.930	110	110
13C-PCB-37	1.17e+08	1.05	y	0.96	32:50	1.137	1.131-1.143	95.5	95.5											
13C-PCB-47	8.91e+07	0.79	y	0.77	31:53	0.870	0.867-0.875	109	109											
13C-PCB-52	8.77e+07	0.79	y	0.71	31:23	0.857	0.853-0.861	115	115											
13C-PCB-54	1.33e+08	0.80	y	1.06	27:51	0.760	0.757-0.765	117	117											
13C-PCB-70	1.13e+08	0.79	y	0.99	35:24	0.966	0.961-0.971	107	107											
13C-PCB-77	1.01e+08	0.80	y	0.96	39:30	1.078	1.073-1.083	98.1	98.1											
13C-PCB-80	1.10e+08	0.80	y	1.02	35:49	0.978	0.973-0.983	100	100											
13C-PCB-81	1.00e+08	0.80	y	1.00	38:55	1.062	1.057-1.067	94.1	94.1											
13C-PCB-95	4.59e+07	1.62	y	0.70	35:41	0.913	0.908-0.918	108	108											
13C-PCB-97	4.10e+07	1.69	y	0.66	38:40	0.989	0.984-0.994	102	102											
13C-PCB-101	4.82e+07	1.64	y	0.77	37:22	0.956	0.951-0.961	103	103											
13C-PCB-104	6.84e+07	1.60	y	0.97	32:32	0.832	0.828-0.836	116	116		13C-PCB-15	2.07e+08	1.59	y	1.00	25:50			100	
13C-PCB-105	8.39e+07	1.62	y	1.20	42:56	0.929	0.924-0.934	145	145		13C-PCB-31	1.28e+08	1.05	y	1.00	28:52			100	
13C-PCB-114	8.81e+07	1.64	y	1.26	42:04	0.910	0.905-0.915	146	146		13C-PCB-60	1.07e+08	0.80	y	1.00	36:38			100	
13C-PCB-118	5.72e+07	1.61	y	0.94	41:24	1.059	1.054-1.064	100	100		13C-PCB-111	6.09e+07	1.63	y	1.00	39:05			100	
13C-PCB-123	5.46e+07	1.65	y	0.88	41:14	1.055	1.049-1.059	102	102		13C-PCB-128	4.82e+07	1.31	y	1.00	46:13			100	
13C-PCB-126	7.88e+07	1.57	y	1.13	45:10	0.977	0.972-0.982	145	145		13C-PCB-205	4.77e+07	0.92	y	1.00	53:56			100	
13C-PCB-127	8.69e+07	1.64	y	1.26	43:16	0.936	0.931-0.941	143	143											
13C-PCB-138	5.60e+07	1.31	y	1.12	44:40	0.966	0.961-0.971	104	104											
13C-PCB-141	5.52e+07	1.28	y	1.09	43:50	0.948	0.943-0.953	105	105											
13C-PCB-153	6.57e+07	1.29	y	1.27	43:05	0.932	0.927-0.937	107	107											
13C-PCB-155	4.40e+07	1.25	y	0.87	36:55	0.945	0.939-0.949	83.1	83.1											
13C-PCB-156	6.29e+07	1.31	y	1.35	47:55	1.037	1.032-1.042	96.6	96.6											
13C-PCB-157	6.65e+07	1.32	y	1.42	48:11	1.043	1.037-1.047	97.4	97.4											
13C-PCB-159	6.62e+07	1.30	y	1.37	45:57	0.994	0.989-0.999	100	100											
13C-PCB-167	6.74e+07	1.27	y	1.38	46:38	1.009	1.004-1.014	101	101											
13C-PCB-169	6.15e+07	1.27	y	1.38	50:19	1.089	1.084-1.094	92.4	92.4											
13C-PCB-170	2.06e+07	0.47	y	0.60	50:39	1.096	1.091-1.103	70.9	70.9											
13C-PCB-180	2.75e+07	0.46	y	0.76	49:13	1.065	1.059-1.069	75.4	75.4											
13C-PCB-188	4.23e+07	0.46	y	1.01	42:43	0.924	0.919-0.929	86.7	86.7											
13C-PCB-189	2.68e+07	0.45	y	0.80	52:09	1.128	1.124-1.136	69.4	69.4											
13C-PCB-194	3.59e+07	0.94	y	0.75	53:39	0.995	0.990-1.000	101	101											
13C-PCB-202	2.88e+07	0.94	y	0.99	48:08	1.041	1.036-1.046	60.4	60.4											
13C-PCB-206	3.18e+07	0.77	y	0.73	55:17	1.025	1.020-1.301	90.9	90.9											
13C-PCB-208	4.37e+07	0.79	y	1.08	52:55	0.981	0.977-0.987	84.6	84.6											
13C-PCB-209	2.15e+07	1.24	y	0.71	56:36	1.049	1.045-1.055	63.5	63.5											

Analyst: *DMS*

Date: *4/22/15*

Vista Analytical Laboratory - Injection Log Run file: 150421E2 Instrument ID: VG-8 GC Column ID: ZB-1

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
150421E1	1	ST150421E1-1	DMS	21-APR-15	08:48:49	ST150421E1-1	ST150421E2-1
150421E1	2	B5D0057-BS1	DMS	21-APR-15	09:52:53	ST150421E1-1	ST150421E2-1
150421E1	3	SOLVENT BLANK	DMS	21-APR-15	10:56:57	NA	NA
150421E1	4	B5D0057-BLK1	DMS	21-APR-15	12:00:58	ST150421E1-1	ST150421E2-1
150421E1	5	1500316-01	DMS	21-APR-15	13:05:01	ST150421E1-1	ST150421E2-1
150421E1	6	1500330-01	DMS	21-APR-15	14:09:04	ST150421E1-1	ST150421E2-1
150421E1	7	1500330-02	DMS	21-APR-15	15:13:08	ST150421E1-1	ST150421E2-1
150421E1	8	1500335-01	DMS	21-APR-15	16:17:11	ST150421E1-1	NA
150421E1	9	1500335-02	DMS	21-APR-15	17:21:13	ST150421E1-1	NA
150421E1	10	1500336-01	DMS	21-APR-15	18:25:14	ST150421E1-1	ST150421E2-1
150421E1	11	1500339-01	DMS	21-APR-15	19:29:15	ST150421E1-1	ST150421E2-1
150421E1	12	SOLVENT BLANK	DMS	21-APR-15	20:33:18	NA	NA
150421E1	13	ST150421E1-2	DMS	21-APR-15	21:37:23	ST150421E1-1	ST150421E2-1
150421E2	1	ST150421E2-1	DMS	21-APR-15	22:54:45	ST150421E1-1	ST150421E2-1

CALIBRATION STANDARDS REVIEW CHECKLIST



Beg. Calibration ID: ST150421E1-1

End Calibration ID: ST150421E2-1

	Beg.	End		Beg.	End
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mass resolution > 10,000? ▪ Method 1614 > 5,000; CARB 429 > 8,000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Concentration within range?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TCDD/TCDF valleys < 25%?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
First and last eluters present?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Peaks integrated correctly?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/> <i>DM</i> <i>4/22/15</i>	<input checked="" type="checkbox"/> <i>DM</i> <i>4/22/15</i>	Manual integrations included?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8280 CS1 Ending Standard	<input type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-Ratios within limits	<input type="checkbox"/>	<input type="checkbox"/>
Correct ICAL referenced?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-S/N > 2.5:1	<input type="checkbox"/>	<input type="checkbox"/>
Run Log:			-CS1 within 12-hour clock	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-Data file matches Conc Cal ID?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Comments:		
-Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
-Samples within 12-hour clock?	<input checked="" type="checkbox"/> <i>y</i>	<input type="checkbox"/> <i>n</i>			

Reviewed by: *MD* 4/22/15
Initials & Date

* Ending standard criteria applicable to 8290 only.

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150422E1-1 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150422E1 S#1 Analysis Date: 22-APR-15 Time: 09:57:49

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. CONC. FOUND	CONC. RANGE (ng/mL)
PCB-1	2.95	2.66-3.60	y	37.8	37.5-62.5	PCB-52/69	0.74	0.65-0.89	y	99.8	75.0-125
PCB-2	2.97	2.66-3.60	y	39.4	37.5-62.5	PCB-73	0.76	0.65-0.89	y	53.7	37.5-62.5
PCB-3	2.96	2.66-3.60	y	39.1	37.5-62.5	PCB-43/49	0.75	0.65-0.89	y	100.0	75.0-125
PCB-4/10	1.62	1.33-1.79	y	84.2	75-125	PCB-47	0.75	0.65-0.89	y	47.1	37.5-62.5
PCB-7/9	1.62	1.33-1.79	y	84.9	75-125	PCB-48/75	0.76	0.65-0.89	y	101.6	75.0-125
PCB-6	1.64	1.33-1.79	y	42.0	37.5-62.5	PCB-65	0.74	0.65-0.89	y	53.4	37.5-62.5
PCB-5/8	1.62	1.33-1.79	y	84.6	75-125	PCB-62	0.76	0.65-0.89	y	47.2	37.5-62.5
PCB-14	1.63	1.33-1.79	y	42.4	37.5-62.5	PCB-44	0.75	0.65-0.89	y	52.4	37.5-62.5
PCB-11	1.62	1.33-1.79	y	42.9	37.5-62.5	PCB-42/59	0.75	0.65-0.89	y	98.7	75.0-125
PCB-12/13	1.64	1.33-1.79	y	86.4	75-125	PCB-41/64/71/72	0.74	0.65-0.89	y	193.4	150-250
PCB-15	1.66	1.33-1.79	y	42.4	37.5-62.5	PCB-68	0.75	0.65-0.89	y	47.4	37.5-62.5
PCB-19	1.07	0.88-1.20	y	51.0	37.5-62.5	PCB-40	0.75	0.65-0.89	y	48.1	37.5-62.5
PCB-30	1.07	0.88-1.20	y	52.5	37.5-62.5	PCB-57	0.76	0.65-0.89	y	51.3	37.5-62.5
PCB-18	1.07	0.88-1.20	y	49.9	37.5-62.5	PCB-67	0.75	0.65-0.89	y	54.7	37.5-62.5
PCB-17	1.06	0.88-1.20	y	50.4	37.5-62.5	PCB-58	0.77	0.65-0.89	y	51.4	37.5-62.5
PCB-24/27	1.06	0.88-1.20	y	100.0	75.0-125	PCB-63	0.75	0.65-0.89	y	51.7	37.5-62.5
PCB-16/32	1.05	0.88-1.20	y	99.4	75.0-125	PCB-74	0.76	0.65-0.89	y	50.6	37.5-62.5
PCB-34	0.99	0.88-1.20	y	45.5	37.5-62.5	PCB-61/70	0.75	0.65-0.89	y	100.2	75.0-125
PCB-23	1.01	0.88-1.20	y	42.1	37.5-62.5	PCB-76/66	0.76	0.65-0.89	y	98.7	75.0-125
PCB-29	1.02	0.88-1.20	y	48.4	37.5-62.5	PCB-80	0.76	0.65-0.89	y	49.3	37.5-62.5
PCB-26	1.02	0.88-1.20	y	44.2	37.5-62.5	PCB-55	0.76	0.65-0.89	y	53.1	37.5-62.5
PCB-25	0.99	0.88-1.20	y	43.6	37.5-62.5	PCB-56/60	0.76	0.65-0.89	y	101.8	75.0-125
PCB-31	0.99	0.88-1.20	y	44.1	37.5-62.5	PCB-79	0.75	0.65-0.89	y	50.0	37.5-62.5
PCB-28	1.01	0.88-1.20	y	45.1	37.5-62.5	PCB-78	0.75	0.65-0.89	y	49.9	37.5-62.5
PCB-20/21/33	1.01	0.88-1.20	y	133.6	112.5-225	PCB-81	0.76	0.65-0.89	y	49.7	37.5-62.5
PCB-22	1.02	0.88-1.20	y	45.1	37.5-62.5	PCB-77	0.78	0.65-0.89	y	49.8	37.5-62.5
PCB-36	1.00	0.88-1.20	y	43.5	37.5-62.5	PCB-104	1.59	1.32-1.78	y	47.7	37.5-62.5
PCB-39	0.97	0.88-1.20	y	45.3	37.5-62.5	PCB-96	1.58	1.32-1.78	y	47.5	37.5-62.5
PCB-38	1.02	0.88-1.20	y	44.1	37.5-62.5	PCB-103	1.59	1.32-1.78	y	48.5	37.5-62.5
PCB-35	1.00	0.88-1.20	y	42.9	37.5-62.5	PCB-100	1.56	1.32-1.78	y	48.7	37.5-62.5
PCB-37	1.01	0.88-1.20	y	42.4	37.5-62.5	PCB-94	1.56	1.32-1.78	y	49.2	37.5-62.5
PCB-54	0.75	0.65-0.89	y	50.6	37.5-62.5	PCB-95/98/102	1.57	1.32-1.78	y	141.0	112.5-225
PCB-50	0.76	0.65-0.89	y	53.0	37.5-62.5	PCB-93	1.60	1.32-1.78	y	51.2	37.5-62.5
PCB-53	0.75	0.65-0.89	y	51.5	37.5-62.5	PCB-88/91	1.58	1.32-1.78	y	102.5	75.0-125
PCB-51	0.75	0.65-0.89	y	50.8	37.5-62.5	PCB-121	1.61	1.32-1.78	y	46.8	37.5-62.5
PCB-45	0.75	0.65-0.89	y	50.0	37.5-62.5						
PCB-46	0.75	0.65-0.89	y	51.2	37.5-62.5						

Analyst: DMS

Date: 4/22/15

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150422E1-1 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150422E1 S#1 Analysis Date: 22-APR-15 Time: 09:57:49

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
PCB-84/92	1.60	1.32-1.78	y	101.5	75.0-125	PCB-140	1.26	1.05-1.43	y	47.7	37.5-62.5
PCB-89	1.59	1.32-1.78	y	51.1	37.5-62.5	PCB-134/143	1.25	1.05-1.43	y	106.0	75.0-125
PCB-90/101	1.59	1.32-1.78	y	96.3	75.0-125	PCB-133/142	1.28	1.05-1.43	y	104.5	75.0-125
PCB-113	1.60	1.32-1.78	y	52.0	37.5-62.5	PCB-131	1.27	1.05-1.43	y	52.7	37.5-62.5
PCB-99	1.61	1.32-1.78	y	42.8	37.5-62.5	PCB-146/165	1.27	1.05-1.43	y	104.3	75.0-125
PCB-119	1.58	1.32-1.78	y	48.3	37.5-62.5	PCB-132/161	1.25	1.05-1.43	y	99.6	75.0-125
PCB-108/112	1.61	1.32-1.78	y	98.5	75.0-125	PCB-153	1.26	1.05-1.43	y	47.0	37.5-62.5
PCB-83	1.61	1.32-1.78	y	49.5	37.5-62.5	PCB-168	1.24	1.05-1.43	y	51.0	37.5-62.5
PCB-97	1.58	1.32-1.78	y	47.8	37.5-62.5	PCB-141	1.25	1.05-1.43	y	49.9	37.5-62.5
PCB-86	1.54	1.32-1.78	y	48.6	37.5-62.5	PCB-137	1.22	1.05-1.43	y	52.4	37.5-62.5
PCB-87/117/125	1.60	1.32-1.78	y	140.9	112.5-225	PCB-130	1.25	1.05-1.43	y	51.1	37.5-62.5
PCB-111/115	1.59	1.32-1.78	y	97.6	75.0-125	PCB-138/163/164	1.24	1.05-1.43	y	143.7	112.5-225
PCB-85/116	1.59	1.32-1.78	y	92.5	75.0-125	PCB-158/160	1.24	1.05-1.43	y	99.3	75.0-125
PCB-120	1.65	1.32-1.78	y	47.2	37.5-62.5	PCB-129	1.24	1.05-1.43	y	49.7	37.5-62.5
PCB-110	1.50	1.32-1.78	y	46.4	37.5-62.5	PCB-166	1.24	1.05-1.43	y	51.5	37.5-62.5
PCB-82	1.61	1.32-1.78	y	48.4	37.5-62.5	PCB-159	1.23	1.05-1.43	y	52.0	37.5-62.5
PCB-124	1.58	1.32-1.78	y	47.6	37.5-62.5	PCB-128/162	1.23	1.05-1.43	y	101.9	75.0-125
PCB-107/109	1.59	1.32-1.78	y	95.3	75.0-125	PCB-167	1.24	1.05-1.43	y	49.8	37.5-62.5
PCB-123	1.59	1.32-1.78	y	48.0	37.5-62.5	PCB-156	1.25	1.05-1.43	y	49.8	37.5-62.5
PCB-106/118	1.60	1.32-1.78	y	96.0	75.0-125	PCB-157	1.25	1.05-1.43	y	50.3	37.5-62.5
PCB-114	1.65	1.32-1.78	y	44.1	37.5-62.5	PCB-169	1.24	1.05-1.43	y	52.8	37.5-62.5
PCB-122	1.66	1.32-1.78	y	50.3	37.5-62.5	PCB-188	1.07	0.89-1.21	y	49.6	37.5-62.5
PCB-105	1.64	1.32-1.78	y	45.3	37.5-62.5	PCB-184	1.06	0.89-1.21	y	50.7	37.5-62.5
PCB-127	1.72	1.32-1.78	y	47.4	37.5-62.5	PCB-179	1.05	0.89-1.21	y	51.6	37.5-62.5
PCB-126	1.66	1.32-1.78	y	47.2	37.5-62.5	PCB-176	1.06	0.89-1.21	y	52.4	37.5-62.5
PCB-155	1.29	1.05-1.43	y	48.1	37.5-62.5	PCB-186	1.06	0.89-1.21	y	51.9	37.5-62.5
PCB-150	1.27	1.05-1.43	y	47.9	37.5-62.5	PCB-178	1.06	0.89-1.21	y	51.8	37.5-62.5
PCB-152	1.26	1.05-1.43	y	45.4	37.5-62.5	PCB-175	1.06	0.89-1.21	y	53.3	37.5-62.5
PCB-145	1.27	1.05-1.43	y	45.4	37.5-62.5	PCB-182/187	1.05	0.89-1.21	y	104.3	75.0-125
PCB-136	1.28	1.05-1.43	y	48.2	37.5-62.5	PCB-183	1.08	0.89-1.21	y	50.6	37.5-62.5
PCB-148	1.26	1.05-1.43	y	44.2	37.5-62.5	PCB-185	1.07	0.89-1.21	y	51.1	37.5-62.5
PCB-154	1.28	1.05-1.43	y	47.1	37.5-62.5	PCB-174	1.04	0.89-1.21	y	47.4	37.5-62.5
PCB-151	1.30	1.05-1.43	y	48.0	37.5-62.5	PCB-181	1.07	0.89-1.21	y	55.2	37.5-62.5
PCB-135	1.26	1.05-1.43	y	46.6	37.5-62.5	PCB-177	1.05	0.89-1.21	y	52.4	37.5-62.5
PCB-144	1.28	1.05-1.43	y	49.4	37.5-62.5	PCB-171	1.05	0.89-1.21	y	50.8	37.5-62.5
PCB-147	1.29	1.05-1.43	y	45.3	37.5-62.5	PCB-173	1.05	0.89-1.21	y	53.5	37.5-62.5
PCB-139/149	1.28	1.05-1.43	y	91.4	75.0-125	PCB-172	1.06	0.89-1.21	y	52.9	37.5-62.5

Analyst: DMS

Date: 4/22/15

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150422E1-1 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150422E1 S#1 Analysis Date: 22-APR-15 Time: 09:57:49

ANALYTES	ION	QC	PASS	CONC.	CONC.
	ABUND.	LIMITS		FOUND	RANGE
	RATIO				(ng/mL)
PCB-192	1.06	0.89-1.21	y	51.9	37.5-62.5
PCB-180	1.07	0.89-1.21	y	48.5	37.5-62.5
PCB-193	1.06	0.89-1.21	y	50.7	37.5-62.5
PCB-191	1.06	0.89-1.21	y	50.8	37.5-62.5
PCB-170	1.07	0.89-1.21	y	49.4	37.5-62.5
PCB-190	1.05	0.89-1.21	y	49.6	37.5-62.5
PCB-189	1.05	0.89-1.21	y	50.2	37.5-62.5
PCB-202	0.91	0.76-1.02	y	50.1	37.5-62.5
PCB-201	0.91	0.76-1.02	y	51.3	37.5-62.5
PCB-204	0.92	0.76-1.02	y	48.2	37.5-62.5
PCB-197	0.91	0.76-1.02	y	50.3	37.5-62.5
PCB-200	0.90	0.76-1.02	y	52.7	37.5-62.5
PCB-198	0.91	0.76-1.02	y	53.4	37.5-62.5
PCB-199	0.90	0.76-1.02	y	48.7	37.5-62.5
PCB-196/203	0.91	0.76-1.02	y	98.9	75.0-125
PCB-195	0.92	0.76-1.02	y	52.3	37.5-62.5
PCB-194	0.91	0.76-1.02	y	45.4	37.5-62.5
PCB-205	0.91	0.76-1.02	y	46.8	37.5-62.5
PCB-208	1.33	1.14-1.54	y	50.0	37.5-62.5
PCB-207	1.32	1.14-1.54	y	50.0	37.5-62.5
PCB-206	1.31	1.14-1.54	y	50.9	37.5-62.5
PCB-209	1.19	0.99-1.33	y	48.6	37.5-62.5

Analyst: Dms

Date: 4/22/15

LABELED 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150422E1-1 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150422E1 S#1 Analysis Date: 22-APR-15 Time: 09:57:49

LABELED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)	LABELED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
13C-PCB-1	3.21	2.66-3.60	y	139.9	50.0-145	13C-PCB-169	1.28	1.05-1.43	y	92.7	50 - 145
13C-PCB-3	3.22	2.66-3.60	y	133.1	50.0-145	13C-PCB-188	0.47	0.38-0.52	y	87.4	50 - 145
13C-PCB-4	1.56	1.33-1.79	y	98.1	50.0-145	13C-PCB-180	0.47	0.38-0.52	y	86.8	50 - 145
13C-PCB-9	1.55	1.33-1.79	y	99.5	50.0-145	13C-PCB-170	0.47	0.38-0.52	y	88.7	50 - 145
13C-PCB-11	1.55	1.33-1.79	y	100.8	50.0-145	13C-PCB-189	0.47	0.38-0.52	y	83.4	50 - 145
13C-PCB-19	1.07	0.88-1.20	y	104.9	50.0-145	13C-PCB-202	0.92	0.76-1.02	y	80.3	50 - 145
13C-PCB-32	1.08	0.88-1.20	y	106.0	50.0-145	13C-PCB-194	0.91	0.76-1.02	y	102.5	50 - 145
13C-PCB-28	1.02	0.88-1.20	y	94.9	50.0-145	13C-PCB-208	0.79	0.65-0.89	y	101.1	50 - 145
13C-PCB-37	1.02	0.88-1.20	y	94.8	50.0-145	13C-PCB-206	0.78	0.65-0.89	y	102.6	50 - 145
13C-PCB-54	0.80	0.65-0.89	y	102.1	50.0-145	13C-PCB-209	1.22	0.99-1.33	y	92.8	50 - 145
13C-PCB-52	0.78	0.65-0.89	y	105.7	50.0-145						
13C-PCB-47	0.78	0.65-0.89	y	101.9	50.0-145						
13C-PCB-70	0.79	0.65-0.89	y	98.1	50.0-145						
13C-PCB-80	0.81	0.65-0.89	y	96.6	50.0-145						
13C-PCB-81	0.78	0.65-0.89	y	97.1	50.0-145						
13C-PCB-77	0.80	0.65-0.89	y	95.5	50.0-145						
13C-PCB-104	1.60	1.32-1.78	y	107.6	50.0-145						
13C-PCB-95	1.61	1.32-1.78	y	104.7	50.0-145						
13C-PCB-101	1.61	1.32-1.78	y	102.2	50.0-145	CRS vs. RS					
13C-PCB-97	1.60	1.32-1.78	y	103.3	50.0-145						
13C-PCB-123	1.62	1.32-1.78	y	100.7	50.0-145	13C-PCB-79	0.79	0.65-0.89	y	95.5	75 - 125
13C-PCB-118	1.60	1.32-1.78	y	98.9	50.0-145	13C-PCB-178	0.48	0.38-0.52	y	93.8	75 - 125
13C-PCB-114	1.58	1.32-1.78	y	104.9	50.0-145						
13C-PCB-105	1.57	1.32-1.78	y	105.2	50.0-145						
13C-PCB-127	1.57	1.32-1.78	y	106.4	50.0-145						
13C-PCB-126	1.57	1.32-1.78	y	107.1	50.0-145						
13C-PCB-155	1.28	1.05-1.43	y	98.2	50.0-145						
13C-PCB-153	1.29	1.05-1.43	y	95.5	50.0-145						
13C-PCB-141	1.29	1.05-1.43	y	98.3	50.0-145						
13C-PCB-138	1.27	1.05-1.43	y	97.8	50.0-145						
13C-PCB-159	1.28	1.05-1.43	y	98.9	50.0-145						
13C-PCB-167	1.27	1.05-1.43	y	97.0	50.0-145						
13C-PCB-156	1.27	1.05-1.43	y	96.2	50.0-145						
13C-PCB-157	1.31	1.05-1.43	y	95.0	50.0-145						

Analyst: *Dms*

Date: *4/22/15*

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	1.44e+08	2.95	y	1.33	16:06	1.001	0.997-1.007	37.7893	PCB-52/69	1.48e+08	0.74	y	1.29	31:26	1.001	0.996-1.006	99.7564
PCB-2	1.43e+08	2.97	y	1.30	18:27	0.988	0.983-0.993	39.3934	PCB-73	8.69e+07	0.76	y	1.41	31:33	1.005	0.999-1.009	53.6996
PCB-3	1.43e+08	2.96	y	1.30	18:41	1.001	0.996-1.006	39.1029	PCB-43/49	1.31e+08	0.75	y	1.14	31:43	1.010	1.005-1.015	99.9608
PCB-4/10	1.85e+08	1.62	y	1.67	20:03	1.003	0.997-1.007	84.1825	PCB-47	6.73e+07	0.75	y	1.20	31:55	1.000	0.996-1.006	47.1455
PCB-7/9	2.28e+08	1.62	y	1.25	21:49	0.868	0.864-0.872	84.9252	PCB-48/75	1.61e+08	0.76	y	1.33	32:02	1.004	0.999-1.009	101.639
PCB-6	1.11e+08	1.64	y	1.24	22:28	0.893	0.888-0.897	42.0394	PCB-65	8.38e+07	0.74	y	1.32	32:19	1.013	1.007-1.017	53.4021
PCB-5/8	2.30e+08	1.62	y	1.27	22:53	0.910	0.905-0.915	84.6097	PCB-62	7.64e+07	0.76	y	1.36	32:25	1.016	1.011-1.021	47.2066
PCB-14	1.34e+08	1.63	y	1.47	23:58	0.953	0.948-0.958	42.3892	PCB-44	5.45e+07	0.75	y	0.87	32:43	1.025	1.020-1.030	52.4463
PCB-11	1.19e+08	1.62	y	1.28	25:10	1.001	0.995-1.005	42.8842	PCB-42/59	1.46e+08	0.75	y	1.24	32:56	1.032	1.027-1.037	98.7466
PCB-12/13	2.36e+08	1.64	y	1.27	25:33	1.016	1.011-1.021	86.4375	PCB-41/64/71/72	3.09e+08	0.74	y	1.34	33:31	1.051	1.045-1.055	193.403
PCB-15	1.32e+08	1.66	y	1.44	25:52	1.029	1.023-1.031	42.3951	PCB-68	9.09e+07	0.75	y	1.61	33:47	1.059	1.053-1.063	47.3721
PCB-19	7.97e+07	1.07	y	1.18	24:09	1.001	0.996-1.006	50.9601	PCB-40	4.92e+07	0.75	y	0.86	33:60	1.066	1.061-1.071	48.1306
PCB-30	1.30e+08	1.07	y	1.87	25:03	1.038	1.033-1.043	52.4863	PCB-57	8.53e+07	0.76	y	1.12	34:21	0.970	0.965-0.975	51.3050
PCB-18	8.67e+07	1.07	y	0.89	25:47	0.954	0.949-0.959	49.8822	PCB-67	8.87e+07	0.75	y	1.09	34:40	0.979	0.974-0.984	54.7094
PCB-17	9.45e+07	1.06	y	0.96	25:58	0.960	0.956-0.966	50.3706	PCB-58	8.68e+07	0.77	y	1.14	34:47	0.982	0.977-0.987	51.4210
PCB-24/27	2.54e+08	1.06	y	1.30	26:32	0.981	0.977-0.987	99.9822	PCB-63	8.94e+07	0.75	y	1.16	34:57	0.987	0.981-0.991	51.7379
PCB-16/32	2.04e+08	1.05	y	1.05	27:02	1.000	0.996-1.006	99.4474	PCB-74	9.12e+07	0.76	y	1.21	35:14	0.995	0.989-0.999	50.5928
PCB-34	9.85e+07	0.99	y	1.30	27:50	0.960	0.955-0.965	45.4833	PCB-61/70	1.67e+08	0.75	y	1.13	35:24	0.999	0.995-1.005	100.183
PCB-23	8.49e+07	1.01	y	1.21	27:56	0.963	0.958-0.968	42.1469	PCB-76/66	1.73e+08	0.76	y	1.18	35:37	1.006	1.000-1.010	98.7270
PCB-29	9.76e+07	1.02	y	1.21	28:11	0.972	0.967-0.977	48.4132	PCB-80	9.81e+07	0.76	y	1.32	35:51	1.001	0.995-1.005	49.2710
PCB-26	9.11e+07	1.02	y	1.24	28:23	0.979	0.974-0.984	44.2191	PCB-55	9.82e+07	0.76	y	1.23	36:10	1.009	1.004-1.014	53.0569
PCB-25	7.97e+07	0.99	y	1.10	28:32	0.984	0.980-0.990	43.6255	PCB-56/60	1.69e+08	0.76	y	1.11	36:40	1.023	1.018-1.028	101.812
PCB-31	9.20e+07	0.99	y	1.25	28:54	0.997	0.992-1.002	44.1153	PCB-79	8.73e+07	0.75	y	1.16	37:44	1.053	1.048-1.058	50.0172
PCB-28	9.30e+07	1.01	y	1.24	29:01	1.001	0.996-1.006	45.1139	PCB-78	8.68e+07	0.75	y	1.18	38:26	0.987	0.982-0.992	49.9361
PCB-20/21/33	2.57e+08	1.01	y	1.16	29:37	1.022	1.016-1.026	133.579	PCB-81	9.46e+07	0.76	y	1.29	38:58	1.000	0.995-1.005	49.6552
PCB-22	8.73e+07	1.02	y	1.16	30:03	1.036	1.032-1.042	45.0668	PCB-77	9.01e+07	0.78	y	1.29	39:33	1.000	0.995-1.005	49.8203
PCB-36	8.48e+07	1.00	y	1.30	30:41	0.934	0.929-0.939	43.4810	PCB-104	6.64e+07	1.59	y	1.26	32:35	1.001	0.996-1.006	47.6605
PCB-39	8.58e+07	0.97	y	1.26	31:08	0.947	0.943-0.953	45.3104	PCB-96	5.73e+07	1.58	y	1.09	33:50	1.039	1.034-1.044	47.5498
PCB-38	8.23e+07	1.02	y	1.24	31:55	0.971	0.967-0.977	44.1341	PCB-103	5.19e+07	1.59	y	0.97	34:21	1.055	1.051-1.061	48.5497
PCB-35	8.10e+07	1.00	y	1.26	32:27	0.988	0.982-0.992	42.9398	PCB-100	5.17e+07	1.56	y	0.96	34:43	1.066	1.061-1.071	48.6512
PCB-37	8.59e+07	1.01	y	1.35	32:53	1.001	0.996-1.006	42.4176	PCB-94	4.32e+07	1.56	y	1.13	35:11	0.985	0.980-0.990	49.2409
PCB-54	8.54e+07	0.75	y	1.02	27:53	1.001	0.996-1.006	50.5935	PCB-95/98/102	1.41e+08	1.57	y	1.29	35:41	0.999	0.994-1.004	141.004
PCB-50	6.80e+07	0.76	y	0.78	29:03	1.043	1.037-1.047	53.0188	PCB-93	4.22e+07	1.60	y	1.06	35:49	1.003	0.998-1.008	51.1725
PCB-53	6.71e+07	0.75	y	1.14	29:42	0.946	0.941-0.951	51.4519	PCB-88/91	8.95e+07	1.58	y	1.12	36:06	1.011	1.006-1.016	102.520
PCB-51	6.77e+07	0.75	y	1.16	30:02	0.957	0.952-0.962	50.7961	PCB-121	6.40e+07	1.61	y	1.76	36:13	1.014	1.009-1.019	46.7545
PCB-45	5.97e+07	0.75	y	1.04	30:28	0.970	0.965-0.975	49.9972	PCB-84/92	9.04e+07	1.60	y	1.07	37:02	0.990	0.985-0.995	101.458
PCB-46	5.57e+07	0.75	y	0.95	30:58	0.986	0.981-0.991	51.1770	PCB-89	4.23e+07	1.59	y	1.00	37:13	0.995	0.990-1.000	51.0912

Integrations

by
Analyst: DMS

Date: 4/22/15

Reviewed

by
Analyst: _____

Date: _____

Client ID: PCB CS3 14L1801
Lab ID: ST150422E1-1

Filename: 150422E1 S:1 Acq:22-APR-15 09:57:49
GC Column ID: ZB-1 ICAL: PCBVG8-1-14-15 wt/vol: 1.0000
ConCal: ST150422E1-1
EndCAL: ST150422E1-2

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-90/101	9.66e+07	1.59	y	1.21	37:24	1.000	0.995-1.005	96.2623	PCB-133/142	8.82e+07	1.28	y	0.91	42:20	0.982	0.977-0.987	104.499
PCB-113	5.80e+07	1.60	y	1.34	37:39	1.007	1.002-1.012	52.0484	PCB-131	4.14e+07	1.27	y	0.85	42:29	0.985	0.981-0.991	52.7277
PCB-99	4.45e+07	1.61	y	1.25	37:45	1.009	1.004-1.014	42.8150	PCB-146/165	1.05e+08	1.27	y	1.08	42:43	0.991	0.986-0.996	104.297
PCB-119	6.54e+07	1.58	y	1.88	38:12	0.987	0.982-0.992	48.2680	PCB-132/161	1.03e+08	1.25	y	1.12	42:57	0.996	0.992-1.002	99.5524
PCB-108/112	9.99e+07	1.61	y	1.41	38:21	0.991	0.986-0.996	98.5063	PCB-153	5.23e+07	1.26	y	1.20	43:08	1.000	0.996-1.006	47.0316
PCB-83	5.93e+07	1.61	y	1.66	38:31	0.995	0.990-1.000	49.4569	PCB-168	6.42e+07	1.24	y	1.36	43:20	1.005	1.000-1.010	51.0224
PCB-97	4.48e+07	1.58	y	1.30	38:43	1.001	0.995-1.005	47.7921	PCB-141	4.73e+07	1.25	y	1.16	43:51	1.000	0.995-1.005	49.9460
PCB-86	3.63e+07	1.54	y	1.03	38:51	1.004	0.999-1.009	48.6478	PCB-137	5.06e+07	1.22	y	1.18	44:15	1.009	1.004-1.014	52.4157
B-87/117/125	1.62e+08	1.60	y	1.59	38:59	1.007	1.002-1.012	140.910	PCB-130	3.85e+07	1.25	y	0.92	44:22	1.012	1.006-1.016	51.1052
PCB-111/115	1.31e+08	1.59	y	1.86	39:09	1.012	1.006-1.016	97.5873	PCB-138/163/164	1.66e+08	1.24	y	1.38	44:43	1.001	0.996-1.006	143.652
PCB-85/116	9.29e+07	1.59	y	1.39	39:17	1.015	1.010-1.020	92.4971	PCB-158/160	1.22e+08	1.24	y	1.48	44:59	1.007	1.001-1.011	99.2712
PCB-120	6.76e+07	1.65	y	1.99	39:30	1.021	1.016-1.026	47.1571	PCB-129	4.11e+07	1.24	y	0.99	45:12	1.011	1.007-1.017	49.7132
PCB-110	5.70e+07	1.50	y	1.70	39:40	1.025	1.019-1.029	46.4069	PCB-166	6.07e+07	1.24	y	1.14	45:40	0.993	0.988-0.998	51.4600
PCB-82	3.38e+07	1.61	y	0.74	40:17	0.976	0.971-0.981	48.3597	PCB-159	6.57e+07	1.23	y	1.22	46:00	1.000	0.995-1.005	51.9933
PCB-124	5.84e+07	1.58	y	1.30	40:58	0.993	0.988-0.998	47.5622	PCB-128/162	1.09e+08	1.23	y	1.03	46:17	1.007	1.002-1.012	101.861
PCB-107/109	1.20e+08	1.59	y	1.34	41:06	0.996	0.991-1.001	95.2799	PCB-167	6.03e+07	1.24	y	1.18	46:40	1.000	0.995-1.005	49.8234
PCB-123	5.65e+07	1.59	y	1.25	41:16	1.000	0.995-1.005	47.9770	PCB-156	6.27e+07	1.25	y	1.27	47:58	1.000	0.995-1.005	49.8351
PCB-106/118	1.22e+08	1.60	y	1.29	41:29	1.001	0.996-1.006	95.9932	PCB-157	6.30e+07	1.25	y	1.22	48:14	1.000	0.995-1.005	50.3019
PCB-114	6.46e+07	1.65	y	1.45	42:06	1.000	0.995-1.005	44.1495	PCB-169	5.55e+07	1.24	y	1.07	50:21	1.000	0.995-1.005	52.8266
PCB-122	6.17e+07	1.66	y	1.22	42:14	1.003	0.999-1.009	50.2510									
PCB-105	6.82e+07	1.64	y	1.56	42:58	1.000	0.995-1.005	45.3237	PCB-188	5.10e+07	1.07	y	1.52	42:46	1.000	0.996-1.006	49.5598
PCB-127	6.33e+07	1.72	y	1.31	43:18	1.000	0.995-1.005	47.4111	PCB-184	4.58e+07	1.06	y	1.34	43:13	1.011	1.006-1.016	50.6636
PCB-126	6.14e+07	1.66	y	1.41	45:12	1.000	0.995-1.005	47.1620	PCB-179	4.85e+07	1.05	y	1.39	43:59	1.029	1.024-1.034	51.6036
									PCB-176	5.16e+07	1.06	y	1.45	44:27	1.040	1.035-1.045	52.4234
PCB-155	5.23e+07	1.29	y	1.20	36:58	1.001	0.966-1.006	48.1313	PCB-186	5.11e+07	1.06	y	1.46	45:04	1.054	1.049-1.059	51.8858
PCB-150	4.89e+07	1.27	y	1.13	38:13	1.035	1.030-1.040	47.8764	PCB-178	3.77e+07	1.06	y	1.07	45:33	1.066	1.061-1.071	51.8418
PCB-152	4.81e+07	1.26	y	1.17	38:42	1.048	1.043-1.053	45.4105	PCB-175	3.77e+07	1.06	y	1.05	45:54	1.074	1.069-1.079	53.3089
PCB-145	4.50e+07	1.27	y	1.09	39:09	1.060	1.055-1.065	45.4409	PCB-182/187	8.01e+07	1.05	y	1.14	46:04	1.078	1.073-1.083	104.286
PCB-136	4.99e+07	1.28	y	1.14	39:28	1.069	1.063-1.073	48.2298	PCB-183	4.19e+07	1.08	y	1.22	46:24	1.085	1.080-1.090	50.6001
PCB-148	3.27e+07	1.26	y	0.82	39:35	1.072	1.066-1.076	44.1815	PCB-185	3.60e+07	1.07	y	1.40	47:03	0.956	0.950-0.960	51.1151
PCB-154	3.80e+07	1.28	y	0.89	40:03	1.085	1.079-1.089	47.0579	PCB-174	3.06e+07	1.04	y	1.29	47:24	0.963	0.958-0.968	47.4059
PCB-151	3.56e+07	1.30	y	0.82	40:42	1.102	1.097-1.107	47.9887	PCB-181	3.73e+07	1.07	y	1.35	47:31	0.965	0.960-0.970	55.1915
PCB-135	3.36e+07	1.26	y	0.80	40:55	1.108	1.101-1.113	46.5526	PCB-177	3.33e+07	1.05	y	1.27	47:41	0.969	0.963-0.973	52.4357
PCB-144	3.83e+07	1.28	y	0.86	41:01	1.111	1.105-1.116	49.4453	PCB-171	3.70e+07	1.05	y	1.46	47:59	0.975	0.969-0.979	50.8181
PCB-147	3.20e+07	1.29	y	0.78	41:09	1.114	1.108-1.120	45.3075	PCB-173	2.96e+07	1.05	y	1.10	48:24	0.983	0.978-0.988	53.4863
PCB-139/149	7.21e+07	1.28	y	0.87	41:25	1.122	1.115-1.127	91.3522	PCB-172	3.58e+07	1.06	y	1.35	48:51	0.992	0.987-0.997	52.8505
PCB-140	3.36e+07	1.26	y	0.78	41:36	1.127	1.120-1.132	47.6952	PCB-192	4.52e+07	1.06	y	1.74	49:03	0.996	0.991-1.001	51.8958
PCB-134/143	9.16e+07	1.25	y	0.93	42:02	0.975	0.970-0.980	105.965	PCB-180	3.52e+07	1.07	y	1.45	49:15	1.000	0.995-1.005	48.4935

Integrations
by
Analyst: DMS
Date: 4/22/15

Client ID: PCB CS3 14L1801
Lab ID: ST150422E1-1

Filename: 150422E1 S:1 Acq:22-APR-15 09:57:49
GC Column ID: ZB-1 ICal: PCBVG8-1-14-15 wt/vol: 1.0000

ConCal: ST150422E1-1
EndCAL: ST150422E1-2

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-193	4.70e+07	1.06 y	1.85	49:28	1.005	0.999-1.009		50.7080
PCB-191	4.74e+07	1.06 y	1.86	49:42	1.009	1.005-1.015		50.8126
PCB-170	3.37e+07	1.07 y	1.67	50:43	1.000	0.995-1.005		49.4285
PCB-190	4.55e+07	1.05 y	2.25	50:53	1.004	0.999-1.009		49.6433
PCB-189	4.28e+07	1.05 y	1.67	52:11	1.000	0.995-1.005		50.1951
PCB-202	3.09e+07	0.91 y	1.02	48:10	1.000	0.995-1.005		50.0962
PCB-201	3.41e+07	0.91 y	1.10	48:40	1.011	1.005-1.015		51.3479
PCB-204	3.14e+07	0.92 y	1.07	48:49	1.014	1.009-1.019		48.1726
PCB-197	3.55e+07	0.91 y	1.17	49:08	1.020	1.015-1.025		50.2729
PCB-200	3.30e+07	0.90 y	1.03	49:59	1.038	1.034-1.044		52.6849
PCB-198	2.44e+07	0.91 y	0.75	51:18	1.065	1.062-1.072		53.3819
PCB-199	2.19e+07	0.90 y	0.74	51:24	1.067	1.064-1.074		48.6856
- PCB-196/203	4.97e+07	0.91 y	0.83	51:40	1.073	1.070-1.080		98.9209
- PCB-195	3.16e+07	0.92 y	1.14	52:49	0.984	0.979-0.989		52.2619
PCB-194	3.11e+07	0.91 y	1.29	53:42	1.000	0.995-1.005		45.4014
PCB-205	4.00e+07	0.91 y	1.61	53:59	1.006	1.001-1.010		46.7791
PCB-208	3.86e+07	1.33 y	1.01	52:58	1.000	0.995-1.005		50.0328
PCB-207	3.91e+07	1.32 y	1.03	53:16	1.006	1.001-1.011		49.9556
PCB-206	2.35e+07	1.31 y	0.88	55:22	1.000	0.995-1.005		50.9196
PCB-209	3.00e+07	1.19 y	1.35	56:44	1.000	0.995-1.005		48.6118

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	4.30e+08	2.95 y	16:06	1.31	116.286
Total Di-PCB	1.38e+09	1.62 y	20:03	1.32	513.706
Total Tri-PCB	8.49e+08	1.07 y	24:09	1.20	403.129
Total Tetra-PCB	1.45e+09	0.99 y	27:50	1.23	732.923
Total Penta-PCB	3.35e+09	0.75 y	27:53	1.17	2137.64
Total Hexa-PCB	2.15e+09	1.59 y	32:35	1.24	1984.43
Total Hepta-PCB	3.53e+08	1.65 y	42:06	1.39	258.950
Total Octa-PCB	5.60e+08	1.29 y	36:58	0.94	654.670
Total Nona-PCB	1.53e+09	1.25 y	42:02	1.13	1455.28
Total Deca-PCB	9.96e+08	1.07 y	42:46	1.37	1249.10
Total Mono-PCB	2.61e+08	0.91 y	48:10	0.95	453.563
Total Di-PCB	1.10e+08	0.92 y	52:49	1.35	154.779
Total Tri-PCB	1.03e+08	1.33 y	52:58	0.99	153.818
Total Tetra-PCB	3.00e+07	1.19 y	56:44	1.35	48.6118

Total PCB Conc:10167.1345920

Integrations

by

Analyst: *DMS*

Date: *4/22/15*

Client ID: PCB CS3 14L1801
Lab ID: ST150422E1-1

Filename: 150422E1 S:1 Acq:22-APR-15 09:57:49
GC Column ID: ZB-1 ICAL: PCBVG8-1-14-15 wt/vol:1.0000

ConCal: ST150422E1-1
EndCAL: ST150422E1-2

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	2.85e+08	3.21 y	0.91	16:05	0.622	0.619-0.625		140	140											
13C-PCB-3	2.81e+08	3.22 y	0.94	18:40	0.722	0.718-0.726		133	133		13C-PCB-79	1.49e+08	0.79 y	1.02	37:43	1.029	1.024-1.033		95.5	95.5
13C-PCB-4	1.31e+08	1.56 y	0.60	19:60	0.774	0.770-0.778		98.1	98.1		13C-PCB-178	4.56e+07	0.48 y	0.64	45:32	0.985	0.980-0.989		93.8	93.8
13C-PCB-9	2.14e+08	1.55 y	0.96	21:47	0.843	0.839-0.847		99.5	99.5											
13C-PCB-11	2.16e+08	1.55 y	0.95	25:09	0.973	0.968-0.978		101	101	PS vs. IS										
13C-PCB-19	1.32e+08	1.07 y	0.56	24:08	0.933	0.929-0.939		105	105		Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-28	1.67e+08	1.02 y	1.07	28:60	1.004	0.999-1.009		94.9	94.9		13C-PCB-79	1.49e+08	0.79 y	1.02	37:43	0.969	0.963-0.973		98.3	98.3
13C-PCB-32	1.96e+08	1.08 y	0.83	27:02	1.046	1.041-1.051		106	106		13C-PCB-178	4.56e+07	0.48 y	0.84	45:32	0.925	0.920-0.930		108	108
13C-PCB-37	1.50e+08	1.02 y	0.96	32:52	1.138	1.131-1.143		94.8	94.8											
13C-PCB-47	1.19e+08	0.78 y	0.77	31:54	0.871	0.867-0.875		102	102											
13C-PCB-52	1.15e+08	0.78 y	0.71	31:24	0.857	0.853-0.861		106	106											
13C-PCB-54	1.65e+08	0.80 y	1.06	27:52	0.760	0.757-0.765		102	102											
13C-PCB-70	1.49e+08	0.79 y	0.99	35:25	0.966	0.961-0.971		98.1	98.1											
13C-PCB-77	1.40e+08	0.80 y	0.96	39:32	1.079	1.073-1.083		95.5	95.5											
13C-PCB-80	1.51e+08	0.81 y	1.02	35:50	0.978	0.973-0.983		96.6	96.6											
13C-PCB-81	1.48e+08	0.78 y	1.00	38:56	1.063	1.057-1.067		97.1	97.1											
13C-PCB-95	7.76e+07	1.61 y	0.70	35:43	0.913	0.908-0.918		105	105	RS										
13C-PCB-97	7.21e+07	1.60 y	0.66	38:42	0.989	0.984-0.994		103	103		Name	Resp	RA	RRF	RT	Conc				
13C-PCB-101	8.31e+07	1.61 y	0.77	37:24	0.956	0.951-0.961		102	102		13C-PCB-15	2.24e+08	1.54 y	1.00	25:51	100				
13C-PCB-104	1.10e+08	1.60 y	0.97	32:33	0.832	0.828-0.836		108	108		13C-PCB-31	1.64e+08	1.03 y	1.00	28:53	100				
13C-PCB-105	9.65e+07	1.57 y	1.20	42:58	0.929	0.924-0.934		105	105		13C-PCB-60	1.52e+08	0.79 y	1.00	36:39	100				
13C-PCB-114	1.01e+08	1.58 y	1.26	42:06	0.910	0.905-0.915		105	105		13C-PCB-111	1.06e+08	1.60 y	1.00	39:08	100				
13C-PCB-118	9.83e+07	1.60 y	0.94	41:26	1.059	1.054-1.064		98.9	98.9		13C-PCB-128	7.64e+07	1.29 y	1.00	46:15	100				
13C-PCB-123	9.41e+07	1.62 y	0.88	41:16	1.055	1.049-1.059		101	101		13C-PCB-205	6.95e+07	0.91 y	1.00	53:58	100				
13C-PCB-126	9.20e+07	1.57 y	1.13	45:12	0.977	0.972-0.982		107	107											
13C-PCB-127	1.02e+08	1.57 y	1.26	43:18	0.936	0.931-0.941		106	106											
13C-PCB-138	8.36e+07	1.27 y	1.12	44:41	0.966	0.961-0.971		97.8	97.8											
13C-PCB-141	8.19e+07	1.29 y	1.09	43:51	0.948	0.943-0.953		98.3	98.3											
13C-PCB-153	9.28e+07	1.29 y	1.27	43:07	0.932	0.927-0.937		95.5	95.5											
13C-PCB-155	9.06e+07	1.28 y	0.87	36:56	0.944	0.939-0.949		98.2	98.2											
13C-PCB-156	9.91e+07	1.27 y	1.35	47:57	1.037	1.032-1.042		96.2	96.2											
13C-PCB-157	1.03e+08	1.31 y	1.42	48:14	1.043	1.037-1.047		95.0	95.0											
13C-PCB-159	1.03e+08	1.28 y	1.37	45:59	0.994	0.989-0.999		98.9	98.9											
13C-PCB-167	1.02e+08	1.27 y	1.38	46:40	1.009	1.004-1.014		97.0	97.0											
13C-PCB-169	9.78e+07	1.28 y	1.38	50:21	1.089	1.084-1.094		92.7	92.7											
13C-PCB-170	4.08e+07	0.47 y	0.60	50:42	1.096	1.091-1.103		88.7	88.7											
13C-PCB-180	5.01e+07	0.47 y	0.76	49:14	1.065	1.059-1.069		86.8	86.8											
13C-PCB-188	6.76e+07	0.47 y	1.01	42:44	0.924	0.919-0.929		87.4	87.4											
13C-PCB-189	5.11e+07	0.47 y	0.80	52:11	1.128	1.124-1.136		83.4	83.4											
13C-PCB-194	5.31e+07	0.91 y	0.75	53:41	0.995	0.990-1.000		102	102											
13C-PCB-202	6.06e+07	0.92 y	0.99	48:09	1.041	1.036-1.046		80.3	80.3											
13C-PCB-206	5.23e+07	0.78 y	0.73	55:21	1.026	1.020-1.301		103	103											
13C-PCB-208	7.61e+07	0.79 y	1.08	52:57	0.981	0.977-0.987		101	101											
13C-PCB-209	4.58e+07	1.22 y	0.71	56:43	1.051	1.045-1.055		92.8	92.8											

Analyst: *DMS*

Date: *4/22/15*

Vista Analytical Laboratory - Injection Log Run file: 150422E1 Instrument ID: VG-8 GC Column ID: ZB-1

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
150422E1	1	ST150422E1-1	DMS	22-APR-15	09:57:49	ST150422E1-1	ST150422E1-2
150422E1	2	SOLVENT BLANK	DMS	22-APR-15	11:01:51	NA	NA
150422E1	3	1500335-01	DMS	22-APR-15	12:05:54	ST150422E1-1	NA
150422E1	4	1500335-02	DMS	22-APR-15	13:09:57	ST150422E1-1	NA
150422E1	5	1500336-01	DMS	22-APR-15	14:14:00	ST150422E1-1	ST150422E1-2
150422E1	6	1500339-01	DMS	22-APR-15	15:17:58	ST150422E1-1	ST150422E1-2
150422E1	7	1500330-02@5X	DMS	22-APR-15	16:22:01	ST150422E1-1	ST150422E1-2
150422E1	8	SOLVENT BLANK	DMS	22-APR-15	17:26:04	NA	NA
150422E1	9	ST150422E1-2	DMS	22-APR-15	18:30:08	ST150422E1-1	ST150422E1-2

CALIBRATION STANDARDS REVIEW CHECKLIST



Beg. Calibration ID: ST150422E1-1

End Calibration ID: NA

	<u>Beg.</u>	<u>End</u>
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
Concentration within range?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First and last eluters present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/> <i>DMs 4/23/15</i>	<input type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct ICAL referenced?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Run Log:		
-Data file matches Conc Cal ID?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
-Correct instrument listed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
-Samples within 12-hour clock?	<input checked="" type="checkbox"/> <i>y</i>	<input type="checkbox"/> <i>n</i>

	<u>Beg.</u>	<u>End</u>
Mass resolution > 10,000? ▪ Method 1614 > 5,000; CARB 429 > 8,000	<input checked="" type="checkbox"/>	<input type="checkbox"/> <i>(A)</i>
TCDD/TCDF valleys < 25%?	<input type="checkbox"/> NA	<input type="checkbox"/> NA
Peaks integrated correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Manual integrations included?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8280 CS1 Ending Standard		
-Ratios within limits		<input type="checkbox"/>
-S/N > 2.5:1		<input type="checkbox"/>
-CS1 within 12-hour clock		<input checked="" type="checkbox"/>

Comments: *(A) Lost SIOS connection, only 1st-3rd function res. check printed .dms 4/23/15*

Reviewed by: *ms 4/23/15*
Initials & Date

* Ending standard criteria applicable to 8290 only.

INITIAL CALIBRATION

Initial Calibration RRF Summary (ICAL)

Vista Analytical Laboratory

Run: 141016D1

Analyte:

Cal: 1613VG7-1-7-15

Inst. ID. VG-7

Data filename: 141016D1

			Samp# 1	Samp# 3	Samp# 4	Samp# 5	Samp# 6	Samp# 1
			10	0.25	0.50	2.0	40	300
Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
2,3,7,8-TCDD	1.17	9.14 %	1.11	1.36	1.22	1.06	1.16	1.12
1,2,3,7,8-PeCDD	0.91	4.03 %	0.93	0.94	0.93	0.84	0.93	0.89
1,2,3,4,7,8-HxCDD	1.08	5.35 %	1.08	1.18	1.07	1.00	1.08	1.07
1,2,3,6,7,8-HxCDD	1.06	5.61 %	1.06	1.06	1.06	0.96	1.13	1.12
1,2,3,7,8,9-HxCDD	0.93	4.13 %	0.92	0.98	0.95	0.86	0.93	0.95
1,2,3,4,6,7,8-HpCDD	1.10	3.57 %	1.12	1.04	1.14	1.07	1.14	1.11
OCDD	0.95	4.86 %	0.97	0.96	0.97	0.85	0.97	0.97
2,3,7,8-TCDF	1.07	6.82 %	1.00	1.16	1.15	0.99	1.08	1.04
1,2,3,7,8-PeCDF	1.07	4.51 %	1.10	1.13	1.05	1.00	1.11	1.06
2,3,4,7,8-PeCDF	1.03	3.55 %	1.05	1.04	1.06	0.96	1.07	1.02
1,2,3,4,7,8-HxCDF	1.38	3.14 %	1.40	1.42	1.37	1.31	1.42	1.39
1,2,3,6,7,8-HxCDF	1.26	5.25 %	1.26	1.34	1.29	1.14	1.26	1.27
2,3,4,6,7,8-HxCDF	1.29	3.82 %	1.28	1.30	1.33	1.20	1.34	1.29
1,2,3,7,8,9-HxCDF	1.19	3.32 %	1.16	1.25	1.18	1.13	1.20	1.19
1,2,3,4,6,7,8-HpCDF	1.61	4.02 %	1.59	1.67	1.66	1.49	1.64	1.61
1,2,3,4,7,8,9-HpCDF	1.53	4.55 %	1.54	1.58	1.55	1.39	1.53	1.57
OCDF	1.10	3.96 %	1.11	1.09	1.13	1.01	1.13	1.11
13C-2,3,7,8-TCDD	1.06	3.81 %	1.05	1.00	1.07	1.04	1.10	1.10
13C-1,2,3,7,8-PeCDD	1.18	9.13 %	1.06	1.09	1.23	1.23	1.34	1.11
13C-1,2,3,4,7,8-HxCDD	0.72	5.98 %	0.70	0.69	0.70	0.70	0.73	0.80
13C-1,2,3,6,7,8-HxCDD	0.74	6.30 %	0.72	0.71	0.71	0.71	0.73	0.83
13C-1,2,3,7,8,9-HxCDD	0.85	6.05 %	0.83	0.81	0.83	0.83	0.86	0.95
13C-1,2,3,4,6,7,8-HpCDD	0.65	10.75 %	0.63	0.61	0.61	0.62	0.66	0.79
13C-OCDD	0.76	5.80 %	0.70	0.73	0.76	0.77	0.79	0.82
13C-2,3,7,8-TCDF	0.92	2.26 %	0.93	0.89	0.91	0.91	0.94	0.93
13C-1,2,3,7,8-PeCDF	0.92	6.20 %	0.86	0.87	0.90	0.95	1.01	0.94
13C-2,3,4,7,8-PeCDF	0.93	5.50 %	0.89	0.89	0.91	0.96	1.02	0.92
13C-1,2,3,4,7,8-HxCDF	0.98	5.30 %	0.92	0.94	0.96	0.98	1.01	1.07
13C-1,2,3,6,7,8-HxCDF	1.08	5.13 %	1.07	1.00	1.05	1.09	1.12	1.16
13C-2,3,4,6,7,8-HxCDF	1.03	4.15 %	0.97	1.00	1.02	1.01	1.04	1.10
13C-1,2,3,7,8,9-HxCDF	0.86	7.80 %	0.84	0.82	0.82	0.83	0.87	0.99
13C-1,2,3,4,6,7,8-HpCDF	0.72	9.95 %	0.70	0.69	0.67	0.69	0.72	0.86
13C-1,2,3,4,7,8,9-HpCDF	0.70	6.18 %	0.65	0.69	0.67	0.67	0.74	0.76
13C-OCDF	0.85	5.23 %	0.82	0.80	0.83	0.85	0.88	0.92
37Cl-2,3,7,8-TCDD	1.12	13.99 %	1.22	1.08	1.03	1.24	1.27	0.86
13C-1,2,3,4-TCDD	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4-TCDF	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4,6,9-HxCDF	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00

ms 1/9/15
 J 1/9/15
 CT 1/21/15

Filename: 141016D1 S: 1 Acquired: 16-OCT-14 11:05:57
 Run: 141016D1 Analyte: Cal: 1613VG7-1-7-15 Results:
 Sample text: ST141016D1-1 1613 CS3 14I1102

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	10.00	2.08e+06	0.73 y	26:60	-	1.11
2	Unk	1,2,3,7,8-PeCDD	50.00	8.78e+06	0.61 y	31:30	-	0.93
3	Unk	1,2,3,4,7,8-HxCDD	50.00	7.82e+06	1.26 y	34:50	-	1.08
4	Unk	1,2,3,6,7,8-HxCDD	50.00	7.94e+06	1.25 y	34:57	-	1.06
5	Unk	1,2,3,7,8,9-HxCDD	50.00	7.97e+06	1.24 y	35:15	-	0.92
6	Unk	1,2,3,4,6,7,8-HpCDD	50.00	7.29e+06	1.04 y	38:42	-	1.12
7	Unk	OCDD	100.00	1.40e+07	0.89 y	42:02	-	0.97
8	Unk	2,3,7,8-TCDF	10.00	2.78e+06	0.80 y	26:13	-	1.00
9	Unk	1,2,3,7,8-PeCDF	50.00	1.40e+07	1.59 y	30:20	-	1.10
10	Unk	2,3,4,7,8-PeCDF	50.00	1.38e+07	1.59 y	31:14	-	1.05
11	Unk	1,2,3,4,7,8-HxCDF	50.00	1.34e+07	1.29 y	33:56	-	1.40
12	Unk	1,2,3,6,7,8-HxCDF	50.00	1.40e+07	1.29 y	34:04	-	1.26
13	Unk	2,3,4,6,7,8-HxCDF	50.00	1.29e+07	1.31 y	34:40	-	1.28
14	Unk	1,2,3,7,8,9-HxCDF	50.00	1.01e+07	1.27 y	35:39	-	1.16
15	Unk	1,2,3,4,6,7,8-HpCDF	50.00	1.16e+07	1.08 y	37:30	-	1.59
16	Unk	1,2,3,4,7,8,9-HpCDF	50.00	1.04e+07	1.07 y	39:16	-	1.54
17	Unk	OCDF	100.00	1.88e+07	0.91 y	42:16	-	1.11
36	IS	13C-2,3,7,8-TCDD	100.00	1.87e+07	0.79 y	26:58	-	1.05
37	IS	13C-1,2,3,7,8-PeCDD	100.00	1.90e+07	0.63 y	31:29	-	1.06
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	1.44e+07	1.25 y	34:49	-	0.70
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	1.50e+07	1.25 y	34:56	-	0.72
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	1.72e+07	1.23 y	35:14	-	0.83
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	1.30e+07	1.07 y	38:42	-	0.63
42	IS	13C-OCDD	200.00	2.89e+07	0.89 y	42:02	-	0.70
43	IS	13C-2,3,7,8-TCDF	100.00	2.77e+07	0.74 y	26:12	-	0.93
44	IS	13C-1,2,3,7,8-PeCDF	100.00	2.54e+07	1.55 y	30:19	-	0.86
45	IS	13C-2,3,4,7,8-PeCDF	100.00	2.63e+07	1.61 y	31:13	-	0.89
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	1.92e+07	0.51 y	33:55	-	0.92
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	2.23e+07	0.50 y	34:03	-	1.07
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	2.02e+07	0.52 y	34:39	-	0.97
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	1.73e+07	0.51 y	35:38	-	0.84
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	1.46e+07	0.43 y	37:29	-	0.70
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	1.35e+07	0.45 y	39:15	-	0.65
52	IS	13C-OCDF	200.00	3.39e+07	0.92 y	42:15	-	0.82
53	C/Up	37Cl-2,3,7,8-TCDD	10.00	2.18e+06		26:59	-	1.22
54	RS/RT	13C-1,2,3,4-TCDD	100.00	1.79e+07	0.80 y	26:24	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	2.97e+07	0.78 y	24:58	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	2.08e+07	0.51 y	34:21	-	1.00

Filename: 141016D1 S: 3 Acquired: 16-OCT-14 12:42:43

Run: 141016D1 Analyte:

Cal:

Results:

Sample text: ST141016D1-2 1613 CS0 1411819

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.25	5.01e+04	0.71 y	27:03	-	1.36
2	Unk	1,2,3,7,8-PeCDD	1.25	1.89e+05	0.58 y	31:32	-	0.94
3	Unk	1,2,3,4,7,8-HxCDD	1.25	1.80e+05	1.38 y	34:52	-	1.18
4	Unk	1,2,3,6,7,8-HxCDD	1.25	1.66e+05	1.38 y	34:59	-	1.06
5	Unk	1,2,3,7,8,9-HxCDD	1.25	1.76e+05	1.42 y	35:17	-	0.98
6	Unk	1,2,3,4,6,7,8-HpCDD	1.25	1.40e+05	0.92 y	38:44	-	1.04
7	Unk	OCDD	2.50	3.13e+05	0.92 y	42:04	-	0.96
8	Unk	2,3,7,8-TCDF	0.25	6.52e+04	0.82 y	26:17	-	1.16
9	Unk	1,2,3,7,8-PeCDF	1.25	3.11e+05	1.49 y	30:22	-	1.13
10	Unk	2,3,4,7,8-PeCDF	1.25	2.91e+05	1.54 y	31:15	-	1.04
11	Unk	1,2,3,4,7,8-HxCDF	1.25	2.95e+05	1.36 y	33:58	-	1.42
12	Unk	1,2,3,6,7,8-HxCDF	1.25	2.95e+05	1.26 y	34:06	-	1.34
13	Unk	2,3,4,6,7,8-HxCDF	1.25	2.89e+05	1.31 y	34:43	-	1.30
14	Unk	1,2,3,7,8,9-HxCDF	1.25	2.25e+05	1.36 y	35:41	-	1.25
15	Unk	1,2,3,4,6,7,8-HpCDF	1.25	2.54e+05	1.14 y	37:32	-	1.67
16	Unk	1,2,3,4,7,8,9-HpCDF	1.25	2.39e+05	1.08 y	39:18	-	1.58
17	Unk	OCDF	2.50	3.84e+05	0.91 y	42:18	-	1.09
36	IS	13C-2,3,7,8-TCDD	100.00	1.47e+07	0.79 y	27:02	-	1.00
37	IS	13C-1,2,3,7,8-PeCDD	100.00	1.61e+07	0.64 y	31:32	-	1.09
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	1.22e+07	1.24 y	34:51	-	0.69
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	1.25e+07	1.31 y	34:58	-	0.71
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	1.44e+07	1.29 y	35:16	-	0.81
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	1.07e+07	1.03 y	38:43	-	0.61
42	IS	13C-OCDD	200.00	2.60e+07	0.89 y	42:03	-	0.73
43	IS	13C-2,3,7,8-TCDF	100.00	2.24e+07	0.75 y	26:16	-	0.89
44	IS	13C-1,2,3,7,8-PeCDF	100.00	2.20e+07	1.59 y	30:21	-	0.87
45	IS	13C-2,3,4,7,8-PeCDF	100.00	2.24e+07	1.61 y	31:15	-	0.89
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	1.66e+07	0.52 y	33:57	-	0.94
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	1.77e+07	0.51 y	34:05	-	1.00
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	1.77e+07	0.51 y	34:42	-	1.00
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	1.45e+07	0.52 y	35:40	-	0.82
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	1.22e+07	0.44 y	37:31	-	0.69
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	1.21e+07	0.43 y	39:17	-	0.69
52	IS	13C-OCDF	200.00	2.81e+07	0.92 y	42:17	-	0.80
53	C/Up	37Cl-2,3,7,8-TCDD	0.25	4.00e+04		27:03	-	1.08
54	RS/RT	13C-1,2,3,4-TCDD	100.00	1.48e+07	0.80 y	26:28	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	2.52e+07	0.78 y	25:03	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	1.77e+07	0.53 y	34:23	-	1.00

Filename: 141016D1 S: 4 Acquired: 16-OCT-14 13:31:08

Run: 141016D1 Analyte: Cal: Results:

Sample text: ST141016D1-3 1613 CS1 14I1820

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.50	9.47e+04	0.71 y	27:03	-	1.22
2	Unk	1,2,3,7,8-PeCDD	2.50	4.17e+05	0.58 y	31:32	-	0.93
3	Unk	1,2,3,4,7,8-HxCDD	2.50	3.52e+05	1.23 y	34:52	-	1.07
4	Unk	1,2,3,6,7,8-HxCDD	2.50	3.56e+05	1.22 y	34:59	-	1.06
5	Unk	1,2,3,7,8,9-HxCDD	2.50	3.72e+05	1.18 y	35:17	-	0.95
6	Unk	1,2,3,4,6,7,8-HpCDD	2.50	3.28e+05	1.04 y	38:44	-	1.14
7	Unk	OCDD	5.00	7.00e+05	0.91 y	42:03	-	0.97
8	Unk	2,3,7,8-TCDF	0.50	1.35e+05	0.76 y	26:17	-	1.15
9	Unk	1,2,3,7,8-PeCDF	2.50	6.14e+05	1.75 y	30:22	-	1.05
10	Unk	2,3,4,7,8-PeCDF	2.50	6.26e+05	1.44 y	31:15	-	1.06
11	Unk	1,2,3,4,7,8-HxCDF	2.50	6.24e+05	1.23 y	33:58	-	1.37
12	Unk	1,2,3,6,7,8-HxCDF	2.50	6.42e+05	1.32 y	34:06	-	1.29
13	Unk	2,3,4,6,7,8-HxCDF	2.50	6.41e+05	1.24 y	34:42	-	1.33
14	Unk	1,2,3,7,8,9-HxCDF	2.50	4.56e+05	1.22 y	35:40	-	1.18
15	Unk	1,2,3,4,6,7,8-HpCDF	2.50	5.24e+05	1.07 y	37:32	-	1.66
16	Unk	1,2,3,4,7,8,9-HpCDF	2.50	4.91e+05	1.14 y	39:17	-	1.55
17	Unk	OCDF	5.00	8.91e+05	0.93 y	42:17	-	1.13
36	IS	13C-2,3,7,8-TCDD	100.00	1.56e+07	0.78 y	27:02	-	1.07
37	IS	13C-1,2,3,7,8-PeCDD	100.00	1.79e+07	0.63 y	31:31	-	1.23
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	1.32e+07	1.27 y	34:51	-	0.70
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	1.35e+07	1.26 y	34:58	-	0.71
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	1.56e+07	1.27 y	35:16	-	0.83
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	1.15e+07	1.05 y	38:43	-	0.61
42	IS	13C-OCDD	200.00	2.89e+07	0.89 y	42:03	-	0.76
43	IS	13C-2,3,7,8-TCDF	100.00	2.36e+07	0.78 y	26:16	-	0.91
44	IS	13C-1,2,3,7,8-PeCDF	100.00	2.34e+07	1.58 y	30:21	-	0.90
45	IS	13C-2,3,4,7,8-PeCDF	100.00	2.37e+07	1.54 y	31:14	-	0.91
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	1.82e+07	0.52 y	33:57	-	0.96
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	1.99e+07	0.52 y	34:05	-	1.05
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	1.93e+07	0.52 y	34:41	-	1.02
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	1.55e+07	0.53 y	35:40	-	0.82
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	1.26e+07	0.43 y	37:31	-	0.67
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	1.27e+07	0.44 y	39:16	-	0.67
52	IS	13C-OCDF	200.00	3.15e+07	0.89 y	42:17	-	0.83
53	C/Up	37Cl-2,3,7,8-TCDD	0.50	7.54e+04		27:03	-	1.03
54	RS/RT	13C-1,2,3,4-TCDD	100.00	1.46e+07	0.79 y	26:28	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	2.60e+07	0.77 y	25:03	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	1.89e+07	0.52 y	34:22	-	1.00

Filename: 141016D1 S: 5 Acquired: 16-OCT-14 14:19:34

Run: 141016D1 Analyte: Cal: Results:
Sample text: ST141016D1-4 1613 CS2 14I1821

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	2.00	3.13e+05	0.82 y	27:03	-	1.06
2	Unk	1,2,3,7,8-PeCDD	10.00	1.47e+06	0.59 y	31:32	-	0.84
3	Unk	1,2,3,4,7,8-HxCDD	10.00	1.26e+06	1.28 y	34:52	-	1.00
4	Unk	1,2,3,6,7,8-HxCDD	10.00	1.24e+06	1.26 y	34:59	-	0.96
5	Unk	1,2,3,7,8,9-HxCDD	10.00	1.30e+06	1.28 y	35:17	-	0.86
6	Unk	1,2,3,4,6,7,8-HpCDD	10.00	1.21e+06	1.04 y	38:44	-	1.07
7	Unk	OCDD	20.00	2.38e+06	0.87 y	42:03	-	0.85
8	Unk	2,3,7,8-TCDF	2.00	4.47e+05	0.78 y	26:17	-	0.99
9	Unk	1,2,3,7,8-PeCDF	10.00	2.35e+06	1.55 y	30:22	-	1.00
10	Unk	2,3,4,7,8-PeCDF	10.00	2.32e+06	1.57 y	31:15	-	0.96
11	Unk	1,2,3,4,7,8-HxCDF	10.00	2.31e+06	1.29 y	33:58	-	1.31
12	Unk	1,2,3,6,7,8-HxCDF	10.00	2.24e+06	1.28 y	34:06	-	1.14
13	Unk	2,3,4,6,7,8-HxCDF	10.00	2.19e+06	1.30 y	34:42	-	1.20
14	Unk	1,2,3,7,8,9-HxCDF	10.00	1.69e+06	1.33 y	35:41	-	1.13
15	Unk	1,2,3,4,6,7,8-HpCDF	10.00	1.86e+06	1.10 y	37:32	-	1.49
16	Unk	1,2,3,4,7,8,9-HpCDF	10.00	1.69e+06	1.09 y	39:17	-	1.39
17	Unk	OCDF	20.00	3.11e+06	0.93 y	42:17	-	1.01
36	IS	13C-2,3,7,8-TCDD	100.00	1.47e+07	0.79 y	27:02	-	1.04
37	IS	13C-1,2,3,7,8-PeCDD	100.00	1.74e+07	0.63 y	31:31	-	1.23
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	1.26e+07	1.28 y	34:51	-	0.70
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	1.29e+07	1.24 y	34:58	-	0.71
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	1.51e+07	1.23 y	35:16	-	0.83
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	1.13e+07	1.05 y	38:43	-	0.62
42	IS	13C-OCDD	200.00	2.79e+07	0.88 y	42:03	-	0.77
43	IS	13C-2,3,7,8-TCDF	100.00	2.26e+07	0.77 y	26:16	-	0.91
44	IS	13C-1,2,3,7,8-PeCDF	100.00	2.36e+07	1.54 y	30:21	-	0.95
45	IS	13C-2,3,4,7,8-PeCDF	100.00	2.40e+07	1.57 y	31:14	-	0.96
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	1.77e+07	0.50 y	33:57	-	0.98
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	1.97e+07	0.51 y	34:05	-	1.09
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	1.83e+07	0.52 y	34:41	-	1.01
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	1.50e+07	0.52 y	35:40	-	0.83
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	1.24e+07	0.43 y	37:31	-	0.69
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	1.22e+07	0.43 y	39:16	-	0.67
52	IS	13C-OCDF	200.00	3.07e+07	0.90 y	42:17	-	0.85
53	C/Up	37Cl-2,3,7,8-TCDD	2.00	3.51e+05		27:03	-	1.24
54	RS/RT	13C-1,2,3,4-TCDD	100.00	1.41e+07	0.80 y	26:28	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	2.49e+07	0.77 y	25:03	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	1.80e+07	0.52 y	34:22	-	1.00

Filename: 141016D1 S: 6 Acquired: 16-OCT-14 15:08:00

Run: 141016D1 Analyte: Cal: Results:

Sample text: ST141016D1-5 1613 CS4 1411822

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1 Unk	2,3,7,8-TCDD	40.00	6.36e+06	0.79 y	27:03	-	1.16
2 Unk	1,2,3,7,8-PeCDD	200.00	3.08e+07	0.61 y	31:32	-	0.93
3 Unk	1,2,3,4,7,8-HxCDD	200.00	2.57e+07	1.25 y	34:52	-	1.08
4 Unk	1,2,3,6,7,8-HxCDD	200.00	2.66e+07	1.26 y	34:59	-	1.13
5 Unk	1,2,3,7,8,9-HxCDD	200.00	2.59e+07	1.24 y	35:17	-	0.93
6 Unk	1,2,3,4,6,7,8-HpCDD	200.00	2.46e+07	1.04 y	38:44	-	1.14
7 Unk	OCDD	400.00	5.00e+07	0.89 y	42:03	-	0.97
8 Unk	2,3,7,8-TCDF	40.00	8.92e+06	0.77 y	26:17	-	1.08
9 Unk	1,2,3,7,8-PeCDF	200.00	4.90e+07	1.58 y	30:22	-	1.11
10 Unk	2,3,4,7,8-PeCDF	200.00	4.76e+07	1.60 y	31:15	-	1.07
11 Unk	1,2,3,4,7,8-HxCDF	200.00	4.66e+07	1.28 y	33:58	-	1.42
12 Unk	1,2,3,6,7,8-HxCDF	200.00	4.56e+07	1.28 y	34:06	-	1.26
13 Unk	2,3,4,6,7,8-HxCDF	200.00	4.54e+07	1.26 y	34:42	-	1.34
14 Unk	1,2,3,7,8,9-HxCDF	200.00	3.40e+07	1.28 y	35:40	-	1.20
15 Unk	1,2,3,4,6,7,8-HpCDF	200.00	3.84e+07	1.09 y	37:32	-	1.64
16 Unk	1,2,3,4,7,8,9-HpCDF	200.00	3.69e+07	1.08 y	39:17	-	1.53
17 Unk	OCDF	400.00	6.50e+07	0.92 y	42:18	-	1.13
36 IS	13C-2,3,7,8-TCDD	100.00	1.37e+07	0.81 y	27:02	-	1.10
37 IS	13C-1,2,3,7,8-PeCDD	100.00	1.66e+07	0.63 y	31:31	-	1.34
38 IS	13C-1,2,3,4,7,8-HxCDD	100.00	1.19e+07	1.25 y	34:51	-	0.73
39 IS	13C-1,2,3,6,7,8-HxCDD	100.00	1.18e+07	1.26 y	34:58	-	0.73
40 IS	13C-1,2,3,7,8,9-HxCDD	100.00	1.40e+07	1.24 y	35:16	-	0.86
41 IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	1.08e+07	1.07 y	38:43	-	0.66
42 IS	13C-OCDD	200.00	2.58e+07	0.89 y	42:03	-	0.79
43 IS	13C-2,3,7,8-TCDF	100.00	2.07e+07	0.77 y	26:16	-	0.94
44 IS	13C-1,2,3,7,8-PeCDF	100.00	2.21e+07	1.61 y	30:21	-	1.01
45 IS	13C-2,3,4,7,8-PeCDF	100.00	2.23e+07	1.57 y	31:14	-	1.02
46 IS	13C-1,2,3,4,7,8-HxCDF	100.00	1.64e+07	0.51 y	33:57	-	1.01
47 IS	13C-1,2,3,6,7,8-HxCDF	100.00	1.82e+07	0.50 y	34:05	-	1.12
48 IS	13C-2,3,4,6,7,8-HxCDF	100.00	1.69e+07	0.51 y	34:41	-	1.04
49 IS	13C-1,2,3,7,8,9-HxCDF	100.00	1.41e+07	0.52 y	35:40	-	0.87
50 IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	1.17e+07	0.45 y	37:31	-	0.72
51 IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	1.20e+07	0.44 y	39:16	-	0.74
52 IS	13C-OCDF	200.00	2.87e+07	0.89 y	42:17	-	0.88
53 C/Up	37Cl-2,3,7,8-TCDD	40.00	6.31e+06		27:03	-	1.27
54 RS/RT	13C-1,2,3,4-TCDD	100.00	1.24e+07	0.82 y	26:28	-	1.00
55 RS	13C-1,2,3,4-TCDF	100.00	2.19e+07	0.79 y	25:03	-	1.00
56 RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	1.63e+07	0.51 y	34:22	-	1.00

Filename: 150107D1 S: 1 Acquired: 7-JAN-15 10:43:31
 Run: 141016D1 Analyte: Cal: 1613VG7-1-7-15 Results:
 Sample text: ST150107D1-1 1613 CS5 15A0502

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	300.00	9.22e+07	0.77 y	26:59	-	1.12
2	Unk	1,2,3,7,8-PeCDD	1500.00	3.69e+08	0.62 y	31:40	-	0.89
3	Unk	1,2,3,4,7,8-HxCDD	1500.00	3.48e+08	1.26 y	34:59	-	1.07
4	Unk	1,2,3,6,7,8-HxCDD	1500.00	3.80e+08	1.25 y	35:06	-	1.12
5	Unk	1,2,3,7,8,9-HxCDD	1500.00	3.67e+08	1.25 y	35:23	-	0.95
6	Unk	1,2,3,4,6,7,8-HpCDD	1500.00	3.56e+08	1.05 y	38:54	-	1.11
7	Unk	OCDD	3000.00	6.47e+08	0.90 y	42:09	-	0.97
8	Unk	2,3,7,8-TCDF	300.00	1.19e+08	0.78 y	26:09	-	1.04
9	Unk	1,2,3,7,8-PeCDF	1500.00	6.12e+08	1.59 y	30:27	-	1.06
10	Unk	2,3,4,7,8-PeCDF	1500.00	5.74e+08	1.56 y	31:23	-	1.02
11	Unk	1,2,3,4,7,8-HxCDF	1500.00	6.02e+08	1.28 y	34:06	-	1.39
12	Unk	1,2,3,6,7,8-HxCDF	1500.00	5.99e+08	1.28 y	34:14	-	1.27
13	Unk	2,3,4,6,7,8-HxCDF	1500.00	5.77e+08	1.29 y	34:50	-	1.29
14	Unk	1,2,3,7,8,9-HxCDF	1500.00	4.82e+08	1.30 y	35:46	-	1.19
15	Unk	1,2,3,4,6,7,8-HpCDF	1500.00	5.67e+08	1.07 y	37:34	-	1.61
16	Unk	1,2,3,4,7,8,9-HpCDF	1500.00	4.84e+08	1.07 y	39:27	-	1.57
17	Unk	OCDF	3000.00	8.27e+08	0.92 y	42:22	-	1.11
36	IS	13C-2,3,7,8-TCDD	100.00	2.74e+07	0.80 y	26:57	-	1.10
37	IS	13C-1,2,3,7,8-PeCDD	100.00	2.75e+07	0.62 y	31:39	-	1.11
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	2.18e+07	1.22 y	34:58	-	0.80
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	2.25e+07	1.30 y	35:05	-	0.83
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	2.59e+07	1.25 y	35:22	-	0.95
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	2.15e+07	1.07 y	38:53	-	0.79
42	IS	13C-OCDD	200.00	4.45e+07	0.91 y	42:08	-	0.82
43	IS	13C-2,3,7,8-TCDF	100.00	3.80e+07	0.75 y	26:08	-	0.93
44	IS	13C-1,2,3,7,8-PeCDF	100.00	3.84e+07	1.58 y	30:27	-	0.94
45	IS	13C-2,3,4,7,8-PeCDF	100.00	3.74e+07	1.62 y	31:22	-	0.92
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	2.90e+07	0.52 y	34:05	-	1.07
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	3.15e+07	0.52 y	34:13	-	1.16
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	2.98e+07	0.51 y	34:49	-	1.10
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	2.69e+07	0.51 y	35:45	-	0.99
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	2.34e+07	0.44 y	37:34	-	0.86
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	2.06e+07	0.45 y	39:26	-	0.76
52	IS	13C-OCDF	200.00	4.97e+07	0.90 y	42:22	-	0.92
53	C/Up	37Cl-2,3,7,8-TCDD	300.00	6.41e+07		26:59	-	0.86
54	RS/RT	13C-1,2,3,4-TCDD	100.00	2.48e+07	0.80 y	26:21	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	4.08e+07	0.78 y	24:48	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	2.71e+07	0.51 y	34:30	-	1.00

Run: 141016D1 Analyte: Cal: 1613VG7-1-7-15 Inst. ID. VG-7

Data filename: 141016D1

Name	Mean RRF	%RSD	Samp# 1	Samp# 3	Samp# 4	Samp# 5	Samp# 6	Samp# 1
			10	0.25	0.50	2.0	40	300
Total Tetra-Dioxins	1.17	9.14 %	1.11	1.36	1.22	1.06	1.16	1.12
TCDD EMPC	1.17	9.14 %	1.11	1.36	1.22	1.06	1.16	1.12
Total Penta-Dioxins	0.91	4.03 %	0.93	0.94	0.93	0.84	0.93	0.89
PeCDD EMPC	0.91	4.03 %	0.93	0.94	0.93	0.84	0.93	0.89
Total Hexa-Dioxins	1.02	4.32 %	1.02	1.07	1.02	0.94	1.04	1.04
HxCDD EMPC	1.02	4.32 %	1.02	1.07	1.02	0.94	1.04	1.04
Total Hepta-Dioxins	1.10	3.57 %	1.12	1.04	1.14	1.07	1.14	1.11
HpCDD EMPC	1.10	3.57 %	1.12	1.04	1.14	1.07	1.14	1.11
Total Tetra-Furans	1.07	6.82 %	1.00	1.16	1.15	0.99	1.08	1.04
TCDF EMPC	1.07	6.82 %	1.00	1.16	1.15	0.99	1.08	1.04
1st Func. Penta-Furans	1.05	3.80 %	1.07	1.08	1.05	0.98	1.09	1.04
1st Func. PeCDF EMPC	1.05	3.80 %	1.07	1.08	1.05	0.98	1.09	1.04
Total Penta-Furans	1.05	3.80 %	1.07	1.08	1.05	0.98	1.09	1.04
PeCDF EMPC	1.05	3.80 %	1.07	1.08	1.05	0.98	1.09	1.04
Total Hexa-Furans	1.28	3.62 %	1.28	1.33	1.30	1.19	1.31	1.29
HxCDF EMPC	1.28	3.62 %	1.28	1.33	1.30	1.19	1.31	1.29
Total Hepta-Furans	1.57	4.17 %	1.57	1.62	1.60	1.44	1.59	1.59
HpCDF EMPC	1.57	4.17 %	1.57	1.62	1.60	1.44	1.59	1.59

Analyte:

Inst. ID. VG-7

Data filename: 141016D1

Name	RRT Limits		Samp# 1	Samp# 3	Samp# 4	Samp# 5	Samp# 6	Samp# 1
	Lower	Upper	10	0.25	0.50	2.0	40	300
			RRT#1	RRT#2	RRT#3	RRT#4	RRT#5	RRT#6
2,3,7,8-TCDD	0.999	-1.002	1.001	1.001	1.001	1.001	1.001	1.001
1,2,3,7,8-PeCDD	0.999	-1.002	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,4,7,8-HxCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,6,7,8-HxCDD	0.998	-1.004	1.001	1.000	1.000	1.000	1.000	1.001
1,2,3,7,8,9-HxCDD	0.998	-1.004	1.000	1.000	1.000	1.000	1.000	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	1.001	1.001	1.001	1.001	1.001	1.001
1,2,3,7,8-PeCDF	0.999	-1.002	1.000	1.001	1.000	1.000	1.000	1.000
2,3,4,7,8-PeCDF	0.999	-1.002	1.000	1.000	1.000	1.000	1.000	1.000
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	1.001	1.000	1.001	1.001	1.001	1.000
2,3,4,6,7,8-HxCDF	0.999	-1.001	1.001	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	1.001	1.000	1.000
1,2,3,4,6,7,8-HpCDF	0.999	-1.001	1.000	1.001	1.000	1.000	1.000	1.000
1,2,3,4,7,8,9-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
OCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
13C-2,3,7,8-TCDD	0.976	-1.043	1.021	1.021	1.021	1.021	1.021	1.023
13C-1,2,3,7,8-PeCDD	1.000	-1.567	1.192	1.191	1.191	1.191	1.191	1.201
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	1.017	1.017	1.017	1.017	1.017
13C-1,2,3,7,8,9-HxCDD	1.014	-1.038	1.026	1.026	1.026	1.026	1.026	1.025
13C-1,2,3,4,6,7,8-HpCDD	1.117	-1.141	1.127	1.126	1.126	1.126	1.126	1.127
13C-OCDD	1.085	-1.365	1.224	1.223	1.223	1.223	1.223	1.222
13C-2,3,7,8-TCDF	0.923	-1.103	0.992	0.992	0.992	0.992	0.992	0.992
13C-1,2,3,7,8-PeCDF	1.000	-1.425	1.148	1.147	1.147	1.147	1.147	1.155
13C-2,3,4,7,8-PeCDF	1.011	-1.526	1.182	1.181	1.180	1.180	1.180	1.190
13C-1,2,3,4,7,8-HxCDF	0.975	-1.001	0.988	0.988	0.988	0.988	0.988	0.988
13C-1,2,3,6,7,8-HxCDF	0.979	-1.005	0.991	0.991	0.992	0.992	0.992	0.992
13C-2,3,4,6,7,8-HxCDF	1.001	-1.020	1.009	1.009	1.009	1.009	1.009	1.009
13C-1,2,3,7,8,9-HxCDF	1.002	-1.072	1.037	1.037	1.038	1.038	1.037	1.037
13C-1,2,3,4,6,7,8-HpCDF	1.069	-1.111	1.091	1.091	1.091	1.091	1.091	1.089
13C-1,2,3,4,7,8,9-HpCDF	1.098	-1.192	1.143	1.142	1.143	1.143	1.143	1.143
13C-OCDF	1.091	-1.371	1.230	1.230	1.230	1.230	1.230	1.228
37Cl-2,3,7,8-TCDD	0.989	-1.052	1.022	1.022	1.022	1.022	1.022	1.024
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	*	*	*	*	*	*

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory

Episode No.:

CCAL ID: ST141016D1-1

Contract No.:

SAS No.:

Initial Calibration Date: 1-7-15

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 141016D1 S#1 Analysis Date: 16-OCT-14 Time: 11:05:57

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)	
2,3,7,8-TCDD	M/M+2	0.73	0.65-0.89	y	9.45	7.8 - 12.9	(1) See Table 8, Method 1613, for m/z specifications.
1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	y	50.9	8.2 - 12.3 (4) 39.0 - 65.0	(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	50.2	39.0 - 64.0	(3) Contract-required concentration range as specified in Table 6, Method 1613.
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	49.6	39.0 - 64.0	
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	49.6	41.0 - 61.0	
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	50.8	43.0 - 58.0	(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.
OCDD	M+2/M+4	0.89	0.76-1.02	y	102	79.0 - 126.0	
2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	y	9.38	8.4 - 12.0 8.6 - 11.6 (4)	
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	51.3	41.0 - 60.0	
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	50.7	41.0 - 61.0	
1,2,3,4,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	y	50.6	45.0 - 56.0	
1,2,3,6,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	y	50.2	44.0 - 57.0	
2,3,4,6,7,8-HxCDF	M+2/M+4	1.31	1.05-1.43	y	49.6	44.0 - 57.0	
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05-1.43	y	49.1	45.0 - 56.0	
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.08	0.88-1.20	y	49.4	45.0 - 55.0	
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.07	0.88-1.20	y	50.4	43.0 - 58.0	
OCDF	M+2/M+4	0.91	0.76-1.02	y	101	63.0 - 159.0	

Analyst: MDDate: 1/8/15

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 1-7-15

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 141016D1 S#1 Analysis Date: 16-OCT-14 Time: 11:05:57

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	y	98.9	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	90.0	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	96.6	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	98.4	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	y	97.3	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	y	95.7	72.0 - 138.0
13C-OCDD	M/M+2	0.89	0.76-1.02	y	182	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.74	0.65-0.89	y	102	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	y	92.8	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	95.2	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	94.1	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43-0.59	y	99.0	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	94.9	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	y	97.1	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	97.2	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.45	0.37-0.51	y	93.4	77.0 - 129.0
13C-OCDF	M+2/M+4	0.92	0.76-1.02	y	192	96.0 - 415.0
CLEANUP STANDARD (3) 37Cl-2,3,7,8-TCDD					10.9	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: m)

Date: 1/8/15

EPA METHOD 8290

PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory

Episode No.:

CCAL ID: ST141016D1-1

Contract No.:

SAS No.:

Initial Calibration Date: 1-7-15

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 141016D1 S#1 Analysis Date: 16-OCT-14 Time: 11:05:57

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	0.73	0.65-0.89	y	9.45	8.00 - 12.0
1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	y	50.9	40.0 - 60.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	50.2	40.0 - 60.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	49.6	40.0 - 60.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	49.6	40.0 - 60.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	50.8	40.0 - 60.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	102	80.0 - 120
2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	y	9.38	8.00 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	51.3	40.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	50.7	40.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	y	50.6	40.0 - 60.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	y	50.2	40.0 - 60.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.31	1.05-1.43	y	49.6	40.0 - 60.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.27	1.05-1.43	y	49.1	40.0 - 60.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.08	0.88-1.20	y	49.4	40.0 - 60.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.07	0.88-1.20	y	50.4	40.0 - 60.0
OCDF	M+2/M+4	0.91	0.76-1.02	y	101	80.0 - 120

Analyst: msDate: 1/8/15

EPA METHOD 8290

PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 1-7-15

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 141016D1 S#1 Analysis Date: 16-OCT-14 Time: 11:05:57

LABELLED COMPOUNDS	M/Z'S FORMING RATIO	ION ABUND. RATIO	QC LIMITS	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	98.9	70.0 - 130
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	90.0	70.0 - 130
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	96.6	70.0 - 130
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	98.4	70.0 - 130
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	y	97.3	70.0 - 130
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	y	95.7	70.0 - 130
13C-OCDD	M+2/M+4	0.89	0.76-1.02	y	182	140 - 260
13C-2,3,7,8-TCDF	M/M+2	0.74	0.65-0.89	y	102	70.0 - 130
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	y	92.8	70.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	95.2	70.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	94.1	70.0 - 130
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.50	0.43-0.59	y	99.0	70.0 - 130
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	94.9	70.0 - 130
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	y	97.1	70.0 - 130
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37-0.51	y	97.2	70.0 - 130
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	y	93.4	70.0 - 130
13C-OCDF	M+2/M+4	0.92	0.76-1.02	y	192	140 - 260
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD					10.9	7.00 - 13.0

Analyst: mDate: 1/8/15

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 1-7-15

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 141016D1 S#1 Analysis Date: 16-OCT-14 Time: 11:05:57

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

NATIVE ANALYTES	RETENTION TIME		RRT
	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	1.000	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

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

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.021	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.192	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.992	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.148	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.182	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.989-1.052

Analyst: mm

Date: 1/8/15

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 1-7-15

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

VER Data Filename: 141016D1 S#1 Analysis Date: 16-OCT-14 Time: 11:05:57

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
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.001	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

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

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.037	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	1.091	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.143	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	1.224	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.230	1.091-1.371

Analyst: M

Date: 1/9/15

Client ID: 1613 CS3 14I1102
Lab ID: ST141016D1-1

Filename: 141016D1 S:1 Acq:16-OCT-14 11:05:57
GC Column ID: ZB-5MS ICal: 1613VG7-1-7-15 wt/vol: 1.000

ConCal: NA
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	Conc	Q	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	2.08e+06	0.73 y	1.17	26:60	1.001	9.4477	*	2.5	*	*	Total Tetra-Dioxins	54.8	55.1	*	*	
1,2,3,7,8-PeCDD	8.78e+06	0.61 y	0.91	31:30	1.000	50.922	*	2.5	*	*	Total Penta-Dioxins	159	159	*	*	
1,2,3,4,7,8-HxCDD	7.82e+06	1.26 y	1.08	34:50	1.000	50.237	*	2.5	*	*	Total Hexa-Dioxins	194	195	*	*	
1,2,3,6,7,8-HxCDD	7.94e+06	1.25 y	1.06	34:57	1.001	49.601	*	2.5	*	*	Total Hepta-Dioxins	128	128	*	*	
1,2,3,7,8,9-HxCDD	7.97e+06	1.24 y	0.93	35:15	1.000	49.631	*	2.5	*	*	Total Tetra-Furans	30.0	30.3	*	*	
1,2,3,4,6,7,8-HpCDD	7.29e+06	1.04 y	1.10	38:42	1.000	50.805	*	2.5	*	*	Total Penta-Furans	209.92	210.51	*	*	
OCDD	1.40e+07	0.89 y	0.95	42:02	1.000	102.06	*	2.5	*	*	Total Hexa-Furans	248	249	*	*	
											Total Hepta-Furans	102	102	*	*	
2,3,7,8-TCDF	2.78e+06	0.80 y	1.07	26:13	1.001	9.3791	*	2.5	*	*						
1,2,3,7,8-PeCDF	1.40e+07	1.59 y	1.07	30:20	1.000	51.276	*	2.5	*	*						
2,3,4,7,8-PeCDF	1.38e+07	1.59 y	1.03	31:14	1.000	50.741	*	2.5	*	*						
1,2,3,4,7,8-HxCDF	1.34e+07	1.29 y	1.38	33:56	1.000	50.629	*	2.5	*	*						
1,2,3,6,7,8-HxCDF	1.40e+07	1.29 y	1.26	34:04	1.001	50.176	*	2.5	*	*						
2,3,4,6,7,8-HxCDF	1.29e+07	1.31 y	1.29	34:40	1.001	49.592	*	2.5	*	*						
1,2,3,7,8,9-HxCDF	1.01e+07	1.27 y	1.19	35:39	1.000	49.090	*	2.5	*	*						
1,2,3,4,6,7,8-HpCDF	1.16e+07	1.08 y	1.61	37:30	1.000	49.399	*	2.5	*	*						
1,2,3,4,7,8,9-HpCDF	1.04e+07	1.07 y	1.53	39:16	1.000	50.426	*	2.5	*	*						
OCDF	1.88e+07	0.91 y	1.10	42:16	1.000	100.89	*	2.5	*	*						
											Rec	Qual				
IS	13C-2,3,7,8-TCDD	1.87e+07	0.79 y	1.06	26:58	1.021	98.865				98.9					
IS	13C-1,2,3,7,8-PeCDD	1.90e+07	0.63 y	1.18	31:29	1.192	90.040				90.0					
IS	13C-1,2,3,4,7,8-HxCDD	1.44e+07	1.25 y	0.72	34:49	1.014	96.577				96.6					
IS	13C-1,2,3,6,7,8-HxCDD	1.50e+07	1.25 y	0.74	34:56	1.017	98.426				98.4					
IS	13C-1,2,3,7,8,9-HxCDD	1.72e+07	1.23 y	0.85	35:14	1.026	97.305				97.3					
IS	13C-1,2,3,4,6,7,8-HpCDD	1.30e+07	1.07 y	0.65	38:42	1.127	95.724				95.7					
IS	13C-OCDD	2.89e+07	0.89 y	0.76	42:02	1.224	182.02				91.0					
IS	13C-2,3,7,8-TCDF	2.77e+07	0.74 y	0.92	26:12	0.992	101.61				102					
IS	13C-1,2,3,7,8-PeCDF	2.54e+07	1.55 y	0.92	30:19	1.148	92.843				92.8					
IS	13C-2,3,4,7,8-PeCDF	2.63e+07	1.61 y	0.93	31:13	1.182	95.246				95.2					
IS	13C-1,2,3,4,7,8-HxCDF	1.92e+07	0.51 y	0.98	33:55	0.988	94.089				94.1					
IS	13C-1,2,3,6,7,8-HxCDF	2.23e+07	0.50 y	1.08	34:03	0.991	99.047				99.0					
IS	13C-2,3,4,6,7,8-HxCDF	2.02e+07	0.52 y	1.03	34:39	1.009	94.921				94.9					
IS	13C-1,2,3,7,8,9-HxCDF	1.73e+07	0.51 y	0.86	35:38	1.037	97.069				97.1					
IS	13C-1,2,3,4,6,7,8-HpCDF	1.46e+07	0.43 y	0.72	37:29	1.091	97.247				97.2					
IS	13C-1,2,3,4,7,8,9-HpCDF	1.35e+07	0.45 y	0.70	39:15	1.143	93.423				93.4					
IS	13C-OCDF	3.39e+07	0.92 y	0.85	42:15	1.230	192.38				96.2					
C/Up	37C1-2,3,7,8-TCDD	2.18e+06		1.12	26:59	1.022	10.884				2180					
											Integrations					
											by					
RS/RT	13C-1,2,3,4-TCDD	1.79e+07	0.80 y	1.00	26:24	*	100.00				Analyst: <u>ms</u>					
RS	13C-1,2,3,4-TCDF	2.97e+07	0.78 y	1.00	24:58	*	100.00				Analyst: <u>CT</u>					
RS/RT	13C-1,2,3,4,6,9-HxCDF	2.08e+07	0.51 y	1.00	34:21	*	100.00				Date: <u>1/9/15</u>					
											Date: <u>1/12/15</u>					

Vista Analytical Laboratory - Injection Log Run file: 141016D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
141016D1	1	ST141016D1-1	MAS	16-OCT-14	11:05:57	ST141016D1-1	NA
141016D1	2	SOLVENT BLANK	MAS	16-OCT-14	11:54:17	ST141016D1-1	NA
141016D1	3	ST141016D1-2	MAS	16-OCT-14	12:42:43	ST141016D1-1	NA
141016D1	4	ST141016D1-3	MAS	16-OCT-14	13:31:08	ST141016D1-1	NA
141016D1	5	ST141016D1-4	MAS	16-OCT-14	14:19:34	ST141016D1-1	NA
141016D1	6	ST141016D1-5	MAS	16-OCT-14	15:08:00	ST141016D1-1	NA
141016D1	8	SOLVENT BLANK	MAS	16-OCT-14	16:44:52	ST141016D1-1	NA
141016D1	9	SS141016D1-1	MAS	16-OCT-14	17:33:17	ST141016D1-1	NA
150107D1	1	ST150107D1-1	MAS	7-JAN-15	10:43:31	ST141016D1-1	NA

Data filename: 150114E1

Name	Mean RRF	%RSD	Samp# 4	Samp# 5	Samp# 6	Samp# 7	Samp# 8	Samp# 2
			1.0	2.5	50	400	1000	0.25 *
			RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
PCB-1	1.33	4.52 %	1.38	1.32	1.23	1.32	1.34	1.40
PCB-2	1.30	5.65 %	1.42	1.31	1.26	1.21	1.33	1.25
PCB-3	1.30	4.28 %	1.38	1.33	1.26	1.23	1.31	1.27
PCB-4/10	1.67	10.28 %	1.75	1.67	1.56	1.54	1.54	1.98
PCB-7/9	1.25	8.26 %	1.30	1.26	1.18	1.16	1.18	1.43
PCB-6	1.24	9.18 %	1.34	1.24	1.18	1.14	1.13	1.41
PCB-5/8	1.27	10.47 %	1.34	1.25	1.17	1.17	1.17	1.50
PCB-14	1.47	7.78 %	1.58	1.45	1.41	1.37	1.36	1.64
PCB-11	1.28	10.60 %	1.39	1.25	1.21	1.17	1.17	1.51
PCB-12/13	1.27	7.89 %	1.33	1.25	1.20	1.18	1.20	1.44
PCB-15	1.44	10.40 %	1.50	1.41	1.36	1.32	1.35	1.72
PCB-19	1.18	7.51 %	1.25	1.20	1.13	1.11	1.10	1.32
PCB-30	1.87	8.54 %	2.03	1.85	1.80	1.72	1.75	2.11
PCB-18	0.89	9.45 %	0.98	0.90	0.85	0.82	0.78	0.98
PCB-17	0.95	10.12 %	1.03	0.97	0.92	0.86	0.86	1.10
PCB-24/27	1.30	9.45 %	1.34	1.31	1.23	1.21	1.18	1.52
PCB-16/32	1.05	11.15 %	1.10	1.04	0.98	0.95	0.95	1.25
PCB-34	1.30	11.06 %	1.30	1.41	1.19	1.16	1.21	1.53
PCB-23	1.21	8.15 %	1.26	1.14	1.16	1.22	1.10	1.37
PCB-29	1.21	10.43 %	1.29	1.31	1.06	1.14	1.10	1.36
PCB-26	1.24	7.44 %	1.31	1.30	1.11	1.14	1.24	1.32
PCB-25	1.10	6.57 %	1.21	1.09	1.00	1.13	1.10	1.04
PCB-31	1.25	8.92 %	1.30	1.32	1.13	1.26	1.10	1.38
PCB-28	1.24	9.99 %	1.34	1.30	1.07	1.20	1.13	1.38
PCB-20/21/33	1.16	9.64 %	1.21	1.23	1.05	1.19	0.98	1.26
PCB-22	1.16	10.72 %	1.23	1.17	1.09	1.13	0.99	1.36
PCB-36	1.30	9.13 %	1.25	1.36	1.40	1.10	1.27	1.42
PCB-39	1.26	10.29 %	1.36	1.38	1.28	1.07	1.13	1.35
PCB-38	1.24	2.89 %	1.26	1.22	1.31	1.22	1.24	1.22
PCB-35	1.26	5.42 %	1.19	1.19	1.28	1.23	1.31	1.35
PCB-37	1.35	8.86 %	1.43	1.33	1.28	1.27	1.23	1.55
PCB-54	1.02	10.31 %	1.04	1.07	0.95	0.94	0.94	1.21
PCB-50	0.78	8.21 %	0.84	0.78	0.73	0.75	0.70	0.87
PCB-53	1.14	10.76 %	1.14	1.15	1.09	1.09	0.99	1.36
PCB-51	1.16	7.07 %	1.26	1.16	1.11	1.15	1.04	1.25
PCB-45	1.04	10.54 %	1.02	1.04	1.01	0.92	1.00	1.25
PCB-46	0.95	12.05 %	0.99	0.98	0.87	0.85	0.86	1.15
PCB-52/69	1.29	11.02 %	1.38	1.38	1.20	1.15	1.15	1.49
PCB-73	1.41	11.96 %	1.52	1.25	1.42	1.40	1.22	1.67
PCB-43/49	1.14	10.50 %	1.14	1.11	1.06	1.10	1.05	1.37
PCB-47	1.20	15.31 %	1.29	1.11	1.09	1.04	1.13	1.53

Dms 1/20/15
 * = CSD Rejected due
 to PCB 153 contamination.
 & M 1/20/15

PCB-48/75	1.33	10.00 %	1.39	1.32	1.20	1.24	1.23	1.56
PCB-65	1.32	14.66 %	1.41	1.33	1.13	1.22	1.15	1.64
PCB-62	1.36	13.10 %	1.46	1.27	1.28	1.15	1.31	1.66
PCB-44	0.87	16.44 %	0.91	0.87	0.80	0.76	0.75	1.13
PCB-42/59	1.24	17.44 %	1.33	1.27	1.05	1.09	1.07	1.61
PCB-41/64/71/72	1.34	13.28 %	1.39	1.35	1.14	1.28	1.21	1.65
PCB-68	1.61	19.92 %	1.69	1.57	1.30	1.45	1.43	2.21
PCB-40	0.86	17.24 %	0.93	0.84	0.71	0.78	0.77	1.11
PCB-57	1.12	17.03 %	1.23	1.12	1.03	1.00	0.90	1.44
PCB-67	1.09	14.59 %	1.18	1.11	1.00	0.99	0.91	1.35
PCB-58	1.14	12.88 %	1.24	1.09	1.12	1.00	1.00	1.37

PCB-63	1.16	14.60 %	1.26	1.16	1.10	1.05	0.96	1.44
PCB-74	1.21	14.89 %	1.31	1.20	1.08	1.12	1.04	1.52
PCB-61/70	1.13	14.67 %	1.22	1.08	1.04	0.97	1.01	1.42
PCB-76/66	1.18	16.88 %	1.25	1.12	1.06	1.06	1.03	1.55
PCB-80	1.32	13.55 %	1.40	1.32	1.20	1.18	1.20	1.65
PCB-55	1.23	13.61 %	1.29	1.19	1.13	1.08	1.15	1.54
PCB-56/60	1.11	15.55 %	1.17	1.12	0.98	1.03	0.93	1.40
PCB-79	1.16	11.65 %	1.23	1.21	1.03	1.01	1.11	1.37
PCB-78	1.18	15.63 %	1.24	1.16	1.03	1.11	1.01	1.51
PCB-81	1.29	14.36 %	1.31	1.29	1.17	1.15	1.17	1.64
PCB-77	1.29	15.01 %	1.32	1.31	1.18	1.14	1.14	1.65
PCB-104	1.26	11.04 %	1.36	1.24	1.16	1.16	1.17	1.50
PCB-96	1.09	9.21 %	1.16	1.09	0.96	1.08	1.02	1.25
PCB-103	0.97	9.45 %	1.10	0.96	0.86	0.94	0.89	1.05
PCB-100	0.96	7.05 %	1.03	0.99	0.87	0.92	0.92	1.04
PCB-94	1.13	8.09 %	1.21	1.14	1.06	1.08	1.03	1.26
PCB-95/98/102	1.29	10.92 %	1.37	1.31	1.16	1.22	1.16	1.52
PCB-93	1.06	13.28 %	1.14	1.05	1.13	0.82	1.01	1.23
PCB-88/91	1.12	10.49 %	1.27	1.11	1.12	1.00	0.99	1.26
PCB-121	1.76	11.27 %	1.84	1.74	1.57	1.55	1.79	2.09
PCB-84/92	1.07	8.45 %	1.11	1.12	1.04	1.01	0.95	1.20
PCB-89	1.00	10.58 %	1.05	1.04	0.95	0.91	0.87	1.15
PCB-90/101	1.21	11.77 %	1.28	1.22	1.13	1.09	1.07	1.45
PCB-113	1.34	9.13 %	1.37	1.42	1.39	1.24	1.15	1.48
PCB-99	1.25	17.56 %	1.42	1.22	1.03	1.05	1.17	1.59
PCB-119	1.88	8.86 %	2.00	1.89	1.77	1.76	1.72	2.15
PCB-108/112	1.41	6.60 %	1.50	1.45	1.33	1.37	1.29	1.51
PCB-83	1.66	6.92 %	1.76	1.70	1.58	1.64	1.49	1.80
PCB-97	1.30	10.69 %	1.38	1.32	1.20	1.20	1.17	1.53
PCB-86	1.03	17.33 %	1.08	0.93	0.99	0.90	0.93	1.38
PCB-87/117/125	1.59	6.14 %	1.67	1.60	1.52	1.53	1.50	1.74
PCB-111/115	1.86	9.78 %	1.89	1.86	1.77	1.72	1.71	2.20
PCB-85/116	1.39	12.01 %	1.44	1.31	1.33	1.23	1.34	1.71
PCB-120	1.99	10.45 %	2.06	2.00	1.83	1.83	1.84	2.36
PCB-110	1.70	12.10 %	1.82	1.69	1.62	1.50	1.54	2.05
PCB-82	0.74	11.63 %	0.78	0.74	0.73	0.68	0.64	0.89
PCB-124	1.30	5.43 %	1.41	1.29	1.29	1.20	1.28	1.36
PCB-107/109	1.34	11.92 %	1.40	1.33	1.21	1.22	1.24	1.62
PCB-123	1.25	9.48 %	1.24	1.29	1.21	1.15	1.15	1.47
PCB-106/118	1.29	12.71 %	1.36	1.30	1.20	1.15	1.16	1.58
PCB-114	1.45	9.74 %	1.52	1.46	1.36	1.32	1.36	1.70
PCB-122	1.22	8.66 %	1.24	1.30	1.12	1.17	1.11	1.38
PCB-105	1.56	9.15 %	1.62	1.62	1.47	1.44	1.41	1.79
PCB-127	1.31	10.47 %	1.40	1.30	1.24	1.19	1.18	1.53
PCB-126	1.41	6.08 %	1.42	1.46	1.39	1.32	1.33	1.55
PCB-155	1.20	7.21 %	1.27	1.21	1.12	1.14	1.12	1.33
PCB-150	1.13	8.78 %	1.15	1.07	1.02	1.12	1.10	1.31
PCB-152	1.17	14.36 %	1.21	1.11	1.03	1.09	1.08	1.49
PCB-145	1.09	6.93 %	1.10	1.09	1.00	1.07	1.08	1.23
PCB-136	1.14	7.24 %	1.16	1.12	1.09	1.08	1.11	1.30

PCB-148	0.82	8.69 %	0.87	0.81	0.71	0.79	0.80	0.92
PCB-154	0.89	11.57 %	0.89	0.89	0.80	0.84	0.84	1.09
PCB-151	0.82	6.55 %	0.85	0.80	0.75	0.79	0.80	0.91
PCB-135	0.80	7.09 %	0.78	0.80	0.72	0.78	0.81	0.89
PCB-144	0.86	9.26 %	0.87	0.77	0.78	0.85	0.87	0.99
PCB-147	0.78	10.69 %	0.80	0.72	0.68	0.75	0.81	0.92
PCB-139/149	0.87	8.00 %	0.87	0.85	0.77	0.86	0.88	0.99
PCB-140	0.78	8.58 %	0.80	0.76	0.70	0.76	0.76	0.90
PCB-134/143	0.93	8.74 %	0.93	0.94	0.85	0.90	0.88	1.08
PCB-133/142	0.91	6.06 %	0.95	0.89	0.85	0.89	0.88	1.00
PCB-131	0.85	6.74 %	0.94	0.85	0.79	0.81	0.80	0.89

PCB-146/165	1.08	4.94 %	1.13	1.08	1.01	1.05	1.06	1.15
PCB-132/161	1.12	8.35 %	1.19	1.12	1.04	1.03	1.07	1.26
PCB-153	1.20	18.86 %	1.31	1.19	1.04	1.03	1.02	1.60
PCB-168	1.36	6.98 %	1.37	1.39	1.27	1.28	1.31	1.52
PCB-141	1.16	10.89 %	1.25	1.16	1.05	1.06	1.06	1.36
PCB-137	1.18	10.18 %	1.27	1.16	1.07	1.09	1.10	1.38
PCB-130	0.92	9.18 %	0.95	0.80	0.89	0.90	0.92	1.06
PCB-138/163/164	1.38	11.94 %	1.43	1.35	1.27	1.28	1.26	1.69
PCB-158/160	1.48	12.88 %	1.51	1.44	1.37	1.35	1.34	1.84
PCB-129	0.99	13.56 %	1.06	0.96	0.88	0.94	0.87	1.23
PCB-166	1.14	10.59 %	1.18	1.10	1.06	1.06	1.08	1.37
PCB-159	1.22	9.93 %	1.21	1.22	1.17	1.13	1.15	1.46
PCB-128/162	1.03	8.90 %	1.07	1.05	0.97	0.97	0.96	1.20
PCB-167	1.18	10.96 %	1.23	1.18	1.10	1.09	1.09	1.42
PCB-156	1.27	7.87 %	1.31	1.30	1.19	1.19	1.19	1.44
PCB-157	1.22	9.73 %	1.29	1.24	1.13	1.12	1.13	1.41
PCB-169	1.07	6.63 %	1.08	1.10	1.02	1.02	1.03	1.20
PCB-188	1.52	12.80 %	1.60	1.46	1.43	1.38	1.38	1.88
PCB-184	1.34	8.74 %	1.42	1.37	1.27	1.23	1.22	1.51
PCB-179	1.39	10.02 %	1.47	1.41	1.33	1.27	1.25	1.62
PCB-176	1.45	9.52 %	1.52	1.46	1.40	1.34	1.32	1.69
PCB-186	1.46	10.56 %	1.52	1.44	1.37	1.33	1.34	1.73
PCB-178	1.07	12.94 %	1.18	1.07	1.00	0.96	0.94	1.30
PCB-175	1.05	10.07 %	1.12	1.03	1.01	0.94	0.97	1.22
PCB-182/187	1.14	9.45 %	1.21	1.15	1.06	1.05	1.03	1.31
PCB-183	1.22	10.61 %	1.33	1.26	1.16	1.10	1.08	1.40
PCB-185	1.40	10.38 %	1.43	1.40	1.34	1.32	1.27	1.68
PCB-174	1.29	7.93 %	1.34	1.26	1.25	1.19	1.22	1.47
PCB-181	1.35	6.04 %	1.34	1.43	1.30	1.31	1.25	1.46
PCB-177	1.27	12.30 %	1.27	1.32	1.16	1.17	1.13	1.55
PCB-171	1.46	8.76 %	1.52	1.43	1.34	1.38	1.38	1.68
PCB-173	1.10	5.77 %	1.13	1.10	1.08	1.04	1.06	1.22
PCB-172	1.35	12.56 %	1.35	1.24	1.27	1.30	1.27	1.69
PCB-192	1.74	9.92 %	1.83	1.64	1.61	1.67	1.63	2.05
PCB-180	1.45	14.04 %	1.57	1.42	1.32	1.30	1.29	1.80
PCB-193	1.85	10.11 %	1.97	1.77	1.72	1.74	1.72	2.18
PCB-191	1.86	7.62 %	1.97	1.81	1.76	1.76	1.77	2.10
PCB-170	1.67	11.07 %	1.73	1.65	1.56	1.52	1.55	2.01
PCB-190	2.25	7.94 %	2.26	2.12	2.17	2.15	2.18	2.60
PCB-189	1.67	7.88 %	1.76	1.69	1.58	1.56	1.55	1.88
PCB-202	1.02	8.62 %	1.09	0.99	0.96	0.95	0.96	1.16
PCB-201	1.10	8.30 %	1.14	1.10	1.01	1.06	1.02	1.25
PCB-204	1.07	12.15 %	1.08	1.02	0.96	1.06	1.00	1.33
PCB-197	1.17	8.84 %	1.18	1.12	1.08	1.14	1.11	1.37
PCB-200	1.03	10.36 %	1.06	1.01	0.97	0.97	0.96	1.24
PCB-198	0.75	8.91 %	0.73	0.69	0.73	0.73	0.75	0.88
PCB-199	0.74	10.59 %	0.80	0.68	0.68	0.71	0.71	0.87
PCB-196/203	0.83	11.76 %	0.84	0.74	0.75	0.82	0.81	1.01
PCB-195	1.14	9.26 %	1.10	1.04	1.07	1.14	1.16	1.34
PCB-194	1.29	13.97 %	1.37	1.30	1.16	1.15	1.14	1.61

PCB-205	1.61	8.14 %	1.58	1.56	1.55	1.56	1.53	1.88
PCB-208	1.01	10.69 %	1.10	1.03	0.94	0.92	0.91	1.18
PCB-207	1.03	10.99 %	1.07	1.00	0.96	0.95	0.95	1.24
PCB-206	0.88	12.49 %	0.89	0.91	0.82	0.79	0.79	1.08
PCB-209	1.35	13.71 %	1.42	1.31	1.21	1.22	1.23	1.69
Total Mono-PCB	1.31	4.13 %	1.39	1.32	1.25	1.25	1.33	1.30
Total Di-PCB	1.32	9.07 %	1.39	1.31	1.25	1.22	1.23	1.52
Total Tri-PCB	1.20	9.46 %	1.28	1.21	1.14	1.11	1.10	1.39

Total Tri-PCB	1.23	6.59	%	1.28	1.27	1.16	1.18	1.13	1.34
Total Tetra-PCB	1.17	12.41	%	1.23	1.16	1.06	1.08	1.04	1.42
Total Penta-PCB	1.24	9.06	%	1.32	1.25	1.15	1.16	1.14	1.42
Total Hexa-PCB	0.94	8.69	%	1.44	1.43	1.31	1.29	1.28	1.59
Total Hepta-PCB	1.13	9.33	%	0.96	0.92	0.85	0.91	0.93	1.09
Total Octa-PCB	1.13	9.33	%	1.17	1.12	1.05	1.06	1.06	1.32
Total Nona-PCB	1.37	9.78	%	1.44	1.36	1.29	1.27	1.26	1.61
Total Deca-PCB	0.95	9.73	%	0.98	0.90	0.88	0.92	0.90	1.12
Total Tri-PCB	1.35	9.69	%	1.35	1.30	1.27	1.28	1.28	1.61
Total Tetra-PCB	0.99	10.97	%	1.04	0.99	0.92	0.90	0.90	1.18
Total Penta-PCB	1.35	13.71	%	1.42	1.31	1.21	1.22	1.23	1.69
13C-PCB-1	0.91	8.84	%	0.97	0.98	0.98	0.87	0.78	0.87
13C-PCB-3	0.94	7.32	%	0.95	0.94	0.95	0.99	0.81	1.01
13C-PCB-4	0.60	4.10	%	0.61	0.61	0.62	0.61	0.57	0.57
13C-PCB-9	0.96	2.48	%	0.97	0.98	0.98	0.97	0.92	0.95
13C-PCB-11	0.95	1.55	%	0.95	0.97	0.96	0.96	0.93	0.95
13C-PCB-19	0.56	2.90	%	0.57	0.58	0.56	0.57	0.54	0.54
13C-PCB-32	0.83	2.16	%	0.84	0.83	0.82	0.85	0.81	0.80
13C-PCB-28	1.07	9.16	%	1.09	1.00	1.21	0.96	1.15	1.00
13C-PCB-37	0.96	6.55	%	1.03	0.89	1.00	0.88	1.02	0.96
13C-PCB-54	1.06	5.00	%	1.00	1.08	1.15	1.03	1.08	1.03
13C-PCB-52	0.71	4.14	%	0.71	0.73	0.76	0.68	0.69	0.70
13C-PCB-47	0.77	5.19	%	0.74	0.74	0.84	0.78	0.79	0.73
13C-PCB-70	0.99	4.52	%	0.99	0.95	0.99	0.99	1.08	0.96
13C-PCB-80	1.02	3.31	%	1.02	0.99	1.03	1.00	1.08	1.02
13C-PCB-81	1.00	4.12	%	0.96	0.96	1.02	0.97	1.07	1.00
13C-PCB-77	0.96	4.93	%	0.94	0.94	0.98	0.93	1.06	0.95
13C-PCB-104	0.97	5.43	%	0.97	0.98	1.05	0.95	0.89	0.96
13C-PCB-95	0.70	2.72	%	0.71	0.71	0.72	0.71	0.67	0.68
13C-PCB-101	0.77	2.41	%	0.77	0.80	0.76	0.75	0.75	0.76
13C-PCB-97	0.66	1.72	%	0.66	0.67	0.66	0.65	0.64	0.66
13C-PCB-123	0.88	1.37	%	0.87	0.90	0.87	0.88	0.87	0.88
13C-PCB-118	0.94	2.58	%	0.90	0.95	0.93	0.97	0.95	0.91
13C-PCB-114	1.26	2.59	%	1.25	1.24	1.25	1.23	1.25	1.32
13C-PCB-105	1.20	4.66	%	1.21	1.20	1.19	1.11	1.21	1.29
13C-PCB-127	1.26	4.39	%	1.23	1.25	1.22	1.19	1.30	1.34
13C-PCB-126	1.13	5.54	%	1.12	1.07	1.06	1.16	1.12	1.23
13C-PCB-155	0.87	5.64	%	0.88	0.92	0.93	0.84	0.81	0.84
13C-PCB-153	1.27	2.20	%	1.26	1.27	1.29	1.23	1.27	1.31
13C-PCB-141	1.09	1.88	%	1.09	1.12	1.11	1.06	1.08	1.10
13C-PCB-138	1.12	2.25	%	1.09	1.11	1.11	1.10	1.16	1.14
13C-PCB-159	1.37	1.53	%	1.35	1.36	1.35	1.37	1.41	1.38
13C-PCB-167	1.38	2.42	%	1.37	1.39	1.41	1.33	1.37	1.42
13C-PCB-156	1.35	2.75	%	1.30	1.34	1.33	1.35	1.41	1.37
13C-PCB-157	1.42	3.06	%	1.39	1.35	1.41	1.42	1.48	1.45
13C-PCB-169	1.38	3.38	%	1.35	1.36	1.37	1.34	1.41	1.46
13C-PCB-188	1.01	2.32	%	0.99	1.00	1.01	1.03	1.05	1.01
13C-PCB-180	0.76	2.20	%	0.73	0.75	0.76	0.75	0.78	0.77
13C-PCB-170	0.60	2.12	%	0.60	0.59	0.59	0.61	0.62	0.62
13C-PCB-189	0.80	3.20	%	0.78	0.78	0.78	0.80	0.83	0.84
13C-PCB-202	0.99	1.63	%	0.96	0.98	1.00	0.98	1.00	1.00

13C-PCB-194	0.75	3.67 %	0.78	0.77	0.75	0.72	0.72	0.73
13C-PCB-208	1.08	5.55 %	1.08	1.09	1.11	1.12	1.13	0.97
13C-PCB-206	0.73	4.68 %	0.75	0.76	0.73	0.75	0.74	0.67
13C-PCB-209	0.71	4.81 %	0.71	0.69	0.75	0.72	0.74	0.66
13C-PCB-15	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-31	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-60	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-111	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-128	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-PCB-205	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00

13C-PCB-79	1.02	5.92 %	1.04	1.02	0.99	0.97	1.13	0.97
13C-PCB-178	0.64	1.49 %	0.64	0.63	0.63	0.64	0.63	0.65
13C-PCB-79	1.02	4.88 %	1.08	1.07	0.97	0.99	1.06	0.97
13C-PCB-178	0.84	2.93 %	0.88	0.85	0.83	0.85	0.80	0.84

Filename: 150114E1 S: 4 Acquired: 14-JAN-15 15:50:46
 Run: 150114e1 Analyte: ICal: pcbvg8-1-14-15 Results: 150114e1
 Sample text: ST150114E1-3 PCB CS1 14L2903

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	1.00	2.35e+06	3.11 y	16:11	-	1.38
2	Mono	PCB-2	1.00	2.36e+06	3.10 y	18:34	-	1.42
3	Mono	PCB-3	1.00	2.30e+06	3.03 y	18:48	-	1.38
4	Di	PCB-4/10	2.00	3.70e+06	1.55 y	20:10	-	1.75
5	Di	PCB-7/9	2.00	4.37e+06	1.61 y	21:57	-	1.30
6	Di	PCB-6	1.00	2.25e+06	1.47 y	22:36	-	1.34
7	Di	PCB-5/8	2.00	4.52e+06	1.59 y	23:01	-	1.34
8	Di	PCB-14	1.00	2.63e+06	1.54 y	24:06	-	1.58
9	Di	PCB-11	1.00	2.31e+06	1.75 y	25:18	-	1.39
10	Di	PCB-12/13	2.00	4.44e+06	1.62 y	25:42	-	1.33
11	Di	PCB-15	1.00	2.50e+06	1.76 y	26:00	-	1.50
12	Tri	PCB-19	1.00	1.25e+06	1.01 y	24:18	-	1.25
13	Tri	PCB-30	1.00	2.02e+06	1.05 y	25:11	-	2.03
14	Tri	PCB-18	1.00	1.43e+06	1.13 y	25:56	-	0.98
15	Tri	PCB-17	1.00	1.51e+06	1.06 y	26:06	-	1.03
16	Tri	PCB-24/27	2.00	3.91e+06	1.01 y	26:41	-	1.34
17	Tri	PCB-16/32	2.00	3.23e+06	1.10 y	27:11	-	1.10
18	Tri	PCB-34	1.00	1.63e+06	0.97 y	27:59	-	1.30
19	Tri	PCB-23	1.00	1.58e+06	0.97 y	28:05	-	1.26
20	Tri	PCB-29	1.00	1.62e+06	0.88 y	28:20	-	1.29
21	Tri	PCB-26	1.00	1.64e+06	1.03 y	28:32	-	1.31
22	Tri	PCB-25	1.00	1.52e+06	0.98 y	28:43	-	1.21
23	Tri	PCB-31	1.00	1.63e+06	1.07 y	29:03	-	1.30
24	Tri	PCB-28	1.00	1.68e+06	1.05 y	29:10	-	1.34
25	Tri	PCB-20/21/33	3.00	4.56e+06	1.03 y	29:46	-	1.21
26	Tri	PCB-22	1.00	1.54e+06	1.02 y	30:12	-	1.23
27	Tri	PCB-36	1.00	1.47e+06	1.12 y	30:50	-	1.25
28	Tri	PCB-39	1.00	1.60e+06	1.04 y	31:18	-	1.36
29	Tri	PCB-38	1.00	1.49e+06	1.01 y	32:05	-	1.26
30	Tri	PCB-35	1.00	1.40e+06	1.06 y	32:36	-	1.19
31	Tri	PCB-37	1.00	1.68e+06	1.09 y	33:02	-	1.43
32	Tetra	PCB-54	1.00	1.33e+06	0.82 y	28:03	-	1.04
33	Tetra	PCB-50	1.00	1.07e+06	0.70 y	29:12	-	0.84
34	Tetra	PCB-53	1.00	1.03e+06	0.70 y	29:51	-	1.14
35	Tetra	PCB-51	1.00	1.14e+06	0.66 y	30:11	-	1.26
36	Tetra	PCB-45	1.00	9.30e-05	0.74 y	30:37	-	1.02
37	Tetra	PCB-46	1.00	9.02e-05	0.68 y	31:07	-	0.99
38	Tetra	PCB-52/69	2.00	2.51e+06	0.71 y	31:35	-	1.38
39	Tetra	PCB-73	1.00	1.38e+06	0.76 y	31:42	-	1.52
40	Tetra	PCB-43/49	2.00	2.07e+06	0.78 y	31:52	-	1.14

41	Tetra	PCB-47	1.00	1.22e+06	0.78 y	32:05	-	1.29
42	Tetra	PCB-48/75	2.00	2.65e+06	0.70 y	32:12	-	1.39
43	Tetra	PCB-65	1.00	1.34e+06	0.70 y	32:28	-	1.41
44	Tetra	PCB-62	1.00	1.39e+06	0.79 y	32:33	-	1.46
45	Tetra	PCB-44	1.00	8.60e+05	0.85 y	32:53	-	0.91
46	Tetra	PCB-42/59	2.00	2.53e+06	0.74 y	33:06	-	1.33
47	Tetra	PCB-41/64/71/72	4.00	5.28e+06	0.74 y	33:40	-	1.39
48	Tetra	PCB-68	1.00	1.60e+06	0.69 y	33:56	-	1.69
49	Tetra	PCB-40	1.00	8.85e+05	0.77 y	34:09	-	0.93
50	Tetra	PCB-57	1.00	1.55e+06	0.69 y	34:31	-	1.23
51	Tetra	PCB-67	1.00	1.49e+06	0.76 y	34:50	-	1.18

52	Tetra	PCB-58	1.00	1.57e+06	0.74 y	34:56	-	1.24
53	Tetra	PCB-63	1.00	1.60e+06	0.74 y	35:06	-	1.26
54	Tetra	PCB-74	1.00	1.66e+06	0.79 y	35:23	-	1.31
55	Tetra	PCB-61/70	2.00	3.08e+06	0.69 y	35:33	-	1.22
56	Tetra	PCB-76/66	2.00	3.16e+06	0.76 y	35:46	-	1.25
57	Tetra	PCB-80	1.00	1.83e+06	0.80 y	36:00	-	1.40
58	Tetra	PCB-55	1.00	1.69e+06	0.72 y	36:19	-	1.29
59	Tetra	PCB-56/60	2.00	3.05e+06	0.71 y	36:49	-	1.17
60	Tetra	PCB-79	1.00	1.60e+06	0.78 y	37:53	-	1.23
61	Tetra	PCB-78	1.00	1.54e+06	0.78 y	38:35	-	1.24
62	Tetra	PCB-81	1.00	1.62e+06	0.72 y	39:06	-	1.31
63	Tetra	PCB-77	1.00	1.58e+06	0.76 y	39:42	-	1.32
64	Penta	PCB-104	1.00	1.21e+06	1.62 y	32:44	-	1.36
65	Penta	PCB-96	1.00	1.03e+06	1.56 y	34:00	-	1.16
66	Penta	PCB-103	1.00	9.77e+05	1.45 y	34:31	-	1.10
67	Penta	PCB-100	1.00	9.21e+05	1.70 y	34:53	-	1.03
68	Penta	PCB-94	1.00	7.88e+05	1.43 y	35:21	-	1.21
69	Penta	PCB-95/98/102	3.00	2.67e+06	1.60 y	35:51	-	1.37
70	Penta	PCB-93	1.00	7.41e+05	1.72 y	35:59	-	1.14
71	Penta	PCB-88/91	2.00	1.65e+06	1.45 y	36:16	-	1.27
72	Penta	PCB-121	1.00	1.20e+06	1.67 y	36:23	-	1.84
73	Penta	PCB-84/92	2.00	1.58e+06	1.55 y	37:12	-	1.11
74	Penta	PCB-89	1.00	7.49e+05	1.60 y	37:23	-	1.05
75	Penta	PCB-90/101	2.00	1.82e+06	1.49 y	37:33	-	1.28
76	Penta	PCB-113	1.00	9.71e+05	1.64 y	37:48	-	1.37
77	Penta	PCB-99	1.00	1.01e+06	1.55 y	37:54	-	1.42
78	Penta	PCB-119	1.00	1.22e+06	1.57 y	38:22	-	2.00
79	Penta	PCB-108/112	2.00	1.82e+06	1.55 y	38:31	-	1.50
80	Penta	PCB-83	1.00	1.07e+06	1.64 y	38:40	-	1.76
81	Penta	PCB-97	1.00	8.40e+05	1.56 y	38:53	-	1.38
82	Penta	PCB-86	1.00	6.57e+05	1.43 y	39:01	-	1.08
83	Penta	PCB-87/117/125	3.00	3.05e+06	1.55 y	39:09	-	1.67
84	Penta	PCB-111/115	2.00	2.31e+06	1.56 y	39:18	-	1.89
85	Penta	PCB-85/116	2.00	1.75e+06	1.73 y	39:26	-	1.44
86	Penta	PCB-120	1.00	1.26e+06	1.71 y	39:41	-	2.06
87	Penta	PCB-110	1.00	1.11e+06	1.71 y	39:49	-	1.82
88	Penta	PCB-82	1.00	6.26e+05	1.67 y	40:26	-	0.78
89	Penta	PCB-124	1.00	1.13e+06	1.44 y	41:07	-	1.41
90	Penta	PCB-107/109	2.00	2.24e+06	1.54 y	41:16	-	1.40
91	Penta	PCB-123	1.00	1.00e+06	1.62 y	41:26	-	1.24
92	Penta	PCB-106/118	2.00	2.26e+06	1.67 y	41:38	-	1.36
93	Penta	PCB-114	1.00	1.30e+06	1.74 y	42:16	-	1.52
94	Penta	PCB-122	1.00	1.06e+06	1.71 y	42:23	-	1.24
95	Penta	PCB-105	1.00	1.35e+06	1.66 y	43:07	-	1.62
96	Penta	PCB-127	1.00	1.18e+06	1.71 y	43:28	-	1.40
97	Penta	PCB-126	1.00	1.09e+06	1.69 y	45:21	-	1.42
98	Hexa	PCB-155	1.00	1.03e+06	1.24 y	37:07	-	1.27
99	Hexa	PCB-150	1.00	9.30e+05	1.32 y	38:22	-	1.15
100	Hexa	PCB-152	1.00	9.81e+05	1.24 y	38:52	-	1.21
101	Hexa	PCB-145	1.00	8.92e+05	1.38 y	39:18	-	1.10

102	Hexa	PCB-136	1.00	9.41e+05	1.33 y	39:37	-	1.16
103	Hexa	PCB-148	1.00	7.03e+05	1.35 y	39:43	-	0.87
104	Hexa	PCB-154	1.00	7.18e+05	1.19 y	40:14	-	0.89
105	Hexa	PCB-151	1.00	6.88e+05	1.33 y	40:51	-	0.85
106	Hexa	PCB-135	1.00	6.28e+05	1.20 y	41:05	-	0.78
107	Hexa	PCB-144	1.00	7.04e+05	1.27 y	41:10	-	0.87
108	Hexa	PCB-147	1.00	6.51e+05	1.41 y	41:18	-	0.80
109	Hexa	PCB-139/149	2.00	1.40e+06	1.21 y	41:34	-	0.87
110	Hexa	PCB-140	1.00	6.48e+05	1.30 y	41:46	-	0.80
111	Hexa	PCB-134/143	2.00	1.60e+06	1.14 y	42:12	-	0.93
112	Hexa	PCB-133/142	2.00	1.64e+06	1.33 y	42:29	-	0.95

113	Hexa	PCB-131	1.00	8.08e+05	1.26	y	42:38	-	0.94
114	Hexa	PCB-146/165	2.00	1.96e+06	1.28	y	42:52	-	1.13
115	Hexa	PCB-132/161	2.00	2.06e+06	1.27	y	43:07	-	1.19
116	Hexa	PCB-153	1.00	1.13e+06	1.23	y	43:18	-	1.31
117	Hexa	PCB-168	1.00	1.18e+06	1.09	y	43:30	-	1.37
118	Hexa	PCB-141	1.00	9.29e+05	1.17	y	44:02	-	1.25
119	Hexa	PCB-137	1.00	9.45e+05	1.20	y	44:25	-	1.27
120	Hexa	PCB-130	1.00	7.07e+05	1.13	y	44:31	-	0.95
121	Hexa	PCB-138/163/164	3.00	3.22e+06	1.21	y	44:54	-	1.43
122	Hexa	PCB-158/160	2.00	2.26e+06	1.24	y	45:08	-	1.51
123	Hexa	PCB-129	1.00	7.93e+05	1.31	y	45:23	-	1.06
124	Hexa	PCB-166	1.00	1.09e+06	1.28	y	45:49	-	1.18
125	Hexa	PCB-159	1.00	1.13e+06	1.11	y	46:09	-	1.21
126	Hexa	PCB-128/162	2.00	1.98e+06	1.23	y	46:26	-	1.07
127	Hexa	PCB-167	1.00	1.15e+06	1.12	y	46:50	-	1.23
128	Hexa	PCB-156	1.00	1.17e+06	1.37	y	48:07	-	1.31
129	Hexa	PCB-157	1.00	1.24e+06	1.29	y	48:23	-	1.29
130	Hexa	PCB-169	1.00	1.00e+06	1.13	y	50:32	-	1.08
131	Hepta	PCB-188	1.00	1.09e+06	1.07	y	42:56	-	1.60
132	Hepta	PCB-184	1.00	9.60e+05	1.07	y	43:22	-	1.42
133	Hepta	PCB-179	1.00	9.94e+05	0.98	y	44:09	-	1.47
134	Hepta	PCB-176	1.00	1.03e+06	1.02	y	44:37	-	1.52
135	Hepta	PCB-186	1.00	1.03e+06	1.08	y	45:13	-	1.52
136	Hepta	PCB-178	1.00	7.97e+05	0.98	y	45:43	-	1.18
137	Hepta	PCB-175	1.00	7.60e+05	1.10	y	46:04	-	1.12
138	Hepta	PCB-182/187	2.00	1.64e+06	0.98	y	46:14	-	1.21
139	Hepta	PCB-183	1.00	9.02e+05	1.10	y	46:33	-	1.33
140	Hepta	PCB-185	1.00	7.20e+05	1.10	y	47:12	-	1.43
141	Hepta	PCB-174	1.00	6.73e+05	0.92	y	47:34	-	1.34
142	Hepta	PCB-181	1.00	6.72e+05	0.96	y	47:41	-	1.34
143	Hepta	PCB-177	1.00	6.37e+05	1.01	y	47:51	-	1.27
144	Hepta	PCB-171	1.00	7.64e+05	1.06	y	48:08	-	1.52
145	Hepta	PCB-173	1.00	5.68e+05	0.94	y	48:34	-	1.13
146	Hepta	PCB-172	1.00	6.81e+05	1.09	y	49:01	-	1.35
147	Hepta	PCB-192	1.00	9.21e+05	1.03	y	49:13	-	1.83
148	Hepta	PCB-180	1.00	7.89e+05	0.96	y	49:25	-	1.57
149	Hepta	PCB-193	1.00	9.90e+05	0.98	y	49:37	-	1.97
150	Hepta	PCB-191	1.00	9.89e+05	0.99	y	49:53	-	1.97
151	Hepta	PCB-170	1.00	7.14e+05	0.92	y	50:56	-	1.73
152	Hepta	PCB-190	1.00	9.30e+05	1.10	y	51:06	-	2.26
153	Hepta	PCB-189	1.00	9.45e+05	1.11	y	52:27	-	1.76
154	Octa	PCB-202	1.00	7.24e+05	0.77	y	48:21	-	1.09
155	Octa	PCB-201	1.00	7.55e+05	0.84	y	48:50	-	1.14
156	Octa	PCB-204	1.00	7.15e+05	0.96	y	48:59	-	1.08
157	Octa	PCB-197	1.00	7.78e+05	0.82	y	49:16	-	1.18
158	Octa	PCB-200	1.00	7.01e+05	0.87	y	50:10	-	1.06
159	Octa	PCB-198	1.00	4.84e+05	0.84	y	51:31	-	0.73
160	Octa	PCB-199	1.00	5.29e+05	0.89	y	51:38	-	0.80
161	Octa	PCB-196/203	2.00	1.12e+06	0.95	y	51:55	-	0.84
162	Octa	PCB-195	1.00	5.76e+05	0.88	y	53:05	-	1.10

163	Octa	PCB-194	1.00	7.18e+05	0.90 y	53:57	-	1.37
164	Octa	PCB-205	1.00	8.28e+05	0.91 y	54:14	-	1.58
165	Nona	PCB-208	1.00	7.99e+05	1.27 y	53:14	-	1.10
166	Nona	PCB-207	1.00	7.76e+05	1.14 y	53:33	-	1.07
167	Nona	PCB-206	1.00	4.50e+05	1.29 y	55:35	-	0.89
168	Deca	PCB-209	1.00	6.79e+05	1.05 y	56:57	-	1.42
169	Tot η	Total Mono-PCB	0.00	-	- n	-	-	1.39
170	Tot η	Total Di-PCB	0.00	-	- n	-	-	1.39

171	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.28
172	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.28
173	Tot η	Total Tetra-PCB	0.00	-	- n	-	-	1.23
174	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.32
175	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.44
176	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	0.96
177	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	1.17
178	Tot η	Total Hepta-PCB	0.00	-	- n	-	-	1.44
179	Tot η	Total Octa-PCB	0.00	-	- n	-	-	0.98
180	Tot η	Total Octa-PCB	0.00	-	- n	-	-	1.35
181	Tot η	Total Nona-PCB	0.00	-	- n	-	-	1.04
182	Tot η	Total Deca-PCB	1.00	6.79e+05	1.05 y	56:57	-	1.42
183	Monoη	13C-PCB-1	100.00	1.70e+08	3.57 y	16:10	-	0.97
184	Monoη	13C-PCB-3	100.00	1.67e+08	3.59 y	18:47	-	0.95
185	Di-IS	13C-PCB-4	100.00	1.06e+08	1.60 y	20:07	-	0.61
186	Di-IS	13C-PCB-9	100.00	1.69e+08	1.58 y	21:55	-	0.97
187	Di-IS	13C-PCB-11	100.00	1.67e+08	1.56 y	25:17	-	0.95
188	Tri-η	13C-PCB-19	100.00	9.99e+07	1.10 y	24:16	-	0.57
189	Tri-η	13C-PCB-32	100.00	1.46e+08	1.10 y	27:11	-	0.84
190	Tri-η	13C-PCB-28	100.00	1.25e+08	1.03 y	29:09	-	1.09
191	Tri-η	13C-PCB-37	100.00	1.18e+08	1.04 y	33:01	-	1.03
192	Tetrη	13C-PCB-54	100.00	1.28e+08	0.77 y	28:02	-	1.00
193	Tetrη	13C-PCB-52	100.00	9.09e+07	0.78 y	31:33	-	0.71
194	Tetrη	13C-PCB-47	100.00	9.50e+07	0.76 y	32:04	-	0.74
195	Tetrη	13C-PCB-70	100.00	1.26e+08	0.78 y	35:35	-	0.99
196	Tetrη	13C-PCB-80	100.00	1.30e+08	0.79 y	36:00	-	1.02
197	Tetrη	13C-PCB-81	100.00	1.24e+08	0.77 y	39:05	-	0.96
198	Tetrη	13C-PCB-77	100.00	1.20e+08	0.79 y	39:41	-	0.94
199	Pentη	13C-PCB-104	100.00	8.90e+07	1.62 y	32:43	-	0.97
200	Pentη	13C-PCB-95	100.00	6.51e+07	1.60 y	35:52	-	0.71
201	Pentη	13C-PCB-101	100.00	7.10e+07	1.68 y	37:33	-	0.77
202	Pentη	13C-PCB-97	100.00	6.10e+07	1.61 y	38:52	-	0.66
203	Pentη	13C-PCB-123	100.00	8.03e+07	1.65 y	41:25	-	0.87
204	Pentη	13C-PCB-118	100.00	8.33e+07	1.62 y	41:36	-	0.90
205	Pentη	13C-PCB-114	100.00	8.57e+07	1.57 y	42:15	-	1.25
206	Pentη	13C-PCB-105	100.00	8.29e+07	1.58 y	43:07	-	1.21
207	Pentη	13C-PCB-127	100.00	8.47e+07	1.60 y	43:27	-	1.23
208	Pentη	13C-PCB-126	100.00	7.66e+07	1.55 y	45:21	-	1.12
209	Hexaη	13C-PCB-155	100.00	8.10e+07	1.26 y	37:06	-	0.88
210	Hexaη	13C-PCB-153	100.00	8.63e+07	1.26 y	43:16	-	1.26
211	Hexaη	13C-PCB-141	100.00	7.46e+07	1.29 y	44:00	-	1.09
212	Hexa	13C-PCB-138	100.00	7.51e+07	1.24 y	44:51	-	1.09
213	Hexaη	13C-PCB-159	100.00	9.27e+07	1.26 y	46:08	-	1.35
214	Hexaη	13C-PCB-167	100.00	9.41e+07	1.25 y	46:49	-	1.37
215	Hexaη	13C-PCB-156	100.00	8.95e+07	1.29 y	48:07	-	1.30
216	Hexaη	13C-PCB-157	100.00	9.57e+07	1.30 y	48:23	-	1.39
217	Hexaη	13C-PCB-169	100.00	9.25e+07	1.28 y	50:32	-	1.35
218	Heptη	13C-PCB-188	100.00	6.78e+07	0.45 y	42:54	-	0.99
219	Heptη	13C-PCB-180	100.00	5.03e+07	0.47 y	49:24	-	0.73
220	Heptη	13C-PCB-170	100.00	4.12e+07	0.45 y	50:54	-	0.60
221	Heptη	13C-PCB-189	100.00	5.36e+07	0.47 y	52:26	-	0.78

222	Octaη	13C-PCB-202	100.00	6.61e+07	0.92 y	48:19	-	0.96
223	Octaη	13C-PCB-194	100.00	5.23e+07	0.90 y	53:56	-	0.78
224	Nonaη	13C-PCB-208	100.00	7.26e+07	0.77 y	53:13	-	1.08
225	Nonaη	13C-PCB-206	100.00	5.04e+07	0.78 y	55:34	-	0.75
226	Decaη	13C-PCB-209	100.00	4.78e+07	1.19 y	56:56	-	0.71
227	DI-RS	13C-PCB-15	100.00	1.75e+08	1.56 y	26:00	-	1.00
228	Tri-η	13C-PCB-31	100.00	1.15e+08	1.03 y	29:02	-	1.00
229	Tetrη	13C-PCB-60	100.00	1.28e+08	0.78 y	36:49	-	1.00
230	Penta	13C-PCB-111	100.00	9.21e+07	1.63 y	39:17	-	1.00
231	Hexaη	13C-PCB-128	100.00	6.87e+07	1.27 y	46:25	-	1.00

232	Octaη	13C-PCB-205	100.00	6.70e+07	0.88 y	54:13	-	1.00
233	CRS	13C-PCB-79	100.00	1.34e+08	0.79 y	37:52	-	1.04
234	CRS	13C-PCB-178	100.00	4.42e+07	0.46 y	45:42	-	0.64
235	PS	13C-PCB-79	100.00	1.34e+08	0.79 y	37:52	-	1.08
236	PS	13C-PCB-178	100.00	4.42e+07	0.46 y	45:42	-	0.88

Filename: 150114E1 S: 5 Acquired: 14-JAN-15 16:55:24
 Run: 150114e1 Analyte: ICal: pcbvg8-1-14-15 Results: 150114e1
 Sample text: ST150114E1-4 PCB CS2 14L2904

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	2.50	5.57e+06	3.10 y	16:11	-	1.32
2	Mono	PCB-2	2.50	5.30e+06	3.00 y	18:33	-	1.31
3	Mono	PCB-3	2.50	5.37e+06	3.04 y	18:48	-	1.33
4	Di	PCB-4/10	5.00	8.76e+06	1.64 y	20:10	-	1.67
5	Di	PCB-7/9	5.00	1.06e+07	1.75 y	21:57	-	1.26
6	Di	PCB-6	2.50	5.18e+06	1.70 y	22:36	-	1.24
7	Di	PCB-5/8	5.00	1.05e+07	1.64 y	23:01	-	1.25
8	Di	PCB-14	2.50	6.03e+06	1.67 y	24:06	-	1.45
9	Di	PCB-11	2.50	5.22e+06	1.71 y	25:18	-	1.25
10	Di	PCB-12/13	5.00	1.04e+07	1.62 y	25:41	-	1.25
11	Di	PCB-15	2.50	5.86e+06	1.59 y	26:00	-	1.41
12	Tri	PCB-19	2.50	3.00e+06	1.04 y	24:17	-	1.20
13	Tri	PCB-30	2.50	4.60e+06	1.06 y	25:11	-	1.85
14	Tri	PCB-18	2.50	3.22e+06	1.05 y	25:56	-	0.90
15	Tri	PCB-17	2.50	3.45e+06	1.03 y	26:06	-	0.97
16	Tri	PCB-24/27	5.00	9.33e+06	1.06 y	26:41	-	1.31
17	Tri	PCB-16/32	5.00	7.45e+06	1.05 y	27:11	-	1.04
18	Tri	PCB-34	2.50	4.16e+06	1.01 y	27:59	-	1.41
19	Tri	PCB-23	2.50	3.35e+06	1.05 y	28:05	-	1.14
20	Tri	PCB-29	2.50	3.86e+06	1.02 y	28:20	-	1.31
21	Tri	PCB-26	2.50	3.84e+06	1.08 y	28:32	-	1.30
22	Tri	PCB-25	2.50	3.22e+06	1.07 y	28:41	-	1.09
23	Tri	PCB-31	2.50	3.90e+06	1.02 y	29:03	-	1.32
24	Tri	PCB-28	2.50	3.83e+06	1.03 y	29:09	-	1.30
25	Tri	PCB-20/21/33	7.50	1.09e+07	1.03 y	29:46	-	1.23
26	Tri	PCB-22	2.50	3.46e+06	1.06 y	30:12	-	1.17
27	Tri	PCB-36	2.50	3.56e+06	1.01 y	30:50	-	1.36
28	Tri	PCB-39	2.50	3.61e+06	1.03 y	31:17	-	1.38
29	Tri	PCB-38	2.50	3.19e+06	1.11 y	32:04	-	1.22
30	Tri	PCB-35	2.50	3.11e+06	1.13 y	32:36	-	1.19
31	Tri	PCB-37	2.50	3.49e+06	1.03 y	33:02	-	1.33
32	Tetra	PCB-54	2.50	3.51e+06	0.73 y	28:02	-	1.07
33	Tetra	PCB-50	2.50	2.59e+06	0.74 y	29:12	-	0.78
34	Tetra	PCB-53	2.50	2.54e+06	0.71 y	29:51	-	1.15
35	Tetra	PCB-51	2.50	2.57e+06	0.77 y	30:11	-	1.16
36	Tetra	PCB-45	2.50	2.31e+06	0.78 y	30:37	-	1.04
37	Tetra	PCB-46	2.50	2.17e+06	0.77 y	31:07	-	0.98
38	Tetra	PCB-52/69	5.00	6.13e+06	0.74 y	31:35	-	1.38
39	Tetra	PCB-73	2.50	2.77e+06	0.78 y	31:42	-	1.25
40	Tetra	PCB-43/49	5.00	4.93e+06	0.75 y	31:52	-	1.11
41	Tetra	PCB-47	2.50	2.50e+06	0.77 y	32:04	-	1.11

42	Tetra	PCB-48/75	5.00	5.98e+06	0.73 y	32:11	-	1.32
43	Tetra	PCB-65	2.50	3.01e+06	0.69 y	32:28	-	1.33
44	Tetra	PCB-62	2.50	2.87e+06	0.75 y	32:34	-	1.27
45	Tetra	PCB-44	2.50	1.97e+06	0.67 y	32:52	-	0.87
46	Tetra	PCB-42/59	5.00	5.75e+06	0.74 y	33:06	-	1.27
47	Tetra	PCB-41/64/71/72	10.00	1.22e+07	0.74 y	33:41	-	1.35
48	Tetra	PCB-68	2.50	3.54e+06	0.72 y	33:56	-	1.57
49	Tetra	PCB-40	2.50	1.90e+06	0.77 y	34:09	-	0.84
50	Tetra	PCB-57	2.50	3.26e+06	0.80 y	34:31	-	1.12
51	Tetra	PCB-67	2.50	3.25e+06	0.70 y	34:49	-	1.11
52	Tetra	PCB-58	2.50	3.17e+06	0.72 y	34:56	-	1.09

53	Tetra	PCB-63	2.50	3.38e+06	0.69 y	35:06	-	1.16
54	Tetra	PCB-74	2.50	3.48e+06	0.73 y	35:23	-	1.20
55	Tetra	PCB-61/70	5.00	6.32e+06	0.68 y	35:33	-	1.08
56	Tetra	PCB-76/66	5.00	6.53e+06	0.75 y	35:46	-	1.12
57	Tetra	PCB-80	2.50	3.97e+06	0.74 y	36:00	-	1.32
58	Tetra	PCB-55	2.50	3.60e+06	0.75 y	36:19	-	1.19
59	Tetra	PCB-56/60	5.00	6.76e+06	0.76 y	36:49	-	1.12
60	Tetra	PCB-79	2.50	3.65e+06	0.72 y	37:53	-	1.21
61	Tetra	PCB-78	2.50	3.42e+06	0.74 y	38:35	-	1.16
62	Tetra	PCB-81	2.50	3.78e+06	0.73 y	39:06	-	1.29
63	Tetra	PCB-77	2.50	3.77e+06	0.76 y	39:42	-	1.31
64	Penta	PCB-104	2.50	2.66e+06	1.51 y	32:44	-	1.24
65	Penta	PCB-96	2.50	2.34e+06	1.66 y	33:59	-	1.09
66	Penta	PCB-103	2.50	2.06e+06	1.55 y	34:31	-	0.96
67	Penta	PCB-100	2.50	2.12e+06	1.63 y	34:53	-	0.99
68	Penta	PCB-94	2.50	1.77e+06	1.57 y	35:20	-	1.14
69	Penta	PCB-95/98/102	7.50	6.08e+06	1.61 y	35:50	-	1.31
70	Penta	PCB-93	2.50	1.62e+06	1.42 y	35:58	-	1.05
71	Penta	PCB-88/91	5.00	3.44e+06	1.55 y	36:15	-	1.11
72	Penta	PCB-121	2.50	2.69e+06	1.55 y	36:22	-	1.74
73	Penta	PCB-84/92	5.00	3.93e+06	1.62 y	37:12	-	1.12
74	Penta	PCB-89	2.50	1.84e+06	1.52 y	37:22	-	1.04
75	Penta	PCB-90/101	5.00	4.29e+06	1.56 y	37:33	-	1.22
76	Penta	PCB-113	2.50	2.50e+06	1.56 y	37:48	-	1.42
77	Penta	PCB-99	2.50	2.14e+06	1.54 y	37:54	-	1.22
78	Penta	PCB-119	2.50	2.79e+06	1.62 y	38:21	-	1.89
79	Penta	PCB-108/112	5.00	4.27e+06	1.62 y	38:30	-	1.45
80	Penta	PCB-83	2.50	2.51e+06	1.64 y	38:40	-	1.70
81	Penta	PCB-97	2.50	1.95e+06	1.50 y	38:52	-	1.32
82	Penta	PCB-86	2.50	1.37e+06	1.47 y	39:01	-	0.93
83	Penta	PCB-87/117/125	7.50	7.08e+06	1.62 y	39:08	-	1.60
84	Penta	PCB-111/115	5.00	5.48e+06	1.46 y	39:18	-	1.86
85	Penta	PCB-85/116	5.00	3.87e+06	1.60 y	39:26	-	1.31
86	Penta	PCB-120	2.50	2.96e+06	1.50 y	39:39	-	2.00
87	Penta	PCB-110	2.50	2.50e+06	1.58 y	39:48	-	1.69
88	Penta	PCB-82	2.50	1.46e+06	1.65 y	40:26	-	0.74
89	Penta	PCB-124	2.50	2.56e+06	1.52 y	41:06	-	1.29
90	Penta	PCB-107/109	5.00	5.26e+06	1.53 y	41:15	-	1.33
91	Penta	PCB-123	2.50	2.55e+06	1.55 y	41:25	-	1.29
92	Penta	PCB-106/118	5.00	5.39e+06	1.55 y	41:38	-	1.30
93	Penta	PCB-114	2.50	3.07e+06	1.72 y	42:15	-	1.46
94	Penta	PCB-122	2.50	2.74e+06	1.68 y	42:23	-	1.30
95	Penta	PCB-105	2.50	3.30e+06	1.60 y	43:07	-	1.62
96	Penta	PCB-127	2.50	2.77e+06	1.59 y	43:27	-	1.30
97	Penta	PCB-126	2.50	2.66e+06	1.59 y	45:21	-	1.46
98	Hexa	PCB-155	2.50	2.45e+06	1.27 y	37:07	-	1.21
99	Hexa	PCB-150	2.50	2.17e+06	1.23 y	38:22	-	1.07
100	Hexa	PCB-152	2.50	2.24e+06	1.23 y	38:51	-	1.11
101	Hexa	PCB-145	2.50	2.20e+06	1.31 y	39:18	-	1.09
102	Hexa	PCB-136	2.50	2.25e+06	1.25 y	39:36	-	1.12

103	Hexa	PCB-148	2.50	1.64e+06	1.30 y	39:43	-	0.81
104	Hexa	PCB-154	2.50	1.79e+06	1.26 y	40:12	-	0.89
105	Hexa	PCB-151	2.50	1.62e+06	1.28 y	40:51	-	0.80
106	Hexa	PCB-135	2.50	1.62e+06	1.09 y	41:03	-	0.80
107	Hexa	PCB-144	2.50	1.56e+06	1.28 y	41:10	-	0.77
108	Hexa	PCB-147	2.50	1.45e+06	1.24 y	41:18	-	0.72
109	Hexa	PCB-139/149	5.00	3.45e+06	1.23 y	41:34	-	0.85
110	Hexa	PCB-140	2.50	1.53e+06	1.14 y	41:46	-	0.76
111	Hexa	PCB-134/143	5.00	4.05e+06	1.23 y	42:12	-	0.94
112	Hexa	PCB-133/142	5.00	3.84e+06	1.20 y	42:29	-	0.89
113	Hexa	PCB-131	2.50	1.83e+06	1.25 y	42:38	-	0.85

114	Hexa	PCB-146/165	5.00	4.66e+06	1.26 y	42:52	-	1.08
115	Hexa	PCB-132/161	5.00	4.84e+06	1.19 y	43:07	-	1.12
116	Hexa	PCB-153	2.50	2.56e+06	1.27 y	43:17	-	1.19
117	Hexa	PCB-168	2.50	3.00e+06	1.22 y	43:29	-	1.39
118	Hexa	PCB-141	2.50	2.20e+06	1.20 y	44:00	-	1.16
119	Hexa	PCB-137	2.50	2.20e+06	1.31 y	44:24	-	1.16
120	Hexa	PCB-130	2.50	1.53e+06	1.23 y	44:31	-	0.80
121	Hexa	PCB-138/163/164	7.50	7.63e+06	1.22 y	44:52	-	1.35
122	Hexa	PCB-158/160	5.00	5.45e+06	1.20 y	45:08	-	1.44
123	Hexa	PCB-129	2.50	1.82e+06	1.23 y	45:21	-	0.96
124	Hexa	PCB-166	2.50	2.53e+06	1.20 y	45:49	-	1.10
125	Hexa	PCB-159	2.50	2.81e+06	1.30 y	46:09	-	1.22
126	Hexa	PCB-128/162	5.00	4.82e+06	1.23 y	46:26	-	1.05
127	Hexa	PCB-167	2.50	2.78e+06	1.23 y	46:49	-	1.18
128	Hexa	PCB-156	2.50	2.96e+06	1.27 y	48:07	-	1.30
129	Hexa	PCB-157	2.50	2.84e+06	1.24 y	48:23	-	1.24
130	Hexa	PCB-169	2.50	2.53e+06	1.17 y	50:32	-	1.10
131	Hepta	PCB-188	2.50	2.47e+06	1.00 y	42:55	-	1.46
132	Hepta	PCB-184	2.50	2.33e+06	1.04 y	43:22	-	1.37
133	Hepta	PCB-179	2.50	2.38e+06	1.02 y	44:09	-	1.41
134	Hepta	PCB-176	2.50	2.48e+06	0.98 y	44:36	-	1.46
135	Hepta	PCB-186	2.50	2.44e+06	1.11 y	45:13	-	1.44
136	Hepta	PCB-178	2.50	1.82e+06	1.06 y	45:42	-	1.07
137	Hepta	PCB-175	2.50	1.74e+06	1.03 y	46:03	-	1.03
138	Hepta	PCB-182/187	5.00	3.90e+06	1.11 y	46:13	-	1.15
139	Hepta	PCB-183	2.50	2.14e+06	1.05 y	46:33	-	1.26
140	Hepta	PCB-185	2.50	1.77e+06	1.02 y	47:12	-	1.40
141	Hepta	PCB-174	2.50	1.60e+06	1.07 y	47:34	-	1.26
142	Hepta	PCB-181	2.50	1.81e+06	1.12 y	47:40	-	1.43
143	Hepta	PCB-177	2.50	1.67e+06	1.13 y	47:50	-	1.32
144	Hepta	PCB-171	2.50	1.81e+06	1.05 y	48:08	-	1.43
145	Hepta	PCB-173	2.50	1.39e+06	0.93 y	48:33	-	1.10
146	Hepta	PCB-172	2.50	1.57e+06	1.02 y	49:00	-	1.24
147	Hepta	PCB-192	2.50	2.08e+06	0.99 y	49:12	-	1.64
148	Hepta	PCB-180	2.50	1.80e+06	1.01 y	49:24	-	1.42
149	Hepta	PCB-193	2.50	2.24e+06	1.07 y	49:37	-	1.77
150	Hepta	PCB-191	2.50	2.29e+06	1.00 y	49:52	-	1.81
151	Hepta	PCB-170	2.50	1.64e+06	1.01 y	50:56	-	1.65
152	Hepta	PCB-190	2.50	2.11e+06	1.07 y	51:06	-	2.12
153	Hepta	PCB-189	2.50	2.24e+06	1.04 y	52:27	-	1.69
154	Octa	PCB-202	2.50	1.65e+06	0.92 y	48:20	-	0.99
155	Octa	PCB-201	2.50	1.83e+06	0.88 y	48:49	-	1.10
156	Octa	PCB-204	2.50	1.71e+06	0.88 y	48:59	-	1.02
157	Octa	PCB-197	2.50	1.87e+06	0.88 y	49:17	-	1.12
158	Octa	PCB-200	2.50	1.68e+06	0.82 y	50:10	-	1.01
159	Octa	PCB-198	2.50	1.15e+06	0.85 y	51:31	-	0.69
160	Octa	PCB-199	2.50	1.14e+06	0.89 y	51:38	-	0.68
161	Octa	PCB-196/203	5.00	2.48e+06	0.93 y	51:55	-	0.74
162	Octa	PCB-195	2.50	1.33e+06	0.94 y	53:05	-	1.04
163	Octa	PCB-194	2.50	1.66e+06	0.88 y	53:57	-	1.30

164	Octa	PCB-205	2.50	1.99e+06	0.92 y	54:14	-	1.56
165	Nona	PCB-208	2.50	1.85e+06	1.33 y	53:14	-	1.03
166	Nona	PCB-207	2.50	1.79e+06	1.27 y	53:32	-	1.00
167	Nona	PCB-206	2.50	1.13e+06	1.21 y	55:34	-	0.91
168	Deca	PCB-209	2.50	1.48e+06	1.16 y	56:55	-	1.31
169	Tot η	Total Mono-PCB	0.00	-	- n	-	-	1.32
170	Tot η	Total Di-PCB	0.00	-	- n	-	-	1.31
171	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.21

172	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.27
173	Tot η	Total Tetra-PCB	0.00	-	- n	-	-	1.16
174	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.25
175	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.43
176	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	0.92
177	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	1.12
178	Tot η	Total Hepta-PCB	0.00	-	- n	-	-	1.36
179	Tot η	Total Octa-PCB	0.00	-	- n	-	-	0.90
180	Tot η	Total Octa-PCB	0.00	-	- n	-	-	1.30
181	Tot η	Total Nona-PCB	0.00	-	- n	-	-	0.99
182	Tot η	Total Deca-PCB	2.50	1.48e+06	1.16 y	56:55	-	1.31
183	Monoη	13C-PCB-1	100.00	1.69e+08	3.58 y	16:10	-	0.98
184	Monoη	13C-PCB-3	100.00	1.62e+08	3.60 y	18:46	-	0.94
185	Di-IS	13C-PCB-4	100.00	1.05e+08	1.60 y	20:07	-	0.61
186	Di-IS	13C-PCB-9	100.00	1.68e+08	1.58 y	21:54	-	0.98
187	Di-IS	13C-PCB-11	100.00	1.66e+08	1.56 y	25:17	-	0.97
188	Tri-η	13C-PCB-19	100.00	9.97e+07	1.10 y	24:16	-	0.58
189	Tri-η	13C-PCB-32	100.00	1.43e+08	1.10 y	27:11	-	0.83
190	Tri-η	13C-PCB-28	100.00	1.18e+08	1.06 y	29:08	-	1.00
191	Tri-η	13C-PCB-37	100.00	1.05e+08	1.05 y	33:01	-	0.89
192	Tetrη	13C-PCB-54	100.00	1.32e+08	0.77 y	28:01	-	1.08
193	Tetrη	13C-PCB-52	100.00	8.88e+07	0.77 y	31:33	-	0.73
194	Tetrη	13C-PCB-47	100.00	9.03e+07	0.76 y	32:03	-	0.74
195	Tetrη	13C-PCB-70	100.00	1.16e+08	0.77 y	35:34	-	0.95
196	Tetrη	13C-PCB-80	100.00	1.21e+08	0.78 y	35:59	-	0.99
197	Tetrη	13C-PCB-81	100.00	1.17e+08	0.79 y	39:05	-	0.96
198	Tetrη	13C-PCB-77	100.00	1.15e+08	0.78 y	39:41	-	0.94
199	Pentη	13C-PCB-104	100.00	8.57e+07	1.62 y	32:42	-	0.98
200	Pentη	13C-PCB-95	100.00	6.19e+07	1.62 y	35:52	-	0.71
201	Pentη	13C-PCB-101	100.00	7.03e+07	1.60 y	37:33	-	0.80
202	Pentη	13C-PCB-97	100.00	5.90e+07	1.61 y	38:51	-	0.67
203	Pentη	13C-PCB-123	100.00	7.92e+07	1.59 y	41:25	-	0.90
204	Pentη	13C-PCB-118	100.00	8.31e+07	1.61 y	41:35	-	0.95
205	Pentη	13C-PCB-114	100.00	8.41e+07	1.59 y	42:15	-	1.24
206	Pentη	13C-PCB-105	100.00	8.15e+07	1.57 y	43:06	-	1.20
207	Pentη	13C-PCB-127	100.00	8.51e+07	1.56 y	43:27	-	1.25
208	Pentη	13C-PCB-126	100.00	7.30e+07	1.52 y	45:20	-	1.07
209	Hexaη	13C-PCB-155	100.00	8.08e+07	1.29 y	37:06	-	0.92
210	Hexaη	13C-PCB-153	100.00	8.63e+07	1.25 y	43:16	-	1.27
211	Hexaη	13C-PCB-141	100.00	7.58e+07	1.27 y	44:00	-	1.12
212	Hexa	13C-PCB-138	100.00	7.56e+07	1.27 y	44:51	-	1.11
213	Hexaη	13C-PCB-159	100.00	9.21e+07	1.26 y	46:08	-	1.36
214	Hexaη	13C-PCB-167	100.00	9.42e+07	1.28 y	46:49	-	1.39
215	Hexaη	13C-PCB-156	100.00	9.08e+07	1.28 y	48:06	-	1.34
216	Hexaη	13C-PCB-157	100.00	9.19e+07	1.25 y	48:22	-	1.35
217	Hexaη	13C-PCB-169	100.00	9.21e+07	1.27 y	50:32	-	1.36
218	Heptη	13C-PCB-188	100.00	6.77e+07	0.45 y	42:54	-	1.00
219	Heptη	13C-PCB-180	100.00	5.07e+07	0.45 y	49:23	-	0.75
220	Heptη	13C-PCB-170	100.00	3.98e+07	0.46 y	50:54	-	0.59
221	Heptη	13C-PCB-189	100.00	5.32e+07	0.47 y	52:26	-	0.78
222	Octaη	13C-PCB-202	100.00	6.68e+07	0.92 y	48:19	-	0.98

223	Octaη	13C-PCB-194	100.00	5.10e+07	0.91 y	53:56	-	0.77
224	Nonaη	13C-PCB-208	100.00	7.15e+07	0.76 y	53:13	-	1.09
225	Nonaη	13C-PCB-206	100.00	4.98e+07	0.77 y	55:33	-	0.76
226	Decaη	13C-PCB-209	100.00	4.53e+07	1.18 y	56:54	-	0.69
227	DI-RS	13C-PCB-15	100.00	1.72e+08	1.58 y	25:59	-	1.00
228	Tri-η	13C-PCB-31	100.00	1.18e+08	1.05 y	29:02	-	1.00
229	Tetraη	13C-PCB-60	100.00	1.22e+08	0.78 y	36:48	-	1.00
230	Penta	13C-PCB-111	100.00	8.77e+07	1.62 y	39:17	-	1.00
231	Hexaη	13C-PCB-128	100.00	6.80e+07	1.29 y	46:24	-	1.00
232	Octaη	13C-PCB-205	100.00	6.58e+07	0.89 y	54:13	-	1.00

233	CRS	13C-PCB-79	100.00	1.25e+08	0.78 y	37:51	-	1.02
234	CRS	13C-PCB-178	100.00	4.29e+07	0.46 y	45:41	-	0.63
235	PS	13C-PCB-79	100.00	1.25e+08	0.78 y	37:51	-	1.07
236	PS	13C-PCB-178	100.00	4.29e+07	0.46 y	45:41	-	0.85

Filename: 150114E1 S: 6 Acquired: 14-JAN-15 18:00:03
 Run: 150114e1 Analyte: ICal: pcbvg8-1-14-15 Results: 150114e1
 Sample text: ST150114E1-5 PCB CS3 14L1801

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	50.00	8.07e+07	2.99 y	16:11	- 1.23
2	Mono	PCB-2	50.00	8.02e+07	2.99 y	18:33	- 1.26
3	Mono	PCB-3	50.00	8.03e+07	2.98 y	18:47	- 1.26
4	Di	PCB-4/10	100.00	1.30e+08	1.64 y	20:10	- 1.56
5	Di	PCB-7/9	100.00	1.56e+08	1.63 y	21:57	- 1.18
6	Di	PCB-6	50.00	7.76e+07	1.65 y	22:35	- 1.18
7	Di	PCB-5/8	100.00	1.55e+08	1.64 y	23:00	- 1.17
8	Di	PCB-14	50.00	9.12e+07	1.64 y	24:06	- 1.41
9	Di	PCB-11	50.00	7.80e+07	1.68 y	25:17	- 1.21
10	Di	PCB-12/13	100.00	1.55e+08	1.65 y	25:41	- 1.20
11	Di	PCB-15	50.00	8.75e+07	1.65 y	26:00	- 1.36
12	Tri	PCB-19	50.00	4.22e+07	1.06 y	24:17	- 1.13
13	Tri	PCB-30	50.00	6.72e+07	1.05 y	25:11	- 1.80
14	Tri	PCB-18	50.00	4.67e+07	1.06 y	25:55	- 0.85
15	Tri	PCB-17	50.00	5.08e+07	1.05 y	26:06	- 0.92
16	Tri	PCB-24/27	100.00	1.36e+08	1.06 y	26:40	- 1.23
17	Tri	PCB-16/32	100.00	1.08e+08	1.05 y	27:11	- 0.98
18	Tri	PCB-34	50.00	5.36e+07	1.01 y	27:58	- 1.19
19	Tri	PCB-23	50.00	5.23e+07	1.06 y	28:04	- 1.16
20	Tri	PCB-29	50.00	4.77e+07	1.01 y	28:19	- 1.06
21	Tri	PCB-26	50.00	5.01e+07	1.00 y	28:31	- 1.11
22	Tri	PCB-25	50.00	4.54e+07	1.01 y	28:41	- 1.00
23	Tri	PCB-31	50.00	5.13e+07	1.03 y	29:03	- 1.13
24	Tri	PCB-28	50.00	4.84e+07	1.04 y	29:09	- 1.07
25	Tri	PCB-20/21/33	150.00	1.42e+08	1.02 y	29:45	- 1.05
26	Tri	PCB-22	50.00	4.91e+07	1.03 y	30:12	- 1.09
27	Tri	PCB-36	50.00	5.22e+07	1.05 y	30:49	- 1.40
28	Tri	PCB-39	50.00	4.78e+07	1.05 y	31:17	- 1.28
29	Tri	PCB-38	50.00	4.87e+07	1.03 y	32:04	- 1.31
30	Tri	PCB-35	50.00	4.75e+07	1.03 y	32:34	- 1.28
31	Tri	PCB-37	50.00	4.79e+07	1.08 y	33:01	- 1.28
32	Tetra	PCB-54	50.00	4.77e+07	0.74 y	28:02	- 0.95
33	Tetra	PCB-50	50.00	3.65e+07	0.72 y	29:11	- 0.73
34	Tetra	PCB-53	50.00	3.64e+07	0.75 y	29:51	- 1.09
35	Tetra	PCB-51	50.00	3.70e+07	0.72 y	30:11	- 1.11
36	Tetra	PCB-45	50.00	3.37e+07	0.73 y	30:36	- 1.01
37	Tetra	PCB-46	50.00	2.89e+07	0.73 y	31:06	- 0.87
38	Tetra	PCB-52/69	100.00	8.00e+07	0.74 y	31:34	- 1.20
39	Tetra	PCB-73	50.00	4.72e+07	0.75 y	31:41	- 1.42
40	Tetra	PCB-43/49	100.00	7.08e-07	0.73 y	31:51	- 1.06
41	Tetra	PCB-47	50.00	3.98e+07	0.74 y	32:04	- 1.09

42	Tetra	PCB-48/75	100.00	8.76e+07	0.73 y	32:11	-	1.20
43	Tetra	PCB-65	50.00	4.12e+07	0.73 y	32:26	-	1.13
44	Tetra	PCB-62	50.00	4.67e+07	0.74 y	32:33	-	1.28
45	Tetra	PCB-44	50.00	2.93e+07	0.74 y	32:51	-	0.80
46	Tetra	PCB-42/59	100.00	7.65e+07	0.74 y	33:05	-	1.05
47	Tetra	PCB-41/64/71/72	200.00	1.66e+08	0.73 y	33:40	-	1.14
48	Tetra	PCB-68	50.00	4.75e+07	0.73 y	33:55	-	1.30
49	Tetra	PCB-40	50.00	2.57e+07	0.73 y	34:09	-	0.71
50	Tetra	PCB-57	50.00	4.47e+07	0.74 y	34:30	-	1.03
51	Tetra	PCB-67	50.00	4.34e+07	0.73 y	34:49	-	1.00
52	Tetra	PCB-58	50.00	4.85e+07	0.76 y	34:55	-	1.12

53	Tetra	PCB-63	50.00	4.77e+07	0.71 y	35:04	-	1.10
54	Tetra	PCB-74	50.00	4.68e+07	0.74 y	35:21	-	1.08
55	Tetra	PCB-61/70	100.00	9.06e+07	0.73 y	35:33	-	1.04
56	Tetra	PCB-76/66	100.00	9.21e+07	0.74 y	35:45	-	1.06
57	Tetra	PCB-80	50.00	5.39e+07	0.74 y	35:59	-	1.20
58	Tetra	PCB-55	50.00	5.08e+07	0.74 y	36:18	-	1.13
59	Tetra	PCB-56/60	100.00	8.80e+07	0.73 y	36:48	-	0.98
60	Tetra	PCB-79	50.00	4.65e+07	0.73 y	37:53	-	1.03
61	Tetra	PCB-78	50.00	4.56e+07	0.74 y	38:34	-	1.03
62	Tetra	PCB-81	50.00	5.20e+07	0.75 y	39:05	-	1.17
63	Tetra	PCB-77	50.00	5.01e+07	0.76 y	39:41	-	1.18
64	Penta	PCB-104	50.00	4.01e+07	1.59 y	32:44	-	1.16
65	Penta	PCB-96	50.00	3.32e+07	1.56 y	33:59	-	0.96
66	Penta	PCB-103	50.00	2.97e+07	1.54 y	34:31	-	0.86
67	Penta	PCB-100	50.00	3.02e+07	1.57 y	34:52	-	0.87
68	Penta	PCB-94	50.00	2.48e+07	1.56 y	35:20	-	1.06
69	Penta	PCB-95/98/102	150.00	8.16e+07	1.52 y	35:50	-	1.16
70	Penta	PCB-93	50.00	2.65e+07	1.68 y	35:58	-	1.13
71	Penta	PCB-88/91	100.00	5.25e+07	1.56 y	36:15	-	1.12
72	Penta	PCB-121	50.00	3.68e+07	1.57 y	36:22	-	1.57
73	Penta	PCB-84/92	100.00	5.15e+07	1.54 y	37:11	-	1.04
74	Penta	PCB-89	50.00	2.34e+07	1.53 y	37:22	-	0.95
75	Penta	PCB-90/101	100.00	5.59e+07	1.56 y	37:33	-	1.13
76	Penta	PCB-113	50.00	3.44e+07	1.55 y	37:48	-	1.39
77	Penta	PCB-99	50.00	2.56e+07	1.60 y	37:54	-	1.03
78	Penta	PCB-119	50.00	3.83e+07	1.56 y	38:21	-	1.77
79	Penta	PCB-108/112	100.00	5.74e+07	1.56 y	38:30	-	1.33
80	Penta	PCB-83	50.00	3.43e+07	1.57 y	38:40	-	1.58
81	Penta	PCB-97	50.00	2.60e+07	1.55 y	38:52	-	1.20
82	Penta	PCB-86	50.00	2.15e+07	1.46 y	39:00	-	0.99
83	Penta	PCB-87/117/125	150.00	9.85e+07	1.59 y	39:08	-	1.52
84	Penta	PCB-111/115	100.00	7.67e+07	1.56 y	39:17	-	1.77
85	Penta	PCB-85/116	100.00	5.77e+07	1.60 y	39:25	-	1.33
86	Penta	PCB-120	50.00	3.97e+07	1.53 y	39:39	-	1.83
87	Penta	PCB-110	50.00	3.50e+07	1.56 y	39:47	-	1.62
88	Penta	PCB-82	50.00	2.08e+07	1.56 y	40:25	-	0.73
89	Penta	PCB-124	50.00	3.69e+07	1.57 y	41:06	-	1.29
90	Penta	PCB-107/109	100.00	6.93e+07	1.58 y	41:15	-	1.21
91	Penta	PCB-123	50.00	3.47e+07	1.55 y	41:25	-	1.21
92	Penta	PCB-106/118	100.00	7.35e+07	1.54 y	41:38	-	1.20
93	Penta	PCB-114	50.00	4.27e+07	1.62 y	42:15	-	1.36
94	Penta	PCB-122	50.00	3.51e+07	1.63 y	42:23	-	1.12
95	Penta	PCB-105	50.00	4.36e+07	1.65 y	43:07	-	1.47
96	Penta	PCB-127	50.00	3.79e+07	1.69 y	43:27	-	1.24
97	Penta	PCB-126	50.00	3.67e+07	1.64 y	45:20	-	1.39
98	Hexa	PCB-155	50.00	3.43e+07	1.23 y	37:07	-	1.12
99	Hexa	PCB-150	50.00	3.11e+07	1.24 y	38:22	-	1.02
100	Hexa	PCB-152	50.00	3.16e+07	1.25 y	38:51	-	1.03
101	Hexa	PCB-145	50.00	3.04e+07	1.24 y	39:18	-	1.00
102	Hexa	PCB-136	50.00	3.31e+07	1.23 y	39:37	-	1.09

103	Hexa	PCB-148	50.00	2.18e+07	1.24 y	39:43	-	0.71
104	Hexa	PCB-154	50.00	2.45e+07	1.23 y	40:12	-	0.80
105	Hexa	PCB-151	50.00	2.30e+07	1.25 y	40:51	-	0.75
106	Hexa	PCB-135	50.00	2.19e+07	1.23 y	41:04	-	0.72
107	Hexa	PCB-144	50.00	2.39e+07	1.33 y	41:10	-	0.78
108	Hexa	PCB-147	50.00	2.07e+07	1.15 y	41:18	-	0.68
109	Hexa	PCB-139/149	100.00	4.69e+07	1.23 y	41:34	-	0.77
110	Hexa	PCB-140	50.00	2.12e+07	1.24 y	41:45	-	0.70
111	Hexa	PCB-134/143	100.00	5.52e+07	1.22 y	42:11	-	0.85
112	Hexa	PCB-133/142	100.00	5.46e+07	1.24 y	42:29	-	0.85
113	Hexa	PCB-131	50.00	2.55e+07	1.16 y	42:38	-	0.79

Filename: 150114E1 S: 6 Acquired: 14-JAN-15 18:00:03
 Run: 150114E1 Analyte: ICal: pcbvg8-1-14-15 Results: 150114e1
 Sample text: ST150114E1-5 PCB CS3 14L1801

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	50.00	8.07e+07	2.99 y	16:11	-	1.23
2	Mono	PCB-2	50.00	8.02e+07	2.99 y	18:33	-	1.26
3	Mono	PCB-3	50.00	8.03e+07	2.98 y	18:47	-	1.26
4	Di	PCB-4/10	100.00	1.30e+08	1.64 y	20:10	-	1.56
5	Di	PCB-7/9	100.00	1.56e+08	1.63 y	21:57	-	1.18
6	Di	PCB-6	50.00	7.76e+07	1.65 y	22:35	-	1.18
7	Di	PCB-5/8	100.00	1.55e+08	1.64 y	23:00	-	1.17
8	Di	PCB-14	50.00	9.12e+07	1.64 y	24:06	-	1.41
9	Di	PCB-11	50.00	7.80e+07	1.68 y	25:17	-	1.21
10	Di	PCB-12/13	100.00	1.55e+08	1.65 y	25:41	-	1.20
11	Di	PCB-15	50.00	8.75e+07	1.65 y	26:00	-	1.36
12	Tri	PCB-19	50.00	4.22e+07	1.06 y	24:17	-	1.13
13	Tri	PCB-30	50.00	6.72e+07	1.05 y	25:11	-	1.80
14	Tri	PCB-18	50.00	4.67e+07	1.06 y	25:55	-	0.85
15	Tri	PCB-17	50.00	5.08e+07	1.05 y	26:06	-	0.92
16	Tri	PCB-24/27	100.00	1.36e+08	1.06 y	26:40	-	1.23
17	Tri	PCB-16/32	100.00	1.08e+08	1.05 y	27:11	-	0.98
18	Tri	PCB-34	50.00	5.36e+07	1.01 y	27:58	-	1.19
19	Tri	PCB-23	50.00	5.23e+07	1.06 y	28:04	-	1.16
20	Tri	PCB-29	50.00	4.77e+07	1.01 y	28:19	-	1.06
21	Tri	PCB-26	50.00	5.01e+07	1.00 y	28:31	-	1.11
22	Tri	PCB-25	50.00	4.54e+07	1.01 y	28:41	-	1.00
23	Tri	PCB-31	50.00	5.13e+07	1.03 y	29:03	-	1.13
24	Tri	PCB-28	50.00	4.84e+07	1.04 y	29:09	-	1.07
25	Tri	PCB-20/21/33	150.00	1.42e+08	1.02 y	29:45	-	1.05
26	Tri	PCB-22	50.00	4.91e+07	1.03 y	30:12	-	1.09
27	Tri	PCB-36	50.00	5.22e+07	1.05 y	30:49	-	1.40
28	Tri	PCB-39	50.00	4.78e+07	1.05 y	31:17	-	1.28
29	Tri	PCB-38	50.00	4.87e+07	1.03 y	32:04	-	1.31
30	Tri	PCB-35	50.00	4.75e+07	1.03 y	32:34	-	1.28
31	Tri	PCB-37	50.00	4.79e+07	1.08 y	33:01	-	1.28
32	Tetra	PCB-54	50.00	4.77e+07	0.74 y	28:02	-	0.95
33	Tetra	PCB-50	50.00	3.65e+07	0.72 y	29:11	-	0.73
34	Tetra	PCB-53	50.00	3.64e+07	0.75 y	29:51	-	1.09
35	Tetra	PCB-51	50.00	3.70e+07	0.72 y	30:11	-	1.11
36	Tetra	PCB-45	50.00	3.37e+07	0.73 y	30:36	-	1.01
37	Tetra	PCB-46	50.00	2.89e+07	0.73 y	31:06	-	0.87
38	Tetra	PCB-52/69	100.00	8.00e+07	0.74 y	31:34	-	1.20
39	Tetra	PCB-73	50.00	4.72e+07	0.75 y	31:41	-	1.42
40	Tetra	PCB-43/49	100.00	7.08e-07	0.73 y	31:51	-	1.06

41	Tetra	PCB-47	50.00	3.98e+07	0.74 y	32:04	-	1.09
42	Tetra	PCB-48/75	100.00	8.76e+07	0.73 y	32:11	-	1.20
43	Tetra	PCB-65	50.00	4.12e+07	0.73 y	32:26	-	1.13
44	Tetra	PCB-62	50.00	4.67e+07	0.74 y	32:33	-	1.28
45	Tetra	PCB-44	50.00	2.93e+07	0.74 y	32:51	-	0.80
46	Tetra	PCB-42/59	100.00	7.65e+07	0.74 y	33:05	-	1.05
47	Tetra	PCB-41/64/71/72	200.00	1.66e+08	0.73 y	33:40	-	1.14
48	Tetra	PCB-68	50.00	4.75e+07	0.73 y	33:55	-	1.30
49	Tetra	PCB-40	50.00	2.57e+07	0.73 y	34:09	-	0.71
50	Tetra	PCB-57	50.00	4.47e+07	0.74 y	34:30	-	1.03
51	Tetra	PCB-67	50.00	4.34e+07	0.73 y	34:49	-	1.00

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52	Tetra	PCB-58	50.00	4.85e+07	0.76 y	34:55	-	1.12
53	Tetra	PCB-63	50.00	4.77e+07	0.71 y	35:04	-	1.10
54	Tetra	PCB-74	50.00	4.68e+07	0.74 y	35:21	-	1.08
55	Tetra	PCB-61/70	100.00	9.06e+07	0.73 y	35:33	-	1.04
56	Tetra	PCB-76/66	100.00	9.21e+07	0.74 y	35:45	-	1.06
57	Tetra	PCB-80	50.00	5.39e+07	0.74 y	35:59	-	1.20
58	Tetra	PCB-55	50.00	5.08e+07	0.74 y	36:18	-	1.13
59	Tetra	PCB-56/60	100.00	8.80e+07	0.73 y	36:48	-	0.98
60	Tetra	PCB-79	50.00	4.65e+07	0.73 y	37:53	-	1.03
61	Tetra	PCB-78	50.00	4.56e+07	0.74 y	38:34	-	1.03
62	Tetra	PCB-81	50.00	5.20e+07	0.75 y	39:05	-	1.17
63	Tetra	PCB-77	50.00	5.01e+07	0.76 y	39:41	-	1.18
64	Penta	PCB-104	50.00	4.01e+07	1.59 y	32:44	-	1.16
65	Penta	PCB-96	50.00	3.32e+07	1.56 y	33:59	-	0.96
66	Penta	PCB-103	50.00	2.97e+07	1.54 y	34:31	-	0.86
67	Penta	PCB-100	50.00	3.02e+07	1.57 y	34:52	-	0.87
68	Penta	PCB-94	50.00	2.48e+07	1.56 y	35:20	-	1.06
69	Penta	PCB-95/98/102	150.00	8.16e+07	1.52 y	35:50	-	1.16
70	Penta	PCB-93	50.00	2.65e+07	1.68 y	35:58	-	1.13
71	Penta	PCB-88/91	100.00	5.25e+07	1.56 y	36:15	-	1.12
72	Penta	PCB-121	50.00	3.68e+07	1.57 y	36:22	-	1.57
73	Penta	PCB-84/92	100.00	5.15e+07	1.54 y	37:11	-	1.04
74	Penta	PCB-89	50.00	2.34e+07	1.53 y	37:22	-	0.95
75	Penta	PCB-90/101	100.00	5.59e+07	1.56 y	37:33	-	1.13
76	Penta	PCB-113	50.00	3.44e+07	1.55 y	37:48	-	1.39
77	Penta	PCB-99	50.00	2.56e+07	1.60 y	37:54	-	1.03
78	Penta	PCB-119	50.00	3.83e+07	1.56 y	38:21	-	1.77
79	Penta	PCB-108/112	100.00	5.74e+07	1.56 y	38:30	-	1.33
80	Penta	PCB-83	50.00	3.43e+07	1.57 y	38:40	-	1.58
81	Penta	PCB-97	50.00	2.60e+07	1.55 y	38:52	-	1.20
82	Penta	PCB-86	50.00	2.15e+07	1.46 y	39:00	-	0.99
83	Penta	PCB-87/117/125	150.00	9.85e+07	1.59 y	39:08	-	1.52
84	Penta	PCB-111/115	100.00	7.67e+07	1.56 y	39:17	-	1.77
85	Penta	PCB-85/116	100.00	5.77e+07	1.60 y	39:25	-	1.33
86	Penta	PCB-120	50.00	3.97e+07	1.53 y	39:39	-	1.83
87	Penta	PCB-110	50.00	3.50e+07	1.56 y	39:47	-	1.62
88	Penta	PCB-82	50.00	2.08e+07	1.56 y	40:25	-	0.73
89	Penta	PCB-124	50.00	3.69e+07	1.57 y	41:06	-	1.29
90	Penta	PCB-107/109	100.00	6.93e+07	1.58 y	41:15	-	1.21
91	Penta	PCB-123	50.00	3.47e+07	1.55 y	41:25	-	1.21
92	Penta	PCB-106/118	100.00	7.35e+07	1.54 y	41:38	-	1.20
93	Penta	PCB-114	50.00	4.27e+07	1.62 y	42:15	-	1.36
94	Penta	PCB-122	50.00	3.51e+07	1.63 y	42:23	-	1.12
95	Penta	PCB-105	50.00	4.36e+07	1.65 y	43:07	-	1.47
96	Penta	PCB-127	50.00	3.79e+07	1.69 y	43:27	-	1.24
97	Penta	PCB-126	50.00	3.67e+07	1.64 y	45:20	-	1.39
98	Hexa	PCB-155	50.00	3.43e+07	1.23 y	37:07	-	1.12
99	Hexa	PCB-150	50.00	3.11e+07	1.24 y	38:22	-	1.02
100	Hexa	PCB-152	50.00	3.16e+07	1.25 y	38:51	-	1.03
101	Hexa	PCB-145	50.00	3.04e+07	1.24 y	39:18	-	1.00

102	Hexa	PCB-136	50.00	3.31e+07	1.23 y	39:37	-	1.09
103	Hexa	PCB-148	50.00	2.18e+07	1.24 y	39:43	-	0.71
104	Hexa	PCB-154	50.00	2.45e+07	1.23 y	40:12	-	0.80
105	Hexa	PCB-151	50.00	2.30e+07	1.25 y	40:51	-	0.75
106	Hexa	PCB-135	50.00	2.19e+07	1.23 y	41:04	-	0.72
107	Hexa	PCB-144	50.00	2.39e+07	1.33 y	41:10	-	0.78
108	Hexa	PCB-147	50.00	2.07e+07	1.15 y	41:18	-	0.68
109	Hexa	PCB-139/149	100.00	4.69e+07	1.23 y	41:34	-	0.77
110	Hexa	PCB-140	50.00	2.12e+07	1.24 y	41:45	-	0.70
111	Hexa	PCB-134/143	100.00	5.52e+07	1.22 y	42:11	-	0.85
112	Hexa	PCB-133/142	100.00	5.46e+07	1.24 y	42:29	-	0.85

113	Hexa	PCB-131	50.00	2.55e+07	1.16 y	42:38	-	0.79
114	Hexa	PCB-146/165	100.00	6.52e+07	1.22 y	42:51	-	1.01
115	Hexa	PCB-132/161	100.00	6.70e+07	1.22 y	43:06	-	1.04
116	Hexa	PCB-153	50.00	3.34e+07	1.21 y	43:17	-	1.04
117	Hexa	PCB-168	50.00	4.08e+07	1.22 y	43:29	-	1.27
118	Hexa	PCB-141	50.00	2.90e+07	1.22 y	44:00	-	1.05
119	Hexa	PCB-137	50.00	2.95e+07	1.18 y	44:24	-	1.07
120	Hexa	PCB-130	50.00	2.45e+07	1.22 y	44:29	-	0.89
121	Hexa	PCB-138/163/164	150.00	1.05e+08	1.21 y	44:52	-	1.27
122	Hexa	PCB-158/160	100.00	7.63e+07	1.22 y	45:06	-	1.37
123	Hexa	PCB-129	50.00	2.45e+07	1.20 y	45:21	-	0.88
124	Hexa	PCB-166	50.00	3.59e+07	1.21 y	45:48	-	1.06
125	Hexa	PCB-159	50.00	3.96e+07	1.22 y	46:08	-	1.17
126	Hexa	PCB-128/162	100.00	6.57e+07	1.20 y	46:25	-	0.97
127	Hexa	PCB-167	50.00	3.85e+07	1.17 y	46:49	-	1.10
128	Hexa	PCB-156	50.00	3.93e+07	1.19 y	48:07	-	1.19
129	Hexa	PCB-157	50.00	3.97e+07	1.21 y	48:23	-	1.13
130	Hexa	PCB-169	50.00	3.46e+07	1.20 y	50:32	-	1.02
131	Hepta	PCB-188	50.00	3.60e+07	1.06 y	42:55	-	1.43
132	Hepta	PCB-184	50.00	3.21e+07	1.05 y	43:21	-	1.27
133	Hepta	PCB-179	50.00	3.36e+07	1.03 y	44:08	-	1.33
134	Hepta	PCB-176	50.00	3.52e+07	1.04 y	44:36	-	1.40
135	Hepta	PCB-186	50.00	3.45e+07	1.05 y	45:12	-	1.37
136	Hepta	PCB-178	50.00	2.51e+07	1.06 y	45:42	-	1.00
137	Hepta	PCB-175	50.00	2.54e+07	1.06 y	46:03	-	1.01
138	Hepta	PCB-182/187	100.00	5.34e+07	1.05 y	46:13	-	1.06
139	Hepta	PCB-183	50.00	2.93e+07	1.04 y	46:32	-	1.16
140	Hepta	PCB-185	50.00	2.52e+07	1.05 y	47:11	-	1.34
141	Hepta	PCB-174	50.00	2.35e+07	1.05 y	47:33	-	1.25
142	Hepta	PCB-181	50.00	2.45e+07	1.08 y	47:40	-	1.30
143	Hepta	PCB-177	50.00	2.19e+07	1.04 y	47:49	-	1.16
144	Hepta	PCB-171	50.00	2.53e+07	1.05 y	48:07	-	1.34
145	Hepta	PCB-173	50.00	2.04e+07	1.04 y	48:33	-	1.08
146	Hepta	PCB-172	50.00	2.39e+07	1.04 y	49:00	-	1.27
147	Hepta	PCB-192	50.00	3.03e+07	1.05 y	49:12	-	1.61
148	Hepta	PCB-180	50.00	2.48e+07	1.03 y	49:24	-	1.32
149	Hepta	PCB-193	50.00	3.25e+07	1.04 y	49:36	-	1.72
150	Hepta	PCB-191	50.00	3.32e+07	1.04 y	49:52	-	1.76
151	Hepta	PCB-170	50.00	2.30e+07	1.02 y	50:55	-	1.56
152	Hepta	PCB-190	50.00	3.20e+07	1.07 y	51:06	-	2.17
153	Hepta	PCB-189	50.00	3.08e+07	1.05 y	52:26	-	1.58
154	Octa	PCB-202	50.00	2.38e-07	0.91 y	48:19	-	0.96
155	Octa	PCB-201	50.00	2.52e-07	0.87 y	48:48	-	1.01
156	Octa	PCB-204	50.00	2.39e-07	0.89 y	48:58	-	0.96
157	Octa	PCB-197	50.00	2.70e-07	0.91 y	49:16	-	1.08
158	Octa	PCB-200	50.00	2.41e-07	0.87 y	50:10	-	0.97
159	Octa	PCB-198	50.00	1.82e-07	0.89 y	51:31	-	0.73
160	Octa	PCB-199	50.00	1.68e-07	0.90 y	51:38	-	0.68
161	Octa	PCB-196/203	100.00	3.74e+07	0.89 y	51:54	-	0.75
162	Octa	PCB-195	50.00	1.90e-07	0.91 y	53:04	-	1.07

163	Octa	PCB-194	50.00	2.09e+07	0.92 y	53:56	-	1.18
164	Octa	PCB-205	50.00	2.74e+07	0.92 y	54:13	-	1.55
165	Nona	PCB-208	50.00	2.49e+07	1.31 y	53:13	-	0.94
166	Nona	PCB-207	50.00	2.55e+07	1.33 y	53:32	-	0.96
167	Nona	PCB-206	50.00	1.42e+07	1.31 y	55:34	-	0.82
168	Deca	PCB-209	50.00	2.15e+07	1.16 y	56:55	-	1.21
169	Tot ¶	Total Mono-PCB	0.00	-	- n	-	-	1.25
170	Tot ¶	Total Di-PCB	0.00	-	- n	-	-	1.25

171	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.14
172	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.16
173	Tot η	Total Tetra-PCB	0.00	-	- n	-	-	1.06
174	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.15
175	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.31
176	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	0.85
177	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	1.05
178	Tot η	Total Hepta-PCB	0.00	-	- n	-	-	1.29
179	Tot η	Total Octa-PCB	0.00	-	- n	-	-	0.88
180	Tot η	Total Octa-PCB	0.00	-	- n	-	-	1.27
181	Tot η	Total Nona-PCB	0.00	-	- n	-	-	0.92
182	Tot η	Total Deca-PCB	50.00	2.15e+07	1.16 y	56:55	-	1.21
183	Monoη	13C-PCB-1	100.00	1.31e+08	3.59 y	16:09	-	0.98
184	Monoη	13C-PCB-3	100.00	1.27e+08	3.55 y	18:46	-	0.95
185	Di-IS	13C-PCB-4	100.00	8.37e+07	1.59 y	20:07	-	0.62
186	Di-IS	13C-PCB-9	100.00	1.32e+08	1.58 y	21:54	-	0.98
187	Di-IS	13C-PCB-11	100.00	1.29e+08	1.57 y	25:17	-	0.96
188	Tri-η	13C-PCB-19	100.00	7.48e+07	1.10 y	24:16	-	0.56
189	Tri-η	13C-PCB-32	100.00	1.10e+08	1.10 y	27:10	-	0.82
190	Tri-η	13C-PCB-28	100.00	9.04e+07	1.03 y	29:08	-	1.21
191	Tri-η	13C-PCB-37	100.00	7.45e+07	1.04 y	33:00	-	1.00
192	Tetraη	13C-PCB-54	100.00	1.00e+08	0.78 y	28:01	-	1.15
193	Tetraη	13C-PCB-52	100.00	6.66e+07	0.76 y	31:33	-	0.76
194	Tetraη	13C-PCB-47	100.00	7.29e+07	0.77 y	32:03	-	0.84
195	Tetraη	13C-PCB-70	100.00	8.67e+07	0.76 y	35:34	-	0.99
196	Tetraη	13C-PCB-80	100.00	9.01e+07	0.78 y	35:59	-	1.03
197	Tetraη	13C-PCB-81	100.00	8.87e+07	0.77 y	39:05	-	1.02
198	Tetraη	13C-PCB-77	100.00	8.51e+07	0.79 y	39:40	-	0.98
199	Pentη	13C-PCB-104	100.00	6.91e+07	1.61 y	32:42	-	1.05
200	Pentη	13C-PCB-95	100.00	4.69e+07	1.61 y	35:52	-	0.72
201	Pentη	13C-PCB-101	100.00	4.96e+07	1.62 y	37:33	-	0.76
202	Pentη	13C-PCB-97	100.00	4.33e+07	1.65 y	38:51	-	0.66
203	Pentη	13C-PCB-123	100.00	5.73e+07	1.61 y	41:24	-	0.87
204	Pentη	13C-PCB-118	100.00	6.14e+07	1.60 y	41:35	-	0.93
205	Pentη	13C-PCB-114	100.00	6.26e+07	1.57 y	42:14	-	1.25
206	Pentη	13C-PCB-105	100.00	5.94e+07	1.58 y	43:06	-	1.19
207	Pentη	13C-PCB-127	100.00	6.10e+07	1.55 y	43:26	-	1.22
208	Pentη	13C-PCB-126	100.00	5.27e+07	1.61 y	45:20	-	1.06
209	Hexaη	13C-PCB-155	100.00	6.10e+07	1.23 y	37:05	-	0.93
210	Hexaη	13C-PCB-153	100.00	6.45e+07	1.29 y	43:15	-	1.29
211	Hexaη	13C-PCB-141	100.00	5.52e+07	1.29 y	43:59	-	1.11
212	Hexa	13C-PCB-138	100.00	5.55e+07	1.26 y	44:50	-	1.11
213	Hexaη	13C-PCB-159	100.00	6.75e+07	1.31 y	46:07	-	1.35
214	Hexaη	13C-PCB-167	100.00	7.02e+07	1.27 y	46:48	-	1.41
215	Hexaη	13C-PCB-156	100.00	6.63e+07	1.27 y	48:06	-	1.33
216	Hexaη	13C-PCB-157	100.00	7.04e+07	1.32 y	48:22	-	1.41
217	Hexaη	13C-PCB-169	100.00	6.82e+07	1.25 y	50:31	-	1.37
218	Heptη	13C-PCB-188	100.00	5.04e+07	0.46 y	42:53	-	1.01
219	Heptη	13C-PCB-180	100.00	3.77e+07	0.46 y	49:23	-	0.76
220	Heptη	13C-PCB-170	100.00	2.95e+07	0.47 y	50:54	-	0.59
221	Heptη	13C-PCB-189	100.00	3.89e+07	0.45 y	52:25	-	0.78

222	Octaη	13C-PCB-202	100.00	4.98e+07	0.89 y	48:18	-	1.00
223	Octaη	13C-PCB-194	100.00	3.54e+07	0.90 y	53:56	-	0.75
224	Nonaη	13C-PCB-208	100.00	5.30e+07	0.77 y	53:13	-	1.11
225	Nonaη	13C-PCB-206	100.00	3.47e+07	0.77 y	55:33	-	0.73
226	Decaη	13C-PCB-209	100.00	3.56e+07	1.18 y	56:55	-	0.75
227	DI-RS	13C-PCB-15	100.00	1.34e+08	1.56 y	25:59	-	1.00
228	Tri-η	13C-PCB-31	100.00	7.47e+07	1.02 y	29:01	-	1.00
229	Tetrη	13C-PCB-60	100.00	8.72e+07	0.74 y	36:48	-	1.00
230	Penta	13C-PCB-111	100.00	6.56e+07	1.64 y	39:17	-	1.00
231	Hexaη	13C-PCB-128	100.00	4.99e+07	1.27 y	46:24	-	1.00

232	Octaη	13C-PCB-205	100.00	4.76e+07	0.89 y	54:12	-	1.00
233	CRS	13C-PCB-79	100.00	8.64e+07	0.77 y	37:51	-	0.99
234	CRS	13C-PCB-178	100.00	3.14e+07	0.45 y	45:41	-	0.63
235	PS	13C-PCB-79	100.00	8.64e+07	0.77 y	37:51	-	0.97
236	PS	13C-PCB-178	100.00	3.14e+07	0.45 y	45:41	-	0.83

Filename: 150114E1 S: 7 Acquired: 14-JAN-15 19:04:40
 Run: 150114e1 Analyte: ICal: pcbvg8-1-14-15 Results: 150114e1
 Sample text: ST150114E1-6 PCB CS4 14L2905

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	400.00	6.94e+08	2.96 y	16:11	-	1.32
2	Mono	PCB-2	400.00	7.15e+08	2.99 y	18:34	-	1.21
3	Mono	PCB-3	400.00	7.26e+08	2.99 y	18:48	-	1.23
4	Di	PCB-4/10	800.00	1.13e+09	1.63 y	20:10	-	1.54
5	Di	PCB-7/9	800.00	1.36e+09	1.64 y	21:57	-	1.16
6	Di	PCB-6	400.00	6.64e+08	1.65 y	22:36	-	1.14
7	Di	PCB-5/8	800.00	1.37e+09	1.63 y	23:01	-	1.17
8	Di	PCB-14	400.00	7.93e+08	1.64 y	24:06	-	1.37
9	Di	PCB-11	400.00	6.78e+08	1.65 y	25:18	-	1.17
10	Di	PCB-12/13	800.00	1.36e+09	1.63 y	25:42	-	1.18
11	Di	PCB-15	400.00	7.60e+08	1.64 y	26:00	-	1.32
12	Tri	PCB-19	400.00	3.81e+08	1.06 y	24:17	-	1.11
13	Tri	PCB-30	400.00	5.91e+08	1.06 y	25:11	-	1.72
14	Tri	PCB-18	400.00	4.19e+08	1.05 y	25:56	-	0.82
15	Tri	PCB-17	400.00	4.40e+08	1.06 y	26:06	-	0.86
16	Tri	PCB-24/27	800.00	1.23e+09	1.06 y	26:41	-	1.21
17	Tri	PCB-16/32	800.00	9.74e+08	1.05 y	27:11	-	0.95
18	Tri	PCB-34	400.00	4.41e+08	1.02 y	27:59	-	1.16
19	Tri	PCB-23	400.00	4.64e+08	1.03 y	28:04	-	1.22
20	Tri	PCB-29	400.00	4.32e+08	1.03 y	28:19	-	1.14
21	Tri	PCB-26	400.00	4.32e+08	1.01 y	28:32	-	1.14
22	Tri	PCB-25	400.00	4.27e+08	1.03 y	28:42	-	1.13
23	Tri	PCB-31	400.00	4.79e+08	1.03 y	29:04	-	1.26
24	Tri	PCB-28	400.00	4.54e+08	1.04 y	29:09	-	1.20
25	Tri	PCB-20/21/33	1200.00	1.36e+09	1.02 y	29:47	-	1.19
26	Tri	PCB-22	400.00	4.30e+08	1.01 y	30:13	-	1.13
27	Tri	PCB-36	400.00	3.85e+08	1.00 y	30:49	-	1.10
28	Tri	PCB-39	400.00	3.74e+08	1.01 y	31:18	-	1.07
29	Tri	PCB-38	400.00	4.25e+08	1.04 y	32:04	-	1.22
30	Tri	PCB-35	400.00	4.27e+08	1.04 y	32:35	-	1.23
31	Tri	PCB-37	400.00	4.44e+08	1.06 y	33:02	-	1.27
32	Tetra	PCB-54	400.00	4.13e+08	0.74 y	28:02	-	0.94
33	Tetra	PCB-50	400.00	3.31e+08	0.73 y	29:13	-	0.75
34	Tetra	PCB-53	400.00	3.18e+08	0.73 y	29:51	-	1.09
35	Tetra	PCB-51	400.00	3.35e+08	0.74 y	30:12	-	1.15
36	Tetra	PCB-45	400.00	2.67e+08	0.73 y	30:38	-	0.92
37	Tetra	PCB-46	400.00	2.47e+08	0.72 y	31:07	-	0.85
38	Tetra	PCB-52/69	800.00	6.65e+08	0.72 y	31:36	-	1.15
39	Tetra	PCB-73	400.00	4.07e+08	0.73 y	31:43	-	1.40
40	Tetra	PCB-43/49	800.00	6.39e+08	0.74 y	31:53	-	1.10
41	Tetra	PCB-47	400.00	3.44e+08	0.73 y	32:05	-	1.04

42	Tetra	PCB-48/75	800.00	8.25e+08	0.74 y	32:12	-	1.24
43	Tetra	PCB-65	400.00	4.06e+08	0.73 y	32:28	-	1.22
44	Tetra	PCB-62	400.00	3.83e+08	0.74 y	32:35	-	1.15
45	Tetra	PCB-44	400.00	2.51e+08	0.73 y	32:53	-	0.76
46	Tetra	PCB-42/59	800.00	7.21e+08	0.73 y	33:06	-	1.09
47	Tetra	PCB-41/64/71/72	1600.00	1.70e+09	0.74 y	33:41	-	1.28
48	Tetra	PCB-68	400.00	4.83e+08	0.74 y	33:57	-	1.45
49	Tetra	PCB-40	400.00	2.58e+08	0.74 y	34:09	-	0.78
50	Tetra	PCB-57	400.00	4.23e+08	0.73 y	34:31	-	1.00
51	Tetra	PCB-67	400.00	4.16e+08	0.73 y	34:50	-	0.99
52	Tetra	PCB-58	400.00	4.23e+08	0.74 y	34:57	-	1.00

53	Tetra	PCB-63	400.00	4.44e+08	0.74 y	35:06	-	1.05
54	Tetra	PCB-74	400.00	4.75e+08	0.73 y	35:23	-	1.12
55	Tetra	PCB-61/70	800.00	8.24e+08	0.73 y	35:33	-	0.97
56	Tetra	PCB-76/66	800.00	8.98e+08	0.74 y	35:47	-	1.06
57	Tetra	PCB-80	400.00	5.02e+08	0.75 y	36:01	-	1.18
58	Tetra	PCB-55	400.00	4.59e+08	0.74 y	36:20	-	1.08
59	Tetra	PCB-56/60	800.00	8.76e+08	0.74 y	36:49	-	1.03
60	Tetra	PCB-79	400.00	4.30e+08	0.73 y	37:53	-	1.01
61	Tetra	PCB-78	400.00	4.62e+08	0.73 y	38:35	-	1.11
62	Tetra	PCB-81	400.00	4.78e+08	0.75 y	39:07	-	1.15
63	Tetra	PCB-77	400.00	4.50e+08	0.76 y	39:42	-	1.14
64	Penta	PCB-104	400.00	3.46e+08	1.56 y	32:44	-	1.16
65	Penta	PCB-96	400.00	3.23e+08	1.56 y	33:59	-	1.08
66	Penta	PCB-103	400.00	2.83e+08	1.56 y	34:32	-	0.94
67	Penta	PCB-100	400.00	2.76e+08	1.56 y	34:52	-	0.92
68	Penta	PCB-94	400.00	2.45e+08	1.57 y	35:21	-	1.08
69	Penta	PCB-95/98/102	1200.00	8.28e+08	1.54 y	35:50	-	1.22
70	Penta	PCB-93	400.00	1.85e+08	1.63 y	35:58	-	0.82
71	Penta	PCB-88/91	800.00	4.53e+08	1.54 y	36:15	-	1.00
72	Penta	PCB-121	400.00	3.50e+08	1.58 y	36:22	-	1.55
73	Penta	PCB-84/92	800.00	4.81e+08	1.56 y	37:11	-	1.01
74	Penta	PCB-89	400.00	2.17e+08	1.57 y	37:22	-	0.91
75	Penta	PCB-90/101	800.00	5.22e+08	1.57 y	37:34	-	1.09
76	Penta	PCB-113	400.00	2.96e+08	1.55 y	37:49	-	1.24
77	Penta	PCB-99	400.00	2.51e+08	1.57 y	37:54	-	1.05
78	Penta	PCB-119	400.00	3.64e+08	1.57 y	38:22	-	1.76
79	Penta	PCB-108/112	800.00	5.68e+08	1.57 y	38:31	-	1.37
80	Penta	PCB-83	400.00	3.40e+08	1.58 y	38:41	-	1.64
81	Penta	PCB-97	400.00	2.48e+08	1.55 y	38:52	-	1.20
82	Penta	PCB-86	400.00	1.86e+08	1.65 y	39:01	-	0.90
83	Penta	PCB-87/117/125	1200.00	9.47e+08	1.57 y	39:08	-	1.53
84	Penta	PCB-111/115	800.00	7.12e+08	1.52 y	39:18	-	1.72
85	Penta	PCB-85/116	800.00	5.09e+08	1.62 y	39:26	-	1.23
86	Penta	PCB-120	400.00	3.79e+08	1.56 y	39:40	-	1.83
87	Penta	PCB-110	400.00	3.10e+08	1.58 y	39:49	-	1.50
88	Penta	PCB-82	400.00	1.91e+08	1.57 y	40:27	-	0.68
89	Penta	PCB-124	400.00	3.36e+08	1.55 y	41:07	-	1.20
90	Penta	PCB-107/109	800.00	6.83e+08	1.56 y	41:15	-	1.22
91	Penta	PCB-123	400.00	3.22e+08	1.56 y	41:26	-	1.15
92	Penta	PCB-106/118	800.00	7.08e+08	1.56 y	41:38	-	1.15
93	Penta	PCB-114	400.00	4.01e+08	1.63 y	42:16	-	1.32
94	Penta	PCB-122	400.00	3.55e+08	1.68 y	42:24	-	1.17
95	Penta	PCB-105	400.00	3.96e+08	1.67 y	43:08	-	1.44
96	Penta	PCB-127	400.00	3.51e+08	1.68 y	43:27	-	1.19
97	Penta	PCB-126	400.00	3.80e+08	1.65 y	45:22	-	1.32
98	Hexa	PCB-155	400.00	3.03e+08	1.24 y	37:08	-	1.14
99	Hexa	PCB-150	400.00	2.98e+08	1.23 y	38:23	-	1.12
100	Hexa	PCB-152	400.00	2.90e+08	1.24 y	38:52	-	1.09
101	Hexa	PCB-145	400.00	2.84e+08	1.24 y	39:18	-	1.07
102	Hexa	PCB-136	400.00	2.87e+08	1.24 y	39:38	-	1.08

103	Hexa	PCB-148	400.00	2.10e+08	1.25 y	39:44	-	0.79
104	Hexa	PCB-154	400.00	2.24e+08	1.24 y	40:14	-	0.84
105	Hexa	PCB-151	400.00	2.11e+08	1.25 y	40:52	-	0.79
106	Hexa	PCB-135	400.00	2.08e+08	1.40 y	41:05	-	0.78
107	Hexa	PCB-144	400.00	2.26e+08	1.10 y	41:12	-	0.85
108	Hexa	PCB-147	400.00	1.99e+08	1.23 y	41:19	-	0.75
109	Hexa	PCB-139/149	800.00	4.60e+08	1.23 y	41:35	-	0.86
110	Hexa	PCB-140	400.00	2.02e+08	1.22 y	41:46	-	0.76
111	Hexa	PCB-134/143	800.00	5.51e+08	1.24 y	42:12	-	0.90
112	Hexa	PCB-133/142	800.00	5.43e+08	1.22 y	42:30	-	0.89
113	Hexa	PCB-131	400.00	2.46e+08	1.21 y	42:39	-	0.81

114	Hexa	PCB-146/165	800.00	6.43e+08	1.22 y	42:53	-	1.05
115	Hexa	PCB-132/161	800.00	6.26e+08	1.21 y	43:07	-	1.03
116	Hexa	PCB-153	400.00	3.15e+08	1.21 y	43:17	-	1.03
117	Hexa	PCB-168	400.00	3.92e+08	1.21 y	43:30	-	1.28
118	Hexa	PCB-141	400.00	2.79e+08	1.22 y	44:01	-	1.06
119	Hexa	PCB-137	400.00	2.87e+08	1.17 y	44:24	-	1.09
120	Hexa	PCB-130	400.00	2.37e+08	1.26 y	44:31	-	0.90
121	Hexa	PCB-138/163/164	1200.00	1.05e+09	1.20 y	44:53	-	1.28
122	Hexa	PCB-158/160	800.00	7.31e+08	1.20 y	45:08	-	1.35
123	Hexa	PCB-129	400.00	2.54e+08	1.23 y	45:22	-	0.94
124	Hexa	PCB-166	400.00	3.59e+08	1.21 y	45:50	-	1.06
125	Hexa	PCB-159	400.00	3.81e+08	1.21 y	46:09	-	1.13
126	Hexa	PCB-128/162	800.00	6.54e+08	1.21 y	46:26	-	0.97
127	Hexa	PCB-167	400.00	3.57e+08	1.21 y	46:50	-	1.09
128	Hexa	PCB-156	400.00	3.98e+08	1.22 y	48:07	-	1.19
129	Hexa	PCB-157	400.00	3.91e+08	1.22 y	48:23	-	1.12
130	Hexa	PCB-169	400.00	3.39e+08	1.22 y	50:33	-	1.02
131	Hepta	PCB-188	400.00	3.52e+08	1.05 y	42:56	-	1.38
132	Hepta	PCB-184	400.00	3.14e+08	1.04 y	43:23	-	1.23
133	Hepta	PCB-179	400.00	3.24e+08	1.05 y	44:09	-	1.27
134	Hepta	PCB-176	400.00	3.41e+08	1.04 y	44:37	-	1.34
135	Hepta	PCB-186	400.00	3.41e+08	1.05 y	45:13	-	1.33
136	Hepta	PCB-178	400.00	2.45e+08	1.05 y	45:43	-	0.96
137	Hepta	PCB-175	400.00	2.39e+08	1.05 y	46:04	-	0.94
138	Hepta	PCB-182/187	800.00	5.39e+08	1.05 y	46:14	-	1.05
139	Hepta	PCB-183	400.00	2.80e+08	1.05 y	46:32	-	1.10
140	Hepta	PCB-185	400.00	2.45e+08	1.05 y	47:13	-	1.32
141	Hepta	PCB-174	400.00	2.22e+08	1.04 y	47:34	-	1.19
142	Hepta	PCB-181	400.00	2.44e+08	1.05 y	47:41	-	1.31
143	Hepta	PCB-177	400.00	2.18e+08	1.04 y	47:51	-	1.17
144	Hepta	PCB-171	400.00	2.57e+08	1.04 y	48:08	-	1.38
145	Hepta	PCB-173	400.00	1.93e+08	1.06 y	48:34	-	1.04
146	Hepta	PCB-172	400.00	2.43e+08	1.05 y	49:00	-	1.30
147	Hepta	PCB-192	400.00	3.11e+08	1.04 y	49:12	-	1.67
148	Hepta	PCB-180	400.00	2.42e+08	1.05 y	49:25	-	1.30
149	Hepta	PCB-193	400.00	3.25e+08	1.05 y	49:37	-	1.74
150	Hepta	PCB-191	400.00	3.28e+08	1.04 y	49:53	-	1.76
151	Hepta	PCB-170	400.00	2.28e+08	1.05 y	50:56	-	1.52
152	Hepta	PCB-190	400.00	3.23e+08	1.05 y	51:07	-	2.15
153	Hepta	PCB-189	400.00	3.10e+08	1.04 y	52:27	-	1.56
154	Octa	PCB-202	400.00	2.31e+08	0.89 y	48:21	-	0.95
155	Octa	PCB-201	400.00	2.56e+08	0.88 y	48:50	-	1.06
156	Octa	PCB-204	400.00	2.56e+08	0.88 y	48:50	-	1.06
157	Octa	PCB-197	400.00	2.77e+08	0.89 y	49:17	-	1.14
158	Octa	PCB-200	400.00	2.35e+08	0.89 y	50:11	-	0.97
159	Octa	PCB-198	400.00	1.78e+08	0.90 y	51:32	-	0.73
160	Octa	PCB-199	400.00	1.72e+08	0.89 y	51:39	-	0.71
161	Octa	PCB-196/203	800.00	3.96e+08	0.88 y	51:55	-	0.82
162	Octa	PCB-195	400.00	1.92e+08	0.91 y	53:06	-	1.14
163	Octa	PCB-194	400.00	1.94e+08	0.91 y	53:58	-	1.15

164	Octa	PCB-205	400.00	2.64e+08	0.91 y	54:14	-	1.56
165	Nona	PCB-208	400.00	2.44e+08	1.30 y	53:14	-	0.92
166	Nona	PCB-207	400.00	2.51e+08	1.30 y	53:33	-	0.95
167	Nona	PCB-206	400.00	1.40e+08	1.30 y	55:36	-	0.79
168	Deca	PCB-209	400.00	2.07e+08	1.17 y	56:58	-	1.22
169	Tot η	Total Mono-PCB	0.00	-	- n	-	-	1.25
170	Tot η	Total Di-PCB	0.00	-	- n	-	-	1.22
171	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.11

172	Tot	η	Total Tri-PCB	0.00	-	-	n	-	-	-	1.18
173	Tot	η	Total Tetra-PCB	0.00	-	-	n	-	-	-	1.08
174	Tot	η	Total Penta-PCB	0.00	-	-	n	-	-	-	1.16
175	Tot	η	Total Penta-PCB	0.00	-	-	n	-	-	-	1.29
176	Tot	η	Total Hexa-PCB	0.00	-	-	n	-	-	-	0.91
177	Tot	η	Total Hexa-PCB	0.00	-	-	n	-	-	-	1.06
178	Tot	η	Total Hepta-PCB	0.00	-	-	n	-	-	-	1.27
179	Tot	η	Total Octa-PCB	0.00	-	-	n	-	-	-	0.92
180	Tot	η	Total Octa-PCB	0.00	-	-	n	-	-	-	1.28
181	Tot	η	Total Nona-PCB	0.00	-	-	n	-	-	-	0.90
182	Tot	η	Total Deca-PCB	400.00	2.07e+08	1.17	y	56:58	-	-	1.22
183	Mono	η	13C-PCB-1	100.00	1.31e+08	3.58	y	16:10	-	-	0.87
184	Mono	η	13C-PCB-3	100.00	1.48e+08	3.55	y	18:47	-	-	0.99
185	Di	-IS	13C-PCB-4	100.00	9.18e+07	1.61	y	20:07	-	-	0.61
186	Di	-IS	13C-PCB-9	100.00	1.46e+08	1.57	y	21:55	-	-	0.97
187	Di	-IS	13C-PCB-11	100.00	1.45e+08	1.56	y	25:17	-	-	0.96
188	Tri	-η	13C-PCB-19	100.00	8.61e+07	1.11	y	24:16	-	-	0.57
189	Tri	-η	13C-PCB-32	100.00	1.28e+08	1.10	y	27:11	-	-	0.85
190	Tri	-η	13C-PCB-28	100.00	9.48e+07	1.03	y	29:09	-	-	0.96
191	Tri	-η	13C-PCB-37	100.00	8.72e+07	1.04	y	33:01	-	-	0.88
192	Tetr	η	13C-PCB-54	100.00	1.10e+08	0.77	y	28:01	-	-	1.03
193	Tetr	η	13C-PCB-52	100.00	7.25e+07	0.77	y	31:34	-	-	0.68
194	Tetr	η	13C-PCB-47	100.00	8.30e+07	0.77	y	32:04	-	-	0.78
195	Tetr	η	13C-PCB-70	100.00	1.06e+08	0.76	y	35:34	-	-	0.99
196	Tetr	η	13C-PCB-80	100.00	1.06e+08	0.75	y	35:59	-	-	1.00
197	Tetr	η	13C-PCB-81	100.00	1.04e+08	0.78	y	39:06	-	-	0.97
198	Tetr	η	13C-PCB-77	100.00	9.87e+07	0.76	y	39:41	-	-	0.93
199	Pent	η	13C-PCB-104	100.00	7.49e+07	1.60	y	32:43	-	-	0.95
200	Pent	η	13C-PCB-95	100.00	5.64e+07	1.61	y	35:53	-	-	0.71
201	Pent	η	13C-PCB-101	100.00	5.96e+07	1.61	y	37:34	-	-	0.75
202	Pent	η	13C-PCB-97	100.00	5.17e+07	1.63	y	38:51	-	-	0.65
203	Pent	η	13C-PCB-123	100.00	7.00e+07	1.62	y	41:25	-	-	0.88
204	Pent	η	13C-PCB-118	100.00	7.68e+07	1.66	y	41:36	-	-	0.97
205	Pent	η	13C-PCB-114	100.00	7.59e+07	1.59	y	42:15	-	-	1.23
206	Pent	η	13C-PCB-105	100.00	6.87e+07	1.58	y	43:07	-	-	1.11
207	Pent	η	13C-PCB-127	100.00	7.37e+07	1.55	y	43:27	-	-	1.19
208	Pent	η	13C-PCB-126	100.00	7.18e+07	1.55	y	45:21	-	-	1.16
209	Hexa	η	13C-PCB-155	100.00	6.66e+07	1.26	y	37:06	-	-	0.84
210	Hexa	η	13C-PCB-153	100.00	7.63e+07	1.28	y	43:16	-	-	1.23
211	Hexa	η	13C-PCB-141	100.00	6.56e+07	1.29	y	44:01	-	-	1.06
212	Hexa		13C-PCB-138	100.00	6.79e+07	1.28	y	44:51	-	-	1.10
213	Hexa	η	13C-PCB-159	100.00	8.47e+07	1.26	y	46:08	-	-	1.37
214	Hexa	η	13C-PCB-167	100.00	8.20e+07	1.28	y	46:49	-	-	1.33
215	Hexa	η	13C-PCB-156	100.00	8.33e+07	1.29	y	48:06	-	-	1.35
216	Hexa	η	13C-PCB-157	100.00	8.77e+07	1.28	y	48:22	-	-	1.42
217	Hexa	η	13C-PCB-169	100.00	8.32e+07	1.28	y	50:33	-	-	1.34
218	Hept	η	13C-PCB-188	100.00	6.38e+07	0.45	y	42:54	-	-	1.03
219	Hept	η	13C-PCB-180	100.00	4.66e+07	0.47	y	49:24	-	-	0.75
220	Hept	η	13C-PCB-170	100.00	3.75e+07	0.47	y	50:55	-	-	0.61
221	Hept	η	13C-PCB-189	100.00	4.95e+07	0.46	y	52:26	-	-	0.80
222	Octa	η	13C-PCB-202	100.00	6.06e+07	0.91	y	48:19	-	-	0.98

223	Octaη	13C-PCB-194	100.00	4.22e+07	0.89 y	53:57	-	0.72
224	Nonaη	13C-PCB-208	100.00	6.60e+07	0.76 y	53:14	-	1.12
225	Nonaη	13C-PCB-206	100.00	4.43e+07	0.76 y	55:35	-	0.75
226	Decaη	13C-PCB-209	100.00	4.22e+07	1.18 y	56:57	-	0.72
227	DI-RS	13C-PCB-15	100.00	1.50e+08	1.58 y	25:59	-	1.00
228	Tri-η	13C-PCB-31	100.00	9.85e+07	1.04 y	29:02	-	1.00
229	Tetraη	13C-PCB-60	100.00	1.07e+08	0.78 y	36:49	-	1.00
230	Penta	13C-PCB-111	100.00	7.92e+07	1.60 y	39:17	-	1.00
231	Hexaη	13C-PCB-128	100.00	6.19e+07	1.30 y	46:24	-	1.00
232	Octaη	13C-PCB-205	100.00	5.88e+07	0.91 y	54:14	-	1.00

233	CRS	13C-PCB-79	100.00	1.03e+08	0.76 y	37:52	-	0.97
234	CRS	13C-PCB-178	100.00	3.98e+07	0.46 y	45:42	-	0.64
235	PS	13C-PCB-79	100.00	1.03e+08	0.76 y	37:52	-	0.99
236	PS	13C-PCB-178	100.00	3.98e+07	0.46 y	45:42	-	0.85

Filename: 150114E1 S: 8 Acquired: 14-JAN-15 20:09:16
 Run: 150114E1 Analyte: ICal: pcbvg8-1-14-15 Results: 150114e1
 Sample text: ST150114E1-7 PCB CS5 14L2906

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	1000.00	1.39e+09	2.97 y	16:11	- 1.34
2	Mono	PCB-2	1000.00	1.43e+09	2.99 y	18:34	- 1.33
3	Mono	PCB-3	1000.00	1.41e+09	2.98 y	18:48	- 1.31
4	Di	PCB-4/10	2000.00	2.31e+09	1.62 y	20:11	- 1.54
5	Di	PCB-7/9	2000.00	2.86e+09	1.64 y	21:57	- 1.18
6	Di	PCB-6	1000.00	1.37e+09	1.64 y	22:36	- 1.13
7	Di	PCB-5/8	2000.00	2.86e+09	1.64 y	23:01	- 1.17
8	Di	PCB-14	1000.00	1.67e+09	1.63 y	24:06	- 1.36
9	Di	PCB-11	1000.00	1.43e+09	1.65 y	25:19	- 1.17
10	Di	PCB-12/13	2000.00	2.95e+09	1.62 y	25:42	- 1.20
11	Di	PCB-15	1000.00	1.65e+09	1.61 y	26:01	- 1.35
12	Tri	PCB-19	1000.00	7.86e+08	1.06 y	24:18	- 1.10
13	Tri	PCB-30	1000.00	1.25e+09	1.07 y	25:12	- 1.75
14	Tri	PCB-18	1000.00	8.43e+08	1.06 y	25:56	- 0.78
15	Tri	PCB-17	1000.00	9.23e+08	1.06 y	26:07	- 0.86
16	Tri	PCB-24/27	2000.00	2.55e+09	1.06 y	26:41	- 1.18
17	Tri	PCB-16/32	2000.00	2.05e+09	1.06 y	27:12	- 0.95
18	Tri	PCB-34	1000.00	9.86e+08	1.02 y	28:00	- 1.21
19	Tri	PCB-23	1000.00	8.98e+08	1.04 y	28:05	- 1.10
20	Tri	PCB-29	1000.00	8.94e+08	1.02 y	28:20	- 1.10
21	Tri	PCB-26	1000.00	1.01e+09	1.03 y	28:32	- 1.24
22	Tri	PCB-25	1000.00	8.93e+08	1.01 y	28:43	- 1.10
23	Tri	PCB-31	1000.00	8.93e+08	1.14 y	29:03	- 1.10
24	Tri	PCB-28	1000.00	9.16e+08	0.92 y	29:10	- 1.13
25	Tri	PCB-20/21/33	3000.00	2.41e+09	1.02 y	29:46	- 0.98
26	Tri	PCB-22	1000.00	8.07e+08	1.02 y	30:14	- 0.99
27	Tri	PCB-36	1000.00	9.15e+08	1.01 y	30:50	- 1.27
28	Tri	PCB-39	1000.00	8.14e+08	1.02 y	31:18	- 1.13
29	Tri	PCB-38	1000.00	8.90e+08	1.03 y	32:05	- 1.24
30	Tri	PCB-35	1000.00	9.47e+08	1.02 y	32:36	- 1.31
31	Tri	PCB-37	1000.00	8.87e+08	1.02 y	33:02	- 1.23
32	Tetra	PCB-54	1000.00	8.93e+08	0.74 y	28:03	- 0.94
33	Tetra	PCB-50	1000.00	6.66e+08	0.73 y	29:13	- 0.70
34	Tetra	PCB-53	1000.00	6.07e+08	0.71 y	29:52	- 0.99
35	Tetra	PCB-51	1000.00	6.35e+08	0.73 y	30:12	- 1.04
36	Tetra	PCB-45	1000.00	6.11e+08	0.73 y	30:38	- 1.00
37	Tetra	PCB-46	1000.00	5.24e+08	0.72 y	31:07	- 0.86
38	Tetra	PCB-52/69	2000.00	1.41e+09	0.71 y	31:36	- 1.15
39	Tetra	PCB-73	1000.00	7.43e+08	0.72 y	31:43	- 1.22
40	Tetra	PCB-43/49	2000.00	1.28e+09	0.73 y	31:53	- 1.05

41	Tetra	PCB-47	1000.00	7.82e+08	0.72 y	32:05	-	1.13
42	Tetra	PCB-48/75	2000.00	1.71e+09	0.73 y	32:12	-	1.23
43	Tetra	PCB-65	1000.00	7.98e+08	0.73 y	32:28	-	1.15
44	Tetra	PCB-62	1000.00	9.11e+08	0.74 y	32:35	-	1.31
45	Tetra	PCB-44	1000.00	5.20e+08	0.73 y	32:53	-	0.75
46	Tetra	PCB-42/59	2000.00	1.48e+09	0.73 y	33:06	-	1.07
47	Tetra	PCB-41/64/71/72	4000.00	3.37e+09	0.74 y	33:42	-	1.21
48	Tetra	PCB-68	1000.00	9.93e+08	0.74 y	33:57	-	1.43
49	Tetra	PCB-40	1000.00	5.33e+08	0.73 y	34:10	-	0.77
50	Tetra	PCB-57	1000.00	8.58e+08	0.72 y	34:32	-	0.90
51	Tetra	PCB-67	1000.00	8.68e+08	0.72 y	34:50	-	0.91

52	Tetra	PCB-58	1000.00	9.49e+08	0.74	y	34:57	-	1.00
53	Tetra	PCB-63	1000.00	9.14e+08	0.73	y	35:06	-	0.96
54	Tetra	PCB-74	1000.00	9.90e+08	0.72	y	35:23	-	1.04
55	Tetra	PCB-61/70	2000.00	1.93e+09	0.73	y	35:34	-	1.01
56	Tetra	PCB-76/66	2000.00	1.96e+09	0.74	y	35:47	-	1.03
57	Tetra	PCB-80	1000.00	1.15e+09	0.72	y	36:01	-	1.20
58	Tetra	PCB-55	1000.00	1.10e+09	0.74	y	36:20	-	1.15
59	Tetra	PCB-56/60	2000.00	1.77e+09	0.73	y	36:50	-	0.93
60	Tetra	PCB-79	1000.00	1.06e+09	0.74	y	37:54	-	1.11
61	Tetra	PCB-78	1000.00	9.51e+08	0.73	y	38:36	-	1.01
62	Tetra	PCB-81	1000.00	1.11e+09	0.74	y	39:07	-	1.17
63	Tetra	PCB-77	1000.00	1.06e+09	0.75	y	39:43	-	1.14
64	Penta	PCB-104	1000.00	7.52e+08	1.57	y	32:44	-	1.17
65	Penta	PCB-96	1000.00	6.57e+08	1.58	y	34:00	-	1.02
66	Penta	PCB-103	1000.00	5.75e+08	1.55	y	34:32	-	0.89
67	Penta	PCB-100	1000.00	5.96e+08	1.56	y	34:53	-	0.92
68	Penta	PCB-94	1000.00	5.00e+08	1.57	y	35:22	-	1.03
69	Penta	PCB-95/98/102	3000.00	1.69e+09	1.56	y	35:51	-	1.16
70	Penta	PCB-93	1000.00	4.91e+08	1.60	y	35:59	-	1.01
71	Penta	PCB-88/91	2000.00	9.64e+08	1.55	y	36:15	-	0.99
72	Penta	PCB-121	1000.00	8.72e+08	1.59	y	36:22	-	1.79
73	Penta	PCB-84/92	2000.00	1.03e+09	1.54	y	37:12	-	0.95
74	Penta	PCB-89	1000.00	4.76e+08	1.58	y	37:23	-	0.87
75	Penta	PCB-90/101	2000.00	1.17e+09	1.56	y	37:33	-	1.07
76	Penta	PCB-113	1000.00	6.26e+08	1.54	y	37:48	-	1.15
77	Penta	PCB-99	1000.00	6.40e+08	1.57	y	37:54	-	1.17
78	Penta	PCB-119	1000.00	7.94e+08	1.57	y	38:22	-	1.72
79	Penta	PCB-108/112	2000.00	1.19e+09	1.57	y	38:31	-	1.29
80	Penta	PCB-83	1000.00	6.87e+08	1.56	y	38:40	-	1.49
81	Penta	PCB-97	1000.00	5.38e+08	1.56	y	38:53	-	1.17
82	Penta	PCB-86	1000.00	4.30e+08	1.55	y	39:01	-	0.93
83	Penta	PCB-87/117/125	3000.00	2.08e+09	1.58	y	39:09	-	1.50
84	Penta	PCB-111/115	2000.00	1.58e+09	1.55	y	39:18	-	1.71
85	Penta	PCB-85/116	2000.00	1.24e+09	1.58	y	39:26	-	1.34
86	Penta	PCB-120	1000.00	8.48e+08	1.57	y	39:41	-	1.84
87	Penta	PCB-110	1000.00	7.10e+08	1.58	y	39:49	-	1.54
88	Penta	PCB-82	1000.00	4.02e+08	1.56	y	40:26	-	0.64
89	Penta	PCB-124	1000.00	8.06e+08	1.55	y	41:07	-	1.28
90	Penta	PCB-107/109	2000.00	1.56e+09	1.57	y	41:16	-	1.24
91	Penta	PCB-123	1000.00	7.24e+08	1.56	y	41:26	-	1.15
92	Penta	PCB-106/118	2000.00	1.59e+09	1.57	y	41:38	-	1.16
93	Penta	PCB-114	1000.00	9.36e+08	1.65	y	42:17	-	1.36
94	Penta	PCB-122	1000.00	7.65e+08	1.67	y	42:25	-	1.11
95	Penta	PCB-105	1000.00	9.43e+08	1.66	y	43:07	-	1.41
96	Penta	PCB-127	1000.00	8.39e+08	1.66	y	43:28	-	1.18
97	Penta	PCB-126	1000.00	8.19e+08	1.68	y	45:22	-	1.33
98	Hexa	PCB-155	1000.00	6.54e+08	1.24	y	37:08	-	1.12
99	Hexa	PCB-150	1000.00	6.42e+08	1.24	y	38:23	-	1.10
100	Hexa	PCB-152	1000.00	6.30e+08	1.24	y	38:52	-	1.08
101	Hexa	PCB-145	1000.00	6.31e+08	1.25	y	39:15	-	1.08

102	Hexa	PCB-136	1000.00	6.49e+08	1.38 y	39:38	-	1.11
103	Hexa	PCB-148	1000.00	4.68e+08	1.07 y	39:44	-	0.80
104	Hexa	PCB-154	1000.00	4.88e+08	1.24 y	40:14	-	0.84
105	Hexa	PCB-151	1000.00	4.67e+08	1.25 y	40:52	-	0.80
106	Hexa	PCB-135	1000.00	4.74e+08	1.23 y	41:05	-	0.81
107	Hexa	PCB-144	1000.00	5.08e+08	1.24 y	41:11	-	0.87
108	Hexa	PCB-147	1000.00	4.71e+08	1.25 y	41:19	-	0.81
109	Hexa	PCB-139/149	2000.00	1.03e+09	1.24 y	41:35	-	0.88
110	Hexa	PCB-140	1000.00	4.41e+08	1.24 y	41:46	-	0.76
111	Hexa	PCB-134/143	2000.00	1.22e+09	1.22 y	42:12	-	0.88
112	Hexa	PCB-133/142	2000.00	1.23e+09	1.22 y	42:29	-	0.88

113	Hexa	PCB-131	1000.00	5.60e+08	1.22	y	42:40	-	0.80
114	Hexa	PCB-146/165	2000.00	1.48e+09	1.21	y	42:52	-	1.06
115	Hexa	PCB-132/161	2000.00	1.49e+09	1.22	y	43:07	-	1.07
116	Hexa	PCB-153	1000.00	7.14e+08	1.23	y	43:18	-	1.02
117	Hexa	PCB-168	1000.00	9.13e+08	1.23	y	43:31	-	1.31
118	Hexa	PCB-141	1000.00	6.28e+08	1.20	y	44:02	-	1.06
119	Hexa	PCB-137	1000.00	6.54e+08	1.18	y	44:25	-	1.10
120	Hexa	PCB-130	1000.00	5.46e+08	1.23	y	44:31	-	0.92
121	Hexa	PCB-138/163/164	3000.00	2.41e+09	1.21	y	44:54	-	1.26
122	Hexa	PCB-158/160	2000.00	1.71e+09	1.21	y	45:08	-	1.34
123	Hexa	PCB-129	1000.00	5.54e+08	1.21	y	45:22	-	0.87
124	Hexa	PCB-166	1000.00	8.34e+08	1.21	y	45:49	-	1.08
125	Hexa	PCB-159	1000.00	8.85e+08	1.18	y	46:09	-	1.15
126	Hexa	PCB-128/162	2000.00	1.48e+09	1.19	y	46:26	-	0.96
127	Hexa	PCB-167	1000.00	8.20e+08	1.22	y	46:49	-	1.09
128	Hexa	PCB-156	1000.00	9.21e+08	1.23	y	48:08	-	1.19
129	Hexa	PCB-157	1000.00	9.13e+08	1.23	y	48:23	-	1.13
130	Hexa	PCB-169	1000.00	7.98e+08	1.22	y	50:33	-	1.03
131	Hepta	PCB-188	1000.00	7.95e+08	1.05	y	42:56	-	1.38
132	Hepta	PCB-184	1000.00	7.03e+08	1.05	y	43:22	-	1.22
133	Hepta	PCB-179	1000.00	7.20e+08	1.05	y	44:09	-	1.25
134	Hepta	PCB-176	1000.00	7.64e+08	1.05	y	44:37	-	1.32
135	Hepta	PCB-186	1000.00	7.73e+08	1.05	y	45:13	-	1.34
136	Hepta	PCB-178	1000.00	5.43e+08	1.05	y	45:43	-	0.94
137	Hepta	PCB-175	1000.00	5.58e+08	1.04	y	46:04	-	0.97
138	Hepta	PCB-182/187	2000.00	1.19e+09	1.05	y	46:14	-	1.03
139	Hepta	PCB-183	1000.00	6.25e+08	1.04	y	46:33	-	1.08
140	Hepta	PCB-185	1000.00	5.42e+08	1.05	y	47:13	-	1.27
141	Hepta	PCB-174	1000.00	5.22e+08	1.04	y	47:35	-	1.22
142	Hepta	PCB-181	1000.00	5.36e+08	1.05	y	47:41	-	1.25
143	Hepta	PCB-177	1000.00	4.84e+08	1.05	y	47:51	-	1.13
144	Hepta	PCB-171	1000.00	5.90e+08	1.05	y	48:08	-	1.38
145	Hepta	PCB-173	1000.00	4.55e+08	1.05	y	48:34	-	1.06
146	Hepta	PCB-172	1000.00	5.42e+08	1.04	y	49:01	-	1.27
147	Hepta	PCB-192	1000.00	6.95e+08	1.06	y	49:13	-	1.63
148	Hepta	PCB-180	1000.00	5.49e+08	1.04	y	49:25	-	1.29
149	Hepta	PCB-193	1000.00	7.36e+08	1.05	y	49:37	-	1.72
150	Hepta	PCB-191	1000.00	7.57e+08	1.05	y	49:53	-	1.77
151	Hepta	PCB-170	1000.00	5.24e+08	1.04	y	50:56	-	1.55
152	Hepta	PCB-190	1000.00	7.39e+08	1.05	y	51:06	-	2.18
153	Hepta	PCB-189	1000.00	7.06e+08	1.05	y	52:27	-	1.55
154	Octa	PCB-202	1000.00	5.29e+08	0.89	y	48:21	-	0.96
155	Octa	PCB-201	1000.00	5.60e+08	0.88	y	48:50	-	1.02
156	Octa	PCB-204	1000.00	5.48e+08	0.88	y	48:59	-	1.00
157	Octa	PCB-197	1000.00	6.09e+08	0.89	y	49:17	-	1.11
158	Octa	PCB-200	1000.00	5.29e+08	0.88	y	50:11	-	0.96
159	Octa	PCB-198	1000.00	4.13e+08	0.96	y	51:32	-	0.75
160	Octa	PCB-199	1000.00	3.88e+08	0.81	y	51:38	-	0.71
161	Octa	PCB-196/203	2000.00	8.89e+08	0.89	y	51:55	-	0.81
162	Octa	PCB-195	1000.00	4.52e+08	0.91	y	53:05	-	1.16

163	Octa	PCB-194	1000.00	4.45e+08	0.90 y	53:58	-	1.14
164	Octa	PCB-205	1000.00	5.99e+08	0.92 y	54:15	-	1.53
165	Nona	PCB-208	1000.00	5.57e+08	1.30 y	53:14	-	0.91
166	Nona	PCB-207	1000.00	5.77e+08	1.31 y	53:33	-	0.95
167	Nona	PCB-206	1000.00	3.20e+08	1.30 y	55:35	-	0.79
168	Deca	PCB-209	1000.00	4.90e+08	1.17 y	56:57	-	1.23
169	Tot η	Total Mono-PCB	0.00	-	- n	-	-	1.33
170	Tot η	Total Di-PCB	0.00	-	- n	-	-	1.23

171	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.10
172	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.13
173	Tot η	Total Tetra-PCB	0.00	-	- n	-	-	1.04
174	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.14
175	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.28
176	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	0.93
177	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	1.06
178	Tot η	Total Hepta-PCB	0.00	-	- n	-	-	1.26
179	Tot η	Total Octa-PCB	0.00	-	- n	-	-	0.90
180	Tot η	Total Octa-PCB	0.00	-	- n	-	-	1.28
181	Tot η	Total Nona-PCB	0.00	-	- n	-	-	0.90
182	Tot η	Total Deca-PCB	1000.00	4.90e+08	1.17 y	56:57	-	1.23
183	Monoη	13C-PCB-1	100.00	1.04e+08	3.59 y	16:10	-	0.78
184	Monoη	13C-PCB-3	100.00	1.08e+08	3.59 y	18:47	-	0.81
185	Di-IS	13C-PCB-4	100.00	7.50e+07	1.62 y	20:07	-	0.57
186	Di-IS	13C-PCB-9	100.00	1.22e+08	1.57 y	21:55	-	0.92
187	Di-IS	13C-PCB-11	100.00	1.23e+08	1.57 y	25:17	-	0.93
188	Tri-η	13C-PCB-19	100.00	7.15e+07	1.09 y	24:17	-	0.54
189	Tri-η	13C-PCB-32	100.00	1.08e+08	1.10 y	27:12	-	0.81
190	Tri-η	13C-PCB-28	100.00	8.14e+07	1.06 y	29:09	-	1.15
191	Tri-η	13C-PCB-37	100.00	7.21e+07	1.00 y	33:01	-	1.02
192	Tetrη	13C-PCB-54	100.00	9.52e+07	0.76 y	28:02	-	1.08
193	Tetrη	13C-PCB-52	100.00	6.10e+07	0.76 y	31:34	-	0.69
194	Tetrη	13C-PCB-47	100.00	6.93e+07	0.76 y	32:04	-	0.79
195	Tetrη	13C-PCB-70	100.00	9.52e+07	0.77 y	35:35	-	1.08
196	Tetrη	13C-PCB-80	100.00	9.56e+07	0.77 y	36:00	-	1.08
197	Tetrη	13C-PCB-81	100.00	9.43e+07	0.77 y	39:06	-	1.07
198	Tetrη	13C-PCB-77	100.00	9.31e+07	0.78 y	39:42	-	1.06
199	Pentη	13C-PCB-104	100.00	6.44e+07	1.60 y	32:43	-	0.89
200	Pentη	13C-PCB-95	100.00	4.86e+07	1.62 y	35:53	-	0.67
201	Pentη	13C-PCB-101	100.00	5.46e+07	1.67 y	37:33	-	0.75
202	Pentη	13C-PCB-97	100.00	4.62e+07	1.66 y	38:52	-	0.64
203	Pentη	13C-PCB-123	100.00	6.30e+07	1.65 y	41:25	-	0.87
204	Pentη	13C-PCB-118	100.00	6.84e+07	1.63 y	41:36	-	0.95
205	Pentη	13C-PCB-114	100.00	6.88e+07	1.63 y	42:15	-	1.25
206	Pentη	13C-PCB-105	100.00	6.67e+07	1.58 y	43:07	-	1.21
207	Pentη	13C-PCB-127	100.00	7.14e+07	1.58 y	43:27	-	1.30
208	Pentη	13C-PCB-126	100.00	6.15e+07	1.59 y	45:21	-	1.12
209	Hexaη	13C-PCB-155	100.00	5.83e+07	1.23 y	37:06	-	0.81
210	Hexaη	13C-PCB-153	100.00	6.98e+07	1.26 y	43:17	-	1.27
211	Hexaη	13C-PCB-141	100.00	5.93e+07	1.28 y	44:01	-	1.08
212	Hexa	13C-PCB-138	100.00	6.37e+07	1.29 y	44:51	-	1.16
213	Hexaη	13C-PCB-159	100.00	7.72e+07	1.27 y	46:08	-	1.41
214	Hexaη	13C-PCB-167	100.00	7.55e+07	1.27 y	46:49	-	1.37
215	Hexaη	13C-PCB-156	100.00	7.74e+07	1.26 y	48:07	-	1.41
216	Hexaη	13C-PCB-157	100.00	8.11e+07	1.28 y	48:23	-	1.48
217	Hexaη	13C-PCB-169	100.00	7.75e+07	1.26 y	50:33	-	1.41
218	Heptη	13C-PCB-188	100.00	5.77e+07	0.46 y	42:55	-	1.05
219	Heptη	13C-PCB-180	100.00	4.27e+07	0.47 y	49:24	-	0.78
220	Heptη	13C-PCB-170	100.00	3.39e+07	0.46 y	50:55	-	0.62
221	Heptη	13C-PCB-189	100.00	4.55e+07	0.47 y	52:26	-	0.83

222	Octaη	13C-PCB-202	100.00	5.50e+07	0.90 y	48:20	-	1.00
223	Octaη	13C-PCB-194	100.00	3.90e+07	0.88 y	53:57	-	0.72
224	Nonaη	13C-PCB-208	100.00	6.09e+07	0.76 y	53:14	-	1.13
225	Nonaη	13C-PCB-206	100.00	4.02e+07	0.78 y	55:35	-	0.74
226	Decaη	13C-PCB-209	100.00	3.99e+07	1.19 y	56:56	-	0.74
227	DI-RS	13C-PCB-15	100.00	1.33e+08	1.59 y	26:00	-	1.00
228	Tri-η	13C-PCB-31	100.00	7.06e+07	1.04 y	29:03	-	1.00
229	Tetraη	13C-PCB-60	100.00	8.83e+07	0.76 y	36:49	-	1.00
230	Penta	13C-PCB-111	100.00	7.23e+07	1.63 y	39:18	-	1.00
231	Hexaη	13C-PCB-128	100.00	5.49e+07	1.27 y	46:25	-	1.00

232	Octaη	13C-PCB-205	100.00	5.41e+07	0.88 y	54:14	-	1.00
233	CRS	13C-PCB-79	100.00	9.97e+07	0.78 y	37:53	-	1.13
234	CRS	13C-PCB-178	100.00	3.44e+07	0.46 y	45:42	-	0.63
235	PS	13C-PCB-79	100.00	9.97e+07	0.78 y	37:53	-	1.06
236	PS	13C-PCB-178	100.00	3.44e+07	0.46 y	45:42	-	0.80

Filename: 150116E1 S: 2 Acquired: 16-JAN-15 08:51:27
 Run: 150114e1 Analyte: ICal: pcbvg8-1-14-15 Results: 150114e1
 Sample text: ST150116E1-2 PCB CS0 14L2902

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Mono	PCB-1	0.25	8.23e+05	2.94 y	16:10	-	1.40
2	Mono	PCB-2	0.25	8.54e+05	2.97 y	18:33	-	1.25
3	Mono	PCB-3	0.25	8.73e+05	2.80 y	18:47	-	1.27
4	Di	PCB-4/10	0.50	1.52e+06	1.35 y	20:10	-	1.98
5	Di	PCB-7/9	0.50	1.84e+06	1.60 y	21:57	-	1.43
6	Di	PCB-6	0.25	9.02e+05	1.49 y	22:35	-	1.41
7	Di	PCB-5/8	0.50	1.93e+06	1.40 y	23:00	-	1.50
8	Di	PCB-14	0.25	1.06e+06	1.71 y	24:06	-	1.64
9	Di	PCB-11	0.25	9.73e+05	1.71 y	25:18	-	1.51
10	Di	PCB-12/13	0.50	1.86e+06	1.64 y	25:41	-	1.44
11	Di	PCB-15	0.25	1.11e+06	1.59 y	25:59	-	1.72
12	Tri	PCB-19	0.25	4.86e+05	1.00 y	24:16	-	1.32
13	Tri	PCB-30	0.25	7.78e+05	1.01 y	25:10	-	2.11
14	Tri	PCB-18	0.25	5.31e+05	1.06 y	25:55	-	0.98
15	Tri	PCB-17	0.25	5.95e+05	0.99 y	26:05	-	1.10
16	Tri	PCB-24/27	0.50	1.64e+06	1.07 y	26:40	-	1.52
17	Tri	PCB-16/32	0.50	1.35e+06	1.01 y	27:10	-	1.25
18	Tri	PCB-34	0.25	6.39e+05	1.00 y	27:59	-	1.53
19	Tri	PCB-23	0.25	5.74e+05	1.11 y	28:05	-	1.37
20	Tri	PCB-29	0.25	5.69e+05	0.97 y	28:19	-	1.36
21	Tri	PCB-26	0.25	5.52e+05	1.11 y	28:32	-	1.32
22	Tri	PCB-25	0.25	4.36e+05	1.04 y	28:41	-	1.04
23	Tri	PCB-31	0.25	5.79e+05	1.08 y	29:02	-	1.38
24	Tri	PCB-28	0.25	5.76e+05	1.10 y	29:08	-	1.38
25	Tri	PCB-20/21/33	0.75	1.58e+06	1.08 y	29:46	-	1.26
26	Tri	PCB-22	0.25	5.67e+05	1.08 y	30:12	-	1.36
27	Tri	PCB-36	0.25	5.70e+05	0.95 y	30:49	-	1.42
28	Tri	PCB-39	0.25	5.42e+05	0.91 y	31:18	-	1.35
29	Tri	PCB-38	0.25	4.87e+05	1.13 y	32:03	-	1.22
30	Tri	PCB-35	0.25	5.42e+05	0.99 y	32:35	-	1.35
31	Tri	PCB-37	0.25	6.21e+05	1.00 y	33:01	-	1.55
32	Tetra	PCB-54	0.25	5.77e+05	0.67 y	28:01	-	1.21
33	Tetra	PCB-50	0.25	4.13e+05	0.75 y	29:12	-	0.87
34	Tetra	PCB-53	0.25	4.43e+05	0.78 y	29:50	-	1.36
35	Tetra	PCB-51	0.25	4.07e+05	0.88 y	30:11	-	1.25
36	Tetra	PCB-45	0.25	4.06e+05	0.68 y	30:37	-	1.25
37	Tetra	PCB-46	0.25	3.73e+05	0.69 y	31:06	-	1.15
38	Tetra	PCB-52/69	0.50	9.67e+05	0.72 y	31:35	-	1.49
39	Tetra	PCB-73	0.25	5.44e+05	0.66 y	31:42	-	1.67
40	Tetra	PCB-43/49	0.50	8.95e+05	0.73 y	31:52	-	1.37
41	Tetra	PCB-47	0.25	5.18e+05	0.66 y	32:04	-	1.53

42	Tetra	PCB-48/75	0.50	1.05e+06	0.73 y	32:11	-	1.56
43	Tetra	PCB-65	0.25	5.56e+05	0.78 y	32:27	-	1.64
44	Tetra	PCB-62	0.25	5.62e+05	0.80 y	32:33	-	1.66
45	Tetra	PCB-44	0.25	3.84e+05	0.80 y	32:52	-	1.13
46	Tetra	PCB-42/59	0.50	1.09e+06	0.73 y	33:05	-	1.61
47	Tetra	PCB-41/64/71/72	1.00	2.24e+06	0.68 y	33:40	-	1.65
48	Tetra	PCB-68	0.25	7.48e+05	0.76 y	33:56	-	2.21
49	Tetra	PCB-40	0.25	3.78e+05	0.77 y	34:08	-	1.11
50	Tetra	PCB-57	0.25	6.40e+05	0.76 y	34:30	-	1.44
51	Tetra	PCB-67	0.25	6.01e+05	0.76 y	34:48	-	1.35
52	Tetra	PCB-58	0.25	6.11e+05	0.84 y	34:56	-	1.37

53	Tetra	PCB-63	0.25	6.42e+05	0.73 y	35:05	-	1.44
54	Tetra	PCB-74	0.25	6.79e+05	0.76 y	35:22	-	1.52
55	Tetra	PCB-61/70	0.50	1.26e+06	0.79 y	35:32	-	1.42
56	Tetra	PCB-76/66	0.50	1.38e+06	0.72 y	35:46	-	1.55
57	Tetra	PCB-80	0.25	7.76e+05	0.66 y	36:00	-	1.65
58	Tetra	PCB-55	0.25	7.25e+05	0.69 y	36:19	-	1.54
59	Tetra	PCB-56/60	0.50	1.33e+06	0.69 y	36:48	-	1.40
60	Tetra	PCB-79	0.25	6.44e+05	0.72 y	37:52	-	1.37
61	Tetra	PCB-78	0.25	7.03e+05	0.86 y	38:34	-	1.51
62	Tetra	PCB-81	0.25	7.65e+05	0.71 y	39:06	-	1.64
63	Tetra	PCB-77	0.25	7.30e+05	0.72 y	39:41	-	1.65
64	Penta	PCB-104	0.25	5.67e+05	1.55 y	32:43	-	1.50
65	Penta	PCB-96	0.25	4.70e+05	1.56 y	33:59	-	1.25
66	Penta	PCB-103	0.25	3.98e+05	1.40 y	34:31	-	1.05
67	Penta	PCB-100	0.25	3.93e+05	1.57 y	34:52	-	1.04
68	Penta	PCB-94	0.25	3.35e+05	1.51 y	35:21	-	1.26
69	Penta	PCB-95/98/102	0.75	1.21e+06	1.44 y	35:49	-	1.52
70	Penta	PCB-93	0.25	3.27e+05	1.57 y	35:58	-	1.23
71	Penta	PCB-88/91	0.50	6.67e+05	1.73 y	36:14	-	1.26
72	Penta	PCB-121	0.25	5.54e+05	1.37 y	36:21	-	2.09
73	Penta	PCB-84/92	0.50	7.20e+05	1.52 y	37:11	-	1.20
74	Penta	PCB-89	0.25	3.45e+05	1.57 y	37:22	-	1.15
75	Penta	PCB-90/101	0.50	8.67e+05	1.49 y	37:33	-	1.45
76	Penta	PCB-113	0.25	4.42e+05	1.63 y	37:47	-	1.48
77	Penta	PCB-99	0.25	4.77e+05	1.32 y	37:53	-	1.59
78	Penta	PCB-119	0.25	5.55e+05	1.73 y	38:22	-	2.15
79	Penta	PCB-108/112	0.50	7.83e+05	1.67 y	38:31	-	1.51
80	Penta	PCB-83	0.25	4.64e+05	1.57 y	38:40	-	1.80
81	Penta	PCB-97	0.25	3.95e+05	1.40 y	38:52	-	1.53
82	Penta	PCB-86	0.25	3.56e+05	1.44 y	39:00	-	1.38
83	Penta	PCB-87/117/125	0.75	1.35e+06	1.64 y	39:08	-	1.74
84	Penta	PCB-111/115	0.50	1.14e+06	1.55 y	39:17	-	2.20
85	Penta	PCB-85/116	0.50	8.83e+05	1.60 y	39:25	-	1.71
86	Penta	PCB-120	0.25	6.10e+05	1.61 y	39:40	-	2.36
87	Penta	PCB-110	0.25	5.31e+05	1.49 y	39:48	-	2.05
88	Penta	PCB-82	0.25	3.08e+05	1.51 y	40:25	-	0.89
89	Penta	PCB-124	0.25	4.70e+05	1.54 y	41:06	-	1.36
90	Penta	PCB-107/109	0.50	1.12e+06	1.59 y	41:14	-	1.62
91	Penta	PCB-123	0.25	5.08e+05	1.71 y	41:26	-	1.47
92	Penta	PCB-106/118	0.50	1.14e+06	1.54 y	41:37	-	1.58
93	Penta	PCB-114	0.25	6.35e+05	1.49 y	42:16	-	1.70
94	Penta	PCB-122	0.25	5.14e+05	1.72 y	42:23	-	1.38
95	Penta	PCB-105	0.25	6.49e+05	1.73 y	43:07	-	1.79
96	Penta	PCB-127	0.25	5.82e+05	1.76 y	43:28	-	1.53
97	Penta	PCB-126	0.25	5.40e+05	1.61 y	45:21	-	1.55
98	Hexa	PCB-155	0.25	4.38e+05	1.32 y	37:07	-	1.33
99	Hexa	PCB-150	0.25	4.32e+05	1.10 y	38:22	-	1.31
100	Hexa	PCB-152	0.25	4.91e+05	1.20 y	38:51	-	1.49
101	Hexa	PCB-145	0.25	4.05e+05	1.30 y	39:17	-	1.23
102	Hexa	PCB-136	0.25	4.29e+05	1.20 y	39:37	-	1.30

103	Hexa	PCB-148	0.25	3.04e+05	1.36 y	39:43	-	0.92
104	Hexa	PCB-154	0.25	3.60e+05	1.19 y	40:13	-	1.09
105	Hexa	PCB-151	0.25	3.00e+05	1.24 y	40:50	-	0.91
106	Hexa	PCB-135	0.25	2.94e+05	1.38 y	41:04	-	0.89
107	Hexa	PCB-144	0.25	3.27e+05	1.29 y	41:10	-	0.99
108	Hexa	PCB-147	0.25	3.02e+05	1.31 y	41:18	-	0.92
109	Hexa	PCB-139/149	0.50	6.50e+05	1.18 y	41:34	-	0.99
110	Hexa	PCB-140	0.25	2.95e+05	1.42 y	41:45	-	0.90
111	Hexa	PCB-134/143	0.50	8.06e+05	1.27 y	42:11	-	1.08
112	Hexa	PCB-133/142	0.50	7.42e+05	1.18 y	42:29	-	1.00
113	Hexa	PCB-131	0.25	3.29e+05	1.26 y	42:39	-	0.89

114	Hexa	PCB-146/165	0.50	8.57e+05	1.23 y	42:52	-	1.15
115	Hexa	PCB-132/161	0.50	9.37e+05	1.30 y	43:07	-	1.26
116	Hexa	PCB-153	0.25	5.93e+05	1.35 y	43:16	-	1.60
117	Hexa	PCB-168	0.25	5.66e+05	1.42 y	43:30	-	1.52
118	Hexa	PCB-141	0.25	4.25e+05	1.18 y	44:01	-	1.36
119	Hexa	PCB-137	0.25	4.29e+05	1.26 y	44:24	-	1.38
120	Hexa	PCB-130	0.25	3.31e+05	1.11 y	44:30	-	1.06
121	Hexa	PCB-138/163/164	0.75	1.63e+06	1.16 y	44:53	-	1.69
122	Hexa	PCB-158/160	0.50	1.19e+06	1.31 y	45:07	-	1.84
123	Hexa	PCB-129	0.25	3.95e+05	1.21 y	45:21	-	1.23
124	Hexa	PCB-166	0.25	5.35e+05	1.28 y	45:49	-	1.37
125	Hexa	PCB-159	0.25	5.69e+05	1.35 y	46:08	-	1.46
126	Hexa	PCB-128/162	0.50	9.34e+05	1.12 y	46:26	-	1.20
127	Hexa	PCB-167	0.25	5.71e+05	1.24 y	46:49	-	1.42
128	Hexa	PCB-156	0.25	5.58e+05	1.24 y	48:06	-	1.44
129	Hexa	PCB-157	0.25	5.78e+05	1.29 y	48:22	-	1.41
130	Hexa	PCB-169	0.25	4.98e+05	1.30 y	50:32	-	1.20
131	Hepta	PCB-188	0.25	5.36e+05	0.97 y	42:55	-	1.88
132	Hepta	PCB-184	0.25	4.31e+05	1.00 y	43:22	-	1.51
133	Hepta	PCB-179	0.25	4.62e+05	1.08 y	44:08	-	1.62
134	Hepta	PCB-176	0.25	4.83e+05	1.07 y	44:36	-	1.69
135	Hepta	PCB-186	0.25	4.94e+05	1.00 y	45:13	-	1.73
136	Hepta	PCB-178	0.25	3.70e+05	1.00 y	45:42	-	1.30
137	Hepta	PCB-175	0.25	3.47e+05	1.08 y	46:02	-	1.22
138	Hepta	PCB-182/187	0.50	7.45e+05	1.05 y	46:13	-	1.31
139	Hepta	PCB-183	0.25	4.00e+05	0.93 y	46:33	-	1.40
140	Hepta	PCB-185	0.25	3.66e+05	0.97 y	47:12	-	1.68
141	Hepta	PCB-174	0.25	3.21e+05	1.06 y	47:34	-	1.47
142	Hepta	PCB-181	0.25	3.20e+05	1.15 y	47:40	-	1.46
143	Hepta	PCB-177	0.25	3.38e+05	1.05 y	47:50	-	1.55
144	Hepta	PCB-171	0.25	3.67e+05	1.16 y	48:07	-	1.68
145	Hepta	PCB-173	0.25	2.66e+05	1.19 y	48:33	-	1.22
146	Hepta	PCB-172	0.25	3.69e+05	0.98 y	48:59	-	1.69
147	Hepta	PCB-192	0.25	4.47e+05	1.15 y	49:11	-	2.05
148	Hepta	PCB-180	0.25	3.93e+05	1.10 y	49:24	-	1.80
149	Hepta	PCB-193	0.25	4.76e+05	0.93 y	49:36	-	2.18
150	Hepta	PCB-191	0.25	4.59e+05	1.01 y	49:51	-	2.10
151	Hepta	PCB-170	0.25	3.50e+05	0.92 y	50:55	-	2.01
152	Hepta	PCB-190	0.25	4.53e+05	1.20 y	51:05	-	2.60
153	Hepta	PCB-189	0.25	4.45e+05	1.16 y	52:25	-	1.88
154	Octa	PCB-202	0.25	3.30e+05	0.89 y	48:20	-	1.16
155	Octa	PCB-201	0.25	3.56e+05	0.82 y	48:49	-	1.25
156	Octa	PCB-204	0.25	3.77e+05	0.86 y	48:58	-	1.33
157	Octa	PCB-197	0.25	3.89e+05	0.83 y	49:17	-	1.37
158	Octa	PCB-200	0.25	3.52e+05	0.82 y	50:10	-	1.24
159	Octa	PCB-198	0.25	2.51e+05	0.98 y	51:31	-	0.88
160	Octa	PCB-199	0.25	2.48e+05	0.90 y	51:38	-	0.87
161	Octa	PCB-196/203	0.50	5.74e+05	0.85 y	51:54	-	1.01
162	Octa	PCB-195	0.25	2.88e-05	0.95 y	53:05	-	1.34
163	Octa	PCB-194	0.25	3.47e+05	0.88 y	53:57	-	1.61

164	Octa	PCB-205	0.25	4.05e+05	0.83 y	54:13	-	1.88
165	Nona	PCB-208	0.25	3.37e+05	1.26 y	53:14	-	1.18
166	Nona	PCB-207	0.25	3.54e+05	1.38 y	53:33	-	1.24
167	Nona	PCB-206	0.25	2.13e+05	1.52 y	55:34	-	1.08
168	Deca	PCB-209	0.25	3.27e+05	1.27 y	56:56	-	1.69
169	Tot η	Total Mono-PCB	0.00	-	- n	-	-	1.30
170	Tot η	Total Di-PCB	0.00	-	- n	-	-	1.52
171	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.39

172	Tot η	Total Tri-PCB	0.00	-	- n	-	-	1.34
173	Tot η	Total Tetra-PCB	0.00	-	- n	-	-	1.42
174	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.42
175	Tot η	Total Penta-PCB	0.00	-	- n	-	-	1.59
176	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	1.09
177	Tot η	Total Hexa-PCB	0.00	-	- n	-	-	1.32
178	Tot η	Total Hepta-PCB	0.00	-	- n	-	-	1.61
179	Tot η	Total Octa-PCB	0.00	-	- n	-	-	1.12
180	Tot η	Total Octa-PCB	0.00	-	- n	-	-	1.61
181	Tot η	Total Nona-PCB	0.00	-	- n	-	-	1.18
182	Tot η	Total Deca-PCB	0.25	3.27e+05	1.27 y	56:56	-	1.69
183	Monoη	13C-PCB-1	100.00	2.35e+08	3.49 y	16:09	-	0.87
184	Monoη	13C-PCB-3	100.00	2.74e+08	3.42 y	18:46	-	1.01
185	Di-IS	13C-PCB-4	100.00	1.53e+08	1.60 y	20:06	-	0.57
186	Di-IS	13C-PCB-9	100.00	2.57e+08	1.58 y	21:53	-	0.95
187	Di-IS	13C-PCB-11	100.00	2.58e+08	1.57 y	25:16	-	0.95
188	Tri-η	13C-PCB-19	100.00	1.47e+08	1.12 y	24:15	-	0.54
189	Tri-η	13C-PCB-32	100.00	2.16e+08	1.11 y	27:10	-	0.80
190	Tri-η	13C-PCB-28	100.00	1.67e+08	1.03 y	29:08	-	1.00
191	Tri-η	13C-PCB-37	100.00	1.60e+08	1.04 y	33:00	-	0.96
192	Tetraη	13C-PCB-54	100.00	1.91e+08	0.76 y	28:01	-	1.03
193	Tetraη	13C-PCB-52	100.00	1.30e+08	0.78 y	31:32	-	0.70
194	Tetraη	13C-PCB-47	100.00	1.36e+08	0.78 y	32:03	-	0.73
195	Tetraη	13C-PCB-70	100.00	1.78e+08	0.78 y	35:33	-	0.96
196	Tetraη	13C-PCB-80	100.00	1.89e+08	0.79 y	35:59	-	1.02
197	Tetraη	13C-PCB-81	100.00	1.86e+08	0.78 y	39:05	-	1.00
198	Tetraη	13C-PCB-77	100.00	1.77e+08	0.79 y	39:41	-	0.95
199	Pentη	13C-PCB-104	100.00	1.51e+08	1.58 y	32:42	-	0.96
200	Pentη	13C-PCB-95	100.00	1.06e+08	1.59 y	35:52	-	0.68
201	Pentη	13C-PCB-101	100.00	1.20e+08	1.60 y	37:33	-	0.76
202	Pentη	13C-PCB-97	100.00	1.03e+08	1.63 y	38:51	-	0.66
203	Pentη	13C-PCB-123	100.00	1.38e+08	1.61 y	41:25	-	0.88
204	Pentη	13C-PCB-118	100.00	1.44e+08	1.62 y	41:35	-	0.91
205	Pentη	13C-PCB-114	100.00	1.49e+08	1.59 y	42:15	-	1.32
206	Pentη	13C-PCB-105	100.00	1.45e+08	1.60 y	43:06	-	1.29
207	Pentη	13C-PCB-127	100.00	1.52e+08	1.58 y	43:26	-	1.34
208	Pentη	13C-PCB-126	100.00	1.39e+08	1.58 y	45:20	-	1.23
209	Hexaη	13C-PCB-155	100.00	1.32e+08	1.26 y	37:05	-	0.84
210	Hexaη	13C-PCB-153	100.00	1.49e+08	1.28 y	43:16	-	1.31
211	Hexaη	13C-PCB-141	100.00	1.25e+08	1.29 y	44:00	-	1.10
212	Hexa	13C-PCB-138	100.00	1.29e+08	1.29 y	44:51	-	1.14
213	Hexaη	13C-PCB-159	100.00	1.56e+08	1.29 y	46:07	-	1.38
214	Hexaη	13C-PCB-167	100.00	1.61e+08	1.27 y	46:49	-	1.42
215	Hexaη	13C-PCB-156	100.00	1.55e+08	1.30 y	48:06	-	1.37
216	Hexaη	13C-PCB-157	100.00	1.64e+08	1.33 y	48:22	-	1.45
217	Hexaη	13C-PCB-169	100.00	1.66e+08	1.26 y	50:32	-	1.46
218	Heptη	13C-PCB-188	100.00	1.14e+08	0.45 y	42:54	-	1.01
219	Heptη	13C-PCB-180	100.00	8.73e+07	0.47 y	49:23	-	0.77
220	Heptη	13C-PCB-170	100.00	6.97e+07	0.45 y	50:54	-	0.62
221	Heptη	13C-PCB-189	100.00	9.47e-07	0.46 y	52:25	-	0.84
222	Octaη	13C-PCB-202	100.00	1.14e+08	0.93 y	48:19	-	1.00

223	Octaη	13C-PCB-194	100.00	8.63e+07	0.90 y	53:56	-	0.73
224	Nonaη	13C-PCB-208	100.00	1.14e+08	0.77 y	53:13	-	0.97
225	Nonaη	13C-PCB-206	100.00	7.88e+07	0.76 y	55:34	-	0.67
226	Decaη	13C-PCB-209	100.00	7.76e+07	1.20 y	56:55	-	0.66
227	DI-RS	13C-PCB-15	100.00	2.71e+08	1.57 y	25:59	-	1.00
228	Tri-η	13C-PCB-31	100.00	1.67e+08	1.05 y	29:01	-	1.00
229	Tetrη	13C-PCB-60	100.00	1.85e+08	0.79 y	36:48	-	1.00
230	Penta	13C-PCB-111	100.00	1.57e+08	1.61 y	39:17	-	1.00
231	Hexaη	13C-PCB-128	100.00	1.13e+08	1.27 y	46:23	-	1.00
232	Octaη	13C-PCB-205	100.00	1.18e+08	0.91 y	54:13	-	1.00

233	CRS	13C-PCB-79	100.00	1.81e+08	0.78 y	37:52	-	0.97
234	CRS	13C-PCB-178	100.00	7.34e+07	0.47 y	45:41	-	0.65
235	PS	13C-PCB-79	100.00	1.81e+08	0.78 y	37:52	-	0.97
236	PS	13C-PCB-178	100.00	7.34e+07	0.47 y	45:41	-	0.84

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150114E1-5 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICAL ID: PCBVG8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150114E1 SH6 Analysis Date: 14-JAN-15 Time: 18:00:03

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
PCB-1	2.99	2.66-3.60	y	46.1	37.5-62.5	PCB-52/69	0.74	0.65-0.89	y	93.1	75.0-125
PCB-2	2.99	2.66-3.60	y	48.8	37.5-62.5	PCB-73	0.75	0.65-0.89	y	50.2	37.5-62.5
PCB-3	2.98	2.66-3.60	y	48.7	37.5-62.5	PCB-43/49	0.73	0.65-0.89	y	93.4	75.0-125
PCB-4/10	1.64	1.33-1.79	y	93.0	75-125	PCB-47	0.74	0.65-0.89	y	45.6	37.5-62.5
PCB-7/9	1.63	1.33-1.79	y	94.5	75-125	PCB-48/75	0.73	0.65-0.89	y	90.7	75.0-125
PCB-6	1.65	1.33-1.79	y	47.6	37.5-62.5	PCB-65	0.73	0.65-0.89	y	42.9	37.5-62.5
PCB-5/8	1.64	1.33-1.79	y	92.5	75-125	PCB-62	0.74	0.65-0.89	y	47.2	37.5-62.5
PCB-14	1.64	1.33-1.79	y	48.1	37.5-62.5	PCB-44	0.74	0.65-0.89	y	46.2	37.5-62.5
PCB-11	1.68	1.33-1.79	y	47.1	37.5-62.5	PCB-42/59	0.74	0.65-0.89	y	85.0	75.0-125
PCB-12/13	1.65	1.33-1.79	y	94.6	75-125	PCB-41/64/71/72	0.73	0.65-0.89	y	170.4	150-250
PCB-15	1.65	1.33-1.79	y	47.1	37.5-62.5	PCB-68	0.73	0.65-0.89	y	40.2	37.5-62.5
PCB-19	1.06	0.88-1.20	y	47.6	37.5-62.5	PCB-40	0.73	0.65-0.89	y	40.8	37.5-62.5
PCB-30	1.05	0.88-1.20	y	47.9	37.5-62.5	PCB-57	0.74	0.65-0.89	y	46.0	37.5-62.5
PCB-18	1.06	0.88-1.20	y	47.8	37.5-62.5	PCB-67	0.73	0.65-0.89	y	45.9	37.5-62.5
PCB-17	1.05	0.88-1.20	y	48.2	37.5-62.5	PCB-58	0.76	0.65-0.89	y	49.2	37.5-62.5
PCB-24/27	1.06	0.88-1.20	y	95.1	75.0-125	PCB-63	0.71	0.65-0.89	y	47.3	37.5-62.5
PCB-16/32	1.05	0.88-1.20	y	93.3	75.0-125	PCB-74	0.74	0.65-0.89	y	44.5	37.5-62.5
PCB-34	1.01	0.88-1.20	y	45.7	37.5-62.5	PCB-61/70	0.73	0.65-0.89	y	92.8	75.0-125
PCB-23	1.06	0.88-1.20	y	47.9	37.5-62.5	PCB-76/66	0.74	0.65-0.89	y	90.0	75.0-125
PCB-29	1.01	0.88-1.20	y	43.7	37.5-62.5	PCB-80	0.74	0.65-0.89	y	45.2	37.5-62.5
PCB-26	1.00	0.88-1.20	y	44.9	37.5-62.5	PCB-55	0.74	0.65-0.89	y	45.9	37.5-62.5
PCB-25	1.01	0.88-1.20	y	45.8	37.5-62.5	PCB-56/60	0.73	0.65-0.89	y	88.4	75.0-125
PCB-31	1.03	0.88-1.20	y	45.4	37.5-62.5	PCB-79	0.73	0.65-0.89	y	44.5	37.5-62.5
PCB-28	1.04	0.88-1.20	y	43.3	37.5-62.5	PCB-78	0.74	0.65-0.89	y	43.6	37.5-62.5
PCB-20/21/33	1.02	0.88-1.20	y	136.2	112.5-225	PCB-81	0.75	0.65-0.89	y	45.5	37.5-62.5
PCB-22	1.03	0.88-1.20	y	46.7	37.5-62.5	PCB-77	0.76	0.65-0.89	y	45.7	37.5-62.5
PCB-36	1.05	0.88-1.20	y	53.8	37.5-62.5	PCB-104	1.59	1.32-1.78	y	45.9	37.5-62.5
PCB-39	1.05	0.88-1.20	y	50.8	37.5-62.5	PCB-96	1.56	1.32-1.78	y	43.9	37.5-62.5
PCB-38	1.03	0.88-1.20	y	52.5	37.5-62.5	PCB-103	1.54	1.32-1.78	y	44.4	37.5-62.5
PCB-35	1.03	0.88-1.20	y	50.7	37.5-62.5	PCB-100	1.57	1.32-1.78	y	45.3	37.5-62.5
PCB-37	1.08	0.88-1.20	y	47.6	37.5-62.5	PCB-94	1.56	1.32-1.78	y	46.8	37.5-62.5
PCB-54	0.74	0.65-0.89	y	46.6	37.5-62.5	PCB-95/98/102	1.52	1.32-1.78	y	134.8	112.5-225
PCB-50	0.72	0.65-0.89	y	46.9	37.5-62.5	PCB-93	1.68	1.32-1.78	y	53.0	37.5-62.5
PCB-53	0.75	0.65-0.89	y	48.1	37.5-62.5	PCB-88/91	1.56	1.32-1.78	y	99.5	75.0-125
PCB-51	0.72	0.65-0.89	y	47.8	37.5-62.5	PCB-121	1.57	1.32-1.78	y	44.4	37.5-62.5
PCB-45	0.73	0.65-0.89	y	48.7	37.5-62.5						
PCB-46	0.73	0.65-0.89	y	45.8	37.5-62.5						

Analyst: DMS

Date: 1/20/15

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150114E1-5 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: pcbvg8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150114E1 S#6 Analysis Date: 14-JAN-15 Time: 18:00:03

ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)	ANALYTES	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
PCB-84/92	1.54	1.32-1.78	y	97.1	75.0-125	PCB-140	1.24	1.05-1.43	y	44.8	37.5-62.5
PCB-89	1.53	1.32-1.78	y	47.5	37.5-62.5	PCB-134/143	1.22	1.05-1.43	y	91.8	75.0-125
PCB-90/101	1.56	1.32-1.78	y	93.5	75.0-125	PCB-133/142	1.24	1.05-1.43	y	93.1	75.0-125
PCB-113	1.55	1.32-1.78	y	51.7	37.5-62.5	PCB-131	1.16	1.05-1.43	y	46.7	37.5-62.5
PCB-99	1.60	1.32-1.78	y	41.4	37.5-62.5	PCB-146/165	1.22	1.05-1.43	y	93.5	75.0-125
PCB-119	1.56	1.32-1.78	y	47.0	37.5-62.5	PCB-132/161	1.22	1.05-1.43	y	92.8	75.0-125
PCB-108/112	1.56	1.32-1.78	y	94.2	75.0-125	PCB-153	1.21	1.05-1.43	y	43.2	37.5-62.5
PCB-83	1.57	1.32-1.78	y	47.6	37.5-62.5	PCB-168	1.22	1.05-1.43	y	46.7	37.5-62.5
PCB-97	1.55	1.32-1.78	y	46.2	37.5-62.5	PCB-141	1.22	1.05-1.43	y	45.4	37.5-62.5
PCB-86	1.46	1.32-1.78	y	48.0	37.5-62.5	PCB-137	1.18	1.05-1.43	y	45.4	37.5-62.5
PCB-87/117/125	1.59	1.32-1.78	y	142.8	112.5-225	PCB-130	1.21	1.05-1.43	y	48.2	37.5-62.5
PCB-111/115	1.56	1.32-1.78	y	95.3	75.0-125	PCB-138/163/164	1.21	1.05-1.43	y	137.7	112.5-225
PCB-85/116	1.60	1.32-1.78	y	95.6	75.0-125	PCB-158/160	1.22	1.05-1.43	y	93.2	75.0-125
PCB-120	1.53	1.32-1.78	y	46.1	37.5-62.5	PCB-129	1.20	1.05-1.43	y	44.6	37.5-62.5
PCB-110	1.56	1.32-1.78	y	47.5	37.5-62.5	PCB-166	1.21	1.05-1.43	y	46.6	37.5-62.5
PCB-82	1.56	1.32-1.78	y	48.9	37.5-62.5	PCB-159	1.22	1.05-1.43	y	47.9	37.5-62.5
PCB-124	1.57	1.32-1.78	y	49.4	37.5-62.5	PCB-128/162	1.20	1.05-1.43	y	94.0	75.0-125
PCB-107/109	1.58	1.32-1.78	y	90.6	75.0-125	PCB-167	1.17	1.05-1.43	y	46.3	37.5-62.5
PCB-123	1.55	1.32-1.78	y	48.4	37.5-62.5	PCB-156	1.19	1.05-1.43	y	46.7	37.5-62.5
PCB-106/118	1.54	1.32-1.78	y	92.8	75.0-125	PCB-157	1.21	1.05-1.43	y	46.2	37.5-62.5
PCB-114	1.62	1.32-1.78	y	46.9	37.5-62.5	PCB-157	1.21	1.05-1.43	y	46.2	37.5-62.5
PCB-122	1.63	1.32-1.78	y	45.9	37.5-62.5	PCB-169	1.20	1.05-1.43	y	47.2	37.5-62.5
PCB-105	1.65	1.32-1.78	y	47.1	37.5-62.5	PCB-188	1.06	0.89-1.21	y	47.0	37.5-62.5
PCB-127	1.69	1.32-1.78	y	47.5	37.5-62.5	PCB-184	1.05	0.89-1.21	y	47.6	37.5-62.5
PCB-126	1.64	1.32-1.78	y	49.3	37.5-62.5	PCB-179	1.03	0.89-1.21	y	47.9	37.5-62.5
PCB-155	1.23	1.05-1.43	y	46.8	37.5-62.5	PCB-176	1.04	0.89-1.21	y	48.0	37.5-62.5
PCB-150	1.24	1.05-1.43	y	45.2	37.5-62.5	PCB-186	1.05	0.89-1.21	y	46.9	37.5-62.5
PCB-152	1.25	1.05-1.43	y	44.2	37.5-62.5	PCB-178	1.06	0.89-1.21	y	46.4	37.5-62.5
PCB-145	1.24	1.05-1.43	y	45.5	37.5-62.5	PCB-175	1.06	0.89-1.21	y	48.1	37.5-62.5
PCB-136	1.23	1.05-1.43	y	47.5	37.5-62.5	PCB-182/187	1.05	0.89-1.21	y	93.3	75.0-125
PCB-148	1.24	1.05-1.43	y	43.6	37.5-62.5	PCB-183	1.04	0.89-1.21	y	47.4	37.5-62.5
PCB-154	1.23	1.05-1.43	y	45.1	37.5-62.5	PCB-185	1.05	0.89-1.21	y	47.6	37.5-62.5
PCB-151	1.25	1.05-1.43	y	46.1	37.5-62.5	PCB-174	1.05	0.89-1.21	y	48.5	37.5-62.5
PCB-135	1.23	1.05-1.43	y	45.1	37.5-62.5	PCB-181	1.08	0.89-1.21	y	48.3	37.5-62.5
PCB-144	1.33	1.05-1.43	y	45.7	37.5-62.5	PCB-177	1.04	0.89-1.21	y	45.9	37.5-62.5
PCB-147	1.15	1.05-1.43	y	43.6	37.5-62.5	PCB-171	1.05	0.89-1.21	y	46.1	37.5-62.5
PCB-139/149	1.23	1.05-1.43	y	88.3	75.0-125	PCB-173	1.04	0.89-1.21	y	49.0	37.5-62.5
						PCB-172	1.04	0.89-1.21	y	46.8	37.5-62.5

Analyst: *DMS*

Date: *1/16/15*

NATIVE 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150114E1-5 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: pcbvg8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150114E1 S#6 Analysis Date: 14-JAN-15 Time: 18:00:03

ANALYTES	ION	QC	PASS	CONC.	CONC.
	ABUND.	LIMITS		FOUND	RANGE
	RATIO				(ng/mL)
PCB-192	1.05	0.89-1.21	y	46.3	37.5-62.5
PCB-180	1.03	0.89-1.21	y	45.4	37.5-62.5
PCB-193	1.04	0.89-1.21	y	46.5	37.5-62.5
PCB-191	1.04	0.89-1.21	y	47.3	37.5-62.5
PCB-170	1.02	0.89-1.21	y	46.7	37.5-62.5
PCB-190	1.07	0.89-1.21	y	48.3	37.5-62.5
PCB-189	1.05	0.89-1.21	y	47.3	37.5-62.5
PCB-202	0.91	0.76-1.02	y	47.0	37.5-62.5
PCB-201	0.87	0.76-1.02	y	46.2	37.5-62.5
PCB-204	0.89	0.76-1.02	y	44.7	37.5-62.5
PCB-197	0.91	0.76-1.02	y	46.5	37.5-62.5
PCB-200	0.87	0.76-1.02	y	46.9	37.5-62.5
PCB-198	0.89	0.76-1.02	y	48.5	37.5-62.5
PCB-199	0.90	0.76-1.02	y	45.7	37.5-62.5
PCB-196/203	0.89	0.76-1.02	y	90.5	75.0-125
PCB-195	0.91	0.76-1.02	y	46.9	37.5-62.5
PCB-194	0.92	0.76-1.02	y	45.7	37.5-62.5
PCB-205	0.92	0.76-1.02	y	48.0	37.5-62.5
PCB-208	1.31	1.14-1.54	y	46.2	37.5-62.5
PCB-207	1.33	1.14-1.54	y	46.8	37.5-62.5
PCB-206	1.31	1.14-1.54	y	46.5	37.5-62.5
PCB-209	1.16	0.99-1.33	y	44.9	37.5-62.5

Analyst: DM S

Date: 1/20/15

LABELED 1668C CONTINUING CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Lab ID: ST150114E1-5 Instrument ID: VG-8

Initial Calibration Date: 1-14-15 ICal ID: pcbvg8-1-14-15 GC Column ID: ZB-1

VER Data Filename: 150114E1 S#6 Analysis Date: 14-JAN-15 Time: 18:00:03

LABELED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)	LABELED IS	ION ABUND. RATIO	QC LIMITS	PASS	CONC. FOUND	CONC. RANGE (ng/mL)
13C-PCB-1	3.59	2.66-3.60	y	107.5	50.0-145	13C-PCB-169	1.25	1.05-1.43	y	99.0	50 - 145
13C-PCB-3	3.55	2.66-3.60	y	100.5	50.0-145	13C-PCB-188	0.46	0.38-0.52	y	99.7	50 - 145
13C-PCB-4	1.59	1.33-1.79	y	104.5	50.0-145	13C-PCB-180	0.46	0.38-0.52	y	100.0	50 - 145
13C-PCB-9	1.58	1.33-1.79	y	102.4	50.0-145	13C-PCB-170	0.47	0.38-0.52	y	98.2	50 - 145
13C-PCB-11	1.57	1.33-1.79	y	100.8	50.0-145	13C-PCB-189	0.45	0.38-0.52	y	97.3	50 - 145
13C-PCB-19	1.10	0.88-1.20	y	99.4	50.0-145	13C-PCB-202	0.89	0.76-1.02	y	101.0	50 - 145
13C-PCB-32	1.10	0.88-1.20	y	99.7	50.0-145	13C-PCB-194	0.90	0.76-1.02	y	100.0	50 - 145
13C-PCB-28	1.03	0.88-1.20	y	113.1	50.0-145	13C-PCB-208	0.77	0.65-0.89	y	102.9	50 - 145
13C-PCB-37	1.04	0.88-1.20	y	103.7	50.0-145	13C-PCB-206	0.77	0.65-0.89	y	99.6	50 - 145
13C-PCB-54	0.78	0.65-0.89	y	108.1	50.0-145	13C-PCB-209	1.18	0.99-1.33	y	105.5	50 - 145
13C-PCB-52	0.76	0.65-0.89	y	107.2	50.0-145						
13C-PCB-47	0.77	0.65-0.89	y	108.7	50.0-145						
13C-PCB-70	0.76	0.65-0.89	y	100.0	50.0-145						
13C-PCB-80	0.78	0.65-0.89	y	101.0	50.0-145						
13C-PCB-81	0.77	0.65-0.89	y	101.8	50.0-145						
13C-PCB-77	0.79	0.65-0.89	y	101.1	50.0-145						
13C-PCB-104	1.61	1.32-1.78	y	109.1	50.0-145						
13C-PCB-95	1.61	1.32-1.78	y	102.4	50.0-145						
13C-PCB-101	1.62	1.32-1.78	y	98.6	50.0-145						
13C-PCB-97	1.65	1.32-1.78	y	100.4	50.0-145	CRS vs. RS					
13C-PCB-123	1.61	1.32-1.78	y	99.1	50.0-145	13C-PCB-79	0.77	0.65-0.89	y	97.0	75 - 125
13C-PCB-118	1.60	1.32-1.78	y	99.9	50.0-145	13C-PCB-178	0.45	0.38-0.52	y	98.8	75 - 125
13C-PCB-114	1.57	1.32-1.78	y	99.9	50.0-145						
13C-PCB-105	1.58	1.32-1.78	y	99.1	50.0-145						
13C-PCB-127	1.55	1.32-1.78	y	97.3	50.0-145						
13C-PCB-126	1.61	1.32-1.78	y	93.9	50.0-145						
13C-PCB-155	1.23	1.05-1.43	y	106.9	50.0-145						
13C-PCB-153	1.29	1.05-1.43	y	101.6	50.0-145						
13C-PCB-141	1.29	1.05-1.43	y	101.3	50.0-145						
13C-PCB-138	1.26	1.05-1.43	y	99.4	50.0-145						
13C-PCB-159	1.31	1.05-1.43	y	98.9	50.0-145						
13C-PCB-167	1.27	1.05-1.43	y	101.9	50.0-145						
13C-PCB-156	1.27	1.05-1.43	y	98.5	50.0-145						
13C-PCB-157	1.32	1.05-1.43	y	99.7	50.0-145						

Analyst: DMS

Date: 1/20/15

Client ID: PCB CS3 14L1801
 Lab ID: ST150114E1-5

Filename: 150114E1 S:6 Acq:14-JAN-15 18:00:03
 GC Column ID: ZB-1 ICal: pcbvg8-1-14-15 wt/vol: 1.0000 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-1	8.07e+07	2.99	y	1.33	16:11	1.001	0.997-1.007	52.0249	PCB-52/69	8.00e+07	0.74	y	1.29	31:35	1.001	0.996-1.006	93.0967
PCB-2	8.02e+07	2.99	y	1.30	18:33	0.988	0.983-0.993	54.7140	PCB-73	4.72e+07	0.75	y	1.41	31:42	1.005	0.999-1.009	50.2177
PCB-3	8.03e+07	2.98	y	1.30	18:47	1.001	0.996-1.006	54.6072	PCB-43/49	7.08e+07	0.73	y	1.14	31:52	1.010	1.005-1.015	93.3696
PCB-4/10	1.30e+08	1.64	y	1.67	20:10	1.002	0.997-1.007	93.0306	PCB-47	3.98e+07	0.74	y	1.20	32:04	1.001	0.996-1.006	45.5825
PCB-7/9	1.56e+08	1.63	y	1.25	21:57	0.868	0.864-0.872	94.4847	PCB-48/75	8.76e+07	0.73	y	1.33	32:11	1.004	0.999-1.009	90.7089
PCB-6	7.76e+07	1.65	y	1.24	22:35	0.893	0.888-0.897	47.5758	PCB-65	4.12e+07	0.73	y	1.32	32:26	1.012	1.007-1.017	42.9478
PCB-5/8	1.55e+08	1.64	y	1.27	23:00	0.910	0.905-0.915	92.4994	PCB-62	4.67e+07	0.74	y	1.36	32:33	1.016	1.011-1.021	47.2058
PCB-14	9.12e+07	1.64	y	1.47	24:06	0.953	0.948-0.958	48.1061	PCB-44	2.93e+07	0.74	y	0.87	32:51	1.025	1.020-1.030	46.1675
PCB-11	7.80e+07	1.68	y	1.28	25:17	1.000	0.995-1.005	47.0854	PCB-42/59	7.65e+07	0.74	y	1.24	33:05	1.032	1.027-1.037	85.0074
PCB-12/13	1.55e+08	1.65	y	1.27	25:41	1.016	1.011-1.021	94.5607	PCB-41/64/71/72	1.66e+08	0.73	y	1.34	33:40	1.050	1.045-1.055	170.423
PCB-15	8.75e+07	1.65	y	1.44	26:00	1.028	1.023-1.031	47.1177	PCB-68	4.72e+07	0.73	y	1.61	33:56	1.059	1.053-1.063	40.2479
PCB-19	4.22e+07	1.06	y	1.18	24:17	1.001	0.996-1.006	47.5975	PCB-40	2.55e+07	0.73	y	0.86	34:09	1.066	1.061-1.071	40.7920
PCB-30	6.72e+07	1.05	y	1.87	25:11	1.038	1.033-1.043	47.8879	PCB-57	4.47e+07	0.74	y	1.12	34:30	0.970	0.965-0.975	46.0101
PCB-18	4.67e+07	1.06	y	0.89	25:55	0.954	0.949-0.959	47.7748	PCB-67	4.34e+07	0.73	y	1.09	34:49	0.979	0.974-0.984	45.9086
PCB-17	5.08e+07	1.05	y	0.96	26:06	0.961	0.956-0.966	48.1501	PCB-58	4.85e+07	0.76	y	1.14	34:55	0.982	0.977-0.987	49.2155
PCB-24/27	1.36e+08	1.06	y	1.30	26:40	0.982	0.977-0.987	95.1310	PCB-63	4.77e+07	0.71	y	1.16	35:05	0.986	0.981-0.991	47.3221
PCB-16/32	1.08e+08	1.05	y	1.05	27:11	1.001	0.996-1.006	93.2649	PCB-74	4.68e+07	0.74	y	1.21	35:22	0.994	0.989-0.999	44.4585
PCB-34	5.36e+07	1.01	y	1.30	27:58	0.960	0.955-0.965	45.6626	PCB-61/70	9.06e+07	0.73	y	1.13	35:33	1.000	0.995-1.005	92.8240
PCB-23	5.23e+07	1.06	y	1.21	28:04	0.963	0.958-0.968	47.8931	PCB-76/66	9.21e+07	0.74	y	1.18	35:46	1.006	1.000-1.010	90.0496
PCB-29	4.77e+07	1.01	y	1.21	28:19	0.972	0.967-0.977	43.6736	PCB-80	5.39e+07	0.74	y	1.32	36:00	1.000	0.995-1.005	45.2354
PCB-26	5.01e+07	1.00	y	1.24	28:31	0.979	0.974-0.984	44.8563	PCB-55	5.08e+07	0.74	y	1.23	36:19	1.009	1.004-1.014	45.9074
PCB-25	4.54e+07	1.01	y	1.10	28:41	0.985	0.980-0.990	45.8240	PCB-56/60	8.80e+07	0.73	y	1.11	36:49	1.023	1.018-1.028	88.4456
PCB-31	5.13e+07	1.03	y	1.25	29:03	0.997	0.992-1.002	45.3770	PCB-79	4.65e+07	0.73	y	1.16	37:53	1.053	1.048-1.058	44.5110
PCB-28	4.84e+07	1.04	y	1.24	29:09	1.001	0.996-1.006	43.3229	PCB-78	4.56e+07	0.74	y	1.18	38:34	0.987	0.982-0.992	43.6493
PCB-20/21/33	1.42e+08	1.02	y	1.16	29:45	1.021	1.016-1.026	136.238	PCB-81	5.20e+07	0.75	y	1.29	39:06	1.000	0.995-1.005	45.4820
PCB-22	4.91e+07	1.03	y	1.16	30:12	1.037	1.032-1.042	46.7230	PCB-77	5.01e+07	0.76	y	1.29	39:42	1.001	0.995-1.005	45.6501
PCB-36	5.22e+07	1.05	y	1.30	30:49	0.934	0.929-0.939	53.8213	PCB-104	4.01e+07	1.59	y	1.26	32:44	1.001	0.996-1.006	45.8646
PCB-39	4.78e+07	1.05	y	1.26	31:17	0.948	0.943-0.953	50.8404	PCB-96	3.32e+07	1.56	y	1.09	33:59	1.039	1.034-1.044	43.9315
PCB-38	4.87e+07	1.03	y	1.24	32:04	0.972	0.967-0.977	52.5442	PCB-103	2.97e+07	1.54	y	0.97	34:31	1.056	1.051-1.061	44.3834
PCB-35	4.75e+07	1.03	y	1.26	32:34	0.987	0.982-0.992	50.7102	PCB-100	3.02e+07	1.57	y	0.96	34:52	1.066	1.061-1.071	45.2813
PCB-37	4.79e+07	1.08	y	1.35	33:01	1.001	0.996-1.006	47.5517	PCB-94	2.48e+07	1.56	y	1.13	35:20	0.985	0.980-0.990	46.7663
PCB-54	4.77e+07	0.74	y	1.02	28:02	1.001	0.996-1.006	46.5543	PCB-95/98/102	8.16e+07	1.52	y	1.29	35:50	0.999	0.994-1.004	134.832
PCB-50	3.65e+07	0.72	y	0.78	29:12	1.042	1.037-1.047	46.9035	PCB-93	2.65e+07	1.68	y	1.06	35:58	1.003	0.998-1.008	53.0450
PCB-53	3.64e+07	0.75	y	1.14	29:51	0.946	0.941-0.951	48.0525	PCB-88/91	5.25e+07	1.56	y	1.12	36:15	1.011	1.006-1.016	99.4803
PCB-51	3.70e+07	0.72	y	1.16	30:11	0.957	0.952-0.962	47.8251	PCB-121	3.67e+07	1.57	y	1.76	36:22	1.014	1.009-1.019	44.4163
PCB-45	3.37e+07	0.73	y	1.04	30:37	0.970	0.965-0.975	48.6868	PCB-84/92	5.15e+07	1.54	y	1.07	37:11	0.990	0.985-0.995	97.0520
PCB-46	2.89e+07	0.73	y	0.95	31:06	0.986	0.981-0.991	45.7766	PCB-89	2.34e+07	1.53	y	1.00	37:22	0.995	0.990-1.000	47.4938

RL: MONO, TRI - DECA: _____

RL: DI : _____

Integrations by _____
 Analyst: Dms
 Date: 1/16/15
 Reviewed by _____
 Analyst: _____
 Date: _____

Client ID: PCB CS3 14L1801
 Lab ID: ST150114E1-5

Filename: 150114E1 S:6 Acq:14-JAN-15 18:00:03 ConCal: NA
 GC Column ID: ZB-1 ICal: pcbvg8-1-14-15 wt/vol: 1.0000 EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-90/101	5.59e+07	1.56	y	1.21	37:33	1.000	0.995-1.005	93.4510	PCB-133/142	5.46e+07	1.24	y	0.91	42:29	0.982	0.977-0.987	93.0668
PCB-113	3.44e+07	1.55	y	1.34	37:48	1.007	1.002-1.012	51.7174	PCB-131	2.55e+07	1.16	y	0.85	42:38	0.986	0.981-0.991	46.7153
PCB-99	2.56e+07	1.60	y	1.25	37:54	1.009	1.004-1.014	41.4323	PCB-146/165	6.52e+07	1.22	y	1.08	42:51	0.991	0.986-0.996	93.4865
PCB-119	3.83e+07	1.56	y	1.88	38:21	0.987	0.982-0.992	46.9690	PCB-132/161	6.70e+07	1.22	y	1.12	43:06	0.997	0.992-1.002	92.8456
PCB-108/112	5.74e+07	1.56	y	1.41	38:30	0.991	0.986-0.996	94.2376	PCB-153	3.34e+07	1.21	y	1.20	43:17	1.001	0.996-1.006	43.2433
PCB-83	3.43e+07	1.57	y	1.66	38:40	0.995	0.990-1.000	47.6313	PCB-168	4.08e+07	1.22	y	1.36	43:29	1.005	1.000-1.010	46.6695
PCB-97	2.60e+07	1.55	y	1.30	38:52	1.000	0.995-1.005	46.2488	PCB-141	2.90e+07	1.22	y	1.16	44:00	1.000	0.995-1.005	45.4172
PCB-86	2.15e+07	1.46	y	1.03	39:00	1.004	0.999-1.009	47.9826	PCB-137	2.95e+07	1.18	y	1.18	44:24	1.009	1.004-1.014	45.3841
B-87/117/125	9.85e+07	1.59	y	1.59	39:08	1.007	1.002-1.012	142.777	PCB-130	2.45e+07	1.21	y	0.92	44:29	1.011	1.006-1.016	48.1957
PCB-111/115	7.67e+07	1.56	y	1.86	39:17	1.011	1.006-1.016	95.2753	PCB-138/163/164	1.05e+08	1.21	y	1.38	44:52	1.001	0.996-1.006	137.688
PCB-85/116	5.77e+07	1.60	y	1.39	39:25	1.015	1.010-1.020	95.6148	PCB-158/160	7.63e+07	1.22	y	1.48	45:06	1.006	1.001-1.011	93.2016
PCB-120	3.97e+07	1.53	y	1.99	39:39	1.021	1.016-1.026	46.1066	PCB-129	2.45e+07	1.20	y	0.99	45:21	1.012	1.007-1.017	44.6385
PCB-110	3.50e+07	1.56	y	1.70	39:47	1.024	1.019-1.029	47.4714	PCB-166	3.59e+07	1.21	y	1.14	45:48	0.993	0.988-0.998	46.5698
PCB-82	2.08e+07	1.56	y	0.74	40:25	0.976	0.971-0.981	48.9430	PCB-159	3.96e+07	1.22	y	1.22	46:08	1.000	0.995-1.005	47.9497
PCB-124	3.69e+07	1.57	y	1.30	41:06	0.993	0.988-0.998	49.3629	PCB-128/162	6.57e+07	1.20	y	1.03	46:25	1.007	1.002-1.012	94.0179
PCB-107/109	6.93e+07	1.58	y	1.34	41:15	0.996	0.991-1.001	90.5539	PCB-167	3.85e+07	1.17	y	1.18	46:49	1.000	0.995-1.005	46.3110
PCB-123	3.47e+07	1.55	y	1.25	41:25	1.000	0.995-1.005	48.3609	PCB-156	3.93e+07	1.19	y	1.27	48:07	1.000	0.995-1.005	46.6553
- PCB-106/118	7.35e+07	1.54	y	1.29	41:38	1.001	0.996-1.006	92.8153	PCB-157	3.97e+07	1.21	y	1.22	48:23	1.000	0.995-1.005	46.2329
- PCB-114	4.27e+07	1.62	y	1.45	42:15	1.000	0.995-1.005	46.8884	PCB-169	3.46e+07	1.20	y	1.07	50:32	1.000	0.995-1.005	47.2196
PCB-122	3.51e+07	1.63	y	1.22	42:23	1.004	0.999-1.009	45.9413	PCB-188	3.60e+07	1.06	y	1.52	42:55	1.001	0.996-1.006	46.9710
PCB-105	4.36e+07	1.65	y	1.56	43:07	1.000	0.995-1.005	47.0955	PCB-184	3.21e+07	1.05	y	1.34	43:21	1.011	1.006-1.016	47.6292
PCB-127	3.79e+07	1.69	y	1.31	43:27	1.000	0.995-1.005	47.5187	PCB-179	3.36e+07	1.03	y	1.39	44:08	1.029	1.024-1.034	47.9352
PCB-126	3.67e+07	1.64	y	1.41	45:20	1.000	0.995-1.005	49.2617	PCB-176	3.52e+07	1.04	y	1.45	44:36	1.040	1.035-1.045	48.0468
PCB-155	3.43e+07	1.23	y	1.20	37:07	1.001	0.966-1.006	46.8420	PCB-186	3.45e+07	1.05	y	1.46	45:12	1.054	1.049-1.059	46.9300
PCB-150	3.11e+07	1.24	y	1.13	38:22	1.035	1.030-1.040	45.1927	PCB-178	2.51e+07	1.06	y	1.07	45:42	1.066	1.061-1.071	46.3910
PCB-152	3.16e+07	1.25	y	1.17	38:51	1.048	1.043-1.053	44.2320	PCB-175	2.54e+07	1.06	y	1.05	46:03	1.074	1.069-1.079	48.0617
PCB-145	3.04e+07	1.24	y	1.09	39:18	1.060	1.055-1.065	45.5249	PCB-182/187	5.34e+07	1.05	y	1.14	46:13	1.078	1.073-1.083	93.2941
PCB-136	3.31e+07	1.23	y	1.14	39:37	1.068	1.063-1.073	47.5060	PCB-183	2.93e+07	1.04	y	1.22	46:32	1.085	1.080-1.090	47.4465
PCB-148	2.18e+07	1.24	y	0.82	39:43	1.071	1.066-1.076	43.6154	PCB-185	2.52e+07	1.05	y	1.40	47:11	0.955	0.950-0.960	47.6023
PCB-154	2.45e+07	1.23	y	0.89	40:12	1.084	1.079-1.089	45.0618	PCB-174	2.35e+07	1.05	y	1.29	47:33	0.963	0.958-0.968	48.4673
PCB-151	2.30e+07	1.25	y	0.82	40:51	1.102	1.097-1.107	46.1089	PCB-181	2.45e+07	1.08	y	1.35	47:40	0.965	0.960-0.970	48.2534
PCB-135	2.19e+07	1.23	y	0.80	41:04	1.107	1.101-1.113	45.0763	PCB-177	2.19e+07	1.04	y	1.27	47:49	0.968	0.963-0.973	45.9044
PCB-144	2.39e+07	1.33	y	0.86	41:10	1.110	1.105-1.116	45.7102	PCB-171	2.53e+07	1.05	y	1.46	48:07	0.974	0.969-0.979	46.0900
PCB-147	2.07e+07	1.15	y	0.78	41:18	1.114	1.108-1.120	43.6051	PCB-173	2.04e+07	1.04	y	1.10	48:33	0.983	0.978-0.988	48.9835
PCB-139/149	4.69e+07	1.23	y	0.87	41:34	1.121	1.115-1.127	88.2749	PCB-172	2.39e+07	1.04	y	1.35	49:00	0.992	0.987-0.997	46.7746
- PCB-140	2.12e+07	1.24	y	0.78	41:45	1.126	1.120-1.132	44.7555	PCB-192	3.03e+07	1.05	y	1.74	49:12	0.996	0.991-1.001	46.2733
- PCB-134/143	5.52e+07	1.22	y	0.93	42:11	0.975	0.970-0.980	91.8432	PCB-180	2.48e+07	1.03	y	1.45	49:24	1.000	0.995-1.005	45.3976

Integrations

by

RL: MONO, TRI - DECA: _____

Analyst: DMS

Date: 1/16/15

Client ID: PCB CS3 14L1801
Lab ID: ST150114E1-5

Filename: 150114E1 S:6 Acq:14-JAN-15 18:00:03
GC Column ID: ZB-1 ICal: pcbvg8-1-14-15 wt/vol: 1.0000
ConCal: NA
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc
PCB-193	3.25e+07	1.04 y	1.85	49:36	1.004	0.999-1.009		46.5289
PCB-191	3.32e+07	1.04 y	1.86	49:52	1.010	1.005-1.015		47.3156
PCB-170	2.30e+07	1.02 y	1.67	50:55	1.000	0.995-1.005		46.7443
PCB-190	3.20e+07	1.07 y	2.25	51:06	1.004	0.999-1.009		48.2533
PCB-189	3.08e+07	1.05 y	1.67	52:26	1.000	0.995-1.005		47.3113
PCB-202	2.38e+07	0.91 y	1.02	48:19	1.000	0.995-1.005		46.9721
PCB-201	2.52e+07	0.87 y	1.10	48:48	1.010	1.005-1.015		46.1751
PCB-204	2.39e+07	0.89 y	1.07	48:58	1.014	1.009-1.019		44.7059
PCB-197	2.70e+07	0.91 y	1.17	49:16	1.020	1.015-1.025		46.4964
PCB-200	2.41e+07	0.87 y	1.03	50:10	1.039	1.034-1.044		46.8569
PCB-198	1.82e+07	0.89 y	0.75	51:31	1.067	1.062-1.072		48.5071
PCB-199	1.68e+07	0.90 y	0.74	51:38	1.069	1.064-1.074		45.6525
- PCB-196/203	3.74e+07	0.89 y	0.83	51:54	1.075	1.070-1.080		90.5292
- PCB-195	1.90e+07	0.91 y	1.14	53:04	0.984	0.979-0.989		46.9126
PCB-194	2.09e+07	0.92 y	1.29	53:56	1.000	0.995-1.005		45.7200
PCB-205	2.74e+07	0.92 y	1.61	54:13	1.005	1.001-1.010		48.0015
PCB-208	2.49e+07	1.31 y	1.01	53:13	1.000	0.995-1.005		46.1981
PCB-207	2.55e+07	1.33 y	1.03	53:32	1.006	1.001-1.011		46.8056
PCB-206	1.42e+07	1.31 y	0.88	55:34	1.000	0.995-1.005		46.5433
PCB-209	2.15e+07	1.16 y	1.35	56:55	1.000	0.995-1.005		44.8746

Name	Resp	RA	RT	RRF	Conc
Total Mono-PCB	2.41e+08	2.99 y	16:11	1.31	143.595
Total Di-PCB	9.32e+08	1.64 y	20:10	1.32	565.796
Total Tri-PCB	4.51e+08	1.06 y	24:17	1.20	379.806
Total Tri-PCB	8.18e+08	1.01 y	27:58	1.23	787.958
Total Tetra-PCB	1.80e+09	0.74 y	28:02	1.17	1928.65
Total Penta-PCB	1.27e+09	1.59 y	32:44	1.24	1932.56
Total Penta-PCB	2.15e+08	1.62 y	42:15	1.39	259.871
Total Hexa-PCB	3.64e+08	1.23 y	37:07	0.94	631.506
Total Hexa-PCB	9.40e+08	1.22 y	42:11	1.13	1319.24
Total Hepta-PCB	6.80e+08	1.06 y	42:55	1.37	1139.00
Total Octa-PCB	1.96e+08	0.91 y	48:19	0.95	415.895
Total Octa-PCB	6.97e+07	0.91 y	53:04	1.35	145.548
Total Nona-PCB	6.53e+07	1.31 y	53:13	0.99	140.996
Total Deca-PCB	2.15e+07	1.16 y	56:55	1.35	44.8746

Total PCB Conc:9715.75044600

RL: MONO, TRI - DECA: _____

Integrations

by
Analyst: DMS

Date: 1/20/15

Client ID: PCB CS3 14L1801
Lab ID: ST150114E1-5

Filename: 150114E1 S:6 Acq:14-JAN-15 18:00:03
GC Column ID: ZB-1 ICal: pcbvg8-1-14-15 wt/vol:1.0000

ConCal: NA
EndCAL: NA

Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec	CRS vs. RS	Name	Resp	RA	RRF	RT	RRT	LCL	UCL	Conc	Rec
13C-PCB-1	1.31e+08	3.59 y	0.91	16:09	0.622	0.619-0.625		108	108											
13C-PCB-3	1.27e+08	3.55 y	0.94	18:46	0.722	0.718-0.726		101	101		13C-PCB-79	8.64e+07	0.77 y	1.02	37:51	1.029	1.024-1.033		97.0	97.0
13C-PCB-4	8.37e+07	1.59 y	0.60	20:07	0.774	0.770-0.778		104	104		13C-PCB-178	3.14e+07	0.45 y	0.64	45:41	0.985	0.980-0.989		98.8	98.8
13C-PCB-9	1.32e+08	1.58 y	0.96	21:54	0.843	0.839-0.847		102	102											
13C-PCB-11	1.29e+08	1.57 y	0.95	25:17	0.973	0.968-0.978		101	101	PS vs. IS										
13C-PCB-19	7.48e+07	1.10 y	0.56	24:16	0.934	0.929-0.939		99.4	99.4											
13C-PCB-28	9.04e+07	1.03 y	1.07	29:08	1.004	0.999-1.009		113	113		13C-PCB-79	8.64e+07	0.77 y	1.02	37:51	0.968	0.963-0.973		95.2	95.2
13C-PCB-32	1.10e+08	1.10 y	0.83	27:10	1.046	1.041-1.051		99.7	99.7		13C-PCB-178	3.14e+07	0.45 y	0.84	45:41	0.925	0.920-0.930		98.7	98.7
13C-PCB-37	7.45e+07	1.04 y	0.96	33:00	1.137	1.131-1.143		104	104											
13C-PCB-47	7.29e+07	0.77 y	0.77	32:03	0.871	0.867-0.875		109	109											
13C-PCB-52	6.66e+07	0.76 y	0.71	31:33	0.857	0.853-0.861		107	107											
13C-PCB-54	1.00e+08	0.78 y	1.06	28:01	0.761	0.757-0.765		108	108											
13C-PCB-70	8.67e+07	0.76 y	0.99	35:34	0.966	0.961-0.971		100	100											
13C-PCB-77	8.51e+07	0.79 y	0.96	39:40	1.078	1.073-1.083		101	101											
13C-PCB-80	9.01e+07	0.78 y	1.02	35:59	0.978	0.973-0.983		101	101											
13C-PCB-81	8.87e+07	0.77 y	1.00	39:05	1.062	1.057-1.067		102	102											
13C-PCB-95	4.69e+07	1.61 y	0.70	35:52	0.913	0.908-0.918		102	102	RS										
13C-PCB-97	4.33e+07	1.65 y	0.66	38:51	0.989	0.984-0.994		100	100											
13C-PCB-101	4.96e+07	1.62 y	0.77	37:33	0.956	0.951-0.961		98.6	98.6		13C-PCB-15	1.34e+08	1.56 y	1.00	25:59				100	
13C-PCB-104	6.91e+07	1.61 y	0.97	32:42	0.832	0.828-0.836		109	109		13C-PCB-31	7.47e+07	1.02 y	1.00	29:01				100	
13C-PCB-105	5.94e+07	1.58 y	1.20	43:06	0.929	0.924-0.934		99.1	99.1		13C-PCB-60	8.72e+07	0.74 y	1.00	36:48				100	
13C-PCB-114	6.26e+07	1.57 y	1.26	42:14	0.910	0.905-0.915		99.9	99.9		13C-PCB-111	6.56e+07	1.64 y	1.00	39:17				100	
13C-PCB-118	6.14e+07	1.60 y	0.94	41:35	1.059	1.054-1.064		99.9	99.9		13C-PCB-128	4.99e+07	1.27 y	1.00	46:24				100	
13C-PCB-123	5.73e+07	1.61 y	0.88	41:24	1.054	1.049-1.059		99.1	99.1		13C-PCB-205	4.76e+07	0.89 y	1.00	54:12				100	
13C-PCB-126	5.27e+07	1.61 y	1.13	45:20	0.977	0.972-0.982		93.9	93.9											
13C-PCB-127	6.10e+07	1.55 y	1.26	43:26	0.936	0.931-0.941		97.3	97.3											
13C-PCB-138	5.55e+07	1.26 y	1.12	44:50	0.966	0.961-0.971		99.4	99.4											
13C-PCB-141	5.52e+07	1.29 y	1.09	43:59	0.948	0.943-0.953		101	101											
13C-PCB-153	6.45e+07	1.29 y	1.27	43:15	0.932	0.927-0.937		102	102											
13C-PCB-155	6.10e+07	1.23 y	0.87	37:05	0.944	0.939-0.949		107	107											
13C-PCB-156	6.63e+07	1.27 y	1.35	48:06	1.037	1.032-1.042		98.5	98.5											
13C-PCB-157	7.04e+07	1.32 y	1.42	48:22	1.042	1.037-1.047		99.7	99.7											
13C-PCB-159	6.75e+07	1.31 y	1.37	46:07	0.994	0.989-0.999		98.9	98.9											
13C-PCB-167	7.02e+07	1.27 y	1.38	46:48	1.009	1.004-1.014		102	102											
13C-PCB-169	6.82e+07	1.25 y	1.38	50:31	1.089	1.084-1.094		99.0	99.0											
13C-PCB-170	2.95e+07	0.47 y	0.60	50:54	1.097	1.091-1.103		98.2	98.2											
13C-PCB-180	3.77e+07	0.46 y	0.76	49:23	1.064	1.059-1.069		100.0	100.0											
13C-PCB-188	5.04e+07	0.46 y	1.01	42:53	0.924	0.919-0.929		99.7	99.7											
13C-PCB-189	3.89e+07	0.45 y	0.80	52:25	1.130	1.124-1.136		97.3	97.3											
13C-PCB-194	3.54e+07	0.90 y	0.75	53:56	0.995	0.990-1.000		100	100											
13C-PCB-202	4.98e+07	0.89 y	0.99	48:18	1.041	1.036-1.046		101	101											
13C-PCB-206	3.47e+07	0.77 y	0.73	55:33	1.025	1.020-1.301		99.6	99.6											
13C-PCB-208	5.30e+07	0.77 y	1.08	53:13	0.982	0.977-0.987		103	103											
13C-PCB-209	3.56e+07	1.18 y	0.71	56:55	1.050	1.045-1.055		105	105											

Analyst: Dms

Date: 1/22/15

Vista Analytical Laboratory - Injection Log Run file:

Instrument ID: VG-8 GC Column ID: ZB-1

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
150114E1	4	ST150114E1-3	dms	14-JAN-15	15:50:46	NA	NA
150114E1	5	ST150114E1-4	dms	14-JAN-15	16:55:24	NA	NA
150114E1	6	ST150114E1-5	dms	14-JAN-15	18:00:03	NA	NA
150114E1	7	ST150114E1-6	dms	14-JAN-15	19:04:40	NA	NA
150114E1	8	ST150114E1-7	dms	14-JAN-15	20:09:16	NA	NA
150114E1	9	SOLVENT BLANK	dms	14-JAN-15	21:13:53	NA	NA
150114E1	10	ST150114E1-8	dms	14-JAN-15	22:18:30	NA	NA
150114E1	11	SOLVENT BLANK	dms	14-JAN-15	23:23:07	NA	NA

Vista Analytical Laboratory - Injection Log Run file: 150116E1 Instrument ID: VG-8 GC Column ID: ZB-1

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
150116E1	2	ST150116E1-2	dms	16-JAN-15	08:51:27	NA	NA

Appendix C

Data Validation Report



DATA VALIDATION REPORT

LDW NPDES SAMPLING SUPPORT – ADDITIONAL FACILITIES

Prepared for:

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Prepared by:

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EcoChem Project: C4153-2

May 15, 2015

Approved for Release

**Christine
Ransom**

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Date: 2015.05.15 13:38:39 -07'00'

Christine Ransom
Project Manager
EcoChem, Inc.

PROJECT NARRATIVE

Basis for Data Validation

This report summarizes the results of the data validation performed on whole water samples, storm water sediment samples, and quality control (QC) sample data for the Lower Duwamish Waterway National Pollutant Discharge Elimination System Investigation. All fractions received a compliance level of review (EPA Stage 2A). A complete list of samples is provided in the **Sample Index**.

Dioxin/Furan and PCB Congener analyses were performed by Vista Analytical, El Dorado Hills, California. The analyses for all other fractions were performed by Test America Laboratories, Tacoma, Washington. The analytical methods and EcoChem project chemists are listed below.

Analysis	Method of Analysis	Primary Review	Secondary Review
Dioxin/Furans	1613B	M. Swanson	A. Bodkin
PCB Congeners	1668C	M. Swanson	A. Bodkin
Semivolatile Organic Compounds (SVOC)	SW8270	M. Failor	A. Bodkin C. Ransom
PCB Aroclors	SW8082	M. Failor	A. Bodkin C. Ransom
Diesel Range Organics	NWTPH-Dx	M. Failor	A. Bodkin
Metals and Mercury	SW6020, EPA 200.8, SW7470A, SW7471A	M. Failor	A. Bodkin C. Ransom
Conventionals	EPA 3500 Cr D, EPA120.1, EPA300.0, Plumb 1981, SM2540D, SM4500H + B, SM5310B, SW9060, SM2320, SM2540B	M. Failor	A. Bodkin C. Ransom

The data were reviewed using guidance and quality control criteria documented in the analytical methods; The *LDW NPDES Inspection Sampling Support Project – Sampling and Analysis Plan and Quality Assurance Project Plan* (Leidos, September 2014); *USEPA National Functional Guidelines for Organic Data Review* (EPA, 2008); *USEPA National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (EPA, 2011); and *USEPA National Functional Guidelines for Inorganic Data Review* (EPA, 1994, 2010).

EcoChem’s goal in assigning data validation qualifiers is to assist in proper data interpretation. If values are estimated (assigned a J), data may be used for site evaluation purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. Data that have been rejected (R) or flagged do-not-report (DNR) should not be used for any purpose. Values with no data qualifier meet all data quality goals as outlined in the EPA Functional Guidelines.

Data qualifier definitions, reason codes, and validation criteria are included as **Appendix A**. **Appendix B** contains the Qualified Data Summary Table. Data validation worksheets are kept on file at EcoChem. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
 Test America
 LDW NPDES Sampling Support

SDG	Sample ID	Lab ID	Matrix	SVOC	PCB	TPH-Dx	Metals	Conv
J48451-1	96-ST2-20150326-W	580-48451-1	Water	✓	✓		✓	✓
J48451-1	HC-NF-10-20150326-W	580-48451-2	Water	✓	✓		✓	✓
J48451-1	HC-SF-20150326-S	580-48451-3	Sediment	✓	✓	✓	✓	✓
J48451-1	HC-NF-10-20150326-S	580-48451-4	Sediment	✓	✓	✓	✓	✓
J48644-1	96-ST3-20150326-S	580-48644-1	Sediment	✓	✓		✓	✓
J48644-1	96-ST2-20150326-S	580-48644-2	Sediment	✓	✓		✓	✓
J48644-1	96-ST1-20150326-S	580-48644-3	Sediment	✓	✓		✓	✓
J48644-1	HC-ST1-20150326-S	580-48644-4	Sediment	✓	✓		✓	✓
J48966-1	HC-SF-20150413-W	580-48966-1	Water	✓	✓		✓	✓
J48966-1	HC-NF-20150413-W	580-48966-2	Water	✓	✓		✓	✓

Sample Index
Vista Analytical
LDW NPDES Sampling Support

SDG	Sample ID	Lab ID	Matrix	Dioxins	PCB Congeners
1500280	96-ST3-20150326-S	1500280-01	Sediment	✓	✓
1500280	96-ST2-20150326-S	1500280-02	Sediment	✓	✓
1500280	96-ST1-20150326-S	1500280-03	Sediment	✓	✓
1500280	HC-ST1-20150326-S	1500280-04	Sediment	✓	✓
1500280	HC-SF-20150326-S	1500280-05	Sediment	✓	✓
1500280	HC-NF-10-20150326-S	1500280-06	Sediment	✓	✓
1500280	96-ST2-20150326-W	1500280-07	Water	✓	✓
1500280	HC-NF-10-20150326-W	1500280-08	Water	✓	✓
1500335	HC-SF-20150413-W	1500335-01	Water	✓	✓
1500335	HC-NF-10-20150413-W	1500335-02	Water	✓	✓

DATA VALIDATION REPORT

LDW NPDES Investigation

Dioxin & Furan Compounds by EPA Method 1613B

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory quality control (QC) samples. Vista Analytical Laboratory, El Dorado Hills, California, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	DV Level
1500280	6 Sediment	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO LABORATORY DATA PACKAGE VERIFICATIONS

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the laboratory data package. Laboratory QC results were also verified (10%). No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements reviewed are summarized in the following table:

✓	Sample Receipt, Preservation, and Holding Times	1	Laboratory Duplicate Samples
✓	System Performance and Resolution Checks	1	Field Duplicates
✓	Method Blanks	✓	Target Analyte List
1	Field Blanks	✓	Reporting Limits
✓	Labeled Compound Recovery	2	Reported Results
✓	Ongoing Precision and Recovery (OPR)	2	Compound Identification

✓ Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.

¹ Quality control results are discussed below, but no data were qualified.

² Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Field Blanks

No field blanks were submitted.

Laboratory Duplicates

Laboratory duplicates were not analyzed. Laboratory precision from batch to batch was acceptable as indicated by the acceptable ongoing precision and recovery (OPR) standard results. Precision within the analytical batches could not be evaluated.

Field Duplicates

No field duplicates were submitted.

Reported Results

The compound OCDD exceeded the calibration range of the instrument in two samples. The laboratory flagged these results with an "E". The samples were not re-analyzed at dilution. Results that were over the calibration range were estimated (J-20). The compound OCDD was qualified in samples 96-ST1-20150326-S and 96-ST2-20150326-S.

Compound Identification

The method requires the confirmation of 2,3,7,8-TCDF using a second GC column as the DB-5 column that is typically used cannot fully separate 2,3,7,8-TCDF from closely eluting non-target TCDF isomers. The laboratory performed confirmation analyses using a DB-225 column. Where necessary, only results from the confirmation analysis were reported for 2,3,7,8-TCDF.

The laboratory reported EMPC or "estimated maximum possible concentrations" values for one or more of the target analytes in all samples. An EMPC value was reported when a peak was detected but did not meet identification criteria as required by the method; therefore the result cannot be considered as positive identification for the analyte. The EMPC values were qualified as not detected (U-25) to indicate that the result is not-detected at an elevated reporting limit. The EMPC values for total homolog groups were qualified as estimated (J-25) at the reported values.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the labeled compound and OPR standard recoveries. Precision was acceptable as demonstrated by the OPR standard results.

Detection limits were elevated based on ion ratio outliers. Results were estimated because the calibration range was exceeded. Total homolog group results that included EMPC values were also estimated.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
LDW NPDES Investigation
Dioxin & Furan Compounds by EPA Method 1613B

This report documents the review of analytical data from the analysis of water samples and the associated laboratory quality control (QC) samples. Vista Analytical Laboratory, El Dorado Hills, California, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	DV Level
1500280	2 Water	EPA Stage 2A
1500335	2 Water	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO LABORATORY DATA PACKAGE VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the laboratory data package. Laboratory QC results were also verified (10%). No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements reviewed are summarized in the following table:

1	Sample Receipt, Preservation, and Holding Times	1	Laboratory Duplicate Samples
✓	System Performance and Resolution Checks	1	Field Duplicates
✓	Method Blanks	✓	Target Analyte List
1	Field Blanks	✓	Reporting Limits
✓	Labeled Compound Recovery	✓	Reported Results
✓	Ongoing Precision and Recovery (OPR)	2	Compound Identification

✓ *Stated method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. A sample cooler arrived with a temperature less than the lower advisory limit, at 0.9°C. The temperature outlier did not impact data quality; no action was taken.

Field Blanks

No field blanks were submitted.

Laboratory Duplicates

Laboratory duplicates were not analyzed. Laboratory precision from batch to batch was acceptable as indicated by the acceptable ongoing precision and recovery (OPR) standard results. Precision within the analytical batches could not be evaluated.

Field Duplicates

No field duplicates were submitted.

Compound Identification

The method requires the confirmation of 2,3,7,8-TCDF using a second GC column as the DB-5 column that is typically used cannot fully separate 2,3,7,8-TCDF from closely eluting non-target TCDF isomers. All positive results for 2,3,7,8-TCDF were less than the reporting limit. A confirmation analysis was not performed.

The laboratory reported EMPC or "estimated maximum possible concentrations" values for one or more of the target analytes in all samples. An EMPC value was reported when a peak was detected but did not meet identification criteria as required by the method; therefore the result cannot be considered as positive identification for the analyte. The EMPC values were qualified as not detected (U-25) to indicate that the result is not-detected at an elevated reporting limit. The EMPC values for total homolog groups were qualified as estimated (J-25) at the reported values.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the labeled compound and OPR standard recoveries. Precision was acceptable as demonstrated by the OPR standard results.

Detection limits were elevated based on ion ratio outliers. Total homolog group results that included EMPC values were also estimated.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Investigation

PCB Congeners by EPA Method 1668C

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory and field quality control (QC) samples. Vista Analytical Laboratory, El Dorado Hills, California, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	Validation Level
1500280	6 Sediment	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO LABORATORY VERIFICATION

Sample results and related quality control data were received as an electronic data deliverable (EDD) and laboratory report. The EDD was verified against the laboratory report; no errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below:

✓	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
2	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	1	Reporting Limits
✓	Labeled Compound Recovery	✓	Reported Results
1	Laboratory Duplicates	2	Compound Identification
✓	Ongoing Precision and Recovery (OPR)	✓	Compound Quantitation

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Laboratory Blanks

To assess the impact of any blank contaminant on the reported sample results, an action level was established at five times (5X) the concentration reported in the blank. If a contaminant was detected in an associated field sample and the concentration was less than the action level, the result was qualified as not detected (U-7) at the reported concentration. No action was taken if the sample result was greater than the action level, or for non-detected results.

The laboratory assigned EMPC-flags to values when a peak was detected but did not meet identification criteria. These values cannot be considered as positive identifications, but are "estimated maximum possible concentrations". When these occurred in the method blank the results were considered as false positives. No action levels were established for these analytes.

Although several congeners were detected in the method blanks, all associated results were either not detected or detected at concentrations greater than the action levels; no data were qualified, with the exceptions noted below.

SDG 1500280: Results for PCB 11 were qualified as not detected (U-7) in samples HC-NF-10-20150326-S, HC-SF-20150326-S, and HC-ST1-20150326-S.

Field Blanks

No field blanks were submitted.

Laboratory Duplicates

Laboratory duplicates were not analyzed. Laboratory precision from batch to batch was acceptable as indicated by the acceptable ongoing precision and recovery (OPR) standard results. Precision within the analytical batches could not be evaluated.

Field Duplicates

No field duplicates were submitted.

Reporting Limits

SDG 1500280: Samples 96-ST1-20150326-S and 96-ST2-20150326-S were analyzed at dilution (10X) to reduce interferences. Reporting limits were elevated accordingly. No further action was taken.

Compound Identification

The laboratory reported EMPC or "estimated maximum possible concentrations" values for one or more of the target analytes in all samples. An EMPC value was reported when a peak was detected but did not meet identification criteria as required by the method; therefore the result cannot be considered as positive identification for the analyte. The EMPC values were qualified as not detected (U-25) to indicate that the result is not-detected at an elevated reporting limit. The EMPC values for total homolog groups were qualified as estimated (J-25) at the reported values.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable, as demonstrated by the labeled compound and OPR recoveries and precision was acceptable as demonstrated by the OPR standard results.

Detection limits were elevated due to method contamination and when an EMPC flag indicated that the compound identification criteria were not met. Total homolog group results that included EMPC values were also estimated.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Investigation

PCB Congeners by EPA Method 1668C

This report documents the review of analytical data from the analysis of water samples and the associated laboratory and field quality control (QC) samples. Vista Analytical Laboratory, El Dorado Hills, California, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	Validation Level
1500280	2 Water	EPA Stage 2A
1500335	2 Water	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO LABORATORY VERIFICATION

Sample results and related quality control data were received as an electronic data deliverable (EDD) and laboratory report. The EDD was verified against the laboratory report; no errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below:

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
2	Laboratory Blanks	✓	Target Analyte List
1	Field Blanks	✓	Reporting Limits
✓	Labeled Compound Recovery	✓	Reported Results
1	Laboratory Duplicates	2	Compound Identification
✓	Ongoing Precision and Recovery (OPR)	✓	Compound Quantitation

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C.

SDG 1500335: A sample cooler arrived with a temperature less than the lower advisory limit, at 0.9°C. The temperature outlier did not impact data quality; no action was taken.

Laboratory Blanks

To assess the impact of any blank contaminant on the reported sample results, an action level was established at five times (5x) the concentration reported in the blank. If a contaminant was detected in an associated field sample and the concentration was less than the action level, the result was qualified as not detected (U-7) at the reported concentration. No action was taken if the sample result was greater than the action level, or for non-detected results.

The laboratory assigned EMPC-flags to values when a peak was detected but did not meet identification criteria. These values cannot be considered as positive identifications, but are "estimated maximum possible concentrations". When these occurred in the method blank the results were considered as false positives. No action levels were established for these analytes.

Although several congeners were detected in the method blanks, only the following required qualification in one or more associated field samples:

SDG 1500280: Results for PCB 47 were qualified as not detected (U-7) in samples 96-ST2-20150326-W and HC-NF-10-20150326-W.

SDG 1500335: The result for PCB 47 was qualified as not detected (U-7) in Sample HC-NF-10-20150413-W.

Field Blanks

No field blanks were submitted.

Laboratory Duplicates

Laboratory duplicates were not analyzed. Laboratory precision from batch to batch was acceptable as indicated by the acceptable ongoing precision and recovery (OPR) standard results. Precision within the analytical batches could not be evaluated.

Field Duplicates

No field duplicates were submitted.

Compound Identification

The laboratory reported EMPC or "estimated maximum possible concentrations" values for one or more of the target analytes in all samples. An EMPC value was reported when a peak was detected but did not meet identification criteria as required by the method; therefore the result cannot be considered as positive identification for the analyte. The EMPC values were qualified as not detected (U-25) to indicate that the result is not-detected at an elevated reporting limit. The EMPC values for total homolog groups were qualified as estimated (J-25) at the reported values.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable, as demonstrated by the labeled compound and OPR recoveries and precision was acceptable as demonstrated by the OPR standard results.

Detection limits were elevated due to method contamination and when an EMPC flag indicated that the compound identification criteria were not met. Total homolog group results that included EMPC values were estimated.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Sampling Support

Semivolatile Organic Compounds by SW846 Method 8270D

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory quality control (QC) samples. Test America, Inc., Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Sediment	EPA Stage 2A
J48644-1	4 Sediment	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

The laboratory did not use the analytes names specified in the QAPP for several analytes. The analyte names in the EDD were changed to match the QAPP. Changes are listed in the table below:

Laboratory EDD	QAPP & Laboratory PDF
o-cresol	2-Methylphenol
m, p cresol(2:1 Ratio)	3 & 4 Methylphenol
m-Nitroaniline	3-Nitroaniline
Dibutyl Phthalate	Di-n-butyl phthalate
Bis(2-chloro-1-methylethyl)ether	2,2'-oxybis(1-chloropropane)

II. VERIFICATION OF EDD TO LABORATORY REPORT

Sample results and related quality control data were received as an electronic data deliverable (EDD) and laboratory report. The EDD was verified against the laboratory report; no errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
2	Laboratory Blanks	1	Field Duplicates
1	Field (Equipment Rinsate) Blanks	✓	Target Analyte List
1	Surrogate Compounds	1	Reporting Limits
2	Laboratory Control Samples (LCS/LCSD)	✓	Reported Results

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Laboratory Blanks

In order to evaluate the effect of method blank contamination on the field samples, action levels were established at 5x the blank concentration (10x for common laboratory contaminants) and adjusted for dilution factors. Positive results in the associated samples that were less than the action level were qualified as not detected (U-7).

The results listed below were qualified based on method blank contamination.

SDG J48451-1: HC-SF-20150326-S & HC-NF-10-20150326-S: bis(2-ethylhexyl)phthalate (U-7)

SDG J48644-1: 96-ST2-20150326-S: butyl benzyl phthalate (U-7)

HC-ST1-20150326-S: bis(2-ethylhexyl) phthalate (U-7)

Field Blanks

No field blanks were submitted.

Surrogate Compounds

SDG J48644-1: The percent recovery (%R) values for surrogates 2-fluorophenol, 2-fluorobiphenyl, and nitrobenzene-d5 were less than the lower control limits in Sample HC-ST1-20150326-S. This sample was analyzed at dilution (10x) preventing accurate recovery of the surrogate compounds. No data were qualified.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicates (LCS/LCSD) were analyzed at the proper frequency. For LCS/LCSD recovery values that were less than the lower control limit, positive results and/or non-detects in the associated samples were estimated (J/UJ-10L) to indicate a potential low bias. For recovery values greater than the upper control limit, only positive results in the associated samples were estimated (J-10H) to indicate a potential high bias. No action was taken if only one of the LCS or LCSD recovery values was outside of the control limit. For relative percent difference (RPD) values greater than the control limit, positive results in the associated samples were estimated (J-9). No action was taken for non-detects.

Outliers for the following compounds resulted in qualification of data:

SDG J48451-1: 4-chlorophenyl phenyl ether (UJ-10L) low bias; benzo(k)fluoranthene (J-9) RPD

SDG J48644-1: 4-chlorophenyl phenyl ether (UJ-10L) low bias

Matrix Spike/Matrix Spike Duplicates

SDG J48644-1: MS/MSD analyses were performed at 10x dilutions preventing accurate quantitation of the recovery of the spiked compounds. No data were qualified.

Field Duplicates

No field duplicates were submitted.

Reporting Limits

Reporting limits (RL) for one or more analytes in most samples were elevated based on reduced sample aliquots, high moisture content and/or dilutions.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate and LCS/LCSD recoveries and precision was acceptable as demonstrated by the LCS/LCSD RPD values.

Results were estimated based on LCS/LCSD precision and accuracy outliers. Results were qualified as not detected due to method blank contamination.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Sampling Support

Semivolatile Organic Compounds by SW846 Method 8270D

This report documents the review of analytical data from the analysis of water samples and the associated laboratory quality control (QC) samples. Test America, Inc., Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Water	EPA Stage 2A
J48966-1	2 Water	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

The laboratory did not use the analytes names specified in the QAPP for several analytes. The analyte names in the EDD were changed to match the QAPP. Changes are listed in the table below:

Laboratory EDD	QAPP & Laboratory PDF
o-cresol	2-Methylphenol
m, p cresol(2:1 Ratio)	3 & 4 Methylphenol
m-Nitroaniline	3-Nitroaniline
Dibutyl Phthalate	Di-n-butyl phthalate
Bis(2-chloro-1-methylethyl)ether	2,2'-oxybis(1-chloropropane)

II. VERIFICATION OF EDD TO LABORATORY REPORT

Sample results and related quality control data were received as an electronic data deliverable (EDD) and laboratory report. The EDD was verified against the laboratory report; no errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

2	Sample Receipt, Preservation, and Holding Times	2	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)
2	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	1	Reporting Limits
2	Laboratory Control Samples (LCS/LCSD)	2	Reported Results

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 0° to 6°C. The laboratory received one sample cooler with a temperature outside control limits, at 6.5°C. This outlier did not impact data quality; no action was taken based on the temperature outlier.

SDG J48451-1: Samples 96-ST2-20150326-W and HC-NF-10-20150326-W were originally extracted and analyzed within holding times. Due to several quality control (QC) outliers, the samples were re-extracted; however the re-extraction was done outside of the holding time criterion. The results for the re-extracted samples were estimated (J/UJ-1).

Laboratory Blanks

In order to evaluate the effect of method blank contamination on the field samples, action levels were established at 5x the blank concentration (10x for common laboratory contaminants). Positive results in the associated samples that were less than the action level were qualified as not detected (U-7).

The following results were qualified based on method blank contamination:

SDG J48451-1: 96-ST2-20150326-W: pentachlorophenol (U-7)
HC-NF-10-20150326-W: butyl benzyl phthalate (U-7)

Field Blanks

No field blanks were submitted.

Laboratory Control Samples

Laboratory control sample/laboratory control sample duplicates (LCS/LCSD) were analyzed at the proper frequency. For LCS/LCSD %R values that were less than the lower control limit, positive results and/or non-detects in the associated samples were estimated (J/UJ-10L) to indicate a potential low bias. For LCS/LCSD recoveries less than 10%, the detection limits for non-detected results were rejected (R-10L). For %R values greater than the upper control limit, only positive results in the associated samples were estimated (J-10H) to indicate a potential high bias. No action was taken if only one of the LCS or LCSD recoveries was outside of the control limit. For relative percent difference (RPD) outliers, associated positive results were estimated (J-9). No action was taken for non-detects.

Outliers for the following compounds resulted in qualification of data:

SDG J48451-1: bis (2-ethylhexyl)phthalate, benzoic acid (J-9) RPD

SDG J48966-1: pentachlorophenol (J-9) RPD

Matrix Spike/Matrix Spike Duplicates

For matrix spike/matrix spike duplicate (MS/MSD) recoveries less than the lower control limit, results in the parent sample were estimated (J/UJ-8L) to indicate a potential low bias. If the recoveries were also less than 10%, non-detected results were rejected (R-8L). For recoveries greater than the upper control limit, positive results only in the parent sample were estimated (J-8H) to indicate a potential high bias. No action was taken if only one of the MS/MSD recoveries was outside of the control limits.

QC Samples and outliers resulting in qualification of data in the parent sample are noted below:

SDG J48451-1: 96-ST2-20150326-W: 3,3'-dichlorobenzidine (R-8L) low bias <10%; 3-nitroaniline, 4-nitroaniline (UJ-8L) low bias, benzoic acid (J-9) RPD

Field Duplicates

No field duplicates were submitted.

Reporting Limits

SDG J48966-1: Sample HC-NF-20150413-W was analyzed at a 5x dilution due to the nature of the sample matrix. The detection and reporting limits were elevated accordingly and did not meet the limits specified in the SAP-QAPP.

Reported Results

SDG J48451-1: Samples 96-ST2-20150326-W and HC-NF-10-20150326-W were re-extracted and re-analyzed due to several QC outliers associated with the original analyses. Both sets of data were reported. Results from the original analyses were flagged do-not-report (DNR-11) in favor of the results from the re-analyses.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. With the exceptions noted above, accuracy was acceptable as demonstrated by the surrogate, MS/MSD, and LCS/LCSD recoveries and precision was acceptable as demonstrated by the MS/MSD, LCS/LCSD RPD values.

Data were estimated based on LCS/LCSD precision outliers and MS/MSD accuracy and precision outliers. Data were qualified as not detected due to method blank contamination.

One result was rejected due to MS/MSD recoveries that were less than 10%. Data were flagged as do-not-report (DNR) to indicate which result should not be used from multiple reported analyses.

Data that were rejected or flagged DNR should not be used for any purpose. All other data, as qualified, are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Sampling Support

PCB Aroclors by SW846 Method 8082

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory and quality control (QC) samples. Test America, Inc., Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a list of the individual samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Sediment	EPA Stage 2A
J48644-1	4 Sediment	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. VERIFICATION OF EDD TO LABORATORY REPORT

Sample results and related quality control data were received as an electronic data deliverable (EDD) and laboratory report. The EDD was verified against the laboratory report; No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	1	Reporting Limits
✓	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
✓	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Field Blanks

No field blanks were submitted.

Field Duplicates

No field duplicates were submitted.

Reporting Limits

The target reporting limits specified in the QAPP were not always met due to high moisture content.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory performed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate, matrix spike/matrix spike duplicate (MS/MSD), and laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries. Precision was also acceptable as demonstrated by the LCS/LCSD and MS/MSD relative percent difference values.

No data were qualified for any reason.

All data, as reported are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Sampling Support

PCB Aroclors by SW846 Method 8082

This report documents the review of analytical data from the analysis of water samples and the associated laboratory and quality control (QC) samples. Test America, Inc., Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a list of the individual samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Water	EPA Stage 2A
J48966-1	2 Water	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. VERIFICATION OF EDD TO LABORATORY REPORT

Sample results and related quality control data were received as an electronic data deliverable (EDD) and laboratory report. The EDD was verified against the laboratory report. No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Receipt, Preservation, and Holding Times	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS/LCSD)	✓	Compound Identification
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)	✓	Reported Results

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 0° to 6°C. The laboratory received one sample cooler with a temperature outside control limits, at 6.5°C. This outlier did not impact data quality; no action was taken based on the temperature outlier.

Field Blanks

No field blanks were submitted.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicates (MS/MSD) analyses were not performed. The LCS/LCSD were used to assess accuracy and precision.

Field Duplicates

No field duplicates were submitted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory performed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate and LCS/LCSD recoveries and precision was acceptable as demonstrated by the LCS/LCSD relative percent difference values.

No data were qualified for any reason.

All data, as reported are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Sampling Support

Diesel Range Organics and Motor Oil by NWTPH-Dx

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory quality control (QC) samples. Test America Inc., Tacoma, Washington, performed the analysis. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Sediment	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. VERIFICATION OF EDD TO LABORATORY REPORT

Sample results and related quality control data were received as an electronic data deliverable (EDD) and laboratory report. The EDD was verified against the laboratory report. No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Target Analyte List
✓	Surrogate Compounds	✓	Reporting Limits
✓	Laboratory Control Samples (LCS/LCSD)	2	Reported Results
1	Matrix Spikes/Matrix Spike Duplicates (MS/MSD)		

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Field Blanks

No field blanks were submitted.

Matrix Spikes/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and laboratory duplicate analyses were used to assess precision and accuracy.

Field Duplicates

No field duplicates were submitted.

Reported Results

The laboratory flagged the diesel and motor oil results with a ‘Y’ to indicate when the chromatographic response resembled a typical fuel pattern, but did not match the calibration standard. These “Y” flagged results were estimated (J-2).

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate and LCS/LCSD recoveries. Precision was acceptable as demonstrated by the LCS/LCSD and laboratory duplicate relative percent difference values.

Results were estimated because the chromatographic pattern did not match the calibration standards.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
LDW NPDES Sampling Support
Metals by Method 6020 and Mercury by Method 7471A

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory quality control (QC) samples. TestAmerica, Inc., Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Sediment	EPA Stage 2A
J48644-1	4 Sediment	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the EDD results was performed by comparison to the hardcopy laboratory data package. No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	1	Laboratory Duplicates
✓	Method Blanks	1	Field Duplicates
1	Field (Equipment Rinsate) Blanks	✓	Reporting Limits
✓	Laboratory Control Samples (LCS/LCSD)	✓	Reported Results
1	Matrix Spike/Matrix Spike Duplicates (MS/MSD)		

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Field Blanks

No field blanks were submitted.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) were used to assess accuracy and precision.

Laboratory Duplicates

Laboratory duplicates were not analyzed. The LCS/LCSD were used to assess precision.

Field Duplicates

No field duplicates were submitted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable as demonstrated by the LCS/LCSD percent recovery values. Precision was also acceptable as demonstrated by the LCS/LCSD relative percent difference values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Sampling Support

Metals by Method 200.8 and Mercury by Method 7470A

This report documents the review of analytical data from the analysis of water samples and the associated laboratory quality control (QC) samples. TestAmerica, Inc., Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Water	EPA Stage 2A
J48966-1	2 Water	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the EDD results was performed by comparison to the hardcopy laboratory data package. The following errors were noted.

The mercury method requested on the COC did not match the method referenced by the laboratory. No action was taken as SW 7470 and EPA 245.1 are equivalent methods.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Receipt, Preservation, and Holding Times	1	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field (Equipment Rinsate) Blanks	✓	Reporting Limits
✓	Laboratory Control Samples (LCS/LCSD)	✓	Reported Results
1	Matrix Spike/Matrix Spike Duplicates (MS/MSD)		

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 0° to 6°C. The laboratory received one sample cooler with a temperature outside control limits, at 6.5°C. This outlier did not impact data quality; no action was taken based on the temperature outlier.

Field Blanks

No field blanks were submitted.

Matrix Spike/Matrix Spike Duplicates

SDG J48966-1: Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed for method 200.8. The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) were used to assess accuracy and precision for this method.

Laboratory Duplicates

SDG J48966-1: Laboratory duplicates were not analyzed for method 200.8. The LCS/LCSD were used to assess precision for this method.

Field Duplicates

No field duplicates were submitted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable as demonstrated by the LCS/LCSD and MS/MSD percent recovery values. Precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and laboratory duplicate RPD values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Sampling Support Conventional Analyses

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory and quality control (QC) samples. TestAmerica, Incorporated, Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a list of the individual samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Sediment	EPA Stage 2A
J48644-1	4 Sediment	EPA Stage 2A

The analytical tests that were performed are summarized below:

Parameter	Method
Grain Size	Plumb, 1981
Total Solids (TS)	SM 2540B
Total Organic Carbon (TOC)	SW 9060

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the EDD results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

Total Solids were not reported as an analyte in the EDDs.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

✓	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Reporting Limits
✓	Laboratory Control Samples (LCS/LCSD)	✓	Reported Results
✓	Matrix Spike/Matrix Spike Duplicates (MS/MSD)		

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Field Blanks

No field blanks were submitted.

Field Duplicates

No field duplicates were submitted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) recoveries. Precision was also acceptable, as demonstrated by the LCS/LCSD, MS/MSD, and laboratory duplicate relative percent difference values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT

LDW NPDES Sampling Support

Conventional Analyses

This report documents the review of analytical data from the analysis of water samples and the associated laboratory and quality control (QC) samples. TestAmerica, Incorporated, Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a list of the individual samples.

SDG	Number of Samples	Validation Level
J48451-1	2 Water	EPA Stage 2A
J48966-1	2 Water	EPA Stage 2A

The analytical tests that were performed are summarized below:

Parameter	Method
Anions (Cl, NO ₃ , SO ₄)	EPA 300.0
Alkalinity	SM 2320
pH	SM 4500H+B
Total Suspended Solids (TSS)	SM 2540D
Total Organic Carbon (TOC) & Dissolved Organic Carbon (DOC)	SM 5310B
Conductivity	EPA 120.1
Hexavalent Chromium	EPA 3500 Cr D

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

2	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field Blanks	✓	Reporting Limits
✓	Laboratory Control Samples (LCS)	1	Reported Results
✓	Matrix Spikes (MS)		

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 0° to 6°C. The laboratory received one sample cooler with a temperature outside control limits, at 6.5°C. This outlier did not impact data quality; no action was taken based on the temperature outlier.

SDG J48451-1: For Samples 96-ST2-20150326-W and HC-NF-10-20150326-W, pH was analyzed outside of the holding time criterion. The results for pH were estimated (J-1).

Hexavalent chromium for Sample 96-ST2-20150326-W was analyzed after the 24 hour holding time had expired. The result for hexavalent chromium was estimated (J-1).

SDG J48966-1: Alkalinity, bicarbonate alkalinity, and carbonate alkalinity were analyzed outside of the holding time criterion for Samples HC-SF-20150413-W and HC-NF-20150413-W. The results were estimated (JUU-1).

Field Blanks

No field blanks were submitted.

Field Duplicates

No field duplicates were submitted.

Reported Results

SDG J48451-1: The DOC result was greater than TOC result for Sample 96-ST2-20150326-W. The difference between results fell within normal analytical precision criteria; no data were qualified.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) recoveries. Precision was also acceptable as demonstrated by the LCS/LCSD, MS/MSD, and laboratory duplicate relative percent difference values.

Data were estimated based on exceeded holding times.

All data, as qualified, are acceptable for use.



APPENDIX A

**DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES**

DATA VALIDATION QUALIFIER CODES **Based on National Functional Guidelines**

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.
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DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r ²)
	5B	Calibration Verification (ICV, CCV, CCAL; RF, %D, %R) Use bias flags (H,L) ¹ where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L) ¹ for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS &/or MSD) Recoveries Use bias flags (H,L) ¹ where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L) ¹ where appropriate
	12	Reference Material Use bias flags (H,L) ¹ where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L) ¹ where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L) ¹ where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2 nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

¹H = high bias indicated
L = low bias indicated

**Dioxin/Furan Analysis by HRMS
 (Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)**

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Waters/Solids ≤ 6°C & in the dark Tissues <-10°C & in the dark Preservation Aqueous: If Cl ₂ is present Thiosulfate must be added and if pH > 9 it must be adjusted to 7 - 9	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/R(ND) if thiosulfate not added if Cl ₂ present; J(pos)/UJ(ND) if pH not adjusted J(pos)/UJ(ND) if temp > 20°C	1	EcoChem PJ, see TM-05 If there is evidence the samples have not been stored properly i.e. not chilled for several days
Holding Time	If properly stored, 1 year or: Extraction (all matrices): 30 days from collection Analysis (all matrices): 45 days from extraction	NFG ⁽¹⁾ Method ⁽²⁾	If not properly stored: J(pos)/UJ(ND) if HT exceedance	1	EcoChem PJ, see TM-05 Gross exceedance = > 1 year 2011 NFG Note: Under CWA, SDWA, and RCRA the HT for H2O is 7 days.
Instrument Performance					
Mass Resolution (Tuning)	PFK (Perfluorokerosene) >=10,000 resolving power at m/z 304.9824. Exact mass of m/z 380.9760 w/in 5 ppm of theoretical value (380.97410 to 380.97790) . Analyzed prior to ICAL and at the start and end of each 12 hr. shift.	NFG ⁽¹⁾ Method ⁽²⁾	R(pos/ND) all analytes in all samples associated with the tune	24	Notify PM
Windows Defining Mix	Peaks for first and last eluters must be within established retention time windows for each selector group (chlorination level)	NFG ⁽¹⁾ Method ⁽²⁾	If peaks are not completely within windows (clipped): If natives are ok, J(pos)/UJ(ND) homologs (Totals) If natives are affected, R all results for that selector group	24	Notify PM
Column Performance Mix	Both mixes must be analyzed before ICAL and CCAL Valley < 25% (valley = (x/y)*100%) where x = ht. of TCDD (or TCDF) & y = baseline to bottom of valley For all isomers eluting near the 2378-TCDD (TCDF) peak (TCDD only for 8290)	NFG ⁽¹⁾ Method ⁽²⁾	J(pos) if valley > 25%	24	EcoChem PJ, see TM-05, Rev. 2; Note: TCDF is evaluated only if second column confirmation is performed
Initial Calibration Sensitivity	S/N ratio > 10 for all native and labeled compounds in CS1 std.	NFG ⁽¹⁾ Method ⁽²⁾	If <10, elevate Det. Limit or R(ND)	5A	
Initial Calibration Selectivity	Ion Abundance ratios within QC limits (Table 8 of method 8290) (Table 9 of method 1613B)	NFG ⁽¹⁾ Method ⁽²⁾	If 2 or more ion ratios are out for one compound in ICAL, J(pos)	5A	EcoChem PJ, see TM-05, Rev. 2
Initial Calibration (Minimum 5 stds.) Stability	%RSD < 20% for native compounds %RSD <30% for labeled compounds (%RSD < 35% for labeled compounds under 1613b)	NFG ⁽¹⁾ Method ⁽²⁾	J(pos) natives if %RSD > 20%	5A	
	Absolute RT of ¹³ C ₁₂ -1234-TCDD >25 min on DB5 & >15 min on DB-225	NFG ⁽¹⁾ Method ⁽²⁾	Narrate, no action		EcoChem PJ, see TM-05, Rev. 2
Continuing Calibration (Prior to each 12 hr. shift) Sensitivity	S/N ratio for CS3 standard > 10	NFG ⁽¹⁾ Method ⁽²⁾	If <10, elevate Det. Limit or R(ND)	5B	
Continuing Calibration (Prior to each 12 hr. shift) Selectivity	Ion Abundance ratios within QC limits (Table 8 of method 8290) (Table 9 of method 1613B)	NFG ⁽¹⁾ Method ⁽²⁾	No action if %D acceptable, review sample ion ratios, U(pos) if ion ratio outside limits	25	EcoChem PJ, see TM-05

Dioxin/Furan Analysis by HRMS
(Based on Dioxin NFG 2011 and Methods EPA 1613B and SW-846 8290)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Instrument Performance (continued)					
Continuing Calibration (Prior to each 12 hr. shift) Stability	%D +/-20% for native compounds %D +/-30% for labeled compounds (Must meet limits in Table 6, Method 1613B) If %D in the closing CCAL are within 25%/35%, the mean RF from the two CCAL may be used to calculate samples (Section 8.3.2.4 of 8290).	NFG ⁽¹⁾ Method ⁽²⁾	Labeled compounds: Narrate, no action. Native compounds: 1613: J(pos)/UJ(ND) if %D is outside Table 6 limits J(pos)/R(ND) if %D is +/-75% of Table 6 limits 8290: J(pos)/UJ(ND) if %D = 20% - 75% J(pos)/R(ND) if %D > 75%	5B (H,L) ³	
	Absolute RT of ¹³ C ₁₂ -1234-TCDD and ¹³ C ₁₂ -123789-HxCDD should be +/- 15 seconds of ICAL RRT for all other compounds must meet criteria listed in Table 2 Method 1316.	NFG ⁽¹⁾ Method ⁽²⁾	Narrate, no action	5B	EcoChem PJ, see TM-05
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG ⁽¹⁾ Method ⁽²⁾	U(pos) if result is < 5X action level.	7	Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review FB, qualify as needed
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL		U(pos) if result is < 5X action level.	6	
Precision and Accuracy					
MS/MSD (recovery)	MS/MSD not typically required for HRMS analyses. If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	Qualify parent only unless other QC indicates systematic problems: J(pos) if both %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias PJ if only one %R outlier	8 (H,L) ³	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	MS/MSD not typically required for HRMS analyses. If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos) in parent sample if RPD > CL	9	Qualify parent sample only.
LCS (or OPR)	One per lab batch (of ≤ 20 samples) Use most current laboratory control limits or Limits from Table 6 of 1613B	NFG ⁽¹⁾ Method ⁽²⁾	Qualify all associated samples J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias PJ if only one %R outlier	10 (H,L) ³	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	LCSD not typically required for HRMS analyses. One set per matrix and batch of 20 samples RPD < 35%	Method ⁽²⁾ Ecochem standard policy	J(pos) assoc. compound in all samples	9	Qualify all associated samples.
Lab Duplicate (RPD)	One per lab batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos)/UJ(ND) if RPD > CL	9	

PCB Congener Analysis by HRMS, EPA SW-846, Methods 1668c

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Waters/Unfrozen Tissues ≤ 6°C & in the dark Solids/Tissues <-10°C & in the dark Preservation Aqueous: Cl ₂ present but Thiosulfate not added pH not adjusted when required	EPA (1) Method(2)	J(pos)/R(ND) if thiosulfate not added if Cl ₂ present; J(pos)/UJ(ND) if pH not adjusted J(pos)/UJ(ND) if temp > °C	1	EcoChem PJ, see TM-05, Rev. 2 If there is evidence the samples have not been stored properly i.e. not chilled for several days
Holding Time	If properly stored, 1 year prior to extraction. If properly stored, 1 year from extraction to analysis.	EPA (1) Method(2)	If not properly stored: J(pos)/UJ(ND) if HT exceedance	1	EcoChem PJ, see TM-05, Rev. 2 Gross exceedance = > 1 year Note: Under CWA, SDWA, and RCRA the HT for H2O is 7 days.
Instrument Performance					
Mass Resolution (Tuning)	>=10,000 resolving power at m/z 330.9792 <5 ppm deviation from each m/z listed in Table 7 of method. Analyzed prior to ICAL and at the beginning and end of each 12 hr. shift	EPA (1) Method (2)	R(ND) all analytes in all samples associated with the tune	24	
Window Defining Mix and Column Performance Mix	Mix of all 209 PCBs run prior to each ICAL and each 12 hour shift RT of PCB209 must be > 55 min PCB 156 & 157 must coelute w/in 2 sec PCB34 & 23 and PCB187 & 182 must be resolved where (x/y)*100% < 40% x = ht. of valley and y = ht of shortest peak	EPA (1) Method (2)	J(pos) if valley > 25%	24	EcoChem PJ, see TM-05, Rev. 2;
Initial Calibration Sensitivity	S/N ratio > 10 for all native and labeled compounds in CS1 std.	EPA (1) Method (2)	If <10, elevate Det. Limit or R(ND)	5A	
Initial Calibration Retention Time	Ion Abundance ratios within QC limits (Table 8 of method 1668C)	EPA (1) Method (2)	If 2 or more ion ratios are out for one compound in ICAL, J(pos)	5A	EcoChem PJ, see TM-05, Rev. 2
Initial Calibration (Minimum 5 stds.) Stability	%RSD < 20% for native compounds %RSD <30% for labeled compounds	EPA (1) Method (2)	J(pos) natives if %RSD > 20%	5A	
Continuing Calibration (Prior to each 12 hr. shift) Sensitivity	S/N ratio for CS3 standard > 10	EPA (1) Method (2)	If <10, elevate Det. Limit or R(ND)	5B	
Continuing Calibration (Prior to each 12 hr. shift) Retention Time	Ion Abundance ratios within QC limits (Table 8 of method 1668C)	EPA (1) Method (2)	No action if %D acceptable, review sample ion ratios, U(pos) if ion ratio outside limits	25	EcoChem PJ, see TM-05, Rev. 2

PCB Congener Analysis by HRMS, EPA SW-846, Methods 1668c

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Continuing Calibration (Prior to each 12 hr. shift) Stability	%D +/- 20% for native compounds %D +/- 30% for labeled compounds (Must meet limits in Table 6, Method 1668C)	EPA (1) Method (2)	Labeled compounds: Narrate, no action. Native compounds: J(pos)/UJ(ND) if %D is outside limits J(pos)/R(ND) if %D is +/- 75% of limits	5B (H,L) ³	
	Absolute RT of all Labeled Compounds and Window Defining Congeners must be +/- 15 sec of RT in ICAL RRT of all compounds must meet Table 2 of method.	EPA (1) Method (2)	Narrate, no action	5B	EcoChem PJ, see TM-05, Rev. 2
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	EPA (1) Method (2)	U(pos) if result is < 5X	7	Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review FB, qualify as needed
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL		U(pos) if result is < 5X	6	
Precision and Accuracy					
MS/MSD (recovery)	MS/MSD not typically required for HRMS analyses. If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	Qualify parent only unless other QC indicates systematic problems: J(pos) if both %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias PJ if only one %R outlier	8 (H,L) ³	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	MS/MSD not typically required for HRMS analyses. If lab analyzes MS/MSD then one set per matrix per batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos) in parent sample if RPD > CL	9	Qualify parent sample only.
LCS (or OPR)	One per lab batch (of ≤ 20 samples) %R must meet limits in Table 6 Method 1668C	EPA (1) Method (2)	Qualify all associated samples J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if both %R < LCL - low bias J(pos)/R(ND) if both %R < 10% - very low bias J(pos)/UJ(ND) if one > UCL & one < LCL, with no bias PJ if only one %R outlier	10 (H,L) ³	No action if only one spike %R is outside criteria, when LCSD is analyzed. Qualify all associated samples.
LCS/LCSD (RPD)	LCS/LCSD not typically required for HRMS analyses. If lab analyzes LCS/LCSD then one set per matrix and batch of 20 samples RPD < 35%	EcoChem standard policy	J(pos) assoc. compound in all samples	9	Qualify all associated samples.
Lab Duplicate (RPD)	One per lab batch (of ≤ 20 samples) Use most current laboratory control limits	EcoChem standard policy	J(pos)/UJ(ND) if RPD > CL	9	

PCB Congener Analysis by HRMS, EPA SW-846, Methods 1668c

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Labeled Compounds (Internal Standards)	Added to all samples %R must meet limits in Table 6 Method 1668C	EPA (1) Method (2)	J(pos) if %R > UCL - high bias J(pos)/UJ(ND) if %R < LCL - low bias J(pos)/R(ND) if %R < 10% - very low bias	13 (H,L) ³	See next tab for labeled compound associations as per Table 2 Method 1668
Field Duplicates	Solids: RPD <50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project (EcoChem PJ)	9	
Compound ID and Calculation					
Quantitation/ Identification	All ions for each isomer must maximize within +/- 2 seconds. S/N ratio >2.5 Ion ratios must meet criteria listed in Table 8 of 1668C; RRTs w/in limits in Table 2 of 1668C	EPA (1) Method (2)	Narrate in report; qualify if necessary NJ(pos) for retention time outliers. U(pos) for ion ratio outliers.	25	EcoChem PJ, see TM-05, Rev. 2
EMPC (estimated maximum possible concentration)	If quantitation identification criteria are not met, laboratory should report an EMPC value.	EPA (1) Method (2)	If laboratory correctly reported an EMPC value, qualify the native compound U to indicate that the value is a detection limit and qualify total homolog groups J(+)	25	Use PJ See TM-05, Rev. 2.
Interferences	Interferences from chlorodiphenyl ether compounds	EPA (1) Method (2)	J(pos)/UJ(ND) if present	23	
	Lock masses must not deviate +/- 20% from values in Table 7 of 1668C	Method (2)	J(pos)/UJ(ND) if present	24	
Calculation Check	Check 10% of field & QC sample results	EcoChem standard policy	Contact laboratory for resolution and/or corrective action	na	Full data validation only.
Electronic Data Deliverable (EDD)					
Verification of EDD to hardcopy data	EcoChem verify @ 10% unless problems noted; then increase level up to 100% for next several packages.		Depending on scope of problem, correct at EcoChem (minor issues) to resubmittal by laboratory (major issues).	na	EcoChem Project Manager and/or Database Administrator will work with lab to provide long-term corrective action.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	

(pos): Positive Result(s)
 (ND): Non-detects

¹ USEPA Region 2 Data Validation, Standard Operating Procedure for EPA Method 1668A, Revision 1, September 2008

¹ USEPA Region 3 Interim Guidelines for the Validation of Data Generated Using Method 1668 PCB Congener Data, Revision 0, April 2004

¹ USEPA Region 10 SOP For the Validation of Method 1668 Toxic, Dioxin-like, PCB Data, Revision 1, December 1995

² EPA Method 1668, Rev.C, Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS, April 2010

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C±2°C sediment/tissues may require storage at -20°C	NFG ⁽¹⁾ Method ⁽³⁾	If required by project: J (pos)/UJ (ND) if greater than 6° C	1	Use PJ for temp outliers; see TM20 Current SW846 criterion is ≤ 6° C ⁽³⁾
Holding Time	Extraction Aqueous: 7 days from collection Extraction Solid: 14 days from collection Analysis (all matrices): 40 days from extraction Holding time may be extended to 1 year for frozen sediments/tissues	NFG ⁽¹⁾ Method ⁽³⁾	J (pos)/UJ (ND) if HT exceeded J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Gross exceedance = > 2x HT, as per 1999 NFG
Instrument Performance					
Tuning	DFTPP Beginning of each 12 hour period Use method or project acceptance criteria	NFG ⁽¹⁾ Method ⁽³⁾	R (pos/ND) all analytes in all samples associated with the tune	24	
Initial Calibration Sensitivity	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5A	TM-06 EcoChem Policy for the Evaluation and Qualification of GCMS Instrument Performance PJ - no action if response is stable (ICAL RSD and CCAL %D acceptable)
Initial Calibration Stability	Minimum 5 standards %RSD ≤ 20.0% except: %RSD ≤ 40.0% poor responders * or co-efficient of determination (r ²) > 0.99	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %RSD > limit or r ² value < 0.99	5A	
Initial Calibration Verification Check	Prepared from second source; analyze after each ICAL Percent recovery limits = 70-130%	Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) %R < LCL	5A (H,L) ⁴	QAPP may have overriding accuracy limits.
Continuing Calibration Sensitivity	RRF ≥ 0.05 except: RRF ≥ 0.01 poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	Use PJ to qualify J (pos)/UJ (ND)	5B	see ICAL RRF guidance
Continuing Calibration Stability	Prior to sample analysis and every 12 hours %D ≤ 25% except: %D ≤ 40.0% poor responders *	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) - %D > control limit (high bias) J (pos)/UJ (ND) - %D < -control limit (low bias)	5B (H,L) ⁴	

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U(pos) if result is < 5X or 10X action level	7	10X action level applies to phthalates only. 5X for all other target analytes Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review FB, qualify as needed Note: Actions as per 1999 NFG
	----- No TICs present		R (pos) TICs using 10X rule	7	
Field Blank (FB)	No detected compounds > MDL	NFG ⁽²⁾ Method ⁽³⁾	U (pos) if result is < 5X or 10X action level	6	
Precision and Accuracy					
LCS/LCSD (recovery)	One per matrix per batch (of ≤ 20 samples) LCSD not required by NFG or method Use method acceptance criteria/laboratory limits	Method ⁽³⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND)%R < 10%	10 (H,L) ⁴	No action if only one spike %R is outside criteria when LCSD is analyzed, unless one recovery is <10%. QAPP may have overriding accuracy limits. Qualify all associated samples.
LCS/LCSD (RPD)	If LCSD analyzed RPD < lab limits	Method ⁽³⁾	J (pos)	9	Qualify all associated samples. QAPP may have overriding precision limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ⁴	QAPP may have overriding accuracy limits. Some manufacturers have different RM control limits
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) %R > UCL J (pos)/UJ (ND) if both %R < LCL J (pos)/R (ND) if both %R < 10% J (pos)/UJ (ND) if one > UCL & one < LCL, with no bias	8 (H,L) ⁴	No action if only one spike %R is outside criteria. No action if parent concentration is >4x the amount spiked. Qualify parent sample only.
MS/MSD (RPD)	One per matrix per batch (of ≤ 20 samples) Use method acceptance criteria/laboratory limits	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) in parent sample if RPD > CL	9	Qualify parent sample only
Surrogates	Minimum of 3 acid & 3 base/neutral (B/N) compounds added to all samples Within method control limits	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	13 (H,L) ⁴	Qualify all compounds in associated fraction. Do not qualify if only 1 acid and/or 1 B/N surrogate is out, unless <10%. If 1 surrogate outlier < 10% then J (pos)/R (ND)

DATA VALIDATION CRITERIA

Semivolatile Organic Compounds by Gas Chromatography-Mass Spectroscopy (GC-MS)
 (Based on NFG 1999 & 2008 and SW-846 Method 8270D)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	NFG ⁽¹⁾ Method ⁽³⁾	J (pos) if > 200% J (pos)/UJ (ND) if < 50% J (pos)/R (ND) if < 25% if RT >30 seconds use PJ	19	Qualify compounds quantified using particular internal standard
Field Duplicates	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	Use project limits if specified
Compound Identification and Quantitation and Calculation					
Retention times and relative ion intensities	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	NFG ⁽¹⁾ Method ⁽³⁾	U (pos) if identification criteria not met	25	
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NFG ⁽¹⁾ Method ⁽³⁾	NJ the TIC unless: R (pos) common laboratory contaminants	4	
Calibration Range	Results greater than highest calibration standard	EcoChem standard policy	Qualify J (pos)	20	If result from dilution analysis is not reported.
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Organic Data Review, June, 2008

² National Functional Guidelines for Organic Data Review, October, 1999

³ Method SW846 8270D Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 4, February 2007.

⁴ NFG 2013 suggests using "+ / -" to indicate bias; EcoChem has chosen "H" = high bias indicated; "L" = low bias indicated.

(pos): Positive Result(s)

(ND): Non-detects

* "Poor responder" compounds: acetophenone, atrazine, benzaldehyde, 1,1'-biphenyl, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, caprolactam, carbazole, 4-chloroaniline, diethylphthalate, di-n-butylphthalate, 3-3'-dichlorobenzidine, dimethylphthalate, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, di-n-octylphthalate, hexachlorobutadiene, hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, 4-nitrophenol, N-nitrosodiphenylamine, 2,2'-oxybis-(1-chloropropane), 1,2,4,5-tetrachlorobenzene use a 0.010 RRF criterion.

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	4°C ± 2°C Tissue/sediments (may be frozen -20°C)	NFG ⁽¹⁾ Method ⁽²⁾	If required by project: J (pos)/UJ (ND) if greater than 6° C	1	Use Professional Judgment (PJ) to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C ⁽³⁾
Holding Time	Extraction Aqueous: 7 days from collection Extraction Solid: 14 days from collection Extraction Tissue/Sediment (frozen): 1 year Analysis (all matrices): 40 days from extraction	NFG ⁽¹⁾ Method ⁽²⁾	If required by project: J (pos)/UJ (ND) if ext/analyzed > HT J (pos)/R (ND) if gross exceedance (> 2x HT)	1	Use PJ to qualify for holding time outlier. Current SW846 does not have an extraction holding time limit. ⁽³⁾ Gross exceedance > 2x HT, as per NFG 1999
Instrument Performance					
Retention Times	Surrogates: TCMX (± 0.05); DCB (± 0.10) Aroclors (± 0.07)	NFG ⁽¹⁾	NJ (pos)/R (ND) results for analytes with RT shifts	24	
Initial Calibration	Minimum 5 point with RSD ≤ 20% OR correlation coefficient (r-value) ≥ 0.995 OR Minimum 6-point with co-efficient of determination (r ² -value) ≥ 0.99	NFG ⁽¹⁾ Method ⁽⁴⁾	J (pos) if %RSD greater than 20% OR r-value < 0.995 OR r ² -value < 0.99	5A	Refer to TM-01 for additional information. Use bias flags (H,L) ⁽⁵⁾ where appropriate
Initial Calibration Verification (ICV)	No NFG criteria. Project specific.	Project	J (pos) if > UCL J (pos)/UJ (ND) if < LCL	5B	Use bias flags (H,L) where appropriate
Continuing Calibration (Prior to each 12 hr. shift)	%D ± 20%	Method ⁽²⁾	If > 20% (high bias): J (pos) If < 20% (low bias): J (pos)/UJ (ND)	5B	Refer to TM-01 for additional information. Use bias flags (H,L) where appropriate
Blank Contamination					
Method Blank (MB)	MB: One per matrix per batch of (of ≤ 20 samples) No detected compounds > RL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is less than appropriate 5X action level.	7	Hierarchy of blank review: #1 - Review MB and IB, qualify as needed #2 - Review FB, qualify as needed Note: Actions as per NFG 1999 Note: IB not required by method
Field Blank (FB)	FB: frequency as per QAPP No detected compounds > RL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is less than appropriate 5X action level.	6	
Instrument Blanks (IB)	Analyzed at the beginning and end of every 12 hour sequence No analyte > CRQL	NFG ⁽¹⁾	U (pos) if result is less than appropriate 5X action level.	7	
Precision and Accuracy					
MS/MSD (recovery)	One set per matrix per batch (of ≤ 20 samples) AR1016 and AR1260: %R = 29% - 135%, or project limits	NFG ⁽¹⁾ Method ⁽²⁾	Qualify parent only unless other QC indicates systematic problems. J (pos) if both %R > upper control limit (UCL) J (pos)/UJ (ND) if both %R < lower control limit (LCL) J (pos)/R (ND) if both %R < 10%	8	No action if only one spike %R is outside criteria. No action if native analyte conc. > 5x the amount spiked. Use bias flags (H,L) where appropriate. Actions apply to all Aroclors in parent sample.

PCB Aroclors by GC
(Based on Organic NFG 2008 and SW-846 Method 8082A)

QC Element	Acceptance Criteria (NFG)	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
MS/MSD (RPD)	One set per matrix per batch (of ≤ 20 samples) AR1016: RPD < 15%, AR1260: RPD < 20% or project limits	NFG ⁽¹⁾ Method ⁽²⁾	Qualify parent only unless other QC indicates systematic problems. J (pos) if RPD > control limit	9	No action if parent is ND.
LCS	One per lab batch (of ≤ 20 samples) AR1016 and AR1260: %R = 50% - 150%, or project limits	NFG ⁽¹⁾	J (pos) if %R > UCL J (pos)/UJ (ND) if %R < LCL J (pos)/R (ND) if %R < 10%	10	Use bias flags (H,L) where appropriate. Actions apply to all Aroclors in associated samples.
LCS/LCSD (RPD)	if analyzed use MS/MSD RPD criteria	NFG ⁽¹⁾	J (pos) assoc. compound in all samples	9	LCSD not required by method or NFG
Surrogates	TCMX and DCBP added to every sample %R = 30% - 150% or project limits	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if either %R > UCL J (pos)/UJ (ND) if either %R < LCL J (pos)/R (ND) if either %R < 10%	13	If %R < 10% (sample dilution is a factor), use PJ Use bias flags (H,L) where appropriate
Internal Standards (if used)	Acceptable Range: IS area = 50% to 200% of CCAL area RT within 30 seconds of CC RT	Method ⁽²⁾	J (pos) if area > 200% J (pos)/UJ (ND) if area < 50% J (pos)/R (ND) if area < 25% RT > 30 seconds, narrate	19	
Field Duplicates	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem	J (pos)/UJ (ND) Qualify only parent and field duplicate samples	9	use project limits if specified
Compound Identification/Quantification					
Quantitation/ Identification	Between two columns: RPD < 40% or %D < 25% Within Retention Time Windows on both columns.	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if RPD = 40% - 60% (25% - 60% for %D) NJ (pos) if > 60% R (pos) if RTW criterion not met	3	See TM-08 for additional info.
Calibration Range	on column concentration < high calibration standard	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if conc > high standard and sample was not diluted	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	Standard reporting policy	Use "DNR" to flag results that will not be reported.	11	TM-04 Rev. 1 for additional info.
Sample Clean-up					
GPC/Sulfur/ Florisil/Acid	No criteria - cleanups are optional	NFG ⁽¹⁾ Method ⁽²⁾	Use Professional Judgment	14	special cleanups may be required for project cleanup standards may be associated with GPC/florisil cleanups

¹ National Functional Guidelines for Organic Data Review, June, 2008

² Polychlorinated Biphenyls (PCBs) by Gas Chromatography USEPA Method SW846 8082A, Feb 2007, Rev. 1

³ SW846, Chapter 4, Organic Analytes

⁴ Determinative Chromatographic Separations, Method 8000C, March 2003, Rev.3

⁵ "H" = high bias indicated; "L" = low bias indicated

DATA VALIDATION CRITERIA

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx, June 1997, Wa DOE & Oregon DEQ)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler Temperature & Preservation	4°C±2°C Water: HCl to pH < 2	J(+)/UJ(-) if greater than 6 deg. C	1
Holding Time	Ext. Waters: 14 days preserved 7 days unpreserved Ext. Solids: 14 Days Analysis: 40 days from extraction	J(+)/UJ(-) if hold times exceeded J(+)/R(-) if exceeded > 3X (EcoChem PJ)	1
Initial Calibration	5 calibration points (All within 15% of true value) Linear Regression: $R^2 \geq 0.990$ If used, RSD of response factors $\leq 20\%$	Narrate if fewer than 5 calibration levels or if %R > 15% J(+)/UJ(-) if $R^2 < 0.990$ J(+)/UJ(-) if %RSD > 20%	5A
Mid-range Calibration Check Std.	Analyzed before and after each analysis shift & every 20 samples. Recovery range 85% to 115%	Narrate if frequency not met. J(+)/UJ(-) if %R < 85% J(+) if %R > 115%	5B
Method Blank	At least one per batch (≤ 20 samples) No results > RL	U (at the RL) if sample result is < RL & < 5X blank result.	7
		U (at reported sample value) if sample result is \geq RL and < 5X blank result	7
Field Blanks (if required by project)	No results > RL	Action is same as method blank for positive results remaining in the field blank after method blank qualifiers are assigned.	6
MS samples (accuracy) (if required by project)	%R within lab control limits	Qualify parent only, unless other QC indicates systematic problems. J(+) if both %R > upper control limit (UCL) J(+)/UJ(-) if both %R < lower control limit (LCL) No action if parent conc. > 5X the amount spiked. Use PJ if only one %R outlier	8
Precision: MS/MSD or LCS/LCSD or sample/dup	At least one set per batch (≤ 10 samples) RPD \leq lab control limit	J(+) if RPD > lab control limits	9
LCS (not required by method)	%R within lab control limits	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R < 10% (EcoChem PJ)	10

EcoChem Validation Guidelines for Total Petroleum Hydrocarbons-Diesel & Residual Range
 (Based on EPA National Functional Guidelines as applied to criteria in NWTPH-Dx,
 June 1997, Wa DOE & Oregon DEQ)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Surrogates	2-fluorobiphenyl, p-terphenyl, o-terphenyl, and/or pentacosane added to all samples (inc. QC samples). %R = 50-150%	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL J(+)/R(-) if any %R <10% No action if 2 or more surrogates are used, and only one is outside control limits. (EcoChem PJ)	13
Pattern Identification	Compare sample chromatogram to standard chromatogram to ensure range and pattern are reasonable match. Laboratory may flag results which have poor match.	J(+)	2
Field Duplicates	Use project control limits, if stated in QAPP EcoChem default: water: RPD < 35% solids: RPD < 50%	Narrate (Use Professional Judgement to qualify)	9
Two analyses for one sample (dilution)	Report only one result per analyte	"DNR" (or client requested qualifier) all results that should not be reported. (See TM-04)	11

DATA VALIDATION CRITERIA

Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG ⁽¹⁾ Method ⁽²⁾	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C ⁽⁴⁾ No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	All matrices: 180 days from date sampled Frozen soils, sediments, tissues (-20°C) - HT extended to 1 year	NFG ⁽¹⁾ Method ⁽²⁾ EcoChem standard policy	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Tune	Analyzed prior to ICAL tunignsolution analyzed 5 times with Std. Dev. ≤ 5% Mass calibration < 0.1 amu difference from target mass Resolution < 0.9 amu @ 10% peak height	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) if tune criteria not met	5A	Use PJ to evaluate tune. Alternate Resolution criteria may apply based on instrument specs (i.e <0.75 amu at 5% peak height)
Initial Calibration (ICAL)	Based on instrument requirements, blank + 1 standard minimum requirement for calibration If more than 1 standard used, r ≥ 0.995	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if r < 0.995	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ± 10% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R > 111%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard Low Level ICV/CCV	concentration at RL %R = 70%-130%	Method ⁽²⁾	J (pos) < 2x RL / R (ND) if %R < 50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run
Continuing Calibration Verification (CCV)	Immediately following ICV/ICB, then every two hours or ten samples, and at end of run. %R within ± 10% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R > 111%	5B (H,L) ³	Qualify samples bracketed by CCV outliers

DATA VALIDATION CRITERIA

Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Interference Check Samples (ICSA / ICSAB)	ICSAB %R 80% - 120% for all spiked elements ICSA < MDL for all unspiked elements	NFG ⁽¹⁾ Method ⁽²⁾	For samples with Al, Ca, Fe, Mg > ICS levels: ICSAB: J (pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R = 50% - 79% J (pos) if %R > 120% ICSA: J (pos) < 2x ICSA/UJ (ND) for ICSA < Neg MDL J (pos) < 2x ICSA for ICSA > MDL	17 (H,L) ³	Use PJ and molecular interferences to evaluate ICSA to determine if bias is present. Refer to TM-14 for additional information.
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blks: 7 Neg Blks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.
Precision and Accuracy					
Internal Standards (IS)	Added to all samples. All analytes must be associated with an internal standard 60-125% of cal blank IS	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) all analytes associated with IS outlier	19	6020A criteria - IS >70% of ICAL std
LCS (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG Limits 70% -130%
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R <75% J (pos)/R (ND) if %R < 30%, unless post digestion spike analyzed, J (pos)/UJ (ND) if post digestion spike %R OK	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration >4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Post Digestion Spikes	If MS is outside 75-125%, post-spike should be analyzed %R 80%-120% (method); 75%-125% (NFG)	NFG ⁽¹⁾ Method ⁽²⁾	Only used to support MS qualification decisions	NA	No qualifiers assigned based solely on this element.

DATA VALIDATION CRITERIA

Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Serial Dilution	Analyze one sample per matrix at a 5x dilution %D < 10% for original sample conc. > 50x MDL	NFG ⁽¹⁾	J(pos)/UJ(ND) if %D > 10% and native sample concentration > 50x MDL	16	Note serial dilutions for soil are reported in ug/L, but the MDL is in mg/kg. The units need to be adjusted. Qualify all samples in batch.
Field Duplicate	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project (EcoChem PJ) Qualify only field duplicate samples J(pos)/UJ(ND)	9	QAPP may have overriding precision limits.
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² Method SW846 6020A Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Revision 1, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes

(pos): Positive Result

(ND): Not detected

Mercury by CVAA
 (Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG (1) Method (2)	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C (4) No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	28 days from date sampled Frozen solids and tissues HT extended to 6 months	NFG (1) Method (2) EcoChem standard policy	J (pos)/UJ (ND) if HT exceeded	1	
Instrument Performance					
Initial Calibration (ICAL)	Daily Calibration Blank + 5 standards, one ≤ RL Correlation coefficient (r) ≥ 0.995	NFG (1) Method (2)	J (pos)/UJ (ND) if r < 0.995	5A (H,L) ³	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after ICAL %R within ± 15% of true value	NFG (1) Method (2)	R(pos/ND) if %R <70% J(pos)/UJ(ND) if %R = 70-84% J(pos) if %R = > 116%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard	Conc = RL %R = 70-130%	Method (2)	J (pos) < 2x RL / R (ND) if %R <50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run
Continuing Calibration Verification (CCV)	At beginning of run, every ten samples, and again after last sample. %R within ± 15% of true value	NFG (1) Method (2)	R(pos/ND) if %R <70% J(pos)/UJ(ND) if %R = 70-84% J(pos) if %R = > 116%	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG (1) Method (2)	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG (1) Method (2)	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blanks: 7 Neg Blanks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.

DATA VALIDATION CRITERIA

Mercury by CVAA (Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
Laboratory Control Sample (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG does not address LCS
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
Matrix Spike/Matrix Spike Duplicate MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R <75% J (pos)/R (ND) if %R < 30%	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration >4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Field Duplicate	Solids: RPD <50% (for results ≥ 5x RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% (for results ≥ 5x RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.

Mercury by CVAA
 (Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

(pos): Positive Result

² Method SW846 7470A Mercury in Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994.

(ND): Not Detected

Method SW846 7471B Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes

DATA VALIDATION CRITERIA

Table: CONV-Gravimetric
 Revision No.: 0
 Last Rev. Date: 1/9/2015
 Page: 1 of 2

Conventional Methods by Gravimetric Analysis (i.e., Total Solids, Total Dissolved Solids, Total Suspended Solids, Grain Size) (Based on Inorganic NFG 2010 and EPA methods)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Cooler temperature: 4°C±2°C Preservation: Analyte/Method Specific	Method ⁽¹⁾ NFG ⁽²⁾	J (pos)/UJ (ND) if preservation requirements not met	1	Use PJ to qualify for cooler temp outliers.
Holding Time	Analyte/Method Specific	Method NFG ⁽²⁾	J (pos)/UJ (ND) if holding time exceeded	1	
Blank Contamination					
Method Blank (MB)	If required by method, one per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Precision and Accuracy					
LCS (If appropriate to method)	One per matrix per batch (of ≤ 20 samples) %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% For Grain Size, no action if results for fraction are less than 5%	9	Qualify all samples in batch, except Grain Size - qualify parent only. QAPP may have overriding precision limits.
Field Duplicate	Solids: RPD < 50% (for results ≥ 5x RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% (for results ≥ 5x RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.

DATA VALIDATION CRITERIA

Table: CONV-Gravimetric
 Revision No.: 0
 Last Rev. Date: 1/9/2015
 Page: 2 of 2

Conventional Methods by Gravimetric Analysis (i.e., Total Solids, Total Dissolved Solids, Total Suspended Solids, Grain Size) (Based on Inorganic NFG 2010 and EPA methods)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Quantitation					
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte per sample	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² SW846 or EPA Standard Methods

³ "H" = high bias indicated; "L" = low bias indicated

(pos): Positive Result

(ND): Not Detected

DATA VALIDATION CRITERIA

Table: CONV-Calibrated
 Revision No.: 0
 Last Rev. Date: 01/14/2015
 Page: 1 of 2

Conventional Methods with Instrument Calibrations (i.e., Ion Chromatography, Total Organic Carbon) (Based on Inorganic NFG 2010 and EPA methods)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler/Storage Temperature Preservation	Cooler temperature: 4°C±2°C Preservation: Analyte/Method Specific	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if preservation requirements not met	1	Use PJ to qualify for cooler temp outliers.
Holding Time	Analyte/Method Specific	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Initial Calibration (ICAL)	blank + multiple standards as per method requirements $r \geq 0.995$	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) for $r < 0.995$	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R method specific	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if %R < lower control limit (LCL) J (pos) if %R > upper control limit (UCL)	5A (H,L) ³	Qualify all samples in run
Continuing Calibration Verification (CCV)	immediately following ICV, every 10 samples, and end of run %R method specific	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) if %R < LCL J(pos) if %R > UCL	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Blank Contamination					
Method Blank (MB)	One per matrix per batch (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blanks: 7 Neg Blanks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.
Precision and Accuracy					
Laboratory Control Sample (LCS)	One per matrix per batch (of ≤ 20 samples) %R within Method control limits (or Laboratory control limits if none specified in method)	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if %R < LCL J (pos) if %R > UCL	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits.

DATA VALIDATION CRITERIA

Table: CONV-Calibrated
 Revision No.: 0
 Last Rev. Date: 01/14/2015
 Page: 2 of 2

Conventional Methods with Instrument Calibrations (i.e., Ion Chromatography, Total Organic Carbon) (Based on Inorganic NFG 2010 and EPA methods)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Reference Materials (RM, CRM, SRM)	Result $\pm 20\%$ of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Where applicable to method; MSD may not be required One per matrix per batch (of ≤ 20 samples) For samples <4x spike level, %R within method control limits (or Laboratory control limits if none specified in method)	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if %R < LCL J (pos) if %R > UCL	8 (H,L)3	Qualify all samples in batch No action if native analyte concentration $\geq 4x$ spike added. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Laboratory Duplicate (or MS/MSD)	One per matrix per batch (of ≤ 20 samples) RPD $\leq 20\%$ for results $\geq 5x$ RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.
Field Duplicate	Solids: RPD <50% (for results $\geq 5x$ RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% (for results $\geq 5x$ RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.
Compound Quantitation					
Linear Range	Sample concentrations less than highest calibration standard	NFG ⁽¹⁾ Method ⁽²⁾	If result exceeds linear range & sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² SW846 or EPA Standard Methods

³ "H" = high bias indicated; "L" = low bias indicated

(pos): Positive Result

(ND): Not Detected



APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
LDW NPDES Sampling Support

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
1500280	96-ST3-20150326-S	1500280-01	1613B	Total TCDD	89.7	pg/g		J	25
1500280	96-ST3-20150326-S	1500280-01	1613B	Total TCDF	320	pg/g		J	25
1500280	96-ST3-20150326-S	1500280-01	1668C	PCB-150	ND	pg/g		U	25
1500280	96-ST3-20150326-S	1500280-01	1668C	PCB-184	ND	pg/g		U	25
1500280	96-ST3-20150326-S	1500280-01	1668C	PCB-19	ND	pg/g		U	25
1500280	96-ST3-20150326-S	1500280-01	1668C	PCB-57	ND	pg/g		U	25
1500280	96-ST3-20150326-S	1500280-01	1668C	PCB-58	ND	pg/g		U	25
1500280	96-ST3-20150326-S	1500280-01	1668C	PCB-94	ND	pg/g		U	25
1500280	96-ST3-20150326-S	1500280-01	1668C	Total tetraCB	3580	pg/g		J	25
1500280	96-ST3-20150326-S	1500280-01	1668C	Total triCB	795	pg/g		J	25
1500280	96-ST2-20150326-S	1500280-02	1613B	OCDD	6140	pg/g	E	J	20
1500280	96-ST2-20150326-S	1500280-02	1613B	Total PeCDF	73.8	pg/g		J	25
1500280	96-ST2-20150326-S	1500280-02	1668C	PCB-122	ND	pg/g	D	U	25
1500280	96-ST2-20150326-S	1500280-02	1668C	PCB-126	ND	pg/g	D	U	25
1500280	96-ST2-20150326-S	1500280-02	1668C	PCB-197	ND	pg/g	D	U	25
1500280	96-ST2-20150326-S	1500280-02	1668C	PCB-198	ND	pg/g	D	U	25
1500280	96-ST2-20150326-S	1500280-02	1668C	PCB-35	ND	pg/g	D	U	25
1500280	96-ST2-20150326-S	1500280-02	1668C	PCB-94	ND	pg/g	D	U	25
1500280	96-ST2-20150326-S	1500280-02	1668C	Total octaCB	2470	pg/g	B	J	25
1500280	96-ST2-20150326-S	1500280-02	1668C	Total triCB	1260	pg/g		J	25
1500280	96-ST1-20150326-S	1500280-03	1613B	OCDD	8410	pg/g	E	J	20
1500280	96-ST1-20150326-S	1500280-03	1613B	Total PeCDF	92.2	pg/g		J	25
1500280	96-ST1-20150326-S	1500280-03	1613B	Total TCDD	24.3	pg/g		J	25
1500280	96-ST1-20150326-S	1500280-03	1613B	Total TCDF	70.5	pg/g		J	25
1500280	96-ST1-20150326-S	1500280-03	1668C	PCB-103	ND	pg/g	D	U	25
1500280	96-ST1-20150326-S	1500280-03	1668C	PCB-173	ND	pg/g	D	U	25
1500280	96-ST1-20150326-S	1500280-03	1668C	PCB-175	ND	pg/g	D	U	25
1500280	96-ST1-20150326-S	1500280-03	1668C	PCB-205	ND	pg/g	D	U	25
1500280	96-ST1-20150326-S	1500280-03	1668C	PCB-55	ND	pg/g	D	U	25
1500280	96-ST1-20150326-S	1500280-03	1668C	PCB-63	ND	pg/g	D	U	25
1500280	96-ST1-20150326-S	1500280-03	1668C	PCB-96	ND	pg/g	D	U	25
1500280	96-ST1-20150326-S	1500280-03	1668C	Total heptaCB	13700	pg/g		J	25

Qualified Data Summary Table
LDW NPDES Sampling Support

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
1500280	96-ST1-20150326-S	1500280-03	1668C	Total octaCB	4020	pg/g	B	J	25
1500280	96-ST1-20150326-S	1500280-03	1668C	Total tetraCB	7990	pg/g		J	25
1500280	HC-ST1-20150326-S	1500280-04	1613B	1,2,3,4,7,8,9-HpCDF	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1613B	1,2,3,7,8-PeCDF	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1613B	2,3,7,8-TCDD	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1613B	Total HpCDF	13.5	pg/g		J	25
1500280	HC-ST1-20150326-S	1500280-04	1613B	Total PeCDD	2.41	pg/g		J	25
1500280	HC-ST1-20150326-S	1500280-04	1613B	Total PeCDF	4.64	pg/g		J	25
1500280	HC-ST1-20150326-S	1500280-04	1613B	Total TCDD	0.992	pg/g		J	25
1500280	HC-ST1-20150326-S	1500280-04	1613B	Total TCDF	3.44	pg/g		J	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	PCB-11	9.92	pg/g	B	U	7
1500280	HC-ST1-20150326-S	1500280-04	1668C	PCB-122	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	PCB-123	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	PCB-154	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	PCB-197	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	PCB-40	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	PCB-46	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	PCB-89	ND	pg/g		U	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	Total octaCB	421	pg/g	B	J	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	Total pentaCB	874	pg/g		J	25
1500280	HC-ST1-20150326-S	1500280-04	1668C	Total tetraCB	299	pg/g		J	25
1500280	HC-SF-20150326-S	1500280-05	1613B	2,3,7,8-TCDD	ND	pg/g		U	25
1500280	HC-SF-20150326-S	1500280-05	1613B	Total PeCDD	6.20	pg/g		J	25
1500280	HC-SF-20150326-S	1500280-05	1613B	Total PeCDF	11.3	pg/g		J	25
1500280	HC-SF-20150326-S	1500280-05	1613B	Total TCDD	3.09	pg/g		J	25
1500280	HC-SF-20150326-S	1500280-05	1613B	Total TCDF	12.7	pg/g		J	25
1500280	HC-SF-20150326-S	1500280-05	1668C	PCB-100	ND	pg/g		U	25
1500280	HC-SF-20150326-S	1500280-05	1668C	PCB-11	17.1	pg/g	B	U	7
1500280	HC-SF-20150326-S	1500280-05	1668C	PCB-55	ND	pg/g		U	25
1500280	HC-SF-20150326-S	1500280-05	1668C	PCB-6	ND	pg/g		U	25
1500280	HC-SF-20150326-S	1500280-05	1668C	PCB-94	ND	pg/g		U	25
1500280	HC-SF-20150326-S	1500280-05	1668C	Total diCB	50.6	pg/g	B	J	25

Qualified Data Summary Table
LDW NPDES Sampling Support

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
1500280	HC-SF-20150326-S	1500280-05	1668C	Total tetraCB	452	pg/g		J	25
1500280	HC-NF-10-20150326-S	1500280-06	1613B	2,3,7,8-TCDD	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1613B	2,3,7,8-TCDF	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1613B	Total PeCDD	4.84	pg/g		J	25
1500280	HC-NF-10-20150326-S	1500280-06	1613B	Total TCDD	1.24	pg/g		J	25
1500280	HC-NF-10-20150326-S	1500280-06	1613B	Total TCDF	2.71	pg/g		J	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	PCB-100	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	PCB-11	15.7	pg/g	B	U	7
1500280	HC-NF-10-20150326-S	1500280-06	1668C	PCB-166	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	PCB-173	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	PCB-175	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	PCB-68	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	PCB-94	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	PCB-96	ND	pg/g		U	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	Total heptaCB	834	pg/g		J	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	Total hexaCB	1560	pg/g		J	25
1500280	HC-NF-10-20150326-S	1500280-06	1668C	Total tetraCB	281	pg/g		J	25
1500280	96-ST2-20150326-W	1500280-07	1613B	OCDF	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-132/161	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-134/143	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-136	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-137	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-146/165	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-171	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-172	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-193	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-194	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-200	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-202	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-42/59	ND	pg/L		U	25
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-47	2.14	pg/L	J, B	U	7
1500280	96-ST2-20150326-W	1500280-07	1668C	PCB-66/76	ND	pg/L		U	25

Qualified Data Summary Table
LDW NPDES Sampling Support

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
1500280	96-ST2-20150326-W	1500280-07	1668C	Total heptaCB	68.3	pg/L		J	25
1500280	96-ST2-20150326-W	1500280-07	1668C	Total hexaCB	110	pg/L		J	25
1500280	96-ST2-20150326-W	1500280-07	1668C	Total octaCB	16.0	pg/L		J	25
1500280	96-ST2-20150326-W	1500280-07	1668C	Total tetraCB	40.9	pg/L	B	J	25
1500280	HC-NF-10-20150326-W	1500280-08	1613B	1,2,3,4,6,7,8-HpCDD	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1613B	2,3,7,8-TCDD	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1613B	Total HpCDD	6.43	pg/L		J	25
1500280	HC-NF-10-20150326-W	1500280-08	1613B	Total HxCDF	3.03	pg/L		J	25
1500280	HC-NF-10-20150326-W	1500280-08	1613B	Total PeCDF	1.24	pg/L		J	25
1500280	HC-NF-10-20150326-W	1500280-08	1613B	Total TCDD	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-106/118	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-177	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-183	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-199	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-206	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-28	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-47	3.05	pg/L	J, B	U	7
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-85/116	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-87/117/125	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	PCB-97	ND	pg/L		U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	Total heptaCB	76.9	pg/L		J	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	Total nonaCB	ND	pg/L	J	U	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	Total octaCB	14.8	pg/L		J	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	Total pentaCB	105	pg/L		J	25
1500280	HC-NF-10-20150326-W	1500280-08	1668C	Total triCB	36.7	pg/L		J	25
1500335	HC-SF-20150413-W	1500335-01	1613B	Total HxCDD	5.04	pg/L		J	25
1500335	HC-SF-20150413-W	1500335-01	1613B	Total HxCDF	9.20	pg/L		J	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-108/112	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-111/115	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-119	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-133/142	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-147	ND	pg/L		U	25

Qualified Data Summary Table
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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-191	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-193	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-201	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-31	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-40	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-42/59	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	PCB-47	ND	pg/L		U	25
1500335	HC-SF-20150413-W	1500335-01	1668C	Total heptaCB	261	pg/L		J	25
1500335	HC-SF-20150413-W	1500335-01	1668C	Total hexaCB	473	pg/L		J	25
1500335	HC-SF-20150413-W	1500335-01	1668C	Total octaCB	90.5	pg/L		J	25
1500335	HC-SF-20150413-W	1500335-01	1668C	Total pentaCB	409	pg/L		J	25
1500335	HC-SF-20150413-W	1500335-01	1668C	Total tetraCB	130	pg/L	B	J	25
1500335	HC-SF-20150413-W	1500335-01	1668C	Total triCB	39.7	pg/L		J	25
1500335	HC-NF-10-20150413-W	1500335-02	1613B	1,2,3,6,7,8-HxCDF	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1613B	Total HxCDD	7.53	pg/L		J	25
1500335	HC-NF-10-20150413-W	1500335-02	1613B	Total HxCDF	16.2	pg/L		J	25
1500335	HC-NF-10-20150413-W	1500335-02	1613B	Total PeCDF	1.76	pg/L		J	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-107/109	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-108/112	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-111/115	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-119	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-129	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-144	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-147	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-26	ND	pg/L		U	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	PCB-47	8.42	pg/L	B	U	7
1500335	HC-NF-10-20150413-W	1500335-02	1668C	Total hexaCB	885	pg/L		J	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	Total pentaCB	852	pg/L		J	25
1500335	HC-NF-10-20150413-W	1500335-02	1668C	Total triCB	91.2	pg/L		J	25
J48451-1	96-ST2-20150326-W	580-48451-1	SM3500CrD	CHROMIUM, HEXAVALENT	0.0090	mg/L	JH	J	1
J48451-1	96-ST2-20150326-W	580-48451-1	SM4500H+B	PH	7.47	SU	HF	J	1
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	1,2,4-TRICHLOROBENZENE	0.19	ug/L	UF1*	DNR	11

Qualified Data Summary Table
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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	1,2-DICHLOROBENZENE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	1,3-DICHLOROBENZENE	0.19	ug/L	U*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	1,4-DICHLOROBENZENE	0.19	ug/L	U*F1	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	1-METHYLNAPHTHALENE	0.028	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,2'-OXYBIS(1-CHLOROPROPANE)	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,3,4,6-TETRACHLOROPHENOL	0.33	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,4,5-TRICHLOROPHENOL	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,4,6-TRICHLOROPHENOL	0.28	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,4-DICHLOROPHENOL	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,4-DIMETHYLPHENOL	0.95	ug/L	U*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,4-DINITROPHENOL	2.4	ug/L	UF1*^	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,4-DINITROTOLUENE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2,6-DINITROTOLUENE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2-CHLORONAPHTHALENE	0.028	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2-CHLOROPHENOL	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2-METHYLNAPHTHALENE	0.095	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2-METHYLPHENOL	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2-NITROANILINE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	2-NITROPHENOL	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	3,3'-DICHLOROBENZIDINE	0.95	ug/L	U*F1	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	3-NITROANILINE	0.19	ug/L	U	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	4,6-DINITRO-2-METHYLPHENOL	1.9	ug/L	UF1*^	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	4-BROMOPHENYL PHENYL ETHER	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	4-CHLORO-3-METHYLPHENOL	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	4-CHLOROANILINE	0.19	ug/L	U	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	4-CHLOROPHENYL-PHENYLETHER	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	4-METHYLPHENOL	0.38	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	4-NITROANILINE	0.28	ug/L	U*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	4-NITROPHENOL	1.4	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	ACENAPHTHENE	0.047	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	ACENAPHTHYLENE	0.038	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	ANTHRACENE	0.019	ug/L	U*	DNR	11

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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BENZO(A)ANTHRACENE	0.028	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BENZO(A)PYRENE	0.019	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BENZO(B)FLUORANTHENE	0.038	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BENZO(GHI)PERYLENE	0.028	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BENZO(K)FLUORANTHENE	0.028	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BENZOIC ACID	0.80	ug/L	JF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BENZYL ALCOHOL	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BIS(2-CHLOROETHOXY)METHANE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BIS(2-CHLOROETHYL)ETHER	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BIS(2-ETHYLHEXYL) PHTHALATE	1.4	ug/L	UF2F1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	BUTYL BENZYL PHTHALATE	0.19	ug/L	JF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	CARBAZOLE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	CHRYSENE	0.019	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	DIBENZ(A,H)ANTHRACENE	0.028	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	DIBENZOFURAN	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	DIETHYL PHTHALATE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	DIMETHYL PHTHALATE	0.19	ug/L	U*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	DI-N-BUTYLPHTHALATE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	DI-N-OCTYL PHTHALATE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	FLUORANTHENE	0.0081	ug/L	JF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	FLUORENE	0.028	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	HEXACHLOROBENZENE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	HEXACHLOROBUTADIENE	0.28	ug/L	U*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	HEXACHLOROCYCLOPENTADIENE	0.95	ug/L	U*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	HEXACHLOROETHANE	0.28	ug/L	U*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	INDENO(1,2,3-CD)PYRENE	0.028	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	ISOPHORONE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	NAPHTHALENE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	NITROBENZENE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	N-NITROSODIMETHYLAMINE	0.95	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	N-NITROSODI-N-PROPYLAMINE	0.19	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	N-NITROSODIPHENYLAMINE	0.19	ug/L	UF1	DNR	11

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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	PENTACHLOROPHENOL	0.19	ug/L	JF1B	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	PHENANTHRENE	0.038	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	PHENOL	0.28	ug/L	UF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1	SW8270D	PYRENE	0.0082	ug/L	JF1*	DNR	11
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	1,2,4-TRICHLOROBENZENE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	1,2-DICHLOROBENZENE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	1,3-DICHLOROBENZENE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	1,4-DICHLOROBENZENE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	1-METHYLNAPHTHALENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,2'-OXYBIS(1-CHLOROPROPANE)	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,3,4,6-TETRACHLOROPHENOL	0.66	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,4,5-TRICHLOROPHENOL	0.38	ug/L	UHF2F1	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,4,6-TRICHLOROPHENOL	0.57	ug/L	UHF2	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,4-DICHLOROPHENOL	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,4-DIMETHYLPHENOL	1.9	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,4-DINITROPHENOL	4.7	ug/L	UHF2F1^	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,4-DINITROTOLUENE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2,6-DINITROTOLUENE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2-CHLORONAPHTHALENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2-CHLOROPHENOL	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2-METHYLNAPHTHALENE	0.19	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2-METHYLPHENOL	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2-NITROANILINE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	2-NITROPHENOL	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	3,3'-DICHLOROBENZIDINE	1.9	ug/L	UHF1	R	8L
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	3-NITROANILINE	0.38	ug/L	UHF2F1	UJ	1,8L
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	4,6-DINITRO-2-METHYLPHENOL	3.8	ug/L	UHF2^	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	4-BROMOPHENYL PHENYL ETHER	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	4-CHLORO-3-METHYLPHENOL	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	4-CHLOROANILINE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	4-CHLOROPHENYL-PHENYLETHER	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	4-METHYLPHENOL	0.76	ug/L	UHF2	UJ	1

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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	4-NITROANILINE	0.57	ug/L	UHF2F1	UJ	1,8L
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	4-NITROPHENOL	2.8	ug/L	UHF2	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	ACENAPHTHENE	0.095	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	ACENAPHTHYLENE	0.076	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	ANTHRACENE	0.038	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BENZO(A)ANTHRACENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BENZO(A)PYRENE	0.038	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BENZO(B)FLUORANTHENE	0.076	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BENZO(GHI)PERYLENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BENZO(K)FLUORANTHENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BENZOIC ACID	1.4	ug/L	JHF2*	J	1,9
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BENZYL ALCOHOL	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BIS(2-CHLOROETHOXY)METHANE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BIS(2-CHLOROETHYL)ETHER	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	BUTYL BENZYL PHTHALATE	0.57	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	CARBAZOLE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	CHRYSENE	0.038	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	DIBENZ(A,H)ANTHRACENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	DIBENZOFURAN	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	DIETHYL PHTHALATE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	DIMETHYL PHTHALATE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	DI-N-BUTYL PHTHALATE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	DI-N-OCTYL PHTHALATE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	FLUORANTHENE	0.047	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	FLUORENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	HEXACHLOROBENZENE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	HEXACHLOROBUTADIENE	0.57	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	HEXACHLOROCYCLOPENTADIENE	1.9	ug/L	UHF2	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	HEXACHLOROETHANE	0.57	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	INDENO(1,2,3-CD)PYRENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	ISOPHORONE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	NAPHTHALENE	0.38	ug/L	UH	UJ	1

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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	NITROBENZENE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	N-NITROSODIMETHYLAMINE	1.9	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	N-NITROSODI-N-PROPYLAMINE	0.38	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	N-NITROSODIPHENYLAMINE	0.38	ug/L	U*H	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	PENTACHLOROPHENOL	0.32	ug/L	JHF2B	UJ	1,7
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	PHENANTHRENE	0.076	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	PHENOL	0.57	ug/L	UHF2F1	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_RE	SW8270D	PYRENE	0.057	ug/L	UH	UJ	1
J48451-1	96-ST2-20150326-W	580-48451-1_REDL	SW8270D	BIS(2-ETHYLHEXYL) PHTHALATE	19	ug/L	JH*	J	1,9
J48451-1	HC-NF-10-20150326-W	580-48451-2	SM4500H+B	PH	7.62	SU	HF	J	1
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	1,2,4-TRICHLOROENZENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	1,2-DICHLOROENZENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	1,3-DICHLOROENZENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	1,4-DICHLOROENZENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	1-METHYLNAPHTHALENE	0.029	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,2'-OXYBIS(1-CHLOROPROPANE)	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,3,4,6-TETRACHLOROPHENOL	0.34	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,4,5-TRICHLOROPHENOL	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,4,6-TRICHLOROPHENOL	0.29	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,4-DICHLOROPHENOL	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,4-DIMETHYLPHENOL	0.97	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,4-DINITROPHENOL	2.4	ug/L	U**	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,4-DINITROTOLUENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2,6-DINITROTOLUENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2-CHLORONAPHTHALENE	0.029	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2-CHLOROPHENOL	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2-METHYLNAPHTHALENE	0.097	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2-METHYLPHENOL	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2-NITROANILINE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	2-NITROPHENOL	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	3,3'-DICHLOROENZIDINE	0.97	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	3-NITROANILINE	0.19	ug/L	U	DNR	11

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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	4,6-DINITRO-2-METHYLPHENOL	1.9	ug/L	U**	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	4-BROMOPHENYL PHENYL ETHER	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	4-CHLORO-3-METHYLPHENOL	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	4-CHLOROANILINE	0.19	ug/L	U	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	4-CHLOROPHENYL-PHENYLEETHER	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	4-METHYLPHENOL	0.39	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	4-NITROANILINE	0.29	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	4-NITROPHENOL	1.5	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	ACENAPHTHENE	0.049	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	ACENAPHTHYLENE	0.039	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	ANTHRACENE	0.019	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BENZO(A)ANTHRACENE	0.029	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BENZO(A)PYRENE	0.019	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BENZO(B)FLUORANTHENE	0.039	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BENZO(GHI)PERYLENE	0.029	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BENZO(K)FLUORANTHENE	0.029	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BENZOIC ACID	0.84	ug/L	J*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BENZYL ALCOHOL	0.060	ug/L	J*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BIS(2-CHLOROETHOXY)METHANE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BIS(2-CHLOROETHYL)ETHER	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BIS(2-ETHYLHEXYL) PHTHALATE	1.5	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	BUTYL BENZYL PHTHALATE	0.21	ug/L	J*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	CARBAZOLE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	CHRYSENE	0.019	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	DIBENZ(A,H)ANTHRACENE	0.029	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	DIBENZOFURAN	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	DIETHYL PHTHALATE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	DIMETHYL PHTHALATE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	DI-N-BUTYLPHTHALATE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	DI-N-OCTYL PHTHALATE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	FLUORANTHENE	0.0070	ug/L	J*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	FLUORENE	0.029	ug/L	U*	DNR	11

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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	HEXACHLOROBENZENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	HEXACHLOROBUTADIENE	0.29	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	HEXACHLOROCYCLOPENTADIENE	0.97	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	HEXACHLOROETHANE	0.29	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	INDENO(1,2,3-CD)PYRENE	0.029	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	ISOPHORONE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	NAPHTHALENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	NITROBENZENE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	N-NITROSODIMETHYLAMINE	0.97	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	N-NITROSODI-N-PROPYLAMINE	0.19	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	N-NITROSODIPHENYLAMINE	0.19	ug/L	U	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	PENTACHLOROPHENOL	0.19	ug/L	JB	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	PHENANTHRENE	0.039	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	PHENOL	0.29	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2	SW8270D	PYRENE	0.029	ug/L	U*	DNR	11
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	1,2,4-TRICHLOROBENZENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	1,2-DICHLOROBENZENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	1,3-DICHLOROBENZENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	1,4-DICHLOROBENZENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	1-METHYLNAPHTHALENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,2'-OXYBIS(1-CHLOROPROPANE)	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,3,4,6-TETRACHLOROPHENOL	0.69	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,4,5-TRICHLOROPHENOL	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,4,6-TRICHLOROPHENOL	0.59	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,4-DICHLOROPHENOL	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,4-DIMETHYLPHENOL	2.0	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,4-DINITROPHENOL	4.9	ug/L	UH^	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,4-DINITROTOLUENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2,6-DINITROTOLUENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2-CHLORONAPHTHALENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2-CHLOROPHENOL	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2-METHYLNAPHTHALENE	0.20	ug/L	UH	UJ	1

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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2-METHYLPHENOL	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2-NITROANILINE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	2-NITROPHENOL	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	3,3'-DICHLOROBENZIDINE	2.0	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	3-NITROANILINE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	4,6-DINITRO-2-METHYLPHENOL	4.0	ug/L	UH^	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	4-BROMOPHENYL PHENYL ETHER	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	4-CHLORO-3-METHYLPHENOL	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	4-CHLOROANILINE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	4-CHLOROPHENYL-PHENYLEETHER	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	4-METHYLPHENOL	0.79	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	4-NITROANILINE	0.59	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	4-NITROPHENOL	3.0	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	ACENAPHTHENE	0.099	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	ACENAPHTHYLENE	0.079	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	ANTHRACENE	0.040	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BENZO(A)ANTHRACENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BENZO(A)PYRENE	0.040	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BENZO(B)FLUORANTHENE	0.079	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BENZO(GHI)PERYLENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BENZO(K)FLUORANTHENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BENZOIC ACID	1.4	ug/L	JH*	J	1,9
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BENZYL ALCOHOL	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BIS(2-CHLOROETHOXY)METHANE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BIS(2-CHLOROETHYL)ETHER	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BIS(2-ETHYLHEXYL) PHTHALATE	4.4	ug/L	H*	J	1,9
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	BUTYL BENZYL PHTHALATE	0.22	ug/L	JHB	UJ	1,7
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	CARBAZOLE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	CHRYSENE	0.040	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	DIBENZ(A,H)ANTHRACENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	DIBENZOFURAN	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	DIETHYL PHTHALATE	0.40	ug/L	UH	UJ	1

Qualified Data Summary Table
LDW NPDES Sampling Support

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	DIMETHYL PHTHALATE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	DI-N-BUTYLPHTHALATE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	DI-N-OCTYL PHTHALATE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	FLUORANTHENE	0.049	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	FLUORENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	HEXACHLORO BENZENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	HEXACHLOROBUTADIENE	0.59	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	HEXACHLOROCYCLOPENTADIENE	2.0	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	HEXACHLOROETHANE	0.59	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	INDENO(1,2,3-CD)PYRENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	ISOPHORONE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	NAPHTHALENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	NITROBENZENE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	N-NITROSODIMETHYLAMINE	2.0	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	N-NITROSODI-N-PROPYLAMINE	0.40	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	N-NITROSODIPHENYLAMINE	0.40	ug/L	U*H	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	PENTACHLOROPHENOL	0.69	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	PHENANTHRENE	0.079	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	PHENOL	0.59	ug/L	UH	UJ	1
J48451-1	HC-NF-10-20150326-W	580-48451-2_RE	SW8270D	PYRENE	0.059	ug/L	UH	UJ	1
J48451-1	HC-SF-20150326-S	580-48451-3	NWTPH-DX	#2 DIESEL	40	mg/Kg	Y	J	2
J48451-1	HC-SF-20150326-S	580-48451-3	NWTPH-DX	MOTOR OIL	300	mg/Kg	Y	J	2
J48451-1	HC-SF-20150326-S	580-48451-3	SW8270D	4-CHLOROPHENYL-PHENYLETHER	160	ug/Kg	U*	UJ	10L
J48451-1	HC-SF-20150326-S	580-48451-3	SW8270D	BIS(2-ETHYLHEXYL) PHTHALATE	400	ug/Kg	JB	U	7
J48451-1	HC-NF-10-20150326-S	580-48451-4	NWTPH-DX	#2 DIESEL	41	mg/Kg	Y	J	2
J48451-1	HC-NF-10-20150326-S	580-48451-4	NWTPH-DX	MOTOR OIL	360	mg/Kg	Y	J	2
J48451-1	HC-NF-10-20150326-S	580-48451-4	SW8270D	4-CHLOROPHENYL-PHENYLETHER	260	ug/Kg	U*	UJ	10L
J48451-1	HC-NF-10-20150326-S	580-48451-4	SW8270D	BENZO(K)FLUORANTHENE	20	ug/Kg	J	J	9
J48451-1	HC-NF-10-20150326-S	580-48451-4	SW8270D	BIS(2-ETHYLHEXYL) PHTHALATE	320	ug/Kg	JB	U	7
J48644-1	96-ST3-20150326-S	580-48644-1	SW8270D	4-CHLOROPHENYL-PHENYLETHER	810	ug/Kg	U*F1	UJ	10L
J48644-1	96-ST2-20150326-S	580-48644-2	SW8270D	4-CHLOROPHENYL-PHENYLETHER	420	ug/Kg	U*	UJ	10L
J48644-1	96-ST2-20150326-S	580-48644-2	SW8270D	BUTYL BENZYL PHTHALATE	370	ug/Kg	JB	U	7

Qualified Data Summary Table
LDW NPDES Sampling Support

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48644-1	96-ST1-20150326-S	580-48644-3	SW8270D	4-CHLOROPHENYL-PHENYLEETHER	940	ug/Kg	U*	UJ	10L
J48644-1	HC-ST1-20150326-S	580-48644-4	SW8270D	4-CHLOROPHENYL-PHENYLEETHER	300	ug/Kg	U*	UJ	10L
J48644-1	HC-ST1-20150326-S	580-48644-4	SW8270D	BIS(2-ETHYLHEXYL) PHTHALATE	330	ug/Kg	JB	U	7
J48966-1	HC-SF-20150413-W	580-48966-1	SM2320B	ALKALINITY	58	mg/L	H	J	1
J48966-1	HC-SF-20150413-W	580-48966-1	SM2320B	BICARBONATE ALKALINITY AS CaCO3	58	mg/L	H	J	1
J48966-1	HC-SF-20150413-W	580-48966-1	SM2320B	CARBONATE ALKALINITY AS CaCO3	5.0	mg/L	UH	UJ	1
J48966-1	HC-SF-20150413-W	580-48966-1	SW8270D	PENTACHLOROPHENOL	0.35	ug/L	J*	J	9
J48966-1	HC-NF-20150413-W	580-48966-2	SM2320B	ALKALINITY	30	mg/L	H	J	1
J48966-1	HC-NF-20150413-W	580-48966-2	SM2320B	BICARBONATE ALKALINITY AS CaCO3	30	mg/L	H	J	1
J48966-1	HC-NF-20150413-W	580-48966-2	SM2320B	CARBONATE ALKALINITY AS CaCO3	5.0	mg/L	UH	UJ	1



ECO CHEM
Data Quality

DATA VALIDATION REPORT

LDW NPDES SAMPLING SUPPORT DISSOLVED METALS ADDENDUM REPORT

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June 5, 2015

Approved for Release

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PROJECT NARRATIVE

Basis for Data Validation

This report summarizes the results of the data validation performed on whole water samples and quality control (QC) sample data for the Lower Duwamish Waterway National Pollutant Discharge Elimination System Investigation. All fractions received a compliance level of review (EPA Stage 2A). A complete list of samples is provided in the **Sample Index**.

The analysis was performed by Test America Laboratories, Tacoma, Washington. The analytical methods and EcoChem project chemists are listed below.

Analysis	Method of Analysis	Primary Review	Secondary Review
Metals and Mercury	EPA 200.8 and EPA 245.1	A. Bodkin	C. Ransom

The data were reviewed using guidance and quality control criteria documented in the analytical methods; The *LDW NPDES Inspection Sampling Support Project – Sampling and Analysis Plan and Quality Assurance Project Plan* (Leidos, September 2014); and *USEPA National Functional Guidelines for Inorganic Data Review* (EPA, 1994, 2010).

EcoChem’s goal in assigning data validation qualifiers is to assist in proper data interpretation. If values are estimated (assigned a J), data may be used for site evaluation purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. Data that have been rejected (R) or flagged do-not-report (DNR) should not be used for any purpose. Values with no data qualifier meet all data quality goals as outlined in the EPA Functional Guidelines.

Data qualifier definitions, reason codes, and validation criteria are included as **Appendix A**. **Appendix B** contains the Qualified Data Summary Table. Data validation worksheets are kept on file at EcoChem. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

Sample Index
Test America
LDW NPDES Sampling Support - Dissolved Metals Addendum

SDG	Sample ID	Lab ID	Matrix	Dissolved Metals	Dissolved Mercury
J48451-2	96-ST2-20150326-W	580-48451-1	Water	✓	✓
J48451-2	HC-NF-10-20150326-W	580-48451-2	Water	✓	✓
J48966-2	HC-SF-20150413-W	580-48966-1	Water	✓	✓
J48966-2	HC-NF-20150413-W	580-48966-2	Water	✓	✓

DATA VALIDATION REPORT
LDW NPDES Sampling Support
Dissolved Metals by Method 200.8 and
Dissolved Mercury by Method 245.1

This report documents the review of analytical data from the analysis of water samples and the associated laboratory quality control (QC) samples. TestAmerica, Inc., Tacoma, Washington, analyzed the samples. Refer to the **Sample Index** for a complete list of samples.

SDG	Number of Samples	Validation Level
J48451-2	2 Water	EPA Stage 2A
J48966-2	2 Water	EPA Stage 2A

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

The mercury method requested on the COC did not match the method referenced by the laboratory. No action was taken as SW 7470 and EPA 245.1 are equivalent methods.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the EDD results was performed by comparison to the hardcopy laboratory data package. No errors were noted.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

2	Sample Receipt, Preservation, and Holding Times	✓	Laboratory Duplicates
✓	Laboratory Blanks	1	Field Duplicates
1	Field (Equipment Rinsate) Blanks	1	Reporting Limits
✓	Laboratory Control Samples (LCS/LCSD)	✓	Reported Results
✓	Matrix Spike/Matrix Spike Duplicates (MS/MSD)		

✓ *Method quality objectives (MQO) and QC criteria have been met. No outliers are noted or discussed.*

¹ *Quality control results are discussed below, but no data were qualified.*

² *Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.*

Sample Receipt, Preservation, and Holding Times

All mercury samples were analyzed past the 28 day holding time. All dissolved mercury results were estimated (J/UJ-1).

Field Blanks

No field blanks were submitted.

Field Duplicates

No field duplicates were submitted.

Reporting Limits

The QAPP target reporting limit of 0.0010 mg/L for copper was not met.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable as demonstrated by the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) percent recovery values and precision was acceptable as demonstrated by the LCS/LCSD, MS/MSD, and laboratory duplicate RPD values.

Data were estimated because holding times were exceeded.

All data, as qualified, are acceptable for use.



APPENDIX A

**DATA QUALIFIER DEFINITIONS
REASON CODES
AND CRITERIA TABLES**

DATA VALIDATION QUALIFIER CODES **Based on National Functional Guidelines**

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.
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DATA QUALIFIER REASON CODES

Group	Code	Reason for Qualification
Sample Handling	1	Improper Sample Handling or Sample Preservation (i.e., headspace, cooler temperature, pH, summa canister pressure); Exceeded Holding Times
Instrument Performance	24	Instrument Performance (i.e., tune, resolution, retention time window, endrin breakdown, lock-mass)
	5A	Initial Calibration (RF, %RSD, r^2)
	5B	Calibration Verification (CCV, CCAL; RF, %D, %R) Use bias flags (H,L) ¹ where appropriate
	5C	Initial Calibration Verification (ICV %D, %R) Use bias flags (H,L) ¹ where appropriate
Blank Contamination	6	Field Blank Contamination (Equipment Rinsate, Trip Blank, etc.)
	7	Lab Blank Contamination (i.e., method blank, instrument blank, etc.) Use low bias flag (L) ¹ for negative instrument blanks
Precision and Accuracy	8	Matrix Spike (MS and/or MSD) Recoveries Use bias flags (H,L) ¹ where appropriate
	9	Precision (all replicates: LCS/LCSD, MS/MSD, Lab Replicate, Field Replicate)
	10	Laboratory Control Sample Recoveries (a.k.a. Blank Spikes) Use bias flags (H,L) ¹ where appropriate
	12	Reference Material Use bias flags (H,L) ¹ where appropriate
	13	Surrogate Spike Recoveries (a.k.a. labeled compounds, recovery standards) Use bias flags (H,L) ¹ where appropriate
Interferences	16	ICP/ICP-MS Serial Dilution Percent Difference
	17	ICP/ICP-MS Interference Check Standard Recovery Use bias flags (H,L) ¹ where appropriate
	19	Internal Standard Performance (i.e., area, retention time, recovery)
	22	Elevated Detection Limit due to Interference (i.e., chemical and/or matrix)
	23	Bias from Matrix Interference (i.e. diphenyl ether, PCB/pesticides)
Identification and Quantitation	2	Chromatographic pattern in sample does not match pattern of calibration standard
	3	2 nd column confirmation (RPD or %D)
	4	Tentatively Identified Compound (TIC) (associated with NJ only)
	20	Calibration Range or Linear Range Exceeded
	25	Compound Identification (i.e., ion ratio, retention time, relative abundance, etc.)
Miscellaneous	11	A more appropriate result is reported (multiple reported analyses i.e., dilutions, re-extractions, etc. Associated with "R" and "DNR" only)
	14	Other (See DV report for details)
	26	Method QC information not provided

¹H = high bias indicated

L = low bias indicated

DATA VALIDATION CRITERIA

Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG (1) Method (2)	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C (4) No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	All matrices: 180 days from date sampled Frozen soils, sediments, tissues (-20°C) - HT extended to 1 year	NFG (1) Method (2) EcoChem standard policy	J (pos)/UJ (ND) if holding time exceeded	1	
Instrument Performance					
Tune	Analyzed prior to ICAL tunignsolution analyzed 5 times with Std. Dev. ≤ 5% Mass calibration < 0.1 amu difference from target mass Resolution < 0.9 amu @ 10% peak height	NFG (1) Method (2)	J(pos)/UJ(ND) if tune criteria not met	5A	Use PJ to evaluate tune. Alternate Resolution criteria may apply based on instrument specs (i.e <0.75 amu at 5% peak height)
Initial Calibration (ICAL)	Based on instrument requirements, blank + 1 standard minimum requirement for calibration If more than 1 standard used, r ≥ 0.995	NFG (1) Method (2)	J (pos)/UJ (ND) if r < 0.995	5A	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ± 10% of true value	NFG (1) Method (2)	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R > 111%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard Low Level ICV/CCV	concentration at RL %R = 70%-130%	Method (2)	J (pos) < 2x RL / R (ND) if %R < 50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run
Continuing Calibration Verification (CCV)	Immediately following ICV/ICB, then every two hours or ten samples, and at end of run. %R within ± 10% of true value	NFG (1) Method (2)	R (pos/ND) if %R < 75% J (pos)/UJ (ND) if %R 75% - 89% J (pos) if %R > 111%	5B (H,L) ³	Qualify samples bracketed by CCV outliers

DATA VALIDATION CRITERIA

Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
Interference Check Samples (ICSA / ICSAB)	ICSAB %R 80% - 120% for all spiked elements ICSA < MDL for all unspiked elements	NFG ⁽¹⁾ Method ⁽²⁾	For samples with Al, Ca, Fe, Mg > ICS levels: ICSAB: J(pos)/R (ND) if %R < 50% J (pos)/UJ (ND) if %R = 50% - 79% J (pos) if %R > 120% ICSA: J (pos) < 2x ICSA/UJ (ND) for ICSA < Neg MDL J (pos) < 2x ICSA for ICSA > MDL	17 (H,L) ³	Use PJ and molecular interferences to evaluate ICSA to determine if bias is present. Refer to TM-14 for additional information.
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blks: 7 Neg Blks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.
Precision and Accuracy					
Internal Standards (IS)	Added to all samples. All analytes must be associated with an internal standard 60-125% of cal blank IS	NFG ⁽¹⁾ Method ⁽²⁾	J(pos)/UJ(ND) all analytes associated with IS outlier	19	6020A criteria - IS >70% of ICAL std
LCS (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG Limits 70% -130%
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R <75% J (pos)/R (ND) if %R < 30%, unless post digestion spike analyzed, J (pos)/UJ (ND) if post digestion spike %R OK	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration >4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
Post Digestion Spikes	If MS is outside 75-125%, post-spike should be analyzed %R 80%-120% (method); 75%-125% (NFG)	NFG ⁽¹⁾ Method ⁽²⁾	Only used to support MS qualification decisions	NA	No qualifiers assigned based solely on this element.

DATA VALIDATION CRITERIA

Metals by ICP-MS
 (Based on Inorganic NFG 2010 and SW-846 6020A)

QC Element	EcoChem Acceptance Criteria	Source of Criteria	EcoChem Action for Non-Conformance	Reason Code	Discussion and Comments
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Serial Dilution	Analyze one sample per matrix at a 5x dilution %D < 10% for original sample conc. > 50x MDL	NFG ⁽¹⁾	J(pos)/UJ(ND) if %D > 10% and native sample concentration > 50x MDL	16	Note serial dilutions for soil are reported in ug/L, but the MDL is in mg/kg. The units need to be adjusted. Qualify all samples in batch.
Field Duplicate	Solids: RPD < 50% OR difference < 2X RL (for results < 5X RL) Aqueous: RPD < 35% OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Narrate and qualify if required by project (EcoChem PJ) Qualify only field duplicate samples J(pos)/UJ(ND)	9	QAPP may have overriding precision limits.
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

² Method SW846 6020A Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), Revision 1, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes

(pos): Positive Result

(ND): Not detected

Mercury by CVAA
 (Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Sample Handling					
Cooler / Storage Temperature Preservation	Solid: Cooler temperature 4°C±2°C Aqueous: Nitric Acid to pH < 2 Dissolved Metals: 0.45 µm filter, preserve to pH < 2 after filtration	NFG ⁽¹⁾ Method ⁽²⁾	Cooler Temps: If required by project J (pos)/UJ (ND) if greater than 6° C Aqueous: J (pos)/UJ (ND) if pH > 2	1	Use PJ to qualify for temperature outlier. Current SW846 criterion is ≤ 6° C (4) No quals for pH if samples preserved by lab immediately upon receipt and within 1 day of collection.
Holding Time	28 days from date sampled Frozen solids and tissues HT extended to 6 months	NFG ⁽¹⁾ Method ⁽²⁾ EcoChem standard policy	J (pos)/UJ (ND) if HT exceeded	1	
Instrument Performance					
Initial Calibration (ICAL)	Daily Calibration Blank + 5 standards, one ≤ RL Correlation coefficient (r) ≥ 0.995	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if r < 0.995	5A (H,L) ³	
Initial Calibration Verification (ICV)	Independent source analyzed immediately after ICAL %R within ± 15% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R(pos/ND) if %R <70% J(pos)/UJ(ND) if %R = 70-84% J(pos) if %R = > 116%	5A (H,L) ³	Qualify all samples in run
Reporting Limit (RL) Standard	Conc = RL %R = 70-130%	Method ⁽²⁾	J (pos) < 2x RL / R (ND) if %R <50% J (pos) < 2x RL / UJ (ND) if %R 50 - 69% J (pos) < 2x RL if %R > 130%	5A (H,L) ³	Qualify all samples in run
Continuing Calibration Verification (CCV)	At beginning of run, every ten samples, and again after last sample. %R within ± 15% of true value	NFG ⁽¹⁾ Method ⁽²⁾	R(pos/ND) if %R <70% J(pos)/UJ(ND) if %R = 70-84% J(pos) if %R = > 116%	5B (H,L) ³	Qualify samples bracketed by CCV outliers
Blank Contamination					
Method Blank (MB)	One per matrix per batch of (of ≤ 20 samples) Blank conc < MDL	NFG ⁽¹⁾ Method ⁽²⁾	U (pos) if result is < 5X method blank concentration	7	Refer to TM-02 for additional information. Blank Evaluation based on NFG 1994
Instrument Blanks (ICB/CCB)	After each ICV & CCV blank concentration < MDL	NFG ⁽¹⁾ Method ⁽²⁾	Action level is 5x absolute value of blank conc. For positive blanks: U (pos) results < action level For negative blanks: J (pos)/UJ (ND) results < action level	Pos Blanks: 7 Neg Blanks: 7L ³	Use blanks bracketing samples for Qualification Refer to TM-02 for additional information. Hierarchy of blank review: #1 - Review MB, qualify as needed #2 - Review IB, qualify as needed #3 - Review FB, qualify as needed
Field Blank (FB)	Blank conc < MDL	EcoChem standard policy	U (pos) if result is < 5x action level, as per analyte.	6	Qualify in associated field samples only. Refer to TM-02 for additional information.

DATA VALIDATION CRITERIA

**Mercury by CVAA
 (Based on Inorganic NFG 2010 and SW846 7470A & 7471B)**

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Precision and Accuracy					
Laboratory Control Sample (recovery)	One per matrix per batch (of ≤ 20 samples); LCSD not required %R between 80-120%	Method ⁽²⁾	J (pos)/R (ND) if %R <50% J (pos)/UJ (ND) if %R 50% - 79% J (pos) if %R > 120%	10 (H,L) ³	Qualify all samples in batch QAPP may have overriding accuracy limits. NFG does not address LCS
LCS/LCSD (RPD)	LCSD not required, if analyzed: RPD ≤ 20%	Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	Qualify all samples in batch QAPP may have overriding precision limits.
Matrix Spike/Matrix Spike Duplicate MS/MSD (recovery)	One per matrix per batch (of ≤ 20 samples); MSD not required %R between 75-125%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos) if %R > 125% J (pos)/UJ (ND) if %R <75% J (pos)/R (ND) if %R < 30%	8 (H,L) ³	No action if only one spike %R is outside criteria. NA if parent concentration >4x the amount spiked. Qualify all samples in batch. QAPP may have overriding accuracy limits.
MS/MSD (RPD)	MSD not required, if analyzed: RPD ≤ 20%	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20%	9	QAPP may have overriding precision limits.
Laboratory Duplicate	One per matrix per batch (of ≤ 20 samples) RPD ≤ 20% for results ≥ 5x RL Solids: difference < 2X RL for results < 5X RL Aqueous: difference < 1X RL for results < 5X RL	NFG ⁽¹⁾ Method ⁽²⁾	J (pos)/UJ (ND) if RPD > 20% or if difference > control limit	9	Qualify all samples in batch. QAPP may have overriding precision limits.
Reference Material (RM, SRM, or CRM)	Result ±20% of the 95% confidence interval of the true value for analytes	EcoChem standard policy	J (pos)/UJ (ND) if < LCL J (pos) if > UCL	12 (H,L) ³	QAPP may have overriding accuracy limits. Some manufacturers may have different RM control limits
Field Duplicate	Solids: RPD <50% (for results ≥ 5x RL) OR difference < 2X RL (for results < 5X RL) Aqueous: RPD <35% (for results ≥ 5x RL) OR difference < 1X RL (for results < 5X RL)	EcoChem standard policy	Qualify only parent and field duplicate samples J (pos)/UJ (ND)	9	QAPP may have overriding precision limits. Client/QAPP may not require qualification based on field precision.

Mercury by CVAA
 (Based on Inorganic NFG 2010 and SW846 7470A & 7471B)

QC Element	Acceptance Criteria	Source of Criteria	Action for Non-Conformance	Reason Code	Discussion and Comments
Compound Quantitation					
Total and Dissolved Comparison	Total > Dissolved	EcoChem standard policy	J (pos)/UJ (ND) if Dissolved > Total and results fall outside of standard duplicate precision criteria	14	
Calibration Range	Results < instrument linear range	NFG ⁽¹⁾ Method ⁽²⁾	if result exceeds linear range and sample was not diluted J (pos)	20	
Dilutions, Re-extractions and/or Reanalyses	Report only one result per analyte	EcoChem standard policy	Use "DNR" to flag results that will not be reported.	11	TM-04 EcoChem Policy for Rejection/Selection Process for Multiple Results

¹ National Functional Guidelines for Inorganic Superfund Data Review, January 2010.

(pos): Positive Result

² Method SW846 7470A Mercury in Liquid Waste (Manual Cold-Vapor Technique), Revision 1, September 1994.

(ND): Not Detected

Method SW846 7471B Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique), Revision 2, February 2007.

³ "H" = high bias indicated; "L" = low bias indicated

⁴ SW846, Chapter 3, Inorganic Analytes



APPENDIX B

QUALIFIED DATA SUMMARY TABLE

Qualified Data Summary Table
LDW NPDES Sampling Support - Dissolved Metals Addendum

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Flag	Validation Qualifier	Validation Reason
J48451-2	96-ST2-20150326-W	580-48451-1	EPA245.1	MERCURY	0.00020	mg/L	UH	UJ	1
J48451-2	HC-NF-10-20150326-W	580-48451-2	EPA245.1	MERCURY	0.00020	mg/L	UH	UJ	1
J48966-2	HC-SF-20150413-W	580-48966-1	EPA245.1	MERCURY	0.000044	mg/L	JH	J	1
J48966-2	HC-NF-20150413-W	580-48966-2	EPA245.1	MERCURY	0.00011	mg/L	JH	J	1