



Eaton Analytical

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



Laboratory Report

for

Horsham Water & Sewer Authority
617 Horsham Road
Horsham, PA 19044
Attention: Tina M. O'Rourke
Fax: (215) 672-8065

Date of Issue
07/10/2014


EUROFINS EATON
ANALYTICAL

TDF: Thomas.D.French
Project Manager

Report: 487444
Project: UCMR3
Group: PA1460033/Horsham
W&SA GW

* 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.

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 *	T104704230-14-6
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

ISO 17025 Accredited Method List

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/DCBP 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
HAA5/ 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 ²⁻ 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	

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (626) 386-1101 <http://www.EatonAnalytical.com>

Version 002. Issued: 06/03/2014

Acknowledgement of Samples Received

Addr: **Horsham Water & Sewer Authority**
617 Horsham Road
Horsham, PA 19044

Client ID: HORSHAM-PA
Folder #: 487444
Project: UCMR3
Sample Group: PA1460033/Horsham W&SA GW

Attn: Tina M. O'Rourke
Phone: (215) 672-8011

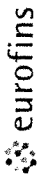
Project Manager: Thomas.D.French
Phone: (480) 778-1558

The following samples were received from you on **June 26, 2014**. 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
<u>201406260467</u>	00110-110-Well # 17 Sample Type: EP Sample Event: SE1 Facility ID: 00110 Sample Point ID: 110 PWSID: PA1460033 Static ID: EP @UCMR3 522 C @UCMR3 537	06/24/2014 1350
<u>201406260468</u>	FB:00110-110-Well # 17 Static ID: FB @UCMR3 537 FB	06/24/2014 0800

Test Description

- @UCMR3 522 C -- UCMR3 1,4-Dioxane by EPA 522
- @UCMR3 537 -- UCMR3 537
- @UCMR3 537 FB -- UCMR3 537



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Website: www.EatonAnalytical.com

PWSID: PA1460033

Example: (CA1234567)

UCMR3 CHAIN OF CUSTODY RECORD

487444

Folder No:

EUROFINS EATON ANALYTICAL USE ONLY:

SAMPLES CHECKED AGAINST COC BY: [Signature]

SAMPLES LOGGED IN BY: [Signature]

SAMPLE TEMP RECEIVED AT:

Colton / No. California / Arizona
 Monrovia

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

°C (Compliance: ≤10°C for the first 48 hours or ≤6°C after 48 hours)

°C (Compliance: ≤10°C for the first 48 hours or ≤6°C after 48 hours)

CONDITION OF BLUE ICE: 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: Aqua Pennsylvania, Inc. PROJECT CODE: UCMR3-PA
 EEA CLIENT CODE: PHILLYSUB COC ID: PA1460033 SAMPLE GROUP: PA1460033/ Horsham Water & Sewer Authority
 TAT requested: rush by adv notice only STD _X_ 1 wk 3 day 2 day 1 day

SAMPLE DATE	SAMPLE TIME	FACILITY ID (per EPA Requirement) - 5 characters Max	UNIQUE FIELD SAMPLE ID (per EPA Requirement) - 20 characters max	WATER SOURCE TYPE #	SAMPLE EVENT #	SAMPLE POINT TYPE #	DISINFECTANT TYPE #	UCMR3 200.8	UCMR3 200.8 - FB	UCMR3 218.7	UCMR3 Chlorate	UCMR3 524.3	UCMR3 524.3 - TB	UCMR3 522	UCMR3 537	UCMR3 537 - FB	UCMR3 539	UCMR3 539 - TB	SAMPLER COMMENTS
06/24/14	13:50	00110-110	Well #17	GW	SE1	EP													

(1) Water Source Type: SW: Surface Water GW: Ground Water GU: Ground Water under the direct influence of SW MX: Any Combination of previous three water types
 (2) Sample Event Code: SE1 (first) SE2 (second) SE3 (third) SE4 (fourth)
 (3) Sampling Point Type ID: EP: Entry Point to the distribution system MR: Distribution System sample at maximum residence time
 (4) Disinfectant Type: CLGA: Gaseous Chlorine CLOF: Offsite Generated Hypochlorite (stored as liquid form) CLON: Onsite Generated Hypochlorite (no storage) CAGC: Chloramine (formed from gaseous chlorine) CAOF: Chloramine (formed from onsite hypochlorite) CAON: Chloramine (formed from onsite hypochlorite) CLDO: Chlorine Dioxide OZON: Ozone ULVL: Ultraviolet Light OTHD: All Other Types of Disinfectant NODU: No Disinfectant Used
 * Field Blank (FB) or Trip Blank (TB) are analyzed only when associated samples have positive results (>MRL)

SIGNED BY: _____ PRINT NAME: B. Pachik
 RECEIVED BY: _____ SIGNATURE: [Signature]
 RECEIVED BY: _____ SIGNATURE: [Signature]
 RECEIVED BY: _____ SIGNATURE: [Signature]

DATE	TIME
06/24/14	13:50
06/25/14	16:00



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Laboratory Comments
Report: 487444

Horsham Water & Sewer Authority
Tina M. O'Rourke
617 Horsham Road
Horsham, PA 19044

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



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UCMR Field Blank
Report: 487444

Horsham Water & Sewer Authority
Tina M. O'Rourke
617 Horsham Road
Horsham, PA 19044

Samples Received on:
06/26/2014

The results section will be blank if there are no exceedances of UCMR3 Field Blank criteria. Field Blank Evaluation is required for positive detection in the associated sample for Metals by 200.8, VOCs by 524.3, PFCs by 537, and Hormones by 539 (SS monitoring only). A detection on this report indicates need for re-sample for the associated site and test. Reference: UCMR3 Laboratory Approval Requirements and Information Document V2, May 2012 section 8.1 Field Blanks.

UCMR3 Field Blanks are not required to be analyzed, if the target analytes are not detected in the associated samples. In that event, the Field Blank data are not available (NA) for reporting.

Results Section

Analyzed	Analyte	Sample ID	Result	Units	UCMR Limit
----------	---------	-----------	--------	-------	------------

SUMMARY OF POSITIVE DATA ONLY

<u>Method</u>	<u>Method description</u>	<u>Positive Data Limit = UCMR Limit</u>
@UCMR3 200.8 FB	Metals	Any detection Greater than 1/3
@UCMR3 524.3 TB	Volatiles	MRL
@UCMR3 537 FB	Perfluorinated	Any detection Greater than 1/3
@UCMR3 539 FB	Hormones	MRL



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Laboratory Hits
Report: 487444

Horsham Water & Sewer Authority
Tina M. O'Rourke
617 Horsham Road
Horsham, PA 19044

Samples Received on:
06/26/2014

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	201406260467	<u>00110-110-Well # 17</u>				
07/03/2014 22:15	1,4-Dioxane		0.12		ug/L	0.07
07/01/2014 23:47	Perfluoro octanesulfonic acid - PFOS		0.074		ug/L	0.04
07/01/2014 23:47	Perfluoro-1-hexanesulfonic acid - PFHxS		0.040		ug/L	0.03
07/01/2014 23:47	Perfluorooctanoic acid - PFOA		0.023		ug/L	0.02

SUMMARY OF POSITIVE DATA ONLY



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Laboratory Data
Report: 487444

Horsham Water & Sewer Authority
Tina M. O'Rourke
617 Horsham Road
Horsham, PA 19044

Samples Received on:
06/26/2014

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
00110-110-Well # 17 (201406260467)					Sampled on 06/24/2014 1350			
Sample Type: EP								
Sample Event: SE1								
Facility ID: 00110								
Sample Point ID: 110								
PWSID: PA1460033								
Static ID: EP								
EPA 522 - UCMR3 1,4-Dioxane by EPA 522								
6/30/2014	07/03/2014	22:15	779457 (EPA 522)	1,4-Dioxane	0.12	ug/L	0.07	1
6/30/2014	07/03/2014	22:15	779457 (EPA 522)	Dioxane-d8	92	%		1
6/30/2014	07/03/2014	22:15	779457 (EPA 522)	THF-d8	75	%		1
EPA 537 - UCMR3 537								
07/01/2014	23:47	778753	(EPA 537)	Perfluoro octanesulfonic acid - PFOS	0.074	ug/L	0.04	1
07/01/2014	23:47	778753	(EPA 537)	Perfluoro-1-butanesulfonic acid -PFBS	ND	ug/L	0.09	1
07/01/2014	23:47	778753	(EPA 537)	Perfluoro-1-hexanesulfonic acid - PFHxS	0.040	ug/L	0.03	1
07/01/2014	23:47	778753	(EPA 537)	Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	1
07/01/2014	23:47	778753	(EPA 537)	Perfluoro-n-nonanoic acid -PFNA	ND	ug/L	0.02	1
07/01/2014	23:47	778753	(EPA 537)	Perfluorooctanoic acid - PFOA	0.023	ug/L	0.02	1
07/01/2014	23:47	778753	(EPA 537)	13C-PFDA - Surr#2	83	%		1
07/01/2014	23:47	778753	(EPA 537)	13C-PFHxA - Surr#1	85	%		1
07/01/2014	23:47	778753	(EPA 537)	13C-PFOA- IS#1	122	%		1
07/01/2014	23:47	778753	(EPA 537)	13C-PFOS- IS#2	120	%		1
FB::00110-110-Well # 17 (201406260468)					Sampled on 06/24/2014 0800			
Static ID: FB								
EPA 537 - UCMR3 537								
07/08/2014	18:44	779714	(EPA 537)	Perfluoro octanesulfonic acid - PFOS	ND	ug/L	0.04	1
07/08/2014	18:44	779714	(EPA 537)	Perfluoro-1-butanesulfonic acid -PFBS	ND	ug/L	0.09	1
07/08/2014	18:44	779714	(EPA 537)	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	ug/L	0.03	1
07/08/2014	18:44	779714	(EPA 537)	Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	1
07/08/2014	18:44	779714	(EPA 537)	Perfluoro-n-nonanoic acid -PFNA	ND	ug/L	0.02	1
07/08/2014	18:44	779714	(EPA 537)	Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	1
07/08/2014	18:44	779714	(EPA 537)	13C-PFDA - Surr#2	105	%		1
07/08/2014	18:44	779714	(EPA 537)	13C-PFHxA - Surr#1	94	%		1
07/08/2014	18:44	779714	(EPA 537)	13C-PFOA- IS#1	114	%		1
07/08/2014	18:44	779714	(EPA 537)	13C-PFOS- IS#2	110	%		1

Rounding on totals after summation.
(e) - indicates calculated results



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Laboratory
QC Summary: 487444

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Horsham Water & Sewer Authority

QC Ref # 778753 - UCMR3 537

201406260467 00110-110-Well # 17

Analysis Date: 07/01/2014

Analyzed by: 1CL

QC Ref # 779457 - UCMR3 1,4-Dioxane by EPA 522

201406260467 00110-110-Well # 17

Analysis Date: 07/03/2014

Analyzed by: CRW

QC Ref # 779714 - UCMR3 537

201406260468 FB::00110-110-Well # 17

Analysis Date: 07/08/2014

Analyzed by: 1CL

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Laboratory QC
 Report: 487444

Horsham Water & Sewer Authority

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 778753 - UCMR3 537 by EPA 537						Analysis Date: 07/01/2014			
CCCH	13C-PFDA - Surr#2 (S)			101	%	101	(70-130)		
CCCL	13C-PFDA - Surr#2 (S)			99.3	%	99	(70-130)		
CCCM	13C-PFDA - Surr#2 (S)			97.8	%	98	(70-130)		
MBLK_HI	13C-PFDA - Surr#2 (S)			86.4	%	86	(70-130)		
MRLHI	13C-PFDA - Surr#2 (S)			86.6	%	87	(70-130)		
MS2_201406260469	13C-PFDA - Surr#2 (S)			89.8	%	90	(70-130)		
MSD2_201406260469	13C-PFDA - Surr#2 (S)			85.7	%	86	(70-130)		
QCS	13C-PFDA - Surr#2 (S)			102	%	102	(70-130)		
CCCH	13C-PFHxA - Surr#1 (S)			101	%	101	(70-130)		
CCCL	13C-PFHxA - Surr#1 (S)			100	%	100	(70-130)		
CCCM	13C-PFHxA - Surr#1 (S)			101	%	101	(70-130)		
MBLK_HI	13C-PFHxA - Surr#1 (S)			90.6	%	91	(70-130)		
MRLHI	13C-PFHxA - Surr#1 (S)			91.7	%	92	(70-130)		
MS2_201406260469	13C-PFHxA - Surr#1 (S)			81.9	%	82	(70-130)		
MSD2_201406260469	13C-PFHxA - Surr#1 (S)			80.6	%	81	(70-130)		
QCS	13C-PFHxA - Surr#1 (S)			101	%	101	(70-130)		
CCCH	13C-PFOA- IS#1 (I)			101	%	101	(50-150)		
CCCL	13C-PFOA- IS#1 (I)			101	%	101	(50-150)		
CCCM	13C-PFOA- IS#1 (I)			98.4	%	98	(50-150)		
MBLK_HI	13C-PFOA- IS#1 (I)			122	%	122	(50-150)		
MRLHI	13C-PFOA- IS#1 (I)			119	%	119	(50-150)		
MS2_201406260469	13C-PFOA- IS#1 (I)			114	%	114	(50-150)		
MSD2_201406260469	13C-PFOA- IS#1 (I)			116	%	116	(50-150)		
QCS	13C-PFOA- IS#1 (I)			96.5	%	97	(50-150)		
CCCH	13C-PFOS- IS#2 (I)			103	%	103	(50-150)		
CCCL	13C-PFOS- IS#2 (I)			100	%	100	(50-150)		
CCCM	13C-PFOS- IS#2 (I)			101	%	101	(50-150)		
MBLK_HI	13C-PFOS- IS#2 (I)			123	%	123	(50-150)		
MRLHI	13C-PFOS- IS#2 (I)			118	%	119	(50-150)		
MS2_201406260469	13C-PFOS- IS#2 (I)			117	%	117	(50-150)		
MSD2_201406260469	13C-PFOS- IS#2 (I)			117	%	117	(50-150)		
QCS	13C-PFOS- IS#2 (I)			99.5	%	99	(50-150)		
CCCH	Perfluoro octanesulfonic acid - PFOS		0.13	0.121	ug/L	95	(70-130)		
CCCL	Perfluoro octanesulfonic acid - PFOS		0.032	0.0310	ug/L	97	(50-150)		
CCCM	Perfluoro octanesulfonic acid - PFOS		0.064	0.0613	ug/L	96	(70-130)		
MBLK_HI	Perfluoro octanesulfonic acid - PFOS	ND		<0.01333	ug/L				

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).

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Horsham Water & Sewer Authority

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRLHI	Perfluoro octanesulfonic acid - PFOS		0.04	0.0340	ug/L	85	(50-150)		
MS2_201406260469	Perfluoro octanesulfonic acid - PFOS	ND	0.08	0.0798	ug/L	89	(70-130)		
MSD2_201406260469	Perfluoro octanesulfonic acid - PFOS	ND	0.08	0.0794	ug/L	89	(70-130)	30	0.50
QCS	Perfluoro octanesulfonic acid - PFOS		0.048	0.0472	ug/L	99	(70-130)		
CCCH	Perfluoro-1-butanefulfonic acid -PFBS		0.29	0.282	ug/L	97	(70-130)		
CCCL	Perfluoro-1-butanefulfonic acid -PFBS		0.078	0.0771	ug/L	99	(50-150)		
CCCM	Perfluoro-1-butanefulfonic acid -PFBS		0.15	0.149	ug/L	102	(70-130)		
MBLK_HI	Perfluoro-1-butanefulfonic acid -PFBS	ND		<0.03033	ug/L				
MRLHI	Perfluoro-1-butanefulfonic acid -PFBS		0.09	0.0851	ug/L	95	(50-150)		
MS2_201406260469	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.18	0.177	ug/L	96	(70-130)		
MSD2_201406260469	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.18	0.176	ug/L	96	(70-130)	30	0.57
QCS	Perfluoro-1-butanefulfonic acid -PFBS		0.044	0.0496	ug/L	112	(70-130)		
CCCH	Perfluoro-1-hexanesulfonic acid - PFHxS		0.096	0.0899	ug/L	94	(70-130)		
CCCL	Perfluoro-1-hexanesulfonic acid - PFHxS		0.024	0.0238	ug/L	99	(50-150)		
CCCM	Perfluoro-1-hexanesulfonic acid - PFHxS		0.048	0.0447	ug/L	93	(70-130)		
MBLK_HI	Perfluoro-1-hexanesulfonic acid - PFHxS	ND		<0.0100	ug/L				
MRLHI	Perfluoro-1-hexanesulfonic acid - PFHxS		0.03	0.0262	ug/L	87	(50-150)		
MS2_201406260469	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.06	0.0587	ug/L	92	(70-130)		
MSD2_201406260469	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.06	0.0584	ug/L	91	(70-130)	30	0.51
QCS	Perfluoro-1-hexanesulfonic acid - PFHxS		0.048	0.0448	ug/L	94	(70-130)		
CCCH	Perfluoroheptanoic acid - PFHpA		0.032	0.0317	ug/L	99	(70-130)		
CCCL	Perfluoroheptanoic acid - PFHpA		0.008	0.00826	ug/L	103	(50-150)		
CCCM	Perfluoroheptanoic acid - PFHpA		0.016	0.0158	ug/L	99	(70-130)		
MBLK_HI	Perfluoroheptanoic acid - PFHpA	ND		<0.00333	ug/L				
MRLHI	Perfluoroheptanoic acid - PFHpA		0.01	0.00881	ug/L	88	(50-150)		
MS2_201406260469	Perfluoroheptanoic acid - PFHpA	ND	0.02	0.0214	ug/L	90	(70-130)		
MSD2_201406260469	Perfluoroheptanoic acid - PFHpA	ND	0.02	0.0212	ug/L	89	(70-130)	30	0.94
QCS	Perfluoroheptanoic acid - PFHpA		0.05	0.0543	ug/L	109	(70-130)		
CCCH	Perfluoro-n-nonanoic acid -PFNA		0.064	0.0639	ug/L	100	(70-130)		
CCCL	Perfluoro-n-nonanoic acid -PFNA		0.016	0.0171	ug/L	107	(50-150)		
CCCM	Perfluoro-n-nonanoic acid -PFNA		0.032	0.0337	ug/L	105	(70-130)		
MBLK_HI	Perfluoro-n-nonanoic acid -PFNA	ND		<0.00666	ug/L				
MRLHI	Perfluoro-n-nonanoic acid -PFNA		0.02	0.0185	ug/L	92	(50-150)		
MS2_201406260469	Perfluoro-n-nonanoic acid -PFNA	ND	0.04	0.0388	ug/L	93	(70-130)		
MSD2_201406260469	Perfluoro-n-nonanoic acid -PFNA	ND	0.04	0.0384	ug/L	92	(70-130)	30	1.0
QCS	Perfluoro-n-nonanoic acid -PFNA		0.05	0.0490	ug/L	98	(70-130)		
CCCH	Perfluorooctanoic acid - PFOA		0.064	0.0631	ug/L	99	(70-130)		
CCCL	Perfluorooctanoic acid - PFOA		0.016	0.0163	ug/L	102	(50-150)		

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCM	Perfluorooctanoic acid - PFOA		0.032	0.0326	ug/L	102	(70-130)		
MBLK_HI	Perfluorooctanoic acid - PFOA	ND		<0.00666	ug/L				
MRLHI	Perfluorooctanoic acid - PFOA		0.02	0.0184	ug/L	92	(50-150)		
MS2_201406260469	Perfluorooctanoic acid - PFOA	ND	0.04	0.0444	ug/L	95	(70-130)		
MSD2_201406260469	Perfluorooctanoic acid - PFOA	ND	0.04	0.0434	ug/L	93	(70-130)	30	2.3
QCS	Perfluorooctanoic acid - PFOA		0.05	0.0511	ug/L	102	(70-130)		
QC Ref# 779457 - UCMR3 1,4-Dioxane by EPA 522 by EPA 522						Analysis Date: 07/03/2014			
CCCH	1,4-Dioxane		50	53.6	ug/L	107	(70-130)		
CCCL	1,4-Dioxane		0.07	0.0670	ug/L	96	(50-150)		
CCCM	1,4-Dioxane		20	20.9	ug/L	105	(70-130)		
LCS1	1,4-Dioxane		20	16.8	ug/L	84	(70-130)		
MBLK	1,4-Dioxane			<0.023	ug/L				
MRL_CHK	1,4-Dioxane		0.07	0.0680	ug/L	97	(50-150)		
MS_201406250115	1,4-Dioxane	ND	20	16.9	ug/L	84	(70-130)		
MSD_201406250115	1,4-Dioxane	ND	20	16.7	ug/L	84	(70-130)	20	1.2
CCCH	Dioxane-d8			112	%	113	(70-130)		
CCCL	Dioxane-d8			106	%	106	(70-130)		
CCCM	Dioxane-d8			115	%	115	(70-130)		
LCS1	Dioxane-d8			90.3	%	90	(70-130)		
MBLK	Dioxane-d8			88.6	%				
MRL_CHK	Dioxane-d8			91.2	%	91	(70-130)		
MS_201406250115	Dioxane-d8	90		89.9	%	90	(70-130)		
MSD_201406250115	Dioxane-d8	90		89.8	%	90	(70-130)		
CCCH	THF-d8			75.9	%	76	(50-150)		
CCCL	THF-d8			77.2	%	77	(50-150)		
CCCM	THF-d8			71.0	%	71	(50-150)		
LCS1	THF-d8			68.9	%	69	(50-150)		
MBLK	THF-d8			69.9	%				
MRL_CHK	THF-d8			69.5	%	70	(50-150)		
MS_201406250115	THF-d8	71		65.7	%	66	(50-150)		
MSD_201406250115	THF-d8	71		75.5	%	76	(50-150)		
QC Ref# 779714 - UCMR3 537 by EPA 537						Analysis Date: 07/08/2014			
CCCH	13C-PFDA - Surr#2 (S)			97.2	%	97	(70-130)		
CCCL	13C-PFDA - Surr#2 (S)			98.6	%	99	(70-130)		
CCCM	13C-PFDA - Surr#2 (S)			95.8	%	96	(70-130)		
MBLK_HI	13C-PFDA - Surr#2 (S)			90.5	%	91	(70-130)		
MRLHI	13C-PFDA - Surr#2 (S)			92.4	%	92	(70-130)		

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Horsham Water & Sewer Authority

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MS1_201407020552	13C-PFDA - Surr#2 (S)			89.7	%	90	(70-130)		
MSD1_201407020552	13C-PFDA - Surr#2 (S)			91.6	%	92	(70-130)		
QCS	13C-PFDA - Surr#2 (S)			92.9	%	93	(70-130)		
CCCH	13C-PFHxA - Surr#1 (S)			94.8	%	95	(70-130)		
CCCL	13C-PFHxA - Surr#1 (S)			98.8	%	99	(70-130)		
CCCM	13C-PFHxA - Surr#1 (S)			95.9	%	96	(70-130)		
MBLK_HI	13C-PFHxA - Surr#1 (S)			93.6	%	94	(70-130)		
MRLHI	13C-PFHxA - Surr#1 (S)			96.3	%	96	(70-130)		
MS1_201407020552	13C-PFHxA - Surr#1 (S)			95.2	%	95	(70-130)		
MSD1_201407020552	13C-PFHxA - Surr#1 (S)			99.8	%	100	(70-130)		
QCS	13C-PFHxA - Surr#1 (S)			95.8	%	96	(70-130)		
CCCH	13C-PFOA- IS#1 (I)			105	%	105	(50-150)		
CCCL	13C-PFOA- IS#1 (I)			101	%	101	(50-150)		
CCCM	13C-PFOA- IS#1 (I)			104	%	104	(50-150)		
MBLK_HI	13C-PFOA- IS#1 (I)			110	%	110	(50-150)		
MRLHI	13C-PFOA- IS#1 (I)			110	%	110	(50-150)		
MS1_201407020552	13C-PFOA- IS#1 (I)			106	%	106	(50-150)		
MSD1_201407020552	13C-PFOA- IS#1 (I)			103	%	103	(50-150)		
QCS	13C-PFOA- IS#1 (I)			98.9	%	99	(50-150)		
CCCH	13C-PFOS- IS#2 (I)			106	%	106	(50-150)		
CCCL	13C-PFOS- IS#2 (I)			103	%	103	(50-150)		
CCCM	13C-PFOS- IS#2 (I)			103	%	103	(50-150)		
MBLK_HI	13C-PFOS- IS#2 (I)			109	%	109	(50-150)		
MRLHI	13C-PFOS- IS#2 (I)			108	%	108	(50-150)		
MS1_201407020552	13C-PFOS- IS#2 (I)			108	%	108	(50-150)		
MSD1_201407020552	13C-PFOS- IS#2 (I)			107	%	107	(50-150)		
QCS	13C-PFOS- IS#2 (I)			99.3	%	99	(50-150)		
CCCH	Perfluoro octanesulfonic acid - PFOS		0.13	0.124	ug/L	97	(70-130)		
CCCL	Perfluoro octanesulfonic acid - PFOS		0.032	0.0315	ug/L	99	(50-150)		
CCCM	Perfluoro octanesulfonic acid - PFOS		0.064	0.0633	ug/L	99	(70-130)		
MBLK_HI	Perfluoro octanesulfonic acid - PFOS	ND		<0.01333	ug/L				
MRLHI	Perfluoro octanesulfonic acid - PFOS		0.04	0.0427	ug/L	107	(50-150)		
MS1_201407020552	Perfluoro octanesulfonic acid - PFOS	ND	0.04	0.0412	ug/L	102	(50-150)		
MSD1_201407020552	Perfluoro octanesulfonic acid - PFOS	ND	0.04	0.0401	ug/L	100	(50-150)	30	2.7
QCS	Perfluoro octanesulfonic acid - PFOS		0.048	0.0472	ug/L	99	(70-130)		
CCCH	Perfluoro-1-butanesulfonic acid -PFBS		0.29	0.292	ug/L	100	(70-130)		
CCCL	Perfluoro-1-butanesulfonic acid -PFBS		0.078	0.0766	ug/L	98	(50-150)		
CCCM	Perfluoro-1-butanesulfonic acid -PFBS		0.15	0.155	ug/L	107	(70-130)		

Spike recovery is already corrected for native results.

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Laboratory QC
 Report: 487444

Horsham Water & Sewer Authority

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MBLK_HI	Perfluoro-1-butanefulfonic acid -PFBS	ND		<0.03033	ug/L				
MRLHI	Perfluoro-1-butanefulfonic acid -PFBS		0.09	0.107	ug/L	119	(50-150)		
MS1_201407020552	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.091	0.104	ug/L	114	(50-150)		
MSD1_201407020552	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.091	0.104	ug/L	115	(50-150)	30	0.0
QCS	Perfluoro-1-butanefulfonic acid -PFBS		0.044	0.0508	ug/L	114	(70-130)		
CCCH	Perfluoro-1-hexanesulfonic acid - PFHxS		0.096	0.0904	ug/L	94	(70-130)		
CCCL	Perfluoro-1-hexanesulfonic acid - PFHxS		0.024	0.0233	ug/L	97	(50-150)		
CCCM	Perfluoro-1-hexanesulfonic acid - PFHxS		0.048	0.0470	ug/L	98	(70-130)		
MBLK_HI	Perfluoro-1-hexanesulfonic acid - PFHxS	ND		<0.0100	ug/L				
MRLHI	Perfluoro-1-hexanesulfonic acid - PFHxS		0.03	0.0323	ug/L	108	(50-150)		
MS1_201407020552	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.03	0.0304	ug/L	101	(50-150)		
MSD1_201407020552	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.03	0.0310	ug/L	103	(50-150)	30	2.0
QCS	Perfluoro-1-hexanesulfonic acid - PFHxS		0.048	0.0451	ug/L	95	(70-130)		
CCCH	Perfluoroheptanoic acid - PFHpA		0.032	0.0314	ug/L	98	(70-130)		
CCCL	Perfluoroheptanoic acid - PFHpA		0.008	0.00801	ug/L	100	(50-150)		
CCCM	Perfluoroheptanoic acid - PFHpA		0.016	0.0164	ug/L	103	(70-130)		
MBLK_HI	Perfluoroheptanoic acid - PFHpA	ND		<0.00333	ug/L				
MRLHI	Perfluoroheptanoic acid - PFHpA		0.01	0.0109	ug/L	109	(50-150)		
MS1_201407020552	Perfluoroheptanoic acid - PFHpA	ND	0.01	0.0108	ug/L	107	(50-150)		
MSD1_201407020552	Perfluoroheptanoic acid - PFHpA	ND	0.01	0.0111	ug/L	110	(50-150)	30	2.7
QCS	Perfluoroheptanoic acid - PFHpA		0.05	0.0527	ug/L	105	(70-130)		
CCCH	Perfluoro-n-nonanoic acid -PFNA		0.064	0.0618	ug/L	97	(70-130)		
CCCL	Perfluoro-n-nonanoic acid -PFNA		0.016	0.0168	ug/L	105	(50-150)		
CCCM	Perfluoro-n-nonanoic acid -PFNA		0.032	0.0328	ug/L	103	(70-130)		
MBLK_HI	Perfluoro-n-nonanoic acid -PFNA	ND		<0.00666	ug/L				
MRLHI	Perfluoro-n-nonanoic acid -PFNA		0.02	0.0220	ug/L	110	(50-150)		
MS1_201407020552	Perfluoro-n-nonanoic acid -PFNA	ND	0.02	0.0218	ug/L	109	(50-150)		
MSD1_201407020552	Perfluoro-n-nonanoic acid -PFNA	ND	0.02	0.0224	ug/L	112	(50-150)	30	2.3
QCS	Perfluoro-n-nonanoic acid -PFNA		0.05	0.0451	ug/L	90	(70-130)		
CCCH	Perfluorooctanoic acid - PFOA		0.064	0.0643	ug/L	101	(70-130)		
CCCL	Perfluorooctanoic acid - PFOA		0.016	0.0164	ug/L	102	(50-150)		
CCCM	Perfluorooctanoic acid - PFOA		0.032	0.0329	ug/L	103	(70-130)		
MBLK_HI	Perfluorooctanoic acid - PFOA	ND		<0.00666	ug/L				
MRLHI	Perfluorooctanoic acid - PFOA		0.02	0.0229	ug/L	115	(50-150)		
MS1_201407020552	Perfluorooctanoic acid - PFOA	ND	0.02	0.0224	ug/L	107	(50-150)		
MSD1_201407020552	Perfluorooctanoic acid - PFOA	ND	0.02	0.0228	ug/L	109	(50-150)	30	1.8
QCS	Perfluorooctanoic acid - PFOA		0.05	0.0500	ug/L	100	(70-130)		

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