



Eaton Analytical

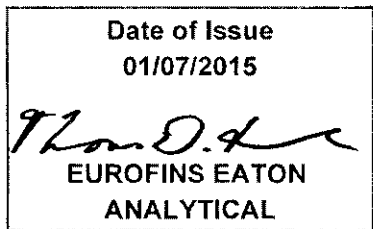
750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3629  
Tel: (626) 386-1100  
Fax: (626) 386-1101  
1 800 566 LABS (1 800 566 5227)



## Laboratory Report

for

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



TDF: Thomas.D.French  
Project Manager

Report: 512124  
Project: UCMR3  
Group: PA1460033/Horsham  
W&SA SW/MX

- \* 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 *	T104704230-14-7
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

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)	(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 <sup>2-</sup> D			x
Sulfite	SM 4500-SO <sup>3-</sup> 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 #: 512124  
 Project: UCMR3  
 Sample Group: PA1460033/Horsham W&SA SW/MX

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

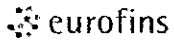
Project Manager: Thomas.D.French  
 Phone: (480) 778-1558

The following samples were received from you on **December 12, 2014** at 11:30. 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
201412120280	00018-EP002-NWWA Interconnect Sample Type: EP Sample Event: SE3 Facility ID: 00018 Sample Point ID: EP002 PWSID: PA1460033 @UCMR3 522 C @UCMR3 537	12/10/2014 1030
201412120281	FB:00018-EP002-NWWA Interconnect @UCMR3 537 FB	12/10/2014 1030

**Test Description**

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



Eaton Analytical

# UCMR3 CHAIN OF CUSTODY RECORD

512124

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

Phone: 626 386 1100/ 800 566 LABS (800 566 5227)  
Fax: 626 386 1101

Website: [www.EatonAnalytical.com](http://www.EatonAnalytical.com)

EUROFINS EATON ANALYTICAL USE ONLY:

Folder No:

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: *JS*

SAMPLES LOGGED IN BY: *JS*

SAMPLE TEMP RECEIVED AT:

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

Colton / No. California / Arizona °C (Compliance: ≤10°C for the first 48 hours or ≤6°C after 48 hours)

Monrovia 3.3-0.3 = 3.0 °C (Compliance: ≤10°C for the first 48 hours or ≤6°C after 48 hours)

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: \_\_\_\_\_

PWSID: PA1460033  
Example: (CA1234567)

TO BE COMPLETED BY SAMPLER:

(check for yes)

COMPANY/AGENCY NAME: Aqua Pennsylvania, Inc.		PROJECT CODE: UCMR3-PA	COMPLIANCE SAMPLES <input checked="" type="checkbox"/> - Requires upload to EPA database <input checked="" type="checkbox"/>	Regulation: UCMR3
EEA CLIENT CODE: HORSHAM-PA	COC ID:	SAMPLE GROUP: PA1460033/ Horsham Water & Sewer Authority	NOTE: we MUST have PWSID#, Facility ID, Sample Point ID, and Sample Type to be able to upload data to EPA Database	
SEE ATTACHED BOTTLE ORDER FOR ANALYSES <input type="checkbox"/> (check for yes), OR			list ANALYSES REQUIRED (Mark "X" in all test required for each sample line)	

TAT requested: rush by adv notice only		STD _x_ 1 wk ___ 3 day ___ 2 day ___ 1 day ___						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 - FB *	SAMPLER COMMENTS
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 <sup>(1)</sup>	SAMPLE EVENT # ID <sup>(2)</sup>	SAMPLE POINT TYPE ID <sup>(3)</sup>	DISINFECTANT TYPE <sup>(4)</sup>												
12/10/14	1030	00018-EP002	NWWA Interconnect	SW	SE3	EP							X	X	X				
		<i>Victor Plascencia</i>																	
		DEC 12 2014 11:50																	
		Victor Plascencia																	
		Eurofins Eaton Analytical																	

<sup>(1)</sup> 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

<sup>(2)</sup> Sample Event Code: SE1 (first) SE2 (second) SE3 (third) SE4 (fourth)

<sup>(3)</sup> Sampling Point Type ID: EP: Entry Point to the distribution system MR: Distribution System sample at maximum residence time

<sup>(4)</sup> 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 offsite 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)

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
SAMPLED BY:	<i>B. Pachik</i>	B. Pachik	Aqua PA	12/10/14	1030
RELINQUISHED BY:	<i>A. Nguyen</i>	A. Nguyen	Aqua PA	12/11/14	1600
RECEIVED BY:					
RELINQUISHED BY:					
RECEIVED BY:					



**Eaton Analytical**

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**Laboratory Comments  
Report: 512124**

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: 512124

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

Samples Received on:  
12/12/2014 11:30

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
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**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: 512124**

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

Samples Received on:  
12/12/2014 11:30

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
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**SUMMARY OF POSITIVE DATA ONLY**



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**Laboratory Data  
 Report: 512124**

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

Samples Received on:  
 12/12/2014 11:30

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
<b>00018-EP002-NWWA Interconnect (201412120280)</b>						<b>Sampled on 12/10/2014 1030</b>		
Sample Type: EP								
Sample Event: SE3								
Facility ID: 00018								
Sample Point ID: EP002								
PWSID: PA1460033								
<b>EPA 522 - UCMR3 1,4-Dioxane by EPA 522</b>								
12/17/2014	12/19/2014	15:17	810610 (EPA 522)	1,4-Dioxane	ND	ug/L	0.07	1
12/17/2014	12/19/2014	15:17	810610 (EPA 522)	Dioxane-d8	112	%		1
12/17/2014	12/19/2014	15:17	810610 (EPA 522)	THF-d8	91	%		1
<b>EPA 537 - UCMR3 537</b>								
12/17/2014	8:16	809618	(EPA 537)	Perfluoro octanesulfonic acid - PFOS	ND	ug/L	0.04	1
12/17/2014	8:16	809618	(EPA 537)	Perfluoro-1-butanesulfonic acid -PFBS	ND	ug/L	0.09	1
12/17/2014	8:16	809618	(EPA 537)	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	ug/L	0.03	1
12/17/2014	8:16	809618	(EPA 537)	Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	1
12/17/2014	8:16	809618	(EPA 537)	Perfluoro-n-nonanoic acid -PFNA	ND	ug/L	0.02	1
12/17/2014	8:16	809618	(EPA 537)	Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	1
12/17/2014	8:16	809618	(EPA 537)	13C-PFDA - Surr#2	86	%		1
12/17/2014	8:16	809618	(EPA 537)	13C-PFHxA - Surr#1	96	%		1
12/17/2014	8:16	809618	(EPA 537)	13C-PFOA- IS#1	104	%		1
12/17/2014	8:16	809618	(EPA 537)	13C-PFOS- IS#2	102	%		1

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



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Laboratory  
QC Summary: 512124

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Horsham Water & Sewer Authority

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**QC Ref # 809618 - UCMR3 537**

201412120280      00018-EP002-NWWA Interconnect

**Analysis Date: 12/17/2014**

Analyzed by: 1CL

**QC Ref # 810610 - UCMR3 1,4-Dioxane by EPA 522**

201412120280      00018-EP002-NWWA Interconnect

**Analysis Date: 12/19/2014**

Analyzed by: PAC

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**Horsham Water & Sewer Authority**

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
<b>QC Ref# 809618 - UCMR3 537 by EPA 537</b>						<b>Analysis Date: 12/17/2014</b>			
CCCH	13C-PFDA - Surr#2 (S)			99.5	%	99	(70-130)		
CCCL	13C-PFDA - Surr#2 (S)			97.1	%	97	(70-130)		
CCCM	13C-PFDA - Surr#2 (S)			97.4	%	97	(70-130)		
MBLK_HI	13C-PFDA - Surr#2 (S)			93.0	%	93	(70-130)		
MRLHI	13C-PFDA - Surr#2 (S)			92.6	%	93	(70-130)		
MS2_201412120275	13C-PFDA - Surr#2 (S)			90.9	%	91	(70-130)		
MSD2_201412120275	13C-PFDA - Surr#2 (S)			88.4	%	88	(70-130)		
QCS	13C-PFDA - Surr#2 (S)			99.2	%	99	(70-130)		
CCCH	13C-PFHxA - Surr#1 (S)			96.0	%	96	(70-130)		
CCCL	13C-PFHxA - Surr#1 (S)			96.4	%	96	(70-130)		
CCCM	13C-PFHxA - Surr#1 (S)			98.4	%	98	(70-130)		
MBLK_HI	13C-PFHxA - Surr#1 (S)			99.2	%	99	(70-130)		
MRLHI	13C-PFHxA - Surr#1 (S)			96.8	%	97	(70-130)		
MS2_201412120275	13C-PFHxA - Surr#1 (S)			100	%	100	(70-130)		
MSD2_201412120275	13C-PFHxA - Surr#1 (S)			101	%	101	(70-130)		
QCS	13C-PFHxA - Surr#1 (S)			96.7	%	97	(70-130)		
CCCH	13C-PFOA- IS#1 (I)			106	%	106	(50-150)		
CCCL	13C-PFOA- IS#1 (I)			104	%	104	(50-150)		
CCCM	13C-PFOA- IS#1 (I)			106	%	106	(50-150)		
MBLK_HI	13C-PFOA- IS#1 (I)			107	%	107	(50-150)		
MRLHI	13C-PFOA- IS#1 (I)			107	%	107	(50-150)		
MS2_201412120275	13C-PFOA- IS#1 (I)			103	%	103	(50-150)		
MSD2_201412120275	13C-PFOA- IS#1 (I)			102	%	102	(50-150)		
QCS	13C-PFOA- IS#1 (I)			100	%	101	(50-150)		
CCCH	13C-PFOS- IS#2 (I)			102	%	102	(50-150)		
CCCL	13C-PFOS- IS#2 (I)			104	%	104	(50-150)		
CCCM	13C-PFOS- IS#2 (I)			105	%	105	(50-150)		
MBLK_HI	13C-PFOS- IS#2 (I)			102	%	103	(50-150)		
MRLHI	13C-PFOS- IS#2 (I)			102	%	102	(50-150)		
MS2_201412120275	13C-PFOS- IS#2 (I)			99.5	%	100	(50-150)		
MSD2_201412120275	13C-PFOS- IS#2 (I)			97.6	%	98	(50-150)		
QCS	13C-PFOS- IS#2 (I)			101	%	101	(50-150)		
CCCH	Perfluoro octanesulfonic acid - PFOS		0.13	0.130	ug/L	102	(70-130)		
CCCL	Perfluoro octanesulfonic acid - PFOS		0.032	0.0309	ug/L	97	(50-150)		
CCCM	Perfluoro octanesulfonic acid - PFOS		0.064	0.0620	ug/L	97	(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.

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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	0.0397	ug/L	99	(50-150)		
MS2_201412120275	Perfluoro octanesulfonic acid - PFOS	ND	0.08	0.0925	ug/L	99	(70-130)		
MSD2_201412120275	Perfluoro octanesulfonic acid - PFOS	ND	0.08	0.0938	ug/L	101	(70-130)	30	1.4
QCS	Perfluoro octanesulfonic acid - PFOS		0.048	0.0422	ug/L	88	(70-130)		
CCCH	Perfluoro-1-butanefulfonic acid -PFBS		0.29	0.293	ug/L	101	(70-130)		
CCCL	Perfluoro-1-butanefulfonic acid -PFBS		0.078	0.0711	ug/L	91	(50-150)		
CCCM	Perfluoro-1-butanefulfonic acid -PFBS		0.15	0.146	ug/L	101	(70-130)		
MBLK_HI	Perfluoro-1-butanefulfonic acid -PFBS	ND		<0.03033	ug/L				
MRLHI	Perfluoro-1-butanefulfonic acid -PFBS		0.09	0.0936	ug/L	104	(50-150)		
MS2_201412120275	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.18	0.197	ug/L	107	(70-130)		
MSD2_201412120275	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.18	0.196	ug/L	106	(70-130)	30	0.51
QCS	Perfluoro-1-butanefulfonic acid -PFBS		0.044	0.0490	ug/L	110	(70-130)		
CCCH	Perfluoro-1-hexanesulfonic acid - PFHxS		0.096	0.0972	ug/L	101	(70-130)		
CCCL	Perfluoro-1-hexanesulfonic acid - PFHxS		0.024	0.0225	ug/L	94	(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	0.0297	ug/L	99	(50-150)		
MS2_201412120275	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.06	0.0667	ug/L	103	(70-130)		
MSD2_201412120275	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.06	0.0672	ug/L	104	(70-130)	30	0.90
QCS	Perfluoro-1-hexanesulfonic acid - PFHxS		0.048	0.0413	ug/L	87	(70-130)		
CCCH	Perfluoroheptanoic acid - PFHpA		0.032	0.0309	ug/L	97	(70-130)		
CCCL	Perfluoroheptanoic acid - PFHpA		0.008	0.00755	ug/L	94	(50-150)		
CCCM	Perfluoroheptanoic acid - PFHpA		0.016	0.0157	ug/L	98	(70-130)		
MBLK_HI	Perfluoroheptanoic acid - PFHpA	ND		<0.00333	ug/L				
MRLHI	Perfluoroheptanoic acid - PFHpA		0.01	0.00989	ug/L	99	(50-150)		
MS2_201412120275	Perfluoroheptanoic acid - PFHpA	ND	0.02	0.0217	ug/L	97	(70-130)		
MSD2_201412120275	Perfluoroheptanoic acid - PFHpA	ND	0.02	0.0223	ug/L	100	(70-130)	30	2.7
QCS	Perfluoroheptanoic acid - PFHpA		0.05	0.0536	ug/L	107	(70-130)		
CCCH	Perfluoro-n-nonanoic acid -PFNA		0.064	0.0636	ug/L	99	(70-130)		
CCCL	Perfluoro-n-nonanoic acid -PFNA		0.016	0.0160	ug/L	100	(50-150)		
CCCM	Perfluoro-n-nonanoic acid -PFNA		0.032	0.0321	ug/L	100	(70-130)		
MBLK_HI	Perfluoro-n-nonanoic acid -PFNA	ND		<0.00666	ug/L				
MRLHI	Perfluoro-n-nonanoic acid -PFNA		0.02	0.0197	ug/L	99	(50-150)		
MS2_201412120275	Perfluoro-n-nonanoic acid -PFNA	ND	0.04	0.0426	ug/L	104	(70-130)		
MSD2_201412120275	Perfluoro-n-nonanoic acid -PFNA	ND	0.04	0.0403	ug/L	98	(70-130)	30	5.5
QCS	Perfluoro-n-nonanoic acid -PFNA		0.05	0.0437	ug/L	87	(70-130)		
CCCH	Perfluorooctanoic acid - PFOA		0.064	0.0609	ug/L	95	(70-130)		
CCCL	Perfluorooctanoic acid - PFOA		0.016	0.0160	ug/L	100	(50-150)		

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
CCCM	Perfluorooctanoic acid - PFOA		0.032	0.0323	ug/L	101	(70-130)		
MBLK_HI	Perfluorooctanoic acid - PFOA	ND		<0.00666	ug/L				
MRLHI	Perfluorooctanoic acid - PFOA		0.02	0.0203	ug/L	101	(50-150)		
MS2_201412120275	Perfluorooctanoic acid - PFOA	ND	0.04	0.0459	ug/L	101	(70-130)		
MSD2_201412120275	Perfluorooctanoic acid - PFOA	ND	0.04	0.0455	ug/L	100	(70-130)	30	0.88
QCS	Perfluorooctanoic acid - PFOA		0.05	0.0494	ug/L	99	(70-130)		

QC Ref# 810610 - UCMR3 1,4-Dioxane by EPA 522 by EPA 522

Analysis Date: 12/19/2014

CCCH	1,4-Dioxane		50	61.9	ug/L	124	(70-130)		
CCCL	1,4-Dioxane		0.07	0.0650	ug/L	93	(50-150)		
CCCM	1,4-Dioxane		20	20.3	ug/L	102	(70-130)		
LCS1	1,4-Dioxane		20	20.2	ug/L	101	(70-130)		
LCS2	1,4-Dioxane		20	23.8	ug/L	119	(70-130)	20	16
MBLK	1,4-Dioxane			<0.023	ug/L				
MRL_CHK	1,4-Dioxane		0.07	0.0600	ug/L	86	(50-150)		
MS1_201412090691	1,4-Dioxane	ND	0.07	0.0770	ug/L	110	(50-150)		
MSD1_201412090691	1,4-Dioxane	ND	0.07	0.0700	ug/L	100	(50-150)	20	9.5
CCCH	Dioxane-d8			126	%	126	(70-130)		
CCCL	Dioxane-d8			113	%	113	(70-130)		
CCCM	Dioxane-d8			103	%	103	(70-130)		
LCS1	Dioxane-d8			111	%	111	(70-130)		
LCS2	Dioxane-d8			121	%	121	(70-130)		
MBLK	Dioxane-d8			119	%				
MRL_CHK	Dioxane-d8			118	%	118	(70-130)		
MS1_201412090691	Dioxane-d8	125		104	%	104	(70-130)		
MSD1_201412090691	Dioxane-d8	125		112	%	112	(70-130)		
CCCH	THF-d8			82.8	%	83	(50-150)		
CCCL	THF-d8			81.1	%	81	(50-150)		
CCCM	THF-d8			98.2	%	98	(50-150)		
LCS1	THF-d8			83.0	%	83	(50-150)		
LCS2	THF-d8			81.0	%	81	(50-150)		
MBLK	THF-d8			78.8	%				
MRL_CHK	THF-d8			91.4	%	91	(50-150)		
MS1_201412090691	THF-d8	84		89.8	%	90	(50-150)		
MSD1_201412090691	THF-d8	84		81.3	%	81	(50-150)		

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