Fryeburg Water Company
24 Portland Street, Suite #1
Fryeburg, ME 04037
1-800-287-1643

September 17, 2020

Code Enforcement Office
Town of Fryeburg
16 Lovewell Pond Road
Fryeburg, ME 04037

Re: Ward's Pond Aquifer Monitoring Plan

Dear Mr :

Enclosed please find monitoring data for the third quarter of 2020. The enclosed data has been collected by Aric Odone, Lead Field Service Representative of Maine Water Company. Maine Water Company has been retained by the Fryeburg Water Company to assist with the operation and management of the Fryeburg public water system.

BACKGROUND

An aquifer monitoring plan (hereafter referred to as the "Ward's Pond Aquifer Monitoring Plan") was created as a condition of approval by the Fryeburg Planning Board as part of its Notice of Decision for Land Use Authorization in April 2003.

WARDS POND AQUIFER MONITORING PLAN

This monitoring plan has been prepared at the request of the Fryeburg Planning Board as a means of documenting the long term trend in water elevation within the Aquifer surrounding the production well on Porter Road in the Town of Fryeburg, Maine.

MONITORING LOCATIONS

Six locations established to measure groundwater levels include four monitoring wells (MW-1, 2, 3, 4) and two surface monitoring locations (SG-1, 2) as shown on the attached map. Three monitoring locations (MW-2, MW-3 and MW-4) monitor groundwater elevation within the aquifer associated with production well #3, located off Porter Road. MW-2 monitors groundwater elevation down gradient of Well #3 and MW-3 and MW-4 monitor up gradient water elevation. MW-1 monitors groundwater elevation associated with Wells #1 and #2, located off Portland Street. Because MW-1 is located in the immediate vicinity of the existing production wells, this well will be monitored at a time when each of the existing wells has not been operating for a minimum of one hour.

2020 GROUNDWATER ELEVATION DATA IN FEET

		1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
	Reference Elevation	Depth to Water	Elevation of Water	Depth to Water	Elevation of Water	Depth to Water	Elevation of Water	Depth to Water	Elevation of Water
	11-1-2015 & 5/11/2016	1/7/20	1/7/20	4/23/20	4/23/20	8/24/20	8/24/20		
MW 1	393.47	3.95	387.75	3.2	390.27	3.6	389.87		
MW 2	419.50	17.55	401.8	15.8	403.6	18.5	400.1		
MW 3	407.07	Frozen	Frozen	1.4	408.31	1.6	408.63		
MW 4	410.06	0.25	410.23	1.75	411.73	0	410.14		

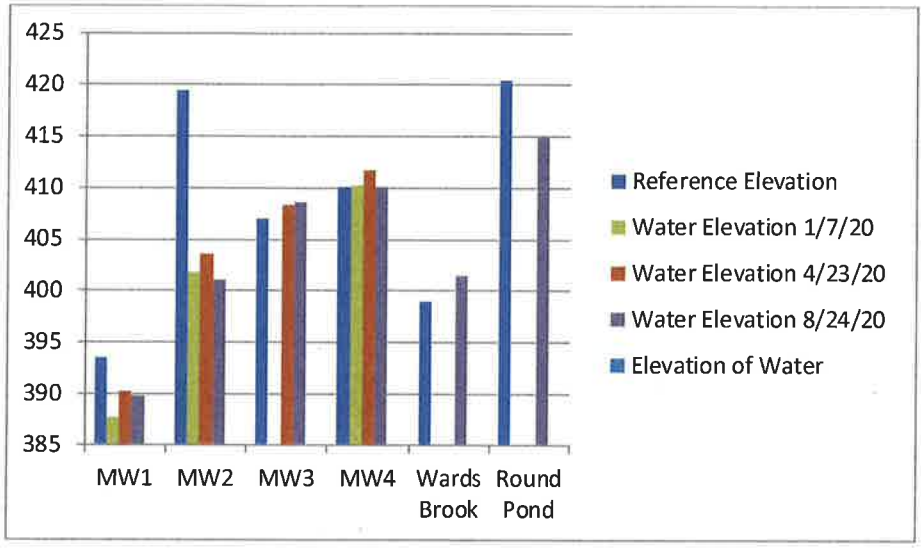
The elevation of water reported each quarter for the individual monitoring wells is based on the depth of water measured at each well subtracted from the November 2015 survey reference elevation. The Reference Elevation is the measuring point elevation in feet NAVD (North American Vertical Datum (1988). Bliss Associates surveyed and provided new reference elevations for the monitoring wells in November 2015.

Two monitoring locations (SG-1 and SG-2) monitor surface water elevations of Round Pond and the headwaters of Wards Pond. There are staff gauges at each location and direct readings of surface water elevation are collected. The staff gauges were surveyed for reference elevations on May 11, 2016. Maine Water Company is planning to resurvey the reference elevations in 2018.

2019 SURFACE WATER ELEVATION DATA

Surface Water Elevation	**May 11, 2016 Reference Elevation**	**Depth to Water 1/7/20**	**Depth to Water 4/23/20**	**Depth to Water 8/24/20**	**Depth to Water**
Wards Brook	398.97	Frozen		401.45	
Round Pond	420.52	Frozen		414.99	

GROUNDWATER AND SURFACE WATER ELEVATIONS



MONITORING PROCEDURES

Each monitoring location is visited quarterly. At each monitoring well location an electronic water level meter is lowered into the well. The depth to water from the top of the well casing is recorded. This depth is subtracted from a USGS vertical elevation derived from the survey to determine the elevation of the water table. At each staff gauge location the water level is read directly from the staff gauge and the water elevation is calculated from the known elevation of the top of each staff gauge.

REPORTING

Data from the four monitoring wells and the surface monitoring locations are reported on a quarterly basis. At the end of each water year a monitoring report is submitted to the planning board, in care of the Code Enforcement Officer, for review. The report documents the condition of each monitoring location, a narrative describing the monitoring results including an interpretation of the results, and time series graphs of the water elevation associated with each monitoring location. The data is presented such that the planning board can interpret the results without outside input.

In addition to the data from the six monitoring locations, we have included water withdrawal data from the three wells. Well #1 is the dedicated well for bulk water withdrawal and Wells #2 and #3 supply the Town's distribution system.

2020 WATER WITHDRAWAL DATA IN GALLONS

2020	PMS	Pump #2	Pump #3	Total
January	13,317,801	2,216,500	2,773,700	18,308,001
February	9,552,805	2,420,000	2,037,600	14,010,405
March	14,136,570	2,149,100	2,248,100	18,533,770
April	3,037,760	2,101,200	2,302,800	7,441,760
May	3,301,895	3,856,200	5,081,500	12,239,595
June	10,709,460	9,413,700	7,918,400.00	28,041,560
July	16,570,000	6,694,600	6,693,900	29,958,500
August	16,659,907	7,233,900	~~7,206,00~~	23,893,807
September	15,580,850	5,061,800	5,247,100	25,889,750
October				-
November				-
December				-
Totals	**102,867,048**	**41,147,000**	**34,303,100**	**178,317,148**

The comprehensive Emery & Garrett Groundwater Inc. study undertaken on behalf of the Town of Fryeburg in 2005 and updated in 2018 concludes that above the amount of water withdrawn by the Fryeburg Water Company to serve its residential and other commercial customers, the Ward's Brook aquifer can reasonably sustain discretionary withdrawals of 220 million gallons per year.

Based on our observation and review of additional monitoring reports submitted by Luetje Geological Services, LLC, we have not observed any adverse impact to the Ward's Brook Aquifer.

Please contact our office with any questions at (800) 287-1643.

Respectfully submitted,

Lead Field Service Representative