

September 2, 2016

Peter Britz Coakley Project Coordinator 1 Junkins Avenue Portsmouth, New Hampshire 03801

RE: Results of Perfluorinated Chemical Groundwater Sampling for Selected Wells within OU-1 and OU-2 at the Coakley Landfill - North Hampton, New Hampshire

Dear Mr. Britz:

The US Environmental Protection Agency (EPA) and the New Hampshire Department of Environmental Services (NHDES) have identified Perfluorinated Chemicals (PFCs) as emerging environmental contaminants. Health Advisory (HA) concentrations have been established for two PFCs, perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) by EPA, and NHDES has established an Ambient Groundwater Quality Standard (AGQS) for both chemicals. The HA and AGQS are 70 parts per trillion (ppt) individually for PFOA and PFOS and 70 ppt for combined concentrations of PFOA and PFOS.

To investigate the presence (or absence) and concentrations of PFCs in groundwater at the closed Coakley Landfill site in North Hampton, New Hampshire, the agencies requested that the Coakley Landfill Group (CLG) develop a PFC sampling protocol and initially undertake groundwater sampling from monitoring wells within Operable Unit 1 (OU-1). If analytical results from OU-1 monitoring wells exceeded regulatory standards, the investigation would be expanded to include monitoring wells in Operable Unit 2 (OU-2).

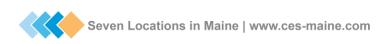
CES, Inc. (CES), on behalf of the Coakley Landfill Group (CLG), developed a PFC Field Sampling Protocol that was approved by EPA in a May 11, 2016 letter to the CLG. Following the approved protocol, CES collected groundwater samples from seven groundwater monitoring wells within OU-1 on May 24 and 25, 2016 for analysis of six PFCs.

Based on the analytical results of the OU-1 sampling which reported concentrations of PFOA and PFOS above regulatory standards, the CLG subsequently collected groundwater samples from 20 monitoring wells within OU-2 from July 12 through 14, 2016.

To assess the presence or absence of PFCs in off-site residential groundwater supply wells in the vicinity of the Coakley site, NHDES collected groundwater samples from 18 off-site water supply wells between July 11 and 13, 2016.

Site plans showing the OU-1 and OU-2 groundwater monitoring well locations and approximate location of the off-site drinking water supply wells sampled by NHDES are included as Figures 1 and 2.

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SAMPLING PROCEDURES AND RESULTS

<u>0U-1</u>

Samples were collected from wells within OU-1 where 1,4-dioxane was detected at concentrations above the NHDES ambient groundwater quality standard (AGQS) in the 2015 annual sampling event (MW-4, MW-5D, MW-5S, MW-8, MW-9, MW-11 and BP-4).

Groundwater samples from these wells were analyzed for the presence of six PFCs:

- perfluorobutanesulfonic acid (PFBS)
- perfluoroheptanoic acid (PFHpA)
- perfluorohexanesulfonic acid (PFHxS)
- perfluorooctanoic acid (PFOA)
- perfluorononanoic acid (PFNA)
- perfluorooctanesulfonic acid (PFOS)

Groundwater samples were collected in accordance with the PFC Field Sampling Protocol contained in Attachment 1 and sampling protocols contained in the 2015 Coakley Landfill Sampling and Analysis Plan (SAP) approved by EPA and NHDES. Groundwater samples were immediately placed on ice in a cooler and submitted under chain of custody to Eastern Analytical Inc. (EAI) in Concord, New Hampshire. EAI forwarded the samples to Vista Analytical Laboratory in EI Dorado Hills, California for analysis of PFCs using Modified EPA Method 537.

Quality Assurance protocols included analyses of equipment blank samples (completed on the water level meter and a new bailer) as well as a field blank sample containing lab provided deionized water for the six PFCs listed above.

Laboratory results for the OU-1 groundwater samples are enclosed as Attachment 2. Laboratory results include a Quality Assurance/Quality Control (QA/QC) package prepared in accordance with the SAP. A Tier 1 Plus data validation was completed by Terranova Environmental, LLC (Terranova) of Rye, New Hampshire (Attachment 3). No systemic concerns were identified during the Tier 1 Plus data review. None of the data were qualified as rejected and data completeness was 100%.

Table 1 presents a summary of analytical results from samples collected from monitoring wells in OU-1. As shown on the Table, concentrations of PFOA ranged from 57.6 ppt (BP-4) to 756 ppt (MW-4). PFOA was reported above the standard (70 ppt) in five of the seven wells sampled. These five wells included one well screened in glacial till, one well screened in glacial outwash, and three shallow bedrock wells. PFOA was not detected above the standard in the deeper bedrock wells (MW-5D and BP-4).

Concentrations of PFOS ranged from 13.3 ppt (BP-4) to 452 ppt (MW-9). PFOS was reported above the standard (70 ppt) in four of the seven wells sampled. These four wells included one well screened in glacial outwash and three shallow bedrock wells. PFOS was not reported above the standard in the deeper bedrock wells (MW-5D and BP-4) and one well screened in glacial till (MW-4).

The combined concentrations of PFOA and PFOS exceeded the standard (70 ppt) in all seven OU-1 wells sampled.







A May 10, 2016 letter from the CLG to EPA and NHDES indicated that, if detected concentrations of PFOA and PFOS in OU-1 wells exceed the Health Advisories, the location, magnitude, and extent of PFOA and PFOS detections were to be reviewed to determine whether the assessment area should be expanded to OU-2. Based on the results of the OU-1 sampling, the assessment was expanded to include OU-2 wells.

<u>OU-2</u>

Twenty OU-2 groundwater quality monitoring wells were sampled from July 12 through 14, 2016 by CES. Groundwater samples from these wells were collected using the same protocols and analyzed for the presence of the same six PFCs as targeted in the OU-1 wells.

Laboratory results for the OU-2 groundwater samples are enclosed as Attachment 2. Similar to OU-1 samples, laboratory results include a Quality Assurance/Quality Control (QA/QC) package prepared in accordance with the SAP. A Tier 1 Plus data validation was completed by Terranova Environmental, LLC (Terranova) of Rye, New Hampshire (contained in Attachment 3). No systemic concerns were identified during the Tier 1 Plus data review. None of the data reported were qualified as rejected and data completeness was 100%.

Table 2 presents a summary of analytical results from samples collected from monitoring wells in OU-2. As shown on the Table, concentrations of PFOA ranged from not detected above the laboratory detection limit (ND) (AE-4A and FPC-4B) to 670 ppt (AE-2B). PFOA was reported above the standard (70 ppt) in nine of the twenty wells sampled. These nine wells included four wells screened in glacial till and five shallow bedrock wells

Concentrations of PFOS ranged from ND (AE-4A, AE-4B, and FPC-4B) to 463 ppt (AE-2B). PFOS was reported above the standard (70 ppt) in five of the twenty wells sampled. These five wells included two shallow bedrock wells and three wells screened in glacial till.

The combined concentrations of PFOA and PFOS exceeded the standard (70 ppt) in nine of twenty OU-2 wells sampled.

Off-Site Residential Wells

On July 11 and 13, 2016 NHDES sampled 18 off-site residential water supply wells. Groundwater samples from these wells were analyzed for the presence of the same six PFCs as targeted in OU-1 and OU-2 monitoring wells.

CLG was provided with the results of the off-site water supply well sampling by NHDES and they are discussed below.

Table 3 presents a summary of analytical results for the samples collected from 18 off-site residential wells by NHDES. As shown on the Table, PFOA was not detected in 17 of the 18 samples analyzed. PFOA was detected in one off-site residential water supply well at a concentration of 25 ppt (339 Breakfast Hill Road), well below the standard of 70 ppt.

Similar to PFOA, PFOS was not detected in 17 of the 18 samples. One off-site residential water supply well sample (463 Breakfast Hill Road) reported a detection of 8.1 ppt, well below the standard of 70 ppt. PFOS was not reported above the standard (70 ppt) in any of the off-site water supply wells sampled.







The combined concentrations of PFOA and PFOS did not exceed the standard (70 ppt) in any of the 18 residential supply well samples.

The interpreted lateral distribution of PFOA and PFOS individually, and PFOA and PFOS combined, in overburden and bedrock groundwater are shown on Figures 3 to 8. The interpreted vertical distributions of PFOA and PFOS combined in groundwater are shown on Figures 9 and 10. General conclusions based on a review of Figures 3 through 10 are discussed below.

- In general, PFC concentrations in bedrock and overburden groundwater decrease with depth and distance from the landfill area.
- The horizontal and vertical distribution of PFC concentrations in bedrock and overburden groundwater are generally consistent with past and current groundwater flow directions established using groundwater data at monitoring wells and well couplets with the predominant direction of groundwater flow being westerly away from the landfill area toward the Little River/Berry's Brook valley, where the direction of groundwater flow is to the north-northeast and south-southwest.

SUMMARY

Similar to 1,4-dioxane concentrations, concentrations of PFCs tend to decrease with depth and distance from the landfill. Higher concentrations were reported in wells screened in shallow bedrock, outwash, or till located along the western side of the landfill adjacent to the former railroad. MW-9 reported the highest concentration for OU-1 wells while AE-2B reported the highest concentrations were consistently lower than PFOA concentrations.

PFOA and PFOS were not detected in 17 of the 18 off-site residential supply well samples collected by NHDES. In the samples where PFOA or PFOS were reported, concentrations of PFOA and PFOS (one sample each) were well below the 70 ppt standard.

If you have any questions concerning this project, please contact either of the undersigned at (207) 795-6009.

Sincerely, CES, Inc.

Śuzańne Yerina, P.G. Project Geologist

SLY/MAD/jna

Enclosures

Michael A. Deyling, Senior Project Geologist



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TABLE 1

Summary of May 2016 Groundwater Analytical Data Coakley Landfill Superfund Site - North Hampton and Greenland, New Hampshire

			0	PERABLE UNIT	ſ 1 (OU-1)								
Someling Daint ID			MW-4	MW-4-DUP	MW-5D	MW-5S	MW-8	MW-9	MW-11	BP-4	GW-EB-	FB-DI- Water	GW-EB- Bailer
Sampling Point ID	504	NHDES	Till					-			Waterlevel		
Monitored Zone / Unit	EPA			Till	DBR	SBR	SBR	Outwash	SBR	OBH-BR	Blank	Blank	Blank
Date of Sample Collection	HA	AGQS	5/24/16	5/24/16	5/25/16	5/24/16	5/24/16	5/24/16	5/25/16	5/24/16	5/24/16	5/24/16	5/24/16
PERFLUORINATED CHEMICALS BY MODIFIED 537 - (ng/	L)												
Perfluorobutanesulfonic acid (PFBS)			5.06J	4.96J	27.5	10.1	30.8	3.53J	10.8	2.72J	<7.71U	<7.86U	<7.89U
Perfluoroheptanoic acid (PFHpA)			440	441	44.8	468	179	345	423	26.2	<7.71U	<7.86U	<7.89U
Perfluorohexanesulfonic acid (PFHxS)			40.4	32.8	42.9	58.6	93.6	17.9	60.2	12.1	<7.71U	<7.86U	<7.89U
Perfluorooctanoic acid (PFOA)	70	70	756	728	61.2	647	262	656	693	57.6	<7.71U	<7.86U	<7.89U
Perfluorononanoic acid (PFNA)			19.3	19.4	<8.05U	62.6	5.36J	169	84.9	1.55J	<7.71U	<7.86U	<7.89U
Perfluorooctanesulfonic (PFOS)	70	70	30.8	31	29.3	84	212	452	308	13.3	<7.71U	<7.86U	<7.89U
Combination of PFOA and PFOS		70	786.8	759	90.5	731	474	1108	1001	70.9	ND	ND	ND
FIELD PARAMETERS													
Dissolved Oxygen (mg/l)			N/A	N/A	1.2	1.4	1	1.8	0.9	0.9	N/A	N/A	N/A
Oxidation Reduction Potential (mV)			N/A	N/A	-148	-109	-141	23	-131	-171	N/A	N/A	N/A
pH (standard units)			N/A	N/A	7.2	7	7.6	6.4	7.1	7.5	N/A	N/A	N/A
Specific Conductance (us/cm)			N/A	N/A	1392	854	1198	283	615	736	N/A	N/A	N/A
Temperature (degrees Celcius)			N/A	N/A	12	11	10	9	11	10	N/A	N/A	N/A
Turbidity (NTU)			N/A	N/A	<5	<5	6	18	<5	<5	N/A	N/A	N/A

Notes:

1. Monitored Zone / Unit identifies the hydrogeological unit within the screened/open interval. The hydrogeology of the site is comprised of four principle geological units including bedrock, glacial till, marine sediments consisting predominately of silt and clay, and sandy outwash. Bedrock well screened intervals vary as follows: "OBH-BR" wells are standard 6-inch diameter wells with steel casing set in bedrock and open boreholes (typical water supply well construction). "SBR" indicates the screen interval is the upper most section of bedrock. "DBR" is used to differentiate a screened interval that is below the uppermost section of bedrock (i.e.; MW-5S versus MW-5D).

2. Bolded and shaded values denote concentration exceeding the EPA Lifetime Health Advisory (HA).

3. Results for groundwater primary/duplicate samples are provided in this table: MW-4/MW-4-DUP.

4. GW-EB-Waterlevel. Equipment blank for water level meter completed on a decomtaminated depth to water level meter after MW-8 was sampled.

5. FB-DI-Water. Field blank is laboratory-provided PFC free water that was used for decontamination purposes, poured directly from the lab supplied container into sampling containers.

6. GW-EB-Bailer. Equipment blank for bailer used for sampling MW-4. PFC free water supplied by the lab was poured directly onto a new bailer and collected in the sampling containers.

ABBREVIATIONS

N/A	Sample was not analyzed/measured for indicated parameter
ND	Not detected
PFC	Perfluorinated Chemicals
#.## U	Not Detected at the reporting detection limit indicated
EPA	US Environmental Protection Agency
NHDES AGQS	New Hampshire Department of Environmental Services Ambient Groundwater Quality Standard
HA	Health Advisory
uS/cm	microsiemens per centimeter
ng/L	nanograms per liter, parts per trillion
mg/L	milligram per liter, parts per million
NTU	nephelometric turbidity unit
mV	millivolt
	Health Advisory standard not established.
J	Concentration is detected below the Lower Calibration Limit of the instrument.

TABLE 2

Summary of JULY 2016 Groundwater Analytical Data Coakley Landfill Superfund Site - North Hampton and Greenland, New Hampshire

									OPE	RABLE U	JNIT 2 (C)U-2)												
Sampling Point ID			AE-1A	AE-1B	AE-2A	AE-2B	AE-3A	AE-3A-DUP	AE-3B	AE-4A	AE-4B	FPC-4B	FPC-5B	FPC-6A	FPC-6B	FPC-7A	FPC-7B	FPC-8A	FPC-8B	FPC-9A	FPC-11A	FPC-11B	GZ-105	GZ-105-DUP
Monitored Unit	EPA	NHDES	Till	SBR	Till	SBR	Till	Till	SBR	Till	SBR	SBR	SBR	Till	SBR	Till	SBR	Till	SBR	Till	Till	Till	SBR	SBR
Date of Sample Collection	CL	AGQS	7/12/16	7/13/16	7/14/16	7/14/16	7/12/16	7/12/16	7/12/16	7/13/16	7/13/16	7/13/16	7/13/16	7/13/16	7/13/16	7/14/16	7/14/16	7/12/16	7/12/16	7/12/16	7/13/16	7/13/16	7/12/16	7/12/16
Perfluorobutanesulfonic acid (PFBS)			<7.89	<8.01	3.72	16.3	5.65	5.76	6.62	<8.26	<8.19	<8.33	14.9	5.37	3.23	3.52	2.95	2.36	2.1	6.51	1.95	2.86	11	10.3
Perfluoroheptanoic acid (PFHpA)			1.21	1.71	342	350	83.4	86.3	82.2	<8.26	<8.19	<8.33	25.9	45.2	26.7	1.45	3.45	4.18	1.8	28	5.25	8.47	94.1	82.8
Perfluorohexanesulfonic acid (PFHxS)			2.96	3.03	27.1	85.9	18.6	19.3	20.4	<8.26	<8.19	<8.33	37.6	15.7	8.93	1.49	1.85	3.68	3.57	16.9	5.53	7.87	42.4	42.5
Perfluorooctanoic acid (PFOA)	70	70	6.1	5.71	640	670	196	223	195	<8.26	1.25	<8.33	108	126	74.9	4.45	8.65	8.98	2.98	81	19.5	29.6	198	159
Perfluorononanoic acid (PFNA)			<7.89	<8.01	126	72.5	28.5	30.2	26.4	<8.26	<8.19	<8.33	1.29	7.41	4.7	<8.06	1.28	<8.36	<8.31	<8.24	<7.96	2.29	17.9	15.1
Perfluorooctanesulfonic (PFOS)	70	70	3.06	3.71	324	463	72.1	73.5	62.8	<8.26	<8.19	<8.33	31	28.4	17.6	1.78	3.27	3.89	1.46	26.5	5.21	16.5	130	117
Combination of PFOA and PFOS		70	9.16	9.42	964	1133	268.1	296.6	257.8	ND	1.25	ND	139	154.4	92.5	6.23	11.92	12.87	4.44	107.5	24.71	46.1	328	276
FIELD PARAMETERS																								
Dissolved Oxygen (mg/l)			N/A	N/A	1.6	1.8	1.3	N/A	1.3	1.3	3.1	1.6	1.7	1.7	1.3	4.7	4.2	1.8	1.4	1.3	1.8	1.9	0.9	N/A
Oxidation Reduction Potential (mV)			N/A	N/A	-87	-128	-106	N/A	-115	137	164	169	84	-25	-80	133	179	108	-169	-123	-105	-132	-144	N/A
pH (standard units)			N/A	N/A	6.7	7.3	6.9	N/A	7	6.6	6.7	6.3	8.1	6.9	6.9	6.5	6.5	6.6	8.2	7.2	7.6	7.4	7.6	N/A
Specific Conductance (us/cm)			N/A	N/A	486	1202	1028	N/A	1044	137	186	96	1206	742	477	151	175	282	230	1149	1294	3068	772	N/A
Temperature (degrees Celcius)			N/A	N/A	16	17	16	N/A	16	16	16	14	17	18	17	13	16	17	16	15	19	16	13	N/A
Turbidity (NTU)			N/A	N/A	<5	<5	<5	N/A	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	N/A
Notes:		•	•	•	•	•	•				•	•	•			•			•	•	•	•	•	

Notes:

1. Monitored Zone / Unit identifies the hydrogeological unit within the screened/open interval. The hydrogeology of the site is comprised of four principle geological units including

2. Bolded and shaded values denote concentration exceeding the EPA Lifetime Health Advisory (HA).

3. Results for groundwater primary/duplicate samples are provided in this table: AE-3A/AE-3A-DUP and GZ-105/GZ-105-DUP.

4. GW-EB-Waterlevel. Equipment blank for water level meter completed on a decomtaminated depth to water level meter after AE-1A was sampled.

5. FB-DI-Water. Field blank is laboratory-provided PFC free water that was used for decontamination purposes, poured directly from the lab supplied container into sampling containers.

ABBREVIATIONS

ADDREVIATIONS	
N/A	Sample was not analyzed/measured for indicated parameter
ND	Not detected
PFC	Perfluorinated Chemicals
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НА	Health Advisory
uS/cm	microsiemens per centimeter
ng/L	nanograms per liter, parts per trillion
mg/L	milligram per liter, parts per million
NTU	nephelometric turbidity unit
mV	millivolt
	Health Advisory standard not established.
J	Concentration is detected below the Lower Calibration Limit of the instrument.

TABLE 3

Summary of JULY 2016 Residential Groundwater Analytical Data Coakley Landfill Superfund Site - North Hampton and Greenland, New Hampshire

								Reside	ntial											
Sampling Point ID	EPA	NHDES	339 BHR	340 BHR	346 BHR	415 BHR	463 BHR	R-3	3 BFL	5 BFL	15 BFL	17 BFL	25 FW	67 NR	10 ROD	4 SMW	9 SMW	10 SMW	19 SMW	21 SMW
Date of Sample Collection	HA	AGQS	7/11/16	7/11/16	7/11/16	7/11/16	7/11/16	7/11/16	7/13/16	7/11/16	7/13/16	7/11/16	7/11/16	7/11/16	7/11/16	7/11/16	7/11/16	7/11/16	7/11/16	7/13/16
Perfluorobutanesulfonic acid (PFBS)			<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16
Perfluoroheptanoic acid (PFHpA)			<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	22B	<16	77B	91B	<16
Perfluorohexanesulfonic acid (PFHxS)			<8	<8	<8	<8	11	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Perfluorooctanoic acid (PFOA)	70	70	25	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Perfluorononanoic acid (PFNA)			<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16
Perfluorooctanesulfonic (PFOS)	70	70	<8	<8	<8	<8	8.1	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Combination of PFOA and PFOS		70	25	ND	ND	ND	8.1	ND												

Notes:

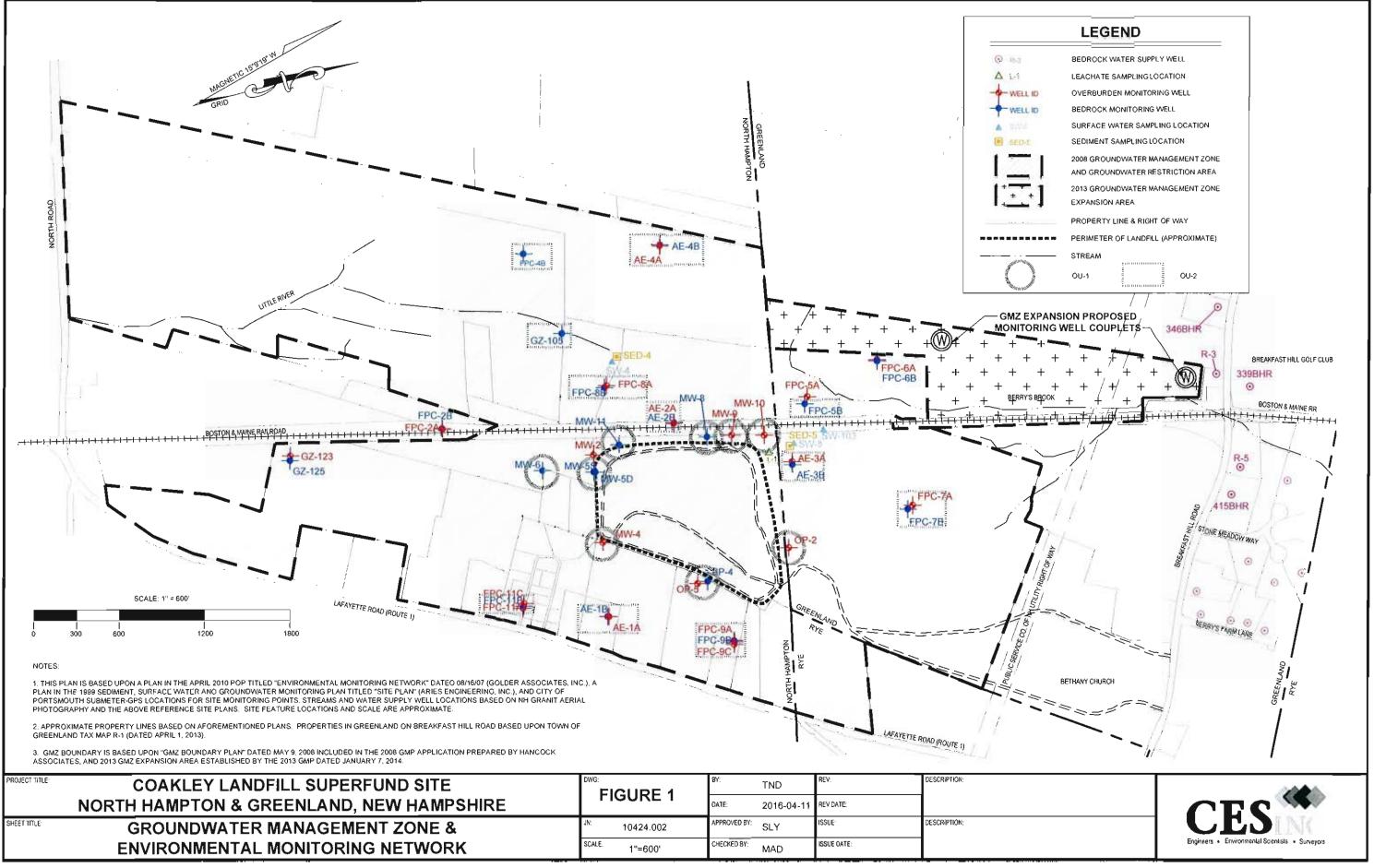
1. Bolded and shaded values denote concentration exceeding the EPA Lifetime Health Advisory (HA) and New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standard (AGQS).

ABBREVIATIONS

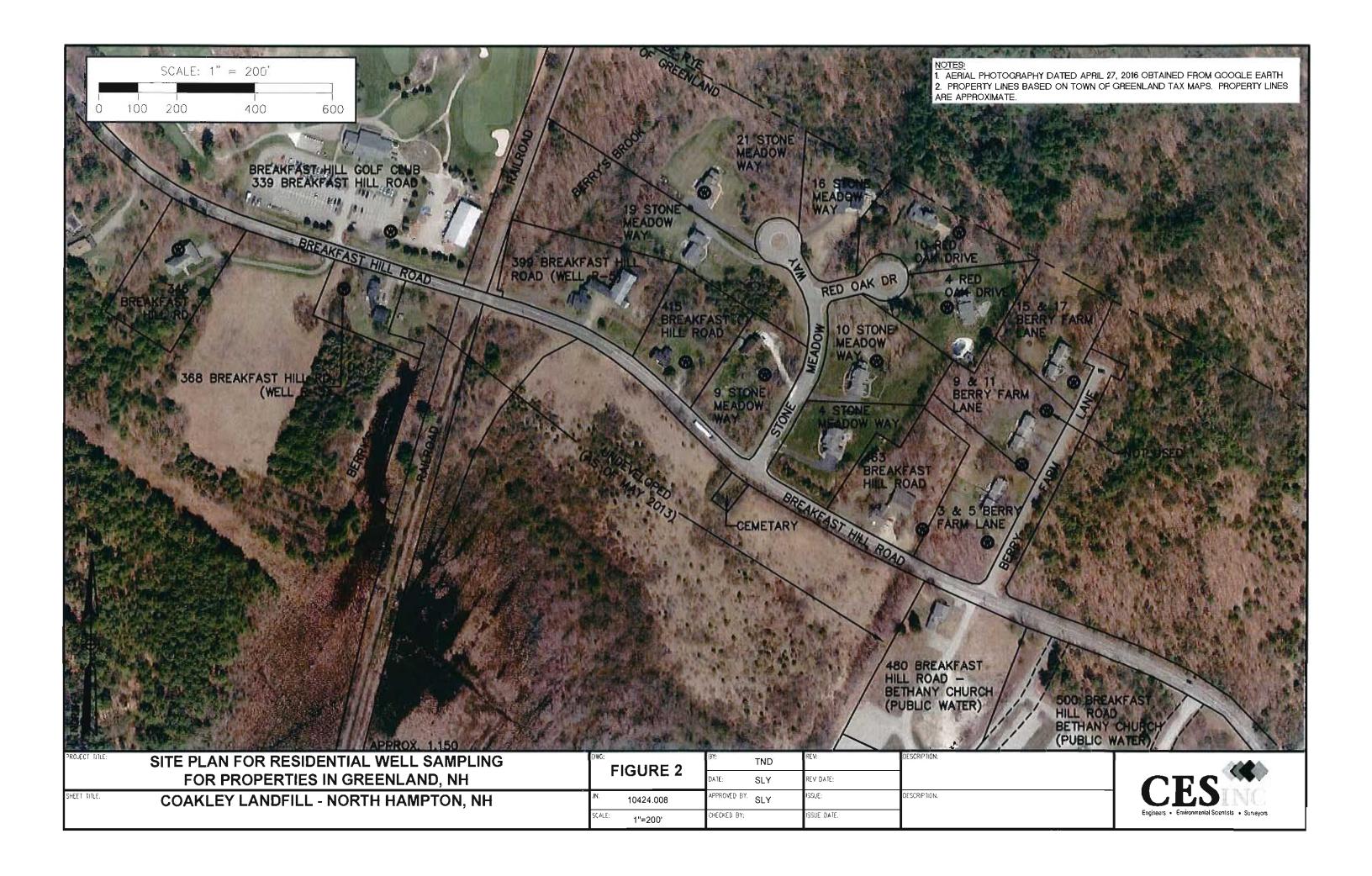
N/A	Sample was not analyzed/measured for indicated parameter
ND	Not detected
PFC	Perfluorinated Chemicals
#.## U	Not Detected at the reporting detection limit indicated
EPA	US Environmental Protection Agency
NHDES AGQS	New Hampshire Department of Environmental Services Ambient Groundwater Quality Standard
НА	Health Advisory
uS/cm	microsiemens per centimeter
ng/L	nanograms per liter, parts per trillion
mg/L	milligram per liter, parts per million
NTU	nephelometric turbidity unit
mV	millivolt
	Health Advisory standard not established.
В	Result associate with lab blank contamination.
BHR	Breakfast Hill Road

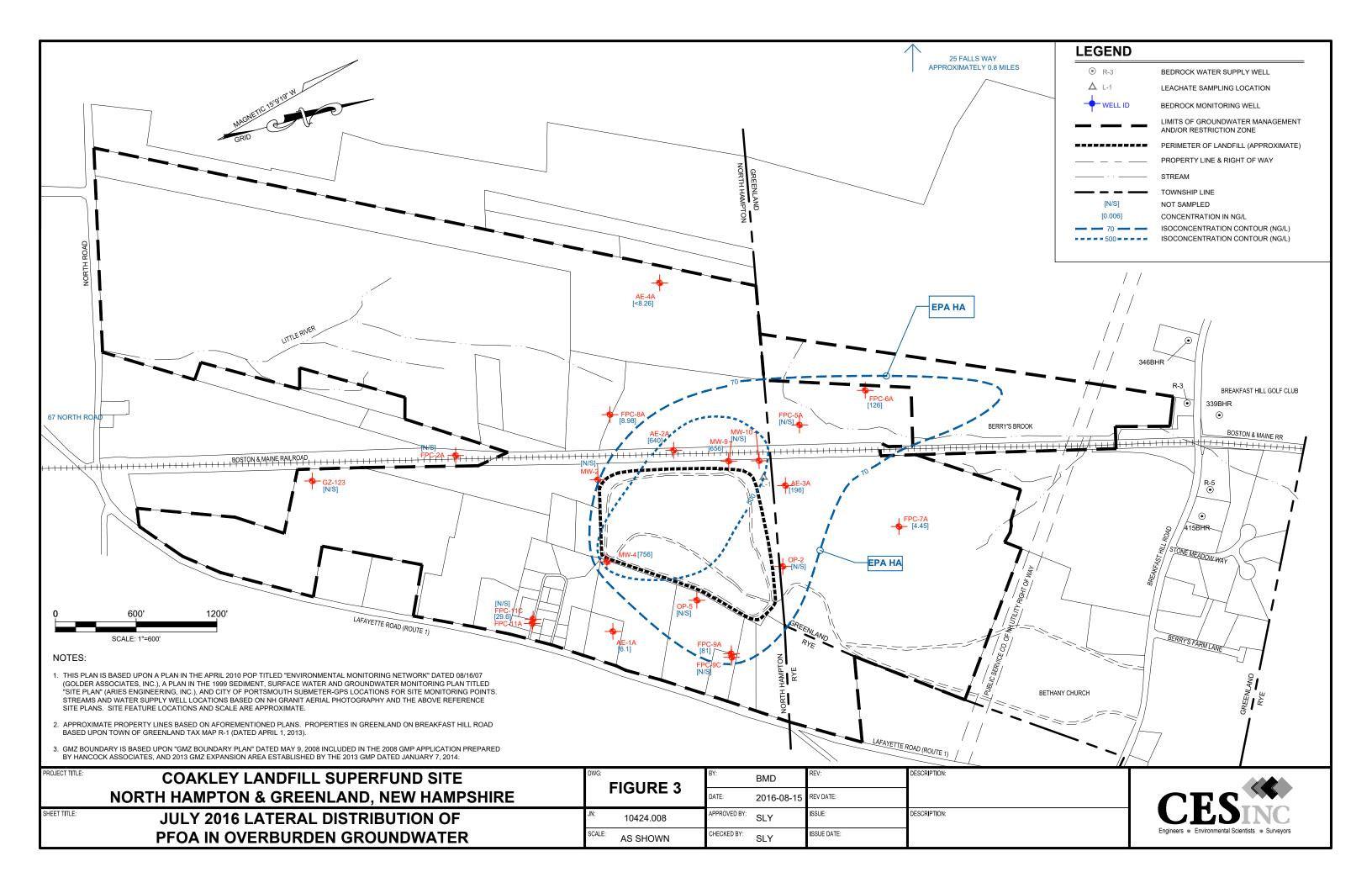


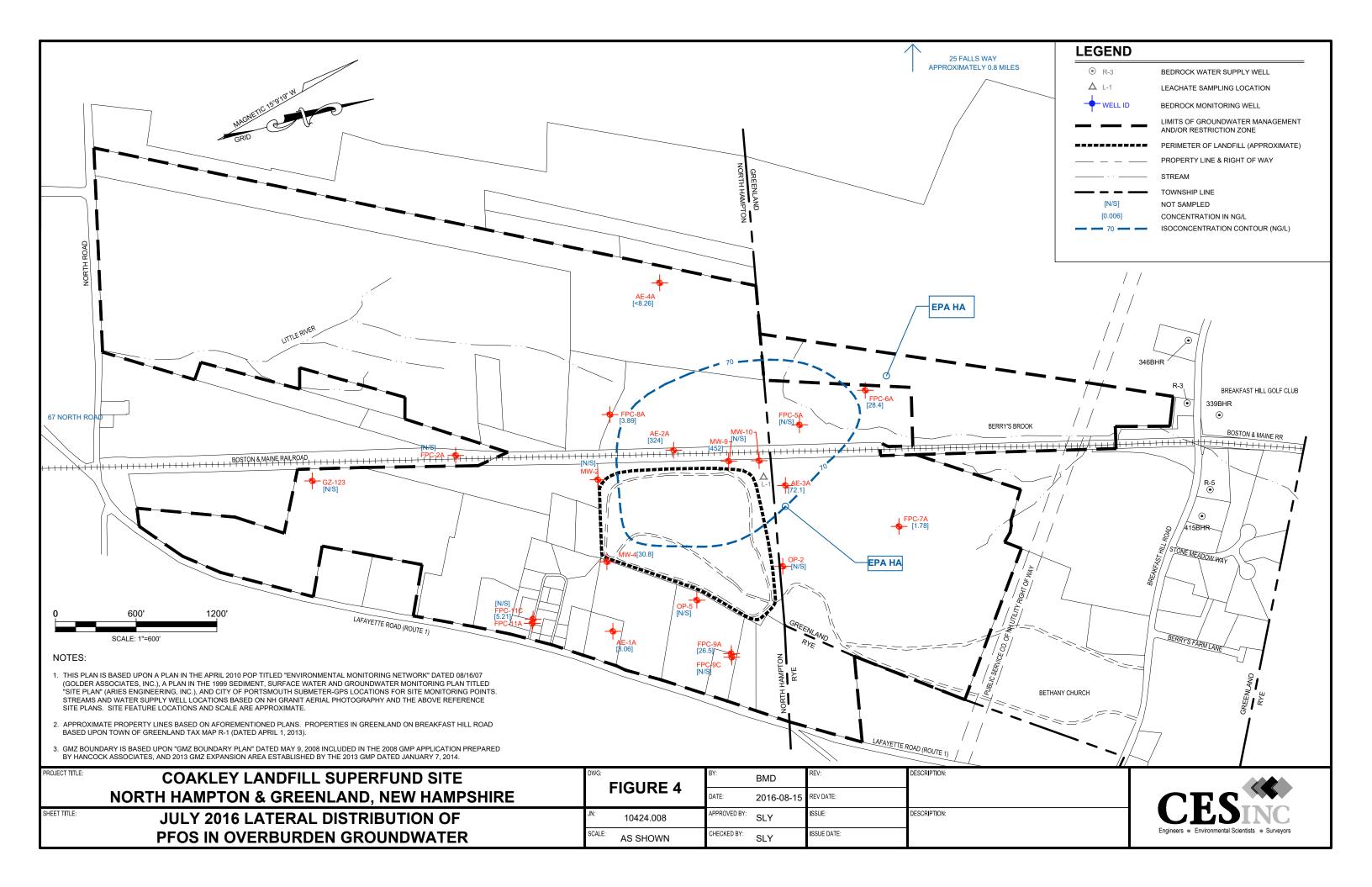
FIGURES

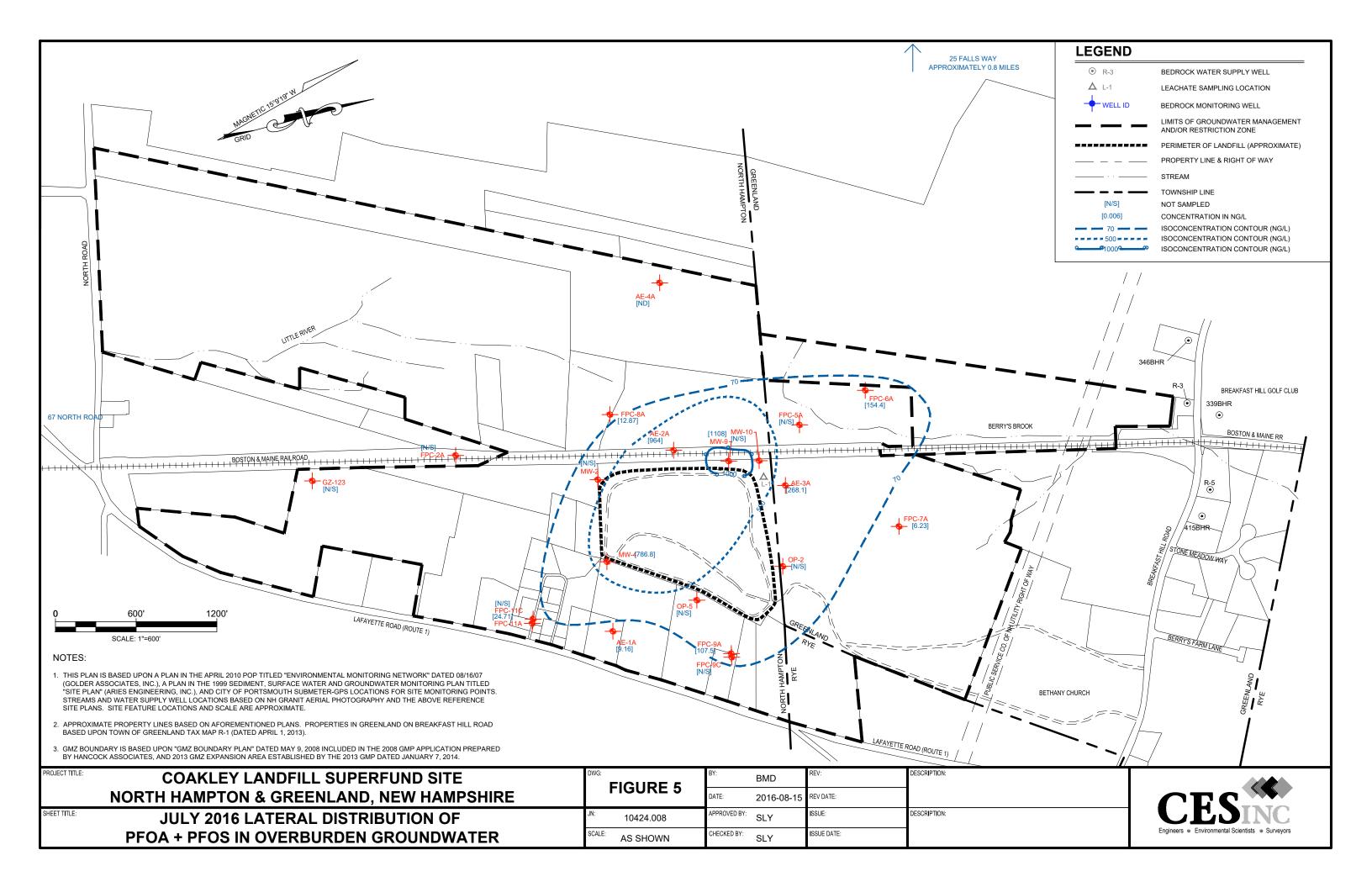


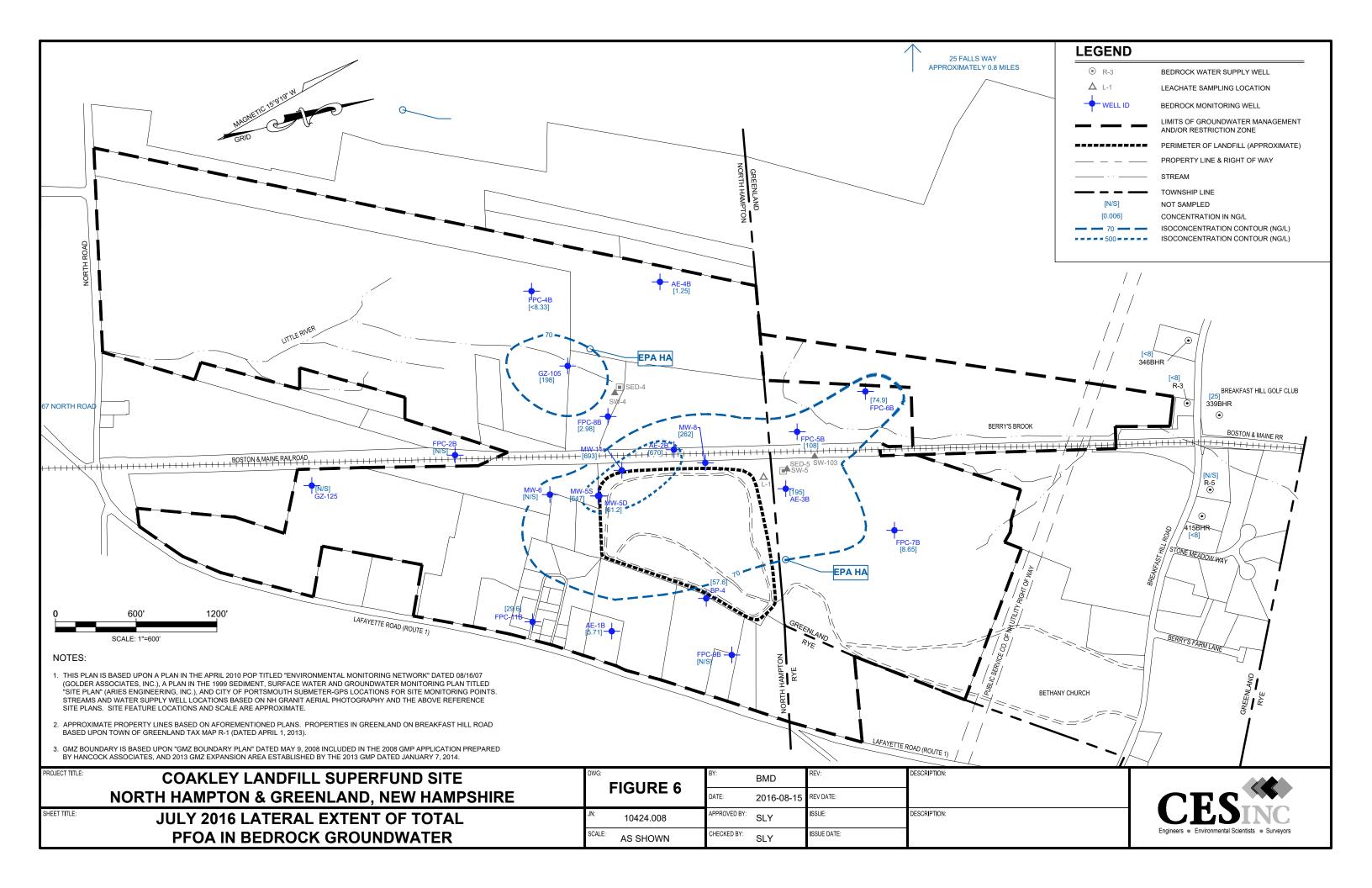
	NORTH HAMPTON & GREENLAND, NEW HAMPSHIKE			UATE:	2016-04-11	REV DATE.	L
SHEET TITLE	GROUNDWATER MANAGEMENT ZONE &	JN:	10424.002	APPROVED BY:	SLY	ISSUE [.]	ľ
	ENVIRONMENTAL MONITORING NETWORK	SCALE.	1''=600'	CHECKED 8Y:	MAD	ISSUE DATE:	

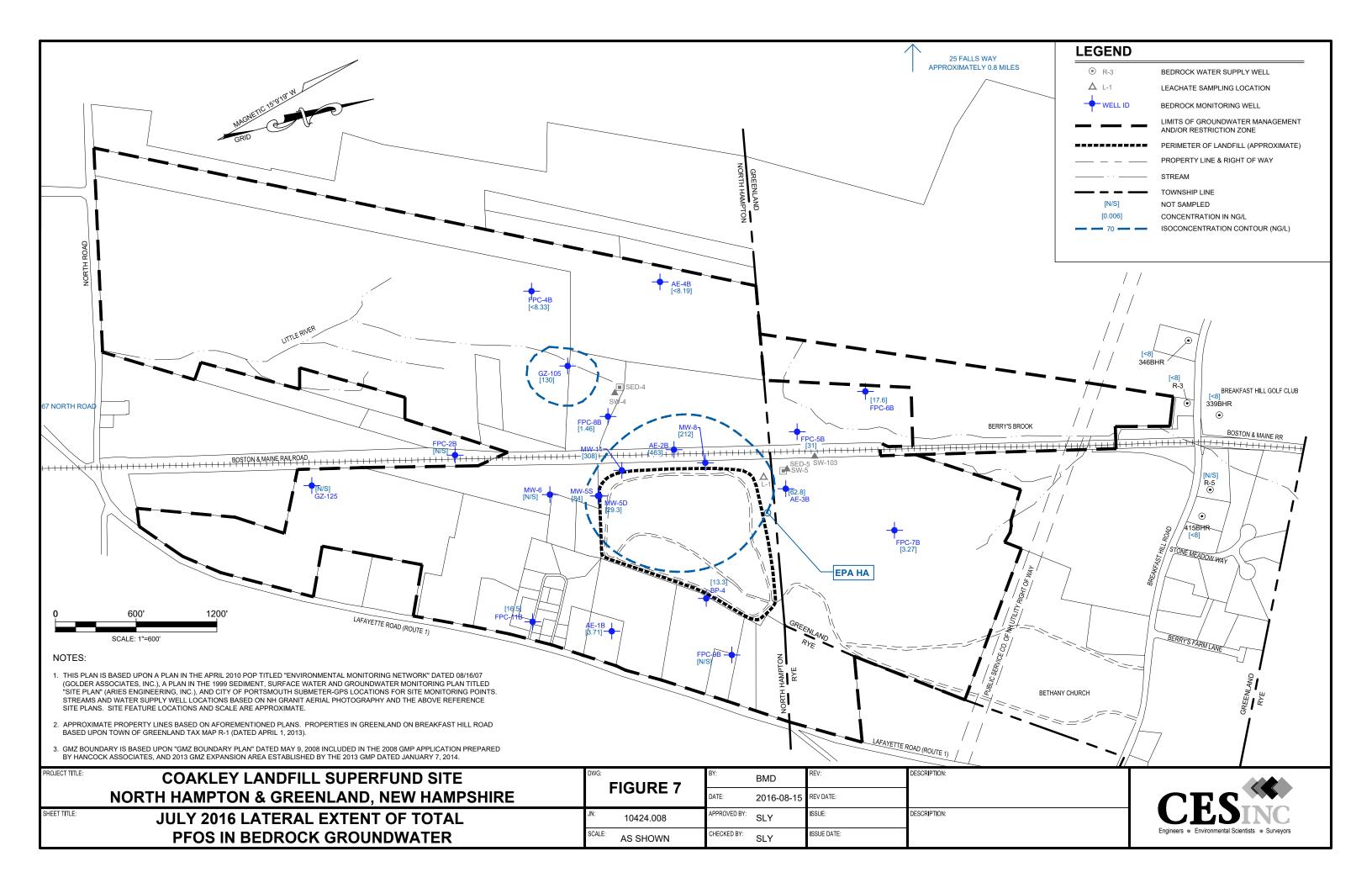


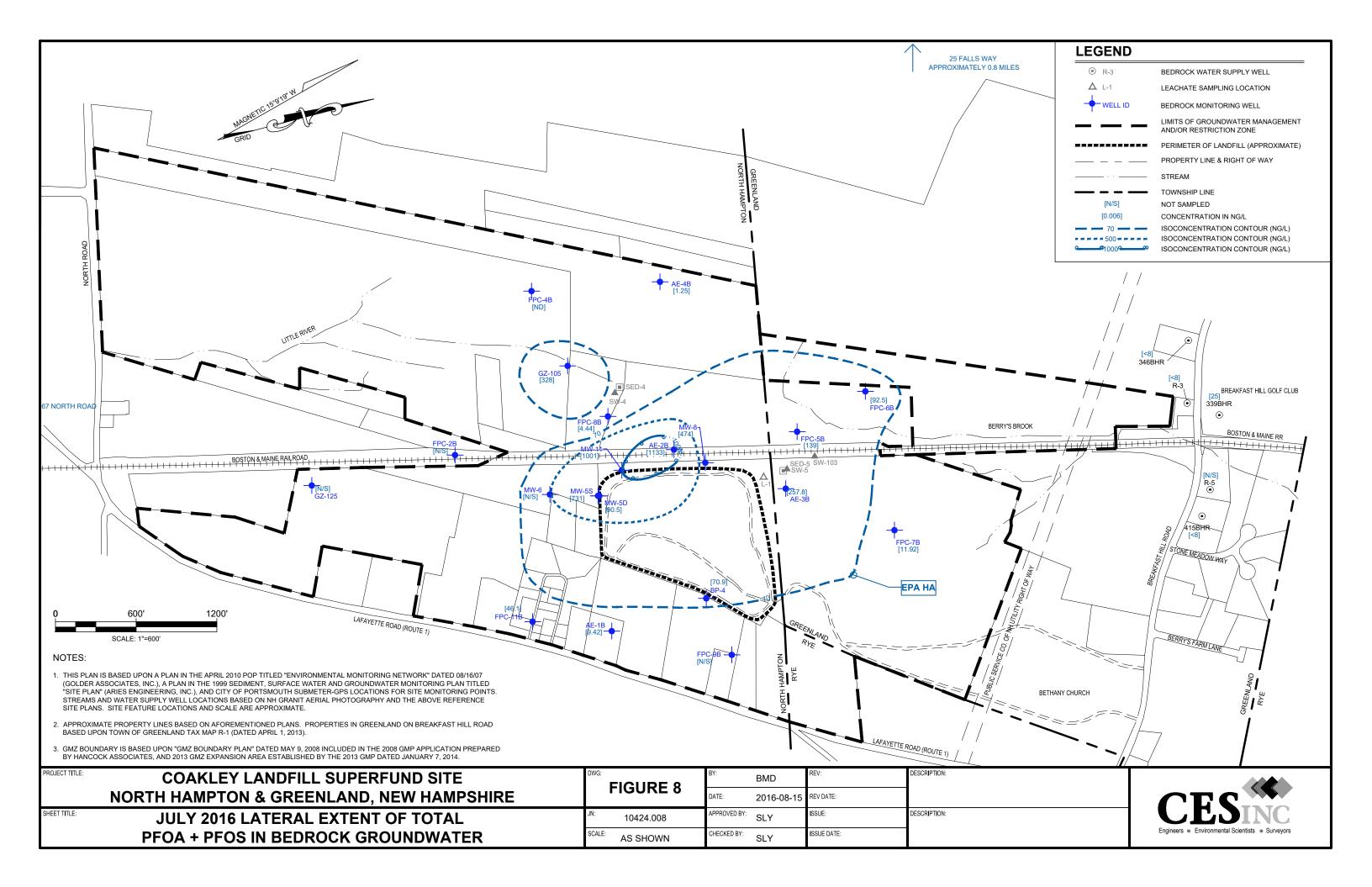














FILL MATERIAL



LANDFILL REFUSE



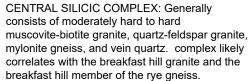
Outwash: Dense brown, fine to coarse sand and gravel, trace silt, portions of sand and gravel vary widly with location MARINE DEPOSITS: Medium dense, gray clay and silt to soft gray silt and clay, locally stratified with fine sand.



+



GLACIAL TILL: Very dense, brown, fine to coarse sand, some fine to coarse gravel, little silt.



METAMORPHIC ROCKS: Generally consist of

soft to hard phyllite, meta-graywacke, quartzite, amphibolie, and schist. These rocks likely correlate with the Rye Gneiss.

CROSS SECTIONS BASED ON SECTION INCLUDED IN 2012 ANNUAL REPORT (PREPARED BY PROVAN & LORBER, INC.)

GENERAL SOIL AND BEDROCK DESCRIPTIONS FROM PLANS PREPARED BY GZA/WESTON, **REMEDIAL INVESTIGATION - OCT. 1988**

BOTTOM OF REFUSE BASED ON A PLAN PREPARED BY ARIES ENGINEERING, INC. NOV. 1999 MONITORING PLAN REPORT, FIGURE 5, FEBRUARY 2000

BORING LOGS AND WELL CONSTRUCTION DETAILS FROM MULTIPLE SOURCES WERE USED

GENERALIZED GROUNDWATER POTENTIOMETRIC SURFACE

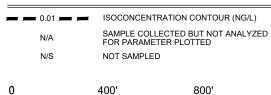
SCREENED / OPEN INTERVAL

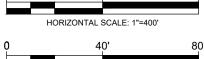
CONCENTRATION IN NG/L

LEGEND

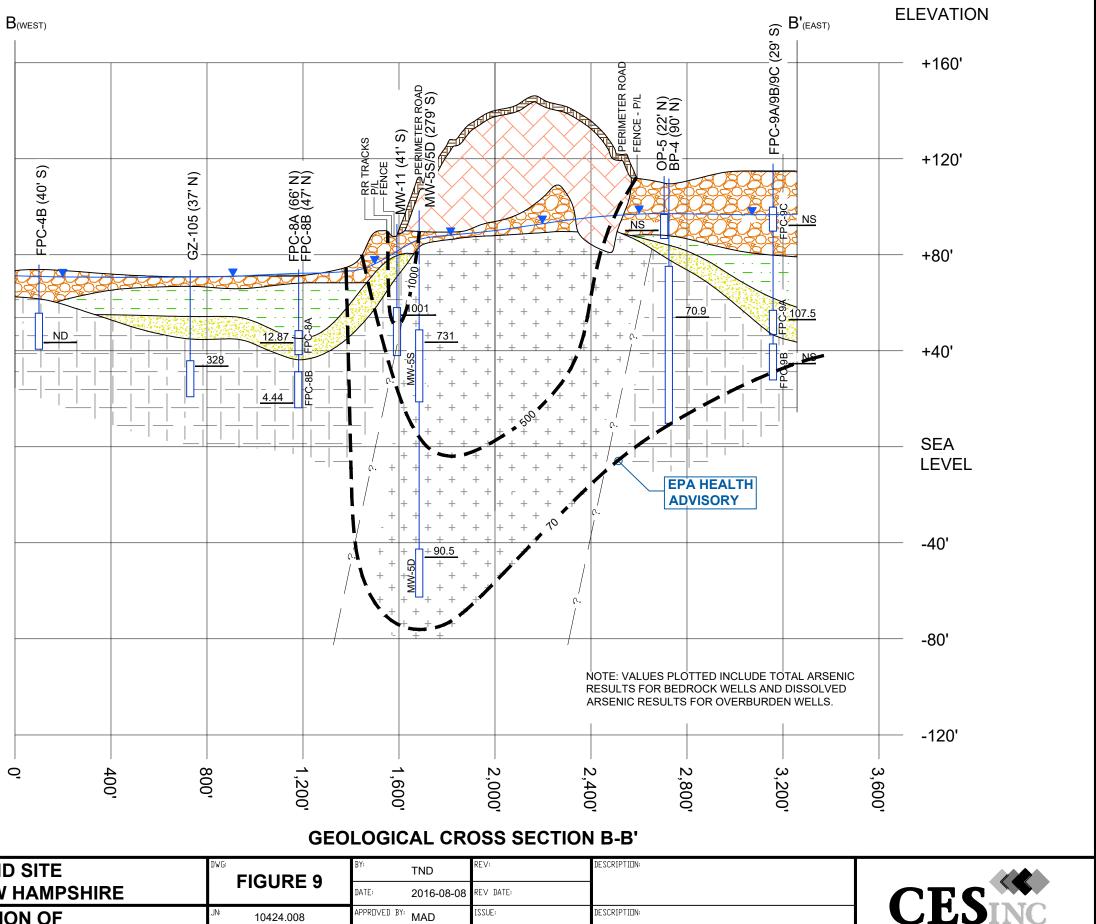
WELL DESIGNATION (OFFSET DISTANCE AND DIRECTION)

10









Engineers . Environmental Scientists . Surveyors

Ρ	COAKLEY LANDFILL SUPERFUND SITE		BY:	TND	REV:	DESCRIPTION:
	NORTH HAMPTON & GREENLAND, NEW HAMPSHIRE	FIGURE 9	DATE:	2016-08-08	REV DATE:	
S	JULY 2016 VERTICAL DISTRIBUTION OF	^{JN:} 10424.008	APPROVED BY:	MAD	ISSUE:	DESCRIPTION:
	PFOA & PFOS IN GROUNDWATER B-B'	SCALE: AS SHOWN	CHECKED BY:	SLY	ISSUE DATE:	





LANDFILL REFUSE



Outwash: Dense brown, fine to coarse sand and gravel, trace silt, portions of sand and gravel vary widly with location



MARINE DEPOSITS: Medium dense, gray clay and silt to soft gray silt and clay, locally stratified with fine sand.



GLACIAL TILL: Very dense, brown, fine to coarse sand, some fine to coarse gravel, little silt.



CENTRAL SILICIC COMPLEX: Generally consists of moderately hard to hard muscovite-biotite granite, quartz-feldspar granite,

mylonite gneiss, and vein quartz. complex likely correlates with the breakfast hill granite and the breakfast hill member of the rye gneiss.

METAMORPHIC ROCKS: Generally consist of soft to hard phyllite, meta-graywacke, quartzite, amphibolie, and schist. These rocks likely correlate with the Rye Gneiss.

CROSS SECTIONS BASED ON SECTION INCLUDED IN 2012 ANNUAL REPORT (PREPARED BY PROVAN & LORBER, INC.)

GENERAL SOIL AND BEDROCK DESCRIPTIONS FROM PLANS PREPARED BY GZA/WESTON, **REMEDIAL INVESTIGATION - OCT. 1988**

BOTTOM OF REFUSE BASED ON A PLAN PREPARED BY ARIES ENGINEERING, INC. NOV 1999 MONITORING PLAN REPORT FIGURE 5, FEBRUARY 2000

BORING LOGS AND WELL CONSTRUCTION DETAILS FROM MULTIPLE SOURCES WERE USED

GENERALIZED GROUNDWATER POTENTIOMETRIC SURFACE

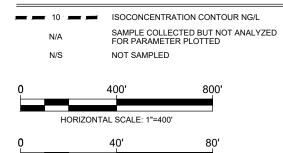
SCREENED / OPEN INTERVAL

CONCENTRATION IN NG/L

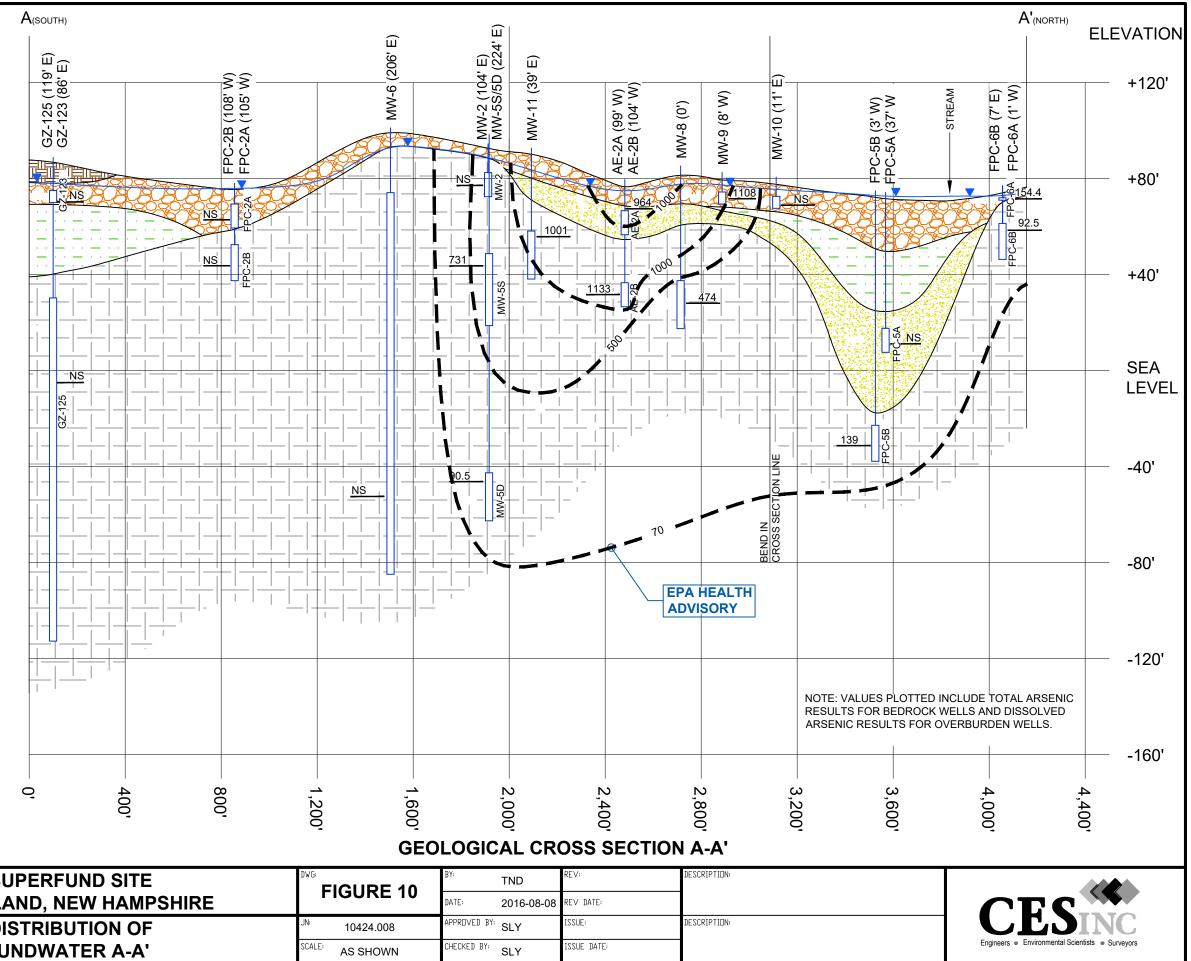
LEGEND

WELL DESIGNATION (OFFSET DISTANCE AND DIRECTION)

10



VERTICAL SCALE: 1"=40'

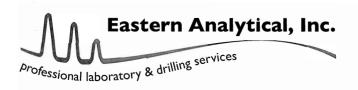


PRDJECT TITLE:	COAKLEY LANDFILL SUPERFUND SITE	FIGURE 10	BY:	TND	REV:	DESCRIPTION:
	NORTH HAMPTON & GREENLAND, NEW HAMPSHIRE	FIGURE IU	DATE:	2016-08-08	REV DATE:	
SHEET TITLE:	JULY 2016 VERTICAL DISTRIBUTION OF	^{JN:} 10424.008	APPROVED BY	SLY	ISSUE:	DESCRIPTION:
	PFOA & PFOS IN GROUNDWATER A-A'	SCALE: AS SHOWN	CHECKED BY:	SLY	ISSUE DATE:	



ATTACHMENT 1

LABORATORY ANALYTICAL DATA



Michael A. Deyling CES, Inc. (Lewiston) 640 Main Street Lewiston, ME 04240



Subject: Laboratory Report

Eastern Analytical, Inc. ID: Client Identification: Date Received: 156457 Coakley Landfill | 10424 5/25/2016

Dear Mr. Deyling :

Enclosed please find the report of analysis for the above identified project. As discussed, analyses were subcontracted and are listed as follows:

Analysis: Subcontract - Perfluorinated Compounds EPA Method 537 (Vista) Subcontractor Lab: Vista Analytical Laboratory

A complete copy of the report is attached. This report may not be reproduced except in full, without the written approval of the laboratory.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Conarne Da

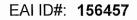
6.23.16

203

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)



Client: CES, Inc. (Lewiston)

Client Designation: Coakley Landfill | 10424

•	ure upon receipt (°C): 0, emperature range (°C): 0-6	5		Red	ceived	on ice or cold packs (Yes/No): Υ
Lab ID	Sample ID		Date Sampled	Sample Matrix	-	
156457.01 156457.02	GW-BP-4 GW-MW-8	5/25/16 5/25/16	5/24/16 5/24/16	aqueous aqueous		Adheres to Sample Acceptance Policy Adheres to Sample Acceptance Policy
156457.03	GW-EB-Waterlevel	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy
156457.04	FB-DI Water	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy
156457.05	GW-MW-4	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy
156457.06	GW-MW-4 Dup	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy
156457.07	GW-EB-Bailer	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy
156457.08	GW-MW-9	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy
156457.09	GW-MW-5S	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy
156457.1	GW-MW-5D	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy
156457.11	GW-MW-11	5/25/16	5/24/16	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis. Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

, Inc. www.eailabs.com | 800.287.0525 | customerservice@eailabs.com



June 14, 2016

Vista Work Order No. 1600703

Ms. Jennifer Jurta Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Jurta,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 27, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'NH/2433'.

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,

Cahra Jacke Br

Martha Maier Laboratory Director



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

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

2

Vista Work Order No. 1600703 Case Narrative

Sample Condition on Receipt:

Eleven aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. This report was amended to correct the collected date on samples "GW-MW-5D" and "GW-MW-11", add "J" qualifiers to the data sheets and include the MS/MSD raw data.

Analytical Notes:

Modified EPA Method 537

The samples were extracted and analyzed for a selected list of six PFAS using Modified EPA Method 537. The results for PFBS, PFHxS and PFOS include both linear and branched isomers. Results for PFHpA, PFOA and PFNA results include the linear isomer only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The recoveries of all internal standards in the QC and field samples were within the acceptance criteria.

As requested, an MS/MSD was performed on sample "GM-MW-8". The recoveries and RPDs were within the acceptance criteria.

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Continuing Calibration	138
Initial Calibration	155

Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1600703-01	GW-BP-4		24-May-16 12:53	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-02	GW-MW-8	MS/MSD	24-May-16 13:43	27-May-16 09:37	HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
1600703-03	GW-EB-Waterlevel		24-May-16 14:05	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-04	FB-DI Water		24-May-16 14:00	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-05	GW-MW-4		24-May-16 15:00	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-06	GW-MW-4 Dup		24-May-16 15:00	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-07	GW-EB-Bailer		24-May-16 14:35	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-08	GW-MW-9		24-May-16 13:50	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-09	GW-MW-5S		24-May-16 15:13	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-10	GW-MW-5D		25-May-16 10:52	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600703-11	GW-MW-11		25-May-16 10:10	27-May-16 09:37	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL

Client Project: NH/2433

Vista Project: 1600703

ANALYTICAL RESULTS

Sample II	: Method Blank					Modi	fied EPA M	ethod 537
Matrix: Sample Size:	Aqueous 0.125 L		36F0015 3-Jun-2016 7:46		Lab Sample: B6F0015-BL Date Analyzed: 06-Jun-16 19		I C18 Analyst: E	SR
Analyte	Conc. (ng/L)	RL	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	8.00	1.79		IS 13C3-PFBS	115	60 - 150	
PFHpA	ND	8.00	0.591	Marked and the second	IS 13C4-PFHpA	93.6	25 - 175	
PFHxS	ND	8.00	0.947		IS 18O2-PFH _X S	99.3	60 - 150	ANSIN PRIMA
PFOA	ND	8.00	0.651	2.1	IS 13C2-PFOA	105	60 - 150	
PFOS	ND	8.00	1.67		IS 13C8-PFOS	90.6	60 - 150	
PFNA	${ m ND}$	8.00	0.810	an na se an do ana lo ha se a da se d	IS 13C5-PFNA	98.0	50 - 150	

MDL - Method detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID: OPR							Modified	EPA Method 537
Matrix: Aqueous Sample Size: 0.125 L	QC Batch: Date Extracted	B6F0015 1: 03-Jun-2016	5 7:46		Lab Sample: Date Analyze		nn: BEH C18 Analyst: BS	SR
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
PFBS	81.1	80.0	101	60 - 130	IS	13C3-PFBS	114	60 - 150
PFHpA	84.0	80.0	105	70 - 130	IS	13C4-PFHpA	101	25 - 175
PFHxS	78.1	80.0	97.7	70 - 130	IS	18O2-PFHxS	101	60 - 150
PFOA	81.9	80.0	102	70 - 130	IS	13C2-PFOA	95.0	60 - 150
PFOS	83.4	80.0	104	70 - 130	IS	13C8-PFOS	96.7	60 - 150
PFNA	74.8	80.0	93.5	50 - 130	IS	13C5-PFNA	89.4	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID:	GW-BP-4							Modifie	d EPA M	ethod 537
Client Data			Sample Data		La	aboratory	Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	I	Lab Sampl	le: 1600703-01	Date Received:	27-May-20	16 9:37
Project:	NH/2433		Sample Size:	0.128 L		QC Batch:	B6F0015	Date Extracted:	03-Jun-201	5 7:46
Date Collected:	24-May-2016 12:53				I	Date Analy	yzed: 06-Jun-16 19:10	5 Column: BEH C18 Anal	yst: BSR	
Analyte	Conc. (ng/L)	RL		MDL	Qualifier	rs	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	2.72	7.84		1.75	J	IS	13C3-PFBS	115	60 - 150	
PFHpA	26.2	7.84		0.579		IS	13C4-PFHpA	102	25 - 175	
PFHxS	12.1	7.84		0.928	New Tranges	IS	18O2-PFHxS	105	60 - 150	运 务 这种行为
PFOA	57.6	7.84		0.638	na di kalan kana kana kana kana kana kana kan	IS	13C2-PFOA	98.9	60 - 150	
PFOS	13.3	7.84	a state the set	1.64	- Consider V	IS	13C8-PFOS	86.5	60 - 150	
PFNA	1.55	7.84	and present to be any much that filler the ball cash	0.794	J	IS	13C5-PFNA	96.4	50 - 150	armenaalii Roolied

MDL - Method detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-MW-8							Modifie	ed EPA M	ethod 537
Client Data			Sample Data			Laboratory	Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab Samp	le: 1600703-02	Date Received:	27-May-20	16 9:37
Project:	NH/2433		Sample Size:	0.129 L		QC Batch:	: B6F0015	Date Extracted:	03-Jun-201	6 7:46
Date Collected:	24-May-2016 13:43					Date Anal	yzed: 06-Jun-16 19:28	Column: BEH C18 Ana	lyst: BSR	
Analyte	Conc. (ng/L)	RL	J	MDL	Qualifi	ers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	30.8	7.74		1.73		IS	13C3-PFBS	117	60 - 150	
PFHpA	179	7.74		0.572		IS	13C4-PFHpA	107	25 - 175	an bei bein halt verhämte beind finden im
PFHxS	93.6	7.74		0.916		IS	18O2-PFHxS	101	60 - 150	和明白中的是
PFOA	262	7.74		0.630	-	IS	13C2-PFOA	99.1	60 - 150	anappin and an original and sub-
PFOS	212	7.74		1.62	3-122 M	IS	13C8-PFOS	94.9	60 - 150	
PFNA	5.36	7.74		0.784	J	IS	13C5-PFNA	95.7	50-150	approximente Transporter
		MDL -	Method detection limit			LCL-U	JCL - Lower control limit - upp	er control limit		

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Matrix Spike Re	sults											Mod	ified EPA	Metl	10d 537
Source Client ID: Source LabNumber: Matrix: Sample Size:	GW-MW-8 1600703-02 Aqueous 0.128/0.128 L			QC Bate Date Ex		5F0015 -Jun-201	.6 7:40	6		ample: Analyzed:	B6F0015-MS1/B6F0 06-Jun-16 22:07 Colu 06-Jun-16 22:19 Colu	ımn: BEH C			
Analyte		Spike-MS (ng/L)	MS %R	MS Qualifiers	Spike-MSD (ng/L)	MSD %R	RPD	MS Qualifiers		Labeled Sta	andard	MS %R	MS Qualifiers	MSD %R	MS Qualifiers
PFBS PFHpA PFHxS		78.0 78.0 78.0	102 87.8 95.9		78.4 78.4 78.4	97.7 94.1 117	4.31 6.93 19.8		IS IS IS	13C4-PI 18O2-PI 13C2-PI	FHxS	104 97.6 101		106 99.6 99.2	
PFOA PFOS PFNA		78.0 78.0 78.0	88.3 117 89.3		78.4 78.4 78.4	72.5 95.3 102	19.7 20.4 13.3		IS IS IS	13C8-PH 13C5-PH 13C3-PH	INA	89.6 99.8 112		89.2 93.5 115	

F

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v	_	-

Sample ID:	GW-EB-Waterleve	el						Modifie	d EPA M	ethod 537
Client Data			Sample Data		La	aboratory Da	ata			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	I	Lab Sample:	1600703-03	Date Received:	27-May-20	16 9:37
Project:	NH/2433		Sample Size:	0.130 L		QC Batch:	B6F0015	Date Extracted:	03-Jun-201	6 7:46
Date Collected:	24-May-2016 14:05				I	Date Analyze	d: 06-Jun-16 19:41 Co	olumn: BEH C18 Anal	yst: BSR	
Analyte	Conc. (ng/L)	RL		MDL	Qualifier	s L	abeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	7.71		1.73		IS 1.	3C3-PFBS	116	60 - 150	
PFHpA	ND	7.71		0.570		IS 13	3C4-PFHpA	99.3	25 - 175	and and a second star of the second stars.
PFHxS	ND	7.71		0.913		IS 1	8O2-PFHxS	88.9	60 - 150	- Pierre Pi
PFOA	ND	7.71		0.628		IS 13	3C2-PFOA	103	60 - 150	initial and an initial of the state of the state
PFOS	ND	7.71		1.61		IS 1	3C8-PFOS	.95.1	60 - 150	
PFNA	ND	7.71		0.781			3C5-PFNA	102	50 - 150	CONTRACTOR AND ADDRESS

MDL - Method detection limit RL - Reporting limit

 $\mbox{LCL-UCL}$ - $\mbox{Lower control limit}$ - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	FB-DI Water						Modifie	d EPA M	ethod 537
Client Data Name: Project: Date Collected:	Eastern Analytical, Inc. NH/2433 24-May-2016 14:00		Sample DataMatrix:AqueousSample Size:0.127 L	L Q	boratory Data Lab Sample: QC Batch: Date Analyzed:	1600703-04 B6F0015	Date Received: Date Extracted: lumn: BEH C18 Ana	03-Jun-201	
Analyte	Conc. (ng/L)	RL	MDL	Qualifiers	s Lab	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	7.86	1.76		IS13C	3-PFBS	113	60 - 150	
PFHpA	ND	7.86	0.581		IS 13C	4-PFHpA	101	25 - 175	
PFHxS	ND	7.86	0.930		IS 180	2-PFHxS	101	60 - 150	
PFOA	ND	7.86	0.639		IS 13C	2-PFOA	93.9	60 - 150	
PFOS	ND	7.86	1.64	And Mental State	IS 13C	8-PFOS	90.1	60 - 150	

MDL - Method detection limit

RL - Reporting limit

0.796

LCL-UCL - Lower control limit - upper control limit

13C5-PFNA

IS

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

89.7

50 - 150

ND

PFNA

7.86

Sample ID:	GW-MW-4								Modifie	d EPA M	ethod 53'
Client Data			Sample Data		La	boratory	Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	L	Lab Samp	le:	1600703-05	Date Received:	27-May-20	16 9:37
Project:	NH/2433		Sample Size:	0.129 L		QC Batch	:	B6F0015	Date Extracted:	03-Jun-201	6 7:46
Date Collected:	24-May-2016 15:00				I	Date Anal	yzed:	06-Jun-16 20:05 Co	lumn: BEH C18 Ana	lyst: BSR	
Analyte	Conc. (ng/L)	RL	<u> </u>	MDL	Qualifiers	s	Labe	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	5.06	7.73		1.73	J	IS	13C3	-PFBS	115	60 - 150	
PFHpA	440	7.73		0.571		IS	13C4	-PFHpA	105	25 - 175	
PFHxS	40.4	7.73		0.915		IS	1802	2-PFHxS	102	60 - 150	
PFOA	756	7.73		0.629		IS	13C2	2-PFOA	99.0	60 - 150	
PFOS	30.8	7.73		1.61		IS	13C8	3-PFOS	101	60 - 150	波河 一 一 一
PFNA	19.3	7.73		0.783		IS	1205	5-PFNA	106	50 - 150	Contraction of the

MDL - Method detection limit RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-MW-4 Dup							Modifie	ed EPA Me	thod 537
Client Data			Sample Data	<u></u>	La	boratory	Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	L	Lab Sample	e: 1600703-06	Date Received:	27-May-201	6 9:37
Project:	NH/2433		Sample Size:	0.127 L		QC Batch:	B6F0015	Date Extracted:	03-Jun-2016	7:46
Date Collected:	24-May-2016 15:00				D	Date Analy	zed: 06-Jun-16 20:17 C	Column: BEH C18 Ana	lyst: BSR	
Analyte	Conc. (ng/L)	RL		MDL	Qualifiers	s	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	4.96	7.85	See Bill of the	1.76	化合和原料	IS	13C3-PFBS	125	60 - 150	计和注意
PFHpA	441	7.85		0.580		IS	13C4-PFHpA	110	25 - 175	annolise initialise of showing
PFHxS	32.8	7.85	di d	0.929		IS	18O2-PFHxS	103	60 - 150	
PFOA	728	7.85		0.639		IS	13C2-PFOA	103	60 - 150	ont eget of a treatment
PROO	31.0	7.85		1.64		IS	13C8-PFOS	97.6	60 - 150	
PFOS										

MDL - Method detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

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•	1	-	

Sample ID:	GW-EB-Bailer							Modifie	d EPA M	ethod 537
Client Data			Sample Data		Lab	oratory	Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	La	b Sampl	le: 1600703-07	Date Received:	27-May-20	16 9:37
Project:	NH/2433		Sample Size:	0.127 L	QC	Batch:	B6F0015	Date Extracted:	03-Jun-201	6 7:46
Date Collected:	24-May-2016 14:35				Da	te Analy	vzed: 06-Jun-16 20:29 C	olumn: BEH C18 Anal	yst: BSR	
Analyte	Conc. (ng/L)	RL	}	MDL	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	7.89		1.76		IS	13C3-PFBS	114	60 - 150	
PFHpA	ND	7.89		0.583	and and have the state of the same state	IS	13C4-PFHpA	97.3	25 - 175	
PFHxS	ND	7.89		0.934		IS	18O2-PFHxS	103	60 - 150	
PFOA	ND	7.89		0.642	and a contract of a spin of a second s	IS	13C2-PFOA	95.2	60 - 150	
PFOS	ND	7.89	ha Para Maria	1.65	80468	IS	13C8-PFOS	92.1	60 - 150	
PFNA	ND	7.89		0.799	and the second sec	IS	13C5-PFNA	103	50 - 150	Carl Charles Constants 201

MDL - Method detection limit RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

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Sample ID:	GW-MW-9								Modifie	d EPA M	ethod 537
Client Data			Sample Data		1	aborato	ry Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab Sam	ple:	1600703-08	Date Received:	27-May-20	16 9:37
Project:	NH/2433		Sample Size:	0.124 L		QC Bate	h:	B6F0015	Date Extracted:	03-Jun-201	6 7:46
Date Collected:	24-May-2016 13:50					Date Ana	alyzed:	06-Jun-16 20:42 Col	umn: BEH C18 Ana	lyst: BSR	
Analyte	Conc. (ng/L)	RL		MDL	Qualifi	ers	Lab	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	3.53	8.09		1.81	\mathcal{J}	IS	13C	3-PFBS	114	60 - 150	
PFHpA	345	8.09		0.598		IS	13C4	4-PFHpA	97.6	25 - 175	
PFHxS	17.9	8.09	a consider start	0.958		IS	180	2-PFHxS	94.7	60 - 150	
PFOA	656	8.09		0.658		IS	13C	2-PFOA	91.2	60 - 150	
PFOS	452	8.09		1.69		IS	13C	8-PFOS	78.2	60 - 150	
PFNA	169	8.09		0.819		IS	13C:	5-PFNA	85.4	50-150	a no becario de la De Vela
	at <u>1 an </u>	N	MDL - Method detection limit				UCL - L	ower control limit - upper con	trol limit		

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

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	r	-		

Sample ID:	GW-MW-5S							Modifie	d EPA M	ethod 537
Client Data			Sample Data	H	L	aboratory Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab Sample:	1600703-09	Date Received:	27 - May-20	16 9:37
Project:	NH/2433		Sample Size:	0.127 L		QC Batch:	B6F0015	Date Extracted:	03-Jun-201	6 7:46
Date Collected:	24-May-2016 15:13					Date Analyzed:	06-Jun-16 20:54	Column: BEH C18 Anal	yst: EMS	
Analyte	Conc. (ng/L)	RL		MDL	Qualifie	rs Lab	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	10.1	7.86	March 19	1.76		IS 13C	3-PFBS	- 114	60 - 150	
PFHpA	468	7.86		0.580		IS 13C	4-PFHpA	99.0	25 - 175	
PFHxS	58.6	7.86		0.930		IS 18O	2-PFHxS	97.2	60 - 150	
PFOA	647	7.86		0.639		IS 13C	2-PFOA	101	60 - 150	
PFOS	84.0	7.86	Constant Sector	1.64		IS 13C	8-PFOS	89.9	60 - 150	
PFNA	62.6	7.86		0.795		IS 13C	5-PFNA	89.2	50 - 150	29.70.010.019979995568
		MDI	- Method detection limit			LCL-UCL - L	ower control limit - upper	control limit		<u> </u>

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

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Sample ID:	GW-MW-5D						Modifie	d EPA M	ethod 537
Client Data			Sample Data	Lab	oratory Data				
Name:	Eastern Analytical, Inc.		Matrix: Aqueous	La	b Sample:	1600703-10	Date Received:	27-May-20	16 9:37
Project:	NH/2433		Sample Size: 0.124 L	Q	C Batch:	B6F0015	Date Extracted:	03-Jun-201	6 7:46
Date Collected:	25-May-2016 10:52			Da	ate Analyzed:	06-Jun-16 21:06 C	olumn: BEH C18 Anal	yst: EMS	
Analyte	Conc. (ng/L)	RL	M	DL Qualifiers	Labo	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	27.5	8.05	1.	80	IS 13C	3-PFBS	113	60 - 120	
PFHpA	44.8	8.05	0.:	595	IS 13C4	4-PFHpA	103	25 - 175	andersteinen anderster ter
PFHxS	42.9	8.05	0.	953	IS 1802	2-PFHxS	95.4	60 - 150	
PFOA	61.2	8.05	0.0	555	IS 13C2	2-PFOA	96.7	60 - 150	
PFOS	29.3	8.05	1.	68	IS 13C8	8-PFOS	84.0	60 - 150	
PFNA	ND	8.05	and and and an	315	IS 13C	5-PFNA	86.6	50 - 150	90250200.000500

MDL - Method detection limit RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

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Sample ID:	GW-MW-11								Modi	ied EPA M	ethod 537
Client Data			Sample Data			Labor	atory Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab	Sample:	1600703-11	Date Receive	d: 27-May-20	16 9:37
Project:	NH/2433		Sample Size:	0.130 L		QCI	Batch:	B6F0015	Date Extracte	d: 03-Jun-201	6 7:46
Date Collected:	25-May-2016 10:10		-			Date	Analyzed:	06-Jun-16 21:55	Column: BEH C18 A	nalyst: EMS	
Analyte	Conc. (ng/L)	RL		MDL	Qualif	fiers	Lab	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	10.8	7.69	Springer 1	1.72			IS 13C	3-PFBS	112	60 - 150	(学校会会)
PFHpA	423	7.69		0.568			IS 13C	4-PFHpA	101	25 - 175	
PFHxS	60.2	7.69		0.911			IS 180	2-PFHxS	103	60 - 150	$\frac{d^2 p^2}{d^2 d^2 p}$
PFOA	693	7.69		0.626				2-PFOA	99.3	60 - 150	
PFOS	308	7.69	1111月21日後期時間	1.61			IS 13C	8-PFOS	94.3	60 - 150	
PFNA	84.9	7.69		0.779	and the second second			5-PFNA	103	50 - 150	an ann ann an Annaichte Colorait.
	NLL	MDL	- Method detection limit			l_	LCL-UCL - L	ower control limit - uppe	er control limit		

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
Η	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEO	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
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

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

NELAP Accredited Test Methods

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

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

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

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

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

1600703, 1.7%

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services

AI SRB# 156457

Sample ID	Date Sampled Matrix	aParameters	EAI SRB# 156457 Sample Notes
GW-BP-4	5/24/2016 aqueous 12:53	Subcontract - Perfluorinated Compounds EPA Method 53	7 (VAL)
GW-MW-8	5/24/2016 aqueous 13:43	Subcontract - Perfluorinated Compounds EPA Method 53	z (VAL) MSTMSD
GW-EB-Waterlevel	5/24/2016 aqueous	Subcontract - Perfluorinated Compounds EPA Method 53	7 (VÁL)
FB-DI Water	5/24/2016 aqueous	Subcontract - Perfluorinated Compounds EPA Method 53	7.(VAL):
EAI SRB# 15645	7 Project State: NH Project ID: 2433	Results Needed by: Preferred date QC Deliverables □ A □ A+ □ B □ B+ ⊠ C □ P	Eastern Analytical Inc. PO Number: 44559 Please call prior to analyzing, if RUSH surcharges will be applied
Address 1104 V	nalytical Laboratory Vindfield Way ado Hills, CA 95762	Notes about project: Email pdf of results and invoice to customerservice@eailabs.com. Perfluorobutanesulfonic Acid (PFBS),	Samples Collected by:

Account# Phone # (916) 673-1520

Fax Number

Perfluorononanoic Acid (PFNA), Perfluorooctanoic Acid (PFOA), PFOS Relinquished by

Relinguished by

1-800-287-0525

Date/Time

Date/Time

Fax: (603)228-4591

Received by

Received by 0916

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all flability, loss, expense or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of Kortaer a subcontract Revision 1 officers, agents or employees.

Phone: (603)228-0525

Perfluoroheptanoic Acid (PFHpA),

Perfluorohexanesulfonic Acid (PFHxS),

1600703, 1.7°C

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services

CALCODE AEGAET

Comple 1D	n i n n a tha thair ann	- Marine Schemer	EAI SRB# 156457
Sample ID GW-MW-4	Date Sampled Matrix	aParameters Subcontract - Perfluorinated Compounds EPA Method 5	Sample Notes
GW-MW-4 Duj	5/24/2016 aqueous 15:00	Subcontract - Perfluorinated Compounds EPA Method 5	37 (VAL)
GW-EB-Bailer	5/24/2016 aqueous	Subcontract - Perfluorinated Compounds EPA Method 5	37 (VAL)
GW-MW-9	5/24/2016 aqueous	Subcontract - Perfluorinated Compounds EPA Method 5	37 (VAL)
EAI SRB# 1	56457 Project State: NH	Results Needed by: Preferred date	Eastern Analytical Inc. PO Number: 44559
EALOND#	Project ID: 2433	<u>QC Deliverables</u> □A □A+ □B □B+ ⊠C □P	Please call prior to analyzing, if RUSH surcharges will be applied.
Address 1 Address E Account#	/ista Analytical Laboratory 104 Windfield Way 1 Dorado Hills, CA 95762 916) 673-1520	Notes about project: Email pdf of results and invoice to oustomerservice@eailabs.com. Perfluorobutanesulfonic Acid (PFBS), Perfluoroheptanoic Acid (PFHpA), Perfluorohexanesulfonic Acid (PFHxS), Perfluorononanoic Acid (PFNA), Perfluorononanoic Acid (PFNA),	Samples Collected by: <u>UIUUU FIUU S 2001(0 15:30 UPS</u> Relinquished by Date/Time Received by Relinquished by Date/Time Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

1-800-287-0525 Phone: (603)228-0525

Fax: (603)228-4591

As a subcontract lab to EAL you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against 'any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts of omissions of yours a suberntract up, your officers, agents or employees Page 25 of 200

1600703, 1.7°C

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services

EAI SRB# 156457

Sample ID	Date Sampled Matrix	aParameters	Sample Notes
GW-NW-55	5/24/2016 aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-MW-5D	5/24/2016 aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-MW-11	5/24/2016 aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	

EAI SRB#	156457 Project State: NH	Results Needed by: Preferred date	Eastern Analytical Inc. PO Number: 44559
	Project ID: 2433	<mark>QC Deliverables</mark> □A □A+ □B □B+ ⊠C □P ⁱ	Please call prior to analyzing, if RUSH surcharges will be applied.
Company	Vista Analytical Laboratory	Notes about project:	
Address	1104 Windfield Way	Email pdf of results and invoice to	
Address	El Dorado Hills, CA 95762	customerservice@eailabs.com. Perfluorobutanesulfonic Acid (PFBS),	Samples Collected by: (1111111 - Stoller 151 301 PS
Account #		Perfluoroheptanoic Acid (PFHpA),	Relinguished by // Date/Time Received by /
Phone #	(916) 673-1520	Perfluorohexanesulfonic Acid (PFHxS),	115 Bet Abudict 05/27/16 0950
Fax Number		Perfluorononanoic Acid (PFNA), Perfluorocctanoic Acid (PFOA)	Relinquished by Date/Time Received by
	Eastern Analytical, Inc. 25 Chenell Dr.	Concord, NH 03301 Phone: (603)228-0525	1-800-287-0525 Fax: (603)228-4591

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301 Phone: (603)228-0525

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SAMPLE LOG-IN CHECKLIST



Vista Project #:	16007	703			TAT	21	
Samples Arrival:	Date/Time	0937	Initials: (BD)	3	Location Shelf/Rad		
Logged In:	Date/Time	414	Initials:	gR	Location	WK	2-2-
Delivered By:	FedEx	VII.	B <i>osyarfi (</i> On Trac)	DHL	Shelf/Rac Ha Deliv	nd	<u> </u>
Preservation:	(lce)	Blue	Tce	Dr	y ice		None
Temp °C: 3.0 Temp °C: [.7	Time: Ø	149		Thermon	ieter (C): IR-2	

		111111111111111111111111111111111111111		HUILE	YEŞ	NO	NA	
Adequate Sample Volume F	Received?				1			
Holding Time Acceptable?		an and a state of the						
Shipping Container(s) Intac	12				1			į.
Shipping Custody Seals Into	act?					{	i	
Shipping Documentation Pro								
Airbill Trka	#17.X46	59901933	7650	$\frac{1}{2}$	1			
Sample Container Intact?	¥				\checkmark			
Sample Custody Seals Inta	st?				/		\checkmark	
Chain of Custody / Sample	Chain of Custody / Sample Documentation Present?							
COC Anomaly/Sample Acce	eptance Form co	mpleted?						
If Chlorinated or Drinking W	ater Samples, A	cceptable Prese	ervation?		and a second		\checkmark	
$Na_2S_2O_3$ Preservation Docu	mented?	COC		mple tainer		None	\sum	
Shipping Container	Vista	Client	Retain	Re	furn	Disp	ose	
Comments: OGW-BP-4 A/B GW-MW-8 A/B -MS -MSD GN-EB-WOTERIEVEN A FB-DI WOTER A/B	GW-MN OGIN-MN ACW-MN	Bailer A/B 3-9 A/B 3-55 A/B -50 A/B 3-11 A/B	ß	Samp Sampli nd da	ies au color S Col ML Se	e on siz itain dimen	dnge s/sy/ic , colo at se	; [5]31/1
BOW-MW-4 A/B D E - DUP A/B	· ,	199 199			Sample Lo	şín (1/201	3 ckt:	

Work Order 1600703 Revision 1

EXTRACTION INFORMATION

Process Sheet

Workorder: 1600703

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Prep Expiration: 06/07/2016 Client: Eastern Analytical, Inc. Workorder Due: 17-Jun-16 00:00

Om

Method: 537 PFAS 6 Analyte List Matrix: Aqueous

6/11/10

Prep Data Entered:

			ł	Date and Initials
		Initial S	equence: _	56F00155
LabSampleID	Recen ClientSampleID	Date Received	Location	Comments
1600703-01 (A)	☑ _ GW-BP-4	27-May-16 09:37	WR-2 F-5	
1600703-02 (A-C)		27-May-16 09:37	WR-2 F-5	MS/MSD
1600703-03 (A)	GW-EB-Waterlevel	27-May-16 09:37	WR-2 F-5	
1600703-04 T	FB-DI Water	27-May-16 09:37	WR-2 F-5	
1600703-05	GW-MW-4	27-May-16 09:37	WR-2 F-5	
1600703-06	GW-MW-4 Dup	27-May-16 09:37	WR-2 F-5	
1600703-07	GW-EB-Bailer	27-May-16 09:37	WR-2 F-5	
1600703-08	GW-MW-9	27-May-16 09:37	WR-2 F-5	
1600703-09	☑ GW-MW-5S	27-May-16 09:37	WR-2 F-5	
1600703-10	☑ GW-MW-5D	27-May-16 09:37	WR-2 F-5	
1600703-11 🗡	GW-MW-11	27-May-16 09:37	WR-2 F-5	

Vista PM:Martha Maier

Vial Box ID: PRINCESS FLU Ryboots

6,3,16 Sample Reconciled By Ling Page 1 of 1

Percent Solids



	Chemist	: NA	Chemist: N/A	Che	mist)ate	
	Date		Date:	Dai 6/3/16			
	Time		Time:			<u>cr</u>	
Sample ID	Boat Wt.	Sample + Boat Wit.	Residue + Boat Wt.	pĤ before	pĤ* after		
1600703-61				8	2	0	
T -62	•		•	8	2	0	
-02/ms)	• :			ġ.	2	0	
- 02/mga	•			8	2	0	
- 03				6	2	∂	
- 64.				6	2	0	
- 05		•		Ö	2	0	
-06		. / .		7	2	0	
-07	•		······································	Ö	2	Ò	
- 08		· .		7	2	\mathcal{O}	
- 09			Ner	g	۲'	Ò	
-10	/		· · · 61/3/16		2	0_	
V · -11	(\dots)			в	2	0	
				÷	·		
	ť						
		-					
 Decedure: Tare the balance. Record Boat Weight. Add 2 - 10 g of sample. Record Wet Wt+ Boat Dry in oven overnight s Tare the balance. Record Residue -+ Boat 	t 107=C.	 Method's \$280, 	ci with 3 dryps of 613, 1613, 8290, 1614 - /PGN-pH 2-3		Ch o	13110	

Solids rml S/2011 Page 30 of 200

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PREPARATION BENCH SHEET

Matrix: Âqueous

B6F0015

Chemist: G. M. Phyliola

Method: 537 PFAS 6 Analyte List

Prep Date/Time: 03-Jun-16 07:46

Prepared using: LCMS - SPE Extraction-LCMS

		-					LUFC	1028	1																	
С	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE		CHEM/WIT		CHEM/WIT		CHEM/WIT		CHEM/WIT		CHEM/WIT		CHEM/WIT		CHEM/WIT		CHEM/WIT		SI	PE .	CHE	RS M/WIT ATE
	B6F0015-BLK1	NA	NA	(0.125)	an NK	6/3/14	Om	6/3/14	Im Bro	n> alslie																
	B6F0015-BS1																									
	B6F0015-BSD1	Va	· J	J J																						
	B6F0015-MS1	155.767 10/3/16	27.10	0.12919																						
	B6F0015-MSD1	154.6	27.04	0.12757																						
	1600703-01	154.51	27.10	0.12751																						
	1600703-02 (Å)	156:22	27.01	0.12921																						
	1600703-03	150.77	27.11	0.72966																						
	1600703-04	154.36	27.11	0.12725																						
	1600703-05 (A)	156.47	27-13	0.12934																						
	1600703-06 A	154.53	27.09	6-12744																						
	1600703-07	174.30	27.50	0-1268																						
	1600703-08	150.52	26.91	0.12361																						
	1600703-09	154.32	27.02	0.1273																						
	1600703-10 A	151.33	27-09	0.12424																						
	1600703-11	157.02	27.03	0,12999	4			V V		V																
IS N	ame 1620520,10,2	NS Name	RS Name	1,102 1,102 1520 DM 613114	Ele SOLV:	<u>Stata XAN 7</u> 1 <u>e0 kt t U-57</u> (s) <u>1</u> 1	- NITYOH	in Meult Che	ck Out: mist/Date: ck In: mist/Date: ance ID:																	
Con	$\begin{array}{c} \text{Imments: Assume 1 g = 1 mI} \\ \textcircled{\textbf{A}} & \text{Sample5} \\ \text{Work Order 1600703 Re} \end{array}$	re centrifuged. N	JK 6/3/16.	n an					Page	31 of 200																

SAMPLE DATA – MODIFIED EPA METHOD 537

Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	-

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_7.qld

Last Altered: Tuesday, June 07, 2016 15:06:16 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:06:31 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-BLK1, Description: Method Blank, Name: 160606J2_07.wiff, Date: 06-Jun-2016, Time: 19:04:25

A STATE PROV	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
4個態態得到	1 PFBS	79.9		6.366e3		0.125			
2	2 PFHpA	318.9		1.151e4		0.125			
3 4	3 PFHxS	79.91	3.859e0	1.471e3		0.125	4.53	0.354	
4	4 PFOA	368.9	1.227e1	1.084e4		0.125	4.79	0.232	
5	5 PFOS	79.92	1.248e0	3.871e3		0.125	5.17	0.0419	
6	6 PFNA	419.0	4.290e0	9.205e3		0.125	5.11	0.0711	
7	7 13C3-PFBS	79.95	6.366e3	1.166e4	0.476	0.125	3.54	115	115
8	8 13C4-PFHpA	321.9	1.151e4	1.166e4	1.055	0.125	4.41	93.6	93.6
9	9 18O2-PFHxS	102.9	1.471e3	5.182e3	0.286	0.125	4.53	99.3	99.3
10	10 13C2-PFOA	369.9	1.084e4	1.079e4	0.958	0.125	4.79	105	105
11	11 13C8-PFOS	79.93	3.871e3	4.387e3	0.974	0.125	5.17	90.6	90.6
12	12 13C5-PFNA	422.9	9.205e3	4.964e2	18.926	0.125	5.11	98.0	98.0
13	13 13C5-PFHxA	273.0	1.166e4	1.166e4	1.000	0.125	3.93	100	100
14	14 13C3-PFHxS	80.0	5.182e3	5.182e3	1.000	0.125	4.53	100	100
15	15 13C8-PFOA	375.9	1.079e4	1.079e4	1.000	0.125	4.79	100	100
16	16 13C4-PFOS	79.94	4.387e3	4.387e3	1.000	0.125	5.17	100	100
17. 11 11 11	17 13C9-PFNA	427.0	4.964e2	4.964e2	1.000	0.125	5 .1 1	100	100
18	18 Total PFBS	79.9		6.366e3		0.125			
19	19 Total PFHxS	79.91		1.471e3		0.125		0.354	
20	20 Total PFOA	368.9		1.084e4		0.125		0.232	
21	21 Total PFOS	79.92		3.871e3		0.125		0.290	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_7.qld

Last Altered: Tuesday, June 07, 2016 15:06:16 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:06:31 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-BLK1, Description: Method Blank, Name: 160606J2_07.wiff, Date: 06-Jun-2016, Time: 19:04:25

Total PFBS

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は、現実に形式には原語を行う			

Total PFHxS

# Name	Trace	BT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.53	3.859	1471.093	0.4

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.79	12.265	10839.561	0.2

Total PFOS

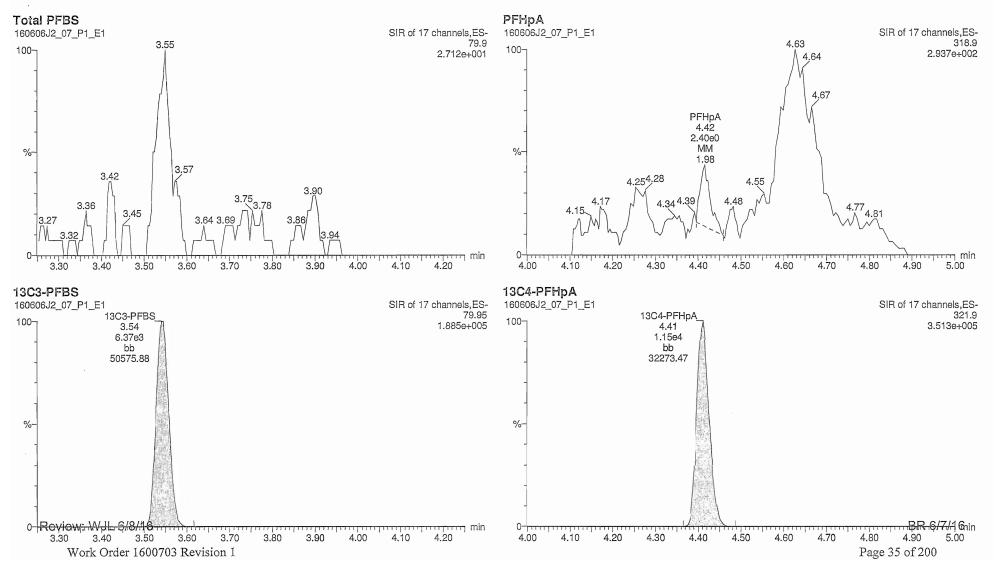
# Name	Trace	RT	Area	1S Area	Conc.
1 21 Total PFOS	79.92	5.09	7.386	3871.033	0.2
2 5 PFOS	79.92	5.17	1.248	3871.033	0.0

Quantify Sample ReportMassLynx 4.1 SCN815Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_7.qld

Last Altered: Tuesday, June 07, 2016 15:06:16 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:06:31 Pacific Daylight Time

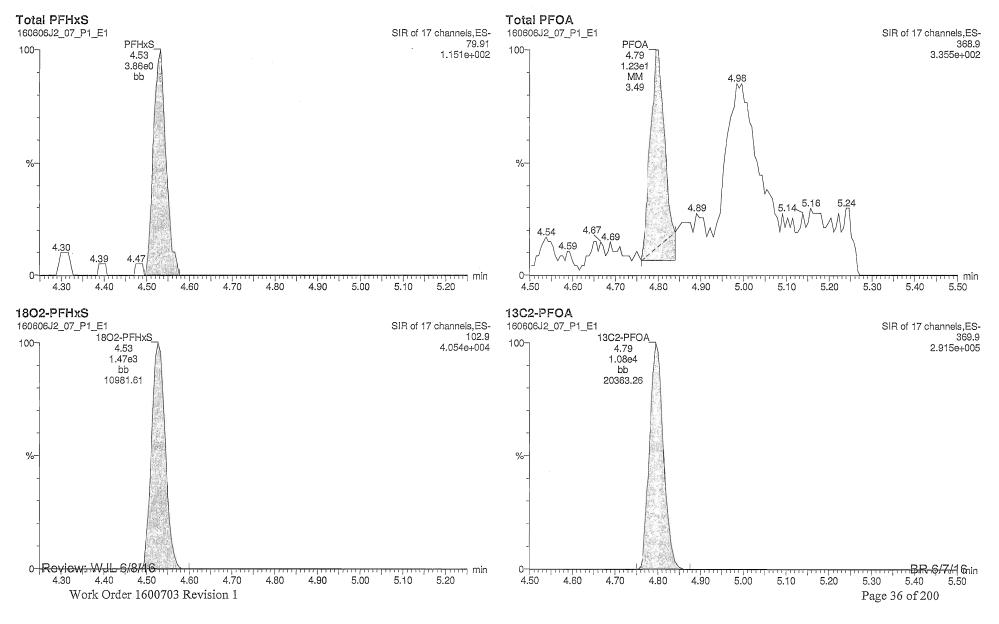
Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16



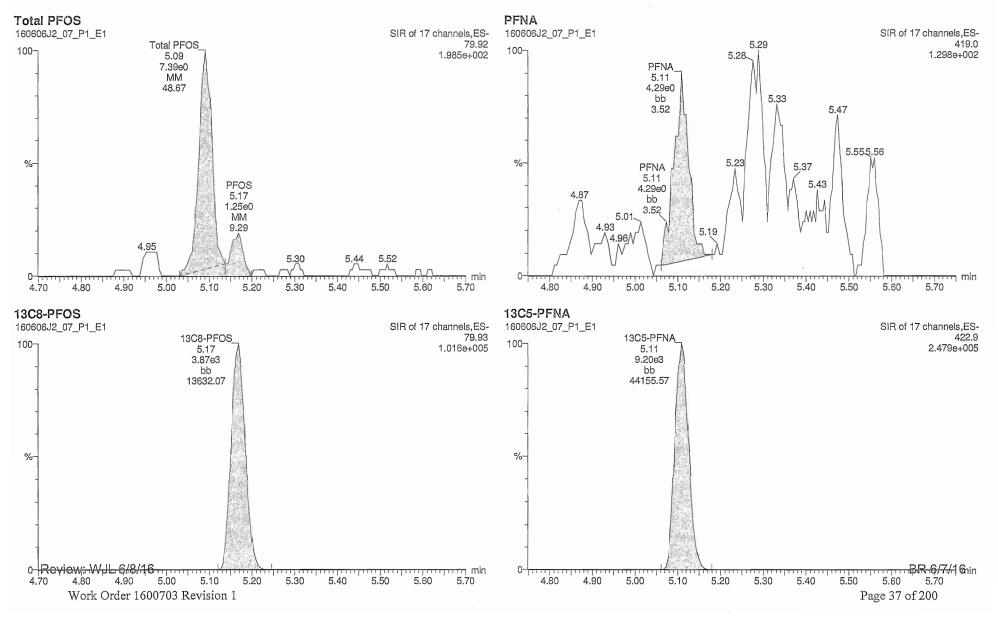
Quantify Sample Report	MassLynx 4.1 SCN815	
Vista Analytical Laboratory Q1		

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_7.qld

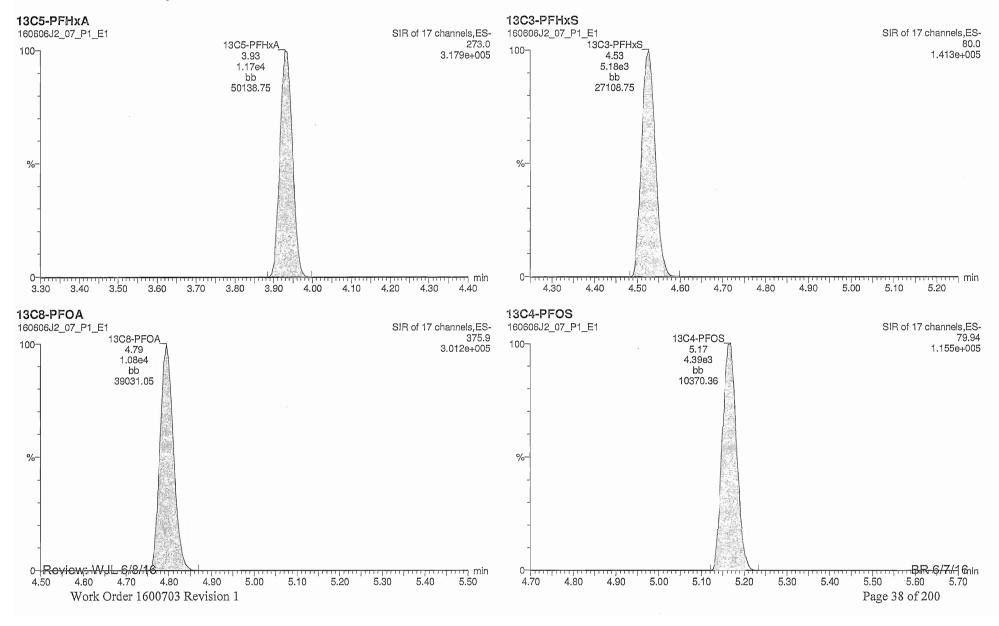
Last Altered: Tuesday, June 07, 2016 15:06:16 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:06:31 Pacific Daylight Time



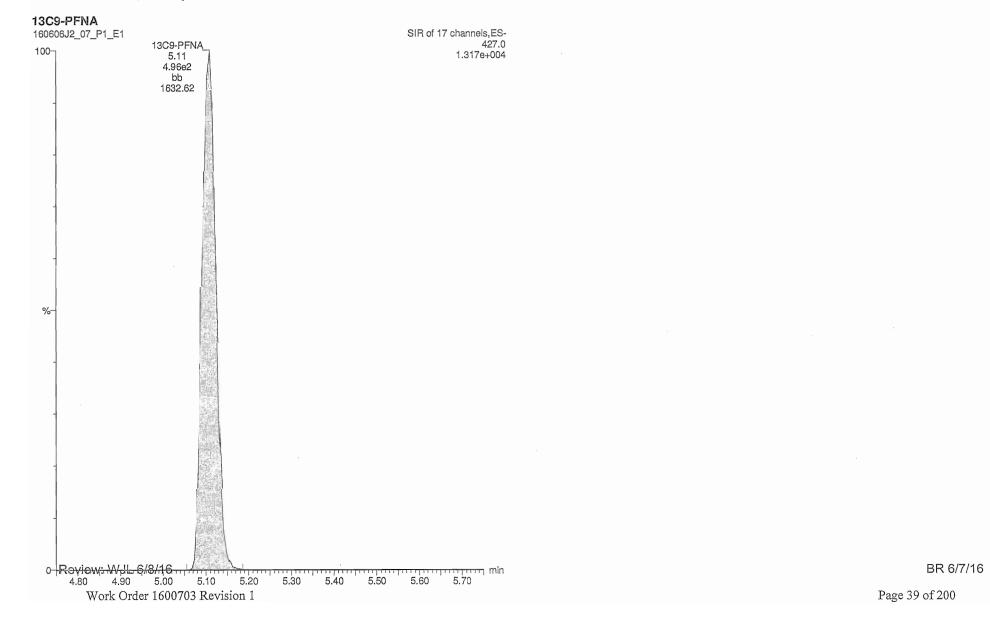
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 cal Laboratory Q1	Page 3 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_7.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:06:16 Pacific Daylight Time Tuesday, June 07, 2016 15:06:31 Pacific Daylight Time	



Quantify Sam Vista Analytica	aple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5 on r
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_7.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:06:16 Pacific Daylight Time Tuesday, June 07, 2016 15:06:31 Pacific Daylight Time	



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_7.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:06:16 Pacific Daylight Time Tuesday, June 07, 2016 15:06:31 Pacific Daylight Time	



Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_4.qld

Last Altered: Tuesday, June 07, 2016 14:57:14 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:03:52 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-BS1, Description: OPR, Name: 160606J2_04.wiff, Date: 06-Jun-2016, Time: 18:27:49

en sa neeksan etsi	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1.000	1 PFBS	79.9	1.283e3	6.744e3		0.125	3.55	81.1	101
2	2 PFHpA	318.9	2.227e3	1.329e4		0.125	4.41	84.0	105
3	3 PFHxS	79.91	9.804e2	1.704e3		0.125	4.53	78.1	97.7
4	4 PFOA	368.9	4.044e3	1.025e4		0.125	4.80	81.9	102
5	5 PFOS	79.92	3.164e3	4.966e3		0.125	5.17	83.0	104
6	6 PFNA	419.0	5.139e3	1.061e4		0.125	5.11	74.8	93.5
7	7 13C3-PFBS	79.95	6.744e3	1.247e4	0.476	0.125	3.54	114	114
8	8 13C4-PFHpA	321.9	1.329e4	1.247e4	1.055	0.125	4.41	101	101
9	9 1802-PFHxS	102.9	1.704e3	5.903e3	0.286	0.125	4.52	101	101
10	10 13C2-PFOA	369.9	1.025e4	1.126e4	0.958	0.125	4.79	95.0	95.0
11月月1日日間	11 13C8-PFOS	79.93	4.966e3	5.269e3	0.974	0.125	5.17	96.7	96.7
12	12 13C5-PFNA	422.9	1.061e4	6.267e2	18.926	0.125	5.11	89.4	89.4
13	13 13C5-PFHxA	273.0	1.247e4	1.247e4	1.000	0.125	3.93	100	100
14	14 13C3-PFHxS	80.0	5.903e3	5.903e3	1.000	0.125	4.52	100	100
15	15 13C8-PFOA	375.9	1.126e4	1.126e4	1.000	0.125	4.79	100	100
16	16 13C4-PFOS	79.94	5.269e3	5.269e3	1.000	0.125	5.16	100	100
17	17 13C9-PFNA	427.0	6.267e2	6.267e2	1.000	0.125	5.11	100	100

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_4.qld

Last Altered: Tuesday, June 07, 2016 14:57:14 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:03:52 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-BS1, Description: OPR, Name: 160606J2_04.wiff, Date: 06-Jun-2016, Time: 18:27:49

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.55	1282.765	6743.666	81.1

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
3 PFHxS	79.91	4.53	980.377	1703.675	78.1

Total PFOA

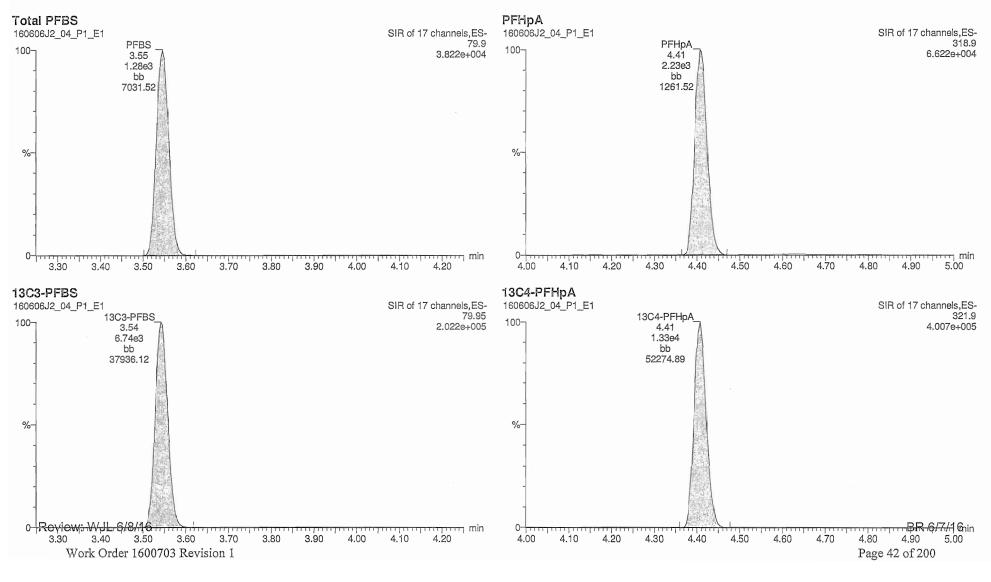
# Name	Trace	Real Providence of the second	Area	IS Area	Conc.
1 4 PFOA	368.9	4.80	4043.807	10246.420	81.9

Total PFOS

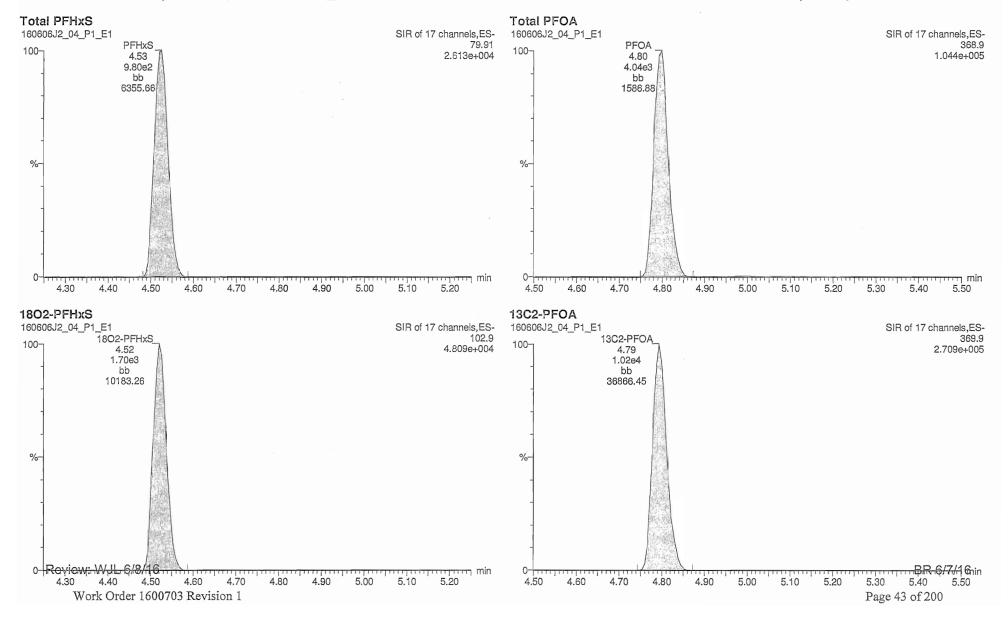
# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.17	3163.510	4965.796	83.0
2 21 Total PFOS	79.92	5.09	14.031	4965.796	0.4

Quantify San Vista Analytic	mple Report MassLynx 4.1 SCN815 cal Laboratory Q1	Page 1 of 5 4
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_4.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 14:57:14 Pacific Daylight Time Tuesday, June 07, 2016 15:03:52 Pacific Daylight Time	

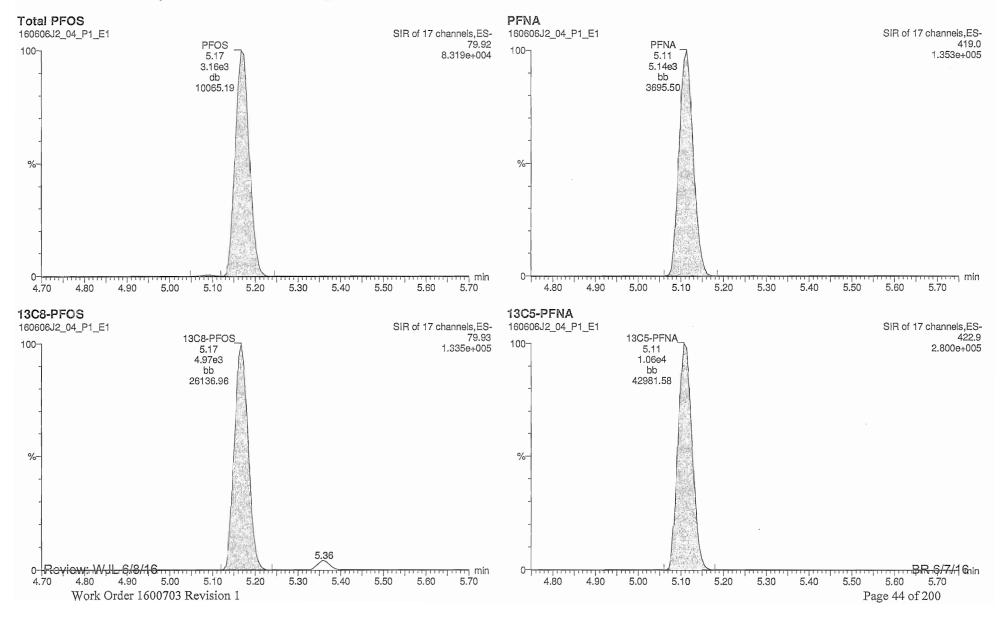
Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16



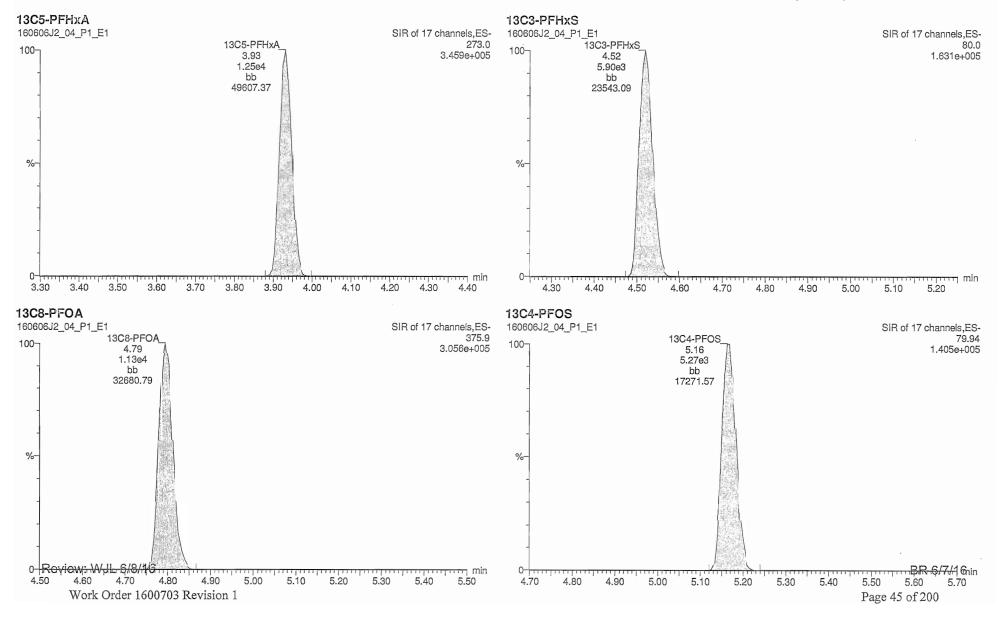
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_4.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 14:57:14 Pacific Daylight Time Tuesday, June 07, 2016 15:03:52 Pacific Daylight Time	



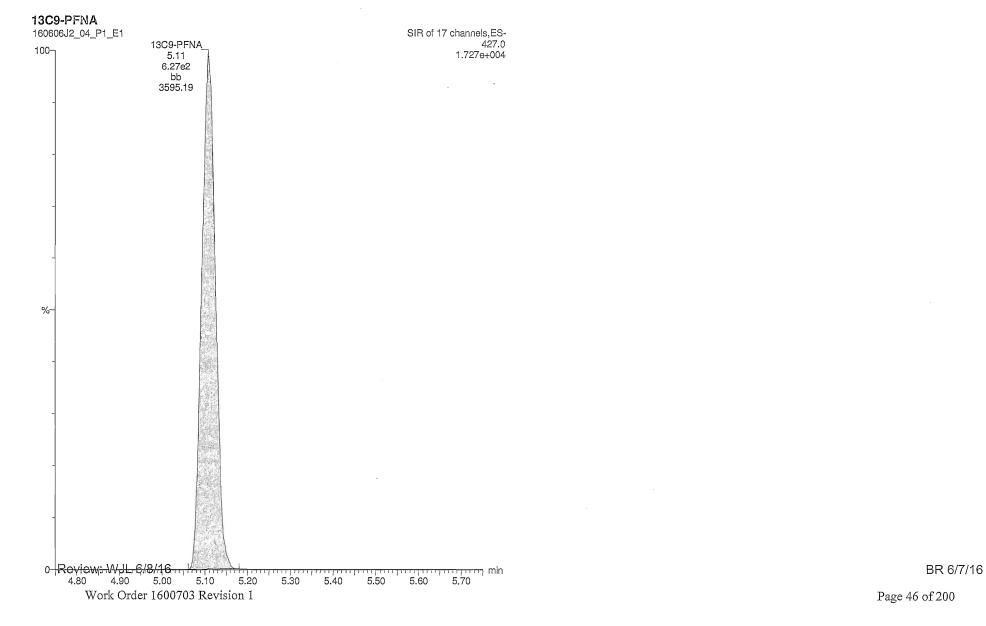
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5 ح	
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_4.qld		
Last Altered: Printed:			



Quantify San Vista Analytic	al Laboratory Q1	ې Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_4.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 14:57:14 Pacific Daylight Time Tuesday, June 07, 2016 15:03:52 Pacific Daylight Time	



Quantify Sam Vista Analytica	aple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_4.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 14:57:14 Pacific Daylight Time Tuesday, June 07, 2016 15:03:52 Pacific Daylight Time	



	al Laboratory Q1 MassLynx 4.1 SCN815	Page 1 of 1 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_8.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:08:48 Pacific Daylight Time Tuesday, June 07, 2016 15:09:07 Pacific Daylight Time	

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-01, Description: GW-BP-4, Name: 160606J2_08.wiff, Date: 06-Jun-2016, Time: 19:16:38

$\sum_{i=1}^{n-1} \frac{1}{i^2} \sum_{i=1}^{n-1} \frac{1}{i^2} \sum_{i$	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	4.120e1	6.305e3		0.128	3.54	2.72	
2	2 PFHpA	318.9	6.621e2	1.238e4		0.128	4.41	26.2	
3	3 PFHxS	79.91	1.224e2	1.580e3		0.128	4.53	10.3	
4	4 PFOA	368.9	2.802e3	9.855e3		0.128	4.80	57.6	
5	5 PFOS	79.92	1.671e2	4.108e3		0.128	5.17	5.18	
6	6 PFNA	419.0	1.026e2	9.930e3		0.128	5.11	1.55	
7	7 13C3-PFBS	79.95	6.305e3	1.157e4	0.476	0.128	3.54	112	114
8	8 13C4-PFHpA	321.9	1.238e4	1.157e4	1.055	0.128	4.41	99.5	101
9	9 18O2-PFHxS	102.9	1.580e3	5.293e3	0.286	0.128	4.52	102	104
10	10 13C2-PFOA	369.9	9.855e3	1.040e4	0.958	0.128	4.79	96.9	98.9
11	11 13C8-PFOS	79.93	4.108e3	4.877e3	0.974	0.128	5.17	84.8	86.5
12	12 13C5-PFNA	422.9	9.930e3	5.440e2	18.926	0.128	5.11	94.6	96.4
13	13 13C5-PFHxA	273.0	1.157e4	1.157e4	1.000	0.128	3.93	98.0	100
14	14 13C3-PFHxS	80.0	5.293e3	5.293e3	1.000	0.128	4.52	98.0	100
15	15 13C8-PFOA	375.9	1.040e4	1.040e4	1.000	0.128	4.79	98.0	100
16	16 13C4-PFOS	79.94	4.877e3	4.877e3	1.000	0.128	5.17	98.0	100
17	17 13C9-PFNA	427.0	5.440e2	5.440e2	1.000	0.128	5.11	98.0	100
18	18 Total PFBS	79.9		6.305e3		0.128		2.72	
19	19 Total PFHxS	79.91		1.580e3		0.128		12.1	
20	20 Total PFOA	368.9		9.855e3		0.128		65.8	
21	21 Total PFOS	79.92		4.108e3		0.128		13.3	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

U:\Q2.PRO\Results\160606J2\160606J2_8.qld Dataset:

Last Altered: Tuesday, June 07, 2016 15:08:48 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:09:07 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-01, Description: GW-BP-4, Name: 160606J2_08.wiff, Date: 06-Jun-2016, Time: 19:16:38

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.54	41.205	6305.089	2.7

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
3 PFHxS	79.91	4.53	122.370	1580.182	10.3
2 19 Total PFHxS	79.91	4.43	21.945	1580.182	1.8

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.80	2802.363	9854.688	57.6
2 20 Total PFOA	368.9	4.70	402.548	9854.688	8.2

Total PFOS

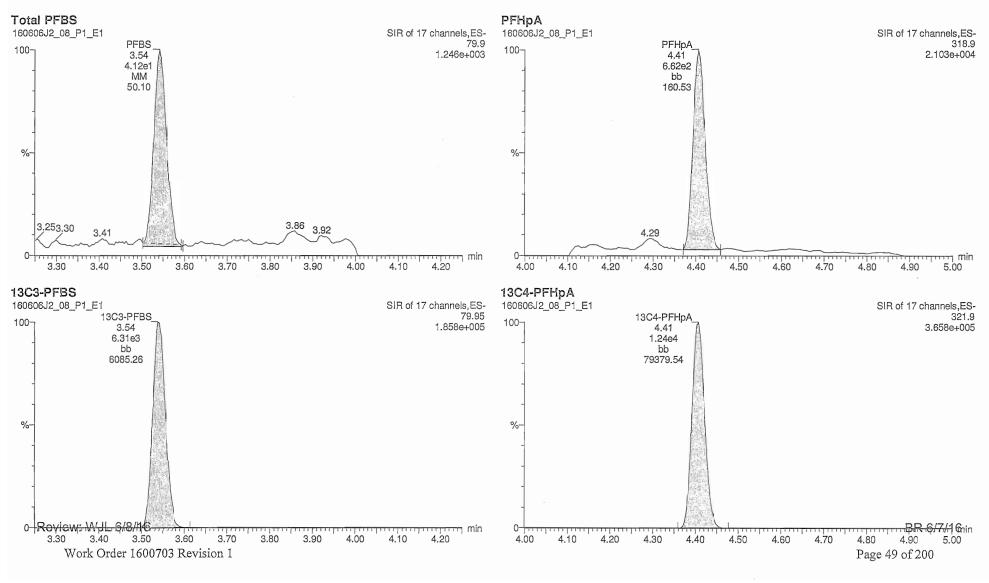
(<u>)</u> #	Name	Trace	RT	Area	IS Area	Conc.
1 21	Total PFOS	79.92	4.97	31.344	4108.040	1.0
2 5	PFOS	79.92	5.17	167.084	4108.040	5.2
3 21	Total PFOS	. 79.92	5.07	230.268	4108.040	7.1

Review: WJL 6/8/16

Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_8.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:08:48 Pacific Daylight Time Tuesday, June 07, 2016 15:09:07 Pacific Daylight Time	

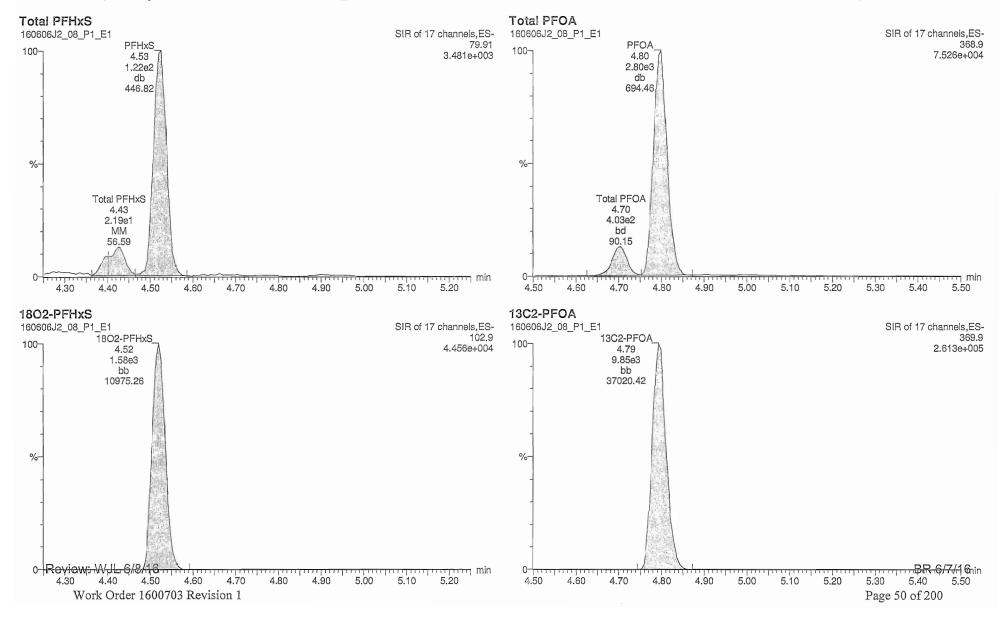
Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-01, Description: GW-BP-4, Name: 160606J2_08.wiff, Date: 06-Jun-2016, Time: 19:16:38, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



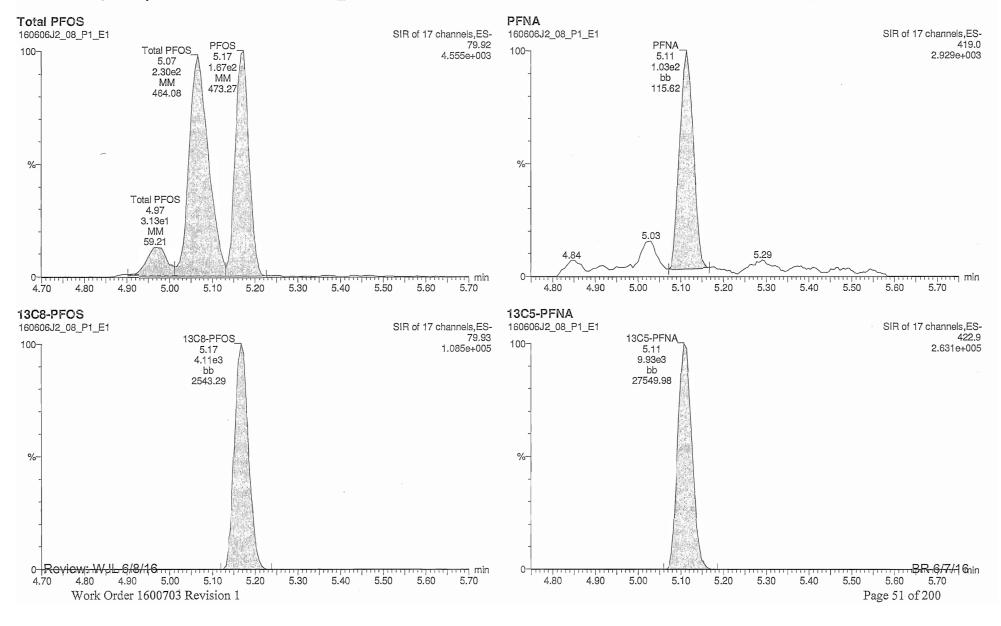
Quantify San Vista Analytica	ple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_8.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:08:48 Pacific Daylight Time Tuesday, June 07, 2016 15:09:07 Pacific Daylight Time	

ID: 1600703-01, Description: GW-BP-4, Name: 160606J2_08.wiff, Date: 06-Jun-2016, Time: 19:16:38, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

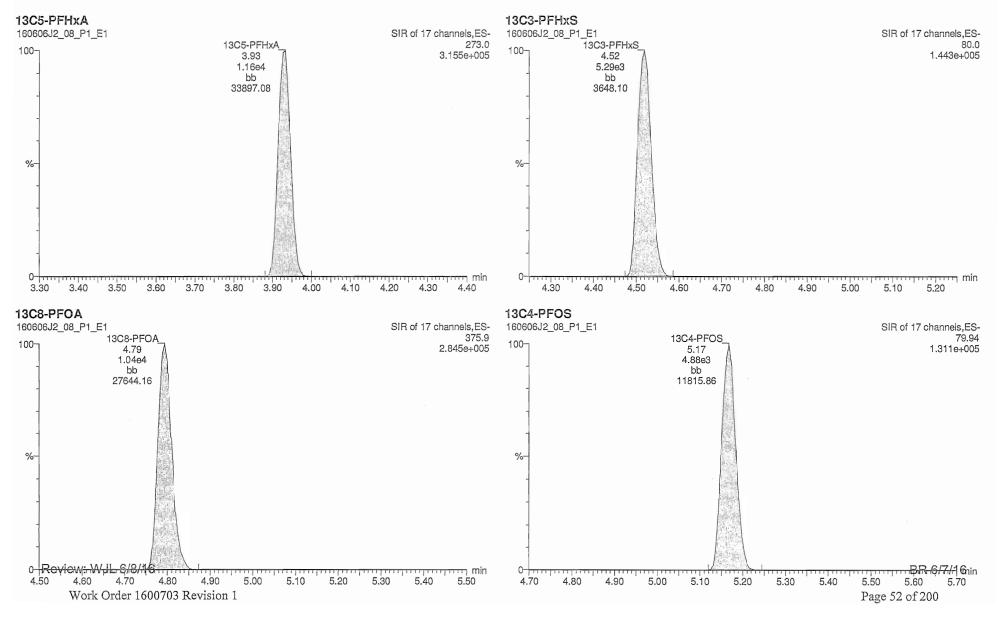


Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_8.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:08:48 Pacific Daylight Time Tuesday, June 07, 2016 15:09:07 Pacific Daylight Time	

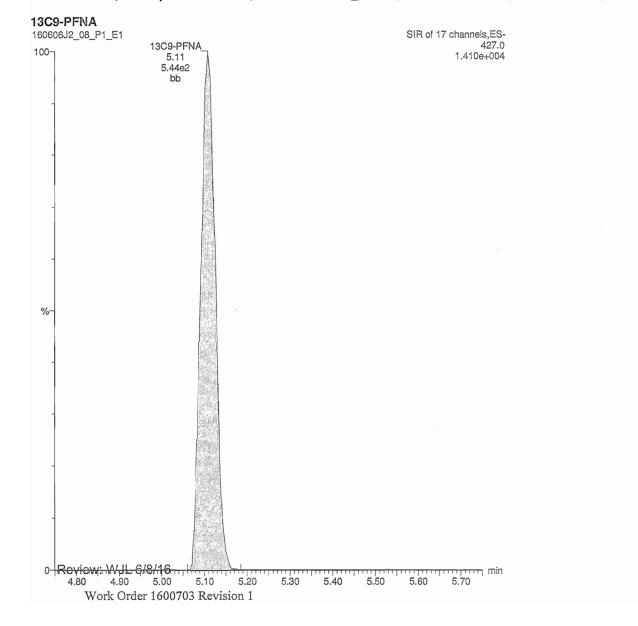
ID: 1600703-01, Description: GW-BP-4, Name: 160606J2_08.wiff, Date: 06-Jun-2016, Time: 19:16:38, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



Quantify San Vista Analytica	al Laboratory Q1	Page 4 of 5 م
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_8.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:08:48 Pacific Daylight Time Tuesday, June 07, 2016 15:09:07 Pacific Daylight Time	



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_8.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:08:48 Pacific Daylight Time Tuesday, June 07, 2016 15:09:07 Pacific Daylight Time	



Quantify San Vista Analytic	al Laboratory Q1 MassLynx 4.1 SCN815	Page 1 of 1 م
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_9.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:12:52 Pacific Daylight Time Tuesday, June 07, 2016 15:13:01 Pacific Daylight Time	

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-02, Description: GW-MW-8, Name: 160606J2_09.wiff, Date: 06-Jun-2016, Time: 19:28:50

4. A. P. A.L.	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	4.500e2	6.011e3		0.129	3.54	30.8	
2	2 PFHpA	318.9	4.487e3	1.223e4		0.129	4.41	179	
3	3 PFHxS	79.91	9.054e2	1.520e3		0.129	4.53	78.2	
4	4 PFOA	368.9	1.298e4	1.025e4		0.129	4.80	262	
5	5 PFOS	79.92	3.716e3	4.584e3		0.129	5.18	102	
6	6 PFNA	419.0	3.926e2	1.082e4		0.129	5.12	5.36	
7.45.000	7 13C3-PFBS	79.95	6.011e3	1.084e4	0.476	0.129	3.54	113	116
8	8 13C4-PFHpA	321.9	1.223e4	1.084e4	1.055	0.129	4.41	103	107
9	9 18O2-PFHxS	102.9	1.520e3	5.272e3	0.286	0.129	4.53	97.6	101
10	10 13C2-PFOA	369.9	1.025e4	1.080e4	0.958	0.129	4.80	95.9	99.1
11	11 13C8-PFOS	79.93	4.584e3	4.960e3	0.974	0.129	5.17	91.8	94.9
12	12 13C5-PFNA	422.9	1.082e4	5.977e2	18.926	0.129	5.12	92.6	95.7
13	13 13C5-PFHxA	273.0	1.084e4	1.084e4	1.000	0.129	3.93	96.7	100
14	14 13C3-PFHxS	80.0	5.272e3	5.272e3	1.000	0.129	4.53	96.7	100
15	15 13C8-PFOA	375.9	1.080e4	1.080e4	1.000	0.129	4.79	96.7	100
16	16 13C4-PFOS	79.94	4.960e3	4.960e3	1.000	0.129	5.17	96.7	100
17	17 13C9-PFNA	427.0	5.977e2	5.977e2	1.000	0.129	5.11	96.7	100
18	18 Total PFBS	79.9		6.011e3		0.129		30.8	
19	19 Total PFHxS	79.91		1.520e3		0.129		93.6	
20	20 Total PFOA	368.9		1.025e4		0.129		312	
21	21 Total PFOS	79.92		4.584e3		0.129		212	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_9.qld

Last Altered: Tuesday, June 07, 2016 15:12:52 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:13:01 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-02, Description: GW-MW-8, Name: 160606J2_09.wiff, Date: 06-Jun-2016, Time: 19:28:50

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 1 PFBS	79.9	3.54	450.043	6011.137	30.8

Total PFHxS

oon to the base	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.53	905.362	1520.143	78.2
2	19 Total PFHxS	79.91	4.43	178.824	1520.143	15.4

Total PFOA

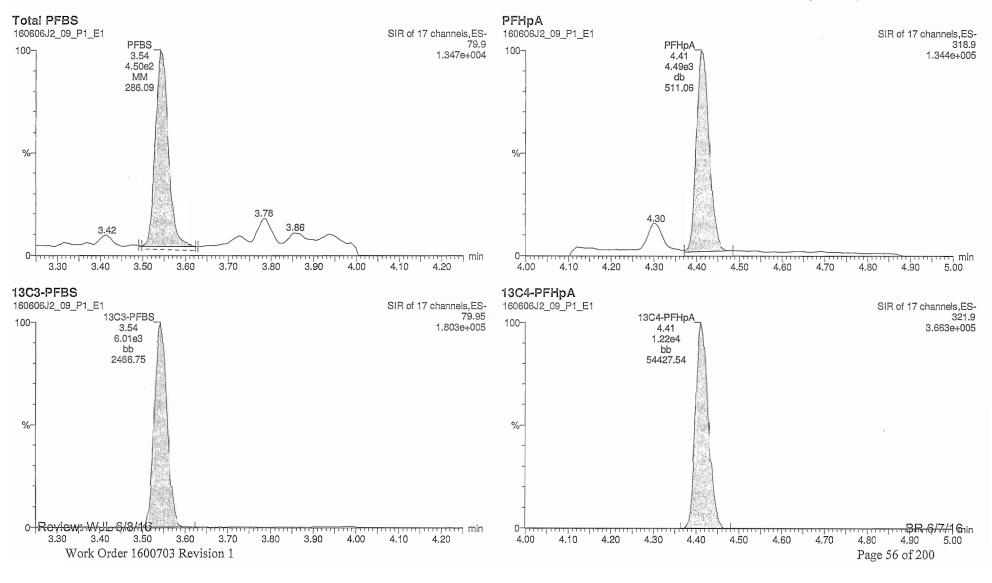
#	Name	Trace	RT	Area	IS Area	Conc.
1 4	PFOA	368.9	4.80	12981.309	10252.454	261.9
2 20) Total PFOA	368.9	4.71	2578.241	10252.454	50.2

Total PFOS

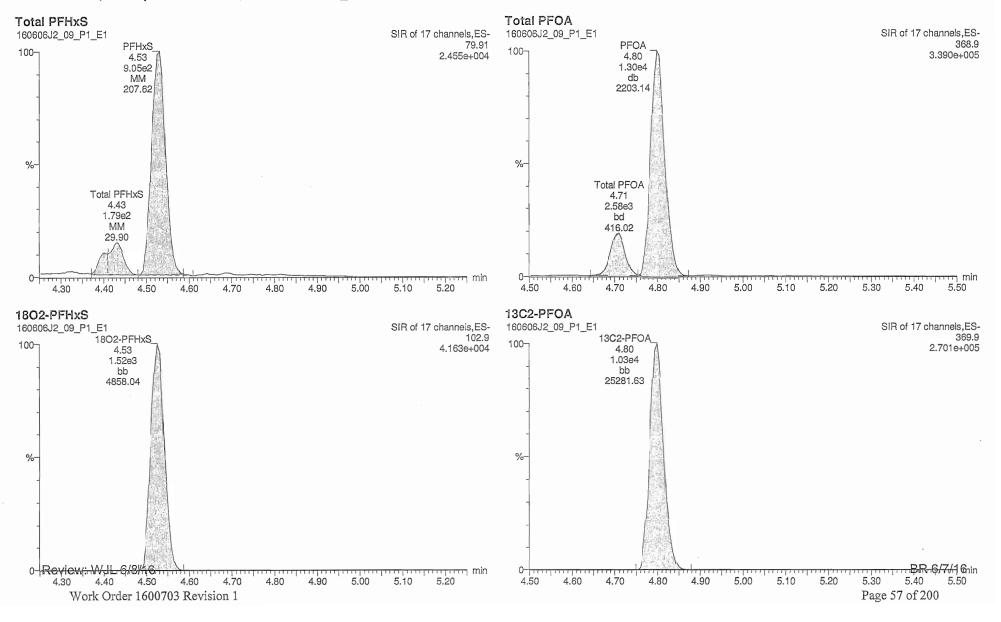
的小学生的表示。 #	Name	Trace	RT	Area	IS Area	Conc.
1 5 5 5 5	5 PFOS	79.92	5.18	3715.815	4583.618	102.3
2 21	Total PFOS	79.92	5.07	3503.939	4583.618	96.4
3 21	Total PFOS	79.92	4.98	470.550	4583.618	12.9

Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_9.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:12:52 Pacific Daylight Time Tuesday, June 07, 2016 15:13:01 Pacific Daylight Time	

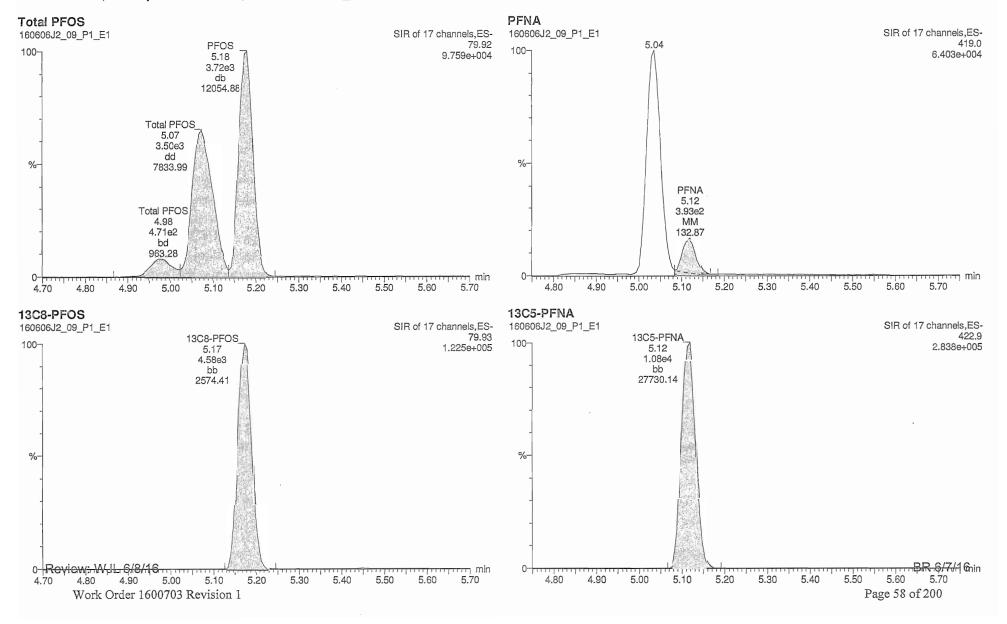
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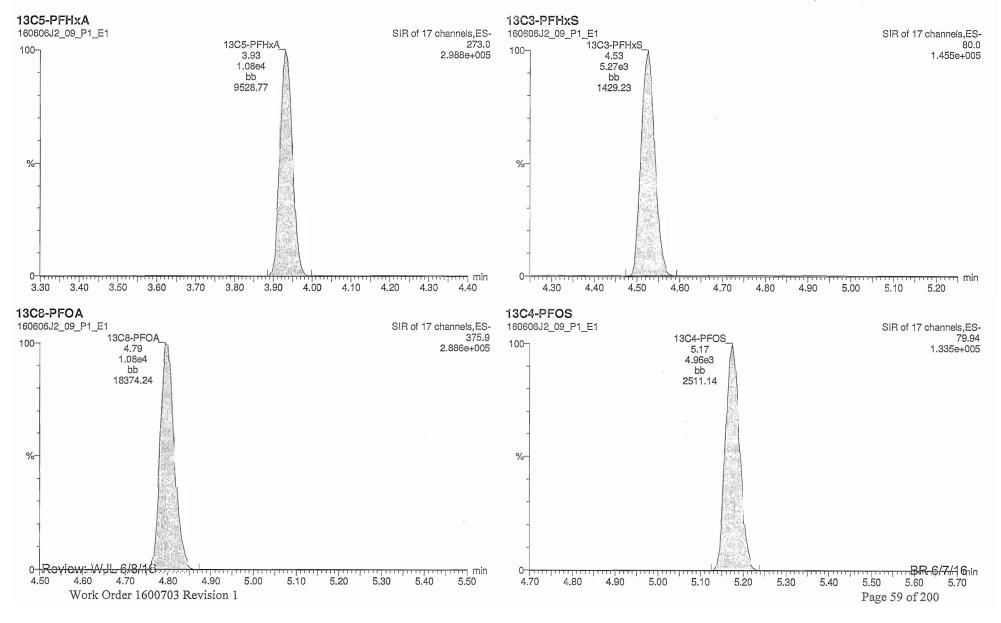
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_9.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:12:52 Pacific Daylight Time Tuesday, June 07, 2016 15:13:01 Pacific Daylight Time	



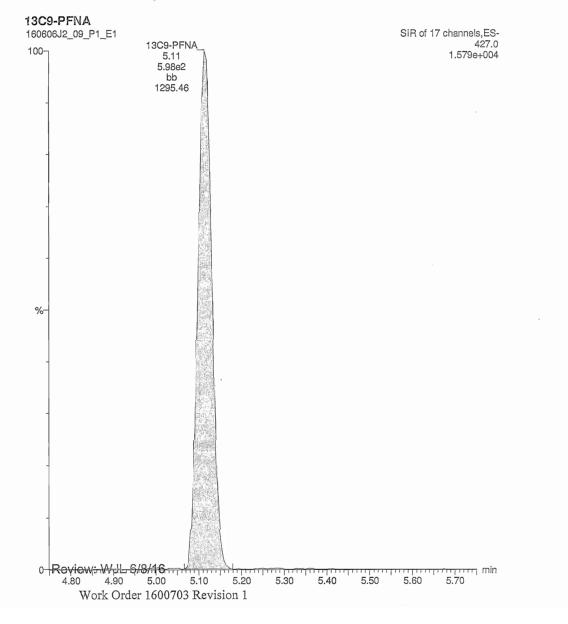
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5 ന ഗ
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_9.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:12:52 Pacific Daylight Time Tuesday, June 07, 2016 15:13:01 Pacific Daylight Time	



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_9.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:12:52 Pacific Daylight Time Tuesday, June 07, 2016 15:13:01 Pacific Daylight Time	



Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_9.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:12:52 Pacific Daylight Time Tuesday, June 07, 2016 15:13:01 Pacific Daylight Time	



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Quantify Sample Summary Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1 MassLynx 4.1 SCN815

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_22.qld

Last Altered:Wednesday, June 08, 2016 10:38:40 Pacific Daylight TimePrinted:Wednesday, June 08, 2016 10:39:14 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-MS1, Description: Matrix Spike, Name: 160606J2_22.wiff, Date: 06-Jun-2016, Time: 22:07:31

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1 March 19	1 PFBS	79.9	1.527e3	5.747e3		0.128	3.54	111	
2	2 PFHpA	318.9	5.939e3	1.185e4		0.128	4.42	248	
З	3 PFHxS	79.91	1.629e3	1.418e3		0.128	4.53	153	
4	4 PFOA	368.9	1.653e4	1.054e4		0.128	4.79	331	
5	5 PFOS	79.92	5.893e3	4.157e3		0.128	5.17	181	
6	6 PFNA	419.0	5.046e3	1.013e4		0.128	5.11	75.0	
7	7 13C3-PFBS	79.95	5.747e3	1.079e4	0.476	0.128	3.54	109	112
8	8 13C4-PFHpA	321.9	1.185e4	1.079e4	1.055	0.128	4.41	101	104
9	9 18O2-PFHxS	102.9	1.418e3	5.085e3	0.286	0.128	4.53	95.2	97.6
10	10 13C2-PFOA	369.9	1.054e4	1.094e4	0.958	0.128	4.79	98.0	101
11 1 34 2 2	11 13C8-PFOS	79.93	4.157e3	4.765e3	0.974	0.128	5.17	87.3	89.6
12	12 13C5-PFNA	422.9	1.013e4	5.364e2	18.926	0.128	5.11	97.3	99.8
13	13 13C5-PFHxA	273.0	1.079e4	1.079e4	1.000	0.128	3.94	97.5	100
14	14 13C3-PFHxS	80.0	5.085e3	5.085e3	1.000	0.128	4.52	97.5	100
15	15 13C8-PFOA	375.9	1.094e4	1.094e4	1.000	0.128	4.79	97.5	100
16	16 13C4-PFOS	79.94	4.765e3	4.765e3	1.000	0.128	5.17	97.5	100
17	17 13C9-PFNA	427.0	5.364e2	5.364e2	1.000	0.128	5.11	97.5	100
18	18 Total PFBS	79.9		5.747e3		0.128		111	
19	19 Total PFHxS	79.91		1.418e3		0.128		168	
20	20 Total PFOA	368.9		1.054e4		0.128		380	
21	21 Total PFOS	79.92		4.157e3		0.128		303	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_22.qld

Last Altered: Wednesday, June 08, 2016 10:38:40 Pacific Daylight Time Printed: Wednesday, June 08, 2016 10:39:14 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-MS1, Description: Matrix Spike, Name: 160606J2_22.wiff, Date: 06-Jun-2016, Time: 22:07:31

Total PFBS

的其他注意的	# Name	Trace	RT RT	Area	IS Area	Cono.
1: Julians	1 PFBS	79.9	3.54	1527.239	5746.900	110.7

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
13.6.2126	19 Total PFHxS	79.91	4.43	168.376	1418.093	15.7
2	3 PFHxS	79.91	4.53	1628.573	1418.093	152.8

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.79	16531.184	10537.763	330.7
2 20 Total PFOA	368.9	4.71	2592.779	10537.763	49.5

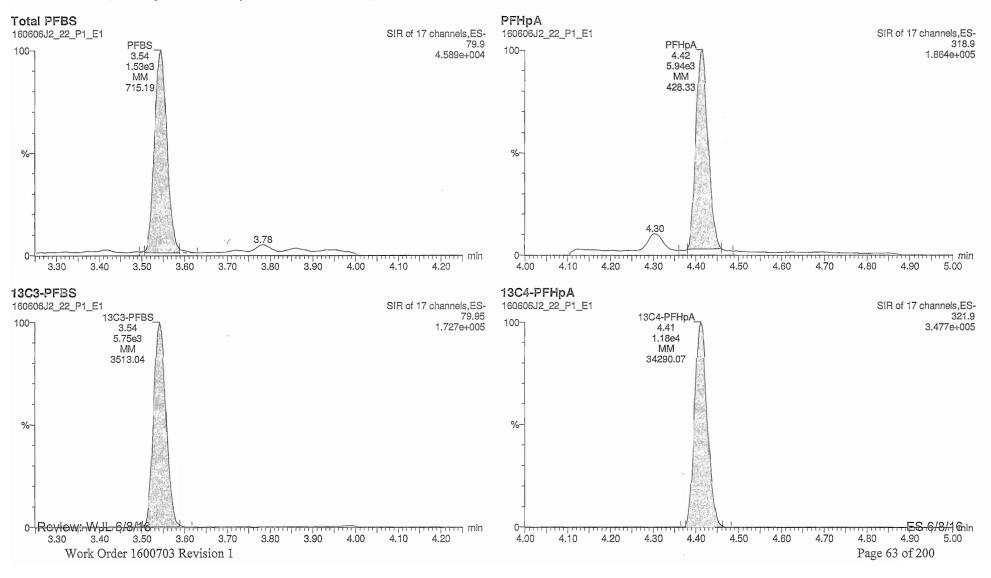
Total PFOS

# Na	ume Tr	ace R	Г Area	IS Area	Conc.
1 5 PF	OS 79	.92 5.17	5892.762	4157.123	180.9
2 21 To	tal PFOS 79	.92 5.07	3555.100	4157.123	108.8
3 21 To	tal PFOS 79	.92 4.98	432.312	4157.123	13.2

Quantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_22.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 10:38:40 Pacific Daylight Time Wednesday, June 08, 2016 10:39:14 Pacific Daylight Time	

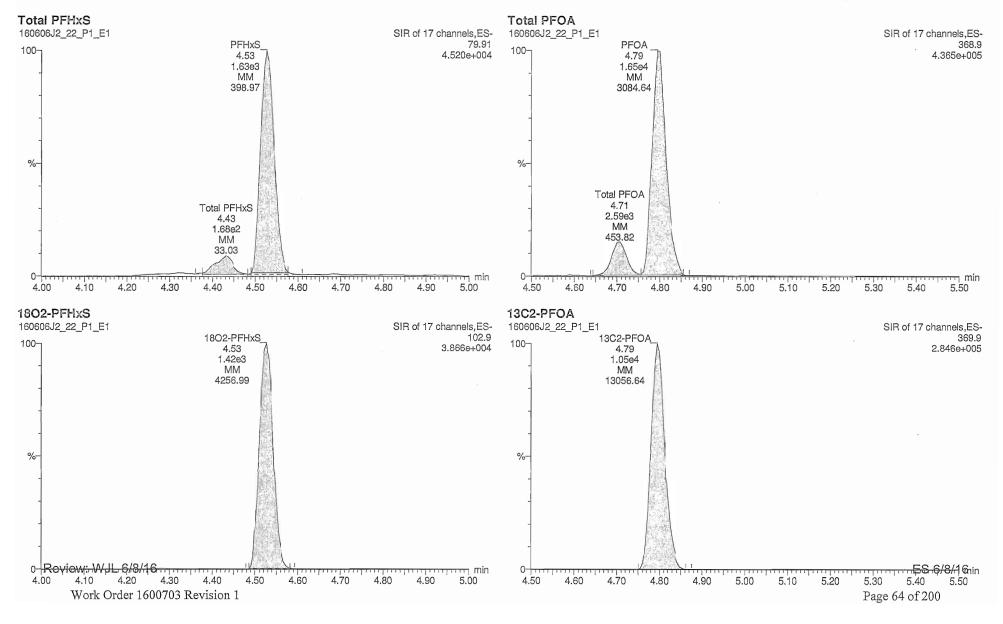
Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-MS1, Description: Matrix Spike, Name: 160606J2_22.wiff, Date: 06-Jun-2016, Time: 22:07:31, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



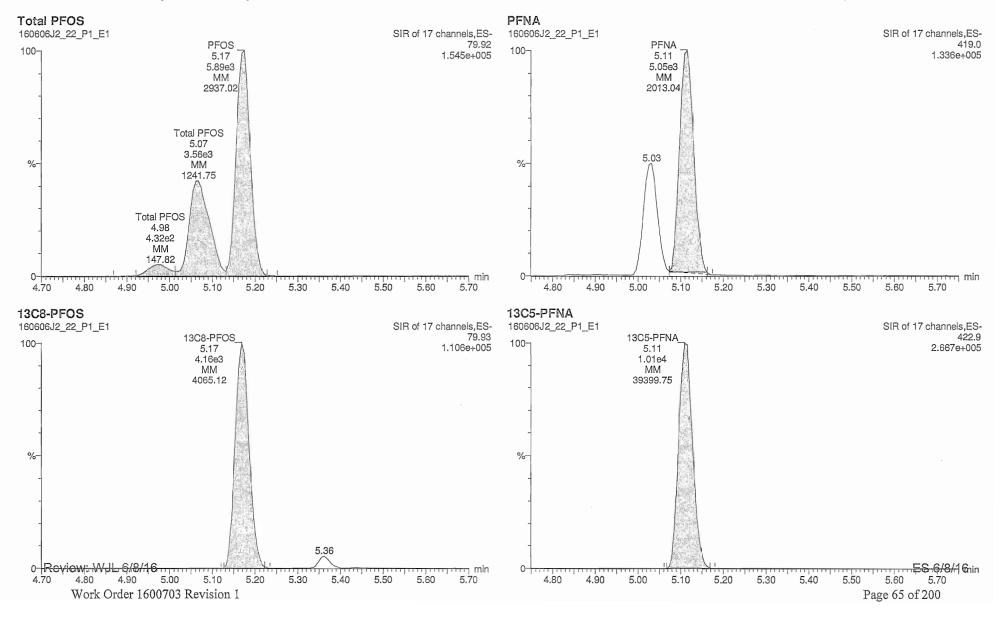
Guantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5 ص
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_22.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 10:38:40 Pacific Daylight Time Wednesday, June 08, 2016 10:39:14 Pacific Daylight Time	

ID: B6F0015-MS1, Description: Matrix Spike, Name: 160606J2_22.wiff, Date: 06-Jun-2016, Time: 22:07:31, Instrument: , Lab: @PE-SCIEX, User: pwoolley



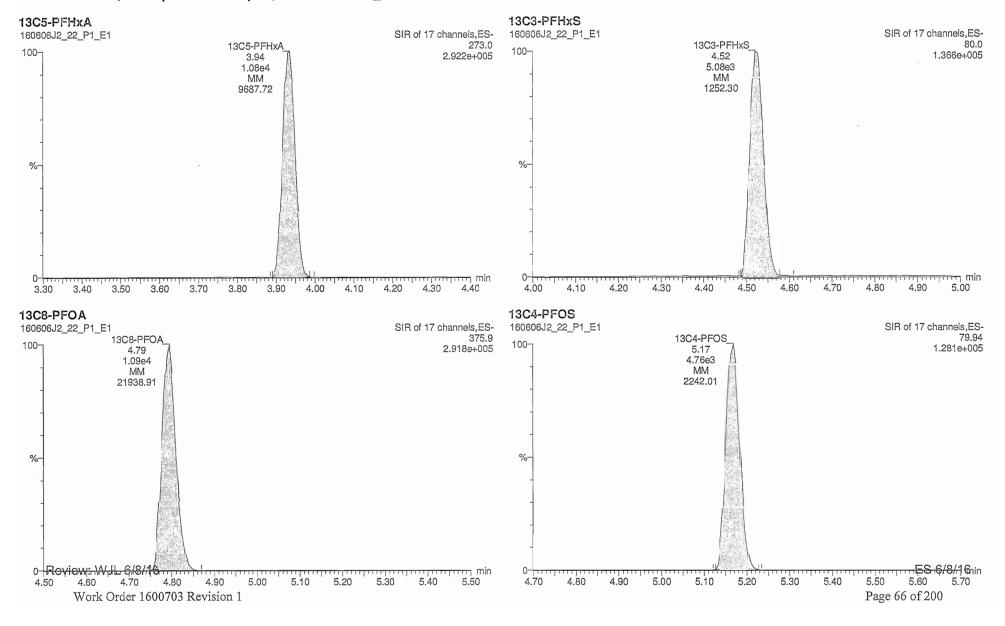
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	ې Page 3 of 5 م
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_22.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 10:38:40 Pacific Daylight Time Wednesday, June 08, 2016 10:39:14 Pacific Daylight Time	

ID: B6F0015-MS1, Description: Matrix Spike, Name: 160606J2_22.wiff, Date: 06-Jun-2016, Time: 22:07:31, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



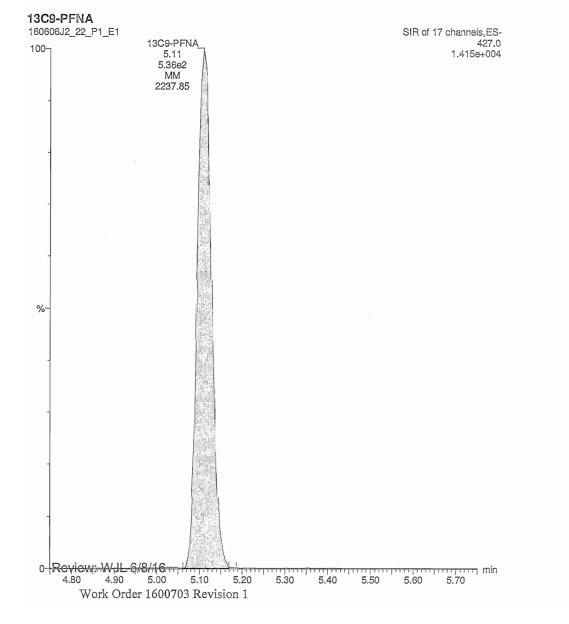
Quantify San Vista Analytica	al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_22.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 10:38:40 Pacific Daylight Time Wednesday, June 08, 2016 10:39:14 Pacific Daylight Time	

ID: B6F0015-MS1, Description: Matrix Spike, Name: 160606J2_22.wiff, Date: 06-Jun-2016, Time: 22:07:31, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_22.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 10:38:40 Pacific Daylight Time Wednesday, June 08, 2016 10:39:14 Pacific Daylight Time	

ID: B6F0015-MS1, Description: Matrix Spike, Name: 160606J2_22.wiff, Date: 06-Jun-2016, Time: 22:07:31, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



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	nple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1	
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_23.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:10:01 Pacific Daylight Time Wednesday, June 08, 2016 11:10:07 Pacific Daylight Time	

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-MSD1, Description: Matrix Spike Dup, Name: 160606J2_23.wiff, Date: 06-Jun-2016, Time: 22:19:43

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1 A transmitter	1 PFBS	79.9	1.524e3	5.938e3	Selectoriale of the Action Contraction Lines.	0.128	3.54	107	automatica del ricert
2	2 PFHpA	318.9	6.172e3	1.212e4		0.128	4.41	253	
2 3	3 PFHxS	79.91	1.704e3	1.362e3		0.128	4.53	167	
4	4 PFOA	368.9	1.609e4	1.067e4		0.128	4.80	319	
5	5 PFOS	79.92	6.530e3	4.807e3		0.128	5.17	174	
6	6 PFNA	419.0	6.012e3	1.071e4		0.128	5.11	85.1	
7	7 13C3-PFBS	79.95	5.938e3	1.083e4	0.476	0.128	3.54	113	115
7 8	8 13C4-PFHpA	321.9	1.212e4	1.083e4	1.055	0.128	4.41	104	106
9	9 18O2-PFHxS	102.9	1.362e3	4.787e3	0.286	0.128	4.52	97.6	99.6
10	10 13C2-PFOA	369.9	1.067e4	1.123e4	0.958	0.128	4.80	97.2	99 <i>.</i> 2
11	11 13C8-PFOS	79.93	4.807e3	5.529e3	0.974	0.128	5.17	87.4	89.2
12	12 13C5-PFNA	422.9	1.071e4	6.050e2	18.926	0.128	5.11	91.6	93.5
13	13 13C5-PFHxA	273.0	1.083e4	1.083e4	1.000	0.128	3.93	98.0	100
14	14 13C3-PFHxS	80.0	4.787e3	4.787e3	1.000	0.128	4.52	98.0	100
15	15 13C8-PFOA	375.9	1.123e4	1.123e4	1.000	0.128	4.79	98.0	100
16	16 13C4-PFOS	79.94	5.529e3	5.529e3	1.000	0.128	5.17	98.0	100
17	17 13C9-PFNA	427.0	6.050e2	6.050e2	1.000	0.128	5.11	98.0	100
18	18 Total PFBS	79.9		5.938e3		0.128		107	
19	19 Total PFHxS	79.91		1.362e3		0.128		185	
20	20 Total PFOA	368.9		1.067e4		0.128		369	
21	21 Total PFOS	79.92		4.807e3		0.128		286	

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Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_23.qld

Last Altered: Wednesday, June 08, 2016 11:10:01 Pacific Daylight Time Wednesday, June 08, 2016 11:10:07 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: B6F0015-MSD1, Description: Matrix Spike Dup, Name: 160606J2_23.wiff, Date: 06-Jun-2016, Time: 22:19:43

Total PFBS

# Name	Trace	RŤ	Area	IS Area	Conc.
1 I PFBS	79.9	3.54	1524.377	5937.774	107.5

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
	3 PFHxS	79.91	4.53	1703.951	1362.318	167.4
2	19 Total PFHxS	79.91	4.43	184.296	1362.318	17.9

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.80	16087.631	10667.435	318.8
2 20 Total PFOA	368.9	4.70	2622.773	10667.435	49.7

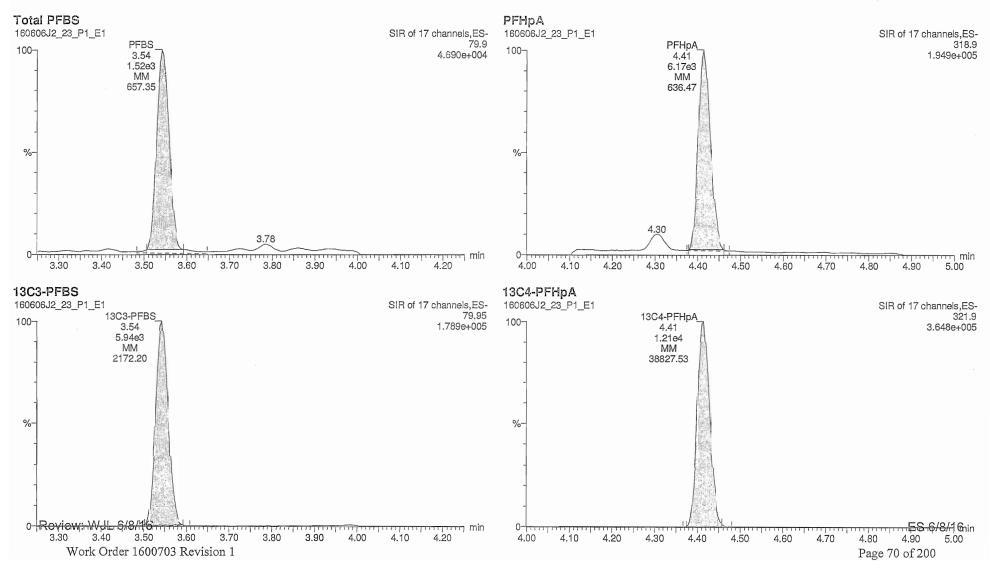
Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.17	6529.897	4806.958	174.1
2 21 Total PFOS	79.92	5.07	3746.707	4806.958	99.6
3 21 Total PFOS	79.92	4.97	477.710	4806.958	12.7

Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_23.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:10:01 Pacific Daylight Time Wednesday, June 08, 2016 11:10:07 Pacific Daylight Time	

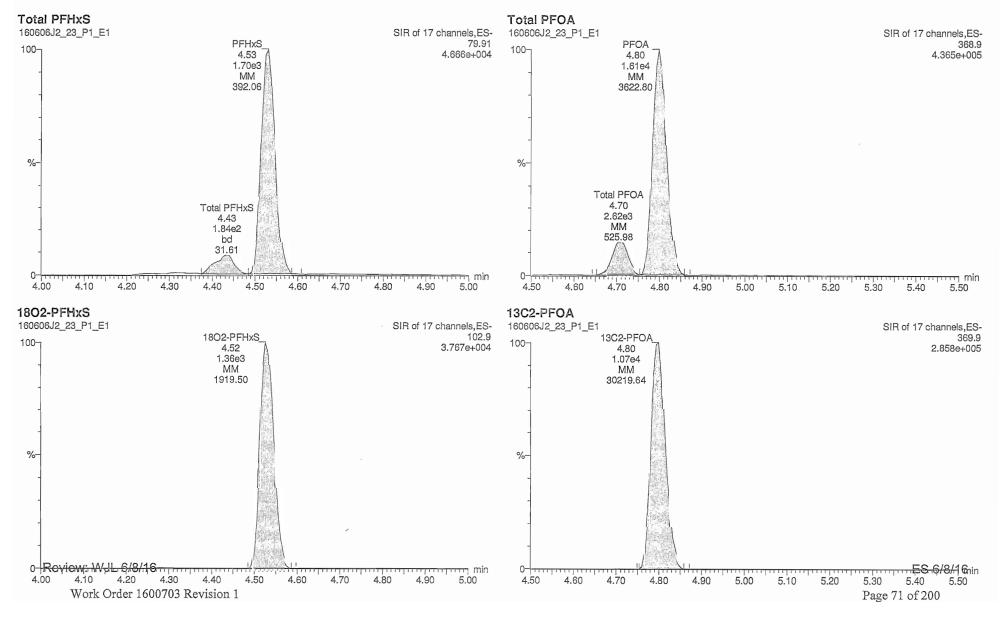
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ID: B6F0015-MSD1, Description: Matrix Spike Dup, Name: 160606J2_23.wiff, Date: 06-Jun-2016, Time: 22:19:43, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



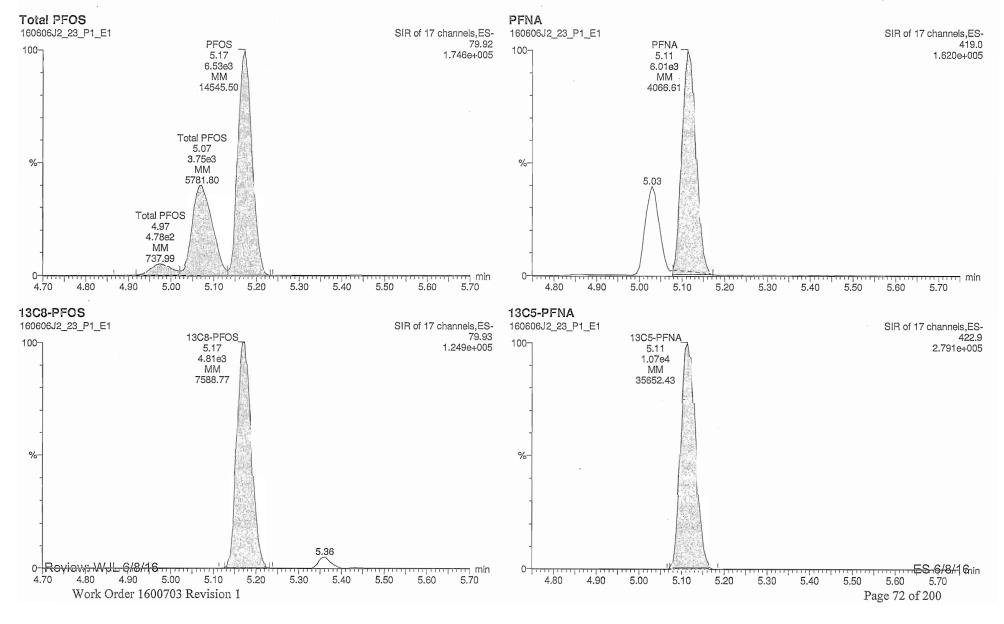
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_23.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:10:01 Pacific Daylight Time Wednesday, June 08, 2016 11:10:07 Pacific Daylight Time	

ID: B6F0015-MSD1, Description: Matrix Spike Dup, Name: 160606J2_23.wiff, Date: 06-Jun-2016, Time: 22:19:43, Instrument: , Lab: @PE-SCIEX, User: pwoolley



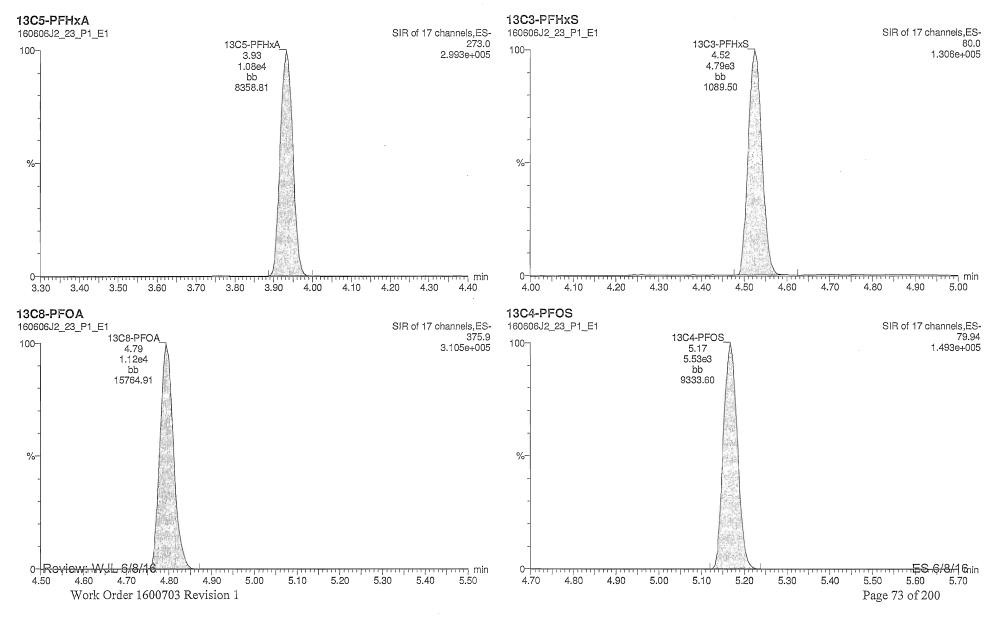
Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_23.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:10:01 Pacific Daylight Time Wednesday, June 08, 2016 11:10:07 Pacific Daylight Time	

ID: B6F0015-MSD1, Description: Matrix Spike Dup, Name: 160606J2_23.wiff, Date: 06-Jun-2016, Time: 22:19:43, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



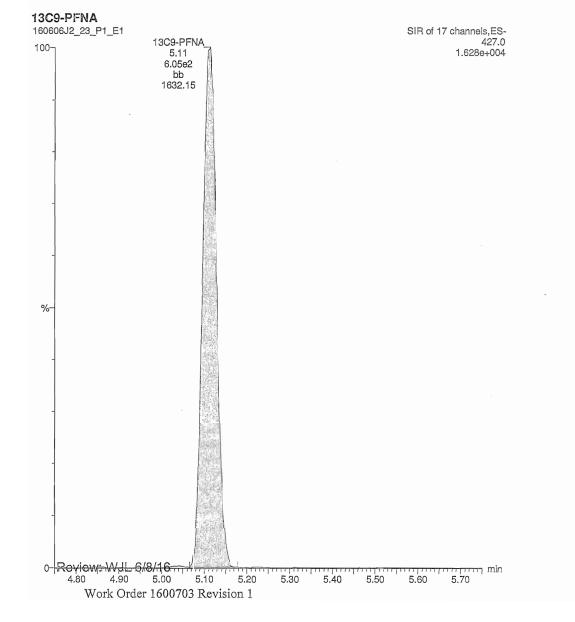
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_23.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:10:01 Pacific Daylight Time Wednesday, June 08, 2016 11:10:07 Pacific Daylight Time	

ID: B6F0015-MSD1, Description: Matrix Spike Dup, Name: 160606J2_23.wiff, Date: 06-Jun-2016, Time: 22:19:43, Instrument: , Lab: ©PE-SCIEX, User: pwoolley



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_23.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:10:01 Pacific Daylight Time Wednesday, June 08, 2016 11:10:07 Pacific Daylight Time	

ID: B6F0015-MSD1, Description: Matrix Spike Dup, Name: 160606J2_23.wiff, Date: 06-Jun-2016, Time: 22:19:43, Instrument: , Lab: @PE-SCIEX, User: pwoolley



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Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_10.qld

Last Altered:	Tuesday, June 07, 2016 15:20:05 Pacific Daylight Time
Printed:	Tuesday, June 07, 2016 15:20:15 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-03, Description: GW-EB-Waterlevel, Name: 160606J2_10.wiff, Date: 06-Jun-2016, Time: 19:41:02

	# Name	Trace	Peak Area	IS Resp RF	RF Mean	wt/vol	RT	Conc.	%Rec
1-	1 PFBS	79.9		6.126e3		0.130			
2	2 PFHpA	318.9	4.245e0	1.166e4		0.130	4.41	0.175	
3	3 PFHxS	79.91	5.140e0	1.399e3		0.130	4.53	0.479	
4	4 PFOA	368.9	1.838e1	1.000e4		0.130	4.80	0.363	
5	5 PFOS	79.92	2.461e0	4.600e3		0.130	5.17	0.0670	
6	6 PFNA	419.0		1.008e4		0.130			
7	7 13C3-PFBS	79.95	6.126e3	1.113e4	0.476	0.130	3.55	111	116
8	8 13C4-PFHpA	321.9	1.166e4	1.113e4	1.055	0.130	4.42	95.7	99.3
9	9 18O2-PFHxS	102.9	1.399e3	5.506e3	0.286	0.130	4.53	85.7	88.9
10	10 13C2-PFOA	369.9	1.000e4	1.018e4	0.958	0.130	4.80	98.9	103
11	11 13C8-PFOS	79.93	4.600e3	4.964e3	0.974	0.130	5.17	91.7	95.1
12	12 13C5-PFNA	422.9	1.008e4	5.238e2	18.926	0.130	5.12	98.1	102
13	13 13C5-PFHxA	273.0	1.113e4	1.113e4	1.000	0.130	3.94	96.4	100
14	14 13C3-PFHxS	80.0	5.506e3	5.506e3	1.000	0.130	4.53	96.4	100
15	15 13C8-PFOA	375.9	1.018e4	1.018e4	1.000	0.130	4.80	96.4	100
16	16 13C4-PFOS	79.94	4.964e3	4.964e3	1.000	0.130	5.17	96.4	100
17	17 13C9-PFNA	427.0	5.238e2	5.238e2	1.000	0.130	5.11	96.4	100
18	18 Total PFBS	79.9		6.126e3		0.130			-
19	19 Total PFHxS	79.91		1.399e3		0.130		0.479	
20	20 Total PFOA	368.9		1.000e4		0.130		0.363	
21	21 Total PFOS	79.92		4.600e3		0.130		0.339	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_10.qld

Last Altered: Tuesday, June 07, 2016 15:20:05 Pacific Daylight Time Tuesday, June 07, 2016 15:20:15 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-03, Description: GW-EB-Waterlevel, Name: 160606J2_10.wiff, Date: 06-Jun-2016, Time: 19:41:02

Total PFBS

Name Trace RT Area IS Area Conc.

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.53	5.140	1398.760	0.5

Total PFOA

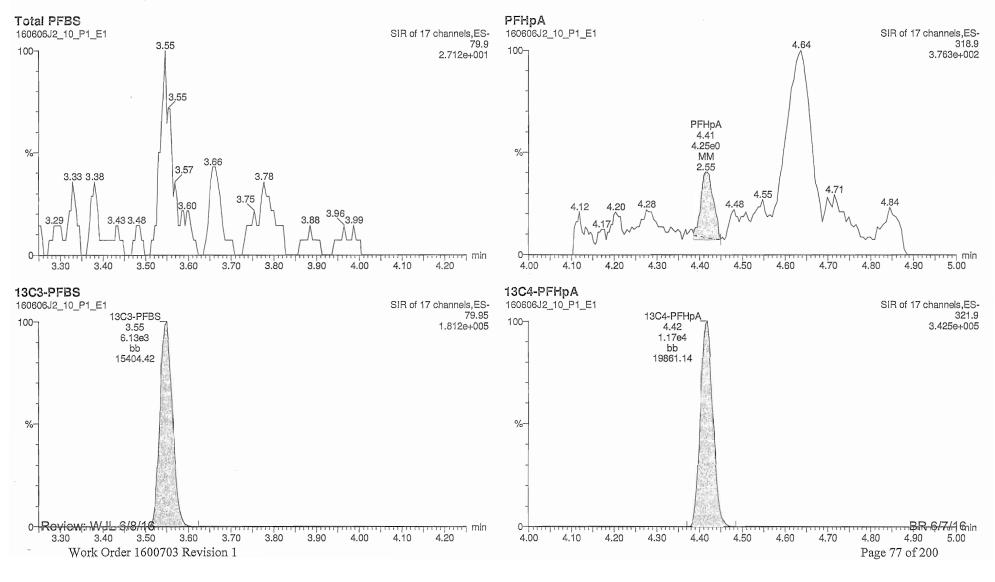
# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.80	18.377	10003.363	0.4

Total PFOS

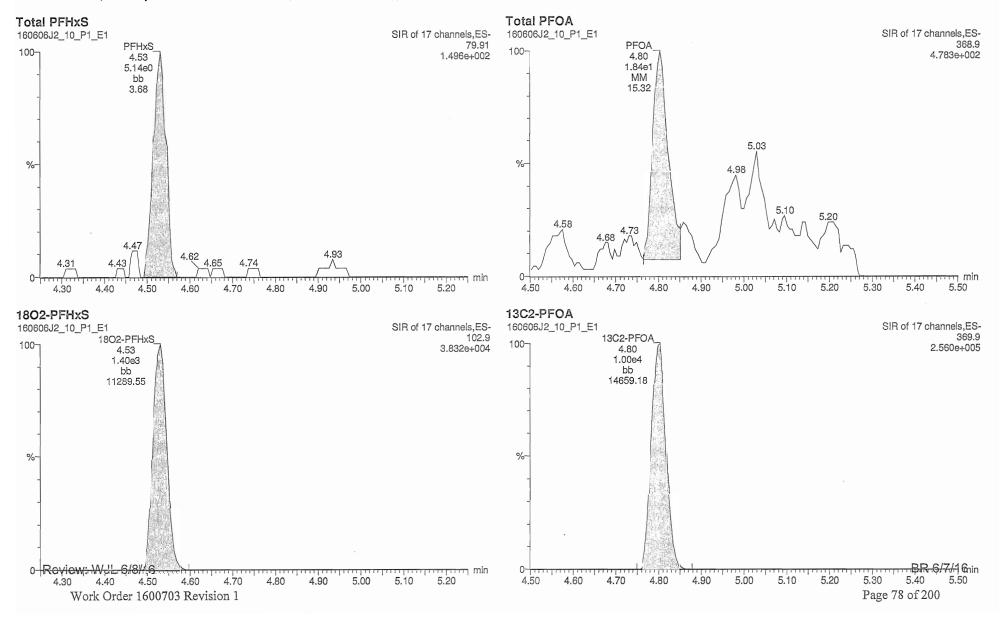
	#	Name	Trace	RT	Area	IS Area	Conc.
化的现在分词	5	PFOS	79.92	5.17	2.461	4599.666	0.1
2	21	Total PFOS	79.92	5.10	9.987	4599.666	0.3

Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 cal Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_10.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:20:05 Pacific Daylight Time Tuesday, June 07, 2016 15:20:15 Pacific Daylight Time	

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16



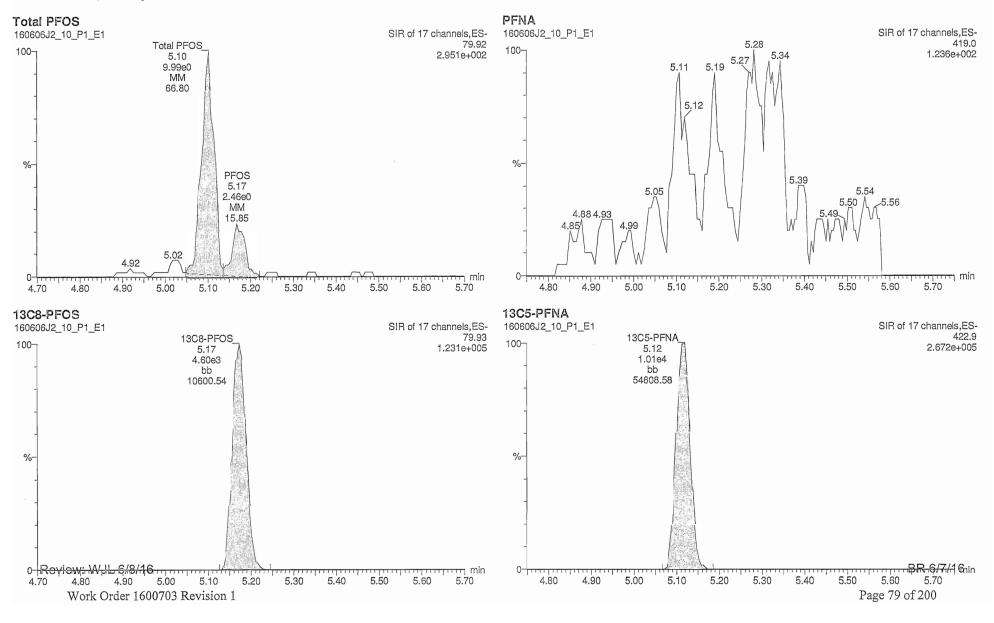
Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5 of
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_10.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:20:05 Pacific Daylight Time Tuesday, June 07, 2016 15:20:15 Pacific Daylight Time	



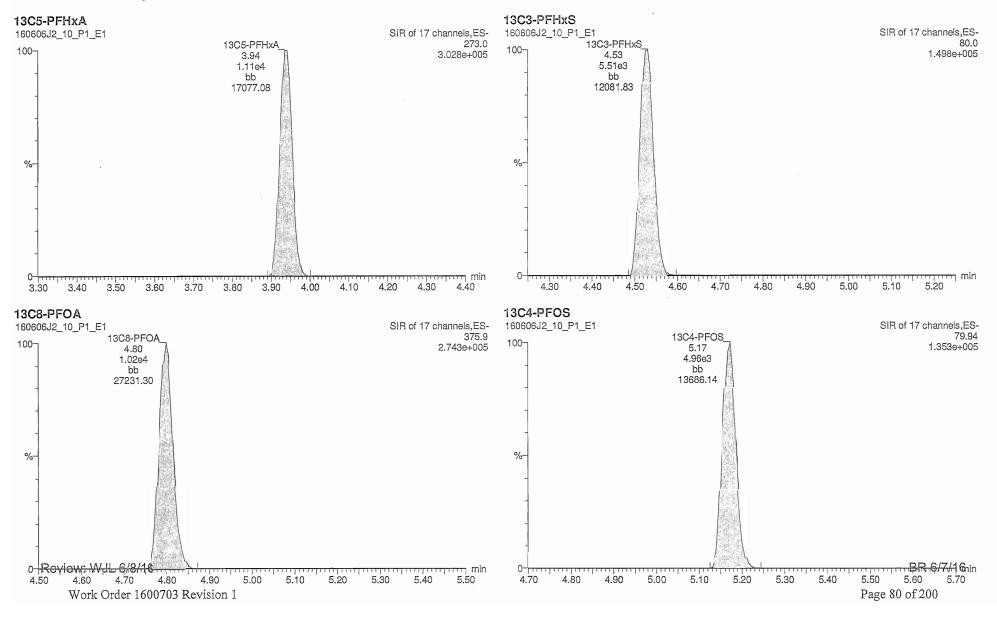
Quantify Sample Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

U:\Q2.PRO\Results\160606J2\160606J2_10.qld Dataset:

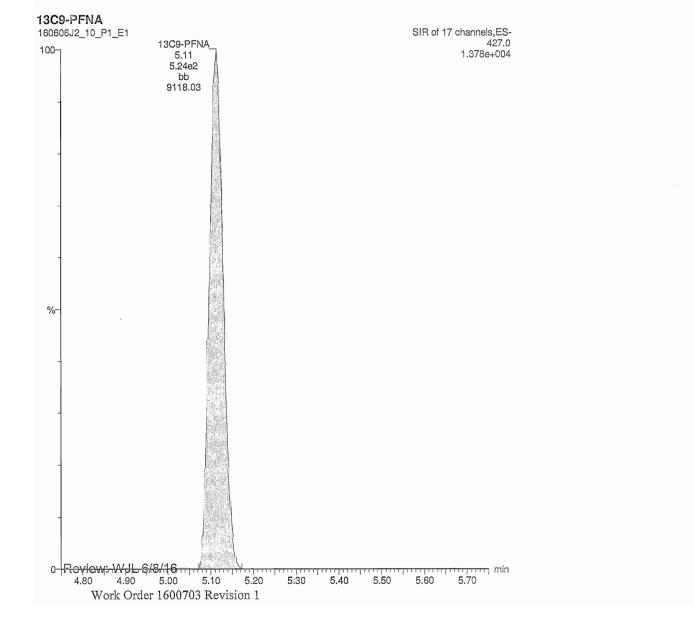
Tuesday, June 07, 2016 15:20:05 Pacific Daylight Time Last Altered: Tuesday, June 07, 2016 15:20:15 Pacific Daylight Time Printed:



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_10.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:20:05 Pacific Daylight Time Tuesday, June 07, 2016 15:20:15 Pacific Daylight Time	



Quantify San Vista Analytica	al Laboratory Q1	Page 5 of 5 ∞
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_10.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:20:05 Pacific Daylight Time Tuesday, June 07, 2016 15:20:15 Pacific Daylight Time	



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	nple Summary Report al Laboratory Q1	MassLynx 4.1 SCN815	Page 1 c
Dataset:	U:\Q2.PRO\Results\16060	6J2\160606J2_11.qld	
Last Altered: Printed:		5:21:34 Pacific Daylight Time 5:21:45 Pacific Daylight Time	

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-04, Description: FB-DI Water, Name: 160606J2_11.wiff, Date: 06-Jun-2016, Time: 19:53:12

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
15 4446 5 44	1 PFBS	79.9		6.335e3		0.127			
2	2 PFHpA	318.9		1.263e4		0.127			
3	3 PFHxS	79.91	4.172e0	1.494e3		0.127	4.53	0.371	
4	4 PFOA	368.9	1.023e1	9.836e3		0.127	4.79	0.209	
5	5 PFOS	79.92	2.240e0	3.973e3		0.127	5.17	0.0719	
6	6 PFNA	419.0		9.118e3		0.127			
7	7 13C3-PFBS	79.95	6.335e3	1.180e4	0.476	0.127	3.54	111	113
8	8 13C4-PFHpA	321.9	1.263e4	1.180e4	1.055	0.127	4.41	99.6	101
9	9 18O2-PFHxS	102.9	1.494e3	5.166e3	0.286	0.127	4.53	99.4	101
10	10 13C2-PFOA	369.9	9.836e3	1.093e4	0.958	0.127	4.79	92.2	93.9
11年三月	11 13C8-PFOS	79.93	3.973e3	4.527e3	0.974	0.127	5.17	88.5	90.1
12	12 13C5-PFNA	422.9	9.118e3	5.372e2	18.926	0.127	5.11	88.1	89.7
13	13 13C5-PFHxA	273.0	1.180e4	1.180e4	1.000	0.127	3.94	98.2	100
14	14 13C3-PFHxS	80.0	5.166e3	5.166e3	1.000	0.127	4.53	98.2	100
15	15 13C8-PFOA	375.9	1.093e4	1.093e4	1.000	0.127	4.79	98.2	100
16	16 13C4-PFOS	79.94	4.527e3	4.527e3	1.000	0.127	5.16	98.2	100
17	17 13C9-PFNA	427.0	5.372e2	5.372e2	1.000	0.127	5.11	98.2	100
18	18 Total PFBS	79.9		6.335e3		0.127			
19	19 Total PFHxS	79.91		1.494e3		0.127		0.371	
20	20 Total PFOA	368.9		9.836e3		0.127		0.209	
21	21 Total PFOS	79.92		3.973e3		0.127		0.241	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_11.qld

Last Altered: Tuesday, June 07, 2016 15:21:34 Pacific Daylight Time Printed: Tuesday, June 07, 2016 15:21:45 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-04, Description: FB-DI Water, Name: 160606J2_11.wiff, Date: 06-Jun-2016, Time: 19:53:12

Total PFBS

100	# Name Trace RT Area IS Area Conc.
112	# Name Trace RT Area IS Area Conc.
4	
1	

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.53	4.172	1493.578	0.4

Total PFOA

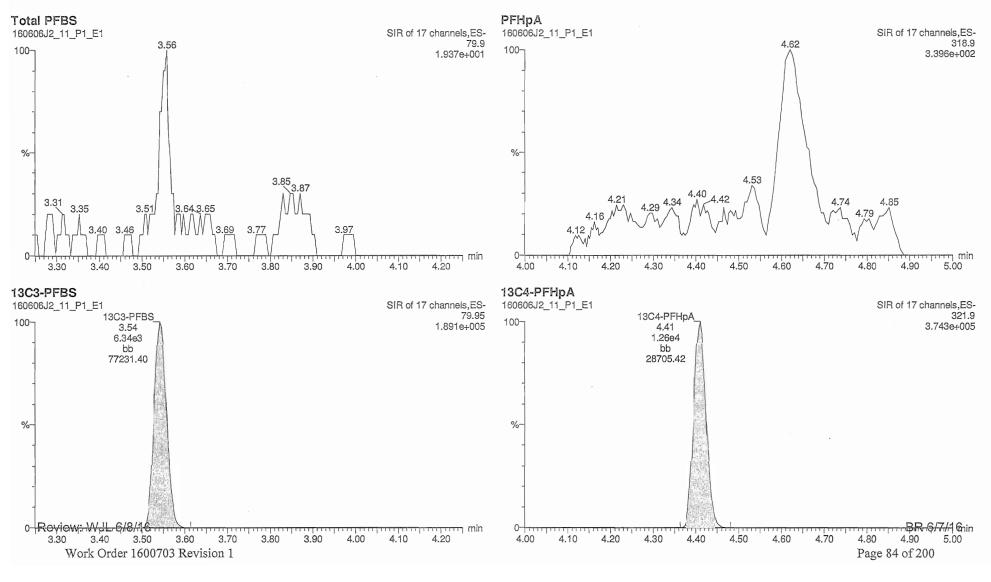
# Name	Trace	RT	Area	IS Area	Conc.
4 PFOA	368.9	4.79	10.230	9835.629	0.2

Total PFOS

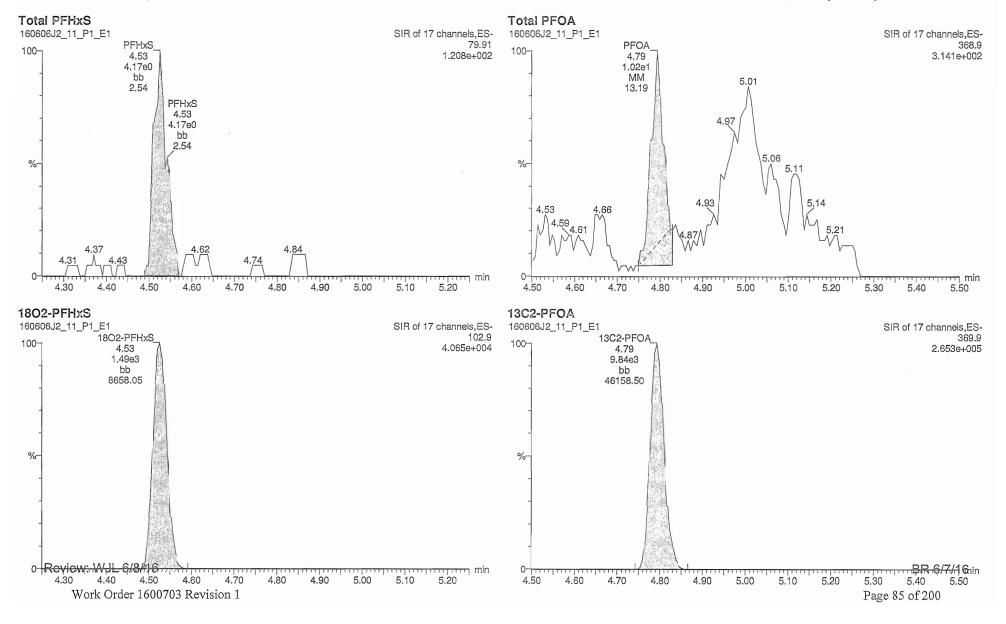
# Name	Trace	RT	Area	IS Area	Conc.
1 21 Total PFOS	79.92	5.09	5.276	3973.136	0.2
2 5 PFOS	79.92	5.17	2.240	3973.136	0.1

Quantify San Vista Analytic	al Laboratory Q1 MassLynx 4.1 SCN815	Page 1 of 5 م م
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_11.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:21:34 Pacific Daylight Time Tuesday, June 07, 2016 15:21:45 Pacific Daylight Time	

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16



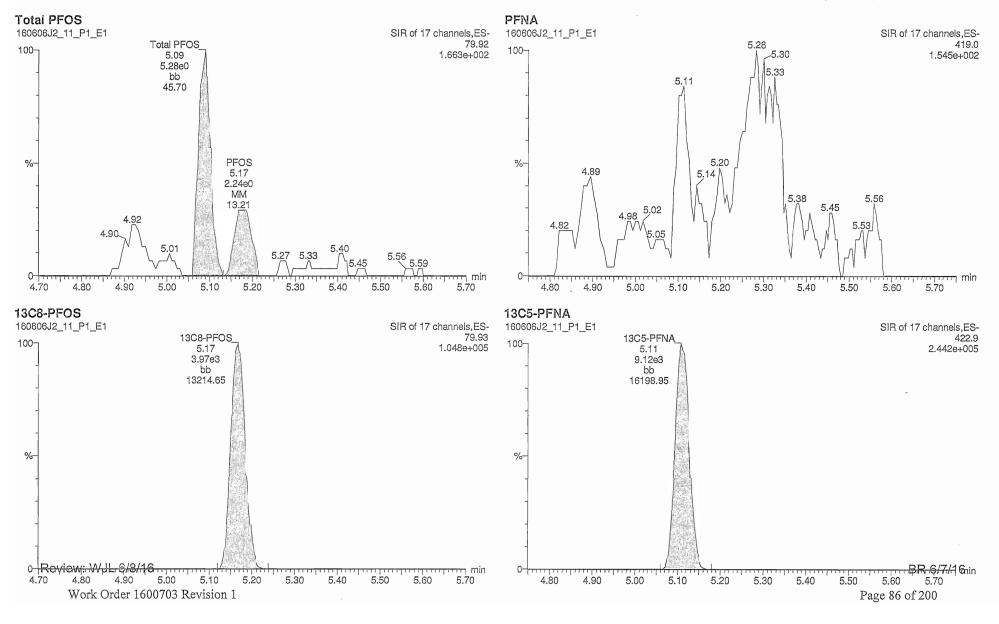
Quantify San Vista Analytic	al Laboratory Q1 MassLynx 4.1 SCN815	Page 2 of 5 ص
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_11.qld	
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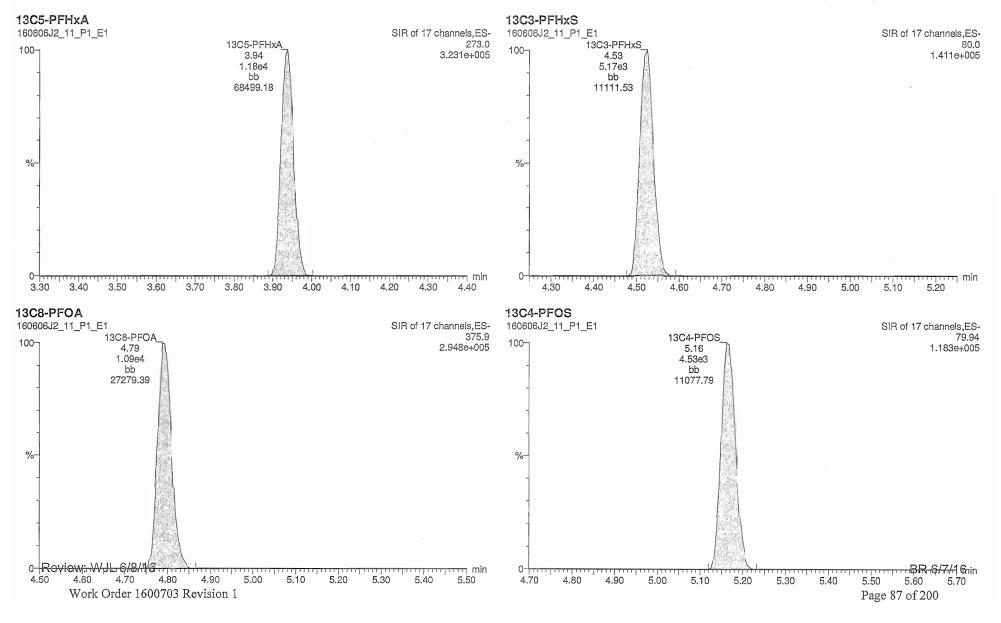
Quantify Sample Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	-

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_11.qld

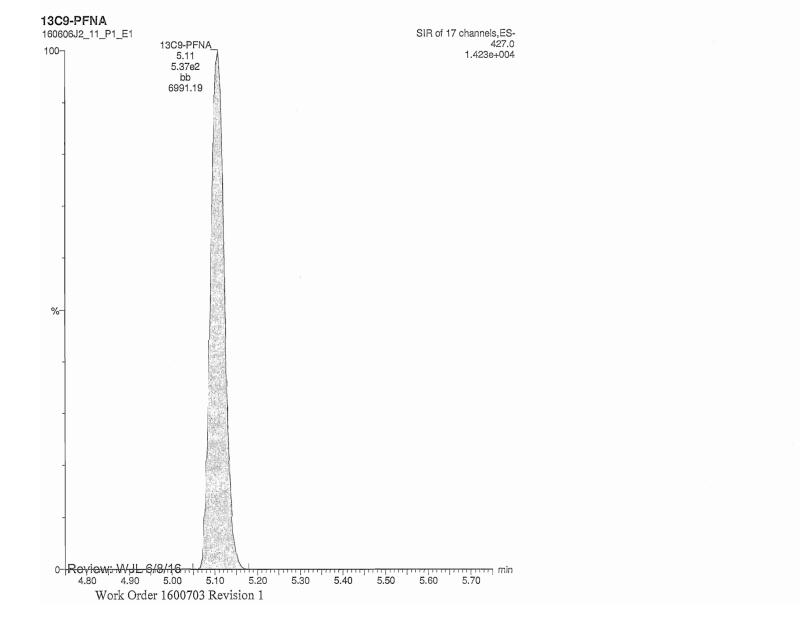
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Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5 ∞
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_11.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:21:34 Pacific Daylight Time Tuesday, June 07, 2016 15:21:45 Pacific Daylight Time	



Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5 or o
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_11.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:21:34 Pacific Daylight Time Tuesday, June 07, 2016 15:21:45 Pacific Daylight Time	



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	nple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_12.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:24:49 Pacific Daylight Time Tuesday, June 07, 2016 15:25:44 Pacific Daylight Time	

ID: 1600703-05, Description: GW-MW-4, Name: 160606J2_12.wiff, Date: 06-Jun-2016, Time: 20:05:24

A ALL SHE	# Name	Trace	Peak Area	IS Resp F	RF Mean	wt/vol	RT	Conc.	%Rec
1。这些法规	1 PFBS	79.9	7.353e1	5.966e3		0.129	3.55	5.06	
2	2 PFHpA	318.9	1.071e4	1.206e4		0.129	4.41	440	
3	3 PFHxS	79.91	3.381e2	1.451e3		0.129	4.53	30.5	
4	4 PFOA	368.9	3.311e4	9.868e3		0.129	4.80	756	
5	5 PFOS	79.92	5.022e2	4.574e3		0.129	5.17	13.8	
6	6 PFNA	419.0	1.345e3	1.032e4		0.129	5.11	19.3	
7	7 13C3-PFBS	79.95	5.966e3	1.085e4	0.476	0.129	3.55	112	115
8	8 13C4-PFHpA	321.9	1.206e4	1.085e4	1.055	0.129	4.41	102	105
9	9 18O2-PFHxS	102.9	1.451e3	4.965e3	0.286	0.129	4.53	98.8	102
10	10 13C2-PFOA	369.9	9.868e3	1.040e4	0.958	0.129	4.80	95.7	99.0
由於這個智慧	11 13C8-PFOS	79.93	4.574e3	4.651e3	0.974	0.129	5.17	97.6	101
12	12 13C5-PFNA	422.9	1.032e4	5.139e2	18.926	0.129	5.11	103	106
13	13 13C5-PFHxA	273.0	1.085e4	1.085e4	1.000	0.129	3.93	96.6	100
14	14 13C3-PFHxS	80.0	4.965e3	4.965e3	1.000	0.129	4.53	96.6	100
15	15 13C8-PFOA	375.9	1.040e4	1.040e4	1.000	0.129	4.80	96.6	100
16	16 13C4-PFOS	79.94	4.651e3	4.651e3	1.000	0.129	5.17	96.6	100
17	17 13C9-PFNA	427.0	5.139e2	5.139e2	1.000	0.129	5.11	96.6	100
18	18 Total PFBS	79.9		5.966e3		0.129		5.06	
19	19 Total PFHxS	79.91		1.451e3		0.129		40.4	
20	20 Total PFOA	368.9		9.868e3		0.129		815	
21	21 Total PFOS	79.92		4.574e3		0.129		30.8	

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Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

U:\Q2.PRO\Results\160606J2\160606J2_12.qld Dataset:

Last Altered:	Tuesday, June 07, 2016 15:24:49 Pacific Daylight Time
Printed:	Tuesday, June 07, 2016 15:25:44 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-05, Description: GW-MW-4, Name: 160606J2_12.wiff, Date: 06-Jun-2016, Time: 20:05:24

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1 marsh	1 PFBS	79.9	3.55	73.529	5965.870	5.1

Total PFHxS

a dati da la	# Name	Trace	RT	Area	IS Area	Conc.
用。但是这些	3 PFHxS	79.91	4.53	338.129	1451.245	30.5
2 1	9 Total PFHxS	79.91	4.43	57.138	1451.245	5.1
3 1	9 Total PFHxS	79.91	4.41	27.858	1451.245	2.5
4 1	9 Total PFHxS	79.91	4.32	11.190	1451.245	1.0
5 1	9 Total PFHxS	79.91	4.24	14.481	1451.245	1.3

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.80	33107.543	9868.026	755.8
2 20 Total PFOA	368.9	4.71	2795.474	9868.026	56.6
3 20 Total PFOA	368.9	4.59	132.921	9868.026	2.7

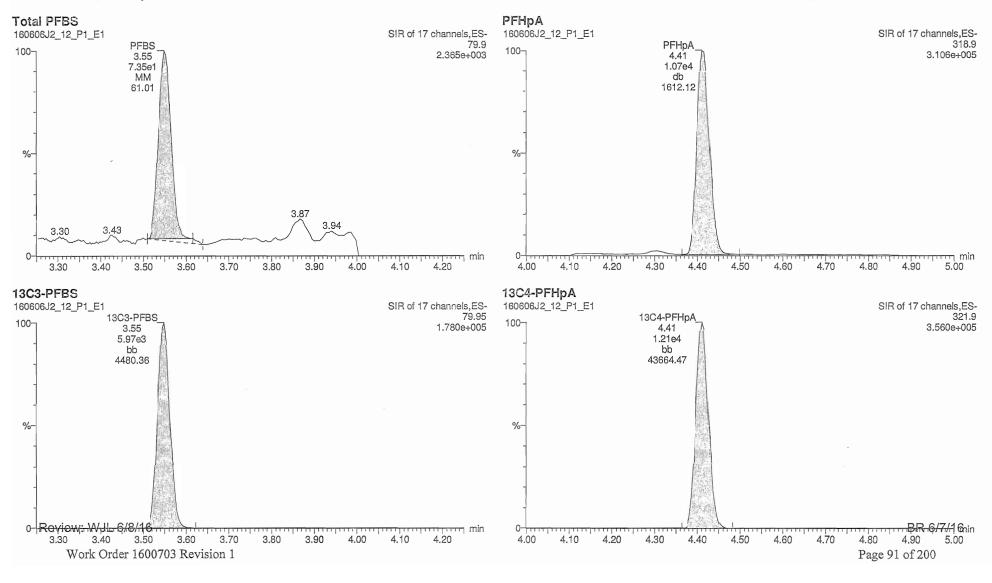
Total PFOS

# Name	Trace	BT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.17	502.216	4573.677	13.8
2 21 Total PFOS	79.92	5.07	529.284	4573.677	14.5
3 21 Total PFOS	79.92	4.98	90.707	4573.677	2.5

Work Order 1600703 Revision 1

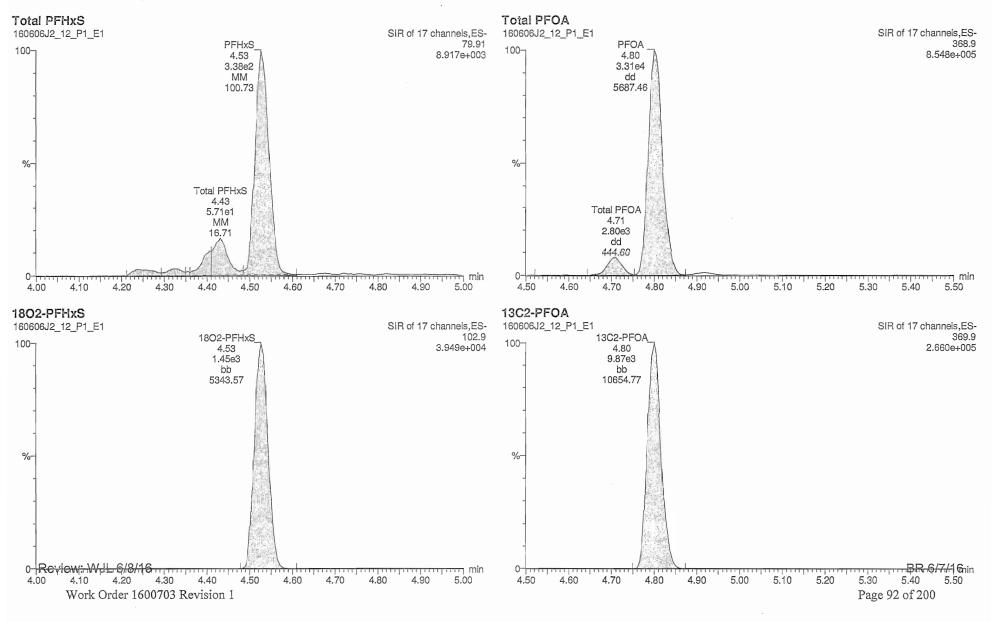
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Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5 N
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_12.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:24:49 Pacific Daylight Time Tuesday, June 07, 2016 15:25:44 Pacific Daylight Time	

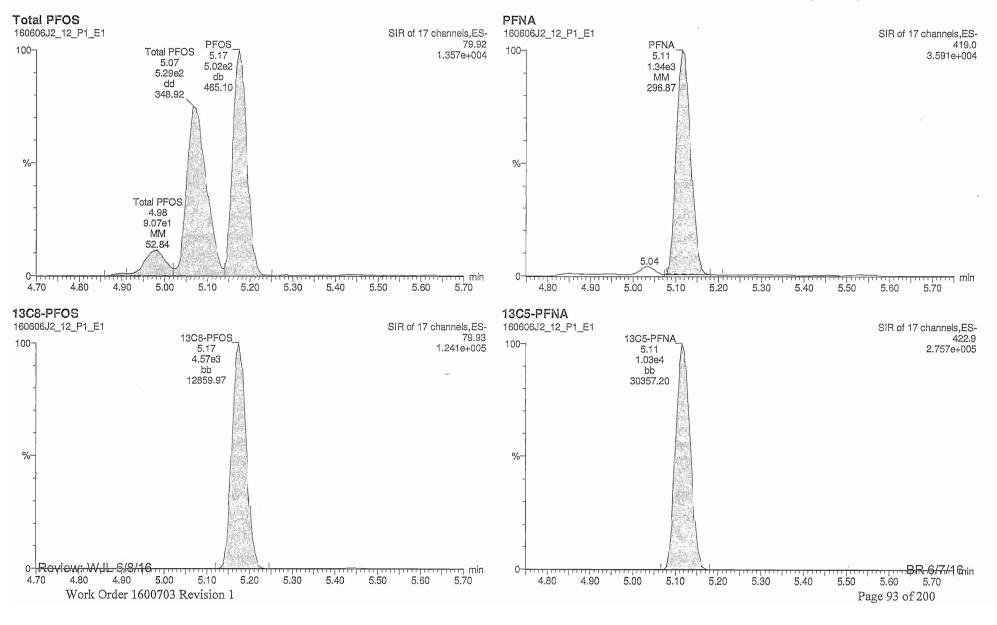


Quantify Sam Vista Analytica	ple Report MassLynx 4.1 SCN815	Page 2 of 5 o
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_12.qld	
Last Altered:	Tuesday, June 07, 2016 15:24:49 Pacific Daylight Time	

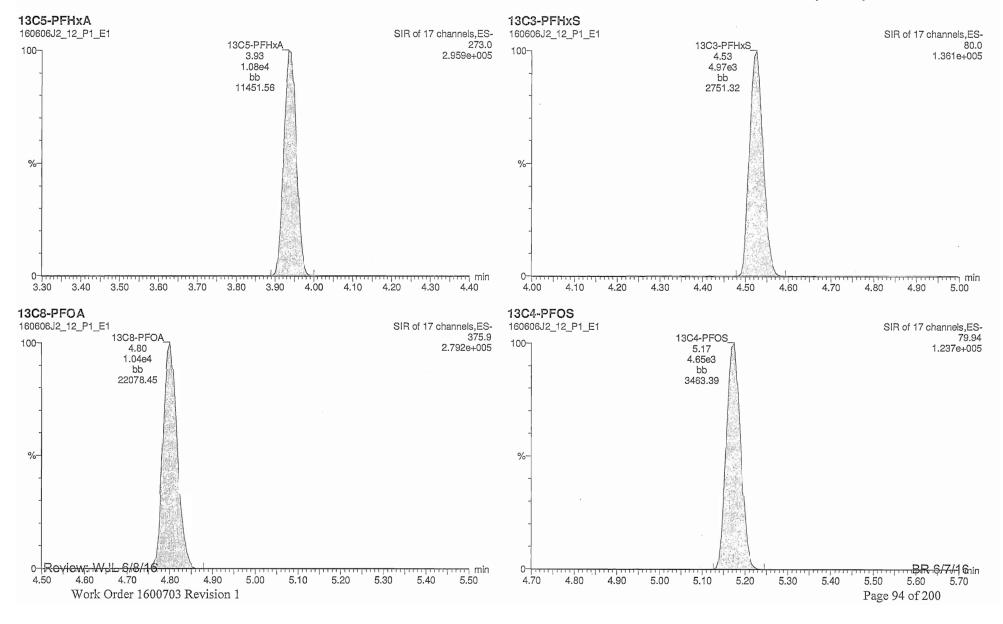
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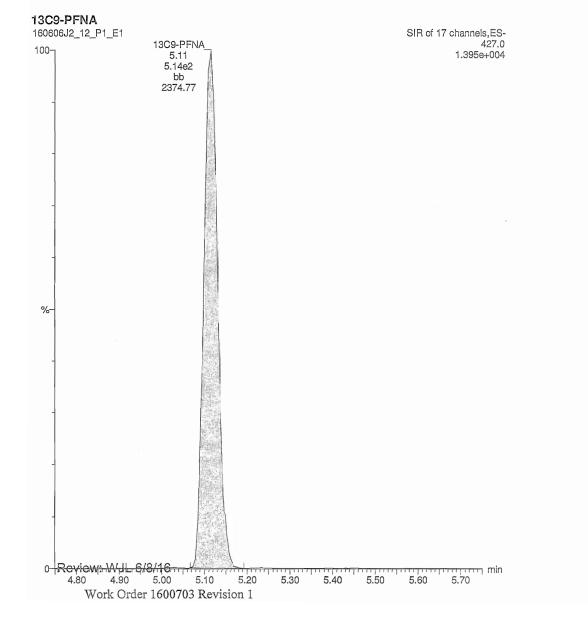
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_12.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:24:49 Pacific Daylight Time Tuesday, June 07, 2016 15:25:44 Pacific Daylight Time	



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606 J2_ 12.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:24:49 Pacific Daylight Time Tuesday, June 07, 2016 15:25:44 Pacific Daylight Time	



Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5 ص
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_12.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:24:49 Pacific Daylight Time Tuesday, June 07, 2016 15:25:44 Pacific Daylight Time	



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	al Laboratory Q1 MassLynx 4.1 SCN815	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_13.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:50:20 Pacific Daylight Time Tuesday, June 07, 2016 15:50:29 Pacific Daylight Time	

ID: 1600703-06, Description: GW-MW-4 Dup, Name: 160606J2_13.wiff, Date: 06-Jun-2016, Time: 20:17:38

edaged.	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1.51	1 PFBS	79.9	7.699e1	6.466e3		0.127	3.55	4.96	
2	2 PFHpA	318.9	1.109e4	1.264e4		0.127	4.42	441	
	3 PFHxS	79.91	3.333e2	1.608e3		0.127	4.53	27.5	
4	4 PFOA	368.9	3.406e4	1.062e4		0.127	4.80	728	
5	5 PFOS	79.92	5.552e2	5.049e3		0.127	5.17	14.0	
6	6 PFNA	419.0	1.397e3	1.080e4		0.127	5.12	19.4	
7	7 13C3-PFBS	79.95	6.466e3	1.085e4	0.476	0.127	3.55	123	125
8	8 13C4-PFHpA	321.9	1.264e4	1.085e4	1.055	0.127	4.41	108	110
9	9 1802-PFHxS	102.9	1.608e3	5.442e3	0.286	0.127	4.53	101	103
10	10 13C2-PFOA	369.9	1.062e4	1.073e4	0.958	0.127	4.79	101	103
11	11 13C8-PFOS	79.93	5.049e3	5.312e3	0.974	0.127	5.17	95.7	97.6
12	12 13C5-PFNA	422.9	1.080e4	5.782e2	18.926	0.127	5.12	96.8	98.7
13	13 13C5-PFHxA	273.0	1.085e4	1.085e4	1.000	0.127	3.94	98.1	100
14	14 13C3-PFHxS	80.0	5.442e3	5.442e3	1.000	0.127	4.53	98.1	100
15	15 13C8-PFOA	375.9	1.073e4	1.073e4	1.000	0.127	4.79	98.1	100
1610000	16 13C4-PFOS	79.94	5.312e3	5.312e3	1.000	0.127	5.17	98.1	100
17	17 13C9-PFNA	427.0	5.782e2	5.782e2	1.000	0.127	5.11	98.1	100
18	18 Total PFBS	79.9		6.466e3		0.127		4.96	
19	19 Total PFHxS	79.91		1.608e3		0.127		32.8	
20	20 Total PFOA	368.9		1.062e4		0.127		787	
21	21 Total PFOS	79.92		5.049e3		0.127		31.0	

BR 6/7/16

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

U:\Q2.PRO\Results\160606J2\160606J2_13.qld Dataset:

Last Altered: Tuesday, June 07, 2016 15:50:20 Pacific Daylight Time Tuesday, June 07, 2016 15:50:29 Pacific Daylight Time Printed:

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-06, Description: GW-MW-4 Dup, Name: 160606J2_13.wiff, Date: 06-Jun-2016, Time: 20:17:38

Total PFBS

# Name	Trace	RT -	Area	IS Area	Conc.
1 1 PFBS	79.9	3.55	76.987	6465.937	5.0

Total PFHxS

的文化中的同时	# Name	Trace	RT	Area	IS Area	Conc.
1.1.2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	3 PFHxS	79.91	4.53	333.342	1608.043	27.5
2 1	9 Total PFHxS	79.91	4.44	63.813	1608.043	5.3

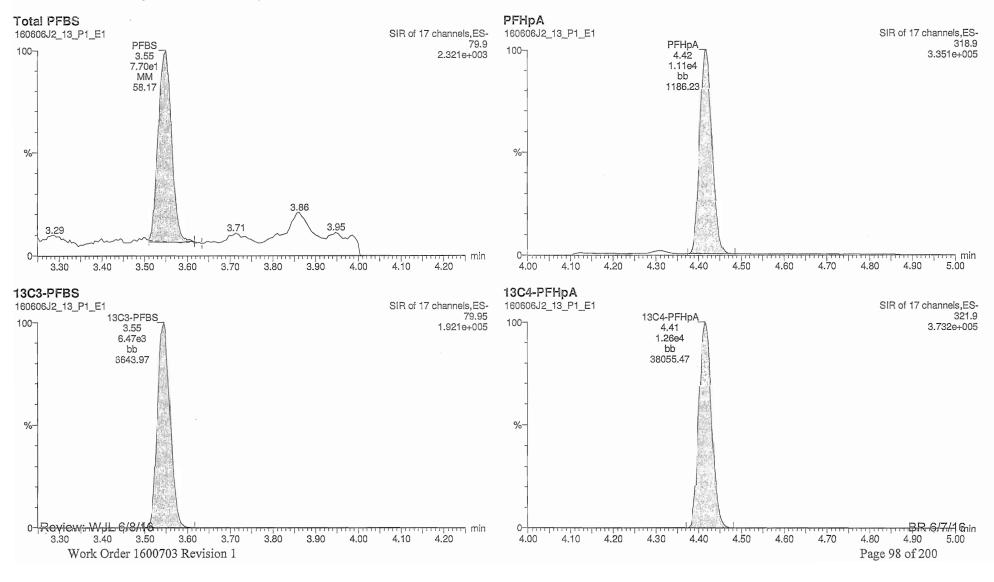
Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.80	34059.316	10620.828	728.1
2 20 Total PFOA	368.9	4.71	2984.265	10620.828	57.0
3 20 Total PFOA	368.9	4.59	101.524	10620.828	1.9

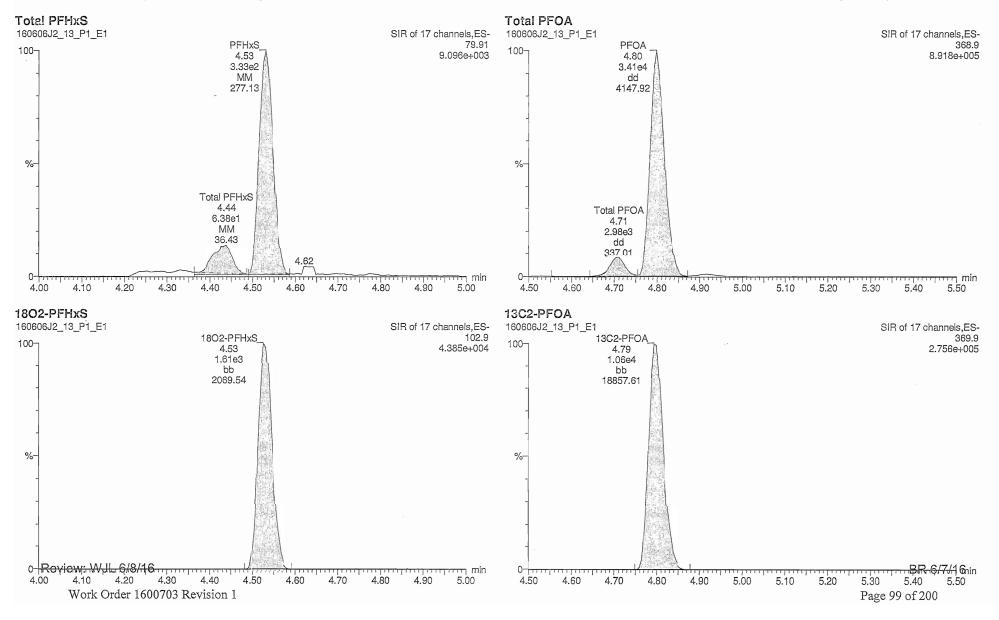
Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1.19世纪2.10	5 PFOS	79.92	5.17	555.171	5048.776	14.0
2 2	1 Total PFOS	79.92	5.07	580.860	5048.776	14.7
3 2	1 Total PFOS	79.92	4.97	91.614	5048.776	2.3

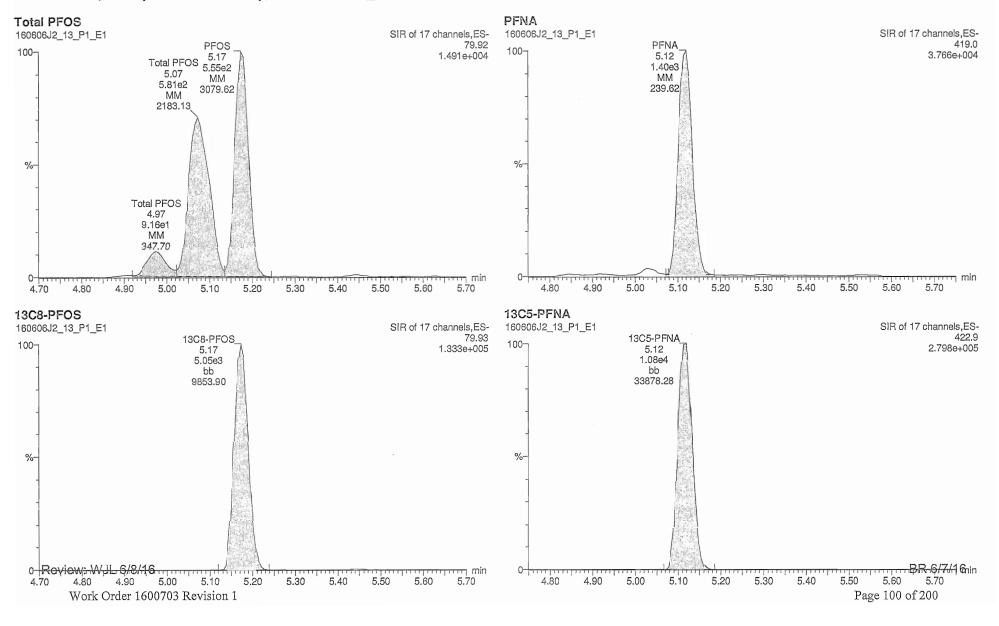
Quantify San Vista Analytic	aple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5 ص ص
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_13.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:50:20 Pacific Daylight Time Tuesday, June 07, 2016 15:50:29 Pacific Daylight Time	



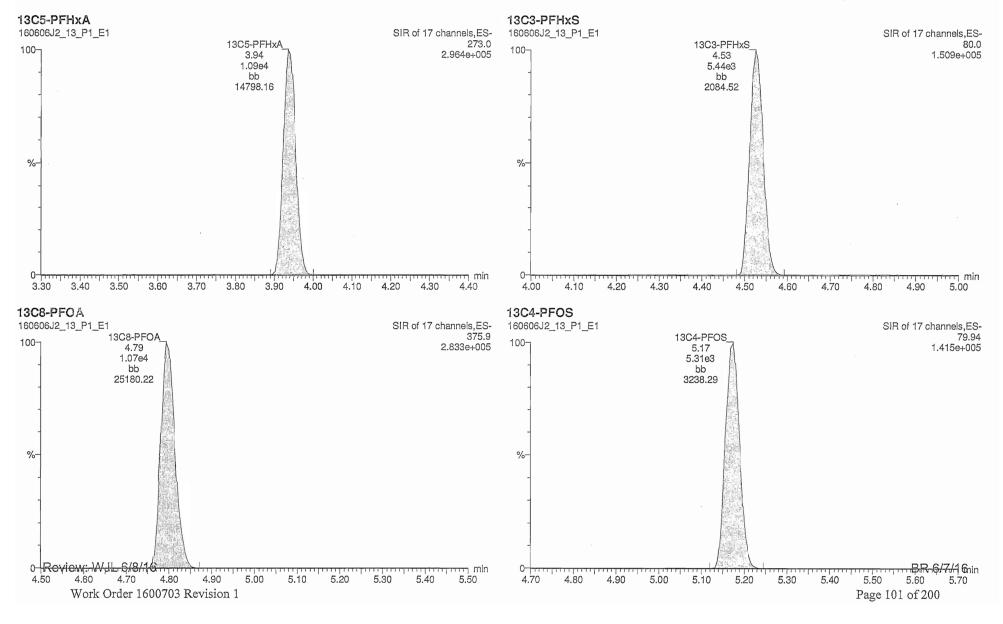
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_13.qld	-
Last Altered: Printed:	Tuesday, June 07, 2016 15:50:20 Pacific Daylight Time Tuesday, June 07, 2016 15:50:29 Pacific Daylight Time	



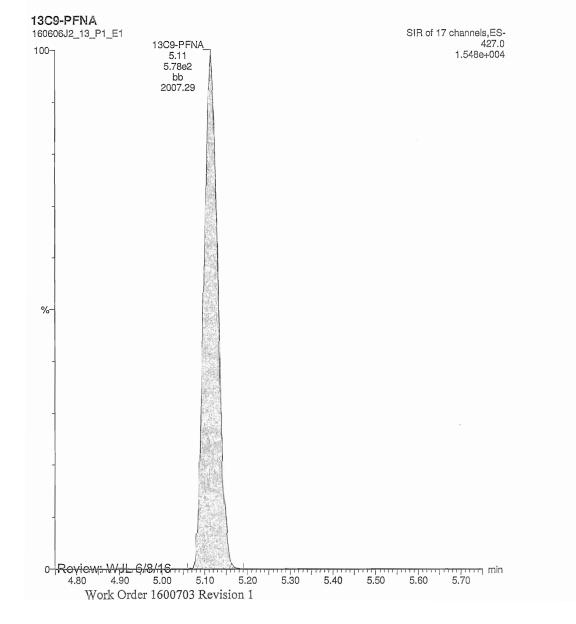
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_13.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:50:20 Pacific Daylight Time Tuesday, June 07, 2016 15:50:29 Pacific Daylight Time	



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_13.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:50:20 Pacific Daylight Time Tuesday, June 07, 2016 15:50:29 Pacific Daylight Time	



Quantify Sam Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_13.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:50:20 Pacific Daylight Time Tuesday, June 07, 2016 15:50:29 Pacific Daylight Time	



	ple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_14.qld	1
Last Altered: Printed:	Tuesday, June 07, 2016 15:52:56 Pacific Daylight Time Tuesday, June 07, 2016 15:53:04 Pacific Daylight Time	

ID: 1600703-07, Description: GW-EB-Bailer, Name: 160606J2_14.wiff, Date: 06-Jun-2016, Time: 20:29:52

	# Name	Trace	Peak Area	IS Resp R	RF Mean	wt/vol	RT -	Conc.	%Rec
1.1	1 PFBS	79.9		6.327e3		0.127			
2	2 PFHpA	318.9		1.194e4		0.127			
3	3 PFHxS	79.91	3.981e0	1.507e3		0.127	4.53	0.352	
4	4 PFOA	368.9	1.984e1	9.520e3		0.127	4.80	0.421	
5	5 PFOS	79.92	2.192e0	3.595e3		0.127	5.16	0.0781	
8	6 PFNA	419.0	4.042e0	8.868e3		0.127	5.11	0.0686	
7	7 13C3-PFBS	79.95	6.327e3	1.164e4	0.476	0.127	3.55	113	114
8	8 13C4-PFHpA	321.9	1.194e4	1.164e4	1.055	0.127	4.41	95.9	97.3
9	9 18O2-PFHxS	102.9	1.507e3	5.115e3	0.286	0.127	4.52	102	103
10	10 13C2-PFOA	369.9	9.520e3	1.043e4	0.958	0.127	4.80	93.9	95.2
11	11 13C8-PFOS	79.93	3.595e3	4.007e3	0.974	0.127	5.17	90.8	92.1
12	12 13C5-PFNA	422.9	8.868e3	4.565e2	18.926	0.127	5.11	101	103
13	13 13C5-PFHxA	273.0	1.164e4	1.164e4	1.000	0.127	3.94	98.6	100
14	14 13C3-PFHxS	80.0	5.115e3	5.115e3	1.000	0.127	4.52	98.6	100
15	15 13C8-PFOA	375.9	1.043e4	1.043e4	1.000	0.127	4.80	98.6	100
16	16 13C4-PFOS	79.94	4.007e3	4.007e3	1.000	0.127	5.17	98.6	100
17	17 13C9-PFNA	427.0	4.565e2	4.565e2	1.000	0.127	5.11	98.6	100
18	18 Total PFBS	79.9		6.327e3		0.127			
19	19 Total PFHxS	79.91		1.507e3		0.127		0.352	
20	20 Total PFOA	368.9		9.520e3		0.127		0.421	
21	21 Total PFOS	79.92		3.595e3		0.127		0.399	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_14.qld

Last Altered: Tuesday, June 07, 2016 15:52:56 Pacific Daylight Time Tuesday, June 07, 2016 15:53:04 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-07, Description: GW-EB-Bailer, Name: 160606J2_14.wiff, Date: 06-Jun-2016, Time: 20:29:52

Total PFBS

Name Trace RT Area IS Area Conc.

Total PFHxS

# Name	Trace	RT -	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.53	3.981	1506.609	0.4

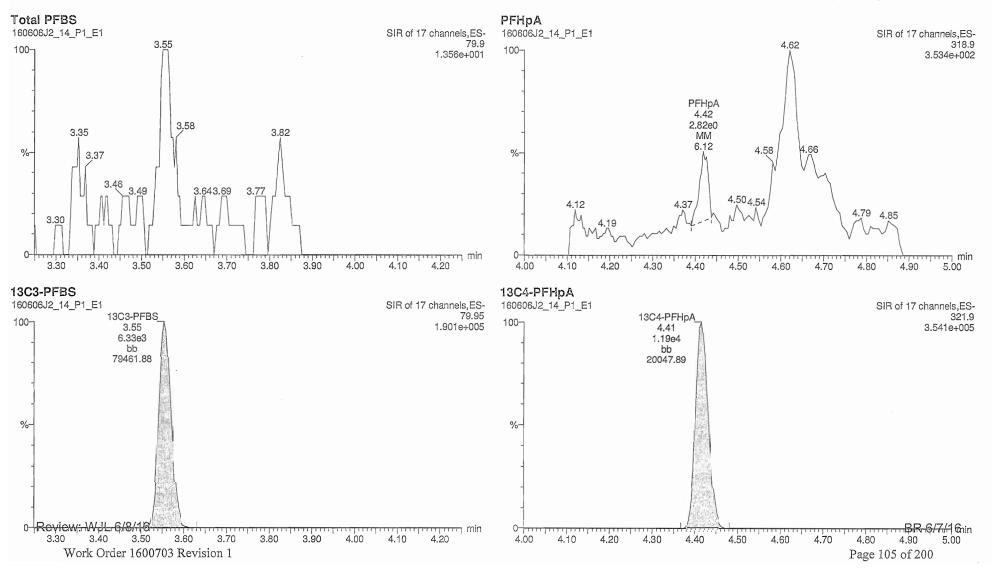
Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.80	19.838	9520.009	0.4

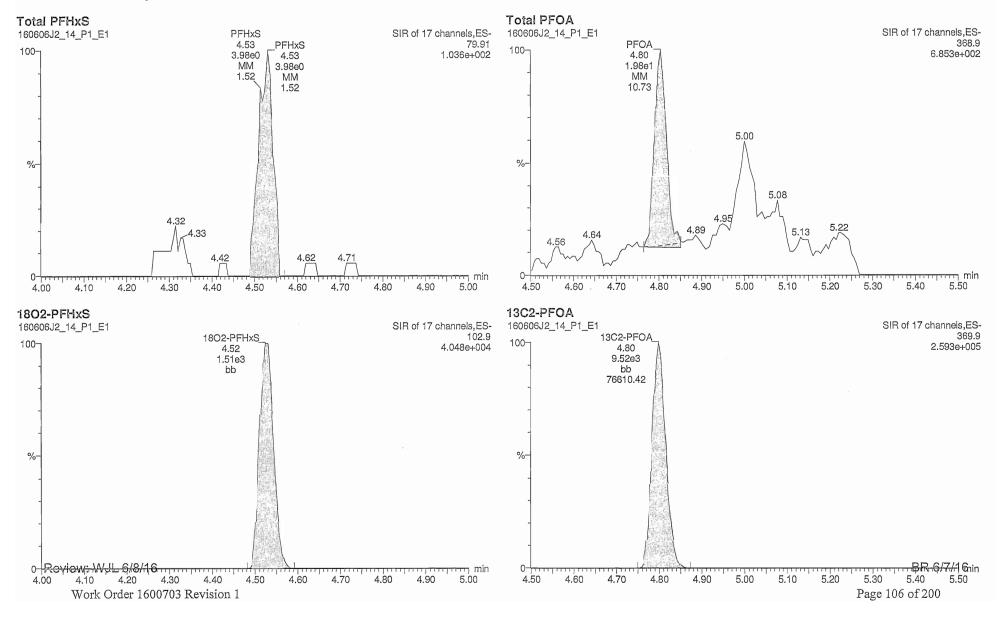
Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 21 Total PFOS	79.92	5.10	9.006	3594.956	0.3
2 5 PFOS	79.92	5.16	2.192	3594.956	0.1

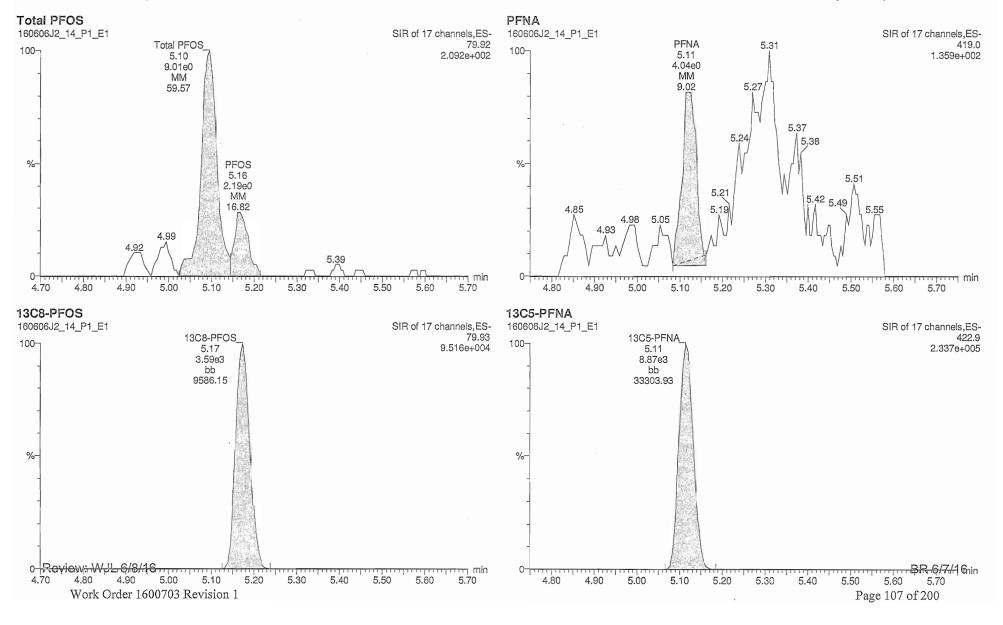
Quantify San Vista Analytic	al Laboratory Q1 MassLynx 4.1 SCN815	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_14.qld	-
Last Altered: Printed:	Tuesday, June 07, 2016 15:52:56 Pacific Daylight Time Tuesday, June 07, 2016 15:53:04 Pacific Daylight Time	



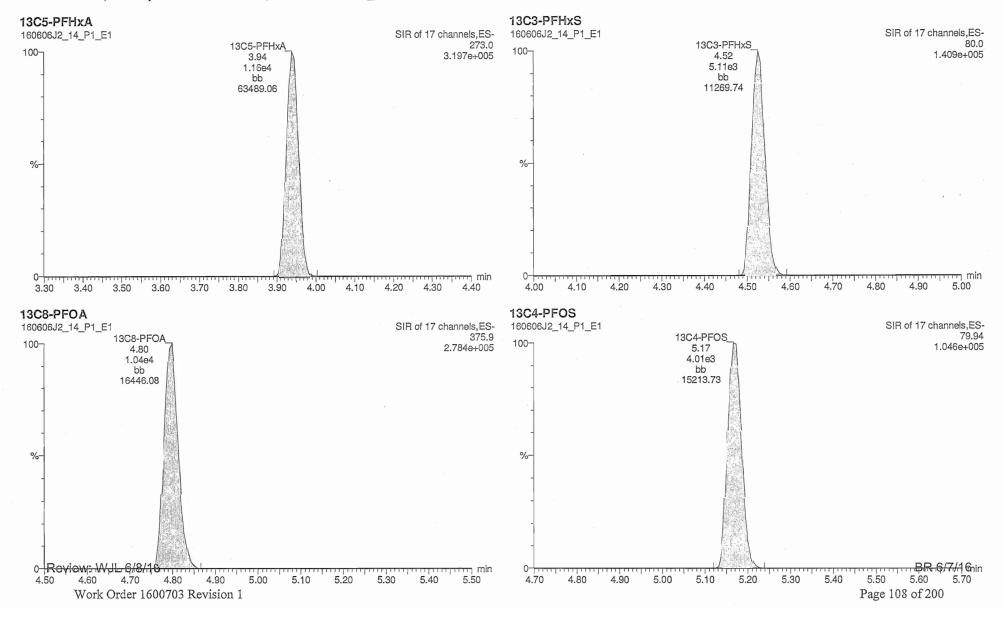
Quantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_14.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:52:56 Pacific Daylight Time Tuesday, June 07, 2016 15:53:04 Pacific Daylight Time	



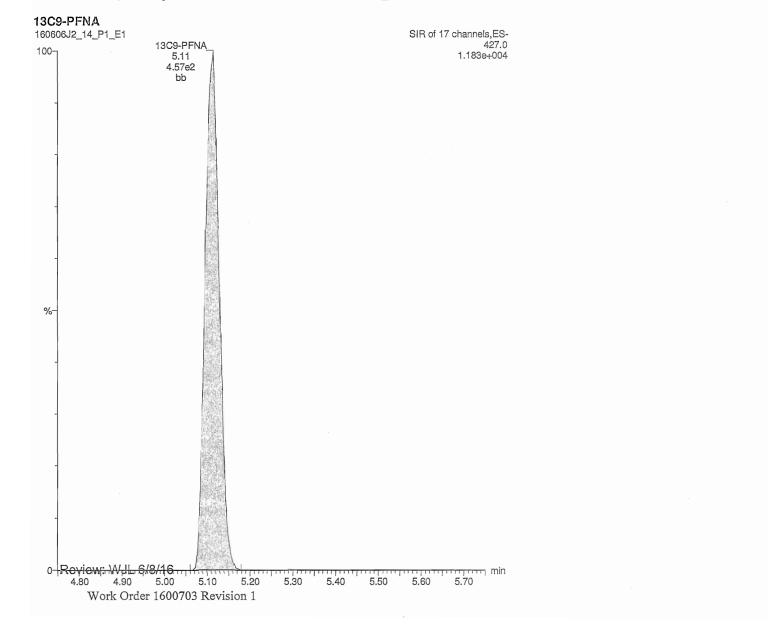
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_14.qld	•
Last Altered: Printed:	Tuesday, June 07, 2016 15:52:56 Pacific Daylight Time Tuesday, June 07, 2016 15:53:04 Pacific Daylight Time	



Quantify San Vista Analytic	al Laboratory Q1 MassLynx 4.1 SCN815	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_14.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:52:56 Pacific Daylight Time Tuesday, June 07, 2016 15:53:04 Pacific Daylight Time	



Quantify Sam Vista Analytica	aple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_14.qld	-
Last Altered: Printed:	Tuesday, June 07, 2016 15:52:56 Pacific Daylight Time Tuesday, June 07, 2016 15:53:04 Pacific Daylight Time	



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Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_15.qld

Last Altered:Tuesday, June 07, 2016 15:54:56 Pacific Daylight TimePrinted:Tuesday, June 07, 2016 15:55:06 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-08, Description: GW-MW-9, Name: 160606J2_15.wiff, Date: 06-Jun-2016, Time: 20:42:05

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1 second south	1 PFBS	79.9	4.954e1	6.024e3		0.124	3.55	3.53	
2	2 PFHpA	318.9	7.638e3	1.142e4		0.124	4.42	345	
3	3 PFHxS	79.91	1.568e2	1.348e3		0.124	4.53	15.9	
4	4 PFOA	368.9	2.460e4	8.638e3		0.124	4.80	656	
5	5 PFOS	79.92	6.973e3	3.436e3		0.124	5.17	269	
6	6 PFNA	419.0	9.092e3	8.539e3		0.124	5.12	169	
7	7 13C3-PFBS	79.95	6.024e3	1.109e4	0.476	0.124	3.55	115	114
8	8 13C4-PFHpA	321.9	1.142e4	1.109e4	1.055	0.124	4.42	98.7	97.6
9	9 1802-PFHxS	102.9	1.348e3	4.981e3	0.286	0.124	4.53	95.8	94.7
10	10 13C2-PFOA	369.9	8.638e3	9.889e3	0.958	0.124	4.80	92.2	91.2
11	11 13C8-PFOS	79.93	3.436e3	4.512e3	0.974	0.124	5.17	79.0	78.2
12	12 13C5-PFNA	422.9	8.539e3	5.281e2	18.926	0.124	5.12	86.4	85.4
13 Date:	13 13C5-PFHxA	273.0	1.109e4	1.109e4	1.000	0.124	3.94	101	100
14	14 13C3-PFHxS	80.0	4.981e3	4.981e3	1.000	0.124	4.53	101	100
15	15 13C8-PFOA	375.9	9.889e3	9.889e3	1.000	0.124	4.80	101	100
16	16 13C4-PFOS	79.94	4.512e3	4.512e3	1.000	0.124	5.17	101	100
17	17 13C9-PFNA	427.0	5.281e2	5.281e2	1.000	0.124	5.11	101	100
18	18 Total PFBS	79.9		6.024e3		0.124		3.53	
19 0 0 1	19 Total PFHxS	79.91		1.348e3		0.124		17.9	
20	20 Total PFOA	368.9		8.638e3		0.124		674	
21	21 Total PFOS	79.92		3.436e3		0.124		452	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_15.qid
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Last Altered: Tuesday, June 07, 2016 15:54:56 Pacific Daylight Time Tuesday, June 07, 2016 15:55:06 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-08, Description: GW-MW-9, Name: 160606J2_15.wiff, Date: 06-Jun-2016, Time: 20:42:05

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 I PFBS	79.9	3.55	49.542	6023.864	3.5

Total PFHxS

estable of the #	Name	Trace	8T	Area	IS Area	Conc.
1 3	PFHxS	79.91	4.53	156.805	1348.219	15.9
2 19	Total PFHxS	79.91	4.45	19.889	1348.219	2.0

Total PFOA

10 I #	Name	Trace	RT	Area	IS Area	Conc.
1 4	PFOA	368.9	4.80	24596.092	8637.737	655.8
2 20	Total PF	DA 368.9	4.71	771.066	8637.737	18.5

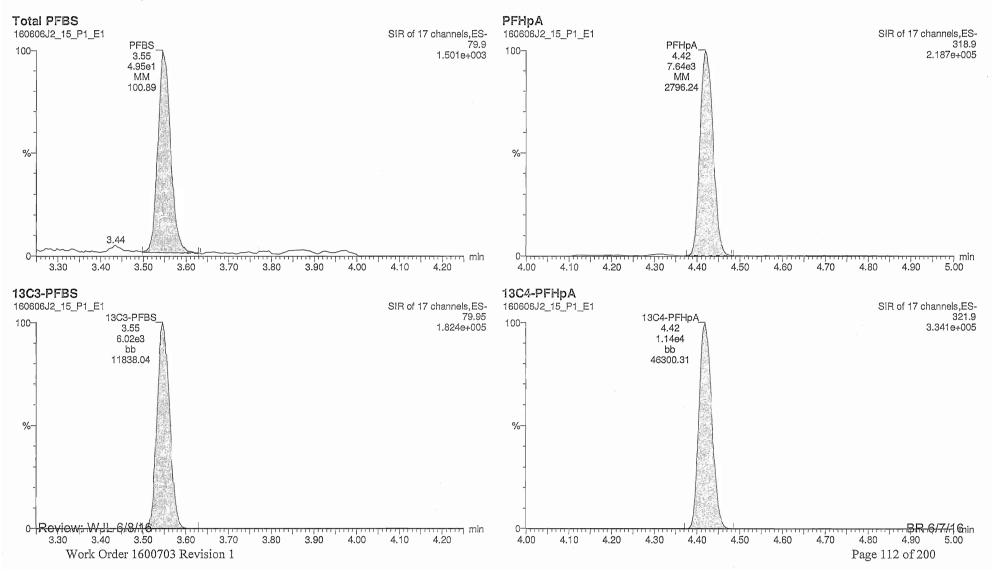
Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.17	6972.537	3436.121	269.3
2 21 Total PFOS	79.92	5.07	4319.204	3436.121	166.2
3 21 Total PFOS	79.92	4.98	429.340	3436.121	16.4

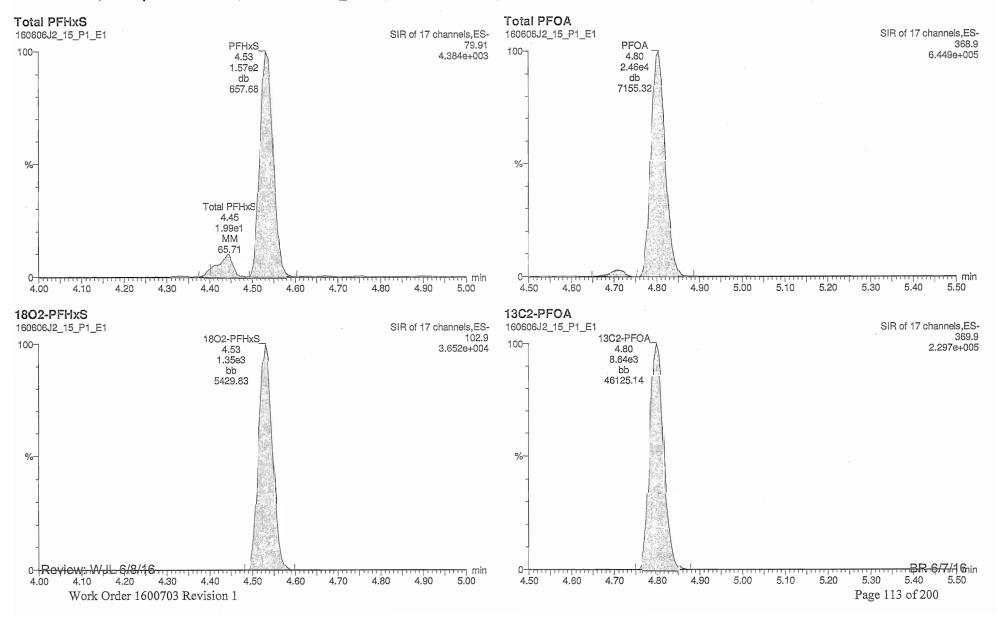
Page 1 of 1

2

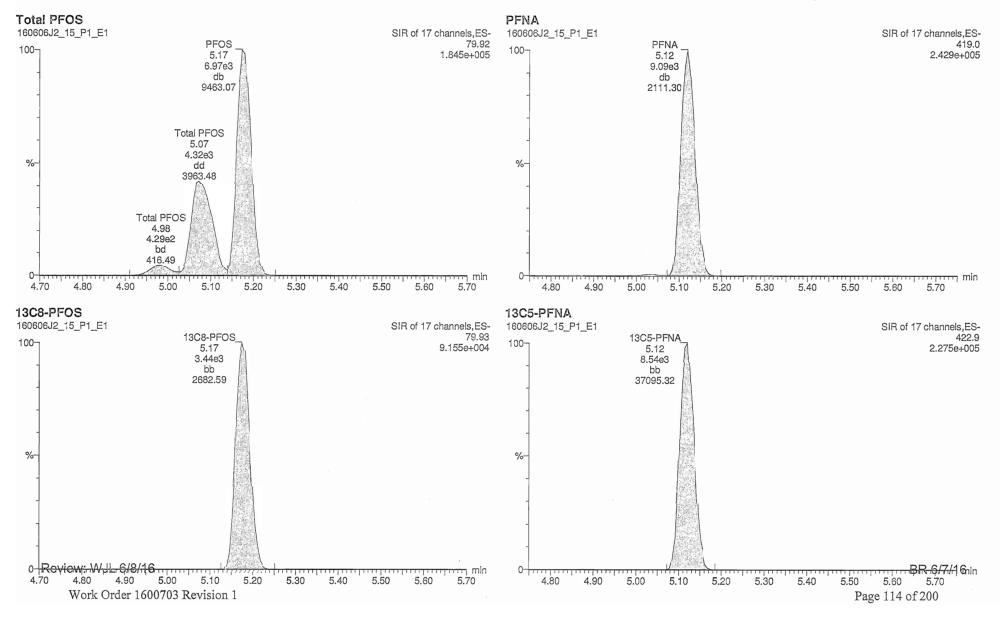
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_15.qld	.
Last Altered: Printed:	Tuesday, June 07, 2016 15:54:56 Pacific Daylight Time Tuesday, June 07, 2016 15:55:06 Pacific Daylight Time	



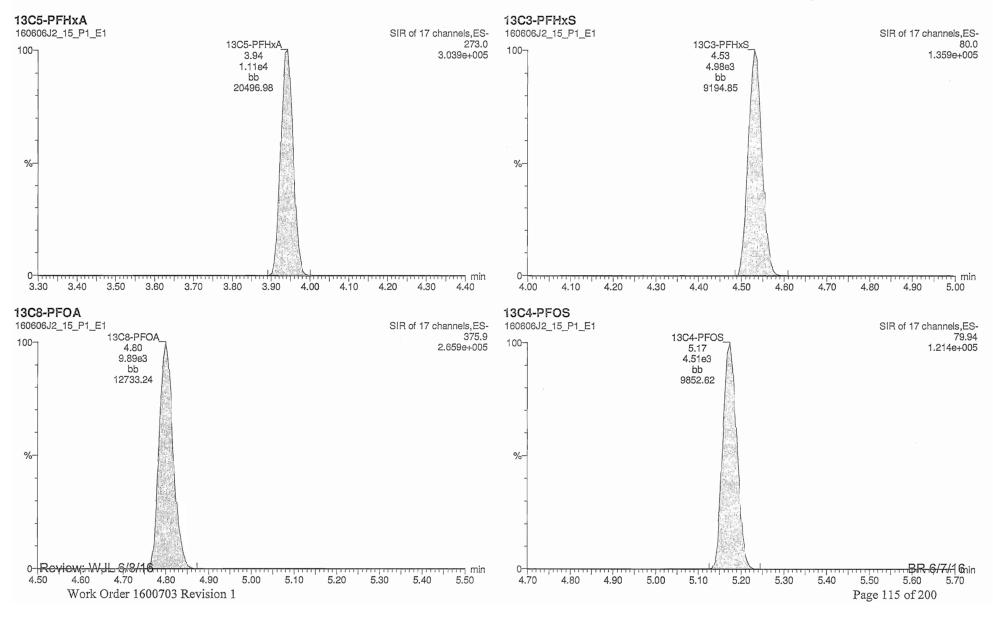
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_15.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:54:56 Pacific Daylight Time Tuesday, June 07, 2016 15:55:06 Pacific Daylight Time	



Quantify San Vista Analytic	al Laboratory Q1	Page 3 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_15.qld	-
Last Altered: Printed:	Tuesday, June 07, 2016 15:54:56 Pacific Daylight Time Tuesday, June 07, 2016 15:55:06 Pacific Daylight Time	



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_15.qld	-
Last Altered: Printed:	Tuesday, June 07, 2016 15:54:56 Pacific Daylight Time Tuesday, June 07, 2016 15:55:06 Pacific Daylight Time	



Guantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 cal Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_15.qld	
Last Altered: Printed:	Tuesday, June 07, 2016 15:54:56 Pacific Daylight Time Tuesday, June 07, 2016 15:55:06 Pacific Daylight Time	

13C9-PFNA 160606J2_15_P1_E1 SIR of 17 channels,ES-427.0 13C9-PFNA_ 5.11 5.28e2 bb 3765.44 100-1.455e+004 %-0-Review: Wyll 6/8/16 4.80 4.90 5.00 5.70 min 5.40 5.50 5.30 5.60 5.10 5.20 Work Order 1600703 Revision 1

	al Laboratory Q1 MassLynx 4.1 SCN815	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_16.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 08:53:21 Pacific Daylight Time Wednesday, June 08, 2016 08:53:42 Pacific Daylight Time	

ID: 1600703-09, Description: GW-MW-5S, Name: 160606J2_16.wiff, Date: 06-Jun-2016, Time: 20:54:19

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
	1 PFBS	79.9	1.454e2	6.006e3		0.127	3.54	10.1	
2	2 PFHpA	318.9	1.073e4	1.155e4		0.127	4.41	468	
3	3 PFHxS	79.91	5.439e2	1.409e3		0.127	4.52	51.4	
4	4 PFOA	368.9	2.972e4	1.029e4		0.127	4.79	647	
5	5 PFOS	79.92	7.541e2	4.222e3		0.127	5.17	22.8	
6	6 PFNA	419.0	3.876e3	9.367e3		0.127	5.11	62.6	
7	7 13C3-PFBS	79.95	6.006e3	1.107e4	0.476	0.127	3.54	112	114
8	8 13C4-PFHpA	321.9	1.155e4	1.107e4	1.055	0.127	4.41	97.2	99.0
9	9 18O2-PFHxS	102.9	1.409e3	5.071e3	0.286	0.127	4.52	95.4	97.2
10	10 13C2-PFOA	369.9	1.029e4	1.066e4	0.958	0.127	4.79	99.0	101
11	11 13C8-PFOS	79.93	4.222e3	4.818e3	0.974	0.127	5.17	88.3	89.9
12	12 13C5-PFNA	422.9	9.367e3	5.549e2	18.926	0.127	5.11	87.6	89.2
13	13 13C5-PFHxA	273.0	1.107e4	1.107e4	1.000	0.127	3.93	98.2	100
14	14 13C3-PFHxS	80.0	5.071e3	5.071e3	1.000	0.127	4.52	98.2	100
15	15 13C8-PFOA	375.9	1.066e4	1.066e4	1.000	0.127	4.79	98.2	100
16	16 13C4-PFOS	79.94	4.818e3	4.818e3	1.000	0.127	5.17	98.2	100
17	17 13C9-PFNA	427.0	5.549e2	5.549e2	1.000	0.127	5.11	98.2	100
18	18 Total PFBS	79.9		6.006e3		0.127		10.1	
19	19 Total PFHxS	79.91		1.409e3		0.127		58.6	
20	20 Total PFOA	368.9		1.029e4		0.127		699	
21	21 Total PFOS	79.92		4.222e3		0.127		84.0	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Page 1 of 1 တ

U:\Q2.PRO\Results\160606J2\160606J2_16.qld Dataset:

Wednesday, June 08, 2016 08:53:21 Pacific Daylight Time Last Altered: Wednesday, June 08, 2016 08:53:42 Pacific Daylight Time Printed:

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-09, Description: GW-MW-5S, Name: 160606J2_16.wiff, Date: 06-Jun-2016, Time: 20:54:19

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 1 PFBS	79.9	3.54	145.442	6006.224	10.1

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.52	543.859	1408.652	51.4
2 19 Total PFI	HxS 79.91	4.43	59.440	1408.652	5.6
3 19 Total PF		4.40	16.685	1408.652	1.6

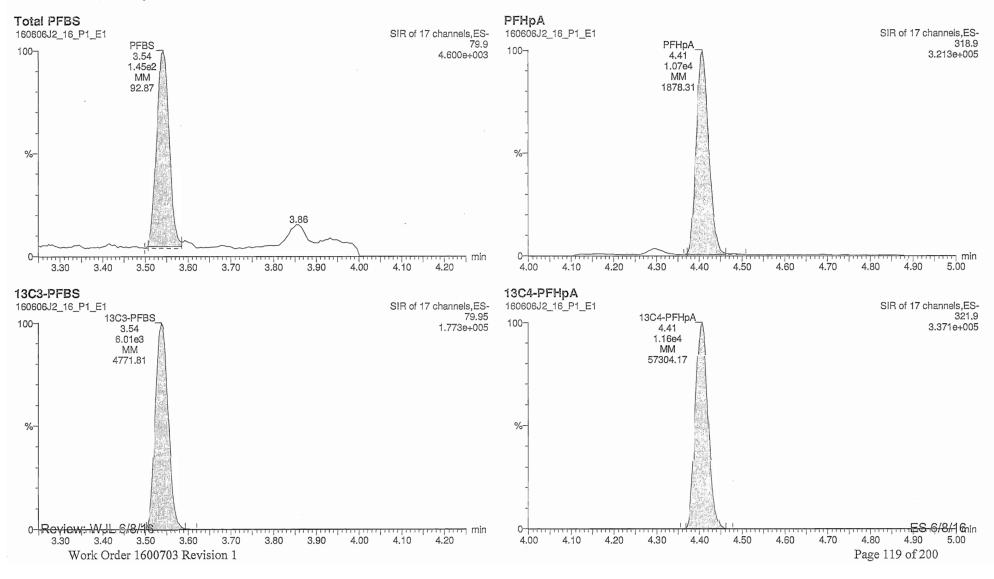
Total PFOA

# Name	Trace	RT RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.79	29722.219	10292.724	646.9
2 20 Total PFOA	368.9	4.70	2668.106	10292.724	52.6

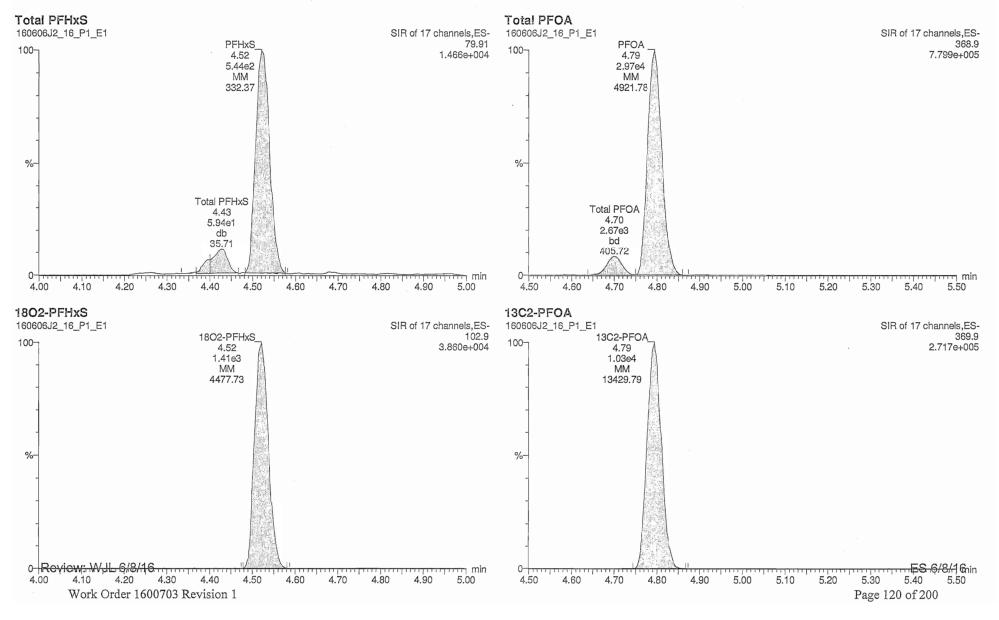
Total PFOS

# Name	Trace	$\mathbb{R}_{\mathbb{R}^{n}} = \mathbb{R}_{\mathbb{R}^{n}}$	Area	IS Area	Conc.
1 5 PFOS	79.92	5.17	754.068	4221.862	22.8
2 21 Total PFOS	79.92	5.07	1740.105	4221.862	52.7
3 21 Total PFOS	79.92	4.97	280.985	4221.862	8.5

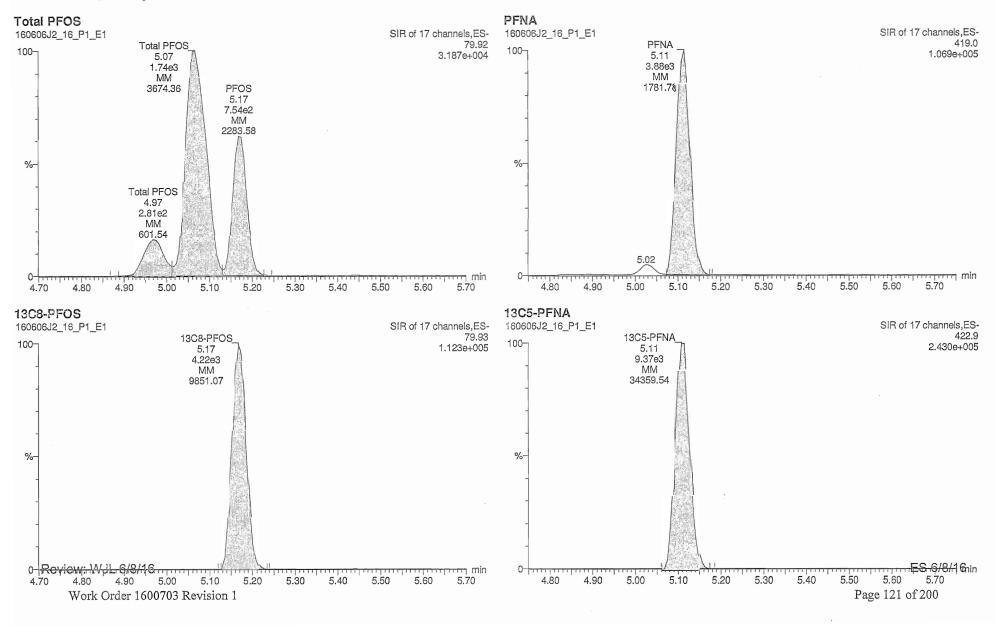
Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_16.qld	·
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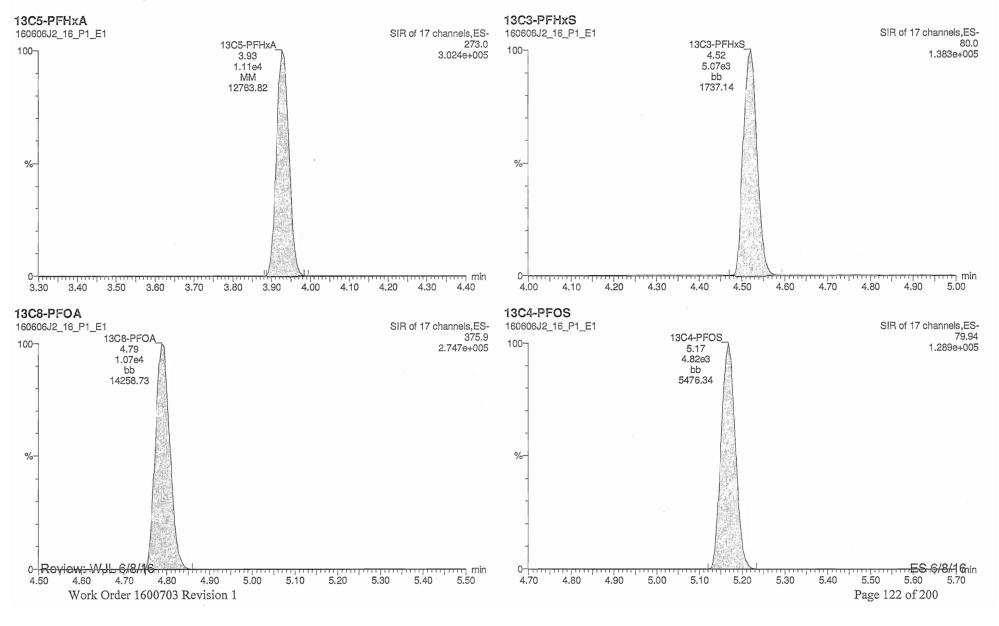
Quantify Sam Vista Analytica	aple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_16.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 08:53:21 Pacific Daylight Time Wednesday, June 08, 2016 08:53:42 Pacific Daylight Time	



Quantify San Vista Analytic	al Laboratory Q1	Page 3 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_16.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 08:53:21 Pacific Daylight Time Wednesday, June 08, 2016 08:53:42 Pacific Daylight Time	



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_16.qld	-
Last Altered: Printed:	Wednesday, June 08, 2016 08:53:21 Pacific Daylight Time Wednesday, June 08, 2016 08:53:42 Pacific Daylight Time	



Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_16.qld	-
Last Altered: Printed:	Wednesday, June 08, 2016 08:53:21 Pacific Daylight Time Wednesday, June 08, 2016 08:53:42 Pacific Daylight Time	

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	aple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_17.qld	· · · · · · · · · · · · · · · · · · ·
Last Altered: Printed:	Wednesday, June 08, 2016 09:51:48 Pacific Daylight Time Wednesday, June 08, 2016 09:52:04 Pacific Daylight Time	

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-10, Description: GW-MW-5D, Name: 160606J2_17.wiff, Date: 06-Jun-2016, Time: 21:06:30

	# Name	Trace	Peak Area	IS Resp RF	F Mean	wt/vol	RT	Conc	%Rec
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1 PFBS	79.9	4.128e2	6.427e3		0.124	3.55	27.5	
2	2 PFHpA	318.9	1.158e3	1.300e4		0.124	4.41	44.8	
3	3 PFHxS	79.91	3.794e2	1.533e3		0.124	4.52	33.7	
4	4 PFOA	368.9	2.930e3	9.958e3		0.124	4.80	61.2	
5	5 PFOS	79.92	3.650e2	4.383e3		0.124	5.18	10.9	
6	6 PFNA	419.0	3.408e1	9.619e3		0.124	5.12	0.544	
7	7 13C3-PFBS	79.95	6.427e3	1.193e4	0.476	0.124	3.55	114	113
8	8 13C4-PFHpA	321.9	1.300e4	1.193e4	1.055	0.124	4.41	104	103
9	9 18O2-PFHxS	102.9	1.533e3	5.622e3	0.286	0.124	4.52	96.0	95.4
10	10 13C2-PFOA	369.9	9.958e3	1.075e4	0.958	0.124	4.80	97.3	96.7
11	11 13C8-PFOS	79.93	4.383e3	5.353e3	0.974	0.124	5.18	84.6	84.0
12	12 13C5-PFNA	422.9	9.619e3	5.866e2	18.926	0.124	5.12	87.2	86.6
13	13 13C5-PFHxA	273.0	1.193e4	1.193e4	1.000	0.124	3.94	101	100
14	14 13C3-PFHxS	80.0	5.622e3	5.622e3	1.000	0.124	4.52	101	100
15	15 13C8-PFOA	375.9	1.075e4	1.075e4	1.000	0.124	4.79	101	100
16	16 13C4-PFOS	79.94	5.353e3	5.353e3	1.000	0.124	5.17	101	100
17 - Paris	17 13C9-PFNA	427.0	5.866e2	5.866e2	1.000	0.124	5.11	101	100
18	18 Total PFBS	79.9		6.427e3		0.124		27.5	
19	19 Total PFHxS	79.91		1.533e3		0.124		42.9	
20	20 Total PFOA	368.9		9.958e3		0.124		85.0	
21	21 Total PFOS	79.92		4.383e3		0.124		29.3	

Quantity Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_17.qld

Last Altered: Wednesday, June 08, 2016 09:51:48 Pacific Daylight Time Wednesday, June 08, 2016 09:52:04 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-10, Description: GW-MW-5D, Name: 160606J2_17.wiff, Date: 06-Jun-2016, Time: 21:06:30

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.55	412.818	6426.654	27.5

Total PFHxS

	* Name	Trace	RT	Area	IS Area	Conc.
1 19	Total PFHxS	79.91	4.43	65.363	1533.386	5.8
2 19	9 Total PFHxS	79.91	4.41	37.989	1533.386	3.4
3	B PFHxS	79.91	4.52	379.351	1533.386	33.7

Total PFOA

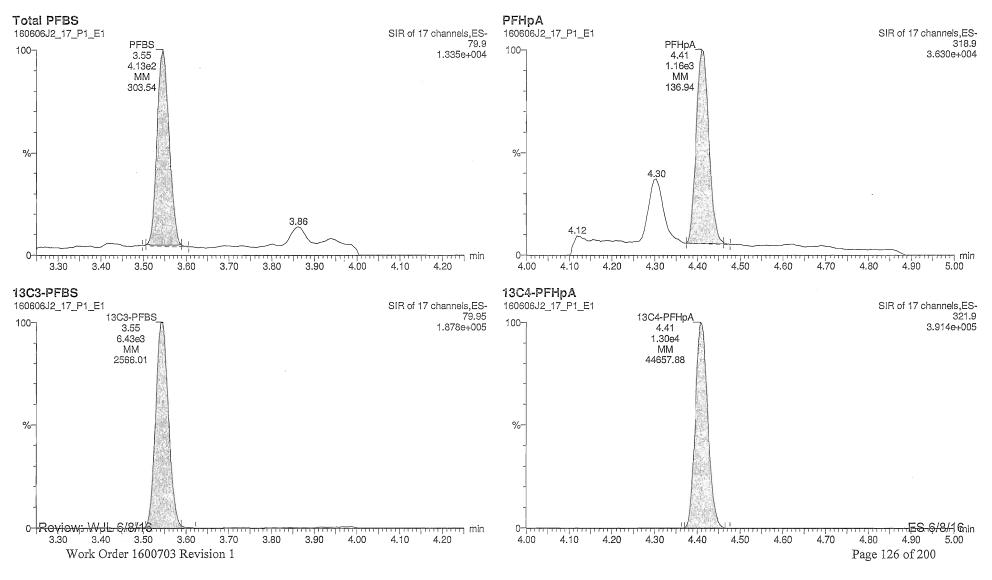
# #	Name	Trace	RT	Area	IS Area	Conc.
1 4	PFOA	368.9	4.80	2930.283	9957.788	61.2
2 20	Total PFOA	368.9	4.71	1146.112	9957.788	23.8

Total PFOS

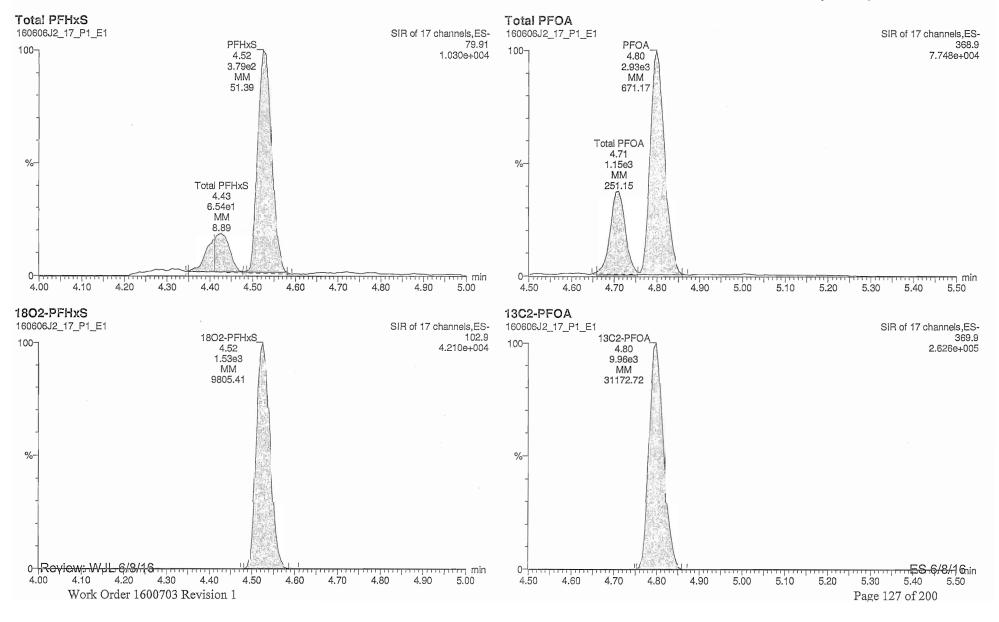
# N	ame	Trace	RT	Area	IS Area	Conc.
1 5 P	FOS	79.92	5.18	365.012	4383.440	10.9
2 21 To	otal PFOS	79.92	5.07	512.775	4383.440	15.3
3 21 To	otal PFOS	79.92	4.97	103.358	4383.440	3.1

Guantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_17.qld	
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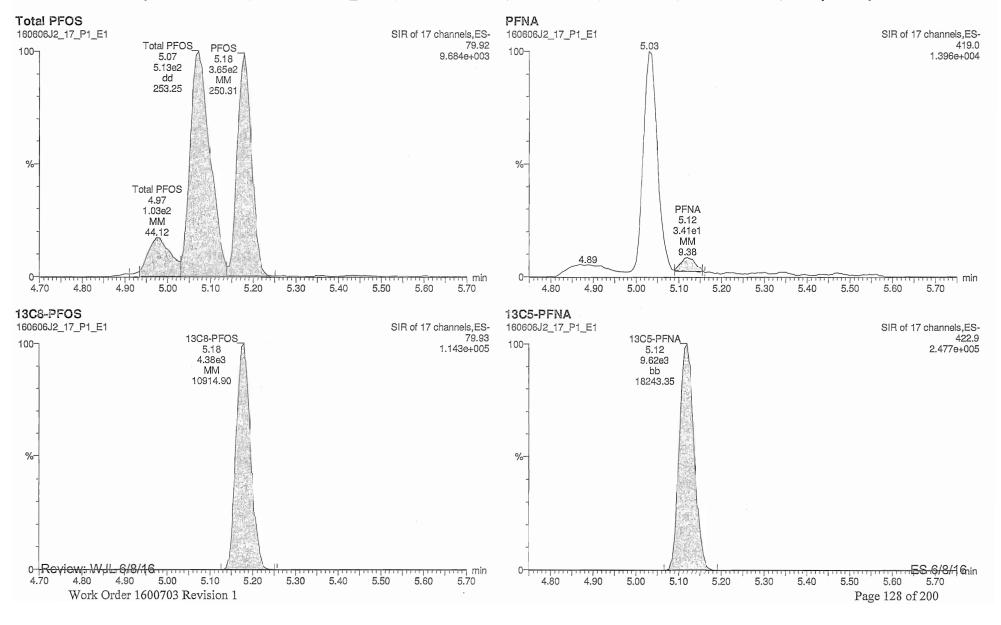
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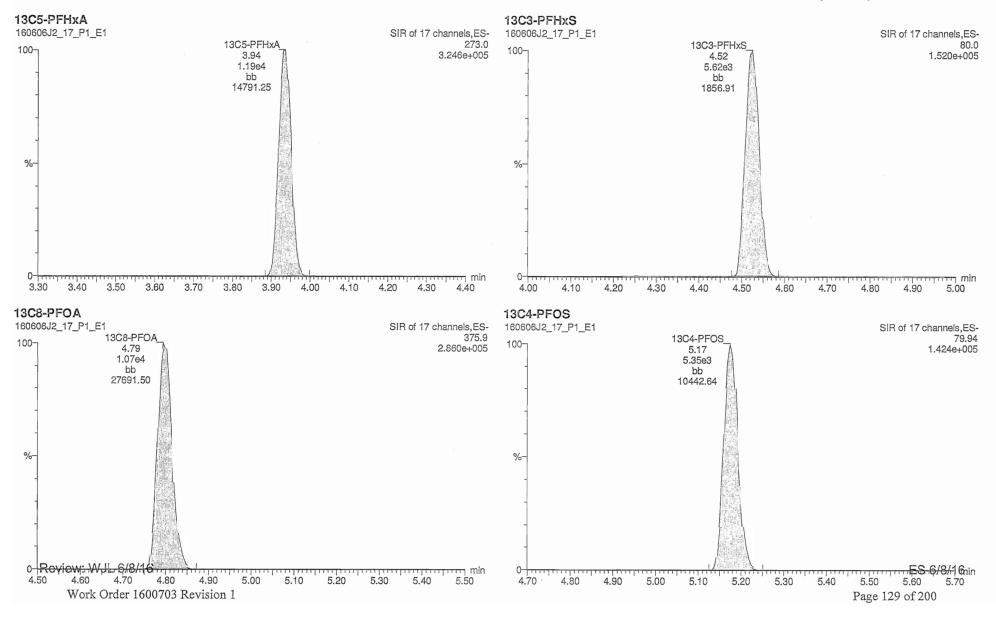
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_17.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 09:51:48 Pacific Daylight Time Wednesday, June 08, 2016 09:52:04 Pacific Daylight Time	



Quantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5 62
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_17.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 09:51:48 Pacific Daylight Time Wednesday, June 08, 2016 09:52:04 Pacific Daylight Time	

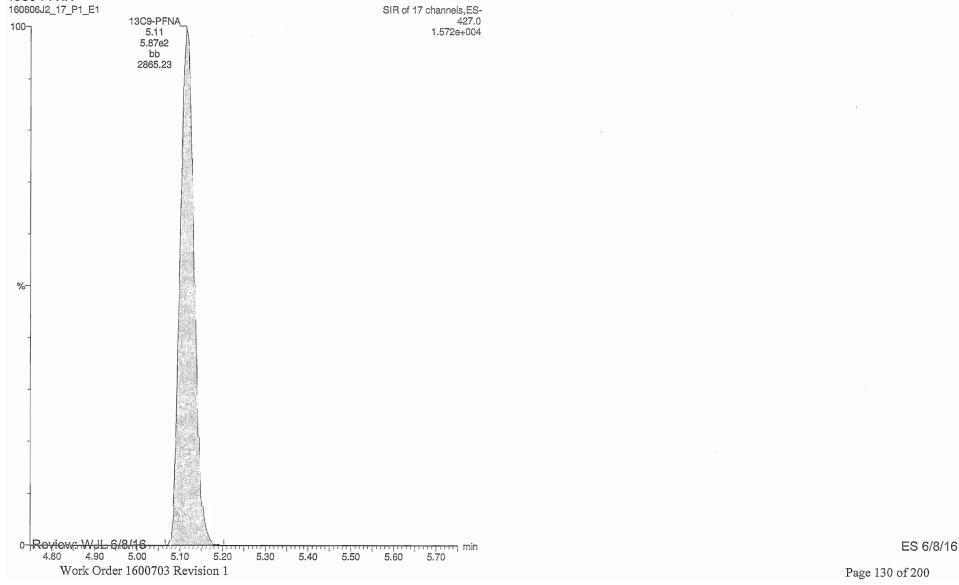


Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_17.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 09:51:48 Pacific Daylight Time Wednesday, June 08, 2016 09:52:04 Pacific Daylight Time	



Quantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_17.qld	~
Last Altered: Printed:	Wednesday, June 08, 2016 09:51:48 Pacific Daylight Time Wednesday, June 08, 2016 09:52:04 Pacific Daylight Time	

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	mple Summary Report MassLynx 4.1 SCN815 cal Laboratory Q1 1	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_21.qld	<u></u>
Last Altered: Printed:	Wednesday, June 08, 2016 10:16:05 Pacific Daylight Time Wednesday, June 08, 2016 10:16:40 Pacific Daylight Time	

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-11, Description: GW-MW-11, Name: 160606J2_21.wiff, Date: 06-Jun-2016, Time: 21:55:19

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
$1 \in [[n_0], [n_1]]$	1 PFBS	79.9	1.642e2	6.203e3		0.130	3.54	10.8	
2 3	2 PFHpA	318.9	1.057e4	1.230e4		0.130	4.41	423	
3	3 PFHxS	79.91	6.120e2	1.549e3		0.130	4.53	51.5	
4	4 PFOA	368.9	3.280e4	1.050e4		0.130	4.80	693	
5	5 PFOS	79.92	4.735e3	4.510e3		0.130	5.17	132	
6	6 PFNA	419.0	6.003e3	1.052e4		0.130	5.11	84.9	
7	7 13C3-PFBS	79.95	6.203e3	1.159e4	0.476	0.130	3.54	108	112
8	8 13C4-PFHpA	321.9	1.230e4	1.159e4	1.055	0.130	4.41	96.7	101
9	9 18O2-PFHxS	102.9	1.549e3	5.271e3	0.286	0.130	4.53	98.9	103
10	10 13C2-PFOA	369.9	1.050e4	1.104e4	0.958	0.130	4.80	95.4	99.3
114	11 13C8-PFOS	79.93	4.510e3	4.910e3	0.974	0.130	5.17	90.7	94.3
12	12 13C5-PFNA	422.9	1.052e4	5.403e2	18.926	0.130	5.11	98.9	103
13	13 13C5-PFHxA	273.0	1.159e4	1.159e4	1.000	0.130	3.94	96.2	100
14	14 13C3-PFHxS	80.0	5.271e3	5.271e3	1.000	0.130	4.53	96.2	100
15	15 13C8-PFOA	375.9	1.104e4	1.104e4	1.000	0.130	4.79	96.2	100
16	16 13C4-PFOS	79.94	4.910e3	4.910e3	1.000	0.130	5.17	96.2	100
17	17 13C9-PFNA	427.0	5.403e2	5.403e2	1.000	0.130	5.11	96.2	100
18	18 Total PFBS	79.9		6.203e3		0.130		10.8	
19	19 Total PFHxS	79.91		1.549e3		0.130		60.2	
20	20 Total PFOA	368.9		1.050e4		0.130		758	
21	21 Total PFOS	79.92		4.510e3		0.130		308	

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160606J2\160606J2_21.qld

Last Altered: Wednesday, June 08, 2016 10:16:05 Pacific Daylight Time Printed: Wednesday, June 08, 2016 10:16:40 Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

ID: 1600703-11, Description: GW-MW-11, Name: 160606J2_21.wiff, Date: 06-Jun-2016, Time: 21:55:19

Total PFBS

#	Name	Trace	RT -	Area	IS Area	Conc.
1	PFBS	79.9	3.54	164.190	6202.698	10.8

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.53	612.004	1548.604	51.5
2 19 Total P	FHxS 79.91	4.43	102.970	1548.604	8.6

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.80	32796.730	10498.961	692.7
2 20 Total PFC	DA 368.9	4.70	3419.172	10498.961	64.8

Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 5 PF03	79.92	5.17	4735.336	4510.228	131.9
2 21 Total PFOS	79.92	5.07	5627.176	4510.228	156.8
3 21 Total PFOS	79.92	4.98	711.066	4510.228	19.7

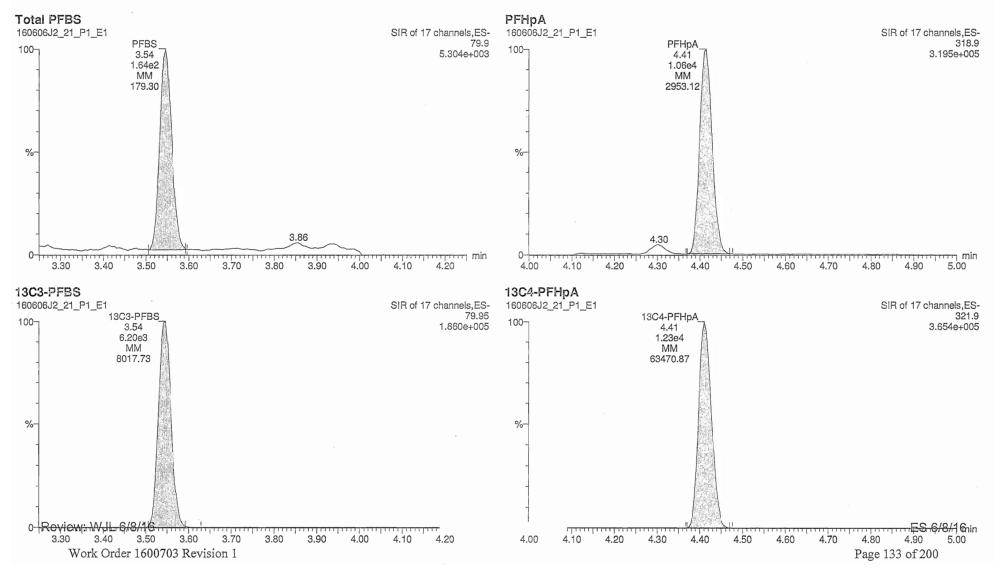
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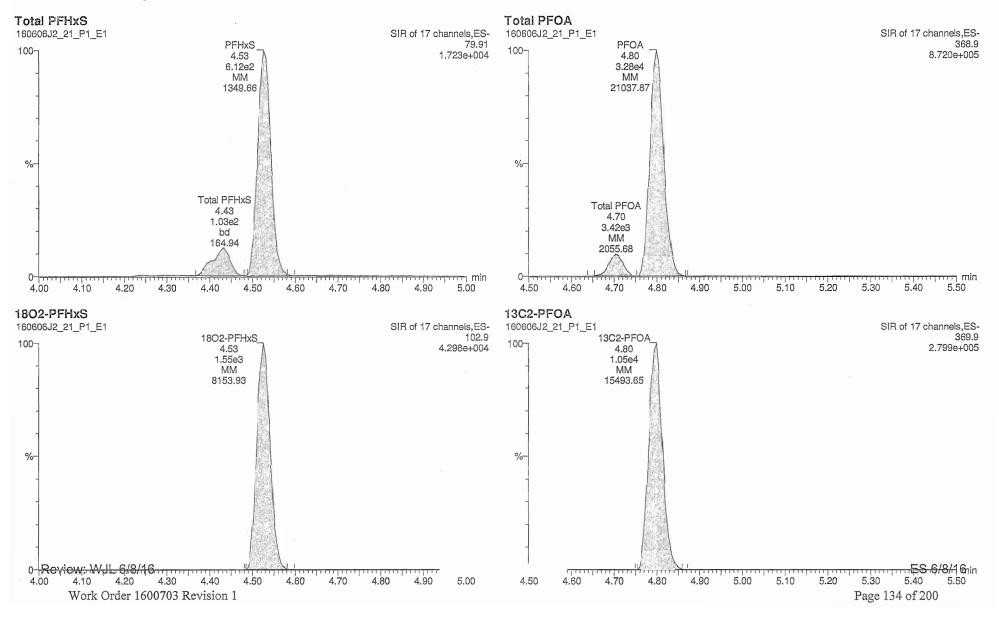
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Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_21.qld	
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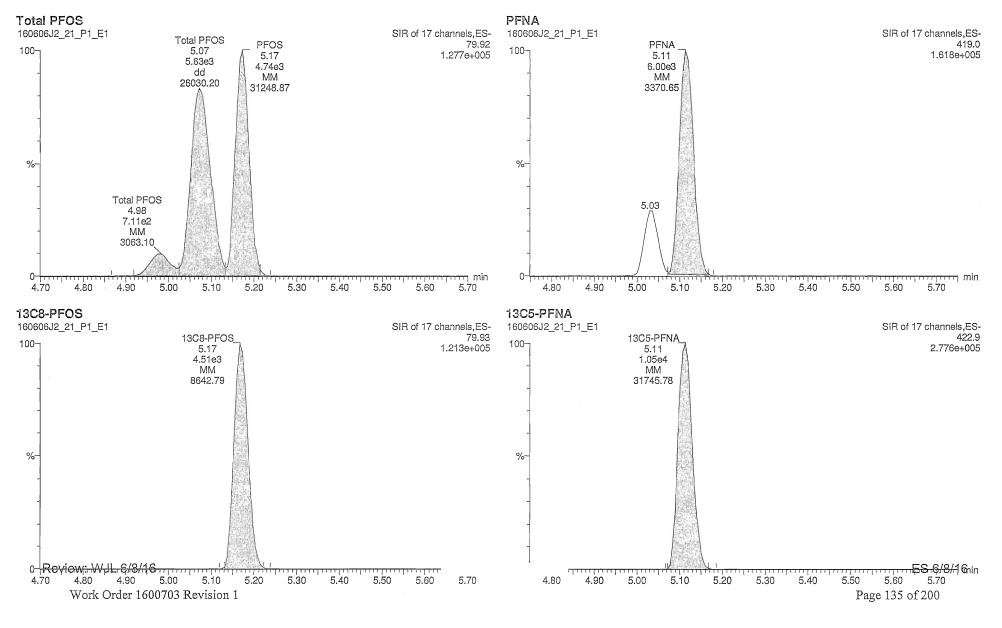
Method: U:\Q2.pro\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16



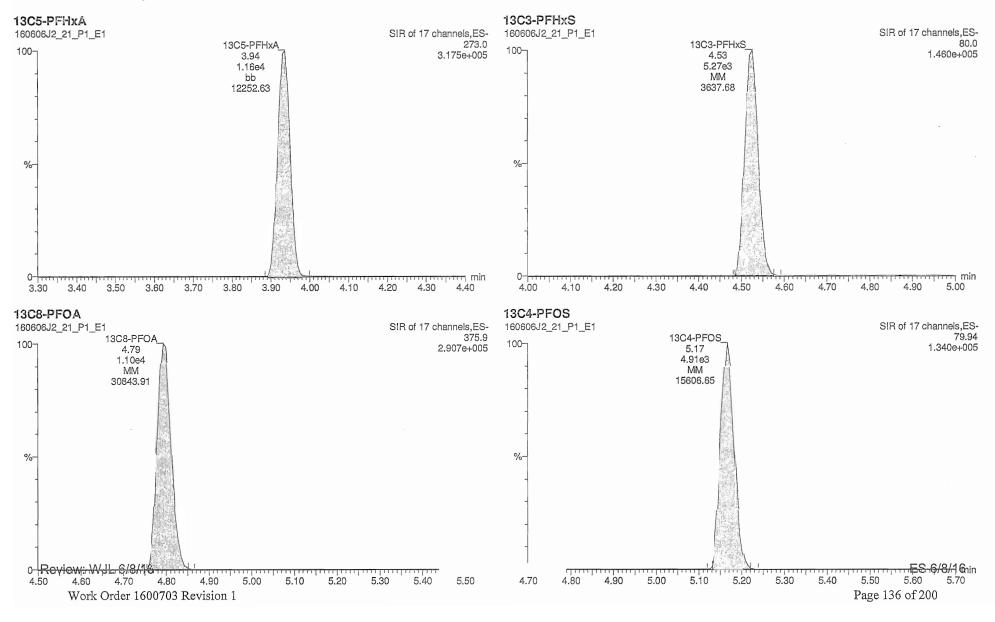
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 cal Laboratory Q1	Page 2 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_21.qld	•
Last Altered: Printed:	Wednesday, June 08, 2016 10:16:05 Pacific Daylight Time Wednesday, June 08, 2016 10:16:40 Pacific Daylight Time	



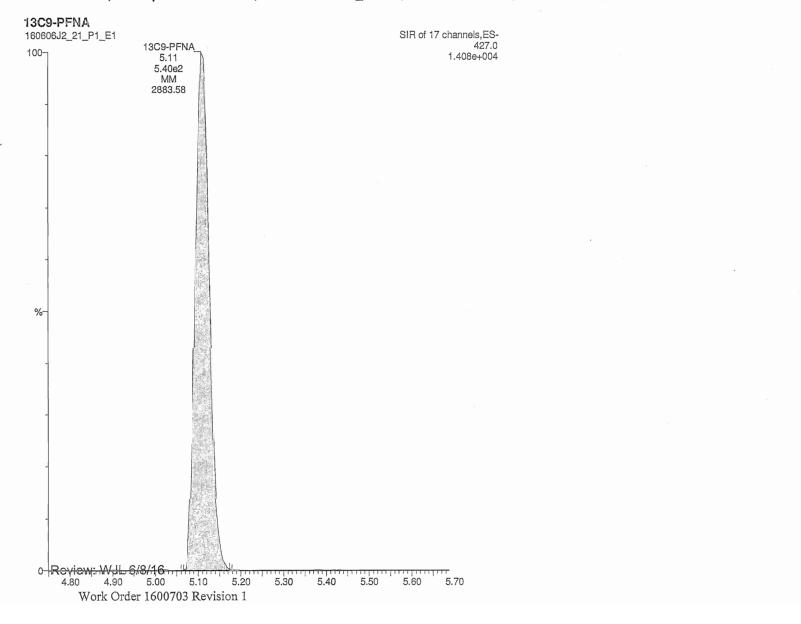
Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 3 of 5 م م
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_21.qld	·
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Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 4 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_21.qld	F
Last Altered: Printed:	Wednesday, June 08, 2016 10:16:05 Pacific Daylight Time Wednesday, June 08, 2016 10:16:40 Pacific Daylight Time	



Quantify Sar Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 5 of 5
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_21.qld	1-
Last Altered: Printed:	Wednesday, June 08, 2016 10:16:05 Pacific Daylight Time Wednesday, June 08, 2016 10:16:40 Pacific Daylight Time	



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	ple Summary Report MassLynx 4.1 SCN815	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_2.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:47:56 Pacific Daylight Time Wednesday, June 08, 2016 11:49:18 Pacific Daylight Time	

Method: U:\Q2.PRO\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

Name: 160606J2_02.wiff, Date: 06-Jun-2016, Time: 18:03:23, ID: ST160606J2-1 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501

	# Name	Trace	Response	Resp	RRF	Wt/Vol	, RT	Conc	%Rec	
1	1 PFBS	79.9	4.61e3	9.81e3		1.000	3.54	25,2	100.8	70-130
2	2 PFHpA	318.9	8.02e3	1.92e4		1.000	4.41	26.4	105.5	1
3	3 PFHxS	79.91	3.22e3	2.25e3		1.000 ·	4.53	24.4	97.7	
4. States	4 PFOA	368.9	1.34e4	1.54e4		1.000	4.79	22.9	91.5	
5	5 PFOS	79.92	7.45e3	4.98e3		1.000	5.17	24.5	97.9	
6.	6 PFNA	419.0	1.65e4	1.27e4		1.000	5.11	25,7	102.6	V
7 505	7 13C3-PFBS	79.95	9.81e3	1.79e4	0.476	1.000	3.54	14.4	115.1	60-150
8	8 13C4-PFHpA	321.9	1.92e4	1.79e4	1.055	1.000	4.41	12.7	101.8	1
9	9 1802-PFHxS	102.9	2.25e3	8.15e3	0.286	1.000	4.52	12.1	96.7	
10	10 13C2-PFOA	369.9	1.54e4	1.51e4	0.958	1.000	4.79	13.3	106.8	
11. 20	11 13C8-PFOS	79.93	4.98e3	5.26e3	0.974	1.000	5.17	12.1	97.2	1
. 12	12 13C5-PFNA	422.9	1.27e4	6.88e2	18.926	1.000	5.11	12.2	97.3	50-150
13	13 13C5-PFHxA	273.0	1. 79e4	1.79e4	1.000	1.000	3.93	12.5	100.0	
14.	14 13C3-PFHxS	80.0	8.15e3	8.15e3	1.000	1.000	4.52	12.5	100.0	
15	15 13C8-PFOA	375.9	1.51e4	1.51e4	1.000	1.000	4.79	12.5	100.0	
16	16 13C4-PFOS	79.94	5.26e3	5.26e3	1.000	1.000	5.16	12.5	100.0	
17	17 13C9-PFNA	427.0	6.88e2	6.88e2	1.000	1.000	5.11	12.5	100.0	
18	18 Total PFBS	79.9		9.81e3		1.000		25.2		
19	19 Total PFHxS	79.91		2.25e3		1.000		24.4		
20	20 Total PFOA	368.9		1.54e4		1.000		22.9		
21	21 Total PFOS	79.92		4.98e3		1.000		24.5		

BR 6/8/16

	Sample Name	Acquisition Date	Sample ID	Sample Comment
1.	160606J2_01	6/6/2016 17:51:13	IPA	IPA
2	160606J2_02	6/6/2016 18:03:23	ST160606J2-1 PFC CS3.5 16E2501	PFC CS3.5 16E2501
3	160606J2_03	6/6/2016 18:15:37	IPA	(PA
4	160606J2_04	6/6/2016 18:27:49	B6F0015-BS1	OPR
5	160606J2_05	6/6/2016 18:39:59	B6F0015-BSD1	LCS Dup
6	160606J2_06	6/6/2016 18:52:13	IPA	IPA
7	160606J2_07	6/6/2016 19:04:25	B6F0015-BLK1	Method Blank
8	160606J2_08	6/6/2016 19:16:38	1600703-01	GW-BP-4
9	160606J2_09	6/6/2016 19:28:50	1600703-02	GW-MW-8
10	160606J2_10	6/6/2016 19:41:02	1600703-03	GW-EB-Waterlevel
和心。	160606J2_11	6/6/2016 19:53:12	1600703-04	FB-DI Water
12.	160606J2_12	6/6/2016 20:05:24	1600703-05	GW-MW-4
£13-∸	160606J2_13	6/6/2016 20:17:38	1600703-06	GW-MW-4 Dup
14	160606J2_14	6/6/2016 20:29:52	1600703-07	GW-EB-Bailer
15	160606J2_15	6/6/2016 20:42:05	1600703-08	GW-MW-9
16	160606J2_16	6/6/2016 20:54:19	1600703-09	GW-MW-5S
17	160606J2_17	6/6/2016 21:06:30	1600703-10	GW-MW-5D
18	160606J2_18	6/6/2016 21:18:44	IPA	IPA
19	160606J2_19	6/6/2016 21:30:55	ST160606J2-2 PFC CS3.5 16E2501	PFC CS3.5 16E2501
20	160606J2_20	6/6/2016 21:43:07	IPA	IPA
21	160606J2_21	6/6/2016 21:55:19	1600703-11	GW-MW-11
22	160606J2_22	6/6/2016 22:07:31	B6F0015-MS1	Matrix Spike
23	160606J2_23	6/6/2016 22:19:43	B6F0015-MSD1	Matrix Spike Dup
24	160606J2_24	6/6/2016 22:31:56	IPÁ	IPA
25	160606J2_25	6/6/2016 22:44:08	ST160606J2-3 PFC CS3.5 16E2501	PFC CS3.5 16E2501
26	160606J2_26	6/6/2016 22:56:20	IPA	IPA

Page 1 of 1

	le campration Standards Keview Checklist <u>Q</u>								
			ION Ratio	Concentration	C-Cais Name	Sign - Date	Correct I-Cal	Manaul Integrations	
Calibration ID:	ST16060652-1	L MH	NA-	Y	I	Ø	P	3	WA+
Calibration ID:	-2	LMH	ф			ď		9	Ċ)
Calibration ID:	V -3	ГЩН	d'	D	ľ	ď			K
Calibration ID:		LMH						-	
Calibration ID:	n nama - malakata ang mga panganaka ang karandaga dalami - sagan ya na ay	LMH							
Calibration ID:		L M H							
Calibration ID:		LMH							
Calibration ID:		LMH							
Calibration ID:		LMH							
Calibration (D:		LMM							
						Full Ma	iss Cal. D	ate: 2/12	16

LC Calibration Standards Review Checklist

Reviewed By: BR 6/8/16 Initials/Date

Work Order 1600703 Revision 1	

Comments;

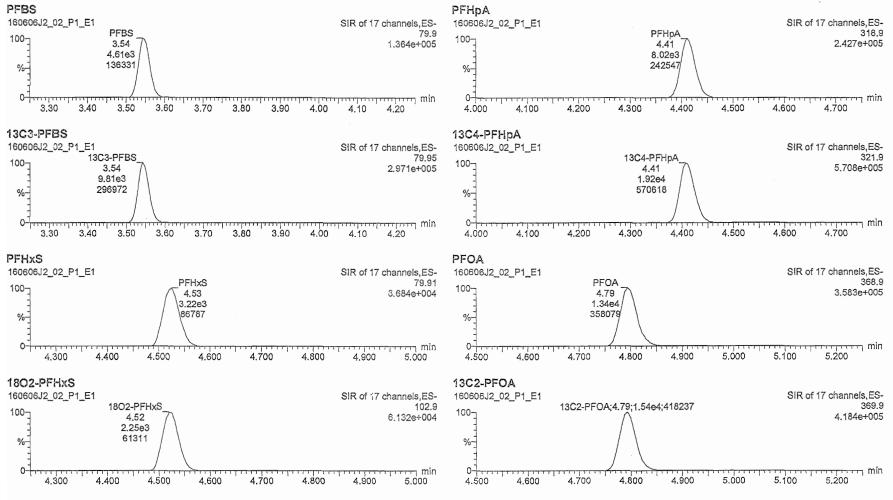
Quantify Sample Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	

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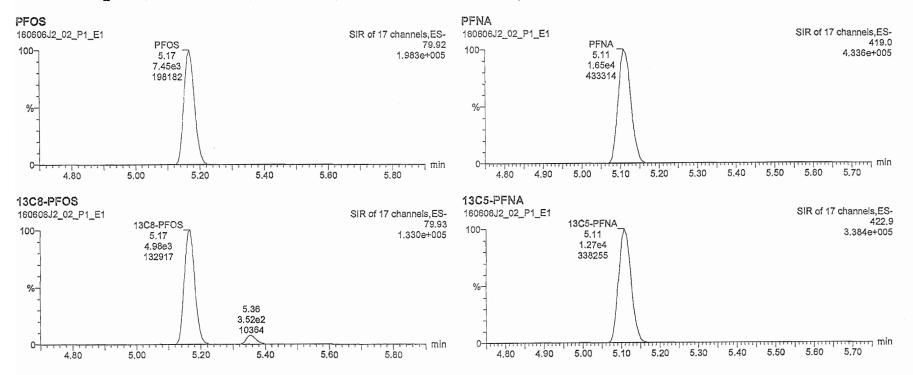
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Quantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q2	Page 2 of 3
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_2.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:47:56.Pacific Daylight Time Wednesday, June 08, 2016 11:49:50 Pacific Daylight Time	

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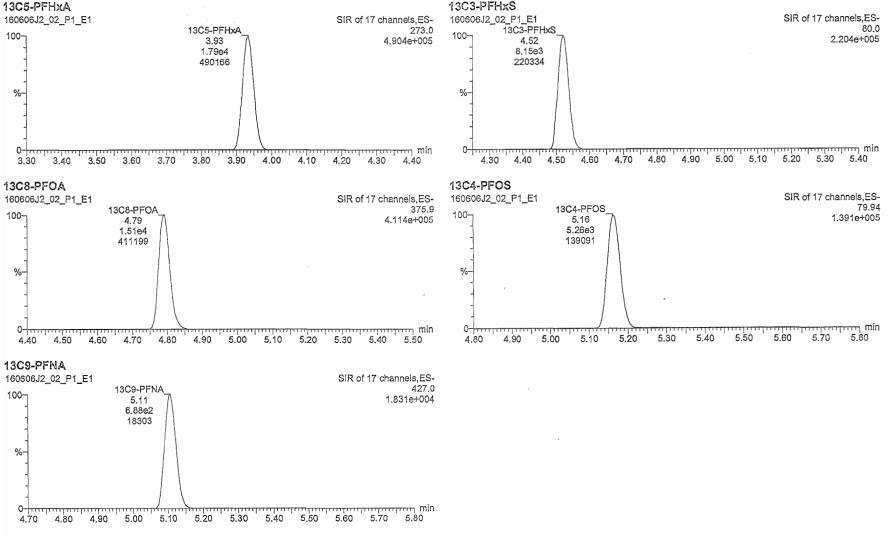


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	ple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_19.qld	
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Name: 160606J2_19.wiff, Date: 06-Jun-2016, Time: 21:30:55, ID: ST160606J2-2 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501

	# Name	Trace	Response	S Resp	RRF	Wt/Vol	RT	Conc.	%Rec	
A new second second	1 PFBS	79.9	4.50e3	9.78e3	a na mana kanage kengen.	1.000	3.55	24.7	98.6	70-130
2	2 PFHpA	318.9	8.10e3	1.97e4		1.000	4.41	25.9	103.7	1
3	3 PFHxS	79.91	3.35e3	2.26e3		1.000	4.53	25.3	101.3	
4	4 PFOA	368.9	1.42e4	1.52e4		1.000	4.80	24.7	98.8	
5	5 PFOS	79.92	7.59e3	4.96e3		1.000	5.17	25.0	100.2	
6	6 PFNA	419.0	1.72e4	1.35e4		1.000	5.12	25.1	100.5	V
7	7 13C3-PFBS	79.95	9.78e3	1.81e4	0.476	1.000	3.55	14.2	113.7	60-150
8	8 13C4-PFHpA	321.9	1.97e4	1.81e4	1.055	1.000	4.41	12.9	103.5	1
9	9 1802-PFHxS	102.9	2.26e3	8.30e3	0.286	1.000	4.53	11.9	95.5	
10	10 13C2-PFOA	369.9	1.52e4	1.56e4	0.958	1.000	4.80	12.8	102.1	
11	11 13C8-PFOS	79.93	4.96e3	5.02e3	0.974	1.000	5.17	12.7	101.4	↓
12	12 13C5-PFNA	422.9	1.35e4	7.33e2	18.926	1.000	5.11	12.2	97.3	50-150
13	13 13C5-PFHxA	273.0	1.81e4	1.81e4	1.000	1.000	3.94	12.5	100.0	
14	14 13C3-PFHxS	80.0	8.30e3	8.30e3	1.000	1.000	4.53	12.5	100.0	
15	15 13C8-PFOA	375.9	1.56e4	1.56e4	1.000	1.000	4.80	12.5	100.0	
16	16 13C4-PFOS	79.94	5.02e3	5.02e3	1.000	1.000	5.17	12.5	100.0	
17	17 13C9-PFNA	427.0	7.33e2	7.33e2	1.000	1.000	5.11	12.5	100.0	
18	18 Total PFBS	79.9		9.78e3		1.000		24.7		
19	19 Total PFHxS	79.91		2.26e3		1.000		25.3		
20	20 Total PFOA	368.9		1.52e4		1.000		24.7		
21	21 Total PFOS	79.92		4.96e3		1.000		25.1		

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BR 6/8/16

	Sample Name	Acquisition Date	-Sample ID	Sample Comment
1.2.1	160606J2_01	6/6/2016 17:51:13	IPA	IPA
2	160606J2_02	6/6/2016 18:03:23	ST160606J2-1 PFC CS3.5 16E2501	PFC CS3.5 16E2501
3	160606J2_03	6/6/2016 18:15:37	IPA	IPA
4	160606J2_04	6/6/2016 18:27:49	B6F0015-BS1	OPR
5	160606J2_05	6/6/2016 18:39:59	B6F0015-BSD1	LCS Dup
6	160606J2_06	6/6/2016 18:52:13	IPA	IPA
7	160606J2_07	6/6/2016 19:04:25	B6F0015-BLK1	Method Blank
8	160606J2_08	6/6/2016 19:16:38	1600703-01	GW-BP-4
9	160606J2_09	6/6/2016 19:28:50	1600703-02	GW-MW-8
10	160606J2_10	6/6/2016 19:41:02	1600703-03	GW-EB-Waterlevel
111-2	160606J2_11	6/6/2016 19:53:12	1600703-04	FB-DI Water
12	160606J2_12	6/6/2016 20:05:24	1600703-05	GW-MW-4
13 1	160606J2_13	6/6/2016 20:17:38	1600703-06	GW-MW-4 Dup
14	160606J2_14	6/6/2016 20:29:52	1600703-07	GW-EB-Bailer
15	160606J2_15	6/6/2016 20:42:05	1600703-08	GW-MW-9
16	160606J2_16	6/6/2016 20:54:19	1600703-09	GW-MW-5S
17	160606J2_17	6/6/2016 21:06:30	1600703-10	GW-MW-5D
18	160606J2_18	6/6/2016 21:18:44	IPA	IPA
19	160606J2_19	6/6/2016 21:30:55	ST160606J2-2 PFC CS3.5 16E2501	PFC CS3.5 16E2501
20	160606J2_20	6/6/2016 21:43:07	IPA	IPA
21	160606J2_21	6/6/2016 21:55:19	1600703-11	GW-MW-11
22	160606J2_22	6/6/2016 22:07:31	B6F0015-MS1	Matrix Spike
23	160606J2_23	6/6/2016 22:19:43	B6F0015-MSD1	Matrix Spike Dup
24	160606J2_24	6/6/2016 22:31:56	IPA	IPA
25	160606J2_25	6/6/2016 22:44:08	ST160606J2-3 PFC CS3.5 16E2501	PFC CS3.5 16E2501
26	160606J2_26	6/6/2016 22:56:20	IPA	IPA

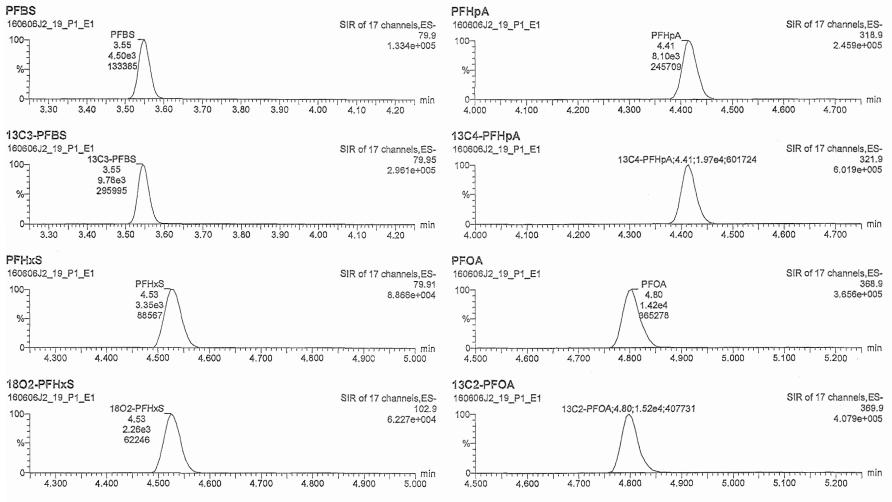
Page 1 of 1

Dataset:U:\Q2.PRO\Results\160606J2\160606J2_19.qldLast Altered:Wednesday, June 08, 2016 11:50:21 Pacific Daylight TimePrinted:Wednesday, June 08, 2016 11:50:56 Pacific Daylight Time	Vista Analytica	Laboratory Q2
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Method: U:\Q2.PRO\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

MassLvnx 4.1 SCN815

Name: 160606J2_19.wiff, Date: 06-Jun-2016, Time: 21:30:55, ID: ST160606J2-2 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501

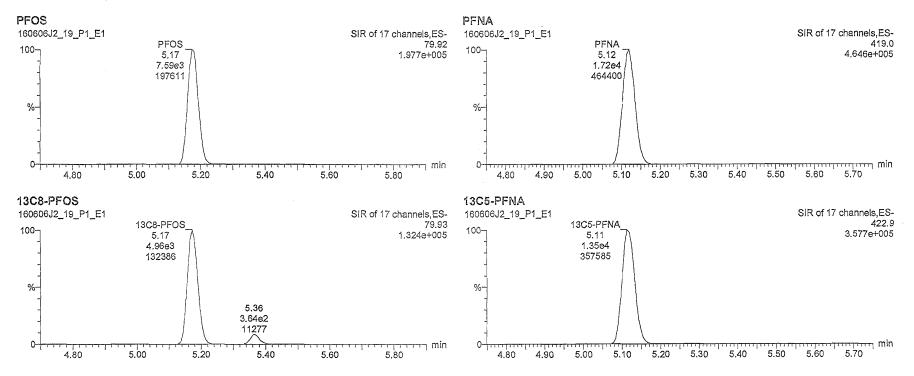


Quantify Sample Report

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Quantify Sam Vista Analytica	ple Report al Laboratory Q2	MassLynx 4.1 SCN815
Dataset:	U:\Q2.PRO\Res	ults\160606J2\160606J2_19.qld
Last Altered: Printed:		ne 08, 2016 11:50:21 Pacific Daylight Time ne 08, 2016 11:50:56 Pacific Daylight Time

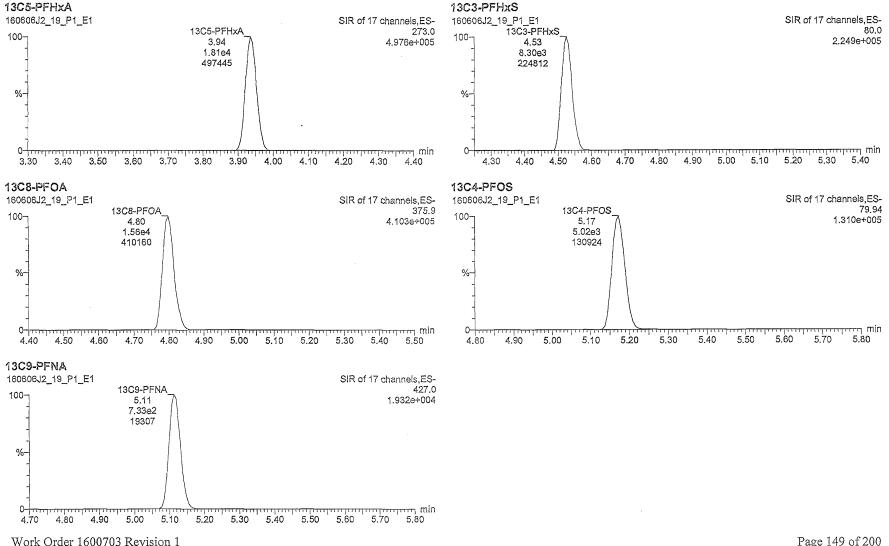
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Quantify Sar Vista Analytic	npie Report MassLynx 4.1 SCN815 al Laboratory Q2	Page 3 of 3
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_19.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:50:21 Pacific Daylight Time Wednesday, June 08, 2016 11:50:56 Pacific Daylight Time	

Name: 160606J2_19.wiff, Date: 06-Jun-2016, Time: 21:30:55, ID: ST160606J2-2 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501



	ple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_25.qld	
Last Altered: Printed:	Wednesday, June 08, 2016 11:51:51 Pacific Daylight Time Wednesday, June 08, 2016 11:52:30 Pacific Daylight Time	

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Name: 160606J2_25.wiff, Date: 06-Jun-2016, Time: 22:44:08, ID: ST160606J2-3 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501

	# Name	Trace	Response	IS Resp	RRF	WtWol	RT	Cone	~%Rec		
$d_{i,j} = \log (n_{i,j}) + \log (n_{i,j})$	1 PFBS	79.9	4.55e3	9.60e3	011000000000000000000000000000000000000	1.000	3,55	25.4	101.6	70-130	
2	2 PFHpA	318.9	7.97e3	1.89e4		1.000	4,42	26.6	106.3	l.	
3	3 PFHxS	79.91	3,45e3	2.28e3		1.000	4.53	25.8	103.4		
4	4 PFOA	368.9	1.39e4	1.64e4		1.000	4.81	22.3	89.4		
5	5 PFOS	79.92	7.71e3	5.31e3		1.000	5.18	23.8	95.1		PW10!H
6	6 PFNA	419.0	1.67e4	1.31e4		1.000	5.12	25.0	100.1	Ŷ	, letto
7 1	7 13C3-PFBS	79.95	9.60e3	1.78e4	0.476	1.000	3.55	14.1	113.0	60-150	61
8	8 13C4-PFHpA	321.9	1.89e4	1.78e4	1.055	1.000	4.41	12.6	100.6		
9	9 1802-PFHxS	102.9	2.28e3	7.84e3	0.286	1.000	4.53	12.7	102.0		
10	10 13C2-PFOA	369.9	1.64e4	1.58e4	0.958	1.000	4.80	13.5	108.4		1 of 1
f(t) = f(t) = f(t)	11 13C8-PFOS	79.93	5.31e3	5.17e3	0.974	1.000	5.17	13.2	105.4		BR 6/8/16
12	12 13C5-PFNA	422.9	1.31e4	6.54e2	18.926	1.000	5.12	13.2	105.9	50-150	
13	13 13C5-PFHxA	273.0	1.78e4	1.78e4	1.000	1.000	3.94	12.5	100.0		
14	14 13C3-PFHxS	80.0	7.84e3	7.84e3	1.000	1.000	4.53	12.5	100.0		
15	15 13C8-PFOA	375.9	1.58e4	1.58e4	1.000	1.000	4.80	12.5	100.0		
16	16 13C4-PFOS	79.94	5.17e3	5.17e3	1.000	1.000	5.17	12.5	100.0		
17	17 13C9-PFNA	427.0	6.54e2	6.54e2	1.000	1.000	5.11	12.5	100.0		
18	18 Total PFBS	79.9		9.60e3		1.000		25.4			
19/1	19 Total PFI-bsS	79.91		2.28e3		1.000		25.8			
20	20 Total PFOA	368.9		1.64e4		1.000		22.3			
21	21 Total PFOS	79.92		5.31e3		1.000	- <u> </u>	23.9			

Printing Time: 11:53:32 Printing Date: Wednesday, June 08, 2016

<i>c</i> .	Sample Name	Acquisition Date	Sample (D	Sample Comment
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2 /	160606J2_02	6/6/2016 18:03:23	ST160606J2-1 PFC CS3.5 16E2501	PFC CS3.5 16E2501
3	160606J2_03	6/6/2016 18:15:37	IPA	IPA
4	160606J2_04	6/6/2016 18:27:49	B6F0015-BS1	OPR
53:-	160606J2_05	6/6/2016 18:39:59	B6F0015-BSD1	LCS Dup
6	160606J2_06	6/6/2016 18:52:13	IPA	IPA
7	160606J2_07	6/6/2016 19:04:25	B6F0015-BLK1	Method Blank
8	160606J2_08	6/6/2016 19:16:38	1600703-01	GW-BP-4
9	160606J2_09	6/6/2016 19:28:50	1600703-02	GW-MW-8
10	160606J2_10	6/6/2016 19:41:02	1600703-03	GW-EB-Waterlevel
11	160606J2_11	6/6/2016 19:53:12	1600703-04	FB-DI Water
12	160606J2_12	6/6/2016 20:05:24	1600703-05	GW-MW-4
13	160606J2_13	6/6/2016 20:17:38	1600703-06	GW-MW-4 Dup
14 2	160606J2_14	6/6/2016 20:29:52	1600703-07	GW-EB-Bailer
15	160606J2_15	6/6/2016 20:42:05	1600703-08	GW-MW-9
16	160606J2_16	6/6/2016 20:54:19	1600703-09	GW-MW-5S
17	160606J2_17	6/6/2016 21:06:30	1600703-10	GW-MW-5D
18	160606J2_18	6/6/2016 21:18:44	IPA	IPA
19	160606J2_19	6/6/2016 21:30:55	ST160606J2-2 PFC CS3.5 16E2501	PFC CS3.5 16E2501
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21	160606J2_21	6/6/2016 21:55:19	1600703-11	GW-MW-11
22	160606J2_22	6/6/2016 22:07:31	B6F0015-MS1	Matrix Spike
23	160606J2_23	6/6/2016 22:19:43	B6F0015-MSD1	Matrix Spike Dup
24	160606J2_24	6/6/2016 22:31:56	IPA	IPA
25	160606J2_25	6/6/2016 22:44:08	ST160606J2-3 PFC CS3.5 16E2501	PFC CS3.5 16E2501
26	160606J2_26	6/6/2016 22:56:20	IPA	IPA

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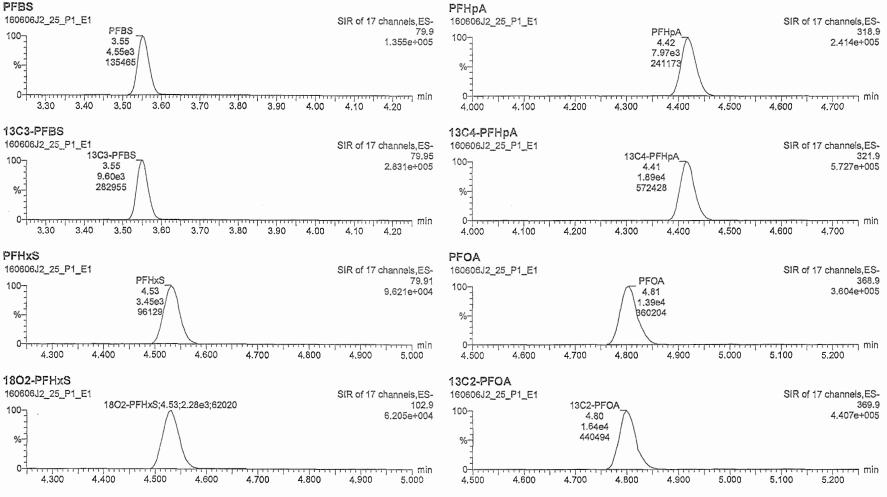
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Vista Analytical Laboratory Q2		

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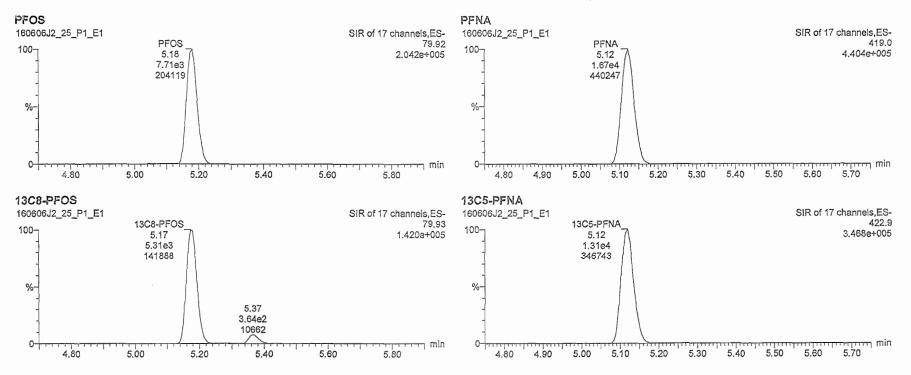
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Quantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q2	Page 2 of 3
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Name: 160606J2_25.wiff, Date: 06-Jun-2016, Time: 22:44:08, ID: ST160606J2-3 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501



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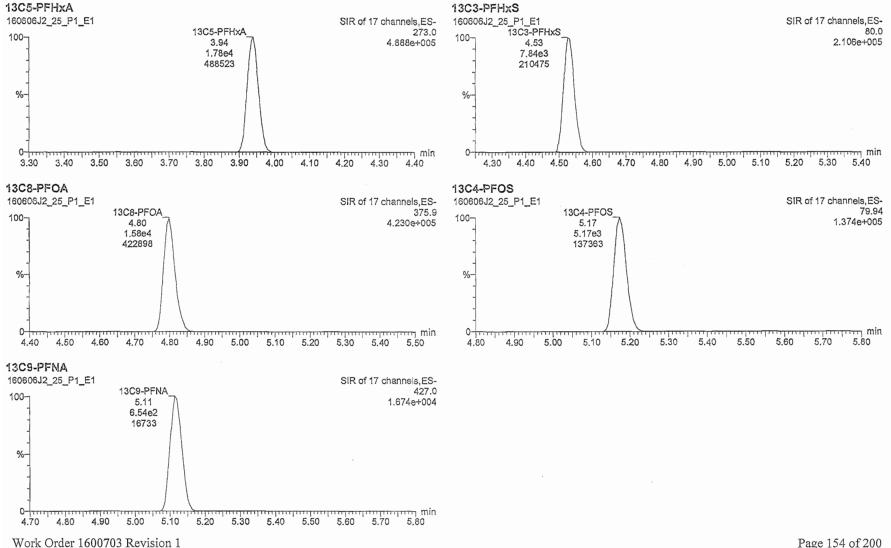
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Quantify San Vista Analytica	al Laboratory Q2	Page 3 of 3
Dataset:	U:\Q2.PRO\Results\160606J2\160606J2_25.qld	
Last Altered:	Wednesday, June 08, 2016 11:51:51 Pacific Daylight Time	

Wednesday, June 08, 2016 11:52:43 Pacific Daylight Time Printed:

Name: 160606J2_25.wiff, Date: 06-Jun-2016, Time: 22:44:08, ID: ST160606J2-3 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501



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INITIAL CALIBRATION

Quantify Compound Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld
Last Altered:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time
Printed:	Friday, June 03, 2016 13:25:10 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

Compound name: PFBS

Coefficient of Determination: R^2 = 0.998002 Calibration curve: -8.96761e-005 * x^2 + 0.235318 * x Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area) Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	* Name	Std. Cone.	RT	Resp	IS Resp.	Conc	%Dev	RRF
	1 160602J1_04_P1	1.00	3.47	1.73e2	7.48e3	1.23	22.7	0.289
2	2 160602J1_05_P1	2.00	3.47	3.71e2	7.89e3	2.50	25.1	0.294
3	3 160602J1_06_P1	5.00	3.47	8.20e2	7.27e3	6.00	20.0	0.282
4	4 160602J1_07_P1	10.0	3.46	2.14e3	1.00e4	11.4	14.3	0.268
5	5 160602J1_08_P1	25.0	3.47	4.02e3	8.78e3	24.6	-1.7	0.229
6	6 160602J1_09_P1	50.0	3.46	6.51e3	7.33e3	48.1	-3.8	0.222
7	7 160602J1_10_P1	75.0	3.46	9.86e3	7.17e3	75.3	0.3	0.229
86 J	8 160602J1_11_P1	100	3.47	1.23e4	7.02e3	96.9	-3.1	0.220
9	9 160602J1_12_P1	200	3.47	2.18e4	6.20e3	202	1.0	0.219

tor List 14 A. PU 6/5/16



BR 6/5/15

Compound name: PFHpA

Coefficient of Determination: R^2 = 0.997242 Calibration curve: -9.95491e-005 * x^2 ÷ 0.200577 * x Response type: Internal Std (Ref 8), Area * (IS Conc. / IS Area) Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Std! Conc	S SBT	Resp	📖 IS Resp 👘	Gonc.	%Dev	RRF
1.5015962.03	1 160602J1_04_P1	1.00	4.36	3.12e2	1.55e4	1.26	25.6	0.252
2	2 160602J1_05_P1	2.00	4.37	6.54e2	1.70e4	2.40	20.1	0.241
3	3 160602J1_06_P1	5.00	4.35	1.61e3	1.65e4	6.13	22.5	0.245
42	4 160602J1_07_P1	10.0	4.36	3.95e3	2.15e4	11.5	15.0	0.229
5	5 160602J1_08_P1	25.0	4.36	7.87e3	1.90e4	26.2	4.9	0.208
6 3 s	6 160602J1_09_P1	50.0	4.35	1.26e4	1.68e4	47.8	-4.4	0.187
7	7 160602J1_10_P1	75.0	4.35	1.79e4	1.56e4	74.3	-0.9	0.191
8-10-62	8 160602J1_11_P1	100	4.35	2.42e4	1.66e4	95.0	-5.0	0.182
9111	9 160602J1_12_P1	200	4.36	4.22e4	1.44e4	203	1.7	0.183

Work Order 1600703 Revision 1

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Quantify Compound Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld
Last Altered:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time
Printed:	Friday, June 03, 2016 13:25:10 Pacific Daylight Time

Compound name: PFHxS

Coefficient of Determination: R² = 0.998243 Calibration curve: -0.000374713 * x² + 0.740171 * x Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area) Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	- Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
d a second second	1 160602J1_04_P1	1.00	4.48	1.53e2	2.02e3	1.28	28.4	0.950
2	2 160602J1_05_P1	2.00	4.48	3.01e2	2.07e3	2.45	22.6	0.906
З	3 160602J1_06_P1	5.00	4.47	6.66e2	1.93e3	5.86	17.3	0.865
$d^{(1)} = \frac{1}{2} $	4 160602J1_07_P1	10.0	4.48	1.68e3	2.68e3	10.7	6.5	0.784
5	5 160602J1_08_P1	25.0	4.48	3.30e3	2.30e3	24.5	-2.1	0.716
6	6 160602J1_09_P1	50.0	4.47	5.35e3	1.82e3	50.9	1.8	0.734
7	7 160602J1_10_P1	75.0	4.47	7.88e3	1.85e3	74.9	-0.1	0.712
8	8 160602J1_11_P1	100	4.47	1.00e4	1.87e3	94.8	~5.2	0.668
our de la parte	9 160602J1_12_P1	200	4.48	1.81e4	1.68e3	203	1.4	0.673

Compound name: PFOA

Coefficient of Determination: R^2 = 0.998460 Calibration curve: -0.000605327 * x^2 + 0.488166 * x Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area) Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

Mark Ering (1) Fell address Her Hanness	Mame	Std. Conc	RI	Kesp	IS Resp	Conc.	%Dev	RRF
	1 160602J1_04_P1	1.00	4.76	5.84e2	1.24e4	1.20	20.4	0.587
4 - 5 - 5 - 5 - 5	2 160602J1_05_P1	2.00	4.75	1.06e3	1.30e4	2.10	4.8	0.510
3	3 160602J1_06_P1	5.00	4.75	2.57e3	1.15e4	5.79	15.7	0.561
A Protection of the	4 160602J1_07_P1	10.0	4.75	7.25e3	1.69e4	11.2	11.5	0.537
3 Partie	5 160602J1_08_P1	25.0	4.75	1.31e4	1.39e4	25.0	-0.1	0.473
el indriné O ra	6 160602J1_09_P1	50.0	4.75	2.35e4	1.27e4	50.7	1.4	0.464
7 Seattle	7 160602J1_10_P1	75.0	4.75	3.17e4	1.22e4	73.2	-2.4	0.433
8	8 160602J1_11_P1	100	4.75	4.19e4	1.27e4	95.7	-4.3	0.412
Q optimizing a second second	9 160602J1_12_P1	200	4.76	7.22e4	1.21e4.	204	2.0	0.372

Quantify Compound Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld
Last Altered:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time
Printed:	Friday, June 03, 2016 13:25:10 Pacific Daylight Time

Compound name: PFOS

Coefficient of Determination: R^2 = 0.997305 Calibration curve: -0.000238167 * x^2 + 0.769779 * x Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area) Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	- C RRF
1	1 160602J1_04_P1	1.00	5.14	4.77e2	6.36e3	1.22	21.8	0.937
2	2 160602J1_05_P1	2.00	5.14	1.00e3	6.54e3	2.48	24.2	0.955
3	3 160602J1_06_P1	5.00	5.14	2.24e3	5.90e3	6.19	23.7	0.950
4	4 160602J1_07_P1	10.0	5.14	5.12e3	7.50e3	11.1	11.3	0.854
5	5 160602J1_08_P1	25.0	5.14	9.38e3	5.96e3	25.8	3.1	0.787
6	6 160602J1_09_P1	50.0	5.14	1.92e4	6.61e3	47.9	-4.3	0.726
7-24-10	7 160602J1_10_P1	75.0	5.13	2.81e4	6.13e3	76.2	1.7	0.764
8	8 160602J1_11_P1	100	5.14	3.53e4	6.27e3	94.1	-5.9	0.703
9	9 160602J1_12_P1	200	5.14	6.48e4	5.53e3	203	1.5	0.732

Compound name: PFNA

Coefficient of Determination: R^2 = 0.998401 Calibration curve: -0.000813253 * x^2 + 0.655308 * x Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area) Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	Name	Std: Conc	RT	Resp	IS Resp	Сопс	%Dev	RRF
L. S. Statistics	1 160602J1_04_P1	1.00	5.08	7.47e2	1.20e4	1.19	19.1	0.779
2	2 160602J1_05_P1	2.00	5.08	1.48e3	1.24e4	2.29	14.5	0.748
3	3 160602J1_06_P1	5.00	5.07	3.39e3	1.09e4	5.96	19.1	0.775
4	4 160602J1_07_P1	10.0	5.08	8.47e3	1.47e4	11.2	11.6	0.721
5	5 160602J1_08_P1	25.0	5.08	1.54e4	1.26e4	24.0	-4.1	0.610
6	6 160602J1_09_P1	50.0	5.08	2.98e4	1.22e4	49.5	-1.1	0.609
7	7 160602J1_10_P1	75.0	5.07	4.08e4	1.17e4	72.9	-2.9	0.579
8	8 160602J1_11_P1	100	5.07	5.59e4	1.22e4	99.5	-0.5	0.572
9	9 160602J1_12_P1	200	5.09	9.71e4	1.22e4	202	1.0	0.496

 Quantify Compound Summary Report
 MassLynx 4.1 SCN815

 Vista Analytical Laboratory Q2
 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:25:10 Pacific Daylight Time

Compound name: 13C3-PFBS Response Factor: 0.476319 RRF SD: 0.0154995, Relative SD: 3.25402 Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area) Curve type: RF

54 S	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160602J1_04_P1	12.5	3.47	7.48e3	1.54e4	12.8	2.2	0.487
2	2 160602J1_05_P1	12.5	3.47	7.89e3	1.70e4	12.2	-2.5	0.464
3	3 160602J1_06_P1	12.5	3.46	7.27e3	1.53e4	12.5	0.1	0.477
4	4 160602J1_07_P1	12.5	3.46	1.00e4	2.00e4	13.1	4.8	0.499
5	5 160602J1_08_P1	12.5	3.47	8.78e3	1.82e4	12.7	1.4	0.483
6	6 160602J1_09_P1	12.5	3.46	7.33e3	1.51e4	12.7	2.0	0.486
7	7 160602J1_10_P1	12.5	3.46	7.17e3	1.52e4	12.4	-0.9	0.472
8	8 160602J1_11_P1	12.5	3,47	7.02e3	1.48e4	12.4	-0.4	0.474
9	9 160602J1_12_P1	12.5	3.47	6.20e3	1.39e4	11.7	-6.6	0.445

Compound name: 13C4-PFHpA Response Factor: 1.05508 RRF SD: 0.0445481, Relative SD: 4.22227 Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area) Curve type: RF

	# Mame	Std. Conc. i.	RT	Resp	IS Resp	Conc.	%Dev	RRE
	1 160602J1_04_P1	12.5	4.36	1.55e4	1.54e4	11.9	-4.5	1.01
2	2 160602J1_05_P1	12.5	4.36	1.70e4	1.70e4	11.9	-5.2	1.00
3	3 160602J1_06_P1	12.5	4.35	1.65e4	1.53e4	12.8	2.2	1.08
4	4 160602J1_07_P1	12.5	4.36	2.15e4	2.00e4	12.7	1.9	1.07
5	5 160602J1_08_P1	12.5	4.36	1.90e4	1.82e4	12.4	-1.2	1.04
6	6 160602J1_09_P1	12.5	4.35	1.68e4	1.51e4	13.2	5.3	1.11
7. 7. 14	7 160602J1_10_P1	12.5	4.35	1.56 e4	1.52e4	12.1	-2.9	1.02
8	8 160602J1_11_P1	12.5	4.35	1.66e4	1.48e4	13.3	6.6	1.12
9	9 160602J1_12_P1	12.5	4.36	1.44e4	1.39e4	12.2	-2.3	1.03

Quantify Compound Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld
Last Altered:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time
Printed:	Friday, June 03, 2016 13:25:10 Pacific Daylight Time

Compound name: 18O2-PFHxS Response Factor: 0.285813 RRF SD: 0.00722595, Relative SD: 2.52821 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area) Curve type: RF

	#Name	Sid. Conc	RT	Resp	IS Resp	Coric.	%Dev	RRF
A market the second	1 160602J1_04_P1	12.5	4.48	2.02e3	6.88e3	12.8	2.6	0.293
2	2 160602J1_05_P1	12.5	4.48	2.07e3	7.32e3	12.4	-0.8	0.284
3	3 160602J1_06_P1	12.5	4.47	1.93e3	6.58e3	12.8	2.4	0.293
4	4 160602J1_07_P1	12.5	4.48	2.68e3	9.20e3	12.7	1.8	0.291
5	5 160602J1_08_P1	12.5	4.48	2.30e3	7.90e3	12.7	2.0	0.291
6	6 160602J1_09_P1	12.5	4.47	1.82e3	6.72e3	11.8	-5.2	0.271
7	7 160602J1_10_P1	12.5	4.47	1.85e3	6.54e3	12.3	-1.2	0.282
Bez Martin I	8 160602J1_11_P1	12.5	4.47	1.87e3	6.56e3	12.5	-0.3	0.285
9	9 160602J1_12_P1	12.5	4.48	1.68e3	5.97e3	12.3	-1.3	0.282

Compound name: 13C2-PFOA Response Factor: 0.958067 RRF SD: 0.0328206, Relative SD: 3.42571 Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area) Curve type: RF

	#	Name		Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	160602J1	1_04_P1	12.5	4.76	1.24e4	1.22e4	13.3	6.7	1.02
2	2	160602J1	1_05_P1	12.5	4.75	1.30e4	1.36e4	12.5	-0.0	0.958
3	3	160602J1	1_06_P1	12.5	4.75	1.15e4	1.18e4	12.7	1.5	0.973
4	4	160602J1	1_07_P1	12.5	4.75	1.69e4	1.70e4	12.9	3.5	0.992
5.	5	160602J1	1_08_P1	12.5	4.75	1.39e4	1.47e4	12.3	-1.3	0.946
6	6	160602J	1_09_P1	12.5	4.75	1.27e4	1.37e4	12.0	-3.9	0.920
7	7	160602J	1_10_P1	12.5	4.75	1.22e4	1.32e4	12.1	-3.5	0.924
8	8	160602J	1_11_P1	12.5	4.75	1.27e4	1.34e4	12.4	-1.0	0.949
0	9	160602J	1_12_P1	12.5	4.76	1.21e4	1.29e4	12.3	-1.9	0.940

	apound Summary Report al Laboratory Q2	MassLynx 4.1 SCN815
Dataset:	U:\Q2.PRO\Results\160602	2J1\160602J1crv_List6.qld
Last Altered: Printed:	Friday, June 03, 2016 13:24 Friday, June 03, 2016 13:24	

Compound name: 13C8-PFOS Response Factor: 0.974293 RRF SD: 0.0397798, Relative SD: 4.08293 Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area) Curve type: RF

	* Name:	Std. Conc	RT	Resp	IS Resp	Conc	%Dev	RRF
$1_{i_1} = 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1$	1 160602J1_04_P1	12.5	5.14	6.36e3	6.25e3	13.1	4.4	1.02
2	2 160602J1_05_P1	12.5	5.14	6.54e3	6.68e3	12.6	0.4	0.978
3	3 160602J1_06_P1	12.5	5.13	5.90e3	5.85e3	12.9	3.6	1.01
4	4 160602J1_07_P1	12.5	5.13	7.50e3	7.36e3	13.1	4.7	1.02
5	5 160602J1_08_P1	12.5	5.14	5.96e3	6.26e3	12.2	-2.3	0.952
6	6 160602J1_09_P1	12.5	5.14	6.61e3	6.72e3	12.6	0.9	0.983
7.	7 160602J1_10_P1	12.5	5.13	6.13e3	6.56e3	12.0	-4.1	0.934
8	8 160602J1_11_P1	12.5	5.13	6.27e3	6.44e3	12.5	-0.1	0.973
9	9 160602J1_12_P1	12.5	5.14	5.53e3	6.13e3	11.6	-7.5	0.902

Compound name: 13C5-PFNA Response Factor: 18.9261 RRF SD: 1.232, Relative SD: 6.50953 Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area) Curve type: RF

	2 Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
all company of	1 160602J1_04_P1	12.5	5.08	1.20e4	6.37e2	12.4	-0,6	18.8
2 1	2 160602J1_05_P1	12.5	5.08	1.24e4	6.51e2	12.6	0.6	19.0
3	3 160602J1_06_P1	12.5	5.07	1.09e4	5.47e2	13.2	5.6	20.0
4	4 160602J1_07_P1	12.5	5.08	1.47e4	8.60e2	11.3	-9.7	17.1
S	5 160602J1_08_P1	12.5	5.08	1.26e4	7.13e2	11.7	-6.4	17.7
6	6 160602J1_09_P1	12.5	5.07	1.22e4	6.29e2	12.8	2.7	19.4
7	7 160602J1_10_P1	12.5	5.07	1.17e4	6.62e2	11.7	-6.3	17.7
8	8 160602J1_11_P1	12.5	5.07	1.22e4	6.24e2	12.9	3.5	19.6
9	9 160602J1_12_P1	12.5	5.08	1.22e4	5.85e2	13.8	10.6	20.9

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Quantify Compound Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qid					
Last Altered:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time					
Printed:	Friday, June 03, 2016 13:25:10 Pacific Daylight Time					

Compound name: 13C5-PFHxA Response Factor: 1 RRF SD: 3.92523e-017, Relative SD: 3.92523e-015 Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area) Curve type: RF

	,≭ Name	Std. Conc	RT	Resp	IS Resp	Conc	%Dev	RRF
1	1 160602J1_04_P1	12.5	3.89	1.54e4	1.54e4	12.5	0.0	1.00
$2^{\frac{1}{1+1}+\frac$	2 160602J1_05_P1	12.5	3.89	1.70e4	1.70e4	12.5	0.0	1.00
3	3 160602J1_06_P1	12.5	3.88	1.53e4	1.53e4	12.5	0.0	1.00
2	4 160602J1_07_P1	12.5	3.88	2.00e4	2.00e4	12.5	0.0	1.00
5	5 160602J1_08_P1	12.5	3.88	1.82e4	1.82e4	12.5	0.0	1.00
6	6 160602J1_09_P1	12.5	3.88	1.51e4	1.51e4	12.5	0.0	1.00
7	7 160602J1_10_P1	12.5	3.88	1.52e4	1.52e4	12.5	0.0	1.00
8	8 160602J1_11_P1	12.5	3.87	1.48e4	1.48e4	12.5	-0.0	1.00
9	9 160602J1_12_P1	12.5	3.89	1.39e4	1.39e4	12.5	0.0	1.00

Compound name: 13C3-PFHxS Response Factor: 1 RRF SD: 5.55112e-017, Relative SD: 5.55112e-015 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area) Curve type: RF

	#Name	Std. Conc.	R⊤	Resp	IS Resp	Conc	%Dev	RRF
	1 160602J1_04_P1	12.5	4.48	6.88e3	6.88e3	12.5	0.0	1.00
2	2 160602J1_05_P1	12.5	4.48	7.32e3	7.32e3	12.5	0.0	1.00
3	3 160602J1_06_P1	12.5	4.47	6.58e3	6.58e3	12.5	-0.0	1.00
	4 160602J1_07_P1	12.5	4.47	9.20e3	9.20e3	12.5	0.0	1.00
5	5 160602J1_08_P1	12.5	4.47	7.90e3	7.90e3	12.5	0.0	1.00
6	6 160602J1_09_P1	12.5	4.47	6.72e3	6.72e3	12.5	0.0	1.00
7	7 160602J1_10_P1	12.5	4.47	6.54e3	6.54e3	12.5	0.0	1.00
8	8 160602J1_11_P1	12.5	4.47	6.56e3	6.56e3	12.5	-0.0	1.00
9	9 160602J1_12_P1	12.5	4.48	5.97e3	5.97e3	12.5	0.0	1.00

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	apound Summary Report al Laboratory Q2	MassLynx 4.1 SCN815
Dataset:	U:\Q2.PRO\Results\160602	2J1\160602J1crv_List6.qld
Last Altered: Printed:	Friday, June 03, 2016 13:2 Friday, June 03, 2016 13:2	4:16 Pacific Daylight Time 5:10 Pacific Daylight Time

Compound name: 13C8-PFOA

Response Factor: 1 RRF SD: 3.92523e-017, Relative SD: 3.92523e-015 Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area) Curve type: RF

	* Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160602J1_04_P1	12.5	4.76	1.22e4	1.22e4	12.5	0.0	1.00
2 - 6	2 160602J1_05_P1	12.5	4.75	1.36e4	1.36e4	12.5	0.0	1.00
3	3 160602J1_06_P1	12.5	4.74	1.18e4	1.18e4	12.5	0.0	1.00
4.5	4 160602J1_07_P1	12.5	4.75	1.70e4	1.70e4	12.5	0.0	1.00
6. ju	5 160602J1_08_P1	12.5	4.75	1.47e4	1.47e4	12.5	0.0	1.00
6	6 160602J1_09_P1	12.5	4.75	1.37e4	1.37e4	12.5	0.0	1.00
$Z \rightarrow \pi^{-1}$	7 160602J1_10_P1	12.5	4.75	1.32e4	1.32e4	12.5	-0.0	1.00
8	8 160602J1_11_P1	12.5	4.75	1.34e4	1.34e4	12.5	0.0	1.00
9	9 160602J1_12_P1	12.5	4.75	1.29e4	1.29e4	12.5	0.0	1.00

Compound name: 13C4-PFOS Response Factor: 1 RRF SD: 6.7987e-017, Relative SD: 6.7987e-015 Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area) Curve type: RF

	# Name)	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1 Carlos Carlos	1 160602J1_04_P1	12.5	5.14	6.25e3	6.25e3	12.5	0.0	1.00
2	2 160602J1_05_P1	12.5	5.14	6.68e3	6.68e3	12.5	-0.0	1.00
3	3 160602J1_06_P1	12.5	5.13	5.85e3	5.85e3	12.5	0.0	1.00
4	4 160602J1_07_P1	12.5	5.13	7.36e3	7.36e3	12.5	0.0	1.00
5	5 160602J1_08_P1	12.5	5.14	6.26e3	6,26e3	12.5	0.0	1.00
6	6 160602J1_09_P1	12.5	5.13	6.72e3	6.72e3	12.5	0.0	1.00
7 - 60.	7 160602J1_10_P1	12.5	5.13	6.56e3	6,56e3	12.5	-0.0	1.00
8	8 160602J1_11_P1	12.5	5.13	6.44e3	6.44e3	12.5	-0.0	1.00
9	9 160602J1_12_P1	12.5	5.14	6.13e3	6.13e3	12.5	0.0	1.00

Quantify Compound Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld
Last Altered:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time
Printed:	Friday, June 03, 2016 13:25:10 Pacific Daylight Time

Compound name: 13C9-PFNA Response Factor: 1

RRF SD: 7.85046e-017, Relative SD: 7.85046e-015 Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area) Curve type: RF

	- Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1.1.1	1 160602J1_04_P1	12.5	5,08	6.37e2	6.37e2	12.5	0.0	1.00
2 martine and a second	2 160602J1_05_P1	12.5	5.08	6.51e2	6.51e2	12.5	0.0	1.00
3	3 160602J1_06_P1	12.5	5.07	5.47e2	5.47e2	12.5	0.0	1.00
2	4 160602J1_07_P1	12.5	5.07	8.60e2	8.60e2	12.5	0.0	1.00
5	5 160602J1_08_P1	12.5	5.08	7.13e2	7.13e2	12.5	0.0	1.00
6	6 160602J1_09_P1	12.5	5.07	6.29e2	6.29e2	12.5	0.0	1,00
7	7 160602J1_10_P1	12.5	5.07	6.62e2	6.62e2	12.5	0.0	1.00
8	8 160602J1_11_P1	12.5	5.07	6.24e2	6.24e2	12.5	0.0	1.00
9	9 160602J1_12_P1	12.5	5.08	5.85e2	5.85e2	12.5	0.0	1.00

Compound name: Total PEBS Coefficient of Determination: R⁴2 = 0.998002 Calibration curve: -8.96761e-005 * x⁴2 + 0.235318 * x Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area) Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

¹ Martin Kalender, S. K.	* Name	Std. Conc RI Resp	IS Resp	Conc. %Dev RRF	
A CARLES OF	1 160602J1_04_P1	1.00	7.48e3	1.23]
2	2 160602J1_05_P1	2.00	7.89e3	2.50	
3	3 160602J1_06_P1	5.00	7.2763	6.00	{
A CONTRACTOR	4 160602J1_07_P1	10.0	1.00e4	11.4	
5	5 160602J1_08_P1	25.0	8.78e3	24.6	
6	6 160602J1_09_P1	50.0	7.33e3	48.1	
7-10-11-1	7 160602J1_10_P1	75.0	7.17e3	75.3	
8	8 160602J1_11_P1	100	7.02e3	96.9	
9	9 160602J1_12_P1	200	6.20e3	202	
		· ·			OW , Will
					615110

	Sample Name	Acquisition Date	Sample ID	Sample Comment
1 1	160602J1_01	6/2/2016 17:13:03	IPA	IPA
2	160602J1_02	6/2/2016 17:25:16	ST160602J1-1 PFC CS(-1.5) 16F0211	PFC CS(-1.5) 16F0211
3	160602J1_03	6/2/2016 17:37:28	ST160602J1-2 PFC CS(-1) 16F0210	PFC CS(-1) 16F0210
	160602J1_04	6/2/2016 17:49:41	ST160602J1-3 PFC CS0 16E1702	PFC CS0 16E1702
5151	160602J1_05	6/2/2016 18:01:53	ST160602J1-4 PFC CS1 16E1703	PFC CS1 16E1703
	160602J1_06	6/2/2016 18:14:03	ST160602J1-5 PFC CS2 16E1704	PFC CS2 16E1704
An Sec	160602J1_07	6/2/2016 18:26:17	ST160602J1-6 PFC CS3 16E1705	PFC CS3 16E1705
28.00	160602J1_08	6/2/2016 18:38:30	ST160602J1-7 PFC CS3.5 16E2501	PFC CS3.5 16E2501
	160602J1_09	6/2/2016 18:50:43	ST160602J1-8 PFC CS4 16E1707	PFC CS4 16E1707
0 1	160602J1_10	6/2/2016 19:02:55	ST160602J1-9 PFC CS4.5 16E1708	PFC CS4.5 16E1708
NOT 521	160602J1_11	6/2/2016 19:15:07	ST160602J1-10 PFC CS5 16E1709	PFC CS5 16E1709
	160602J1_12	6/2/2016 19:27:19	ST160602J1-11 PFC CS6 16E1710	PFC CS6 16E1710
1	160602J1_13	6/2/2016 19:39:32	IPA -	IPA
	160602J1_13	6/2/2016 19:51:44	IPA	
	160602J1_14	6/2/2016 20:03:56	SS160602J1-1 PFC SSS 16E2301	PFC SSS 16E2301
S 100 1	160602J1_16	6/2/2016 20:16:06		IPA
4 19 1 8	160602J1_17	6/2/2016 20:28:19	B6F0003-BS1	OPR
VIII 3	160602J1_18	6/2/2016 20:40:35	B6E0147-BS1	OPR
1. 20	160602J1_19	6/2/2016 20:52:48	IPA	IPA
	160602J1_20	6/2/2016 21:05:01	B6F0003-BLK1	Method Blank
	160602J1_21	6/2/2016 21:17:15	B6E0147-BLK1	Method Blank
	160602J1_22	6/2/2016 21:29:28	B6F0009-BLK1	Method Blank
3 1	160602J1_23	6/2/2016 21:41:40	1600699-01	56 Cipperly Road
4 1	160602J1_24	6/2/2016 21:53:52	1600699-02	56 Cipperly (Dupe)
5 1	160602J1_25	6/2/2016 22:06:00	1600699-03	243 Clay Hill Road
6 1	160602J1_26	6/2/2016 22:18:14	1600699-04	938 Groveside Dr
7 1	160602J1_27	6/2/2016 22:30:25	1600699-05	10 CR#59
8 1	160602J1_28	6/2/2016 22:42:38	1600699-06	28 King Road
9 1	160602J1 29	6/2/2016 22:54:50	1600699-07	203 Center Road
0 1	160502J1_30	6/2/2016 23:07:03	1600699-08	203 Eagle Bridge Rd
		6/2/2016 23:19:12	1600699-09	126 Center Road
		6/2/2016 23:31:26	IPA	IPA
2	60602J1_33	6/2/2016 23:43:39	ST160602J1-12 PFC CS3.5 16E2501	PFC CS3.5 16E2501
	60602J1_34	6/2/2016 23:55:51	IPA	
	60602J1_35	6/3/2016 00:08:01	1600669-01	WURTS_SB01003-0-1
	60602J1_36	6/3/2016 00:20:14	1600669-02	WURTS_SB01003-4-5
		6/3/2016 00:32:28	1600669-03	WURTS_SB01003-4-5FD
	60602J1_37	6/3/2016 00:32:28	1600669-04	-
	60602J1_38			WURTS_SB01004-0-1
	60602J1_39	6/3/2016 00:56:55	1600669-05	WURTS_SB01004-4-5
	60602J1_40	6/3/2016 01:09:08	1600669-06	WURTS_SB01005-0-1
. 1	60602J1_41	6/3/2016 01:21:19	1600669-07	WURTS_SB01005-4-5
	60602J1_42	6/3/2016 01:33:32	1600669-08	WURTS_SB01006-0-1
	60602J1_43	6/3/2016 01:45:45	1600669-09	WURTS_SB01006-4-5
0.0	60602J1_44	6/3/2016 01:57:56	1600669-10	WURTS_SB01007-0-1
A Street	_	6/3/2016 02:10:08	IPA	IPA .
intra	60602J1_46	6/3/2016 02:22:19	ST160602J1-13 PFC CS3.5 16E2501	PFC CS3.5 16E2501
- C.J. 5.P	60602J1_47	6/3/2016 02:34:32	IPA	IPA
(二) 16	60602J1_48	6/3/2016 02:46:44	1600669-11	WURTS_SB01007-4-5
	60602J1_49	6/3/2016 02:58:57	1600669-12	WURTS_SB15007-0-1
) 10	60602J1_50	6/3/2016 03:11:09	B6F0009-BS1	OPR
	60602J1_51	6/3/2016 03:23:19	B6F0009-BS2	OPR
		6/3/2016 03:35:33	B6F0009-BS3	OPR
	Lange and the second seco	6/3/2016 03:47:45	B6F0009-BS4	OPR
		6/3/2016 03:59:59	B6F0009-BS5	OPR

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@ File 16060271-15 bod injection. PW 6/5/16

	Sample Name	Acquisition Date	Sample (D	Sample Comment
55	160602J1_55	6/3/2016 04:12:11	B6F0009-BS6	OPR
56 de	160602J1_56	6/3/2016 04:24:24	B6F0009-BS7	OPR
57	160602J1_57	6/3/2016 04:36:37	B6F0010-BS1	OPR
58	160602J1_58	6/3/2016 04:48:50	IPA	IPA
59	160602J1_59	6/3/2016 05:01:03	ST160602J1-14 PFC CS3.5 16E2501	PFC CS3.5 16E2501
60	160602J1_60	6/3/2016 05:13:16	IPA	IPA
61	160602J1_61	6/3/2016 05:25:27	B6F0010-BS2	OPR
62	160602J1_62	6/3/2016 05:37:38	B6F0010-BS3	OPR
63	160602J1_63	6/3/2016 05:49:51	B6F0010-BS4	OPR
64	160602J1_64	6/3/2016 06:02:02	B6F0010-BS5	OPR
65	160602J1_65	6/3/2016 06:14:14	B6F0010-BS6	OPR
66	160602J1_66	6/3/2016 05:26:26	B6F0010-BS7	OPR
67	160602J1_67	6/3/2016 06:38:39	1600643-05RE1@40x	WURTS_GW07007-15-18
68	160602J1_68	6/3/2016 06:50:51	B6E0147-MS1	Matrix Spike
69	160602J1_69	6/3/2016 07:03:04	B6E0147-MSD1	Matrix Spike Dup
70	160602J1_70	6/3/2016 07:15:17	IPA	IPA
71	160602J1_71	6/3/2016 07:27:29	ST160602J1-15 PFC CS3.5 16E2501	PFC CS3.5 16E2501
72	160602J1_72	6/3/2016 07:39:41	IPA	IPA
73	160602J1_73	6/3/2016 07:51:54	B6F0003-MS1	Matrix Spike
74	160602J1_74	6/3/2016 08:04:06	B6F0003-MSD1	Matrix Spike Dup
75	160602J1_75	6/3/2016 08:16:16	IPA	IPA
76	160602J1_76	6/3/2016 08:28:29	ST160602J1-16 PFC CS3.5 16E2501	PFC CS3.5 16E2501
77	160602J1_77	6/3/2016 08:40:42	IPA	IPA
78	160602J1_78	6/3/2016 08:52:55	SS160602J1-1 PFC SSS 16E2301	PFC SSS 16E2301
79	160602J1_79	6/3/2016 09:05:05	IPA	IPA

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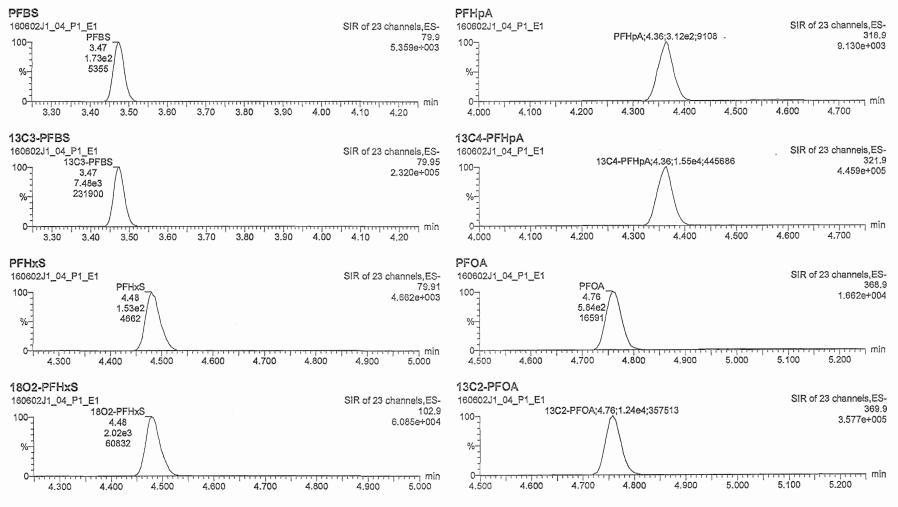
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Vista Analytical Laboratory Q2	

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

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Printed:	Friday, June 03, 2016 13:27:54 Pacific Daylight Time

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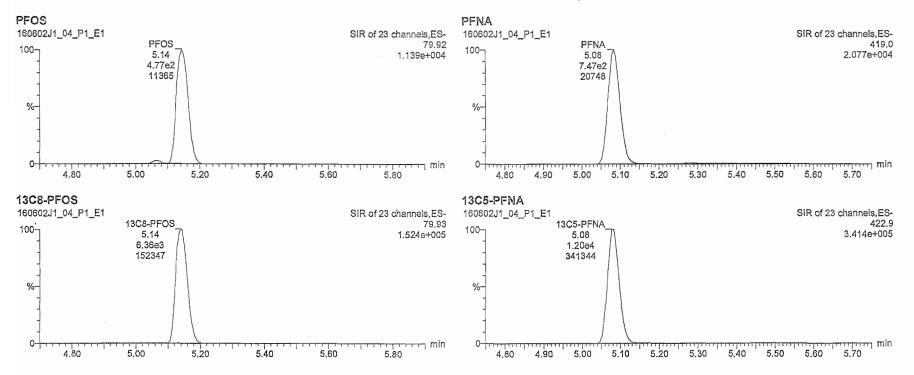
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Quantify Sam Vista Analytica	al Laboratory Q2	Page 2 of 27
Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld	
Last Altered: Printed:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time Friday, June 03, 2016 13:27:54 Pacific Daylight Time	

Name: 160602J1_04.wiff, Date: 02-Jun-2016, Time: 17:49:41, ID: ST160602J1-3 PFC CS0 16E1702, Description: PFC CS0 16E1702

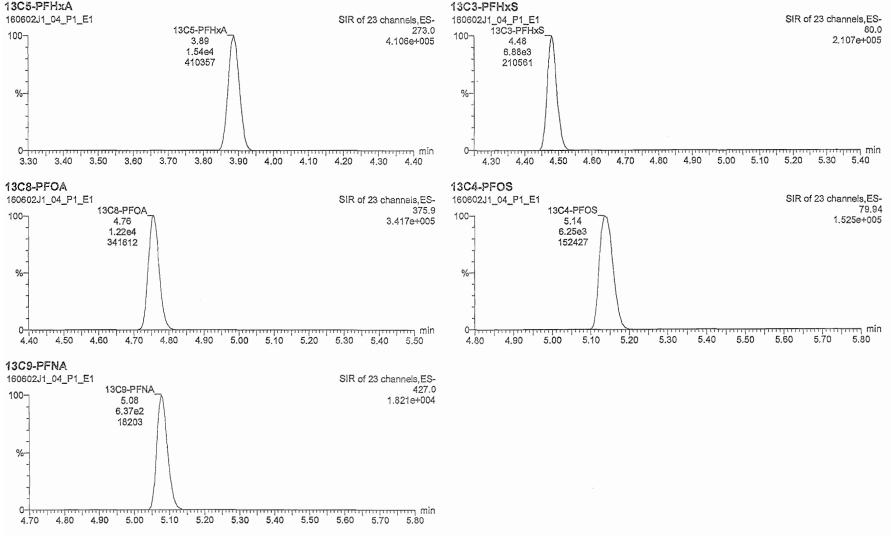


Quantify Sample Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	·

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld
Last Altered:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time

Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

Name: 160602J1_04.wiff, Date: 02-Jun-2016, Time: 17:49:41, ID: ST160602J1-3 PFC CS0 16E1702, Description: PFC CS0 16E1702

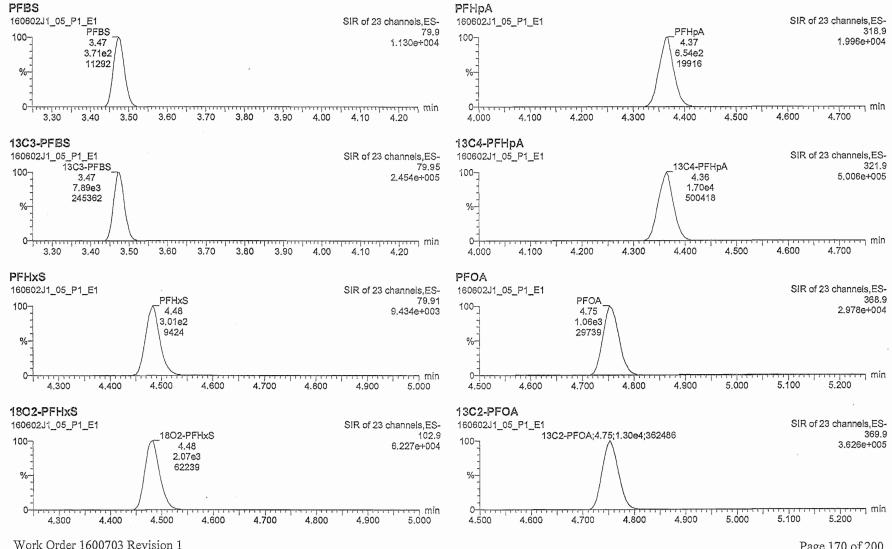


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U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld Dataset:

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

Name: 160602J1_05.wiff, Date: 02-Jun-2016, Time: 18:01:53, ID: ST160602J1-4 PFC CS1 16E1703, Description: PFC CS1 16E1703



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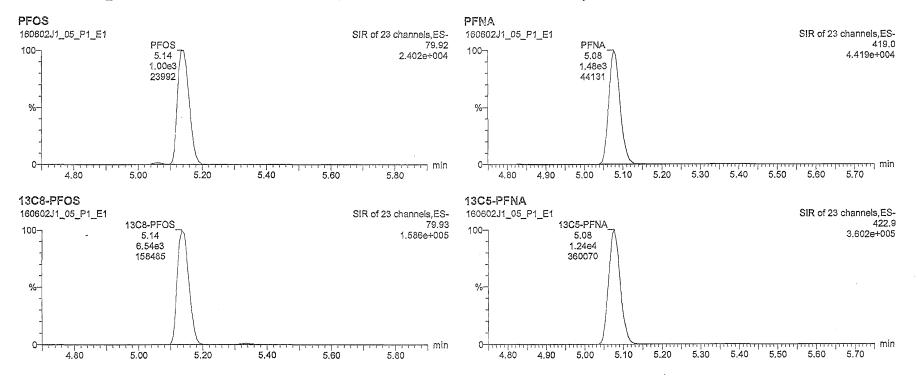
Page 170 of 200

Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

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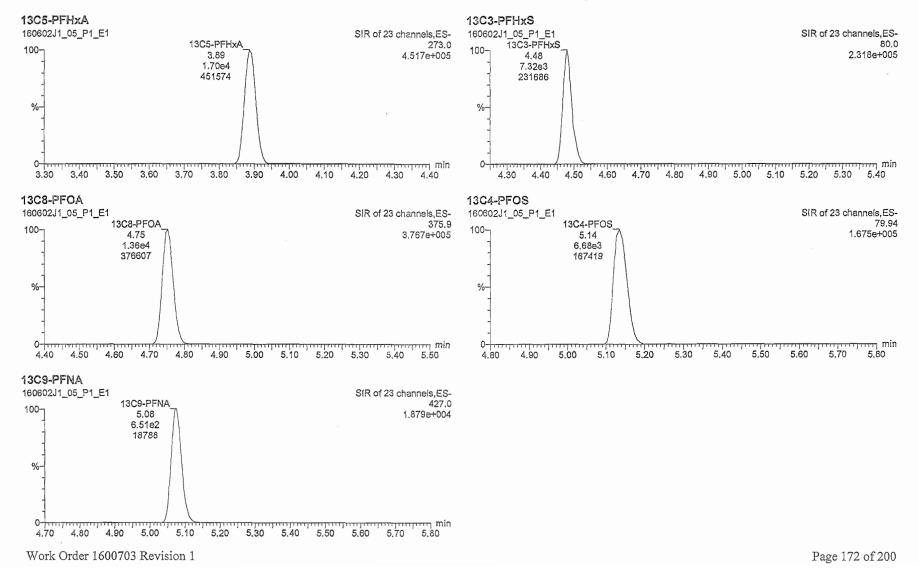
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Quantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q2	Page 6 of 27
Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld	
Last Altered: Printed:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time Friday, June 03, 2016 13:27:54 Pacific Daylight Time	

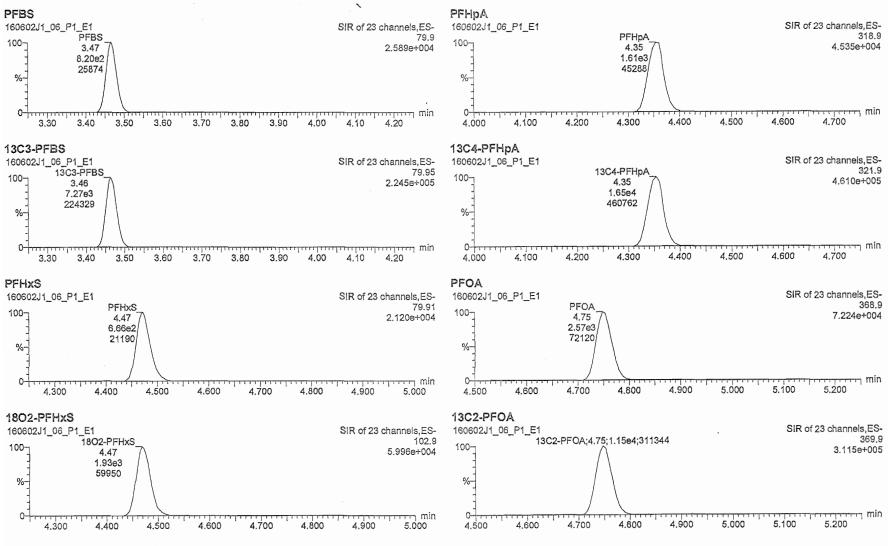
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Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

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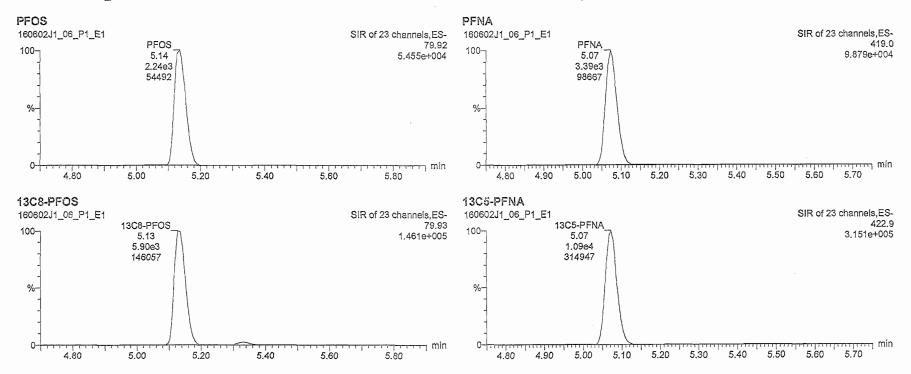
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Work Order 1600703 Revision 1

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld
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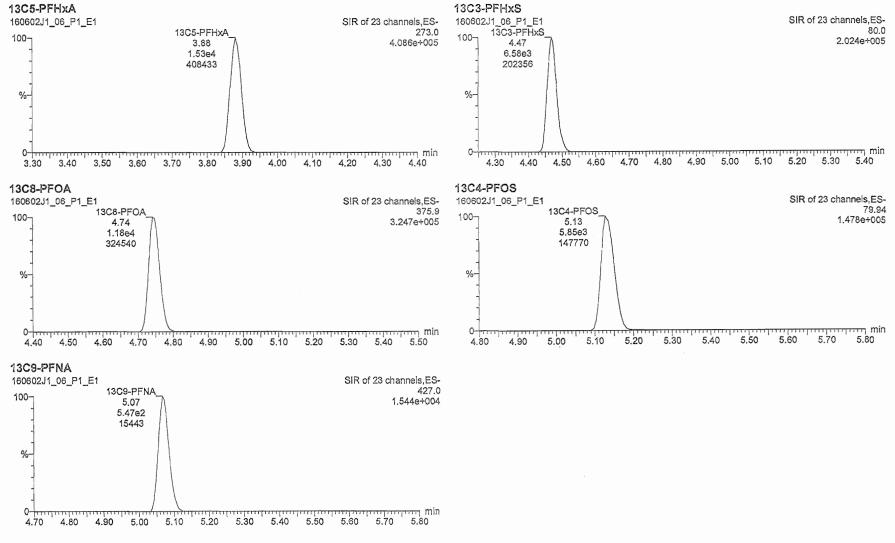
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Quantify Sam Vista Analytica	al Laboratory Q2	Page 9 of 27
Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld	
Last Altered: Printed:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time Friday, June 03, 2016 13:27:54 Pacific Daylight Time	

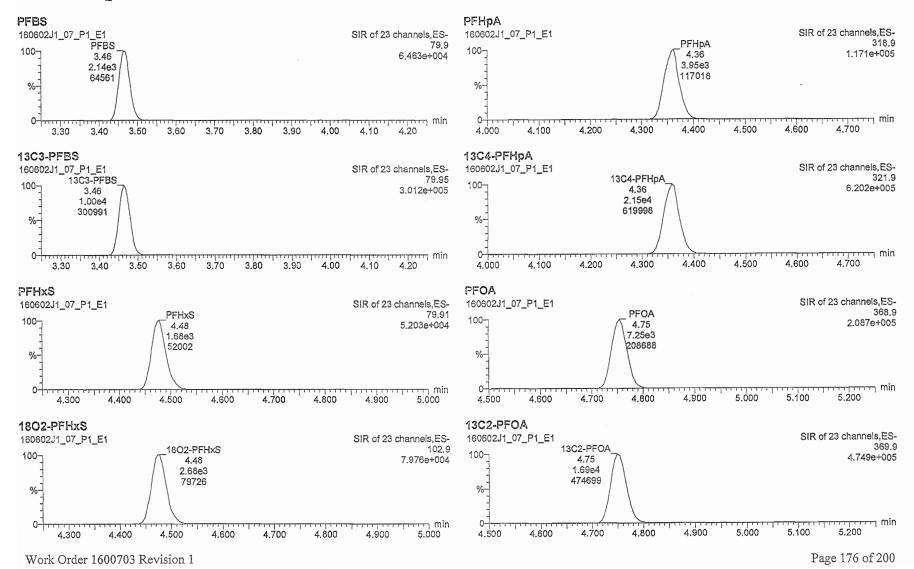
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Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

Name: 160602J1_07.wiff, Date: 02-Jun-2016, Time: 18:26:17, ID: ST160602J1-6 PFC CS3 16E1705, Description: PFC CS3 16E1705

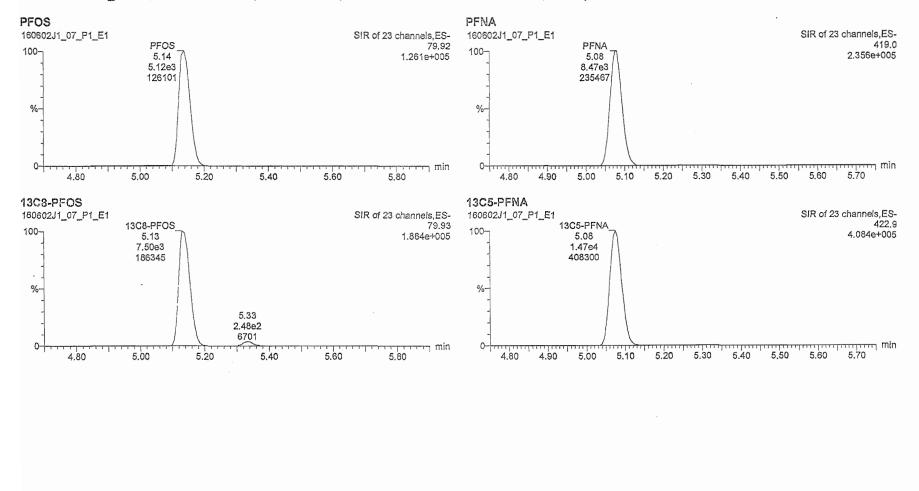


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Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

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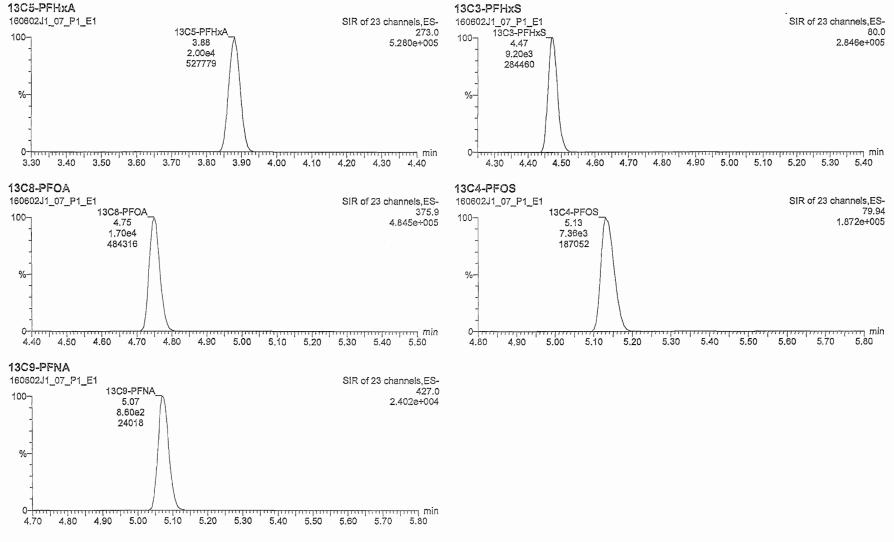
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Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

Name: 160602J1_07.wiff, Date: 02-Jun-2016, Time: 18:26:17, ID: ST160602J1-6 PFC CS3 16E1705, Description: PFC CS3 16E1705



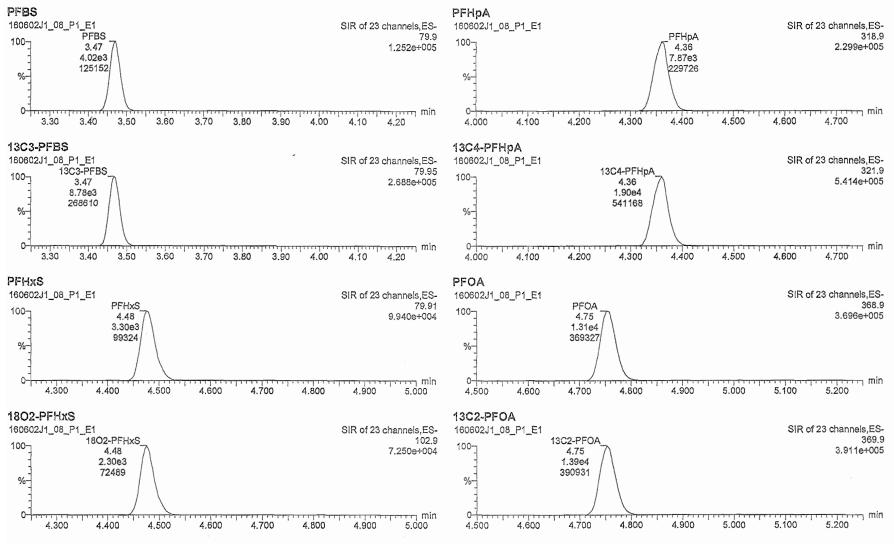
Page 12 of 27

Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

Name: 160602J1_08.wiff, Date: 02-Jun-2016, Time: 18:38:30, ID: ST160602J1-7 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501

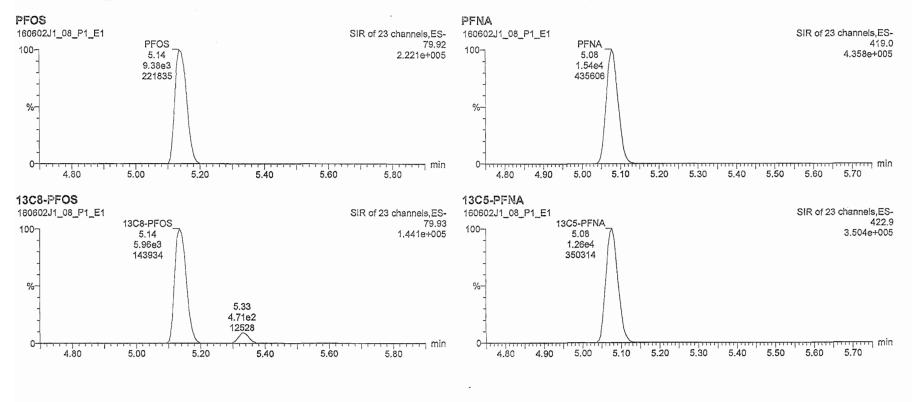


180

Work Order 1600703 Revision 1

Quantify Sam Vista Analytica	ple Report MassLynx 4.1 SCN815 I Laboratory Q2
Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld
Last Altered: Printed:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time Friday, June 03, 2016 13:2 7:54 Pacifi c Daylight Time

Name: 160602J1_08.wiff, Date: 02-Jun-2016, Time: 18:38:30, ID: ST160602J1-7 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501



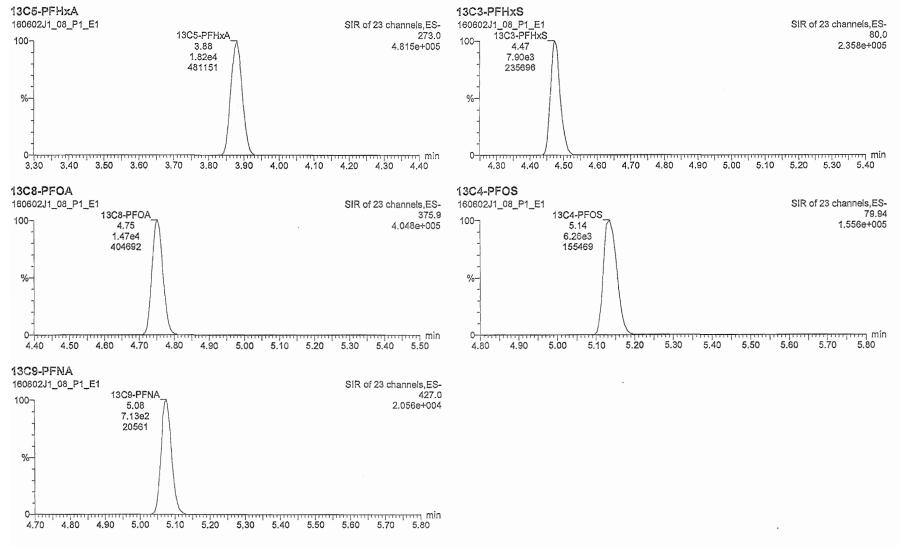
Page 14 of 27

Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

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Name: 160602J1_08.wiff, Date: 02-Jun-2016, Time: 18:38:30, ID: ST160602J1-7 PFC CS3.5 16E2501, Description: PFC CS3.5 16E2501



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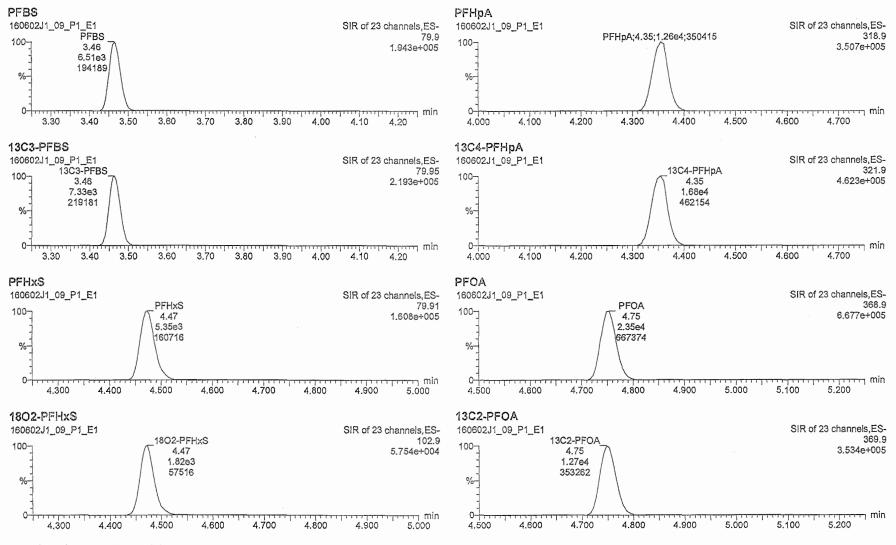
Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2 Vista Analytical Laboratory Q2

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 Friday, June 03, 2016 13:24:16 Pacific Daylight Time

Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

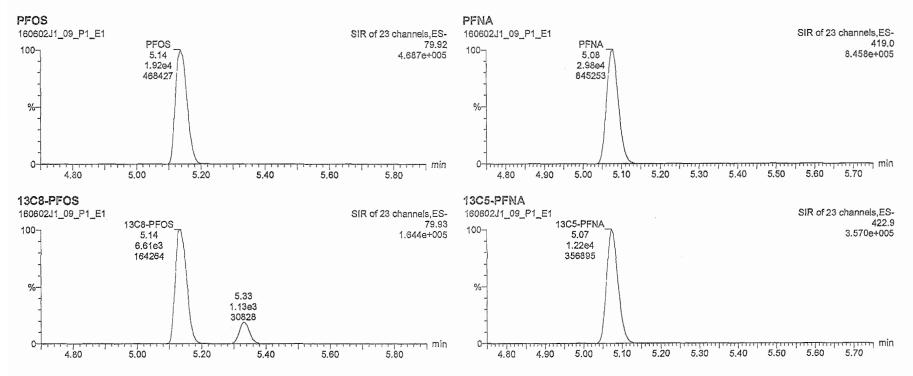
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Quantify Sam Vista Analytica	ple Report MassLynx 4.1 SCN815 Il Laboratory Q2	Page 17 of 27
Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld	
Last Altered: Printed:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time Friday, June 03, 2016 13:27:54 Pacific Daylight Time	

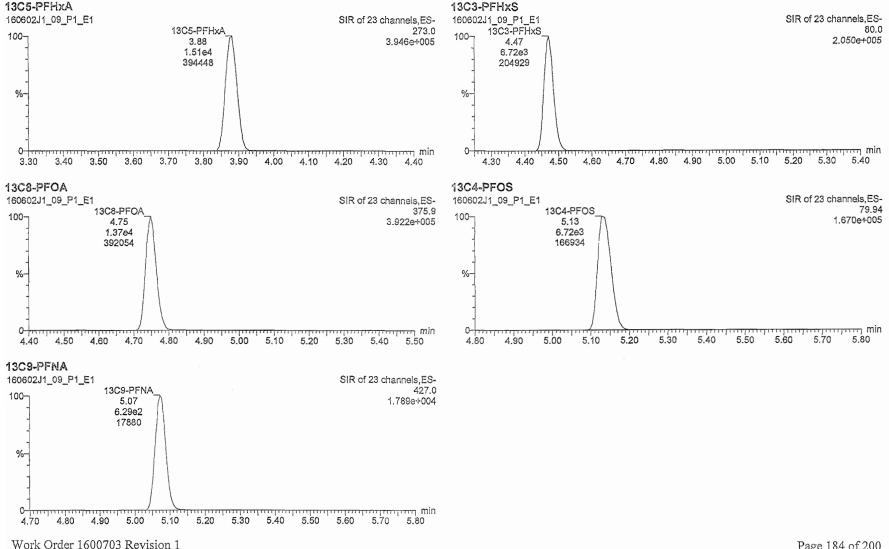
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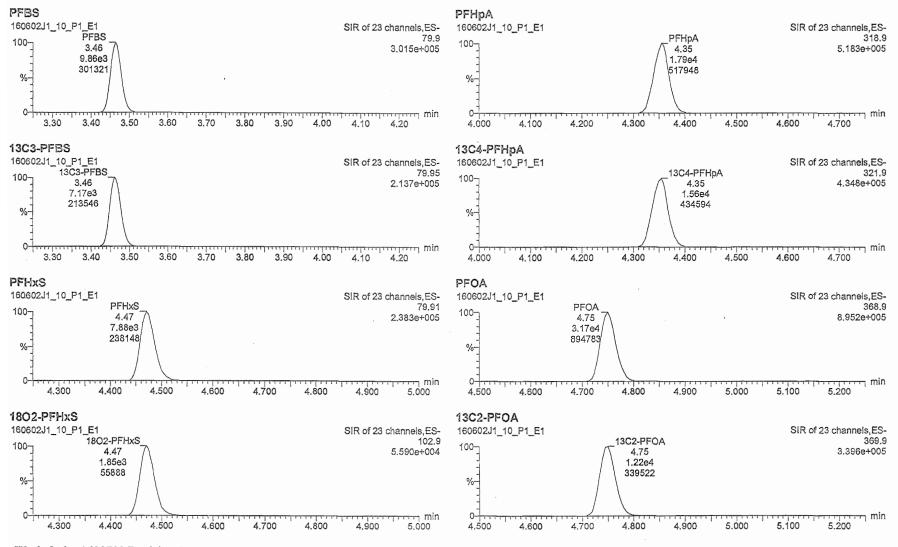


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Quantify Sam Vista Analytica	ple Report MassLynx 4.1 SCN815	Page 19 of 27
Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld	
Last Altered: Printed:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time Friday, June 03, 2016 13:27:54 Pacific Daylight Time	

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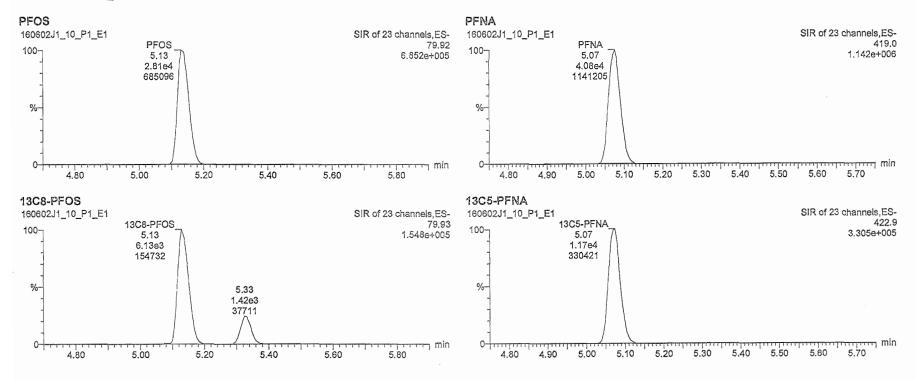
186

Quantify Sample Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	-

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

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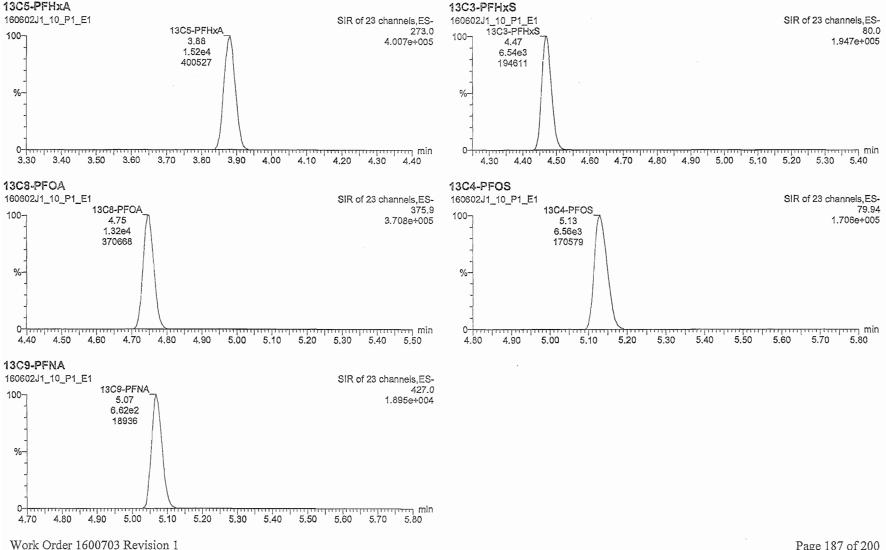


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Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv List6.gld

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

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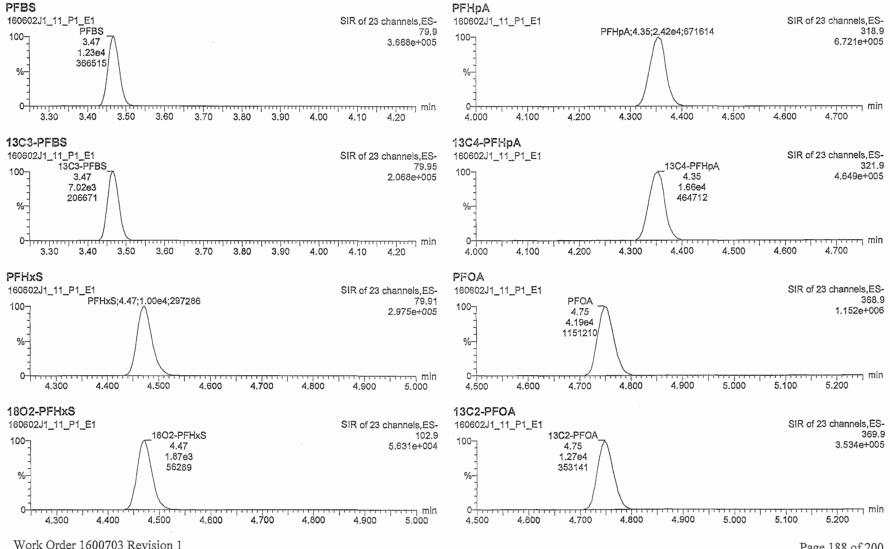


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U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qid Dataset:

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

Name: 160602J1_11.wiff, Date: 02-Jun-2016, Time: 19:15:07, ID: ST160602J1-10 PFC CS5 16E1709, Description: PFC CS5 16E1709



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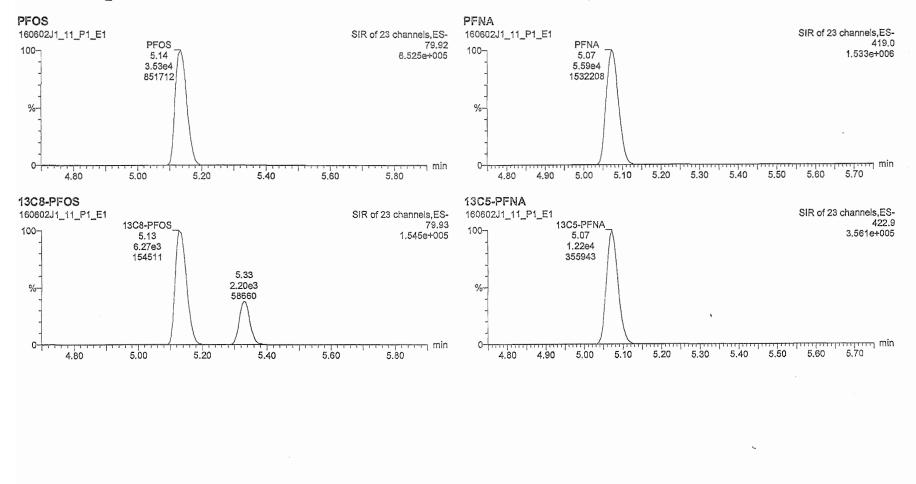
Page 188 of 200

Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

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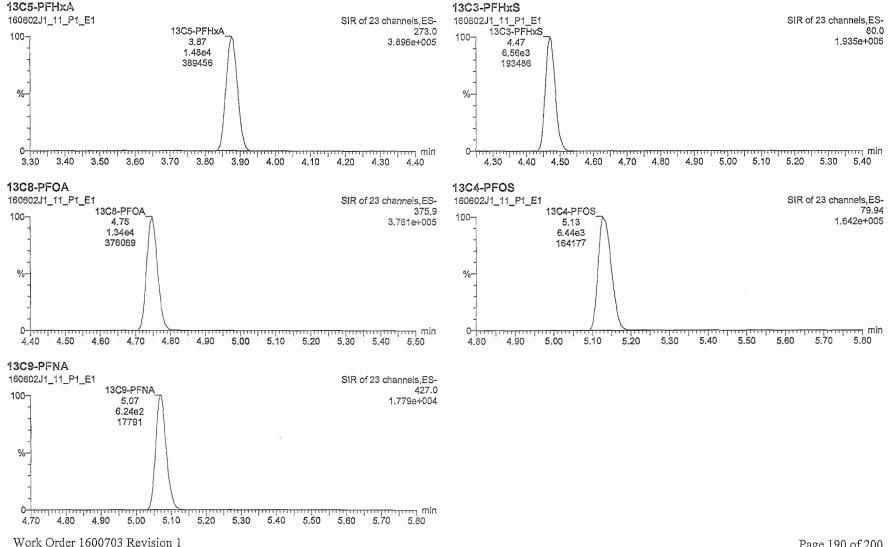
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Quantify Sam Vista Analytica	ple Report MassLynx 4.1 SCN815 al Laboratory Q2	Page 24 of 27
Dataset:	U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld	
Last Altered: Printed:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time Friday, June 03, 2016 13:27:54 Pacific Daylight Time	

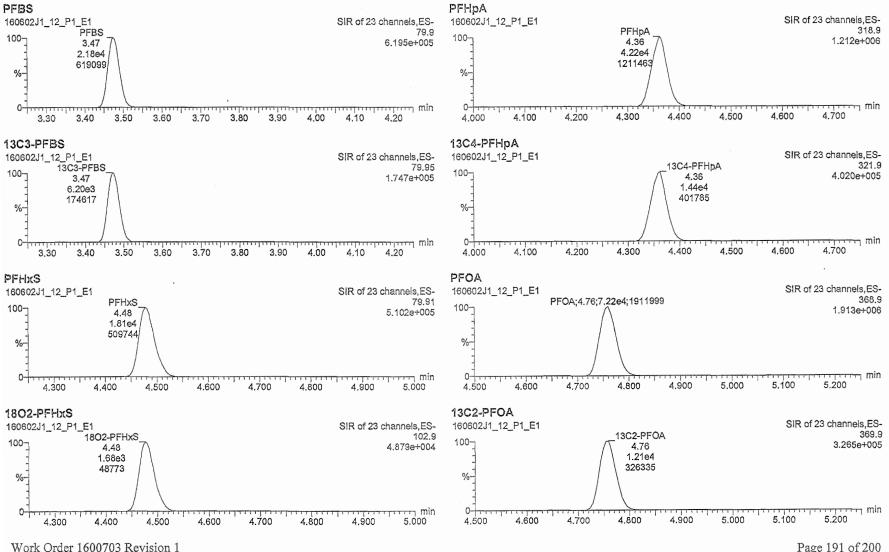
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U:\Q2.PRO\Results\160602J1\160602J1crv_List6.gld Dataset:

Friday, June 03, 2016 13:24:16 Pacific Daylight Time Last Altered: Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

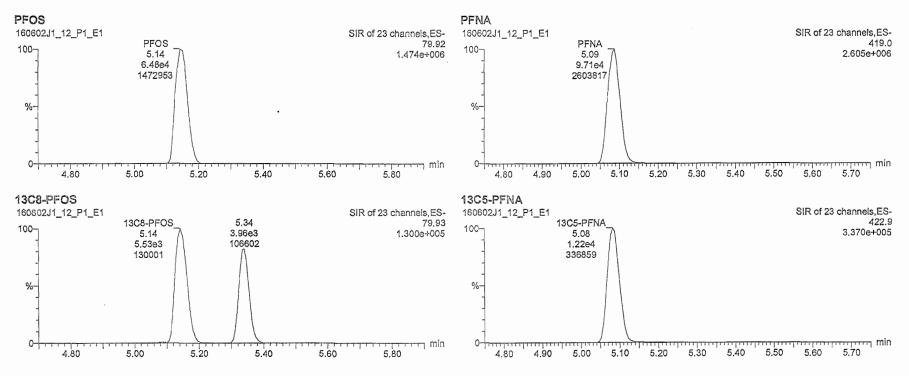
Name: 160602J1_12.wiff, Date: 02-Jun-2016, Time: 19:27:19, ID: ST160602J1-11 PFC CS6 16E1710, Description: PFC CS6 16E1710



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Quantify Sam Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q2	
Dataset:	U:\Q2.PRO\Resulfs\160602J1\160602J1crv_List6.qld	
Last Altered: Printed:	Friday, June 03, 2016 13:24:16 Pacific Daylight Time Friday, June 03, 2016 13:27:54 Pacific Daylight Time	

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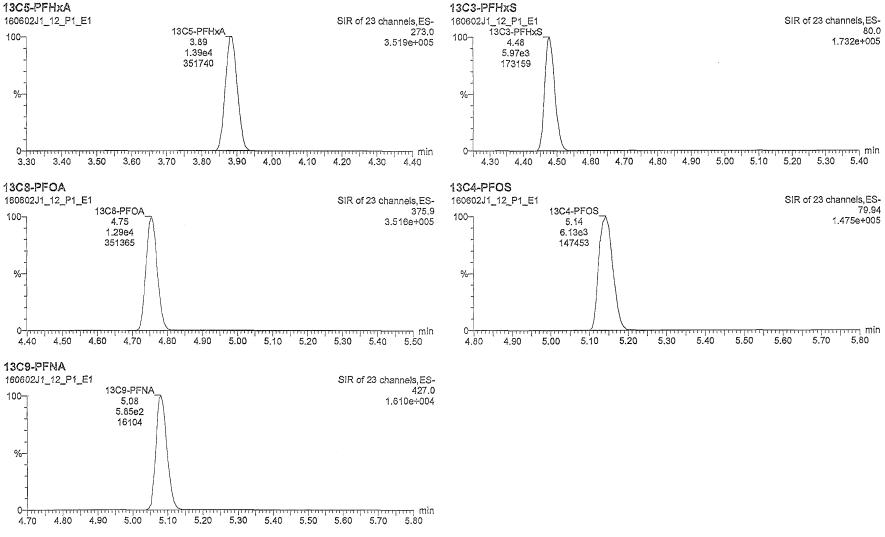
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Quantify Sample Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q2	

Dataset: U:\Q2.PRO\Results\160602J1\160602J1crv_List6.qld

Last Altered: Friday, June 03, 2016 13:24:16 Pacific Daylight Time Printed: Friday, June 03, 2016 13:27:54 Pacific Daylight Time

Name: 160602J1_12.wiff, Date: 02-Jun-2016, Time: 19:27:19, ID: ST160602J1-11 PFC CS6 16E1710, Description: PFC CS6 16E1710



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Method: U:\Q2.PRO\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

Name: 160602J1_78.wiff, Date: 03-Jun-2016, Time: 08:52:55, ID: SS160602J1-2 PFC SSS 16E2301, Description: PFC SSS 16E2301

	a Name	Trace	Response	IS Resp	RRF	Wt/Vol ;	RT	Conc.	%Rec	
A second second	1 PFBS	79.9	3.72e3	8.14e3		1.000	3.48	24.5	98.1	
2	2 PFHpA	318.9	7.50e3	1.67e4		1.000	4.36	28.3	113.3	3
3	3 PFHxS	79.91	2.47e3	1.90e3		1.000	4.48	22.2	88.8	\odot
4	4 PFOA	368.9	8.15e3	1.23e4		1.000	4.76	17.3	69.4	B (A Brouched STD, sec that) B Brouched STD, sec that Technical STD, sec that
5	5 PFOS	79.92	4.57e3	4.55e3		1.000	5.15	16.4	65.6	
6	6 PFNA	419.0	1.42e4	1.07e4		1.000	5.08	26.1	104.5	(B) Brok 6/#16
7.5	7 13C3-PFBS	79.95	8.14e3	1.71e4	0.476	1.000	3.48	12.5	99.7	Technical STD. COP Hold
8	8 13C4-PFHpA	321.9	1.67e4	1. 7 1e4	1.055	1.000	4.36	11.6	92.5	
9	9 1802-PFHxS	102.9	1.90e3	6.98e3	0.286	1.000	4.48	11.9	95.1	Peri 6/3/16
1,0	10 13C2-PFOA	369.9	1.23e4	1.29e4	0.958	1.000	4.76	12.4	99.2	6/3/16
11	11 13C8-PFOS	79.93	4.55e3	4.88e3	0.974	1.000	5.14	12.0	95.7	,
12	12 13C5-PFNA	422.9	1.07e4	5.26e2	18.926	1.000	5.08	13.4	107.3	
13	13 13C5-PFHxA	273.0	1.71e4	1.71e4	1.000	1.000	3.89	12.5	100.0	Br gsic
13 14	14 13C3-PFHxS	80.0	6.98e3	6.98e3	1.000	1.000	4.47	12.5	100.0	
15	15 13C8-PFOA	375.9	1.29e4	1.29e4	1.000	1.000	4.76	12.5	100.0	
16	16 13C4-PFOS	79.94	4.88e3	4.88e3	1.000	1.000	5.14	12.5	100.0	
47	17 13C9-PFNA	427.0	5.26e2	5.26e2	1.000	1.000	5.08	12.5	100.0	
17 18	18 Total PFBS	79.9		8.14e3		1.000		24.5		
19	19 Total PFHxS	79.91		1.90e3		1.000		26.6		
20	20 Total PFOA	368.9		1.23e4		1.000		20.8		-
21	21 Total PFOS	79.92		4.55e3		1.000		27.2		

Dataset:	U:\Q2.PRO\Results\160602J1\160602J1_78_List6.qld
Last Altered:	Friday, June 03, 2016 13:53:43 Pacific Daylight Time
Printed:	Friday, June 03, 2016 13:55:43 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List6_NewRSListV1.mdb 03 Jun 2016 13:20:34 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-02-16_L6_A.cdb 03 Jun 2016 13:24:16

Name: 160602J1_78.wiff, Date: 03-Jun-2016, Time: 08:52:55, ID: SS160602J1-2 PFC SSS 16E2301, Description: PFC SSS 16E2301

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.48	3.72e3	8.14e3	24.5

Total PFH_xS

k Name	Trace	RI	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	2,47e3	1.90e3	22.2
2 19 Total PFHxS	79.91	4.38	4,90e2	1.90e3	4.37
3 19 Total PFHxS	79.91	4.28	7.62e0	1.90e3	0.0679

Total PFOA

# Name	Trace	RT	Агеа	IS Area	Conc.
4 PFOA	368.9	4.76	8.15e3	1.23e4	17.3
2 20 Total PFOA	368.9	4.66	1.66e3	1.23e4	3.47

Total PFOS

* Name	Trace	RŤ	Area	IS Area	Conc.
5 PFOS	79.92	5.15	4.57e3	4.55e3	16.4
2 21 Total PFOS	79.92	5.04	2.78e3	4.55e3	9.94
3 21 Total PFOS	79.92	4.94	2.41e2	4.55e3	0.861

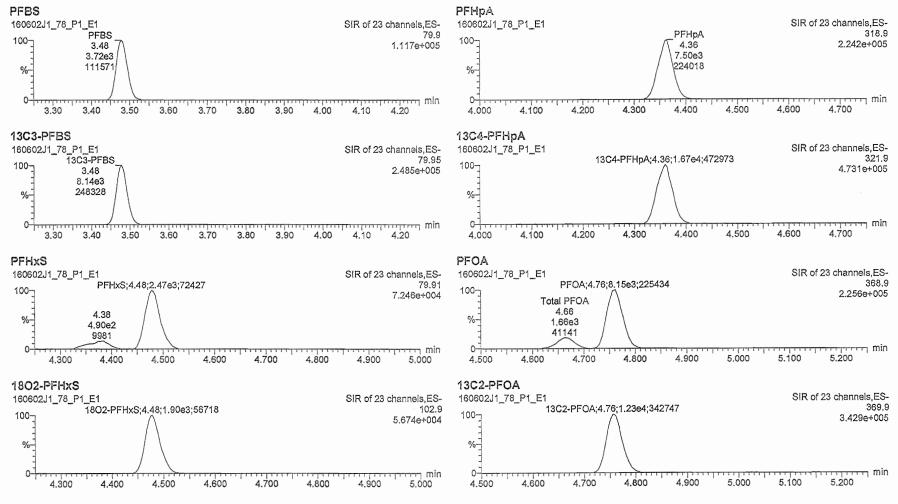
Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

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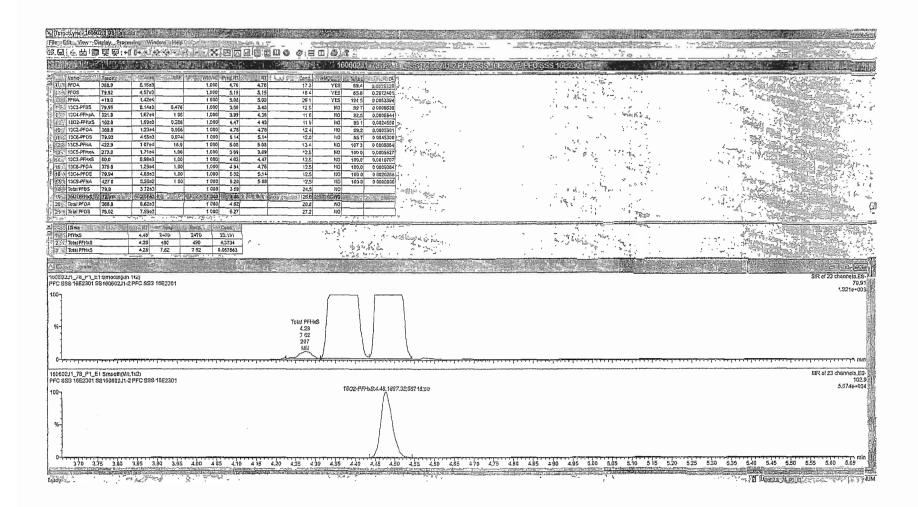
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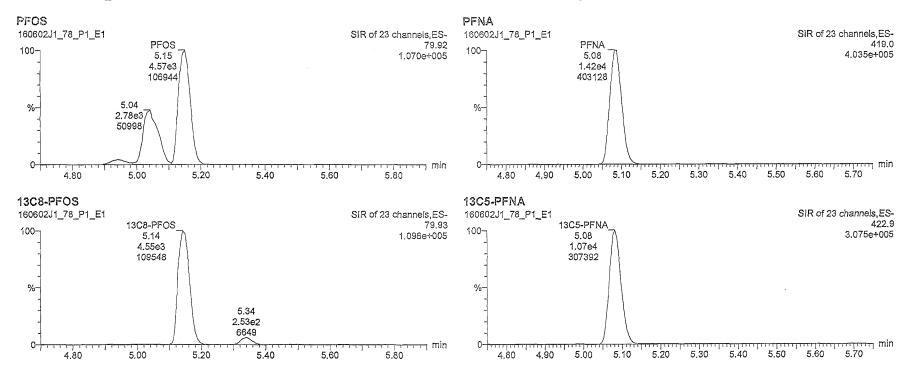


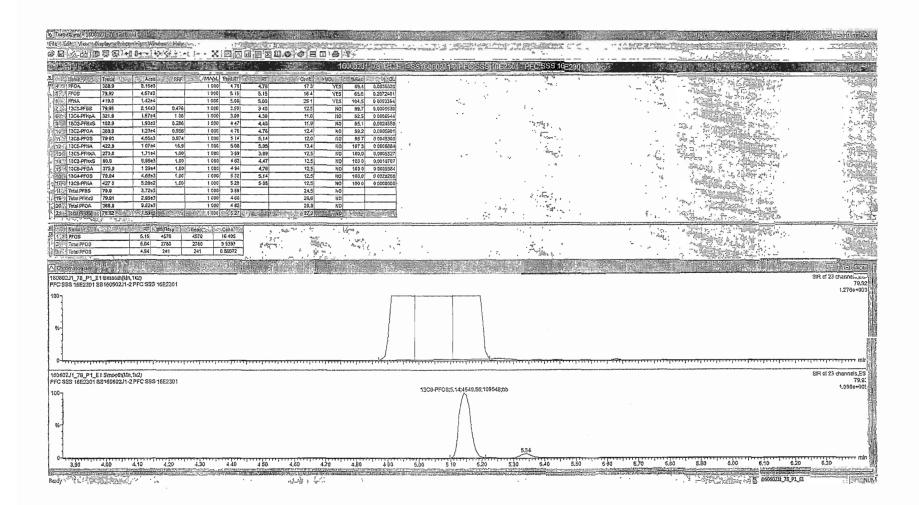
Page 1 of 3



Quantify San Vista Analytica	nple Report MassLynx 4.1 SCN815 al Laboratory Q2	Page 2 of 3
Dataset:	U:\Q2.PRO\Results\160602J1\160602J1_78_List6.qld	
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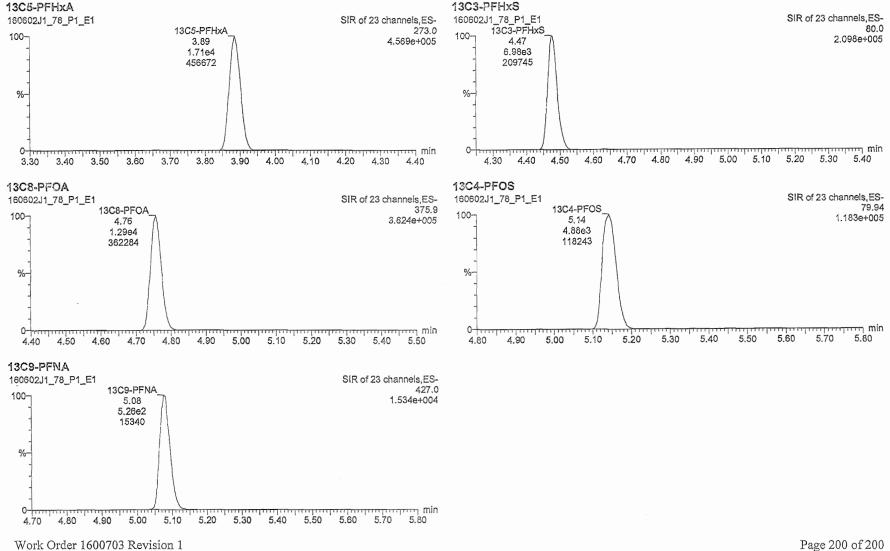
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Quantify Sam Vista Analytica	ple Report al Laboratory Q2	MassLynx 4.1 SCN815	F
Dataset:	U:\Q2.PRO\Res	sults\160602J1\160602J1_78_List6.qld	
Last Altered: Printed:		, 2016 13:53:43 Pacific Daylight Time , 2016 13:55:02 Pacific Daylight Time	

Name: 160602J1_78.wiff, Date: 03-Jun-2016, Time: 08:52:55, ID: SS160602J1-2 PFC SSS 16E2301, Description: PFC SSS 16E2301



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+ CHAIN-OF-CUSTODY RECORD

Page of	BOLD FIELD	s Required. Pleas	E CIRCLE REQUEST	TED ANALYSIS.		202
	V	OC SVO	C TCLP METALS	INORGANICS	MICRO OTHER	
Sampling Date /Tim *If Composi Indicate Bo Start & Fini Date /Tim	王 コ ゴ m ATRIX (SEE BE RAB/*COMPC 2812 524.2M 2812 524.2M	APALINAME 8021B BTEX HALOS 8015B GRO MAVPH 8015B GRO MAVPH ABN A BN PAH ABN A BN PAH ABN A BN PAH TPH 5100 L1 L2 8015B DRO MAEPH	T 000 PCB 000 0001A PCB 000 GREASE 1664 TPH PEST HERB PEST HERB ALVED METALS (LIST BEL ALVETALS (LIST BELOW)	TS TSS TDS SPEC.CON. Br -CI F SD, ND, ND, NO,MO, BOD CBOD T.ALK. TKN NH, T.PHOS. 0.PH0S. PH T.RES.CHLORINE PH T.RES.CHLORINE COD PHENDLS TOC DOC COD PHENDLS TOTAL SULFIDE	работие симира работие симира ваботие симира работи соцерени такитизицти тъкитерина с ооц реси соцерени с ооц реси с ооц ооц с ооц реси с ооц с ооц реси с ооц реси реси с ооц реси с ооц с ооц рес	
Gw-BP-4 5/24/1012 Gw-Mw-8 5/24/1613 Gw-Mw-8 MS 5/24/1613 Gw-Mw-8MSD 5/24/1613 Gw-EB-Waterial 5/24/1613	53/11/2				$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
HB - DI Wolf - 5/24/16 14 G W-MW-4 G W-MW-4 Dep 5/24/16 15 GW-EB-Back 5/24/16 HMATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; I WW-WASTE WATER PRESERVATIVE: H-HCL; N-HNO; S-H, SO4; Na-NaOH; M-MEOH	132 hw 4					
FAX: 207-795-6128 E-Mail: mdeyling@ces-maine.com / cc:syerina@ces SITE NAME: Coakley Landfill	Ext.:		adar. Sue Y		METALS: 8 RCRA 13 PP FE, MN PB, C OTHER METALS: SAMPLES FIELD FILTERED? YES NO NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT) MOSIFIELD EPA S37: PFBS, PFHPA, PF-N, S, PFOA, PFNA, PFOS	-
PROJECT #: 10424 STATE: NH MA ME VT OTHER: REGULATORY PROGRAM: NPDES: RGP POTW STORM GWP OIL FUND BROWNFIELD OTHER: GWP/ QUOTE #: PO #: PO #: OUTE #: PO #: PO #: PO #: Projectional laboratory & drilling services	25 Chenell Drive (RELINQUISTED BY: RELINQUISTED BY: RELINQUISTED BY: RELINQUISTED BY: CONCORD, NH 03301 TEL:	DATE: TIME:	RECEIVED.BY: (02 RECEIVED BY: RECEIVED BY: RECEIVED BY: 0525 Fax: 603.228.4591 E-Mail	SITE HISTORY:	

156457

Page ______ of 2_____

+

+ Chain-of-Custody Record

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

		14.6			VC	C			S	VO)C,	新た	TCLP	Me	TALS	1	1	NC	DRC	AN	lic	S	414	MI	CRO		TH	ER		Carlo Antonio Antonio
SAMPLE I.D.	Sampling Date / Time *If Composite, Indicate Both Start & Finish Date / Time	Matrix (see below)	GRAB/*COMPOSITE	524.2 524.2 BTEX 524.2 MTBE	8260B 624 VTICs 1,4 DIOXANE	8021B BTEX HALOS	8015B GRO MAVPH	8270D 625 SVTICs EDB DBCP ABN A BN PAH	три втоо L1 L2	8015B DRO MAEPH	PEST 608 PCB 608 PEST 8081A PCB 8082	E 166	TCLP 1311 ABN METALS VOC PEST HERB	DISSOLVED METALS (LIST BELOW)	TOTAL METALS (LIST BELOW)	TS TSS TDS SPEC. CON.	Br CI F SO. NO, NO, NO,NO,	CBOD	TKN NH ₃ T. PHOS. O. PHOS.	pH T. RES. CHLORINE	COD PHENOLS TOC DOC	Ĕ	REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	TOTAL COLIFORM E. COLI FECAL COLIFORM	ENTEROCOCCI HETEROTROPHIC PLATE COLINT	ed EP/			# OF CONTAINERS	Notes MeOH Vial #
hu-Mu-9	5/24/16 1350	he	6																							χ			2	
au Muiss	5124/1n 1513	hu	h																							X			2	
44. Mw-9 44. Mw-55 44. Mw-5D 44. Mw-11	5125/161092	tw	6																							X			2	
au-me-11	5125/16 10100	en	4																							X			2	
	12																									1			0	
													1					1								1			-	
																										1				
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																		\square					1							
Matrix: A-Air; S-Soil; GW-Ground Wate WW-Waste water Preservative: H-HCL; N-HNO3; S-H2SO4;		KING W	ATER;																											
PROJECT MANAGER: Michael A. I	Deyling					D	ATE	Nei	EDEI	D:										13 6			Me	TALS	: 81	RCRA	A 13	3 PP	FE	E, MN PB, CL
COMPANY: CES, Inc.							/00						REPO	ORTIN	0 01	PTIO				(YES	1	°C		er Met						-,,,
Address: 640 Main Street						(×	~		Leve				PRELIM	ISTE	2 or	NO			CE?	VES	/ No									
CITY: Lewiston PHONE: 207-795-6009	STATE:		424	0			A		В	(Ċ)		IF YES	FAX	OR	DF	>													TES NO
FAX: 207-795-6128		Ехт.:						Ċ	OR					TRON									NOI	lod	SPECIAL SPECIAL	e&	EP	IMITS, I Sol e	SILLING SS	INFO, IF DIFFERENT)
E-MAIL: mdeyling@ces-maine.con	n / cc:syerina@ces-main	e.com	1			PR	ESU	MPTI	VE CI	ERTA	INTY	, N	IO FA	ΧE·	-MAI	LP	DF	EQ	UIS	••		ĺ	Ŷ	Fi	89	, P	FH	AS	P	info, If Different) 7: Fusp S
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PROJECT #: 10424						E	4	Ţ	10	3	>	5	125	THE	s l	23	35	D	5				١	1 -	- 7	`	• •		•	
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Projectional laboratory & drilling service				(VV H		: 01	ugin			GRE		PRC	JECT	r Mia	NAC	GER)													

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156457



Michael A. Deyling CES, Inc. (Lewiston) 640 Main Street Lewiston, ME 04240



Subject: Laboratory Report

Eastern Analytical, Inc. ID: Client Identification: Date Received: 158298 Coakley Landfill | 10424.008 7/14/2016

Dear Mr. Deyling :

Enclosed please find the report of analysis for the above identified project. As discussed, analyses were subcontracted and are listed as follows:

Analysis: Subcontract - Perfluorinated Compounds EPA Method 537 (Vista) Subcontractor Lab: Vista Analytical Laboratory

A complete copy of the report is attached. This report may not be reproduced except in full, without the written approval of the laboratory.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

enerre Dar

3.9.16

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 158298

Client: CES, Inc. (Lewiston)

Client Designation: Coakley Landfill | 10424.008

Lab ID Lab ID Lab IDDate Received Sample IDMath Received Sample IDMath WeineReceived Sample Acceptance Policy158280.0GW-62 10571/41671/216aqueousAdheres to Sample Acceptance Policy158290.0GW-FPC-8B71/41671/216aqueousAdheres to Sample Acceptance Policy158290.0GW-FPC-8B71/41671/216aqueousAdheres to Sample Acceptance Policy158290.0GW-FPC-8B71/41671/216aqueousAdheres to Sample Acceptance Policy158290.0GW-FPC-8B71/41671/316aqueousAdheres to Sample Acceptance Policy158290.0GW-FPC-8B71/41671/316aqueousAdheres to Sample Acceptance Policy158290.0GW-FPC-8B71/41671/316aqueousAdheres to Sample Acceptance Policy158290.0GW-FPC-8B71/41671/316aqueousAdheres to Sample Acceptance Policy158290.0GW-FPC-8B71/41671/416aqueousAdheres to Sample Acceptance Policy158290.1GW-FPC-7B71/41671/416aqueousAdheres to Sample Accept	•	ture upon receipt (°C): 4 temperature range (°C): 0-6	.1		Re	eceived	on ice or cold packs (Yes/No): Υ
158298.01 GW-GZ 105 7/14/16 7/12/16 aqueous Adheres to Sample Acceptance Policy 158298.02 GW-GZ 105-DUP 7/14/16 7/12/16 aqueous Adheres to Sample Acceptance Policy 158298.03 GW-FPC-88 7/14/16 7/12/16 aqueous Adheres to Sample Acceptance Policy 158298.05 GW-FPC-84 7/14/16 7/12/16 aqueous Adheres to Sample Acceptance Policy 158298.06 GW-AE-4A 7/14/16 7/13/16 aqueous Adheres to Sample Acceptance Policy 158298.07 GW-AE-4B 7/14/16 7/13/16 aqueous Adheres to Sample Acceptance Policy 158298.08 GW-FPC-6B 7/14/16 7/13/16 aqueous Adheres to Sample Acceptance Policy 158298.01 GW-FPC-7A 7/14/16 7/13/16 aqueous Adheres to Sample Acceptance Policy 158298.10 GW-FPC-7B 7/14/16 7/14/16 aqueous Adheres to Sample Acceptance Policy 158298.11 GW-FPC-7B 7/14/16 7/14/16 aqueous Adheres to Sample Acceptance Policy 158298.12 GW-AE-2A 7/14/16 7/14/16 aqueous Adher					Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
158298.03GW-FPC-887/14/167/12/16aqueousAdheres to Sample Acceptance Policy158298.04GW-FPC-8A7/14/167/12/16aqueousAdheres to Sample Acceptance Policy158298.05GW-FPC-4B7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.06GW-AE-4A7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.07GW-AE-4B7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.08GW-FPC-6B7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.09GW-FPC-7A7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.10GW-FPC-7A7/14/167/14/16aqueousAdheres to Sample Acceptance Policy158298.11GW-FPC-7A7/14/167/14/16aqueousAdheres to Sample Acceptance Policy158298.12GW-AE-2A7/14/167/14/16aqueousAdheres to Sample Acceptance Policy158298.13GW-AE-3A7/14/167/14/16aqueousAdheres to Sample Acceptance Policy158298.14GW-AE-3A7/14/167/12/16aqueousAdheres to Sample Acceptance Policy158298.15GW-AE-3A7/14/167/12/16aqueousAdheres to Sample Acceptance Policy158298.16GW-AE-3B7/14/167/12/16aqueousAdheres to Sample Acceptance Policy158298.17GW-AE-3A7/14/167/12/16aqueousAdheres to Sample Acceptance Policy<		•		-		0	
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158298.19GW-EB-WATERLEVEL7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.2FB-DI WATER7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.21GW-AE-1A7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.22GW-FPC-11B7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.23GW-FPC-11A7/14/167/13/16aqueousAdheres to Sample Acceptance Policy	158298.17	GW-FPC-9A	7/14/16	7/12/16	aqueous		Adheres to Sample Acceptance Policy
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158298.21GW-AE-1A7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.22GW-FPC-11B7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.23GW-FPC-11A7/14/167/13/16aqueousAdheres to Sample Acceptance Policy	158298.19	GW-EB-WATERLEVEL	7/14/16	7/13/16	aqueous		Adheres to Sample Acceptance Policy
158298.22GW-FPC-11B7/14/167/13/16aqueousAdheres to Sample Acceptance Policy158298.23GW-FPC-11A7/14/167/13/16aqueousAdheres to Sample Acceptance Policy	158298.2	FB-DI WATER	7/14/16	7/13/16	aqueous		Adheres to Sample Acceptance Policy
158298.23 GW-FPC-11A 7/14/16 7/13/16 aqueous Adheres to Sample Acceptance Policy	158298.21	GW-AE-1A	7/14/16	7/13/16	aqueous		Adheres to Sample Acceptance Policy
	158298.22	GW-FPC-11B	7/14/16	7/13/16	aqueous		Adheres to Sample Acceptance Policy
158298.24 GW-FPC-5B 7/14/16 7/13/16 aqueous Adheres to Sample Acceptance Policy	158298.23	GW-FPC-11A	7/14/16	7/13/16	aqueous		Adheres to Sample Acceptance Policy
	158298.24	GW-FPC-5B	7/14/16	7/13/16	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

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July 22, 2016

Vista Work Order No. 1600910

Ms. Jennifer Jurta Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Jurta,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 15, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name '2433'.

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,

Whith Madanta Fre

Martha Maier Laboratory Director



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

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

Vista Work Order No. 1600910 Case Narrative

Sample Condition on Receipt:

Twenty four aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. As requested, the sampling date for sample "GW-EB-WATERLEVEL" was changed from 7/12/16 (as listed on the COC) to 7/13/16.

Analytical Notes:

Modified EPA Method 537

The samples were extracted and analyzed for a selected list of six PFAS using Modified EPA Method 537. The results for PFBS, PFHxS and PFOS include both linear and branched isomers. Results for PFHpA, PFOA and PFNA results include the linear isomer only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with each preparation batch. No analytes were detected in the Method Blanks above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The recoveries of all internal standards in the QC and field samples were within the acceptance criteria.

As requested, an MS/MSD was performed on sample "GW-AE-3A". The recoveries and RPDs were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1600910-01	GW-GZ-105		12-Jul-16 12:08	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-02	GW-GZ-105-DUP		12-Jul-16 12:08	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-03	GW-FPC-8B		12-Jul-16 13:30	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-04	GW-FPC-8A		12-Jul-16 14:28	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-05	GW-FPC-4B		13-Jul-16 09:38	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-06	GW-AE-4A		13-Jul-16 10:53	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-07	GW-AE-4B		13-Jul-16 11:48	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-08	GW-FPC-6B		13-Jul-16 13:13	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-09	GW-FPC-6A		13-Jul-16 14:03	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-10	GW-FPC-7A		14-Jul-16 08:08	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-11	GW-FPC-7B		14-Jul-16 08:48	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-12	GW-AE-2A		14-Jul-16 10:13	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-13	GW-AE-2B		14-Jul-16 10:53	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-14	GW-AE-3A	MS/MSD	12-Jul-16 11:05	15-Jul-16 09:55	HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
1600910-15	GW-AE-3A DUP		12-Jul-16 11:05	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1600910-16	GW-AE-3B		12-Jul-16 12:00	15-Jul-16 09:55	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL

Vista Project: 1600910

Client Project: 2433

Work Order 1600910

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1600910-17	GW-FPC-9A	12-Jul-16 13:36	15-Jul-16 09:55	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1600910-18	GW-AE-1B	12-Jul-16 15:23	15-Jul-16 09:55	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1600910-19	GW-EB-WATERLEVEL	13-Jul-16 08:20	15-Jul-16 09:55	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1600910-20	FB-DI WATER	13-Jul-16 08:25	15-Jul-16 09:55	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1600910-21	GW-AE-1A	13-Jul-16 09:00	15-Jul-16 09:55	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1600910-22	GW-FPC-11B	13-Jul-16 10:15	15-Jul-16 09:55	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1600910-23	GW-FPC-11A	13-Jul-16 10:45	15-Jul-16 09:55	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1600910-24	GW-FPC-5B	13-Jul-16 13:55	15-Jul-16 09:55	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

Vista Project: 1600910

Client Project: 2433

ANALYTICAL RESULTS

Sample ID	: Method Blank							Mod	ified EPA M	ethod 537
Matrix: Sample Size:	Aqueous 0.125 L	QC Batch: Date Extracted:		Lab Sample:B6G0075-BLK1Date Analyzed:19-Jul-16 15:38Column: BEH C18Analyst: PW						
Analyte	Conc. (ng/L)	RL		MDL	Qualifiers	Labeled Stan	Idard	%R	LCL-UCL	Qualifiers
PFBS	ND	8.00		1.79		IS 13C3-PFE	S	110	60 - 150	
PFHpA	ND	8.00		0.591		IS 13C4-PFF		102	25 - 175	
PFHxS	ND	8.00		0.947		IS 18O2-PFI	IxS	108	60 - 150	
PFOA	ND	8.00	n medilin na sellen adama emanana da mana ana ana ana ana a	0.651	·	IS 13C2-PFC		95.3	60 - 150	
PFOS	ND	8.00		0.807		IS 13C8-PFC)S	111	60 - 150	
PFNA	. The second se	8.00	oren olar tuar usenzi set oli oli sevel de	0.810	an an tha an the same	IS 13C5-PFN		106	50 - 150	

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

Sample ID: OPR						Modified	d EPA Method 537
Matrix: Aqueous Sample Size: 0.125 L	QC Batch: Date Extracted	B6G0075 l: 19-Jul-2016	5 7:24		Lab Sample: B6G0075-BS1 Date Analyzed: 19-Jul-16 15:01 Column: BE	HC18 Analyst:]	PW
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	78.2	80.0	97.7	60 - 130	IS 13C3-PFBS	110	60 - 150
PFHpA	83.4	80.0	104	70 - 130	IS 13C4-PFHpA	102	25 - 175
PFHxS	81.0	80.0	101	70 - 130	IS 18O2-PFHxS	108	60 - 150
PFOA	82.6	80.0	103	70 - 130	IS 13C2-PFOA	105	60 - 150
PFOS	81.9	80.0	102	70 - 130	IS 13C8-PFOS	110	60 - 150
PFNA	83.4	80.0	104	50 - 130	IS 13C5-PFNA	106	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID:	GW-GZ-105							Modifie	d EPA M	ethod 53'
Client Data		·····	Sample Data		Lab	oratory Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	La	ab Sample:	1600910-01	Date Received:	15-Jul-201	6 9:55
Project:	2433		Sample Size:	0.132 L	Q	C Batch:	B6G0075	Date Extracted:	19-Jul-201	6 7:24
Date Collected:	12-Jul-2016 12:08				Da	ate Analyzed:	19-Jul-16 17:20 Co	olumn: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL	I	MDL	Qualifiers	Lab	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	11.0	7.60		1.70		IS 13C	3-PFBS	118	60 - 150	
PFHpA	94.1	7.60	anne agus ann a shaadanaa shiri aana san aanaa ay ahaanaa ay a	0.561			4-PFHpA	110	25 - 175	
PFHxS	42.4	7,60		0.899		IS 18C	2-PFHxS	111	60 - 150	
PFOA	198	7.60	and a second	0.618	an o physic spectrum officiality of		2-PFOA	105	60 - 150	
PFOS	130	7.60		0.766	1.0000	IS 13C	8-PFOS	112	60 - 150	
PFNA	17.9	7.60		0.769	AND A REPORT OF		5-PFNA	114	50 - 150	1999) - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997

LCL-UCL - Lower control limit - upper control limit Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-GZ-105-DUP							Modifie	d EPA M	ethod 537
Client Data			Sample Data		L	aboratory Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	1	Lab Sample:	1600910-02	Date Received:	15-Jul-2010	6 9:55
Project:	2433		Sample Size:	0.122 L		QC Batch:	B6G0075	Date Extracted:	19-Jul-201	6 7:24
Date Collected:	12-Jul-2016 12:08				1	Date Analyzed:	19-Jul-16 17:32 Col	lumn: BEH C18 Analy	st: PW	
Analyte	Conc. (ng/L)	RL	L	MDL	Qualifie	rs Labe	led Standard	%R	LCL-UCL	Qualifiers
PFBS	10.3	8.20		1.83		IS 13C3	-PFBS	114	60 - 150	
PFHpA	82.8	8.20		0.606		IS 13C4	PFHpA	107	25 - 175	
PFHxS	42.5	8.20		0.970		IS 18O2	2-PFHxS	105	60 - 150	CARADAS (1997) Substantin
PFOA	159	8.20		0.667		IS 13C2	-PFOA	110	60 - 150	
PFOS	117	8.20		0,827		IS 13C8	-PFOS	111	60 - 150	
PFNA	15.1	8.20		0.830		IS 13C5	-PFNA	104	50-150	an a thairte a dt Arten
		MDL - I	Method detection limit			LCL-UCL - Lo	wer control limit - upper con	ntrol limit		

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

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Sample ID:	GW-FPC-8B							Modifie	ed EPA M	ethod 537
Client Data			Sample Data		Lab	oratory	Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	La	ıb Sampl	e: 1600910-03	Date Received:	15-Jul-201	6 9:55
Project:	2433		Sample Size:	0.120 L	Q	C Batch:	B6G0075	Date Extracted:	19-Jul-201	6 7:24
Date Collected:	12-Jul-2016 13:30				Da	ate Analy	vzed: 19-Jul-16 17:44 Co	olumn: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL	I	MDL	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	2.10	8.31		1.86	J	IS	13C3-PFBS	109	60 - 150	
PFHpA	1.80	8.31		0.614	J	IS	13C4-PFHpA	103	25 - 175	
PFHpA PFHxS	3.57	8.31		0.984	J	IS	18O2-PFHxS	111	60 - 150	
PFOA	2.98	8.31		0.676	J	IS	13C2-PFOA	109	60 - 150	
PFOS	1.46	8.31		0.838	J	IS	13C8-PFOS	102	60 - 150	
PFNA	ND	8.31	and the state of the	0.841	ann an Antain (1997) an ₁₉₉₇ (1997) an Antain (1997) an Antaine (1997)	IS	13C5-PFNA	97.4	50 - 150	ACC 10 10 10 10 10 10 10 10 10 10 10 10 10

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

RL - Reporting limit

Sample ID:	GW-FPC-8A	A					· · · · ·	Modifi	ed EPA M	ethod 537
Client Data			Sample Data		L	aboratory	y Data			
Name:	Eastern Analytic	al, Inc.	Matrix:	Aqueous]	Lab Samp	ble: 1600910-04	Date Received	15-Jul-2016	5 9:55
Project:	2433		Sample Size:	0.120 L		QC Batch	: B6G0075	Date Extracted	: 19-Jul-2016	5 7:24
Date Collected:	12-Jul-2016 14:	28]	Date Anal	lyzed: 19-Jul-16 17:56 C	olumn: BEH C18 Ana	lyst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifier	rs	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	2,36	8.36		1.87	J	IS	13C3-PFBS	116	60 - 150	
PFHpA	4.18	8.36		0.617	J	IS	13C4-PFHpA	105	25 - 175	is and its define a last of a loss of the l
PFHxS	3.68	8.36		0.989	J	IS	18O2-PFHxS	411	60 - 150	
PFOA	8.98	8.36		0.680		IS	13C2-PFOA	108	60 - 150	
PFOS	3.89	8.36		0.843	J	IS	13C8-PFOS	116	60 - 150	
PFNA	ND	8.36		0.846		IS	13C5-PFNA	103	50 - 150	

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

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Sample ID:	GW-FPC-4B							Modifie	d EPA M	ethod 53'
Client Data			Sample Data		Lab	oratory Dat	a			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	La	ab Sample:	1600910-05	Date Received:	15-Jul-2016	9:55
Project:	2433		Sample Size:	0.120 L	Q	C Batch:	B6G0075	Date Extracted:	19-Jul-2016	5 7:24
Date Collected:	13-Jul-2016 9:38				Da	ate Analyzed	: 19-Jul-16 18:09 Co	olumn: BEH C18 Analy	st: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifiers	La	beled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	8.33		1.86		IS 130	C3-PFBS	116	60 - 150	
РҒНрА	ND	8.33		0.615		IS 130	C4-PFHpA	108	25 - 175	
PFHxS	ND	8.33		0.986		IS 180	D2-PFHxS	110	60 - 150	
DEOA	ND	8.33	an an '' ann an taraith an tha dhanan ann a' Mhathathathair a' Mhathatha a' 1994	0.678	ann dar bann an an aidir 17 agus a' a'	IS 130	C2-PFOA	105	60 - 150	.composition and a second
PFOA							nana a na a gara garanga i gira ngagan a a giranga i giranga a na ana		Contract of the second second	1000 C 1000 C 1000
	ND	8.33		0.840	영양관광 관수	IS 130	C8-PFOS	111 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	60 - 150	영양과 작품 집

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-AE-4A							Modifie	d EPA Me	ethod 537
Client Data			Sample Data	5	I	Laboratory Da	ta			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab Sample:	1600910-06	Date Received:	15-Jul-2016	9:55
Project:	2433		Sample Size:	0.121 L		QC Batch:	B6G0075	Date Extracted:	19-Jul-2016	7:24
Date Collected:	13-Jul-2016 10:53					Date Analyzed	l: 19-Jul-16 18:21 (Column: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifi	ers La	beled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	8.26		1.85		IS 13	C3-PFBS	115	60 - 150	
PFHpA	ND	8.26		0.610		IS 13	C4-PFHpA	103	25 - 175	
PFHxS	ND	8.26		0.978		IS 18	O2-PFHxS	107	60 - 150	
PFOA	ND	8.26		0.672		IS 13	C2-PFOA	106	60 - 150	
PFOS	ND	8,26		0.833		IS 13	C8-PFOS	109	60 - 150	
PFNA	ND	8.26	ana an	0.837		IS 13	C5-PFNA	102	50 - 150	a contrativativativativati

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-AE-4B							Modifie	d EPA M	ethod 537
Client Data			Sample Data		La	aboratory]	Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	I	Lab Sample	: 1600910-07	Date Received:	15-Jul-2016	5 9:55
Project:	2433		Sample Size:	0.122 L	(QC Batch:	B6G0075	Date Extracted:	19-Jul-2016	5 7:24
Date Collected:	13-Jul-2016 11:48				I	Date Analy:	zed: 19-Jul-16 19:10	Column: BEH C18 Analy	vst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifier	rs	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	8.19		1.83		IS	13C3-PFBS	114	60 - 150	
PFHpA	ND	8.19		0.605		IS	13C4-PFHpA	103	25 - 175	dar hensternderader (der 1942
PFHxS	ND	8.19		0.970	le an	IS	18O2-PFHxS	109	60 - 150	5
PFOA	1.25	8.19		0.667	J	IS	13C2-PFOA	105	60 - 150	
PFOS	ND	8.19		0.826		IS	13C8-PFOS	113	60 - 150	
PFNA	ND	8.19		0.829		IS	13C5-PFNA	113	50 - 150	energia de la compañía de la compañí Compañía de la compañía

LCL-UCL - Lower control limit - upper control limit Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-FPC-6B							Modifie	d EPA M	ethod 537
Client Data			Sample Data		La	aboratory Dat	a			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	1	Lab Sample:	1600910-08	Date Received:	15-Jul-2016	5 9:55
Project:	2433		Sample Size:	0.121 L	(QC Batch:	B6G0075	Date Extracted:	19-Jul-2016	5 7:24
Date Collected:	13-Jul-2016 13:13				I	Date Analyzed	: 19-Jul-16 19:22 (Column: BEH C18 Analy	vst: PW	
Analyte	Conc. (ng/L)	RL	I	MDL	Qualifier	rs La	beled Standard	%R	LCL-UCL	Qualifiers
PFBS	3.23	8.23		1.84	$\mathbf{J}_{\mathbf{a}}$	IS 13	C3-PFBS	117	60 - 150	
PFHpA	26.7	8.23		0.608		IS 13	C4-PFHpA	113	25 - 175	and a second
PFHxS	8.93	8.23		0.974		IS 18	O2-PFHxS	116	60 - 150	
PFOA	74.9	8.23		0.670		IS 13	C2-PFOA	109	60 - 150	
PFOS	17:6	8.23		0,830		IS 13	C8-PFOS	112	60 - 150	484 c 109,48
PFNA	4.70	8.23		0.833	J	IS 13	C5-PFNA	111	50-150	a anna sa istika Maan
		MDL - N	Method detection limit			LCL-UCL -	Lower control limit - upper	control limit		

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-FPC-6A							Modifie	d EPA M	ethod 537
Client Data			Sample Data		La	boratory Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		ab Sample:	1600910-09	Date Received:	15-Jul-201	5 9:55
Project:	2433		Sample Size:	0.123 L	Q	C Batch:	B6G0075	Date Extracted:	19-Jul-201	5 7:24
Date Collected:	13-Jul-2016 14:03				D	Date Analyzed:	19-Jul-16 19:34 C	olumn: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL	• I	MDL	Qualifiers	s Lab	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	5.37	8.11		1.81	J	IS 13C	3-PFBS	116	60 - 150	
PFHpA	45.2	8.11	and and the second s	0.599		IS 13C	4-PFHpA	109	25 - 175	
PFHxS	15.7	8.11		0.960		IS 18O	2-PFHxS	102	60 - 150	
PFOA	126	8.11	andre falle ("yanged" bigg it tellerande table and tradi-	0.660		IS 13C	2-PFOA	109	60 - 150	
PFOS	28.4	8.11	和同國家的問題的主要	0.818		IS 13C	8-PFOS	105	60 - 150	
PFNA	7.41	8.11	aan halaanaan oo dhi'nah yaanadaan "Maranina" a sarahaan kabaa karaata oo ho ⁹⁰ oo fa Maranda	0.821	J	IS 13C	5-PFNA	104	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

Sample ID:	GW-FPC-7A							Modifie	ed EPA M	ethod 537
Client Data			Sample Data		La	aboratory Da	ta			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	I	Lab Sample:	1600910-10	Date Received:	15-Jul-201	5 9:55
Project:	2433		Sample Size:	0.124 L		QC Batch:	B6G0075	Date Extracted:	19-Jul-201	5 7:24
Date Collected:	14-Jul-2016 8:08				I	Date Analyzed	l: 19-Jul-16 19:46 Co	lumn: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifier	rs La	beled Standard	%R	LCL-UCL	Qualifiers
PFBS	3.52	8.06	- Charles and the	1.80	$\mathbf{J}_{\mathrm{res}}$	IS 13	C3-PFBS	115	60 - 150	
PFHpA	1.45	8.06		0.595	J	IS 13	C4-PFHpA	111	25 - 175	daddelad ddi dardau ola ei al
PFHxS	1.49	8.06		0.954	J	IS 18	O2-PFHxS	110	60 - 150	
PFOA	4.45	8.06		0.656	J	IS 13	C2-PFOA	103	60 - 150	ad Autor Change and Anna Alas Alas and
PFOS	1.78	8.06		0.813	J	IS 13	C8-PFOS	112	60 - 150	
PFNA	ND	8.06	nata kappantinina 11 antoini Lanaareel' ya keeleksi	0.816	a bha na sannalannan ' é, bunainn		C5-PFNA	116	50 - 150	en el els la véril el let

LCL-UCL - Lower control limit - upper control limit Results reported to MDL.

Sample ID:	GW-FPC-7B							Modifie	d EPA M	ethod 537
Client Data			Sample Data		L	aborator	y Data			-
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab Samp	ble: 1600910-11	Date Received:	15-Jul-201	6 9:55
Project:	2433		Sample Size:	0.123 L		QC Batch	:: B6G0075	Date Extracted:	19-Jul-201	6 7:24
Date Collected:	14-Jul-2016 8:48					Date Anal	lyzed: 19-Jul-16 19:59 C	olumn: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifie	ers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	2.95	8.11		1.81	J	IS	13C3-PFBS	121	60 - 150	
PFHpA	3.45	8.11		0.599	J	IS	13C4-PFHpA	112	25 - 175	anda in biringang in perturbahan perturbahan perturbahan
PFHxS	1.85	8.11	U. A. B.	0.960	J	IS	18O2-PFHxS	116	60 - 150	
PFOA	8.65	8.11	- pro- and the first product of an and the first fighted and the	0.660		IS	13C2-PFOA	113	60 - 150	and a second sec
PFOS	3.27	8.11		0.818	J	IS	13C8-PFOS	122	60 - 150	
PFNA	1.28	8.11	angegenere / second of an entropy and an entropy of the second second second second second second second second	0.821	J	IS	13C5-PFNA	119	50 - 150	

LCL-UCL - Lower control limit - upper control limit Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-AE-2A							Modifie	d EPA M	ethod 537
Client Data			Sample Data		La	boratory Data				
Name:	Eastern Analytical, Inc		Matrix:	Aqueous	L	ab Sample:	1600910-12	Date Received:	15-Jul-2010	5 9:55
Project:	2433		Sample Size:	0.119 L	Q	QC Batch:	B6G0075	Date Extracted:	19-Jul-2010	5 7:24
Date Collected:	14-Jul-2016 10:13				D	Date Analyzed:	19-Jul-16 20:11 Co	lumn: BEH C18 Analy	rst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifiers	s Labe	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	3.72	8.39		1.88	J	IS 13C3	-PFBS	121	60 - 150	
PFHpA	342	8.39		0.620		IS 13C4	-PFHpA	113	25 - 175	
PFHxS	27.1	8.39		0.993		IS 1802	2-PFHxS	115	60 - 150	
PFOA	640	8.39		0.683		IS 13C2	2-PFOA	111	60 - 150	
PFOS	324	8,39		0.846		IS 13C8	S-PFOS	110	60 - 150	
PFNA	126	8.39	e - Len al Salanna - Sala - Andréan Matala Son	0.849	inens la mission consult per	IS 13C5	5-PFNA	107	50-150	A.S.A. 11 - 12 / 4 / 11 - 14

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

Sample ID:	GW-AE-2B							Modifie	ed EPA M	ethod 537
Client Data			Sample Data		Lal	boratory Da	ita			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	L	ab Sample:	1600910-13	Date Received:	15-Jul-201	6 9:55
Project:	2433		Sample Size:	0.125 L	Q	C Batch:	B6G0075	Date Extracted:	19-Jul-201	6 7:24
Date Collected:	14-Jul-2016 10:53				D	ate Analyze	d: 19-Jul-16 20:23 Co	olumn: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifiers	s L	abeled Standard	%R	LCL-UCL	Qualifiers
PFBS	16.3	7.98		1.79		IS 13	3C3-PFBS	122	60 - 150	
PFHpA	350	7.98	WEAR A MARKED RADIAL AND A COMPLEX MARKED	0.590		IS 13	3C4-PFHpA	111	25 - 175	an a
PFHxS	85.9	7.98		0.945		IS 18	BO2-PFHxS	117	60 - 150	
PFOA	670	7.98		0.650		IS 13	3C2-PFOA	109	60 - 150	1. Architectured and
PFOS	463	7.98		0.805		IS 1	3C8-PFOS	112	60 - 150	keter h
PFNA	72.5	7.98	ana an ann an	0.808	and the second	IS 13	3C5-PFNA	120	50 - 150	n mager e rugen half dan die fy

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID: N	Iethod Blank							Mod	ified EPA M	ethod 537
Matrix:AqueousQC Batch:B6G0076Sample Size:0.125 LDate Extracted:19-Jul-20167:25						Lab Sample: Date Analyzed:	B6G0076-BLK1 19-Jul-16 15:50 C	olumn: BE	H C18 Analyst: P	W
Analyte	Conc. (ng/L)	RL	N	/DL	Qualifiers	Labeled Stan	dard	%R	LCL-UCL	Qualifiers
PFBS PFHpA PFHxS PFOA PFOS PFNA	ND ND ND	8.00 8.00 8.00		1.79 .591 .947 .651 .807 .810		IS 13C3-PFE IS 13C4-PFF IS 1802-PFF IS 13C2-PFC IS 13C8-PFC IS 13C5-PFN	IpA IxS DA DS	101 101 104	60 - 150 25 - 175 60 - 150 60 - 150 60 - 150 50 - 150	

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

Sample ID: OPR			Modified EPA Method 537						
Matrix: Aqueous Sample Size: 0.125 L	QC Batch: Date Extracte	B6G0076 d: 19-Jul-2016	7:25		Lab Sample:B6G0076-BS1Date Analyzed:19-Jul-16 15:13Column: BE	CH C18 Analyst: F	PW		
Analyte Am	t Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL		
PFBS	79.9	80.0	99.8	60 - 130	IS 13C3-PFBS	113	60 - 150		
PFHpA	80.5	80.0	101	70 - 130	IS 13C4-PFHpA	104	25 - 175		
PFHxS	84.5	80.0	106	70 - 130	IS 1802-PFHxS	112	60 - 150		
PFOA	79.2	80.0	99.0	70 - 130	IS 13C2-PFOA	111	60 - 150		
PFOS	78.5	80.0	98.1	70 - 130	IS 13C8-PFOS	118	60 = 150		
PFNA	77.3	80.0	96.6	50 - 130	IS 13C5-PFNA	106	50 - 150		

LCL-UCL - Lower control limit - upper control limit

24

Sample ID:	GW-AE-3A								Modifi	ed EPA M	ethod 537
Client Data			Sample Data			Labo	ratory Data				
Name:	Eastern Analytical, Inc		Matrix:	Aqueous		Lab	Sample:	1600910-14	Date Received	15-Jul-2010	5 9:55
Project:	2433		Sample Size:	0.125 L		QC	Batch:	B6G0076	Date Extracted	: 19-Jul-2010	5 7:25
Date Collected:	12-Jul-2016 11:05		-			Date	Analyzed:	19-Jul-16 20:35 Col	umn: BEH C18 Ana	lyst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualif	fiers	Labe	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	5.65	8.02	it in the second se	1.79	J.		IS 13C3	-PFBS	121	60 - 150	
PFHpA	83.4	8.02		0.592			IS 13C4	-PFHpA	114	25 - 175	
PFHxS	18.6	8.02		0.949			IS 1802	2-PFHxS	105	60 - 150	
PFOA	196	8.02		0.652			IS 13C2	2-PFOA	112	60 - 150	

0.809

0.812

MDL - Method detection limit

RL - Reporting limit

8.02

8.02

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

13C8-PFOS

13C5-PFNA

IS

IS

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

PFOS

PFNA

72.1

28.5

60 - 150

50 - 150

106

112

Matrix Spike Re	sults											Mod	lified EPA	Met	nod 537	
Source Client ID: Source LabNumber: Matrix: Sample Size:	GW-AE-3A 1600910-14 Aqueous 0.126/0.125 L										Lab Sample:B6G0076-MS1/B6G0076-MSD1Date Analyzed:19-Jul-16 23:26 Column: BEH C18 Analyst: PW19-Jul-16 23:38 Column: BEH C18 Analyst: PW					
Analyte		Spike-MS (ng/L)		MS Qual.	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.	
PFHpA		79:2 79.2 79.2 79.2 79.2 79.2 79.2	99,2 104 106 118 101 97.1		80.0 80.0 80.0 80.0 80.0 80.0 80.0	99.7 109 103 107 109 95.9	0.503 4.69 2.87 9.78 7.62 1.24		60 - 130 70 - 130 70 - 130 70 - 130 70 - 130 50 - 130	20 20 20 20 20 20 20	IS 13C3-PFBS IS 13C4-PFHpA IS 18O2-PFHxS IS 13C2-PFOA IS 13C8-PFOS IS 13C5-PFNA	110		113 105 104 103 106 113		

2

Sample ID:	GW-AE-3A DUP							Modifie	d EPA M	ethod 537
Client Data			Sample Data		Lab	oratory D	Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	La	b Sample:	1600910-15	Date Received:	15-Jul-2010	5 9:55
Project:	2433		Sample Size:	0.124 L	Q	C Batch:	B6G0076	Date Extracted:	19-Jul-2010	5 7:25
Date Collected:	12-Jul-2016 11:05				Da	ate Analyz	ed: 19-Jul-16 20:47 (Column: BEH C18 Anal	vst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifiers]	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	5.76	8.04		1.80	J	IS	13C3-PFBS	118	60 - 150	
PFHpA	86.3	8.04		0.594		IS	13C4-PFHpA	109	25 - 175	
PFHxS	19.3	8.04		0.952		IS	18O2-PFHxS	105	60 - 150	
PFOA	223	8.04	in para parintana para 1970 na para 2000 na para para para	0.655	and Approx prophetics and prophetics	IS 1	13C2-PFOA	106	60 - 150	
PFOS	73,5	8.04		0.811		IS	13C8-PFOS	115	60 - 150	
PFNA	30.2	8.04		0.814	and the second sec	IS	13C5-PFNA	111	50 - 150	· · · · · · · · · · · · · · · · · · ·

LCL-UCL - Lower control limit - upper control limit Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

RL - Reporting limit

Sample ID:	GW-AE-3B								I	Modifie	d EPA Me	thod 537		
Client Data			Sample Data			aboratory	Data							
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab Samp	le: 1	600910-16	Date	Received:	15-Jul-2016	9:55		
Project:	2433		Sample Size:	0.126 L		QC Batch	: E	6G0076	Date	Extracted:	19-Jul-2016	7:25		
Date Collected:	12-Jul-2016 12:00					Date Anal	yzed: 1	9-Jul-16 21:00	Column: BEH	C18 Anal	yst: PW			
Analyte	Conc. (ng/L)	RL	I	MDL	Qualifie	rs	Labeled	l Standard		%R	LCL-UCL	Qualifiers		
PFBS	6.62	7.96		1.78	J	IS	13C3-P	FBS		120	60 - 150			
PFHpA	82.2	7.96		0.588		IS	13C4-P	FHpA		105	25 - 175			
PFHxS	20.4	7.96		0.942		IS	18O2-P	FHxS		110	60 - 150			
PFOA	195	7.96		0.648		IS	13C2-P	FOA		106	60 - 150			
PFOS	62.8	7.96		0.803		IS	13C8-P	FOS		109	60 - 150			
PFNA	26.4	7.96		0.806		IS	13C5-P	FNA	1999 - 1999 -	105	50 - 150			
	MDL - Method detection limit							LCL-UCL - Lower control limit - upper control limit						

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-FPC-9A							Modifi	ed EPA M	ethod 537
Client Data			Sample Data		L	aboratory	Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	1	Lab Sampl	e: 1600910-17	Date Received	: 15-Jul-2010	5 9:55
Project:	2433		Sample Size:	0.121 L		QC Batch:	B6G0076	Date Extracted	: 19-Jul-2010	5 7:25
Date Collected:	12-Jul-2016 13:36				1	Date Analy	zed: 19-Jul-16 21:48 (Column: BEH C18 Ana	lyst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifie	rs	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	6.51	8.24		1.84	J	IS	13C3-PFBS	118	60 - 150	
PFHpA	28.0	8.24		0.609		IS	13C4-PFHpA	108	25 - 175	and the second se
PFHxS	16.9	8.24		0.975		IS	18O2-PFHxS	108	60 - 150	
PFOA	81.0	8.24		0.670		IS	13C2-PFOA	102	60 - 150	
PFOS	26,5	8.24		0.831		IS	13C8-PFOS	114	60 - 150	
PFNA	ND	8.24		0.834		IS	13C5-PFNA	108	50 - 150	and the second second second

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

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Sample ID:	GW-AE-1B							N	Iodifie	d EPA M	ethod 537
Client Data	······································		Sample Data]	Laboratory	v Data				
Name:	Eastern Analytical, Inc		Matrix:	Aqueous		Lab Samp	le: 1600910-18	Date H	Received:	15-Jul-2010	9:55
Project:	2433		Sample Size:	0.125 L		QC Batch	: B6G0076	Date I	xtracted:	19-Jul-2010	5 7:25
Date Collected:	12-Jul-2016 15:23		_			Date Anal	yzed: 19-Jul-16 22:0	Column: BEH C	218 Analy	yst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifi	ers	Labeled Standard		6R	LCL-UCL	Qualifiers
PFBS	ND	8.01		1.79		IS	13C3-PFBS	1	21	60 - 150	
PFHpA	1.71	8.01		0.591	J	IS	13C4-PFHpA	1	11	25 - 175	
PFHxS	3.03	8.01		0.948	J	IS	18O2-PFHxS	1	08	60 - 150	Para ang ang ang ang ang ang ang ang ang an
PFOA	5.71	8.01		0.651	J	IS	13C2-PFOA	9	8.7	60 - 150	alatis, Statistiski andalata and
PFOS	3.71	8.01		0.808	J	IS	13C8-PFOS	1	05	60 - 150	
PFNA	ND	8.01	an a	0.811		IS	13C5-PFNA		08	50 - 150	an an a game a far a'r ar arfer a'r

MDL - Method detection limit RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-EB-WATER	LEVEL						Modifie	ed EPA M	ethod 537
Client Data			Sample Data		La	boratory Da	ta			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	L	Lab Sample:	1600910-19	Date Received:	15-Jul-2016	5 9:55
Project:	2433		Sample Size:	0.115 L	Q	QC Batch:	B6G0076	Date Extracted:	19-Jul-2016	5 7:25
Date Collected:	13-Jul-2016 8:20				E	Date Analyze	d: 19-Jul-16 22:13	Column: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifiers	s L	abeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	8.73		1.95		IS 13	C3-PFBS	111	60 - 150	
PFHpA	ND	8.73		0.645		IS 13	3C4-PFHpA	108	25 - 175	uneed out for the free of the
PFHxS	ND	8.73	ANN A STRATE	1.03	(estar)	IS 18	3O2-PFHxS	112	60 - 150	
PFOA	ND	8.73	and a second	0.711		IS 13	C2-PFOA	105	60 - 150	
PFOS	ND	8.73		0.881		IS 1.	C8-PFOS	111	60 - 150	
PFNA	ND	8.73		0.884			C5-PFNA	95.1	50-150	1 a

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	FB-DI WATER							Modifie	d EPA M	ethod 537
Client Data			Sample Data		L	aboratory Da	ta			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous]	Lab Sample:	1600910-20	Date Received:	15-Jul-201	6 9:55
Project:	2433		Sample Size:	0.122 L		QC Batch:	B6G0076	Date Extracted:	19-Jul-201	6 7:25
Date Collected:	13-Jul-2016 8:25]	Date Analyze	1: 19-Jul-16 22:25 C	Column: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL	I	MDL	Qualifier	rs La	beled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	8.18		1.83	橋馬山城	IS 13	C3-PFBS	115	60 - 150	
PFHpA	ND	8.18		0.604		IS 13	C4-PFHpA	107	25 - 175	
	ND	8.18		0.968		IS 18	O2-PFHxS	110	60 - 150	
PFOA	ND	8.18		0.666		IS 13	C2-PFOA	104	60 - 150	
PFOS	ND	8.18		0.825		IS 13	C8-PFOS	120	60 - 150	
PFNA	ND	8.18	and a set of the set o	0.828	and the Canadian Strategic Canadian Canadian and	IS 13	C5-PFNA	111 a George Charles and a second second	50 - 150	A strategic second

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

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Sample ID:	GW-AE-1A							Modifie	d EPA M	ethod 537
Client Data			Sample Data		La	boratory	/ Data			
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	I	Lab Samp	le: 1600910-21	Date Received:	15-Jul-2016	9:55
Project:	2433		Sample Size:	0.127 L		QC Batch	: B6G0076	Date Extracted:	19-Jul-2016	7:25
Date Collected:	13-Jul-2016 9:00				I	Date Anal	yzed: 19-Jul-16 22:37 C	olumn: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL		MDL	Qualifier	·s	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	7.89		1.76		IS	13C3-PFBS	115	60 - 150	
PFHpA	1.21	7.89		0.583	J	IS	13C4-PFHpA	108	25 - 175	
PFHxS	2.96	7.89		0,934	Ţ	IS	18O2-PFHxS	109	60 - 150	
PFOA	6.10	7.89	ann harfall bhann brithchair ann a' brifis an Albhrin - 1075 à suith bhrinn	0.642	J	IS	13C2-PFOA	108	60 - 150	
PFOS	3.06	7.89		0.796	J	IS	13C8-PFOS	113	60 - 150	
* and that have been an article that the third of the term	hanna hanna hanna kana kana kana kana ka	7.89	eta antikotza izitea de trata de la construita de construita de trata de la construcción de la construita de co	0.799	n daa kaanaa dha dha dha dha ah iyo ah	IS	13C5-PFNA	114	50 - 150	2012 Sec. 1, 2018, 10000

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-FPC-11B								Modif	ied EPA M	ethod 537
Client Data			Sample Data	,		Labora	tory Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab S	ample:	1600910-22	Date Receive	d: 15-Jul-2010	5 9:55
Project:	2433		Sample Size:	0.125 L		QC B	atch:	B6G0076	Date Extracte	d: 19-Jul-2010	5 7:25
Date Collected:	13-Jul-2016 10:15					Date	Analyzed:	19-Jul-16 22:49 Colu	ımn: BEH C18 An	alyst: PW	
Analyte	Conc. (ng/L)	RL	I	MDL	Qualif	ïers	Lab	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	2.86	8.00		1.79	J		S 13C	3-PFBS	121	60 - 150	
PFHpA	8.47	8.00		0.591]	S 13C	4-PFHpA	114	25 - 175	an a
PFHxS	7.87	8.00		0.948	J		S 18O	2-PFHxS	108	60 - 150	
PFOA	29.6	8.00		0.651]	S 13C	2-PFOA	105	60 - 150	a and define and the state states of the
PFOS	16.5	8.00		0.807	1-1-60		S 13C	3-PFOS	110	60 - 150	
PFNA	2,29	8.00		0.810	J		S 13C	5-PFNA	94.0	50 - 150	2019-2012-00-00-00-00-00-00
		MDL - 1	Method detection limit			L	CL-UCL - Le	ower control limit - upper cont	rol limit		

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-FPC-11A							Modifie	d EPA M	ethod 537
Client Data			Sample Data		La	boratory Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	L	ab Sample:	1600910-23	Date Received:	15-Jul-201	6 9:55
Project:	2433		Sample Size:	0.126 L	Q	QC Batch:	B6G0076	Date Extracted:	19-Jul-201	6 7:25
Date Collected:	13-Jul-2016 10:45				E	Date Analyzed:	19-Jul-16 23:02 Co	olumn: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL	l	MDL	Qualifiers	s Lab	eled Standard	%R	LCL-UCL	Qualifiers
PFBS	1.95	7.96		1.78	J	IS 13C	3-PFBS	121	60 - 150	
PFHpA	5.25	7.96	ne da junitari en estara con el terre de la constante de constante de la constante de la constante de la consta	0.588	J		4-PFHpA	106	25 - 175	an one i car i contrato transmistori
PFHxS	5,53	7.96		0.942	J	IS 18O	2-PFHxS	102	60 - 150	
PFOA	19.5	7.96		0.647		IS 13C	2-PFOA	102	60 - 150	
PFOS	5.21	7,96		0.803	J	IS 13C	8-PFOS	104	60 - 150	
PFNA	ND	7.96	anna a anna an ann an ann ann ann ann a	0.805	- 3	IS 13C	5-PFNA	99.2	50 - 150	a antana ang kanalagan

MDL - Method detection limit RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL. The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

Sample ID:	GW-FPC-5B								Modifie	d EPA Me	ethod 537
Client Data			Sample Data	.	I	Labor	ratory Data				
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous		Lab	Sample:	1600910-24	Date Received:	15-Jul-2016	9:55
Project:	2433		Sample Size:	0.119 L		QCI	Batch:	B6G0076	Date Extracted:	19-Jul-2016	7:25
Date Collected:	13-Jul-2016 13:55					Date	e Analyzed:	19-Jul-16 23:14 (Column: BEH C18 Anal	yst: PW	
Analyte	Conc. (ng/L)	RL	L	MDL	Qualifi	ers	Label	ed Standard	%R	LCL-UCL	Qualifiers
PFBS	14.9	8.42		1.88			IS 13C3-	PFBS	119	60 - 150	
PFHpA	25.9	8.42		0.622			IS 13C4-	PFHpA	111	25 - 175	
PFHxS	37.6	8.42		0.997			IS 18O2-	PFHxS	109	60 - 150	
PFOA	108	8.42		0.685			IS 13C2-	PFOA	111	60 - 150	
PFOS	31.0	8.42	i di seri dent	0.850		33	IS 13C8-	PFOS	102	60 - 150	
PFNA	1.29	8.42		0.853	J		IS 13C5-	PFNA	103	50-150	1 (1979) (C. 1999) (C. 1997) (C. 1979)

MDL - Method detection limit RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS and PFOS include both linear and branched isomers.

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
н	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ.
*	See Cover Letter
Conc.	Concentration
NA	Not applicable
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
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

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

NELAP Accredited Test Methods

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

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

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

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

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

1600910 3.1°C EAISRB# 158298

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
GW-GZ 105	7/12/2016 12:08	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-GZ 105-DUP	7/12/2016	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-FPC-8B	7/12/2016 13:30	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-FPC-8A	7/12/2016	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	

EAI SRB#	158298 Project State: NH Project ID: 2433	Results Needed by: Preferred date <u>QC Deliverables</u> □ A □ A+ □ B □ B+ ⊠ C □ P	Eastern Analytical Inc. PO Number: 44789 Please call prior to analyzing, if RUSH surcharges will be applied.
Company	Vista Analytical Laboratory	Notes about project:	
Address	1104 Windfield Way	Email pdf of results and invoice to	
Address	El Dorado Hills, CA 95762	customerservice@eailabs.com. Perfluorobutanesulfonic Acid (PFBS),	Samples Collected by: (1997) 1416 110:00 UPS
Account #		Perfluoroheptanoic Acid (PFHpA),	Relinquished by Date/Time Received by
Phone #	(916) 673-1520	Perfluorohexanesulfonic Acid (PEHxS),	
Fax Number	Υ	Perfluorononanoic Acid (PFNA), Perfluorooctanoic Acid (PFOA), PFoS	Relinquished by Date/Time Received by 0959
	Eastern Analytical, Inc. 25 Chenell Dr.		1-800-287-0525 Fax: (603)228-4591

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EAI SRB# 158298

1600910

Sample ID	Date Sample	d Matrix	aParameters		Sample Notes
GW-FPC-4B	7/13/2016 9:38	aqueous Subcor	tract - Perfluorinated Compound	s EPA Method 537 (VAL)	
GW-AE-4A	7/13/2016 10:53	aqueous Subcor	tract - Perfluorinated Compound	s EPA Method 537 (VAL)	
GW-AE-4B	7/13/2016 11:48	aqueous Subcor	tract - Perfluorinated Compound	s EPA Method 537 (VAL)	
GW-FPC-6B	7/13/2016	aqueous Subcor	fract - Perfluorinated Compound	s EPA Method 537 (VAL)	

EA#SRB#	158298 Project State: NH Project ID: 2433	Results Needed by: Preferred date <u>QC Deliverables</u> □ A □ A+ □ B □ B+ ⊠ C □ P	Eastern Analytical Inc. PO Number: 44789 Please call prior to analyzing, if RUSH surcharges will be applied.
Company	Vista Analytical Laboratory	Notes about project:	
Address	1104 Windfield Way	Email pdf of results and invoice to	
Address	El Dorado Hills, CA 95762	customerservice@eailabs.com. Perfluorobutanesulfonic Acid (PFBS),	Samples Collected by: (IIIIII AMAN 7/14/16 16/00 UPS
Account #		Perfluoroheptanoic Acid (PFHpA),	
Phone #	(916) 673-1520	Perfluorohexanesulfonic Acid (PFHxS),	LIPS 7/15/16 2955 grandfrus 1/15/16
Fax Number		Perfluorononanoic Acid (PFNA), Perfluorooctanoic Acid (PFOA)	Relinquished by Date/Time Received by
	Eastern Analytical. Inc. 25 Chenell Dr.	Concord, NH 03301 Phone: (603)228-0525	1-800-287-0525 Fax: (603)228-4591

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EAI SRB# 158298

1600910

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
GW-FPC-6A	7/13/2016 14:03	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-FPC-7A	7/14/2016	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-FPC-7B	7/14/2016	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-AE-2A	7/14/2016 10:13	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	

EAI SRB#	158298 Project State: NH Project ID: 2433	Results Needed by: Preferred date QC Deliverables $\square A \square A^+ \square B \square B^+ \boxtimes C \square P^-$	Eastern Analytical Inc. PO Number: 44789 Please call prior to analyzing, if RUSH surcharges will be applied.
Company	Vista Analytical Laboratory	Notes about project:	
Address	1104 Windfield Way	Email pdf of results and invoice to	
Address	El Dorado Hills, CA 95762	customerservice@eailabs.com. Perfluorobutanesulfonic Acid (PFBS),	Samples Collected by:
Account #		Perfluoroheptanoic Acid (PFHpA),	Determined by
Phone #	(916) 673-1520	Perfluorohexanesulfonic Acid (PFHxS),	UPS T/15/10 0955 groupement 1/15/14
Fax Number		Perfluorononanoic Acid (PFNA), Perfluorooctanoic Acid (PFOA)	Relinquished by Date/Time Received by
	Eastern Analytical, Inc. 25 Chenell Dr.	Concord, NH 03301 Phone: (603)228-0525	1-800-287-0525 Fax: (603)228-4591

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1000910 EALSRB# 158298

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
GW-AE-2B	7/14/2016 10:53	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-AE-3A	7/12/2016	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	MS/MSD
GW-AE-3A DUP	7/12/2016	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-AE-3B	7712/2016	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	

EAI SRB#	158298 Project State: NH Project ID: 2433	Results Needed by: Preferred date <u>QC Deliverables</u> □ A □ A+ □ B □ B+ ⊠ C □ P	Eastern Analytical Inc. PO Number: 44789 Please call prior to analyzing, if RUSH surcharges will be applied.
Company	Vista Analytical Laboratory	Notes about project:	
Address	1104 Windfield Way	Email pdf of results and invoice to	
Address	El Dorado Hills, CA 95762	customerservice@eailabs.com. Perfluorobutanesulfonic Acid (PFBS),	Samples Collected by:
Account #		Perfluoroheptanoic Acid (PFHpA),	Relinguished by Date/Time Received by
Phone #	(916) 673-1520	Perfluerohexanesulfonic Acid (PFHxS),	Relinquished by Date/Time Received by USS
Fax Number		Perfluorononanoic Acid (PFNA), Perfluoronotanoic Acid (PFOA)	Relinquished by Date/Time Received by 647597
	Eastern Analytical Inc. 25 Chenell Dr.	Concord, NH 03301 Phone: (603)228-0525	1-800-287-0525 Fax: (603)228-4591

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EAI SRB# 158298

1600910

Sample ID	Date Sampled	Matrix	aParameters	Sample Notes
GW-FPC-9A	7/12/2016 13:36	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-AE-1B	7/12/2016 15:23	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-EB-WATERLEVEL	7/12/2016 8:20	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
FB-DI WATER	7/13/2016	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	

EAI SRB#	158298 Project State: NH Project ID: 2433	Results Needed by: Preferred date QC Deliverables □ A □ A+ □ B □ B+ ⊠ C □ P	Eastern Analytical Inc. PO Number: 44789 Please call prior to analyzing, if RUSH surcharges will be applied.
Company	Vista Analytical Laboratory	Notes about project:	
Address	1104 Windfield Way	Email pdf of results and invoice to	
Address	El Dorado Hills, CA 95762	customerservice@eailabs.com. Perfluorobutanesulfonic Acid (PFBS),	Samples Collected by:
Account #		Perfluoroheptanoic Acid (PFHpA),	Relinquished by Date/Time Received by
Phone #	(916) 673-1520	Perfluorohexanesulfonic Acid (PFHxS),	44 11- 115/16 195 7/15/16 0955 charb per 1/15/16
Fax Number	х с	Perfluorononanoic Acid (PFNA), Perfluorooctanoic Acid (PFOA)	Relinquished by Date/Time Received by 0157
	Eastern Analytical, Inc. 25 Chenell Dr.	Concord, NH 03301 Phone: (603)228-0525	1-800-287-0525 Fax: (603)228-4591

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CHAIN-OF-CUSTODY RECORD eastern analytical 1000910

EAI SRB# 158298

Sample ID	Date Sample	d Matrix	aParameters	Sample Notes
GW-AE-1A	7/13/2016 9:00	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-FPC-11B	7713/2016 10:15	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-FPC-11A	7/13/2016 10:45	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	
GW-FPC-5B	7/13/2016 13:55	aqueous	Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)	

EAI SRB#	158298 Project State: NH Project ID: 2433	Results Needed by: Preferred date <u>QC Deliverables</u> □ A □ A+ □ B □ B+ ⊠ C □ P	Eastern Analytical Inc. PO Number: 44789 Please call prior to analyzing, if RUSH surcharges will be applied.
Company	Vista Analytical Laboratory	Notes about project:	
Address	1104 Windfield Way	Email pdf of results and invoice to	
Address	El Dorado Hills, CA 95762	customerservice@eailabs.com, Perfluorobutanesulfonic Acid (PFBS),	Samples Collected by:
Account #		Perfluoroheptanoic Acid (PFHpA),	Relinquished by Pate/Time Received by
Phone #	(916) 673-1520	Perfluorohexanesulfonic Acid (PFHxS),	UPS Trepie U955 grow 6 flms 1/5/14
Fax Number	λ - <i>Γ</i>	Perfluorononanoic Acid (PFNA), Perfluorooctanoic Acid (PFOA)	Relinquished by Date/Time Received by
	Eastern Analytical, Inc. 25 Chenell Dr.	Concord, NH 03301 Phone: (603)228-0525	1-800-287-0525 Fax: (603)228-4591

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	S	AMPLE LC	G-IN CHE	CKLIST	Г	88	Vista Analytical Laborator
Vista Project #:	16	00910	2		T/	AT Ste	(
Samples Arrival:	Date/Time 7/15/16	0955	Initials:	gr		ation: U)R-2 N/A
Logged in:	Date/Time 07/18/16	1113	Initials:	, <u>, , , , , , , , , , , , , , , , , , </u>		ation: //	UR-7 EQ
Delivered By:	FedEx	(UPS)	On Trac	DHL	-	Hand Delivered	Other
Preservation:	(lce)	BI	ue Ice	e ice Dr			None
Temp °C: 3.4 Temp °C: 3.1	(uncorrected) (corrected)	Time:	095	7	Thermometer		ID: IR-1

		HINNIN MARKANNA MARKA	HHHHHHH	YES	NO	NA
Adequate Sample Volu	me Received?	Manager and the second	1. <u>1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1</u>			
Holding Time Acceptab	le?				ļ	
Shipping Container(s) I	ntact?					
Shipping Custody Seal	s Intact?					~
Shipping Documentation	n Present?					
Airbill	Trk# 17 X4650	490198772	951	V		
Sample Container Intac	x12			1		
Sample Custody Seals	Intact?					V
Chain of Custody / San	ple Documentation P	resent?		V		
COC Anomaly/Sample	Acceptance Form cor	npleted?			V	
If Chlorinated or Drinkir	ig Water Samples, Ac	ceptable Preserv	ration?			1
$Na_2S_2O_3$ Preservation [Documented?	COC	Sample Containe	r 🕻	None	C
Shipping Container	Vista		in the second	eturn		ose
Comments: Sample	abel missing Col	lection year;	Handwrith	en lab	el.	BSBTH
GW-FPC-67 GW-FPC-6A GW-AE-2A ZB GWAE-3A 3ADU	3 GW-AE-IE GW-EB-V FB-DI W GW-FPC	later				1

Sample Login 11/2013 ckt

EXTRACTION INFORMATION

Process Sheet Workorder: 1600910

Prep Expiration: 07/26/2016

Client: Eastern Analytical, Inc.

Workorder Due: 29-Jul-16 00:00

TAT: 14

	: 537 PFAS 6 Analyte List : Aqueous	F	Prep Batch:	8660075
	•	Prep Data	Entered:	7/20/16 NK
		Initial	Sequence: _	S6G0032_
LabSampleID	Recon ClientSampleID	Date Received	Location	Comments
1600910-01 (A)	🗹 _ GW-GZ-105	15-Jul-16 09:55	WR-2 E-6	; ;
1600910-02	GW-GZ-105-DUP	15-Jul-16 09:55	WR-2 E-6	ì
1600910-03	GW-FPC-8B	15-Jul-16 09:55	WR-2 E-6	;
1600910-04	GW-FPC-8A	15-Jul-16 09:55	WR-2 E-6	i
1600910-05	GW-FPC-4B	15-Jul-16 09:55	WR-2 E-6	;
1600910-06	GW-AE-4A	15-Jul-16 09:55	WR-2 E-6	;
1600910-07	GW-AE-4B	15-Jul-16 09:55	WR-2 E-6	;
1600910-08	GW-FPC-6B	15-Jul-16 09:55	WR-2 E-6	i
1600910-09	GW-FPC-6A	15-Jul-16 09:55	WR-2 E-6	
1600,910-10	GW-FPC-7A	15-Jul-16 09:55	WR-2 E-6	
1600910-11	🧹 /GW-FPC-7В	15-Jul-16 09:55	WR-2 E-6	;
1600910-12	GW-AE-2A	15-Jul-16 09:55	WR-2 E-6	i
1600910-13 🏹	GW-AE-2B	15-Jul-16 09:55	WR - 2 E-6	i
4500010-14	CW-AE-3A	15-Jul-18 09:55	WR-2 E-6	MSMSD
1600910-15	GW-AE-3A DUP	15-Jul-16 09:55	WR-2 E-6	i
1600910-16	GWALAE-3B	15-Jul-16 09:55	WR-2 E-6	;
1600910-17	GW-FPC-9A	15-Jul-16 09:55	WR-2 E-6	;
1600910-18	GW-AE-1B	15-Jul-16 09:55	WR-2 E-6	;
1600910-19	GW-EB-WATERLEVEL	15-Jul-16 09:55	WR-2 E-6	;
1600910-20	FB-DI WATER	15-Jul-16 09:55	WR-2 E-6	;
1600910-21	GW-AE-1A	15-Jul-16 09:55	WR-2 E-6	· -
1600910-22	GW-FPC-11B	15-Jul-16 09:55	WR-2 E-6	3
1600910-23	GW-FPC-11A	15-Jul-16 09:55	WR-SE-6	3
1600910-24	GW-FPC-5B	15-Jul-16 09:55		in the second se

Vista PM:Martha Maier

Vial Box ID: Sir LimezALOY

Sample Reconciled By: N.KINA 7,19,16 Page 1 of 1





نىچىدىنىيەنىڭ مەربىيە تەربىيە تەربىيە ئىلىرىمىكىيۇ تەربىي تەربىيەت بىرى تەربىي تەربىيە تەربىيەت بىلەر	Chemist		Chemist: NA		emist/D	
	Date Time		Date:′{ Time:↓	- 28	A19/1	6
Sample ID	Boat Wt.	Sample + Boat Wt.	Residue + Boat Wt.	pH before	pH*	Ċſ
1600910-1 A				16	2	0
				7	2	0
-2 -3				6	2	Ð
-4				6	2	0
-2				6	2	0
-6			. / .	6	2	0
-7				6	2	0
-3			. /	6	2	0
-9				7	R	0
-10				6	6	ð
-11				6	2	0.
-12				6	2	O
-13 V				7	Э	0
-14A		1		6	2	J
-143		X		6	2	0
-140				6	2	0
-15 A				7	2	0
-16]	. /			7	2	D
-17	1			7	2	0
-18 V	1			- 7	2	0
 Procedure: Tare the balance. Record Boat Weight. Add 2 - 10 g of sample Record Wet Wt. + Bos Dry in oven overnight Tare the balance. Record Residue + Bos 	at Wt. at 107ºC.	 Methods 8280 	sted -10 ptt 2 in 1/16 1, 613, 1613, 8290, 1614 1/PCN - pH 2-3			

Methods 1668/PCN – pH 2-3 NCASI 551 – pH 1

%Solids rmh 5/2011

Work Order 1600910

£.

Percent Solids



Project: BloG0075 B6G0076

NA Balance ID:

	Chemist:	NA	Chemist: NA	Che	mist/D	ate
	Date		Date:	00	7/19/	/[[
	Time:	the second second property frameworks and the	Time:			
	Boat Wt.	Sample + Boat	Residue +	рН	pH*	`Cr
Sample ID		. Wt.	Boat Wt.	before	after	
1600910-19 A.				6.	2	0
-20 T				7	З	\odot
-21				7	Э	0
-22				7	2	Õ
-23				7	2	0
-24 V				7	5	Õ
			•			
			i i i i i i i i i i i i i i i i i i i			
· · ·		· ·				
	· · · ·				·	
Procedure:	· · · · · · · · · · · · · · · · · · ·	Notes:	· · · · · · · · · · · · · · · · · · ·			
 Tare the balance. Record Boat Weight. Add 2 - 10 g of sample Record Wet Wt. + Boa Dry in oven overnight Tare the balance. Record Residue + Boa 	it W1. at 107ºC.	Samples adjust HCL. NK • Metbods 8280,	cl to pH 2 with 7/19/16.		rops	
" Record Residue + Boa	τ Ψζ.	 Methods 1668, NCASI 551 - 	/PCN – pH 2-3 - pH 1			

7

%Solids rmh 5/2011

PREPARATION BENCH SHEET

Matrix: Aqueous

B6G0075

Chemist: <u>ESCHVERCE</u>

Method: 537 PFAS 6 Analyte List

.

Prep Date/Time: 19-Jul-16 07:24

Prepared using: LCMS - SPE Extraction-LCMS

				·		C6G0081	
С	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
	B6G0075-BLK1	NA	MA	(0.125)	28 NK 7/19/16	NK _7/19/1	L ESNKALLY/L
	B6G0075-BS1		T	V			T
	1600910-01 A	158.10	26.47	0.13163			
	1600910-02	148.38	26.39	0,12199			
	1600910-03	147.44	27.05	0-12036			
	1600910-04	146.77	27.10	0.11967			
	1600910-05	147.14	27.04	0.12010			
	1600910-06	148.12	27.09	0.12103			
	1600910-07	149,20	27.13	D.12207			
	1600910-08	148.05	26.57	0.12148			
	1600910-09 A	149.73	26.44	0.12329			
	1600910-10	151.21	27.08	0.12413			
	1600910-11	150.40	27.09	0. 2331			
	1600910-12 (A)	145.67	26.47	0.11920			
	1600910-13	151.76	26.50	0.12526	∇		
	(A) Samples	s contained partic	culate (color. Sam	iples centrifuged a	nd decanted into origin new	at bottles. NK 7/14 NHC 7/19/14	1/16
IS Na	(V2)	NS Name	RS Name	(M)	SPE Chem Straken XHW S		Check Out: Chemist/Date: NK 7 9 16
	6E0120,10,1	14E0701, 10,0	r [6]	20203, Wyu	Ele SOLV: 0.51- NHON	most + Meal	Check In: Chemist/Date: Finply
	,	, ,			Final Volume(s)	ml	Balance ID: HOMS-9
							Balance ID: TIKING L

Comments: Assume 1 g = 1 mL

Process Sheet Workorder: 1600910

Prep Expiration: 07/26/2016 Client: Eastern Analytical, Inc. Workorder Due: 29-Jul-16 00:00

NK

TAT: 14

Method: 537 PFAS 6 Analyte List Matrix: Aqueous

Prep Batch:	B6G0076

Prep Data Entered: 72016

- Date and Initia

		Initial	Sequence:	<u>S660032</u>
LabSampleID	Recon ClientSampleID	Date Received	Location	Comments
1600910-01	GW-GZ-105	15-Jul-16 09:55	WR-2 E-8	
1600910-02	GW-GZ-105-DUP	15-Jul-16 09:55	WR-2 E-6	
1600910-03	GW-FPC-8B	15-Jul-16 09:55	WR-2 E-6	
1600910-04	GW-FRC-8A	15-Jul-16 09:55	WR-2 E-6	
1600910-05	GW-FPC-4B	15-Jul-16 09:55	WR-2 E-6	
1600910-06	GW-AE-4A	15-Jul-16 09:55	WR-2 E-6	
1600910-07	GW-AE-4B	15-Jul-16 09:55	WR-2 E-6	
1600910-08	GW-FPC-6B	15-Jul-16 09:55	WR-2 E-6	
1600910-09	GW-FPC-6A	15-Jul-16-99:55	WR-2 E-6	
1600910-10	GW-FPC-7A	15-Jul-16 09:55	WR-2 E-6	
1600910-11	GW-FPC-7B	15-Jul-16 09:55	WR-2 E-6	
16009 1 0-12	GW-AE-2A	15-Jul-16 09:55	WR-2 E-6	
-1600910-13	GW-AE-2B	15-Jul-16.09:55		
1600910-14 (A-C	·	15-Jul-16 09:55	WR-2 E-6	MS/MSD
1600910-15 (A)	GW-AE-3A DUP	15-Jul-16 09:55	WR-2 E-6	
1600910- 1 6	GW-AE-3B	15-Jul-16 09:55	WR-2 E-6	
1600910-17	GW-FPC-9A	15-Jul-16 09:55	WR-2 E-6	
1600910-18	GW-AE-1B	15-Jul-16 09:55	WR-2 E-6	
1600910-19	GW-EB-WATERLEVEL	15-Jul-16 09:55	WR-2 E-6	
1600910-20	FB-DI WATER	15-Jul-16 09:55	WR-2 E-6	
1600910-21	GW-AE-1A	15-Jul-16 09:55	WR-2 E-6	
1600910-22	GW-FPC-11B	15-Jul-16 09:55	WR-2 E-6	
1600910-23	GW-FPC-11A	15-Jul-16 09:55	WR-2 E-6	
1600910-24	GW-FPC-5B	15-Jul-16 09:55	WR-2 E-6	

& NK 7/22/16. Signed and filled out data on 7/20/16

Vista PM:Martha Maier

Vial Box ID: SIr LimpAlar

N.King 7 19,16 Sample Reconciled By: Page 1 of 1

Percent Solids



Project: 866075 8660076

Balance ID: .

	Chemist	NA .	Chemist: NA	Che	mist/D	ate		
	Date	And the second sec	Date:	28 7/19/16				
	Time		Time:	28	719	6		
Sample ID	Boat Wt.	Sample + Boat Wt.	Residue + Boat Wt.	pH before	pH* after	Ċŕ		
1600910-1 A.				16	2	0		
-2	•			7	2	0		
-3				Ġ	2	0		
-4				6	2	0		
-5				6	.2	0		
-6			. /	6	д	0		
-7				\mathcal{C}	2	0		
		·	. /	6	2	0		
-9			/	7	R	0		
-10		. /		6	Ð,	Õ		
				6	2	<u>0</u> .		
-12				Ç	2	Ø		
-13 V				7	<u>, </u>	Ô		
-14A				6	2	J		
-143		{		6	2	0		
-140				6	2	0		
-15 A		-		7	2	0		
	/			7	2	D		
-17				7	2	0		
-18 V				7	2	0		
Procedure: Tare the balance. Record Boat Weight. Add 2 - 10 g of samp. Record Wet Wt. + Bo Dry in oven overnight Tare the balance. Record Residue + Bo	oat Wt. It at 107°C.	нсі. NK Пр метродз 8280 Матродз 1668	, 613, 1613, 8290, 1614 – /PCN – pH 2-3		draps			
		• NCASI 551 -	- pr1]		Solids rmh	6/2011		

.

悪い

Percent Solids



Project: B660075 | B660076

Balance ID:

NA

	Chemist	NA	Chemist: NIA	Che	mist/D	ate		
	Date	the state of the second se	Date:	2	7/19/	///		
	Time	Contraction of the local division of the loc	Time:		CI			
Sample ID	Boat Wt.	Sample + Boat • Wt.	Residue + Boat Wt.	pH before	pH* after	6		
1600910-19 A ·				6	2	0		
-20 T				7	2	\odot		
-21				7	Э	0		
-22	. :		· · · · · · · · · · · · · · · · · · ·	7	2	Õ		
-23				7	2	0		
-241			· · · · · · · · · · · · · · · · · · ·	7	2	0		
				,	2			
·								
· · · · · · · · · · · · · · · · · · ·								
		·						
						· ·		
		· · · ·			· · ·			
	· · · ·							
	·							
Procedure: Tare the balance. Record Boat Weight. Add 2 - 10 g of sample. Record Wet Wt. + Boat Wt.		Notes: Samples adjusted to pH 2 with 4 drops HCL. NK 7/19/16.						
 Dry in oven overnight a Tare the balance. Record Residue + Boat 		 Methods 8280, Methods 1668/ NCASI 551 - 	613, 1613, 8290, 1614 – PCN – pH 2-3 - pH 1	-	Solids mh	5/2011		

15 Name (V) 1658720,10 jul	(A) Samples co	1600910-24	1600910-23	1600910-22 A	1600910-21	1600910-20		Ð	1600910-17 A	1600910-16		1600910-14 A	B6G0076-MSD1 1600910-14	B6G0076-MS1 1600910-14	B6G0076-BS1	B6G0076-BLK1	C VISTA Sample ID		
NS Name (VE)	contained particulated/color. Somples	St Shi	152.67	151.31	153.24	149.26	141.29	2/19/16 (SI.35-16-4-69-	hb th	152.11	155.71	151.25	151.55	152.39	Ċ.	NA	Bottle + Sample (g)		
RS	a/color. Sample	26.99	26.97	36.38	26.96	00.FC	26.79	26.43	26.57	26.45	26.40	26.Hq	J6:50	26.35	E	λγ	Bottle Only (g)		Prepared u
Name (VI) 16F0203, 194	centirrluged &	0.11874	0.12570	0,12493	0.12680	0.10226	0.11450	0,12492	0,12137	0.12566	0.12431	0, 12476	0,12505	0.12624	C	(0. MJ)	Sample Amt. (L)		Prepared using: LCMS - SPE Extraction-LCMS
SPE ChemiStrates XAD 33mm 200mg /6m/L Ele SOLV: O.S.Y. NHunth in Meath + Multh Final Volume(s) m/	decanted into origitization															28 NK 7/19/16	IS/NS CHEM/WIT DATE		traction-LCMS
	orightrat Toottles. NK 7/19/16	Ł														21/2/14 83	SPE	C660082	
Check Out: Chemist/Date: NK 7/19/16 Check In: Chemist/Date: <u>CEmpty</u> Balance ID: <u>MCMS-9</u>		Ć					3									ESNK HINC	RS CHEM/WIT DATE	, ,	

PREPARATION BENCH SHEET

B6G0076

Prep Date/Time: 19-Jul-16 07:25 Chemist: ____ Esomundary

Work Order 1600910

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Matrix: Aqueous Method: 537 PFAS 6 Analyte List ٽ 4.

SAMPLE DATA – MODIFIED EPA METHOD 537

Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_07.qld

Last Altered: Wednesday, July 20, 2016 11:40:23 Pacific Daylight Time Wednesday, July 20, 2016 11:40:55 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_07.wiff, Date: 19-Jul-2016, Time: 15:38:15, ID: B6G0075-BLK1, Description: Method Blank

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9		5.72e3		0.125		***************************************	
2	2 PFHpA	318.9		9.24e3		0.125			
3	3 PFHxS	79.91	2.25e0	1.34e3		0.125	4.48	0.241	
4	4 PFOA	368.9	1.61e1	7.66e3		0.125	4.76	0.461	
5	5 PFOS	79.92		3.91e3		0.125			
6	6 PFNA	419.0		7.36e3		0.125			
7	7 13C3-PFBS	79.95	5.72e3	1.11e4	0.469	0.125	3.49	110	110.2
8	8 13C4-PFHpA	321.9	9.24e3	1.11e4	0.822	0.125	4.36	101	101.5
9	9 18O2-PFHxS	102.9	1.34e3	4.85e3	0.256	0.125	4.48	108	108.2
10 🐘 👘 🗍	10 13C2-PFOA	369.9	7.66e3	8.78e3	0.915	0.125	4.76	95.3	95.3
11	11 13C8-PFOS	79.93	3.91e3	4.30e3	0.822	0.125	5.12	111	110.8
12	12 13C5-PFNA	422.9	7.36e3	4.83e2	14.407	0.125	5.07	106	105.6
13	13 13C5-PFHxA	273.0	1.11e4	1.11e4	1.000	0.125	3.90	100	100.0
14	14 13C3-PFHxS	80.0	4.85e3	4.85e3	1.000	0.125	4.48	100	100.0
15	15 13C8-PFOA	375.9	8.78e3	8.78e3	1.000	0.125	4.75	100	100.0
16	16 13C4-PFOS	79.94	4.30e3	4.30e3	1.000	0.125	5.12	100	100.0
17	17 13C9-PFNA	427.0	4.83e2	4.83e2	1.000	0.125	5.06	100	100.0
18	18 Total PFBS	79.9		5.72e3		0.125			
19	19 Total PFHxS	79.91		1.34e3		0.125		0.241	
20	20 Total PFOA	368.9		7.66e3		0.125		0.461	
21	21 Total PFOS	79.92		3.91e3		0.125		0.215	

Reviewed: WJL 7/21/16

Work Order 1600910

pw 7/20/16

Quantify Totals Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_07.qld

Last Altered: Wednesday, July 20, 2016 11:40:23 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:40:55 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_07.wiff, Date: 19-Jul-2016, Time: 15:38:15, ID: B6G0075-BLK1, Description: Method Blank

Total PFBS

Name Trace RT Area IS Area Conc

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	2.25e0	1.34e3	0.241

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	1.61e1	7.66e3	0.461

Total PFOS

#Name	Trace	RT	Area	IS Area	Conc.
1 21 Total PFOS	79.92	5.06	6.57e0	3.91e3	0.215

Work Order 1600910

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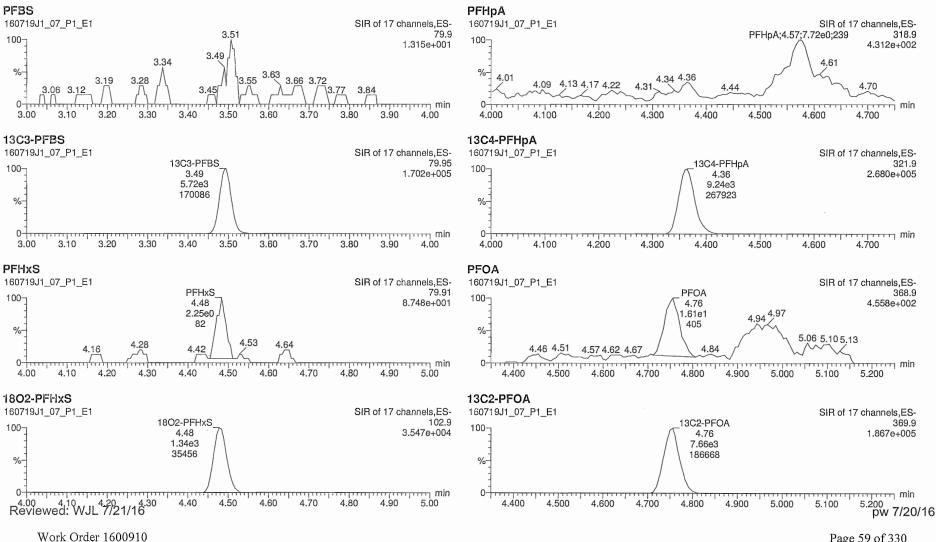
Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1 07.qld

Last Altered: Wednesday, July 20, 2016 11:40:23 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:41:04 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

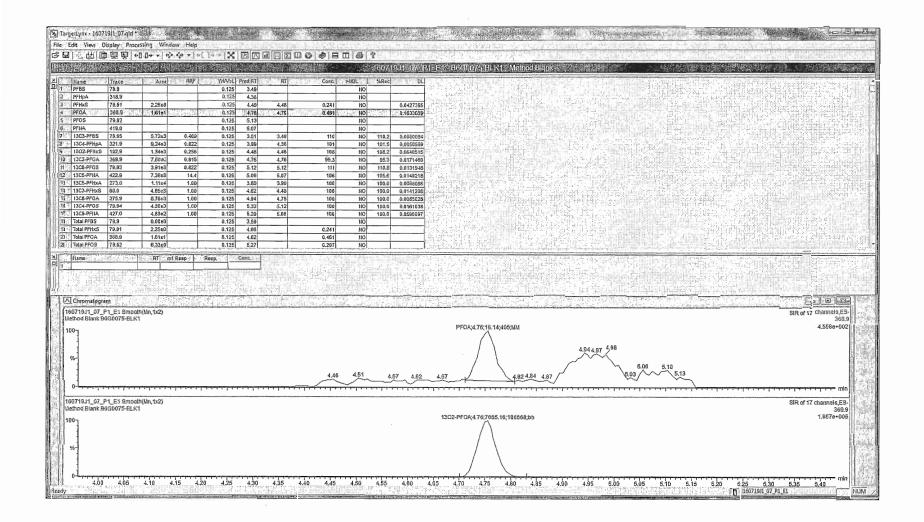
Name: 160719J1_07.wiff, Date: 19-Jul-2016, Time: 15:38:15, ID: B6G0075-BLK1, Description: Method Blank



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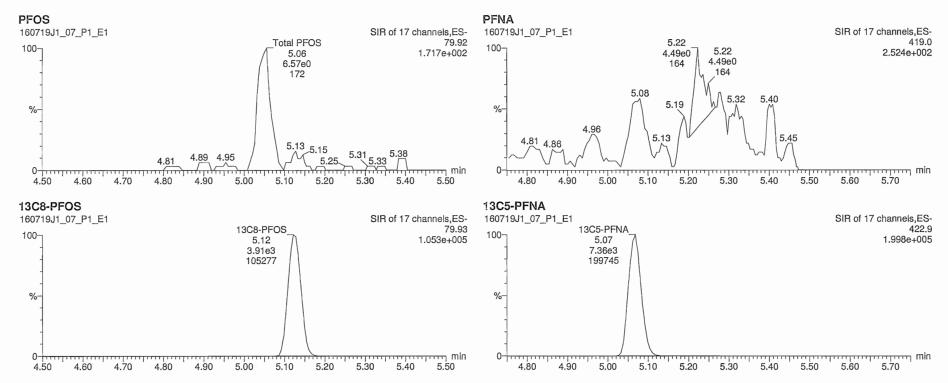


Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_07.qld

Last Altered: Wednesday, July 20, 2016 11:40:23 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:41:04 Pacific Daylight Time

Name: 160719J1_07.wiff, Date: 19-Jul-2016, Time: 15:38:15, ID: B6G0075-BLK1, Description: Method Blank

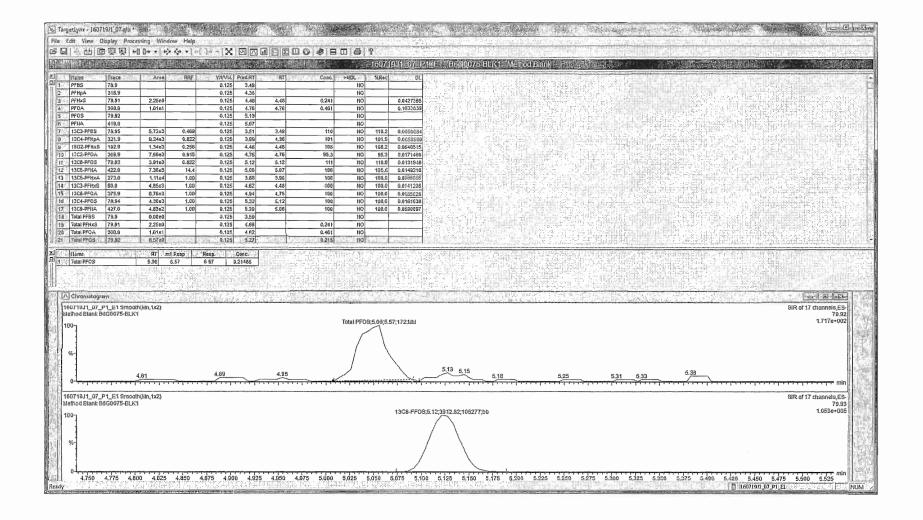


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Page 2 of 3

Reviewed: WJL 7/21/16



Work Order 1600910

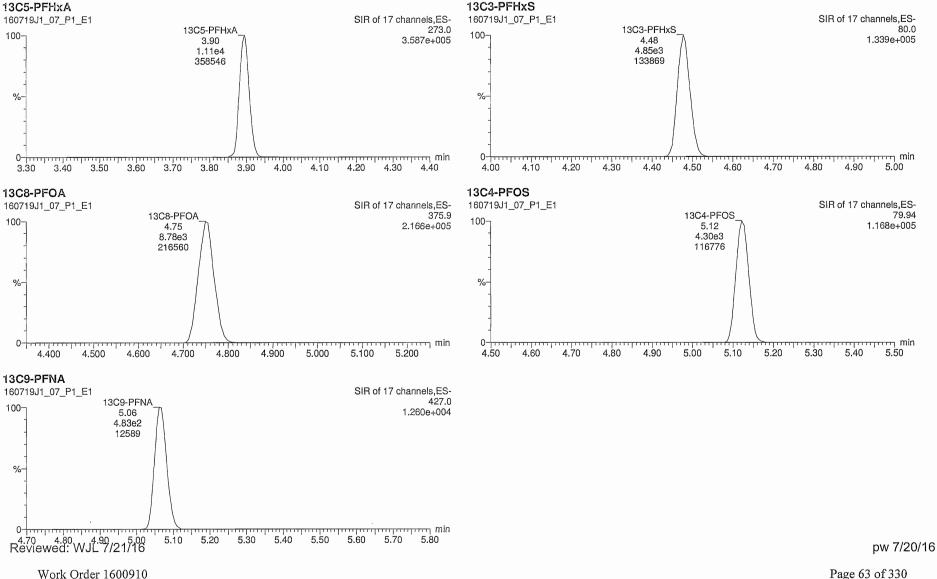
Page 62 of 330

Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

U:\Q2.PRO\Results\160719J1\160719J1_07.qld Dataset:

Wednesday, July 20, 2016 11:40:23 Pacific Daylight Time Last Altered: Printed: Wednesday, July 20, 2016 11:41:04 Pacific Daylight Time

Name: 160719J1_07.wiff, Date: 19-Jul-2016, Time: 15:38:15, ID: B6G0075-BLK1, Description: Method Blank



Page 3 of 3

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Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_04.qld

Last Altered: Wednesday, July 20, 2016 11:33:53 Pacific Daylight Time Wednesday, July 20, 2016 11:34:03 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_04.wiff, Date: 19-Jul-2016, Time: 15:01:37, ID: B6G0075-BS1, Description: OPR

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1949403	1 PFBS	79.9	1.01e3	6.10e3		0.125	3.49	78.2	97.7
2	2 PFHpA	318.9	1.77e3	9.97e3		0.125	4.37	83.4	104.3
3	3 PFHxS	79.91	8.05e2	1.44e3		0.125	4.48	81.0	101.3
4 Personal	4 PFOA	368.9	3.14e3	8.43e3		0.125	4.76	82.6	103.3
5	5 PFOS	79.92	2.43e3	3.82e3		0.125	5.13	81.9	102.3
6	6 PFNA	419.0	4.20e3	7.60e3		0.125	5.07	83.4	104.3
7	7 13C3-PFBS	79.95	6.10e3	1.18e4	0.469	0.125	3.49	110	109.8
8	8 13C4-PFHpA	321.9	9.97e3	1.18e4	0.822	0.125	4.37	102	102.4
9	9 1802-PFHxS	102.9	1.44e3	5.18e3	0.256	0.125	4.48	108	108.4
10	10 13C2-PFOA	369.9	8.43e3	8.79e3	0.915	0.125	4.76	105	104.7
	11 13C8-PFOS	79.93	3.82e3	4.24e3	0.822	0.125	5.13	110	109.6
12	12 13C5-PFNA	422.9	7.60e3	5.00e2	14.407	0.125	5.07	106	105.6
13	13 13C5-PFHxA	273.0	1.18e4	1.18e4	1.000	0.125	3.89	100	100.0
14	14 13C3-PFHxS	80.0	5.18e3	5.18e3	1.000	0.125	4.48	100	100.0
15	15 13C8-PFOA	375.9	8.79e3	8.79e3	1.000	0.125	4.75	100	100.0
16	16 13C4-PFOS	79.94	4.24e3	4.24e3	1.000	0.125	5.13	100	100.0
17	17 13C9-PFNA	427.0	5.00e2	5.00e2	1.000	0.125	5.07	100	100.0
18	18 Total PFBS	79.9		6.10e3		0.125		78.2	
19	19 Total PFHxS	79.91		1.44e3		0.125		81.0	
20	20 Total PFOA	368.9		8.43e3		0.125		82.6	
21	21 Total PFOS	79.92		3.82e3		0.125		81.9	

pw 7/20/16

U:\Q2.PRO\Results\160719J1\160719J1_04.qld Dataset:

Last Altered: Wednesday, July 20, 2016 11:33:53 Pacific Daylight Time Wednesday, July 20, 2016 11:34:03 Pacific Daylight Time Printed:

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_04.wiff, Date: 19-Jul-2016, Time: 15:01:37, ID: B6G0075-BS1, Description: OPR

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
18.2248.1 1	PFBS	79.9	3.49	1.01e3	6.10e3	78.2

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	8.05e2	1.44e3	81.0

Total PFOA

# Name	Trace	BT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	3.14e3	8.43e3	82.6

Total PFOS

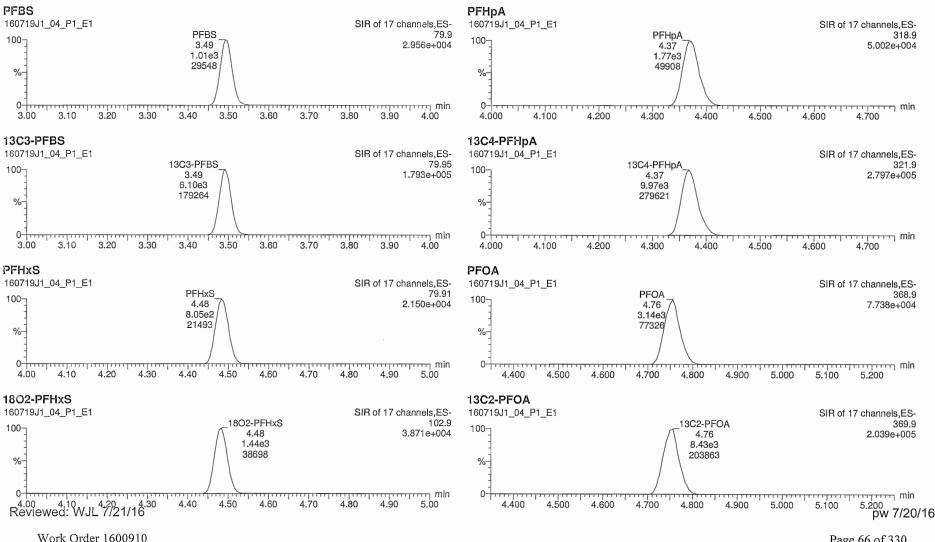
# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.13	2.43e3	3.82e3	81.9

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_04.gld

Last Altered: Wednesday, July 20, 2016 11:33:53 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:34:14 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_04.wiff, Date: 19-Jul-2016, Time: 15:01:37, ID: B6G0075-BS1, Description: OPR



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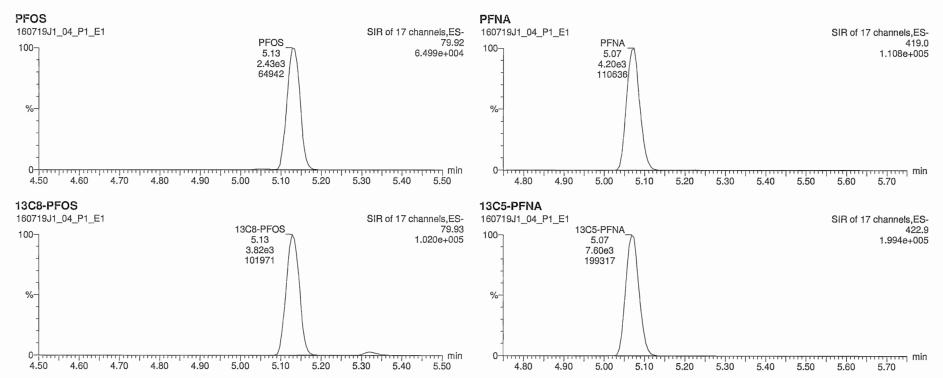
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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_04.qld

Last Altered: Wednesday, July 20, 2016 11:33:53 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:34:14 Pacific Daylight Time

Name: 160719J1_04.wiff, Date: 19-Jul-2016, Time: 15:01:37, ID: B6G0075-BS1, Description: OPR



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Reviewed: WJL 7/21/16

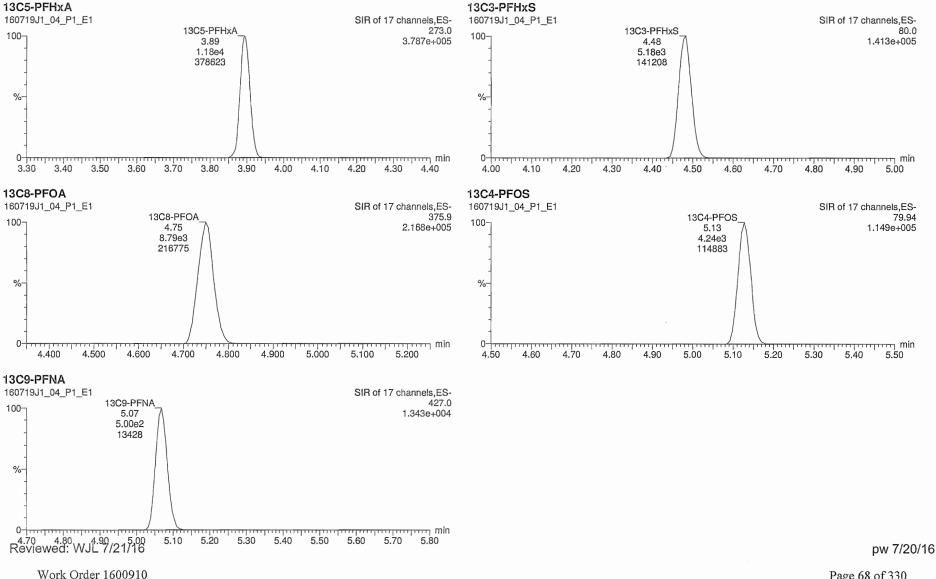
Work Order 1600910

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_04.qld

Last Altered: Wednesday, July 20, 2016 11:33:53 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:34:14 Pacific Daylight Time

Name: 160719J1_04.wiff, Date: 19-Jul-2016, Time: 15:01:37, ID: B6G0075-BS1, Description: OPR



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-	n ple Summary Report al Laboratory Q1	MassLynx 4.1 SCN815	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\16071	9J1\160719J1_08.qld	
Last Altered: Printed:		5 11:45:34 Pacific Daylight Time 5 11:46:55 Pacific Daylight Time	

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_08.wiff, Date: 19-Jul-2016, Time: 15:50:27, ID: B6G0076-BLK1, Description: Method Blank

n an An Star an A An A	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1 C	1 PFBS	79.9		6.38e3		0.125			
2	2 PFHpA	318.9	2.41e0	1.02e4		0.125	4.36	0.111	
3.	3 PFHxS	79.91	4.07e0	1.44e3		0.125	4.47	0.408	
4	4 PFOA	368.9	1.07e1	9.03e3		0.125	4.75	0.259	
5	5 PFOS	79.92	1.17e0	4.35e3		0.125	5.12	0.0344	
6	6 PFNA	419.0		7.72e3		0.125			
7	7 13C3-PFBS	79.95	6.38e3	1.22e4	0.469	0.125	3.49	111	111.5
8	8 13C4-PFHpA	321.9	1.02e4	1.22e4	0.822	0.125	4.36	101	101.1
9	9 18O2-PFHxS	102.9	1.44e3	5.54e3	0.256	0.125	4.48	101	101.2
10	10 13C2-PFOA	369.9	9.03e3	9.50e3	0.915	0.125	4.75	104	104.0
11) - Constant	11 13C8-PFOS	79.93	4.35e3	4.88e3	0.822	0.125	5.12	109	108.6
12	12 13C5-PFNA	422.9	7.72e3	5.82e2	14.407	0.125	5.07	92.1	92.1
13	13 13C5-PFHxA	273.0	1.22e4	1.22e4	1.000	0.125	3.89	100	100.0
14	14 13C3-PFHxS	80.0	5.54e3	5.54e3	1.000	0.125	4.47	100	100.0
15	15 13C8-PFOA	375.9	9.50e3	9.50e3	1.000	0.125	4.75	100	100.0
16	16 13C4-PFOS	79.94	4.88e3	4.88e3	1.000	0.125	5.12	100	100.0
17	17 13C9-PFNA	427.0	5.82e2	5.82e2	1.000	0.125	5.07	100	100.0
18	18 Total PFBS	79.9		6.38e3		0.125			
19	19 Total PFHxS	79.91		1.44e3		0.125		0.408	
20	20 Total PFOA	368.9		9.03e3		0.125		0.259	
21,	21 Total PFOS	79.92		4.35e3		0.125		0.246	

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_08.qld

Last Altered: Wednesday, July 20, 2016 11:45:34 Pacific Daylight Time Wednesday, July 20, 2016 11:46:55 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_08.wiff, Date: 19-Jul-2016, Time: 15:50:27, ID: B6G0076-BLK1, Description: Method Blank

Total PFBS

Name Trace RT Area IS Area Conc.

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1. 3 PFHxS	79.91	4.47	4.07e0	1.44e3	0.408

Total PFOA

# Name	Trace	FIT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.75	1.07e1	9.03e3	0.259

Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 21 Total PFOS	79.92	5.05	7.21e0	4.35e3	0.212
2 5 PFOS	79.92	5.12	1.17e0	4.35e3	0.0344

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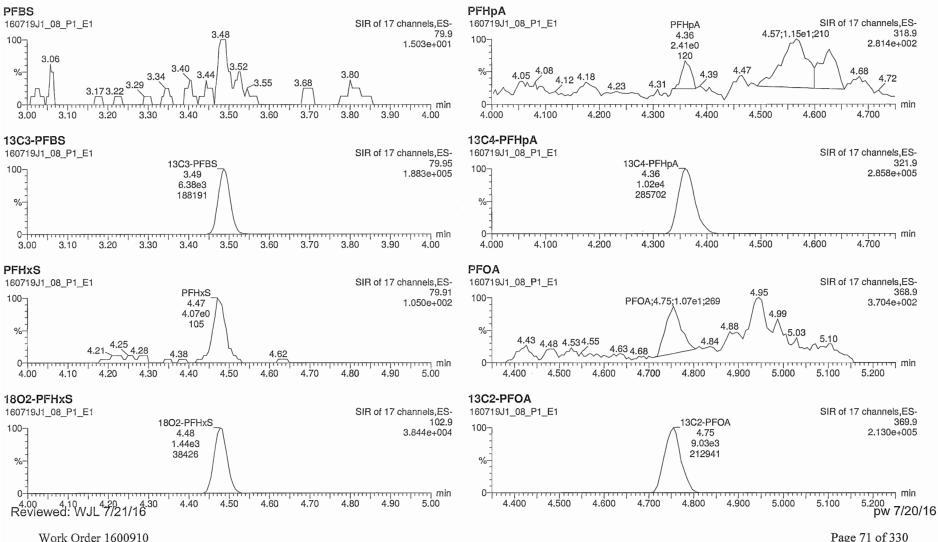
Work Order 1600910

U:\Q2.PRO\Results\160719J1\160719J1_08.qld Dataset:

Last Altered: Wednesday, July 20, 2016 11:45:34 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:46:46 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

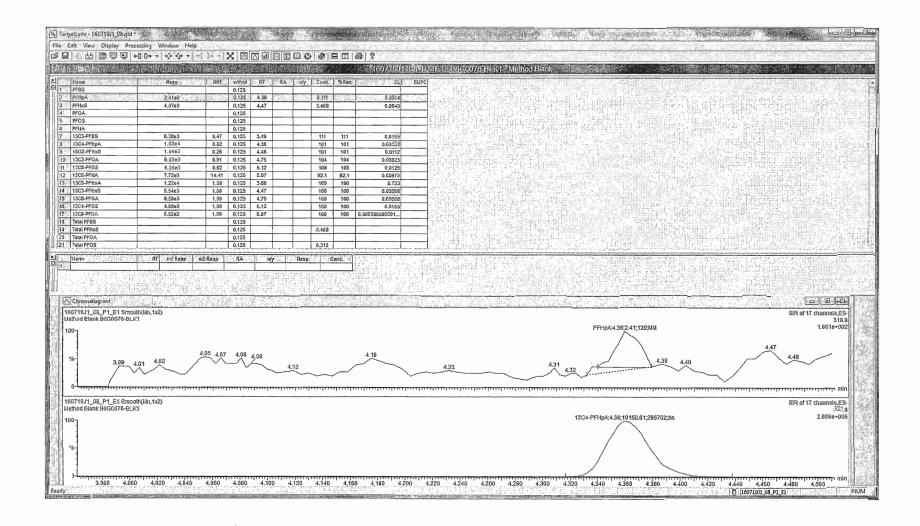
Name: 160719J1 08.wiff, Date: 19-Jul-2016, Time: 15:50:27, ID: B6G0076-BLK1, Description: Method Blank



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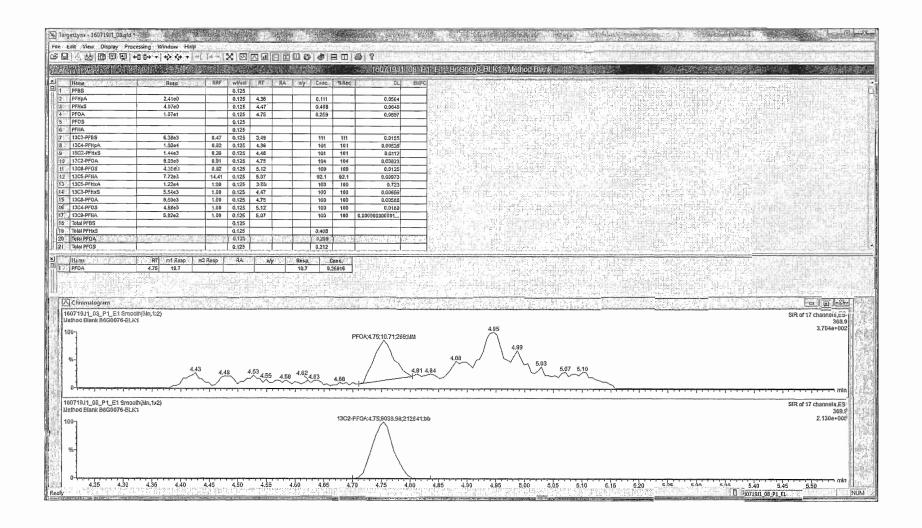
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Work Order 1600910

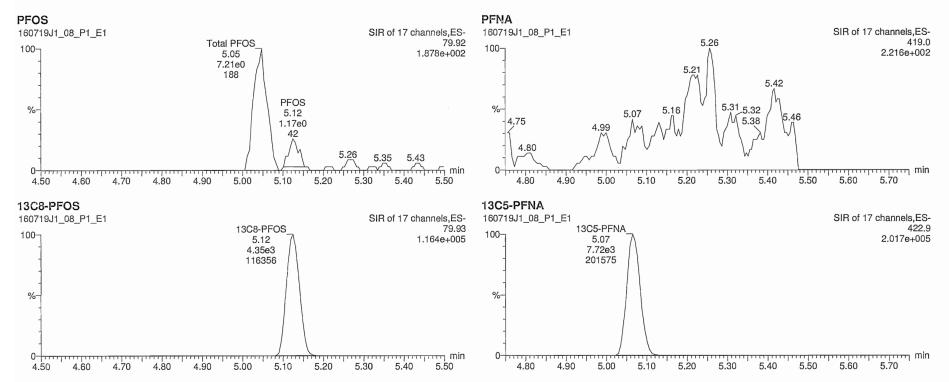
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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_08.qld

Last Altered: Wednesday, July 20, 2016 11:45:34 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:46:46 Pacific Daylight Time

Name: 160719J1_08.wiff, Date: 19-Jul-2016, Time: 15:50:27, ID: B6G0076-BLK1, Description: Method Blank



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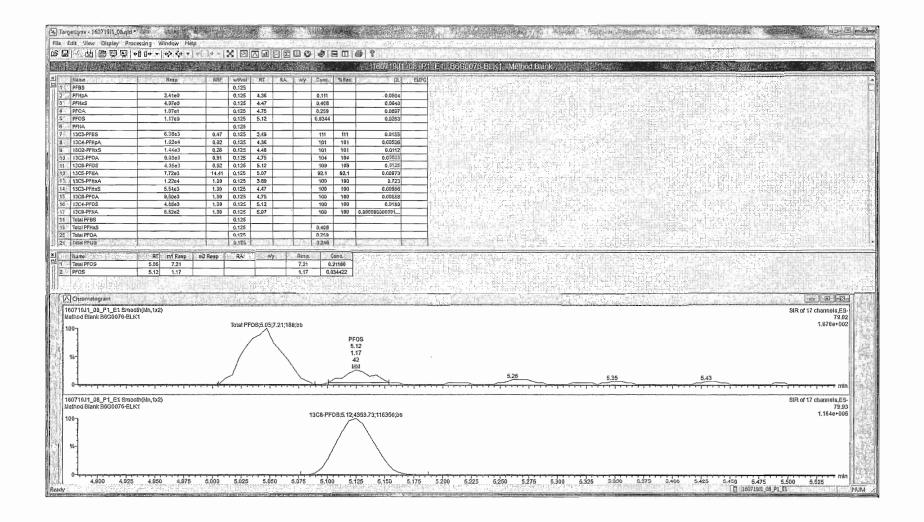
75

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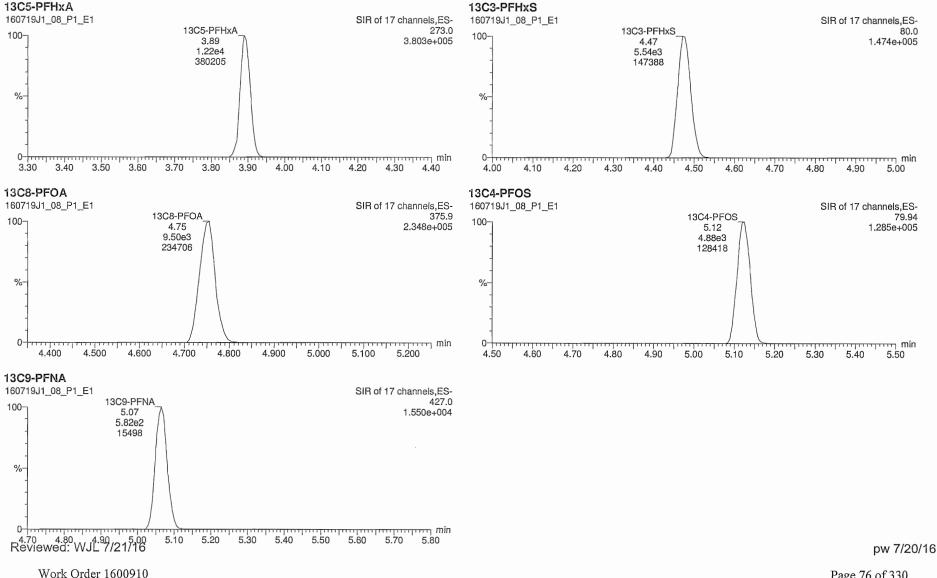


Work Order 1600910

U:\Q2.PRO\Results\160719J1\160719J1_08.qld Dataset:

Last Altered: Wednesday, July 20, 2016 11:45:34 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:46:46 Pacific Daylight Time

Name: 160719J1_08.wiff, Date: 19-Jul-2016, Time: 15:50:27, ID: B6G0076-BLK1, Description: Method Blank



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Quantify Sample Summary Report	MassLynx 4.1 SCN815	
Vista Analytical Laboratory Q1		

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_05.qld

Last Altered:Wednesday, July 20, 2016 11:37:21 Pacific Daylight TimePrinted:Wednesday, July 20, 2016 11:37:39 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_05.wiff, Date: 19-Jul-2016, Time: 15:13:49, ID: B6G0076-BS1, Description: OPR

	# Name	Trace	Response	S Resp	RRF	Wt/Vol	n an Aur RT Asserbace	Conc.	%Rec
1	1 PFBS	79.9	1.02e3	5.99e3		0.125	3.49	79.9	99.8
2	2 PFHpA	318.9	1.66e3	9.69e3		0.125	4.36	80.5	100.6
3	3 PFHxS	79.91	8.47e2	1.45e3		0.125	4.48	84.5	105.6
4	4 PFOA	368.9	3.19e3	8.93e3		0.125	4.76	79.2	99.0
5	5 PFOS	79.92	2.53e3	4.15e3		0.125	5.13	78.5	98.1
6	6 PFNA	419.0	4.14e3	8.08e3		0.125	5.07	77.3	96.6
7	7 13C3-PFBS	79.95	5.99e3	1.13e4	0.469	0.125	3.49	113	112.6
8	8 13C4-PFHpA	321.9	9.69e3	1.13e4	0.822	0.125	4.36	104	103.9
9	9 1802-PFHxS	102.9	1.45e3	5.06e3	0.256	0.125	4.48	112	112.1
10	10 13C2-PFOA	369.9	8.93e3	8.78e3	0.915	0.125	4.76	111	111.2
11	11 13C8-PFOS	79.93	4.15e3	4.27e3	0.822	0.125	5.13	118	118.4
12	12 13C5-PFNA	422.9	8.08e3	5.31e2	14.407	0.125	5.07	106	105.7
13	13 13C5-PFHxA	273.0	1.13e4	1.13e4	1.000	0.125	3.89	100	100.0
14	14 13C3-PFHxS	80.0	5.06e3	5.06e3	1.000	0.125	4.48	100	100.0
15	15 13C8-PFOA	375.9	8.78e3	8.78e3	1.000	0.125	4.75	100	100.0
16	16 13C4-PFOS	79.94	4.27e3	4.27e3	1.000	0.125	5.13	100	100.0
17	17 13C9-PFNA	427.0	5.31e2	5.31e2	1.000	0.125	5.07	100	100.0
18	18 Total PFBS	79.9		5.99e3		0.125		79.9	
19	19 Total PFHxS	79.91		1.45e3		0.125		84.5	
20	20 Total PFOA	368.9		8.93e3		0.125		79.2	1
21	21 Total PFOS	79.92		4.15e3		0.125		78.5	

Work Order 1600910

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_05.qld

Last Altered: Wednesday, July 20, 2016 11:37:21 Pacific Daylight Time Wednesday, July 20, 2016 11:37:39 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_05.wiff, Date: 19-Jul-2016, Time: 15:13:49, ID: B6G0076-BS1, Description: OPR

Total PFBS

1 # Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.49	1.02e3	5.99e3	79.9

Total PFHxS

# Name	Trace	RT	Arca	IS Arca	Cono.
1 3 PFHxS	79.91	4.48	8.47e2	1.45e3	84.5

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
STOCKES IN THREE DUE 2001 A LC	20 Total PFOA	368.9	4.98	1.62e0	8.93e3	0.0396
2	4 PFOA	368.9	4.76	3.19e3	8.93e3	79.2

Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.13	2.53e3	4.15e3	78.5

Work Order 1600910

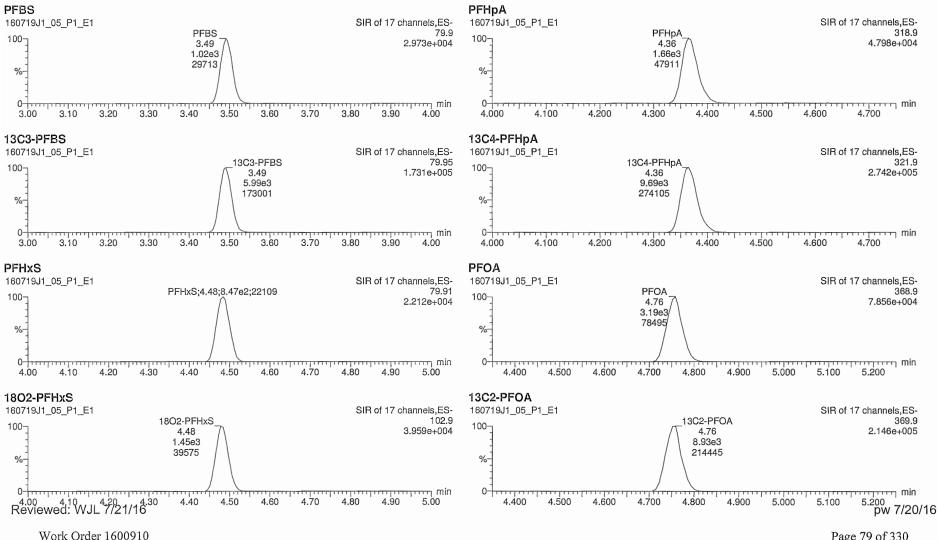
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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_05.qld

Last Altered: Wednesday, July 20, 2016 11:37:21 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:37:29 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_05.wiff, Date: 19-Jul-2016, Time: 15:13:49, ID: B6G0076-BS1, Description: OPR



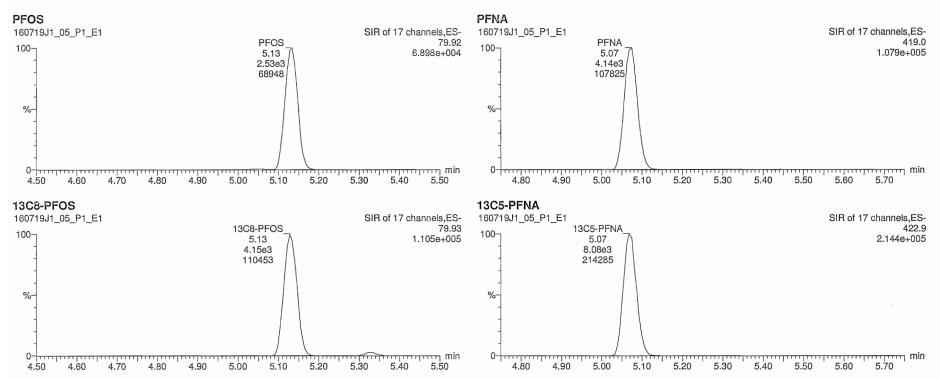
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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_05.qld

Last Altered: Wednesday, July 20, 2016 11:37:21 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:37:29 Pacific Daylight Time

Name: 160719J1_05.wiff, Date: 19-Jul-2016, Time: 15:13:49, ID: B6G0076-BS1, Description: OPR



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Reviewed: WJL 7/21/16

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Work Order 1600910

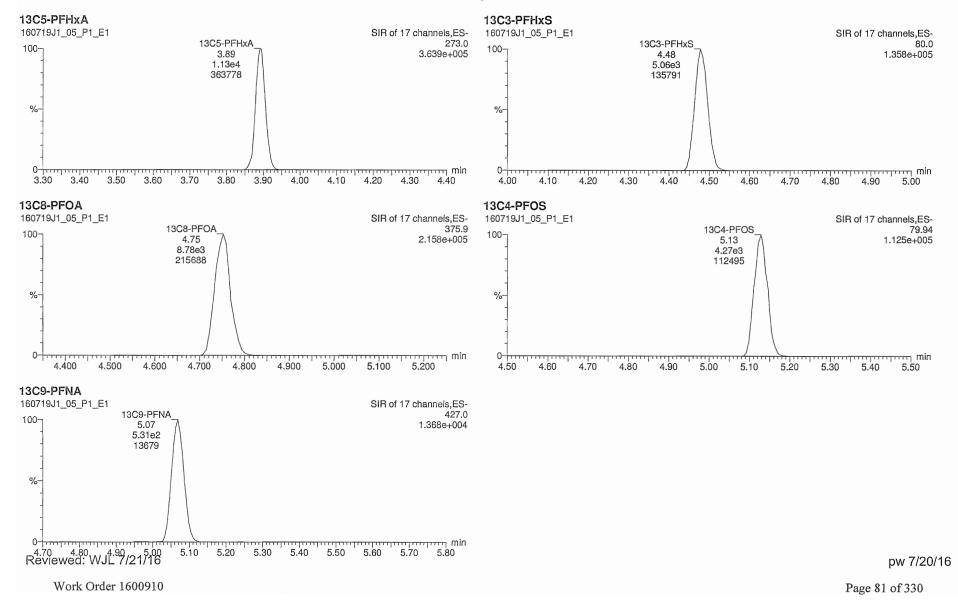
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Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_05.qld

Last Altered: Wednesday, July 20, 2016 11:37:21 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:37:29 Pacific Daylight Time

Name: 160719J1_05.wiff, Date: 19-Jul-2016, Time: 15:13:49, ID: B6G0076-BS1, Description: OPR



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	Nple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1 MassLynx 4.1 SCN815	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160719J1\160719J1_13.qld	
Last Altered: Printed:	Wednesday, July 20, 2016 11:50:28 Pacific Daylight Time Wednesday, July 20, 2016 11:51:23 Pacific Daylight Time	

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_13.wiff, Date: 19-Jul-2016, Time: 17:20:18, ID: 1600910-01, Description: GW-GZ-105

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
	1 PFBS	79.9	1.43e2	5.80e3	an a	0.132	3.50	11.0	
2 3	2 PFHpA	318.9	1.99e3	9.44e3		0.132	4.37	94.1	
3	3 PFHxS	79.91	3.53e2	1.34e3		0.132	4.48	36.2	
4	4 PFOA	368.9	7.79e3	8.44e3		0.132	4.76	198	
5	5 PFOS	79.92	1.89e3	3.89e3		0.132	5.15	59.4	
6	6 PFNA	419.0	9.60e2	7.62e3		0.132	5.09	17.9	
Z .	7 13C3-PFBS	79.95	5.80e3	1.05e4	0.469	0.132	3.49	112	118.2
8	8 13C4-PFHpA	321.9	9.44e3	1.05e4	0.822	0.132	4.37	104	109.7
9	9 18O2-PFHxS	102.9	1.34e3	4.71e3	0.256	0.132	4.48	105	111.1
10	10 13C2-PFOA	369.9	8.44e3	8.76e3	0.915	0.132	4.76	100	105.3
11.000	11 13C8-PFOS	79.93	3.89e3	4.21e3	0.822	0.132	5.15	107	112.2
12	12 13C5-PFNA	422.9	7.62e3	4.64e2	14.407	0.132	5.09	108	114.0
13	13 13C5-PFHxA	273.0	1.05e4	1.05e4	1.000	0.132	3.90	95.0	100.0
14	14 13C3-PFHxS	80.0	4.71e3	4.71e3	1.000	0.132	4.48	95.0	100.0
15	15 13C8-PFOA	375.9	8.76e3	8.76e3	1.000	0.132	4.76	95.0	100.0
16	16 13C4-PFOS	79.94	4.21e3	4.21e3	1.000	0.132	5.15	95.0	100.0
17	17 13C9-PFNA	427.0	4.64e2	4.64e2	1.000	0.132	5.09	95.0	100.0
18	18 Total PFBS	79.9		5.80e3		0.132		11.0	
19	19 Total PFHxS	79.91		1.34e3		0.132		42.4	
20	20 Total PFOA	368.9		8.44e3		0.132		226	
21	21 Total PFOS	79.92		3.89e3		0.132		130	

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Last Altered: Wednesday, July 20, 2016 11:50:28 Pacific Daylight Time Wednesday, July 20, 2016 11:51:23 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_13.wiff, Date: 19-Jul-2016, Time: 17:20:18, ID: 1600910-01, Description: GW-GZ-105

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.50	1.43e2	5.80e3	11.0

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	3.53e2	1.34e3	36.2
2 19 Total PFHxS	79.91	4.39	6.14e1	1.34e3	6.27

Total PFOA

"我们就会的问题"。 在这句话,我们就是这个问题	# Name	a de la combrace	RT	Area	IS Area	Conc,
1	4 PFOA	368.9	4.76	7.79e3	8.44e3	198
2 2	0 Total PFOA	368.9	4.66	1.12e3	8.44e3	27.7

Total PFOS

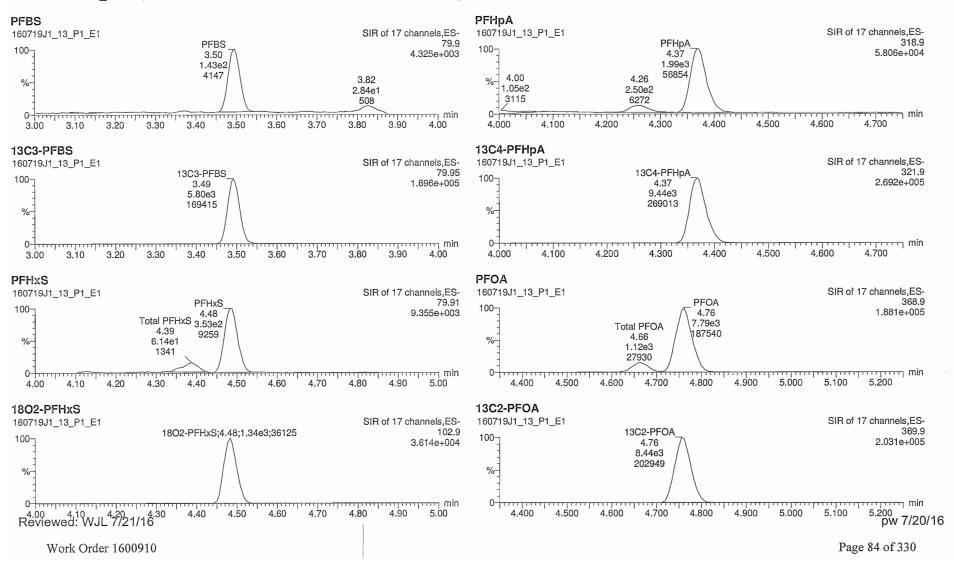
# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.15	1.89e3	3.89e3	59.4
2 21 Total PFOS	79.92	5.04	1.99e3	3.89e3	62.5
3 21 Total PFOS	79.92	4.94	2.48e2	3.89e3	7.76

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_13.qld

Last Altered: Wednesday, July 20, 2016 11:50:28 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:51:35 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_13.wiff, Date: 19-Jul-2016, Time: 17:20:18, ID: 1600910-01, Description: GW-GZ-105



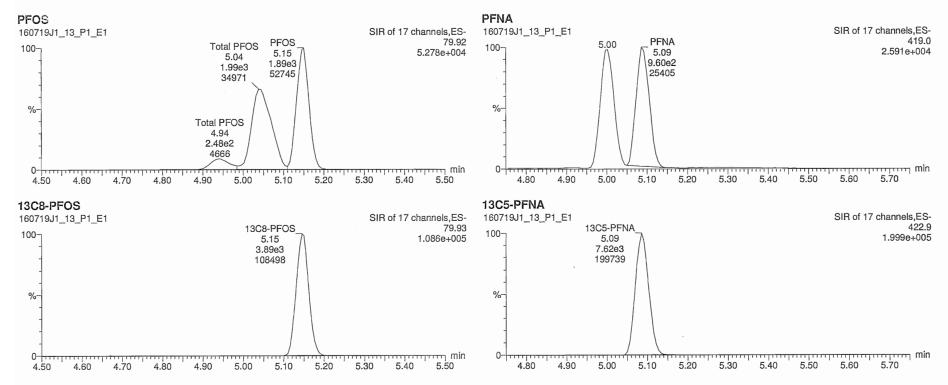
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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_13.qld

Last Altered: Wednesday, July 20, 2016 11:50:28 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:51:35 Pacific Daylight Time

Name: 160719J1_13.wiff, Date: 19-Jul-2016, Time: 17:20:18, ID: 1600910-01, Description: GW-GZ-105



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Reviewed: WJL 7/21/16

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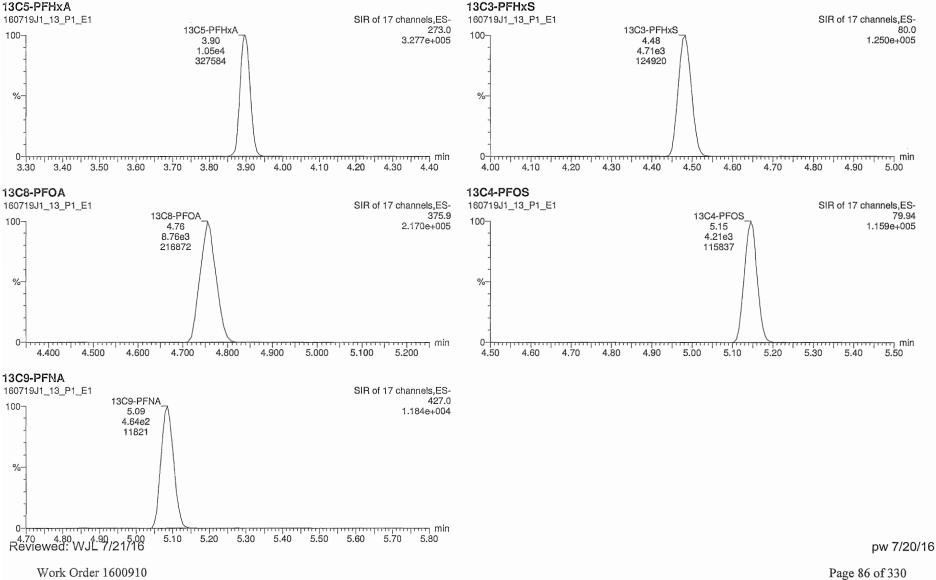
Work Order 1600910

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_13.qld

Last Altered: Wednesday, July 20, 2016 11:50:28 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:51:35 Pacific Daylight Time

Name: 160719J1 13.wiff, Date: 19-Jul-2016, Time: 17:20:18, ID: 1600910-01, Description: GW-GZ-105



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Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_14.qld

Last Altered: Wednesday, July 20, 2016 11:54:46 Pacific Daylight Time Wednesday, July 20, 2016 11:55:09 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_14.wiff, Date: 19-Jul-2016, Time: 17:32:29, ID: 1600910-02, Description: GW-GZ-105-DUP

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1 Altor and Parts	1 PFBS	79.9	1.37e2	6.39e3		0.122	3.50	10.3	
2	2 PFHpA	318.9	1.80e3	1.04e4		0.122	4.37	82.8	
3	3 PFHxS	79.91	3.45e2	1.44e3		0.122	4.49	35.5	
4	4 PFOA	368.9	6.82e3	9.87e3		0.122	4.76	159	
5	5 PFOS	79.92	1.58e3	3.81e3		0.122	5.13	54.7	
6	6 PFNA	419.0	8.08e2	8.22e3		0.122	5.08	15.1	
7	7 13C3-PFBS	79.95	6.39e3	1.19e4	0.469	0.122	3.50	117	114.4
8	8 13C4-PFHpA	321.9	1.04e4	1.19e4	0.822	0.122	4.37	109	106.5
9	9 18O2-PFHxS	102.9	1.44e3	5.33e3	0.256	0.122	4.48	108	105.4
10	10 13C2-PFOA	369.9	9.87e3	9.80e3	0.915	0.122	4.76	113	110.1
11	11 13C8-PFOS	79.93	3.81e3	4.18e3	0.822	0.122	5.13	114	110.9
12	12 13C5-PFNA	422.9	8.22e3	5.50e2	14.407	0.122	5.07	106	103.6
13	13 13C5-PFHxA	273.0	1.19e4	1.19e4	1.000	0.122	3.90	102	100.0
14	14 13C3-PFHxS	80.0	5.33e3	5.33e3	1.000	0.122	4.48	102	100.0
15	15 13C8-PFOA	375.9	9.80e3	9.80e3	1.000	0.122	4.76	102	100.0
16	16 13C4-PFOS	79.94	4.18e3	4.18e3	1.000	0.122	5.13	102	100.0
17	17 13C9-PFNA	427.0	5.50e2	5.50e2	1.000	0.122	5.07	102	100.0
18	18 Total PFBS	79.9		6.39e3		0.122		10.3	
19	19 Total PFHxS	79.91		1.44e3		0.122		42.5	
20	20 Total PFOA	368.9		9.87e3		0.122		181	
21	21 Total PFOS	79.92		3.81e3		0.122		117	

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_14.qld

Last Altered: Wednesday, July 20, 2016 11:54:46 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:55:09 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_14.wiff, Date: 19-Jul-2016, Time: 17:32:29, ID: 1600910-02, Description: GW-GZ-105-DUP

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 1 PFBS	79.9	3.50	1.37e2	6.39e3	10.3

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 19 Total PFHxS	79.91	4.39	6.77e1	1.44e3	6.95
2 3 PFHxS	79.91	4.49	3.45e2	1.44e3	35.5

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	6.82e3	9.87e3	159
2 20 Total PFOA	368.9	4.66	9.87e2	9.87e3	22.5

Total PFOS

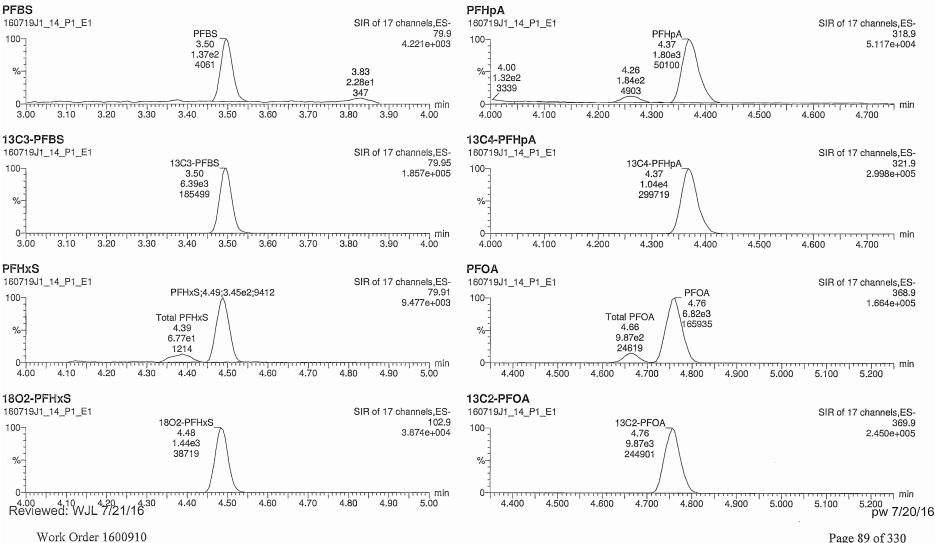
# Name	Trace	RT .	Area	IS Area	Conc.
1 5 PFOS	79.92	5.13	1.58e3	3.81e3	54.7
2 21 Total PFOS	79.92	5.03	1.59e3	3.81e3	55.0
3 21 Total PFOS	79.92	4.94	2.23e2	3.81e3	7.67

Dataset: U:\Q2.PRO\Results\160719J1\160719J1 14.qld

Last Altered: Wednesday, July 20, 2016 11:54:46 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:55:00 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_14.wiff, Date: 19-Jul-2016, Time: 17:32:29, ID: 1600910-02, Description: GW-GZ-105-DUP

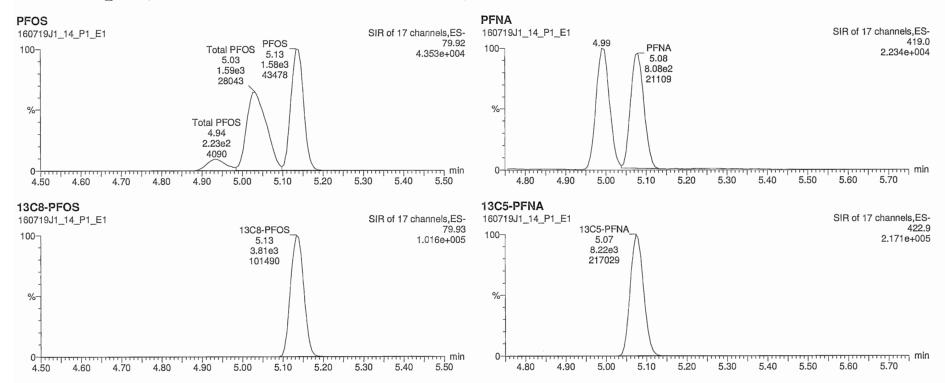


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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_14.qld

Last Altered: Wednesday, July 20, 2016 11:54:46 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:55:00 Pacific Daylight Time

Name: 160719J1_14.wiff, Date: 19-Jul-2016, Time: 17:32:29, ID: 1600910-02, Description: GW-GZ-105-DUP



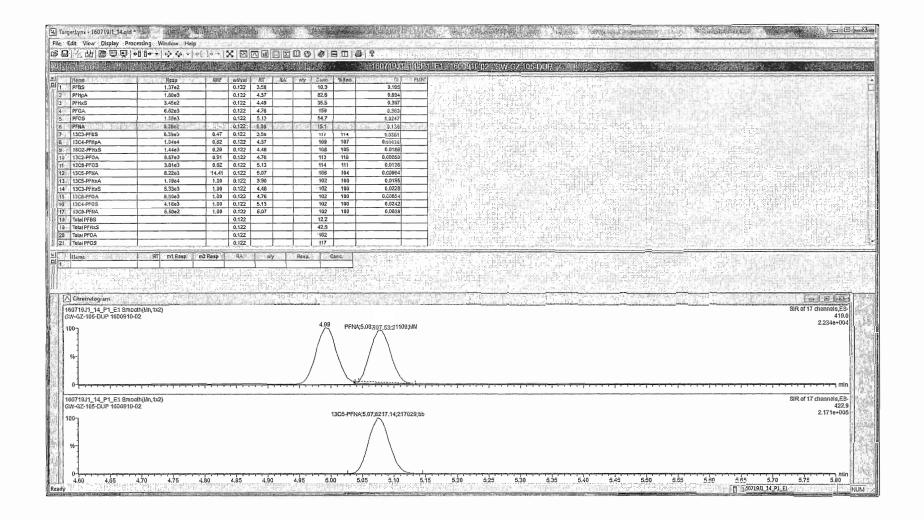
Reviewed: WJL 7/21/16

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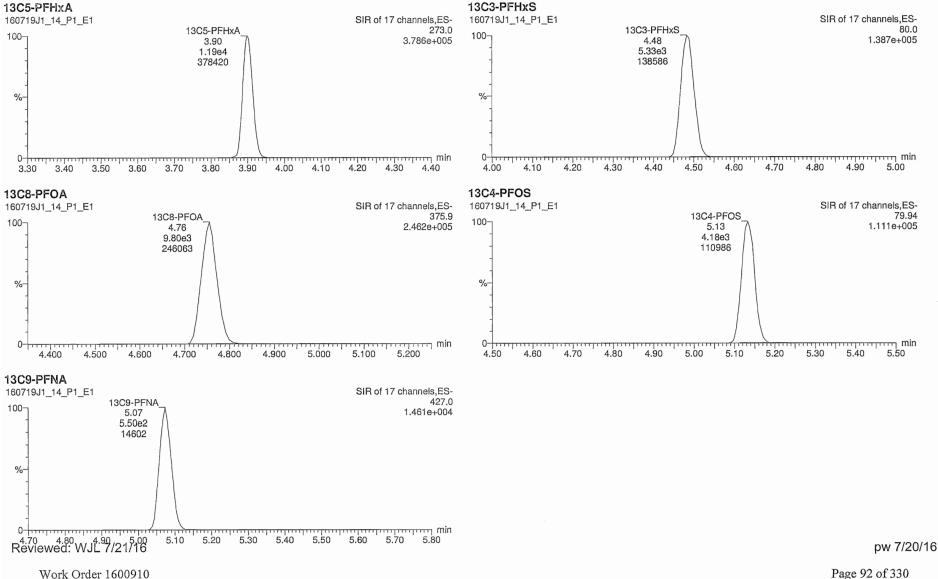
Work Order 1600910

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_14.qld

Last Altered: Wednesday, July 20, 2016 11:54:46 Pacific Daylight Time Printed: Wednesday, July 20, 2016 11:55:00 Pacific Daylight Time

Name: 160719J1_14.wiff, Date: 19-Jul-2016, Time: 17:32:29, ID: 1600910-02, Description: GW-GZ-105-DUP



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Quantify Sample Summary Report	MassLynx 4.1 SCN815	
Vista Analytical Laboratory Q1		

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_15.qld

Last Altered: Wednesday, July 20, 2016 11:59:37 Pacific Daylight Time Wednesday, July 20, 2016 12:01:20 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_15.wiff, Date: 19-Jul-2016, Time: 17:44:43, ID: 1600910-03, Description: GW-FPC-8B

	# Name	Trace States	Response IS	6 Resp	RRF	Wt/Vol	B T (Conc.	%Rec
	1 PFBS	79.9	2.49e1	5.76e3		0.120	3.50	2.10	
2	2 PFHpA	318.9	3.57e1	9.62e3		0.120	4.37	1.80	
3	3 PFHxS	79.91	2.70e1	1.36e3		0.120	4.48	2.97	
4	4 PFOA	368.9	1.16e2	8.81e3		0.120	4.76	2.98	
5	5 PFOS	79.92	3.83e0	3.35e3		0.120	5.13	0.152	
6	6 PFNA	419.0		6.74e3		0.120			
7	7 13C3-PFBS	79.95	5.76e3	1.13e4	0.469	0.120	3.50	113	108.6
8	8 13C4-PFHpA	321.9	9.62e3	1.13e4	0.822	0.120	4.36	107	103.4
9	9 1802-PFHxS	102.9	1.36e3	4.78e3	0.256	0.120	4.48	115	111.2
10	10 13C2-PFOA	369.9	8.81e3	8.84e3	0.915	0.120	4.76	113	108.9
fi	11 13C8-PFOS	79.93	3.35e3	3.99e3	0.822	0.120	5.13	106	101.9
12	12 13C5-PFNA	422.9	6.74e3	4.81e2	14.407	0.120	5.07	101	97.4
13	13 13C5-PFHxA	273.0	1.13e4	1.13e4	1.000	0.120	3.89	104	100.0
14	14 13C3-PFHxS	80.0	4.78e3	4.78e3	1.000	0.120	4.48	104	100.0
15	15 13C8-PFOA	375.9	8.84e3	8.84e3	1.000	0.120	4.76	104	100.0
16	16 13C4-PFOS	79.94	3.99e3	3.99e3	1.000	0.120	5.13	104	100.0
17	17 13C9-PFNA	427.0	4.81e2	4.81e2	1.000	0.120	5.07	104	100.0
18	18 Total PFBS	79.9		5.76e3		0.120		2.10	
19	19 Total PFHxS	79.91		1.36e3		0.120		3.57	
20	20 Total PFOA	368.9		8.81e3		0.120		4.03	
21	21 Total PFOS	79.92		3.35e3		0.120		1.46	

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_15.qld

Last Altered: Wednesday, July 20, 2016 11:59:37 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:01:20 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_15.wiff, Date: 19-Jul-2016, Time: 17:44:43, ID: 1600910-03, Description: GW-FPC-8B

Total PFBS

# Name	Trace	RT .	Area	IS Area	Conc.
1 1 PFBS	79.9	3.50	2.49e1	5.76e3	2.10

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	2.70e1	1.36e3	2.97
2 19 Total PFHxS	79.91	4.37	5.43e0	1.36e3	0.597

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	1.16e2	8.81e3	2.98
2 20 Total PFOA	368.9	4.66	4.06e1	8.81e3	1.05

Total PFOS

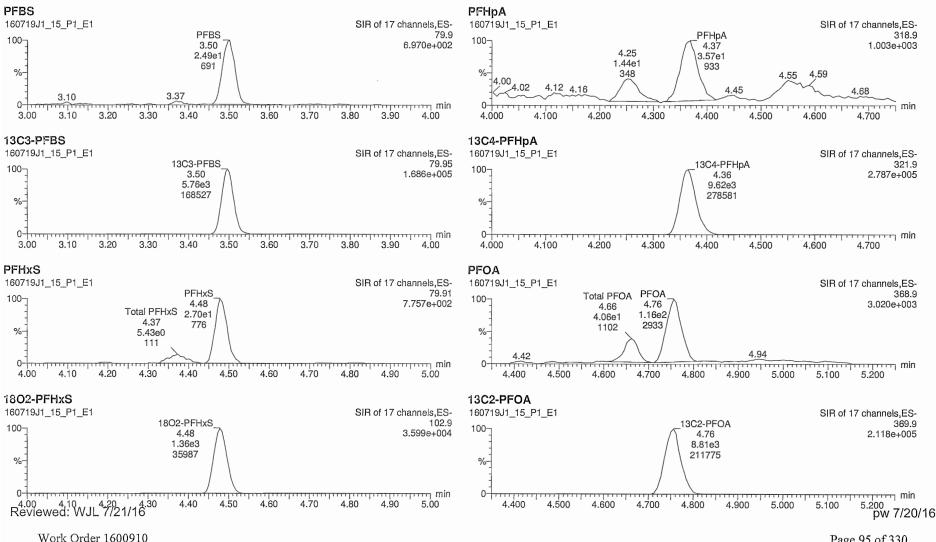
# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.13	3.83e0	3.35e3	0.152
2 21 Total PFOS	79.92	5.05	1.20e1	3.35e3	0.475
3 21 Total PFOS	79.92	5.03	2.10e1	3.35e3	0.836

U:\Q2.PRO\Results\160719J1\160719J1 15.gld Dataset:

Last Altered: Wednesday, July 20, 2016 11:59:37 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:01:34 Pacific Daylight Time

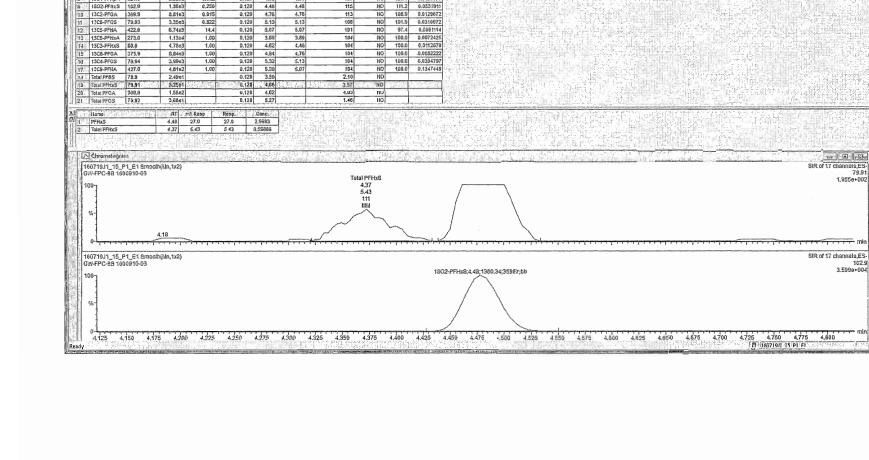
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_15.wiff, Date: 19-Jul-2016, Time: 17:44:43, ID: 1600910-03, Description: GW-FPC-8B



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1 PFBS

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8 13C4-PFHpA 321.9

9 1502-PFHxS 102.9

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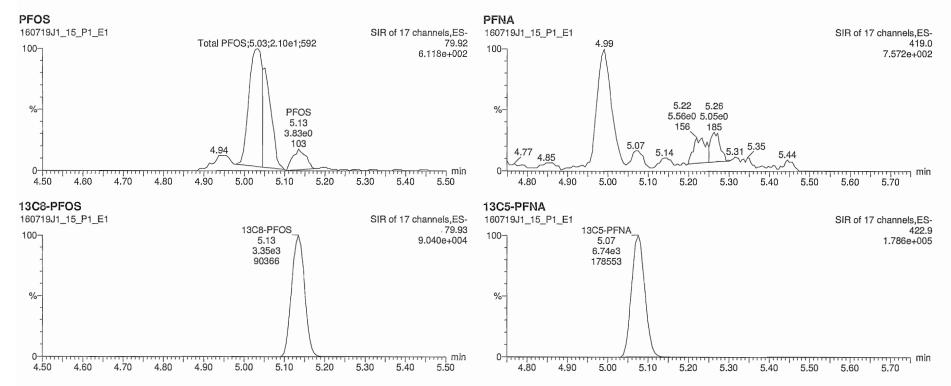
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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_15.qld

Last Altered: Wednesday, July 20, 2016 11:59:37 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:01:34 Pacific Daylight Time

Name: 160719J1_15.wiff, Date: 19-Jul-2016, Time: 17:44:43, ID: 1600910-03, Description: GW-FPC-8B



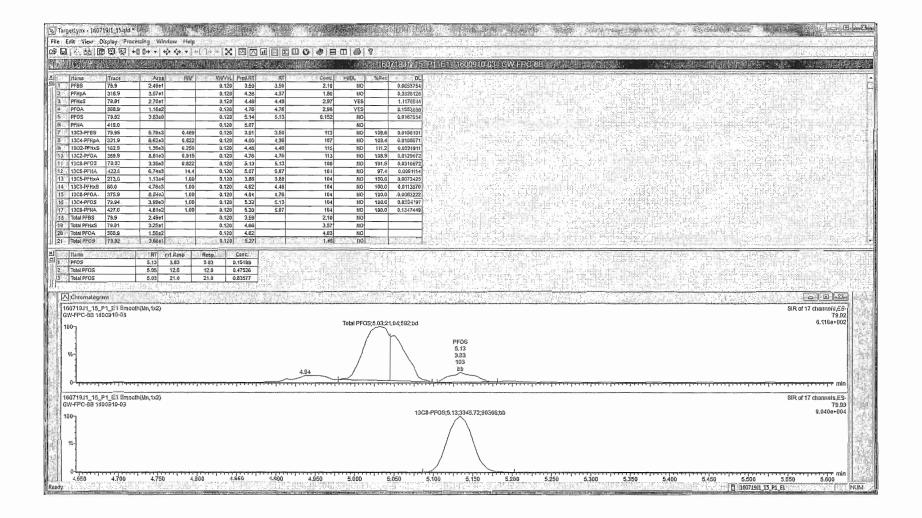
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Reviewed: WJL 7/21/16

pw 7/20/16

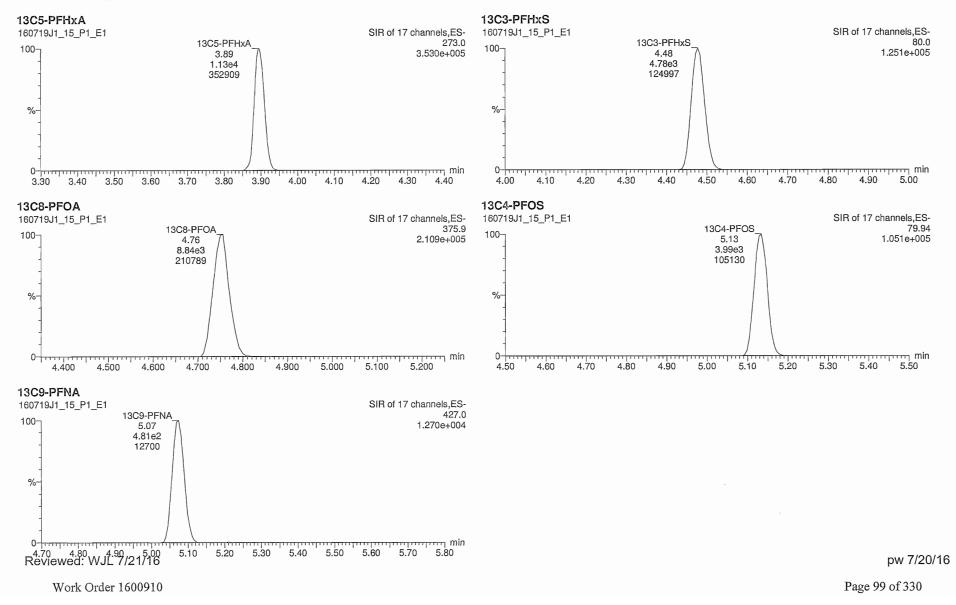
Work Order 1600910

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_15.qld

Last Altered: Wednesday, July 20, 2016 11:59:37 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:01:34 Pacific Daylight Time

Name: 160719J1_15.wiff, Date: 19-Jul-2016, Time: 17:44:43, ID: 1600910-03, Description: GW-FPC-8B



100

Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_16.qld

Last Altered:Wednesday, July 20, 2016 12:05:40 Pacific Daylight TimePrinted:Thursday, July 21, 2016 14:12:21 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_16.wiff, Date: 19-Jul-2016, Time: 17:56:55, ID: 1600910-04, Description: GW-FPC-8A

tants If an Isaa a	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	2.60e1	5.38e3	distant and a second second	0.120	3.49	2.36	
2	2 PFHpA	318.9	7.33e1	8.55e3		0.120	4.36	4.18	
3	3 PFHxS	79.91	3.14e1	1.28e3		0.120	4.48	3.68	
4	4 PFOA	368.9	2.93e2	7.46e3		0.120	4.75	8.98	
5	5 PFOS	79.92	2.53e1	3.54e3		0.120	5.13	0.954	
6	6 PFNA	419.0	3.49e1	6.53e3		0.120	5.07	0.833	
7	7 13C3-PFBS	79.95	5.38e3	9.89e3	0.469	0.120	3.49	121	116.0
8	8 13C4-PFHpA	321.9	8.55e3	9.89e3	0.822	0.120	4.36	110	105.2
9	9 18O2-PFHxS	102.9	1.28e3	4.53e3	0.256	0.120	4.48	116	110.6
10	10 13C2-PFOA	369.9	7.46e3	7.53e3	0.915	0.120	4.75	113	108.3
11	11 13C8-PFOS	79.93	3.54e3	3.73e3	0.822	0.120	5.13	121	115.5
12	12 13C5-PFNA	422.9	6.53e3	4.38e2	1 4.407	0.120	5.07	108	103.4
13	13 13C5-PFHxA	273.0	9.89e3	9.89e3	1.000	0.120	3.89	104	100.0
14	14 13C3-PFHxS	80.0	4.53e3	4.53e3	1.000	0.120	4.47	104	100.0
15	15 13C8-PFOA	375.9	7.53e3	7.53e3	1.000	0.120	4.74	104	100.0
16	16 13C4-PFOS	79.94	3.73e3	3.73e3	1.000	0.120	5.12	104	100.0
17	17 13C9-PFNA	427.0	4.38e2	4.38e2	1.000	0.120	5.06	104	100.0
18	18 Total PFBS	79.9		5.38e3		0.120		2.36	
19	19 Total PFHxS	79.91		1.28e3		0.120		3.68	
20	20 Total PFOA	368.9		7.46e3		0.120		10.1	
21	21 Total PFOS	79.92		3.54e3		0.120		3.89	

Last Altered: Wednesday, July 20, 2016 12:05:40 Pacific Daylight Time Thursday, July 21, 2016 14:12:21 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_16.wiff, Date: 19-Jul-2016, Time: 17:56:55, ID: 1600910-04, Description: GW-FPC-8A

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.49	2.60e1	5.38e3	2.36

Total PFHxS

# Name	Trace	RŤ	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	3.14e1	1.28e3	3.68

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.75	2.93e2	7.46e3	8.98
2 20 Total PFOA	368.9	4.66	3.76e1	7.46e3	1.15

Total PFOS

# Narr	ne	race	RT	Area	S Area	Conc.
1 5 PFC)S 7	9.92	5.13	2.53e1	3.54e3	0.954
2 21 Tota	al PFOS 7	9.92	5.02	6.81e1	3.54e3	2.57
3 21 Tota	al PFOS 7	9.92	4.94	6.78e0	3.54e3	0.256
4 21 Tota	al PFOS 7	9.92	4.82	2.74e0	3.54e3	0.104

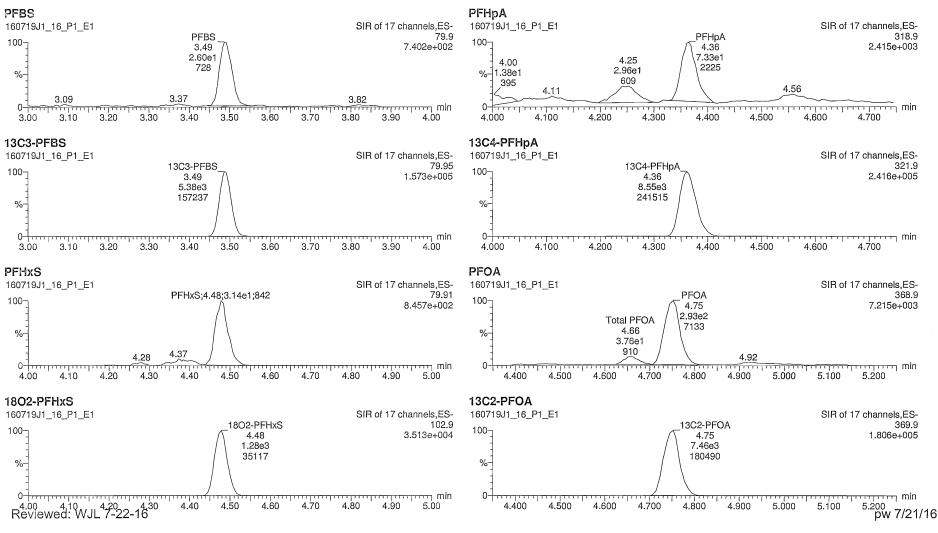
Work Order 1600910

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_16.qld

Last Altered: Wednesday, July 20, 2016 12:05:40 Pacific Daylight Time Printed: Thursday, July 21, 2016 14:12:35 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_16.wiff, Date: 19-Jul-2016, Time: 17:56:55, ID: 1600910-04, Description: GW-FPC-8A



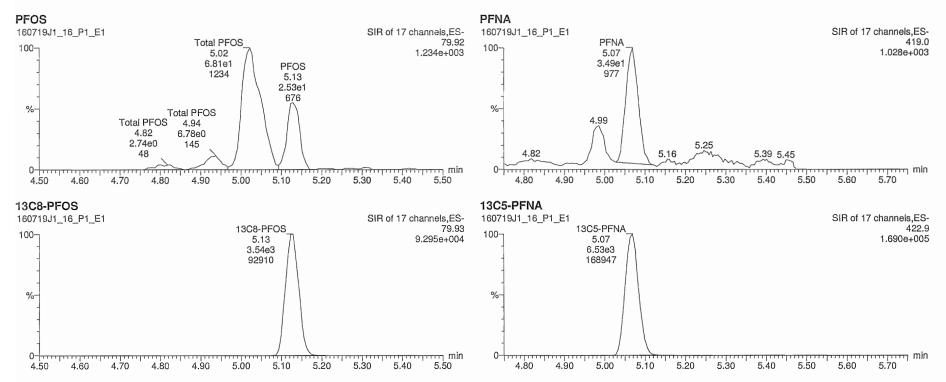
03

Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_16.qld

Last Altered: Wednesday, July 20, 2016 12:05:40 Pacific Daylight Time Printed: Thursday, July 21, 2016 14:12:35 Pacific Daylight Time

Name: 160719J1_16.wiff, Date: 19-Jul-2016, Time: 17:56:55, ID: 1600910-04, Description: GW-FPC-8A



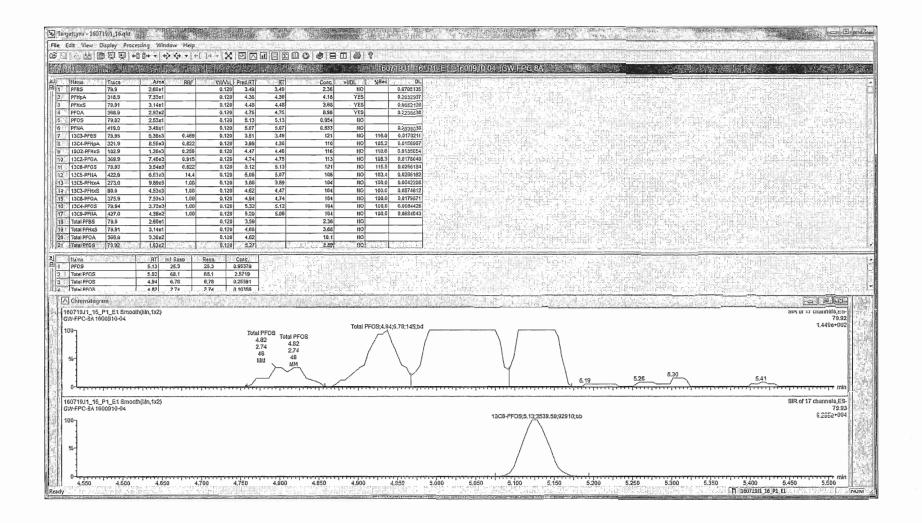
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Work Order 1600910

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Reviewed: WJL 7-22-16

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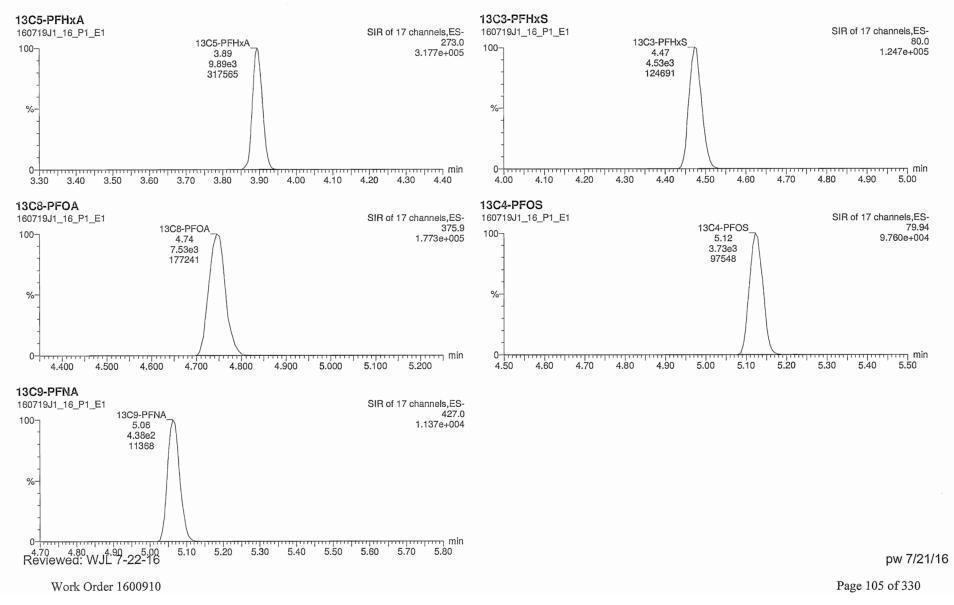
Work Order 1600910

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_16.qld

Last Altered: Wednesday, July 20, 2016 12:05:40 Pacific Daylight Time Printed: Thursday, July 21, 2016 14:12:35 Pacific Daylight Time

Name: 160719J1_16.wiff, Date: 19-Jul-2016, Time: 17:56:55, ID: 1600910-04, Description: GW-FPC-8A



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	n ple Summary Report al Laboratory Q1	MassLynx 4.1 SCN815	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\16071	9J1\160719J1_17.qld	
Last Altered: Printed:		12:09:38 Pacific Daylight Time 12:10:22 Pacific Daylight Time	

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_17.wiff, Date: 19-Jul-2016, Time: 18:09:05, ID: 1600910-05, Description: GW-FPC-4B

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
	1 PFBS	79.9		6.12e3		0.120			
2	2 PFHpA	318.9		1.00e4		0.120			
3	3 PFHxS	79.91	3.42e0	1.42e3		0.120	4.48	0.360	
4	4 PFOA	368.9	7.20e0	8.39e3		0.120	4.76	0.195	
5	5 PFOS	79.92		3.91e3		0.120			
6	6 PFNA	419.0		7.93e3		0.120			
7	7 13C3-PFBS	79.95	6.12e3	1.13e4	0.469	0.120	3.49	120	115.7
8	8 13C4-PFHpA	321.9	1.00e4	1.13e4	0.822	0.120	4.36	112	107.9
9	9 1802-PFHxS	102.9	1.42e3	5.04e3	0.256	0.120	4.48	115	110.2
10	10 13C2-PFOA	369.9	8.39e3	8.78e3	0.915	0.120	4.76	109	104.5
	11 13C8-PFOS	79.93	3.91e3	4.31e3	0.822	0.120	5.14	115	110.5
12	12 13C5-PFNA	422.9	7.93e3	5.40e2	14.407	0.120	5.07	106	101.9
13	13 13C5-PFHxA	273.0	1.13e4	1.13e4	1.000	0.120	3.89	104	100.0
14	14 13C3-PFHxS	80.0	5.04e3	5.04e3	1.000	0.120	4.48	104	100.0
15	15 13C8-PFOA	375.9	8.78e3	8.78e3	1.000	0.120	4.75	104	100.0
16	16 13C4-PFOS	79.94	4.31e3	4.31e3	1.000	0.120	5.13	104	100.0
17	17 13C9-PFNA	427.0	5.40e2	5.40e2	1.000	0.120	5.07	104	100.0
18	18 Total PFBS	79.9		6.12e3		0.120			
19	19 Total PFHxS	79.91		1.42e3		0.120		0.360	
20	20 Total PFOA	368.9		8.39e3		0.120		0.195	
21	21 Total PFOS	79.92		3.91e3		0.120		0.198	

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_17.qld

Last Altered: Wednesday, July 20, 2016 12:09:38 Pacific Daylight Time Wednesday, July 20, 2016 12:10:22 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_17.wiff, Date: 19-Jul-2016, Time: 18:09:05, ID: 1600910-05, Description: GW-FPC-4B

Total PFBS

Name Trace PT Area IS Area Conc.

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	3.42e0	1.42e3	0.360

Total PFOA

# Name	Trace	BT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	7.20e0	8.39e3	0.195

Total PFOS

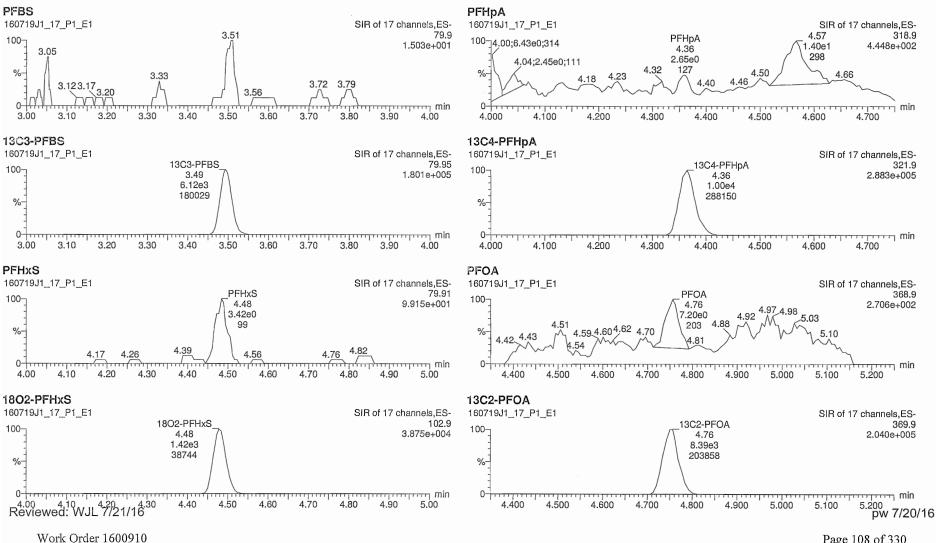
# Name	Trace	RT	Area	IS Area	Conc.
1 21 Total PFOS	79.92	5.05	5.82e0	3.91e3	0.198

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_17.qld

Last Altered: Wednesday, July 20, 2016 12:09:38 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:10:34 Pacific Daylight Time

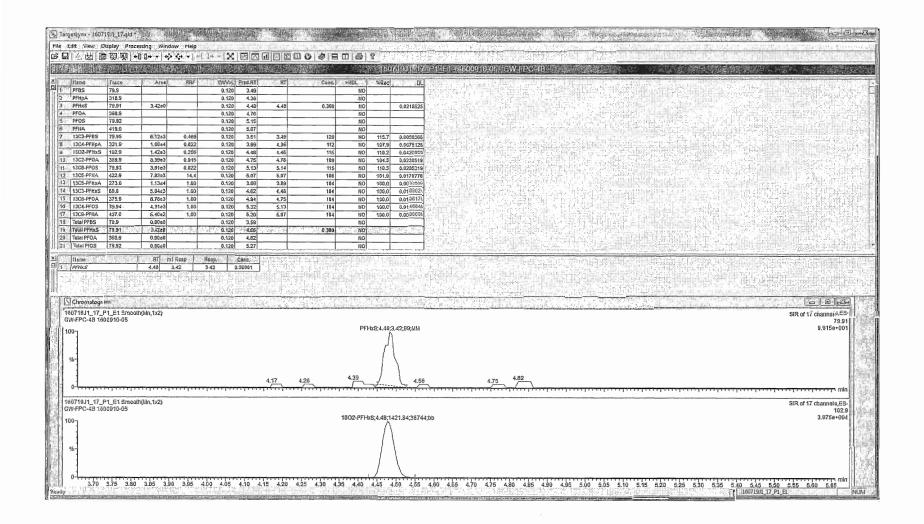
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_17.wiff, Date: 19-Jul-2016, Time: 18:09:05, ID: 1600910-05, Description: GW-FPC-4B



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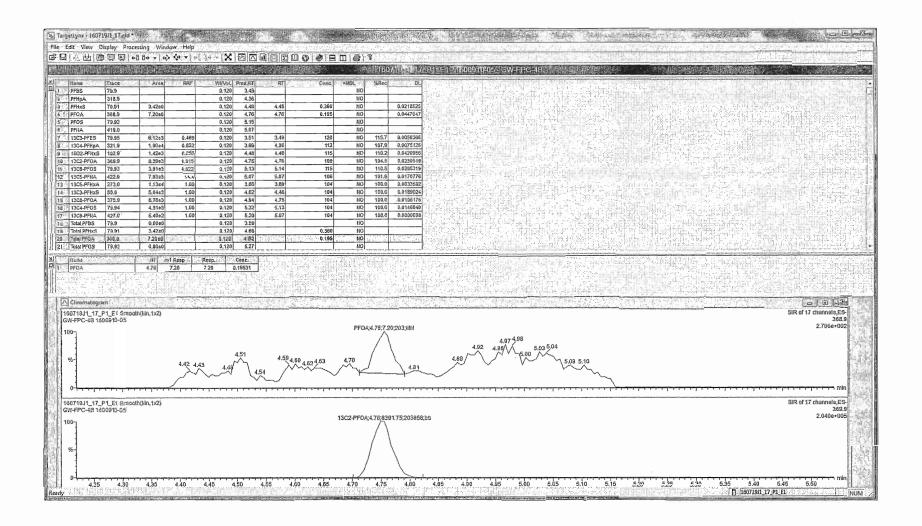


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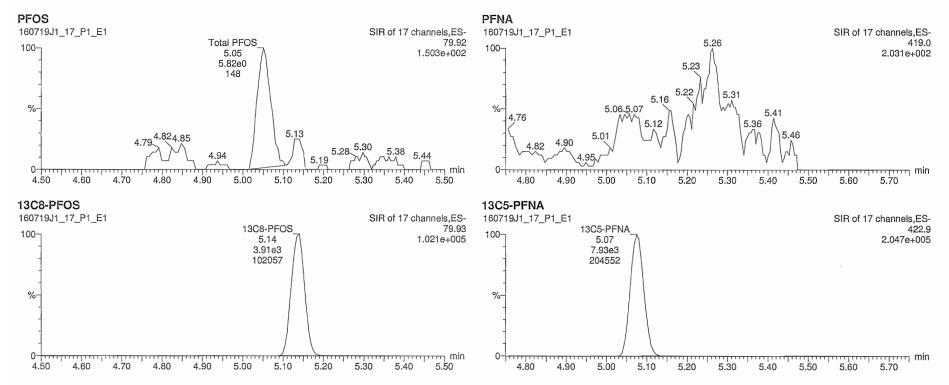
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Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_17.qld

Last Altered: Wednesday, July 20, 2016 12:09:38 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:10:34 Pacific Daylight Time

Name: 160719J1_17.wiff, Date: 19-Jul-2016, Time: 18:09:05, ID: 1600910-05, Description: GW-FPC-4B

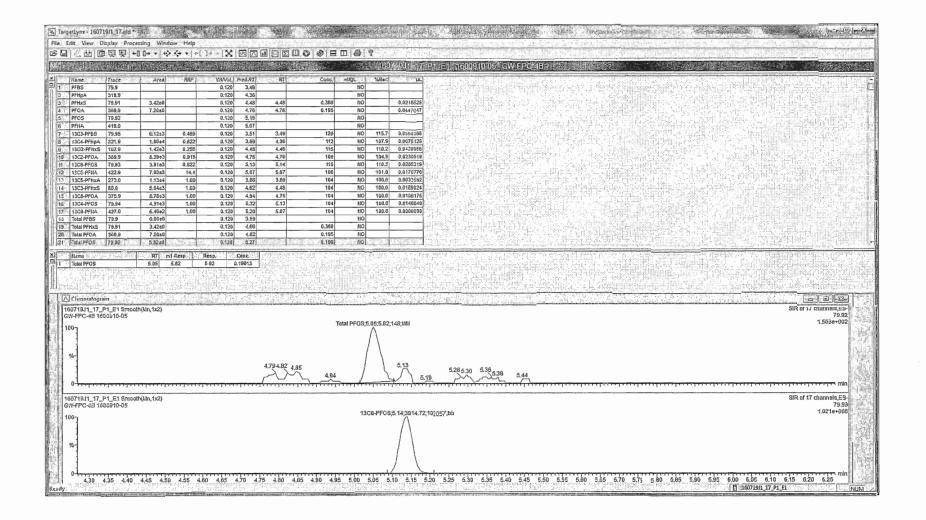


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Work Order 1600910

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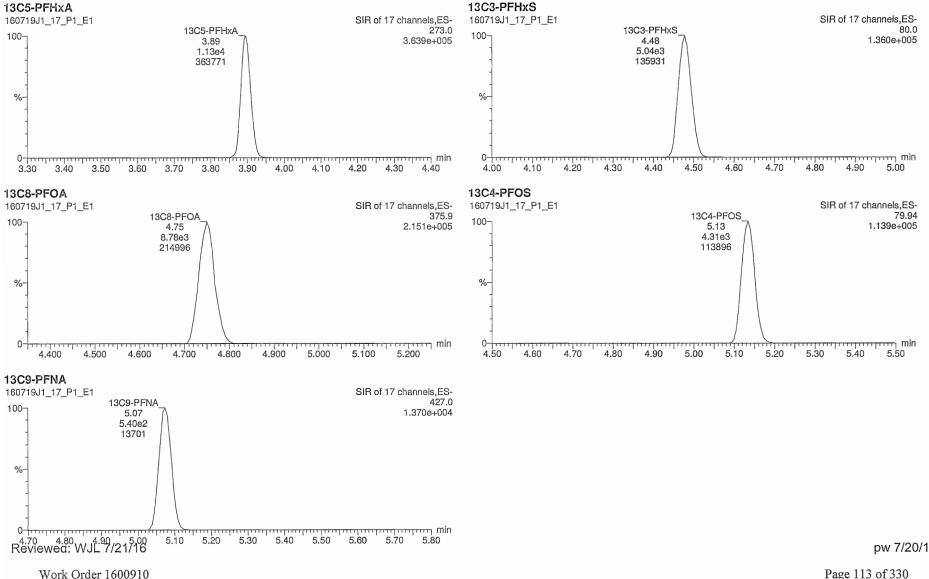
Work Order 1600910

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_17.qld

Last Altered: Wednesday, July 20, 2016 12:09:38 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:10:34 Pacific Daylight Time

Name: 160719J1 17.wiff, Date: 19-Jul-2016, Time: 18:09:05, ID: 1600910-05, Description: GW-FPC-4B



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	n ple Summary Report al Laboratory Q1	MassLynx 4.1 SCN815	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\16071	9J1\160719J1_18.qld	·
Last Altered: Printed:	Wednesday, July 20, 2016 Wednesday, July 20, 2016	3 12:36:26 Pacific Daylight Time 3 12:38:01 Pacific Daylight Time	

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_18.wiff, Date: 19-Jul-2016, Time: 18:21:21, ID: 1600910-06, Description: GW-AE-4A

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc,	%Rec
的知识。他	1 PFBS	79.9		6.21e3		0.121			
2	2 PFHpA	318.9		9.69e3		0.121			
3	3 PFHxS	79.91	3.61e0	1.40e3		0.121	4.48	0.383	
4	4 PFOA	368.9	1.81e1	9.15e3		0.121	4.76	0.446	
5	5 PFOS	79.92		3.92e3		0.121			
6	6 PFNA	419.0		7.47e3		0.121			
7	7 13C3-PFBS	79.95	6.21e3	1.15e4	0.469	0.121	3.49	119	115.2
8	8 13C4-PFHpA	321.9	9.69e3	1.15e4	0.822	0.121	4.37	106	102.5
9	9 18O2-PFHxS	102.9	1.40e3	5.11e3	0.256	0.121	4.48	111	107.2
10	10 13C2-PFOA	369.9	9.15e3	9.40e3	0.915	0.121	4.76	110	106.4
17	11 13C8-PFOS	79.93	3.92e3	4.36e3	0.822	0.121	5.13	113	109.2
12	12 13C5-PFNA	422.9	7.47e3	5.10e2	14.407	0.121	5.07	105	101.6
13	13 13C5-PFHxA	273.0	1.15e4	1.15e4	1.000	0.121	3.89	103	100.0
14	14 13C3-PFHxS	80.0	5.11e3	5.11e3	1.000	0.121	4.48	103	100.0
15	15 13C8-PFOA	375.9	9.40e3	9.40e3	1.000	0.121	4.76	103	100.0
16	16 13C4-PFOS	79.94	4.36e3	4.36e3	1.000	0.121	5.13	103	100.0
17	17 13C9-PFNA	427.0	5.10e2	5.10e2	1.000	0.121	5.07	103	100.0
18	18 Total PFBS	79.9		6.21e3		0.121			
19	19 Total PFHxS	79.91		1.40e3		0.121		0.383	
20	20 Total PFOA	368.9		9.15e3		0.121		0.446	
21	21 Total PFOS	79.92		3.92e3		0.121		0.268	

Work Order 1600910

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Last Altered: Wednesday, July 20, 2016 12:36:26 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:38:01 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_18.wiff, Date: 19-Jul-2016, Time: 18:21:21, ID: 1600910-06, Description: GW-AE-4A

Total PFBS

# N	lame	Trace	RT	Area IS Area Co

Total PFHxS

# Name	Trace	REAL RELEASE	Area	IS Area	Conc,
1 3 PFHxS	79.91	4.48	3.61e0	1.40e3	0.383

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	1.81e1	9.15e3	0.446

Total PFOS

#1	Name	Trace	RT	Area	IS Area	Conc.
1 21	Total PFOS	79.92	5.06	3.99e0	3.92e3	0.135
2 21	Total PFOS	79.92	5.05	3.96e0	3.92e3	0.134

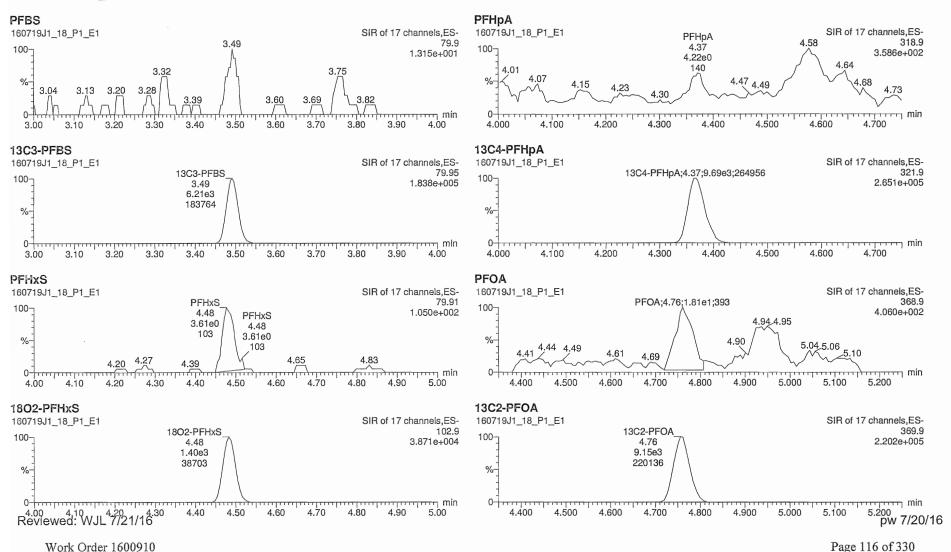
Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_18.qld

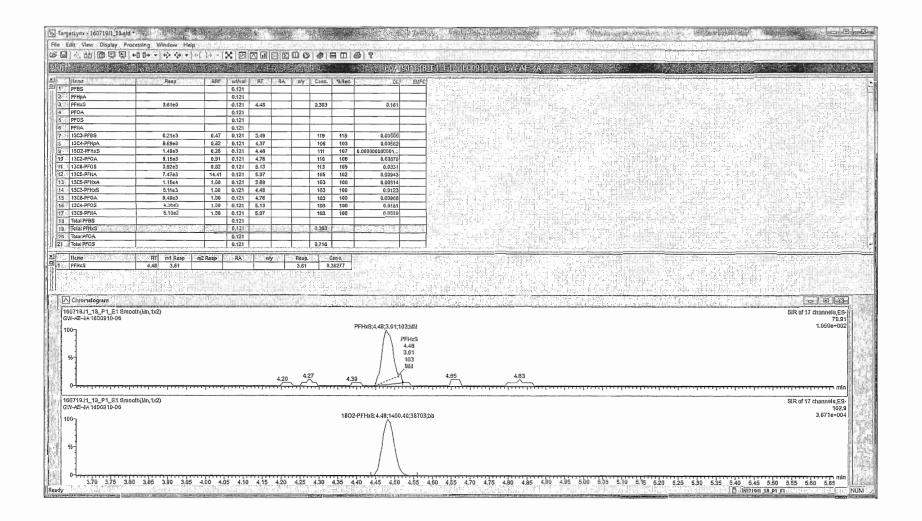
Last Altered: Wednesday, July 20, 2016 12:36:26 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:37:32 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

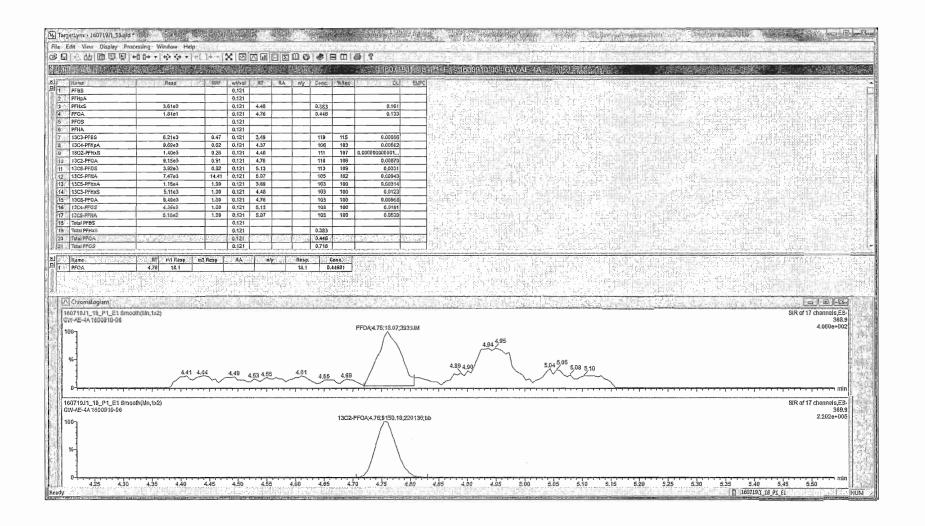
Name: 160719J1_18.wiff, Date: 19-Jul-2016, Time: 18:21:21, ID: 1600910-06, Description: GW-AE-4A



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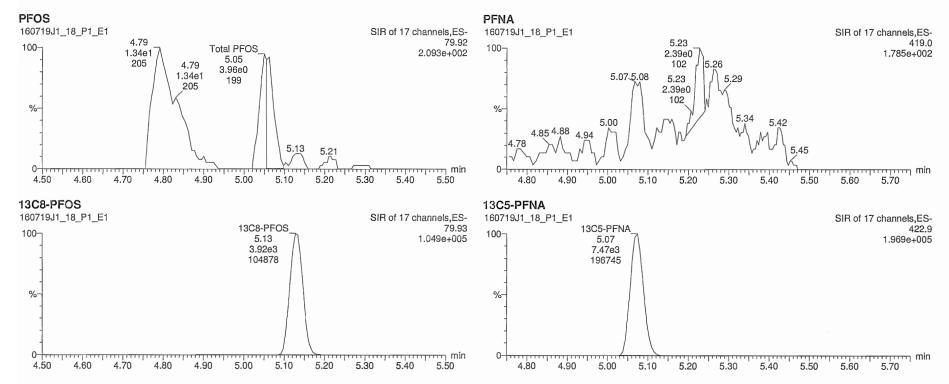
Work Order 1600910

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_18.qld

Last Altered: Wednesday, July 20, 2016 12:36:26 Pacific Daylight Time Printed: Wednesday, July 20, 2016 12:37:32 Pacific Daylight Time

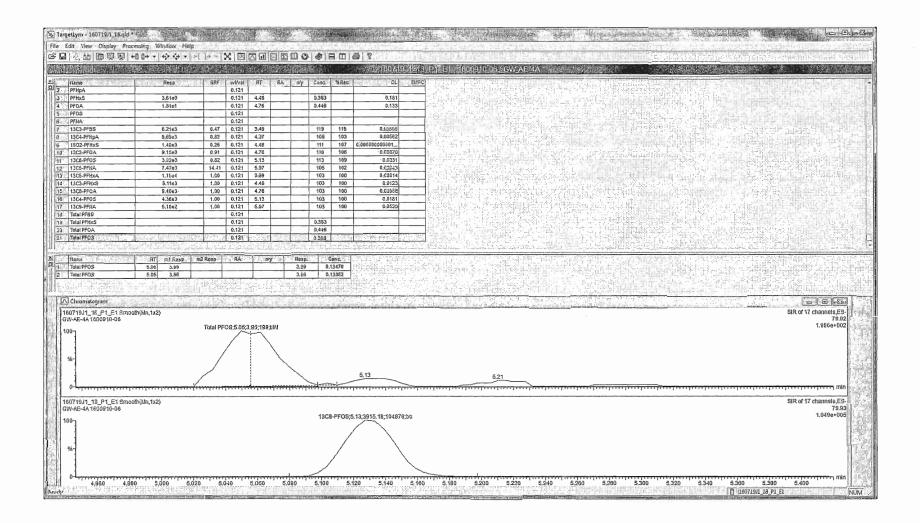
Name: 160719J1_18.wiff, Date: 19-Jul-2016, Time: 18:21:21, ID: 1600910-06, Description: GW-AE-4A



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Reviewed: WJL 7/21/16

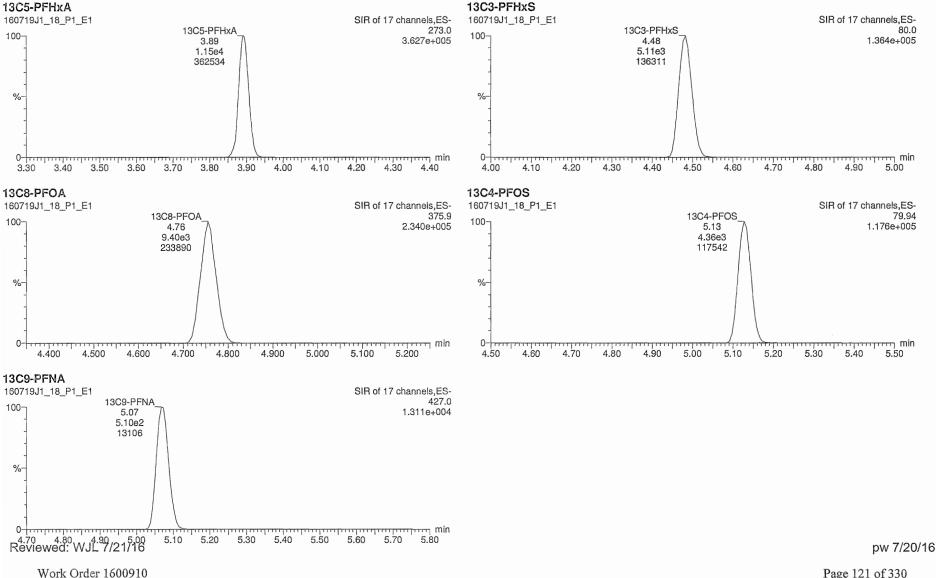
Work Order 1600910



U:\Q2.PRO\Results\160719J1\160719J1_18.qld Dataset:

Wednesday, July 20, 2016 12:36:26 Pacific Daylight Time Last Altered: Printed: Wednesday, July 20, 2016 12:37:32 Pacific Daylight Time

Name: 160719J1_18.wiff, Date: 19-Jul-2016, Time: 18:21:21, ID: 1600910-06, Description: GW-AE-4A



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Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_22.qld

Last Altered: Wednesday, July 20, 2016 13:28:48 Pacific Daylight Time Wednesday, July 20, 2016 13:29:02 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_22.wiff, Date: 19-Jul-2016, Time: 19:10:11, ID: 1600910-07, Description: GW-AE-4B

的情况的情况。	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	1.15e0	5.60e3		0.122	3.48	0.0985	
2	2 PFHpA	318.9	4.55e0	8.89e3		0.122	4.37	0.244	
3	3 PFHxS	79.91	4.51e0	1.31e3		0.122	4.47	0.506	
4	4 PFOA	368.9	4.50e1	8.04e3		0.122	4.75	1.25	
5	5 PFOS	79.92	9.93e0	3.80e3		0.122	5.13	0.342	
6	6 PFNA	419.0		7.46e3		0.122			
7	7 13C3-PFBS	79.95	5.60e3	1.05e4	0.469	0.122	3.49	117	114.1
8	8 13C4-PFHpA	321.9	8.89e3	1.05e4	0.822	0.122	4.36	106	103.2
9	9 18O2-PFHxS	102.9	1.31e3	4.70e3	0.256	0.122	4.48	112	109.2
10	10 13C2-PFOA	369.9	8.04e3	8.38e3	0.915	0.122	4.75	107	104.8
H	11 13C8-PFOS	79.93	3.80e3	4.08e3	0.822	0.122	5.12	116	113.3
12	12 13C5-PFNA	422.9	7.46e3	4.57e2	14.407	0.122	5.07	116	113.4
13	13 13C5-PFHxA	273.0	1.05e4	1.05e4	1.000	0.122	3.89	102	100.0
14	14 13C3-PFHxS	80.0	4.70e3	4.70e3	1.000	0.122	4.47	102	100.0
15	15 13C8-PFOA	375.9	8.38e3	8.38e3	1.000	0.122	4.75	102	100.0
16	16 13C4-PFOS	79.94	4.08e3	4.08e3	1.000	0.122	5.12	102	100.0
17	17 13C9-PFNA	427.0	4.57e2	4.57e2	1.000	0.122	5.06	102	100.0
18	18 Total PFBS	79.9		5.60e3		0.122		0.0985	
19	19 Total PFHxS	79.91		1.31e3		0.122		0.506	
20	20 Total PFOA	368.9		8.04e3		0.122		1.25	
21	21 Total PFOS	79.92		3.80e3		0.122		0.818	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Last Altered: Wednesday, July 20, 2016 13:28:48 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:29:02 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_22.wiff, Date: 19-Jul-2016, Time: 19:10:11, ID: 1600910-07, Description: GW-AE-4B

Total PFBS

# Name	Trace	RT .	Area	IS Area	Conc.
1 PFBS	79.9	3.48	1.15e0	5.60e3	0.0985

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	4.51e0	1.31e3	0.506

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.75	4.50e1	8.04e3	1.25

Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 21 Total PFOS	79.92	5.03	1.38e1	3.80e3	0.476
2 5 PFOS	79.92	5.13	9.93e0	3.80e3	0.342

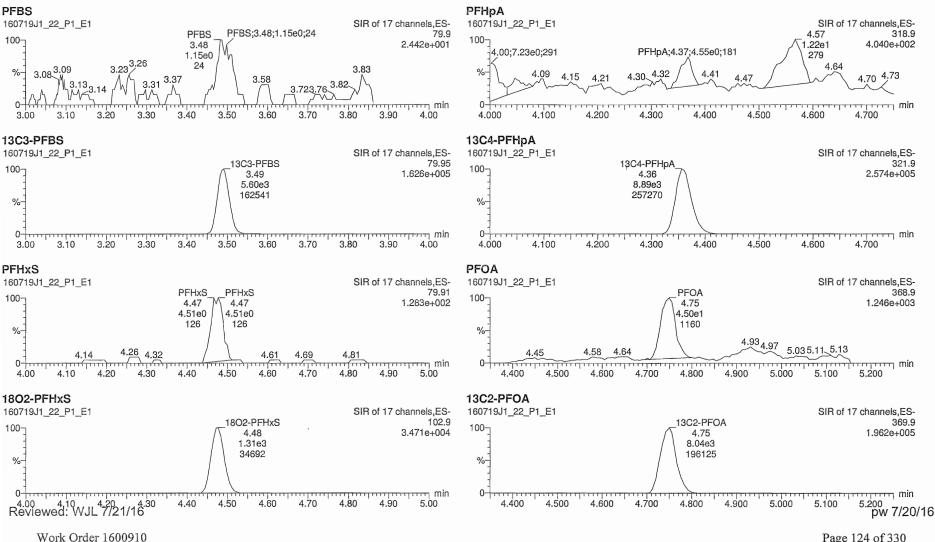
pw 7/20/16

U:\Q2.PRO\Results\160719J1\160719J1_22.qld Dataset:

Last Altered: Wednesday, July 20, 2016 13:28:48 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:29:16 Pacific Daylight Time

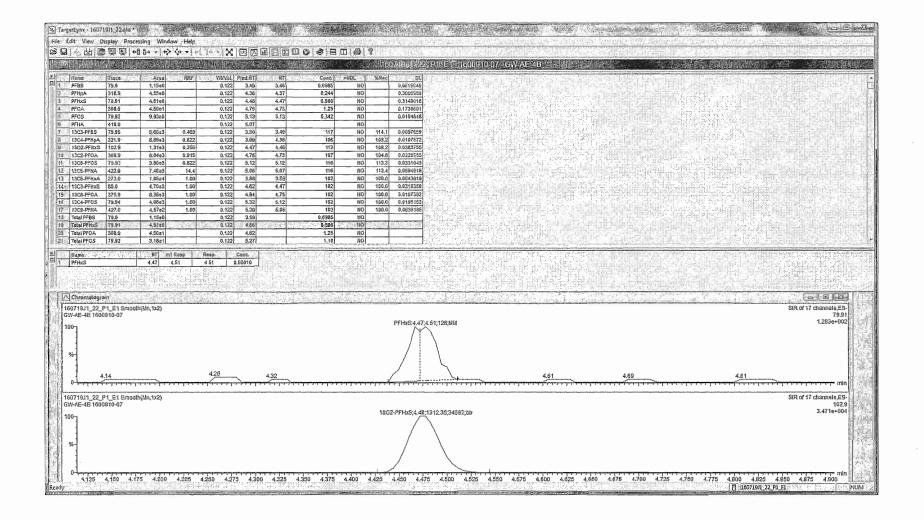
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_22.wiff, Date: 19-Jul-2016, Time: 19:10:11, ID: 1600910-07, Description: GW-AE-4B



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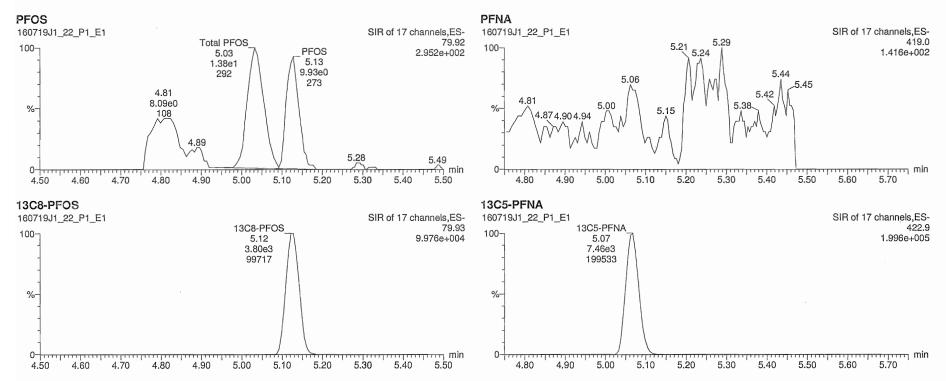
Work Order 1600910

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_22.qld

Last Altered: Wednesday, July 20, 2016 13:28:48 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:29:16 Pacific Daylight Time

Name: 160719J1_22.wiff, Date: 19-Jul-2016, Time: 19:10:11, ID: 1600910-07, Description: GW-AE-4B



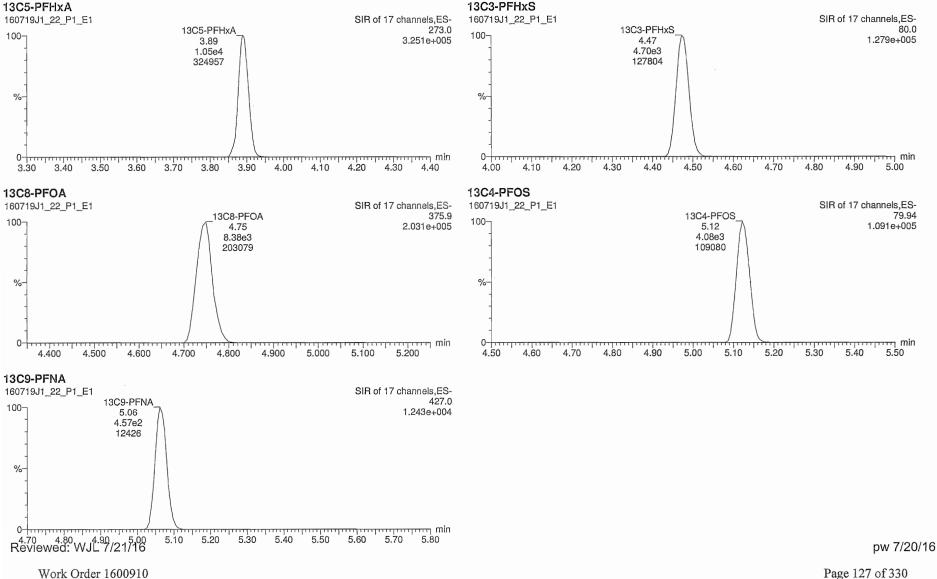
pw 7/20/16

Page 2 of 3

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_22.qld

Last Altered: Wednesday, July 20, 2016 13:28:48 Pacific Daylight Time Wednesday, July 20, 2016 13:29:16 Pacific Daylight Time Printed:

Name: 160719J1_22.wiff, Date: 19-Jul-2016, Time: 19:10:11, ID: 1600910-07, Description: GW-AE-4B



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Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	-

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_23.qld

Last Altered: Wednesday, July 20, 2016 13:32:09 Pacific Daylight Time Wednesday, July 20, 2016 13:32:45 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_23.wiff, Date: 19-Jul-2016, Time: 19:22:24, ID: 1600910-08, Description: GW-FPC-6B

律法科学的研究	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
	1 PFBS	79.9	3.90e1	5.79e3		0.121	3.50	3.23	0
2	2 PFHpA	318.9	5.45e2	9.82e3		0.121	4.37	26.7	
3	3 PFHxS	79.91	6.32e1	1.33e3		0.121	4.48	7.05	
4	4 PFOA	368.9	2.95e3	8.95e3		0.121	4.76	74.9	
5	5 PFOS	79.92	2.25e2	3.81e3		0.121	5.14	7.79	
6	6 PFNA	419.0	2.25e2	7.35e3		0.121	5.08	4.70	
7	7 13C3-PFBS	79.95	5.79e3	1.06e4	0.469	0.121	3.50	120	116.9
8	8 13C4-PFHpA	321.9	9.82e3	1.06e4	0.822	0.121	4.37	116	112.9
9	9 18O2-PFHxS	102.9	1.33e3	4.49e3	0.256	0.121	4.48	119	115.7
10	10 13C2-PFOA	369.9	8.95e3	9.02e3	0.915	0.121	4.76	112	108.5
11	11 13C8-PFOS	79.93	3.81e3	4.15e3	0.822	0.121	5.14	115	111.8
12	12 13C5-PFNA	422.9	7.35e3	4.60e2	14.407	0.121	5.08	114	110.8
13	13 13C5-PFHxA	273.0	1.06e4	1.06e4	1.000	0.121	3.90	103	100.0
14	14 13C3-PFHxS	80.0	4.49e3	4.49e3	1.000	0.121	4.48	103	100.0
15	15 13C8-PFOA	375.9	9.02e3	9.02e3	1.000	0.121	4.75	103	100.0
16	16 13C4-PFOS	79.94	4.15e3	4.15e3	1.000	0.121	5.14	103	100.0
17	17 13C9-PFNA	427.0	4.60e2	4.60e2	1.000	0.121	5.08	103	100.0
18	18 Total PFBS	79.9		5.79e3		0.121		3.23	
19	19 Total PFHxS	79.91		1.33e3		0.121		8.93	
20	20 Total PFOA	368.9		8.95e3		0.121		83.2	
21	21 Total PFOS	79.92		3.81e3		0.121		17.6	

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_23.qld

Last Altered: Wednesday, July 20, 2016 13:32:09 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:32:45 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_23.wiff, Date: 19-Jul-2016, Time: 19:22:24, ID: 1600910-08, Description: GW-FPC-6B

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.50	3.90e1	5.79e3	3.23

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	6.32e1	1.33e3	7.05
2 19 Total PFHxS	79.91	4.37	1.69e1	1.33e3	1.88

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	2.95e3	8.95e3	74.9
2 20 Total PFOA	368.9	4.67	3.30e2	8.95e3	8.30

Total PFOS

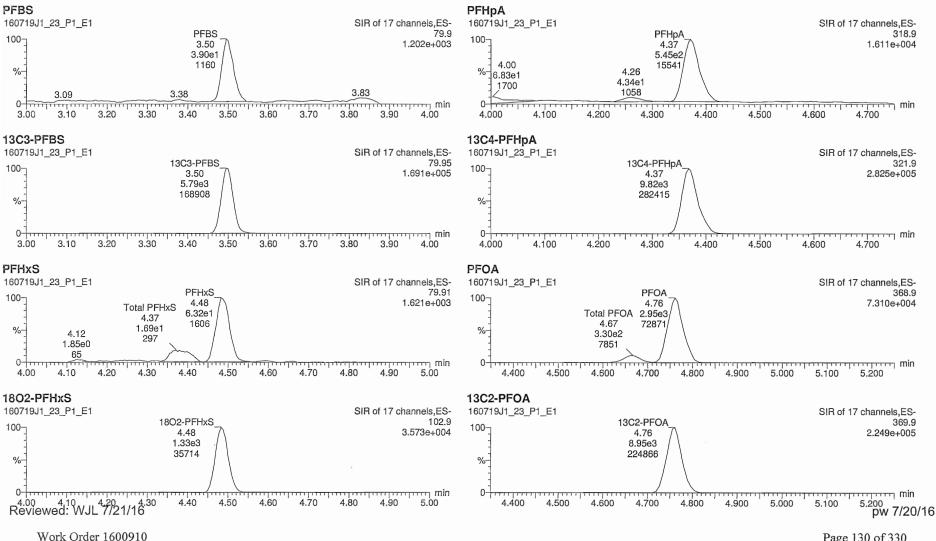
# Name	Trace	RT	Area	💶 IS Area 🖬	Conc.
1 21 Total PFOS	79.92	5.04	2.49e2	3.81e3	8.61
2 21 Total PFOS	79.92	4.93	3.48e1	3.81e3	1.20
3 5 PFOS	79.92	5.14	2.25e2	3.81e3	7.79

Dataset: U:\Q2.PRO\Results\160719J1\160719J1 23.gld

Last Altered: Wednesday, July 20, 2016 13:32:09 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:32:35 Pacific Daylight Time

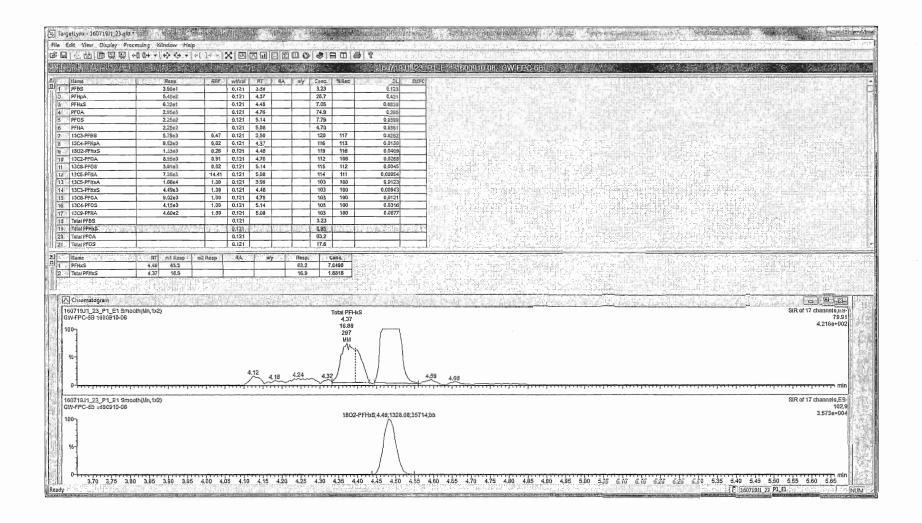
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_23.wiff, Date: 19-Jul-2016, Time: 19:22:24, ID: 1600910-08, Description: GW-FPC-6B



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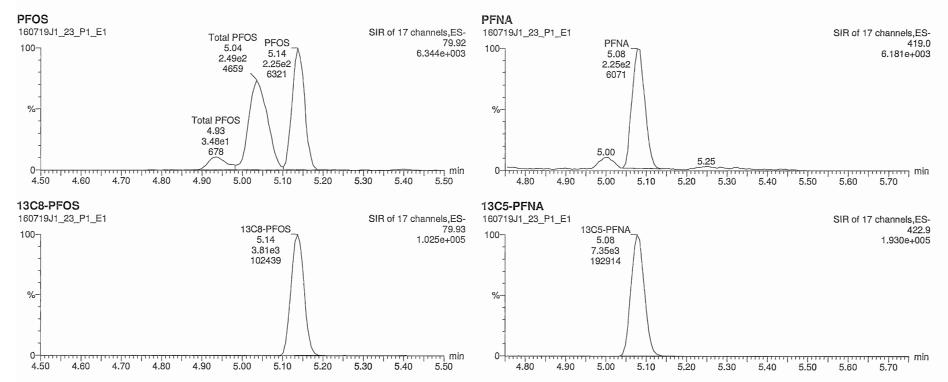
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Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_23.qld

Last Altered: Wednesday, July 20, 2016 13:32:09 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:32:35 Pacific Daylight Time

Name: 160719J1_23.wiff, Date: 19-Jul-2016, Time: 19:22:24, ID: 1600910-08, Description: GW-FPC-6B



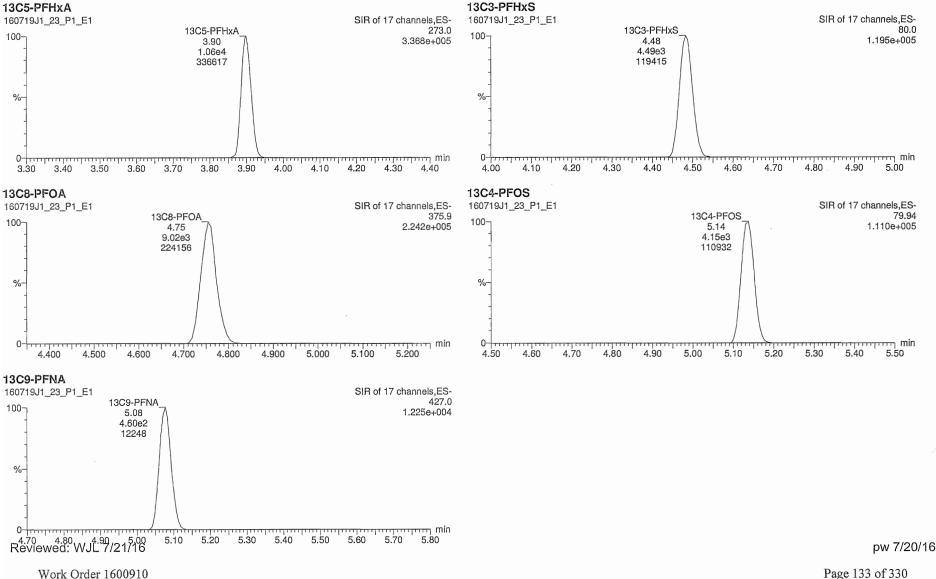
Page 2 of 3

Work Order 1600910

U:\Q2.PRO\Results\160719J1\160719J1_23.qld Dataset:

Last Altered: Wednesday, July 20, 2016 13:32:09 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:32:35 Pacific Daylight Time

Name: 160719J1 23.wiff, Date: 19-Jul-2016, Time: 19:22:24, ID: 1600910-08, Description: GW-FPC-6B



Quantify Sample Summary Report	MassLynx 4.1 SCN815
Vista Analytical Laboratory Q1	

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_24.qld

Last Altered:Wednesday, July 20, 2016 13:36:20 Pacific Daylight TimePrinted:Wednesday, July 20, 2016 13:36:48 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_24.wiff, Date: 19-Jul-2016, Time: 19:34:37, ID: 1600910-09, Description: GW-FPC-6A

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	BT	Conc.	%Rec
1	1 PFBS	79.9	7.23e1	6.38e3	111111 ₁₁₁₁₁	0.123	3.50	5.37	
2	2 PFHpA	318.9	1.00e3	1.05e4		0.123	4.37	45.2	
3	3 PFHxS	79.91	1.33e2	1.45e3		0.123	4.48	13.3	
4	4 PFOA	368.9	5.43e3	9.71e3		0.123	4.76	126	i
6	5 PFOS	79.92	4.29e2	4.19e3		0.123	5.13	13.3	
5 6	6 PFNA	419.0	4.09e2	8.36e3		0.123	5.07	7.41	
7	7 13C3-PFBS	79.95	6.38e3	1.17e4	0.469	0.123	3.49	118	116.2
8	8 13C4-PFHpA	321.9	1.05e4	1.17e4	0.822	0.123	4.36	111	109.2
9	9 1802-PFHxS	102.9	1.45e3	5.56e3	0.256	0.123	4.48	104	102.2
10	10 13C2-PFOA	369.9	9.71e3	9.73e3	0.915	0.123	4.76	111	109.1
11	11 13C8-PFOS	79.93	4.19e3	4.87e3	0.822	0.123	5.13	106	104.7
12	12 13C5-PFNA	422.9	8.36e3	5.58e2	14.407	0.123	5.07	105	104.0
13	13 13C5-PFHxA	273.0	1.17e4	1.17e4	1.000	0.123	3.89	101	100.0
14	14 13C3-PFHxS	80.0	5.56e3	5.56e3	1.000	0.123	4.48	101	100.0
15	15 13C8-PFOA	375.9	9.73e3	9.73e3	1.000	0.123	4.76	101	100.0
16	16 13C4-PFOS	79.94	4.87e3	4.87e3	1.000	0.123	5.13	101	100.0
17-2-2-34333	17 13C9-PFNA	427.0	5.58e2	5.58e2	1.000	0.123	5.07	101	100.0
18	18 Total PFBS	79.9		6.38e3		0.123		5.37	
19	19 Total PFHxS	79.91		1.45e3		0.123		15.7	
20	20 Total PFOA	368.9		9.71e3		0.123		141	
21	21 Total PFOS	79.92		4.19e3		0.123		28.4	

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_24.qld

Last Altered: Wednesday, July 20, 2016 13:36:20 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:36:48 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_24.wiff, Date: 19-Jul-2016, Time: 19:34:37, ID: 1600910-09, Description: GW-FPC-6A

Total PFBS

# Name	Trace	BT	Area	IS Area	Conc.
1 PFBS	79.9	3.50	7.23e1	6.38e3	5.37

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
fine states in the	19 Total PFHxS	79.91	4.39	1.12e1	1.45e3	1.12
2	19 Total PFHxS	79.91	4.38	7.62e0	1.45e3	0.765
3	19 Total PFHxS	79.91	4.36	5.04e0	1.45e3	0.506
4	3 PFHxS	79.91	4.48	1.33e2	1.45e3	13.3

Total PFOA

#1	Name	Trace	RT	Area	IS Area	Conc.
1 20	Total PFOA	368.9	4.88	4.31e1	9.71e3	0.984
2 4 1	PFOA	368.9	4.76	5.43e3	9.71e3	126
3 20 -	Total PFOA	368.9	4.66	5.79e2	9.71e3	13.3

Total PFOS

Marshall #	Name	Trace	RT	Area	IS Area 👘 🛛	Conc.
1 5	PFOS	79.92	5.13	4.29e2	4.19e3	13.3
2 21	Total PFOS	79.92	5.03	4.41e2	4.19e3	13.7
3 21	Total PFOS	79.92	4.94	4.57e1	4.19e3	1.42

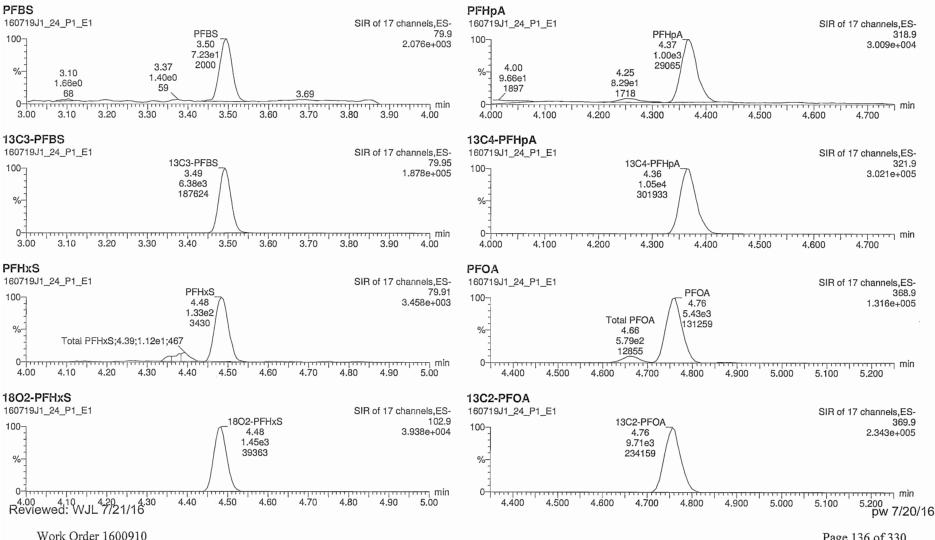
pw 7/20/16

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_24.qld

Last Altered: Wednesday, July 20, 2016 13:36:20 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:37:01 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_24.wiff, Date: 19-Jul-2016, Time: 19:34:37, ID: 1600910-09, Description: GW-FPC-6A



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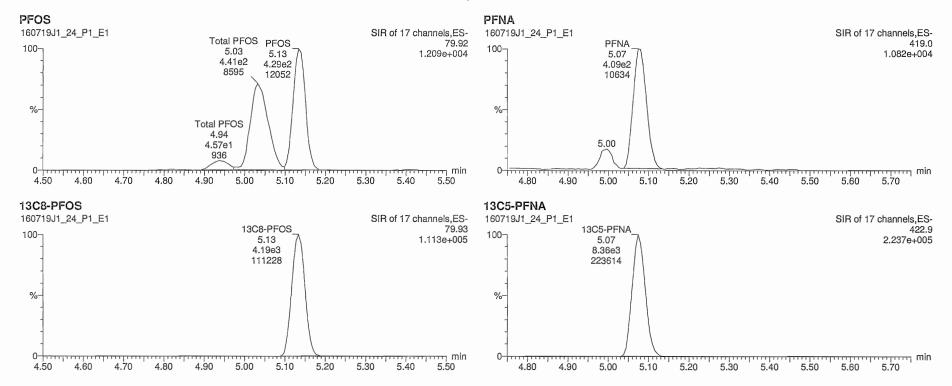
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Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_24.qld

Last Altered: Wednesday, July 20, 2016 13:36:20 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:37:01 Pacific Daylight Time

Name: 160719J1_24.wiff, Date: 19-Jul-2016, Time: 19:34:37, ID: 1600910-09, Description: GW-FPC-6A



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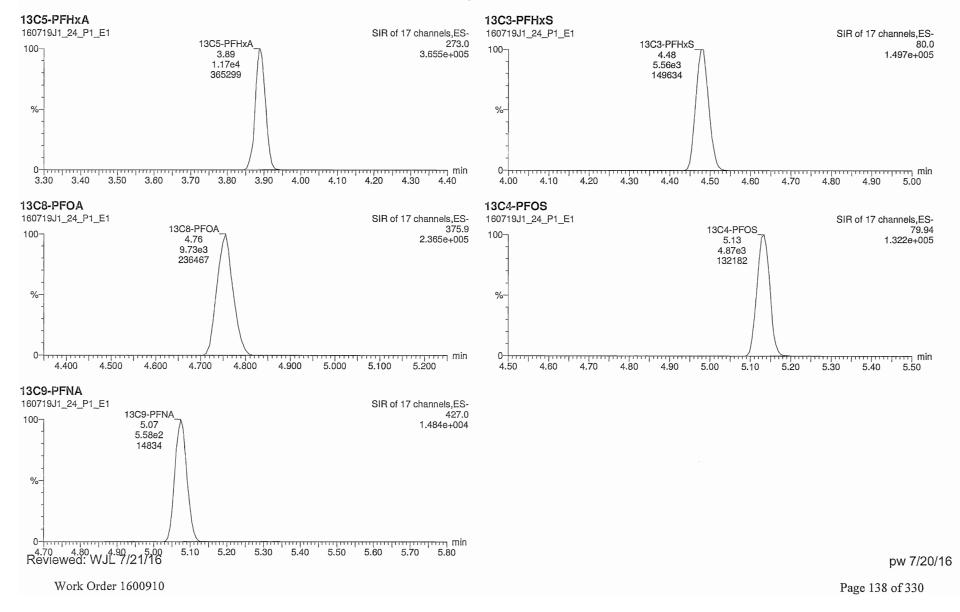
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Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_24.qld

Last Altered: Wednesday, July 20, 2016 13:36:20 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:37:01 Pacific Daylight Time

Name: 160719J1_24.wiff, Date: 19-Jul-2016, Time: 19:34:37, ID: 1600910-09, Description: GW-FPC-6A



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,	n ple Summary Report al Laboratory Q1	MassLynx 4.1 SCN815	
Dataset:	U:\Q2.PRO\Results\1607	19J1\160719J1_25.qld	
Last Altered:	Wednesday, July 20, 201	6 13:40:12 Pacific Daylight Time	

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Wednesday, July 20, 2016 13:40:55 Pacific Daylight Time

Name: 160719J1_25.wiff, Date: 19-Jul-2016, Time: 19:46:47, ID: 1600910-10, Description: GW-FPC-7A

	# Name	Trace	Response	IS Resp	RRF	Wt/Val	RT	Conc.	%Rec
	1 PFBS	79.9	4.17e1	5.58e3		0.124	3.49	3.52	
2	2 PFHpA	318.9	2.92e1	9.48e3		0.124	4.37	1.45	
3	3 PFHxS	79.91	1.34e1	1.30e3		0.124	4.48	1.49	
4	4 PFOA	368.9	1.64e2	8.14e3		0.124	4.75	4.45	
5	5 PFOS	79.92	1.08e1	3.89e3		0.124	5.13	0.360	
6	6 PFNA	419.0		7.59e3		0.124			
7	7 13C3-PFBS	79.95	5.58e3	1.04e4	0.469	0.124	3.49	115	114.6
8	8 13C4-PFHpA	321.9	9.48e3	1.04e4	0.822	0.124	4.36	112	110.9
9	9 18O2-PFHxS	102.9	1.30e3	4.61e3	0.256	0.124	4.48	111	110.3
10	10 13C2-PFOA	369.9	8.14e3	8.62e3	0.915	0.124	4.75	104	103.3
11	11 13C8-PFOS	79.93	3.89e3	4.24e3	0.822	0.124	5.13	112	111.6
12	12 13C5-PFNA	422.9	7.59e3	4.56e2	14.407	0.124	5.07	116	115.5
13	13 13C5-PFHxA	273.0	1.04e4	1.04e4	1.000	0.124	3.89	101	100.0
14	14 13C3-PFHxS	80.0	4.61e3	4.61e3	1.000	0.124	4.48	101	100.0
15	15 13C8-PFOA	375.9	8.62e3	8.62e3	1.000	0.124	4.75	101	100.0
16	16 13C4-PFOS	79.94	4.24e3	4.24e3	1.000	0.124	5.12	101	100.0
17	17 13C9-PFNA	427.0	4.56e2	4.56e2	1.000	0.124	5.06	. 101	100.0
18	18 Total PFBS	79.9		5.58e3		0.124		3.52	
19	19 Total PFHxS	79.91		1.30e3		0.124		1.49	
20	20 Total PFOA	368.9		8.14e3		0.124		5.07	
21	21 Total PFOS	79.92		3.89e3		0.124		1.78	

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_25.qld

Last Altered: Wednesday, July 20, 2016 13:40:12 Pacific Daylight Time Wednesday, July 20, 2016 13:40:55 Pacific Daylight Time Printed:

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_25.wiff, Date: 19-Jul-2016, Time: 19:46:47, ID: 1600910-10, Description: GW-FPC-7A

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 1 PFBS	79.9	3.49	4.17e1	5.58e3	3.52

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
3 PFHxS	79.91	4.48	1.34e1	1.30e3	1.49

Total PFOA

# Name	Trace	BT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.75	1.64e2	8.14e3	4.45
2 20 Total PFOA	368.9	4.66	2.29e1	8.14e3	0.619

Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 21 Total PFOS	79.92	5.03	3.96e1	3.89e3	1.31
2 5 PFOS	79.92	5.13	1.08e1	3.89e3	0.360
3 21 Total PFOS	79.92	4.92	3.18e0	3.89e3	0.105

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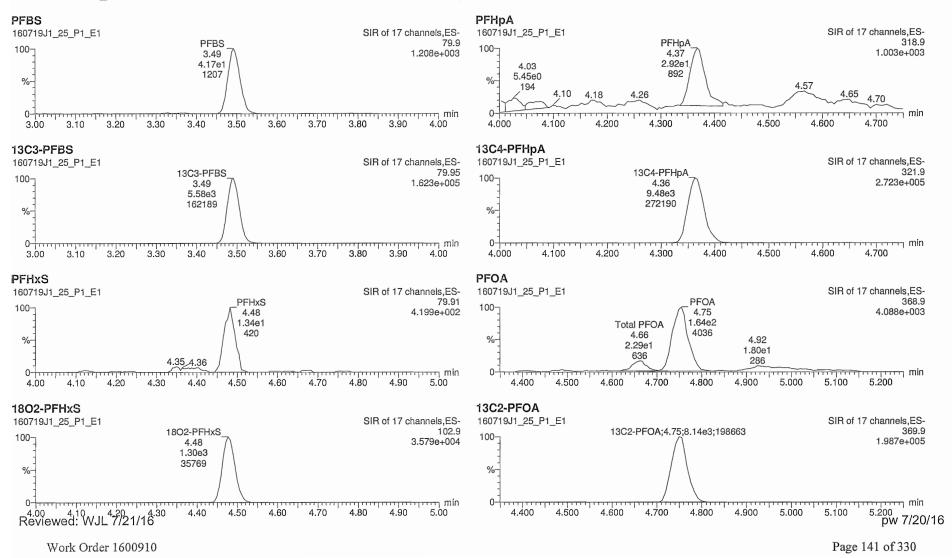
Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_25.qld

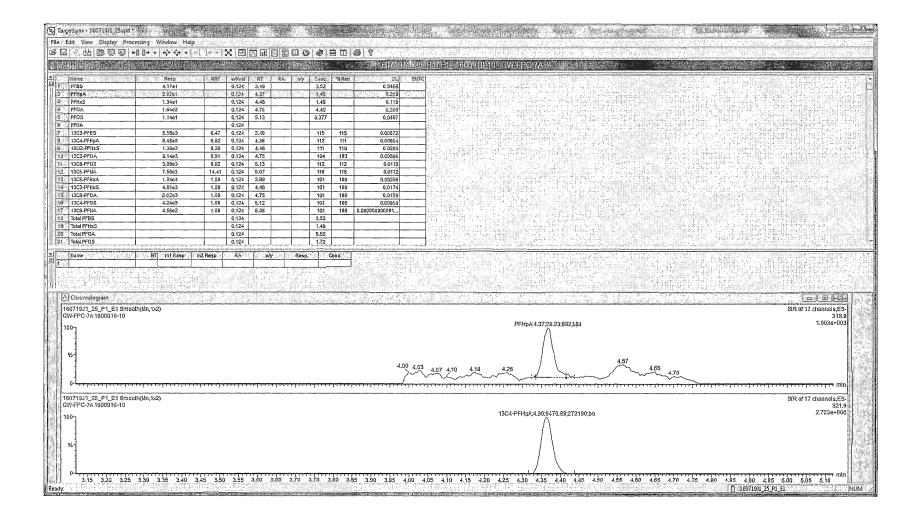
Last Altered: Wednesday, July 20, 2016 13:40:12 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:40:45 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_25.wiff, Date: 19-Jul-2016, Time: 19:46:47, ID: 1600910-10, Description: GW-FPC-7A



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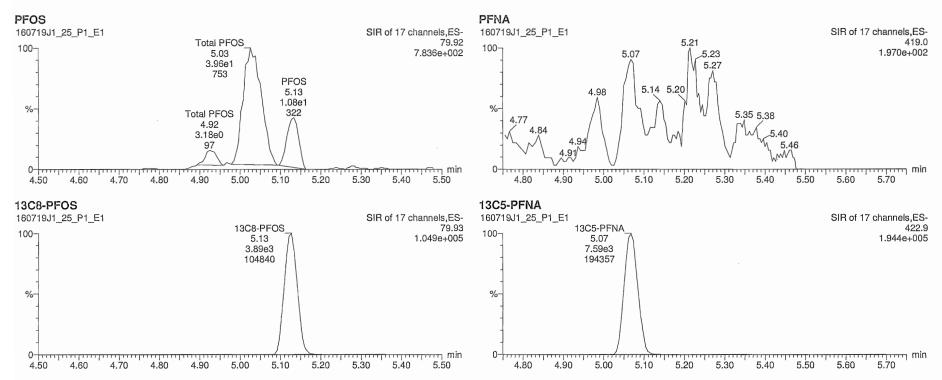


Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_25.qld

Last Altered: Wednesday, July 20, 2016 13:40:12 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:40:45 Pacific Daylight Time

Name: 160719J1_25.wiff, Date: 19-Jul-2016, Time: 19:46:47, ID: 1600910-10, Description: GW-FPC-7A



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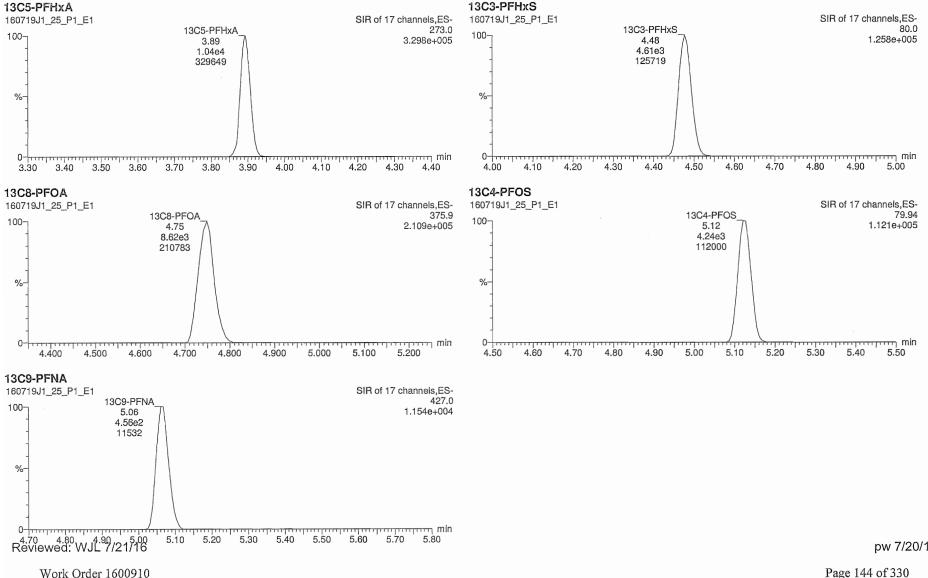
Work Order 1600910

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U:\Q2.PRO\Results\160719J1\160719J1_25.gld Dataset:

Wednesday, July 20, 2016 13:40:12 Pacific Daylight Time Last Altered: Printed: Wednesday, July 20, 2016 13:40:45 Pacific Daylight Time

Name: 160719J1_25.wiff, Date: 19-Jul-2016, Time: 19:46:47, ID: 1600910-10, Description: GW-FPC-7A



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	ple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160719J1\160719J1_26.qld	
Last Altered: Printed:	Wednesday, July 20, 2016 13:43:11 Pacific Daylight Time Wednesday, July 20, 2016 13:44:32 Pacific Daylight Time	

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_26.wiff, Date: 19-Jul-2016, Time: 19:59:02, ID: 1600910-11, Description: GW-FPC-7B

NE SAMERAN	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
	1 PFBS	79.9	3.50e1	5.61e3		0.123	3.50	2.95	
2	2 PFHpA	318.9	6.64e1	9.13e3		0.123	4.36	3.45	
3	3 PFHxS	79.91	1.68e1	1.33e3		0.123	4.48	1.85	
4	4 PFOA	368.9	3.22e2	8.28e3		0.123	4.76	8.65	
5	5 PFOS	79.92	2.58e1	3.69e3		0.123	5.14	0.907	
6 15 56 66	6 PFNA	419.0	6.54e1	7.73e3		0.123	5.08	1.28	
\mathbf{Z}_{2} , z_{2} , z_{2} , z_{3}	7 13C3-PFBS	79.95	5.61e3	9.92e3	0.469	0.123	3.50	122	120.6
8	8 13C4-PFHpA	321.9	9.13e3	9.92e3	0.822	0.123	4.36	113	111.9
9	9 1802-PFHxS	102.9	1.33e3	4.45e3	0.256	0.123	4.48	118	116.4
10	10 13C2-PFOA	369.9	8.28e3	8.00e3	0.915	0.123	4.76	115	113.1
11. (***********************************	11 13C8-PFOS	79.93	3.69e3	3.69e3	0.822	0.123	5.14	123	121.5
12	12 13C5-PFNA	422.9	7.73e3	4.51e2	14.407	0.123	5.08	120	118.9
13	13 13C5-PFHxA	273.0	9.92e3	9.92e3	1.000	0.123	3.90	101	100.0
14	14 13C3-PFHxS	80.0	4.45e3	4.45e3	1.000	0.123	4.48	101	100.0
15	15 13C8-PFOA	375.9	8.00e3	8.00e3	1.000	0.123	4.75	101	100.0
16	16 13C4-PFOS	79.94	3.69e3	3.69e3	1.000	0.123	5.14	101	100.0
17	17 13C9-PFNA	427.0	4.51e2	4.51e2	1.000	0.123	5.07	101	100.0
18	18 Total PFBS	79.9		5.61e3		0.123		2,95	
19	19 Total PFHxS	79.91		1.33e3		0.123		1.85	
20	20 Total PFOA	368.9		8.28e3		0.123		9.50	
21	21 Total PFOS	79.92		3.69e3		0.123		3.27	

pw 7/20/16

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Last Altered: Wednesday, July 20, 2016 13:43:11 Pacific Daylight Time Wednesday, July 20, 2016 13:44:32 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_26.wiff, Date: 19-Jul-2016, Time: 19:59:02, ID: 1600910-11, Description: GW-FPC-7B

Total PFBS

# Name	Trace	RT	Area	IS Area	Conc.
1 PFBS	79.9	3.50	3.50e1	5.61e3	2.95

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	1.68e1	1.33e3	1.85

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	3.22e2	8.28e3	8.65
2 20 Total PFOA	368.9	4.66	3.19e1	8.28e3	0.854

Total PFOS

# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.14	2.58e1	3.69e3	0.907
2 21 Total PFOS	79.92	5.03	6.16e1	3.69e3	2.17
3 21 Total PFOS	79.92	4.93	5.63e0	3.69e3	0.198

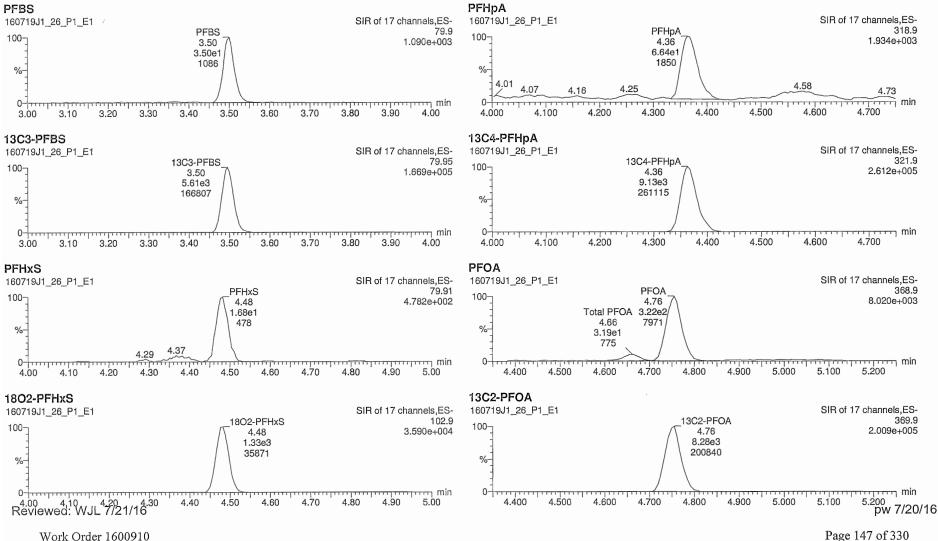
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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_26.qld

Wednesday, July 20, 2016 13:43:11 Pacific Daylight Time Last Altered: Printed: Wednesday, July 20, 2016 13:44:41 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1 26.wiff, Date: 19-Jul-2016, Time: 19:59:02, ID: 1600910-11, Description: GW-FPC-7B



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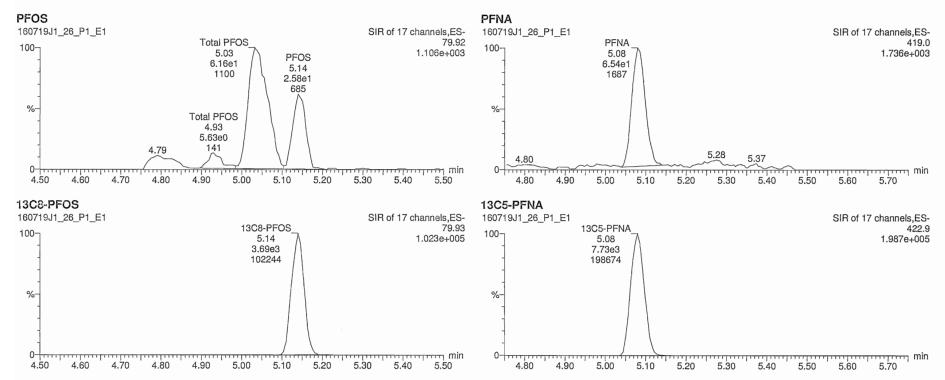
Page 147 of 330

Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_26.qld

Last Altered: Wednesday, July 20, 2016 13:43:11 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:44:41 Pacific Daylight Time

Name: 160719J1_26.wiff, Date: 19-Jul-2016, Time: 19:59:02, ID: 1600910-11, Description: GW-FPC-7B



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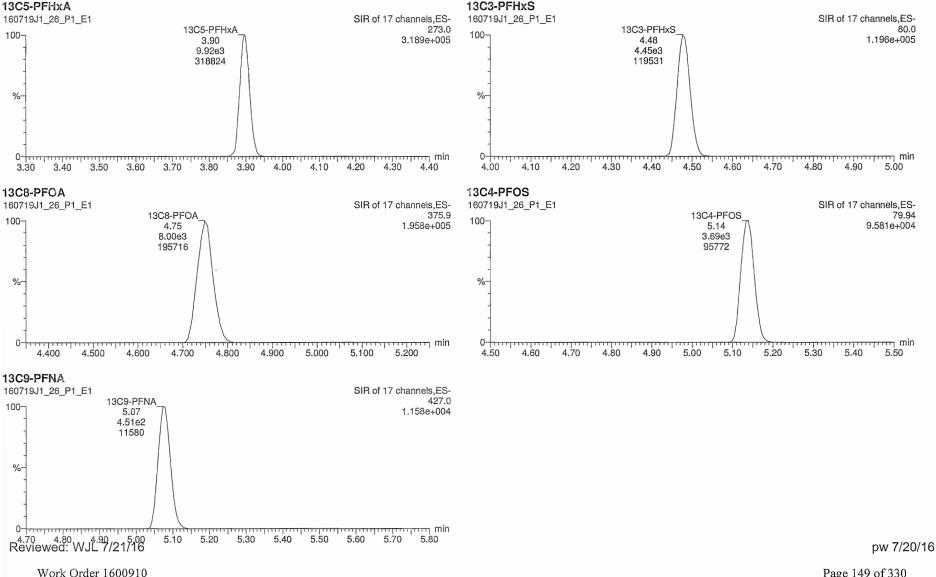
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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_26.qld

Wednesday, July 20, 2016 13:43:11 Pacific Daylight Time Last Altered: Wednesday, July 20, 2016 13:44:41 Pacific Daylight Time Printed:

Name: 160719J1_26.wiff, Date: 19-Jul-2016, Time: 19:59:02, ID: 1600910-11, Description: GW-FPC-7B



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	nple Summary Report MassLynx 4.1 SCN815 al Laboratory Q1	Page 1 of 1
Dataset:	U:\Q2.PRO\Results\160719J1\160719J1_27.qld	.
Last Altered: Printed:	Wednesday, July 20, 2016 13:46:02 Pacific Daylight Time Wednesday, July 20, 2016 13:48:02 Pacific Daylight Time	

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_27.wiff, Date: 19-Jul-2016, Time: 20:11:12, ID: 1600910-12, Description: GW-AE-2A

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1.5894 1.54	1 PFBS	79.9	4.92e1	6.47e3		0.119	3.50	3.72	
2	2 PFHpA	318.9	7.19e3	1.06e4		0.119	4.37	342	
3	3 PFHxS	79.91	2.36e2	1.46e3		0.119	4.48	24.3	
4	4 PFOA	368.9	2.55e4	1.01e4		0.119	4.76	640	
5	5 PFOS	79.92	4.56e3	4.17e3		0.119	5.13	148	
6	6 PFNA	419.0	6.50e3	8.22e3		0.119	5.07	126	
7	7 13C3-PFBS	79.95	6.47e3	1.14e4	0.469	0.119	3.49	127	121.1
8	8 13C4-PFHpA	321.9	1.06e4	1.14e4	0.822	0.119	4.36	118	112.6
9	9 1802-PFHxS	102.9	1.46e3	4.99e3	0.256	0.119	4.48	120	114.7
10	10 13C2-PFOA	369.9	1.01e4	9.97e3	0.915	0.119	4.76	116	110.5
11	11 13C8-PFOS	79.93	4.17e3	4.62e3	0.822	0.119	5.13	115	109.8
12	12 13C5-PFNA	422.9	8.22e3	5.33e2	14.407	0.119	5.07	112	107.0
18	13 13C5-PFHxA	273.0	1.14e4	1.14e4	1.000	0.119	3.90	105	100.0
14	14 13C3-PFHxS	80.0	4.99e3	4.99e3	1.000	0.119	4.48	105	100.0
15	15 13C8-PFOA	375.9	9.97e3	9.97e3	1.000	0.119	4.75	105	100.0
16	16 13C4-PFOS	79.94	4.62e3	4.62e3	1.000	0.119	5.13	105	100.0
17	17 13C9-PFNA	427.0	5.33e2	5.33e2	1.000	0.119	5.07	105	100.0
18	18 Total PFBS	79.9		6.47e3		0.119		3.72	
19	19 Total PFHxS	79.91		1.46e3		0.119		27.1	
20	20 Total PFOA	368.9		1.01e4		0.119		668	
21	21 Total PFOS	79.92		4.17e3		0.119		324	

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_27.qld

Last Altered: Wednesday, July 20, 2016 13:46:02 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:48:02 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_27.wiff, Date: 19-Jul-2016, Time: 20:11:12, ID: 1600910-12, Description: GW-AE-2A

Total PFBS

# Name	Tace	BT BT	Area	IS Area	Conc.
1 PFBS	79.9	3.50	4.92e1	6.47e3	3.72

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	2.36e2	1.46e3	24.3
2 19 Total PFHxS	79.91	4.39	2.67e1	1.46e3	2.76

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	2.55e4	1.01e4	640
2 20 Total PFOA	368.9	4.66	1.23e3	1.01e4	28.1

Total PFOS

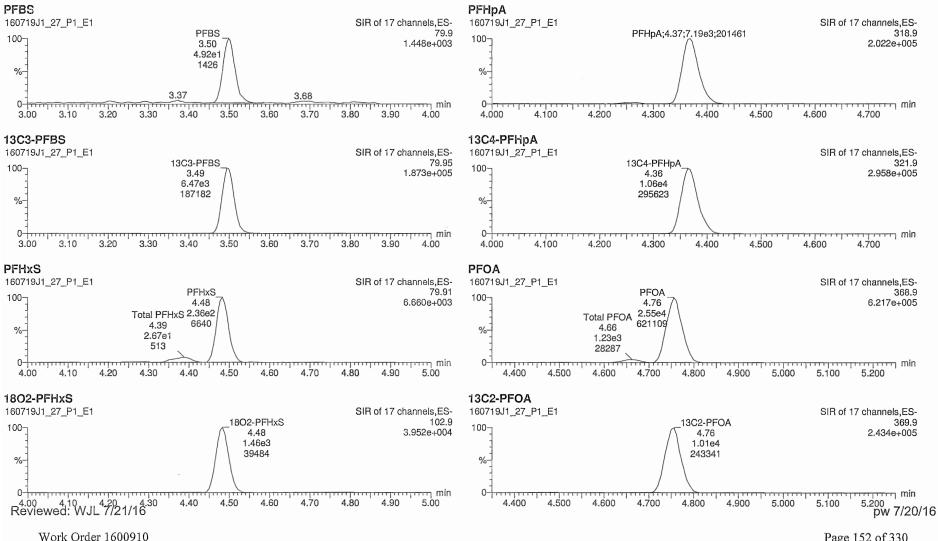
# Name	Trace	RT	Area	IS Area	Conc.
1 5 PFOS	79.92	5.13	4.56e3	4.17e3	148
2 21 Total PFOS	79.92	5.03	4.93e3	4.17e3	160
3 21 Total PFOS	79.92	4.93	4.75e2	4.17e3	15.3

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_27.qld

Last Altered: Wednesday, July 20, 2016 13:46:02 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:47:41 Pacific Daylight Time

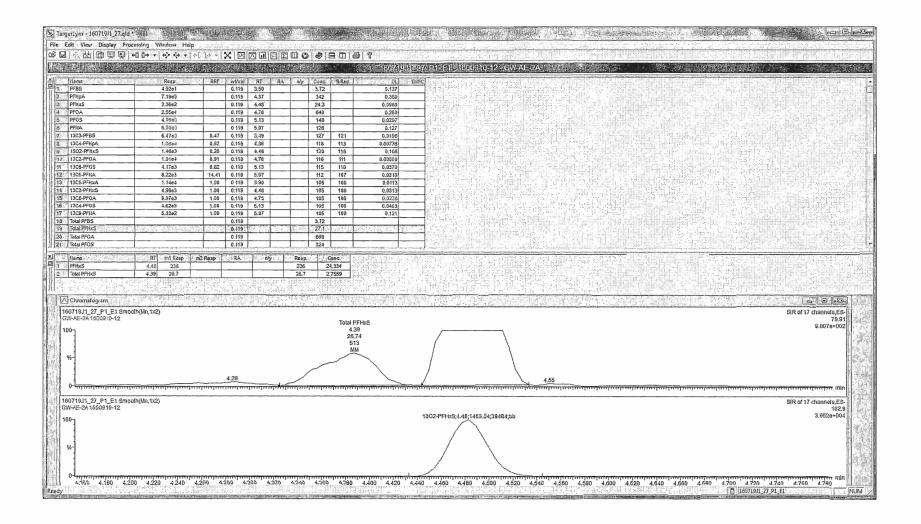
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18 VAL-PFC Q2 07-18-16 L6.cdb 19 Jul 2016 08:45:41

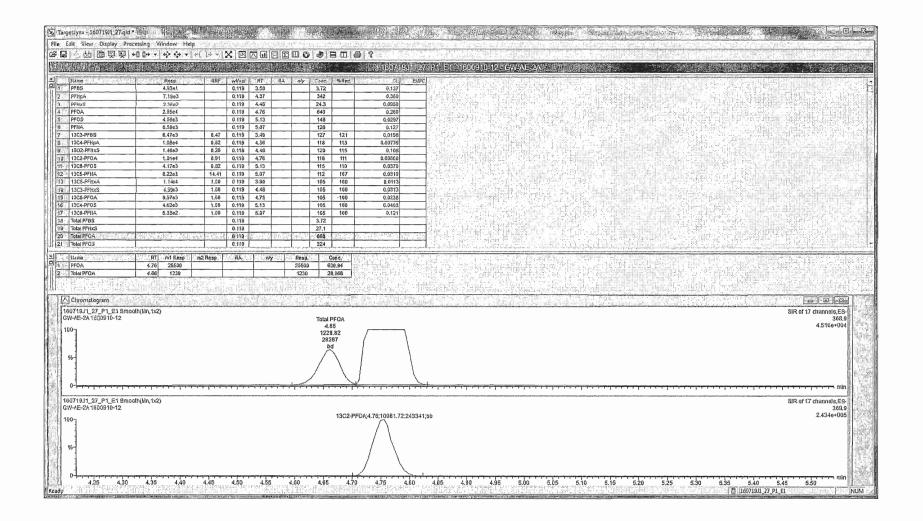
Name: 160719J1 27.wiff, Date: 19-Jul-2016, Time: 20:11:12, ID: 1600910-12, Description: GW-AE-2A



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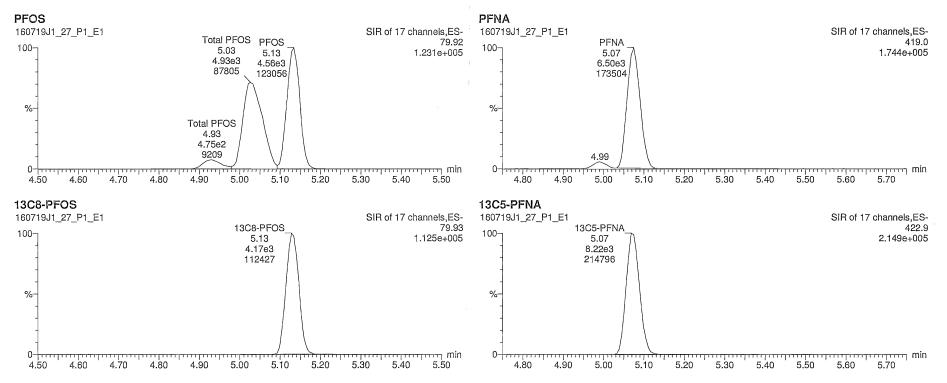
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Quantify San Vista Analytic	nple Report MassLynx 4.1 SCN815 al Laboratory Q2		Page 2 of 3	156
Dataset:	U:\Q2.PRO\Results\160719J1\160719J1_27.qld			
Last Altered: Printed:	Wednesday, July 20, 2016 13:46:02 Pacific Daylight Time Wednesday, July 20, 2016 13:47:41 Pacific Daylight Time	1		

Name: 160719J1_27.wiff, Date: 19-Jul-2016, Time: 20:11:12, ID: 1600910-12, Description: GW-AE-2A



	国际地方自然的中国		情報				9.92	160719.11 27.1	16E/0 1606910 12 CW AE 2A
lane.	Reap	RRF	w/b/vpl	87.	RA n/y	Conc.	ARec	pul evec	
PFBS	4.92e1		0.119	3.50		3.72		0.137	
PFHpA	7.19e3		0.119	4.37		342		0.380	같은 것 같은 것 같은 것 같은 것 같은 것이 있는 것 같은 것 같
PFHxS	2.35e2		0.119			24.3		0.0980	
PFQA	2.55e4		0,119	4.76		640		0.260	
PFOS	4.56e3		0.119	5.13		143		0.0297	
PFNA	6.50e3		6.119	5,07		126		9.127	
13C3-PF6S	6.\$7e3	0.47	0.119	3.49		127	121	0:0198	그 승규는 것 같아요. 그는 것 같아요. 이렇게 있는 것 같아요. 것은 것 같아요. 그는 것
13C4-PFHpA	1.06e4	0.32	0.119	4.36		113	113	0.00776	14 소설 전 14 16 16 16 17 17 17 17 17 17 17 17 17 17 17 17 17
1502-PFHxS	1.46e3	0.26	0.119	4.48		120	115	9,106	() 같은 것 같은
13C2-PFOA	1.010\$	0.91	0.119			118	111	0.00800	
13C8-PF05	4.17e3	0.82	6.119	5.13		115	110	0,0370	
13C5-PFNA	8.22e3	14.41	0.119			112	107	0.0310	그는 물건을 하는 것이 같은 것이 있는 것을 수 없는 것을 것을 것을 것을 것을 수 있는 것을 수 있었다. 것을 것을 수 있는 것을 수 있는 것을 수 있는 것을 수 있는 것을 하는 것을 수 있는 것을 것 같이 않는 것을 것 같이 같이 않는 것을 수 있는 것을 수 있다. 것을 것 같이 것 같이 것 같이 같이 같이 같이 같이 않는 것 같이 것 같이 없다. 것 같이 것 같이 같이 것 같이 없다. 것 같이 것 같이 같이 않는 것 않는 것 않는 것 않는 것 같이 않는 것 않는 것 않은 않는 것 않은 않는 것 않은 않는 것 않은 않는 것 않 않는 것 않는 않는 것 않는 않는 않는 것 않는
13C5-RFHxA	1.1464	1,50	C 119			105	100	0.0113	# 10 ···· # \$4 / 人口以及用的心理地理解如此会议的复数形式的影响和影响的变形的变形。
13C3-PFHxS	4.99e3	1.00	0:119	4.48		105	100	0.0313	林林学校,这些时间是此时,我们就是这些"这个",这个时间是我们的问题,我是是我的意思,我们就是我们是不能能够不好。"
13C8-PFOA	9,97e3	1.80	0.119	4.75		105	100	0.0238	
13C4-PFOS	4.62e3	1.00	0.119	5.13		105	100	0.0403	그 전철학교 전성 수업 장소 전 그 전철 것이 소가 전 분위로 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전 전
13CB-PFRA	5.33eZ-	1.00	0.119	5.07		105	100	B.121	
Total PFBS			0,119			3.72			,这些你们就是你们的你的。""你们,你们们就是你们的,我们们们们的你们的?""你们,你们们们是你们的你们,我们们的你们,我们不能是你们,你们们的你们,你们不是你
Total PFHxS			0.119			27.1			1996년 - 1995년 2017년 - 1996년 1997년 2017년 2017년 2017년 1월 1997 - 1997년 1월 1997년 1월 1997년 1월 1997년 1월 1997년 1월 1997
lotal PFOA			0.119		12 4/11/2	£63			
Total PFOS Chronial agram	4.93 475			á hrá Juna China sao	47 1110-144		5.317	Lo, and minimum of the second	
0719J1_27_P1_E1.8m 6-4E-2A 1600910-12		10101-100-100-100-100-100-100-100-100-1		ter fer for for for for for					SiR of 17 channels,E5 79.22 3.016e+003
0719J1_27_P1_E1 8m +AE-2A 1800910-12 0 	oelh(Mn, 1x2)							13C8-PF05;5.13;4159.15;112	SIR of 17 channels,ES 75.9; 27,bb 1,125e-002

Reviewed: WJL 7/21/16

pw 7/20/16

Work Order 1600910

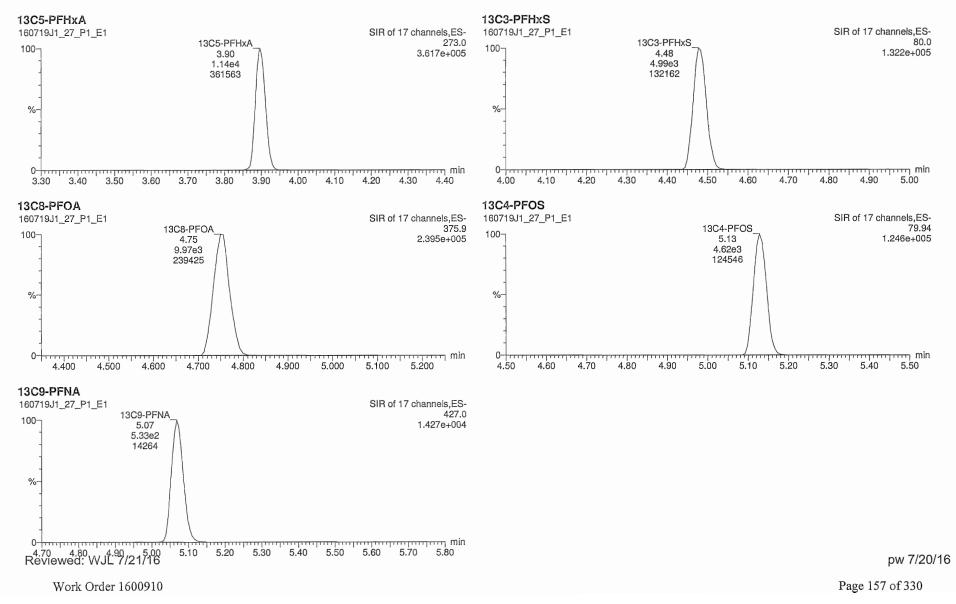
Page 156 of 330

Quantify Sample Report MassLynx 4.1 SCN815 Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_27.qld

Last Altered: Wednesday, July 20, 2016 13:46:02 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:47:41 Pacific Daylight Time

Name: 160719J1_27.wiff, Date: 19-Jul-2016, Time: 20:11:12, ID: 1600910-12, Description: GW-AE-2A



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•	n ple Summary Report al Laboratory Q1	MassLynx 4.1 SCN815	Page 1 of 1)
Dataset:	U:\Q2.PRO\Results\160719	9J1\160719J1_28.qld	-	
Last Altered: Printed:		13:52:14 Pacific Daylight Time 13:52:34 Pacific Daylight Time		

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_28.wiff, Date: 19-Jul-2016, Time: 20:23:24, ID: 1600910-13, Description: GW-AE-2B

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Roc
The first of the second s	1 PFBS	79.9	2.11e2	6.04e3		0.125	3.50	16.3	
2	2 PFHpA	318.9	7.05e3	9.64e3		0.125	4.37	350	
3	3 PFHxS	79.91	7.26e2	1.44e3		0.125	4.48	72.7	
4	4 PFOA	368.9	2.56e4	9.31e3		0.125	4.76	670	
5	5 PFOS	79.92	7.36e3	4.21e3		0.125	5.13	227	
6	6 PFNA	419.0	4.14e3	8.59e3		0.125	5.07	72.5	
7	7 13C3-PFBS	79.95	6.04e3	1.06e4	0.469	0.125	3.50	121	121.6
8	8 13C4-PFHpA	321.9	9.64e3	1.06e4	0.822	0.125	4.36	110	110.6
9	9 1802-PFHxS	102.9	1.44e3	4.80e3	0.256	0.125	4.48	117	117.3
10	10 13C2-PFOA	369.9	9.31e3	9.37e3	0.915	0.125	4.75	108	108.6
11	11 13C8-PFOS	79.93	4.21e3	4.57e3	0.822	0.125	5.13	112	111.9
12	12 13C5-PFNA	422.9	8.59e3	4.96e2	14.407	0.125	5.07	120	120.2
13	13 13C5-PFHxA	273.0	1.06e4	1.06e4	1.000	0.125	3.90	99.8	100.0
14	14 13C3-PFHxS	80.0	4.80e3	4.80e3	1.000	0.125	4.48	99.8	100.0
15	15 13C8-PFOA	375.9	9.37e3	9.37e3	1.000	0.125	4.75	99.8	100.0
16	16 13C4-PFOS	79.94	4.57e3	4.57e3	1.000	0.125	5.13	99.8	100.0
17. ar . Tarres	17 13C9-PFNA	427.0	4.96e2	4.96e2	1.000	0.125	5.07	99.8	100.0
18	18 Total PFBS	79.9		6.04e3		0.125		16.3	
19	19 Total PFHxS	79.91		1.44e3		0.125		85.9	
20	20 Total PFOA	368.9		9.31e3		0.125		739	
21	21 Total PFOS	79.92		4.21e3		0.125		463	

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Dataset: U:\Q2.PRO\Results\160719J1\160719J1_28.qld

Last Altered: Wednesday, July 20, 2016 13:52:14 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:52:34 Pacific Daylight Time

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Name: 160719J1_28.wiff, Date: 19-Jul-2016, Time: 20:23:24, ID: 1600910-13, Description: GW-AE-2B

Total PFBS

#Name	Trace	RT	Area	IS Area	Conc.
1 1 PFBS	79.9	3.50	2.11e2	6.04e3	16.3

Total PFHxS

# Name	Trace	RT	Area	IS Area	Conc.
1 3 PFHxS	79.91	4.48	7.26e2	1.44e3	72.7
2 19 Total PFHxS	79.91	4.38	1.32e2	1.44e3	13.2

Total PFOA

# Name	Trace	RT	Area	IS Area	Conc.
1 4 PFOA	368.9	4.76	2.56e4	9.31e3	670
2 20 Total PFOA	368.9	4.66	2.93e3	9.31e3	69.3

Total PFOS

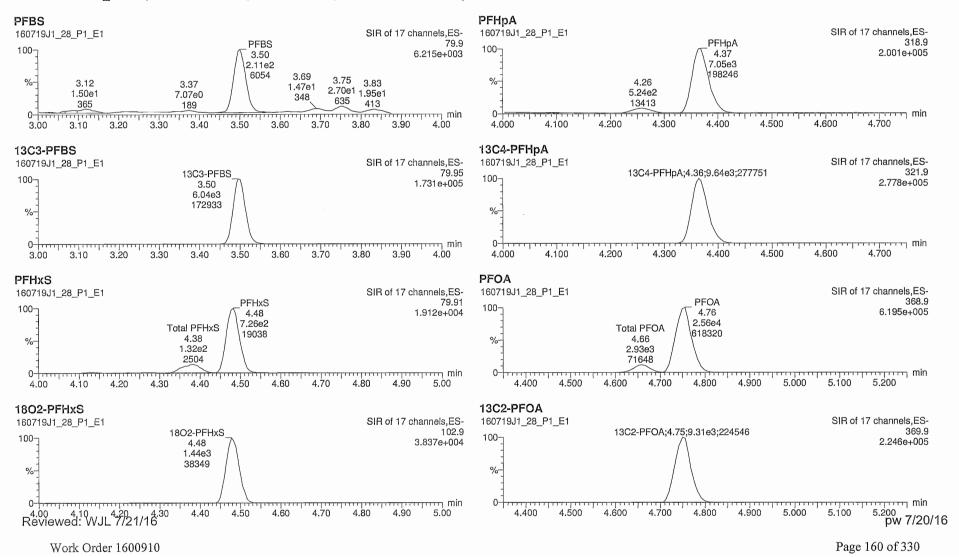
A A A A A A A A A A A A A A A A A A A	Trace	RT	Area	IS Area	Conc.
1 21 Total PFOS	79.92	4.93	7.58e2	4.21e3	23.0
2 5 PFOS	79.92	5.13	7.36e3	4.21e3	227
3 21 Total PFOS	79.92	5.03	6.90e3	4.21e3	213

Dataset: U:\Q2.PRO\Results\160719J1\160719J1_28.qld

Last Altered: Wednesday, July 20, 2016 13:52:14 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:52:43 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 08 Jul 2016 09:57:05 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_07-18-16_L6.cdb 19 Jul 2016 08:45:41

Name: 160719J1_28.wiff, Date: 19-Jul-2016, Time: 20:23:24, ID: 1600910-13, Description: GW-AE-2B

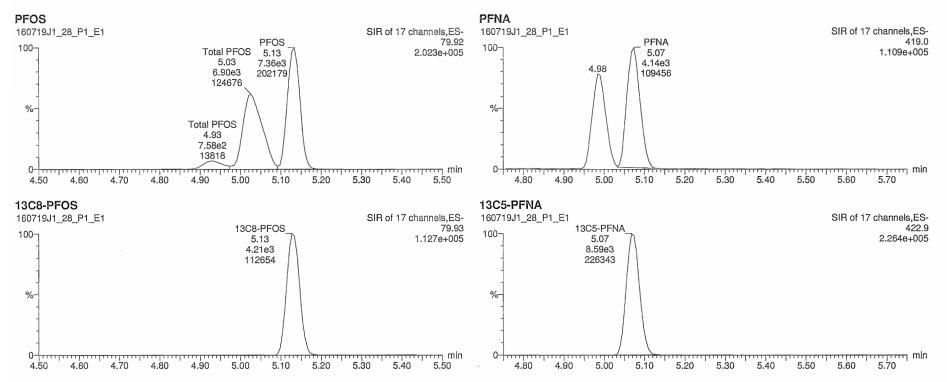


Page 1 of 3

U:\Q2.PRO\Results\160719J1\160719J1_28.qld Dataset:

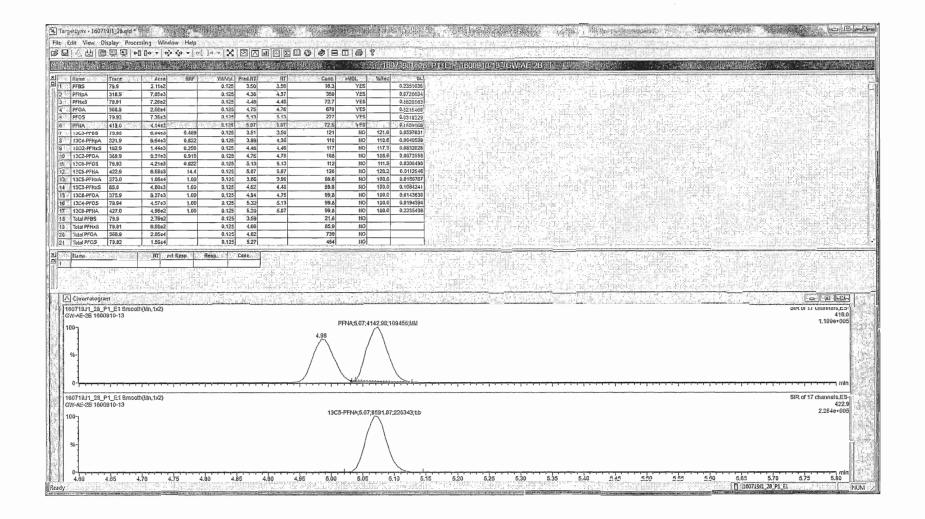
Last Altered: Wednesday, July 20, 2016 13:52:14 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:52:43 Pacific Daylight Time

Name: 160719J1_28.wiff, Date: 19-Jul-2016, Time: 20:23:24, ID: 1600910-13, Description: GW-AE-2B





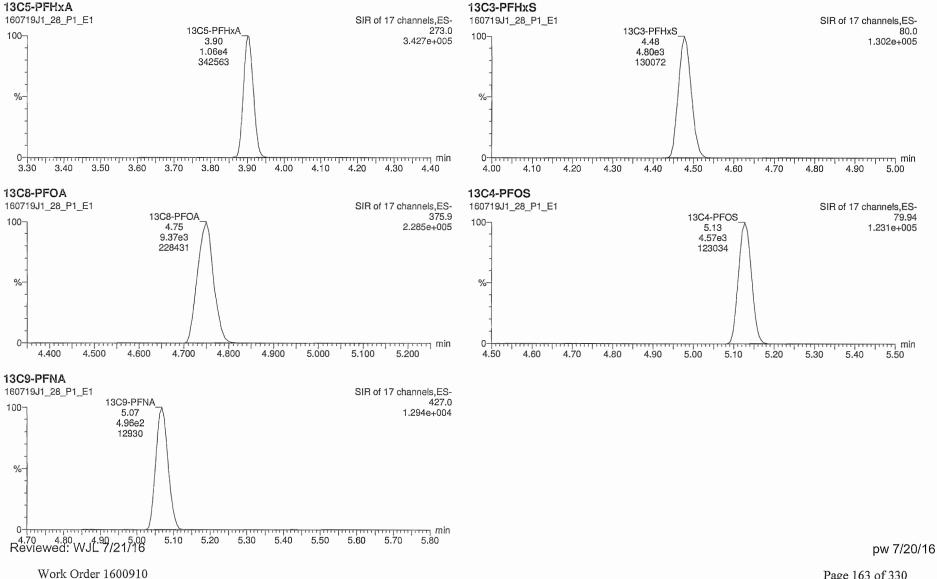
62 Page 2 of 3



Dataset: U:\Q2.PRO\Results\160719J1\160719J1_28.qld

Last Altered: Wednesday, July 20, 2016 13:52:14 Pacific Daylight Time Printed: Wednesday, July 20, 2016 13:52:43 Pacific Daylight Time

Name: 160719J1_28.wiff, Date: 19-Jul-2016, Time: 20:23:24, ID: 1600910-13, Description: GW-AE-2B



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ATTACHMENT B

PFC DATA VALIDATION



Data Assessment

Subject Property: Coakley Landfill Superfund Site North Hampton and Greenland, New Hampshire

July 2016

Prepared for:

CES, Inc. 640 Main Street Lewiston, Maine 04240

Prepared by:



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Executive Summary

TerraNova Environmental, LLC (TerraNova) was retained by CES, Inc (CES) to conduct a review of laboratory analytical data generated in connection with the Coakley Landfill Superfund Site located in North Hampton and Greenland, New Hampshire (Subject Property).

The following conclusions are drawn as a result of this data evaluation:

- No systemic concerns were identified during this Tier 1 Plus data review of Eastern Analytical data package #156457.
- None of the data reported in this data package are qualified as "R" for rejected.
- Report completeness is 100%.
- Data were not qualified based on measures of precision, accuracy, representativeness, comparability, or sensitivity.
- Based on the information presented in this report, the data reported in this package are acceptable for use as reported.

I. Introduction

TerraNova Environmental, LLC (TerraNova) was retained by CES, Inc. (CES) to conduct a review of laboratory analytical data generated in connection with the Coakley Landfill Superfund Site located in North Hampton and Greenland, New Hampshire (Subject Property). This report assesses analytical results for water samples collected by CES and submitted to Eastern Analytical of Concord, New Hampshire (Eastern) between May 24 and 25, 2016. Analytical results were reported as sample data package #156457 by Eastern on June 23, 2016. Eastern subcontracted the perfluorinated compound analysis (PFC) to Vista Analytical Laboratory of El Dorado Hills, California.

A. Analytical Methods

Table 1 presents a summary of the samples submitted to Eastern for analysis.

Date Collected	Matrix	Client Sample ID	Laboratory ID	Analysis Type	Method #
5/24/2016	W	GW-BP-4	156457.01	PFCs	EPA Method 537 (Modified)
5/24/2016	W	GW-MW-8	156457.02	PFCs	EPA Method 537 (Modified)
5/24/2016	W	GW-EB-Waterlevel	156457.03	PFCs	EPA Method 537 (Modified)
5/24/2016	W	FB-DI Water	156457.04	PFCs	EPA Method 537 (Modified)
5/24/2016	W	GW-MW-4	156457.05	PFCs	EPA Method 537 (Modified)
5/24/2016	W	GW-MW-4 Dup	156457.06	PFCs	EPA Method 537 (Modified)
5/24/2016	W	GW-EB-Bailer	156457.07	PFCs	EPA Method 537 (Modified)
5/24/2016	W	GW-MW-9	156457.08	PFCs	EPA Method 537 (Modified)
5/24/2016	W	GW-MW-5S	156457.09	PFCs	EPA Method 537 (Modified)
5/25/2016	W	GW-MW-5D	156457.1	PFCs	EPA Method 537 (Modified)
5/25/2016	W	GW-MW-11	156457.11	PFCs	EPA Method 537 (Modified)

Table 1. Summary of Analytical Testing

B. <u>Validation Protocols</u>

Data validation is a process that involves the evaluation of analytical data against prescribed quality control criteria to determine the usefulness of the data. TerraNova has conducted a USEPA Region I Tier I Plus data assessment for the data collected as specified in the Groundwater Sampling – Perfluorinated Compound (PFC) Field Sampling Protocol "SOP" (CES, 2016) in accordance with the following USEPA National Functional Guidelines (NFG) guidelines



(http://www.epa.gov/region1/oeme/index.html) and Superfund specific procedures (http://www.epa.gov/superfund/programs/clp/guidance.htm):

- USEPA Region I Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013); and
- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2014b).

C. Data Qualifiers

Based on data validation results, qualifiers may be added to reported concentrations to indicate uncertainty or potential bias or interferences. Specific data qualifiers which may be applied to inorganic and organic sample concentrations include the following:

QC Flag	Explanation				
U	The analyte was not detected above the laboratory Reporting Detection Limit (RDL).				
J	The reported analyte concentration is an estimated value. The analyte was positively identified and the associated numerical value is the approximate concentration. J values are due either to the quality of the data generated because certain quality control criteria were not met or the concentration of the analyte was below the reporting limit (RL).				
J+	The associated numerical value is estimated; associated QC data indicate a positive bias.				
J-	The associated numerical value is estimated; associated QC data indicate a negative bias.				
UJ	The analyte was not detected above the RDL. However, due to quality control results that did not meet acceptance criteria, the quantitation limit is uncertain and may not accurately represent the actual limit.				
R	The reported analyte concentration is rejected due to serious deficiencies with associated quality control results. The presence or absence of the analyte cannot be confirmed.				
EB, TB	An analyte that was identified in an aqueous equipment blank (EB) or trip blank (TB) that was used to assess field contamination associated with samples.				



II. Data Usability and PARCCS Parameters

A. <u>Precision</u>

Precision is measured through field duplicate samples, split samples, and laboratory duplicate samples. Laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs); site-specific matrix spikes (MSs) and matrix spike duplicates (MSDs); and field duplicate (FD) results were reviewed to assess precision. The following details data validation results for each of the analytical methods.

i. Method 537 (Modified)

Precision in the sample matrix was evaluated from the field duplicate pair GW-MW-4/GW-MW-4 Dup as specified in the SAP. Relative percent differences (RPDs) are summarized in Table 2 and are within acceptable ranges (below 30% specified in the SOP) for all parameters. A project-specific MS/MSD was analyzed for sample GW-MW-8 by Method 537 (Modified). In addition, an Ongoing Precision and Recovery (OPR) sample was prepared and analyzed with the analytical batch. Recoveries and RPDs were within acceptable range for the samples.

Parameter	Detected Concentration in Sample	Detected Concentration in Duplicate	Relative Percent Difference
PFBS	5.06	4.96	1%
PFHpA	440	441	0%
PFHxS	40.4	32.8	10%
PFOA	756	728	2%
PFOS	30.8	31.0	0%
PFNA	19.3	19.4	0%

Table 2. Summary of Relative Percent Differences

For this sampling program, none of the data were qualified based on field duplicate criteria deviations. No systemic concerns with respect to precision were detected through review of the FD or MS/MSD results.

B. <u>Accuracy</u>

Matrix spike sample, surrogate recovery, internal standard recovery, laboratory control samples, and calibration criteria indicate the accuracy of the data. In accordance with Table 4-4 of the SAP, a project specific MS/MSD was collected and analyzed as part of this event. The laboratory also prepared and analyzed an Ongoing Precision and Recovery (OPR) sample with the analytical batch.



i. Method 537 (Modified)

A project specific MS/MSD analysis by Method 537 (Modified) was conducted on sample GW-MW-8. Recoveries and RPDs were within acceptable range for the MS/MSD and OPR samples with the exception of the RPD for PFOS which is slightly above typical acceptable RPDs for organics (+/-20%), although there are no established limits for PFCs. Qualifications are considered unnecessary for this compound due to the slight exceedance of typical RPD limits (20.4%).

For this sampling program, none of the analytical data were qualified for deviations from matrix spike recovery criteria, surrogate recovery criteria deviations, internal standard recovery criteria deviations, laboratory control sample deviations, or calibration criteria deviations. Therefore, no sample results are qualified due to the results of QC accuracy samples and no potential systemic concerns were identified for the accuracy of this data set.

C. <u>Representativeness</u>

Holding times, sample preservation, and blank analysis are indicators of the representativeness of the analytical data. Sample representativeness/usability is assessed by evaluating sample results to determine if the results are representative of the site based on the conceptual site model. Representativeness is strengthened if USEPA and state-approved quantitative analytical methods are used to generate definitive data as specified in the SAP.

Water samples were analyzed for PFCs by EPA Method 537 (Modified). None of the analytical data required qualification for holding time deviations, sample preservation deviations, or blank analysis deviations. Therefore, the data may be used to support future project descriptions.

D. Comparability

Comparability is not compromised provided that the analytical methods do not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations.

Water samples collected this event were analyzed for PFCs by EPA Method 537 (Modified). Since typical analytical methods and reporting procedures were employed by the laboratory, the comparability criteria for the analytical data were met. However, PFCs are analyzed by a modified EPA Method 537 and future events will allow for continued assessment of comparability.



E. Completeness

The completeness criterion is a measure of whether sufficient information to meet the project objectives has been collected. The desired level of completeness is dependent on project-specific data quality objectives. Completeness is a measure of the amount of valid data obtained from a measurement system relative to the amount that would be expected to be obtained under correct, normal conditions. Data qualified as "R" is rejected and is considered to be not valid; data with other qualifiers are considered valid.

For this data package, all analyses requested on the chain of custody were performed and reported by the laboratory. No data were rejected, therefore, all data is considered valid. Therefore, the overall percent usability or completeness of the data is 100 percent.

F. <u>Sensitivity</u>

Sensitivity of analytical measurements relates to the amount that can be reliably detected or quantified and is defined by the RL. All reported results must be within the calibration range and the empirically demonstrated precision and bias must meet client requirements. Reporting limits, sample dilutions, blank contamination, holding time exceedances, and improper sample preservation all impact sensitivity. Dilutions due to elevated concentrations of other target analytes affect sensitivity and may cause previously detected analytes to be reported as non-detected at an elevated concentration. When dilutions are performed, the laboratory may report only the results from the final dilution so that each sample had only one reported value per analyte. Where dilutions were required due to the limitation of the calibration range, only the results that exceeded the calibration range may have been reported from the dilution, and the remaining analytes reported from the undiluted analysis. Blank contamination affects sensitivity by raising the effective concentration at which the presence or absence of an analyte can be determined.

For this project, results for equipment blanks (2) and deionized (DI) water field blanks (1), and laboratory method blanks (1) were assessed to evaluate method sensitivity. According the laboratory report, no samples included in this data package required dilution.

The following blanks were collected or prepared for this project:



Туре	Sample ID		
Equipment blanks	ent blanks GW-EB-Waterlevel		
	GW-EB-Bailer		
Field blanks	FB-DI Water		
Method blanks	Method Blank		

All results for the equipment blanks were reported as non-detected (ND).

The DI water for the field blank was provided by the laboratory. The results for this field blank are applicable to all samples in the data package. The field blank was analyzed for PFCs by EPA Method 537 (Modified). Compounds were not detected in the field blank, therefore, sample results do not require qualification based on field blank sample results.

No trip blanks were prepared or analyzed for PFCs by Method 537 (Modified) for this event.

Contamination was not reported in the laboratory method blank and the recoveries were within acceptable range for the Ongoing Precision and Recovery (OPR) sample. Therefore, qualifications based on laboratory control samples are not required.

The cooler temperature was recorded for this data package as 0.5 degrees Celsius upon delivery to Eastern and 1.7 degrees Celsius upon delivery to the subcontract laboratory, Vista. Temperatures for samples recorded by the laboratory were less than 4 degrees Celsius. Therefore, no sample results were qualified based on temperature.

According to the COC, the samples for EPA Method 537 (Modified) analyses were collected in unpreserved 125-ml vials. The laboratory did not record pH of the PFC samples on arrival. However, the pH was measured and adjusted to below 2 prior to analysis.

All samples for each of the methods were analyzed within applicable holding times referenced for the analytical method, therefore, no qualification actions were taken relating to holding times.

No sample results were qualified due to preservation or temperature exceedances during shipment.



III. Conclusions

The following conclusions are drawn as a result of this data evaluation:

- No systemic concerns were identified during this Tier 1 Plus data review of Eastern Analytical data package #156457.
- None of the data reported in this data package are qualified as "R" for rejected.
- Completeness is 100%.
- Data were not qualified based on measures of precision, accuracy, representativeness, comparability, or sensitivity.
- Based on the information presented in this report, the data reported in this package are acceptable for use as reported.

IV. Signatures of Environmental Professionals

This data evaluation was conducted by the undersigned of TerraNova Environmental, LLC.

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Kathryn Helm, R.G. Senior Consultant

Mindi F. Messmer, P.G., C.G. Senior Consultant



V. References

- CES, Inc., 2016. Groundwater Sampling –Perfluorinated Compound (PFC) Field Sampling Protocol, Coakley Landfill Superfund Site, North Hampton and Greenland, New Hampshire. 2016.
- USEPA, 2013. Environmental Data Review Supplement for Regional Date Review Elements and Superfund Specific Guidance/Procedures. U.S. Environmental Protection Agency New England (Region 1) Quality Assurance Unit, Office of Environmental Measurement and Evaluation, EQADR-Supplement 0, Final Version #0. April 2013.
- USEPA, 2014a. National Functional Guidelines for Inorganic Superfund Data Review. Office of Superfund Remediation and Technology Innovation, OSWER 9200.2-133, EPA-540-R-013-001. August 2014.
- USEPA, 2014b. National Functional Guidelines for Organic Superfund Data Review. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation, OSWER 9200.2-134, EPA-540-R-014-002. August 2014.





Data Assessment

Subject Property: Coakley Landfill Superfund Site North Hampton and Greenland, New Hampshire

August 2016

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Executive Summary

TerraNova Environmental, LLC (TerraNova) was retained by CES, Inc. (CES) to conduct a review of laboratory analytical data generated in connection with the Coakley Landfill Superfund Site located in North Hampton and Greenland, New Hampshire (Subject Property).

The following conclusions are drawn as a result of this data evaluation:

- No systemic concerns were identified during this Tier 1 Plus data review of Eastern Analytical data package #158298.
- None of the data reported in this data package are qualified as "R" for rejected.
- Report completeness is 100%.
- Data were not qualified based on measures of precision, accuracy, representativeness, comparability, or sensitivity.
- Based on the information presented in this report, the data reported in this package are acceptable for use as reported.

I. Introduction

TerraNova Environmental, LLC (TerraNova) was retained by CES, Inc. (CES) to conduct a review of laboratory analytical data generated in connection with the Coakley Landfill Superfund Site located in North Hampton and Greenland, New Hampshire (Subject Property). This report assesses analytical results for water samples collected by CES and submitted to Eastern Analytical of Concord, New Hampshire (Eastern) between July 12 and 14, 2016. Analytical results were reported as sample data package #158298 dated August 8, 2016. TerraNova received the analytical report on August 10, 2016. Eastern subcontracted the perfluorinated compound analysis (PFC) to Vista Analytical Laboratory of El Dorado Hills, California.

A. <u>Analytical Methods</u>

Table 1 presents a summary of the samples submitted to Eastern for analysis.





Date Collected	Matrix			Analysis Type	Method #		
7/12/2016	W	GW-GZ-105	158298.01	PFCs	EPA Method 537 (Modified)		
7/12/2016	W	GW-GZ-105-DUP	158298.02	PFCs	EPA Method 537 (Modified)		
7/12/2016	W	GW-FPC-8B	158298.03	PFCs	EPA Method 537 (Modified)		
7/12/2016	W	GW-FPC-8A	158298.04	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	GW-FPC-4B	158298.05	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	GW-AE-4A	158298.06	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	GW-AE-4B	158298.07	PFCs	EPA Method 537 (Modified)		
7/13/2016	16 W GW-FPC-6B 158298.08 PFC		PFCs	EPA Method 537 (Modified)			
7/13/2016	016 W GW-FPC-6A		158298.09	PFCs	EPA Method 537 (Modified)		
7/14/2016	W	GW-FPC-7A	158298.1	PFCs	EPA Method 537 (Modified)		
7/14/2016	W	GW-FPC-7B	158298.11	PFCs	EPA Method 537 (Modified)		
7/14/2016	W	GW-AE-2A	158298.12	PFCs	EPA Method 537 (Modified)		
7/14/2016	W	GW-AE-2B	158298.13	PFCs	EPA Method 537 (Modified)		
7/12/2016	16 W GW-AE-3A 158298.14 PFCs EPA M		EPA Method 537 (Modified)				
7/12/2016	W	W GW-AE-3A-DUP 158298.15 PFCs EPA Method 533		EPA Method 537 (Modified)			
7/12/2016	W	GW-AE-3B	158298.16	PFCs	EPA Method 537 (Modified)		
7/12/2016	2/2016 W GW-FPC-9A 158298.17 PFCs EPA		EPA Method 537 (Modified)				
7/12/2016	W	GW-AE-1B	158298.18	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	GW-EB-WATERLEVEL	158298.19	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	FB-DI WATER	158298.2	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	GW-AE-1A	158298.21	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	GW-FPC-11B	158298.22	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	GW-FPC-11A	158298.23	PFCs	EPA Method 537 (Modified)		
7/13/2016	W	GW-FPC-5B	158298.24	PFCs	EPA Method 537 (Modified)		

Table 1. Summary of Analytical Testing



B. <u>Validation Protocols</u>

Data validation is a process that involves the evaluation of analytical data against prescribed quality control criteria to determine the usefulness of the data. TerraNova has conducted a USEPA Region I Tier I Plus data assessment for the data collected as specified in the Groundwater Sampling – Perfluorinated Compound (PFC) Field Sampling Protocol "SOP" (CES, 2016) in accordance with the following USEPA National Functional Guidelines (NFG) guidelines (http://www.epa.gov/region1/oeme/index.html) and Superfund specific procedures (http://www.epa.gov/superfund/programs/clp/guidance.htm):

- USEPA Region I Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013); and
- USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2014b)[NFG-O].

C. Data Qualifiers

Based on data validation results, qualifiers may be added to reported concentrations to indicate uncertainty or potential bias or interferences. Specific data qualifiers which may be applied to inorganic and organic sample concentrations include the following:

QC Flag	Explanation
U	The analyte was not detected above the laboratory Reporting Detection Limit (RDL).
J	The reported analyte concentration is an estimated value. The analyte was positively identified and the associated numerical value is the approximate concentration. J values are due either to the quality of the data generated because certain quality control criteria were not met or the concentration of the analyte was below the reporting limit (RL).
J+	The associated numerical value is estimated; associated QC data indicate a positive bias.
J.	The associated numerical value is estimated; associated QC data indicate a negative bias.
UJ	The analyte was not detected above the RDL. However, due to quality control results that did not meet acceptance criteria, the quantitation limit is uncertain and may not accurately represent the actual limit.
R	The reported analyte concentration is rejected due to serious deficiencies with associated quality control results. The presence or absence of the analyte cannot be confirmed.
EB, TB	An analyte that was identified in an aqueous equipment blank (EB) or trip blank (TB) that was used to assess field contamination associated with samples.



II. Data Usability and PARCCS Parameters

A. <u>Precision</u>

Precision is measured through field duplicate samples, split samples, and laboratory duplicate samples. Laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs); site-specific matrix spikes (MSs) and matrix spike duplicates (MSDs); and field duplicate (FD) results were reviewed to assess precision. The following details data validation results for each of the analytical methods.

i. Method 537 (Modified)

Precision in the sample matrix was evaluated from the field duplicate pair GW-GZ-105/GW-GZ-105-DUP and GW-AE-3A/GW-AE-3A-DUP as specified in the SAP. Relative percent differences (RPDs) are summarized in Table 2 and are within acceptable ranges (below 20% specified in the SOP) for all parameters with the exception of PFOA (22%) for the GW-GZ-105/ GW-GZ-105-DUP pair as shown below.

Parameter (ng/L)	GW-AE-3A	GW-AE-3A DUP	RPD%	GW-GZ-105	GW-GZ- 105-DUP	RPD%
Perfluorobutanesulfonic acid (PFBS)	5.65	5.76	2	11	10.3	7
Perfluoroheptanoic acid (PFHpA)	83.4	86.3	3	94.1	82.8	13
Perfluorohexanesulfonic acid (PFHxS)	18.6	19.3	4	42.4	42.5	0
Perfluorooctanesulfonic acid (PFOS)	72.1	73.5	2	130	117	11
Perfluorooctanoic acid (PFOA)	196	223	13	198	159	22
Perfuorononanoic acid (PFNA)	28.5	30.2	6	17.9	15.1	17

Table 2. Summary of Relative Percent Differences

A project-specific MS/MSD was analyzed for sample GW-AE-3A by Method 537 (Modified). In addition, two Ongoing Precision and Recovery (OPR) samples were analyzed with the analytical batches. Recoveries and RPDs were within acceptable range for the MS/MSDs and OPR samples.

For this sampling program, none of the data were qualified based on field duplicate criteria deviations. No systemic concerns with respect to precision were detected through review of the FD or MS/MSD results.



B. <u>Accuracy</u>

Matrix spike sample, surrogate recovery, internal standard recovery, laboratory control samples, and calibration criteria indicate the accuracy of the data. In accordance with Table 4-4 of the SAP, a project specific MS/MSD was collected and analyzed as part of this event. The laboratory also analyzed two OPR samples with the analytical batches.

i. Method 537 (Modified)

A project specific MS/MSD analysis by Method 537 (Modified) was conducted on sample GW-AE-3A. Recoveries and RPDs were within acceptable range for the MS/MSD and OPR samples, therefore, qualifications are considered unnecessary for this data set.

For this sampling program, none of the analytical data were qualified for deviations from matrix spike recovery criteria, surrogate recovery criteria deviations, internal standard recovery criteria deviations, laboratory control sample deviations, or calibration criteria deviations. Therefore, no sample results are qualified due to the results of QC accuracy samples and no potential systemic concerns were identified for the accuracy of this data set.

C. <u>Representativeness</u>

Holding times, sample preservation, and blank analysis are indicators of the representativeness of the analytical data. Sample representativeness/usability is assessed by evaluating sample results to determine if the results are representative of the site based on the conceptual site model. Representativeness is strengthened if USEPA and state-approved quantitative analytical methods are used to generate definitive data as specified in the SAP.

Water samples were analyzed for PFCs by EPA Method 537 (Modified). None of the analytical data required qualification for holding time deviations, sample preservation deviations, or blank analysis deviations. Therefore, the data may be used to support future project descriptions.

D. <u>Comparability</u>

Comparability is not compromised provided that the analytical methods do not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations.

Water samples collected this event were analyzed for PFCs by EPA Method 537 (Modified). Since typical analytical methods and reporting procedures were employed by the laboratory, the comparability criteria for the analytical data were met. However, PFCs are analyzed by a modified EPA Method 537 and future events will allow for continued assessment of comparability.



E. Completeness

The completeness criterion is a measure of whether sufficient information to meet the project objectives has been collected. The desired level of completeness is dependent on project-specific data quality objectives. Completeness is a measure of the amount of valid data obtained from a measurement system relative to the amount that would be expected to be obtained under correct, normal conditions. Data qualified as "R" is rejected and is considered to be not valid; data with other qualifiers are considered valid.

For this data package, all analyses requested on the chain of custody were performed and reported by the laboratory. No data were rejected, therefore, all data is considered valid. Therefore, the overall percent usability or completeness of the data is 100 percent.

F. <u>Sensitivity</u>

Sensitivity of analytical measurements relates to the amount that can be reliably detected or quantified and is defined by the RL. All reported results must be within the calibration range and the empirically demonstrated precision and bias must meet client requirements. Reporting limits, sample dilutions, blank contamination, holding time exceedances, and improper sample preservation all impact sensitivity. Dilutions due to elevated concentrations of other target analytes affect sensitivity and may cause previously detected analytes to be reported as non-detected at an elevated concentration. When dilutions are performed, the laboratory may report only the results from the final dilution so that each sample had only one reported value per analyte. Where dilutions were required due to the limitation of the calibration range, only the results that exceeded the calibration range may have been reported from the dilution, and the remaining analytes reported from the undiluted analysis. Blank contamination affects sensitivity by raising the effective concentration at which the presence or absence of an analyte can be determined.

For this project, results for one equipment blank, one deionized (DI) water field blank, and two laboratory method blanks were assessed to evaluate method sensitivity. According the laboratory report, no samples included in this data package required dilution.

Туре	Sample ID
Equipment blanks	GW-EB-Waterlevel
Field blanks	FB-DI Water
Method blanks	Method Blanks (2)

The following blanks were collected or prepared for this project:



All results for the equipment blanks were reported as non-detected (ND).

The DI water for the field blank was provided by the laboratory. The results for this field blank are applicable to all samples in the data package. The field blank was analyzed for PFCs by EPA Method 537 (Modified). Compounds were not detected in the field blank; therefore, sample results do not require qualification based on field blank sample results.

No trip blanks were prepared or analyzed for PFCs by Method 537 (Modified) for this event.

Contamination was not reported in the laboratory method blank and the recoveries were within acceptable range for the OPR samples. Therefore, qualifications based on laboratory control samples are not required.

The cooler temperatures recorded for this data package as 4.1 degrees Celsius upon delivery to Eastern and between 3.1 and 3.4 degrees Celsius upon delivery to the subcontract laboratory, Vista. Temperatures for samples recorded by the laboratory were approximately 4 degrees Celsius. Therefore, no sample results were qualified based on temperature.

According to the COC, the samples for EPA Method 537 (Modified) analyses were collected in unpreserved 125-ml HDPE bottles. The laboratory did not record pH of the PFC samples on arrival. However, the pH was measured and adjusted to below 2 prior to analysis.

All samples for each of the methods were analyzed within applicable holding times referenced for the analytical method, therefore, no qualification actions were taken relating to holding times.

No sample results were qualified due to preservation or temperature exceedances during shipment.

III. Conclusions

The following conclusions are drawn as a result of this data evaluation:

- No systemic concerns were identified during this Tier 1 Plus data review of Eastern Analytical data package #158298.
- None of the data reported in this data package are qualified as "R" for rejected.
- Completeness is 100%.
- Data were not qualified based on measures of precision, accuracy, representativeness, comparability, or sensitivity.
- Based on the information presented in this report, the data reported in this package are acceptable for use as reported.

IV. Signatures of Environmental Professionals

This data evaluation was conducted by the undersigned of TerraNova Environmental, LLC.

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Kathryn Helm, R.G. Senior Consultant

Mindi F. Messmer, P.G., C.G. Senior Consultant



V. References

- CES, Inc., 2016. Groundwater Sampling –Perfluorinated Compound (PFC) Field Sampling Protocol, Coakley Landfill Superfund Site, North Hampton and Greenland, New Hampshire. 2016.
- USEPA, 2013. Environmental Data Review Supplement for Regional Date Review Elements and Superfund Specific Guidance/Procedures. U.S. Environmental Protection Agency New England (Region 1) Quality Assurance Unit, Office of Environmental Measurement and Evaluation, EQADR-Supplement 0, Final Version #0. April 2013.
- USEPA, 2014b. National Functional Guidelines for Organic Superfund Data Review. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation, OSWER 9200.2-134, EPA-540-R-014-002. August 2014.

