

City of Portsmouth, NH

**RFP #18-21
Hydrosolids Management**

ADDENDUM No. 2

Issued: January 19, 2021

This addendum modifies and is henceforth part of the original document marked RFP #18-21 Hydrosolids Management. Bidders must acknowledge this Addendum within their proposals. Failure to do so may subject a proposal to disqualification.

The following are answers to questions submitted after the Pre-Proposal Meeting:

1. What are the current loading hours and days? Is the Plant willing to extend hours for loading?
 - a. Loading can take place Monday through Thursday 7:30am – 3:00pm, and Friday 7:30am – 2:00pm, except for holidays as listed below. Hours will not be extended.
 - February 15, 2021 (President's Day)
 - April 2, 2021 (half-day) (Good Friday)
 - May 31, 2021 (Memorial Day)
 - July 5, 2021 (Independence Day)
 - September 6, 2021 (Labor Day)
 - October 11, 2021 (Columbus Day)
 - November 11, 2021 (Veterans' Day)
 - November 25, 2021 (Thanksgiving)
 - November 26, 2021 (Thanksgiving)
 - December 24, 2021 (Christmas)
2. Is there enough space to bring in an end Dump Trailer?
 - a. The pre-proposal site walk meeting allowed company representatives to assess the area limitations relative to desired equipment needs.
3. What is the past 12 months transport history?
 - a. Over the past 12 months there were seven hauling events. Solids conditions, company demands and plant bunker capacity are all factors in the frequency of hauling.
4. Who is the current vendor and disposal site?
 - a. Resource Management Inc. (RMI, Inc.) is the current vendor. The disposal of their product that includes the City's hydrosolids varies and is reported to the NHDES in the annual SQC reports.

5. What is the current price per ton?
 - a. \$75.10 per wet ton.
6. Please provide current analyticals?
 - a. Analytical data are provided in the annual SQC reports for 2018 and 2019, included with this Addendum.
7. Does the current vendor currently use any type of amendment to bulk the material?
 - a. Yes, wood ash has been used as an amendment.
8. Is consideration given for beneficial Reuse Programs verses landfill of the material?
 - a. Yes, reuse programs are preferred. Cost, experience, equipment and record of performance are also factors that will be evaluated.
9. Could the City please provide a copy of the pre-proposal sign in sheet?
 - a. Sign in sheet is included with this addendum.
10. Could the City please provide potential respondents with the current price that the City is paying for this service by the incumbent, RMI?
 - a. See answer to #5.
11. Could the City please provide any analytical data on the material that it may have access to (from the last 12-18 months)?
 - a. See answer to #6.
12. Could the City please provide a copy of the “Sludge Quality Certification”, or any other permits pertaining to the hydrosolids?
 - a. The current SQC Permit is included with this addendum.



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

November 3, 2017

Albert Pratt
City of Portsmouth – Madbury Water Treatment Facility
60 Freshet Street
Madbury, NH 03823

Dear Mr. Pratt:

On September 29, 2017 the New Hampshire Department of Environmental Services (NHDES) received from Resource Management, Inc. (RMI), on behalf of the City of Portsmouth (Portsmouth), an application for sludge quality certification (SQC) of water treatment sludge generated at City of Portsmouth's Madbury Water Treatment Facility in Madbury, NH. After reviewing the application for completeness and content, NHDES hereby certifies that pursuant to Env-Wq 809 the quality certified sludge (QC sludge) is acceptable for beneficial use or disposal in the State of New Hampshire. Enclosed is the conditional certification for this material.

Please note that you must comply with all applicable provisions of Env-Wq 800 during all management activities associated with the use of this material. In addition, reference to the certification number (SQC-12009) should be made when providing information about the QC sludge or its intended use. Please carefully read the terms and conditions of the SQC and be aware that it is Portsmouth's responsibility as generator to ensure appropriate management of the subject material.

If you have further questions about this SQC or the certification process, please call me at 271-2818.

Sincerely,

Heidi Lemay
Residuals Coordinator
Residuals Management Section
Wastewater Engineering Bureau

Enclosure(s): Sludge Quality Certification (SQC-12009)

cc: Tracy Wood, P.E., Administrator IV, WEB
Ray Gordon, Administrator III, NHDES
Felicia Morrisette, RMI
File/db



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

SLUDGE QUALITY CERTIFICATION

as authorized by the

NH Department of Environmental Services, Water Division (Department)
pursuant to RSA 485-A and Env-Wq 800, the Sludge Management Rules (the Rules)

I. GENERATOR IDENTIFICATION:

Sludge Quality Certification No.: SQC-12009

Generator Name: City of Portsmouth, Madbury Water Treatment Facility

Facility Type: Water Treatment

Generator Address: 60 Freshet Street, Madbury, NH 03823

Telephone No.: (603) 740-1431

Facility Operator Name/Title: Albert Pratt, Water Resource Manager

II. FILE REFERENCE/RECORD OF APPLICATION:

Date(s) Received: Received application September 29, 2017

Received additional information on October 30, 2017

III. EFFECTIVE DATE: November 3, 2017

IV. TERMS AND CONDITIONS

1. Applicability: This certification shall only apply to the quality certified sludge (QC sludge) produced by the City of Portsmouth – Madbury Water Treatment Facility (the generator).

2. Term of Certification: Certification shall expire five (5) years after the effective date in Section III.

3. Quality Standards: Only QC sludge meeting the quality standards in Env-Wq 809.03 shall be land applied.

4. Land Application Standards: QC sludge shall be land applied in accordance with the land application standards in Env-806.08, Env-Wq 810.01, and the requirements of RSA 483, the Rivers Management Protection Act.

5. Stockpiling Requirements: At a minimum, QC sludge shall be stockpiled in accordance with the requirements of Env-806.09, Env-Wq 810.01, and the requirements of RSA 483, the Rivers Management Protection Act.

6. Special Conditions:

a. The generator shall analyze its sludge once per 90 days according to the requirements of Env-Wq 809.07(a) and annually according to the requirements of Env-Wq 809.07(c). If the results of any required analysis exceed the standards in Env-Wq 809.03(c), the generator shall notify NHDES immediately and implement the requirements of Env-Wq 809.08(a), Env-Wq 809.08(b), and Env-Wq

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809.08(c). If the results of any required analysis exceed the contaminant concentrations as described in Env-Wq 809.03(e), the generator shall immediately notify NHDES to discuss additional testing and management requirements pursuant to continued recycling of the generator's sludge.

b. The QC sludge, which is the subject of this SQC, shall not be directly land applied unmixed or unamended. Prior to application, the QC sludge shall be mixed or amended with an organic component to add plant nutrients and organic matter. Prior to land application and when QC sludge is used as a component in a manufactured topsoil, the resulting mixture shall be sampled and tested for total arsenic to ensure the arsenic concentration is less than 11 mg As/kg dry weight. Further, the QC sludge shall not be distributed to the general public. This material shall be used for agriculture, gravel pit reclamation, or in other settings where stockpiles and applications can be sited and managed.

c. The generator shall provide each end-user with a copy of the NHDES approved label required by Env-Wq 810.02. Use of the QC sludge in a manner inconsistent with the requirements of the label shall be considered a violation of the terms and conditions of this SQC. The generator shall instruct the end-user regarding the requirements set forth in the label and shall monitor applications to ensure the label requirements are met.

d. If NHDES chemical standards or guidelines are updated, the generator's QC sludge will be subject to the most recent standards or policy guidelines.

e. QC sludge or mixtures thereof shall not be applied at any location at a loading rate in excess of 250 tons per acre without prior written approval of the NHDES.

f. The generator shall report to NHDES according to the requirements of Env-Wq 809.09. In addition, the annual report shall include the analytical results required by Section IV, 6b.

V. AUTHORIZATION: Pursuant to RSA 485-A and Env-Wq 809 of the Rules, this Sludge Quality Certification (certification) is hereby issued to the generator as identified in Section I to beneficially reuse the sludge generated by the subject facility in accordance with state and federal statutes, the Rules, and the Terms and Conditions set forth in Section IV.

BY EXERCISING ANY RIGHTS UNDER THIS CERTIFICATION, THE GENERATOR HAS AGREED TO ALL TERMS AND CONDITIONS OF THE CERTIFICATION. No liability is incurred by the State of New Hampshire by reason of any certification of the sludge produced by the generator for beneficial use. Approval by the Department is based on representations made by the generator that this sludge complies with all requirements of the Rules as they apply to the land application or disposal of sludge. Representations made within the application have not necessarily been reviewed by the Department to confirm compliance. Instead, issuance of this certification places full reliance on the generator's representations that the application meets the requirements of the Rules. Failure of the sludge to actually meet the quality standards in Env-Wq 809 or failure of the generator to otherwise comply with the terms and conditions of this certification may result in civil or criminal penalties, suspension or revocation of this certification. No warranty/guarantee is intended or implied by reason of any advice given by the Department or its staff.

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Sludge Quality Certification No.: SQC-12009
City of Portsmouth – Madbury Water Treatment Facility
60 Freshet Street
Madbury, NH 03823

November 3, 2017

Page 3

This certification shall not eliminate the need to obtain all requisite federal, state or local permits, licenses or approvals, or to comply with all other applicable federal, state, district and local permits, ordinances, laws, approvals or conditions for use or disposal of this sludge.

A handwritten signature in black ink, appearing to read "Heidi Lemay".

Heidi Lemay, Residuals Coordinator
Residuals Management Section
Wastewater Engineering Bureau

November 3, 2017

Date

For questions, contact the Residuals Management Section, 29 Hazen Drive, Concord, NH [telephone (603)-271-2818].

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January 31, 2020

Al Pratt
Water Resources Engineer
City of Portsmouth, Madbury Water Treatment Facility
680 Peverly Hill Road
Portsmouth, NH 03801

RE: Annual Report for the Hydrosolids Program 2019

Dear Mr. Pratt:

Enclosed please find year-end information for hydrosolids recycling activities performed by Resource Management, Inc. (RMI) on behalf of the City of Portsmouth, Madbury WTF during 2019. The information included herein provides all of the specific requirements for compliance with state regulations as noted below:

- *NH Hydrosolids SQC Annual Report* – This Annual Report is submitted to the NHDES to comply with Env-Wq 809.09(b). It provides information about the destination of hydrosolids delivered to sites in New Hampshire subject to the Env-Wq 800 Sludge Management Rules. As a courtesy to NHDES, all material sent to exempt sites are also included in this report. A summary of the analytical data is also included and presented in a form provided by the NHDES. The data summary sheet and laboratory reports are included on the CD in PDF format.

Submittal of this information completes the reporting requirements for the City of Portsmouth, Madbury WTF for 2019. If you have any questions please feel free to contact me at 603-536-8900.

Sincerely,

April Sargent
Project Assistant: Compliance

Enclosure: *2019 NH Hydrosolids SQC Annual Report*



Anthony F. Drouin
Sludge and Septage Coordinator
Residuals Management Section
Wastewater Engineering Bureau
NH Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

January 31, 2020

**RE: Hydrosolids – SQC Annual Report for 2019
City of Portsmouth – Madbury Water Treatment Facility – SQC 12-009**

Dear Mr. Drouin:

On behalf of the City of Portsmouth – Madbury Water Treatment Facility please find the attached *Hydrosolids SQC Annual Report* submitted to the New Hampshire Department of Environmental Services (NHDES) by Resource Management, Inc. (RMI) in accordance with Env-Wq 809.09 of the Env-Wq 800 Sludge Management Rules. RMI is responsible for management, recordkeeping and reporting for the total annual generation of hydrosolids from the City of Portsmouth – Madbury Water Treatment Facility.

This report contains four sections:

- Section I – this section includes information in accordance with Env-Wq 809.09(a)(1-4),(6). At the request of NHDES, material sent to sites exempt from the Env-Wq 800 rules is included in this report, summarized by In State and Out of State outlets.

As a result of growing concern over the presence of the emerging contaminant Per- and Polyflouroalkyl Substances (PFAS) in New Hampshire, NHDES revised all SQCs in May of 2019. As required by the revised SQC, Section I also includes a narrative of the pollution prevention and pretreatment efforts undertaken to reduce or eliminate perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorononanoic acid (PFNA), and perfluorohexanesulfonic acid (PFHxS) from the hydrosolids generated by the Madbury Water Treatment Facility.

- Section II – this section includes a summary of the analytical data specified by Env-Wq 809.09(b)(1) in a spreadsheet format provided by the NHDES. An electronic copy of the summary as well as the individual lab reports in PDF form is enclosed on CD.
- Section III – this section contains extra testing to comply with SQC Special Conditions
- Section IV – this section includes the updated Hydrosolids label as required by Env-Wq 810.02.

Submittal of this information completes the reporting requirements for the City of Portsmouth – Madbury Water Treatment Facility for 2019. If you have any questions please feel free to contact me at 603-536-8900.

Sincerely,

April Sargent
Project Assistant: Compliance

Enclosure: 2019 City of Portsmouth – Madbury Water Treatment Facility Hydrosolids SQC Annual Report
Copy: Mark Young, City of Portsmouth and Al Pratt, City of Portsmouth



2019 Annual Report

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009
60 Freshet Street
Madbury, NH 03823

Submitted to

State of NH Department of Environmental Services

Submitted on

January 31, 2020

Submitted by

Resource Management, Inc.
1171 NH RT 175
Holderness, NH 03245
603-536-8900
www.RMIrecycles.com

Contents

Section I	SQC Annual Report & PFAS Prevention Narrative
Section II	Analytical Data
Section III	SQC Special Conditions
Section IV	Product Label

City of Portsmouth – Hydrosolids – SQC Annual Report - 2019



Section I - SQC Annual Report & PFAS Prevention Narrative

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009

City of Portsmouth – Hydrosolids – SQC Annual Report - 2019

Resource Management, Inc.

Hydrosolids Quality Certificate Holder Annual Report

2019

Name: **Portsmouth Drinking Water Treatment**

Address: **60 Freshet Rd
Madbury, NH 03823**

Operator of Facility: **Mark Young**
Phone: **(603)516-7338**

SQC#: **12-009**

Hydrosolids Generated:

Wet Tons	Dry Tons
2100.79	382.35

Hydrosolids Delivered:*

Site Name	Latitude	Longitude	Wet Tons	Dry Tons
Mount William Sand and Gravel	43.0957	-71.6920	53.16	9.68
Remi-Sons Inc	42.9892	-71.2095	2018.29	367.33
RMI Residuals Management Facility	43.6298	-71.6457	29.34	5.34

Non Env-Wq 800 Sites:

In State

	Wet Tons	Dry Tons
Disposed:	0.00	0.00
Recycled:	0.00	0.00

Out of State

	Wet Tons	Dry Tons
Disposed:	0.00	0.00
Recycled:	0.00	0.00

TO: Anthony Drouin, NH Department of Environmental Services

FROM: Albert Pratt, City of Portsmouth

SUBJECT: 2019 Annual Report PFAS Pollution Prevention / Pretreatment Narrative

DATE: January 31, 2020

The City of Portsmouth Water Division samples water from the Bellamy Reservoir quarterly and PFAS concentration have been very low and below detection limits since testing began in 2014. The City has a watershed protection program that monitors potential threats to the water quality in the Bellamy.



Section II – Analytical Data

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009

**please see enclosed CD for lab reports*

City of Portsmouth – Hydrosolids – SQC Annual Report - 2019

Madbury Water Treatment Facility
2019 NH SQC Analytical Data



Laboratory	Sample ID	Parameter	Sample Date
Maine Environmental	WMR 4459	10 Metals	1/17/2019
Maine Environmental	WMR 4460	Nutrients	1/17/2019
Maine Environmental	WMR 4831	PCBs	4/12/2019
Maine Environmental	WMR 4833	Nutrients	4/12/2019
Pace	WMR 4835	Dioxin	4/12/2019
Absolute Resource Assoc.	48344	VOC, SVOC, 14 Metals	4/25/2019
Maine Environmental	WMR 5592	Metals	7/9/2019
Maine Environmental	WMR 5591	Nutrients	7/9/2019
Alpha Analytical	L1935000	PFAS	8/5/2019
Maine Environmental	WMR 6626	Metals	12/12/2019
Maine Environmental	WMR 6624	Nutrients	12/12/2019

Analyte	CAS #	MDL	1/17/2019	4/12/2019	4/25/2019	7/9/2019	8/5/2019	12/12/2019
Dichlorodifluoromethane	75-71-8	2			<1.9			
Chloromethane	74-87-3	2			<1.9			
Vinyl chloride	75-01-4	2			<1.9			
Chloroethane	75-00-3	2			<1.9			
Bromomethane	74-83-9	2			<0.2			
Trichlorofluoromethane	75-69-4	2			<1.9			
Diethyl ether	60-29-7	5			<1.9			
Acetone	67-64-1	5			<46			
1,1-Dichloroethene	75-35-4	2			<1.9			
Carbon disulfide	75-15-0	2			<1.9			
Methylene chloride	75-09-2	2			<1.9			
Methyl-t-butylether(MTBE)	1634-04-4	2			<1.9			
trans-1,2-Dichloroethene	156-60-5	2			<1.9			
1,1-Dichloroethane	75-34-3	2			<1.9			
2-Butanone(MEK)	78-93-3	5			<5.6			
2,2-Dichloropropane	590-20-7	2			<1.9			
cis-1,2-Dichloroethene	156-59-2	2			<1.9			
Chloroform	67-66-3	2			<1.9			
Tetrahydrofuran(THF)	109-99-9	5			<9.3			
Bromochloromethane	74-97-5	2			<1.9			
1,1,1-Trichloroethane	71-55-6	2			<1.9			
1,1-Dichloropropene	563-58-6	2			<1.9			
Carbon tetrachloride	56-23-5	2			<1.9			
1,2-Dichloroethane	107-06-2	2			<1.9			
Benzene	71-43-2	2			<1.9			
Trichloroethene	79-01-6	2			<1.9			
1,2-Dichloropropane	78-87-5	2			<1.9			
Bromodichloromethane	75-27-4	2			<1.9			
Dibromomethane	74-95-3	2			<1.9			
4-Methyl-2-pentanone(MIBK)	108-10-1	5			<8.4			
cis-1,3-Dichloropropene	10061-01-5	2			<1.9			
Toluene	108-88-3	2			<1.9			
trans-1,3-Dichloropropene	10061-02-6	2			<1.9			
1,1,2-Trichloroethane	79-00-5	2			<1.9			
2-Hexanone	591-78-6	5			<9.3			
1,3-Dichloropropane	142-28-9	2			<1.9			
Tetrachloroethene	127-18-4	2			<1.9			
Dibromochloromethane	124-48-1	2			<1.9			
1,2-Dibromoethane	106-93-4	2			<1.9			
Chlorobenzene	108-90-7	2			<1.9			
1,1,1,2-Tetrachloroethane	630-20-6	2			<1.9			
Ethylbenzene	100-41-4	2			<1.9			
m&p-Xylene	108-37-3	10			<1.9			
o-Xylene	95-47-6	5			<1.9			
Styrene	100-42-5	2			<1.9			
Bromoform	75-25-2	2			<1.9			
iso-Propylbenzene	98-82-8	5			<1.9			
1,1,2,2-Tetrachloroethane	79-34-5	2			<1.9			
1,2,3-Trichloropropane	96-18-4	2			<1.9			
n-Propylbenzene	103-65-1	5			<1.9			
Bromobenzene	108-86-1	2			<1.9			
1,3,5-Trimethylbenzene	108-67-8	5			<1.9			
2-Chlorotoluene	95-49-8	2			<1.9			
4-Chlorotoluene	106-43-4	2			<1.9			
tert-Butylbenzene	98-06-6	5			<1.9			
1,2,4-Trimethylbenzene	95-63-6	5			<1.9			
sec-Butylbenzene	135-98-8	5			<1.9			
p-isopropyltoluene	99-87-6	5			<1.9			
1,3-Dichlorobenzene	541-73-1	5			<1.9			
1,4-Dichlorobenzene	106-46-7	5			<1.9			
n-Butylbenzene	104-51-8	5			<1.9			
1,2-Dichlorobenzene	95-50-1	5			<1.9			
1,2-Dibromo-3-chloropropane	96-12-8	2			<1.9			
1,2,4-Trichlorobenzene	102-82-1	2			<1.9			
Hexachlorobutadiene	87-68-3	2			<1.9			
Naphthalene	91-20-3	5			<1.9			
1,2,3-Trichlorobenzene	87-61-6	2			<1.9			

Section A. VOCs

Analyte	CAS #	MDL	1/17/2019	4/12/2019	4/25/2019	7/9/2019	8/5/2019	12/12/2019
Azobenzene	122-66-7	2.5			< 2.5			
2,4-Dinitrophenol	51-28-5	12			< 6.2			
2,4,5-Trichlorophenol	95-95-4	2.5			< 2.5			
2,4-Dichlorophenol	120-83-2	2.5			< 6.2			
2,4-Dimethylphenol	105-67-9	2.5			< 2.5			
2,4,6-Trichlorophenol	88-06-2	5			< 2.5			
2,4-Dinitrotoluene	121-14-2	2.5			< 2.5			
2,6-Dinitrotoluene	606-20-2	2.5			< 2.5			
2-Chloronaphthalene	91-59-7	10			< 6.2			
2-Chlorophenol	95-57-8	2.5			< 6.2			
2-Methylnaphthalene	91-57-6	5			< 0.62			
2-Methylphenol	95-48-7	5			< 2.5			
2-Nitroaniline	88-74-4	5			< 2.5			
2-Nitrophenol	88-75-5	5			< 2.5			
3,3'-Dichlorobenzidine	91-94-1	4			< 37			
3-Nitroaniline	99-09-2	5			< 2.5			
3/4-Methylphenol	106-44-5/106-44-5	5			< 2.5			
4,6-Dinitro-2-methylphenol	534-52-1	12			< 25			
4-Bromophenyl-phenylether	101-55-3	10			< 2.5			
4-Chloro-3-methylphenol	59-50-7	10			< 2.5			
4-Chloroaniline	106-47-8	2.5			< 2.5			
4-Chlorophenyl-phenylether	7005-72-3	10			< 6.2			
4-Nitroaniline	100-01-6	5			< 6.2			
4-Nitrophenol	100-02-7	12			< 12			
Acenaphthene	83-32-9	5			< 0.62			
Acenaphthylene	208-96-8	5			< 0.62			
Anthracene	120-12-7	5			< 0.62			
Benzidine	92-87-5	12			< 37			
Benzo(a)anthracene	56-55-3	2.5			< 0.62			
Benzo(a)pyrene	50-32-8	2.5			< 0.62			
Benzo(b)fluoranthene	205-99-2	5			< 0.62			
Benzo(g,h,i)perylene	191-24-2	5			< 0.62			
Benzo(k)fluoranthene	207-08-9	5			< 0.62			
bis(2-Chloroethoxy)methane	111-91-1	5			< 2.5			
bis(2-Chloroethyl)ether	111-44-4	2.5			< 2.5			
bis(2-chloroisopropyl)ether	39638-32-9	2.5			< 2.5			
bis(2-Ethylhexyl)phthalate	117-81-7	5			< 6.2			
Butylbenzylphthalate	85-68-7	5			< 6.2			
Carbazole	86-74-8	2.5			< 2.5			
Chrysene	218-01-9	5			< 0.62			
Di-n-butylphthalate	84-74-2	5			< 6.2			
Di-n-octylphthalate	117-84-0	5			< 6.2			
Dibenz(a,h)anthracene	53-70-3	2.5			< 0.62			
Dibenzofuran	132-64-9	5			< 0.62			
Diethylphthalate	84-66-2	5			< 6.2			
Dimethylphthalate	131-11-3	5			< 6.2			
Fluoranthene	206-44-0	5			< 0.62			
Fluorene	86-73-7	5			< 0.62			
Hexachlorobenzene	118-74-1	2.5			< 2.5			
Hexachlorocyclopentadiene	77-47-4	5			< 12			
Hexachloroethane	67-72-1	2.5			< 2.5			
Indeno(1,2,3-cd)pyrene	193-39-5	2.5			< 0.62			
Isophorone	78-59-1	2.5			< 6.2			
n-Nitroso-di-n-propylamine	621-64-7	2.5			< 2.5			
N-Nitrosodimethylamine	62-75-9	4			< 2.5			
n-Nitrosodiphenylamine	86-30-6	2.5			< 2.5			
Nitrobenzene	98-95-3	2.5			< 2.5			
Pentachlorophenol	87-86-5	4			< 12			
Phenanthrene	85-01-8	5			< 0.62			
Phenol	108-95-2	5			< 2.5			
Pyrene	129-00-0	5			< 0.62			

Section B. SVOCs

	Analyte	CAS #	MDL	1/17/2019	4/12/2019	4/25/2019	7/9/2019	8/5/2019	12/12/2019
Section C. Metals	Arsenic	7440-38-2	10	9.1		5.1	8.2		19
	Cadmium	7440-43-9	1	<0.24		<0.59	<2.5		4.3 J
	Chromium	16065-83-1	10	4.1		<5.9	<8.4		<11
	Copper	7440-50-8	10	5.3		11	<8.4		12 J
	Lead	7439-92-1	11	<0.8		24	<8.4		<11
	Mercury	7439-97-6	0.05	<0.016		<0.81	0.20 J		0.61
	Molybdenum	7439-98-7	18	<0.24		<30	<2.5		<3.3
	Nickel	7440-02-0	10	2.1 J		7.1	<8.4		<11
	Selenium	7782-49-2	18	0.64 J		<5.9	7.6 J		9.7 J
	Zinc	7440-66-6	10	18		34	34		57
	Antimony	7440-36-0	8			<3.0			
	Beryllium	7440-41-7	0.5			<0.59			
	Silver	7440-22-4	4			<3.0			
	Thallium	7440-28-0	10			<3.0			
Section D. PCBs	PCB-1242	53469-21-9	1		<0.5				
	PCB-1254	11097-69-1	1		<0.5				
	PCB-1221	11104-28-2	1		<0.5				
	PCB-1232	11141-16-5	1		<0.5				
	PCB-1248	12672-29-6	1		<0.5				
	PCB-1260	11096-82-5	1		<0.5				
	PCB-1016	12674-11-2	1		<0.5				
Section E. Nutrients	pH	na	na	7.43	6.63		6.81		6.75
	% Solids	na	na	12.48	18.04		11.89		9.06
	Nitrate/Nitrite-N	na	30	27 J	22 J		680		<44
	Total Kjeldahl-N	na	300	2300	2800		3800		36
	Ammonia-N	na	30	17	17		140		5800
	Total Organic-N	na	na	2283	2800		3700		5800
	Potassium	na	15	460	390		1800		2100
	Phosphorus	7723-14-0	15	320	130		420		540
F: Dioxin	Remaining Congeners of 2378TCDD	1746-01-6	5 ppt		0.05				
PFAS (ng/g)	Perfluorobutanoic Acid (PFBA)	375-22-4	na					<1.72	
	Perfluoropentanoic Acid (PFPeA)	2706-90-3	na					<1.72	
	Perfluorohexanoic Acid (PFHxA)	307-24-4	na					<1.72	
	Perfluoroheptanoic Acid (PFHpA)	375-85-9	na					<1.72	
	Perfluorooctanoic Acid (PFOA)	335-67-1	na					<1.72	
	Perfluorononanoic Acid (PFNA)	375-95-1	na					<1.72	
	Perfluorobutanesulfonic Acid (PFBS)	375-73-5	na					<1.72	
	Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	na					<1.72	
	Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	na					4.7	

Concentration in mg/kg listed by sample date, J = estimated



Section III – SQC Special Conditions

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009

Section 6 requires the following additional reporting:

- b. Prior to land application and when used as a component in manufactured topsoil, the mixed hydrosolids shall be sampled and tested for total arsenic to ensure arsenic concentration shall not exceed 11 mg/kg dry weight.

Site	Sample ID	Wet Tons	Final Blend As mg/kg
Mt. William Sand & Gravel	WMR 5415	53.16	7
Remi-Sons Inc	<i>Pending</i>	2018.29	<i>tbd</i>
RMI-RMF	WMR 6628	29.34	6.3

*Results for blended topsoil from Remi-Sons Inc. is pending analysis upon completion of mixing



Section IV – Product Label

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009

City of Portsmouth – Hydrosolids – SQC Annual Report - 2019

Heart & Soil[®] *Hydrosolids*

pH Neutral Soil Amendment

Overview & Benefits

Heart & Soil *Hydrosolids* are a pH neutral soil amendment. *Hydrosolids* are recommended as an amendment for soils or loam that are high in phosphorus or as a component in manufactured topsoils. RMI provides nutrient management support to ensure you receive the full benefits from using Heart & Soil *Hydrosolids*, and bases specific agronomic recommendations upon review of soil reports and/or field and crop history.

Nutrients

(dry weight basis)

Total Nitrogen (N)	Total Phosphorous	Total Potassium
0.30%	0.0290%	0.0883%

**Heart & Soil Hydrosolids* is produced through the drinking water treatment process.

****Average values based on data from 1/1/19-12/31/19 for Portsmouth hydrosolids NHSQC 12-009**

Best Management Practices

- Application rates are based on recent soil analysis, intended use and crop needs
- *Hydrosolids* need to be amended or blended with soil or other ingredients prior to land application
- Quantity delivered will be based on soil test results and crop management goals
- Nutrient recommendation from RMI's certified crop advisor or UNH Cooperative Extension is required when land applied on an area greater than 5 acres
- Minimum 40 yard deliveries, need safe, firm, level location for off-loading tractor trailer truck
- RMI will provide testing on all *Hydrosolids* blends prior to land application
- Storage—Manage to minimize water running on, off, or, through the stockpile.
- Amended *Hydrosolids* are spread with manure spreading equipment and may be incorporated, but may not be spread on saturated, frozen or snow covered ground
- Land apply >35' from surface water bodies

Use	Application Rate
Manufactured Topsoil Mineral Component	Not to exceed 1/3 by volume of the mix
Land Application to Soils with Very High levels of Phosphorus	Not to exceed 250 wet tons per acre

Hydrosolids may not be land applied or stockpiled within 250' of a NH Designated River, or land applied within the river corridor except in accordance with RSA 483. Any use of biosolids/hydrosolids contrary to label recommendations is a violation of NH law.

Average Metals Concentration (mg/kg)

****Heart & Soil Hydrosolids**

NHDES QC Standards

As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn
8.7	1.4	6	7	5	0.11	1.4	5	4.12	26
32	14	1000	1500	300	10	35	200	28	2500

****Average values based on data from 1/1/19-12/31/19 for Portsmouth Hydrosolids NHSQC 12-009**

Heart & Soil Hydrosolids are produced by the Drinking Water Treatment Facility, 60 Freshet Street, Portsmouth, NH 03823 603-740-1431



January 31, 2019

Al Pratt
Water Resources Engineer
City of Portsmouth, Madbury Water Treatment Facility
680 Peverly Hill Road
Portsmouth, NH 03801

RE: Annual Report for the Hydrosolids Program 2018

Dear Mr. Pratt:

Enclosed please find year-end information for hydrosolids recycling activities performed by Resource Management, Inc. (RMI) on behalf of the City of Portsmouth, Madbury WTF during 2018. The information included herein provides all of the specific requirements for compliance with state regulations as noted below:

- *NH Hydrosolids SQC Annual Report* – This Annual Report is submitted to the NH-DES to comply with Env-Wq 809.09(b). It provides information about the destination of hydrosolids delivered to sites in New Hampshire subject to the Env-Wq 800 Sludge Management Rules. As a courtesy to NH-DES, all material sent to exempt sites are also included in this report. A summary of the analytical data is also included and presented in a form provided by the NH-DES. The data summary sheet and laboratory reports are included on the CD in PDF format.

Submittal of this information completes the reporting requirements for the City of Portsmouth, Madbury WTF for 2018. If you have any questions please feel free to contact me at 603-536-8900.

Sincerely,

April Sargent
Project Assistant: Compliance

Enclosure: *2018 NH Hydrosolids SQC Annual Report*

Resource Management, Inc.

Hydrosolids Generator Annual Report

2018

Name: Portsmouth Drinking Water Treatment

Address: 60 Freshet Rd
Madbury, NH 03823

Operator of Facility: Mark Young
Phone: (603) 516-7338

SQC#: 12-009

Hydrosolids Managed by RMI:	Wet Tons	Dry Tons
	2009.92	406.00

Hydrosolids Delivered:

Site Name	Latitude	Longitude	Wet Tons	Dry Tons
Iron Man Recycling, LLC	42.9582	-71.0984	1048.01	211.70
Mt. William Sand & Gravel	43.0957	-71.69205	902.79	182.36
RMI Residuals Mgmt Facility	43.6298	-71.6457	59.12	11.94
			2009.92	406.00



Anthony F. Drouin
Sludge and Septage Coordinator
Residuals Management Section
Wastewater Engineering Bureau
N.H. Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

January 31, 2019

**RE: Hydrosolids – SQC Annual Report for 2018
City of Portsmouth – Madbury Water Treatment Facility – SQC 12-009**

Dear Mr. Drouin:

On behalf of the City of Portsmouth – Madbury Water Treatment Facility please find the attached *Hydrosolids SQC Annual Report* submitted to the New Hampshire Department of Environmental Services (NH DES) by Resource Management, Inc. (RMI) in accordance with Env-Wq 809.09 of the Env-Wq 800 Sludge Management Rules. RMI is responsible for management, recordkeeping and reporting for the total annual generation of hydrosolids from the City of Portsmouth – Madbury Water Treatment Facility.

This report contains four sections:

- Section I – this section includes information in accordance with Env-Wq 809.09(a)(1-4),(6). At the request of NH DES, material sent to sites exempt from the Env-Wq 800 rules is included in this report, summarized by In State and Out of State outlets.
- Section II – this section includes a summary of the analytical data specified by Env-Wq 809.09(b)(1) in a spreadsheet format provided by the NH DES. An electronic copy of the summary as well as the individual lab reports in PDF form is enclosed on CD.
- Section III – this section contains extra testing to comply with SQC Special Conditions
- Section IV – this section includes the updated Hydrosolids label as required by Env-Wq 810.02.

Submittal of this information completes the reporting requirements for the City of Portsmouth – Madbury Water Treatment Facility for 2018. If you have any questions please feel free to contact me at 603-536-8900.

Sincerely,

April Sargent
Project Assistant: Compliance

Enclosure: *2018 City of Portsmouth – Madbury Water Treatment Facility Hydrosolids SQC Annual Report and Attachments*

Copy: Mark Young, City of Portsmouth
Al Pratt, City of Portsmouth



2018 Annual Report

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009
60 Freshet Street
Madbury, NH 03823

Submitted to

State of NH Department of Environmental Services

Submitted on

January 31, 2019

Submitted by

Resource Management, Inc.
1171 NH RT 175
Holderness, NH 03245
603-536-8900
www.RMIrecycles.com

Contents

Section I	SQC Annual Report
Section II	Analytical Data
Section III	SQC Special Conditions
Section IV	Product Label

City of Portsmouth – Hydrosolids – SQC Annual Report - 2018



Section I - SQC Annual Report

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009

City of Portsmouth – Hydrosolids – SQC Annual Report - 2018

Resource Management, Inc.

Hydrosolids Quality Certificate Holder Annual Report

2018

Name: Portsmouth Drinking Water Treatment

Address: 60 Freshet Rd
Madbury, NH 03823

Operator of Facility: Mark Young
Phone: (603) 516-7338

SQC#: 12-009

Hydrosolids Generated:	Wet Tons	Dry Tons
	2009.92	406.00

Hydrosolids Delivered:*

Site Name	Latitude	Longitude	Wet Tons	Dry Tons
Iron Man Recycling, LLC	42.9582	-71.0984	1048.01	211.70
Mt. William Sand & Gravel	43.0957	-71.69205	902.79	182.36
RMI Residuals Mgmt Facility	43.6298	-71.6457	59.12	11.94
			2009.92	406.00

Non Env-Wq 800 Sites:

	In State	
	Wet Tons	Dry Tons
Disposed:	0.00	0.00
Recycled:	0.00	0.00

	Out of State	
	Wet Tons	Dry Tons
Disposed:	0.00	0.00
Recycled:	0.00	0.00



Section II – Analytical Data

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009

**please see enclosed CD for lab reports*

Madbury Water Treatment Facility
2018 NH SQC Analytical Data



Laboratory	Sample ID	Parameter	Sample Date
Maine Environmental	WMR 2558	Metals	3/23/2018
Maine Environmental	WMR 5227	Nutrients	3/23/2018
Maine Environmental	WMR 2697	PCBs	4/18/2018
Maine Environmental	WMR 2699	Nutrients	4/18/2018
Maine Environmental	WMR 2698	Dioxin	4/18/2018
Absolute Resource	44544	VOC, SVOC + Metals	5/25/2018
Maine Environmental	WMR 3457	Metals	7/26/2018
Maine Environmental	WMR 4858	Nutrients	7/26/2018
Maine Environmental	WMR 3948	Metals	10/15/2018
Maine Environmental	WMR 3946	Nutrients	10/15/2018

Madbury Water Treatment Facility
2018 NH SQC Analytical Data



	Analyte	CAS #	MDL	3/23/2018	4/18/2018	5/25/2018	7/26/2018	10/15/2018
Section A. VOC's	Dichlorodifluoromethane	75-71-8	2			< 0.5		
	Chloromethane	74-87-3	2			< 0.5		
	Vinyl chloride	75-01-4	2			< 0.5		
	Chloroethane	75-00-3	2			< 0.5		
	Bromomethane	74-83-9	2			< 1.2		
	Trichlorofluoromethane	75-69-4	2			< 0.5		
	Diethyl ether	60-29-7	5			< 0.5		
	Acetone	67-64-1	5			< 12		
	1,1-Dichloroethene	75-35-4	2			< 0.5		
	Carbon disulfide	75-15-0	2			< 0.5		
	Methylene chloride	75-09-2	2			< 0.5		
	Methyl-t-butylether(MTBE)	1634-04-4	2			< 0.5		
	trans-1,2-Dichloroethene	156-60-5	2			< 0.5		
	1,1-Dichloroethane	75-34-3	2			< 0.5		
	2-Butanone(MEK)	78-93-3	5			< 1.4		
	2,2-Dichloropropane	590-20-7	2			< 0.5		
	cis-1,2-Dichloroethene	156-59-2	2			< 0.5		
	Chloroform	67-66-3	2			< 0.5		
	Tetrahydrofuran(THF)	109-99-9	5			< 2.3		
	Bromochloromethane	74-97-5	2			< 0.5		
	1,1,1-Trichloroethane	71-55-6	2			< 0.5		
	1,1-Dichloropropene	563-58-6	2			< 0.5		
	Carbon tetrachloride	56-23-5	2			< 0.5		
	1,2-Dichloroethane	107-06-2	2			< 0.5		
	Benzene	71-43-2	2			< 0.5		
	Trichloroethene	79-01-6	2			< 0.5		
	1,2-Dichloropropane	78-87-5	2			< 0.5		
	Bromodichloromethane	75-27-4	2			< 0.5		
	Dibromomethane	74-95-3	2			< 0.5		
	4-Methyl-2-pentanone(MIBK)	108-10-1	5			< 2.1		
	cis-1,3-Dichloropropene	10061-01-5	2			< 0.5		
	Toluene	108-88-3	2			< 0.5		
	trans-1,3-Dichloropropene	10061-02-6	2			< 0.5		
	1,1,2-Trichloroethane	79-00-5	2			< 0.5		
	2-Hexanone	591-78-6	5			< 2.3		
	1,3-Dichloropropane	142-28-9	2			< 0.5		
	Tetrachloroethene	127-18-4	2			< 0.5		
	Dibromochloromethane	124-48-1	2			< 0.5		
	1,2-Dibromoethane	106-93-4	2			< 0.5		
	Chlorobenzene	108-90-7	2			< 0.5		
	1,1,1,2-Tetrachloroethane	630-20-6	2			< 0.5		
	Ethylbenzene	100-41-4	2			< 0.5		
	m&p-Xylene	108-37-3	10			< 0.5		
	o-Xylene	95-47-6	5			< 0.5		
	Styrene	100-42-5	2			< 0.5		
	Bromoform	75-25-2	2			< 0.5		
	iso-Propylbenzene	98-82-8	5			< 0.5		
	1,1,2,2-Tetrachloroethane	79-34-5	2			< 0.5		
	1,2,3-Trichloropropane	96-18-4	2			< 0.5		
	n-Propylbenzene	103-65-1	5			< 0.5		
	Bromobenzene	108-86-1	2			< 0.5		
	1,3,5-Trimethylbenzene	108-67-8	5			< 0.5		
	2-Chlorotoluene	95-49-8	2			< 0.5		
	4-Chlorotoluene	106-43-4	2			< 0.5		
	tert-Butylbenzene	98-06-6	5			< 0.5		
	1,2,4-Trimethylbenzene	95-63-6	5			< 0.5		
	sec-Butylbenzene	135-98-8	5			< 0.5		
	p-isopropyltoluene	99-87-6	5			< 0.5		
	1,3-Dichlorobenzene	541-73-1	5			< 0.5		
	1,4-Dichlorobenzene	106-46-7	5			< 0.5		
n-Butylbenzene	104-51-8	5			< 0.5			
1,2-Dichlorobenzene	95-50-1	5			< 0.5			
1,2-Dibromo-3-chloropropane	96-12-8	2			< 0.5			
1,2,4-Trichlorobenzene	102-82-1	2			< 0.5			
Hexachlorobutadiene	87-68-3	2			< 0.5			
Naphthalene	91-20-3	5			< 0.5			
1,2,3-Trichlorobenzene	87-61-6	2			< 0.5			

	Analyte	CAS #	MDL	3/23/2018	4/18/2018	5/25/2018	7/26/2018	10/15/2018
Section B. SVOC's	Azobenzene	122-66-7	2.5			< 0.5		
	2,4-Dinitrophenol	51-28-5	12			< 13		
	2,4,5-Trichlorophenol	95-95-4	2.5			< 0.5		
	2,4-Dichlorophenol	120-83-2	2.5			< 1.3		
	2,4-Dimethylphenol	105-67-9	2.5			< 0.5		
	2,4,6-Trichlorophenol	88-06-2	5			< 0.5		
	2,4-Dinitrotoluene	121-14-2	2.5			< 0.5		
	2,6-Dinitrotoluene	606-20-2	2.5			< 0.5		
	2-Chloronaphthalene	91-59-7	10			< 1.3		
	2-Chlorophenol	95-57-8	2.5			< 1.3		
	2-Methylnaphthalene	91-57-6	5			< 0.13		
	2-Methylphenol	95-48-7	5			< 0.5		
	2-Nitroaniline	88-74-4	5			< 0.5		
	2-Nitrophenol	88-75-5	5			< 0.5		
	3,3'-Dichlorobenzidine	91-94-1	4			< 8		
	3-Nitroaniline	99-09-2	5			< 0.5		
	3/4-Methylphenol	106-44-5/106-44-5	5			< 0.5		
	4,6-Dinitro-2-methylphenol	534-52-1	12			< 5		
	4-Bromophenyl-phenylether	101-55-3	10			< 0.5		
	4-Chloro-3-methylphenol	59-50-7	10			< 0.5		
	4-Chloroaniline	106-47-8	2.5			< 0.5		
	4-Chlorophenyl-phenylether	7005-72-3	10			< 1.3		
	4-Nitroaniline	100-01-6	5			< 1.3		
	4-Nitrophenol	100-02-7	12			< 3		
	Acenaphthene	83-32-9	5			< 0.13		
	Acenaphthylene	208-96-8	5			< 0.13		
	Anthracene	120-12-7	5			< 0.13		
	Benidine	92-87-5	12			< 8		
	Benzo(a)anthracene	56-55-3	2.5			< 0.13		
	Benzo(a)pyrene	50-32-8	2.5			< 0.13		
	Benzo(b)fluoranthene	205-99-2	5			< 0.13		
	Benzo(g,h,i)perylene	191-24-2	5			< 0.13		
	Benzo(k)fluoranthene	207-08-9	5			< 0.13		
	bis(2-Chloroethoxy)methane	111-91-1	5			< 0.5		
	bis(2-Chloroethyl)ether	111-44-4	2.5			< 0.5		
	bis(2-chloroisopropyl)ether	39638-32-9	2.5			< 0.5		
	bis(2-Ethylhexyl)phthalate	117-81-7	5			< 1.3		
	Butylbenzylphthalate	85-68-7	5			< 1.3		
	Carbazole	86-74-8	2.5			< 0.5		
	Chrysene	218-01-9	5			< 0.13		
	Di-n-butylphthalate	84-74-2	5			< 1.3		
	Di-n-octylphthalate	117-84-0	5			< 1.3		
	Dibenz(a,h)anthracene	53-70-3	2.5			< 0.13		
	Dibenzofuran	132-64-9	5			< 0.13		
	Diethylphthalate	84-66-2	5			< 1.3		
	Dimethylphthalate	131-11-3	5			< 1.3		
	Fluoranthene	206-44-0	5			< 0.13		
	Fluorene	86-73-7	5			< 0.13		
	Hexachlorobenzene	118-74-1	2.5			< 0.5		
	Hexachlorocyclopentadiene	77-47-4	5			< 3		
Hexachloroethane	67-72-1	2.5			< 0.5			
Indeno(1,2,3-cd)pyrene	193-39-5	2.5			< 0.13			
Isophorone	78-59-1	2.5			< 1.3			
n-Nitroso-di-n-propylamine	621-64-7	2.5			< 0.5			
N-Nitrosodimethylamine	62-75-9	4			< 0.5			
n-Nitrosodiphenylamine	86-30-6	2.5			< 0.5			
Nitrobenzene	98-95-3	2.5			< 0.5			
Pentachlorophenol	87-86-5	4			< 3			
Phenanthrene	85-01-8	5			< 0.13			
Phenol	108-95-2	5			< 0.5			
Pyrene	129-00-0	5			< 0.13			

Madbury Water Treatment Facility
2018 NH SQC Analytical Data



	Analyte	CAS #	MDL	3/23/2018	4/18/2018	5/25/2018	7/26/2018	10/15/2018
Section C. Metals	Arsenic	7440-38-2	10	11		< 5.4	15	19
	Cadmium	7440-43-9	1	<1.6		< 1.1	<1.5	<2.1
	Chromium	16065-83-1	10	5.7J		< 11	8.8J	7.0J
	Copper	7440-50-8	10	12J		< 11	9.3J	8.4J
	Lead	7439-92-1	11	<5.4		18	<5.1	7.2J
	Mercury	7439-97-6	0.05	<0.11		< 0.34	0.26	0.14J
	Molybdenum	7439-98-7	18	<1.6		< 11	<1.5	<2.1
	Nickel	7440-02-0	10	<5.4		< 11	<5.1	<6.9
	Selenium	7782-49-2	18	<2.7		< 11	<2.6	4.6J
	Zinc	7440-66-6	10	52		32	64	29
	Antimony	7440-36-0	8			< 1.1		
	Beryllium	7440-41-7	0.5			0.55		
	Silver	7440-22-4	4			< 5.4		
	Thallium	7440-28-0	10			< 1.1		
Section D. PCB's	PCB-1242	53469-21-9	1		<0.5			
	PCB-1254	11097-69-1	1		<0.5			
	PCB-1221	11104-28-2	1		<0.5			
	PCB-1232	11141-16-5	1		<0.5			
	PCB-1248	12672-29-6	1		<0.5			
	PCB-1260	11096-82-5	1		<0.5			
	PCB-1016	12674-11-2	1		<0.5			
Section E. Nutrients	pH	na	na	7.22	7.35		6.62	6.8
	% Solids	na	na	18.56	15.39		19.48	14.52
	Nitrate/Nitrite-N	na	30	39J	<20		73	33J
	Total Kjeldahl-N	na	300	2600	3000		3300	8500
	Ammonia-N	na	30	88	84		90	250
	Total Organic-N	na	na	2500	2900		3200	8300
	Potassium	na	15	2300	3000		1600	590
	Phosphorus	7723-14-0	15	280	1100		350	360
Section F: Dioxin	Remaining_Congeners_of_2378TCDD	1746-01-6	5 ppt		0.05			

Concentration in mg/kg listed by sample date



Section III – SQC Special Conditions

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009

Section 6 requires the following additional reporting:

- b. Prior to land application and when used as a component in manufactured topsoil, the mixed hydrosolids shall be sampled and tested for total arsenic to ensure arsenic concentration shall not exceed 11 mg/kg dry weight.

Site	Sample ID	Wet Tons	Final Blend As mg/kg
Iron Man	WMR 2945	1048.01	7.9

*Results for blended topsoil from Mt. William Sand & Gravel and RMI Residuals Management Facility are pending analysis upon completion of mixing



Section IV – Product Label

The City of Portsmouth
Madbury Water Treatment Facility
SQC 12-009



Heart & Soil[®] *Hydrosolids*

pH Neutral Soil Amendment

Overview & Benefits

Heart & Soil *Hydrosolids* are a pH neutral soil amendment. *Hydrosolids* are recommended as an amendment for soils or loam that are high in phosphorus or as a component in manufactured topsoils. RMI provides nutrient management support to ensure you receive the full benefits from using Heart & Soil *Hydrosolids*, and bases specific agronomic recommendations upon review of soil reports and/or field and crop history.

Nutrients (dry weight basis)

Total Nitrogen (N)	Total Phosphorous	Total Potassium
0.44%	0.0523%	0.1873%

*Heart & Soil *Hydrosolids* is produced through the drinking water treatment process.
 **Average values based on data from 1/1/18-12/31/18 for Portsmouth hydrosolids NHSQC 12-009

Best Management Practices

- Application rates are based on recent soil analysis, intended use and crop needs
- *Hydrosolids* need to be amended or blended with soil or other ingredients prior to land application
- Quantity delivered will be based on soil test results and crop management goals
- Nutrient recommendation from RMI's certified crop advisor or UNH Cooperative Extension is required when land applied on an area greater than 5 acres
- Minimum 40 yard deliveries, need safe, firm, level location for off-loading tractor trailer truck
- RMI will provide testing on all *Hydrosolids* blends prior to land application

- Storage—Manage to minimize water running on, off, or, through the stockpile.
- Amended *Hydrosolids* are spread with manure spreading equipment and may be incorporated, but may not be spread on saturated, frozen or snow covered ground
- Land apply >35' from surface water bodies

Use	Application Rate
Manufactured Topsoil Mineral Component	Not to exceed 1/3 by volume of the mix
Land Application to Soils with Very High levels of Phosphorus	Not to exceed 250 wet tons per acre

Hydrosolids may not be land applied or stockpiled within 250' of a NH Designated River, or land applied within the river corridor except in accordance with RSA 483. Any use of biosolids/hydrosolids contrary to label recommendations is a violation of NH law.

Average Metals Concentration (mg/kg)	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn
**Heart & Soil <i>Hydrosolids</i>	12.5	1.6	8	10	9	0.21	4.1	7	5.23	44
NHDES QC Standards	32	14	1000	1500	300	10	35	200	28	2500

**Average values based on data from 1/1/18-12/31/18 for Portsmouth *Hydrosolids* NHSQC 12-009

Heart & Soil *Hydrosolids* are produced by the Drinking Water Treatment Facility, 60 Freshet Street, Portsmouth, NH 03823 603-740-1431

RFP #18-21 - Hydrosolids Management

PRE PROPOSAL MEETING

January 6, 2021 @ 10:00 a.m.

Company Name RMI	Mailing Address 1175 Route 175 Holderness NH 03245	Office Phone 603-481-1480
Your Name Charley Hanson	Email charley.hanson@rmi-recycles.com	Cell Phone
Company Name CASELLA	Mailing Address 755 Burrill Rd Portsmouth, NH 03801	Office Phone 603-290-5519
Your Name Pat Ellis	Email PAT.ELLIS@CASELLA.COM	Cell Phone 603-661-3820
Company Name CASELLA	Mailing Address 110 Main St. Suite 1308 SACONNE 04078	Office Phone 207-791-2391
Your Name B. J. Warming	Email bj.warming@CASELLA	Cell Phone 207-205-4952
Company Name SYNGRO	Mailing Address 80 North Rd Hope RI	Office Phone 403-454-7652
Your Name Sam Mill	Email SMillroy@Syngro.com	Cell Phone 403-454-7652
Company Name	Mailing Address	Office Phone
Your Name	Email	Cell Phone
Company Name	Mailing Address	Office Phone
Your Name	Email	Cell Phone