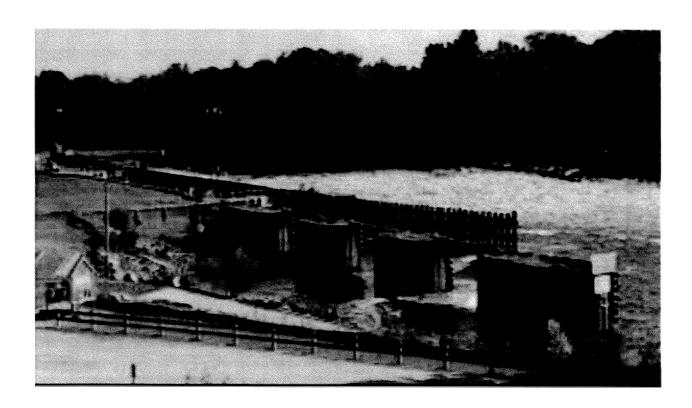


Stewardship. Sustainability. Service.

Sweeney Water Treatment Plant



Unregulated and Increased Monitoring Data from July 1, 2012 – May 31, 2017

	T											Ī		\Box		ey D											
					Industry										Sam	pling l	logult										
Parameter	Units	Health Advisory	National Primary Drinking Water Regulations MCL	Secondary Drinking Water Standards	Additional Information that provides context on values	9/19/2012	3/20/2013	4/23/2013	9/18/2013	3/19/2014	9/24/2014	3/18/2015	7/27/2015	9/10/2015		1/14/2016	3/10/2016	4/7/2016	7/14/2016	8/2/2016	9/6/2016	10/11/2016	11/8/2016	1/3/2017	3/7/2017	5/9/2017	Comments
Chlorate	μg/L				2400								27		93.7			48.0				86.2		<20			The most comprehensive study of the effects of chlorate in drinking wate was conducted by Lubbers et al. (1981). Single doses of 0.01, 0.1, 0.5, 1.8, and 2.4 mg of chlorate ion were ingested in 1 L of drinking water by male volunteers per dose (60 volunteers total). Lubbers et al. (1981) also had volunteers consume chlorate at 36 μg/kg/day over a 12 week period and observed them for an additional 8 weeks. Despite this intensive stude the authors could not conclude any definitive detrimental physiological impact. Therefore, the highest dose of 2.4 mg/L of chlorate results in a N Observed Effects Level (NOEL) of 36 μg/kg/day. 2014 AWWA Chlorate Briefing Paper
Chlorite	μg/L	800	1000									5	5.7		<5	<5		<5	<100			<10		<20			
Perchlorate	μg/L	15																								0.07	
Perflurobutanesulfonic acid (PFBS)	μg/L																						<0.090				
Perfluoroheptanoic acid (PFHpA)	μg/L												Т								T		0.013				
Perfluorohexanesulfonic acid (PFHxs)	μg/L																						<0.030				
Perfluorononanoic acid (PFNA)	μg/L												T										<0.020				
Perfluorooctanesulfonic acid (PFOS)	μg/L	0.070											十		1								<0.040				Health Advisory for PFOA + PFOS combined
Perfluoroctanoic acid (PFOA)	μg/L	0.070	***************************************							一	\neg	7	\top	1	1								0.013				Health Advisory for PFOA + PFOS combined
				500 health based and 250 taste									3							30							
Sulfate Calcium	mg/L mg/L			threshold						\dashv	\dashv	+	6.		+			-	-+	7.5	\dashv	-+		\dashv	-+		
/lagnesium	mg/L								\vdash \vdash	$\neg \uparrow$	一十	\neg	2		1			\neg		2.8	$\neg \vdash$			\neg			
Silica	mg/L												4.	.4						4.4							
				20 for individuals on 500 mg/day restricted diet and 30 - 60 for taste									J. Commission of the Commissio														
Sodium	mg/L	<u> </u>		threshold		L	\sqcup		$\vdash \!$	\dashv	\dashv	\dashv	3	4		 				23	_			_			
Bromide	mg/L		····				\perp								1					0.032				_	_		
Giardia	cysts/100L							<0.431															<0.885				
Cryptosporidium	oocysts/100L							<0.431												İ			<0.885				
	1,		***************************************									\top	\top	\top													
otal Organic Halides (TOX)	μg/L					100	86		120	10	140	74	- 1	130			120	- 1	- 1	l	130		1	- 1	100		

Pace Analytical Services, LLC 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 (704)875-9092



January 11, 2017

Ms. Jill Deaney CFPUA 628 Groundwater Way Wilmington, NC 28411

RE: Project: Post Chlorate/ Chorite-Special

Pace Project No.: 92325211

Dear Ms. Deaney:

Enclosed are the analytical results for sample(s) received by the laboratory on January 03, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew Brainard

Watthew Branis

matthew.brainard@pacelabs.com

Project Manager

Enclosures

cc: Felicia Caison, Cape Fear Public Utility Autho

Ms. Crystal Callahan, CFPUA-Lab

Ms. Brittany Cummings, Cape Fear Public Utility Authority

Mr. Adam Poore, CFPUA

Ms. Allyson Ridout, CFPUA-Lab







CERTIFICATIONS

Project:

Post Chlorate/ Chorite-Special

Pace Project No .:

92325211

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320 Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236 Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 Nevada Certification: FL NELAC Reciprocity

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165 Wyoming Certification: FL NELAC Reciprocity

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS



SAMPLE ANALYTE COUNT

Project:

Post Chlorate/ Chorite-Special

Pace Project No.:

92325211

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92325211001	Sweeney Post- Special	EPA 300.1	СМВ	2	PASI-O
		EPA 300.1	СМВ	2	PASI-O



ANALYTICAL RESULTS

Project:

Post Chlorate/ Chorite-Special

Pace Project No.:

Date: 01/11/2017 12:36 PM

92325211

Sample: Sweeney Post- Special	Lab ID: 923	25211001	Collected: 01/03/1	7 08:25	Received: 0	1/03/17 15:28	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.1 Oxihalide IC Anions 14d	Analytical Meth	od: EPA 300	D.1					
Chlorite Surrogates	ND	ug/L	20.0	4		01/10/17 19:00	3	D3
Dichloroacetate (S)	95	%	90-115	4		01/10/17 19:06	79-43-6	
300.1 Oxihalide IC Anions 28d	Analytical Meth	od: EPA 300	0.1					
Chlorate Surrogates	ND	ug/L	20.0	4		01/10/17 19:06	7790-93-4	D3
Dichloroacetate (S)	95	%	90-115	4		01/10/17 19:06	79-43-6	



QUALITY CONTROL DATA

Project:

Post Chlorate/ Chorite-Special

Pace Project No.:

92325211

QC Batch:

343181

QC Batch Method:

EPA 300.1

Analysis Method:

Analysis Description:

EPA 300.1

Parameter

92325211001

300.1 Oxihalides IC Anions

METHOD BLANK: 1841289

Matrix: Water

Associated Lab Samples:

Associated Lab Samples:

92325211001

Blank

Result

Reporting Limit

Analyzed

Qualifiers

Chlorite Dichloroacetate (S) Units ug/L %

ND 104

5.0 01/09/17 13:07 90-115 01/09/17 13:07

LCS

% Rec

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

Parameter

1841290

Spike Conc.

Limits

% Rec

Qualifiers

Chlorite Dichloroacetate (S) ug/L %

Units

Units

ug/L

%

ug/L

%

LCS Result 38.7

ND

ND

95

97 107 85-115

98

96

MATRIX SPIKE SAMPLE:

1841292

92325211001 Result

40

Spike Conc.

95

MS Result

MS % Rec

90-115

% Rec Limits

75-125

90-115

Qualifiers

Dichloroacetate (S)

Dichloroacetate (S)

Date: 01/11/2017 12:36 PM

SAMPLE DUPLICATE:

Chlorite

Chlorite

1841291

Units

92325211001 Result

Dup Result ND

RPD

0

236

Qualifiers

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project:

Post Chlorate/ Chorite-Special

Pace Project No.:

92325211

QC Batch:

Chlorate

343182

Analysis Method:

EPA 300.1

QC Batch Method: EPA 300.1

Associated Lab Samples: 92325211001 Analysis Description:

104

300.1 Oxihalides IC Anions

METHOD BLANK: 1841298

Dichloroacetate (S)

Matrix: Water

Associated Lab Samples:

92325211001

Blank

Reporting

Limit

Parameter Units

Result ND

Analyzed 01/09/17 13:07 5.0 90-115 01/09/17 13:07

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

1841299

ug/L

%

Units

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Chlorate Dichloroacetate (S) ug/L %

40

39.3

98 107

40.1

85-115 90-115

100

110

97

96

Qualifiers

MATRIX SPIKE SAMPLE:

1841301

92325155005 Units Result ug/L

Spike Conc. ND 40

MS Result

MS % Rec

% Rec Limits

Qualifiers

Dichloroacetate (S)

MATRIX SPIKE SAMPLE:

Chlorate

1841303

%

Parameter Units Chlorate ug/L Dichloroacetate (S) %

92325211001 Spike Result Conc. ND

MS Result

RPD

RPD

MS % Rec 250

1

0

% Rec Limits

90-115

75-125

90-115

Qualifiers 75-125

SAMPLE DUPLICATE: 1841300

Parameter Units Chlorate ug/L Dichloroacetate (S) %

92325155005 Result

ND

103

Dup Result ND

104

240

Qualifiers

SAMPLE DUPLICATE: 1841302 Parameter

92325211001 Result

Dup Result

Chlorate Dichloroacetate (S) Units ug/L %

ND 95

18J 95 Qualifiers

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.

Date: 01/11/2017 12:36 PM





QUALIFIERS

Project:

Post Chlorate/ Chorite-Special

Pace Project No.:

92325211

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

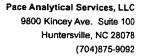
LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 01/11/2017 12:36 PM

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

Post Chlorate/ Chorite-Special

Pace Project No.:

Date: 01/11/2017 12:36 PM

92325211

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92325211001	Sweeney Post- Special	EPA 300.1	343181		
92325211001	Sweeney Post- Special	EPA 300.1	343182		

REPORT OF LABORATORY ANALYSIS

		ument Name:	(cc) (b)	Page 1 of 2	21, 2010
Pace Analytical		on Upon Receipt cument No.:	(SCUR)	Issuing Authority	r.
ACE A RAIN WOOD		-CS-033-Rev.01		Pace Quality Offi	ce
	1				
aboratory receiving samples: Asheville Eden	Greenwood	Hu	ntersville	Raleigh R	Mechanicsville
				WO#: 923	25211
Sample Condition Upon Client Name:	4		Project	WOH . 320	
Receipt CFfU	A				I KII
Courier: Fed Ex	UPS USPS]Client		
☐ Commercial ☐ Pace	Othe	ır:		92325211	
	6 la Imba et 3	□Yes □	No		BER
Custody Seal Present? Yes No	Seals Intact?		,,,,	Date/Initials Person Exami	ning Contents:
Packing Material: Bubble Wrap	Bubble Bags	□None	Other:		1/4/17
Thermometer/		──	☐Blue	□None □Samples on	ice, cooling process has begun
IR Gun ID:	Type of	Ice:		iological Tissue Frozen?	Yes □No □N/A
Correction Factor: Cooler Temp Corre	cted (°C):		U		-
Temp should be above freezing to 6°C		•			
USDA Regulated Soil (🗹 N/A, water sample) Did samples priginate in a quarantine zone within t	he United States: CA	, NY, or SC (check i	naps)?	Did samples originate from a fore	ign source (internationally, 7 Mes Milo
Yes Who				Including Hawaii and Puerto Rico	AG2 Falso
				Comments/Discrept	incy:
Chain of Custody Present?	Ø yes	□No □N/A	1.		
Samples Arrived within Hold Time?	Yes	□Ŋo □N/A	2.		
	□Yes	DN₂ □N/A	3.		
Short Hold Time Analysis (<72 hr.)?		ZNo DN/A	4.		
Rush Turn Around Time Requested?	□Yes		5.		
Sufficient Volume?	Yes	□no □n/A			
Correct Containers Used?	Øyes □	□N₀ □N/A	6.		
-Pace Containers Used?	V Yes	□No □N/A	ļ		
Containers Intact?	ŪYes .	□yo □N/A	7.		1lat-lane
Samples Field Filtered?	□Yes	NN□ ON I	8. No	ote If sediment is visible in the dis	solved container
	Z Yes	□No □N/A	9.		
Sample Labels Match COC?	WF				A 1 THE REAL PROPERTY AND ADDRESS OF THE PARTY OF THE PAR
-includes Date/Time/ID/Analysis Wattix		DNO DNA	10.		
Headspace in VOA Vials (>5-6mm)?	□Yes		-		
Trip Blank Present?	☐Yes	□no Œn/a			and the second s
Trip Blank Custody Seals Present?	□Yes	NAMENT ON THE		Field Data	Required? Yes No
CLIENT NOTIFICATION/RESOLUT	TION				
Dance Contacted:	٠		Da	ate/Time:	
Person Contacted: Comments/Sample					
Discrepancy:					
and the second s					
	•				
					-
	.0				
make de the decrease of the second se	THE			Date: 11/1/17	Brito Jupa
Project Manager SCURF Review:				Date: 1/4///	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DELINR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)

Project Manager SRF Review:



Sarnple Condition Upon Receipt(SCUR)

Document No.:
F-CAR-CS-033-Rev.01

Page 2 of 2 Issuing Authority: Pace Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

**Bottom half of box is to list number of bottles

Project

WO#:92325211

PM: MWB

Due Date: 01/17/17

CLIENT: 92_CFPUA lab

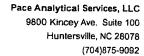
item#	BP4U-125 mL Plastic Unpreserved (N/A) (CI-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	8P1U-1 liter Plastic Unpreserved (N/A)	8P3S-250 mL Plastic H25O4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP3Z-250 mL Plastic ZN Acetate & NaOH (>9)	8P3C-250 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) [CI-)	AG15-1 liter Amber H2504 (pH < 2)	AG3S-250 mL Amber H2504 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCI (N/A)	VG9T-40 mL VOA Na25203 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per ldt)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP3A-250 mL Pinstic (NH2)2SO4 (9.3-9.7)	Cubitainer	VSGU-20 mL Scintillation vials (N/A)	GN	
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12						1	1	1											$oldsymbol{ol}}}}}}}}}}}}}}}}}}$		\perp			$\overline{\Gamma}$			<u>L</u>	

		pH Ac	ljustment Log for Pres	erved Samples		
ample ID	Type of Preservative		Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT, All relevant fields must be completed accurately.

Section		Section B					Section C Invoice Information:											Pa	ge:	١		of \									
Company	d Client Information:	Required Project Report To: Jill							Atter			ion: Final													L	_					
		L	Dean	e y							Name		108							_											
Address		Copy To:		·							эппы											ILAT									
	Wilmington NC 28403								Acdr												-	IPDE					WATE		DRINKING	G WA	TER
Email To		Purchase Order							Refer											1	<u> </u>	JST		_ F	CRA				OTHER	-	
Phone:	(910) 332-6558 Fax: (910) 332-6730	Project Name:		t Chlorate	/Chlorite	- Special			Mana			Matt	hew	Brai	nard					\perp	Site	Loca	tion		N	C					
Request	led Due Date/TAT:	Project Number	:						Pace	Profile	e #	48	60	9-	4							STA		_							
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	Section D Valid Matrix C Required Client Information MATRIX	CODE E	ĝ		COLL	ECTED					F	Prese	erva	tives	;	NA															
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	WASTE WATER PRODUCT	ww 8	8	COMP		COMPO	ISITE RAB	SAMPLE TEMP AT COLLECTION				-				١	1										3				
l	SAMPLE ID SOLUTION OF WIPE	D 24 OF 882	(G=GRAB		,	<u> </u>		20.00	8							1	:										Residual Chlorine (Y/N)				
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	Sample IDs MUST BE UNIQUE TISSUE	47 78 77 CODE	SAMPLE TYPE					120	È	18				5	9	18	Chlorate														
æ E		MATRIX	1			1		1	l g	Ses	o	σl.	- 공	100	Methanol	ءَ اج	Chlorata	Chlorite									킳	9	232	52	_11
ITEM		¥.	8	DATE	TIME	DATE	TIME	38	2	5	H ₂ SO ₄	至 (É	Se	5 2	\$ 6	5 5								\perp	Re		Project		•
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2			_		ļ	<u> </u>		$oldsymbol{ol{ol{ol}}}}}}}}}}}}}}}}$	↓_	\bot	Ш	4	4	1	Ш	4	L	\bot	1	\sqcup	\perp	_	Ш	\Box	4	4_	Ш				
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October 25, 2016



Ms. Jill Deaney CFPUA 628 Groundwater Way Wilmington, NC 28411

RE: Project: C. FILTER CHLORATE-CHLORITE

Pace Project No.: 92315690

Dear Ms. Deaney:

Enclosed are the analytical results for sample(s) received by the laboratory on October 11, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew Brainard

Watthew Brain

matthew.brainard@pacelabs.com

Project Manager

Enclosures

cc: Felicia Caison, Cape Fear Public Utility Autho

Ms. Crystal Callahan, CFPUA-Lab

Ms. Brittany Cummings, Cape Fear Public Utility Authority

Mr. Adam Poore, CFPUA

Ms. Allyson Ridout, CFPUA-Lab







CERTIFICATIONS

... C. FILTER CHLORATE-CHLORITE

Pace Project No.: 92315690

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320 Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236 Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 Nevada Certification: FL NELAC Reciprocity

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 Oklahoma Certification #: D9947 Pennsylvania Certification #: 68-00547 Puerto Rico Certification #: FL01264 South Carolina Certification: #96042001 Tennessee Certification #: TN02974 Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165 Wyoming Certification: FL NELAC Reciprocity

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity





SAMPLE ANALYTE COUNT

Project:

C. FILTER CHLORATE-CHLORITE

Pace Project No.:

92315690

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92315690001	SWEENEY POST-SPECIAL(6806-16)	EPA 300.1	СМВ	2	PASI-O
		EPA 300.1	СМВ	2	PASI-O



ANALYTICAL RESULTS

Project:

C. FILTER CHLORATE-CHLORITE

Pace Project No.:

Date: 10/25/2016 12:29 PM

92315690

Sample: SWEENEY POST- SPECIAL(6806-16)	Lab ID: 923	15690001	Collected: 10/11/1	6 08:09	Received:	10/11/16 15:28	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.1 Oxihalide IC Anions 14d	Analytical Meth	od: EPA 30	0.1					
Chlorite <i>Surrogates</i>	ND	ug/L	10.0	2		10/23/16 19:3	9	D3
Dichloroacetate (S)	93	%	90-115	2		10/23/16 19:3	9 79-43-6	
300.1 Oxihalide IC Anions 28d	Analytical Meth	od: EPA 30	0.1					
Chlorate	86.2	ug/L	10.0	2		10/23/16 19:3	9 7790-93-4	
Surrogates Dichloroacetate (S)	93	%	90-115	2		10/23/16 19:3	9 79-43-6	



QUALITY CONTROL DATA

Project:

C. FILTER CHLORATE-CHLORITE

Pace Project No.:

92315690

QC Batch:

QC Batch Method:

327616

EPA 300.1

Analysis Method:

EPA 300.1

Analysis Description:

300.1 Oxihalides IC Anions

METHOD BLANK: 1749631

Matrix: Water

Associated Lab Samples:

Associated Lab Samples:

92315690001

92315690001

Parameter

Units

Blank Result ND Reporting Limit

Analyzed Qualifiers

Chlorite Dichloroacetate (S)

ug/L %

Units

ug/L

%

ug/L

%

Units

ug/L

%

97

5.0 10/22/16 13:49 90-115 10/22/16 13:49

LABORATORY CONTROL SAMPLE: 1749632

Parameter Chlorite Dichloroacetate (S)

Parameter

Spike Conc. 40

LCS Result 38.5

LCS % Rec % Rec 96 99

RPD

Limits 85-115

90-115

Qualifiers

MATRIX SPIKE SAMPLE:

1749634 Units

702092001 Result ND Spike Conc. 40

MS Result 38.0

0

MS % Rec % Rec Limits

95

94

Qualifiers

75-125

90-115

SAMPLE DUPLICATE: 1749633

Dichloroacetate (S)

Chlorite

Parameter Chlorite Dichloroacetate (S)

Date: 10/25/2016 12:29 PM

702092001 Result

ND

94

Dup Result ND 94

Qualifiers

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project:

C. FILTER CHLORATE-CHLORITE

Pace Project No.:

92315690

QC Batch:

Chlorate

327617

Analysis Method:

EPA 300.1

QC Batch Method:

Dichloroacetate (S)

EPA 300.1

Analysis Description:

300.1 Oxihalides IC Anions

Associated Lab Samples:

METHOD BLANK: 1749635

Matrix: Water

Associated Lab Samples:

Parameter

92315690001

Units

ug/L

92315690001

Blank Reporting Result Limit Analyzed Qualifiers ND 5.0 10/22/16 13:49 97 90-115 10/22/16 13:49

LABORATORY CONTROL SAMPLE: 1749636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorate Dichloroacetate (S)	ug/L %	40	39.0	97 99	85-115 90-115	

MATRIX SPIKE SAMPLE: 1749638 92316464001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec

Limits Qualifiers ND Chlorate 60 57.1 95 ug/L 75-125 Dichloroacetate (S) % 93 90-115

MATRIX SPIKE SAMPLE: 1749640 702092001 MS MS Spike % Rec Units Result Conc. Parameter Result % Rec Limits Qualifiers ND Chiorate ug/L 40 38.7 97 75-125

Dichloroacetate (S) % 94 90-115

SAMPLE DUPLICATE: 1749637

Parameter	Units	92316464001 Result	Dup Result	RPD	Qualifiers
Chlorate Dichloroacetate (S)	ug/L %	ND 94	ND 94	0	

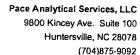
SAMPLE DUPLICATE: 1749639

Date: 10/25/2016 12:29 PM

		702092001	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Chlorate	ug/L	ND	ND		
Dichloroacetate (S)	%	94	94	C)

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS





QUALIFIERS

Project:

C. FILTER CHLORATE-CHLORITE

Pace Project No.:

92315690

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O

Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 10/25/2016 12:29 PM

D3

Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

C. FILTER CHLORATE-CHLORITE

Pace Project No.:

Date: 10/25/2016 12:29 PM

92315690

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92315690001	SWEENEY POST-SPECIAL(6806- 16)	EPA 300.1	327616		
92315690001	SWEENEY POST-SPECIAL(6806- 16)	EPA 300.1	327617		



Document Name: Sample Condition Upon Receipt(SCUR)

Document No.: F-CAR-CS-033-Rev.00

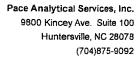
Document Revised: Sept. 21, 2016
Page 1 of 2
Issuing Authority:
Pace Quality Office

A DECEMBER OF THE PROPERTY OF	Name:					140	#:92	23156	390
トラー Recelpt 特別的	FP4A/La	Ь			Proj	ect #	 		
Courier: Lifed	€x □UPS	□us			Client				
CommercialPacc	2	∐Otl	her:			9231	5690		
Custody Seal Present? Yes	□i1o Seals	intact?	□ Y	es [□No	Data (I	aitiala Dansan I		
Packing Material: Bubble	Wrap □But	ble Bags		lone	Oth		nitials Person i	xamining Conte	nts:
Thermometer:		Type o	of Icor	□Wet	Blue	None	☐Sampl	es on ice, cooling	g process has be
Correction Factor: O, O Cooler 1	Femp Corrected (*C)					Biological Tiss	ue Frozen?	□Yes □]No □N//
Temp should be above freezing to 6 'C	С		***************************************		-				
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		/	1			Co	omments/Disc	repancy:	
Chain of Custody Present?		□ZYes	□No	□n/a	1.				
Samples Arrived within Hold Time?		Yes	□Ņo	□n/A	2.				
Short Hold Time Analysis (<72 hr.)?	**	☐Yes	No	□n/A	3				
Rush Turn Around Time Requested?		□yes	DNO	□N/A	4.				
Sufficient Volume?	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ØYes ■	□No	□N/A	5.				
Correct Containers Used?		☑ Yes	□No	□n/a	6.				
-Pace Containers Used?		✓Yes	□No	□n/a					
Containers intact?		✓Yes	□N ₀	□n/a	7.				
Samples Field Filtered?		□Yes	ØN₀	□n/a	8. N	ote if sediment i	s visible in the	dissolved conta	iner
Sample Labels Match COC?		□ Yes	□No	□n/a	9.				***************************************
-Includes Date/Time/ID/Analysis N	Irix: WT								
All containers needing acid/base preserv	votion have been				10.				
checked and documented on page two o	of Scurf?	₹Yes	□No	□n/a	10.				
Exceptions: VOA, Coliform, TOC, Oil and	Grease, DRO/8015								
(water) DOC, LLHg		- /			ļ	·			
Samples checked for dechlorination?		Ø Yes	□No	N/A	11.				····
Headspace In VOA Vials (>5-6mm)?		□Yes	□No	MN/V	12.				
Trip Blank Present?		☐Yes	□No	DINA	13.				
Trip Blank Custody Seals Present?		☐Yes	□No	☑N/A					
Pace Trip Blank Lot II (if processed): CLIENT NOTIFICATION	· · · · · · · · · · · · · · · · · · ·				<u> </u>		Field O		
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Laboratory receiving sample	-				_				_
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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Clent Information:	Section B Required Project I	nformation;			Saction C Invoice Information															Page	2:	i	. •	' [
Company: CFPUA/Lab	Report Ta; Jill De	eaney					Attent	ion:	Fin	ance							7										····
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Wilmington NC 28403		***************************************		•			Addre	\$5.									7	NP	DES	Г	GF	NUOF	ID W	ATE	R 57/0	RINKING	WATER
Email To Jill, Deaney@cfpua.org	Purchase Order No	170003					Pace C Re'ere										٦,-	- UST - RCRA - OTHER									
Phone: (910) 332-6556 Fax (911), U32-5730	Project Name:	osi Chlorate	-/Chlorite	- Special				Project	Ма	ilhev	Bra	inard	ı				s	ite Lo	catio	n			•				
Requested Due Date/TAT:	Project Number							Profile #		481	, 9	-4	•				7	s	TATE	<u></u>		NC		- [
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Section D Valid Matrix C Required Client Information MATRIX	cope e	MP)	COLL	ECTED					Pre	serv	itive:	s	1 2 1														
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July 25, 2016

Ms. Jill Deaney CFPUA 628 Groundwater Way Wilmington, NC 28411

RE: Project: Post Chlorate/ Chorite

Pace Project No.: 92305318

Dear Ms. Deaney:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew Brainard

Wather Fram

matthew.brainard@pacelabs.com

Project Manager

Enclosures

cc: Felicia Caison, Cape Fear Public Utility Autho

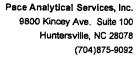
Ms. Crystal Callahan, CFPUA-Lab

Ms. Brittany Cummings, Cape Fear Public Utility Authority

Mr. Adam Poore, CFPUA

Ms. Allyson Ridout, CFPUA-Lab







CERTIFICATIONS

Project:

Post Chlorate/ Chorite

Pace Project No.:

92305318

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320 Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236 Montana Certification #: Cert 0074 Nebraska Certification: NE-OS-28-14 Nevada Certification: FL NELAC Reciprocity

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

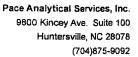
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165 Wyoming Certification: FL NELAC Reciprocity

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity





SAMPLE ANALYTE COUNT

Project:

Post Chlorate/ Chorite

Pace Project No.:

92305318

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92305318001	Sweeny Post-Special	EPA 300.1	СМВ	2	PASI-O
		EPA 300.1	СМВ	2	PASI-O

REPORT OF LABORATORY ANALYSIS



ANALYTICAL RESULTS

Project:

Post Chlorate/ Chorite

Pace Project No.:

Date: 07/25/2016 04:21 PM

92305318

Sample: Sweeny Post-Special	Lab ID: 923	05318001	Collected: 07/14/1	6 08:00	Received: 07	7/14/16 15:09	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.1 Oxihalide IC Anions 14d	Analytical Meti	hod: EPA 30	0.1					
Chlorite	ND	ug/L	100	20		07/24/16 11:56	3	D3
Surrogates Dichloroacetate (S)	102	%	90-115	20		07/24/16 11:56	79-43-6	
300.1 Oxihalide IC Anions 28d	Analytical Meth	nod: EPA 30	0.1					
Chlorate	93.2	ug/L	5.0	1		07/21/16 14:58	8 7790-93-4	
Surrogates Dichloroacetate (S)	98	%	90-115	1		07/21/16 14:58	8 79-43-6	



QUALITY CONTROL DATA

Project:

Post Chlorate/ Chorite

Pace Project No.:

92305318

QC Batch:

310232

QC Batch Method:

Analysis Method:

EPA 300.1

EPA 300.1

Analysis Description:

300.1 Oxihalides IC Anions

Associated Lab Samples:

92305318001

METHOD BLANK: 1644969

Matrix: Water

Associated Lab Samples:

92305318001

Parameter Units Chlorite ug/L

Blank Reporting Result Limit

Qualifiers Analyzed 5.0 07/21/16 11:20

Dichloroacetate (S)

Chlorite

%

ug/L

%

ND 106

90-115 07/21/16 11:20

LABORATORY CONTROL SAMPLE: 1644970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorite Dichloroacetate (S)	ug/L %	40	38.5	96 108	85-115 90-115	

MATRIX SPIKE SAMPLE:

Parameter

1644972	
	92305318001
Units	Result
ug/L	ND

MS Result

770

MS % Rec

96

102

% Rec Limits Qualifiers

75-125

90-115

Dichloroacetate (S)

Spike

Conc.

800

Date: 07/25/2016 04:21 PM

SAMPLE DUPLICATE: 1644971					
		92305318001	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Chlorite	ug/L	ND	ND		
Dichloroacetate (S)	%	102	100	2	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project:

Post Chlorate/ Chorite

Pace Project No.:

92305318

QC Batch:

310233

QC Batch Method: EPA 300.1

Parameter

Analysis Method:

EPA 300.1

Analysis Description:

300.1 Oxihalides IC Anions

METHOD BLANK: 1644973

Matrix: Water

Associated Lab Samples:

Associated Lab Samples:

92305318001

92305318001

Blank

Reporting

Units

Result ND Limit

Qualifiers Analyzed

Chlorate Dichloroacetate (S) ug/L %

106

07/21/16 11:20 5.0 90-115 07/21/16 11:20

LABORATORY CONTROL SAMPLE: 1644974

> Units Parameter ug/L

Spike Conc. 40

LCS LCS Result % Rec 39.4

% Rec Limits 85-115

Qualifiers

Chlorate Dichloroacetate (S)

MATRIX SPIKE SAMPLE:

Parameter

%

1644976

Units

ug/L

%

92305318001

Result

Spike Conc.

40

MS Result

98

108

133

MS % Rec

100

99

90-115

% Rec Limits

90-115

Qualifiers 75-125

Date: 07/25/2016 04:21 PM

Dichloroacetate (S)

Chlorate

Chlorate

SAMPLE DUPLICATE: 1644975

Units Parameter ug/L Dichioroacetate (S) %

92305318001 Result

93.2

98

93.2

Dup Result RPD 94.5 99

Qualifiers 1

1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project:

Post Chlorate/ Chorite

Pace Project No.:

92305318

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

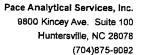
LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 07/25/2016 04:21 PM

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

Post Chlorate/ Chorite

Pace Project No.:

Date: 07/25/2016 04:21 PM

92305318

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92305318001	Sweeny Post-Special	EPA 300.1	310232		
92305318001	Sweeny Post-Special	EPA 300.1	310233		

REPORT OF LABORATORY ANALYSIS



Document Name: 5ample Condition Upon Receipt(SCUR)

Document No.: F-ASV-CS-003-Rev.20 Document Revised: May 24, 2016
Page 1 of 2
Issuing Authority:
Pace Asheville Quality Office

Sample Condition Upon Client Nam	ie!				
Receipt (F.)	NA				Project #:
Courier: Fed Ex Commercial Pace	UPS	Usi Ott			Cilent 92305318
Custody Seal Present? Yes	No Seals	Intact?	□Ye	es ¿C	ZNO Z
Packing Material: Bubble Wrap		ble Bags	ΔM	one	Date/Initials Person Examining Contents: 1/1().21
IR Gun #5 SN:15527198 Correction Factor: 0.0°C Cooler Temp	Corrected (*C)	Type of	ice:	Wet	Biological Tissue Frozen? ☐Yes ☐No ☐N/A
Temp should be above freezing to 6°C USDA Regulated Soll (N/A, water sampl Did samples originate in a quarantine zone w Yes No	le)			SC (check	
					Comments/Discrepancy:
Chain of Custody Present?		Yes	□No	□N/A	1.
Samples Arrived within Hold Time?		Yes	□No	□N/A	2.
Short Hold Time Analysis (<72 hr.)?	and the state of t	Yes	ØΝο	□N/A	3.
Rush Turn Around Time Requested?		□Yes	DNO	□N/A	4.
Sufficient Volume?		ZYes.	□No	□n/a	5.
Correct Containers Used?		☑ Yes	□No	□n/a	6.
-Pace Containers Used?		7Yes	□No	□N/A	
Containers Intact?		Yes	□No	□n/a	7.
Samples Field Filtered?		□Yes	□но	DNA	8. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	O	Yes	□No	□n/a	9.
 -Includes Date/Time/ID/Analysis Matrix: All containers needing acid/base preservation checked? All containers needing preservation are found 		□Yes	□No	PHIA	10. HHOS pilez
compliance with EPA recommendation?				· /	1175O4 pil<2
(HNO ₃ , H ₂ SO ₃ , HCl<2; NaOH >9 Sulfide, NaOH: Exceptions: VOA, Coliform, TOC, Oil and Great		□Yes	□No	ZNIA	ti-cliq NOsti
DRO/8015 (water) DOC, LLHg	se,	Yes	□No	EZN/A	HsQs//¿cQAr pib9
Samples checked for dechlorination?		□Yes	□No	ØN/A	11.
Headspace in VOA Vials (>5-6mm)?		□Yes	□No.	ØN/A	12.
Trip Blank Present?		∐Yes	□No	ØŊ/A	13.
Trip Blank Custody Seals Present?		Yes	□No	ØN/A	
Pace Trip Blank Lot # (if purchased):					
CLIENT NOTIFICATION/RES	OLUTION				Field Data Required? ☐Yes ☐No
Person Contacted: Comments/Sample Discrepancy					Date/Time:
Project Manager SCURF Review:	43	1152			Date: 7/15/14
Project Manager SRF Review: Note: Whenever there is a discrepancy affection of hold, incorrect preservative, out of tem			ce sample	es, a copy	Date: 7 / 9//6 of this form will be sent to the North Carolina DEHNR Certification Office (i.e.



CHAIN-OF-CUSTODY / Analytical Request Document

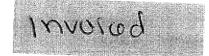
The Chain-of-Custody to a LEGAL DOCUMENT, All relevant fields must be completed accurately.

Section Required	A Chent Information:	Section B Required Project Information: Required Project Information:												Page: \ of \															
Company	CFPUA/Lab	Report To: J	ill Dea	ney					Attent	lion:	Fir	ance							7				-					·····	
Address:	ESM /235 Government Center Dr.	Copy To:							Comp	any Na	me:								RE	GULA	TOR	ÈÝ A	GEN	ICY					
	Wilmington NC 28403								Addre	16S:									T-	NPD	ES	-	GRO	ואטכ	D WATE	سة R	DRINKING	WATER	
Email To:	Jill.Deaney@cfpua.org	Purchase On	der No.:	170003					Pote (UST TROP						TOTHER				
Phone	(910) 332-6558 Fax (910) 332-6730	Project Name	Pc	st Chlorate	e/Chlorite	- Special			Pace ! Manag	Project jer:	Ma	tthew	Brai	nard					Sit	te Loc	ation	T							
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ITEM#	(A-Z, D-9 /) OTHER Sample IDs MUST BE UNIQUE TISSUE	AR OT TS	MATRIX CODE	1	TIME	SAMPLE TEMP AT COLLECTION MAINTEN Na.25.03 Weither Analysis Test Chiorate Chiorate Chiorate											Residual Chlorine (Y/N)	3 : [©] lo <i>J</i> Lab l.D.											
1	Sweeney Post - Special		DW (;		1.74.16	CSOO	24.7	2													Y	()						
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April 14, 2016



Ms. Jill Deaney CFPUA 628 Groundwater Way Wilmington, NC 28411

RE: Project: POST CHLORATE/CHLORITE-SPECIAL

Pace Project No.: 92293086

Dear Ms. Deaney:

Enclosed are the analytical results for sample(s) received by the laboratory on April 07, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew Brainard

Wather Brain

matthew.brainard@pacelabs.com

Project Manager

Enclosures

cc: Felicia Caison, Cape Fear Public Utility Autho

Ms. Crystal Callahan, CFPUA-Lab

Ms. Brittany Cummings, Cape Fear Public Utility Authority

Ms. Pam Ellis, CFPUA

Mr. Adam Poore, CFPUA

Ms. Allyson Ridout, CFPUA-Lab



REPORT OF LABORATORY ANALYSIS





CERTIFICATIONS

Project:

POST CHLORATE/CHLORITE-SPECIAL

Pace Project No.:

92293086

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320 Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007

Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236 Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

Nevada Certification: FL NELAC Reciprocity

New York Certification #: 11608

North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity





SAMPLE ANALYTE COUNT

Project:

POST CHLORATE/CHLORITE-SPECIAL

Pace Project No.:

92293086

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92293086001	SWEENEY POST - SPECIAL	EPA 300.1	СМВ	2	PASI-O
		EPA 300.1	СМВ	2	PASI-O



ANALYTICAL RESULTS

Project:

POST CHLORATE/CHLORITE-SPECIAL

Pace Project No.: 92293086

Sample: SWEENEY POST - SPECIAL	Lab ID: 922	93086001	Collected: 04/07/1	6 08:05	Received: 0	4/07/16 15:30	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.1 Oxihalide IC Anions 14d	Analytical Meth	od: EPA 30	0.1					
Chlorite Surrogates	ND	ug/L	5.0	1		04/12/16 18:1	2	
Dichloroacetate (S)	92	%	90-115	1		04/12/16 18:1:	2 79-43-6	
300.1 Oxihalide IC Anions 28d	Analytical Meth	od: EPA 30	0.1					
Chlorate <i>Surrogates</i>	48.0	ug/L	5.0	1		04/12/16 18:1	2 7790-93-4	
Dichloroacetate (S)	92	%	90-115	1		04/12/16 18:1:	2 79-43-6	



QUALITY CONTROL DATA

Project:

POST CHLORATE/CHLORITE-SPECIAL

Pace Project No.:

92293086

QC Batch:

WETA/56736

QC Batch Method: EPA 300.1

Analysis Method:

EPA 300.1

Analysis Description:

300.1 Oxihalides IC Anions

METHOD BLANK: 1536548

Matrix: Water

Associated Lab Samples:

Associated Lab Samples:

92293086001

92293086001

Blank

Reporting Limit

Units

Result ND

Analyzed 04/12/16 16:45 Qualifiers

Chlorite Dichloroacetate (S) ug/L %

107

5.0 90-115 04/12/16 16:45

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

1536549

Spike Conc.

LCS Result

40.0

LCS % Rec

% Rec Limits

Qualifiers

Chlorite Dichloroacetate (S) ug/L %

Units

40

100 103

85-115 90-115

MATRIX SPIKE SAMPLE:

1536551

92293086001 Parameter Units Result ug/L

%

%

Spike Conc. 40

ND

92

MS Result

43.0

MS % Rec

Qualifiers

108

96

% Rec Limits Qualifiers

75-125

90-115

Dichloroacetate (S)

SAMPLE DUPLICATE:

Dichloroacetate (S)

Date: 04/14/2016 05:01 PM

Chlorite

Chlorite

Parameter

1536550

92293086001 Units Result ug/L ND

Dup Result

ND

95

RPD

3

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project:

POST CHLORATE/CHLORITE-SPECIAL

Pace Project No.:

92293086

QC Batch:

WETA/56737

Analysis Method:

EPA 300.1

EPA 300.1 QC Batch Method:

Analysis Description:

300.1 Oxihalides IC Anions

METHOD BLANK: 1536552

Matrix: Water

Associated Lab Samples:

Associated Lab Samples:

92293086001

92293086001

Blank Result Reporting Limit

Analyzed Qualifiers

Chlorate Dichloroacetate (S) Units ug/L %

ND 107

5.0 04/12/16 16:45 90-115 04/12/16 16:45

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

1536553

Spike Conc

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Chlorate Dichloroacetate (S) Units ug/L

40

38.1

95 85-115 103

90-115

MATRIX SPIKE SAMPLE:

1536555

92293086001 Result Parameter Units 48.0 ug/L

%

ug/L

%

%

Spike Conc. 40

MS Result 88.3

RPD

0

3

MS % Rec % Rec Limits

101

96

Qualifiers

Qualifiers

75-125

90-115

Dichloroacetate (S)

Dichloroacetate (S)

Date: 04/14/2016 05:01 PM

Chlorate

Chlorate

Parameter

SAMPLE DUPLICATE: 1536554

92293086001 Dup Units Result Result 48.0 48.2 92 95

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





QUALIFIERS

Project:

POST CHLORATE/CHLORITE-SPECIAL

Pace Project No.:

92293086

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 04/14/2016 05:01 PM

PASI-O Pace Analytical Services - Ormond Beach





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

POST CHLORATE/CHLORITE-SPECIAL

Pace Project No.: 92293086

Date: 04/14/2016 05:01 PM

Lab ID	Sample ID	QC Batch Method	QC Batch Analytical Method	Analytical Batch
92293086001	SWEENEY POST - SPECIAL	EPA 300.1	WETA/56736	
92293086001	SWEENEY POST - SPECIAL	EPA 300.1	WETA/56737	



Out of hold, incorrect preservative, out of temp, incorrect containers)

Document Name: Sample Condition Upon Receipt(SCUR)

Document No.: F-CHR-CS-003-rev.18 Document Revised: 18FEB2016 Page 1 of 2

Issuing Authority: Pace Huntersville Quality Office

93086 Client Name: Projec Courier: JUSPS Client Pace [] Commercial Other: **Custody Seal Present?** Yes Seals Intact? No Date/Initials Person Examining Contents: 07 4/8/ Bubble Wrap Lubble Bags Packing Waterial: Mone Other: [] JK Gun 115 SN: 155271.98 Thermometer: Samples on ice, cooling process has b **∃**Wet Mone ∐Blue Type of Ice: Cooler Yemp Corrected (*C): Correction Factor: 0.0'C Biological Tissue Frozen? Yes □80 □M/ Temp should be above freezing to 6°C USDA Regulated Soil (LATA, water sample) Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? Did samples originate from a foreign source (internationally Yes No Including Hawali and Puerto Rico)? [Yes] COMMENTS: Chain of Custody Present? []N/A Chain of Custody Filled Out? []N/A Chain of Custody Relinquished? Zies []N/A 3. Sampler Name and/or Signature on COC? Samples Arrived within Hold Time? []N/A Short Hold Time Analysis (<72 hr)? []Yes Rush Turn Around Time Requested? Sufficient Volume? Correct Containers Used? -Pach Containers Used? Containers Intact? Filtered Volume Received for Dissolved Tests? Note if sediment is visible in the dissolved container [Yes W/N/A 11. Sample Labels Match COC? Fies □No []N/A 12. -Includes Date/Time/ID/Analysis Matrix:_ All containers needing acid/base preservation have been 13. checked? ∐Yes ∐No [JH:/A All containers needing preservation are found to be in compliance with EPA recommendation? (HMO3, H2SO3, HCI<2; NaOII >9 Sulfide, NaOH>12 Cyanide) ∐Yes ∐No Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC,LUIG [Yes Samples checked for decidorination []Yes []No EZNYA 15. Headspace in VOA Vials (>5-6mm)? Yes No ZNA Trip Blank Present? Yes □No 16. Trip Blank Custody Seals Present? ☐Yes []No [JN/A Pace Trip Blank Lot # (if purchased):____ CLIENT NOTIFICATION/RESOLUTION Field Data Required? []Yes []No Person Contacted: Date/fime: Comments/Resolution: Date: Project Manager SCURF Review: Project Manager SRF Review: Date: Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the florth Carolina DEHMR Certification Of fic



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

	ed Client Information	Section B Required Pri								tion C		en;												P:	3ge:	١		of .	1
Compar		Report To: _	lill Dea	ney					_	ntion:	-	nano	ce											<u></u>					·
Address		Сору То:							Com	pany N	lame.								1	REGI	JLAT	ORY	′ AG	ENC	Y:Y				
	Wilmington NC 28403			- Million Inc.					Addr	ess:											VPDE				UND Y	MATE	EP 57	OBINIKI	NG WATER
Email T	o: Jill.Deaney@cfpua.org	Purchase Or	der No.:	160093						Ounte				*******							JST			RCRA		~~		OTHER	NG WATER
Phone:	(910) 332-6558 Fax: (910) 332-6730	Project Name	: Po	st Chloral	te/Chlorite	e- Special			Paco	Project	М	althe	w Br	ainai	rd				-+		Local				•	E	min	WINER	
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January 22, 2016

Ms. Jill Deaney CFPUA 628 Groundwater Way Wilmington, NC 28411

RE: Project: POST CHLORATE/CHLORITE- SPECIA

Pace Project No.: 92283283

Dear Ms. Deaney:

Enclosed are the analytical results for sample(s) received by the laboratory on January 14, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew Brainard

Wather Brain

matthew.brainard@pacelabs.com

Project Manager

Enclosures

cc: Felicia Caison, Cape Fear Public Utility Autho

Ms. Crystal Callahan, CFPUA-Lab

Ms. Brittany Cummings, Cape Fear Public Utility Authority

Ms. Pam Ellis, CFPUA

Mr. Adam Poore, CFPUA

Ms. Allyson Ridout, CFPUA-Lab







CERTIFICATIONS

Project:

POST CHLORATE/CHLORITE- SPECIA

Pace Project No.:

92283283

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

Nevada Certification: FL NELAC Reciprocity

New Hampshire Certification #: 2958

New York Certification #: 11608

North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216 Oklahoma Certification #: D9947 Pennsylvania Certification #: 68-00547 Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001 Tennessee Certification: #9042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity





SAMPLE ANALYTE COUNT

Project:

POST CHLORATE/CHLORITE- SPECIA

Pace Project No.:

92283283

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92283283001	SWEENEY POST - SPECIAL	EPA 300.1	KEK	2	PASI-O
		EPA 300.1	KEK	2	PASI-O



ANALYTICAL RESULTS

Project:

POST CHLORATE/CHLORITE- SPECIA

Pace Project No.:

Date: 01/22/2016 04:29 PM

92283283

Sample: SWEENEY POST - SPECIAL	Lab ID: 922	83283001	Collected: 01/14/1	6 08:18	Received:	01/14/16 15:58	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.1 Oxihalide IC Anions 14d	Analytical Meti	hod: EPA 30	0.1					
Chlorite	ND	ug/L	5.0	1		01/22/16 01:36	6	
Surrogates Dichloroacetate (S)	105	%	90-115	1		01/22/16 01:36	79-43-6	
300.1 Oxihalide IC Anions 28d	Analytical Met	hod: EPA 30	0.1					
Chlorate	90.1	ug/L	5.0	1		01/22/16 01:36	7790-93-4	
Surrogates Dichloroacetate (S)	105	%	90-115	1		01/22/16 01:36	79-43-6	



QUALITY CONTROL DATA

Project:

POST CHLORATE/CHLORITE- SPECIA

Pace Project No.:

92283283

QC Batch:

WETA/54118

Associated Lab Samples:

Analysis Method:

EPA 300.1

QC Batch Method:

EPA 300.1

Analysis Description:

300.1 Oxihalides IC Anions

METHOD BLANK: 1455787

Matrix: Water

Associated Lab Samples:

Parameter Units ug/L

92283283001

Blank Reporting Result Limit

Analyzed Qualifiers

01/22/16 00:09

Dichloroacetate (S)

Chlorite

%

Units

ND 107

5.0 90-115 01/22/16 00:09

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

1455788

Spike Conc. 40

Result

LCS LCS Result % Rec

% Rec Limits

Qualifiers

Chlorite Dichloroacetate (S)

ug/L %

39.4

98 85-115 109 90-115

MATRIX SPIKE SAMPLE:

1455790 Units

Units

ug/L

%

92283283001 Spike

MS Result

MS % Rec

108

104

% Rec Limits Qualifiers

Chlorite Dichloroacetate (S) ug/L %

Conc. ND 40

43.1

75-125

90-115

SAMPLE DUPLICATE:

Date: 01/22/2016 04:29 PM

1455789

Parameter Chlorite Dichloroacetate (S)

92283283001 Result ND

105

Dup Result ND

103

RPD

2

Qualifiers

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project:

POST CHLORATE/CHLORITE- SPECIA

Pace Project No.:

92283283

QC Batch:

WETA/54119

92283283001

EPA 300.1

Analysis Method:

EPA 300.1

Analysis Description:

300.1 Oxihalides IC Anions

QC Batch Method: Associated Lab Samples:

Matrix: Water

Associated Lab Samples:

Date: 01/22/2016 04:29 PM

METHOD BLANK: 1455791

Danamataa	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Parameter	Units	resuit -	LIIIIL	Allalyzeu	Qualifiers
Chlorate	ug/L	ND	5.0	01/22/16 00:09	
Dichloroacetate (S)	%	107	90-115	01/22/16 00:09	

LABORATORY CONTROL SAMPLE:	1455792	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Chlorate	ug/L	40	41.8	104	85-115	
Dichloroacetate (S)	%			109	90-115	

MATRIX SPIKE SAMPLE:	1455796	92283283001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Chlorate Dichloroacetate (S)	ug/L %	90.1	40	132	106 104	75-125 90-115	

SAMPLE DUPLICATE: 1455795		92283283001	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Chlorate	ug/L	90.1	88.9	1	
Dichloroacetate (S)	%	105	103	2	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Pace Analytical www.pacelebs.com

9800 Kincey Ave. Suite 100 Huntersville, NC 28078 (704)875-9092

QUALIFIERS

Project:

POST CHLORATE/CHLORITE- SPECIA

Pace Project No.:

92283283

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

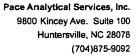
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 01/22/2016 04:29 PM

PASI-O Pace Analytical Services - Ormond Beach





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

POST CHLORATE/CHLORITE- SPECIA

Pace Project No.: 92283283

Date: 01/22/2016 04:29 PM

Lab ID	Sample ID	QC Batch Method	QC Batch Analytical Method	Analytical Batch
92283283001	SWEENEY POST - SPECIAL	EPA 300.1	WETA/54118	
92283283001	SWEENEY POST - SPECIAL	EPA 300.1	WETA/54119	

	Document Name	
Ja		Document Revised
/ -Pace Analytical	Sample Condition Upon Receipt Form	December 28, 2015
teres 1 moranit	Document No	
	F-FL-C-007 rev 07	Issuing Authority
	1 -1 E-C-007 feV 07	Pace Florida Quality Office

Sample Condition	on Up	on Receipt	Form (SCUR)	
Project #				Date and Initials of person examining
Project Manager:				contents: 1:10:10 10:50 20_
Client:				Label:
				Deliver:pH:
Courier: 🔼 Fed Ex 🗌 UPS 🔲 USF		\ -		
		Client	Commercial Pace	O(her_
Shipping Method: First Overnight Priority Billing: Recipient Sender				
	ı	S人Third Party	☐ Unkown	Cooler Size if Applicable:
Tracking # 7.821 (388	<u>L</u>	170		
Custody Seal on Cooler/Box Present: Dyes		10 Seals	s intact: D yes no	
Packing Material: Subble Wrap Bubble	Bags	None	Other	Biological Tissue is Frozen: Yes No N/A
Thermometer Used	Тур	e of Ice: (Wei	Blue None	Samples on ice, cooling process has begun
Cooler #1 Temperature C O.S (Visual)	1	_(Correction	714	lual)
Cooler #2 Temperature*C(Visual)		_(Correction	Factor)(Act	•
Cooler #3 Temperature C(Visual)	····			
Cooler #4 Temperature C(Visual)		_(Correction	Factor) (Act	ual) to 6°C
Cooler #5 Temperature*C(Visual)		_(Correction I	Factor)(Act	uai)
Cooler #6 Temperature*C(Visual)		_(Correction I	Factor) (Act	uai)
			Comments:	
Chain of Custody Present	₹Yes	□ No □N/A		
Chain of Custody Filled Out	、和Yes	□ No □N/A		
Relinquished Signature & Sampler Name COC	a Yes	□ No □N/A		WO#: 92283283
Samples Arrived within Hold Time	⊅∜es	□ No □N/A		~~~ 92283283
Rush TAT requested on COC	□Yes	DO ENIA		
Sufficient Volume	QYes	□ No □N/A		
Correct Containers Used	⊌Yes	U No □N/A	·	2263283
Pace Containers Used	QYes	□ No □N/A		
Containers Intact	ব্রYes	□ No □N/A		
Sample Labels match COC (sample IDs & date/time of collection)	άίγes	□ No □N/A		
All containers needing acid/base preservation have been chacked	· · · · · · · · · · · · · · · · · · ·	***	HNO3 pH<2	
All Containers needing preservation are found to be in	∏Yes	□ No 및N/A	HCI pH<2 H2SO4 pH<2	
compliance with EPA recommendation	∐Yes	□ No KN/A	NaCH pH>12	
Exceptions: VOA, Coliform, TOC, O No Headspace in VOA Vials (>6mm):			NaOH/ZnOAc pH>9	
Trip Blank Present	⊒Yes	□ No RNA		
	∐Yes	□ No LANA		
Client Notification/ Resolution:				
Person Contacted			Date/Time	
Comments/ Resolution (use back for additional com	nents)			

3	····			
	TT FA	·		1/4/
Project Manager Review:	1/1/1			Date: 1/15/16/18/14



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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Email To										Addn											1	NPD	ES	r	GRO	UND	WAT	ER V	DRINKIN	IG WATER	₹
	omiocomic/@cipaa.org	Purchase			160093					Pace							*******	***************************************			1	UST		٠ ا	RCRA	۹.		-	OTHER		•
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	PRODUCT SOIL/SOLID	P SL	Valid	(G=GRAB	STAI	RT	COMPO	748	TEMP AT COLLECTION	l						1											Z				
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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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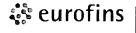


STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	NE-OS-05-04
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Jersey*	IN598
Colorado	IN035	New Mexico	IN00035
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	17767	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
lowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA170006	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 05/15/2017



Eaton Analytical

110 South Hill Street South Bend, IN 46617 Tel: (574) 233-4777 Fax: (574) 233-8207 1 800 332 4345

Laboratory Report

Client:

Cape Fear Public Utility Authority

Report:

388377

Attn:

Jill Deaney

Priority:

Standard Written

235 Government Center Drive Wilmington, NC 28403

Status:

Final

PWS ID:

NC0465010

Sample Information											
EEA ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time						
3690961	Sweeney Post CW	331,0	05/09/17 07:56	Client	05/10/17 09:15						

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

e appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not nesitate to call Joseph Mattheis at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature Title

05/16/2017

Date

ent Name:

Cape Fear Public Utility Authority

Report #:

388377

Client Name: Cape Fear

Cape Fear Public Utility Authority

Report #: 388377

Sampling Point:

Sweeney Post CW

PWS ID: NC0465010

100	General Chemistry												
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID#				
14797-73-0	Perchlorate	331.0		0.05	0.07	ug/L	_	05/12/17 00:55	3690961				

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

		SMCL	A1
Reg Limit Type:	MCL	2MICT	AL
Symbol:	•	^	!

Client Name:

Report #: 388377

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

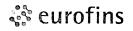


Eaton Analytical

110 S. Hill Street South Bend, IN 46617 T: 1.800.332.4345 F: 1.574.233.8207

Order # 318240 Batch # <u>388377</u>

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	Shaded area f	or EEA use	e only		4						. ago		0.		•
RE	PORT TO:	1 - 5 5 1 -			SAMPLER (Signature	a)		PWS ID#	STATE (sample origin)	PROJECT NAME	P	O#			
		 Lab Manag ment Center 			Crystal Callal			04-65-010	NO		1				
		on NC 28403			Brent Fo	dries		04-65-010	NC		1				
BII	L TO:					Yes	No	POPULATION SERVED	SOURCE WATER	Sweeney Post Special Sampling -	170	0004	33		Ĭ.
	CAPEFEARF	UA-NC Fina	ance		COMPLIANCE					Perchlorate			岁	l	
		ment Center			MONITORING		X	135,204	Surface Water				ΙŽ	CODE	3
_	Wilmingto	on NC 28403				<u> </u>					<u> </u>		CONTAINERS	Ö	8
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L				AM PN		X	31011	AM PM			10 10 10				
	MATRIX CODES:		TURN-ARC	UND TIN	IE (TAT) - SURCHARO	HS)									
	DW-DRINKING WATER		SW = Slandard	Written; (1	working days) 0%		IV" = immediate	Verbal: (3 working days) 100%							
	RW-REAGENT WATER GW-GROUND WATER		RV= Rush Ve	rbal: (5 work	ing days) 50%		IW* =Immediale	Written: (3 working days) 125%		Samples received unannounced with less					
	EW-EXPOSURE WATER SW-SURFACE WATER		RW* = Rush W	rillen: (5 wo	king days) 75%		SP* = Weekend	I, Holiday CALI		than 48 hours holding may be subject to addi					
	PW-POOL WATER						STAT" = Less I	han 48 hours CALL		,,					
WW-WASTE WATER * Please call, expedited service r					ed service not available	for all testing				08-LO-F0435 Issue 4.0 Effective Date: 2014-05-01					



Eaton Analytical

Eurofins Eaton Analytical Run Log

Run ID: 229289 Method: 331.0

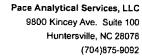
Type	Sample Id	Sample Site	<u>Matrix</u>	Instrument ID	Analysis Date	Calibration File
CCL	3692556		RW	PW6	05/11/2017 20:55	051117M331b.mdb
CCM	3692557		RW	PW6	05/11/2017 21:16	051117M331b.mdb
LMB	3692549		RW	PW6	05/11/2017 21:38	051117M331b.mdb
FBL	3692554		RW	PW6	05/11/2017 22:00	051117M331b.mdb
FBM	3692555		RW	PW6	05/11/2017 22:22	051117M331b.mdb
FS	3690961	Sweeney Post CW	DW	PW6	05/12/2017 00:55	051117M331b.mdb
CCH	3692559		RW	PW6	05/12/2017 02:23	051117M331b.mdb
CCL	3692688		RW	PW6	05/12/2017 09:11	051117M331b.mdb

QC Summary Report																
Sample Type	Analyte	Method	MRL	Cilent ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	8	Dil Factor	Extracted	Analyzed	EEA ID#
CCL	Perchlorate	331.0	0.05			0.0517	0.05	ug/L	103	50 - 150	_	-	1.0	•••	05/11/2017 20:55	3692556
CCM	Perchlorate	331.0	0.05			4.8937	5,0	ug/L	98	80 - 120	-		1.0	-	05/11/2017 21:16	3692557
LMB	Perchlorate	331,0	0.05	-	ï <]	0,05	The state of the s	ug/L		-	II	I	1,0		05/11/2017 21:38	3692549
FBL	Perchlorate	331.0	0.05			0.0526	0.05	ug/L	105	50 - 150			1,0	i – –	05/11/2017 22:00	3692554
FBM	Perchlorate	331.0	0.05	****		5.0229	5.0	ug/L	100	80 - 120	-	V	1.0		05/11/2017 22:22	3692555
FS	Perchlorate	331,0	0.05	Sweeney Post CW	The second	0.07		ug/L	7 		_		1.0		05/12/2017 00:55	3690961
ссн	Perchiorale	331.0	0.05		ĬĦĬ	9.8792	10.0	ug/L	99	80 - 120	-	4	1.0	-	05/12/2017 02:23	3692559
CCL	Perchlorate	331.0	0.05		i i	0.0479	0.05	ug/L	96	50 - 150	_	1 =	1.0	in zero	05/12/2017 09:11	3692688

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCH	Continuing Calibration High		
CCL	Continuing Calibration Low		
CCM	Continuing Calibration Mid		
FS	Field Sample		
FBL	Fortified Blank Low		
FBM	Fortified Blank Mid		
LMB	Laboratory Method Blank		

END OF REPORT





November 17, 2016



Ms. Jill Deaney CFPUA 628 Groundwater Way Wilmington, NC 28411

RE: Project: Sweeney Post-Special EPA 537

Pace Project No.: 92319027

Dear Ms. Deaney:

Enclosed are the analytical results for sample(s) received by the laboratory on November 08, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew Brainard

Watthew Brain

matthew.brainard@pacelabs.com

Project Manager

Enclosures

cc: Maggie Butler, Cape Fear Public Utility Authority
 Crystal Callahan, Cape Fear Public Utilities Department
 Mr. Adam Poore, CFPUA
 Mr. Billy Roy, CFPUA-Compliance







CERTIFICATIONS

- I OJEGE

- Sweeney Post-Special EPA 537

Pace Project No.:

92319027

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320 Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Louisiana Certification #: FL NELAC Reciprocity Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14 Nevada Certification: FL NELAC Reciprocity

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

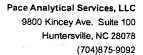
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165 Wyoming Certification: FL NELAC Reciprocity

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity





SAMPLE ANALYTE COUNT

Project:

Sweeney Post-Special EPA 537

Pace Project No.:

92319027

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92319027001	Sweeney WTP-Post Clear Well	EPA 537	WFH	8	PASI-O



PROJECT NARRATIVE

Project:

Sweeney Post-Special EPA 537

Pace Project No .:

92319027

Method:

EPA 537

Description: 537 Perfluorinated Compounds

Client:

Cape Fear Public Utility Authority-Compliance

Date:

November 17, 2016

General Information:

1 sample was analyzed for EPA 537. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 537 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 331809

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35276305001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- · MS (Lab ID: 1774827)
 - · Perfluorobutanesulfonic acid
 - Perfluoroheptanoic acid
 - Perfluorohexanesulfonic acid
 - · Perfluorononanoic acid
 - Perfluorooctanesulfonic acid
 - · Perfluorooctanoic acid
- MSD (Lab ID: 1774828)
 - · Perfluorobutanesulfonic acid
 - · Perfluoroheptanoic acid
 - · Perfluorohexanesulfonic acid
 - Perfluorononanoic acid
 - · Perfluorooctanesulfonic acid





PROJECT NARRATIVE

Project:

Sweeney Post-Special EPA 537

Pace Project No.:

92319027

Method:

EPA 537

Description: 537 Perfluorinated Compounds

Client:

Cape Fear Public Utility Authority-Compliance

Date:

November 17, 2016

QC Batch: 331809

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35276305001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

· Perfluorooctanoic acid

Additional Comments:

Analyte Comments:

QC Batch: 331809

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

· MS (Lab ID: 1774827)

• Perfluorohexanesulfonic acid

- · Perfluorooctanesulfonic acid
- MSD (Lab ID: 1774828)
 - · Perfluorohexanesulfonic acid
 - · Perfluorooctanesulfonic acid

This data package has been reviewed for quality and completeness and is approved for release.



ANALYTICAL RESULTS

Project:

Sweeney Post-Special EPA 537

Pace Project No.: 92319027

Date: 11/17/2016 07:53 PM

Sample: Sweeney WTP-Post Clear Well	Lab ID: 923	19027001	Collected: 11/08/1	6 08:00	Received: 1	1/08/16 15:38	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
537 Perfluorinated Compounds	Analytical Meth	nod: EPA 53	7 Preparation Metho	od: EPA	537			
Perfluorobutanesulfonic acid	ND	ug/L	0.090	1	11/11/16 18:45	11/17/16 04:30	375-73-5	
Perfluoroheptanoic acid	0.013	ug/L	0.010	1	11/11/16 18:45	11/17/16 04:30	375-85-9	
Perfluorohexanesulfonic acid	ND	ug/L	0.030	1	11/11/16 18:45	11/17/16 04:30	355-46-4	
Perfluorononanoic acid	ND	ug/L	0.020	1	11/11/16 18:45	11/17/16 04:30	375-95-1	
Perfluorooctanesulfonic acid	ND	ug/L	0.040	1	11/11/16 18:45	11/17/16 04:30	1763-23-1	
Perfluorooctanoic acid	0.013	ug/L	0.0020	1	11/11/16 18:45	11/17/16 04:30	335-67-1	
Surrogates								
Perfluorohexanoic acid (S)	92	%	70-130	1	11/11/16 18:45	11/17/16 04:30)	
Perfluorodecanoic acid (S)	107	%	70-130	1	11/11/16 18:45	11/17/16 04:30)	



QUALITY CONTROL DATA

Project:

Sweeney Post-Special EPA 537

Pace Project No.:

92319027

QC Batch:

331809

Analysis Method:

EPA 537

QC Batch Method: Associated Lab Samples:

EPA 537

Analysis Description:

537 Perfluorinated Compounds

95

70-130

METHOD BLANK: 1774782

Matrix: Water

Associated Lab Samples: 92319027001

Perfluorohexanoic acid (S)

Date: 11/17/2016 07:53 PM

92319027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Perfluorobutanesulfonic acid	ug/L	ND	0.090	11/17/16 03:42	
Perfluoroheptanoic acid	ug/L	ND	0.010	11/17/16 03:42	
Perfluorohexanesulfonic acid	ug/L	ND	0.030	11/17/16 03:42	
Perfluorononanoic acid	ug/L	ND	0.020	11/17/16 03:42	
Perfluorooctanesulfonic acid	ug/L	ND	0.040	11/17/16 03:42	
Perfluorooctanoic acid	ug/L	ND	0.0020	11/17/16 03:42	
Perfluorodecanoic acid (S)	%	96	70-130	11/17/16 03:42	
Perfluorohexanoic acid (S)	%	96	70-130	11/17/16 03:42	

LABORATORY CONTROL SAMPLE:	1774783					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Perfluorobutanesulfonic acid	ug/L	.089	0.091	102	50-150	
Perfluoroheptanoic acid	ug/L	.0099	.0094J	95	50-150	
Perfluorohexanesulfonic acid	ug/L	.03	0.035	118	50-150	
Perfluorononanoic acid	ug/L	.02	0.021	105	50-150	
Perfluorooctanesulfonic acid	ug/L	.04	0.042	105	50-150	
Perfluorooctanoic acid	ug/L	.02	0.022	109	50-150	
Perfluorodecanoic acid (S)	%		•	106	70-130	

LABORATORY CONTROL SAMPLE	: 1774784					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Perfluorobutanesulfonic acid	ug/L	.36	0.33	91	50-150	
Perfluoroheptanoic acid	ug/L	.04	0.038	96	50-150	
Perfluorohexanesulfonic acid	ug/L	.12	0.12	104	50-150	
Perfluorononanoic acid	ug/L	.08	0.088	110	50-150	
Perfluorooctanesulfonic acid	ug/L	.16	0.16	99	50-150	
Perfluorooctanoic acid	ug/L	.08	0.081	102	50-150	
Perfluorodecanoic acid (S)	%			107	70-130	
Perfluorohexanoic acid (S)	%			97	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project:

Sweeney Post-Special EPA 537

Pace Project No.:

Date: 11/17/2016 07:53 PM

92319027

MATRIX SPIKE & MATRIX SPIKI	E DUPLICAT	E: 17748	27		1774828						
	250	276305001	MS Spike	MSD	мс	MCD	MC	MCD	N D		
Parameter	Units	Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Perfluorobutanesulfonic acid	ug/L	0.061J	.9	.9	0.45	0.43	43	42	70-130	3	M1
Perfluoroheptanoic acid	ug/L	0.026	.1	.1	0.065	0.065	39	39	70-130	1	M1
Perfluorohexanesulfonic acid	ug/L	0.64	.3	.3	0.80	0.79	52	48	70-130	2	E,M1
Perfluorononanoic acid	ug/L	0.021	.2	.2	0.10	0.098	40	38	70-130	3	M1
Perfluorooctanesulfonic acid	ug/L	2.3	.4	.4	2.5	2.5	59	52	70-130	1	E,M1
Perfluorooctanoic acid	ug/L	0.069	.2	.2	0.16	0.15	44	43	70-130	1	M1
Perfluorodecanoic acid (S)	%						106	109	70-130		
Perfluorohexanoic acid (S)	%						89	97	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.





QUALIFIERS

Project:

Sweeney Post-Special EPA 537

Pace Project No.:

92319027

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 11/17/2016 07:53 PM

E Analyte concentration exceeded the calibration range. The reported result is estimated.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

Sweeney Post-Special EPA 537

Pace Project No.:

Date: 11/17/2016 07:53 PM

92319027

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92319027001	Sweeney WTP-Post Clear Well	EPA 537	331809	EPA 537	332855

	507	_		Do Sample Condi	cument i		t/SCLIR	Document Revised: Sept. 21, 2016 Page 1 of 2	
	Pace	e Analytical [*]		D	ocument R-CS-033	No.:	1,3001	Issuing Authority: Pace Quality Office	
Lahorato	ory receiving	samples:		PCR	N-C3-033	-NEV.01			
Laborate	Asheville [n[Greenwood		Ηι	inters	sville Raleigh Mechanics	ville[_
	Condition Upon Receipt	Client Na	me: CFP	u A			Pro	oject#: WO#:92319027	7
Courier:	mercial	☑Fed Ex □Pace	<u> </u>	UPS USP			Clien	92319027	
Custody S	eal Present?	Yes	100	Seals Intact?	□Ye	s []No	Date/initials Person Examining Contents:	ΕŊ
Thermom	IR Gun ID:			Type o	No	one Wet	∏Ot □Blue	ther:e Samples on ice, cooling process I	9//6 has begun
USDA Reg Did sample	ulated Soil (12	N/A. water san	nple) within th	e United States: CA	A, NY, or S	C (check i	naps)?	including Hawaii and Puerto Rico)? Tes	onally,
								Comments/Discrepancy:	
Chain of Cu	istody Present?			☐Yes	□No	□N/A	1		
Samples Ar	rrived within Hold	Time?		Ø Yes	□N ₀	□N/A	2.		
Short Hold	l Time Analysis (<	72 hr.)?		□Yes	<u>D</u> No.	N/∧	3.		
Rush Turn	Around Time Rec	quested?		□Yes	Divo	□n/A	4.		
Sufficient \	Volume?			₩Yeşr	□No	□n/a	5.		
Correct Co	ntainers Used?			[]/ies	. □No	□n/a	6.		
	ontainers Used?			□ Der	□No	□n/a			
Containers) Ves		□N/A	7.		
	eld Filtered?				[D\n0	□n/A	8.	Note if sediment is visible in the dissolved container	
	bels Match COC?			✓Yes	□No	□n/A	9.		
-Include	s Date/Time/ID//	Analysis Matr	·ix:						
Headspace	in VOA Vials (>S-	-6mm)?		Yes	□No	(A)N√	10.		
Trip Blank				Yes	□No	MN√V	11.		
Tr <u>ip Blank</u>	Custody Scals Pro CLIENT N	esent? IOTIFICATION/I	RESOLUTIO	∏Yes DN	□No	⊠N/A	L	Field Data Required? ☐Ycs [□No
Comm	Contacted: ents/Sample	engage vivi vij dien		Andrew State Control of the State of the Sta				Date/Time:	
Discre	pancy:	No. of Contrast Contr							
Proj	ect Manager SC	URF Review:				* 		Date:	
Proj	ject Manager SR	F Review:						Date:	

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)

Document Name: Sample Condition Upon Receipt(SCUR) Pace Analytical Document No.: F-CAR-CS-033-Rev.01

Document Revised: Sept. 21, 2016 Page 2 of 2 Issuing Authority: Pace Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

**Bottom half of box is to list number of bottles

Project #

CLIENT: 92_CFPUAComp

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (CI-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP3S-250 mL Plastic H2SO4 (pH < 2) (CI-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP3Z-250 mL Plastic ZN Acetate & NaOH (>9)	BP3C-250 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) [CI-)	, AG15-1 liter Amber H2SO4 (pH < 2)	AG35-250 mL Amber H2504 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCI (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mt VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterila Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP3A-250 mL Plastic (NH2)25O4 (9.3-9.7)	Cubitainer	VSGU-20 mL Scintillation vials (N/A)	GN	
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		pH Ad	justment Log for Pres	erved Samples		
Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot#
-						



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Cuslody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section Require	n A d Client Information:	Section B Required P	•	ormation.						tion (_													P	age:		1	or \		
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Phone				170003					Pace Reten	auce.										-	UST	-	-	RCR	A		_	OTHER		
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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at $(800)\ 332-4345\ or\ (574)\ 233-4777.$

This report may not be reproduced, except in full, without written approval from EEA.



STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
lowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016



110 South Hill Street South Bend, IN 46617 Tel: (574) 233-4777 Fax: (574) 233-8207 1 800 332 4345

Laboratory Report

Client:

Cape Fear Public Utility Authority

Report:

369087

Attn:

Jill Deaney

Priority:

Standard Written

235 Government Center Drive Wilmington, NC 28403

Status:

Final

PWS ID:

NC0465010

		Sample Information			
EEA ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3511063	Sweeney Post CW	300.0	08/02/16 07:52	Client	08/03/16 10:00
3511064	Sweeney Post CW	200.7	08/02/16 07:52	Client	08/03/16 10:00
3511065	Sweeney Post CW	300.0	08/02/16 07:52	Client	08/03/16 10:00

Report Summary

etailed quantitative results are presented on the following pa	ges. The results presented relate only to the samples provided for
analysis.	• • •

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Joseph Mattheis at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature Title

08/17/2016

Date

ent Name: Ca

Cape Fear Public Utility Authority

Report #:

369087

Cape Fear Public Utility Authority

Report #: 369087

Sampling Point:

Client Name:

Sweeney Post CW

PWS ID: NC0465010

			Gene	ral Chemi	stry		117 02011		
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID#
24959-67-9	Bromide	300.0		0.010	0.032	mg/L		08/05/16 07:13	3511065
14808-79-8	Sulfate	300.0	250 ^	15	30	mg/L		08/12/16 02:22	3511063

		17.5		Meta	8				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID#
7440-70-2	Calcium	200.7		1.0	7.5	mg/L		08/12/16 18:11	3511064
7439-95-4	Magnesium	200.7	_	1.0	2.8	mg/L	_	08/12/16 18:11	3511064
7631-86-9	Silica, Total	200.7		2.0	4.4	mg/L	_	08/12/16 18:11	3511064
7440-23-5	Sodium	200.7		1.0	23	mg/L		08/12/16 18:11	3511064

[†] EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

ſ	Reg Limit Type:	MCL	SMCL	AL
Γ	Symbol:	•	۸	1

Report #: 369087

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



110 S. Hill Street South Bend, IN 46617 T: 1.800.332.4345 F: 1.574.233.8207

Order# 301927 Batch#_*369087*

www.eatonanalytical.com		ie only		CHAIN OF CUSTODY RECORD								of	-	
REPORT TO:				SAMPLER (Signature	À		PWS ID#	STATE (sample origin)	PROJECT NAME	PC	0#			
235 0	Deaney - Lab Manag Government Center filmington NC 28403	Dr.		mich &	ridi		04-65-010	NC	- Swaeney Post					ш
BILL TO:					Yes	No	POPULATION SERVED	SOURCE WATER	Special Sampling	170	004	S. I		
235 (FEARPUA-NC Fin Sovernment Center filmington NC 2840:	Dr.		COMPLIANCE MONITORING		х	135,204	Surface Water				CONTAINERS	MATRIX CODE	TURNAROUND TIME
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			AM PA			10014	AM PM					24.77		39
MATRIX C	ODES:	1		NE (TAT) - SURCHARG	SES (
DW-DRINKING RW-REAGEN		1	•	5 working days) 0%				10% 						
GW-GROUND	WATER	RV" = Rush Ve	-					5%	Samples received una than 48 hours holding					
EW-EXPOSUR SW-SURFACE	E WATER	RW" = Rush V	Vritten: (5 wd	rking days) 75%		SP* = Waeken	· -	CALL ALL	may be subject to add					
PW-POOL WA		• Please ca	li, expedit	ed service not available	for all testing	SIMI" TESS	шап чо поріз С	TLL.	06-LO-F0435 Issue	4.0 Ff	eclive Dal	le: 201/	1-05-01	



Eurofins Eaton Analytical

Run Log

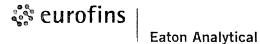
Run ID: 219175

Method: 200.7

Type	Sample Id	Sample Site	<u>Matrix</u>	Instrument ID	Analysis Date	Calibration File
ICB	3521642		RW	вх	08/12/2016 17:34	
UQCSM	3521649		RW	вх	08/12/2016 17:49	
CCC	3521650		RW	вх	08/12/2016 17:53	
CCB	3521651		RW	вх	08/12/2016 17:55	
RLC	3521652		RW	BX	08/12/2016 17:58	
LRB	3521653		RW	вх	08/12/2016 18:00	
RLC	3521654		RW	BX	08/12/2016 18:02	
LFB	3521655		RW	BX	08/12/2016 18:04	
FS	3511064	Sweeney Post CW	DW	BX	08/12/2016 18:11	
CCC	3521656		RW	BX	08/12/2016 18:32	
CCB	3521657		RW	вх	08/12/2016 18:35	

Sample	Analyte	Method	MRL	Client ID	Result	Amouπt	Target	Units	%	Recovery	RPD	RPD	Dil	Extracted	Analyzed	EEA
Type					Flag				Recovery	Limits		Limit	Factor			ID#
ICB	Calcium	200.7	1.0	_	<	1,0		mg/L					1.0		08/12/2016 17:34	352164
ICB	Magnesium	200.7	1.0		<	1.0		mg/L][1.0		08/12/2016 17:34	352164
ICB	Silica, Total	200,7	2.0	_	<	2.0		mg/L					1.0		08/12/2016 17:34	352164
ICB	Sodium	200.7	1.0	-	<	1.0		mg/L					1.0		08/12/2016 17:34	352164
ICB	1S-Yttrium	200.7	N/A			1,0000	1,0	N/A	100	75 - 125	<u> </u>		1.0		08/12/2016 17:34	352164
UQCSM	Calcium	200.7	1.0	_		4.9294	5,0	mg/L	99	95 - 105	-	<u>-</u> 2,	1.0	_	08/12/2016 17:49	352164
UQCSM	Magnesium	200.7	1.0	_		4,9385	5.0	mg/L	99	95 - 105	-	<u> </u>	1.0	_	08/12/2016 17:49	352164
UQCSM	Silica, Total	200.7	2.0			4,9370	5.0	mg/L	99	95 - 105	123	40° 23' 30' 30' 30' 30' 30' 30' 30' 30' 30' 3	1.0		08/12/2016 17:49	352164
UQCSM	Sodium	200,7	10	-		4.9231	5.0	mg/L	98	95 - 105	eparticing a reside	1-1	1.0	100 mg/s	08/12/2016 17:49	352164
UQCSM	IS-Yttrium	200.7	N/A	50 -		0.9800	1.0	N/A	98	75 - 125		i Eli	1:0		08/12/2016 17:49	352164
ccc	Calcium	200.7	1.0			5.0014	5.0	mg/L	100	90 - 110	_		1.0		08/12/2016 17:53	352165
ccc	Magnesium	200.7	1,0	-		5,0036	5,0	mg/L	100	90 - 110			1,0		08/12/2016 17:53	352165
ccc	Silica, Tolal	200.7	2.0			5.0125	5.0	mg/L	100	90 - 110	_		1.0	_	08/12/2016 17:53	352165
ccc	Sodium	200,7	1.0	-		5.0219	5.0	mg/L	100	90 - 110	<u> </u>		1,0		08/12/2016 17:53	352165
ccc	IS-Yttrium	200.7	N/A	-		0.9800	1.0	N/A	98	75 - 125			1.0	-	08/12/2016 17:53	352165
CCB	Calcium	200.7	1.0	_	4	1,0		mg/L		-	II -	==	1.0	_	08/12/2016 17:55	352165
ССВ	Magnesium	200.7	1.0	<u> -</u>	<	1,0		mg/L		l –	2-	-4.0	1.0	- Files	08/12/2018 17:55	352165
ССВ	Silica, Total	200.7	2.0	_	٠,	2.0		mg/L	_	0.0	=	=	1.0	<u> -</u>	08/12/2016 17:55	352165
CCB	Södium	200,7	1.0	_	<	1.0		mg/L	-		-	-	1.0	_	08/12/2016 17:55	352165
ссв	IS-Yttrium	200.7	N/A	_		0.9900	1.0	N/A	99	75 - 125			1.0		08/12/2016 17:55	352165
RLC	Magnesium	200,7	1.0			0.0202	0.02	mg/L	101	50 - 150	i	l	1.0		08/12/2016 17:58	352165
RLC	IS-Yttrium	200.7	N/A	_		0.9900	1.0	N/A	99	75 - 125	i	i =	1,0	-	08/12/2016 17:58	352165
LRB	Calcium	200.7	1.0	_	<	1.0		mg/L	-	-	 		1.0		08/12/2016 18:00	352165
LRB!"	Magnesium	200,7	1.0	2,000 to <u>2</u>	<	1.0		mg/L	77-	-	<u> </u>	-	1.0	. (4) - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	08/12/2016 18:00	352165
LRB	Silica, Total	200.7	2,0		<	2.0		mg/L	-	_	_	_	1.0	_	08/12/2016 18:00	352165
LRB	Sodium	200.7	1.0	_	-	1.0		mg/L	_	_		-	1.0	_	08/12/2016 18:00	352165
LRB	IS-Yttrium	200 7	N/A	-		0.9900	1.0	N/A	99	75 - 125	-	-	1.0		08/12/2016 18:00	352165
RLC	Calcium	200.7	1.0	_		0.0989	0.1	mg/L	99	50 - 150	I =	<u> </u>	1.0	-	08/12/2016 18:02	352165
RLC	Silica, Total	200.7	2.0	_		0.1003	0.1	mg/L	100	50 - 150	i -		1.0	 	08/12/2016 18:02	352165
RLC	Sodium	200.7	1.0	_		0.0995	0.1	mg/L	100	50 - 150	i –	-	1.0	-	08/12/2016 18:02	352165
RLC	IS-Yttrium	200.7	N/A	_		0,9800	1,0	N/A	98	75 - 125	l –	_	1,0		08/12/2016 18:02	352165
LFB	Calcium	200,7	1.0	_		4,9980	5.0	mg/L	100	85 - 115			1.0		08/12/2016 18:04	352165
LFB	Magnesium	200.7	1.0	to the same		4.9954	5.0	mg/L	100	85 - 115			1.0	_	08/12/2016 18:04	352165
LFB	Silica, Total	200.7	2.0	47504		5.0106	5.0	mg/L	100	85 - 115	12	- =	1.0	_	08/12/2016 18:04	352165
LFB	Sodium	200.7	1.0			5.0285	5.0	mg/L	101	85 - 115			1.0		08/12/2016 18:04	352165
LFB	IS-Yttrium	200.7	N/A	-		0.9800	1.0	N/A	98	75 - 125		-37	1.0	\$1000 (<u>=</u> 1,0000)	08/12/2016 18:04	352165
T) FS	Calcium	200.7	1.0	Sweeney Post CW	T	7.5		mg/L	_		_	_	1.0		08/12/2016 18:11	351106
O FS	Magnesium	200.7	1.0	Sweeney Post CW	十一十	2.8		mg/L			l 		1.0		08/12/2016 18:11	351106
D 20 FS	Silica, Total	200.7	2.0	Sweeney Post CW	╬═	4.4	i e	mg/L					1.0		08/12/2016 18:11	351106
FS	Sodium	200.7	1.0	Sweeney Post CW	+ = +	23		mg/L				-	1.0		08/12/2016 18:11	351106

					QC	Summary Re	port (cont.)									
Sample Type	Analyte	Method	MRL	Cilent ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	4	Dil Factor	Extracted	Analyzed	EEA
FS	IS-Yttrium	200.7	N/A	Sweeney Post CW		0.9900	1.0	N/A	99	75 - 125			1.0	1550 - 16 494-10 LANGER WELL	06/12/2016 18:11	3511064
ccc	Calcium	200,7	1.0			4 9834	5,0	mg/L	100	90 - 110	=		1.0		08/12/2016 18:32	
ccc	Magnesium	200.7	1.0	1000		4,9719	5,0	rng/L	99	90 - 110			1.0		08/12/2016 18:32	-
CCC	Silica, Total	200.7	2.0			4,9409	5.0	mg/L	99	90 - 110			1.0		08/12/2016 18:32	1
ccc	Sodium	200.7	1,0	<u></u>	Π	5.0260	5.0	mg/L	101	90 - 110	置		1.0		08/12/2016 18:32	
ccc	IS-Yttrium	200.7	N/A			0.9800	1.0	N/A	98	75 - 125			1.0		08/12/2016 18:32	
ССВ	Calcium	200.7	1.0	The state of the s	~	1.0		mg/L			<u> </u>		1.0		08/12/2016 18:35	-
CCB	Magnesium	200,7	1.0	•••	7	1.0		mg/L	T	-	_		1,0		08/12/2016 18:35	
CCB	Silica, Total	200.7	2.0		7	2.0		mg/L	T	_	=		1.0		4	
ССВ	Sodium	200.7	1.0		7	1,0		mg/L	1 -		_		1.0		08/12/2016 18:35	
ССВ	IS-Yttrium	200.7	N/A			0,9800	1,0	N/A	98	75 - 125			1.0	_		4



Eurofins Eaton Analytical

Run Log

Run ID: 218867

Method: 300.0

Sample Site **Calibration File** Type Sample Id <u>Matrix</u> Instrument ID **Analysis Date** CQ ICB 3514037 RW 08/03/2016 04:45 QCS CQ 3514043 RW 08/04/2016 11:08 CQ RLC 3514045 RW 08/04/2016 12:19 LRB 3514046 RW CQ 08/04/2016 12:54 CQ 08/04/2016 13:29 LFB 3514047 RW CQ 08/04/2016 23:39 IPC 3514048 RW RW CQ 08/05/2016 00:14 CCB 3514049 CQ 08/05/2016 07:13 FS 3511065 Sweeney Post CW DW 3514053 RW CQ 08/05/2016 08:23 IPC CQ RW 08/05/2016 08:58 CCB 3514054

					QC s	Summar	y Repoi	rt	183	- 64 - 646						
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	9	Dil Factor	Extracted	Analyzed	EEA
ICB	Bromide	300.0	10		<	10		ug/L					1.0		08/03/2016 04:45	3514037
acs	Bromide	300,0	10			246,8990	250	ug/L	99	90 - 110		100	1.0		08/04/2016 11:08	
RLC	Bromide	300,0	10	the s	ir ir	12.6670	10.0	ug/L	127	50 - 150	ii -	1=	1.0		08/04/2016 12:19	3514045
LRB	Bromide	300.0	10	- :: 51 <u>-</u>		10		ug/L		- 42			1.0		20 100	<u> </u>
LFB	Bromide	300.0	10		i i i i i i i i i i i i i i i i i i i	247.8920	250	ug/L	99	90 - 110		l	1.0			-
IPC	Bromide	300.0	10			251,0080	250	ug/L	100	90 - 110	20.00	200	1.0			
ссв	Bromide	300.0	10		† - T	10		ug/L					1.0		08/04/2016 23:39	-
FS	Bromide	300 0	10	Sweeney Post CW	1	32		ug/L		TE SUDMAN VAN SAND	<u> </u>				08/05/2016 00:14	{
IPC	Bromide	300.0	10			249,6850	250						1.0		08/05/2016 07:13	
ССВ	Bromide		4		╂		230	ug/L	100	90 - 110			1.0		08/05/2016 08:23	3514053
	PIOIIIQ9	300.0	10		1 6	10		ug/L	- -	-	l -		1.0		08/05/2016 08:58	3514054



Eurofins Eaton Analytical

Run Log

Run ID: 219116

Method: 300.0

Type	Sample Id	Sample Site	<u>Matrix</u>	<u>Instrument ID</u>	Analysis Date	Calibration File
ICB	3501081		RW	CQ	08/11/2016 17:31	
UQCSM	3501087		RW	CQ	08/11/2016 19:58	
IPC	3501088		RW	CQ	08/11/2016 20:23	
RLC	3501089		RW	CQ	08/11/2016 20:47	
LRB	3520865		RW	CQ	08/11/2016 21:11	
LFB	3501090		RW	CQ	08/11/2016 21:35	
FS	3511063	Sweeney Post CW	DW	CQ	08/12/2016 02:22	
IPC	3501093		RW	CQ	08/12/2016 03:09	
ССВ	3501094		RW	CQ	08/12/2016 03:33	

	QC Summary Report															
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dij Factor	Extracted	Analyzed	EEA ID#
ICB	Sulfate	300.0	15		۲.	15.	THE PROPERTY OF	mg/L		-			1.0		08/11/2016 17:31	3501081
UQCSM	Sulfate	300.0	15			24.9		mg/L	1 -	Ϊ	4000-2000	<u> </u>	1,0		08/11/2016 19:5B	4
IPC	Sulfate	300.0	15			24.8807	25.0	mg/L	100	90 - 110	7 <u></u>		1.0	-	08/11/2016 20:23	
RLC	Sulfate	300,0	15			4.9806	5.0	mg/L	100	50 - 150	 - 		1.0		08/11/2016 20:47	
LRB	Sulfate	300.0	15		<	15		mg/L					1.0		08/11/2016 21:11	
LFB	Sulfate	300.0	15			24.8184	25.0	mg/L	99	90 - 110	l		1.0		08/11/2016 21:35	(
FS	Sulfate	300.0	15	Sweeney Post CW		30		mg/L	T				1.0	2	08/12/2016 02:22	
IPC	Sulfate	300,0	15	-		24.7077	25.0	mg/L	99	90 - 110		 	1.0	<u> </u>	08/12/2016 03:09	
ссв	Sulfate	300,0	15	22 m	-	15		mg/L	1	_			1.0	<u> </u>	08/12/2016 03 33	3501094

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
CCC	Continuing Calibration Check		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
QCS	Quality Control Sample		
RLC	Reporting Level Check		
UQCSM	Unextracted QCS Mid		

END OF REPORT

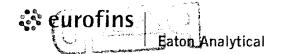




LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

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Alabama	40700	Montana	CERT0026	
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Arkansas	IN00035	New Hampshire*	2124	
California	2920	New Mexico	IN00035	
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Colorado Radiochemistry	IN035	New York*	11398	
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lowa	098	Tennessee	TN02973	
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Louisiana*	LA160002	Utah*	IN00035	
Maine	IN00035	Vermont	VT-8775	
Maryland	209	Virginia*	460275	
Massachusetts	M-IN035	Washington	C837	
Michigan	9926	West Virginia	9927 C	
Minnesota*	018-999-338	Wisconsin	999766900	
Mississippi	IN035	Wyoming	IN035	
Missouri	880			

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016



110 South Hill Street South Bend, IN 46617 Tel: (574) 233-4777 Fax: (574) 233-8207 1 800 332 4345

Laboratory Report

Client:

Attn:

Cape Fear Public Utility Authority

Jill Deaney

235 Government Center Drive

Wilmington, NC 28403

Report:

376566

Priority:

Standard Written

Status:

Final

PWS ID:

NC0465010

		Sample Information		farite de la Colonia		
EEA ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time	
3581741	Sweeney Post	1623	11/08/16 09:08	Client	11/09/16 10:00	
		Report Summary				

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

'e appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not nesitate to call Joseph Mattheis at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature

Account Hanagen

11/21/2016

Date

Cape Fear Public Utility Authority

Report #:

ent Name:

376566

Client Name: Cape Fear Public Utility Authority

Report #: 376566

Sampling Point: Sweeney Post

PWS ID: NC0465010

Microbiology												
Analyte ID#	Analyte	Analyte Method Reg MRL† Result Limit		Units	Preparation Date	Analyzed Date	EEA ID#					
	Giardia 1623			0,885	< 0.885	cysts/100L	11/10/16 08:09	11/14/16 15:41	3581741			
	Cryptosporidium	1623		0.885	< 0.885	oocysts/100L	11/10/16 08:09	11/14/16 15:41	3581741			

For method 1623: The calculated MRL value is dependant on the volume filtered and the volume analyzed for each sample.

[†] EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	•	۸	!

Lab Definitions

Report #: 376566

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

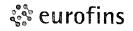
Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



110 S. Hill Street South Bend, IN 46617

	Eato	n Analytical					T: 1.800,332.43 F: 1.574.233.82		376	566
www.eatonanalytical.com	_			LT2 - CHAIN	OF CUSTO	DDY RECORD				
Shaded area for EEA use of			CAMP	LER (Signature)		PWS IO #		PROJECT NAME	T Stee	e (sample origin)
REPORT TO: Jill Dearen 335 Codernment Wilmington	Menter Dr.	C		allalah	04-65-	010	Cryptosporidium Special	1	NC	
BILL TO: Firance CFPUP	AFEAIZ-NC	SAMPLE SI	TE: (Note: Eech:	sample site must have i	is own Chain of	POPUI	LATION SERVED	M	ATRIX CODE	
Wilmington	n NC 28402		Sweener	y Post			١3	5,204	I	w
Cryptosp	oridium- Field Filtere	d Sample	Cryp	tosporidium- B	ulk Sample	(Cubitainer)	E. (coll (if testing is to b	e performe	d by EEA)
Sample ID (EEA use only	1: 35817	41	Sample ID	(EEA use only):			Sample ID	(EEA use only):		
Collection date/time:	11-8-16 1	0908 (AM)PM	Sellection di	ste/time:	1	AM / PM	Collection da	ele/time:	1	AM / PM
Did filter clog? (circle one):	Yes / (No)	if Yes, fill out Filter #2 Info	Field Turbid	ity:	(NTU) (Only if	measured in the field)	Number of c	ontainers:		
	Filter #1	Filter #2 (if necessary)								_
initial meter reading:	2361.6		Ma	trix Spike - Bul	k Sample (0	Cubitainer)	Turk	oidity (if testing is to	be perform	ed by EEA)
Final meter reading:	2391.4		Sample ID	(EEA use only):		Sample ID (EEA use only):				
Filter Lot #:	FC0204		Collection d	ate/time:		AM/PM	Collection de	ate/time:		AM / PM
Total volume filtered (both f	filters) (in Liters): \\3,4	(1 G = 3.78 L)		Samples	received	on Friday or u	nannoun	ced may be		
Field Turbidity: 🔘 - (る) (NTU) (Only	if measured in the field)		•		lditional charg		•		
RELINQUISHED BY:(Signature)) DATE	TIME RECEIVED B	Y:(Signature)	DATE	TIME	LAB RESERVES THE R	IGHT TO RETURN UNUS	ED PORTIONS OF NON-AQUEOUS B	ALEPLES TO CLIEN	
Comptel Galleha	om 11-8-10	1136 Crysta	Q Goldahan	11-8-16	113L (AM) PM	LAB COMMENTS				
RELINQUISHED BY:(Signature)	' 1	AM PM RECEIVED B	Y:(Signature)	DATE	TIME AM PM	ya wa g	· Jago			
RELINQUISHED BY:(Signature)	DATE	AM PM RECEIVED FO	R LABORATORY B	DATE 11-9-16	TIME IDDD	CONDITIONS UPON RECEIPT	30 10	Ambline Difficu	pon Receipt	· WA
MATRIX CODES:	THIRM AROUND THE	E (TAT) - SURCHARGES								
DW-DRINKING WATER RW-REAGENT WATER GW-GROUND WATER EW-EXPOSURE WATER SW-SURFACE WATER	SW = Stenderd Writterc (15 RV* = Rush Verbal: (5 world RW* = Rush Writter: (5 world	working days) 8% ng days) 89% ing days) 78%		N° = Immediate Verbal: (3 wc N° = Immediate Writters (3 w SP° = Weekend, Holdey STAT° = Less then 48 hours						
PW-POOL WATER WW-WASTE WATER	* Please call, expedite	d service not svallable for all te	sting			06.1 O. 20072 June 10	Effective Date: 20:	14.12.15		

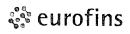


Eurofins Eaton Analytical Run Log

Run ID: 222737 Method: 1623

<u>Type</u>	Sample Id	Sample Site	<u>Matrix</u>	Instrument ID	Analysis Date	Calibration File
MBC	3585930		RW	ER	11/14/2016 10:10	
OPR	3585931		RW	ER	11/14/2016 10:26	

QC Summary Report																
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	8 —	Dil Factor	Elution Start	Slide End	EEA ID#
MBC	Giardia	1623	10.000		<	10,000		cysts/100L	-				10	11/08/2016 09:30	11/14/2016 10:10	3585930
мвс	Cryptosporidium	1623	10.000		<	10.000		oocysts/100L	ii —			1-	10	11/08/2016 09:30	11/14/2016 10:10	3585930
OPR	Giardia	1623	N/A			80	100	cysts	80	14 - 100	T=	12 to 30 to	1.0	11/08/2016 09:30	11/14/2016 10:26	358593
OPR	Cryptosporidium	1623	N/A		0.00	82	99.0	oocysts	83	33 - 100			1.0	11/08/2016 09:30	11/14/2016 10:26	358593



Eurofins Eaton Analytical Run Log

Run ID: 222740 Method: 1623

Type	Sample Id	Sample Site	<u>Matrix</u>	Instrument ID	Analysis Date	Calibration File
FS	3581741	Sweeney Post	DW	ER	11/14/2016 15:41	

	QC Summary Report															
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD		Dil Factor	Elution Start	Silde End	EEA ID#
FS	Glardia	1623	0.885	Sweeney Post	<	0.885	107.00.00	cysts/100L	rigertaers of	20 <u>2-10 (0.40</u>	# 001 H	- <u> </u>	0.885	11/10/2016 08:09	11/14/2016 15:41	3581741
FS	Cryptosporidium	1623	0.885	Sweeney Post	<	0.885	1 444520114-0	oocysts/100L	10 × 12	20 / 20 F (20 F)	4-		0.885	11/10/2016 08:09	11/14/2016 15:41	3581741

Sample Type Key

Type (Abbr.) Sample Type

Type (Abbr.) Sample Type

FS Field Sample

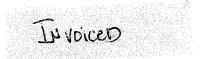
MBC Microbiology Blank Control

OPR Ongoing Precision & Recovery

END OF REPORT

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Sample analysis will be provided act by UL.	cording to the	Please call, standard UL	GSA/Wate	Services Terms, which	for all testing are available upon re	08-C 170 33395 a	: 0	ore deemed material atten	•	d unless exprassiv	anree to	- unitan

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EPORT TO:	s for UL use	city		SAMPLER (Signature)			(WSID)	STATE (sample	e organ) PROJE	CT NAME	PC	WW			
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Laboratory Report

Client: Cape Fear Public Utility Authority

Report:

295446

Attn: Pam Ellis

Priority:

Standard Written

235 Government Center Drive

Status:

Final

Wilmington, NC 28403

PWS ID:

NC0465010

Copies

to: None

and the second second	Sample Information											
UL ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time							
2813157	Sweeney Raw	1623	04/23/13 10:28	Client	04/24/13 10:15							
2813158	Sweeney Post	1623	04/23/13 11:23	Client	04/24/13 10:15							

Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

e. This report may not be reproduced, except in full, without written approval from UL.

James.n.vernon@ul.com 2013.05.06 13:21:50 -04'00'

Authorized Signature

Title

Date

Client Name:

Cape Fear Public Utility Authority

Report #:

295446

Page 1 of 3

UL LLC

110 S. Hill St., South Bend, IN 46617-2702 USA T: 800.332.4345 / F: 574.233.8207 / W: UL.com Client Name: Cape Fear Public Utility Authority

Report #: 295446

mpling Point: Sweeney Raw

PWS ID: NC0465010

	Allerobiology and the state of													
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#					
	Giardia	1623		0.071	< 0.071	cysts/L		04/25/13 10:05	2813157					
	Cryptosporidium	1623		0.071	0.071	oocysts/L		04/25/13 10:05	2813157					

For method 1623: The calculated MRL value is dependant on the volume filtered and the volume analyzed for each sample.

Sampling Point: Sweeney Post

PWS ID: NC0465010

	and the second second second second second second second second second second second second second second second												
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	UL ID#				
	Giardia	1623		0.431	< 0.431	cysts/100L		04/25/13 10:05	2813158				
and the second second	Cryptosporidium	1623		0.431	< 0.431	oocysts/100L		04/25/13 10:05	2813158				

For method 1623: The calculated MRL value is dependant on the volume filtered and the volume analyzed for each sample.

† UL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

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Reg Limit Type:	MCL	SMCL	Al
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Lab Definitions

Report #: 295446

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

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Sample analysis will be provided according to the stunderd UL GSAWater Services Terms, which are evaluable upon released. A year arms proposes by Customa are downed material alterations and are rejected unless expressly agree to in writing by UL.

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MATRIX CODES:		TURN-ARO	AM PM	(TAT) - SURCHARGE		1'	, id Pil	27 Aug 1 - 1888				E		
DW-DRINGN WATER RW-REAGENT WATER CW-GROUND WATER EM-EXPOSURE WATER OW-SURFACE WATER PW-POOL WATER WW-WASTE WAT IR	þ	SW = Standard RV* = Rush Veri RW* = Rush Wd	bel. (5 waden ilter* (5 worki	g days) 58% ng days} 75%		NP - 1 - 125 A. SP - 1 - 124 A. STAT- P Let EM		FALL CALL		Samples received a with less than 48 ha remaining may be a additional charges	ours holding time			
Sample analysis will be provided ac	cording to the			service not available for Services Terms, which				tive Date: 01/23/201 occad by Custon or		erations and are rejects	d unless expres	sly agree	ło in w	riting



LABORATORY REPORT

This report contains 6 pages. (including the cover page)

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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LABORATORY REPORT

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
lowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

^{*}NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016



110 South Hill Street South Bend, IN 46617 Tel: (574) 233-4777 Fax: (574) 233-8207 1 800 332 4345

Laboratory Report

Client:

Cape Fear Public Utility Authority

Report:

384161

Attn:

Jill Deaney

Priority:

Standard Written

235 Government Center Drive

Status:

Final

Wilmington, NC 28403

PWS ID:

NC0465010

Sample Information											
EEA ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time						
3650283	Sweeney WTP-C.Filter	5320 B	03/07/17 08:44	Client	03/08/17 09:15						
3650284	Sweeney WTP-Post	5320 B	03/07/17 09:36	Client	03/08/17 09:15						

Note: TOX analysis was performed by Eurofins Eaton Analytical, Monrovia, CA.

etailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Joseph Mattheis at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature

Title

Account Henry en

03/24/2017

Date

⊿ent Name:

Cape Fear Public Utility Authority

Report #:

384161

Page 1 of 3

Client Name: Cape Fear Public Utility Authority Report #: 384161

Sampling Point: Sweeney WTP-C.Filter

PWS ID: NC0465010

	Reference Lab Tests											
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID#			
59473-04-0	Total Organic Halogens (TOX)	5320 B	_	10	< 10	ug/L		03/13/17 20:25	3650283			

Sampling Point: Sweeney WTP-Post

PWS ID: NC0465010

			Re	eference Lab	Tests	246			
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID#
59473-04-0	Total Organic Halogens (TOX)	5320 B	-	10	100	ug/L		03/13/17 18:13	3650284

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

			P		
	Reg Limit Type:	MCL	SMCL	AL	1
- 1		Section Control (Control Control	AND THE PROPERTY OF THE PROPER		
-	Symbol:	•	٨	t	

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



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)





AT-1807

Laboratory Report

for

Eurofins Eaton Analytical 110 South Hill Street South Bend, IN 46617-2702 Attention: Jim Van Fleit

Fax: 574-233-8207

Date of Issue 03/20/2017

EUROFINS EATON
ANALYTICAL

TRG6: Shea Greiner Project Manager



Report: 644276

Project: SUBCONTRACT

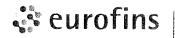
Group: TOX

^{*} 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
plant, or distribution and specially	BARRAL	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA00006-2016
California-Monrovia- ELAP	2813	New Hampshire *	2959
California-Colton- ELAP	2812	New Jersey *	CA 008
California-Folsom- ELAP	2820	New Mexico	Certified
California-Fresno- ELAP	2966	New York *	11320
Colorado	Certified	North Carolina	06701
Connecticut	PH-0107	North Dakota	R-009
Delaware	CA 006	Oregon (Primary AB) *	ORELAP 4034
Florida *	E871024	Pennsylvania *	68-565
Georgia	947	Puerto Rico	Certified
Guam	16-003r	Rhode Island	LAO00326
Hawaii	Certified	South Carolina	87016
Idaho	Certified	South Dakota	Certified
Illinois *	200033	Tennessee	TN02839
Indiana	C-CA-01	Texas *	T104704230-15-9
Kansas *	E-10268	Utah *	CA000062016-10
Kentucky	90107	Vermont	VT0114
Louisiana *	LA16003	Virginia *	460260
Maine	CA0006	Washington	C838
Maryland	224		Dockel sakes
Commonwealth of Northern Marianas Is.	MP0004	********	************
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	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/ANAB.

Refer to Certificate and scope of accreditation (AT 1807) found at: http://www.eatonanalytical.com

·		7	1	e or accreona
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ- mental (Drinking Water)	Environ- mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,4-Dioxane	EPA 522	×		×
2,3,7,8-TCDD	Modified EPA 1613B	x		×
Acrylamide	In House Method (2440)	x		x
Alkalinity	SM 2320B	х	x	х
Ammonia	EPA 350.1		х	x
Ammonia	SM 4500-NH3 H		х	×
Anions and DBPs by IC	EPA 300.0	×	x	×
Anions and DBPs by IC	EPA 300.1	х		×
Asbestos	EPA 100.2	x	×	
Bicarbonate Alkalinity as HCO3	SM 2320B	x	x	x
BOD / CBOD	SM 5210B		х	x
Broinate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	×	×
Carbonyls	EPA 556	×	·	×
COD	EPA 410.4 / SM 5220D	 	×	
Chloramines	SM 4500-CL G	x	х х	x
Chlorinated Acids	EPA 515.4	×		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide Chlorine -Total/Free/	SM 4500-CLO2 D	X		×
Combined Residual	SM 4500-CI G	X	×	×
Conductivity Conductivity	EPA 120.1 SM 2510B	×	x	x
Corrosivity (Langelier Index)	SM 2330B	x		х
Cryptosporidium	EPA 1623	×		х
	SM 4500-CN G	×	x	
Cyanide, Amenable	SM 4500CN F	×		
Cyanide, Free		 	X	×
Cyanide, Total Cyanogen Chloride	EPA 335.4 In House Method (2470)	x x	X	x
(screen) Diquat and Paraquat				
	EPA 549.2	X		×
DBP/HAA	SM 6251B	×		×
Dissolved Oxygen	SM 4500-O G		X	×
DOC	SM 5310C	X		×
E. Coli	(MTF/EC+MUG)	×		×
E. Coli	CFR 141.21(f)(6)(i)	×		×
E. Coli	SM 9223		х	
E. Coli (Enumeration)	SM 9221B.1/SM 9221F	х		x
E. Coli (Enumeration)	SM 9223B	×		x
EDB/DCBP	EPA 504.1	х		
EDB/DBCP and DBP	EPA 551.1	x		×
EDTA and NTA Endothall	In House Method (2454) EPA 548.1	x x		x
Endothall	In-house Method (2445)	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)	×		×
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	х	X	
Fluoride	SM 4500-F C	х	x	х
Giardia	EPA 1623	х		×
Glyphosate	EPA 547	×		×
Gross Alpha/Beta	EPA 900.0	×	X	×
Gross Alpha Coprecipitation	SM 7110 C	×	^ x	×
Hardness	SM 2340B		×	×
Heterotrophic Bacteria	In House Method (2439)	X X		×
Heterotrophic Bacteria	SM 9215 B	Х		Х
Hexavalent Chromium	EPA 218.6	X	X	×

	γ			·
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ- mental (Drinking Water)	Environ- mental (Waste Water)	Water as a Composent of Food and Bev/Bev Bottled Water
Hexavalent Chromium	EPA 218.7	×		×
Hexavalent Chromium	SM 3500-Cr B		×	
Hormones	EPA 539	×		×
Hydroxide as OH Calc.	SM 2330B	×		×
Kjeldahl Nitrogen	EPA 351.2			
			X	ļ
Legionella	CDC Legionella	X		×
Mercury	EPA 245.1	X	X	×
Metals	EPA 200.7 / 200.8	x	x	×
Microcystin LR	ELISA (2360)	x		х
NDMA	EPA 521	×		×
NDMA	TQ In house method based on EPA 521 (2425)	×		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	х	×
OCL, Pesticides/PCB	EPA 505	×		×
Ortho Phosphate	EPA 365.1	×	x	×
Ortho Phosphate	SM 4500P E			
				×
Ortho Phosphorous	SM 4500P E	Х		
Oxyhalides Disinfection	EPA 317.0	x		×
Byproducts				····
Perchlorate	EPA 331.0	×		×
Perchlorate (low and high)	EPA 314.0	x		х
Perfluorinated Alkyl Acids	EPA 537	x		×
рН	EPA 150.1	х		
рН	SM 4500-H+B	×	х	×
Phenylurea Pesticides/	In House Method, based on EPA			<u> </u>
Herbicides	532 (2448)	x		×
Pseudomonas	IDEXX Pseudalert (2461)	х		×
Radium-226	GA Institute of Tech	×		×
Radium-228	GA Institute of Tech	×		
Radon-222				X
	SM 7500RN	×		×
Residue, Filterable	SM 2540C	×	X	×
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	×
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		×
Semi-VOC	EPA 625		x	x
Silica	SM 4500-Si D	×		
onica			X	l
Silica	SM 4500-SiO2 C	x	×	
	SM 4500-SiO2 C			
Sulfide	SM 4500-SiO2 C SM 4500-S" D		x x	
	SM 4500-SiO2 C			x
Sulfide	SM 4500-SiO2 C SM 4500-S" D SM 4500-SO ³ B	x	x x	
Sulfide Sulfite Surfactants	SM 4500-SiO2 C SM 4500-S" D SM 4500-SO ³ B SM 5540C	x x x	x	х
Sulfide Sulfite Surfactants Taste and Odor Analytes	SM 4500-SiO2 C SM 4500-S" D SM 4500-SO ³ B SM 5540C SM 6040E	x x x	x x	X X
Sulfide Sulfite Surfactants Taste and Odor Analytes Total Coliform (P/A)	SM 4500-SiO2 C SM 4500-S" D SM 4500-SO ³ B SM 5540C	x x x	x x	х
Sulfide Sulfite Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration)	SM 4500-SiO2 C SM 4500-S° D SM 4500-SO³B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C	x x x	x x	X X
Sulfide Sulfite Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform	SM 4500-SiO2 C SM 4500-S' D SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B	x x x x	x x	x x x
Sulfide Sulfite Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration)	SM 4500-SiO2 C SM 4500-S' D SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223	x x x x x	x x	x x x
Sulfide Sulfite Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform Total Coliform with Chlorine	SM 4500-SiO2 C SM 4500-Si [*] D SM 4500-SO [*] B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B	x x x x x	x x	x x x
Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform Total Coliform with Chlorine Present Total Coliform / E.coli (P/A)	SM 4500-SiO2 C SM 4500-S' D SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B	x x x x x	x x x	x x x
Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E.coli (P/A) and Enumeration)	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9223	x x x x x x	x x x	x x x x
Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform Total Coliform with Chlorine Present Total Coliform / E.coli (P/A)	SM 4500-SiO2 C SM 4500-S' D SM 4500-SO'B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B	x x x x x x	x x x	x x x
Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E.coli (P/A) and Enumeration)	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9223	x x x x x x	x x x	x x x x
Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E.coli (P/A and Enumeration)	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9223 SM 9223 SM 5310C	x x x x x x	x x x	x x x x
Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E. coli (P/A and Enumeration) TOC TOX Total Phenols	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9223 SM 9220 SM 5310C SM 5320B EPA 420.1	x x x x x x x	x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E.coli (P/A and Enumeration) TOC TOX Total Phenols	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO D SM 4500-SO B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9221B SM 9223 SM 5310C SM 5320B EPA 420.1 EPA 420.4	x x x x x x	x x x x x x x x	x x x x
Sulfide Sulfite Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E. coli (P/A and Enumeration) TOC TOX Total Phenols Total Phenols Total Phesons	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B SM 9221B	x x x x x x x x	x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfite Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E. coli (P/A and Enumeration) TOC TOX Total Phenols Total Phenols Total Phosphorous Turbidity	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9221B SM 9220 SM 5310C SM 5320B EPA 420.1 EPA 420.4 SM 4500 P E EPA 180.1	x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E.coli (P/A and Enumeration) TOC TOX Total Phenols Total Phenols Total Phesphorous Turbidity Turbidity	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM	x x x x x x x x x x x x	x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E. coli (P/A and Enumeration) TOC TOX Total Phenols Total Phenols Total Phenols Total Phosphorous Turbidity Turbidity Uranium by ICP/MS	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9221B SM 9220 EPA 420.1 EPA 420.4 SM 4500 P E EPA 180.1 SM 2130B EPA 200.8	x x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (P/A) Total Coliform / E. coli Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E. coli (P/A and Enumeration) TOC TOX Total Phenols Total Phenols Total Phenols Total Phenols Total Phenols Total Phenols Total Phenols Total Phenols Turbidity Turbidity Uranium by ICP/MS UV 254	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9220B SM 9221B SM	x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E. coli (P/A and Enumeration) TOC TOX Total Phenols Total Phenols Total Phenols Total Phosphorous Turbidity Turbidity Uranium by ICP/MS	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9221B SM 9221B SM 9220 EPA 420.1 EPA 420.4 SM 4500 P E EPA 180.1 SM 2130B EPA 200.8	x x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (P/A) Total Coliform / E. coli Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E. coli (P/A and Enumeration) TOC TOX Total Phenols Total Phenols Total Phenols Total Phenols Total Phenols Total Phenols Total Phenols Total Phenols Turbidity Turbidity Uranium by ICP/MS UV 254	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM 9220B SM 9221B SM	x x x x x x x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfide Sulfide Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform / E. coli Total Coliform with Chlorine Present Total Coliform / E.coli (P/A and Enumeration) TOC TOX Total Phenols Total Phenols Total Phenols Total Phosphorous Turbidity Uranium by ICP/MS UV 254 VOC VOC	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM	x x x x x x x x x x x x x x x x x x x	x x x x x x x x x	x x x x x x x x x x x x x x x x x x x
Sulfide Sulfite Surfactants Taste and Odor Analytes Total Coliform (P/A) Total Coliform (Enumeration) Total Coliform × E. coli Total Coliform with Chlorine Present Total Coliform / E. coli (P/A and Enumeration) TOC TOX Total Phenols	SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SiO2 C SM 4500-SO ³ B SM 5540C SM 6040E SM 9221 A, B SM 9221 A, B, C Colisure SM 9223 SM 9221B SM	x x x x x x x x x x x x x x x x x x x	x x x x x x x x x	x x x x x x x x x x x x x x x x x x x



Acknowledgement of Samples Received

Addr: Eurofins Eaton Analytical 110 South Hill Street

South Bend, IN 46617-2702

Client ID: EEA-SOUTHBEND

Folder #: 644276

Project: SUBCONTRACT

Sample Group: TOX

Attn: Jim Van Fleit Project Manager: Shea Greiner Phone: 800-332-4345

Phone: (720) 491-1749

The following samples were received from you on March 10, 2017 at 1121. 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

201703100146 3650283

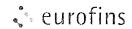
03/07/2017 0844

Total Organic Halogen

201703100147 3650284 03/07/2017 0936

Total Organic Halogen

Test Description



110 South Hill Street South Bend, IN 46617 800-332-4345

H14276

Laten Answerd

REC-Subcontractor Laboratory Request Form

Reference Lab Name:	Eurofins Eaton Analytical	Total Sent:	2
Address:	750 Royal Oaks Drive	Shipping Method:	UPS Next Day Saver
City, State, Zip:	Monrovia, CA 91016	EEA Contact Name:	see below
Telephone Number:	626-386-1100		

Reference Lab: This form must be returned via email to US25_RefLab@eurofinsUs.com or by fax 574-233-8207 upon receipt of samples. Note any discrepencies in the number of samples received, analyses requested, sample condition upon receipt, ID discrepencies, or price in the Reference Lab Notes section at the bottom of this form.

Result sheets and Invoice must be emailed to US25_Reflab@eurofinsUS.com upon completion of analysis.

EEA SampleID#	TAT Requested	Sample Type	Matrix	Collection date	Collect.	State of Origin	QC Criteria	Analysis Requested	EEA-PM
3650283 (1)	SW	FS	DW	7-Mar-17	8:44	North Carolina.	Non-Compliance	TOX (Monrovia)	Joseph Mattheis
3650284 (1)	SW	FS	DW	7-Mar-17	9:36	North Carolina.	Non-Compliance	TOX (Monrovia)	Joseph Mattheis

: 1Z 738 664 13 7547 5784

Reference Lab Notes:	

Relinquished from EEA By:
Page 5 of 11 pages

Date/Time:

8-Mar-17 14:35

Matrix: DW, RW, GW, SW, BW, EW, PW, WW TAT Codes: SW(Standard Written), RW(Rush Written, 5 Day), IW(Immediate Written, 3 Day) Sample Types: FS, FD, FTB, FEB, MS, MSD, Other

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		u	U	1 1	11	3
30.00	_		_			_

INTERNAL CHAIN OF CUSTODY RECORD

Eaton Analytical

EEA Folder Number:								
SAMPLE TEMP RECEIVED:	S	AMPLES REC'D DAY OF C	OLLECTION?					
7 7s (46) (46)	/**/Addison_()	-						
TYPE OF ICE: Real No.	condition of ic	E: Frozen Partially Fr	ozen Thawed	N/A				
METHOD OF SHIPMENT: Pick-Up / Walk-In	/ FedEx / UPS / DHL / Area Fast /	Top Line / Other:						
Compliance Acceptance Criteria:								
1) Chemistry: >0, ≤6°C, not frozen (NELA	P) (if received after 24 hrs of sample colle	ction)						
2) Microbiology, Distribution: < 10°C, not	frozen (can be ≥10°C if received on ice t	ne same day as sample colle	ction, within 8 hours)					
YPE OF ICE: Real Synthetic No Ice CONDITION OF ICE: Frozen Partially Frozen Thawed N/A								
If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the	1 = (Observation= *C) (Corr.Factor *C) (Final =	*C) 2 * (Observation=*C) (Con	.Factor*C) (Final =	c)				
quadranis	3 * (Observation* *C) (Con.Factor *C) (Final *	*C) 4 = (Observation= *C) (Co	rr.Factor*C) (Final =	_ 'c)				
4) UCMR3: 524.3: (Observation=	°C) (Corr.Factor °C) (Final	=°C)						
522: (Observation=	°C) (Corr.Factor °C) (Final =	°C)						
s 10°C if received within 40 hours of sample collection (not the	s same business day); < 6°C if received after 48 hours of sar	nple collection, Méasure température for e	sch method above,					
5) LT2: Giardia /Cryptosporidium: <20 °C	, not frozen (received after 8 hours of sam	ple collection)						
E. Coli: < 10°C, not frozen (if receiv	ed after 2 hours of sample collection)							
THOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: mpliance Acceptance Criteria: 1) Chemistry: >0, ≤6°C, not frozen (NELAP) (if received after 24 hrs of sample collection) 2) Microbiology, Distribution: <10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours) 3) Microbiology, Surface Water: <10°C (if received after 2 hours of sample collection) 1 *(Observation* ** 'C) (Final ** ** 'C) (Final ** ** ** 'C) (Final ** ** ** 'C) (Final ** ** ** 'C) (Final ** ** ** ** ** ** ** ** ** ** ** ** **								
E.Coli: (Observation=	IR Gun ID = *C) (Corr.Factor *C) (Final = *C) (Final = *C) E OF ICE: Real Synthetic No Ice CONDITION OF ICE: Frozen Partially Frozen Thawed N/A HOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: pliance Acceptance Criteria: Chemistry: >0, ≤6°C, not frozen (NELAP) (if received after 24 hrs of sample collection) Microbiology, Distribution: < 10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours) Microbiology, Surface Water: < 10°C (if received after 2 hours of sample collection) Itemperature range for both Chemistry and Microbiology as not temperature does not confirm, then measure the alter of each temperature of each temperature of the later of each temperature of the note of the confirm							
6) Dioxin (1613 or 2,3,7,8 TCDD): must be	between 0-4 °C, not frozen (if received al	ter 24 hrs of sample collectio	n)					
Note: If samples are out of temperature range, let the ASMs know. ASMs w	ill determine whether to proceed with analysis or not, PRINT NAME	GOMPANY/TITLE	DATE	TIME				
RECEIVED BY:	+ idelchago	Eurofins Ealon Analytical	3.70-17	1.2				



Laboratory Comments Report: 644276

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

Eurofins Eaton Analytical Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702



Laboratory Hits Report: 644276

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

Eurofins Eaton Analytical Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702

Samples Received on: 03/10/2017 1121

Analyzed	Analyte	Sample ID	Result F	Federal MCL Units	MRL
	201703100147	3650284			
03/13/2017 18:13	Total Organic Halides	Average	100	ug/L	10
03/13/2017 18:13	Total Organic Halides I	Rep 1	98	ug/L	10
03/13/2017 18:13	Total Organic Halides I	Rep 2	110	ug/L	10

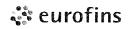


Tel: (626) 386-1100 Fax: (626) 386-1101 1 800 566 LABS (1 800 566 5227) Laboratory Data Report: 644276

Eurofins Eaton Analytical Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702

Samples Received on: 03/10/2017 1121

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
3650283	3 (201703100°	146)				Sam	pled on 03/07	/2017 084	4
		SW9020/SN	M5320 - Total	Organic Halides					
03/13/17	03/13/17 20:25	977524	977613	(SW9020/SM5320)	Total Organic Halides Average	ND	ug/L	10	1
03/13/17	03/13/17 20:25	977524	977613	(SW9020/SM5320)	Total Organic Halides Rep 1	ND	ug/L	10	1
03/13/17	03/13/17 20:25	977524	977613	(SW9020/SM5320)	Total Organic Halides Rep 2	ND	ug/L	10	1
3650284	(201703100	147)				Sam	pled on 03/07	/2017 093	6
		SW9020/SN	15320 - Total	Organic Halides					
03/13/17	03/13/17 18:13	977524	977613	(SW9020/SM5320)	Total Organic Halides Average	100	ug/L	10	1
03/13/17	03/13/17 18:13	977524	977613	(SW9020/SM5320)	Total Organic Halides Rep 1	98	ug/L	10	1
03/13/17	03/13/17 18:13	977524	977613	(SW9020/SM5320)	Total Organic Halides Rep 2	110	ug/L	10	1 ,



Laboratory QC Summary: 644276

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

Eurofins Eaton Analytical

Total Organic Halides

Prep Batch: 977524 Analytical Batch: 977613

201703100146 201703100147 3650283 3650284 Analysis Date: 03/13/2017

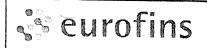
Analyzed by: MIA8 Analyzed by: MIA8



Tel: (626) 386-1100 Fax: (626) 386-1101 1 800 566 LABS (1 800 566 5227) Laboratory QC Report: 644276

Eurofins Eaton Analytical

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
Total Organic Hali	des by SW9020/SM5320								
Analytical B	atch: 977613					An	alysis Date:	03/13/2017	
LCS1	Total Organic Halides Rep 1		50	49.8	ug/L	100	(85-115)		
LCS2	Total Organic Halides Rep 1		200	184	ug/L	92	(90-110)		
MBLK	Total Organic Halides Rep 1			<10	ug/L				
MRLHI	Total Organic Halides Rep 1		10	13.4	ug/L	134	(50-150)		
MS_201703080698	Total Organic Halides Rep 1	140	250	395	ug/L	102	(90-110)		
MSD_201703080698	Total Organic Halides Rep 1	140	250	406	ug/L	106	(90-110)		
LCS1	Total Organic Halides Rep 2		50	53.3	ug/L	107	(85-115)		
LCS2	Total Organic Halides Rep 2		200	191	ug/L	96	(90-110)		
MBLK	Total Organic Halides Rep 2			<10	ug/L				
MRLHI	Total Organic Halides Rep 2		10	13.2	ug/L	132	(50-150)		
MS_201703080698	Total Organic Halides Rep 2	120	250	395	ug/L	110	(90-110)		
MSD_201703080698	Total Organic Halides Rep 2	120	250	406	ug/L	114	(90-110)		



110 S. Hill Street South Bend, IN 46617 T: 1.800.332.4345 F: 1.574.233.8207

Order # 315399 Batch # 38416/

www.catonanalytical.com CHAIN OF CUSTODY RECORD Shaded area for EEA use only REPORT TO: SAMPLER (Signature) PWS ID# STATE (sample origin) PROJECT NAME PO# Jill Deaney - Lab Manager Criptal Callaton for 235 Government Center Dr. Dubble DuBois 04-65-010 NC Wilmington NC 28403 BILL TO: Sweeney TOX-POPULATION SERVED No SOURCE WATER 170004 CAPEFEARPUA-NC Finance COMPLIANCE Special Sampling 235 Government Center Dr. MONITORING Χ MATRIX CODE TURNAROUND 135,204 Surface Water Wilmington NC 28403 LAB Number COLLECTION SAMPLING SITE CHLORINATED **TEST NAME** SAMPLE REMARKS DATE TIME AM PM YES NO 3650283 0844 3.7.17 Sweeney WTP - C. Filter TOX D#4255 Х DW SW 3650 284 0936 3-7-17 Sweeney WTP - Post TOX Х DW SW RELINQUISHED BY: (Signature)
CMStal Callalan For DATE RECEIVED BY:(Signature) DATE TIME LAD RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT 1245 1245 LAB COMMENTS Crystal Calleton 37-17 Debble DuBois 3.7-17 RELINQUISHED BY:(Signature) DATE RECEIVED BY:(Signature) DATE Crystal Callahon 1315 3-7-17 AM PM RELINQUISHED BY: (Signature) DATE RECEIVED FOR LABORATORY BY: DATE TIME CONDITIONS UPON RECEIPT (check one): N/A AM PM **MATRIX CODES:** TURN-AROUND TIME (TAT) - SURGHA DW-DRINKING WATER SW = Standard Written: (15 working days) fV" = Immediate Verbal: (3 working days) 100% RW-REAGENT WATER RV" = Rush Verbal: (5 working days) GW-GROUND WATER fW* ≈Immediate Written; (3 working days) Samples received unannounced with less **EW-EXPOSURE WATER** RW" = Rush Written: (5 working days) SP* = Weekend, Holiday than 48 hours holding time remaining CALL SW-SURFACE WATER may be subject to additional charges. PW-POOL WATER STAT" = Less than 48 hours CALL WW-WASTE WATER Please call, expedited service not available for all testing 06-LO-F0435 Issue 4.0 Effective Date: 2014-05-01 Sample analysis will be provided according to the standard EEA/Water Services Terms, which are available upon request. Any other terms proposed by Customer are deemed material afterations and are rejected unless expressly agree to in writing by



Eurofins Eaton Analytical

Run Log

Run ID: 227251 Method: 5320 B

<u>Type</u>	Sample Id	Sample Site	<u>Matrix</u>	Instrument ID	Analysis Date	Calibration File
FS	3650284	Sweeney WTP-Post	DW	RL	03/13/2017 18:13	
FS	3650283	Sweeney WTP-C.Filter	DW	RL	03/13/2017 20:25	

		and the second		Technology and the second	QC :	Summar	y Repo	rt		i de la companya de la companya de la companya de la companya de la companya de la companya de la companya de						
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	H	DII Factor	Extracted	Analyzed	EEA ID#
FS	Total Organic Halogens (TOX)	5320 B	10	Sweeney WTP-Post	40	100		ug/L	_	-	-	_	1.0		03/13/2017 18:13	3650284
FS	Total Organic Halogens (TOX)	5320 B	10	Sweeney WTP-C.Filter	<	10	0.738,400.10	ug/L	<u> </u>		-	1-	1.0		03/13/2017 20:25	of francisco

Sample Type Key

Type (Abbr.) FS Sample Type

Field Sample

Type (Abbr.)

Sample Type

END OF REPORT





LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

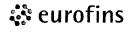
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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
ldaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
lowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

^{*}NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016



110 South Hill Street South Bend, IN 46617 Tel: (574) 233-4777 Fax: (574) 233-8207 I 800 332 4345

Laboratory Report

Client: Cape Fear Public Utility Authority

Report:

372077

Final

Attn: Jill Deaney

Priority:

Standard Written

235 Government Center Drive Wilmington, NC 28403

Status: PWS ID:

NC0465010

en een kommunister van de kommunister van de kommunister van de kommunister van de kommunister van de kommunis	et visa retained and respective sections of the section of the sec	Sample Information			
EEA ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3540054	Sweeney WTP-C,Filter	5320 B	09/06/16 08:54	Client	09/07/16 09:30
3540055	Sweeney WTP-Post	5320 B	09/06/16 08:03	Client	09/07/16 09:30

Report Summary

Note: TOX analysis was performed by EEA, Monrovia, CA.

atailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Joseph Mattheis at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Joseph M H Acount Hanager
Authorized Signature Title

10/17/2016

Date

.lent Name:

Cape Fear Public Utility Authority

Report #:

372077

Page 1 of 3

Client Name: Cape Fear Public Utility Authority

Report #: 372077

Sampling Point:

Sweeney WTP-C.Filter

PWS ID: NC0465010

4.5	Reference Lab Tests										
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID#		
59473-04-0	Total Organic Halogens (TOX)	5320 B		10	< 10	ug/L		09/14/16 18:54	3540054		

Sampling Point:

Sweeney WTP-Post

PWS ID: NC0465010

	Reference Lab Tests										
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID#		
59473-04-0	Total Organic Halogens (TOX)	5320 B	_	10	130	ug/L		09/14/16 19:38	3540055		

[†] EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Γ	Reg Limit Type:	MCL	SMCL	AL
Γ	Symbol:	•	٨	ı

Report #: 372077

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



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

Eurofins Eaton Analytical 110 South Hill Street South Bend, IN 46617-2702 Attention: Jim Van Fleit

Fax: 574-233-8207

Date of Issue 10/11/2016

EUROFINS EATON
ANALYTICAL

TRG6: Shea Greiner

Project Manager



ORELAP 4034

Report: 609909

Project: SUBCONTRACT

Group: TOX

^{*} 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.

^{*} This report shall not be reproduced except in full, without the written approval of the laboratory.



STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
******	********	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA00006-2016
California-Monrovia- ELAP	2813	New Hampshire *	2959
California-Colton- ELAP	2812	New Jersey *	CA 008
California-Folsom- ELAP	2820	New Mexico	Certified
California-Fresno- ELAP	2966	New York *	11320
Colorado	Certified	North Carolina	06701
Connecticut	PH-0107	North Dakota	R-009
Delaware	CA 006	Oregon (Primary AB) *	ORELAP 4034
Florida *	E871024	Pennsylvania *	68-565
Georgia	947	Puerto Rico	Certified
Guam	16-003r	Rhode Island	LAO00326
Hawaii	Certified	South Carolina	87016
idaho	Certified	South Dakota	Certified
Illinois *	200033	Tennessee	TN02839
Indiana	C-CA-01	Texas *	T104704230-15-9
Kansas *	E-10268	Utah *	CA000062016-10
Kentucky	90107	Vermont	VT0114
Louisiana *	LA16003	Virginia *	460260
Maine	CA0006	Washington	C838
Maryland	224	P00400004	######################################
Commonwealth of Northern Marianas Is.	MP0004		e-10************************************
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	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/ANAB.

Refer to Certificate and scope of accreditation (AT 1807) found at: http://www.eatonanalytical.com

	Nete	Environ-	Environ-	Water as a
SPECIFIC TESTS METHOD OR TECHNIQUE USED		mental (Drinking Water)	mental (Waste Water)	Component of Food and Bev/Bev/ Bottled Water
1,4-Dioxane	EPA 522	X		×
2,3,7,8-TCDD	Modified EPA 1613B	×		×
Acrylamide	In House Method (2440)	×		x
Alkalinity	SM 2320B	×	×	x
Ammonia	EPA 350.1		×	×
Ammonia	SM 4500-NH3 H		×	×
Anions and DBPs by IC	EPA 300.0	X	×	<u> </u>
Amions and DBPs by IC	EPA 300.1	x	× ×	<u> </u>
Asbestos Bicarbonate Alkalinity as HCO3	EPA 100.2 SM 2320B	x	×	x
BOD / CBOD	SM 5210B		×	×
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	×		. x
Carbonate as CO3	SM 2330B	x	x	×
Carbonyls	EPA 556	×		×
COD	EPA 410.4 / SM 5220D		X	
Chloramines	SM 4500-CL G	X	x	x x
Chlorinated Acids	EPA 515.4	X		
Chlorinated Acids	EPA 555	×		×
Chlorine Dioxide	SM 4500-CLO2 D	x		×
Combined Residual	SM 4500-CI G	×	×	×
Conductivity	EPA 120.1		×	
Conductivity	SM 2510B	×	×	×
Corrosivity (Langelier Index)	SM 2330B	x		x
Cryptosporidium	EPA 1623	×		x
Cyanide, Amenable	SM 4500-CN G	×	x	
Cyanide, Free	SM 4500CN F	x	X	×
Cyanide, Total	EPA 335.4	×	×	×
Cyanogen Chloride (screen)	In House Method (2470)	x		×
Diquat and Paraquat	EPA 549.2	×		<u> </u>
DBP/HAA	SM 6251B	X	x	X X
Dissolved Oxygen DOC	SM 4500-O G SM 5310C	x	^	×
E. Coli	(MTF/EC+MUG)	×		×
				×
E. Coli	CFR 141.21(f)(6)(i)	×		——————————————————————————————————————
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 EDTA and NTA	EPA 551.1 In House Method (2454)	x x		x
Endothall	EPA 548.1	X		x
Endothall	In-house Method (2445)	х		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	×		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	ļl
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	×		×
Fecal Coliform with Chlorine Present	SM 9221E		×	
Fecal Streptococci	SM 9230B	×	X	
Fluoride	SM 4500-F C	×	×	<u> </u>
Giardia	EPA 1623	X		<u> </u>
Glyphosate Grass Alaba/Ruta	EPA 547	×		×
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	×
Hardness	SM 2340B	x	x	×
Heterotrophic Bacteria	In House Method (2439)	×		×
Heterotrophic Bacteria	SM 9215 B	×		×
Hexavalent Chromium	EPA 218.6	x	x	×

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ- mental (Drinking Water)	Environ- mental (Waste Water)	Water as a Component of Food and Bev/Ber/ Bottled Water
Hexavalent Chromium	EPA 218,7	x	,	X
Hexavalent Chromium	SM 3500-Cr B		×	
Hormones	EPA 539	x		×
Hydroxide as OH Calc.	SM 2330B	х		×
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	CDC Legionella	Х		×
Mercury	EPA 245.1	х	X	×
Metals	EPA 200.7 / 200.8	x	X	×
Microcystin LR	ELISA (2360)	x		×
NDMA	EPA 521	x		x
NDMA	TQ In house method based on EPA 521 (2425)	×		x
Nitrate/Nitrite Nitrogen	EPA 353.2	×	X	x
OCL, Pesticides/PCB	EPA 505	х		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphate	SM 4500P E			x
Ortho Phosphorous	SM 4500P E	x		
Oxyhalides Disinfection	EPA 317.0	×		×
Byproducts Perchlorate	·			
r ca chioraic	EPA 331.0	X		×
Perchlorate (low and high)	EPA 314.0	x		×
Perfluorinated Alkyl Acids	EPA 537	×		×
pH	EPA 150.1	×		
pH	SM 4500-H+B	x	×	×
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	×		×
Pseudomonas	IDEXX Pseudalert (2461)	x		×
Radium-226	GA Institute of Tech	×		x
Radium-228	GA Institute of Tech	×		×
Radon-222	SM 7500RN	x		×
Residue, Filterable	SM 2540C	×	×	×
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		×	×
Residue, Volatile	EPA 160.4		X	
Semi-VOC	EPA 525.2	×		x
Semi-VOC	EPA 625		×	×
Silica	SM 4500-Si D	×	×	i
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S D		×	
Sulfite	SM 4500-SO ³ B	×	x	×
Surfactants	SM 5540C	x		
Taste and Odor Analytes	SM 6040E	X	×	X X
Total Coliform (P/A) Total Coliform	SM 9221 A, B SM 9221 A, B, C	x x		×
(Enumeration)				
Total Coliforn / E. coli	Colisure SM 9223	×		X
Total Coliform Total Coliform with Chlorine	SM 9221B SM 9221B		X X	
Present Total Coliform / E.coli (P/A	SM 9223	×		×
and Enumeration) TOC	SM 5310C	×	×	×
тох	SM 5320B		x	
Total Phenols	EPA 420.1		×	
Total Phenols	EPA 420.4	х	x	x
Total Phosphorous	SM 4500 P E		x	
Turbidity	EPA 180.1	х	x	×
Turbidity	SM 2130B	×	x	
Uranium by ICP/MS	EPA 200.8	X		x
UV 254	SM 5910B	×		
VOC	EPA 524.2/EPA 524.3	x		x
VOC	EPA 624		x	x
VOC	EPA SW 846 8260	×		x
VOC	In House Method (2411)	×		x
Yeast and Mold	SM 9610	x		X



Acknowledgement of Samples Received

Addr: Eurofins Eaton Analytical 110 South Hill Street

South Bend, IN 46617-2702

Client ID: EEA-SOUTHBEND

Folder #: 609909

Project: SUBCONTRACT

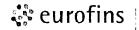
Sample Group: TOX

Attn: Jim Van Fleit Phone: 800-332-4345 Project Manager: Shea Greiner Phone: (720) 491-1749

The following samples were received from you on **September 08, 2016** at **1030**. 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
201609080401	<u>1</u> 3540054	09/06/2016 0854
	Total Organic Halogen	
201609080402	2 3540055	09/06/2016 0803
	: Total Organic Halogen	
***************************************	***************************************	·····

Test Description



110 South Hill Street South Bend, IN 46617 800-332-4345 Page 1 of 1

Eaton Analytical

REC-Subcontractor Laboratory Request Form

09909

		• • • • • • • • • • • • • • • • • • • •	· 1
Reference Lab Name:_	Eurofins Eaton Analytical	Total Sent:	2
Address:	750 Royal Oaks Drive	Shipping Method:	UPS Next Day Saver
City, State, Zip:	Monrovia, CA 91016	EEA Contact Name:	see below
Telephone Number:	626-386-1100	·	

Reference Lab: This form must be return via email to US25_RefLab@eurofinsUs.com or by fax 574-233-8207 upon receipt of samples. Note any dicrepencies in the number of samples received, analyses requested, sample condition upon receipt, ID discrepencies, or price in the Reference Lab Notes section at the bottom of this form.

Result sheets and Invoice must be emailed to US25_Reflab@eurofinsUS.com upon completion of analysis.

EEA SampleID#	TAT Requested	Sample Type	Matrix	Collection date	Collect. Time	State of Origin	QC Criteria	Analysis Requested	EEA-PM
3540054 (1)	SW	FS	DW	6-Sep-16	8:54	North Carolina.	Non-Compliance	TOX (Monrovia)	Joseph Mattheis
3540055 (1)	SW	FS	DW	6-Sep-16	8:03	North Carolina.	Non-Compliance	TOX (Monrovia)	Joseph Mattheis

Reference Lab Notes:			
Relinquished from EEA By:	Shew	Date/Time: 7-Sep-16 15:10	Matrix: DW, RW, GW, SW, BW, EW, PW, WW TAT Codes: SW(Standard Written), RW(Rush
ထို့ ရှိ တက်Received by Reference lab by: 🕅	1.70	Date/Time: 9/8/1% to:30	Writen, 5 Day), IW(Immediete Written, 3 Day) Sample Types: FS, FD, FTB, FEB, MS, MSD, Other

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INTERNAL CHAIN OF CUSTODY RECORD

-	Eaton	Analytical	•	•	_	•	•
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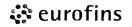
SAMPLE TEMP RECEIVED:		SAMPLES REC'D DAY OF	COLLECTIONS	
			COLLECTION	
IR Gun ID = $35\lambda P$ (Observation	= <u>1· vo</u> °C) (Corr.Factor <u>O· λ</u> °C)	(Final = 1.4 °C)		
TYPE OF ICE: Real Synthetic No.	condition of	ICE: Frozen Partially F	rozer Thawed N/A	-
METHOD OF SHIPMENT: Pick-Up / Walk-In	/ FedEx UPS DHL / Area Fast /	Top Line / Other:	-	
Compliance Acceptance Criteria:				
1) Chemistry: >0, ≤6°C, not frozen (NELAF	e) (if received after 24 hrs of sample coll	ection)		
2) Microbiology, Distribution: < 10°C, not	frozen (can be ≥10°C if received on ice	the same day as sample collect	ion, within 8 hours)	
3) Microbiology, Surface Water: < 10°C (if	received after 2 hours of sample collect	ion)		
If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the	1 = (Observation= °C) (Corr.Factor °C) (Final	- °C) 2 = (Observation= °C) (C	orr.Factor°C) (Final =°C)	
dragtauta	3 = (Observation=*C) (Corr.Factor*C) (Final		con.Factor *C) (Final = *C)	
4) UCMR3: 524.3: (Observation=	°C) (Corr.Factor °C) (Fina	!=°C)		
522: (Observation=	°C) (Corr.Factor °C) (Final =	°C)		
${\it s}$ 10°C if received within 48 hours of sample collection (not the	same business day); < 6°C if received after 48 hours of sa	mple collection, Measure temperature for each	ı melhod above,	
5) LT2: Giardia /Cryptosporidium: <20 °C,	not frozen (received after 8 hours of sar	nple collection)		
E. Coli: < 10°C, not frozen (if receive	ed after 2 hours of sample collection)	ļ T	RACKING #: 1Z 738 664 01 7	456 98
Giardia/Crypto: (Observati	on= °C) (Corr.Factor			
E.Coli: (Observation=	°C) (Corr.Factor °C) (Fina	1 =°C)		
6) Dloxin (1613 or 2,3,7,8 TCDD): must be l	petween 0-4 °C, not frozen (if received a	fter 24 hrs of sample collection)		
Note: If samples are out of temperature range, let the ASMs know. ASMs will SIGNATURE	determine whether to proceed with analysis or not. PRINT NAME	COMPANY/TITLE	DATE TIME	
RECEIVED BY:		Eurolins Eaton Analytical		



Laboratory Comments Report: 609909

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

Eurofins Eaton Analytical Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702



Laboratory Hits Report: 609909

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

Eurofins Eaton Analytical Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702

Samples Received on: 09/08/2016 1030

Analyzed	Analyte	Sample ID	Result Fed	deral MCL Units	MRL
	201609080402	3540055			
09/14/2016 19:38	Total Organic Halides /	Total Organic Halides Average		ug/L	10
09/14/2016 19:38	Total Organic Halides F	Total Organic Halides Rep 1		ug/L	10
09/14/2016 19:38	Total Organic Halides F	Rep 2	130	ug/L	10



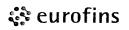
Laboratory Data Report: 609909

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

Eurofins Eaton Analytical Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702

Samples Received on: 09/08/2016 1030

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
3540054	(2016090804	101)				Sam	pled on 09/06	/2016 085	4
		SW9020/S#	M5320 - Total	Organic Halides					
09/14/16	09/14/16 18:54	935843	936716	(SW9020/SM5320)	Total Organic Halides Average	ND	u g/ L	10	1
09/14/16	09/14/16 18:54	935843	936716	(SW9020/SM5320)	Total Organic Halides Rep 1	ND	ug/L	10	1
09/14/16	09/14/16 18:54	935843	936716	(SW9020/SM5320)	Total Organic Halides Rep 2	ND	ug/L	10	1
3540055	(2016090804	102)				Sam	pled on 09/06	/2016 080	3
		SW9020/SN	/15320 - Total	Organic Halides					
09/14/16	09/14/16 19:38	935843	936716	(SW9020/SM5320)	Total Organic Halides Average	130	ug/L	10	1
09/14/16	09/14/16 19:38	935843	936716	(SW9020/SM5320)	Total Organic Halides Rep 1	130	ug/L	10	1
09/14/16	09/14/16 19:38	935843	936716	(SW9020/SM5320)	Total Organic Halides Rep 2	130	ug/L	10	1



Laboratory QC Summary: 609909

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

Eurofins Eaton Analytical

Total Organic Halides

Prep Batch: 935843 Analytical Batch: 936716

201609080401 201609080402

3540054

3540055

Analysis Date: 09/14/2016

Analyzed by: MIA8 Analyzed by: MIA8



Laboratory QC Report: 609909

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

Eurofins Eaton Analytical

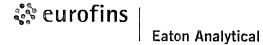
QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
•	des by SW9020/SM5320								
Analytical B	atch: 936716					An	alysis Date:	09/14/2016	
LCS1	Total Organic Halides Rep 1		50	51.0	ug/L	102	(85-115)		
LCS2	Total Organic Halides Rep 1		200	190	ug/L	95	(90-110)		
MBLK	Total Organic Halides Rep 1			<10	ug/L				
MRLHI	Total Organic Halides Rep 1			6.51	ug/L	0			
MS_201609080401	Total Organic Halides Rep 1	ND	50	56.1	ug/L	95	(90-110)		
MSD_201609080401	Total Organic Halides Rep 1	ND	50	55.8	ug/L	95	(90-110)		
LCS1	Total Organic Halides Rep 2		50	49.1	ug/L	98	(85-115)		
LCS2	Total Organic Halides Rep 2		200	208	ug/L	104	(90-110)		
MBLK	Total Organic Halides Rep 2			<10	ug/L				
MRLHI	Total Organic Halides Rep 2			7.23	ug/L	0			
MS_201609080401	Total Organic Halides Rep 2	ND	50	56.1	ug/L	100	(90-110)		
MSD_201609080401	Total Organic Halides Rep 2	ND	50	55.8	ug/L	99	(90-110)		



110 S. Hill Street South Bend, IN 46617 T: 1.800.332.4345 F: 1.574.233.8207

Order # 304462 Batch # 372077

wwy	v.eatonanalytical.com Shaded area 1	for EEA us	e only		<u> </u>	СН	IAIN OF	CUST	ODY RECO	₹D		Page	<u>:1</u>	of	1	
REI	PORT TO:				SAMPLER (Signature	e) 🛆			PWS ID#	STATE (sample origin)	PROJECT NAME	P	O#		<u> </u>	
	235 Govern	 Lab Manag ment Center on NC 28403 	Dr.		Matt	XNX-	,		04-65-010	NC						ш
BIL	L TO:					Yes	No	POPL	JLATION SERVED	SOURCE WATER	Sweeney TOX- Special Sampling	160	1094	RS		Σ
		PUA-NC Fina ment Center on NC 28403	Dr.		COMPLIANCE MONITORING		Х		128,800	Surface Water	opecier camping			CONTAINERS	MATRIX CODE	TURNAROUND TIME
	LAB Number		OLLECTION			AMPLING SITE			TEST NAM	ME	SAMPLE REMARKS		INATED	OF C	4TRI)	IRNA
<u> </u>		DATE	TIME	AM F								YES	NO	7‡		
1	3540054	9-6-16	0854	V	Sweeney WTP			TOX	<i>I</i>	144255			X	1		SW
2	3540055	9-6-16	0803		Sweeney WTP	- Post		TOX		\mathcal{V}		X		1	DW	sw
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4																
5																
6	Sec.															
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141		1						L			L	L	<u></u>	***********	L	
RE	LINQUISHED BY: (Signature	2)	DATE	TIMI	RECEIVED BY:(Sign	ature)	DATE	TIME	LAB RESERV	ES THE RIGHT TO RETURN UN	USED PORTIONS OF NON-	AQUEOUS	SAMPLES T	O CLIEN	Γ	
	Mad X1	X,	9-6-16	1158		Wahan	9-6-16	1158 AM] PM	LAB COMMENTS							ye ^t (
RE	LINQUISHED BY: (Signature	9)	DATE	AM) F	RECEIVED BY:(Sign	ature)	DATE	TIME							7	\$77.53 -
C	mystal Callchar	_	9-6-16	1	2	ŕ		AM PM								
RE	LINQUISHED BY:(Signature	2)	DATE		RECEIVED FOR LABO	DRATORY BY:	DATE	TIME	COUNTROLE MACHINE	APINY ALL		1947 (MC	17.11.14°			
				AM F	M S	- Page	9-7-16	0935 am pm	CONDITIONS UPON RI		014 +C Upon	Receipt	- 7	N/A		
	MATRIX CODES:		TURN-ARC	UND T	ME (TAT) - SURCHAR	GES (-				
	DW-DRINKING WATER RW-REAGENT WATER GW-GROUND WATER EW-EXPOSURE WATER SW-SURFACE WATER PW-POOL WATER WW-WASTE WATER	l R	RV* = Rush Ve RW* = Rush W	rbsl: (5 wo	orking days) 75%	o for all tacting	IV" = immediate IW" =immediate SP" = Weekend STAT" = Less t	Writlen: (3 w , Holiday			Samples received unat than 48 hours holding may be subject to add	time rema itional cha	ining rges.			
	THE TRACE MAICK		Please cal	ı, exped	ted service not available	tor all testing					06-LO-F0435 Issue	4.0 Effe	ective Date	: 2014	-05-01	



Eurofins Eaton Analytical

Run Log

Run ID: 221579

Method: 5320 B

Type	Sample Id	Sample Site	<u>Matrix</u>	Instrument ID	Analysis Date	Calibration File
FS	3540054	Sweeney WTP-C.Filter	DW	RL	09/14/2016 18:54	
FS	3540055	Sweeney WTP-Post	DW	RL	09/14/2016 19:38	

					QC S	Summar	y Repoi	rt	naka Salatan	a de la companya de la companya de la companya de la companya de la companya de la companya de la companya de						
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	8	Dil Factor	Extracted	Analyzed	EEA
FS	Total Organic Halogens (TOX)	5320 B	10	Sweeney WTP-C.Filter	<	10	1	ug/L	1				1,0		09/14/2016 18:54	3540054
FS	Total Organic Halogens (TOX)	5320 B	10	Sweeney WTP-Post		130		ug/L	E 4-15				1.0		09/14/2016 19:38	4

Sample Type Key

Type (Abbr.)

Sample Type

Type (Abbr.)

Sample Type

FS

Field Sample

END OF REPORT





LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

This report may not be reproduced, except in full, without written approval from EEA.

STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida (Primary AB)*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
lowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

^{*}NELAP/TNI Recognized Accreditation Bodies



110 South Hill Street South Bend, IN 46617 Tel: (574) 233-4777 Fax: (574) 233-8207 1 800 332 4345

Laboratory Report

Client: Cape Fear Public Utility Authority Report:

359050

Attn: Jill Deaney Priority:

Standard Written

235 Government Center Drive

Status:

Final

Wilmington, NC 28403

PWS ID:

NC0465010

	Samp	le Information			
EEA ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3412796	Sweeney WTP-C Filter	5320 B	03/10/16 08:33	Client	03/11/16 09:45
3412797	Sweeney WTP-Post	5320 B	03/10/16 08:22	Client	03/11/16 09:45

Report Summary

Note: Method 5320 analysis was performed by Eurofins Eaton Analytical, Monrovia, CA.

atailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Joseph Mattheis at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature

Account thanagen

04/04/2016

Date

Cape Fear Public Utility Authority

Report #:

√ent Name:

359050

Client Name: Cape Fear Public Utility Authority Report #: 359050

Sampling Point: Sweeney WTP-C Filter PWS ID: NC0465010

			Re	eference Lab	Testa				
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID#
59473-04-0	Total Organic Halogens (TOX)	5320 B	_	10	10	ug/L	_	03/21/16 15:33	3412796

Sampling Point: Sweeney WTP-Post PWS ID: NC0465010

	7.77		Re	ference Lab	Tests	4.7.			
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	EEA ID#
59473-04-0	Total Organic Halogens (TOX)	5320 B	_	10	120	ug/L	_	03/21/16 16:58	3412797

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

i	Reg Limit Type:	MCL	SMCL	AL
	Symbol:	•	^	!

Report #: 359050

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



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)





AT-1807

Laboratory Report

for

Eurofins Eaton Analytical 110 South Hill Street South Bend, IN 46617-2702 Attention: Jim Van Fleit Fax: 574-233-8207

Date of Issue 03/29/2016

EUROFINS EATON
ANALYTICAL

TRG6: Shea Greiner

Project Manager



Report: 580237

Project: SUBCONTRACT

Group: TOX

^{*} 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.

^{*} This report shall not be reproduced except in full, without the written approval of the laboratory.



STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Mississippi	Certified
		Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA00006-2016
California-Monrovia- ELAP	2813	New Hampshire *	2959
California-Colton- ELAP	2812	New Jersey *	CA 008
California-Folsom- ELAP	2820	New Mexico	Certified
California-Fresno- ELAP	2966	New York *	11320
Colorado	Certified	North Carolina	06701
Connecticut	PH-0107	North Dakota	R-009
Delaware	CA 006	Oregon (Primary AB) *	ORELAP 4034
Florida *	E871024	Pennsylvania *	68-565
Georgia	947	Rhode Island	LAO00326
Guam	15-003r	South Carolina	87016
Hawaii	Certified	South Dakota	Certified
idaho	Certified	Tennessee	TN02839
Illinois *	200033	Texas *	T104704230-14-7
Indiana	C-CA-01	Utah *	CA000062015-8
Kansas *	E-10268	Vermont	VT0114
Kentucky	90107	Virginia *	460260
Louisiana *	LA16003	Washington	C838
Maine	CA0006	West Virginia	9943 C
Maryland	224	***************************************	REDUCO ESTAD
Commonwealth of Northern Marianas Is.	MP0004	Wyoming	8TMS-L
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264

* NELAP/TNI Recognized Accreditation Bodies

ISO 17025 Accredited Method List

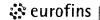
The tests listed below are accredited and meet the requirements of ISO 17025 as verified by the ANSI-ASQ National Accreditation Board/ANAB.

Refer to Certificate and scope of accreditation (AT 1807) found at: http://www.eatonanalytical.com

	<u> </u>	T to cereme	12 0110 300	T
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ- mental (Drinking Water)	Environ- mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,4-Dioxane	EPA 522	×		×
2,3,7,8-TCDD	Modified EPA 1613B	×		×
Acrylamide	In House Method (2440)	×		x
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	х
Ammonia	SM 4500-NH3 H		×	х
Anions and DBPs by IC	EPA 300.0	x	х	×
Anions and DBPs by IC	EPA 300.1	×		×
Asbestos	EPA 100.2	x	×	
Bicarbonate Alkalinity as HCO3	SM 2320B	x	x	×
BOD / CBOD	SM 5210B		×	×
Bromate	In House Method (2447)	×		×
Carbamates	EPA 531.2	x		×
Carbonate as CO3	SM 2330B	×	X	×
Carbonyls	EPA 556	×		×
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	×	х	×
Chlorinated Acids	EPA 515.4	x		×
Chlorinated Acids	EPA 555	×		×
Chlorine Dioxide	SM 4500-CLO2 D	- *		×
Chlorine -Total/Free				
Combined Residua	SM 4500-C1 G	×	X	×
Conductivity	EPA 120.1		X	
Conductivity	SM 2510B	×	X	×
Corrosivity (Langelier Index)	SM 2330B	×		×
Cryptosporidium	EPA 1622, 1623	×		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	×	x	×
Cyanide, Total	EPA 335.4	×	×	×
Cyanogen Chloride (screen)	In House Method (2470)	×		×
Diquat and Paraquat	EPA 549.2	×		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		×	×
DOC	SM 5310C	x		×
E. Coli	(MTF/EC+MUG)	×		×
E. Coli	CFR 141.21(f)(6)(i)	×		×
		<u> </u>		 ^
E. Coli	SM 9223		X	ļ
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	×	,, ,,	×
E. Coli (Enumeration)	SM 9223B	×		×
EDB/DCBP	EPA 504.1	×		<u> </u>
EDB/DBCP and DBP	EPA 551.1	x		×
EDTA and NTA	In House Method (2454)	×		×
Endothall	EPA 548.1	x		X
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	×		
Fecal Coliform Fecal Coliform	SM 9221C, E (MTF/EC)		×	
Enumeration)	SM 9221E (MTF/EC)	x		×
Fecal Coliform with Chlorine Present	SM 9221E		x	
	SM 9230B	X	X	ļ
Fecal Streptococci	SM 4500-F C	x	X	×
Fluoride				×
Fluori d e Giardia	EPA 1623	X		
Fluoride Giardia Glyphosate	EPA 1623 EPA 547	x		×
Fluori d e Giardia	EPA 1623		×	
Fluoride Giardia Glyphosate	EPA 1623 EPA 547	x	x x	×
Fluoride Giardia Glyphosate Gross Alpha/Beta Gross Alpha Coprecipitation Hardness	EPA 1623 EPA 547 EPA 900.0 SM 7110 C SM 2340B	x x		x x
Fluoride Giardia Glyphosate Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 1623 EPA 547 EPA 900.0 SM 7110 C	x x	x	x x x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ- mental (Drinking Water)	Environ- mental (Waste Water)	Water a Compone Food as Bev/Be Bottled W
Hexavalent Chromium	EPA 218.7	×		×
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	X		×
Hydroxide as OH Calc.	SM 2330B	x		×
Kjeldahl Nitrogen	EPA 351.2		x	ļ
Legionella	CDC Legionella	×		×
Mercury	EPA 245.1	×	X	×
Metals Microcystin LR	EPA 200.7 / 200.8 ELISA (2360)	. x	X	X
NDMA	EPA 521	×		x x
Nitrate/Nitrite Nitrogen	EPA 353.2	×	×	×
OCL, Pesticides/PCB	EPA 505	×		х
Ortho Phosphate	EPA 365.1	x	X	×
Ortho Phosphate	SM 4500P E	331127237 T.S.A.W. A.W. M. M. M. M. M. M. M. M. M. M. M. M. M.		x
Ortho Phosphorous	SM 4500P E	x		
Oxyhalides Disinfection	EPA 317.0	x		x
Byproducts	1			ļ
Perchlorate	EPA 331.0	x		X
Perchlorate (low and high)	EPA 314.0	×		x
Perfluorinated Alkyl Acids	EPA 537	x		×
pH	EPA 150.1	X		
pH Phenylurea Pesticides	SM 4500-H+B In House Method, based on EPA	x	x	х
Herbicides Pseudomonas	532 (2448)	x		×
***************************************	IDEXX Pseudalert (2461)	X		X
Radium-226	GA Institute of Tech	×		x
Radium-228	GA Institute of Tech	x		×
Radon-222	SM 7500RN	х		×
Residue, Filterable	SM 2540C	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
Silica	SM 4500-Si D	X	X	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S D		x	
Sulfite	SM 4500-SO ³ B	x	x	х
Surfactants	SM 5540C	x	×	×
Taste and Odor Analytes	SM 6040E	x		×
Total Coliform (P/A)	SM 9221 A, B	x		X
Total Coliform (Enumeration)	SM 9221 A, B, C	×		×
Total Coliform / E. coli	Colisure (2346)	X		x
Total Coliform	SM 9221B		X	
Total Coliform with Chlorine Present	SM 9221B		×	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	×		×
TOC	SM 5310C	x	x	×
TOX	SM 5320B		×	
Total Phenois	EPA 420.1		x	
Total Phenois	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		X	
Turbidity	EPA 180.1	×	×	x
Turbidity	SM 2130B	X	X	
Uranium by ICP/MS	EPA 200.8	×		x
UV 254	SM 5910B	×		
VOC	EPA 524.2/EPA 524.3	x		х
VOC	EPA 624		X	X
VOC	EPA SW 846 8260	x		X
VOC	In House Method (2411)	x		×

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



Acknowledgement of Samples Received

Addr: Eurofins Eaton Analytical 110 South Hill Street South Bend, IN 46617-2702

Client ID: EEA-SOUTHBEND Folder #: 580237 Project: SUBCONTRACT

Sample Group: TOX

Attn: Jim Van Fleit Phone: 800-332-4345

Project Manager: Shea Greiner Phone: (720) 491-1749

The following samples were received from you on **March 15, 2016** at **1017**. 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 ID	Sample Date
3412796	03/10/2016 0833
Total Organic Halogen	
3412797 - 121	03/10/2016 0822
. Total Organic Halogen	
<u>.</u>	3412796 Total Organic Halogen 3412797

Test Description

110 South Hill Street South Bend, IN 46617 800-332-4345 574-233-8207 fax

5 80237

Eaton Analytical

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			REC - Su	bcontract	tor Labor	ratory Request Form	١ .		
nce Lab Name:			EEA				\mathcal{Z}		
Address:	750 1	Royal C	aks Drive	Suite 100	•	•	LIDE NEXT DOLLEGING	-	
City, State, Zip:					•	•			
				***************************************	-	EEA Contact Name:	Ube Matthias		
		***************************************			-				
must be returne	ed via emai	to US2	5_RefLab@eu	rofinsUS.com o	r by fax to 57	4-233-8207 upon receipt of sam	ples. Note any discrepencies in the num	ber of samp	oles received.
ust be emailed	to US25_F	RefLab@	es, or price in eurofinsUS.c	om upon comi	ab Notes sec detion of and	alvsis.			
TAT									
Requested	Type	Matrix	Date	Time	1	1	Analysis Requested	Price	EEA-PM
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	K Q	<u> 200</u>		Date/Time:	3-14-16	1600	TAT Codes: SW (Standard Written)	PW, WW	leius - C.D. I
al de	711 %	$2 \sim$	100				IW (Immediate Written, 3 Day)	Ė	
	17-6		NA BE				Sample Types: FS, FD, FTB, FEB, MS	S, MSD, Oth	J e wan
.0 ~ °				Effect	tive Date	14-07-03		Pag	e _ 1
	Address: City, State, Zip: chone Number: must be returned indition upon recust be emailed TAT Requested SW	City, State, Zip: chone Number: must be returned via emaindition upon receipt, ID disust be emailed to US25_F TAT Sample Requested Type SW FS V V By:	Address: 750 Royal Control Royal Control Royal Control Royal Control Royal Control Requested Type Matrix Type Matrix Type Matrix Type Matrix Type Type Matrix Type Type Matrix Type Type Matrix Type Type Matrix Type Type Type Type Type Type Type Type	Address: 750 Royal Oaks Drive, City, State, Zip: Monrovia, CA 91 Chone Number: 626-386-1100 must be returned via email to US25_RefLab@eu condition upon receipt, ID discrepencies, or price in cust be emailed to US25_RefLab@eurofInsUS.c TAT Sample Requested Type Matrix Collection Date SW FS DW 3-ID-IW W J 3-ID-IW A-ID-IW A-ID-IW By: A-ID-IW A-ID-	Address: 750 Royal Oaks Drive, Suite 100 City, State, Zip: Monrovia, CA 91016 Chone Number: 626-386-1100 must be returned via email to US25_RefLab@eurofinsUS.com of andition upon receipt, ID discrepencies, or price in the Reference Lust be emailed to US25_RefLab@eurofinsUS.com upon comparts to the mailed to US25_RefLab@eurofinsUS.com upon comparts TAT Sample Matrix Collection Date Time SW FS DW 3-ID-Ib 0833 W J 3-ID-Ib 0833 Date/Time: By: Date/Time:	Address: 750 Royal Oaks Drive, Suite 100 City, State, Zip: Monrovia, CA 91016 Chone Number: 626-386-1100 must be returned via email to US25_RefLab@eurofinsUS.com or by fax to 57 andition upon receipt, ID discrepencies, or price in the Reference Lab Notes secust be emailed to US25_RefLab@eurofinsUS.com upon completion of and TAT Requested Type Matrix Collection Date Time Origin SW FS DW 3-ID-IU 0833 NC U 3-ID-IU 0833 NC DS20 V DS20 V Date/Time: 3-14-16 By: A-B-UC E-Date/Time: 3-14-16	Total Sent: Address: 750 Royal Oaks Drive, Suite 100 Shipping Method: City, State, Zip: Monrovia, CA 91016 EEA Contact Name: 626-386-1100 must be returned via email to US25_RefLab@eurofinsUS.com or by fax to 574-233-8207 upon receipt of sam andition upon receipt, ID discrepencies, or price in the Reference Lab Notes section at the bottom of this form. In the modificinum of the section of the	Address: 750 Royal Oaks Drive, Suite 100 Shipping Method: UPS Next Day Sauce Shipping Next Day Sauce Shipping Method: UPS Next Day Sauce Shipping Next Day Sauce Shipping Sauc	Total Same: EEA Total Sent: Shipping Method: UPS NEXT DOLY SOUTH TOTAL Sent: Total Sent:

🖏 eurofins

Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

COMPANY NAME / EEA CLIENT CODE:	PROJECT CODE:			
SAMPLE TEMP RECEIVED:		SAMPLES REC'D DAY OF COL	LECTION?	
IR Gun ID = $\frac{1}{\sqrt{2}}$ (Observation	n=\ °C) (Corr.Factor (Q. 3°C)	(Final = C · C)	• ^	
TYPE OF ICE: Real Synthetic I	No Ice CONDITION OF IC	E: Frozen Partially Froz	ten Thawed	d N/A
METHOD OF SHIPMENT: Pick-Up / Walk-l	n / FedEx / UPS / DHL / Area Fast /	Top Line / Other:	TOTAL TOTAL	
Compliance Acceptance Criteria:				
1) Chemistry: ≤6°C, not frozen (NELAP)	(if received after 24 hrs of sample collection	on)		
2) Microbiology, Distribution: < 10°C, no	ot frozen (can be ≥10°C if received on ice t	the same day as sample collecti	on, within 8 hours)	
3) Microbiology, Surface Water: < 10°C	(if received after 2 hours of sample collecti	on)		
If over temp is not confirmed, then record each temperature of each quadrant	1 = (Observation=*C) (Corr.Factor*C) (Finst =		ctor *C) (Finel =	·c)
•	3 = (Observation=		actor *C) (Final =	· c)
4) UCMR3: 524.3: (Observation=	°C) (Corr.Factor °C) (Final	=°C)		
522: (Observation=	°C) (Corr.Factor °C) (Final =	°C)		
≤ 10°C if received within 48 hours of sample collection (not i	he same business day); $\leq 5^{\circ}$ C if received after 48 hours of sa	mple collection. Measure lemperature for each	method above,	
5) LT2: Giardia /Cryptosporidlum: <20 °C	C, not frozen (received after 8 hours of san	nple collection)		
E. Coli: < 10°C, not frozen (if recei	ved after 2 hours of sample collection)			
Giardia/Crypto: (Observe	ation= °C) (Corr.Factor °	C) (Final =°C)	SEKLTE FEKLTE	171 CASCALSZ (2007)
E.Coli: (Observation=	C) (Corr.Factor °C) (Final	=°C)		GIA 18'3'2
6) Dioxin (1613 or 2,3,7,8 TCDD): must b	e between 0-4 °C, not frozen (if received a	fter 24 hrs of sample collection)		
Note: If samples arrover ramp, let the ASMs know. ASMs will determine	whether to proceed with analysis or not. PRINT NAME	COMPANY/TITLE	DATE	TIME
RECEIVED BY		Eurofins Eaton Analytical		



Laboratory Comments Report: 580237

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)

Eurofins Eaton Analytical Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702

Flags Legend:

M2 - Matrix spike recovery was low; the associated blank spike recovery was acceptable.



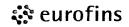
Laboratory Hits Report: 580237

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)

Eurofins Eaton Analytical Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702

Samples Received on: 03/15/2016 1017

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL	
	201603150044	3412796 C. Filter					
03/21/2016 15:33	Total Organic Halides A	verage	10		ug/L	10	
03/21/2016 15:33	Total Organic Halides R	ep 1	10		ug/L	10	
03/21/2016 15:33	Total Organic Halides R	ep 2	11		ug/L	10	
	201603150045	3412797 POST					
03/21/2016 16:58	Total Organic Halides A	verage	120		ug/L	10	
03/21/2016 16:58	Total Organic Halides R	ep 1	120		ug/L	10	
03/21/2016 16:58	Total Organic Halides R	ep 2	130		ug/L	10	



Laboratory Data Report: 580237

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)

Eurofins Eaton Analytical

Jim Van Fleit 110 South Hill Street South Bend, IN 46617-2702 Samples Received on: 03/15/2016 1017

Prepared	Analyzed		QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
<u>3412796</u>	(201603150	044)					Sampled	on 03/10/201	16 0833
		SW9	020/SM53	320 - Total Organi	c Halides				
3/21/2016	03/21/2016	15:33	898992	(SW9020/SM5320)	Total Organic Halides Average	10 (M2)	ug/L	10	1
3/21/2016	03/21/2016	15:33	898992	(SW9020/SM5320)	Total Organic Halides Rep 1	10 (M2)	ug/L	10	1
3/21/2016	03/21/2016	15:33	898992	(SW9020/SM5320)	Total Organic Halides Rep 2	11 (M2)	ug/L	10	1
<u>3412797</u>	(201603150	045)					Sampled	on 03/10/201	6 0822
•		SW9	020/SM53	320 - Total Organi	c Halides				
3/21/2016	03/21/2016	16:58	898992	(SW9020/SM5320)	Total Organic Halides Average	120	ug/L	10	1
3/21/2016	03/21/2016	16:58	898992	(SW9020/SM5320)	Total Organic Halides Rep 1	120	ug/L	10	1
3/21/2016	03/21/2016	16:58	898992	(SW9020/SM5320)	Total Organic Halides Rep 2	130	ug/L	. 10	1



Laboratory

QC Summary: 580237

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)

Eurofins Eaton Analytical

QC Ref # 898992 - Total Organic Halides

201603150044

3412796

201603150045

3412797

Analysis Date: 03/21/2016

Analyzed by: MYH

Analyzed by: MYH



Laboratory QC Report: 580237

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)

Eurofins Eaton Analytical

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 898992 -	Total Organic Halides by SW9020/S	M5320				Analysis I	Date: 03/21/	2016	
LCS1	Total Organic Halides Rep 1		50	47.5	ug/L	95	(85-115)		
LCS2	Total Organic Halides Rep 1		200	200	ug/L	100	(90-110)		
MBLK	Total Organic Halides Rep 1			<10	ug/L				
MRL_CHK	Total Organic Halides Rep 1		5	4.22	ug/L	84	(50-150)		
MS_201603150044	Total Organic Halides Rep 1	10	50	55.4	ug/L	90	(90-110)		
MSD_201603150044	Total Organic Halides Rep 1	10	50	54.9	ug/L	89	(90-110)		
NACL_CHK	Total Organic Halides Rep 1		5	4.96	ug/L	99	(97-103)		
LCS1	Total Organic Halides Rep 2		50	50.1	ug/L	100	(85-115)		
LCS2	Total Organic Halides Rep 2		200	204	ug/L	102	(90-110)		
MBLK	Total Organic Halides Rep 2			<10	ug/L				
MRL_CHK	Total Organic Halides Rep 2		5	4.62	ug/L	92	(50-150)		
MS_201603150044	Total Organic Hatides Rep 2	11	50	55.4	ug/L	89	(90-110)		
MSD_201603150044	Total Organic Halides Rep 2	11	50	54.9	ug/L	88	(90-110)		
NACL_CHK	Total Organic Halides Rep 2		5	4.96	ug/L	99	(97-103)		



110 S. Hill Street South Bend, IN 46617 T: 1,800,332,4345 F: 1,574,233,8207

order# 292364 Batch#;359050

www.eato	nanalytical.com Shaded area	or EEA wee	a Anke			CH	AIN OF	CUSTO	DY RECOF	RD		Page		of	l	
REPORT		OI CEA DEC	B UINY		SAMPLER (Signature	9)		-	PWS ID#	STATE (sample origin)	PROJECT NAME	Р	O#			Ι
	Jill Deaney 235 Govern	- Lab Manag ment Center on NC 28403	Dr.		filel				4-65-010	NC						
BILL TO:			****			Yes	No	POPUL	ATION SERVED	SOURCE WATER	Sweeney TOX- Special Sampling	160	094	SS		Ž
		PUA-NC Fina ment Center on NC 28403	Dr.		COMPLIANCE MONITORING X			1	128,800	Surface Water	Shacisi Sambifud			CONTAINERS	MATRIX CODE	TURNAROUND TIME
	LAB Number					AMPLING SITE			TEST NAM	ΛE	SAMPLE REMARKS		INATED	OF CC	ATRIX	JRNA
	11000			AM PM		C [TOV			1115	YES	NO	_#_		
	412796	3.10-16	0833		Sweeney WTP			TOX			PHY2	<u> </u>	X	1		SW
	112797	3.10-16	0822	1	Sweeney WTP	- Post		TOX			IPHA	X		1	DW	SW
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A) , A	•1				*		l L	LAB RESERVE AB COMMENTS	ES THE RIGHT TO RETURN UNL	ISED PORTIONS OF NON-A	VQUEOUS S	AMPLES TO	CLIENT		
Lack	leh		3.10-16	AM (PM	010,-01		310-16	AM PM								
	UISHED BY:(Signature		DATE	TIME	RECEIVED BY:(Signa	ature)	DATE	TIME								324
Cut	Stal Cullcho	~	3-10-16	AM (PM		5	3-10	4;24 AMIEM)	e e la la la la la la la la la la la la la	Sa 1	Symptom State of the				U.	
RELINGI	UISHED BY:(Signature		DATE 3 10 2016	TIME 45	Klows	- 3-	DATE	OQUS	Iced Web	A STATE OF THE PARTY OF THE PAR	2.8 °C Upon I	Receipt_	e en antido.	N/A		
7	MATRIX CÓDES:				IE (TAT) - SURCHARO	3ES										
	DW-DRINKING WATER		SW = Standard	•	* * * *		IV* = immediate									
Page 1	GW-GROUND WATER EW-EXPOSURE WATER SW-SURFACE WATER PW-POOL WATER	R	RV" = Rush Ver			Ballyte (Surger Surger)							ining may			
17	WW-WASTE WATER		· Please cal	l, expedite	d service not available	for all testing					ORJ OLEOARS INTO A	40 586	when Date	- 2014.	05.01	



Eurofins Eaton Analytical Run Log

Eaton Analytical

Run ID: 214103 Method: 5320 B

Type	Sample Id	Sample Site	<u>Matrix</u>	<u>instrument ID</u>	Analysis Date	Calibration File
FS	3412796	Sweeney WTP-C Filter	DW	RL	03/21/2016 15:33	
FS	3412797	Sweeney WTP-Post	DW	RL	03/21/2016 16:58	

					QC	Summan	/ Repo	rt							
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits		 Dil Factor	Extracted	Analyzed	EEA ID#
FS	Total Organic Halogens (TOX)	5320 B	10	Sweeney WTP-C Filter		10		ug/L	-	-		1.0		03/21/2016 15:33	3412796
FS	Total Organic Halogens (TOX)	5320 B	J 10	Sweeney WTP-Post		120		ug/L	2000 <u>-1</u>	2.5	1=	1.0		03/21/2016 16:58	3412797

		Sample Type Key
Type (Abbr.)	Sample Type	Type (Abbr.) Sample Type
FS	Field Sample	

END OF REPORT

summary only lists the componds that had detectable levels present in one or both samples.

Testing Performed By: MWH & Eurofins Labs

Methods Used: Internally developed; EDCs and PPCPs analyzed using LC-MS; fragrances analyzed using GC-MS.

**The samples were not hydraulically paired and consists of discreet grab samples at each location on the date indicated below

Date	Compound Type	Compound	Conc	entration	Units	Comments
			Raw Water / WTP	Finished Water/WTP	PPB	
12/06/16	EDCs, P & PCPs	trans-Testosterone	0.0001	<0.0001	μg/L	Testosterone is the prototypic and predominant circulating androgenic steroid. It plays a major role in the growth and function of many reproductive and non-reproductive tissues and organs including muscle, liver, and brain, directing the development of the male phenotype during embryogenesis and at puberty
		Atenoloi	0.007	<0.001	μg/L	Beta blockers to treat cardiovascular disease
		Carbamazepine	0.012	<0.001	Synthesized; anticonvulsant, treatment of AHD, ADHD, epilepsy and bipolar disorders	
		Cotinine	0.002	0.001	An alkaloid found in tobacco and is also the predominant metabolite of nicotine	
		DEET	0.011	<0.005	μg/L	Active ingredient in mosquito repellent.
		Diltiazem	0.0001	<0.0001	μg/L	Diltiazem is a calcium channel blocker. It works by relaxing the muscles of your heart and blood vessels, used to treat hypertension.
		Lincomycin	0.0007	<0.0001	μg/L	Lincomycin is used to treat severe bacterial infections in people who cannot use penicillin antibiotics
		Meprobamate	0.005	0.001	μg/L	Meprobamate is used to relieve anxiety, nervousness, and tension associated with anxiety disorders
		Primidone	0.016	<0.005	μg/L	Anticonvulsant
		Sulfamethazine	0.002	<0.001	μg/L	Sulfamethazine is a sulfonamide antibacterial.
		Sulfamethoxazole	0.026	<0.001	μg/L	Antibiotic
		Tris(chloropropyl) phosphate	0.08	0.07	μg/L	A chemical compound used as a flame retardant, plasticizer, and viscosity regulator in various types of polymers including polyurethanes, polyester resins, and polyacrylates. No studies on health effects in humans are available. Toxicity values for organisms in the environment are available, LC50 values ranging from 3.6 to 180 mg/L. The no-observed effect concentrations for algae, daphnids, and fish are 6, 32, and 9.8 mg/L, respectivley. (World Health Organization, Geneva, 1998)
		Acesulfame-K	0.26	0.05	μg/L	A calorie-free sugar substitute, and marketed under the trade names Sunett and Sweet One.
		Sucralose	2.5	1.2	μg/L	An artificial sweetener and sugar substitute. The majority of ingested sucralose is not broken down by the body, so it is noncaloric.
09/10/15	EDCs, P & PCPs	Atenolol	0.005	<0.001	μg/L	Beta blockers to treat cardiovascular disease
		Carbamazepine	0.021	<0.001	μg/L	Synthesized; anticonvulsant, treatment of AHD, ADHD, epilepsy and bipolar disorders
		Cotinine	0.007	0.002	μg/L	An alkaloid found in tobacco and is also the predominant metabolite of nicotine
		DEET	0.019	<0.005	μg/L	Active ingredient in mosquito repellent.
		Lincomycin	0.0003	<0.0001	μg/L	Lincomycin is used to treat severe bacterial infections in people who cannot use penicillin antibiotics
		Meprobamate	0.012	0.002	μg/L	Meprobamate is used to relieve anxiety, nervousness, and tension associated with anxiety disorders
		Nicotine	0.006	<0.005	μg/L	Stimulant in tobacco products. Also being studied for helping other neurological conditions such as Parkinson's disease, schizophrenia, mild cognitive impairment, and Tourette's syndrome
		Paraxanthine	0.013	<0.005	μg/L	Used as an adenosine receptor ligand and a major metabolite of caffeine
		Primidone	0.029	< 0.005	μg/L	Anticonvulsant

Testing Performed By: MWH & Eurofins Labs

Methods Used: Internally developed; EDCs and PPCPs analyzed using LC-MS; fragrances analyzed using GC-MS.

*This screen consist of approximately 70 compounds on each sample of raw and treated water. The below summary only lists the componds that had detectable levels present in one or both samples.

**The samples were not hydraulically paired and consists of discreet grab samples at each location on the date indicated below

Date	Compound Type	Compound	Conc	entration	Units	Comments
			Raw Water / WTP	Finished Water/WTP	PPB	
		Progesterone	0.0001	<0.0001	μg/L	Used in oral contraceptives and hormone replacement therapy
		Sulfadimethoxine	0.0002	<0.0001	μg/L	Veterinary Antibiotic
i		Sulfamethoxazole	0.030	<0.01	μg/L	Antibiotic
06/11/14	EDCs, P & PCPs	Acesulfame-K	0.140	<0.020	μg/L	Calorie free artificial sweetner
		Atenolol	0.0096	<0.005	μ g/L	Beta blockers to treat cardiovascular disease
		Atrazine	0.130	0.016	μg/L	Herbicide (3 ug/L MCL)
		Carbamazepine	0.008	<0.005	μg/L	Synthesized; anticonvulsant, treatment of AHD, ADHD, epilepsy and bipolar disorders
		DEA	0.017	0.020	μg/L	Atrazine congener (Atrazine MCL of 3 ug/L)
		DEET	0.016	<0.010	μg/L	Active ingredient in mosquito repellent.
		DIA	0.017	0.010	μg/L	Atrazine congener (Atrazine MCL of 3 ug/L)
		lohexal	0.160	0.020	μg/L	X ray contrast agent
		lopromide	0.0076	<0.005	μg/L	X ray contrast agent
		Metolachlor	0.014	<0.005	μg/L	Herbicide
		Simazine	0.045	0.0050	μg/L	Herbicide (4 ug/L MCL)
		Sucralose	2.000	1.300	μg/L	Artificial sweetener
		Sulfamethoxazole	0.016	<0.005	μg/L	Antibiotic
06/20/13	EDCs, P & PCPs	2, 4-D	0.041	<0.005	μg/L	Herbicide to control broad leaf weeds
		Acesulfame-K	0.500	<0.020	μg/L	Calorie free artificial sweetner
		Atrazine	0.170	0.027	μg/L	Herbicide (3 ug/L MCL)
		Caffeine	0.022	<0.005	μg/L	Natural; stimulant in coffee, soft drinks, etc.
		Carbamazepine	0.0058	<0.005	μg/L	Synthesized; anticonvulsant, treatment of AHD, ADHD, epilepsy and bipolar disorders
		DACT	0.020	0.044	μg/L	Atrazine congener (Atrazine MCL of 3 ug/L)
		DEA	0.036	0.046	μg/L	Atrazine congener (Atrazine MCL of 3 ug/L)
		DEET	0.049	<0.010	μg/L	Active ingredient in mosquito repellent.
		DIA	0.029	0.020	μg/L	Atrazine congener (Atrazine MCL of 3 ug/L)
		Diuron	0.0061	<0.005	μg/L	Herbicide
		Iohexal	0.15	<0.010	μg/L	X ray contrast agent
		Metolachlor	0.023	<0.005	μg/L	Herbicide
		Simazine	0.034	<0.005	μg/L	Herbicide (4 ug/L MCL)
	,	Sucralose	1.30	0.600	μg/L	Artificial sweetener
		Sulfamethoxazole	0.0055	<0.005	μg/L	Antibiotic
		Fluoxetine	<0.010	0.012	μg/L	Antidepressant
		Propylparaben	<0.005	0.0085	μg/L	Preservative in skin care products

analyzed using LC-MS; fragrances

Testing Performed By: MWH & Eurofins Labs

Methods Used: Internally developed; EDCs and PPCPs

analyzed using GC-MS.

*This screen consist of approximately 70 compounds on each sample of raw and treated water. The below summary only lists the componds that had detectable levels present in one or both samples.

**The samples were not hydraulically paired and consists of discreet grab samples at each location on the date indicated below

Date	Compound Type	Compound	Conc	entration	Units	Comments		
			Raw Water / WTP	Finished Water/WTP	PPB			
12/19/12	EDCs, P & PCPs	2, 4-D	0.014	<0.005	μg/L	Herbicide to control broad leaf weeds		
		Acesulfame-K	1.2	0.1	μg/L	Calorie free artificial sweetner		
	777	Atrazine	0.026	0.0066	μg/L	Herbicide (3 ug/L MCL)		
		Caffeine	0.0072	<0.005		Natural; stimulant in coffee, soft drinks, etc.		
		Carbamazepine	0.016	<0.005		Synthesized; anticonvulsant, treatment of AHD, ADHD, epilepsy and bipolar disorders		
		Carisoprodol	0.0088	<0.005	μg/L	Muscle relaxant		
		Cotinine	0.019	<0.010	μg/L	Metobolic of nicotine		
		DACT	0.022	0.013	μg/L	Atrazine congener (Atrazine MCL of 3 ug/L)		
		DEA	0.0098	0.0067	μg/L	Atrazine congener (Atrazine MCL of 3 ug/L)		
		DEET	0.016	<0.010	μg/L	Active ingredient in mosquito repellent.		
		Dehydronifedipine	0.0092	<0.005	μg/L	Used to treat heart disease		
		DIA	0.011	0.0051	μg/L	Atrazine congener (Atrazine MCL of 3 ug/L)		
		lohexal	0.12	0.025	μg/L	X ray contrast agent		
		Meprobamate	0.007	<0.005	μg/L	Drug to treat symptoms of anxiety		
		Primidone	0.012	<0.005	μg/L	Anticonvulsant; for grand mal seizures		
		Quinoline	0.0087	<0.005	μg/L	Preservative in skin care products		
		Simazine	0.014	<0.005	μg/L	Herbicide (4 ug/L MCL)		
		Sucralose	4.5	2.1	μg/L	Artificial sweetener		
		Sulfamethoxazole	0.015	<0.005	μg/L	Antibiotic		
		TCEP	0.018 0.011 μg/L Flame retardant					
		Theobromine	0.021	<0.010	μg/L	Alkaloid of cacao plant; found in chocolate		





LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E877 7 5	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
lowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

^{*}NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016



LABORATORY CASE NARRATIVE

Client: Cape Fear Public Utility Authority

Report #: 378462QC

All method QC was within acceptance limits, with the exception of:

Method L220

See Attached QC Summary Report.

Method L221

See Attached QC Summary Report.

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Joseph Mittenty Account Hamagen

01/20/2017

Authorized Signature

Title

Date

Page 1 of 1



110 South Hill Street South Bend, IN 46617 Tel: (574) 233-4777 Fax: (574) 233-8207 1 800 332 4345

Laboratory Report

Client: Cape Fear Public Utility Authority

Report:

378462

Attn: Jill Deaney

Priority:

Standard Written

235 Government Center Drive

Status:

Final

Wilmington, NC 28403

PWS ID:

NC0465010

Sample Information Sample Information Colleged Information											
EEA ID#	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time						
3599465	Sweeney WTP-Post	L211	12/06/16 08:18	Client	12/07/16 09:30						
3599466	Sweeney WTP-Post	L221	12/06/16 08:18	Client	12/07/16 09:30						
3599467	Sweeney WTP-Post	L220	12/06/16 08:18	Client	12/07/16 09:30						
3599468	Sweeney WTP-Post	L200	12/06/16 08:18	Client	12/07/16 09:30						

		Sı			

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Joseph Mattheis at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

John Million

Account Hanagen

01/20/2017

Date

Authorized Signature

Cape Fear Public Utility Authority

Client Name: Report #:

378462

ampling Point:

Sweeney WTP-Post

PWS ID: NC0465010

			EEA Me	thods					1
Analyte ID#	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID#
80-05-7	Bisphenol A	L200	_	0.1	< 0.1	ug/L	12/13/16 09:55	12/18/16 01:17	3599468
25154-52-3	Nonylphenol, isomer mix	L200	_	0.5	< 0.5	ug/L	12/13/16 09:55	12/17/16 06:39	3599468
1806-26-4	4-n-Octylphenol	L200		0.5	< 0.5	ug/L	12/13/16 09:55	12/18/16 01:17	3599468
140-66-9	4-tert-Octylphenol	L200	-	0.5	< 0.5	ug/L	12/13/16 09:55	12/17/16 06:39	3599468
87-86-5	Pentachlorophenol	L200	· -	0.1	< 0.1	ug/L	12/13/16 09:55	12/18/16 01:17	3599468
92-69-3	Phenylphenol	L200		0.1	< 0.1	ug/L	12/13/16 09:55	12/17/16 06:39	3599468
79-94-7	Tetrabromobisphenol A	L200	_	0.1	< 0.1	ug/L	12/13/16 09:55	12/17/16 06:39	3599468
88-06-2	2,4,6-Trichlorophenol	L200		0.1	< 0.1	ug/L	12/13/16 09:55	12/18/16 01:17	3599468
56-53-1	Diethylstilbestrol (DES)	L211	-	0.5	< 0.5	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
57-91-0	17alpha-Estradiol	L211		0.5	< 0.5	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
50-28-2	17beta-Estradiol	L211		0.5	< 0.5	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
50-27-1	Estriol	L211		0.5	< 0.5	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
53-16-7	Estrone	L211	_	0.5	< 0.5	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
57-63-6	17alpha-Ethynyl estradiol	L211	_	0.5	< 0.5	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
57-83-0	Progesterone	L211		0.1	< 0.1	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
481-30-1	cis-Testosterone	L211		0.1	< 0.1	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
58-22-0	trans-Testosterone	L211	_	0.1	< 0,1	ng/L	12/16/16 09:30	01/05/17 22:08	3599465
103-90-2	Acetaminophen	L220		0.005	< 0.005	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
60-80-0	Antipyrine	L220	Z	0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
29122-68-7	Atenolol	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
83905-01-5	Azithromycin	L220		0.005	< 0.005	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
58-08-2	Caffeine	L220	_	0.05	< 0.05	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
6804-07-5	Carbadox	L220		0.005	< 0.005	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
298-46-4	Carbamazepine	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
486-56-6	Cotinine	L220	_	0,001	0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
134-62-3	DEET	L220		0.005	< 0.005	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
50-02-2	Dexamethasone	L220		0.005	< 0.005	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
439-14-5	Diazepam	L220	_	0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
42399-41-7	Diltiazem	L220		0.0001	< 0.0001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
114-07-8	Erythromycin	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
59333-67-4	Fluoxetine (Prozac)	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
73334-07-3	lopromide	L220		0.05	< 0.05	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
154-21-2	Lincomycin	L220	-	0.0001	< 0.0001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
57-53-4	Meprobamate	L220		0.001	0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
17090-79-8	Monensin	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
55134-13-9	Narasin	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
22083-74-5	Nicotine	L220		0.01	< 0.01	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
7060-74-4	Oleandomycin	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
611-59-6	Paraxanthine	L220		0.005	< 0.005	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
125-33-7	Primidone	L220		0.005	< 0.005	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
80214-83-1	Roxithromycin	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
53003-10-4	Salinomycin	L220		0.0001	< 0.0001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
11	Sulfadiazine	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
122-11-2	Sulfadimethoxine	L220		0,0001	< 0.0001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
IS	Sulfamethazine	L220	_ 1	0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
144-82-1	Sulfamethizole	L220	-	0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
723-46-6	Sulfamethoxazole	L220	_	0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467

Client Name: Cape Fear Public Utility Authority

Report #: 378462

					and a recommendate transfer from Committee	Mary recommendation of the con-		E-coloured in the second secon	
599-79-1	Sulfasalazine	L220		0.005	< 0.005	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
72-14-0	Sulfathiazole	L220	-	0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
83-67-0	Theobromine	L220		0.05	< 0.05	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
738-70-5	Trimethoprim	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
115-96-8	Tris(2-chloroethyl) phosphate	L220		0.01	< 0.01	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
13674-84-5	Tris(chloropropyl) phosphate	L220	_	0.01	0.07	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
74610-55-2	Tylosin	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
21411-53-0	Virginiamycin M1	L220		0.001	< 0.001	ug/L	12/19/16 07:10	01/10/17 11:54	3599467
55589-62-3	Acesulfame-K	L221		0.01	0.05	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
41859-67-0	Bezafibrate	L221		0,0005	< 0.0005	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
56-75-7	Chloramphenicol	L221	-	0.005	< 0. 0 05	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
64-72-2	Chlorotetracycline	L221		0.05	< 0.05	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
882-09-7	Clofibric acid	L221	_	0.0005	< 0.0005	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
15307-86-5	Dictofenac	L221	_	0.0005	< 0.0005	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
57-41-0	Dilantin	L221	_	0.002	< 0.002	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
25812-30-0	Gemfibrozil	L221	_	0.0005	< 0.0005	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
15687-27-1	[buprofen	L221	_	0. 0 5	< 0.05	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
51 -48- 9	Levothyroxine (Synthroid)	L221		0.002	< 0.002	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
22204-53-1	Naproxen	L221	_	0.002	< 0.002	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
61-33-6	Penicillin G	L221		0.002	< 0.002	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
87-08-1	Penicillin V	L221	_	0.002	< 0.002	ug/L	12/12/16 07:54	01/04/17 06:13	35 9 9466
53-03-2	Prednisone	L221	_	0.002	< 0.002	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
6 9 -72-7	Salicylic acid	L221	_	0.05	< 0.05	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
56038-13-2	Sucralose	L221	_	0.025	1,2	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
58-55-9	Theophylline	L221	_	0.005	< 0.005	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
101-20-2	Triclocarban	L221	_	0.0005	< 0.0005	ug/L	12/12/16 07:54	01/04/17 06:13	3599466
3380-34-5	Triclosan	L221	_	0.050	< 0.050	ug/L	12/12/16 07:54	01/04/17 06:13	3599466

[†] EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	•	٨	I

Report #: 378462

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

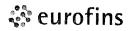
Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



110 S. Hill Street South Bend, IN 46617 T: 1.800.332.4345 F: 1.574.233.8207

Order#309386 Batch#<u>378462</u>

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www.eatonanalytical.com Shaded area for EEA	use only			CHA	AIN OF	CUSTODY RECO	RD		Page	1	of		-
REPORT TO:			SAMPLER (Signature)		PWS ID#	STATE (sample origin)	PROJECT NAME	P	0#	<u> </u>	Γ	Т
Jill Deaney - Lab M 235 Government Ce Wilmington NC 2	nter Dr.		Delbi	L Q L	201	04-65-010	NC	Sweeney					111
BILL TO:				Yes	No	POPULATION SERVED	SOURCE WATER	EDC/PPCP-	170	0004	SS.		Ĭ.
CAPEFEARPUA-NC 235 Government Ce Wilmington NC 2	enter Dr.		COMPLIANCE MONITORING		×	135,204	Surface Water	Special Sampling			CONTAINERS	CODE	TURNAROUND TIME
LAB Number	COLLECTION	N] s	AMPLING SITE		TEST NA	ME	SAMPLE REMARKS	CHLOR	IINATED	OF CC	MATRIX	RNA
DAT		AM PM							YES	NO	##	ž	
13599 465 12-6	16 0818	V	Sweeney WTP -	Post			211		Х		1	DW	SW
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RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED BY:(Signa				ES THE RIGHT TO RETURN UN	USED PORTIONS OF NON-	AQUEOUS	SAMPLES T	O CLIENT	T	
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Crystal Cellation	12-6-16	1398 V				AM PM						. V (y	
RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED FOR LABO	RATORY BY:	DATE	THEF		-70%					***************************************
		AM PM	amarte	-· 0	12/1/6	CONDITIONS UPON		<u>)</u>	Receipt		N/A		
MATRIX CODES:	TURN-AR	OUND TIM	È (TAT) - SURCHARG	ES									
DW-DRINKING WATER RW-REAGENT WATER GW-GROUND WATER EW-EXPOSURE WATER SW-SURFACE WATER PW-POOL WATER	SW ≃ Stenda RV* ≃ Rush V RW* ≃ Rush V	'erbal: (5 work						Samples received unas than 48 hours holding may be subject to add	time rema	ining			
WW-WASTE WATER	* Please ca	all, expedite	ed service not available	for all testing				06-LO-F0435 Issue	4.0 Effe	ective Date	e: 2014	-05-01	



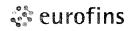
Eurofins Eaton Analytical Run Log

Run ID: 224279 Method: L200

<u>Type</u>	Sample Id	Sample Site	<u>Matrix</u>	Instrument ID	Analysis Date	Calibration File
ICL	3606746		os	PW6	12/16/2016 20:10	121616L200b.mdb
ICS	3606747		os	PW6	12/16/2016 20:45	121616L200b.mdb
ICS	3606748		os	PW6	12/16/2016 21:20	121616L200b.mdb
ICS	3606749		os	PW6	12/16/2016 21:55	121616L200b,mdb
ICS	3606750		os	PW6	12/16/2016 22:30	121616L200b.mdb
LFB	3598625		RW	PW6	12/16/2016 23:39	121616L200b.mdb
LFB	3603726		RW	PW6	12/17/2016 00:49	121616L200b.mdb
LMB	3603725		RW	PW6	12/17/2016 02:34	121616L200b.mdb
FS	3599468	Sweeney WTP-Post	DW	PW6	12/17/2016 06:39	121616L200b.mdb
CCC	3606751		os	PW6	12/17/2016 07:50	121616L200b.mdb

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID#
ICL	IS-Bisphenol A-d16	L200	N/A			94179.30	92532	ug/L	102	50 - 150	_		1.0	11/17/2016 13:34	12/16/2016 20:10	360674
ICL	IS-Pentachlorophenol-13C6	L200	N/A	Control of the Contro		723839.00	619082	ug/L	117	50 - 150			1.0	11/17/2016 13:34	12/16/2016 20:10	360674
ICL	SS-4-(4'-Bromophenyl)phenol	L200	N/A			19,9114	20.0	ug/L	100	70 - 130	1		1.0	11/17/2016 13:34	12/16/2016 20:10	360674
ICL	Nonylphenol, isomer mix	L200	N/A			0.1016	0.1	ug/L	102	50 - 150	_		1.0	11/17/2016 13:34	12/16/2016 20:10	360674
ICL	4-tert-Octylphenol	L200	N/A	_		0,0986	0.1	ug/L	99	50 - 150			1.0	11/17/2016 13:34	12/16/2016 20:10	360674
ICL	Phenylphenol	L200	N/A			0.0983	0.1	ug/L	98	50 - 150	ii —		1.0	11/17/2016 13:34	12/16/2016 20:10	360674
ICL	Tetrabromobisphenol A	L200	N/A	_		0.0536	0.1	ug/L	54	50 - 150	ii		1,0	11/17/2016 13:34	12/16/2016 20:10	360674
ics	IS-Bisphenol A-d16	L200	N/A			90065,90	92532	ug/L	97	50 - 150			1.0	11/17/2016 13:34	12/16/2016 20:45	360674
ics	IS-Pentachlorophenol-13C6	L200	N/A		i i	671213,00	619082	ug/L	108	50 - 150	Le le	1 20	1.0	11/17/2016 13:34	12/16/2016 20:45	360674
ics	SS-4-(4'-Bromophenyl)phenol	L200	N/A	20000		20,6059	20.0	ug/L	103	70 - 130	L		1.0	11/17/2016 13:34	12/16/2016 20:45	360674
ics	Nonylphenol, isomer mix	L200	N/A			0,4907	0.5	ug/L	98	70 - 130	F		1.0	11/17/2016 13:34	12/16/2016 20:45	360674
ics	4-tert-Octylphenol	L200	N/A			0,5030	0,5	ug/L	101	70 - 130	it =	=	1.0	11/17/2016 13:34	12/16/2016 20:45	380674
ics	Phenylphenol	L200	N/A	_		0,5127	0.5	ug/L	103	70 - 130	1	-	1.0	11/17/2016 13:34	12/16/2016 20:45	360674
ics	Tetrabromobisphenol A	L200	N/A			0,8319	0.5	ug/L	126	70 - 130			1.0	11/17/2016 13:34	12/16/2016 20:45	360674
ics	IS-Bisphenol A-d16	L200	N/A			95603,70	92532	ug/L	103	50 - 150			1.0	11/17/2016 13;34	12/16/2016 21:20	360674
ics	IS-Pentachlorophenol-13C6	L200	N/A			647512,00	619082	ug/L	105	50 - 150	i		1,0	11/17/2016 13:34	12/16/2016 21:20	360674
ics	SS-4-(4'-Bromophenyl)phenol	L200	N/A			19.7655	20.0	ug/L	99	70 - 130	i		1.0	11/17/2016 13:34	12/16/2016 21:20	360674
ics	Nonylphenol, isomer mix	L200	N/A	_		0.9955	1.0	ug/L	100	70 - 130	<u> </u>		1.0	11/17/2016 13:34	12/16/2016 21:20	360674
ics	4-tert-Octylphenol	L200	N/A			1,0141	1.0	ug/L	101	70 - 130	Ì		1.0	11/17/2016 13:34	12/16/2016 21:20	360674
ics	Phenylphenol	L200	N/A			0.9970	1,0	ug/L	100	70 - 130			1.0	11/17/2016 13:34	12/16/2016 21:20	360674
ıcs	Tetrabromobisphenol A	L200	N/A	***		1.2110	1.0	ug/L	121	70 - 130	I		1,0	11/17/2016 13:34	12/16/2016 21:20	360674
ics	IS-Bisphenol A-d16	L200	N/A			91009.50	92532	ug/L	98	50 - 150			1.0	11/17/2016 13:34	12/16/2016 21:55	360674
ics	IS-Pentachlorophenol-13C6	L200	N/A			566478.00	619082	ug/L	92	50 - 150			1.0	11/17/2016 13:34	12/16/2016 21:55	360674
ics	SS-4-(4'-Bromophenyl)phenol	L200	N/A			19.9762	20.0	ug/L	100	70 - 130		2,000	1,0	11/17/2016 13:34	12/16/2016 21:55	360674
ics	Nonylphenol, isomer mix	L200	N/A			2.0166	2.0	ug/L	101	70 - 130	ΙΞ		1,0	11/17/2016 13:34	12/16/2016 21:55	360674
ics	4-tert-Octylphenol	L200	N/A			1.9863	2.0	ug/L	99	70 - 130	-	200	1:0	11/17/2016 13:34	12/16/2016 21:55	360674
ics	Phenylphenol	L200	N/A			1,9868	2.0	ug/L	99	70 - 130	I -		1:0	11/17/2016 13:34	12/16/2016 21:55	360674
ıcs	Tetrabromobisphenol A	L200	N/A		100	2.1600	2.0	ug/L	108	70 - 130	124	7=35	1:0	11/17/2016 13:34	12/16/2016 21:55	360674
ics	IS-Bisphenol A-d16	L200	N/A	Region - de create in region de passar - mont le passar de la passar de la passa de la passa de la region de la passa del passa de la passa de la passa del passa de la passa del passa del passa de la passa de la passa de la passa de la passa de la passa de la passa de la passa de la passa de la passa de la passa del la passa del la passa del la passa del la passa del la passa del la passa del la passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della passa della pas		91801.60	92532	ug/L	99	50 - 150	-	I	1.0	11/17/2016 13:34	12/16/2016 22:30	360675
ics	IS-Pentachlorophenol-13C6	L200	N/A			486372.00	619082	ug/L	79	50 - 150	I	I	1,0	11/17/2016 13:34	12/15/2016 22:30	360675
ics	SS-4-(4'-Bromophenyl)phenol	L200	N/A			19,7410	20.0	ug/L	99	70 - 130	I –	l –	1,0	11/17/2016 13:34	12/16/2016 22:30	360675
ıcs	Nonylphenol, isomer mix	1.200	N/A			4,9955	5.0	ug/L	100	70 - 130	-	 -	1,0	11/17/2016 13:34	12/16/2016 22:30	360675
ics	Phenylphenol	L200	N/A	_		5.0054	5.0	ug/L	100	70 - 130	<u> </u>	-	1.0	11/17/2016 13:34	12/16/2016 22:30	360675
ics	Tetrabromobisphenol A	L200	N/A	_		4,5434	5.0	ug/L	91	70 - 130			1.0	11/17/2016 13:34	12/16/2016 22:30	360675
LFB	IS-Bisphenol A-d16	L200	N/A	the season of th		83828,70	92532	ug/L	91	50 - 150		-	1,0	12/06/2016 08:31	12/16/2016 23:39	359862
LFB	IS-Pentachlorophenol-13C6	L200	N/A			612135,00	619082	ug/L	99	50 - 150		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	1.0	12/06/2016 08:31	12/16/2016 23:39	359862
DLFB	SS-4-(4'-Bromophenyl)phenol	L200	N/A	17.72		19,6665	20,0	ug/L	98	70 - 130			1.0	12/06/2016 08:31	12/16/2016 23:39	359862
O LFB	Nonylphenol, isomer mix	L200	0.5	7772		0.7149	1,0	ug/L	71	70 - 130			1.0	12/06/2016 08:31	12/16/2016 23:39	359862
SLFB	4-tert-Octylphenol	L200	0.5	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.6979	1.0	ug/L	70	70 - 130	İΞ		1,0	12/06/2016 08:31	12/16/2016 23:39	359862
Q LFB	Phenylphenol	L200	0.1			0.7278	1.0	ug/L	73	70 - 130	ΙT		1,0	12/06/2016 08:31	12/16/2016 23:39	359862

Sample	QC Summary Report (cont.)															
Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID#
LFB	Tetrabromobisphenol A	L200	0.1	ing a special property		0.8437	1.0	ug/L	84	70 - 130			1,0	12/06/2016 08:31	40/40/2040-00 20	-
LFB	IS-Bisphenol A-d16	L200	N/A			90352.80	92532	ug/L	98	50 - 150	l		1.0	12/13/2016 09:55	12/16/2016 23:39	359862
LFB	IS-Pentachlorophenol-13C6	L200	N/A			628032.00	619082	ug/L	101	50 - 150	 	-	1.0		12/17/2016 00:49	360372
LFB	SS-4-(4'-Bromophenyl)phenol	L200	N/A			18,9604	20,0	ug/L	95	70 - 130		-	1.0	12/13/2016 09:55	12/17/2016 00:49	360372
LFB	Nonylphenol, isomer mix	L200	0.5	The state of the s	-	0,7416	1.0	ug/L	74	70 - 130		<u> </u>		12/13/2016 09:55	12/17/2016 00:49	360372
LFB	4-tert-Octylphenol	L200	0.5	the control of the co	The second secon	0.6963	1.0	ug/L	70	70 - 130	ļ		1.0	12/13/2016 09:55	12/17/2016 00:49	360372
LFB	Phenylphenol	L200	0.1		+	0.7101	1.0	ug/L	71	70 - 130		 	1.0	12/13/2016 09:55	12/17/2016 00:49	360372
LFB	Tetrabromobisphenol A	L200	0.1		1	0.7266	1.0	ug/L	73		<u> </u>		1.0	12/13/2016 09:55	12/17/2016 00:49	3603726
LMB	IS-Bisphenol A-d16	L200	N/A		╁╾┼	85956.90	92532	ug/L		70 - 130	<u> </u>	-	1.0	12/13/2016 09:55	12/17/2016 00:49	3603726
LMB	IS-Pentachlorophenol-13C6	L200	N/A		╫═╫	676983.00	619082	ug/L	93	50 - 150	_	ļ <u>-</u>	1.04	12/13/2016 09:55	12/17/2016 02:34	360372
LMB	SS-4-(4'-Bromophenyl)phenol	L200	N/A		+	20.0527	20.0	ug/L	96	50 - 150		<u> </u>	1,04	12/13/2016 09:55	12/17/2016 02:34	3603725
LMB	Nonyiphenol, isomer mix	L200	0.5		177	0.5	7	ug/L		70 - 130			1.04	12/13/2016 09:55	12/17/2016 02:34	360372
LMB	4-tert-Octylphenol	L200	0.5		<	0.5	+	ug/L ug/L	-		-		1.04	12/13/2016 09:55	12/17/2016 02:34	3603725
LMB	Phenylphenol	L200	0.1	7 2 1	1 - 1	0.1	-	ug/L		Part To terror Superior	tion no Contact	_	1.04	12/13/2016 09:55	12/17/2016 02:34	3603725
LMB	Tetrabromobisphenol A	L200	0.1	page 1		0.1	+	ug/L			<u> </u>		1.04	12/13/2016 09:55	12/17/2016 02:34	3603725
FS	IS-Bisphenol A-d16	L200	N/A	Sweeney WTP-Post		93710.20	92532	ug/L	101	FO 450			1.04	12/13/2016 09:55	12/17/2016 02:34	3603725
FS	IS-Pentachlorophenol-13C6	L200	N/A	Sweeney WTP-Post		725301.00	619082	ug/L	117	50 - 150			1.09	12/13/2016 09:55	12/17/2016 06:39	3599466
FS	SS-4-(4'-Bromophenyl)phenol	L200	N/A	Sweeney WTP-Post		21.3549	20.0			50 - 150			1,09	12/13/2016 09:55	12/17/2016 06:39	3599468
FS	Nonylphenol, isomer mix	L200	0.5	Sweeney WTP-Post	<	0.5	20.0	ug/L	98	70 - 130			1.09	12/13/2016 09:55	12/17/2018 06:39	3599468
FS	4-tert-Octylphenol	L200	0.5	Sweeney WTP-Post		0.5		ug/L			777777777777777777777777777777777777777		1.09	12/13/2016 09:55	12/17/2016 06:39	3599488
FS	Phenylphenol	L200	0.1	Sweeney WTP-Post	+	0.5		ug/L			***		1.09	12/13/2016 09:55	12/17/2016 06:39	3599468
FS	Tetrabromobisphenol A	L200	0.1	Sweeney WTP-Post			-	ug/L					1.09	12/13/2016 09:55	12/17/2016 06:39	3599468
ccc	IS-Bisphenol A-d16	L200	N/A	Sweeney Wir-rost	d	0.1 95682.60	00500	ug/L					1.09	12/13/2016 09:55	12/17/2016 06:39	3599468
ccc	IS-Pentachlorophenol-13C6	L200	N/A		4	620578.00	92532	ug/L	103	50 - 150			1.0	11/17/2016 13:34	12/17/2016 07:50	3606751
ccc	SS-4-(4'-Bromophenyl)phenol	L200	N/A	28 28 28 28 28 28 28 28 28 28 28 28 28 2	╬┷╬		619082	ug/L	100	50 - 150			1.0	11/17/2016 13:34	12/17/2016 07:50	3606751
ccc	Nonylphenol, isomer mix	L200	0.5		-	18,2881	20.0	ug/L	91	70 - 130			1.0	11/17/2016 13:34	12/17/2016 07:50	3606751
ccc	4-tert-Octylphenol	L200	0.5	100 To 10	##	1.0354	1.0	ug/L	104	70 - 130			1.0	11/17/2016 13:34	12/17/2016 07:50	3606751
ccc	Phenylphenol	L200	0.1			1.0505	1.0	ug/L	105	70 - 130			1,0	11/17/2016 13:34	12/17/2016 07:50	3606751
ccc	Tetrabromobisphenol A	L200	0.1			1.0335	1.0	ug/L ug/L	103	70 - 130 70 - 130			1.0	11/17/2016 13:34	12/17/2016 07:50	3606751



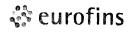
Eurofins Eaton Analytical Run Log

Run ID: 224281 Method: L200

Type	Sample Id	Sample Site	<u>Matrix</u>	<u>Instrument ID</u>	Analysis Date	Calibration File
ICL	3606780		os	PW6	12/17/2016 14:46	121716L200b.mdb
ICS	3606781		os	PW6	12/17/2016 15:21	121716L200b.mdb
ICS	3606782		os	PW6	12/17/2016 15:56	121716L200b.mdb
ICS	3606783		os	PW6	12/17/2016 16:31	121716L200b.mdb
ICS	3606784		os ·	PW6	12/17/2016 17:06	121716L200b.mdb
LFB	3598625		RW	PW6	12/17/2016 18:16	121716L200b.mdb
LFB	3603726		RW	PW6	12/17/2016 19:26	121716L200b.mdb
LMB	3603725		RW	PW6	12/17/2016 21:12	121716L200b.mdb
FS	3599468	Sweeney WTP-Post	DW	PW6	12/18/2016 01:17	121716L200b.mdb
CCC	3606785		os	PW6	12/18/2016 02:28	121716L200b.mdb

	QC Summary Report															
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA
ICL	Bisphenol A	L200	N/A			0.1005	0,1	ug/L	101	50 - 150	#=	+==	1,0	12/17/2016 13:04	12/47/2040 44 40	
ICL	4-n-Octylphenol	L200	N/A			0.1005	0.1	ug/L	101	50 - 150	#=	1	1.0	<u> </u>	12/17/2016 14:46	4
ICL	Pentachlorophenol	L200	N/A			0,0884	0.1	ug/L	88	50 - 150	惿	<u> </u>	16	12/17/2016 13:04	12/17/2016 14:46	-
ICL	2,4,6-Trichlorophenol	L200	N/A			0.1012	0.1	ug/L	101	50 - 150	$\vdash =$	#=	1.0	12/17/2016 13:04	12/17/2016 14:46	-
ics	Bisphenol A	L200	N/A		······································	0.4946	0.5	ug/L	99	Property Apparent Company of the Company	4	16	1.0	12/17/2016 13:04	12/17/2016 14:46	4
ics	4-n-Octylphenol	L200	N/A			0.4950	0.5	ug/L	99	70 - 130 70 - 130	 		1.0	12/17/2016 13:04	12/17/2016 15:21	3606781
ics	Pentachlorophenol	L200	N/A			0,5181	0.5	ug/L	104	70 - 130	-	<u> </u>	1.0	12/17/2016 13:04	12/17/2016 15:21	3606781
ics	2,4,6-Trichlorophenol	L200	N/A			0.5137	0.5	ug/L			4=		1.0	12/17/2016 13:04	12/17/2016 15:21	3606781
ICS	Bisphenol A	L200	N/A			1.0068	1.0	ug/L	103	70 - 130	₩=	ļ <u> </u>	1.0	12/17/2016 13:04	12/17/2016 15:21	3606781
ics	4-n-Octylphenol	L200	N/A	10 10 10 10 10 10 10 10 10 10 10 10 10 1	1	1.0057	1.0	ug/L	101	70 - 130 70 - 130	4=	<u> </u>	1,0	12/17/2016 13:04	12/17/2016 15:56	
ics	Pentachlorophenol	L200	N/A	1 =====		1.0549	1.0	-	tion favorage and the second	-	<u> </u>	ļ <u> </u>	1.0	12/17/2016 13:04	12/17/2016 15:56	3606782
ics	2,4,6-Trichlorophenol	L200	N/A	 		0.9902	1.0	ug/L ug/L	99	70 - 130	 		1.0	12/17/2016 13:04	12/17/2016 15:56	3606782
ics	Bisphenol A	L200	N/A			1.9981	2.0	was an entered price to the following stress seems	100	70 - 130	<u> </u>		1.0	12/17/2016 13:04	12/17/2016 15:56	3606782
ics	4-n-Octylphenol	L200	N/A	Total		1.9986		ug/L		70 - 130	<u> </u>		1.0	12/17/2016 13:04	12/17/2016 16:31	3606783
ICS	Pentachlorophenol	L200	N/A	And A Trans. A community of the National Section Sec		2.1242	2.0	ug/L	100	70 - 130	<u> </u>		1.0	12/17/2016 13:04	12/17/2016 16:31	3606783
ICS	2.4.6-Trichlorophenol	L200	N/A		-			ug/L	106	70 - 130	\ <u></u>		1.0	12/17/2016 13:04	12/17/2016 16:31	3606783
ICS	Pentachlorophenol	L200	N/A	#	1	2,0015 4.8144	2,0	ug/L	100	70 - 130	<u> </u>	-	1,0	12/17/2016 13:04	12/17/2016 16:31	3606783
LF8	Bisphenol A	L200	0.1				5,0	ug/L	96	70 - 130			1.0	12/17/2016 13:04	12/17/2016 17:06	3606784
LFB	4-n-Octylphenol	L200	0.5		4	0,7362	1.0	ug/L	74	70 - 130	<u> </u>	ļ <u> </u>	1.0	12/06/2016 08:31	12/17/2016 18:16	3598625
LFB	Pentachlorophenol	L200	0.3			0.7187	1.0	ug/L	72	70 - 130	<u> </u>		1.0	12/06/2016 08:31	12/17/2016 18:16	3598625
LFB	2,4,6-Trichlorophenol		-			0.7074	1.0	ug/L	71	70 - 130			1.0	12/06/2016 08:31	12/17/2016 18:16	3598625
LFB	IS-Bisphenol A-d16	L200	0.1	-	4	0.6992	1.0	ug/L	70	70 - 130			1.0	12/06/2016 08:31	12/17/2016 18:16	3598625
LFB	IS-Pentachlorophenol-13C6	L200	N/A	<u> </u>		82247,80	83209	ug/L	99	50 - 150			1.0	12/13/2016 09:55	12/17/2016 19:26	3603726
LFB		L200	N/A	<u> </u>	4	576879.00	552278	ug/L	104	50 - 150			1,0	12/13/2016 09:55	12/17/2016 19:26	3603726
LFB	SS-4-(4'-Bromophenyl)phenol	L200	N/A			20,0374	20,0	ug/L	100	70 - 130			1.0	12/13/2016 09:55	12/17/2016 19:26	3603726
LFB	Bisphenol A	L200	0.1	<u> </u>	[0,7075	1.0	ug/L	71	70 - 130			1.0	12/13/2016 09:55	12/17/2016 19:26	3603726
LFB	4-n-Octylphenol	L200	0.5	<u> </u>		0.6979	1.0	ug/L	70	70 - 130			1.0	12/13/2016 09:55	12/17/2016 19:26	3603726
LF8	Pentachlorophenol	L200	0.1		4	0.7053	1.0	- ug/L	71	70 - 130			1.0	12/13/2016 09:55	12/17/2016 19:26	3603726
LMB	2,4,6-Trichlorophenol	L200	0.1	1 2 2 2 -	44	0.7069	1.0	ug/L	71	70 - 130	-		1.0	12/13/2016 09:55	12/17/2016 19:26	3603726
LMB	IS-Bisphenol A-d16	L200	N/A			79187.20	83209	ug/L	95	50 - 150			1.04	12/13/2016 09:55	12/17/2016 21:12	3603725
LMB	IS-Pentachlorophenol-13C6	L200	N/A	_	ļ	631842.00	552278	ug/L	114	50 - 150			1.04	12/13/2016 09:55	12/17/2016 21:12	3603725
سعما إسمعتما	SS-4-(4'-Bromophenyl)phenal	L200	N/A		1	20,9258	20.0	ug/L	101	70 - 130			1.04	12/13/2016 09:55	12/17/2016 21:12	3603725
LMB	Bisphenol A	L200	0.1		<	0.1		ug/L					1,04	12/13/2016 09:55	12/17/2016 21:12	3603725
LMB	4-n-Octylphenol	L200	0.5		<	0.5		ug/L	***	***]	1.04	12/13/2016 09:55	12/17/2016 21:12	3603725
LMB	Pentachlorophenol	L200	0.1		<	0.1		ug/L]	1.04	12/13/2016 09:55	12/17/2016 21:12	3603725
LMB	2,4,6-Trichlorophenol	L200	0,1		<	0.1		ug/L	-	ana ana	[]		1.04	12/13/2016 09:55	12/17/2016 21:12	3603725
FS	Bisphenol A	L200	0.1	Sweeney WTP-Post	[0.1		ug/L			同		1.09	12/13/2016 09:55	12/18/2016 01:17	3599468
ູງ FS	4-n-Octylphenol	L200	0,5	Sweeney WTP-Post	[<][0.5		ug/L					1,09	12/13/2016 09:55	12/18/2016 01:17	3599468
O FS	Pentachlorophenol	L200	0,1	Sweeney WTP-Post	<	0,1		ug/Ĺ					1.09	12/13/2016 09:55	12/18/2016 01:17	3599468
ထဲ ^{FS}	2,4,6-Trichlorophenol	L200	0.1	Sweeney WTP-Post	<	0.1		ug/L	753-3-3	33	同司		1.09	12/13/2016 09:55	12/18/2016 01:17	3599468
2002	Bisphenol A	L200	0.1			0.9772	1.0	ug/L	98	70 - 130			1.0	12/17/2016 13:04	12/18/2016 02:28	3606785

	QC Summary Report (cont.)															
Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits			Dil Factor	Extracted	Analyzed	EEA ID#
ccc	4-n-Octylphenol	L200	0,5			0.9752	1.0	ug/L	98	70 - 130	_	_	1.0	12/17/2016 13:04	12/18/2016 02:28	3606785
ccc	Pentachlorophenol	L200	0.1			1,0456	1.0	ug/L	105	70 - 130			1.0	12/17/2016 13:04	12/18/2016 02:28	3606785
ccc	2,4,6-Trichlorophenol	L200	0.1			1.1516	1.0	ug/L	115	70 - 130		_	1.0	12/17/2016 13:04	12/18/2016 02:28	3606785



Eurofins Eaton Analytical Run Log

Run ID: 225109 Method: L211

Туре	Sample Id	Sample Site	<u>Matrix</u>	Instrument ID	Analysis Date	Calibration File
ICL	3616224		os	DQ	01/05/2017 19:20	010517L211a.mdb
ICS	3616225		os	DQ	01/05/2017 19:33	010517L211a.mdb
ICS	3616226		os	DQ	01/05/2017 19:46	010517L211a.mdb
ICS	3616227		os	DQ	01/05/2017 19:59	010517L211a.mdb
ICS	3616228		os	DQ	01/05/2017 20:12	010517L211a.mdb
ICS	3616229		os	DQ	01/05/2017 20:25	010517L211a.mdb
ICS	3616230		os	DQ	01/05/2017 20:38	010517L211a.mdb
LFB	3606213		RW	DQ	01/05/2017 20:51	010517L211a.mdb
LMB	3606212		RW	DQ	01/05/2017 21:55	010517L211a.mdb
FS	3599465	Sweeney WTP-Post	DW	DQ	01/05/2017 22:08	010517L211a.mdb
ccc	3616231		os	DQ	01/05/2017 22:34	010517L211a.mdb