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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Meritech Labs, Inc.
642 Tamco Rd
Reidsville NC 27320

Report Date: February 22, 2018 08:58

Project: PMI

Account #: 14630
Group Number: 1902070
State of Sample Origin: NC

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Meritech Labs, Inc. Attn: Kris Pawlak

Respectfully Submitted,

Stacy L. Hess
Project Manager

(717) 556-7236

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
012418117 Grab Water	01/23/2018 09:28	9428652
012418118 Grab Water	01/23/2018 09:43	9428653

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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Analysis Report

Sample Description: 012418117 Grab Water

Project Name: PMI

Meritech Labs, Inc.
ELLE Sample #: WW 9428652
ELLE Group #: 1902070
Matrix: Wastewater

Submittal Date/Time: 01/29/2018 08:40
Collection Date/Time: 01/23/2018 09:28

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Misc. Organics	**EPA 537 Version 1.1 Modified**		ng/l	ng/l	
14473	8:2 fluorotelomersulfonate	39108-34-4	N.D.	10	1
14473	Perfluorobutanesulfonate	375-73-5	7	1	1
14473	Perfluorodecanoic acid	335-76-2	N.D.	5	1
14473	Perfluorododecanoic acid	307-55-1	N.D.	1	1
14473	Perfluoroheptanoic acid	375-85-9	12	1	1
14473	Perfluorohexanesulfonate	355-46-4	N.D.	2	1
14473	Perfluorohexanoic acid	307-24-4	31	2	1
14473	Perfluorononanoic acid	375-95-1	6 J	2	1
14473	Perfluoro-octanesulfonate	1763-23-1	9 J	2	1
14473	Perfluorooctanoic acid	335-67-1	14	1	1
14473	Perfluorotetradecanoic acid	376-06-7	N.D.	1	1
14473	Perfluorotridecanoic acid	72629-94-8	N.D.	1	1
14473	Perfluoroundecanoic acid	2058-94-8	N.D.	2	1

Reporting limits were raised due to interference from the sample matrix.

Sample Comments

State of North Carolina Lab Certification No. 521

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS in Water by LC/MS/MS	EPA 537 Version 1.1 Modified	1	18031012	02/17/2018 03:57	Jason W Knight	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18031012	01/31/2018 14:00	Danielle D McCully	1

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Analysis Report

Sample Description: 012418118 Grab Water

Project Name: PMI

Meritech Labs, Inc.
ELLE Sample #: WW 9428653
ELLE Group #: 1902070
Matrix: Wastewater

Submittal Date/Time: 01/29/2018 08:40
Collection Date/Time: 01/23/2018 09:43

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Misc. Organics	**EPA 537 Version 1.1 Modified**		**ng/l**	**ng/l**	
14473	8:2 fluorotelomersulfonate	39108-34-4	N.D.	2	1
14473	Perfluorobutanesulfonate	375-73-5	11	0.3	1
14473	Perfluorodecanoic acid	335-76-2	2 J	1	1
14473	Perfluorododecanoic acid	307-55-1	N.D.	0.3	1
14473	Perfluoroheptanoic acid	375-85-9	9	0.3	1
14473	Perfluorohexanesulfonate	355-46-4	2	0.4	1
14473	Perfluorohexanoic acid	307-24-4	35	0.4	1
14473	Perfluorononanoic acid	375-95-1	4	0.4	1
14473	Perfluoro-octanesulfonate	1763-23-1	5	0.4	1
14473	Perfluorooctanoic acid	335-67-1	17	0.3	1
14473	Perfluorotetradecanoic acid	376-06-7	N.D.	0.3	1
14473	Perfluorotridecanoic acid	72629-94-8	N.D.	0.3	1
14473	Perfluoroundecanoic acid	2058-94-8	N.D.	0.4	1

The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

The recovery for labeled compound used as extraction standard 13C3-PFBS is outside of QC acceptance limits due to the matrix of the sample.

Sample Comments

State of North Carolina Lab Certification No. 521

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	PFAS in Water by LC/MS/MS	EPA 537 Version 1.1 Modified	1	18031012	02/17/2018 04:18	Jason W Knight	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18031012	01/31/2018 14:00	Danielle D McCully	1

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Quality Control Summary

Client Name: Meritech Labs, Inc. Group Number: 1902070
Reported: 02/22/2018 08:58

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ng/l	MDL ng/l
Batch number: 18031012	Sample number(s): 9428652-9428653	
8:2 fluorotelomersulfonate	N.D.	2
Perfluorobutanesulfonate	N.D.	0.3
Perfluorodecanoic acid	N.D.	1
Perfluorododecanoic acid	N.D.	0.3
Perfluoroheptanoic acid	N.D.	0.3
Perfluorohexanesulfonate	N.D.	0.4
Perfluorohexanoic acid	N.D.	0.4
Perfluorononanoic acid	N.D.	0.4
Perfluoro-octanesulfonate	N.D.	0.4
Perfluorooctanoic acid	N.D.	0.3
Perfluorotetradecanoic acid	N.D.	0.3
Perfluorotridecanoic acid	N.D.	0.3
Perfluoroundecanoic acid	N.D.	0.4

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18031012	Sample number(s): 9428652-9428653								
8:2 fluorotelomersulfonate	15.33	16.31	15.33	16.41	106	107	70-130	1	30
Perfluorobutanesulfonate	4.81	5.21	4.81	5.43	108	113	70-130	4	30
Perfluorodecanoic acid	5.44	6.22	5.44	6.04	114	111	70-130	3	30
Perfluorododecanoic acid	5.44	6.25	5.44	6.12	115	113	70-130	2	30
Perfluoroheptanoic acid	5.44	6.28	5.44	6.38	115	117	70-130	2	30
Perfluorohexanesulfonate	5.14	5.56	5.14	5.76	108	112	70-130	4	30
Perfluorohexanoic acid	5.44	6.03	5.44	6.08	111	112	70-130	1	30
Perfluorononanoic acid	5.44	7.05	5.44	7.03	130	129	70-130	0	30
Perfluoro-octanesulfonate	5.20	5.25	5.20	5.27	101	101	70-130	0	30
Perfluorooctanoic acid	5.44	6.17	5.44	6.62	113	122	70-130	7	30
Perfluorotetradecanoic acid	5.44	6.26	5.44	6.22	115	114	70-130	1	30
Perfluorotridecanoic acid	5.44	5.37	5.44	5.53	99	102	70-130	3	30
Perfluoroundecanoic acid	5.44	6.65	5.44	6.74	122	124	70-130	1	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

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Quality Control Summary

Client Name: Meritech Labs, Inc.
Reported: 02/22/2018 08:58

Group Number: 1902070

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PFAS in Water by LC/MS/MS
Batch number: 18031012

	13C3-PFBS	13C5-PFHxA	13C3-PFHxS	13C4-PFHpA	13C8-PFOA	13C8-PFOS
9428652	115	67	71	82	76	77
9428653	268*	61	68	73	70	77
Blank	72	81	77	83	77	78
LCS	80	92	83	92	87	84
LCSD	83	93	84	94	90	90
Limits:	26-148	31-128	34-126	35-126	43-112	43-115

	13C9-PFNA	13C6-PFDA	13C2-8:2-FTS	13C7-PFUnDA	13C2-PFDoDA	13C2-PFTeDA
9428652	87	72	132	51	47	30
9428653	78	78	128	86	86	68
Blank	68	78	90	81	82	72
LCS	78	84	97	86	94	78
LCSD	84	90	109	89	95	81
Limits:	32-134	40-115	39-137	30-128	28-127	26-119

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P####### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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Acct. # 14630 Group # 1902070 Sample # 9428652-53

Client: Meritech, Inc.

Project Name/#: | Site ID #:

Project Manager: Kris Pawlak | P.O. #:

Sampler: | PWSID #:

Phone #: | Quote #: 14630

State where samples were collected: NC | For Compliance: Yes ☐ No ☐

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil ☐ Sediment ☐ Tissue ☐	Water ☐ Potable ☐ Ground ☐ NPDES ☐ Surface ☐	Other:	Total # of Containers	Analyses Requested / Preservation Codes
012418117	1/23/18	0928	X					1	
012418118	1	0943	X					1	

For Lab Use Only

SF #: _____

SCR #: _____

Preservation Codes

H = HCl T = Thiosulfate

N = HNO_3 B = NaOH

S = H_2SO_4 P = H_3PO_4

O = Other

Remarks: See Attached For Testing Please!

Turnaround Time Requested (TAT) (please check): Standard ☐ Rush ☐

(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed: The Best you can do

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: Kris.Pawlak@meritechlabs.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NJ DKQP ☐ NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☐ No ☐ If yes, format: _____

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	1/25/18	1630			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
				1.29.18	840

Relinquished by Commercial Carrier:

UPS X FedEx _____ Other _____

Temperature upon receipt 10.1 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 207080

Group Number(s):

Client: Meritech Inc

1902070

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	01/29/2018 8:40
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	NC		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 09:01 on 01/29/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?	Samples Collected Same Day as Receipt?
1	32170023	10.3	IR	Wet	N	Loose	Y	N

Elevated Temperature Details

All Temperatures in °C

Cooler #	Thermometer ID	Top Left Temp	Top Right Temp	Bottom Left Temp	Bottom Right Temp	Center Temp	Factors Contributing to Elevated Temp	Comments
1	32170023	9.8				10.3	Ice was melted.	

Samples In Elevated-Temperature Coolers

Cooler #	Sample ID
1	012418117
1	012418118

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Lancaster, PA 17605-2425

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

5-9-2016

Chain of Custody Record (COC)

MERITECH, INC.

ENVIRONMENTAL LABORATORIES

642 Tamco Rd. Phone: 336-342-4748

Reidsville NC 27320 Fax: 336-342-1522

Email: info@meritechlabs.com

www.meritechlabs.com

Client: DCo TWWTP

Address: 5926 NC Hwy 55E

Durham NC 27713

Attention: Stephanie Brixey

How would you like your report sent?

Circle all that apply: Email (preferred), Fax, (Mail)

NPDES#: NC0026051

Phone: 919.560.9034

Fax:

Email:

Project:

P.O.#:

Turn Around Time*

***RUSH** work needs prior approval.

Std (10 days)	3 - 5 Days	24 - 48 Hrs
	ASAP X	

Person Taking Sample (Sign/Print): Kelly Kamp

Sample Location and/or ID #	Sampling Dates & Times				Comp? Grab?	# of Cont.	Test(s) Required	Lab Use Only	
	Start Date	Start Time	End Date	End Time				On Ice? Yes / No	pH OK? Cl OK?
Influent 012318187	1/23/18	0928			G	1	PFC 117		
Post UV 012318188	1/23/18	0943			G	1	PFC 118		
							RUSH		

Temperature Upon Receipt: 1.6°C

Compositor #

Jug #

*** Dechlorination (<0.5 ppm) of Ammonia, Cyanide, Phenol and TKN samples must be done in the field prior to preservation. ***

Comments:

Method of Shipment:

- ☐ UPS
- ☐ Fed Ex
- ☐ Hand Delivery
- ☒ Other Meritech plv

Are these results for regulatory purposes? Yes ☒ No ☐

Report results in: mg/L ☐ mg/kg ☐ ug/L ☒

Relinquished by: Kelly Kamp	Date: 1/24/18	Time: 1105	Received by:	Date: 1/24/18	Time: 1105
Relinquished by:	Date: 1/24/18	Time: 1415	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by Lab:	Date: 1/24/18	Time: 1415