



Radionuclide Report

I. PWS INFORMATION: Please refer to your DEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: **3213000** City / Town: **North Reading**

PWS Name: **North Reading Water Department** PWS Class: **COM** ☒ **NTNC** ☐ **TNC**

DEP LOCATION (LOC) ID#	DEP Location Name	Sample Information	Date Collected	Collected By
10292	Central St. - Andover Combined	<input checked="" type="checkbox"/> (M)ultiple <input type="checkbox"/> (S)ingle	<input type="checkbox"/> (R)aw <input checked="" type="checkbox"/> (F)inished	07/08/2014 MEC
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:		
<input checked="" type="checkbox"/> RS <input type="checkbox"/> SS	<input checked="" type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	(1) Reason for Resubmission	(2) Collection Date of Original Sample	
<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction				
SAMPLE NOTES - (Such as, if a Manifold/Multiple sample, list any sources that were on-line line during sample collection).				

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab MA Cert. #: **M-MA086** Primary Lab Name: **Alpha Analytical, Inc.** Subcontracted? (Y/N) **Y**

Was this sample composited by the Lab?	COMPOSITE SAMPLE NOTES List the composited source by DEP Source Code (XXXXXXX-XXX) and dates collected, up to four consecutive quarterly samples per single entry point.
<input type="checkbox"/>	
LAB SAMPLE NOTES	

Contaminant	RESULT	Std Dev (+/-)	MCL	MDL	Lab Method	Date Analyzed	Lab Sample ID#	Analysis Lab MA Cert#	Analysis Lab Name
GROSS ALPHA (pCi/L)	0.0	1.7		1.7	SM 7110 B	07/22/2014	G177/14-1	CO00008	Hazen Research
URANIUM - activity (pCi/L)									
Report Uranium result and MDL in (pCi/L) as analyzed, otherwise use formula to calculate [Uranium µg/L x 0.67 = Uranium pCi/L]. Check this box if result is calculated <input type="checkbox"/>									
ADJUSTED GROSS ALPHA (pCi/L)		----			The MCL for Adjusted Gross Alpha (Gross Alpha minus Uranium) is 15 pCi/L. A gross alpha measurement may be substituted for the uranium analysis, if the gross alpha result is equal to or less than 15 pCi/L. If gross alpha exceeds 15 pCi/L, uranium must also be measured.				

URANIUM - mass (µg/L)									
Report Uranium result and MDL in (µg/L) as analyzed, otherwise use formula to calculate [Uranium pCi/L / 0.67 = Uranium µg/L]. Check this box if result is calculated <input type="checkbox"/>									

RADIUM-226 (pCi/L)	0.1	0.2		0.1	SM 7500-Ra B	07/18/2014	G177/14-1	CO00008	Hazen Research
RADIUM-228 (pCi/L)	0.1	0.6		0.6	EPA Ra-05	07/21/2014	G177/14-1	CO00008	Hazen Research
COMBINED RADIUM (pCi/L)	0.2	----	5	The MCL for Combined Radium (Radium-226 plus Radium-228) is 5 pCi/L. A gross alpha measurement may be substituted for the radium-226 analysis, if the gross alpha result is equal to or less than 5 pCi/L. If gross alpha exceeds 5 pCi/L, radium-226 must also be measured.					

GROSS BETA (pCi/L)	1.5	3.2	*	3.1	SM 7110 B	07/22/2014	G177/14-1	CO00008	Hazen Research
*The MCL for gross beta is 4 mrem/year. If gross beta exceeds 50 pCi/L, analysis of the sample for Photon Activity shall be performed to identify the major radioactive constituents. Gross Beta testing is optional, unless specifically required by DEP.									
RADON (pCi/L)			**						
**Radon testing is optional, unless specifically required by DEP. The MA guideline for Radon is 10,000 pCi/L. The EPA has proposed a radon MCL of 300 - 4000 pCi/L.									

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Lab Director Signature:  Robert Rostad, Hazen Research, Inc.

Date: 07/29/2014

If not submitting these results electronically, mail TWO copies of this report to your DEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner.

DEP REVIEW STATUS (Initial & Date)	Review Comments	<input type="checkbox"/> WQTS Data Entered
<input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved _____		



Radionuclide Report

I. PWS INFORMATION: Please refer to your DEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: **3213000** City / Town: **North Reading**
PWS Name: **North Reading Water Department** PWS Class: COM ☒ NTNC ☐ TNC ☐

DEP LOCATION (LOC) ID#	DEP Location Name	Sample Information	Date Collected	Collected By
10010	Lakeside Blvd WTP	<input type="checkbox"/> (M)ultiple <input type="checkbox"/> (R)aw <input checked="" type="checkbox"/> (S)ingle <input checked="" type="checkbox"/> (F)inished	07/08/2014	MEC
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:		
<input checked="" type="checkbox"/> RS <input type="checkbox"/> SS	<input checked="" type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	(1) Reason for Resubmission <input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction	(2) Collection Date of Original Sample	
SAMPLE NOTES - (Such as, if a Manifold/Multiple sample, list any sources that were on-line line during sample collection).				

II. ANALYTICAL LABORATORY INFORMATION:

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Was this sample composited by the Lab? <input type="checkbox"/>	COMPOSITE SAMPLE NOTES List the composited source by DEP Source Code (XXXXXXX-XXX) and dates collected, up to four consecutive quarterly samples per single entry point.
LAB SAMPLE NOTES	

Contaminant	RESULT	Std Dev (+/-)	MCL	MDL	Lab Method	Date Analyzed	Lab Sample ID#	Analysis Lab MA Cert#	Analysis Lab Name
GROSS ALPHA (pCi/L)	1.2	0.7		0.6	SM 7110 B	07/22/2014	G177/14-2	CO00008	Hazen Research
URANIUM - activity (pCi/L)									
Report Uranium result and MDL in (pCi/L) as analyzed, otherwise use formula to calculate [Uranium µg/L x 0.67 = Uranium pCi/L]. Check this box if result is calculated <input type="checkbox"/>									
ADJUSTED GROSS ALPHA (pCi/L)		----			The MCL for Adjusted Gross Alpha (Gross Alpha minus Uranium) is 15 pCi/L. A gross alpha measurement may be substituted for the uranium analysis, if the gross alpha result is equal to or less than 15 pCi/L. If gross alpha exceeds 15 pCi/L, uranium must also be measured.				

URANIUM - mass (µg/L)									
Report Uranium result and MDL in (µg/L) as analyzed, otherwise use formula to calculate [Uranium pCi/L / 0.67 = Uranium µg/L]. Check this box if result is calculated <input type="checkbox"/>									

RADIUM-226 (pCi/L)	0.3	0.2		0.1	SM 7500-Ra B	07/18/2014	G177/14-2	CO00008	Hazen Research
RADIUM-228 (pCi/L)	0.4	0.6		0.6	EPA Ra-05	07/21/2014	G177/14-2	CO00008	Hazen Research
COMBINED RADIUM (pCi/L)	0.7	----	5		The MCL for Combined Radium (Radium-226 plus Radium-228) is 5 pCi/L. A gross alpha measurement may be substituted for the radium-226 analysis, if the gross alpha result is equal to or less than 5 pCi/L. If gross alpha exceeds 5 pCi/L, radium-226 must also be measured.				

GROSS BETA (pCi/L)	46	1	*	0.6	SM 7110 B	07/22/2014	G177/14-2	CO00008	Hazen Research
*The MCL for gross beta is 4 mrem/year. If gross beta exceeds 50 pCi/L, analysis of the sample for Photon Activity shall be performed to identify the major radioactive constituents. Gross Beta testing is optional, unless specifically required by DEP.									
RADON (pCi/L)			**						
**Radon testing is optional, unless specifically required by DEP. The MA guideline for Radon is 10,000 pCi/L. The EPA has proposed a radon MCL of 300 - 4000 pCi/L.									

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Robert Rostad, Hazen Research, Inc

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Massachusetts Department of Environmental Protection - Drinking Water Program

Radionuclide Report

R

I. PWS INFORMATION: Please refer to your DEP Water Quality Sampling Schedule (WQSS) to help complete this form

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City / Town: North Reading

PWS Name: North Reading Water Department

PWS Class: COM ☒ NTNC ☐ TNC ☐

DEP LOCATION (LOC) ID#	DEP Location Name	Sample Information		Date Collected	Collected By
10291	West Village WTP	<input type="checkbox"/> (M)ultiple <input checked="" type="checkbox"/> (S)ingle	<input type="checkbox"/> (R)aw <input checked="" type="checkbox"/> (F)inished	07/08/2014	MEC
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:			
<input checked="" type="checkbox"/> RS <input type="checkbox"/> SS	<input checked="" type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	(1) Reason for Resubmission		(2) Collection Date of Original Sample	
		<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction			
SAMPLE NOTES - (Such as, if a Manifold/Multiple sample, list any sources that were on-line line during sample collection).					

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Primary Lab MA Cert. #: M-MA086

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Subcontracted? (Y/N) Y

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<input type="checkbox"/>	
LAB SAMPLE NOTES	

Contaminant	RESULT	Std Dev (+/-)	MCL	MDL	Lab Method	Date Analyzed	Lab Sample ID#	Analysis Lab MA Cert#	Analysis Lab Name
GROSS ALPHA (pCi/L)	0.0	2.4		2.5	SM 7110 B	07/22/2014	G177/14-3	CO00008	Hazen Research
URANIUM - activity (pCi/L)									

Report Uranium result and MDL in (pCi/L) as analyzed, otherwise use formula to calculate [Uranium $\mu\text{g/L}$ \times 0.67 = Uranium pCi/L]. Check this box if result is calculated ☐

ADJUSTED GROSS ALPHA (pCi/L)		----		The MCL for Adjusted Gross Alpha (Gross Alpha minus Uranium) is 15 pCi/L. A gross alpha measurement may be substituted for the uranium analysis, if the gross alpha result is equal to or less than 15 pCi/L. If gross alpha exceeds 15 pCi/L, uranium must also be measured.					
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URANIUM - mass ($\mu\text{g/L}$)									
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Report Uranium result and MDL in ($\mu\text{g/L}$) as analyzed, otherwise use formula to calculate [Uranium pCi/L / 0.67 = Uranium $\mu\text{g/L}$]. Check this box if result is calculated ☐

RADIUM-226 (pCi/L)	0.0	0.1		0.1	SM 7500-Ra B	07/18/2014	G177/14-3	CO00008	Hazen Research
RADIUM-228 (pCi/L)	0.0	0.6		0.6	EPA Ra-05	07/21/2014	G177/14-3	CO00008	Hazen Research
COMBINED RADIUM (pCi/L)	0.0	----	5	The MCL for Combined Radium (Radium-226 plus Radium-228) is 5 pCi/L. A gross alpha measurement may be substituted for the radium-226 analysis, if the gross alpha result is equal to or less than 5 pCi/L. If gross alpha exceeds 5 pCi/L, radium-226 must also be measured.					

GROSS BETA (pCi/L)	38	5	*	3.2	SM 7110 B	07/22/2014	G177/14-3	CO00008	Hazen Research
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*The MCL for gross beta is 4 mrem/year. If gross beta exceeds 50 pCi/L, analysis of the sample for Photon Activity shall be performed to identify the major radioactive constituents. Gross Beta testing is optional, unless specifically required by DEP.

RADON (pCi/L)			**						
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