Analytical Report

Serialized: 10/30/2014 08:55am QC36

RICK ZEITLER
WARRINGTON TOWNSHIP WATER & SEWER
852 EASTON ROAD

WARRINGTON,PA 18976

Regarding:

WARRINGTON TOWNSHIP WATER & SEWER
852 EASTON ROAD
WARRINGTON, PA 18976

PROJECT ID:

W00674 BRISTOL EPA

LABORATORY REPORT NUMBER:

L3503221

REVISED REPORT NOTIFICATION

The PFOS result for L3503221-1 was added to the subcontract report.

Authorized by: Oommen V. Kappil, QA Director

QCL Accreditations: Southampton Div: EPA ID PA00018; NELAP ID's: PA 09-00131, NJ PA166, NY 11223
State ID's: CT PH-0768, DE PA-018, MD 206, SC 89021001; FDA Reg. # : 2515238
Delaware Division: State ID's: DE 00011, MD 138
Vineland Division: State ID: NJ 06005; Reading Div: State ID: PA 06-03543
Wind Gap Division: State ID's: PA 48-01334, NJ PA001
E. Rutherford Division: State ID: NJ 02015

1205 Industrial Blvd., P.O. Box 514, Southampton, PA 18966-0514 · Phone: 215-355-3900 · Toll Free: 800-289-8378 · Fax: 215-355-7231 · www.qclaboratories.com

QC Laboratories

Analytical Report

RICK ZEITLER
WARRINGTON TOWNSHIP WATER & SEWER
852 EASTON ROAD
WARRINGTON, PA 18976

Regarding:
RICK ZEITLER
WARRINGTON TOWNSHIP WATER & SEWER
852 EASTON ROAD
WARRINGTON, PA 18976

Account No: W00674, WARRINGTON TWP WATER & SEWER **P.O. No:** **Inv. No:** EOM-10/14
Project No: W00674 BRISTOL EPA, WARRINGTON TOWNSHIP WATER & SEWER **PWSID No:** 1090070

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L3503221-1	WELL 1 RAW	10/09/14 08:35am NA C	Joan Cummings Nulty, QC Laboratories
	Received Date/Time 10/09/14 09:17am		

Parameter	Result	RL	Units	Method	DF	Qual	Test Date, Time, Analyst
SUBCONTRACT							
PFOA	ATTACHED						

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L3503221-2	WELL 2 RAW	10/09/14 08:35am NA C	Joan Cummings Nulty, QC Laboratories
	Received Date/Time 10/09/14 09:17am		

Parameter	Result	RL	Units	Method	DF	Qual	Test Date, Time, Analyst
SUBCONTRACT							
PFOA	ATTACHED						

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L3503221-3	WELL 6 RAW	10/09/14 08:35am NA C	Joan Cummings Nulty, QC Laboratories
	Received Date/Time 10/09/14 09:17am		

Parameter	Result	RL	Units	Method	DF	Qual	Test Date, Time, Analyst
SUBCONTRACT							
PFOA	ATTACHED						

PIN: 85448

This report is a revision of report number 4159534
Serial Number: 4163565

DEFINITIONS

The following terms or abbreviations are used in this report:

MPN	Most probable number	PL	Customer-specific limit
CFU	Colony forming unit	DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
POS	Positive	QUAL	Qualifier
NEG	Negative	NTU	Nephelometric turbidity units
PRES	Presumptive	RL	Laboratory reporting limit or Limit of Quantitation (LOQ)
MF	Membrane Filtration	MCL	EPA recommended "Maximum Contaminant Level"
TNTC	Too numerous to count	MDL	Method Detection Limit

ND	The analyte was not detected at a concentration above the RL / MDL.
J	Estimated value ≥ MDL but < RL. Applies to organics and general chemistry results (see below for metals)
Q	Indicates this analyte did not meet quality control requirements.
DRY	Indicates the result was calculated and reported on a dry weight basis.
TIC	Tentatively Identified Compounds (Library Search Compounds); concentrations are estimated values only.
ppm (mg/l)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples.
ppb (ug/L)	Parts per billion: equivalent to 1 microgram per kilogram (ug/Kg) for solids or one microgram per liter (ug/L) for aqueous samples.
<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL.
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL.

Data Qualifiers (EPA CLP Convention)

Organics		***Metals***	
B	Analyte was detected in the method blank	B	Value is ≥ MDL and < RL
E	Concentration exceeds calibration range	E	Estimated value due to presence of interference
U	Compound not detected above MDL/RL	M	Duplicate precision for an element outside control limit
N	Presumptive evidence of compound in library search	N	Spike recovery for an element outside control limits
P1	Column precision criteria not met, report lower value	U	Element not detected above MDL/RL
P2	Column precision criteria not met, report higher value	Other	Defined in case narrative or data package
Other	Defined in case narrative or data package		

Warranties, Terms, and Conditions

- Unless otherwise specified in the Parameter field, analyses (excluding "Field Parameters") were performed at the QCL Southampton Division (1205 Industrial Boulevard, Southampton, PA 18966). Food, pharmaceutical, and dairy testing were performed the QCL facility in Horsham (702 Electronic Drive, Horsham, PA 19044).
- The test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- The reported results relate only to the sample as tested. QCL is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- QCL is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. QCL's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Customer Service for further information.
- The following personnel or their deputies have approved the results of the tests performed by QCL: Nicki Smith (Environmental Chemistry), Amanda Lukaszewski (Pharmaceutical), Ryan Baker (Dairy), Karen Battista (Food Micro), Jonathan Decenzi (Food Chemistry), Sue Abbott (QCL Delaware).

QCL Accreditations

Southampton Division	EPA ID:	PA00018
	NELAP IDs:	PA 09-00131; NJ PA166; NY 11223
	State IDs:	CT PH-0768; DE PA-018; MD 206
	FDA Reg #:	2515238

Delaware Division	State IDs:	DE 00011; MD 138	Reading Division	State ID:	PA 06-03543
Wind Gap Division	State IDs:	PA 48-01334; NJ PA001	Vineland Division	State ID:	NJ 06005
East Rutherford Division	State ID:	NJ 02015			

— COPY —
Sent to eurofins via FedEx

L 3503221

eurofins | Eaton Analytical

CHAIN OF CUSTODY RECORD

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____ **SAMPLES CHECKED AGAINST COC BY:** _____

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP RECEIVED AT: **SAMPLES REC'D DAY OF COLLECTION?** ☐ (check for yes)

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☐ Monrovia _____ °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice _____ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: QC Labs

PROJECT CODE:

COMPLIANCE SAMPLES ☐ (check for yes) **NON-COMPLIANCE SAMPLES** ☐ (check for yes)

- Requires state forms ☐ REGULATION INVOLVED: _____

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA,...)

EEA CLIENT CODE: **COC ID:** **SAMPLE GROUP:**

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☒ (check for yes), ***OR***

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

TAT requested: rush by adv notice only STD ___ 1 wk ___ 3 day ___ 2 day ___ 1 day ___

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	PFOS	PFOA	SAMPLER COMMENTS
10-9-2014	0835	Warrington Twp WTS well 1 RAW		RGW			✓	✓	drinking water
10-9-2014	0917	Warrington Twp WTS well 2 RAW		RGW			✓	✓	drinking water
10-9-2014	0902	Warrington Twp WTS well 6 RAW		RGW			✓	✓	drinking water
									(1 bottle for each sample site plus 1 FB)

*** MATRIX TYPES:** **RSW** = Raw Surface Water **RGW** = Raw Ground Water **CFW** = Chlor(am)inated Finished Water **FW** = Other Finished Water **SEAW** = Sea Water **WW** = Waste Water **BW** = Bottled Water **SW** = Storm Water **SO** = Soil **SL** = Sludge **O** = Other - Please Identify

JCN 10/9

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:	Joan C Nulty	Joan C. Nulty	QC Labs / Field Repr	10-9-14	~~1200~~ 0917
RELINQUISHED BY:	Joan C Nulty	Joan C. Nulty	QC Labs / Field Repr	10-9-14	
RECEIVED BY:					
RELINQUISHED BY:					
RECEIVED BY:					

eurofins | Eaton Analytical
formerly MWH Laboratories

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
(626) 386-1100 FAX (626) 386-1101

Kit Order for QC Laboratories

Andrew.D.Eaton is your Eurofins Eaton Analytical Project Manager

Note: Sampler Please return this paper with your samples

Kit #: 98970
Created By: DEB
Deliver By: 10/08/2014
STG: Bottle Orders
Ice Type: W

Client ID: QCLABSHAMPTONPA
Project Code: SUBCONTRACT Bottle Orders
Group Name: PFC_Extra w/ Trizma
PO#/JOB#:

Ship Sample Kits to
QC Laboratories
1205 Industrial Blvd.
P.O. Box 514
Southhampton, PA 18966

Attn: Nicki Smith
Phone: 215.355.3900
Fax: 215.355.7231

Send Report to
QC Laboratories
1835 West Landis Ave
Vineland, NJ 08360

Attn: Lorraine McCarthy
Phone: 856-563-0101 x 5601
Fax: 856-692-3686

Billing Address
QC Laboratories
1835 West Landis Ave
Vineland, NJ 08360

Attn: Lorraine McCarthy
Phone: 856-563-0101 x 5601
Fax: 856-692-3686

# of Sample	Tests	Bottles - Qty for each sample, type & preservative if a	UN DOT #
3	@PFC_EXTRA	1 250 ml polypro w polypro cap 1.25 g Trizma	
1	@PFC_EXTRA FB	1 250 ml polypro w polypro cap no preservative	
1	@PFC_EXTRA TB	1 250 ml polypro w polypro cap 1.25 g Trizma + H2O	

Comments

3 samples and 1 FB per Nicki request 10/06/14
Shipping - please include prepaid return Fedex label.
Rush order - bottles needed by (10/08/14)

Only analyze FBs if hits in associated samples.

Nicki - transfer TB water into other bottle identified as FB and return that bottle. Discard the actual TB bottle

Code	Status	Date Shipped	Via	Tracking #	# of Coolers	Prepared By

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750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

NELAP ACCREDITED TNI LABORATORY
ORELAP 4034

ilac-MRA

ACLASS ACCREDITED TESTING
AT-1807

Laboratory Report

for

QC Laboratories
1835 West Landis Ave
Vineland, NJ 08360
Attention: Lorraine McCarthy
Fax: 856-692-3686

Date of Issue
10/29/2014

Andrew Eaton
EUROFINS EATON
ANALYTICAL

ADE: Andrew.D.Eaton
Project Manager

Report: 503252
Project: SUBCONTRACT
Group: PFC extra (10 PFCs)

* Accredited in accordance with TNI 2009 and ISO/IEC 17025:2005.
* Laboratory certifies that the test results meet all **TNI 2009 and ISO/IEC 17025:2005** requirements unless noted under the individual analysis.
* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.
* Test results relate only to the sample(s) tested.

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STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	**Mississippi**	Certified
Alaska	CA00006	**Montana**	Cert 0035
Arizona	AZ0778	**Nebraska**	Certified
Arkansas	Certified	**Nevada**	CA00006-2014-1
California-Monrovia-ELAP	2813	**New Hampshire ***	2959
California-Colton- ELAP	2812	**New Jersey ***	CA 008
California-Folsom- ELAP	2820	**New Mexico**	Certified
Colorado	Certified	**New York ***	11320
Connecticut	PH-0107	**North Carolina**	06701
Delaware	CA 006	**North Dakota**	R-009
Florida *	E871024	**Oregon (Primary AB) ***	**ORELAP 4034**
Georgia	947	**Pennsylvania ***	68-565
Guam	14-003r	**Rhode Island**	LAO00326
Hawaii	Certified	**South Carolina**	87016
Idaho	Certified	**South Dakota**	Certified
Illinois *	200033	**Tennessee**	TN02839
Indiana	C-CA-01	**Texas ***	T104704230-14-7
Kansas *	E-10268	**Utah ***	CA000062014-7
Kentucky	90107	**Vermont**	VT0114
Louisiana *	LA140009	**Virginia ***	460260
Maine	CA0006	**Washington**	C838
Maryland	224	**West Virginia**	9943 C
Commonwealth of Northern Marianas Is.	MP0004	**Wisconsin**	998316660
Massachusetts	M-CA006	**Wyoming**	8TMS-L
Michigan	9906	**EPA Region 5**	Certified
Los Angeles County Sanitation Districts	10264		

* NELAP/TNI Recognized Accreditation Bodies

Eurofins Eaton Analytical, Inc.
750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
T | 626-386-1100
F | 626-386-1101
www.EatonAnalytical.com

The tests listed below are accredited and meet the requirements of ISO 17025 as verified by the ANSI-ASQ National Accreditation Board/ACLASS.
Refer to Certificate and scope of accreditation (AT 1807) found at: http://www.eatonanalytical.com

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Drinking Water	Food & Beverage	Waste Water
1,4-Dioxane	EPA 522	x	x	
2,3,7,8-TCDD	Modified EPA 1613B	x	x	
Acrylamide	In House Method	x	x	
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H (18th)		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x	x	
Asbestos	EPA 100.2	x		
Bicarbonate Alkalinity as HCO3	SM 2330B	x	x	x
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method	x	x	
Carbamates	EPA 531.2	x	x	
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x	x	
COD	EPA 410.4 / SM 5220D			x
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x	x	
Chlorinated Acids	EPA 555	x	x	
Chlorine Dioxide	SM 4500-CLO2 D	x	x	
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1			x
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x	x	
Cyanide, Amenable	SM 4500-CN G	x		x
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method	x	x	
Diquat and Paraquat	EPA 549.2	x	x	
DBP/HAA	SM 6251B	x	x	
Dissolved Oxygen	SM 4500-O G		x	x
E. Coli	(MTF/EC+MUG)	x		
E. Coli	CFR 141.21(f)(6)(i)		x	x
E. Coli	SM 9223			x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x	x	
E. Coli (Enumeration)	SM 9223B	x	x	
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x	x	
EDTA and NTA	In House Method	x	x	
Endothall	EPA 548.1	x	x	
Enterococci	SM 9230B	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)			x
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x	x	
Fecal Coliform with Chlorine Present	SM 9221E			x
Fecal Streptococci	SM 9230B	x		x
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x	x	
Gross Alpha/Beta	EPA 900.0	x	x	x
HAAs/ Dalapon	EPA 552.3	x	x	
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method	x	x	
Heterotrophic Bacteria	SM 9215 B	x	x	
Hexavalent Chromium	EPA 218.6	x	x	x
Hexavalent Chromium	EPA 218.7	x	x	
Hexavalent Chromium	SM 3500-Cr B or C (20th)			x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Drinking Water	Food & Beverage	Waste Water
Hormones	EPA 539	x	x	
Hydroxide as OH Calc.	SM 2330B	x	x	
Kjeldahl Nitrogen	EPA 351.2			x
Mercury	EPA 245.1	x	x	x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA	x	x	
NDMA	EPA 521	x	x	
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x	x	
Ortho Phosphate	EPA 365.1	x	x	
Ortho Phosphate and Total Phosphorous	EPA 365.1/SM 4500-P E			x
Ortho Phosphorous	SM 4500P E	x	x	
Oxyhalides Disinfection Byproducts	EPA 317.0	x	x	
Perchlorate	EPA 331.0	x	x	
Perchlorate	EPA 314.0	x	x	
Perfluorinated Alkyl Acids	EPA 537	x	x	
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method	x	x	
Pseudomonas	IDEXX Pseudalert	x	x	
Radium-226	RA-226 GA	x	x	
Radium-228	RA-228 GA	x	x	
Radon-222	SM 7500RN	x	x	
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D			x
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4			x
Semi-VOC	EPA 525.2	x	x	
Semi-VOC	EPA 625	x	x	x
Silica	SM 4500-Si D	x	x	x
Silica	SM 4500-SiO2 C	x		x
Sulfide	SM 4500-$S^{=}$ D			x
Sulfite	SM 4500-SO^{3}B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x	x	
Total Coliform	SM 9221 A, B	x	x	
Total Coliform (Enumeration)	SM 9221 A, B, C	x	x	
Total Coliform / E. coli	Colisure	x	x	
Total Coliform	SM 9221B			x
Total Coliform with Chlorine Present	SM 9221B			x
Total Coliform / E.coli	SM 9223	x	x	
TOC	SM 5310C		x	x
TOC/DOC	SM 5310C	x	x	
TOX	SM 5320B			x
Total Phenols	EPA 420.1			x
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P F			x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x		x
Uranium by ICP/MS	EPA 200.8	x	x	
UV 254	SM 5910B	x		
VOC	EPA 524.2/EPA 524.3	x	x	
VOC	EPA 624	x	x	x
VOC	EPA SW 846 8260	x	x	
VOC	In House Method	x	x	
Yeast and Mold	SM 9610	x	x	

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Acknowledgement of Samples Received

Addr: **QC Laboratories**
1835 West Landis Ave
Vineland, NJ 08360

Attn: Lorraine McCarthy
Phone: 856-563-0101 x 5601

Client ID: QCLABSHAMPTONPA
Folder #: 503252
Project: SUBCONTRACT
Sample Group: PFC extra (10 PFCs)

Project Manager: Andrew.D.Eaton
Phone: (626) 386-1125

The following samples were received from you on **October 10, 2014** at **1353**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical.

Sample #	Sample ID	Sample Date
201410100498	Warrington Twp Wts Well 1 Raw	10/09/2014 0835
	@PFC_EXTRA	
201410100499	Warrington Twp Wts Well 2 Raw	10/09/2014 0917
	@PFC_EXTRA	
201410100500	Warrington Twp Wts Well 6 Raw	10/09/2014 0902
	@PFC_EXTRA	
201410100502	Field Blank - Analyze only if hits in associated sample	10/09/2014 0800
	@PFC_EXTRA FB	
201410100503	Freight	10/09/2014 0800
	Freight - Return Freight - RUSH	

Test Description

@PFC_EXTRA -- Perfluorinated compounds

@PFC_EXTRA FB -- Perfluorinated compounds

CHAIN OF CUSTODY RECORD

503252

eurofins | Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: 2.6 - 0.2 = 2.4°C

SAMPLES CHECKED AGAINST COC BY: JD

SAMPLES LOGGED IN BY: _____

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

SAMPLE TEMP RECEIVED AT:

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☑ Monrovia _____ °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice ✓ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: QC Labs

PROJECT CODE:

EEA CLIENT CODE:

COC ID:

SAMPLE GROUP:

TAT requested: rush by adv notice only STD ___ 1 wk ___ 3 day ___ 2 day ___ 1 day ___

COMPLIANCE SAMPLES (check for yes) ☐ - Requires state forms ☐

NON-COMPLIANCE SAMPLES (check for yes) ☐ REGULATION INVOLVED: _____

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA,...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☒ (check for yes), *OR*

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	PFOS	PFOA	SAMPLER COMMENTS
10-9-2014	0835	Warrington Twp WTS well 1 RAW		RGW			✓	✓	drinking water
10-9-2014	0917	Warrington Twp WTS well 2 RAW		RGW			✓	✓	drinking water
10-9-2014	0902	Warrington Twp WTS well 6 RAW		RGW			✓	✓	drinking water
									(1 bottle for each sample site plus 1 FB)

* **MATRIX TYPES:** RSW = Raw Surface Water; CFW = Chlor(am)inated Finished Water; SEAW = Sea Water; BW = Bottled Water; SO = Soil; O = Other - Please Identify; RGW = Raw Ground Water; FW = Other Finished Water; WW = Waste Water; SW = Storm Water; SL = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:	Joan C Nulty	Joan C. Nulty	QC Labs / Field Repr.	10-9-14	~~1200~~ 0917
RELINQUISHED BY:	Joan C Nulty	Joan C Nulty	QC Labs / Field Repr.	10-9-14	1300
RECEIVED BY:		A Smith	EEA	10.10.14	1353
RELINQUISHED BY:					
RECEIVED BY:					

JCN 10/9

QA FO 0029 (06/26/2013)

PAGE 1 OF 1

eurofins | Eaton Analytical
formerly AWAL Laboratories

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
(626) 386-1100 FAX (626) 386-1101

Kit Order for QC Laboratories

Andrew.D.Eaton is your Eurofins Eaton Analytical Project Manager

Note: Sampler Please return this paper with your samples

Kit #: 98970
Created By: DEB
Deliver By: 10/08/2014
STG: Bottle Orders
Ice Type: W

Client ID: QCLABSHAMPTONPA
Project Code: SUBCONTRACT Bottle Orders
Group Name: PFC_Extra w/ Trizma
PO#/JOB#:

Ship Sample Kits to
QC Laboratories
1205 Industrial Blvd.
P.O. Box 514
Southhampton, PA 18966

Attn: Nicki Smith
Phone: 215.355.3900
Fax: 215.355.7231

Send Report to
QC Laboratories
1835 West Landis Ave
Vineland, NJ 08360

Attn: Lorraine McCarthy
Phone: 856-563-0101 x 5601
Fax: 856-692-3686

Billing Address
QC Laboratories
1835 West Landis Ave
Vineland, NJ 08360

Attn: Lorraine McCarthy
Phone: 856-563-0101 x 5601
Fax: 856-692-3686

# of Sample	Tests	Bottles - Qty for each sample, type & preservative if ai	UN DOT #
3	@PFC_EXTRA	1 250 ml polypro w polypro cap 1.25 g Trizma	
1	@PFC_EXTRA FB	1 250 ml polypro w polypro cap no preservative	
1	@PFC_EXTRA TB	1 250 ml polypro w polypro cap 1.25 g Trizma + H2O	

Comments

3 samples and 1 FB per Nicki request 10/06/14
Shipping - please include prepaid return Fedex label.
Rush order - bottles needed by (10/08/14)

Only analyze FBs if hits in associated samples.

Nicki - transfer TB water into other bottle identified as FB and return that bottle. Discard the actual TB bottle

Code	Status	Date Shipped	Via	Tracking #	# of Coolers	Prepared By

QC LABORATORIES
FIELD SERVICE REQUEST FORM
Oct 07 2014, 01:24 pm

RICK ZEITLER
WARRINGTON TOWNSHIP WATER & SEWER
852 EASTON ROAD
WARRINGTON, PA 18976

Email:
Primary Driver: JCN

Project No.: W00674 BRISTOL EPA
Phone: (215)343-1800
Fax: (215)343-5944
Cell: ( ) -

Service Date: 10/09/14 ANYTIME To 10/09/14

SAMPLING

Delivery Charge:

RAW
1, 2, 6

Day of Week: THU

Sampling Instructions:
WE MUST CONTACT RICK Z BEFORE TAKING THESE 3 SAMPLES FOR PFOS/PFOA. BOTTLES ARE TO BE SENT TO QC BY EUROFINS THIS WEDNESDAY. IF BOTTLES AREN'T DELIVERED IN TIME, WE WILL NOT BE SAMPLING THIS WEEK.

Contact: RICK 215-768-6103

Bottle Prep:

Rush Samples:

$35 1
0902 6
0917 2

Service to be performed at:

WE ARE ONLY GOING TO SAMPLE THIS WEEK IF THE BOTTLES WERE DELIVERED WEDNESDAY TO QC. I'M NOT SURE IF WE ARE COLLECTING RAW SAMPLES OR NOT. PLEASE CALL RICK ON HIS CELL AND FIND OUT. THANKS!

Requested by: Ronald M. Milke Ext:
Entry date: 10/07/14 01:24PM

Call received: 10/07/14 01:20PM

Field Service Request No.: FS214599
Service Time: 15 minutes
Equip Code: DW

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

From: (215) 355-3900
NICKI SMITH
QC LABORATORIES
1205 INDUSTRIAL BLVD.
P.O. BOX 514
SOUTHHAMPTON, PA 18966

Origin ID: WHPA

FedEx Express

J14121405S003uv

Ship Date: 07OCT14
ActWgt: 5.7 LB
CAD: 31999/CAFE2805

Dims: 15 X 9 X 14 IN

Delivery Address Bar Code

Ref # 98970

SHIP TO: (626) 386-1100 BILL SENDER

KARLOS RUECKER
EUROFINS EATON ANALYTICAL
750 ROYAL OAKS DR SUITE 100

MONROVIA, CA 91016

RMA #:
Return Reason:

RETURNS MON-FRI
STANDARD OVERNIGHT

TRK# 0221 6159 8296 4102

91016
CA-US

521C1/DF646F03

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750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory Comments
Report: 503252

QC Laboratories
Lorraine McCarthy
1835 West Landis Ave
Vineland, NJ 08360

Report revised to show PFOS, which inadvertently did not print on original.

Flags Legend:

R7 - LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

The Comments Report may be blank if there are no comments for this report.

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Laboratory Hits
Report: 503252

QC Laboratories
Lorraine McCarthy
1835 West Landis Ave
Vineland, NJ 08360

Samples Received on:
10/10/2014 1353

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	201410100498	**Warrington Twp Wts Well 1 Raw**				
10/22/2014 21:14	Perfluoro octanesulfonic acid - PFOS		210		ng/L	50
10/20/2014 23:28	Perfluoro octanoic acid - PFOA		33		ng/L	5
10/20/2014 23:28	Perfluoro-1-butanesulfonic acid		7.8		ng/L	5
10/20/2014 23:28	Perfluoro-1-hexanesulfonic acid		36		ng/L	5
10/20/2014 23:28	Perfluoro-n-hexanoic acid		13		ng/L	5
	201410100499	**Warrington Twp Wts Well 2 Raw**				
10/22/2014 21:32	Perfluoro octanesulfonic acid - PFOS		1600		ng/L	500
10/22/2014 21:32	Perfluoro octanoic acid - PFOA		270		ng/L	50
10/20/2014 23:46	Perfluoro-1-butanesulfonic acid		42		ng/L	5
10/22/2014 21:32	Perfluoro-1-hexanesulfonic acid		370		ng/L	50
10/20/2014 23:46	Perfluoro-n-heptanoic acid		12		ng/L	5
10/20/2014 23:46	Perfluoro-n-hexanoic acid		54		ng/L	5
10/20/2014 23:46	Perfluoropentanoic acid		42		ng/L	5
	201410100500	**Warrington Twp Wts Well 6 Raw**				
10/22/2014 21:49	Perfluoro octanesulfonic acid - PFOS		1300		ng/L	500
10/22/2014 21:49	Perfluoro octanoic acid - PFOA		160		ng/L	50
10/21/2014 00:55	Perfluoro-1-butanesulfonic acid		32		ng/L	5
10/22/2014 21:49	Perfluoro-1-hexanesulfonic acid		330		ng/L	50
10/21/2014 00:55	Perfluoro-n-heptanoic acid		22		ng/L	5
10/21/2014 00:55	Perfluoro-n-hexanoic acid		45		ng/L	5
10/21/2014 00:55	Perfluoropentanoic acid		31		ng/L	5

SUMMARY OF POSITIVE DATA ONLY

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Report: 503252

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Samples Received on:
10/10/2014 1353

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	Dilution
Warrington Twp Wts Well 1 Raw (201410100498)							**Sampled on 10/09/2014 0835**		
	MWH PFC - Perfluorinated compounds								
	10/22/2014 21:14	799559	(MWH PFC)	Perfluoro octanesulfonic acid - PFOS	210	ng/L	0.2	50	10
	10/20/2014 23:28	799535	(MWH PFC)	Perfluoro octanoic acid - PFOA	33	ng/L	0.6	5	1
	10/20/2014 23:28	799535	(MWH PFC)	Perfluoro-1-butanesulfonic acid	7.8	ng/L	0.2	5	1
	10/20/2014 23:28	799535	(MWH PFC)	Perfluoro-1-hexanesulfonic acid	36	ng/L	0.2	5	1
	10/20/2014 23:28	799535	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	0.6	5	1
	10/20/2014 23:28	799535	(MWH PFC)	Perfluoro-n-heptanoic acid	4.2J	ng/L	0.3	5	1
	10/20/2014 23:28	799535	(MWH PFC)	Perfluoro-n-hexanoic acid	13	ng/L	0.3	5	1
	10/20/2014 23:28	799535	(MWH PFC)	Perfluoro-n-nonanoic acid	0.74J	ng/L	0.3	5	1
	10/20/2014 23:28	799535	(MWH PFC)	Perfluoropentanoic acid	2.9J(R7)	ng/L	0.4	5	1
	10/20/2014 23:28	799535	(MWH PFC)	PFBA-C13	124	%			1
	10/20/2014 23:28	799535	(MWH PFC)	PFDA-C13	57	%			1
	10/20/2014 23:28	799535	(MWH PFC)	PFHxA-C13	80	%			1
	10/20/2014 23:28	799535	(MWH PFC)	PFNA-C13	115	%			1
	10/20/2014 23:28	799535	(MWH PFC)	PFOA-C13	84	%			1
	10/20/2014 23:28	799535	(MWH PFC)	PFOS-C13	124	%			1
Warrington Twp Wts Well 2 Raw (201410100499)							**Sampled on 10/09/2014 0917**		
	MWH PFC - Perfluorinated compounds								
	10/22/2014 21:32	799559	(MWH PFC)	Perfluoro octanesulfonic acid - PFOS	1600	ng/L	0.2	500	100
	10/22/2014 21:32	799559	(MWH PFC)	Perfluoro octanoic acid - PFOA	270	ng/L	0.6	50	10
	10/20/2014 23:46	799535	(MWH PFC)	Perfluoro-1-butanesulfonic acid	42	ng/L	0.2	5	1
	10/22/2014 21:32	799559	(MWH PFC)	Perfluoro-1-hexanesulfonic acid	370	ng/L	0.2	50	10
	10/20/2014 23:46	799535	(MWH PFC)	Perfluoro-n-decanoic acid	1.2J	ng/L	0.6	5	1
	10/20/2014 23:46	799535	(MWH PFC)	Perfluoro-n-heptanoic acid	12	ng/L	0.3	5	1
	10/20/2014 23:46	799535	(MWH PFC)	Perfluoro-n-hexanoic acid	54	ng/L	0.3	5	1
	10/20/2014 23:46	799535	(MWH PFC)	Perfluoro-n-nonanoic acid	2.7J	ng/L	0.3	5	1
	10/20/2014 23:46	799535	(MWH PFC)	Perfluoropentanoic acid	42(R7)	ng/L	0.4	5	1
	10/20/2014 23:46	799535	(MWH PFC)	PFBA-C13	112	%			1
	10/20/2014 23:46	799535	(MWH PFC)	PFDA-C13	49	%			1
	10/20/2014 23:46	799535	(MWH PFC)	PFHxA-C13	88	%			1
	10/20/2014 23:46	799535	(MWH PFC)	PFNA-C13	127	%			1

Rounding on totals after summation.
(c) - Indicates calculated results.
ND - Analyte was not detected at the calculated MDL.
J - The analyte was either detected at or greater than the MDL and less than the MRL, or did not meet any one of the required QC criteria.

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Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 503252

QC Laboratories
Lorraine McCarthy
1835 West Landis Ave
Vineland, NJ 08360

Samples Received on:
10/10/2014 1353

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	Dilution
	10/20/2014 23:46	799535	(MWH PFC)	PFOA-C13	76	%			1
	10/20/2014 23:46	799535	(MWH PFC)	PFOS-C13	97	%			1
Warrington Twp Wts Well 6 Raw (201410100500)						**Sampled on 10/09/2014 0902**			
	MWH PFC - Perfluorinated compounds								
	10/22/2014 21:49	799559	(MWH PFC)	Perfluoro octanesulfonic acid - PFOS	1300	ng/L	0.2	500	100
	10/22/2014 21:49	799559	(MWH PFC)	Perfluoro octanoic acid - PFOA	160	ng/L	0.6	50	10
	10/21/2014 00:55	799535	(MWH PFC)	Perfluoro-1-butanesulfonic acid	32	ng/L	0.2	5	1
	10/22/2014 21:49	799559	(MWH PFC)	Perfluoro-1-hexanesulfonic acid	330	ng/L	0.2	50	10
	10/21/2014 00:55	799535	(MWH PFC)	Perfluoro-n-decanoic acid	0.78J	ng/L	0.6	5	1
	10/21/2014 00:55	799535	(MWH PFC)	Perfluoro-n-heptanoic acid	22	ng/L	0.3	5	1
	10/21/2014 00:55	799535	(MWH PFC)	Perfluoro-n-hexanoic acid	45	ng/L	0.3	5	1
	10/21/2014 00:55	799535	(MWH PFC)	Perfluoro-n-nonanoic acid	3.8J	ng/L	0.3	5	1
	10/21/2014 00:55	799535	(MWH PFC)	Perfluoropentanoic acid	31(R7)	ng/L	0.4	5	1
	10/21/2014 00:55	799535	(MWH PFC)	PFBA-C13	126	%			1
	10/21/2014 00:55	799535	(MWH PFC)	PFDA-C13	41	%			1
	10/21/2014 00:55	799535	(MWH PFC)	PFHxA-C13	78	%			1
	10/21/2014 00:55	799535	(MWH PFC)	PFNA-C13	95	%			1
	10/21/2014 00:55	799535	(MWH PFC)	PFOA-C13	101	%			1
	10/21/2014 00:55	799535	(MWH PFC)	PFOS-C13	136	%			1
Field Blank - Analyze only if hits in associated sample (201410100502)						**Sampled on 10/09/2014 0800**			
	MWH PFC - Perfluorinated compounds								
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoro octanesulfonic acid - PFOS	2.7J	ng/L	0.2	5	1
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	0.6	5	1
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoro-1-butanesulfonic acid	ND	ng/L	0.2	5	1
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoro-1-hexanesulfonic acid	ND	ng/L	0.2	5	1
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	0.6	5	1
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	0.3	5	1
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoro-n-hexanoic acid	1.3J	ng/L	0.3	5	1
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	0.3	5	1
	10/21/2014 01:13	799535	(MWH PFC)	Perfluoropentanoic acid	ND(R7)	ng/L	0.4	5	1
	10/21/2014 01:13	799535	(MWH PFC)	PFBA-C13	132	%			1
	10/21/2014 01:13	799535	(MWH PFC)	PFDA-C13	48	%			1
	10/21/2014 01:13	799535	(MWH PFC)	PFHxA-C13	75	%			1

Rounding on totals after summation.
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Laboratory Data
Report: 503252

QC Laboratories
Lorraine McCarthy
1835 West Landis Ave
Vineland, NJ 08360

Samples Received on:
10/10/2014 1353

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	Dilution
	10/21/2014 01:13	799535	(MWH PFC)	PFNA-C13	111	%			1
	10/21/2014 01:13	799535	(MWH PFC)	PFOA-C13	87	%			1
	10/21/2014 01:13	799535	(MWH PFC)	PFOS-C13	109	%			1

Rounding on totals after summation.
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QC Laboratories

QC Ref # 799535 - Perfluorinated compounds		**Analysis Date: 10/20/2014**
201410100498	Warrington Twp Wts Well 1 Raw	Analyzed by: ARH
201410100499	Warrington Twp Wts Well 2 Raw	Analyzed by: ARH
201410100500	Warrington Twp Wts Well 6 Raw	Analyzed by: ARH
201410100502	Field Blank - Analyze only if hits in associated sample	Analyzed by: ARH
QC Ref # 799559 - Perfluorinated compounds		**Analysis Date: 10/22/2014**
201410100498	Warrington Twp Wts Well 1 Raw	Analyzed by: ARH
201410100499	Warrington Twp Wts Well 2 Raw	Analyzed by: ARH
201410100500	Warrington Twp Wts Well 6 Raw	Analyzed by: ARH

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Laboratory QC
Report: 503252

QC Laboratories

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 799535 - Perfluorinated compounds by MWH PFC						**Analysis Date: 10/20/2014**			
LCS1	Perfluoro octanesulfonic acid - PFOS		24	23.3	ng/L	97	(70-130)		
LCS2	Perfluoro octanesulfonic acid - PFOS		24	23.7	ng/L	99	(70-130)	20	1.7
MBLK	Perfluoro octanesulfonic acid - PFOS			<5	ng/L				
MRL_CHK	Perfluoro octanesulfonic acid - PFOS		4.8	6.47	ng/L	135	(50-150)		
MS_201410020078	Perfluoro octanesulfonic acid - PFOS	ND	24	30.3	ng/L	126	(70-130)		
MSD_201410020078	Perfluoro octanesulfonic acid - PFOS	ND	24	22.2	ng/L	93	(70-130)	30	31
LCS1	Perfluoro octanoic acid - PFOA		25	25.0	ng/L	100	(70-130)		
LCS2	Perfluoro octanoic acid - PFOA		25	23.2	ng/L	93	(70-130)	20	7.5
MBLK	Perfluoro octanoic acid - PFOA			<5	ng/L				
MRL_CHK	Perfluoro octanoic acid - PFOA		5.0	6.14	ng/L	123	(50-150)		
MS_201410020078	Perfluoro octanoic acid - PFOA	ND	25	24.5	ng/l	95	(70-130)		
MSD_201410020078	Perfluoro octanoic acid - PFOA	ND	25	24.8	ng/l	97	(70-130)	30	1.2
LCS1	Perfluoro-1-butanesulfonic acid		22	22.3	ng/L	101	(70-130)		
LCS2	Perfluoro-1-butanesulfonic acid		22	24.9	ng/L	112	(70-130)	20	11
MBLK	Perfluoro-1-butanesulfonic acid			<5	ng/L				
MRL_CHK	Perfluoro-1-butanesulfonic acid		4.4	4.02	ng/L	91	(50-150)		
MS_201410020078	Perfluoro-1-butanesulfonic acid	ND	22	20.8	ng/L	94	(70-130)		
MSD_201410020078	Perfluoro-1-butanesulfonic acid	ND	24	21.2	ng/L	89	(70-130)	30	1.9
LCS1	Perfluoro-1-hexanesulfonic acid		24	29.4	ng/L	124	(70-130)		
LCS2	Perfluoro-1-hexanesulfonic acid		24	24.2	ng/L	102	(70-130)	20	19
MBLK	Perfluoro-1-hexanesulfonic acid			<5	ng/L				
MRL_CHK	Perfluoro-1-hexanesulfonic acid		4.7	4.92	ng/L	104	(50-150)		
MS_201410020078	Perfluoro-1-hexanesulfonic acid	ND	24	28.2	ng/L	119	(70-130)		
MSD_201410020078	Perfluoro-1-hexanesulfonic acid	ND	24	23.3	ng/L	98	(70-130)	30	19
LCS1	Perfluoro-n-decanoic acid		25	31.2	ng/L	125	(70-130)		
LCS2	Perfluoro-n-decanoic acid		25	30.7	ng/L	123	(70-130)	20	1.6
MBLK	Perfluoro-n-decanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-decanoic acid		5.0	6.03	ng/L	121	(50-150)		
MS_201410020078	Perfluoro-n-decanoic acid	ND	25	21.8	ng/L	87	(70-130)		
MSD_201410020078	Perfluoro-n-decanoic acid	ND	25	26.2	ng/l	105	(70-130)	30	18
LCS1	Perfluoro-n-heptanoic acid		25	31.0	ng/L	124	(70-130)		
LCS2	Perfluoro-n-heptanoic acid		25	27.2	ng/L	109	(70-130)	20	13
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	5.88	ng/L	118	(50-150)		
MS_201410020078	Perfluoro-n-heptanoic acid	ND	25	26.1	ng/L	104	(70-130)		
MSD_201410020078	Perfluoro-n-heptanoic acid	ND	25	32.3	ng/l	129	(70-130)	30	21

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
RPD not calculated for LCS2 when different a concentration than LCS1 is used.
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
(S) - Indicates surrogate compound.
(I) - Indicates internal standard compound.

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Laboratory QC
Report: 503252

QC Laboratories

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Perfluoro-n-hexanoic acid		25	27.6	ng/L	110	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	23.5	ng/L	94	(70-130)	20	16
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	6.76	ng/L	135	(50-150)		
MS_201410020078	Perfluoro-n-hexanoic acid	ND	25	26.8	ng/L	104	(70-130)		
MSD_201410020078	Perfluoro-n-hexanoic acid	ND	25	29.2	ng/l	114	(70-130)	30	8.6
LCS1	Perfluoro-n-nonanoic acid		25	22.0	ng/L	88	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	22.0	ng/L	88	(70-130)	20	0.0
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	5.97	ng/L	119	(50-150)		
MS_201410020078	Perfluoro-n-nonanoic acid	ND	25	24.0	ng/L	96	(70-130)		
MSD_201410020078	Perfluoro-n-nonanoic acid	ND	25	24.0	ng/L	96	(70-130)	30	0.0
LCS1	Perfluoropentanoic acid		25	30.1	ng/L	120	(70-130)		
LCS2	Perfluoropentanoic acid		25	23.2	ng/L	93	(70-130)	20	**26**
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	5.40	ng/L	108	(50-150)		
MS_201410020078	Perfluoropentanoic acid	ND	25	23.3	ng/L	93	(70-130)		
MSD_201410020078	Perfluoropentanoic acid	ND	25	25.6	ng/l	103	(70-130)	30	9.8
LCS1	PFBA-C13 (I)		40	118	%	118	(50-150)		
LCS2	PFBA-C13 (I)		40	95.6	%	96	(50-150)		
MBLK	PFBA-C13 (I)			110	%	110	(50-150)		
MRL_CHK	PFBA-C13 (I)		40	110	%	110	(50-150)		
MS_201410020078	PFBA-C13 (I)		40	117	%	117	(25-180)		
MSD_201410020078	PFBA-C13 (I)		40	99.0	%	99	(25-180)		
LCS1	PFDA-C13 (I)		40	74.8	%	75	(50-150)		
LCS2	PFDA-C13 (I)		40	83.5	%	84	(50-150)		
MBLK	PFDA-C13 (I)			113	%	113	(50-150)		
MRL_CHK	PFDA-C13 (I)		40	96.2	%	96	(50-150)		
MS_201410020078	PFDA-C13 (I)		40	100	%	100	(25-180)		
MSD_201410020078	PFDA-C13 (I)		40	77.5	%	78	(25-180)		
LCS1	PFHxA-C13 (I)		40	82.7	%	83	(50-150)		
LCS2	PFHxA-C13 (I)		40	102	%	102	(50-150)		
MBLK	PFHxA-C13 (I)			85.5	%	85	(50-150)		
MRL_CHK	PFHxA-C13 (I)		40	89.4	%	89	(50-150)		
MS_201410020078	PFHxA-C13 (I)		40	82.5	%	83	(25-180)		
MSD_201410020078	PFHxA-C13 (I)		40	98.1	%	98	(25-180)		
LCS1	PFNA-C13 (I)		40	119	%	119	(50-150)		
LCS2	PFNA-C13 (I)		40	101	%	101	(50-150)		

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RPD not calculated for LCS2 when different a concentration than LCS1 is used.
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
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Report: 503252

QC Laboratories

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK	PFNA-C13 (I)			95.7	%	96	(50-150)		
MRL_CHK	PFNA-C13 (I)		40	107	%	107	(50-150)		
MS_201410020078	PFNA-C13 (I)		40	87.8	%	88	(25-180)		
MSD_201410020078	PFNA-C13 (I)		40	102	%	102	(25-180)		
LCS1	PFOA-C13 (I)		40	81.2	%	81	(50-150)		
LCS2	PFOA-C13 (I)		40	96.2	%	96	(50-150)		
MBLK	PFOA-C13 (I)			99.5	%	100	(50-150)		
MRL_CHK	PFOA-C13 (I)		40	90.7	%	91	(50-150)		
MS_201410020078	PFOA-C13 (I)		40	110	%	110	(25-180)		
MSD_201410020078	PFOA-C13 (I)		40	92.2	%	92	(25-180)		
LCS1	PFOS-C13 (I)		40	110	%	110	(50-150)		
LCS2	PFOS-C13 (I)		40	93.2	%	93	(50-150)		
MBLK	PFOS-C13 (I)			90.8	%	91	(50-150)		
MRL_CHK	PFOS-C13 (I)		40	93.9	%	94	(50-150)		
MS_201410020078	PFOS-C13 (I)		40	88.5	%	88	(25-180)		
MSD_201410020078	PFOS-C13 (I)		40	89.7	%	90	(25-180)		
QC Ref# 799559 - Perfluorinated compounds by MWH PFC						**Analysis Date: 10/22/2014**			
LCS1	Perfluoro octanesulfonic acid - PFOS		24	21.2	ng/L	89	(70-130)		
LCS2	Perfluoro octanesulfonic acid - PFOS		24	24.1	ng/L	101	(70-130)	20	13
MBLK	Perfluoro octanesulfonic acid - PFOS			<5	ng/L				
MRL_CHK	Perfluoro octanesulfonic acid - PFOS		4.8	6.02	ng/L	126	(50-150)		
MS_201410070351	Perfluoro octanesulfonic acid - PFOS	ND	24	20.3	ng/L	84	(70-130)		
MSD_201410070351	Perfluoro octanesulfonic acid - PFOS	ND	24	20.6	ng/L	85	(70-130)	30	1.5
LCS1	Perfluoro octanoic acid - PFOA		25	27.2	ng/L	109	(70-130)		
LCS2	Perfluoro octanoic acid - PFOA		25	30.0	ng/L	120	(70-130)	20	9.8
MBLK	Perfluoro octanoic acid - PFOA			<5	ng/L				
MRL_CHK	Perfluoro octanoic acid - PFOA		5.0	4.89	ng/L	98	(50-150)		
MS_201410070351	Perfluoro octanoic acid - PFOA	ND	25	19.8	ng/l	74	(70-130)		
MSD_201410070351	Perfluoro octanoic acid - PFOA	ND	25	26.7	ng/l	101	(70-130)	30	41
LCS1	Perfluoro-1-butanesulfonic acid		22	22.2	ng/L	100	(70-130)		
LCS2	Perfluoro-1-butanesulfonic acid		22	20.6	ng/L	93	(70-130)	20	7.5
MBLK	Perfluoro-1-butanesulfonic acid			<5	ng/L				
MRL_CHK	Perfluoro-1-butanesulfonic acid		4.4	4.54	ng/L	102	(50-150)		
MS_201410070351	Perfluoro-1-butanesulfonic acid	ND	22	23.8	ng/L	107	(70-130)		
MSD_201410070351	Perfluoro-1-butanesulfonic acid	ND	24	26.5	ng/L	111	(70-130)	30	11
LCS1	Perfluoro-1-hexanesulfonic acid		24	21.0	ng/L	89	(70-130)		
LCS2	Perfluoro-1-hexanesulfonic acid		24	19.4	ng/L	82	(70-130)	20	7.4
MBLK	Perfluoro-1-hexanesulfonic acid			<5	ng/L				

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RPD not calculated for LCS2 when different a concentration than LCS1 is used.
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
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QC Laboratories

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Perfluoro-1-hexanesulfonic acid		4.7	4.86	ng/L	103	(50-150)		
MS_201410070351	Perfluoro-1-hexanesulfonic acid	ND	24	21.0	ng/L	89	(70-130)		
MSD_201410070351	Perfluoro-1-hexanesulfonic acid	ND	24	18.1	ng/L	76	(70-130)	30	15
LCS1	Perfluoro-n-decanoic acid		25	22.0	ng/L	88	(70-130)		
LCS2	Perfluoro-n-decanoic acid		25	20.8	ng/L	83	(70-130)	20	5.6
MBLK	Perfluoro-n-decanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-decanoic acid		5.0	4.29	ng/L	86	(50-150)		
MS_201410070351	Perfluoro-n-decanoic acid	ND	25	21.8	ng/L	86	(70-130)		
MSD_201410070351	Perfluoro-n-decanoic acid	ND	25	22.4	ng/l	88	(70-130)	30	2.7
LCS1	Perfluoro-n-heptanoic acid		25	22.8	ng/L	91	(70-130)		
LCS2	Perfluoro-n-heptanoic acid		25	20.0	ng/L	80	(70-130)	20	13
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	2.84	ng/L	57	(50-150)		
MS_201410070351	Perfluoro-n-heptanoic acid	ND	25	23.2	ng/L	93	(70-130)		
MSD_201410070351	Perfluoro-n-heptanoic acid	ND	25	21.3	ng/l	85	(70-130)	30	8.5
LCS1	Perfluoro-n-hexanoic acid		25	23.3	ng/L	93	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	24.2	ng/L	97	(70-130)	20	3.8
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	3.46	ng/L	69	(50-150)		
MS_201410070351	Perfluoro-n-hexanoic acid	ND	25	27.2	ng/L	109	(70-130)		
MSD_201410070351	Perfluoro-n-hexanoic acid	ND	25	22.8	ng/l	91	(70-130)	30	18
LCS1	Perfluoro-n-nonanoic acid		25	20.8	ng/L	83	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	21.7	ng/L	87	(70-130)	20	4.2
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	3.63	ng/L	73	(50-150)		
MS_201410070351	Perfluoro-n-nonanoic acid	ND	25	18.5	ng/L	74	(70-130)		
MSD_201410070351	Perfluoro-n-nonanoic acid	ND	25	19.5	ng/L	78	(70-130)	30	5.3
LCS1	Perfluoropentanoic acid		25	23.0	ng/L	92	(70-130)		
LCS2	Perfluoropentanoic acid		25	23.1	ng/L	92	(70-130)	20	0.43
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	4.70	ng/L	94	(50-150)		
MS_201410070351	Perfluoropentanoic acid	ND	25	21.9	ng/L	88	(70-130)		
MSD_201410070351	Perfluoropentanoic acid	ND	25	25.9	ng/l	103	(70-130)	30	17
LCS1	PFBA-C13 (I)		40	98.1	%	98	(50-150)		
LCS2	PFBA-C13 (I)		40	91.6	%	92	(50-150)		
MBLK	PFBA-C13 (I)			116	%	117	(50-150)		
MRL_CHK	PFBA-C13 (I)		40	90.4	%	90	(50-150)		
MS_201410070351	PFBA-C13 (I)		40	109	%	109	(25-180)		

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RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
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QC Laboratories

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD_201410070351	PFBA-C13 (I)		40	100	%	100	(25-180)		
LCS1	PFDA-C13 (I)		40	92.1	%	92	(50-150)		
LCS2	PFDA-C13 (I)		40	102	%	102	(50-150)		
MBLK	PFDA-C13 (I)			88.8	%	89	(50-150)		
MRL_CHK	PFDA-C13 (I)		40	110	%	111	(50-150)		
MS_201410070351	PFDA-C13 (I)		40	88.9	%	89	(25-180)		
MSD_201410070351	PFDA-C13 (I)		40	74.3	%	74	(25-180)		
LCS1	PFHxA-C13 (I)		40	102	%	102	(50-150)		
LCS2	PFHxA-C13 (I)		40	109	%	109	(50-150)		
MBLK	PFHxA-C13 (I)			85.5	%	85	(50-150)		
MRL_CHK	PFHxA-C13 (I)		40	110	%	110	(50-150)		
MS_201410070351	PFHxA-C13 (I)		40	91.2	%	91	(25-180)		
MSD_201410070351	PFHxA-C13 (I)		40	99.3	%	99	(25-180)		
LCS1	PFNA-C13 (I)		40	105	%	105	(50-150)		
LCS2	PFNA-C13 (I)		40	73.0	%	73	(50-150)		
MBLK	PFNA-C13 (I)			84.8	%	85	(50-150)		
MRL_CHK	PFNA-C13 (I)		40	105	%	105	(50-150)		
MS_201410070351	PFNA-C13 (I)		40	87.8	%	88	(25-180)		
MSD_201410070351	PFNA-C13 (I)		40	82.1	%	82	(25-180)		
LCS1	PFOA-C13 (I)		40	87.7	%	88	(50-150)		
LCS2	PFOA-C13 (I)		40	71.3	%	71	(50-150)		
MBLK	PFOA-C13 (I)			84.5	%	84	(50-150)		
MRL_CHK	PFOA-C13 (I)		40	88.1	%	88	(50-150)		
MS_201410070351	PFOA-C13 (I)		40	98.0	%	98	(25-180)		
MSD_201410070351	PFOA-C13 (I)		40	72.4	%	72	(25-180)		
LCS1	PFOS-C13 (I)		40	110	%	110	(50-150)		
LCS2	PFOS-C13 (I)		40	102	%	102	(50-150)		
MBLK	PFOS-C13 (I)			124	%	124	(50-150)		
MRL_CHK	PFOS-C13 (I)		40	91.7	%	92	(50-150)		
MS_201410070351	PFOS-C13 (I)		40	90.6	%	91	(25-180)		
MSD_201410070351	PFOS-C13 (I)		40	86.4	%	86	(25-180)		

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