



Laboratory Report

Prepared For: BWR DIV WATERSHED MGMNT - WATERSHED PLANNING

Contact: Dallaire, Thomas

Login #: 20190198

Project Name: Taunton (2019)

All samples were received and logged into the Division of Environmental Laboratory Sciences (DELS)-Wall Experiment Station (WES) Laboratory Information Management System (LIMS) according to the DELS-WES Sample Login Procedure described in the DELS-WES Laboratory Quality Assurance (QA) Plan. See the Sample Conditions Review Form (SCRF) associated with this login for information related to the sample conditions at the time of receipt. Any sample condition issues affecting data quality are noted in the appropriate sections of this report.

Sample preparation and analysis were conducted in accordance with the test method referenced and the DELS-WES Standard Operating Procedures (SOPs) for these test methods. Data were reviewed in accordance with the internal verification procedures described in the DELS-WES QA Plan.

All calculations were performed on analytical data prior to rounding off, including data for all quality control (QC) samples; the final analytical results were then reported rounded off to the appropriate significant figures. The reported QC sample results may not match results calculated from the reported rounded off data. The raw analytical data, first and second level QA reviews, and WES Chain-of-Custody/Sample Tracking documentation for these samples/analytes are on file at WES and are available on request.

The approval status for each requested analysis associated with this Login is listed below. The status of 'approved' means that all the samples being tested for that specific analysis have been completed and approved. Results have been approved and digitally signed by the Laboratory Supervisor listed with the respective Worklist in this report.

Analysis Requested	Status	Approved Date
N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	10/29/2019
Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	10/29/2019



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Division of Environmental Laboratory Sciences - Senator William X. Wall Experiment Station



See "Glossary" for Acronym/Qualifier Definitions

WinLIMS Sample ID	Client Sample ID	Client Sample Description	Sample Matrix	Collector	Collection Date	Collection Time	Received Date / Time	Sample Comments
1901638	62-1111_N	W0868	NPWW	Davis, D	06/27/2019	8:59 AM	6/28/19 9:35 AM	pH <2
1901639	62-1112_N	W0869	NPWW	Perez, D	06/27/2019	9:35 AM	6/28/19 9:35 AM	pH <2
1901640	62-1113_N	W1498	NPWW	Perez, D	06/27/2019	10:12 AM	6/28/19 9:35 AM	pH <2
1901641	62-1114_N	W1498	NPWW	Perez, D	06/27/2019	10:16 AM	6/28/19 9:35 AM	pH <2
1901642	62-1115_N	W1498	NPWW	Perez, D	06/27/2019	10:26 AM	6/28/19 9:35 AM	pH <2
1901643	62-1116_N	W1497	NPWW	Davis, D	06/27/2019	10:45 AM	6/28/19 9:35 AM	pH <2
1901644	62-1117_N	W1495	NPWW	Perez, D	06/27/2019	11:07 AM	6/28/19 9:35 AM	pH <2
1901645	62-1118_N	W1494	NPWW	Davis, D	06/27/2019	11:31 AM	6/28/19 9:35 AM	pH <2
1901646	62-1119_N	W1493	NPWW	Perez, D	06/27/2019	11:55 AM	6/28/19 9:35 AM	pH <2
1901647	62-1120_N	W1490	NPWW	Davis, D	06/27/2019	12:10 PM	6/28/19 9:35 AM	pH <2



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See ***“Glossary”*** for Acronym/Qualifier Definitions

WinLIMS Sample ID	Analysis Requested	Status	Worklists	Aliquot Source ID
1901638	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901638	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901639	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901639	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901640	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901640	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901641	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901641	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901642	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901642	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901643	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901643	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901644	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901644	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901645	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901645	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901646	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901646	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	
1901647	N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E	Approved	WL593	
1901647	Total N by SM 4500-N C, Total P by SM 4500-P F	Approved	WL575	



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See "Glossary" for Acronym/Qualifier Definitions

WL593 **Analysis Method:** N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E

Batch Date: 7/11/19 11:19 AM

Preparation Method:

Approved By: Duston, Nina

Approved On: 10/29/19

Sample ID:	1901638	Client Sample ID:	62-1111_N	Client Sample Desc:	W0868	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/11/19 11:19 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.
Chloride	110	mg/L		20	5.00			
Nitrate/Nitrite-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.

Sample ID:	1901639	Client Sample ID:	62-1112_N	Client Sample Desc:	W0869	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/11/19 11:19 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.
Chloride	110	mg/L		20	5.00			
Nitrate/Nitrite-N	0.20	mg/L		0.20	5.00			

Sample ID:	1901640	Client Sample ID:	62-1113_N	Client Sample Desc:	W1498	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/11/19 11:19 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.
Chloride	110	mg/L		20	5.00			
Nitrate/Nitrite-N	0.76	mg/L		0.20	5.00			

Sample ID:	1901641	Client Sample ID:	62-1114_N	Client Sample Desc:	W1498	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/11/19 11:19 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.



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See "Glossary" for Acronym/Qualifier Definitions

WL593 **Analysis Method:** N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E

Batch Date: 7/11/19 11:19 AM

Preparation Method:

Approved By: Duston, Nina

Approved On: 10/29/19

Sample ID:	1901641	Client Sample ID:	62-1114_N	Client Sample Desc:	W1498	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/11/19 11:19 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Chloride	110	mg/L		20	5.00			
Nitrate/Nitrite-N	0.78	mg/L		0.20	5.00			

Sample ID:	1901642	Client Sample ID:	62-1115_N	Client Sample Desc:	W1498	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/11/19 11:19 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.
Chloride	< MRL	mg/L		20	5.00			Sample diluted 5X to address matrix interference.
Nitrate/Nitrite-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.

Sample ID:	1901643	Client Sample ID:	62-1116_N	Client Sample Desc:	W1497	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/11/19 11:19 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.
Chloride	81	mg/L		20	5.00			
Nitrate/Nitrite-N	0.59	mg/L		0.20	5.00			

Sample ID:	1901644	Client Sample ID:	62-1117_N	Client Sample Desc:	W1495	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/11/19 11:19 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.40	10.00			Sample diluted 10X to address matrix interference.
Chloride	190	mg/L		40	10.00			



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See "Glossary" for Acronym/Qualifier Definitions

WL593 **Analysis Method:** N by SM 4500-NH3 G & SM 4500-NO3 F, CI by SM 4500-CI E **Batch Date:** 7/11/19 11:19 AM
Preparation Method:
Approved By: Duston, Nina **Approved On:** 10/29/19

Sample ID: 1901644 **Client Sample ID:** 62-1117_N **Client Sample Desc:** W1495 **Aliquot Source ID:**
Matrix: NPWW **Analysis Date:** 7/11/19 11:19 AM **Preparation Method:** **Preparation Date:**

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Nitrate/Nitrite-N	1.4	mg/L		0.40	10.00			

Sample ID: 1901645 **Client Sample ID:** 62-1118_N **Client Sample Desc:** W1494 **Aliquot Source ID:**
Matrix: NPWW **Analysis Date:** 7/11/19 11:19 AM **Preparation Method:** **Preparation Date:**

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.
Chloride	190	mg/L		20	5.00			
Nitrate/Nitrite-N	0.90	mg/L		0.20	5.00			

Sample ID: 1901646 **Client Sample ID:** 62-1119_N **Client Sample Desc:** W1493 **Aliquot Source ID:**
Matrix: NPWW **Analysis Date:** 7/11/19 11:19 AM **Preparation Method:** **Preparation Date:**

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	0.20	mg/L		0.20	5.00			
Chloride	180	mg/L		20	5.00			
Nitrate/Nitrite-N	0.89	mg/L		0.20	5.00			

Sample ID: 1901647 **Client Sample ID:** 62-1120_N **Client Sample Desc:** W1490 **Aliquot Source ID:**
Matrix: NPWW **Analysis Date:** 7/11/19 11:19 AM **Preparation Method:** **Preparation Date:**

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L		0.20	5.00			Sample diluted 5X to address matrix interference.
Chloride	190	mg/L		20	5.00			
Nitrate/Nitrite-N	0.69	mg/L		0.20	5.00			



See "Glossary" for Acronym/Qualifier Definitions

WL593 **Quality Control Information**

QC Type:	LRB-MB	Q1297
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N Blank	<1/2 MRL	mg/L			0.040	1.00	< 1/2 MRL		
Chloride Blank	<1/2 MRL	mg/L			4.0	1.00	< 1/2 MRL		
Nitrate/Nitrite-N Blank	<1/2 MRL	mg/L			0.040	1.00	< 1/2 MRL		

QC Type:	LFB-LCS	Q1298
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	0.27	mg/L			0.040	1.00			
Ammonia-N Recovery	108	% Recovery	0.25				85 - 115		
Chloride	52	mg/L			4.0	1.00			
Chloride Recovery	104	% Recovery	50				85 - 115		
Nitrate/Nitrite-N	0.26	mg/L			0.040	1.00			
Nitrate/Nitrite-N Recovery	105	% Recovery	0.25				85 - 115		

QC Type:	QCS	C688
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	0.53	mg/L			0.040	1.00			
Ammonia-N Recovery	107	% Recovery	0.50				85 - 115		
Chloride	97	mg/L			4.0	1.00			
Chloride Recovery	97	% Recovery	100				85 - 115		
Nitrate/Nitrite-N	0.52	mg/L			0.040	1.00			
Nitrate/Nitrite-N Recovery	104	% Recovery	0.50				85 - 115		

QC Type:	LFM-MS	S190105401	Original Sample ID:	1901054
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	0.43	mg/L			0.21	5.21			
Ammonia-N Recovery	107	% Recovery	0.38			5.21	80 - 120		
Chloride	140	mg/L			21	5.21			
Chloride Recovery	113	% Recovery	75			5.21	80 - 120		



See "Glossary" for Acronym/Qualifier Definitions

WL593 **Quality Control Information**

QC Type:	LFM-MS	S190105401	Original Sample ID:	1901054
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Nitrate/Nitrite-N	0.54	mg/L			0.21	5.21			
Nitrate/Nitrite-N Recovery	103	% Recovery	0.38			5.21	80 - 120		

QC Type:	LFM-MS	S190105601	Original Sample ID:	1901056
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	0.45	mg/L			0.21	5.21			
Ammonia-N Recovery	118	% Recovery	0.38			5.21	80 - 120		
Chloride	120	mg/L			21	5.21			
Chloride Recovery	113	% Recovery	75			5.21	80 - 120		
Nitrate/Nitrite-N	0.43	mg/L			0.21	5.21			
Nitrate/Nitrite-N Recovery	103	% Recovery	0.38			5.21	80 - 120		

QC Type:	SAMPLE DUPL	D190105401	Original Sample ID:	1901054
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L			0.20	5.00			Sample diluted 5X to address matrix interference.
Ammonia-N Precision	NCD	RPD				5.00	0 - 20		
Chloride	53	mg/L			20	5.00			
Chloride Precision	3	RPD				5.00	0 - 20		
Nitrate/Nitrite-N	< MRL	mg/L			0.20	5.00			Sample diluted 5X to address matrix interference.
Nitrate/Nitrite-N Precision	NCD	RPD				5.00	0 - 20		

QC Type:	SAMPLE DUPL	D190105601	Original Sample ID:	1901056
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Ammonia-N	< MRL	mg/L			0.20	5.00			Sample diluted 5X to address matrix interference.
Ammonia-N Precision	NCD	RPD				5.00	0 - 20		
Chloride	32	mg/L			20	5.00			



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WL593 Quality Control Information

QC Type:	SAMPLE DUPL	D190105601	Original Sample ID:		1901056				
Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Chloride Precision	4	RPD				5.00	0 - 20		
Nitrate/Nitrite-N	< MRL	mg/L			0.20	5.00			Sample diluted 5X to address matrix interference.
Nitrate/Nitrite-N Precision	NCD	RPD				5.00	0 - 20		

Worklist Comments:



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See "Glossary" for Acronym/Qualifier Definitions

WL575 **Analysis Method:** Total N by SM 4500-N C, Total P by SM 4500-P F

Batch Date: 7/02/19 9:50 AM

Preparation Method:

Approved By: Duston, Nina

Approved On: 10/29/19

Sample ID:	1901638	Client Sample ID:	62-1111_N	Client Sample Desc:	W0868	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	0.85	mg/L		0.075	1.00			
Total Phosphorus	0.082	mg/L		0.0020	1.00			

Sample ID:	1901639	Client Sample ID:	62-1112_N	Client Sample Desc:	W0869	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	0.87	mg/L		0.075	1.00			
Total Phosphorus	0.095	mg/L		0.0020	1.00			

Sample ID:	1901640	Client Sample ID:	62-1113_N	Client Sample Desc:	W1498	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	1.5	mg/L		0.15	2.00			
Total Phosphorus	0.093	mg/L		0.0020	1.00			

Sample ID:	1901641	Client Sample ID:	62-1114_N	Client Sample Desc:	W1498	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	1.5	mg/L		0.15	2.00			
Total Phosphorus	0.091	mg/L		0.0020	1.00			

Sample ID:	1901642	Client Sample ID:	62-1115_N	Client Sample Desc:	W1498	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	< MRL	mg/L		0.075	1.00			
Total Phosphorus	< MRL	mg/L		0.0020	1.00			



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See "Glossary" for Acronym/Qualifier Definitions

WL575 **Analysis Method:** Total N by SM 4500-N C, Total P by SM 4500-P F

Batch Date: 7/02/19 9:50 AM

Preparation Method:

Approved By: Duston, Nina

Approved On: 10/29/19

Sample ID:	1901643	Client Sample ID:	62-1116_N	Client Sample Desc:	W1497	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	1.3	mg/L		0.15	2.00			
Total Phosphorus	0.10	mg/L		0.0020	1.00			

Sample ID:	1901644	Client Sample ID:	62-1117_N	Client Sample Desc:	W1495	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	2.2	mg/L		0.38	5.00			
Total Phosphorus	0.066	mg/L		0.0020	1.00			

Sample ID:	1901645	Client Sample ID:	62-1118_N	Client Sample Desc:	W1494	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	1.3	mg/L		0.15	2.00			
Total Phosphorus	0.058	mg/L		0.0020	1.00			

Sample ID:	1901646	Client Sample ID:	62-1119_N	Client Sample Desc:	W1493	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	1.4	mg/L		0.15	2.00			
Total Phosphorus	0.060	mg/L		0.0020	1.00			

Sample ID:	1901647	Client Sample ID:	62-1120_N	Client Sample Desc:	W1490	Aliquot Source ID:	
Matrix:	NPWW	Analysis Date:	7/02/19 9:50 AM	Preparation Method:		Preparation Date:	

Analyte	Result	Units	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	1.0	mg/L		0.075	1.00			
Total Phosphorus	0.042	mg/L		0.0020	1.00			



See "Glossary" for Acronym/Qualifier Definitions

WL575 **Quality Control Information**

QC Type:	LRB-MB	Q1252
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen Blank	< MRL	mg/L			0.075	1.00	< MRL		
Total Phosphorus Blank	< MRL	mg/L			0.0020	1.00	< MRL		

QC Type:	LFB-LCS	Q1253
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	0.24	mg/L			0.075	1.00			
Total Nitrogen Recovery	97	% Recovery	0.25				85 - 115		
Total Phosphorus	0.025	mg/L			0.0020	1.00			
Total Phosphorus Recovery	100	% Recovery	0.025				85 - 115		

QC Type:	QCS	C663
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	1.1	mg/L			0.075	1.00			
Total Nitrogen Recovery	105	% Recovery	1.0				85 - 115		
Total Phosphorus	0.097	mg/L			0.0020	1.00			
Total Phosphorus Recovery	97	% Recovery	0.100				85 - 115		

QC Type:	LFM-MS	S190163201	Original Sample ID:	1901632
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	0.64	mg/L			0.078	1.04			
Total Nitrogen Recovery	102	% Recovery	0.62			1.04	80 - 120		
Total Phosphorus	0.063	mg/L			0.0021	1.04			
Total Phosphorus Recovery	100	% Recovery	0.062			1.04	80 - 120		

QC Type:	LFM-MS	S190164201	Original Sample ID:	1901642
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	0.65	mg/L			0.078	1.04			
Total Nitrogen Recovery	104	% Recovery	0.62			1.04	80 - 120		



See "Glossary" for Acronym/Qualifier Definitions

WL575 **Quality Control Information**

QC Type:	LFM-MS	S190164201	Original Sample ID:	1901642
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Phosphorus	0.062	mg/L			0.0021	1.04			
Total Phosphorus Recovery	98	% Recovery	0.062			1.04	80 - 120		

QC Type:	SAMPLE DUPL	D190163201	Original Sample ID:	1901632
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	< MRL	mg/L			0.075	1.00			
Total Nitrogen Precision	NCD	RPD					0 - 20		
Total Phosphorus	< MRL	mg/L			0.0020	1.00			
Total Phosphorus Precision	NCD	RPD					0 - 20		

QC Type:	SAMPLE DUPL	D190164201	Original Sample ID:	1901642
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Analyte	Result	Units	Spike	MDL	MRL	DF	QC Limits	Qualifier	Comments
Total Nitrogen	< MRL	mg/L			0.075	1.00			
Total Nitrogen Precision	NCD	RPD					0 - 20		
Total Phosphorus	< MRL	mg/L			0.0020	1.00			
Total Phosphorus Precision	NCD	RPD					0 - 20		

Worklist Comments:

Login Comments: Group 4



See “Glossary” for Acronym/Qualifier Definitions

GLOSSARY

Acronym	Definition
<=	Less than or equal to
>=	Greater than or equal to
A	Analyte Absent
AIR	Air Sample Matrix
BIO	Biological Specimen Matrix
BIO-PLUGS	Biological Specimen-Plug Sample Matrix
BZ#	Ballschmider-Zell (BZ) system for PCB congener identification
CCC	Continuing Calibration Check
CFU	Colony-Forming Units
COC-SCRF	Chain of Custody Form and the associated Sample Conditions Review Form
CU	Color Unit
CV%	Coefficient of Variation % (Equivalent to RSD %)
DF	Dilution Factor (1/Dilution); MRL/MDL adjusted accordingly
DW-FS	Drinking Water-Finished or Source Matrix
FB-FRB	Field Blank-Field Reagent Blank Matrix
FBB-FBE	Filter Blank Begin and Filter Blank End (Equivalent to Method Blank)
FIELD DUPL	Field Sample Duplicate
FP	Flash Point-Measurement of ignitability, the lowest temperature at which vapors of a material will ignite, when given an ignition source
GGA	Glucose-Glutamic Acid
HCB-HCA	Humidity Check Before and Humidity Check After
IS	Internal Standard
Lab-Dup	Laboratory Duplicate
LFB-LCS	Lab Fortified Blank-Lab Control Sample
LFB-LCS-HC	Lab Fortified Blank-Lab Control Sample-High Concentration
LFB-LCS-LC	Lab Fortified Blank-Lab Control Sample-Low Concentration
LFM-MS	Lab Fortified Matrix/Lab Fortified Sample Matrix-Matrix Spike
LRB-MB	Lab Reagent Blank-Method Blank



See ***“Glossary” for Acronym/Qualifier Definitions***

GLOSSARY

Acronym	Definition
LW	Liquid Waste Matrix
MC	Manual Calculation-Less than minimum reportable CFU or MPN for one or both duplicate pairs
MCS	Method Control Special
MDL	Method Detection Limit; MDLs are shown where achieving a specific MDL is required by drinking water regulations
ME	Marine/Estuarine Water Matrix
MNC	Method Negative Control
MPC	Method Positive Control (Equivalent to LFB-LCS)
MPN	Most Probable Number
MRL	Minimum Reporting Level
NA	Not Applicable
NC	Not Calculated-See comments
NCD	Not Calculated Duplicate Precision-Analyte concentration in original sample, duplicate sample, or both are below the MRL; data NOT qualified
NCDM	Not Calculated Duplicate Microbiology Precision- Organism concentration in samples (original, duplicate or both) are above the upper MPN quantitation limit, or TNTC; data NOT qualified
NCDFP	Not calculated Duplicate FP Precision- FP on both sample and duplicate outside measured temperature range or one is outside and the other within 30% RPD of range; data NOT qualified
NCDFPQ	Not Calculated Duplicate FP Precision Qualified- Sample or duplicate FP outside measured range & other FP > 30% RPD of range; DATA QUALIFIED
NCH	Not Calculated/QC Limit Not Applicable - Spike amount < 30% of sample's native concentration; data NOT qualified
NCL	Not Calculated-Analyte concentration is below MRL
NM	Analyte Not Measured
NMIS	Analyte Not Measured - Insufficient Sample volume available
NMT	Not Measured-Total concentration or total solids content is below the TCLP extraction threshold
NotSM	Not tracked in Sample Master LIMS – See ST/COC Form
NPWW	Non-Potable Water or Wastewater Matrix
NS	Sample Not Spiked with this analyte
P	Analyte Present
PT	Proficiency Test



See ***“Glossary” for Acronym/Qualifier Definitions***

GLOSSARY

Acronym	Definition
QCS	Quality Control Sample (external to lab)-acceptance limits as per method or interlaboratory PT
QCS-HC	Quality Control Sample-High Concentration, (external to lab)-acceptance limits as per method or interlaboratory PT
QCS-LC	Quality Control Sample-Low Concentration, (external to lab)-acceptance limits as per method or interlaboratory PT
QCS-SRM	Quality Control Sample-Standard Reference Material (external to lab)-acceptance limits as per method or interlaboratory PT
RBH	Recovery Biased High-Field sample results < 1/3 MRL or < MRL are NOT qualified
ROL	Range of Logs
RPD	Relative Percent Difference
RSD%	Relative Standard Deviation % (Equivalent to CV %)
RW	ASTM Laboratory Reagent Water Matrix
SAMPLE DUPL	Laboratory Sample Duplicate
SAMPLE VOL H	Sample volume received (as shown in report) was higher than the 250 mL specified in method; DFs and MRLs adjusted accordingly.
SAMPLE VOL L	Sample volume received (as shown in report) was lower than the 250 mL specified in method; DFs and MRLs adjusted accordingly.
SIM	Selected Ion Monitoring
SLD	Solid Matrix
SNR	Sample Not Received
SPE	Solid Phase Extraction
Surr	Surrogate
ST/COC	Sample Tracking/Chain-of-Custody Form
TB	Trip Blank Matrix
TNTC	Too Numerous to Count
PFAA	Perfluorinated Alkyl Acids
13C-PFHxA	EPA 537 PFAA Surrogate: Perfluoro-n-[1,2-13C ₂]hexanoic acid
13C-PFDA	EPA 537 PFAA Surrogate: Perfluoro-n-[1,2-13C ₂]decanoic acid
d5-NEtFOSAA	EPA 537 PFAA Surrogate: N-deuterioethylperfluoro-1-octanesulfonamidoacetic acid
PFBS	EPA 537 PFAA Target Analyte: Perfluorobutanesulfonic acid
PFHxA	EPA 537 PFAA Target Analyte: Perfluorohexanoic acid
PFHpA	EPA 537 PFAA Target Analyte: Perfluoroheptanoic acid



See “Glossary” for Acronym/Qualifier Definitions

GLOSSARY

Acronym	Definition
PFOA	EPA 537 PFAA Target Analyte: Perfluorooctanoic acid
PFNA	EPA 537 PFAA Target Analyte: Perfluorononanoic acid
PFDA	EPA 537 PFAA Target Analyte: Perfluorodecanoic acid
PFUnA	EPA 537 PFAA Target Analyte: Perfluoroundecanoic acid (also known as PFUdA)
NMeFOSAA	EPA 537 PFAA Target Analyte: N-methyl perfluorooctanesulfonamidoacetic acid
NEtFOSAA	EPA 537 PFAA Target Analyte: N-ethyl perfluorooctanesulfonamidoacetic acid
PFDaA	EPA 537 PFAA Target Analyte: Perfluorododecanoic acid
PFTrDA	EPA 537 PFAA Target Analyte: Perfluorotridecanoic acid
PFTA	EPA 537 PFAA Target Analyte: Perfluorotetradecanoic acid
Total PFHxS	EPA 537 PFAA Target Analyte: Perfluorohexanesulfonic acid (linear and branched)
Total PFOS	EPA 537 PFAA Target Analyte: Perfluorooctanesulfonic acid (linear and branched)
EPA HA PFAS-Sum 2	EPA Health Advisory 2 PFAS analytes combined (PFOA and Total PFOS). Health Advisory level is 70 ng/L combined. See PFAS-Sum for the concentration included when an analyte result is < 1/3 MRL or < MRL.
ORSG PFAS-Sum 5	ORS Guideline for 5 PFAS analytes combined (PFOA, Total PFOS, PFHpA, PFNA, and Total PFHxS). ORS Guideline level is 70 ng/L combined. See PFAS-Sum for the concentration included when an analyte result is < 1/3 MRL or < MRL.
ORSG PFAS-Sum 6	DRAFT ORS Guideline for 6 PFAS analytes combined (PFOA, Total PFOS, PFHpA, PFNA, Total PFHxS, and PFDA). Draft ORS Guideline level is 20 ng/L combined. See PFAS-Sum for the concentration included when an analyte result is < 1/3 MRL or < MRL.
PFAS-Sum	For < 1/3 MRL: (0) is added to the sum. For < MRL: ½ MRL is added to the sum.
PFAS-Sum-Note	In summing the results for each target PFAS analyte, concentrations < 1/3 MRL are considered to be zero (0), consistent with background levels for laboratory and field reagent blanks. For drinking water samples with PFAS concentrations < MRL but >= 1/3 MRL, the analyte is considered to be present but cannot be reliably quantitated. In these cases, a conventional practice in environmental laboratory analytical chemistry is to use the numeric value of ½ MRL as an approximation of the concentration. This is a more health protective approach than considering all results below the MRL to be zero (0).

Qualifier	Definition
B	Analyte detected in a blank (LRB-MB, FB-FRB, or TB) above the QC Limit. Results are qualified when the field sample concentration is less than 10 times the concentration in the blank.
B1	Analyte detected in a blank (LRB-MB, FB-FRB, or TB) above QC Limit. Results are qualified.
BNC	Required FB-FRB or TB not collected/received
E	Estimated Result: Exceeds the upper calibration range or the upper bacterial count limit



See ***“Glossary” for Acronym/Qualifier Definitions***

GLOSSARY

Qualifier	Definition
HA	Samples analyzed past holding time
HA-Hg	Holding time not met but previous studies by WES show that frozen fish samples are stable for mercury for at least one year.
HR	Samples received past holding time
J1	Estimated Result: LFM-MS outside acceptance limits; if biased high, field sample results < 1/3 MRL or < MRL are NOT qualified.
J2	Estimated Result: LFB-LCS outside acceptance limits; if biased high, field sample results < 1/3 MRL or < MRL are NOT qualified.
J3	Estimated Result: SAMPLE DUPL, FIELD DUPL, LFB-LCS Duplicate, or LFM-MS Duplicate outside acceptance limits; if the duplicate recovery is biased high, field sample results < 1/3 MRL or < MRL are NOT qualified.
J4	Estimated Result: Dilution water supersaturated with oxygen
J5	Estimated Result: QCS, QCS-LC, QCS-HC, or QCS-SRM outside acceptance limits; if biased high, field sample results < 1/3 MRL or < MRL are NOT qualified.
J10	Insufficient sample volume received to run method-required LFM-MS
J11	Insufficient sample volume received to run method-required sample duplicate or LFM-MS duplicate
JO	Other QC criteria not met (see comments)
L	Estimated Result: Below the lower calibration range
M	Estimated Result: Analyte concentration greater than or equal to MDL but less than MRL
N	GC/MS non-target tentatively identified compound (TIC)-no standard available for quantitation
R	Data rejected due to severe QC, quantitation, and/or qualitative ID deficiencies
SC	Incorrect sample container used
SP	Sample preserved improperly in the field
ST	Sample temperature outside of acceptance limits at receipt