



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

04/06/2015

EUROFINS EATON
ANALYTICAL

TDF: Thomas.D.French
Project Manager

Report: 526266
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 HCO ₃	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 CO ₃	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 (Langlier 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 #260	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 #: 526266
 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 **March 21, 2015** at **1400**. 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>201503210033</u>	00018-EP002-NWVA Interconnect Sample Type: EP Sample Event: SE4 Facility ID: 00018 Sample Point ID: EP002 PWSID: PA1460033 @UCMR3 522 C @UCMR3 537	03/19/2015 0820
<u>201503210034</u>	FB:00018-EP002-NWVA Interconnect @UCMR3 537 FB	03/19/2015 0820

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

528 266

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Fax: 626 386 1101
Website: www.EatonAnalytical.com

EUROFINS EATON ANALYTICAL USE ONLY:

Folder No: 0

LOGIN COMMENTS: 2.3--3--2.6
#969

SAMPLES CHECKED AGAINST COC BY: 0

SAMPLE TEMP RECEIVED AT:

Colton / No. California / Arizona
 Monrovia

2.6 °C (Compliance: ≤10°C for the first 48 hours or ≤6°C after 48 hours)
2.6 °C (Compliance: ≤10°C for the first 48 hours or ≤6°C after 48 hours)

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

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:	NOTE: we MUST have PWSID#, Facility ID, Sample Point ID, and Sample Type to be able to upload data to EPA Database	
SAMPLE GROUP: PA1460033/ Horsham Water & Sewer Authority	SEE ATTACHED BOTTLE ORDER FOR ANALYSES <input type="checkbox"/> (check for yes), OR		

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

list ANALYSES REQUIRED (Mark "X" in all test required for each sample line)

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 ⁽¹⁾	SAMPLE EVENT # ⁽²⁾	SAMPLE POINT TYPE ID ⁽³⁾	DISINFECTANT TYPE ⁽⁴⁾	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
03/19/15	0820	00018-EP002	NWWA Interconnect	SW	SE4	EP								X	X	X			

- ⁽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: Chloroamine (formed from offsite hypochlorite) CAON: Chloroamine (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
SAMPLED BY:		B. Pachik	Aqua PA	03/19/15	0820
RELINQUISHED BY:		A. Nguyen	Aqua PA	03/20/15	1600
RECEIVED BY:		<u>KNEU</u>	<u>EPA</u>	<u>3/21/15</u>	<u>4:00</u>
RELINQUISHED BY:					
RECEIVED BY:					

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**Laboratory Comments
Report: 526266**

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: 526266

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

Samples Received on:
03/21/2015 1400

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: 526266**

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

Samples Received on:
03/21/2015 1400

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
----------	---------	-----------	--------	-------------	-------	-----

SUMMARY OF POSITIVE DATA ONLY

750 Royal Oaks Drive, Suite 100
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**Laboratory Data
 Report: 526266**

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

Samples Received on:
 03/21/2015 1400

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution	
00018-EP002-NWWA Interconnect (201503210033)						Sampled on 03/19/2015 0820			
Sample Type: EP									
Sample Event: SE4									
Facility ID: 00018									
Sample Point ID: EP002									
PWSID: PA1460033									
EPA 522 - UCMR3 1,4-Dioxane by EPA 522									
3/25/2015	04/01/2015	17:26	829795	(EPA 522)	1,4-Dioxane	ND	ug/L	0.07	1
3/25/2015	04/01/2015	17:26	829795	(EPA 522)	Dioxane-d8	117	%		1
3/25/2015	04/01/2015	17:26	829795	(EPA 522)	THF-d8	87	%		1
EPA 537 - UCMR3 537									
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	Perfluoro octanesulfonic acid - PFOS	ND	ug/L	0.04	1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	Perfluoro-1-butanesulfonic acid -PFBS	ND	ug/L	0.09	1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	ug/L	0.03	1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	Perfluoro-n-nonanoic acid -PFNA	ND	ug/L	0.02	1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	13C-PFDA - Surr#2	94	%		1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	13C-PFHxA - Surr#1	102	%		1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	13C-PFOA- IS#1	103	%		1
3/26/2015	03/28/2015	16:35	829257	(EPA 537)	13C-PFOS- IS#2	100	%		1



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Laboratory
QC Summary: 526266

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Horsham Water & Sewer Authority

QC Ref # 829257 - UCMR3 537

201503210033 00018-EP002-NWWA Interconnect

Analysis Date: 03/28/2015

Analyzed by: 1CL

QC Ref # 829795 - UCMR3 1,4-Dioxane by EPA 522

201503210033 00018-EP002-NWWA Interconnect

Analysis Date: 04/01/2015

Analyzed by: CRW

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Horsham Water & Sewer Authority

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 829257 - UCMR3 537 by EPA 537						Analysis Date: 03/28/2015			
CCCH	13C-PFDA - Surr#2 (S)			103	%	103	(70-130)		
CCCL	13C-PFDA - Surr#2 (S)			101	%	101	(70-130)		
CCCM	13C-PFDA - Surr#2 (S)			98.5	%	98	(70-130)		
MBLK_HI	13C-PFDA - Surr#2 (S)			102	%	103	(70-130)		
MRLHI	13C-PFDA - Surr#2 (S)			103	%	103	(70-130)		
MS1_201503200243	13C-PFDA - Surr#2 (S)			104	%	105	(70-130)		
MSD1_201503200243	13C-PFDA - Surr#2 (S)			104	%	104	(70-130)		
CCCH	13C-PFHxA - Surr#1 (S)			104	%	104	(70-130)		
CCCL	13C-PFHxA - Surr#1 (S)			100	%	100	(70-130)		
CCCM	13C-PFHxA - Surr#1 (S)			99.2	%	99	(70-130)		
MBLK_HI	13C-PFHxA - Surr#1 (S)			103	%	103	(70-130)		
MRLHI	13C-PFHxA - Surr#1 (S)			103	%	103	(70-130)		
MS1_201503200243	13C-PFHxA - Surr#1 (S)			108	%	108	(70-130)		
MSD1_201503200243	13C-PFHxA - Surr#1 (S)			105	%	105	(70-130)		
CCCH	13C-PFOA- IS#1 (I)			107	%	107	(50-150)		
CCCL	13C-PFOA- IS#1 (I)			101	%	101	(50-150)		
CCCM	13C-PFOA- IS#1 (I)			106	%	106	(50-150)		
MBLK_HI	13C-PFOA- IS#1 (I)			100	%	100	(50-150)		
MRLHI	13C-PFOA- IS#1 (I)			105	%	105	(50-150)		
MS1_201503200243	13C-PFOA- IS#1 (I)			103	%	103	(50-150)		
MSD1_201503200243	13C-PFOA- IS#1 (I)			97.2	%	97	(50-150)		
CCCH	13C-PFOS- IS#2 (I)			104	%	104	(50-150)		
CCCL	13C-PFOS- IS#2 (I)			101	%	101	(50-150)		
CCCM	13C-PFOS- IS#2 (I)			104	%	104	(50-150)		
MBLK_HI	13C-PFOS- IS#2 (I)			97.4	%	97	(50-150)		
MRLHI	13C-PFOS- IS#2 (I)			103	%	103	(50-150)		
MS1_201503200243	13C-PFOS- IS#2 (I)			102	%	102	(50-150)		
MSD1_201503200243	13C-PFOS- IS#2 (I)			93.8	%	94	(50-150)		
CCCH	Perfluoro octanesulfonic acid - PFOS		0.13	0.133	ug/L	104	(70-130)		
CCCL	Perfluoro octanesulfonic acid - PFOS		0.032	0.0314	ug/L	98	(50-150)		
CCCM	Perfluoro octanesulfonic acid - PFOS		0.064	0.0645	ug/L	101	(70-130)		
MBLK_HI	Perfluoro octanesulfonic acid - PFOS	ND		<0.01333	ug/L				
MRLHI	Perfluoro octanesulfonic acid - PFOS		0.04	0.0350	ug/L	88	(50-150)		
MS1_201503200243	Perfluoro octanesulfonic acid - PFOS	ND	0.04	0.0360	ug/L	90	(50-150)		
MSD1_201503200243	Perfluoro octanesulfonic acid - PFOS	ND	0.04	0.0380	ug/L	95	(50-150)	30	5.4
CCCH	Perfluoro-1-butanefulfonic acid -PFBS		0.29	0.305	ug/L	105	(70-130)		

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%
CCCL	Perfluoro-1-butanefulfonic acid -PFBS		0.078	0.0746	ug/L	96	(50-150)		
CCCM	Perfluoro-1-butanefulfonic acid -PFBS		0.15	0.148	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	0.0849	ug/L	94	(50-150)		
MS1_201503200243	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.091	0.0857	ug/L	94	(50-150)		
MSD1_201503200243	Perfluoro-1-butanefulfonic acid -PFBS	ND	0.091	0.0891	ug/L	98	(50-150)	30	3.9
CCCH	Perfluoro-1-hexanesulfonic acid - PFHxS		0.096	0.0992	ug/L	103	(70-130)		
CCCL	Perfluoro-1-hexanesulfonic acid - PFHxS		0.024	0.0239	ug/L	100	(50-150)		
CCCM	Perfluoro-1-hexanesulfonic acid - PFHxS		0.048	0.0487	ug/L	101	(70-130)		
MBLK_HI	Perfluoro-1-hexanesulfonic acid - PFHxS	ND		<0.0100	ug/L				
MRLHI	Perfluoro-1-hexanesulfonic acid - PFHxS		0.03	0.0274	ug/L	91	(50-150)		
MS1_201503200243	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.03	0.0278	ug/L	93	(50-150)		
MSD1_201503200243	Perfluoro-1-hexanesulfonic acid - PFHxS	ND	0.03	0.0282	ug/L	94	(50-150)	30	1.4
CCCH	Perfluoroheptanoic acid - PFHpA		0.032	0.0320	ug/L	100	(70-130)		
CCCL	Perfluoroheptanoic acid - PFHpA		0.008	0.00826	ug/L	103	(50-150)		
CCCM	Perfluoroheptanoic acid - PFHpA		0.016	0.0159	ug/L	100	(70-130)		
MBLK_HI	Perfluoroheptanoic acid - PFHpA	ND		<0.00333	ug/L				
MRLHI	Perfluoroheptanoic acid - PFHpA		0.01	0.00903	ug/L	90	(50-150)		
MS1_201503200243	Perfluoroheptanoic acid - PFHpA	ND	0.01	0.00934	ug/L	93	(50-150)		
MSD1_201503200243	Perfluoroheptanoic acid - PFHpA	ND	0.01	0.00956	ug/L	96	(50-150)	30	2.3
CCCH	Perfluoro-n-nonanoic acid -PFNA		0.064	0.0665	ug/L	104	(70-130)		
CCCL	Perfluoro-n-nonanoic acid -PFNA		0.016	0.0173	ug/L	108	(50-150)		
CCCM	Perfluoro-n-nonanoic acid -PFNA		0.032	0.0334	ug/L	104	(70-130)		
MBLK_HI	Perfluoro-n-nonanoic acid -PFNA	ND		<0.00666	ug/L				
MRLHI	Perfluoro-n-nonanoic acid -PFNA		0.02	0.0191	ug/L	96	(50-150)		
MS1_201503200243	Perfluoro-n-nonanoic acid -PFNA	ND	0.02	0.0195	ug/L	97	(50-150)		
MSD1_201503200243	Perfluoro-n-nonanoic acid -PFNA	ND	0.02	0.0198	ug/L	99	(50-150)	30	1.5
CCCH	Perfluorooctanoic acid - PFOA		0.064	0.0650	ug/L	102	(70-130)		
CCCL	Perfluorooctanoic acid - PFOA		0.016	0.0165	ug/L	103	(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	0.0190	ug/L	95	(50-150)		
MS1_201503200243	Perfluorooctanoic acid - PFOA	ND	0.02	0.0197	ug/L	97	(50-150)		
MSD1_201503200243	Perfluorooctanoic acid - PFOA	ND	0.02	0.0194	ug/L	96	(50-150)	30	1.5

QC Ref# 829795 - UCMR3 1,4-Dioxane by EPA 522 by EPA 522
Analysis Date: 04/01/2015

CCCH	1,4-Dioxane		50	47.9	ug/L	96	(70-130)		
CCCL	1,4-Dioxane		0.07	0.104	ug/L	149	(50-150)		
CCCM	1,4-Dioxane		20	19.0	ug/L	95	(70-130)		

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%
LCS1	1,4-Dioxane		20	20.1	ug/L	101	(70-130)		
MBLK	1,4-Dioxane			<0.023	ug/L				
MRL_CHK	1,4-Dioxane		0.07	0.0740	ug/L	106	(50-150)		
MS_201503180707	1,4-Dioxane	ND	20	20.3	ug/L	101	(70-130)		
MSD_201503180707	1,4-Dioxane	ND	20	21.5	ug/L	108	(70-130)	20	5.7
CCCH	Dioxane-d8			100	%	100	(70-130)		
CCCL	Dioxane-d8			119	%	119	(70-130)		
CCCM	Dioxane-d8			100	%	100	(70-130)		
LCS1	Dioxane-d8			107	%	107	(70-130)		
MBLK	Dioxane-d8			117	%				
MRL_CHK	Dioxane-d8			111	%	111	(70-130)		
MS_201503180707	Dioxane-d8	121		106	%	106	(70-130)		
MSD_201503180707	Dioxane-d8	121		116	%	116	(70-130)		
CCCH	THF-d8			97.8	%	98	(50-150)		
CCCL	THF-d8			87.5	%	88	(50-150)		
CCCM	THF-d8			99.4	%	99	(50-150)		
LCS1	THF-d8			103	%	103	(50-150)		
MBLK	THF-d8			91.5	%				
MRL_CHK	THF-d8			93.8	%	94	(50-150)		
MS_201503180707	THF-d8	88		89.6	%	90	(50-150)		
MSD_201503180707	THF-d8	88		84.4	%	84	(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.