United States Environmental Protection Agency
Office of Environmental Measurement & Evaluation
11 Technology Drive
North Chelmsford, MA 01863-2431

Laboratory Report

January 10, 2018

Danielle Gaito - Mail Code OEP06-4
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US EPA New England R1

Project Number: 17120019
Project: Merrymeeting River - New Durham, NH
Analysis: Nitrogen by Lachat
EPA Chemist: Bhavita Patel

Date Samples Received by the Laboratory: 12/14/2017

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, INGNO2NO30.

For unpreserved samples results of NO2 and NO3 will be reported as ions and as nitrogen.
For preserved samples combined NO2 NO3 will be reported as nitrogen.
For total nitrogen (sum of nitrate-nitrogen, nitrite-nitrogen,ammonia-nitrogen and organically bonded nitrogen)) result will be reported as nitrogen.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340 .

Sincerely,

Digitally signed by DANIEL BOUDREAU
DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=DANIEL BOUDREAU, dnQualifier=0000001239
Date: 2018.01.10 15:47:47 -05'00'

17120019$TNL

Qualifiers:

RL = Reporting limit
ND = Not Detected above Reporting limit
NA = Not Applicable due to high sample dilutions or sample interferences
NC = Not calculated since analyte concentration is ND.
J = Estimated value
J1 = Estimated value due to MS recovery outside accceptance criteria
J2 = Estimated value due to LFB result outside acceptance criteria
J3 = Estimated value due to RPD result outside acceptance criteria
J4 = Estimated value due to LCS result outside acceptance criteria
E = Estimated value exceeds the calibration range
L = Estimated value is below the calibration range
B = Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 10 times the concentration in the blank.
R = No recovery was calculated since the analyte concentration is greater than four times the spike level.
P = The confirmation value exceeded 35% difference and is less than 100%. The lower value is reported.
C = The identification has been confirmed by GC/MS.
A = Suspected Aldol condensation product.
N = Tentatively identified compound.

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID:	MM01	Lab Sample ID:	AB72698
Date of Collection:	12/14/2017	Matrix:	Water
Date of Preparation:	1/03/2018	Amount Prepared:	N/A
Date of Analysis:	1/03/2018	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	1
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	**140**	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID:	PM01	Lab Sample ID:	AB72699
Date of Collection:	12/14/2017	Matrix:	Water
Date of Preparation:	1/03/2018	Amount Prepared:	N/A
Date of Analysis:	1/03/2018	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	1
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	**94**	23	
	Total Nitrogen	**160**	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID:	PM02	Lab Sample ID:	AB72700
Date of Collection:	12/14/2017	Matrix:	Water
Date of Preparation:	1/03/2018	Amount Prepared:	N/A
Date of Analysis:	1/03/2018	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	1
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	**170**	45	

Merrymeeting River - New Durham, NH

Laboratory Blank for Nitogen by Lachat

Client Sample ID:	N/A	Lab Sample ID:	N/A
Date of Collection:	N/A	Matrix:	Water
Date of Preparation:	1/03/2018	Amount Prepared:	N/A
Date of Analysis:	1/03/2018	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	N/A
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	ND	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID:	MM02	Lab Sample ID:	AB72701
Date of Collection:	12/14/2017	Matrix:	Water
Date of Preparation:	1/03/2018	Amount Prepared:	N/A
Date of Analysis:	1/03/2018	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	1
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	**27**	23	
	Total Nitrogen	**160**	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID:	MM03	Lab Sample ID:	AB72702
Date of Collection:	12/14/2017	Matrix:	Water
Date of Preparation:	1/03/2018	Amount Prepared:	N/A
Date of Analysis:	1/03/2018	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	1
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	**28**	23	
	Total Nitrogen	**140**	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID:	DUP	Lab Sample ID:	AB72703
Date of Collection:	12/14/2017	Matrix:	Water
Date of Preparation:	1/03/2018	Amount Prepared:	N/A
Date of Analysis:	1/03/2018	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	1
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	**140**	45	

Merrymeeting River - New Durham, NH

MATRIX SPIKE (MS) RECOVERY

Sample ID: AB72700

PARAMETER	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC	QC LIMITS (% REC)
Combined Nitrate & Nitrite	600	ND	612	102	80 - 120
Total Nitrogen	600	170	811	107	80 - 120

Merrymeeting River - New Durham, NH

Laboratory Duplicate Results

Sample ID: AB72700

PARAMETER	SAMPLE RESULT ug/L	SAMPLE DUPLICATE RESULT ug/L	PRECISION RPD %	QC LIMITS
Combined Nitrate & Nitrite	ND	ND	NC	20
Total Nitrogen	170	170	0	20

Merrymeeting River - New Durham, NH

Laboratory Fortified Blank (LFB) Results

PARAMETER	LFB AMOUNT SPIKED ug/L	LFB RESULT ug/L	LFB RECOVERY %	QC LIMITS %
Combined Nitrate & Nitrite	600	615	102	80 - 120
Total Nitrogen	600	578	96	80 - 120

Comments:

Samples in Batch: AB72698, AB72699, AB72700, AB72701, AB72702, AB72703

ENVIRONMENTAL PROTECTION AGENCY

REGION 1

CHAIN OF CUSTODY RECORD

PROJ. NO.: 17120019

PROJECT NAME: Merrymeeting River

SAMPLERS: (Signature)

STA. NO.	DATE 17	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	TSS	Ortho Phosphorus	Total Phosphorus	NH3 as N	TN	NO2+NO3	REMARKS
MM01	12/14/17	910		✓		2	✓	✓	✓	✓	✓	✓	
PM01	↓	917		✓		2	✓	✓	✓	✓	✓	✓	
PM02		930		✓		2	✓	✓	✓	✓	✓	✓	
MM02		940		✓		2	✓	✓	✓	✓	✓	✓	
MM03		955		✓		2	✓	✓	✓	✓	✓	✓	
DUP	↓			✓		2	✓	✓	✓	✓	✓	✓	
						12							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	12/14/17 1220				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			12/14/17 1220	TP, TN, NO2+NO3, NH3 = H2SO4 pH<2 ALL ICE<6°C	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

17120019 TSS
17120019 OPHOS
17120019 TP
17120019 AMMO
17120019 $TNL