Biomarine
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CERTIFICATE OF ANALYSIS

Mr. David Dolan
Hamilton Water Department
577 Bay Rd.
Hamilton, MA 01936

Biomarine Report No.:48067
November 30, 2010

RE: WATER QUALITY ANALYSIS

SAMPLE INFORMATION:

Samples Collected By:	David Dolan and Tim Shea
Date and Time Sample Collected:	11/16/10, see times below
Sample Collection Site:	A) WTP Finish, sampled at 10:37 AM B) Moulton St., sampled at 8:00 AM C) Walnut Rd., sampled at 9:00 AM D) Bradford St., sampled at 10:00 AM
Date and Time Sample was Received at Lab:	11/16/10, 2:15 PM
Analyzed By / Date:	** M-CT008, See dates below

FINDINGS:

48067A					
PARAMETER	**RESULT**	**DETECTION LIMIT**	**METHOD**	**ANALYSIS DATE**	**ANALYZED BY**
Ammonia as N (mg/L)	ND	0.020	350.1	11/20/10	**
Fluoride (mg/L) 2.0	0.86	0.20	4500F-C	11/17/10	**
Sulfate (mg/L) 250	8.3	5.0	4500-SO4-E	11/18/10	**
Alkalinity (mg/L)	130	1.0	SM2320B	11/22/10	**
Alkalinity, Bicarbonate (mg/L)	130	1.0	SM2320B	11/22/10	**
Chloride (mg/L) 250	66	2.0	SM4500-CL-D	11/18/10	**
Dissolved Silica (mg/L)	15	2.0	SM4500 Si E	11/23/10	**
Nitrate as N (mg/L)	0.22	0.10	SM4500-NO3	11/17/10	**
Solids, Dissolved (mg/L) 500	280	1.0	SM2540C	11/23/10	**
Specific Conductance (Micromhos/cm)	510	1.0	SM2510B	11/19/10	**
Total Organic Carbon (mg/L)	ND	0.50	SM5310C	11/20/10	**
Turbidity (NTU)	0.72	0.10	SM2130B	11/17/10	**
pH (pH Units) 6.5-8.5	7.3	-	150.1	11/17/10	**
Hardness (mg/L)) HARD	140	0.13	SM2340B	11/18/10	**
Sodium (mg/L)	30	0.051	200.7	11/18/10	**
Potassium (mg/L)	3.2	0.20	200.7	11/18/10	**
2A Manganese (mg/L) 0.05	0.063	0.0020	200.7	11/18/10	**
1A Magnesium (mg/L)	10	0.051	200.7	11/18/10	**
2 Iron (mg/L) 0.3	ND	0.051	200.7	11/18/10	**
1 Calcium (mg/L)	56	0.051	200.7	11/18/10	**
Arsenic (mg/L)	ND	0.0041	200.8	11/18/10	**
Barium (mg/L)	0.097	0.0051	200.8	11/18/10	**
Strontium (mg/L)	0.14	0.0020	200.8	11/18/10	**

DEP GUIDELINE 20mg/L

SECONDARY MCL

SOFT: 0-60 mg/L
MODERATELY HARD: 61-120 mg/L
HARD: 121-180 mg/L
VERY HARD: >181 mg/L

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48067B					
PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYZED BY
Ammonia as N (mg/L)	ND	0.020	350.1	11/20/10	**
Fluoride (mg/L)	1.0	0.20	4500F-C	11/17/10	**
Sulfate (mg/L)	29	5.0	4500-SO4-E	11/18/10	**
Alkalinity (mg/L)	130	1.0	SM2320B	11/22/10	**
Alkalinity, Bicarbonate (mg/L)	130	1.0	SM2320B	11/22/10	**
Chloride (mg/L)	65	2.0	SM4500-CL-D	11/18/10	**
Dissolved Silica (mg/L)	15	2.0	SM4500 Si E	11/23/10	**
Nitrate as N (mg/L)	0.23	0.10	SM4500-NO3	11/17/10	**
Solids, Dissolved (mg/L)	280	1.0	SM2540C	11/23/10	**
Specific Conductance (Micromhos/cm)	510	1.0	SM2510B	11/19/10	**
Total Organic Carbon (mg/L)	ND	0.50	SM5310C	11/20/10	**
Turbidity (NTU)	0.13	0.10	SM2130B	11/17/10	**
pH (pH Units)	7.4	-	150.1	11/17/10	**
Hardness (mg/L))	140	0.13	SM2340B	11/18/10	**
Sodium (mg/L)	30	0.051	200.7	11/18/10	**
Potassium (mg/L)	3.1	0.20	200.7	11/18/10	**
Manganese (mg/L)	0.013	0.0020	200.7	11/18/10	**
Magnesium (mg/L)	10	0.051	200.7	11/18/10	**
Iron (mg/L)	ND	0.051	200.7	11/18/10	**
Calcium (mg/L)	56	0.051	200.7	11/18/10	**
Arsenic (mg/L)	ND	0.0041	200.8	11/18/10	**
Barium (mg/L)	0.098	0.0051	200.8	11/18/10	**
Strontium (mg/L)	0.13	0.0020	200.8	11/18/10	**

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48067C					
PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYZED BY
Ammonia as N (mg/L)	ND	0.020	350.1	11/20/10	**
Fluoride (mg/L)	0.96	0.20	4500F-C	11/17/10	**
Sulfate (mg/L)	31	5.0	4500-SO4-E	11/18/10	**
Alkalinity (mg/L)	130	1.0	SM2320B	11/22/10	**
Alkalinity, Bicarbonate (mg/L)	130	1.0	SM2320B	11/22/10	**
Chloride (mg/L)	65	2.0	SM4500-CL-D	11/18/10	**
Dissolved Silica (mg/L)	14	2.0	SM4500 Si E	11/23/10	**
Nitrate as N (mg/L)	0.22	0.10	SM4500-NO3	11/17/10	**
Solids, Dissolved (mg/L)	300	1.0	SM2540C	11/23/10	**
Specific Conductance (Micromhos/cm)	520	1.0	SM2510B	11/19/10	**
Total Organic Carbon (mg/L)	ND	0.50	SM5310C	11/20/10	**
Turbidity (NTU)	0.35	0.10	SM2130B	11/17/10	**
pH (pH Units)	7.3	-	150.1	11/17/10	**
Hardness (mg/L))	140	0.13	SM2340B	11/18/10	**
Sodium (mg/L)	30	0.051	200.7	11/18/10	**
Potassium (mg/L)	3.2	0.20	200.7	11/18/10	**
Manganese (mg/L)	0.043	0.0020	200.7	11/18/10	**
Magnesium (mg/L)	10	0.051	200.7	11/18/10	**
Iron (mg/L)	ND	0.051	200.7	11/18/10	**
Calcium (mg/L)	56	0.051	200.7	11/18/10	**
Arsenic (mg/L)	ND	0.0041	200.8	11/18/10	**
Barium (mg/L)	0.097	0.0051	200.8	11/18/10	**
Strontium (mg/L)	0.13	0.0020	200.8	11/18/10	**

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48067D					
PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYZED BY
Ammonia as N (mg/L)	ND	0.020	350.1	11/20/10	**
Fluoride (mg/L)	1.1	0.20	4500F-C	11/17/10	**
Sulfate (mg/L)	31	5.0	4500-SO4-E	11/18/10	**
Alkalinity (mg/L)	140	1.0	SM2320B	11/22/10	**
Alkalinity, Bicarbonate (mg/L)	140	1.0	SM2320B	11/22/10	**
Chloride (mg/L)	66	2.0	SM4500-CL-D	11/18/10	**
Dissolved Silica (mg/L)	14	2.0	SM4500 Si E	11/23/10	**
Nitrate as N (mg/L)	0.22	0.10	SM4500-NO3	11/17/10	**
Solids, Dissolved (mg/L)	310	1.0	SM2540C	11/23/10	**
Specific Conductance (Micromhos/cm)	530	1.0	SM2510B	11/19/10	**
Total Organic Carbon (mg/L)	ND	0.50	SM5310C	11/20/10	**
Turbidity (NTU)	0.24	0.10	SM2130B	11/17/10	**
pH (pH Units)	7.4	-	150.1	11/17/10	**
Hardness (mg/L))	140	0.13	SM2340B	11/18/10	**
Sodium (mg/L)	30	0.051	200.7	11/18/10	**
Potassium (mg/L)	3.1	0.20	200.7	11/18/10	**
Manganese (mg/L)	0.021	0.0020	200.7	11/18/10	**
Magnesium (mg/L)	10	0.051	200.7	11/18/10	**
Iron (mg/L)	ND	0.051	200.7	11/18/10	**
Calcium (mg/L)	58	0.051	200.7	11/18/10	**
Arsenic (mg/L)	ND	0.0041	200.8	11/18/10	**
Barium (mg/L)	0.094	0.0051	200.8	11/18/10	**
Strontium (mg/L)	0.15	0.0020	200.8	11/18/10	**

Jim Groleau, Laboratory Director