

ANALYTICAL REPORT

Lab Numb	er: L170724	41
Client:	Conserv 27 North Concord	vation Law Foundation, Inc n Main Street d, NH 03301-4930
ATTN: Phone:	Jeff Bar (603) 77	num 70-3201
Project Na	ime: PEASE	
Project Nu	mber: Not Spe	cified
Report Dat	te: 03/23/17	7

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name:PEASEProject Number:Not Specified

 Lab Number:
 L1707241

 Report Date:
 03/23/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1707241-01	OUTFALL #1	WATER	PEASE TRADEPORT	03/08/17 08:45	03/08/17
L1707241-02	OUTFALL #2	WATER	PEASE TRADEPORT	03/08/17 09:20	03/08/17
L1707241-03	OUTFALL #2A	WATER	PEASE TRADEPORT	03/08/17 09:50	03/08/17
L1707241-04	OUTFALL #3	WATER	PEASE TRADEPORT	03/08/17 10:20	03/08/17
L1707241-05	OUTFALL #4	WATER	PEASE TRADEPORT	03/08/17 11:00	03/08/17
L1707241-06	PFC FIELD BLANK @ OUTFALL#1	WATER	PEASE TRADEPORT	03/08/17 08:45	03/08/17

Project Name:PEASEProject Number:Not Specified

Lab Number: L1707241 Report Date: 03/23/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name: PEASE Project Number: Not Specified
 Lab Number:
 L1707241

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Case Narrative (continued)

Report Submission

The analysis of PFOA/PFOS was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

Chloride

The WG984654-4 MS recovery (50%), performed on L1707241-01, does not apply because the sample concentration is greater than four times the spike amount added.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Curlen Walker Cristin Walker

Title: Technical Director/Representative

Date: 03/23/17



ORGANICS



PETROLEUM HYDROCARBONS



			Serial_No	0:03231714:03
Project Name:	PEASE		Lab Number:	L1707241
Project Number:	Not Specified		Report Date:	03/23/17
		SAMPLE RESULTS		
Lab ID:	L1707241-01		Date Collected:	03/08/17 08:45
Client ID:	OUTFALL #1		Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT		Field Prep:	Not Specified
Matrix:	Water		Extraction Metho	d:EPA 3510C
Analytical Method:	1,8015C(M)		Extraction Date:	03/13/17 07:11
Analytical Date:	03/14/17 06:44			
Analyst:	DG			

Parameter		Result Qu	alifier Units	RL	MDL	Dilution Factor	
Petroleum I	Hydrocarbon Quantitation	on - Westborough Lab					
ТРН		ND	ug/l	200		1	
	Surrogate	% Recovery	Qualifier	Acceptance Criteria			
	o-Terphenyl	101		40-140			



			Serial_No	0:03231714:03
Project Name:	PEASE		Lab Number:	L1707241
Project Number:	Not Specified		Report Date:	03/23/17
		SAMPLE RESULTS		
Lab ID:	L1707241-02		Date Collected:	03/08/17 09:20
Client ID:	OUTFALL #2		Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT		Field Prep:	Not Specified
Matrix:	Water		Extraction Method	d:EPA 3510C
Analytical Method:	1,8015C(M)		Extraction Date:	03/13/17 07:11
Analytical Date:	03/14/17 07:16			
Analyst:	DG			

Parameter		Result	Qualifier Units	RL	MDL	Dilution Factor	
Petroleum H	lydrocarbon Quantitation -	Westborough Lab					
ТРН		ND	ug/l	213		1	
	Surrogate	% Recovery	Qualifier	Acceptance Criteria			
	o-Terphenyl	99		40-140			



			Serial_No	0:03231714:03
Project Name:	PEASE		Lab Number:	L1707241
Project Number:	Not Specified		Report Date:	03/23/17
		SAMPLE RESULTS		
Lab ID:	L1707241-03		Date Collected:	03/08/17 09:50
Client ID:	OUTFALL #2A		Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT		Field Prep:	Not Specified
Matrix:	Water		Extraction Method	1:EPA 3510C
Analytical Method:	1,8015C(M)		Extraction Date:	03/13/17 07:11
Analytical Date:	03/15/17 13:16			
Analyst:	DG			

Parameter		Result Qu	alifier Units	RL	MDL	Dilution Factor	
Petroleum H	Hydrocarbon Quantitation	on - Westborough Lab					
ТРН		ND	ug/l	200		1	
	Surrogate	% Recovery	Qualifier	Acceptance Criteria			
	o-Terphenyl	104		40-140			



			Serial_No	0:03231714:03
Project Name:	PEASE		Lab Number:	L1707241
Project Number:	Not Specified		Report Date:	03/23/17
		SAMPLE RESULTS		
Lab ID:	L1707241-04		Date Collected:	03/08/17 10:20
Client ID:	OUTFALL #3		Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT		Field Prep:	Not Specified
Matrix:	Water		Extraction Method	1:EPA 3510C
Analytical Method:	1,8015C(M)		Extraction Date:	03/13/17 07:11
Analytical Date:	03/14/17 02:57			
Analyst:	DG			

Parameter		Result Qu	ualifier Units	RL	MDL	Dilution Factor	
Petroleum H	Hydrocarbon Quantitation	on - Westborough Lab					
ТРН		ND	ug/l	200		1	
	Surrogate	% Recovery	Qualifier	Acceptance Criteria			
	o-Terphenyl	104		40-140			



			Serial_No	0:03231714:03
Project Name:	PEASE		Lab Number:	L1707241
Project Number:	Not Specified		Report Date:	03/23/17
		SAMPLE RESULTS		
Lab ID:	L1707241-05		Date Collected:	03/08/17 11:00
Client ID:	OUTFALL #4		Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT		Field Prep:	Not Specified
Matrix:	Water		Extraction Method	d:EPA 3510C
Analytical Method:	1,8015C(M)		Extraction Date:	03/13/17 07:11
Analytical Date:	03/14/17 03:29			
Analyst:	DG			

Parameter		Result	Qualifier Units	s RL	MDL	Dilution Factor	
Petroleum H	Hydrocarbon Quantitatio	n - Westborough Lab					
ТРН		ND	ug/l	200		1	
	Surrogate	% Recovery	Qualifier	Acceptance Criteria			
	o-Terphenyl	111		40-140			



Project Name: Project Number:	PEASE Not Specified		Lab Number: Report Date:	L1707241 03/23/17
-	·	Method Blank Analysis Batch Quality Control		
Analytical Method: Analytical Date: Analyst:	1,8015C(M) 03/14/17 05:06 DG		Extraction Method: Extraction Date:	EPA 3510C 03/13/17 07:11

Parameter	Result	Qualifier	Units	RL	MDL	
Petroleum Hydrocarbon Quantitation	- Westbord	ough Lab fo	r sample(s):	01-05	Batch: WG984996-1	
ТРН	ND		ug/l	200		

		Α	cceptance
Surrogate	%Recovery	Qualifier	Criteria
o-Terphenyl	94		40-140



Lab Control Sample Analysis Batch Quality Control

ality Control	Lab Number:	L1707241
	Report Date:	03/23/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-05 Batch: WG984996-2									
ТРН	132		-		40-140	-		40	

Surrogate	LCS %Recovery Qu		LCSD %Recovery	Qual	Acceptance Criteria		
o-Terphenyl	107				40-140		



Project Name:

PEASE

Project Number: Not Specified

INORGANICS & MISCELLANEOUS



Lab Number: L1707241 Report Date: 03/23/17

Project Name:PEASEProject Number:Not Specified

Lab ID:	L1707241-01	Date Collected:	03/08/17 08:45
Client ID:	OUTFALL #1	Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT	Field Prep:	Not Specified
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lat)								
Chloride	380		mg/l	10		10	-	03/10/17 19:07	1,9251	MR
Nitrogen, Nitrate/Nitrite	0.60		mg/l	0.10		1	-	03/09/17 23:21	121,4500NO3-F	MR
Total Nitrogen	1.6		mg/l	0.30		1	-	03/13/17 09:40	107,-	JO
Nitrogen, Total Kieldahl	0.987		ma/l	0.300		1	03/09/17 10:54	03/09/17 22:55	121.4500NH3-H	AT



Lab Number: L1707241 Report Date: 03/23/17

Project Name:PEASEProject Number:Not Specified

Lab ID:	L1707241-02	Date Collected:	03/08/17 09:20
Client ID:	OUTFALL #2	Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT	Field Prep:	Not Specified
Matrix:	Water		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	stborough La	b								
Chloride	22.		mg/l	1.0		1	-	03/10/17 19:12	1,9251	MR
Nitrogen, Nitrate/Nitrite	0.20		mg/l	0.10		1	-	03/09/17 23:23	121,4500NO3-F	MR
Total Nitrogen	ND		mg/l	0.30		1	-	03/13/17 09:40	107,-	JO
Nitrogen, Total Kjeldahl	ND		mg/l	0.300		1	03/09/17 10:54	03/09/17 22:58	121,4500NH3-H	AT



Lab Number: L1707241 Report Date: 03/23/17

Project Name:PEASEProject Number:Not Specified

Lab ID:	L1707241-03	Date Collected:	03/08/17 09:50
Client ID:	OUTFALL #2A	Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT	Field Prep:	Not Specified
Matrix:	Water		

Parameter	Result Qual	ifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lab								
Chloride	38.	mg/l	1.0		1	-	03/10/17 18:03	1,9251	MR
Nitrogen, Nitrate/Nitrite	ND	mg/l	0.10		1	-	03/09/17 23:24	121,4500NO3-F	MR
Total Nitrogen	0.30	mg/l	0.30		1	-	03/13/17 09:40	107,-	JO
Nitrogen, Total Kieldahl	0.304	ma/l	0.300		1	03/09/17 10:54	03/09/17 22:59	121.4500NH3-H	AT



Lab Number: L1707241 Report Date: 03/23/17

Project Name:PEASEProject Number:Not Specified

Lab ID:	L1707241-04	Date Collected:	03/08/17 10:20
Client ID:	OUTFALL #3	Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT	Field Prep:	Not Specified
Matrix:	Water		

Parameter	Result Qua	alifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	stborough Lab								
Chloride	32.	mg/l	1.0		1	-	03/10/17 18:04	1,9251	MR
Nitrogen, Nitrate/Nitrite	0.22	mg/l	0.10		1	-	03/09/17 23:25	121,4500NO3-F	MR
Total Nitrogen	0.61	mg/l	0.30		1	-	03/13/17 09:40	107,-	JO
Nitrogen, Total Kjeldahl	0.389	mg/l	0.300		1	03/09/17 10:54	03/09/17 22:59	121,4500NH3-H	AT



Lab Number: L1707241 Report Date: 03/23/17

Project Name:PEASEProject Number:Not Specified

Lab ID:	L1707241-05	Date Collected:	03/08/17 11:00
Client ID:	OUTFALL #4	Date Received:	03/08/17
Sample Location:	PEASE TRADEPORT	Field Prep:	Not Specified
Matrix:	Water		

Parameter	Result Quali	ier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lab								
Chloride	250	mg/l	10		10	-	03/10/17 19:15	1,9251	MR
Nitrogen, Nitrate/Nitrite	0.32	mg/l	0.10		1	-	03/09/17 23:27	121,4500NO3-F	MR
Total Nitrogen	0.66	mg/l	0.30		1	-	03/13/17 09:40	107,-	JO
Nitrogen, Total Kieldahl	0.339	ma/l	0.300		1	03/09/17 10:54	03/09/17 23:00	121.4500NH3-H	AT



Project Name:PEASEProject Number:Not Specified

 Lab Number:
 L1707241

 Report Date:
 03/23/17

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough Lab for sam	ple(s): 01	-05 Bat	tch: W	G984192-1				
Nitrogen, Total Kjeldahl	ND	mg/l	0.300		1	03/09/17 10:54	03/09/17 22:52	121,4500NH3-H	H AT
General Chemistry - Wes	tborough Lab for sam	ple(s): 01	-05 Bat	tch: W	G984307-1				
Nitrogen, Nitrate/Nitrite	ND	mg/l	0.10		1	-	03/09/17 20:49	121,4500NO3-F	- MR
General Chemistry - Wes	tborough Lab for sam	ple(s): 01	-05 Bat	tch: W	G984654-1				
Chloride	ND	mg/l	1.0		1	-	03/10/17 17:58	1,9251	MR



Lab Control Sample Analysis Batch Quality Control

Lab Number: L1707241 Report Date: 03/23/17

	LCS		LCSD		%Recovery			
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab A	ssociated sample(s):	01-05	Batch: WG98419	92-2				
Nitrogen, Total Kjeldahl	99		-		78-122	-		
General Chemistry - Westborough Lab A	ssociated sample(s):	01-05	Batch: WG98430)7-2				
Nitrogen, Nitrate/Nitrite	100		-		90-110	-		20
General Chemistry - Westborough Lab A	ssociated sample(s):	01-05	Batch: WG98468	54-2				
Chloride	97		-		90-110	-		



Project Name:

Project Number:

PEASE

Not Specified

Matrix Spike Analysis Batch Quality Control

Batch Quali

Project Name:PEASEProject Number:Not Specified

 Lab Number:
 L1707241

 Report Date:
 03/23/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	N Qual F	MSD ound	MSD %Recovery Qu	Recovery al Limits	RPD	Qual	RPD Limits
General Chemistry - Westborou	gh Lab Asso	ciated samp	ole(s): 01-05	QC Batch II	D: WG984′	192-4	QC Sample: L1707	7241-01 Clie	nt ID: (OUTFAL	.L #1
Nitrogen, Total Kjeldahl	0.987	8	8.53	94		-	-	77-111	-		24
General Chemistry - Westborou	gh Lab Asso	ciated samp	ole(s): 01-05	QC Batch II	D: WG9843	307-4	QC Sample: L1707	7241-05 Clie	nt ID: (OUTFAL	.L #4
Nitrogen, Nitrate/Nitrite	0.32	4	4.2	97		-	-	80-120	-		20
General Chemistry - Westborou	gh Lab Asso	ciated samp	ole(s): 01-05	QC Batch II	D: WG9846	654-4	QC Sample: L1707	7241-01 Clie	nt ID: (OUTFAL	.L #1
Chloride	380	20	390	50	Q	-	-	58-140	-		7



Lab Duplicate Analysis Batch Quality Control

Project Name:PEASEProject Number:Not Specified

 Lab Number:
 L1707241

 Report Date:
 03/23/17

Parameter	Native Sam	ple D	Ouplicate Samp	le Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sampl	le(s): 01-05	QC Batch ID:	WG984192-3	QC Sample:	L1707241-01	Client ID:	OUTFALL #1
Nitrogen, Total Kjeldahl	0.987		0.880	mg/l	11		24
General Chemistry - Westborough Lab Associated sampl	le(s): 01-05	QC Batch ID:	WG984307-3	QC Sample:	L1707241-05	Client ID:	OUTFALL #4
Nitrogen, Nitrate/Nitrite	0.32		0.31	mg/l	3		20
General Chemistry - Westborough Lab Associated sampl	le(s): 01-05	QC Batch ID:	WG984654-3	QC Sample:	L1707241-01	Client ID:	OUTFALL #1
Chloride	380		380	mg/l	0		7



Lab Number: L1707241 Report Date: 03/23/17

Project Name: PEASE Project Number: Not Specified

Sample Receipt and Container Information

YES

Were project specific reporting limits specified?

Cooler Information	Custody Seal
Cooler	
A	Absent
В	Absent

Container Info	Container Information Temp												
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)						
L1707241-01A	Plastic 250ml H2SO4 preserved	А	<2	2.6	Y	Absent	TKN-4500(28),NO3/NO2- 4500(28),TNITROGEN(28)						
L1707241-01B	Plastic 60ml unpreserved	А	7	2.6	Y	Absent	CL-9251(28)						
L1707241-01C	Amber 1000ml unpreserved	А	7	2.6	Y	Absent	TPH-DRO-D(7)						
L1707241-01D	Amber 1000ml unpreserved	А	7	2.6	Y	Absent	TPH-DRO-D(7)						
L1707241-01E	Plastic 250ml unpreserved	А	7	2.6	Y	Absent	SUB-537()						
L1707241-01F	Plastic 250ml unpreserved	А	7	2.6	Y	Absent	SUB-537()						
L1707241-02A	Plastic 250ml H2SO4 preserved	А	<2	2.6	Y	Absent	TKN-4500(28),NO3/NO2- 4500(28),TNITROGEN(28)						
L1707241-02B	Plastic 60ml unpreserved	А	7	2.6	Y	Absent	CL-9251(28)						
L1707241-02C	Amber 1000ml unpreserved	А	7	2.6	Y	Absent	TPH-DRO-D(7)						
L1707241-02D	Amber 1000ml unpreserved	А	7	2.6	Y	Absent	TPH-DRO-D(7)						
L1707241-02E	Plastic 250ml unpreserved	А	7	2.6	Y	Absent	SUB-537()						
L1707241-02F	Plastic 250ml unpreserved	В	7	3.8	Y	Absent	SUB-537()						
L1707241-03A	Plastic 250ml H2SO4 preserved	В	<2	3.8	Y	Absent	TKN-4500(28),NO3/NO2- 4500(28),TNITROGEN(28)						
L1707241-03B	Plastic 60ml unpreserved	В	7	3.8	Y	Absent	CL-9251(28)						
L1707241-03C	Amber 1000ml unpreserved	В	7	3.8	Y	Absent	TPH-DRO-D(7)						
L1707241-03D	Amber 1000ml unpreserved	В	7	3.8	Y	Absent	TPH-DRO-D(7)						
L1707241-03E	Plastic 250ml unpreserved	В	7	3.8	Y	Absent	SUB-537()						
L1707241-03F	Plastic 250ml unpreserved	В	7	3.8	Y	Absent	SUB-537()						
L1707241-04A	Plastic 250ml H2SO4 preserved	В	<2	3.8	Y	Absent	TKN-4500(28),NO3/NO2- 4500(28),TNITROGEN(28)						
L1707241-04B	Plastic 60ml unpreserved	В	7	3.8	Y	Absent	CL-9251(28)						
L1707241-04C	Amber 1000ml unpreserved	В	7	3.8	Y	Absent	TPH-DRO-D(7)						
L1707241-04D	Amber 1000ml unpreserved	В	7	3.8	Y	Absent	TPH-DRO-D(7)						
L1707241-04E	Plastic 250ml unpreserved	В	7	3.8	Y	Absent	SUB-537()						
L1707241-04F	Plastic 250ml unpreserved	В	7	3.8	Y	Absent	SUB-537()						
L1707241-05A	Plastic 250ml H2SO4 preserved	В	<2	3.8	Y	Absent	TKN-4500(28),NO3/NO2- 4500(28),TNITROGEN(28)						
L1707241-05B	Plastic 60ml unpreserved	В	7	3.8	Y	Absent	CL-9251(28)						



Lab Number: L1707241 Report Date: 03/23/17

Project Name: PEASE Project Number: Not Specified

Container Info	rmation		Temp				
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1707241-05C	Amber 1000ml unpreserved	В	7	3.8	Y	Absent	TPH-DRO-D(7)
L1707241-05D	Amber 1000ml unpreserved	В	7	3.8	Y	Absent	TPH-DRO-D(7)
L1707241-05E	Plastic 250ml unpreserved	В	7	3.8	Y	Absent	SUB-537()
L1707241-05F	Plastic 250ml unpreserved	В	7	3.8	Y	Absent	SUB-537()
L1707241-06A	Plastic 250ml unpreserved	А	7	2.6	Y	Absent	SUB-537()
L1707241-06B	Plastic 250ml unpreserved	А	7	2.6	Y	Absent	SUB-537()



L1707241

03/23/17

Lab Number:

Report Date:

Project Name: PEASE

Project Number: Not Specified

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
~~~~	

- STLP Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
- TIC Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

#### Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- B The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For NJ-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For NJ-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For NJ-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the concentrations of the analyte, which was detected above the rep

Report Format: Data Usability Report



# Project Name: PEASE

## Project Number: Not Specified

# Lab Number: L1707241

## **Report Date:** 03/23/17

### Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- **D** Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- **P** The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- **S** Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.



Project Name:	PEASE
Project Number:	Not Specified

 Lab Number:
 L1707241

 Report Date:
 03/23/17

#### REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 107 Alpha Analytical In-house calculation method.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

#### LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## **Certification Information**

The following analytes are not included in our Primary NELAP Scope of Accreditation:

#### Westborough Facility

EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

SM 2540D: TSS EPA 3005A NPW EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187. EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene. Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

Drinking Water EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP. Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D. EPA 624: Volatile Halocarbons & Aromatics, EPA 628: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil. Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

#### Mansfield Facility:

*Drinking Water* EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

*Non-Potable Water* EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn. EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Page 30 of 50



	CHAIN OF C	CUSTODY PAGE 1 OF 1				Dat	Date Rec'd in Lab:						ALPHA Job #: L1707241						
	YTICAL	Project Info	rmation			Re	port l	nforn	nation	Data	Del	ivera	bles	Bi	ling l	nforn	nation		
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	OUTFALL #3	3/8/17	10:20	w		X					wards and								2
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March 21, 2017

#### Vista Work Order No. 1700314

Ms. Melissa Gulli Alpha Analytical Laboratory 8 Walkup Drive Westborough, MA 01581

Dear Ms. Gulli,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on March 10, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'L1707241'.

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,

Karenjopez for

Martha Maier Laboratory Director



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

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

## Vista Work Order No. 1700314 Case Narrative

### Sample Condition on Receipt:

Six water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

#### **Analytical Notes:**

### **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, PFOA and PFOS include both linear and branched isomers. Results for PFHpA and PFNA 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.

# TABLE OF CONTENTS

Case Narrative	1
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Certifications	15
Sample Receipt	18

# **Sample Inventory Report**

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700314-01	OUTFALL #1	08-Mar-17 08:45	10-Mar-17 09:46	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1700314-02	OUTFALL #2	08-Mar-17 09:20	10-Mar-17 09:46	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1700314-03	OUTFALL #2A	08-Mar-17 09:50	10-Mar-17 09:46	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1700314-04	OUTFALL #3	08-Mar-17 10:20	10-Mar-17 09:46	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1700314-05	OUTFALL #4	08-Mar-17 11:00	10-Mar-17 09:46	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1700314-06	PFC FIELD BLANK@ OUTFALL#1	08-Mar-17 08:45	10-Mar-17 09:46	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

Vista Project: 1700314

Page 35 of 50 Work Order 1700314 Client Project: L1707241

# ANALYTICAL RESULTS

Sample ID	: Method Blank					Modif	ied EPA M	ethod 537
Matrix: Sample Size:	Aqueous 0.250 L	QC Batch: B7C0063 Date Extracted: 13-Mar-2017 9:14		Lab Sample: Date Analyzed				
Analyte	Conc. (ng/L)	RL	Qualifiers	Labeled St	andard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.00		IS 13C3-P	FBS	107	60 - 150	
PFHpA	ND	2.00		IS 13C4-P	FHpA	91.2	60 - 150	
PFHxS	ND	2.00		IS 1802-P	FHxS	83.1	60 - 150	
PFOA	ND	2.00		IS 13C2-P	FOA	78.4	60 - 150	
PFOS	ND	2.00		IS 13C8-P	FOS	74.6	60 - 150	
PFNA	ND	2.00		IS 13C5-P	FNA	74.4	50 - 150	

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

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR						Modified	EPA Method 537	
Matrix: Aqueous Sample Size: 0.250 L	QC Batch: Date Extracted	B7C0063 I: 13-Mar-201	7 9:14		Lab Sample: Date Analyzed	B7C0063-BS1 : 16-Mar-17 13:58 Column: BEF	H C18	
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	L	abeled Standard	%R	LCL-UCL
PFBS	50.0	40.0	125	60 - 130	IS 1	3C3-PFBS	101	60 - 150
PFHpA	51.5	40.0	129	70 - 130	IS 1	3C4-PFHpA	79.7	60 - 150
PFHxS	51.2	40.0	128	70 - 130	IS 1	8O2-PFHxS	77.3	60 - 150
PFOA	51.8	40.0	130	70 - 130	IS 1	3C2-PFOA	67.4	60 - 150
PFOS	43.2	40.0	108	70 - 130	IS 1	3C8-PFOS	92.2	60 - 150
PFNA	50.2	40.0	125	50 - 130	IS 1	3C5-PFNA	84.8	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID:	OUTFALL #1							Modifie	d EPA Me	ethod 537
Client Data			Sample Data		La	boratory	y Data			
Name:	Alpha Analytical Labo	oratory	Matrix:	Water	L	ab Samp	ole: 1700314-01	Date Received:	10-Mar-201	7 9:46
Project:	L1707241		Sample Size:	0.268 L	Q	C Batch	: B7C0063	Date Extracted:	13-Mar-201	7 9:14
Date Collected:	08-Mar-2017 8:45				D	Date Anal	yzed: 17-Mar-17 20:24 Co	olumn: BEH C18		
Analyte	Conc. (ng/L)	RL	·		Qualifiers	s	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	5.51	1.86				IS	13C3-PFBS	74.3	60 - 150	
PFHpA	9.85	1.86				IS	13C4-PFHpA	70.6	60 - 150	
PFHxS	69.8	1.86				IS	18O2-PFHxS	82.6	60 - 150	
PFOA	27.0	1.86				IS	13C2-PFOA	85.4	60 - 150	
PFOS	207	1.86				IS	13C8-PFOS	83.7	60 - 150	
PFNA	2.26	1.86				IS	13C5-PFNA	85.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to RL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID:	OUTFALL #2							Modifie	d EPA Me	ethod 537
Client Data			Sample Data		La	aboratory	y Data			
Name:	Alpha Analytical Lab	ooratory	Matrix:	Water	L	Lab Samp	ole: 1700314-02	Date Received:	10-Mar-201	7 9:46
Project:	L1707241		Sample Size:	0.262 L		QC Batch	: B7C0063	Date Extracted:	13-Mar-201	7 9:14
Date Collected:	08-Mar-2017 9:20				E	Date Anal	yzed: 17-Mar-17 20:36	Column: BEH C18		
							20-Mar-17 12:09	Column: BEH C18		
Analyte	Conc. (ng/L)	RL			Qualifier	·s	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	80.0	1.91				IS	13C3-PFBS	101	60 - 150	
PFHpA	98.8	1.91				IS	13C4-PFHpA	99.9	60 - 150	
PFHxS	838	19.1			D	IS	18O2-PFHxS	86.4	60 - 150	D
PFOA	150	1.91				IS	13C2-PFOA	85.6	60 - 150	
PFOS	1330	19.1			D	IS	13C8-PFOS	73.1	60 - 150	D
PFNA	22.8	1.91				IS	13C5-PFNA	82.9	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to RL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

Sample ID:	OUTFALL #2A							Modifie	ed EPA Me	ethod 537
Client Data			Sample Data		Lat	boratory	y Data			
Name:	Alpha Analytical Labo	ratory	Matrix:	Water	La	ab Samp	le: 1700314-03	Date Received:	10-Mar-201	7 9:46
Project:	L1707241		Sample Size:	0.259 L	Q	C Batch	: B7C0063	Date Extracted:	13-Mar-201	7 9:14
Date Collected:	08-Mar-2017 9:50				D	ate Anal	yzed: 17-Mar-17 20:49 Co	lumn: BEH C18		
Analyte	Conc. (ng/L)	RL			Qualifiers	5	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	15.7	1.93				IS	13C3-PFBS	81.0	60 - 150	
PFHpA	14.3	1.93				IS	13C4-PFHpA	78.2	60 - 150	
PFHxS	112	1.93				IS	18O2-PFHxS	82.2	60 - 150	
PFOA	16.3	1.93				IS	13C2-PFOA	90.8	60 - 150	
PFOS	86.7	1.93				IS	13C8-PFOS	88.6	60 - 150	
PFNA	ND	1.93				IS	13C5-PFNA	76.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to RL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID:	OUTFALL #3							Modifie	ed EPA Me	ethod 537
Client Data			Sample Data		L	aboratory	y Data			
Name:	Alpha Analytical Labo	oratory	Matrix:	Water		Lab Samp	ole: 1700314-04	Date Received:	10-Mar-201	7 9:46
Project:	L1707241		Sample Size:	0.266 L		QC Batch	B7C0063	Date Extracted:	13-Mar-201	7 9:14
Date Collected:	08-Mar-2017 10:20					Date Anal	lyzed: 17-Mar-17 2	21:02 Column: BEH C18		
							20-Mar-17 1	2:21 Column: BEH C18		
Analyte	Conc. (ng/L)	RL			Qualifie	ers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	11.3	1.88				IS	13C3-PFBS	94.4	60 - 150	
PFHpA	34.1	1.88				IS	13C4-PFHpA	89.4	60 - 150	
PFHxS	246	1.88				IS	18O2-PFHxS	87.3	60 - 150	
PFOA	93.0	1.88				IS	13C2-PFOA	93.4	60 - 150	
PFOS	951	18.8			D	IS	13C8-PFOS	79.5	60 - 150	D
PFNA	8.25	1.88				IS	13C5-PFNA	85.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to RL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

Sample ID:	OUTFALL #4							Modifie	ed EPA Me	ethod 537
Client Data			Sample Data		La	boratory	y Data			
Name:	Alpha Analytical Lab	oratory	Matrix:	Water	L	.ab Samp	le: 1700314-05	Date Received:	10-Mar-201	7 9:46
Project:	L1707241		Sample Size:	0.273 L	Q	QC Batch	: B7C0063	Date Extracted:	13-Mar-201	7 9:14
Date Collected:	08-Mar-2017 11:00				D	Date Anal	yzed: 17-Mar-17 21:14 Col	umn: BEH C18		
Analyte	Conc. (ng/L)	RL			Qualifiers	s	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	3.26	1.83				IS	13C3-PFBS	73.2	60 - 150	
PFHpA	7.77	1.83				IS	13C4-PFHpA	74.6	60 - 150	
PFHxS	40.2	1.83				IS	18O2-PFHxS	84.0	60 - 150	
PFOA	12.4	1.83				IS	13C2-PFOA	88.1	60 - 150	
PFOS	49.2	1.83				IS	13C8-PFOS	85.2	60 - 150	
PFNA	ND	1.83				IS	13C5-PFNA	77.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to RL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID:	PFC FIELD BLAN	K@ OUTE	ALL#1						Mo	dified EPA <b>N</b>	Aethod 537
Client Data			Sample Data			Labor	atory Data				
Name:	Alpha Analytical Laboratory		Matrix:	Water		Lab S	Sample:	1700314-06	Date Receive	ed: 10-Mar-17	9:46
Project:	L1707241		Sample Size:	0.248 L		QC E	Batch:	B7C0063	Date Extracto	ed: 13-Mar-17 0	9:14
Date Collected:	08-Mar-17 8:45					Date	Analyzed:	17-Mar-17 21:27	Column: BEH C1	8	
Analyte	Conc. (ng/L)	RL			Qualifiers		Labeled S	tandard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.01				IS	13C3-PFE	S	93.9	60 - 150	
PFHpA	ND	2.01				IS	13C4-PFH	IpA	91.3	60 - 150	
PFHxS	ND	2.01				IS	1802-PFF	IxS	86.2	60 - 150	
PFOA	ND	2.01				IS	13C2-PFC	)A	95.9	60 - 150	
PFOS	ND	2.01				IS	13C8-PFC	DS	80.2	60 - 150	
PFNA	ND	2.01				IS	13C5-PFN	IA	82.7	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to RL.

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
Ε	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.
Μ	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	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.

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

# **CERTIFICATIONS**

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

# NELAP Accredited Test Methods

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

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

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Client: Alpha Ana	lytical Lab	Project #:				State/I	-ed Progra	im					Criteria			
Address: 8 Walku	ip Drive	Project Mana	ger: Melissa	Gulli		MCP	PRESU	MPTIV	E CEF	RTAI	NTY-C	TREA	SON	ABLE	CONFI	DENCE PROTOCOLS
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LPHA Lab ID	Sample ID	Co	ollection	Sample	Sampler's	- H				1						R. R.
(Lab Use Only)		Date	Time	Matrix	Initials	FOA							-			Sample Specific
				T							.					Comments
	OUTFALL #1	3/8/17	08:45	w		x										2
	OUTFALL #2	3/8/17	09:20	w		X	_									. 2
	OUTFALL #2A	3/8/17	09:50	w		X										2
	OUTFALL #3	3/8/17	10:20	w		X										2
	OUTFALL #4	3/8/17	11:00	w		X										. 2
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A MCP	or CT RCP?	Y	while	A	AL	3/9/17	Y	pett	XI	me	du	F	03	10/17	2 0949	resolved. All samples submitted are subject to
NO.01-01() 0-JUL-07)		K				* #										Alpha's Payment Terms
Page 40 a	of 50														8	

	SAMPLE LOG-IN CHECKLIST								
Vista Project #:	17	06314	ł		_ 1	TAT_	37d		
	Date/Time	)	2	Location: WR-7					
Samples Arrival:	03/10/17	0946	BOB		Shelf/Rack:				
Logged In:	Date/Time		Initials:		Location: WR-2				
	03/10/17	1103	YOUB St		Shelf/Rack: F6				
Delivered By:	FedEx	UPS	On Trac	DHL Hai Delive		nd rered	Other		
Preservation:	lce	Blue Ice D		ry Ice		None			
Temp °C: 2.3	(uncorrected)	Time: 0448		Thermometer ID: IR-1					
Temp °C: 2.6	, (corrected)	Probe used: Yes□ No							

	YE	S NC	) NA		
Adequate Sample Volume Received?	$\vee$				
Holding Time Acceptable?					
Shipping Container(s) Intact?	r	-			
Shipping Custody Seals Intact?			V		
Shipping Documentation Present?	V				
Airbill Trk # 12E30 (05	14019	675 018	3 4		
Sample Container Intact?	V				
Sample Custody Seals Intact?			$\checkmark$		
Chain of Custody / Sample Documentation Pres	$\checkmark$				
COC Anomaly/Sample Acceptance Form compl		V	1.		
If Chlorinated or Drinking Water Samples, Acce					
Preservation Documented: Na ₂ S ₂ O ₃	Tı	izma	Ye	s No	(NA)
Shipping Container Vista	Client	Retain	Return	) Di	spose

Comments:

s: COCID: OUTFALL #3 Contain ID: 3

COCID: PFC FIELD BLANK COUFFALL #1 Container ID: Field Blank

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