



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

Date of Issue

01/08/2015

EUROFINS EATON  
ANALYTICAL

TDF: Thomas.D.French  
Project Manager

Report: 512499  
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 *	T104704230-14-7
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-CL02 D	x	x	
Chlorine -Total/Free/ Combined Residual	SM 4500-CI 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
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 #: 512499  
 Project: UCMR3  
 Sample Group: PA1460033/Horsham W&SA GW

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

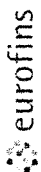
Project Manager: Thomas.D.French  
 Phone: (480) 778-1558

The following samples were received from you on **December 16, 2014 at 1134**. 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>201412160297</u>	00107-107-Well # 7	12/12/2014 1030
	Sample Type: EP Sample Event: SE2 Facility ID: 00107 Sample Point ID: 107 PWSID: PA1460033 Static ID: EP	
	@UCMR3 522 C	@UCMR3 537
<u>201412160298</u>	FB:00107-107-Well # 7	12/12/2014 1030
	Static ID: FB	
	@UCMR3 537 FB	

#### 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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PWSID: PA1460033  
Example: (CA1234567)

# UCMR3 CHAIN OF CUSTODY RECORD

512499

EUROFINS EATON ANALYTICAL USE ONLY: Folder No: \_\_\_\_\_

LOGIN COMMENTS: SAMPLES CHECKED AGAINST COC BY: VF

SAMPLES LOGGED IN BY: VF

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

SAMPLE TEMP RECEIVED AT: Colton / No. California / Arizona  
 Monrovia 2.5 - 0.5 = 2.7 °C (Compliance:  $\leq 10^\circ\text{C}$  for the first 48 hours or  $\leq 6^\circ\text{C}$  after 48 hours)  
 °C (Compliance:  $\leq 10^\circ\text{C}$  for the first 48 hours or  $\leq 6^\circ\text{C}$  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 East / Top Line / Other: \_\_\_\_\_

TO BE COMPLETED BY SAMPLER:		PROJECT CODE:	COMPLIANCE SAMPLES	Regulation: UCMR3				
COMPANY/AGENCY NAME:		UCMR3-PA						
EPA CLIENT CODE:	COC ID:	SAMPLE GROUP:	- Requires upload to EPA database					
HORSHAM-PA	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					
TAT requested:	rush by adv notice only	STD: x_ 1 wk_ 3 day_ 2 day_ 1 day_	SEE ATTACHED BOTTLE ORDER FOR ANALYSES					
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 ID	DISINFECTANT TYPE	SAMPLER COMMENTS
12/12/14	1030	00107-107	Well #7	GW	SE2	EP		
								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

(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: Onsite 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)

SAMPLED BY	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
RELINQUISHED BY:		B. Pachik	Aqua PA	12/12/14	1030
RECEIVED BY:		A. Nguyen	Aqua PA	12/15/14	1600
RELINQUISHED BY:					
RECEIVED BY:					



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**Laboratory Comments**  
**Report: 512499**

Horsham Water & Sewer Authority  
Tina M. O'Rourke  
617 Horsham Road  
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UCMR Field Blank  
Report: 512499

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Samples Received on:  
12/16/2014 1134

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: 512499

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

Samples Received on:  
12/16/2014 1134

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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: 512499

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

Samples Received on:  
12/16/2014 1134

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
<b>00107-107-Well # 7 (201412160297)</b>						<b>Sampled on 12/12/2014 1030</b>		
Sample Type: EP								
Sample Event: SE2								
Facility ID: 00107								
Sample Point ID: 107								
PWSID: PA1460033								
Static ID: EP								
<b>EPA 522 - UCMR3 1,4-Dioxane by EPA 522</b>								
12/19/2014	12/23/2014	14:41	811335	(EPA 522)	1,4-Dioxane	ND	ug/L	0.07 1
12/19/2014	12/23/2014	14:41	811335	(EPA 522)	Dioxane-d8	101	%	1
12/19/2014	12/23/2014	14:41	811335	(EPA 522)	THF-d8	91	%	1
<b>EPA 537 - UCMR3 537</b>								
12/25/2014	7:37	811278	(EPA 537)	Perfluoro octanesulfonic acid - PFOS	ND	ug/L	0.04	1
12/25/2014	7:37	811278	(EPA 537)	Perfluoro-1-butanesulfonic acid -PFBS	ND	ug/L	0.09	1
12/25/2014	7:37	811278	(EPA 537)	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	ug/L	0.03	1
12/25/2014	7:37	811278	(EPA 537)	Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	1
12/25/2014	7:37	811278	(EPA 537)	Perfluoro-n-nonanoic acid -PFNA	ND	ug/L	0.02	1
12/25/2014	7:37	811278	(EPA 537)	Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	1
12/25/2014	7:37	811278	(EPA 537)	13C-PFDA - Surr#2	86	%		1
12/25/2014	7:37	811278	(EPA 537)	13C-PFHxA - Surr#1	87	%		1
12/25/2014	7:37	811278	(EPA 537)	13C-PFOA- IS#1	102	%		1
12/25/2014	7:37	811278	(EPA 537)	13C-PFOS- IS#2	97	%		1

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



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Laboratory  
QC Summary: 512499

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Horsham Water & Sewer Authority

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**QC Ref # 811278 - UCMR3 537**

201412160297                      00107-107-Well # 7

**Analysis Date: 12/25/2014**

Analyzed by: 1CL

**QC Ref # 811335 - UCMR3 1,4-Dioxane by EPA 522**

201412160297                      00107-107-Well # 7

**Analysis Date: 12/23/2014**

Analyzed by: PAC

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
<b>QC Ref# 811278 - UCMR3 537 by EPA 537</b>						<b>Analysis Date: 12/25/2014</b>			
CCCH	13C-PFDA - Surr#2 (S)			97.9	%	98	(70-130)		
CCCL	13C-PFDA - Surr#2 (S)			99.1	%	99	(70-130)		
CCCM	13C-PFDA - Surr#2 (S)			100	%	100	(70-130)		
MBLK_HI	13C-PFDA - Surr#2 (S)			86.6	%	87	(70-130)		
MRLHI	13C-PFDA - Surr#2 (S)			87.4	%	87	(70-130)		
MS1_201412160377	13C-PFDA - Surr#2 (S)			89.4	%	89	(70-130)		
MSD1_201412160377	13C-PFDA - Surr#2 (S)			87.3	%	87	(70-130)		
QCS	13C-PFDA - Surr#2 (S)			101	%	101	(70-130)		
CCCH	13C-PFHxA - Surr#1 (S)			97.0	%	97	(70-130)		
CCCL	13C-PFHxA - Surr#1 (S)			97.8	%	98	(70-130)		
CCCM	13C-PFHxA - Surr#1 (S)			97.8	%	98	(70-130)		
MBLK_HI	13C-PFHxA - Surr#1 (S)			90.7	%	91	(70-130)		
MRLHI	13C-PFHxA - Surr#1 (S)			90.7	%	91	(70-130)		
MS1_201412160377	13C-PFHxA - Surr#1 (S)			97.1	%	97	(70-130)		
MSD1_201412160377	13C-PFHxA - Surr#1 (S)			96.5	%	96	(70-130)		
QCS	13C-PFHxA - Surr#1 (S)			96.6	%	97	(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)			103	%	103	(50-150)		
MBLK_HI	13C-PFOA- IS#1 (I)			104	%	104	(50-150)		
MRLHI	13C-PFOA- IS#1 (I)			104	%	104	(50-150)		
MS1_201412160377	13C-PFOA- IS#1 (I)			98.5	%	99	(50-150)		
MSD1_201412160377	13C-PFOA- IS#1 (I)			100	%	100	(50-150)		
QCS	13C-PFOA- IS#1 (I)			103	%	103	(50-150)		
CCCH	13C-PFOS- IS#2 (I)			106	%	106	(50-150)		
CCCL	13C-PFOS- IS#2 (I)			104	%	104	(50-150)		
CCCM	13C-PFOS- IS#2 (I)			104	%	105	(50-150)		
MBLK_HI	13C-PFOS- IS#2 (I)			101	%	102	(50-150)		
MRLHI	13C-PFOS- IS#2 (I)			98.9	%	99	(50-150)		
MS1_201412160377	13C-PFOS- IS#2 (I)			101	%	101	(50-150)		
MSD1_201412160377	13C-PFOS- IS#2 (I)			102	%	102	(50-150)		
QCS	13C-PFOS- IS#2 (I)			105	%	105	(50-150)		
CCCH	Perfluoro octanesulfonic acid - PFOS		0.13	0.125	ug/L	98	(70-130)		
CCCL	Perfluoro octanesulfonic acid - PFOS		0.032	0.0303	ug/L	95	(50-150)		
CCCM	Perfluoro octanesulfonic acid - PFOS		0.064	0.0622	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.  
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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1 800 566 LABS (1 800 566 5227)

Horsham Water & Sewer Authority

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRLHI	Perfluoro octanesulfonic acid - PFOS		0.04	0.0438	ug/L	109	(50-150)		
MS1_201412160377	Perfluoro octanesulfonic acid - PFOS	ND	0.04	0.0438	ug/L	109	(50-150)		
MSD1_201412160377	Perfluoro octanesulfonic acid - PFOS	ND	0.04	0.0444	ug/L	111	(50-150)	30	1.6
QCS	Perfluoro octanesulfonic acid - PFOS		0.048	0.0455	ug/L	95	(70-130)		
CCCH	Perfluoro-1-butanefulfonic acid -PFBS		0.29	0.292	ug/L	100	(70-130)		
CCCL	Perfluoro-1-butanefulfonic acid -PFBS		0.078	0.0738	ug/L	95	(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	0.108	ug/L	120	(50-150)		
MS1_201412160377	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.091	0.104	ug/L	115	(50-150)		
MSD1_201412160377	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.091	0.103	ug/L	114	(50-150)	30	0.97
QCS	Perfluoro-1-butanefulfonic acid -PFBS		0.044	0.0550	ug/L	124	(70-130)		
CCCH	Perfluoro-1-hexanesulfonic acid - PFHxS		0.096	0.0946	ug/L	99	(70-130)		
CCCL	Perfluoro-1-hexanesulfonic acid - PFHxS		0.024	0.0231	ug/L	96	(50-150)		
CCCM	Perfluoro-1-hexanesulfonic acid - PFHxS		0.048	0.0480	ug/L	100	(70-130)		
MBLK_HI	Perfluoro-1-hexanesulfonic acid - PFHxS	ND		<0.0100	ug/L				
MRLHI	Perfluoro-1-hexanesulfonic acid - PFHxS		0.03	0.0333	ug/L	111	(50-150)		
MS1_201412160377	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.03	0.0322	ug/L	107	(50-150)		
MSD1_201412160377	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.03	0.0296	ug/L	99	(50-150)	30	8.4
QCS	Perfluoro-1-hexanesulfonic acid - PFHxS		0.048	0.0457	ug/L	96	(70-130)		
CCCH	Perfluoroheptanoic acid - PFHpA		0.032	0.0325	ug/L	102	(70-130)		
CCCL	Perfluoroheptanoic acid - PFHpA		0.008	0.00809	ug/L	101	(50-150)		
CCCM	Perfluoroheptanoic acid - PFHpA		0.016	0.0159	ug/L	99	(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_201412160377	Perfluoroheptanoic acid - PFHpA	ND	0.01	0.0117	ug/L	116	(50-150)		
MSD1_201412160377	Perfluoroheptanoic acid - PFHpA	ND	0.01	0.0113	ug/L	112	(50-150)	30	3.5
QCS	Perfluoroheptanoic acid - PFHpA		0.05	0.0584	ug/L	117	(70-130)		
CCCH	Perfluoro-n-nonanoic acid -PFNA		0.064	0.0634	ug/L	99	(70-130)		
CCCL	Perfluoro-n-nonanoic acid -PFNA		0.016	0.0166	ug/L	104	(50-150)		
CCCM	Perfluoro-n-nonanoic acid -PFNA		0.032	0.0327	ug/L	102	(70-130)		
MBLK_HI	Perfluoro-n-nonanoic acid -PFNA	ND		<0.00666	ug/L				
MRLHI	Perfluoro-n-nonanoic acid -PFNA		0.02	0.0223	ug/L	112	(50-150)		
MS1_201412160377	Perfluoro-n-nonanoic acid -PFNA	ND	0.02	0.0235	ug/L	117	(50-150)		
MSD1_201412160377	Perfluoro-n-nonanoic acid -PFNA	ND	0.02	0.0238	ug/L	118	(50-150)	30	1.3
QCS	Perfluoro-n-nonanoic acid -PFNA		0.05	0.0485	ug/L	97	(70-130)		
CCCH	Perfluorooctanoic acid - PFOA		0.064	0.0633	ug/L	99	(70-130)		
CCCL	Perfluorooctanoic acid - PFOA		0.016	0.0162	ug/L	101	(50-150)		

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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Horsham Water & Sewer Authority

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	0.0232	ug/L	116	(50-150)		
MS1_201412160377	Perfluorooctanoic acid - PFOA	ND	0.02	0.0242	ug/L	118	(50-150)		
MSD1_201412160377	Perfluorooctanoic acid - PFOA	ND	0.02	0.0237	ug/L	116	(50-150)	30	2.1
QCS	Perfluorooctanoic acid - PFOA		0.05	0.0538	ug/L	108	(70-130)		

QC Ref# 811335 - UCMR3 1,4-Dioxane by EPA 522 by EPA 522

Analysis Date: 12/23/2014

CCCH	1,4-Dioxane		50	48.1	ug/L	96	(70-130)		
CCCL	1,4-Dioxane		0.07	0.0580	ug/L	83	(50-150)		
CCCM	1,4-Dioxane		20	18.7	ug/L	93	(70-130)		
LCS1	1,4-Dioxane		20	20.4	ug/L	102	(70-130)		
LCS2	1,4-Dioxane		20	20.1	ug/L	101	(70-130)	20	2.0
MBLK	1,4-Dioxane			<0.023	ug/L				
MRL_CHK	1,4-Dioxane		0.07	0.0590	ug/L	84	(50-150)		
MS1_201412160377	1,4-Dioxane	ND	0.07	0.0610	ug/L	87	(50-150)		
MSD1_201412160377	1,4-Dioxane	ND	0.07	0.0620	ug/L	89	(50-150)	20	1.6
CCCH	Dioxane-d8			99.8	%	100	(70-130)		
CCCL	Dioxane-d8			94.0	%	94	(70-130)		
CCCM	Dioxane-d8			96.3	%	96	(70-130)		
LCS1	Dioxane-d8			102	%	102	(70-130)		
LCS2	Dioxane-d8			100	%	100	(70-130)		
MBLK	Dioxane-d8			98.0	%				
MRL_CHK	Dioxane-d8			95.4	%	95	(70-130)		
MS1_201412160377	Dioxane-d8	106		99.3	%	99	(70-130)		
MSD1_201412160377	Dioxane-d8	106		100	%	100	(70-130)		
CCCH	THF-d8			83.1	%	83	(50-150)		
CCCL	THF-d8			94.1	%	94	(50-150)		
CCCM	THF-d8			99.7	%	100	(50-150)		
LCS1	THF-d8			83.7	%	84	(50-150)		
LCS2	THF-d8			87.0	%	87	(50-150)		
MBLK	THF-d8			87.5	%				
MRL_CHK	THF-d8			89.4	%	89	(50-150)		
MS1_201412160377	THF-d8	121		88.8	%	89	(50-150)		
MSD1_201412160377	THF-d8	121		88.6	%	89	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

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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).

(S) - Indicates surrogate compound.

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