

**ADDENDUM TO
FINAL REPORT - PILOT PLANT EVALUATION
SEPTEMBER, 2022**

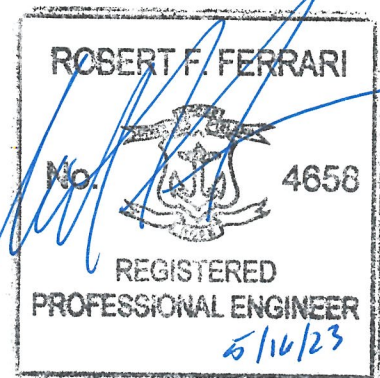
**QUARTERLY REPORT
PILOT PLANT EVALUATION
JANUARY, 2023**

**MANGANESE REMOVAL FROM
PRE-FILTERED SURFACE WATER
USING
GREENSAND PLUS FILTRATION**

PREPARED FOR

**HOUSATONIC WATER WORKS COMPANY
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EXECUTIVE SUMMARY

Housatonic Water Works Co. (HWWC) and NWSI performed an initial “quarterly” (Q1) pilot plant program in September 2022 to assess and evaluate the ability of the Greensand Plus Filtration treatment process to effectively remove manganese from the Long Pond source water. A comprehensive evaluation of the pilot plant data determined that this treatment process was effective for removal of manganese, with no deleterious side effects or by-products, over a nominal 2-week operating duration. Upon completion of the Q1 pilot plant, NWSI conducted a shut-down of the pilot plant, for temporary storage on-site, until re-activation for the subsequent Q2 test program.

HWWC and NWSI re-activated the pilot plant treatment system and conducted a second quarterly (Q2) pilot plant program in January 2023, operating continuously for 12 days to evaluate the winter operating conditions and source water characterization. During the “Q2” pilot plant program the system experienced minimal manganese levels in the Long Pond source water, consistent with expectations based upon the prior operating history of the HWWC system. The source water manganese concentration ranged from non-detectable to a maximum of 0.0153 mg/L, in all cases below the USEPA Manganese SMCL (0.05 mg/L). The pilot plant effluent water demonstrated non-detectable (<0.00204 mg/L) manganese in all samples, obtained each day over the pilot plant operating duration.

The three (3) pilot plant filters were operating in parallel at average hydraulic loading 1.9 gpm (3.5 gpm/ft²), 2.9 gpm (5.3 gpm/ft²) and 4.0 gpm (7.3 gpm/ft²) respectively. The filters demonstrated similar performance over this hydraulic loading range, and consistency with their design criteria. It should be noted that the very low manganese and TSS loading (principally “non-detectable”) was consistent with expectations for winter operation. The monitoring of the spent filter backwash water determined a 10-12 minute duration was effective however, this is consistent with expectations, based upon the minimal of manganese and suspended solids loading to the filters.

Total (TOC) and dissolved (DOC) organic carbon in the raw source water was approximately 3 mg/L, with virtually all of the organic carbon in the dissolved form. The raw water TOC concentration was approximately 12% - 14% lower than detected in the Q1 pilot study (3.30 to 3.56 mg/L) which was expected due to seasonal impact upon TOC sources in this surface water watershed. The Slow Sand Filters demonstrated a TOC reduction of 24.1-31.5% across the filter beds, consistent with the operating history and prior monitoring of the water treatment system. No significant removal of TOC occurred through the Greensand Filtration process.

The GSF influent demonstrated TTHMs averaging 22.6 ug/L, compared to GSF effluent TTHMs of 23.0 ug/L. Similarly, the GSF influent demonstrated HAA5s averaging 27.9 ug/L, compared to GSF effluent of 27.7 ug/L. In both cases the monitoring data demonstrated the GSF operation had no impact upon DBPR formation.

Over the duration of the pilot plant the Greensand Filters demonstrated a similar, low chlorine demand averaging ≈0.16 mg/L. This is consistent with expectations due to non-detectable manganese in the GSF influent and no impact upon DBPR formation.

The pilot plant program was performed by Northeast Water Solutions, Inc., under the direct supervision of a Massachusetts Registered Professional Engineer. The day-to-day pilot plant operation was performed by a Massachusetts certified public water system operator (Grade 2T, 3T-OIT). Technical review of the pilot plant operation, data generation and findings, including select text, figures and tables, were provided by Water Compliance Solutions, LLC.

I. PILOT PLANT RESULTS AND EVALUATION

The Greensand Filter (GSF) pilot plant was operated continuously for 12 days from January 16th to January 27th, 2023. The operating variables monitored during the pilot plant operation include, but not be limited to, the following:

- Raw Source Water & Greensand Filter Influent Water Characterization;
- Hydraulic Loading;
- Manganese Loading and Removal Efficiency;
- Chlorine Dosage and Operating Efficiency;
- Backwash Flowrate, Volume, and Manganese Concentration;
- Disinfection By-Products Formation

Pilot plant operating/performance and backwash data including laboratory analytical reports are presented in Appendix A, B and C.

1.1 Raw Source (Long Pond) Water Characterization

Table 1-1 presents the result of analyses of the raw source (Long Pond) water during the Q2 pilot study period. Review comments include the following:

- The raw source water pH was in the range of 7.77 to 8.02 S.U. (avg. = 7.9 S.U.), within the historic monitoring (8/3/2020-3/21/2022) raw water pH range of 7.09 to 8.5 S.U., similar to the raw water pH demonstrated in the Q1 (9/21/2022 – 9/28/2022) pilot program (avg. = 7.93 S.U.) and within the range of USEPA SMCL of 7.1 to 8.5 S.U.
- Total organic carbon (TOC) demonstrated a range of 2.91 to 3.05 mg/L compared to dissolved organic carbon (DOC) of 3.04 to 3.09 mg/L, indicating virtually all of the organic carbon in the raw water is in the dissolved form. The TOC concentration in the Q2 raw source water is 12% - 14% lower than detected in the Q1 pilot study (TOC = 3.30 to 3.56 mg/L), which is expected, due to seasonal impact upon TOC sources in this surface water watershed.
- The raw source water demonstrated UV254 (absorbance/cm) values of 0.056 to 0.065 in the four (4) samples obtained from 1/17/2023 to 1/26/2023. These values are slightly less than UV254 values of 0.077 to 0.087 determined in the Q1 pilot program.

The Q2 raw source water SUVA value (UV/DOC in L/mg-m) was in the range of 1.81 to 2.14 (avg. = 1.90), slightly lower than Q1 raw source water SUVA (avg. ≈2.3). In both the Q1 and Q2 pilot testing periods the raw water is considered to be "low SUVA" (≤ 3).

- The raw source water demonstrates trace total manganese of 0.00936 mg/L and 0.0153 mg/L, consistent with or less than the historic non-summer season monitoring demonstrating a range of 0.0128 to 0.0411 mg/L (avg. = 0.0202 mg/L). Dissolved

manganese of 0.00379 mg/L (1/23/2023) and 0.00718 mg/L (1/19/2023) indicates a slight majority (53% to 60%) of the source water manganese is in the particulate form.

- The raw source water demonstrated non-detectible (<0.0500 mg/L) iron.

| Sample Date | 1/17/2023 | 1/19/2023 | 1/23/2023 | 1/24/2023 | 1/26/2023 |
|----------------------------------|-----------|-----------|-----------|-----------|-----------|
| pH (for UV254), S.U. | 7.93 | 7.77 | ---- | 8.02 | 7.97 |
| Total Organic Carbon (TOC), mg/L | 2.99 | 3.08 | ---- | 3.05 | 2.91 |
| Diss. Organic Carbon (DOC), mg/L | 3.09 | 3.23 | ---- | 3.12 | 3.04 |
| UV254 (absorbance) /cm | 0.056 | 0.059 | ---- | 0.057 | 0.065 |
| SUVA (UV/DOC) | 1.81 | 1.83 | ---- | 1.83 | 2.14 |
| Mn, total, mg/L | ---- | 0.0153 | 0.00936 | ---- | ---- |
| Mn (dissolved), mg/L | ---- | 0.00718 | 0.00379 | ---- | ---- |
| Fe, total, mg/L | ---- | <0.0500 | <0.0500 | ---- | ---- |

1.2 Greensand Filter Influent & Effluent Water Characterization

During the pilot plant program NWSI conducted field and laboratory monitoring of critical operational and performance parameters (Appendix A). Over the duration of the pilot plant the raw source water and the greensand filter influent demonstrated a very consistent baseline characterization for all parameters. Findings and review comments include the following:

1.2.1 Influent & Effluent pH:

The GSF influent water pH was in the range of 7.50 to 7.96 S.U., slightly below the raw water pH (7.77-8.02 S.U.), consistent with the findings of the Q1 pilot plant (7.53 to 7.95 S.U.) and also consistent with the historic finished water range of 7.2 to 7.9 S.U.

| Sampling Date | GSF Influent | GSF1 Eff | GSF2 Eff | GSF3 Eff |
|---------------|--------------|----------|----------|----------|
| 1/16/2023 | 7.60 | 7.53 | 7.65 | 7.65 |
| 1/17/2023 | 7.69 | 7.50 | 7.64 | 7.65 |
| 1/18/2023 | 7.69 | 7.46 | 7.46 | 7.57 |
| 1/19/2023 | 7.61 | 7.46 | 7.48 | 7.58 |
| 1/20/2023 | 7.69 | 7.30 | 7.55 | 7.63 |
| 1/21/2023 | 7.96 | 7.48 | 7.51 | 7.54 |
| 1/22/2023 | 7.80 | 7.44 | 7.49 | 7.53 |
| 1/23/2023 | 7.59 | 7.54 | 7.56 | 7.58 |
| 1/24/2023 | 7.55 | 7.44 | 7.56 | 7.56 |
| 1/25/2023 | 7.59 | 7.45 | 7.56 | 7.57 |
| 1/26/2023 | 7.58 | 7.45 | 7.57 | 7.57 |
| 1/27/2023 | 7.50 | 7.52 | 7.59 | 7.54 |

There was close correlation between the field and laboratory pH monitoring with the GSF effluent consistently demonstrating pH similar to, or slightly less than the influent pH, in all cases within USEPA Drinking Water Limits (6.5 to 8.5 S.U.).

1.2.2 Turbidity:

The GSF influent water demonstrated consistently non-detectable turbidity (<0.100 NTU) excepting a single day result of 9.25 NTU on January 21, 2023. This single instance of elevated turbidity was not due to oxidation/precipitation of soluble manganese which demonstrated (Table 1-9) non-detectable (<0.00204 mg/L). However, the elevated turbidity occurred concurrent with elevated TSS (Table 1-4; 7.50 mg/L) and color (Table 1-5; 10 CU). Excepting this single result, the Q2 (January 2023) influent turbidity monitoring is in sharp contrast to the Q1 (September 2022) pilot plant monitoring, that consistently demonstrated somewhat elevated influent turbidity with values of 0.83 to 1.72 NTU. The GSF influent turbidity measurements are consistent with the measurements presented by the on-line monitoring of the slow sand filter effluent, demonstrating SSF #1 effluent turbidity of 0.059 to 0.062 NTU and SSF #2 effluent turbidity of 0.027 to 0.031 NTU.

All GSF effluent monitoring demonstrated non-detectable (<0.100 NTU) turbidity, including January 21, 2023 when the GSF influent turbidity was 9.25 NTU.

| Sampling Date | GSF Influent | GSF Effluent | | |
|---------------|--------------|--------------|--------|--------|
| | | GSF #1 | GSF #2 | GSF #3 |
| 1/16/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/17/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/18/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/19/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/20/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/21/2023 | 9.25 | <0.100 | <0.100 | <0.100 |
| 1/22/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/23/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/24/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/25/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/26/2023 | <0.100 | <0.100 | <0.100 | <0.100 |
| 1/27/2023 | <0.100 | <0.100 | <0.100 | <0.100 |

1.2.3 Total Suspended Solids (TSS):

Summarized in Table 1-4, the GSF influent water demonstrates non-detectable TSS (<2.78 or <6.25 mg/L) for the entire duration of the pilot plant, excepting a single monitoring event on January 21, 2023 demonstrating TSS of 7.50 mg/L, concurrent with elevated turbidity and color. All GSF effluent samples demonstrated non-detectable TSS, including January 21, 2023.

| Table 1-4 Total Suspended Solids (TSS) Monitoring GSF Influent and Effluent, (mg/L) | | | | |
|--|---------------------|---------------------|---------------|---------------|
| Sampling Date | GSF Influent | GSF Effluent | | |
| | | GSF #1 | GSF #2 | GSF #3 |
| 1/16/2023 | <2.78 | <2.78 | <6.25 | <2.78 |
| 1/17/2023 | <2.78 | <3.13 | <3.13 | <2.78 |
| 1/18/2023 | <6.25 | <2.78 | <2.78 | <2.78 |
| 1/19/2023 | <2.78 | <2.78 | <2.78 | <2.78 |
| 1/20/2023 | <6.25 | <3.13 | <3.13 | <3.13 |
| 1/21/2023 | 7.50 | <2.78 | <2.78 | <3.13 |
| 1/22/2023 | <2.78 | <2.78 | <3.13 | <3.13 |
| 1/23/2023 | <2.50 | <2.78 | <3.13 | <6.25 |
| 1/24/2023 | <2.78 | <3.13 | <3.13 | <2.78 |
| 1/25/2023 | <6.25 | <2.78 | <3.13 | <2.78 |
| 1/26/2023 | <2.78 | <2.78 | <2.78 | <2.78 |
| 1/27/2023 | <6.25 | <2.78 | <3.13 | <2.78 |

1.2.4 Color:

Summarized in Table 1-5 the GSF influent water demonstrates non-detectable (<1 CU) (CU = Color Units) Apparent Color for the entire duration of the pilot plant, excepting a single monitoring event on January 21, 2023 demonstrating 10 CU. This one instance of color unit detection was concurrent with elevated turbidity (9.25 NTU) and TSS (7.5 mg/L). The True Color was “0 CU” for sample collected on January 21, 2023 and all other GSF influent monitoring samples in Q2 pilot testing period. “Apparent” color includes color due to dissolved and suspended solids in the water sample, while “true” color is measured after the sample has been filters (0.45u filter porosity). Therefore, the findings indicate the “apparent” color (10 CU) occurring on January 21, 2023 is associated with the suspended solids in the sample.

It should be noted that the GSF influent color was substantially lower that determined during the Q1 (September 2022) pilot plant, when GSF influent typically ranged from 30 to 60 CU. Historic monitoring has indicated an annual range of <1 to 50 CU and a summer season range of 10 to 45 C.U. and an average value of 26 CU. The substantially reduced color in the GSF influent can be largely attributed to seasonal impacts upon suspended and colloidal material in the source water.

The GSF effluent demonstrated non-detectable Apparent Color (<1 CU) and True Color (0 CU) in all samples. This is consistent with expectations for effectively filtered samples.

| Table 1-5 Color Monitoring – GSF Influent and Effluent | | | | | |
|---|--------------------|---------------------|---------------------|---------------|---------------|
| Sampling Date | Parameter | GSF Influent | GSF Effluent | | |
| | | | GSF #1 | GSF #2 | GSF #3 |
| 1/16/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/17/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/18/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/19/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/20/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/21/2023 | Color-Apparent, CU | 10 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/22/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/23/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/24/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/25/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/26/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |
| 1/27/2023 | Color-Apparent, CU | <1 | <1 | <1 | <1 |
| | Color- True, CU | 0 | 0 | 0 | 0 |

1.2.5 Total (TOC) and Dissolved (DOC) Organic Carbon, UV 254:

Four (4) rounds of TOC, DOC and UV254 monitoring were conducted over the duration of the Q2 pilot plant program, including source water, Slow Sand Filter SSF #1 and SSF#2 effluent, and the Greensand Filter (GSF) influent and effluent water. The findings of this analytical monitoring program are summarized in Table 1-6, including the following:

1.2.5.1 Total and Dissolved Organic Carbon: The monitoring data demonstrate the Organic Carbon in the raw water, and throughout the treatment system is virtually entirely in the dissolved form. The raw water TOC demonstrates an average concentration of 3.00 mg/L, with DOC demonstrating a slightly higher average concentration of 3.12 mg/L. Comparing these results to the Q1 Pilot Plant (September 2022) TOC m indicates an approximate ≈11%-13% reduction in source water TOC/DOC in January.

The monitoring data further demonstrates an average 27.3% reduction of TOC and 30.4% reduction of DOC across the Slow Sand Filters. This is somewhat lower than historic monitoring however that may be due to reduced microbiological metabolism within the filter beds in colder, winter conditions, thereby reducing microbiological assimilation of TOC.

GSF Influent Organic Carbon: TOC/DOC concentration demonstrated no significant change following the Segment 1 chlorination, at the point of entry into the GSF filter system. It should be noted that the TOC/DOC concentration in the GSF influent was higher in the Q2 (January 2023) pilot plant, than was monitored during the Q1 (September 2022) pilot plant program. During Q1 the GSF influent water demonstrated TOC of 1.51 to 1.72 mg/L (avg. 1.64 mg/L) and DOC of 1.52 to 1.88 mg/L (avg. 1.66 mg/L) despite having a higher source water TOC/DOC (avg. = 3.43/3.49 mg/L). Consistent with the Q1 monitoring, the GSF influent TOC is entirely in the dissolved form (DOC).

The GSF effluent monitoring demonstrated no TOC/DOC reduction through the filter system. GSF effluent TOC averaged 2.13 mg/L, compared to 2.18 mg/L in the Slow Sand Filter effluent and 2.20 mg/L in the GSF influent. DOC demonstrated an average GSF effluent concentration of 2.17 mg/L, equal to the Slow Sand Filter effluent and GSF influent (2.17 mg/L) concentration. This finding is consistent with expectations.

1.2.5.2 UV254: Source water demonstrated very low UV254 values (0.056 - 0.065 absorbance /cm) with an average 23.7% reduction through the Slow Sand Filters. Following Segment 1 chlorination the GSF influent demonstrated a further (average) 28.2% reduction. No further reduction occurred through the greensand filters, with the GSF effluent demonstrating an average UV 254 of 0.030 absorbance/cm.

**Table 1-6
Raw Water, Slow Sand Filter (SSF) Effluent,
GSF Influent and Effluent TOC, DOC & UV254 Monitoring**

| Sample Date/ Parameter | Source Water | Slow Sand Filter Effluent | | | GSF Influent | % Cl Removal | Greensand Filter Effluent | | | % Total Removal |
|---|-----------------|---------------------------|--------|--------------|-----------------|-----------------|---------------------------|--------|--------|--------------------|
| | | SSF #1 | SSF #2 | % Removal | | | GSF #1 | GSF #2 | GSF #3 | |
| January 17, 2023 | | | | | | | | | | |
| TOC, mg/L l | 2.99 | 2.20 | 2.06 | 28.8% | 2.37 | 20.7% | 2.07 | 2.07 | 2.11 | 30.3% |
| DOC, mg/L | 3.09 | 2.21 | 2.11 | 30.1% | 2.12 | 31.4% | 2.12 | 2.12 | 2.11 | 31.5% |
| pH for UV254, S.U. | 7.93 | 7.59 | 7.61 | ---- | 7.67 | ---- | 7.56 | 7.63 | 7.68 | ---- |
| UV254 (absorbance) /cm | 0.056 | 0.044 | 0.037 | 27.7% | 0.026 | 53.6% | 0.026 | 0.026 | 0.026 | 53.6% |
| January 19, 2023 | | | | | | | | | | |
| TOC, mg/L | 3.08 | 2.23 | 2.11 | 29.9% | 2.14 | 30.5% | 2.12 | 2.11 | 2.12 | 31.3% |
| DOC, mg/L | 3.23 | 2.32 | 2.15 | 30.8% | 2.19 | 32.2% | 2.19 | 2.20 | 2.15 | 32.5% |
| pH for UV254, S.U. | 7.77 | 7.56 | 7.72 | ---- | 7.42 | ---- | 7.66 | 7.66 | 7.79 | ---- |
| UV254 (absorbance) /cm | 0.059 | 0.044 | 0.04 | 28.8% | 0.029 | 50.8% | 0.029 | 0.03 | 0.029 | 50.3% |
| January 24, 2023 | | | | | | | | | | |
| TOC, mg/L | 3.05 | 2.25 | 2.14 | 28.0% | 2.17 | 28.9% | 2.14 | 2.17 | 2.21 | 28.7% |
| DOC, mg/L | 3.12 | 2.25 | 2.17 | 29.2% | 2.17 | 30.4% | 2.19 | 2.19 | 2.17 | 30.0% |
| pH for UV254, S.U. | 8.02 | 7.8 | 7.89 | ---- | 7.73 | ---- | 7.83 | 7.84 | 7.92 | ---- |
| UV254 (absorbance) /cm | 0.057 | 0.042 | 0.04 | 28.1% | 0.029 | 49.1% | 0.027 | 0.029 | 0.031 | 49.1% |
| January 26, 2023 | | | | | | | | | | |
| TOC, mg/L | 2.91 | 2.25 | 2.21 | 23.4% | 2.15 | 26.1% | 2.14 | 2.16 | 2.12 | 26.5% |
| DOC, mg/L | 3.04 | 2.33 | 2.25 | 24.7% | 2.20 | 27.6% | 2.19 | 2.18 | 2.18 | 28.2% |
| pH for UV254, S.U. | 7.97 | 7.71 | 7.9 | ---- | 7.85 | ---- | 7.79 | 7.93 | 7.78 | ---- |
| UV254 (absorbance) /cm | 0.065 | 0.052 | 0.049 | 22.3% | 0.041 | 36.9% | 0.041 | 0.034 | 0.036 | 43.1% |
| Avg. TOC, mg/L | 3.00 | 2.18 | | 27.3% | 2.20 | 0% | 2.13 | | | 29.0% |
| Avg. DOC, mg/L | 3.12 | 2.17 | | 30.4% | 2.17 | 0% | 2.17 | | | 30.4% |
| Avg. UV 254, absorbance/cm | 0.057 | 0.0435 | | 23.7% | 0.031 | 28.2% | 0.030 | | | 3.2% |
| Note 1: Avg. values of combined GSF #1, #2, and #3 effluent were used to calculate removal efficiency. | | | | | | | | | | |

1.2.6 Total Dissolved Solids (TDS) and Specific Conductance:

The GSF influent water contains moderately low TDS, demonstrating 103 and 112 mg/L consistent with the historic source water TDS range of 74 to 162 mg/L and a finished water range of 54 to 168 mg/L. The TDS principally consists of alkalinity (\approx 80-85 mg/L, as CaCO₃), calcium (\approx 21-23 mg/L) and chloride (\approx 12 mg/L), with lesser quantities of magnesium (\approx 9 mg/L), sodium (7 mg/L), potassium (<1 mg/L) and zinc (0.009 mg/L). All other inorganic constituents are non-detectable or at trace concentrations in the water. The GSF influent water demonstrates consistent specific conductance of 220 and 221 umhos/cm, closely correlating with TDS with a conductivity-to-TDS ratio of 2.1 and 1.97 respectively. The TDS of Q2 is less than the Q1 (September, 2022) TDS of 133-153 mg/L.

| Table 1-7 Conductivity and TDS Monitoring – GSF Influent and Effluent | | | | |
|--|---------------------|----------------|---------------------|----------------|
| | GSF Influent | GSF Eff | GSF Influent | GSF Eff |
| Sampling Date | 1/18/2023 | | 1/25/2023 | |
| Conductivity at 25 C, UMHOS/CM | 220 | 219 | 221 | 221 |
| Total Dissolved Solid (TDS), mg/L | 103 | 104 | 112 | 107 |
| Conductivity-to-TDS ratio | 2.14 | 2.11 | 1.97 | 2.07 |

1.2.7 Alkalinity:

Alkalinity is consistently present at 80 mg/L (as CaCO₃), except alkalinity of 85 mg/L as CaCO₃, once, monitored on January 20, 2023. Based upon the pH of 7.5 to 7.96 S.U., the alkalinity is \approx 99% in the bicarbonate (HCO₃) form and represents 93% to 97% of the total inorganic carbon in the water, with the balance present as carbonic acid (H₂CO₃) or carbon dioxide (CO₂). The Q2 (January 2023) alkalinity concentration is consistently lower than that demonstrated during Q1 (September 2022) at \approx 90 mg/L (as CaCO₃).

1.2.8 Total Iron:

The GSF influent and effluent water demonstrates (Table 1-8) non-detectable (<0.050 mg/L) total iron in all samples, consistent with expectations because the raw water also demonstrated non-detectable iron in all samples.

| Table 1-8 Raw Water, Slow Sand Filter (SSF) Effluent, GSF Influent and Effluent Fe Monitoring | | | | | | | |
|--|--------------|---------------------------|--------|--------------|---------------------------|---------|---------|
| Sample Date | Source Water | Slow Sand Filter Effluent | | GSF Influent | Greensand Filter Effluent | | |
| | | SSF #1 | SSF #2 | | GSF #1 | GSF #2 | GSF #3 |
| 1/16/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/17/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/18/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |

| | | | | | | | |
|-----------|---------|---------|---------|---------|---------|---------|---------|
| 1/19/2023 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/20/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/21/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/22/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/23/2023 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/24/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/25/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/26/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| 1/27/2023 | ---- | ---- | ---- | <0.0500 | <0.0500 | <0.0500 | <0.0500 |

1.2.9 Total & Dissolved Manganese:

Manganese was detected in the raw source (Long Pond) in two (2) raw water samples (January 19th & 23rd) at trace concentrations substantially below the USEPA SMCL (0.05 mg/L). All of the GSF influent water samples demonstrated non-detectable (<0.00204 mg/L) total and dissolved manganese, indicating that any trace manganese in the raw water was captured within the Slow Sand Filters upstream of the greensand filters.

| Sampling Date, Parameter | Source Water | Slow Sand Filter Effluent | | GSF Influent | Greensand Filter Effluent | | |
|-----------------------------|-----------------|------------------------------|----------|-----------------|---------------------------|----------|----------|
| | | SSF #1 | SSF #2 | | GSF #1 | GSF #2 | GSF #3 |
| 1/16/2023 | Total | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/17/2023 | Total | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/18/2023 | Total | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/19/2023 | Total | 0.0153 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | 0.00718 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/20/2023 | Total | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/21/2023 | Total | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/22/2023 | Total | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/23/2023 | Total | 0.00936 | <0.00204 | <0.00200 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | 0.00379 | <0.00204 | <0.00200 | <0.00204 | <0.00204 | <0.00204 |
| 1/24/2023 | Total | ---- | ---- | <0.00201 | <0.00201 | <0.00201 | <0.00201 |
| | Dissolved | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |

| | | | | | | | | |
|-----------|------------------|------|------|------|----------|----------|----------|----------|
| 1/25/2023 | Total | ---- | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/26/2023 | Total | ---- | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| 1/27/2023 | Total | ---- | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| | Dissolved | ---- | ---- | ---- | <0.00204 | <0.00204 | <0.00204 | <0.00204 |

1.2.10 Copper, Lead and Zinc:

Copper (0.0072 mg/L and 0.0075 mg/L) and zinc (0.00862 mg/L and 0.00992 mg/L) were present at trace concentrations in the GSF influent., at lower concentrations than detected in Q1 (September 2022) pilot testing period. Lead was non-detectable (<0.0010 mg/L) in all samples. The copper and zinc are believed to be sourced from wetted materials of construction in the treatment facility.

1.2.11 Total Hardness:

The GSF influent demonstrated moderately elevated total hardness (95.8 and 89.1 mg/L, as CaCO₃), which is comprised of calcium (53 to 58 mg/L, as CaCO₃) and magnesium (36 to 37 mg/L, as CaCO₃). The results were comparable to the Q1 (September 2022) monitoring demonstrating total hardness of 93 to 98 mg/L, as CaCO₃.

1.3 Hydraulic Loading

The valves of the GSF system are positioned to operate the filters at different nominal flowrates of 2 gpm, 3 gpm and 4 gpm, to allow an assessment of the impact of different hydraulic loading rates upon performance. The operating cycle for each filter was initially programmed at 11,000 gallons, the cycle duration was adjusted to 18,000 gallons based upon observations and to assess performance for different operating duration.

Table 1-10 presents a summary of GSF influent flowrate of the pilot plant operation from the operating logs. Over the duration of the pilot plant program each filter unit was able to sustain operating flowrates and hydraulic loading in very close proximity to the target values. The individual filter vessels demonstrated the following:

- GSF#1 demonstrated hydraulic loading of 1.8 to 2.1 gpm, averaging 1.9 gpm;
- GSF#2 demonstrated hydraulic loading of 2.9 to 3.3 gpm, averaging 2.9 gpm;
- GSF#3 demonstrated hydraulic loading of 3.9 to 4.1 gpm, averaging 4.0 gpm.

| Table 1-10 | | | | | | | | | | | | | | | |
|---|------------------|-------|-------|-------|-------|-------------|-------|-------|-------|-------|-------------|-------|-------|-------|-------|
| GSF Influent Flowrate (gpm) Monitoring | | | | | | | | | | | | | | | |
| DATE | 1/17/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | | | | | | 7:20 | 12:20 | 13:20 | 18:00 | | | | | | |
| Inf Flowrate | | | | | | 2.9 | 2.9 | 3 | 2.9 | | | | | | |
| DATE | 1/18/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | 4:20 | 9:40 | 13:00 | 16:15 | 20:30 | 4:20 | 9:40 | 13:00 | 16:15 | 20:30 | 4:20 | 9:40 | 13:00 | 16:15 | 20:30 |
| Inf Flowrate | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 3.3 | 2.9 | 2.9 | 2.9 | 2.9 | 4 | 4 | 4.1 | 3.9 | 3.9 |
| DATE | 1/19/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | 8:45 | 12:00 | 14:30 | | | 8:45 | 12:00 | 14:30 | | | 8:45 | 12:00 | 14:30 | | |
| Inf Flowrate | 1.9 | 1.9 | 1.9 | | | 2.9 | 2.9 | 2.9 | | | 3.9 | 3.9 | 3.9 | | |
| DATE | 1/20/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | 6:00 | 8:45 | 9:45 | | | 6:00 | 8:45 | 9:45 | | | 6:00 | 8:45 | 9:45 | | |
| Inf Flowrate | | 1.9 | 1.9 | | | 3.1 | 2.9 | 2.9 | | | 4.1 | 4 | 3.9 | | |
| DATE | 1/22/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | 18:00 | | | | | 18:00 | | | | | 18:00 | | | | |
| Inf Flowrate | 1.9 | | | | | 2.9 | | | | | 4 | | | | |
| DATE | 1/23/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | 8:00 | 8:40 | 12:40 | | | 8:00 | 8:40 | 12:40 | | | 8:00 | 8:40 | 12:40 | | |
| Inf Flowrate | 1.9 | 1.9 | 1.9 | | | 2.9 | 2.9 | 2.9 | | | 3.9 | 3.9 | 4 | | |
| DATE | 1/24/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | 6:40 | 8:20 | 10:00 | 15:40 | 20:45 | 6:40 | 8:20 | 10:00 | 15:40 | 20:45 | 6:40 | 8:20 | 10:00 | 15:40 | 20:45 |
| Inf Flowrate | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 | 3.9 | 3.9 | 4 | 4 | 4 |
| DATE | 1/25/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | 8:00 | 9:30 | | | | 8:00 | 9:30 | | | | 8:00 | 9:30 | | | |
| Inf Flowrate | 1.9 | 1.9 | | | | 2.9 | 3 | | | | 4 | 4 | | | |
| DATE | 1/26/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | | | | | | 8:00 | 9:30 | 13:30 | | | 8:00 | 9:30 | 13:30 | | |
| Inf Flowrate | | | | | | 2.9 | 2.9 | 2.9 | | | 3.9 | 4 | 4 | | |
| DATE | 1/27/2023 | | | | | | | | | | | | | | |
| GSF | GSF1 | | | | | GSF2 | | | | | GSF3 | | | | |
| TIME | 7:00 | | | | | 7:00 | | | | | 7:00 | | | | |
| Inf Flowrate | 1.9 | | | | | 2.9 | | | | | 4 | | | | |
| Average | 1.9 | | | | | 2.9 | | | | | 4.0 | | | | |

1.4 Pilot Plant Performance Evaluation - Manganese and Iron Removal

As GSF influent manganese and iron were all non-detectable, the evaluation of manganese and iron removal was not conducted for Q2 pilot study period.

1.5 Chlorine Pre-Oxidant Dosage

The free chlorine residual in the greensand filter influent is continuously monitored by the on-line instrumentation, augmented by periodic field monitoring by the pilot plant operator. The differential between the GSF influent and effluent chlorine residual was calculated as the total filter chlorine demand (Tables 1-11 to 1-13, Figures 1-1 to 1-4). In addition to soluble manganese, chlorine demand can include oxidizable organics and other materials in the feedwater and the demand to maintain the catalytic oxidation of the greensand media. The filters all demonstrated a similar chlorine demand.

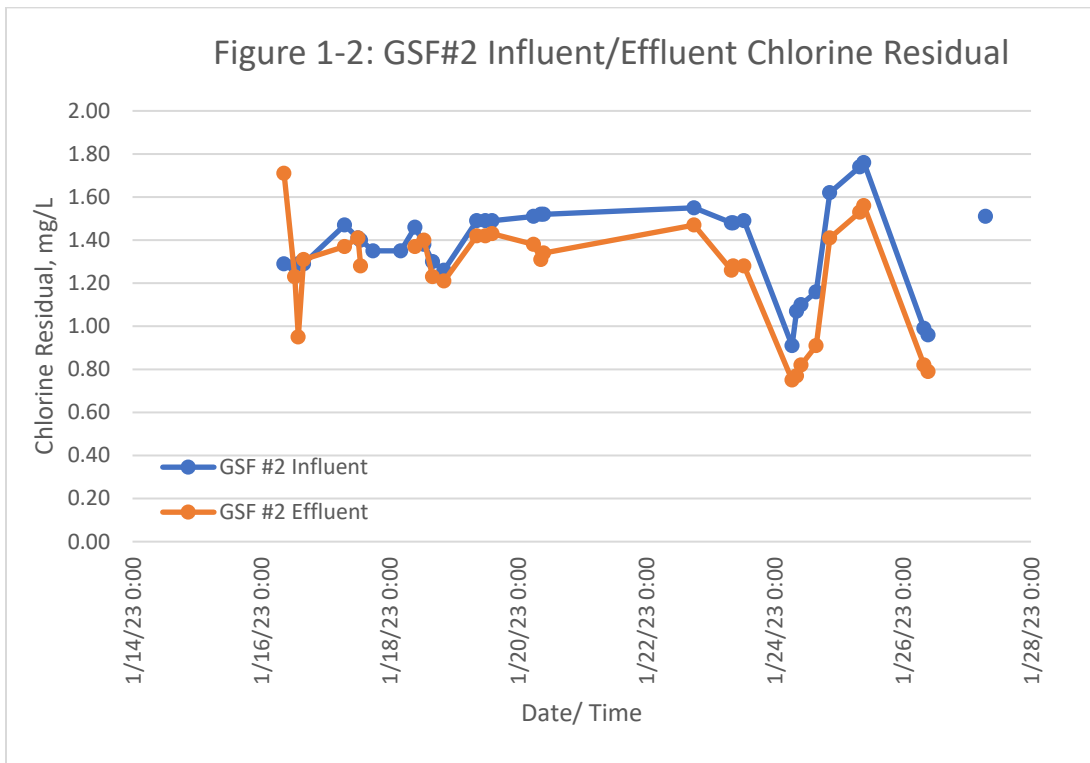
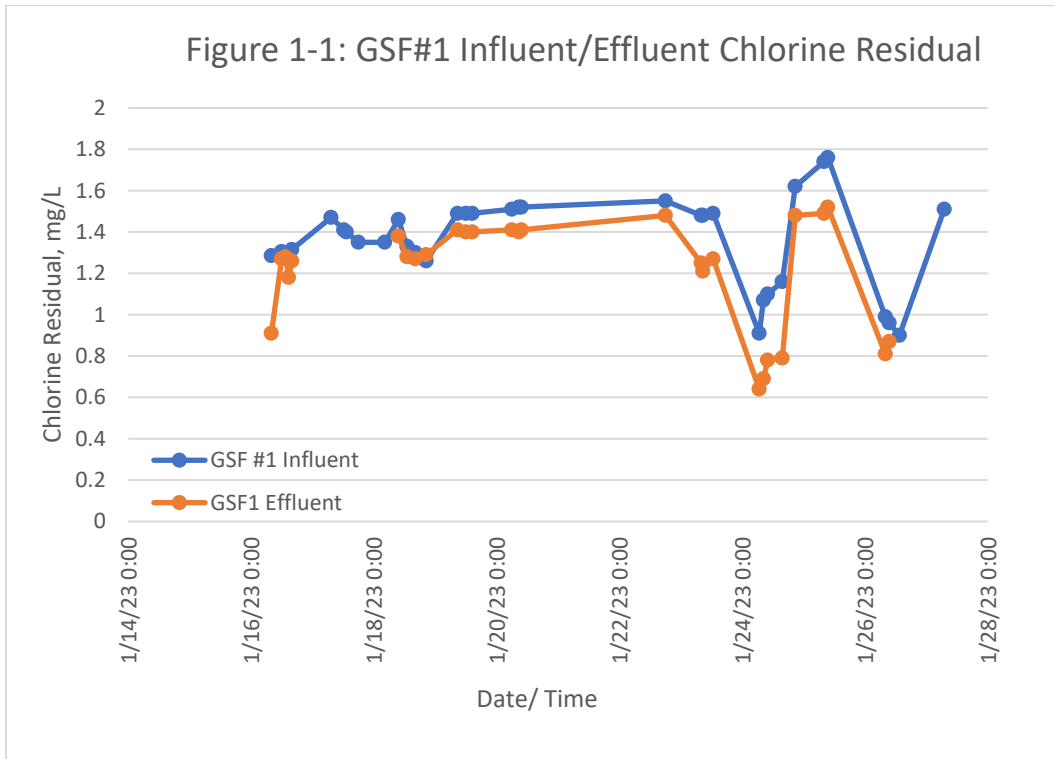
| Table 1-11 GSF #1 Chlorine Demand Monitoring | | | |
|---|--------------------------|---------------------|------------------------------|
| Date/Time | Cl Residual, mg/L | | Chlorine Demand, mg/L |
| | GSF Influent | GSF Effluent | |
| 1/16/23 8:00 | 1.3/1.27 | 0.91 | 0.375 |
| 1/16/23 12:00 | 1.28/1.34 | 1.27 | 0.035 |
| 1/16/23 13:30 | ---- | 1.28 | ---- |
| 1/16/23 14:45 | 1.29 | 1.18 | 0.11 |
| 1/16/23 16:00 | 1.29/1.34 | 1.26 | 0.055 |
| 1/17/23 7:20 | 1.47 | ---- | ---- |
| 1/17/23 12:20 | 1.41 | ---- | ---- |
| 1/17/23 13:20 | 1.4 | ---- | ---- |
| 1/17/23 18:00 | 1.35 | ---- | ---- |
| 1/18/23 4:20 | 1.35 | ---- | ---- |
| 1/18/23 9:40 | 1.46 | 1.38 | 0.08 |
| 1/18/23 13:00 | 1.33 | 1.28 | 0.05 |
| 1/18/23 16:15 | 1.3 | 1.27 | 0.03 |
| 1/18/23 20:30 | 1.26 | 1.29 | -0.03 |
| 1/19/23 8:45 | 1.49 | 1.41 | 0.08 |
| 1/19/23 12:00 | 1.49 | 1.4 | 0.09 |
| 1/19/23 14:30 | 1.49 | 1.4 | 0.09 |
| 1/20/23 6:00 | 1.51 | 1.41 | 0.1 |
| 1/20/23 8:45 | 1.52 | 1.4 | 0.12 |
| 1/20/23 9:45 | 1.52 | 1.41 | 0.11 |
| 1/22/23 18:00 | 1.55 | 1.48 | 0.07 |
| 1/23/23 8:00 | 1.48 | 1.25 | 0.23 |
| 1/23/23 8:40 | 1.48 | 1.21 | 0.27 |
| 1/23/23 12:40 | 1.49 | 1.27 | 0.22 |
| 1/24/23 6:40 | 0.91 | 0.64 | 0.27 |
| 1/24/23 8:20 | 1.07 | 0.69 | 0.38 |
| 1/24/23 10:00 | 1.1 | 0.78 | 0.32 |
| 1/24/23 15:40 | 1.16 | 0.79 | 0.37 |
| 1/24/23 20:45 | 1.62 | 1.48 | 0.14 |

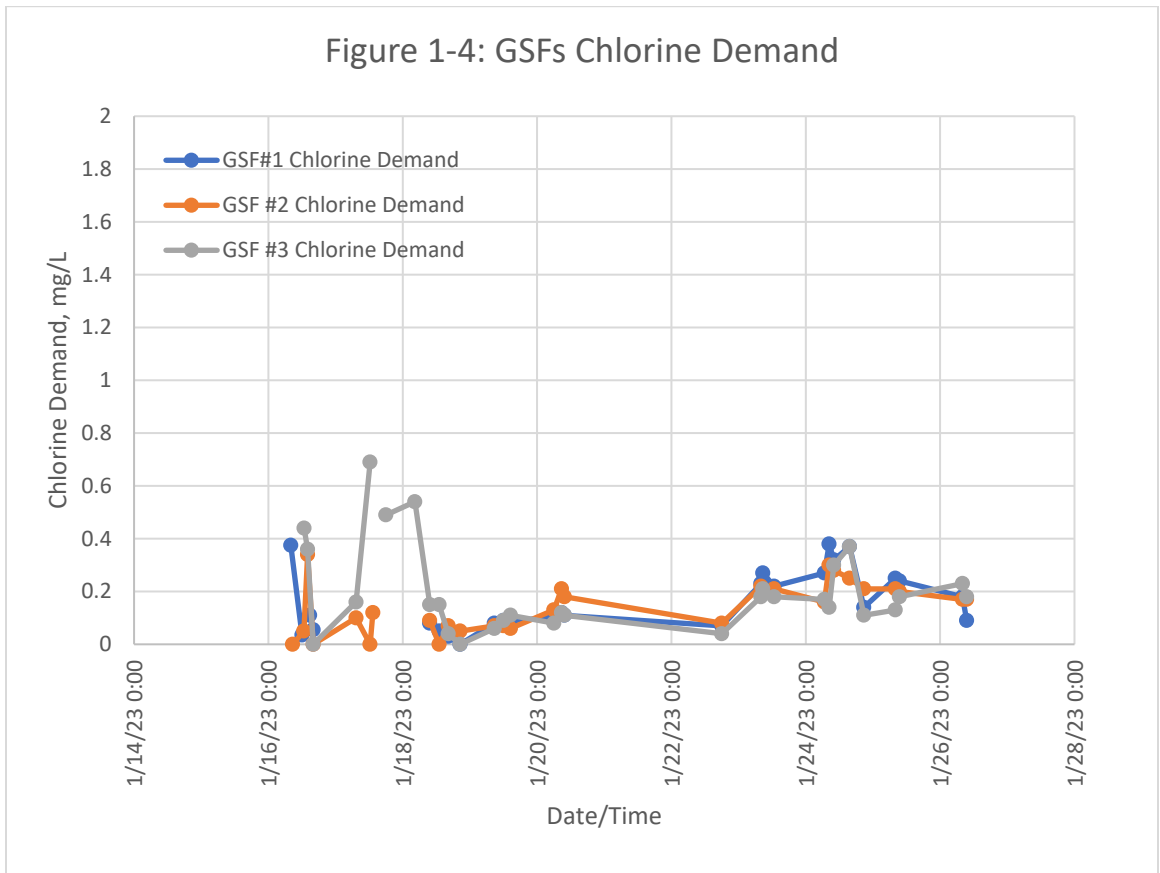
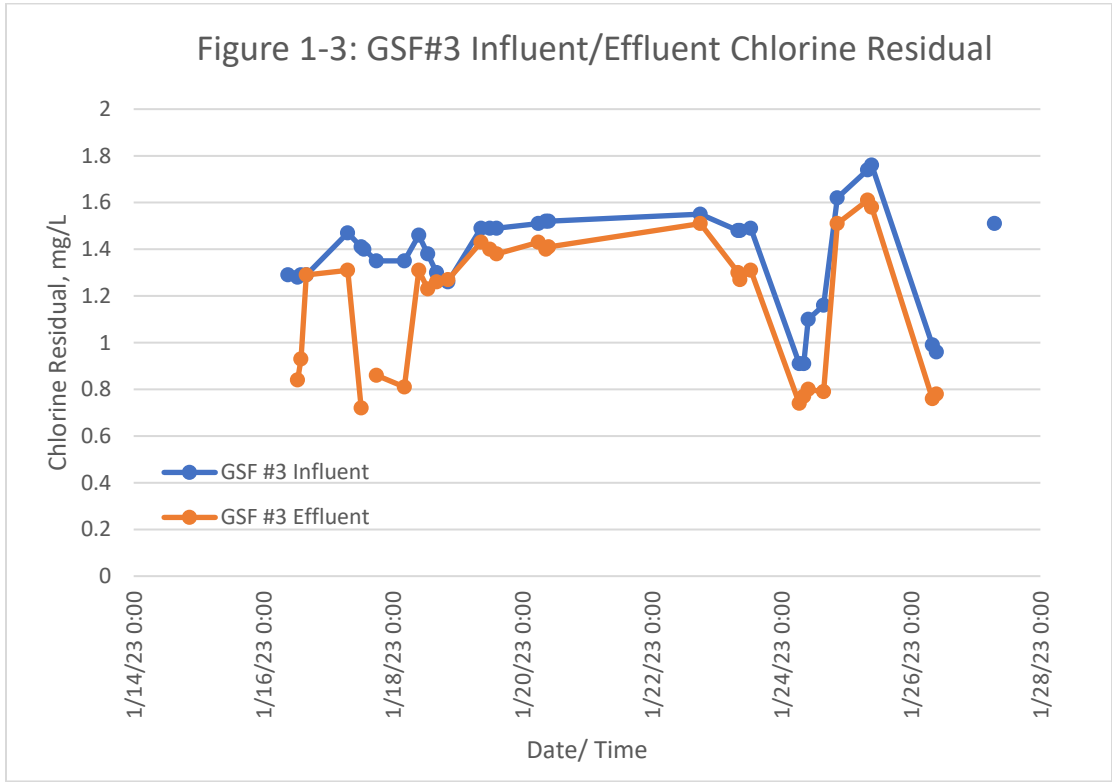
| | | | |
|---------------|------|------|------|
| 1/25/23 8:00 | 1.74 | 1.49 | 0.25 |
| 1/25/23 9:30 | 1.76 | 1.52 | 0.24 |
| 1/26/23 8:00 | 0.99 | 0.81 | 0.18 |
| 1/26/23 9:30 | 0.96 | 0.87 | 0.09 |
| 1/26/23 13:30 | 0.9 | ---- | ---- |
| 1/27/23 7:00 | 1.51 | ---- | ---- |

| Table 1-12 GSF #2 Chlorine Demand Monitoring | | | |
|---|--------------------------|---------------------|------------------------------|
| Date/Time | Cl Residual, mg/L | | Chlorine Demand, mg/L |
| | GSF Influent | GSF Effluent | |
| 1/16/23 8:40 | 1.29 | 1.71 | 0 |
| 1/16/23 12:40 | 1.28 | 1.23 | 0.05 |
| 1/16/23 14:00 | 1.29 | 0.95 | 0.34 |
| 1/16/23 16:00 | 1.29 | 1.31 | 0 |
| 1/17/23 7:20 | 1.47 | 1.37 | 0.1 |
| 1/17/23 12:20 | 1.41 | 1.41 | 0 |
| 1/17/23 13:20 | 1.4 | 1.28 | 0.12 |
| 1/17/23 18:00 | 1.35 | ---- | ---- |
| 1/18/23 4:20 | 1.35 | ---- | ---- |
| 1/18/23 9:40 | 1.46 | 1.37 | 0.09 |
| 1/18/23 13:00 | 1.38 | 1.4 | 0 |
| 1/18/23 16:15 | 1.3 | 1.23 | 0.07 |
| 1/18/23 20:30 | 1.26 | 1.21 | 0.05 |
| 1/19/23 8:45 | 1.49 | 1.42 | 0.07 |
| 1/19/23 12:00 | 1.49 | 1.42 | 0.07 |
| 1/19/23 14:30 | 1.49 | 1.43 | 0.06 |
| 1/20/23 6:00 | 1.51 | 1.38 | 0.13 |
| 1/20/23 8:45 | 1.52 | 1.31 | 0.21 |
| 1/20/23 9:45 | 1.52 | 1.34 | 0.18 |
| 1/22/23 18:00 | 1.55 | 1.47 | 0.08 |
| 1/23/23 8:00 | 1.48 | 1.26 | 0.22 |
| 1/23/23 8:40 | 1.48 | 1.28 | 0.2 |
| 1/23/23 12:40 | 1.49 | 1.28 | 0.21 |
| 1/24/23 6:40 | 0.91 | 0.75 | 0.16 |
| 1/24/23 8:20 | 1.07 | 0.77 | 0.3 |
| 1/24/23 10:00 | 1.1 | 0.82 | 0.28 |
| 1/24/23 15:40 | 1.16 | 0.91 | 0.25 |
| 1/24/23 20:45 | 1.62 | 1.41 | 0.21 |
| 1/25/23 8:00 | 1.74 | 1.53 | 0.21 |
| 1/25/23 9:30 | 1.76 | 1.56 | 0.2 |
| 1/26/23 8:00 | 0.99 | 0.82 | 0.17 |

| | | | |
|---------------|-------------|------|------|
| 1/26/23 9:30 | 0.96 | 0.79 | 0.17 |
| 1/26/23 13:30 | ---- | ---- | ---- |
| 1/27/23 7:00 | 1.51 | ---- | ---- |

| Table 1-13 | | | |
|--|--------------------------|---------------------|------------------------------|
| GSF #3 Chlorine Demand Monitoring | | | |
| Date/Time | Cl Residual, mg/L | | Chlorine Demand, mg/L |
| | GSF Influent | GSF Effluent | |
| 1/16/23 9:10 | 1.29 | --- | --- |
| 1/16/23 12:45 | 1.28 | 0.84 | 0.44 |
| 1/16/23 14:00 | 1.29 | 0.93 | 0.36 |
| 1/16/23 16:00 | 1.29 | 1.29 | 0 |
| 1/17/23 7:20 | 1.47 | 1.31 | 0.16 |
| 1/17/23 12:20 | 1.41 | 0.72 | 0.69 |
| 1/17/23 13:20 | 1.4 | --- | --- |
| 1/17/23 18:00 | 1.35 | 0.86 | 0.49 |
| 1/18/23 4:20 | 1.35 | 0.81 | 0.54 |
| 1/18/23 9:40 | 1.46 | 1.31 | 0.15 |
| 1/18/23 13:00 | 1.38 | 1.23 | 0.15 |
| 1/18/23 16:15 | 1.3 | 1.26 | 0.04 |
| 1/18/23 20:30 | 1.26 | 1.27 | -0.01 |
| 1/19/23 8:45 | 1.49 | 1.43 | 0.06 |
| 1/19/23 12:00 | 1.49 | 1.4 | 0.09 |
| 1/19/23 14:30 | 1.49 | 1.38 | 0.11 |
| 1/20/23 6:00 | 1.51 | 1.43 | 0.08 |
| 1/20/23 8:45 | 1.52 | 1.4 | 0.12 |
| 1/20/23 9:45 | 1.52 | 1.41 | 0.11 |
| 1/22/23 18:00 | 1.55 | 1.51 | 0.04 |
| 1/23/23 8:00 | 1.48 | 1.3 | 0.18 |
| 1/23/23 8:40 | 1.48 | 1.27 | 0.21 |
| 1/23/23 12:40 | 1.49 | 1.31 | 0.18 |
| 1/24/23 6:40 | 0.91 | 0.74 | 0.17 |
| 1/24/23 8:20 | 0.91 | 0.77 | 0.14 |
| 1/24/23 10:00 | 1.1 | 0.8 | 0.3 |
| 1/24/23 15:40 | 1.16 | 0.79 | 0.37 |
| 1/24/23 20:45 | 1.62 | 1.51 | 0.11 |
| 1/25/23 8:00 | 1.74 | 1.61 | 0.13 |
| 1/25/23 9:30 | 1.76 | 1.58 | 0.18 |
| 1/26/23 8:00 | 0.99 | 0.76 | 0.23 |
| 1/26/23 9:30 | 0.96 | 0.78 | 0.18 |
| 1/26/23 13:30 | --- | --- | --- |
| 1/27/23 7:00 | 1.51 | --- | --- |





1.6 Greensand Filter Backwash

All three (3) GSFs were soaked in chlorinated water and then backwashed thoroughly prior to starting the second quarterly GSF pilot testing. The operating cycle for each filter was initially programmed at 11,000 gallons, then increased to 13,000 gallons and 18,000 gallons in the following operating cycles. GSF were backwashed every time the operation capacity is reached or almost reached (Table 1-14).

The backwash water was filtered water supplied at a pressure of ≈ 36 psi using a backwash flowrate of 6 gpm, equivalent to a hydraulic loading of 11 gpm/ft². During each backwash cycle samples of the spent backwash water were obtained at 2-minute intervals for the duration of the backwash event, followed by a 7-minute rinse at the same flowrate as backwash flowrate. Table 1-15 to 1-17 present summaries of the laboratory monitored TSS, turbidity, and manganese backwash monitoring data.

| Table 1-14 Greensand Filter Operating Cycles | | | |
|---|----------------|-----------|-----------|
| Greensand Filter #1: | | | |
| Operating Start Time | 1/16/2023 7:40 | | |
| Backwash Date | 1/20/2023 | 1/24/2023 | 1/27/2023 |
| Backwash Start Time | 5:53 | 21:13 | 9:10 |
| Programed Volume of Operating Cycle, gallons | 11,000 | 13,000 | 18,000 |
| Remaining Volume When Backwash, gallons | 0 | 136 | 11059 |
| Actual Operating Volume, gallons | 11,000 | 12,864 | 6,941 |
| Total Operating Volume, gallons | 30,805 | | |
| Greensand Filter #2: | | | |
| Operating Start Time | 1/16/2023 8:10 | | |
| Backwash Date | 1/18/2023 | 1/24/2023 | 1/27/2023 |
| Backwash Start Time | 20:39 | 10:18 | 8:45 |
| Programed Volume of Operating Cycle, gallons | 11,000 | 13,000 | 18,000 |
| Remaining Volume When Backwash, gallons | 116 | 80 | 5346 |
| Actual Operating Volume, gallons | 10,884 | 12,920 | 12,654 |
| Total Operating Volume, gallons | 49,458* | | |
| Greensand Filter #3 | | | |
| Operating Start Time | 1/16/2023 8:40 | | |
| Backwash Date | 1/18/2023 | 1/24/2023 | 1/27/2023 |
| Backwash Start Time | 4:19 | 6:38 | 8:14 |
| Programed Volume of Operating Cycle, gallons | 11,000 | 13,000 | 18,000 |
| Remaining Volume When Backwash, gallons | 277 | 0 | 180 |
| Actual Operating Volume, gallons | 44,944 | 44,950 | 44,953 |
| Total Operating Volume, gallons | 54,543* | | |
| Note: *an additional operating cycle of 13,000 gallons between 1/18/2023 to 1/24/2023 was counted for the total operating volumes for GSF #2 and GSF#3. | | | |

1.6.1 Spent Backwash Water – Total Suspended Solids (TSS):

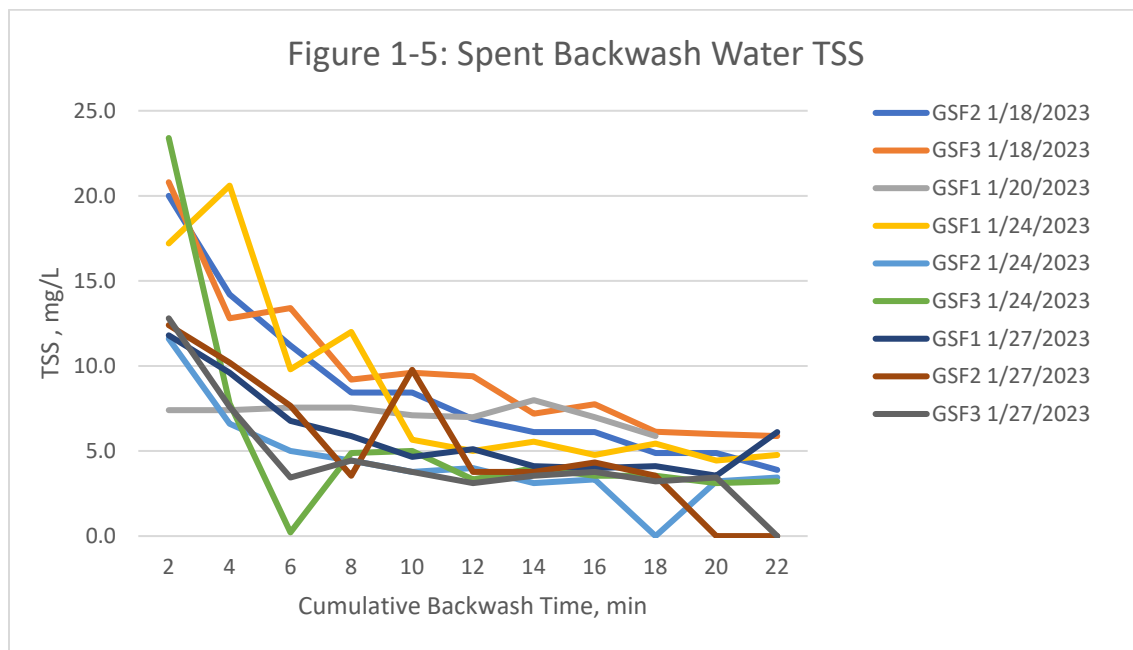
Each backwash cycle demonstrated an initial TSS content in the first 2 minutes of operation (Figure 1-5). The majority TSS was then flushed in the first 2-6 minutes, and demonstrated an extended backwash “tail” with a very low TSS concentration (< 10 ppm) after 10 min backwash. Compared to Q1 pilot testing when GSF influent contained manganese levels of 0.075-0.306 mg/L (averaged 0.19 mg/L), TSS of spent backwash water after 10 mins flushing were in the range of 10-32 mg/L, it took approximately 22 minutes to have TSS of spent backwash water of all backwash events below or approximately to 10 mg/L.

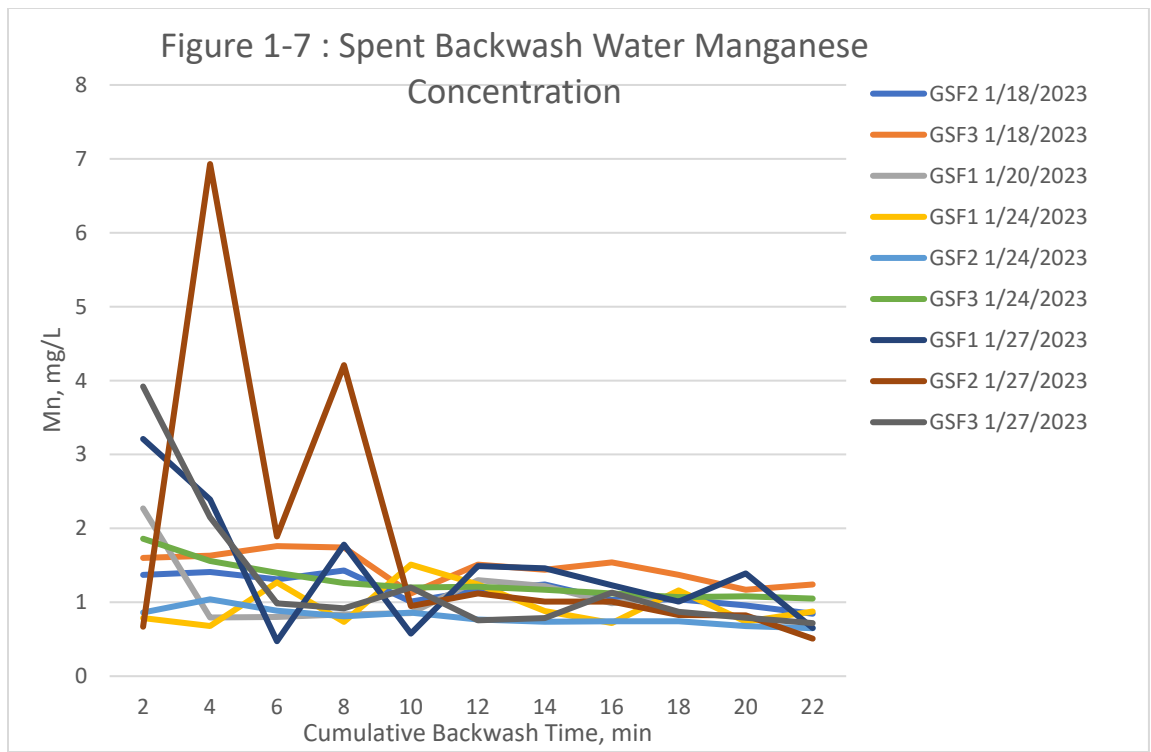
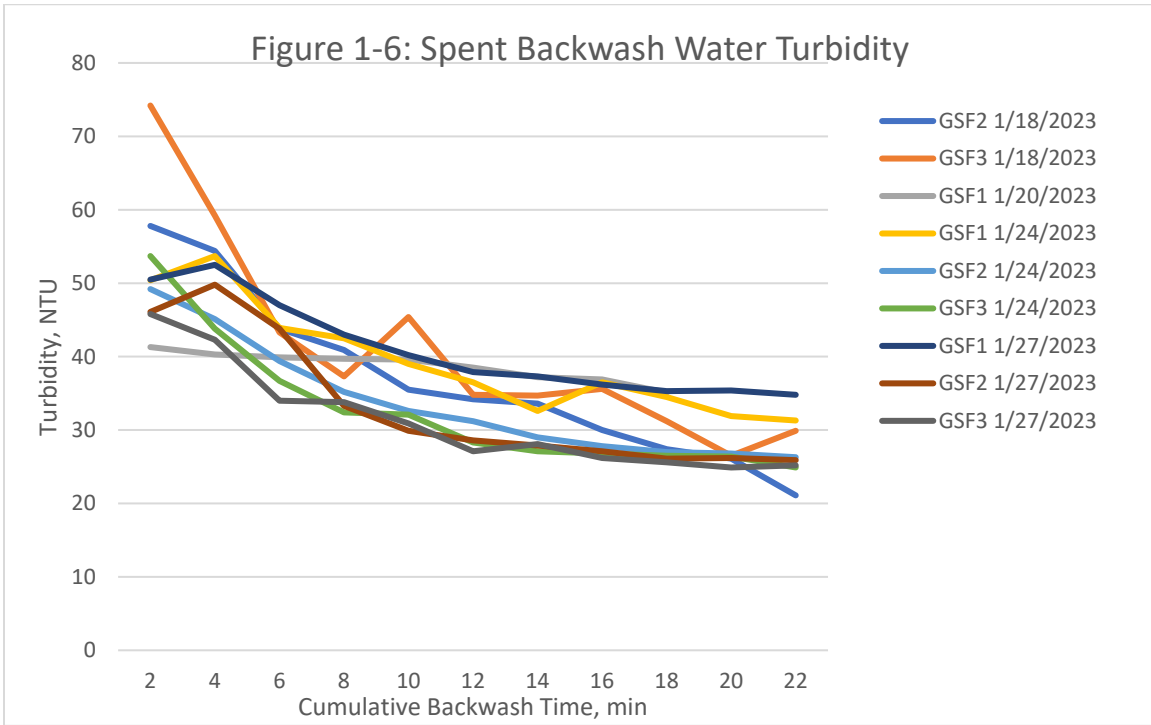
1.6.2 Spent Backwash Water - Turbidity:

Illustrated in Figure 1-6, the spent backwash water demonstrated a more elongated duration of elevated turbidity, up to 6-8 minutes duration, to have approximately 26% of turbidity washed, then have an additional ≈18% turbidity washed with the remaining backwash to the total of 18-22 minutes backwash duration.

1.6.3 Spent Backwash Water – Total Manganese:

Illustrated in Figure 1-7, among the nine (9) backwash events, five (5) events had the spent backwash water demonstrated relatively low level of manganese with most levels below 2 mg/L throughout the entire backwash durations. Three (3) backwash events had initial manganese concentrations in the range of 2-4 mg/L, they were flushed out during the 2-6 backwash duration and reduced to <2mg/L in spent backwash water. This initial higher manganese levels (2-4 mg/L) demonstrated that the manganese in raw water (<0.00204 mg/L) were able to be participated and accumulated in GSF, the backwash then flushed them out.





| Table 1-15 Greensand Filter #1 -- Summary of Spent Backwash Water Monitoring | | | | | | | | | | | |
|---|------------------------------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Backwash Events | Backwash Duration -- Minutes | | | | | | | | | | |
| | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 |
| Backwash Date: 1/20/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 7.40 | 7.40 | 7.55 | 7.55 | 7.10 | 6.99 | 7.99 | 6.99 | 5.88 | ---- | ---- |
| Turbidity, NTU | 41.3 | 40.3 | 39.9 | 39.7 | 39.6 | 38.5 | 37.2 | 36.9 | 35.1 | ---- | ---- |
| Mn, total, mg/L | 2.27 | 0.794 | 0.801 | 0.836 | 0.854 | 1.30 | 1.22 | 0.988 | 1.09 | ---- | ---- |
| | | | | | | | | | | | |
| Backwash Date: 1/24/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 17.2 | 20.6 | 9.8 | 12.0 | 5.66 | 5.00 | 5.55 | 4.77 | 5.44 | 4.44 | 4.77 |
| Turbidity, NTU | 50.4 | 53.7 | 43.9 | 42.5 | 39.0 | 36.5 | 32.6 | 36.5 | 34.5 | 31.9 | 31.3 |
| Mn, total, mg/L | 0.786 | 0.679 | 1.27 | 0.735 | 1.51 | 1.24 | 0.882 | 0.719 | 1.16 | 0.738 | 0.875 |
| | | | | | | | | | | | |
| Backwash Date: 1/27/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 11.8 | 9.6 | 6.77 | 5.88 | 4.66 | 5.11 | 4.11 | 4.00 | 4.11 | 3.55 | 6.11 |
| Turbidity, NTU | 50.5 | 52.5 | 47.0 | 43.0 | 40.2 | 37.9 | 37.3 | 36.2 | 35.3 | 35.4 | 34.8 |
| Mn, total, mg/L | 3.2 | 2.4 | 0.473 | 1.78 | 0.576 | 1.49 | 1.46 | 1.23 | 1.01 | 1.39 | 0.652 |

| Table 1-16 Greensand Filter #2 -- Summary of Spent Backwash Water Monitoring | | | | | | | | | | | |
|---|-------------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Backwash Events | Backwash Duration -- Minutes | | | | | | | | | | |
| | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 |
| Backwash Date: 1/18/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 20.0 | 14.2 | 11.2 | 8.4 | 8.4 | 6.88 | 6.11 | 6.11 | 4.88 | 4.88 | 3.89 |
| Turbidity, NTU | 57.8 | 54.4 | 43.8 | 40.9 | 35.5 | 34.2 | 33.6 | 30.0 | 27.4 | 26.1 | 21.1 |
| Mn, total, mg/L | 1.37 | 1.41 | 1.31 | 1.43 | 1.01 | 1.16 | 1.24 | 1.03 | 1.04 | 0.957 | 0.845 |
| | | | | | | | | | | | |
| Backwash Date: 1/24/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 11.6 | 6.6 | 5.00 | 4.44 | 3.77 | 4.00 | 3.11 | 3.33 | <2.78 | 3.22 | 3.44 |
| Turbidity, NTU | 49.2 | 45.1 | 39.4 | 35.2 | 32.6 | 31.2 | 29.0 | 27.8 | 27.0 | 26.8 | 26.3 |
| Mn, total, mg/L | 0.863 | 1.04 | 0.886 | 0.810 | 0.859 | 0.766 | 0.737 | 0.742 | 0.742 | 0.679 | 0.649 |
| | | | | | | | | | | | |
| Backwash Date: 1/27/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 12.4 | 10.2 | 7.66 | 3.55 | 9.77 | 3.77 | 3.77 | 4.33 | 3.55 | <2.78 | <2.78 |
| Turbidity, NTU | 46.1 | 49.8 | 43.8 | 33.3 | 29.9 | 28.6 | 27.9 | 27.1 | 26.1 | 26.2 | 25.9 |
| Mn, total, mg/L | 0.669 | 6.93 | 1.89 | 4.21 | 0.949 | 1.12 | 1.01 | 1.01 | 0.827 | 0.824 | 0.508 |

| Table 1-17 Greensand Filter #3 -- Summary of Spent Backwash Water Monitoring | | | | | | | | | | | |
|---|-------------------------------------|------|-------|------|------|-------|-------|------|-------|-------|-------|
| Backwash Events | Backwash Duration -- Minutes | | | | | | | | | | |
| | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 |
| Backwash Date: 1/18/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 20.8 | 12.8 | 13.4 | 9.20 | 9.60 | 9.4 | 7.2 | 7.75 | 6.13 | 5.99 | 5.88 |
| Turbidity, NTU | 74.2 | 59.2 | 43.3 | 37.3 | 45.4 | 34.8 | 34.7 | 35.6 | 31.2 | 26.5 | 29.9 |
| Mn, total, mg/L | 1.6 | 1.63 | 1.76 | 1.74 | 1.12 | 1.51 | 1.44 | 1.54 | 1.37 | 1.17 | 1.24 |
| | | | | | | | | | | | |
| Backwash Date: 1/24/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 23.4 | 7.80 | 5:11 | 4.88 | 5.00 | 3.33 | 4 | 3.55 | 3.55 | 3.11 | 3.22 |
| Turbidity, NTU | 53.7 | 43.8 | 36.7 | 32.4 | 32.1 | 28.3 | 27.1 | 26.8 | 26.5 | 26.4 | 24.9 |
| Mn, total, mg/L | 1.86 | 1.56 | 1.4 | 1.26 | 1.20 | 1.21 | 1.17 | 1.12 | 1.07 | 1.08 | 1.05 |
| | | | | | | | | | | | |
| Backwash Date: 1/27/2023 | | | | | | | | | | | |
| Total Suspended Solids (TSS), mg/L | 12.8 | 7.60 | 3.44 | 4.44 | 3.77 | 3.11 | 3.55 | 3.77 | 3.22 | 3.44 | <2.78 |
| Turbidity, NTU | 45.8 | 42.3 | 34.0 | 33.8 | 30.9 | 27.1 | 28.1 | 26.2 | 25.6 | 24.9 | 25.2 |
| Mn, total, mg/L | 3.92 | 2.15 | 0.986 | 0.92 | 1.20 | 0.755 | 0.786 | 1.13 | 0.870 | 0.790 | 0.718 |

1.7 Disinfection By-Products (DBPs)

Four (4) rounds of Total Trihalomethane (TTHMs) and two (2) rounds Haloacetic Acids (HAA5s) of monitoring were conducted over the duration of the Q2 pilot plant program, including both the greensand filter influent and effluent water. The findings of this analytical investigation include the following:

- The greensand filter influent demonstrated TTHM with concentrations ranging from 15.9 to 31.3 µg/L, in all cases, below the USEPA LRAA limit of 80 µg/L.
- The greensand filter influent demonstrated Total HAA5 with concentrations ranging from 23.3 to 32.5 µg/L, in all cases, below the USEPA LRAA limit of 60 µg/L.
- The monitoring events of GSFs on January 17th and 25th, 2023 and GSF #1 on January 24, 2023 indicated TTHMs increased after water flew through GSFs. The monitoring events of GSFs on January 18th, 2023 and GSF #2 and #3 on January 24, 2023 indicated TTHMs reduced after water flew through GSFs.
- The monitoring events of GSFs on January 18th, 2023 indicated HAA5s increased after water flew through GSFs. The monitoring events of GSFs on January 25th, 2023 indicated HAA5s reduced after water flew through GSFs.
- Non-detectable TTHMs (<0.500 µg/L) and non-detectable HAA5s (<1.00 µg/L) were observed in SSF #1 and #2 effluent upstream of the chlorination process.

| Table 1-18 Disinfection By-Products (DBP) Monitoring | | | | | | | |
|--|-------------------|------------------|------------------|----------------|---------------|---------------|---------------|
| | SSF #1 Eff | SSF #2 Eff | GSF Influent* | GSF Eff | GSF #1 Eff | GSF #2 Eff | GSF #3 Eff |
| Sampling Date | 1/17/2023 | | | | | | |
| TTHMs, µg/L | n/a | n/a | 15.9 | 17.6** | 18.1 | 18.2 | 16.5 |
| Sampling Date | 1/18/2023 | | | | | | |
| TTHMs, µg/L | n/a | n/a | 31.3 | 29.7* | n/a | n/a | n/a |
| HAA5s, µg/L | n/a | n/a | 23.3 | 26.0* | n/a | n/a | n/a |
| Sampling Date | 1/24/2023 | | | | | | |
| TTHMs, µg/L | n/a | n/a | 17.95 | 17.89** | 19.23 | 17.82 | 16.62 |
| Sampling Date | 1/25/2023 | | | | | | |
| TTHMs, µg/L | <0.5000 | <0.500 | 25.4 | 26.9* | n/a | n/a | n/a |
| HAA5s, µg/L | <1.00 | <1.00 | 32.5 | 29.3* | n/a | n/a | n/a |
| *Composite samples: 1/3 from each GSF ** Calculated by averaging TTHM levels of GSF #1, #2, and #3. n/a: no data available | | | | | | | |

II. PILOT PLANT RESULTS AND EVALUATION

1. The Greensand Filters continuously demonstrated effective non-detectable manganese during the Q2 (January 16, 2023 – January 27, 2023) pilot testing period. This is due to the GSF influent consistently demonstrating “non-detectable” manganese (<0.00204 mg/L) over the duration of the pilot plant program. Based upon the backwash water demonstrating very low levels of manganese, it is believed that a trace level of manganese, below the laboratory detection limit, may have been present in the GSF influent, and removed by the greensand filtration process.
2. GSF#1 demonstrated nominal hydraulic loading of 1.8 to 2.1 gpm, averaging 1.9 gpm; GSF#2 demonstrated nominal hydraulic loading of 2.9 to 3.3 gpm, averaging 2.9 gpm; GSF#3 demonstrated nominal hydraulic loading of 3.9 to 4.1 gpm, averaging 4.0 gpm. These flowrates were consistent over the duration of the pilot plant program, and demonstrated effective performance at net hydraulic unit loads of 3.5 gpm/ft², 5.3 gpm/ft² and 7.3 gpm/ft². This loading is comfortably within the operating range for Greensand Plus media (2 – 12 gpm/ft²) and demonstrates the operational versatility of the filters.
3. The GSF influent demonstrated TTHMs on the order of 15.9 – 31.3 ug/L (avg. = 22.6 ug/L) compared to GSF effluent TTHMs of 17.6 – 29.78 ug/L (avg. = 23.0 ug/L). The GSF influent demonstrated HAA5 on the order of 23.3-32.5 ug/L (avg. = 27.9 ug/L) compared to GSF effluent of 26.0 to 29.3 ug/L (avg. = 27.7 ug/L), in both cases indicating the GSF operation had no impact upon DBPR formation.
4. The Slow Sand Filters demonstrated a TOC reduction of 24.1-31.5% across the filter beds, consistent with the operating history and prior monitoring of the water treatment system. No significant removal of TOC occurred through the Greensand Filtration process.
5. The Greensand Filters all demonstrated a similar chlorine demand, on the order of; 0.05 to 0.4 mg/L, averaging ≈0.16 mg/L. This is consistent with the extremely low oxidant demand due to non-detectable manganese in the GSF influent.
6. A backwash duration of 10-12 minutes demonstrated effective backwash efficiency for flushing out manganese, TSS and turbidity. This is consistent with expectations, based upon the very low manganese and suspended solids loading to the filters.

APPENDIX A
GSF INFLUENT WATER
CHARACTERIZATION

GSF Influent Water Characterization

| | 1/16/2023 | 1/17/2023 | 1/18/2023 | 1/19/2023 | 1/20/2023 | 1/21/2023 | 1/22/2023 | 1/23/2023 | 1/24/2023 | 1/25/2023 | 1/26/2023 | 1/27/2023 |
|-------------------------------|-----------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|--------------|-------------|-----------|-----------|
| TSS, mg/L | <2.78 | <2.78 | <6.25 | <2.78 | <6.25 | 7.50 | <2.78 | <2.50 | <2.78 | <6.25 | <2.78 | <6.25 |
| Color-Apparent, CU | <1 | <1 | <1 | <1 | <1 | 10 | <1 | <1 | <1 | <1 | <1 | <1 |
| Color- True, CU | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Turbidity, NTU | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | 9.25 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| pH, s.u. | 7.60 | 7.69 | 7.69 | 7.61 | 7.69 | 7.96 | 7.80 | 7.59 | 7.55 | 7.59 | 7.58 | 7.50 |
| Mn, total, mg/L | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00201 | <0.00204 | <0.00204 | <0.00204 |
| Fe,total, mg/L | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 |
| Mn (dissolved) , mg/L | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 | <0.00204 |
| Alkalinity, mg/L as CaCO3 | 80.0 | 80.0 | 80.0 | 80.0 | 85.0 | 80.0 | 85.0 | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 |
| TOC, mg/L | | 2.37 | | 2.14 | | | | | 2.17 | | 2.15 | |
| DOC, mg/L | | 2.12 | | 2.19 | | | | | 2.17 | | 2.20 | |
| THHM, µg/L | | 15.9 | 31.3 | | | | | | 17.95 | 25.4 | | |
| Bromodichloromethane, µg/L | | 2.89 | 2.95 | | | | | | 3.35 | 2.64 | | |
| Bbromoform, µg/L | | <0.50 | <0.500 | | | | | | <0.50 | <0.500 | | |
| Chloroform, µg/L | | 13.0 | 28.3 | | | | | | 14.6 | 22.7 | | |
| Dibromochloromethane, µg/L | | <0.50 | <0.500 | | | | | | <0.50 | <0.500 | | |
| HAA5, µg/L | | | 23.3 | | | | | | | 32.5 | | |
| Chloroacetic acid, µg/L | | | <1.00 | | | | | | | 1.05 | | |
| Bromoacetic acid, µg/L | | | <1.00 | | | | | | | <1.00 | | |
| Dichloroacetic acid, µg/L | | | 8.66 | | | | | | | 13.4 | | |
| Trichloroacetic acid, µg/L | | | 14.6 | | | | | | | 18.1 | | |
| Dibromoacetic acid, µg/L | | | <1.00 | | | | | | | <1.00 | | |
| pH for UV254 | | 7.67 | | 7.42 | | | | | 7.73 | | 7.85 | |
| UV254 (absorbance) /cm | | 0.026 | | 0.029 | | | | | 0.029 | | 0.041 | |
| Carbon Dioxide, mg/L | | | 8.00 | | | | | | | 8.00 | | |
| Conductivity, UMHOS/CM | | | 220 | | | | | | | 221 | | |
| TDS, mg/L | | | 103 | | | | | | | 112 | | |
| Chlorine, total residual mg/L | | | | | | | | | | | | |
| Nitrate as N, mg/L | | | 0.101 | | | | | | | 0.114 | | |
| Nitrite as N, mg/L | | | <0.0100 | | | | | | | <0.0100 | | |
| Sulfate as SO4, mg/L | | | <5.00 | | | | | | | <5.00 | | |
| Mercury, mg/L | | | <0.00020 | | | | | | | <0.00020 | | |
| Aluminum, mg/L | | | <0.0510 | | | | | | | <0.0500 | | |
| Calcium, mg/L | | | 23.2 | | | | | | | 21.1 | | |
| Maganesium, mg/L | | | 9.07 | | | | | | | 8.72 | | |
| Potassium, mg/L | | | 0.665 | | | | | | | 0.626 | | |
| Zinc, mg/L | | | 0.00862 | | | | | | | 0.00992 | | |
| Sodium, mg/L | | | 7.70 | | | | | | | 7.61 | | |
| Arsenic, mg/L | | | <0.0040 | | | | | | | <0.0040 | | |
| Beryllium, mg/L | | | <0.0010 | | | | | | | <0.0010 | | |
| Cadimium, mg/L | | | <0.0010 | | | | | | | <0.0010 | | |
| Chromium, mg/L | | | <0.0010 | | | | | | | <0.0010 | | |
| Copper, mg/L | | | 0.0075 | | | | | | | 0.0072 | | |
| Lead, mg/L | | | <0.0010 | | | | | | | <0.0010 | | |
| Chloride, mg/L | | | 12.2 | | | | | | | 12.3 | | |

APPENDIX B
PILOT PLNAT DAILY LOG SHEETS

**TABLE 3
 HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
 SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | | |
|-----------------------------------|---------------------------|-----------|-----------|-----------|-----------|--|--|--|--|--|--|
| GSF FILTER ID# GSF2 | | | | | | | | | | | |
| Date:1/16/23 | | 8:40 | 12:40 | 14:00 | 16:00 | | | | | | |
| TIME | | | | | | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | 3.2 | 2.9 | 2.9 | 2.9 | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 10193 | 9907 | 9578 | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | |
| GSF Influent Pressure | psig | 36 | | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | |
| Temperature – GSF Influent | | 2.7 | 2.7 | 2.7 | 2.7 | | | | | | |
| Temperature – GSF Effluent | | 3.3 | 3.4 | 3.4 | 3.4 | | | | | | |
| Turbidity – GSF Influent | | .059/.027 | .059/.027 | .059/.027 | .059/.027 | | | | | | |
| Diss. Oxygen – GSF Influent | | 6.93 | 5.97 | | | | | | | | |
| Diss. Oxygen – GSF Effluent | | 6.19 | 4.91 | | | | | | | | |
| pH – GSF Influent | | 7.57 | 7.58 | 7.58 | 7.58 | | | | | | |
| pH – GSF Effluent | | 7.45 | 7.5 | 7.5 | 7.4 | | | | | | |
| TDS – GSF Influent | | 86 | | | | | | | | | |
| TDS – GSF Effluent | | 84 | | | | | | | | | |
| Sp. Cond. – GSF Influent | | 201 | 183 | | | | | | | | |
| Sp. Cond – GSF Effluent | | 196 | 181 | | | | | | | | |
| Cl Residual – GSF Influent | | 1.29 | 1.28 | 1.29 | 1.29 | | | | | | |
| Cl Residual – GSF Effluent | | 1.71 | 1.23 | 0.95 | 1.31 | | | | | | |
| Manganese – GSF Influent | | | 0.026 | 0.019 | 0.008 | | | | | | |
| Manganese – GSF Effluent | | | 0.025 | 0.026 | 0.011 | | | | | | |
| Iron – GSF Influent | | | | 0.04 | | | | | | | |
| Iron – GSF Effluent | | | | ND | | | | | | | |
| Long Pond Fe | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | | |

Backwash:7:40
 Start:8:10

**TABLE 3
 HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
 SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | | | | |
|------------------------------------|---------------------------|-----------|-----------|-----------|-----------|--|--|--|--|--|--|--|--|
| GSF FILTER ID# GSF3 | | | | | | | | | | | | | |
| 1/16/2023 | | | | | | | | | | | | | |
| TIME | | 9:10 | 12:45 | 14:00 | 16:00 | | | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | | | | | | | | | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 9996 | 9626 | 9170 | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | 36 | | | | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature – GSF Influent | | 2.7 | 2.7 | 2.7 | 2.7 | | | | | | | | |
| Temperature – GSF Effluent | | 3.5 | 3.5 | 3.4 | 3.4 | | | | | | | | |
| Turbidity – GSF Influent | | .059/.027 | .059/.027 | .059/.027 | .059/.027 | | | | | | | | |
| Diss. Oxygen – GSF Influent | | 6.93 | 5.97 | | | | | | | | | | |
| Diss. Oxygen – GSF Effluent | | 5.91 | 5.88 | | | | | | | | | | |
| pH – GSF Influent | | 7.57 | 7.5 | 7.5 | 7.58 | | | | | | | | |
| pH – GSF Effluent | | 7.5 | 7.6 | 7.4 | 7.4 | | | | | | | | |
| TDS – GSF Influent | | | | | | | | | | | | | |
| TDS – GSF Effluent | | | | | | | | | | | | | |
| Sp. Cond. – GSF Influent | | 201 | 180 | | | | | | | | | | |
| Sp. Cond – GSF Effluent | | 199 | 181 | | | | | | | | | | |
| Cl Residual – GSF Influent | | 1.29 | 1.28 | 1.29 | 1.29 | | | | | | | | |
| Cl Residual – GSF Effluent | | | 0.84 | 0.93 | 1.29 | | | | | | | | |
| Manganese – GSF Influent | | | 0.026 | 0.019 | | | | | | | | | |
| Manganese – GSF Effluent | | | 0.032 | 0.025 | | | | | | | | | |
| Iron – GSF Influent | | | | 0.04 | | | | | | | | | |
| Iron – GSF Effluent | | | | ND | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | | | | |

Backwash: 8:15
 Start: 8:40

**TABLE 3
 HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
 SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | | | | |
|-----------------------------------|---------------------|-----------|-----------|-----------|-----------|--|--|--|--|--|--|--|--|
| GSF FILTER ID# GSF1 | | | | | | | | | | | | | |
| DATE:1.17.23 | | | | | | | | | | | | | |
| TIME | | 7:20 | 12:20 | 13:20 | 18:00 | | | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | | | | | | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | | | | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | 36 | | | | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature – GSF Influent | | 2.6 | 2.8 | 2.6 | 2.6 | | | | | | | | |
| Temperature – GSF Effluent | | | | | | | | | | | | | |
| Turbidity – GSF Influent | | .058/.027 | .059/.027 | .059/.027 | .059/.027 | | | | | | | | |
| Diss, Oxygen – GSF Influent | | 6.22 | 5.53 | | 5.41 | | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | | | | | | | | | | | |
| pH – GSF Influent | | 7.58 | 7.58 | | 7.58 | | | | | | | | |
| pH – GSF Effluent | | | | | | | | | | | | | |
| TDS – GSF Influent | | 88 | 94 | | | | | | | | | | |
| TDS – GSF Effluent | | | | | | | | | | | | | |
| Sp. Cond. – GSF Influent | | 175 | 188 | | | | | | | | | | |
| Sp. Cond – GSF Effluent | | | | | | | | | | | | | |
| Cl Residual – GSF Influent | | 1.47 | 1.41 | 1.4 | 1.35 | | | | | | | | |
| Cl Residual – GSF Effluent | | | | | | | | | | | | | |
| Manganese – GSF Influent | | 0.026 | | | 0.023 | | | | | | | | |
| Manganese – GSF Effluent | | | | | | | | | | | | | |
| Iron – GSF Influent | | 0.04 | | | 0.05 | | | | | | | | |
| Iron – GSF Effluent | | | | | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | 2 | | | 2 | | | | | | | | |
| Sulfate – GSF Effluent | | 2 | | | 2 | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | | | | | | | | | |
|-----------------------------------|---------------------|-----------|-----------|-----------|-----------|--|--|--|--|--|--|--|--|
| GSF FILTER ID# GSF2 | | | | | | | | | | | | | |
| I.17.23 | | | | | | | | | | | | | |
| TIME | | 7:20 | 12:20 | 13:20 | 18:00 | | | | | | | | |
| OPERATOR INITIALS:SM/RF | | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | 2.9 | 2.9 | 3 | 2.9 | | | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | 6828 | 5928 | 5756 | 4905 | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | 36 | 36 | 36 | 36 | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature – GSF Influent | | 2.6 | 2.8 | 2.6 | 2.6 | | | | | | | | |
| Temperature – GSF Effluent | | 3.8 | 3.4 | 3.6 | 3.4 | | | | | | | | |
| Turbidity – GSF Influent | | .058/.027 | .059/.027 | .059/.027 | .059/.027 | | | | | | | | |
| Diss. Oxygen – GSF Influent | | 6.22 | 5.53 | | 5.41 | | | | | | | | |
| Diss. Oxygen – GSF Effluent | | 6.66 | 5.37 | | 5.05 | | | | | | | | |
| pH – GSF Influent | | 7.58 | 7.58 | | 7.58 | | | | | | | | |
| pH – GSF Effluent | | 7.53 | 7.46 | | 7.47 | | | | | | | | |
| TDS – GSF Influent | | 88 | 94 | | | | | | | | | | |
| TDS – GSF Effluent | | 90 | 90 | | 94 | | | | | | | | |
| Sp. Cond. – GSF Influent | | 175 | 188 | | | | | | | | | | |
| Sp. Cond – GSF Effluent | | | | | | | | | | | | | |
| Cl Residual – GSF Influent | | 1.47 | 1.41 | 1.4 | 1.35 | | | | | | | | |
| Cl Residual – GSF Effluent | | 1.37 | 1.41 | 1.28 | | | | | | | | | |
| Manganese – GSF Influent | | 0.026 | | | 0.023 | | | | | | | | |
| Manganese – GSF Effluent | | 0.021 | | | 0.017 | | | | | | | | |
| Iron – GSF Influent | | 0.04 | | | 0.05 | | | | | | | | |
| Iron – GSF Effluent | | ND | | | ND | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | 2 | | | 2 | | | | | | | | |
| Sulfate – GSF Effluent | | 2 | | | 2 | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3

**HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | |
|------------------------------------|---------------------------|-----------|-----------|-----------|-----------|--|--|--|--|--|
| GSF FILTER ID# GSF3 | | | | | | | | | | |
| DATE:1.17.23 | | | | | | | | | | |
| TIME | | 7:20 | 12:20 | 13:20 | 18:00 | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | |
| | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | | | | | | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | |
| Treated Volume - Interval | Gallons | 5411 | 4172 | 3950 | 2789 | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | | | | | |
| GSF Influent Pressure | psig | 36 | 36 | 36 | 36 | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | |
| Temperature – GSF Influent | | 2.6 | 2.8 | 2.6 | 2.6 | | | | | |
| Temperature – GSF Effluent | | 3.6 | 3.4 | 3.6 | 3.6 | | | | | |
| Turbidity – GSF Influent | | .058/.027 | .059/.027 | .059/.027 | .059/.027 | | | | | |
| Diss, Oxygen – GSF Influent | | 6.22 | 5.53 | | 5.41 | | | | | |
| Diss, Oxygen – GSF Effluent | | 5.97 | 5.36 | | 4.97 | | | | | |
| pH – GSF Influent | | 7.58 | 7.58 | | 7.58 | | | | | |
| pH – GSF Effluent | | 7.49 | 7.47 | | 7.47 | | | | | |
| TDS – GSF Influent | | 88 | 94 | | 92 | | | | | |
| TDS – GSF Effluent | | 91 | 90 | | 90 | | | | | |
| Sp. Cond. – GSF Influent | | 175 | 188 | | 178 | | | | | |
| Sp. Cond – GSF Effluent | | 181 | 180 | | 180 | | | | | |
| Cl Residual – GSF Influent | | 1.47 | 1.41 | 1.4 | 1.35 | | | | | |
| Cl Residual – GSF Effluent | | 1.31 | 0.72 | | 0.86 | | | | | |
| Manganese – GSF Influent | | 0.026 | | | 0.023 | | | | | |
| Manganese – GSF Effluent | | 0.02 | | | 0.02 | | | | | |
| Iron – GSF Influent | | 0.04 | | | 0.05 | | | | | |
| Iron – GSF Effluent | | ND | | | ND | | | | | |
| Long Pond Fe | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | |
| Sulfate – GSF Influent | | 2 | | | 2 | | | | | |
| Sulfate – GSF Effluent | | 2 | | | 2 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3

HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| GSF FILTER ID# GSF1 | | | | | | | | | | | | |
|-----------------------------|---------------------|--|-----------|-----------|-----------|-------|-------|--|--|--|--|--|
| DATE:1/18/23 | | | | | | | | | | | | |
| TIME | | | 4:20 | 9:40 | 13:00 | 16:15 | 20:30 | | | | | |
| OPERATOR INITIALS:SM/RF | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 5801 | 5169 | 4772 | 4404 | 3902 | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | 36 | 36 | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.6 | 2.5 | 2.6 | 2.6 | 2.6 | | | | | |
| Temperature – GSF Effluent | | | | 3.2 | 3.4 | | | | | | | |
| Turbidity – GSF Influent | | | .059/.027 | .059/.027 | .059/.027 | | | | | | | |
| Diss, Oxygen – GSF Influent | | | | 4.53 | 7.8 | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | | 5.08 | 4.85 | | | | | | | |
| pH – GSF Influent | | | 7.59 | 7.59 | 7.59 | 7.58 | 7.58 | | | | | |
| pH – GSF Effluent | | | | 7.49 | 7.54 | | | | | | | |
| TDS – GSF Influent | | | | 93 | 87 | | | | | | | |
| TDS – GSF Effluent | | | | 90 | 92 | | | | | | | |
| Sp. Cond. – GSF Influent | | | | 186 | 174 | | | | | | | |
| Sp. Cond – GSF Effluent | | | | 180 | 183 | | | | | | | |
| Cl Residual – GSF Influent | | | 1.35 | 1.46 | 1.33 | 1.3 | 1.26 | | | | | |
| Cl Residual – GSF Effluent | | | | 1.38 | 1.28 | 1.27 | 1.29 | | | | | |
| Manganese – GSF Influent | | | | 0.006 | 0.012 | | | | | | | |
| Manganese – GSF Effluent | | | | 0.007 | 0.017 | | | | | | | |
| Iron – GSF Influent | | | | 0.06 | | | | | | | | |
| Iron – GSF Effluent | | | | nd | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | |
| Long Pond Mn | | | | 0.017 | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

**TABLE 3
 HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
 SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | | | |
|-----------------------------|---------------------|------------|------------|------------|------------|------------|--|--|--|--|--|--|
| GSF FILTER ID# GSF2 | | | | | | | | | | | | |
| DATE:1/18/23 | | | | | | | | | | | | |
| TIME | | 4:20 | 9:40 | 13:00 | 16:15 | 20:30 | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | 3.3 | 2.9 | 2.9 | 2.9 | 2.9 | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | 3067 | 2089 | 1475 | 909 | 139 | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | |
| GSF Influent Pressure | psig | 36 | 36 | 36 | 36 | 36 | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | |
| Temperature – GSF Influent | | 2.6 | 2.5 | 2.6 | 2.5 | 2.6 | | | | | | |
| Temperature – GSF Effluent | | | 3.1 | 3.5 | | | | | | | | |
| Turbidity – GSF Influent | | 0.059/.027 | 0.059/.027 | 0.059/.027 | 0.059/.027 | 0.059/.027 | | | | | | |
| Diss, Oxygen – GSF Influent | | | 4.53 | 7.8 | | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.07 | 5.11 | | | | | | | | |
| pH – GSF Influent | | 7.59 | 7.59 | 7.59 | 7.58 | 7.58 | | | | | | |
| pH – GSF Effluent | | | 7.47 | 7.52 | | | | | | | | |
| TDS – GSF Influent | | | 93 | 87 | | | | | | | | |
| TDS – GSF Effluent | | | 90 | 90 | | | | | | | | |
| Sp. Cond. – GSF Influent | | | 186 | 174 | | | | | | | | |
| Sp. Cond. – GSF Effluent | | | 180 | 180 | | | | | | | | |
| Cl Residual – GSF Influent | | 1.35 | 1.46 | 1.38 | 1.3 | 1.26 | | | | | | |
| Cl Residual – GSF Effluent | | | 1.37 | 1.4 | 1.23 | 1.21 | | | | | | |
| Manganese – GSF Influent | | | 0.006 | 0.012 | | | | | | | | |
| Manganese – GSF Effluent | | | 0.011 | 0.017 | | | | | | | | |
| Iron – GSF Influent | | | 0.06 | | | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | 2 | | | | | | | | | |
| Sulfate – GSF Effluent | | | 2 | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | | | |

BACKWASH 1/18/23
 11,000 GAL. CAPACITY/139 Gal. Remain
 22 minute backwash
 7 minute rinse

**TABLE 3
 HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
 SYSTEM FLOWRATES AND HYDRAULIC LOADING**

BACKWASH AT 4:20 AMM
 11000 GAL. CAPACITY/277 GAL. REMAIN
 22MIN BACKWASH
 7MIN RINSE

| | | | | | | | | | | | | | |
|-----------------------------------|---------------------|--|-----------|-----------|-----------|-----------|-----------|--|--|--|--|--|--|
| GSF FILTER ID# GSF3 | | | | | | | | | | | | | |
| DATE:1/18/23 | | | | | | | | | | | | | |
| TIME | | | | | | | | | | | | | |
| OPERATOR INITIALS:SM | | | 4:20 | 9:40 | 13:00 | 16:15 | 2030 | | | | | | |
| GSF Influent Flowrate | gpm | | 4 | 4 | 4.1 | 3.9 | 3.9 | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 277 | 9800 | 8960 | 8203 | 7184 | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | 36 | 36 | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature - GSF Influent | | | 2.6 | 2.5 | 2.6 | 2.6 | 2.6 | | | | | | |
| Temperature - GSF Effluent | | | 3.1 | 2.9 | 3.4 | | | | | | | | |
| Turbidity - GSF Influent | | | .059/.027 | .059/.027 | .059/.027 | .059/.027 | .059/.027 | | | | | | |
| Diss, Oxygen - GSF Influent | | | | 4.53 | 7.8 | | | | | | | | |
| Diss, Oxygen - GSF Effluent | | | | 5.23 | 5.13 | | | | | | | | |
| pH - GSF Influent | | | 7.59 | 7.59 | 7.59 | 7.58 | 7.58 | | | | | | |
| pH - GSF Effluent | | | 7.47 | 7.46 | 7.55 | | | | | | | | |
| TDS - GSF Influent | | | | 93 | 87 | | | | | | | | |
| TDS - GSF Effluent | | | | 91 | 91 | | | | | | | | |
| Sp. Cond. - GSF Influent | | | | 186 | 178 | | | | | | | | |
| Sp. Cond. - GSF Effluent | | | | 182 | 182 | | | | | | | | |
| Cl Residual - GSF Influent | | | 1.35 | 1.46 | 1.38 | 1.3 | 1.26 | | | | | | |
| Cl Residual - GSF Effluent | | | 0.81 | 1.31 | 1.23 | 1.26 | 1.27 | | | | | | |
| Manganese - GSF Influent | | | | 0.006 | 0.012 | | | | | | | | |
| Manganese - GSF Effluent | | | | 0.005 | 0.016 | | | | | | | | |
| Iron - GSF Influent | | | | 0.06 | | | | | | | | | |
| Iron - GSF Effluent | | | | ND | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate - GSF Influent | | | | 2 | | | | | | | | | |
| Sulfate - GSF Effluent | | | | 2 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | | | | | | | | | |
|------------------------------------|---------------------------|--|-----------|-----------|-----------|--|--|--|--|--|--|--|--|
| GSF FILTER ID# | GSF2 | | | | | | | | | | | | |
| DATE: | 1/19/23 | | | | | | | | | | | | |
| TIME | | | 8:45 | 12:00 | 14:30 | | | | | | | | |
| OPERATOR INITIALS: | SM | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 2.9 | 2.9 | 2.9 | | | | | | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 8907 | 8326 | 7875 | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.3 | 2.3 | 2.3 | | | | | | | | |
| Temperature – GSF Effluent | | | 2.8 | | 2.9 | | | | | | | | |
| Turbidity – GSF Influent | | | .059/.027 | .059/.027 | .059/.027 | | | | | | | | |
| Diss. Oxygen – GSF Influent | | | 6.34 | | 5.9 | | | | | | | | |
| Diss. Oxygen – GSF Effluent | | | 5.66 | | 5.55 | | | | | | | | |
| pH – GSF Influent | | | 7.61 | 7.61 | 7.61 | | | | | | | | |
| pH – GSF Effluent | | | 7.57 | | 7.49 | | | | | | | | |
| TDS – GSF Influent | | | 93 | | 90 | | | | | | | | |
| TDS – GSF Effluent | | | 91 | | 89 | | | | | | | | |
| Sp. Cond. – GSF Influent | | | 185 | | 180 | | | | | | | | |
| Sp. Cond – GSF Effluent | | | 183 | | 179 | | | | | | | | |
| Cl Residual – GSF Influent | | | 1.49 | 1.49 | 1.49 | | | | | | | | |
| Cl Residual – GSF Effluent | | | 1.42 | 1.42 | 1.43 | | | | | | | | |
| Manganese – GSF Influent | | | 0.031 | | 0.025 | | | | | | | | |
| Manganese – GSF Effluent | | | 0.012 | | 0.01 | | | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3

**HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | |
|------------------------------------|---------------------------|--|-----------|-----------|-----------|--|--|--|--|--|
| GSF FILTER ID# GSF3 | | | | | | | | | | |
| DATE:1/19/23 | | | | | | | | | | |
| TIME | | | | | | | | | | |
| | | | 8:45 | 12:00 | 14:30 | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | |
| | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 3.9 | 3.9 | 3.9 | | | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 4228 | 3453 | 2860 | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | |
| | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.3 | 2.3 | 2.3 | | | | | |
| Temperature – GSF Effluent | | | 2.8 | | 2.7 | | | | | |
| Turbidity – GSF Influent | | | .059/.027 | .059/.027 | .059/.027 | | | | | |
| Diss, Oxygen – GSF Influent | | | 6.34 | | 5.9 | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.27 | | 5.2 | | | | | |
| pH – GSF Influent | | | 7.61 | 7.61 | 7.61 | | | | | |
| pH – GSF Effluent | | | 7.38 | | 7.45 | | | | | |
| TDS – GSF Influent | | | 93 | | 90 | | | | | |
| TDS – GSF Effluent | | | 91 | | 92 | | | | | |
| Sp. Cond. – GSF Influent | | | 185 | | 180 | | | | | |
| Sp. Cond – GSF Effluent | | | 182 | | 184 | | | | | |
| Cl Residual – GSF Influent | | | 1.49 | 1.49 | 1.49 | | | | | |
| Cl Residual – GSF Effluent | | | 1.43 | 1.4 | 1.38 | | | | | |
| Manganese – GSF Influent | | | 0.031 | | 0.025 | | | | | |
| Manganese – GSF Effluent | | | 0.023 | | 0.018 | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | |
| Long Pond Fe | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | | | | | | | | | |
|-----------------------------|---------------------|--|------------|------------|------------|--|--|--|--|--|--|--|--|
| GSF FILTER ID# GSF2 | | | | | | | | | | | | | |
| DATE:1/20/23 | | | | | | | | | | | | | |
| TIME | | | 6:00 | 8:45 | 9:45 | | | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 3.1 | 2.9 | 2.9 | | | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 5010 | 4565 | 4391 | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.3 | 2.3 | 2.3 | | | | | | | | |
| Temperature – GSF Effluent | | | 3.1 | 3.2 | | | | | | | | | |
| Turbidity – GSF Influent | | | 0.059/.028 | 0.059/.028 | 0.059/.028 | | | | | | | | |
| Diss, Oxygen – GSF Influent | | | 5.25 | 5.61 | | | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.21 | 5.11 | | | | | | | | | |
| pH – GSF Influent | | | 7.61 | 7.62 | 7.62 | | | | | | | | |
| pH – GSF Effluent | | | 7.52 | 7.54 | | | | | | | | | |
| TDS – GSF Influent | | | 90 | 91 | | | | | | | | | |
| TDS – GSF Effluent | | | 90 | 93 | | | | | | | | | |
| Sp. Cond. – GSF Influent | | | 180 | 182 | | | | | | | | | |
| Sp. Cond. – GSF Effluent | | | 180 | 186 | | | | | | | | | |
| Cl Residual – GSF Influent | | | 1.51 | 1.52 | 1.52 | | | | | | | | |
| Cl Residual – GSF Effluent | | | 1.38 | 1.31 | 1.34 | | | | | | | | |
| Manganese – GSF Influent | | | 0.016 | 0.017 | | | | | | | | | |
| Manganese – GSF Effluent | | | 0.017 | 0.014 | | | | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3

**HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | |
|------------------------------------|---------------------------|--|------------|------------|------------|--|--|--|--|--|
| GSF FILTER ID# GSF3 | | | | | | | | | | |
| DATE:1/20/23 | | | | | | | | | | |
| TIME | | | | | | | | | | |
| | | | 6:00 | 8:45 | 9:45 | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | |
| | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 4.1 | 4 | 3.9 | | | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 10179 | 9585 | 9357 | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.3 | 2.3 | 2.3 | | | | | |
| Temperature – GSF Effluent | | | 2.8 | 2.9 | | | | | | |
| Turbidity – GSF Influent | | | 0.059/.028 | 0.059/.028 | 0.059/.028 | | | | | |
| Diss, Oxygen – GSF Influent | | | 5.25 | 5.61 | | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.2 | 5.32 | | | | | | |
| pH – GSF Influent | | | 7.61 | 7.62 | 7.62 | | | | | |
| pH – GSF Effluent | | | 7.5 | 7.55 | | | | | | |
| TDS – GSF Influent | | | 90 | 91 | | | | | | |
| TDS – GSF Effluent | | | 94 | 92 | | | | | | |
| Sp. Cond. – GSF Influent | | | 180 | 182 | | | | | | |
| Sp. Cond – GSF Effluent | | | 188 | 184 | | | | | | |
| Cl Residual – GSF Influent | | | 1.51 | 1.52 | 1.52 | | | | | |
| Cl Residual – GSF Effluent | | | 1.43 | 1.4 | 1.41 | | | | | |
| Manganese – GSF Influent | | | 0.016 | 0.017 | | | | | | |
| Manganese – GSF Effluent | | | 0.013 | 0.011 | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | |
| Long Pond Fe | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | | | | | | | | |
|------------------------------------|---------------------------|--|-----------|--|--|--|--|--|--|--|--|--|
| GSF FILTER ID# GSF1 | | | | | | | | | | | | |
| DATE:1/22/23 | | | | | | | | | | | | |
| TIME | | | 18:00 | | | | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 1.9 | | | | | | | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 4096 | | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | |
| | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.1 | | | | | | | | | |
| Temperature – GSF Effluent | | | 3.3 | | | | | | | | | |
| Turbidity – GSF Influent | | | .059/.028 | | | | | | | | | |
| Diss, Oxygen – GSF Influent | | | 5.77 | | | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.6 | | | | | | | | | |
| pH – GSF Influent | | | 7.63 | | | | | | | | | |
| pH – GSF Effluent | | | 7.49 | | | | | | | | | |
| TDS – GSF Influent | | | 101 | | | | | | | | | |
| TDS – GSF Effluent | | | 98 | | | | | | | | | |
| Sp. Cond. – GSF Influent | | | 201 | | | | | | | | | |
| Sp. Cond – GSF Effluent | | | 196 | | | | | | | | | |
| Cl Residual – GSF Influent | | | 1.55 | | | | | | | | | |
| Cl Residual – GSF Effluent | | | 1.48 | | | | | | | | | |
| Manganese – GSF Influent | | | 0.019 | | | | | | | | | |
| Manganese – GSF Effluent | | | 0.012 | | | | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | 2 | | | | | | | | | |
| Sulfate – GSF Effluent | | | 2 | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

**TABLE 3
 HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
 SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | | | | |
|------------------------------------|---------------------|--|------------|--|--|--|--|--|--|--|--|--|--|
| GSF FILTER ID# | GSF2 | | | | | | | | | | | | |
| DATE: | 1/22/23 | | | | | | | | | | | | |
| TIME | | | 18:00 | | | | | | | | | | |
| OPERATOR INITIALS: | SM | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 2.9 | | | | | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 5352 | | | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | | | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.1 | | | | | | | | | | |
| Temperature – GSF Effluent | | | 2 | | | | | | | | | | |
| Turbidity – GSF Influent | | | .059/ .028 | | | | | | | | | | |
| Diss. Oxygen – GSF Influent | | | 5.77 | | | | | | | | | | |
| Diss. Oxygen – GSF Effluent | | | 5.21 | | | | | | | | | | |
| pH – GSF Influent | | | 7.63 | | | | | | | | | | |
| pH – GSF Effluent | | | 7.58 | | | | | | | | | | |
| TDS – GSF Influent | | | 101 | | | | | | | | | | |
| TDS – GSF Effluent | | | 100 | | | | | | | | | | |
| Sp. Cond. – GSF Influent | | | 201 | | | | | | | | | | |
| Sp. Cond. – GSF Effluent | | | 200 | | | | | | | | | | |
| Cl Residual – GSF Influent | | | 1.55 | | | | | | | | | | |
| Cl Residual – GSF Effluent | | | 1.47 | | | | | | | | | | |
| Manganese – GSF Influent | | | 0.016 | | | | | | | | | | |
| Manganese – GSF Effluent | | | 0.017 | | | | | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | 2 | | | | | | | | | | |
| Sulfate – GSF Effluent | | | 2 | | | | | | | | | | |
| Total Volume Treated/Cycle | | | | | | | | | | | | | |
| Total Operating Days/Cycle | | | | | | | | | | | | | |
| Average Daily Volume | | | | | | | | | | | | | |
| Average System Flowrate | | | | | | | | | | | | | |
| Average Hydraulic Loading | | | | | | | | | | | | | |

**HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | | | | |
|------------------------------------|---------------------------|--|-----------|--|--|--|--|--|--|--|--|--|--|
| GSF FILTER ID# GSF3 | | | | | | | | | | | | | |
| DATE:1/22/23 | | | | | | | | | | | | | |
| TIME | | | 18:00 | | | | | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 4 | | | | | | | | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 6887 | | | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | | | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.1 | | | | | | | | | | |
| Temperature – GSF Effluent | | | 2.9 | | | | | | | | | | |
| Turbidity – GSF Influent | | | .059/.028 | | | | | | | | | | |
| Diss, Oxygen – GSF Influent | | | 5.77 | | | | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.19 | | | | | | | | | | |
| pH – GSF Influent | | | 7.63 | | | | | | | | | | |
| pH – GSF Effluent | | | 7.58 | | | | | | | | | | |
| TDS – GSF Influent | | | 101 | | | | | | | | | | |
| TDS – GSF Effluent | | | 96 | | | | | | | | | | |
| Sp. Cond. – GSF Influent | | | 201 | | | | | | | | | | |
| Sp. Cond – GSF Effluent | | | 193 | | | | | | | | | | |
| Cl Residual – GSF Influent | | | 1.55 | | | | | | | | | | |
| Cl Residual – GSF Effluent | | | 1.51 | | | | | | | | | | |
| Manganese – GSF Influent | | | 0.016 | | | | | | | | | | |
| Manganese – GSF Effluent | | | 0.01 | | | | | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | 2 | | | | | | | | | | |
| Sulfate – GSF Effluent | | | 2 | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

**HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | |
|-----------------------------|---------------------|--|-----------|-----------|------------|--|--|--|--|--|
| GSF FILTER ID# GSF2 | | | | | | | | | | |
| DATE:1/23/23 | | | | | | | | | | |
| TIME | | | | | | | | | | |
| | | | 8:00 | 8:40 | 12:40 | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | |
| | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 2.9 | 2.9 | 2.9 | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 2838 | 4708 | 3984 | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | |
| | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.3 | 2.3 | 2.3 | | | | | |
| Temperature – GSF Effluent | | | 3 | 3.1 | 3.1 | | | | | |
| Turbidity – GSF Influent | | | .060/.028 | .060/.028 | 0.060/.028 | | | | | |
| Diss, Oxygen – GSF Influent | | | 5.16 | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.71 | | | | | | | |
| pH – GSF Influent | | | 7.62 | 7.62 | 7.62 | | | | | |
| pH – GSF Effluent | | | 7.5 | | | | | | | |
| TDS – GSF Influent | | | 100 | | | | | | | |
| TDS – GSF Effluent | | | 100 | | | | | | | |
| Sp. Cond. – GSF Influent | | | 200 | | | | | | | |
| Sp. Cond – GSF Effluent | | | 200 | | | | | | | |
| Cl Residual – GSF Influent | | | 1.48 | 1.48 | 1.49 | | | | | |
| Cl Residual – GSF Effluent | | | 1.26 | 1.28 | 1.28 | | | | | |
| Manganese – GSF Influent | | | 0.018 | | | | | | | |
| Manganese – GSF Effluent | | | 0.015 | | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | |
| Long Pond Fe | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | | | | | | |
|-----------------------------|---------------------|--|-----------|-----------|-----------|--|--|--|--|--|
| GSF FILTER ID# GSF3 | | | | | | | | | | |
| DATE:1/23/23 | | | | | | | | | | |
| TIME | | | | | | | | | | |
| | | | 8:00 | 8:40 | 12:40 | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | |
| | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 3.9 | 3.9 | 4 | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 3517 | 5342 | 432 | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | |
| | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.3 | 2.3 | 2.3 | | | | | |
| Temperature – GSF Effluent | | | 3 | 2.9 | 3 | | | | | |
| Turbidity – GSF Influent | | | .060/.028 | .060/.028 | .060/.028 | | | | | |
| Diss, Oxygen – GSF Influent | | | 5.16 | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.71 | | | | | | | |
| pH – GSF Influent | | | 7.62 | 7.62 | 7.62 | | | | | |
| pH – GSF Effluent | | | 7.53 | | | | | | | |
| TDS – GSF Influent | | | 100 | | | | | | | |
| TDS – GSF Effluent | | | 102 | | | | | | | |
| Sp. Cond. – GSF Influent | | | 200 | | | | | | | |
| Sp. Cond – GSF Effluent | | | 204 | | | | | | | |
| Cl Residual – GSF Influent | | | 1.48 | 1.48 | 1.49 | | | | | |
| Cl Residual – GSF Effluent | | | 1.3 | 1.27 | 1.31 | | | | | |
| Manganese – GSF Influent | | | ND | | | | | | | |
| Manganese – GSF Effluent | | | ND | | | | | | | |
| Iron – GSF Influent | | | | | | | | | | |
| Iron – GSF Effluent | | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

**HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | | | | | |
|-----------------------------|---------------------|--|-----------|-----------|-----------|-----------|-----------|--|--|--|--|--|--|--|
| GSF FILTER ID# GSF2 | | | | | | | | | | | | | | |
| DATE:01/24/2023 | | | | | | | | | | | | | | |
| TIME | | | 6:40 | 8:20 | 10:00 | 15:40 | 20:45 | | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 | | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 764 | 423 | 120 | 12126 | 11205 | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | 36 | 36 | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.2 | 2.2 | 2 | 2 | 2 | | | | | | | |
| Temperature – GSF Effluent | | | 2.9 | 3.4 | 3.1 | | | | | | | | | |
| Turbidity – GSF Influent | | | .059/.028 | .060/.028 | .060/.029 | .061/.029 | .060/.031 | | | | | | | |
| Diss. Oxygen – GSF Influent | | | 5.6 | 5.67 | 6.11 | | | | | | | | | |
| Diss. Oxygen – GSF Effluent | | | 5.43 | | 5.38 | | | | | | | | | |
| pH – GSF Influent | | | 7.62 | 7.62 | 7.63 | | | | | | | | | |
| pH – GSF Effluent | | | 7.52 | | 7.48 | | | | | | | | | |
| TDS – GSF Influent | | | 98 | | 96 | | | | | | | | | |
| TDS – GSF Effluent | | | 100 | | 98 | | | | | | | | | |
| Sp. Cond. – GSF Influent | | | 196 | | 192 | | | | | | | | | |
| Sp. Cond. – GSF Effluent | | | 200 | | 196 | | | | | | | | | |
| Cl Residual – GSF Influent | | | 0.91 | 1.07 | 1.1 | 1.16 | 1.62 | | | | | | | |
| Cl Residual – GSF Effluent | | | 0.75 | 0.77 | 0.82 | 0.91 | 1.41 | | | | | | | |
| Manganese – GSF Influent | | | 0.021 | | 0.018 | | | | | | | | | |
| Manganese – GSF Effluent | | | 0.016 | | 0.013 | | | | | | | | | |
| Iron – GSF Influent | | | | ND | | | | | | | | | | |
| Iron – GSF Effluent | | | | ND | | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | | | | | |

10:30AM BACKWASH
13000GAL. CAPACITY/80GAL. REM
22MIN BACKWASH
7MIN RINSE

**HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | |
|------------------------------------|---------------------------|--|-----------|-----------|-----------|-----------|-----------|--|--|--|
| GSF FILTER ID# GSF3 | | | | | | | | | | |
| DATE:01/24/2023 | | | | | | | | | | |
| TIME | | | | | | | | | | |
| | | | 6:40 | 8:20 | 10:00 | 15:40 | 20:45 | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | |
| | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 3.9 | 3.9 | 4 | 4 | 4 | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 33 | 12706 | 12296 | 10935 | 9688 | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 | 36 | 36 | | | |
| GSF Effluent Pressure | psig | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | |
| | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | |
| Temperature – GSF Influent | | | 2.2 | 2.2 | 2 | 2 | 2 | | | |
| Temperature – GSF Effluent | | | | 2.9 | 3.4 | | | | | |
| Turbidity – GSF Influent | | | .059/.028 | .060/.028 | .060/.029 | .061/.029 | .060/.031 | | | |
| Diss, Oxygen – GSF Influent | | | 5.6 | 5.67 | 6.11 | | | | | |
| Diss, Oxygen – GSF Effluent | | | 5.32 | 5.38 | 6.01 | | | | | |
| pH – GSF Influent | | | 7.62 | 7.62 | 7.65 | 7.63 | 7.65 | | | |
| pH – GSF Effluent | | | 7.51 | 7.46 | 0.48 | | | | | |
| TDS – GSF Influent | | | | 98 | 96 | | | | | |
| TDS – GSF Effluent | | | | 95 | 95 | | | | | |
| Sp. Cond. – GSF Influent | | | | 196 | 192 | | | | | |
| Sp. Cond – GSF Effluent | | | | 190 | 190 | | | | | |
| Cl Residual – GSF Influent | | | 0.91 | 0.91 | 1.1 | 1.16 | 1.62 | | | |
| Cl Residual – GSF Effluent | | | 0.74 | 0.77 | 0.8 | 0.079 | 1.51 | | | |
| Manganese – GSF Influent | | | 0.021 | 0.021 | | | | | | |
| Manganese – GSF Effluent | | | 0.011 | 0.017 | | | | | | |
| Iron – GSF Influent | | | | ND | | | | | | |
| Iron – GSF Effluent | | | | ND | | | | | | |
| Long Pond Fe | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | |
| Sulfate – GSF Influent | | | | 2 | | | | | | |
| Sulfate – GSF Effluent | | | | 2 | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | | | | | | | | | |
|-----------------------------|---------------------|--|-----------|-----------|--|--|--|--|--|--|--|--|--|
| GSF FILTER ID# GSF1 | | | | | | | | | | | | | |
| DATE:1/25/23 | | | | | | | | | | | | | |
| TIME | | | 8:00 | 9:30 | | | | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 1.9 | 1.9 | | | | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 11794 | 11631 | | | | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | | | | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | | | | |
| Temperature – GSF Influent | | | 1.9 | 1.9 | | | | | | | | | |
| Temperature – GSF Effluent | | | 2.8 | 2.9 | | | | | | | | | |
| Turbidity – GSF Influent | | | .059/.028 | .059/.028 | | | | | | | | | |
| Diss, Oxygen – GSF Influent | | | 7.66 | 7.76 | | | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | | 0.51 | | | | | | | | | |
| pH – GSF Influent | | | | | | | | | | | | | |
| pH – GSF Effluent | | | | | | | | | | | | | |
| TDS – GSF Influent | | | | | | | | | | | | | |
| TDS – GSF Effluent | | | | | | | | | | | | | |
| Sp. Cond. – GSF Influent | | | | | | | | | | | | | |
| Sp. Cond. – GSF Effluent | | | | | | | | | | | | | |
| Cl Residual – GSF Influent | | | 1.74 | 1.76 | | | | | | | | | |
| Cl Residual – GSF Effluent | | | 1.49 | 1.52 | | | | | | | | | |
| Manganese – GSF Influent | | | ND | | | | | | | | | | |
| Manganese – GSF Effluent | | | ND | | | | | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | | | | |
| Long Pond Fe | | | | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | | | | |
| Sulfate – GSF Influent | | | | | | | | | | | | | |
| Sulfate – GSF Effluent | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

**HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING**

| | | | | | | | | | | |
|-----------------------------|---------------------|--|-----------|-----------|--|--|--|--|--|--|
| GSF FILTER ID# GSF2 | | | | | | | | | | |
| DATE:1/25/23 | | | | | | | | | | |
| TIME | | | | | | | | | | |
| | | | 8:00 | 9:30 | | | | | | |
| OPERATOR INITIALS:SM | | | | | | | | | | |
| | | | | | | | | | | |
| GSF Influent Flowrate | gpm | | 2.9 | 3 | | | | | | |
| GSF Hydraulic Load | gpm/ft ² | | | | | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | | | | | |
| Treated Volume - Interval | Gallons | | 9159 | 8903 | | | | | | |
| Operating Interval Duration | Hr:Min | | | | | | | | | |
| Average Hydraulic Load | gpm/ft ² | | | | | | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | | | | | | |
| GSF Effluent Pressure | psig | | | | | | | | | |
| GSF Differential Pressure | ΔP | | | | | | | | | |
| | | | | | | | | | | |
| FIELD MONITORING: | | | | | | | | | | |
| Temperature – GSF Influent | | | 1.9 | 1.9 | | | | | | |
| Temperature – GSF Effluent | | | 2.7 | 2.9 | | | | | | |
| Turbidity – GSF Influent | | | .059/.028 | .059/.027 | | | | | | |
| Diss, Oxygen – GSF Influent | | | | | | | | | | |
| Diss, Oxygen – GSF Effluent | | | | | | | | | | |
| pH – GSF Influent | | | 7.66 | 7.67 | | | | | | |
| pH – GSF Effluent | | | | | | | | | | |
| TDS – GSF Influent | | | | | | | | | | |
| TDS – GSF Effluent | | | | | | | | | | |
| Sp. Cond. – GSF Influent | | | | | | | | | | |
| Sp. Cond – GSF Effluent | | | | | | | | | | |
| Cl Residual – GSF Influent | | | 1.74 | 1.76 | | | | | | |
| Cl Residual – GSF Effluent | | | 1.53 | 1.56 | | | | | | |
| Manganese – GSF Influent | | | ND | | | | | | | |
| Manganese – GSF Effluent | | | ND | | | | | | | |
| Iron – GSF Influent | | | ND | | | | | | | |
| Iron – GSF Effluent | | | ND | | | | | | | |
| Long Pond Fe | | | | | | | | | | |
| Long Pond Mn | | | | | | | | | | |
| Sulfate – GSF Influent | | | | | | | | | | |
| Sulfate – GSF Effluent | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | | | | | |
| Average Daily Volume | gpd | | | | | | | | | |
| Average System Flowrate | gpm | | | | | | | | | |
| Average Hydraulic Loading | gpm/ft ² | | | | | | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL
VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | |
|------------------------------------|---------------------------|--|--------------|--------------|--------------|
| GSF FILTER ID# | GSF1 | | | | |
| DATE: | 1/26/23 | | | | |
| TIME | | | 8:00 | 9:30 | 13:30 |
| OPERATOR INITIALS: | SM | | | | |
| | | | | | |
| GSF Influent Flowrate | gpm | | | | |
| GSF Hydraulic Load | gpm/ft² | | | | |
| GSF Flowmeter Reading | Gallons | | | | |
| Treated Volume - Interval | Gallons | | 89888 | 13826 | 13367 |
| Operating Interval Duration | Hr:Min | | | | |
| Average Hydraulic Load | gpm/ft² | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 |
| GSF Effluent Pressure | psig | | | | |
| GSF Differential Pressure | ΔP | | | | |
| | | | | | |
| FIELD MONITORING: | | | | | |
| Temperature – GSF Influent | | | 1.9 | 1.9 | 1.9 |
| Temperature – GSF Effluent | | | 2.8 | 2.9 | |
| Turbidity – GSF Influent | | | 0.062 | 0.062 | 0.061 |
| Diss, Oxygen – GSF Influent | | | 5.81 | | |
| Diss, Oxygen – GSF Effluent | | | 5.86 | | |
| pH – GSF Influent | | | 7.62 | 7.62 | |
| pH – GSF Effluent | | | 7.5 | 7.54 | |
| TDS – GSF Influent | | | | 98 | |
| TDS – GSF Effluent | | | | 96 | |
| Sp. Cond. – GSF Influent | | | | 196 | |
| Sp. Cond – GSF Effluent | | | | 194 | |
| Cl Residual – GSF Influent | | | 0.99 | 0.96 | 0.9 |
| Cl Residual – GSF Effluent | | | 0.81 | 0.87 | |
| Manganese – GSF Influent | | | ND | | |
| Manganese – GSF Effluent | | | ND | | |
| Iron – GSF Influent | | | ND | | |
| Iron – GSF Effluent | | | ND | | |
| Long Pond Fe | | | | | |
| Long Pond Mn | | | | | |
| Sulfate – GSF Influent | | | | 2 | |
| Sulfate – GSF Effluent | | | | 2 | |
| | | | | | |
| | | | | | |
| Total Volume Treated/Cycle | gallons | | | | |
| Total Operating Days/Cycle | No. Days | | | | |
| Average Daily Volume | gpd | | | | |
| Average System Flowrate | gpm | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL
VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | |
|------------------------------------|---------------------------|--|-------|-------|-------|
| GSF FILTER ID# | GSF2 | | | | |
| DATE: | 1/26/23 | | | | |
| TIME | | | 8:00 | 9:30 | 13:30 |
| OPERATOR INITIALS: | SM | | | | |
| | | | | | |
| GSF Influent Flowrate | gpm | | 2.9 | 2.9 | 2.9 |
| GSF Hydraulic Load | gpm/ft² | | | | |
| GSF Flowmeter Reading | Gallons | | | | |
| Treated Volume - Interval | Gallons | | 4808 | 9557 | 8847 |
| Operating Interval Duration | Hr:Min | | | | |
| Average Hydraulic Load | gpm/ft² | | | | |
| GSF Influent Pressure | psig | | 36 | | |
| GSF Effluent Pressure | psig | | | | |
| GSF Differential Pressure | ΔP | | | | |
| | | | | | |
| FIELD MONITORING: | | | | | |
| Temperature – GSF Influent | | | 1.9 | 1.9 | 1.9 |
| Temperature – GSF Effluent | | | 2.9 | | |
| Turbidity – GSF Influent | | | 0.062 | 0.062 | |
| Diss, Oxygen – GSF Influent | | | 5.81 | | |
| Diss, Oxygen – GSF Effluent | | | 5.23 | | |
| pH – GSF Influent | | | 7.62 | 7.62 | |
| pH – GSF Effluent | | | 7.5 | 7.48 | |
| TDS – GSF Influent | | | | 98 | |
| TDS – GSF Effluent | | | | 96 | |
| Sp. Cond. – GSF Influent | | | | 198 | |
| Sp. Cond – GSF Effluent | | | | 190 | |
| Cl Residual – GSF Influent | | | 0.99 | 0.96 | |
| Cl Residual – GSF Effluent | | | 0.82 | 0.79 | |
| Manganese – GSF Influent | | | ND | | |
| Manganese – GSF Effluent | | | ND | | |
| Iron – GSF Influent | | | ND | | |
| Iron – GSF Effluent | | | ND | | |
| Long Pond Fe | | | | | |
| Long Pond Mn | | | | | |
| Sulfate – GSF Influent | | | | 2 | |
| Sulfate – GSF Effluent | | | | 2 | |
| | | | | | |
| | | | | | |
| Total Volume Treated/Cycle | gallons | | | | |
| Total Operating Days/Cycle | No. Days | | | | |
| Average Daily Volume | gpd | | | | |
| Average System Flowrate | gpm | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL
VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | |
|------------------------------------|---------------------------|--|-------|-------|-------|
| GSF FILTER ID# | GSF3 | | | | |
| DATE: | 1/26/23 | | | | |
| TIME | | | 8:00 | 9:30 | 13:30 |
| OPERATOR INITIALS: | SM | | | | |
| | | | | | |
| GSF Influent Flowrate | gpm | | 3.9 | 4 | 4 |
| GSF Hydraulic Load | gpm/ft² | | | | |
| GSF Flowmeter Reading | Gallons | | | | |
| Treated Volume - Interval | Gallons | | 1062 | 5729 | 4767 |
| Operating Interval Duration | Hr:Min | | | | |
| Average Hydraulic Load | gpm/ft² | | | | |
| GSF Influent Pressure | psig | | 36 | 36 | 36 |
| GSF Effluent Pressure | psig | | | | |
| GSF Differential Pressure | ΔP | | | | |
| | | | | | |
| FIELD MONITORING: | | | | | |
| Temperature – GSF Influent | | | 1.8 | 1.8 | |
| Temperature – GSF Effluent | | | 2.9 | 3 | |
| Turbidity – GSF Influent | | | 0.062 | 0.062 | |
| Diss, Oxygen – GSF Influent | | | 5.81 | | |
| Diss, Oxygen – GSF Effluent | | | 5.36 | | |
| pH – GSF Influent | | | 7.62 | 7.62 | |
| pH – GSF Effluent | | | 7.46 | 7.52 | |
| TDS – GSF Influent | | | | 98 | |
| TDS – GSF Effluent | | | | 99 | |
| Sp. Cond. – GSF Influent | | | | 196 | |
| Sp. Cond – GSF Effluent | | | | 198 | |
| Cl Residual – GSF Influent | | | 0.99 | 0.96 | |
| Cl Residual – GSF Effluent | | | 0.76 | 0.78 | |
| Manganese – GSF Influent | | | ND | | |
| Manganese – GSF Effluent | | | ND | | |
| Iron – GSF Influent | | | ND | | |
| Iron – GSF Effluent | | | ND | | |
| Long Pond Fe | | | | | |
| Long Pond Mn | | | | | |
| Sulfate – GSF Influent | | | | 2 | |
| Sulfate – GSF Effluent | | | | 2 | |
| | | | | | |
| | | | | | |
| Total Volume Treated/Cycle | gallons | | | | |
| Total Operating Days/Cycle | No. Days | | | | |
| Average Daily Volume | gpd | | | | |
| Average System Flowrate | gpm | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | |

HWWC GSF Pilot Plant Daily Operator Log

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL
VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | | |
|------------------------------------|---------------------------|--|--------------------|--|--|--|
| GSF FILTER ID# | GSF1 | | | | | |
| DATE: | 1/27/23 | | | | | |
| TIME | | | 7:00 | | | |
| OPERATOR INITIALS: | SM | | | | | |
| | | | | | | |
| GSF Influent Flowrate | gpm | | 1.9 | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | |
| Treated Volume - Interval | Gallons | | 11314/18000 | | | |
| Operating Interval Duration | Hr:Min | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | |
| GSF Influent Pressure | psig | | 36 | | | |
| GSF Effluent Pressure | psig | | | | | |
| GSF Differential Pressure | ΔP | | | | | |
| | | | | | | |
| FIELD MONITORING: | | | | | | |
| Temperature – GSF Influent | | | 1.8 | | | |
| Temperature – GSF Effluent | | | | | | |
| Turbidity – GSF Influent | | | 0.060/0.027 | | | |
| Diss, Oxygen – GSF Influent | | | | | | |
| Diss, Oxygen – GSF Effluent | | | | | | |
| pH – GSF Influent | | | 7.66 | | | |
| pH – GSF Effluent | | | 7.51 | | | |
| TDS – GSF Influent | | | | | | |
| TDS – GSF Effluent | | | | | | |
| Sp. Cond. – GSF Influent | | | | | | |
| Sp. Cond – GSF Effluent | | | | | | |
| Cl Residual – GSF Influent | | | 1.51 | | | |
| Cl Residual – GSF Effluent | | | | | | |
| Manganese – GSF Influent | | | | | | |
| Manganese – GSF Effluent | | | | | | |
| Iron – GSF Influent | | | | | | |
| Iron – GSF Effluent | | | | | | |
| Long Pond Fe | | | | | | |
| Long Pond Mn | | | | | | |
| Sulfate – GSF Influent | | | | | | |
| Sulfate – GSF Effluent | | | | | | |
| | | | | | | |
| | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | |
| Average Daily Volume | gpd | | | | | |
| Average System Flowrate | gpm | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | |

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL
VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | | |
|------------------------------------|---------------------------|--|--------------------|--|--|--|
| GSF FILTER ID# | GSF2 | | | | | |
| DATE: | 1/27/23 | | | | | |
| TIME | | | 7:00 | | | |
| OPERATOR INITIALS: | SM | | | | | |
| | | | | | | |
| GSF Influent Flowrate | gpm | | 2.9 | | | |
| GSF Hydraulic Load | gpm/ft² | | | | | |
| GSF Flowmeter Reading | Gallons | | | | | |
| Treated Volume - Interval | Gallons | | 5657/18000 | | | |
| Operating Interval Duration | Hr:Min | | | | | |
| Average Hydraulic Load | gpm/ft² | | | | | |
| GSF Influent Pressure | psig | | 36 | | | |
| GSF Effluent Pressure | psig | | | | | |
| GSF Differential Pressure | ΔP | | | | | |
| | | | | | | |
| FIELD MONITORING: | | | | | | |
| Temperature – GSF Influent | | | 1.8 | | | |
| Temperature – GSF Effluent | | | | | | |
| Turbidity – GSF Influent | | | 0.059/0.027 | | | |
| Diss, Oxygen – GSF Influent | | | | | | |
| Diss, Oxygen – GSF Effluent | | | | | | |
| pH – GSF Influent | | | 7.66 | | | |
| pH – GSF Effluent | | | | | | |
| TDS – GSF Influent | | | | | | |
| TDS – GSF Effluent | | | | | | |
| Sp. Cond. – GSF Influent | | | | | | |
| Sp. Cond – GSF Effluent | | | | | | |
| Cl Residual – GSF Influent | | | 1.51 | | | |
| Cl Residual – GSF Effluent | | | | | | |
| Manganese – GSF Influent | | | | | | |
| Manganese – GSF Effluent | | | | | | |
| Iron – GSF Influent | | | | | | |
| Iron – GSF Effluent | | | | | | |
| Long Pond Fe | | | | | | |
| Long Pond Mn | | | | | | |
| Sulfate – GSF Influent | | | | | | |
| Sulfate – GSF Effluent | | | | | | |
| | | | | | | |
| | | | | | | |
| Total Volume Treated/Cycle | gallons | | | | | |
| Total Operating Days/Cycle | No. Days | | | | | |
| Average Daily Volume | gpd | | | | | |
| Average System Flowrate | gpm | | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | | |

TABLE 3
HWWC GREENSAND FILTRATION SYSTEM PILOT PLANT OPERATIONAL
VALIDATION DATA SUMMARY SYSTEM
SYSTEM FLOWRATES AND HYDRAULIC LOADING

| | | | | | |
|------------------------------------|---------------------------|--|-------------|--|--|
| GSF FILTER ID# GSF3 | | | | | |
| DATE:1/27/23 | | | | | |
| TIME | | | 7:00 | | |
| OPERATOR INITIALS:SM | | | | | |
| | | | | | |
| GSF Influent Flowrate | gpm | | 4 | | |
| GSF Hydraulic Load | gpm/ft² | | | | |
| GSF Flowmeter Reading | Gallons | | | | |
| Treated Volume - Interval | Gallons | | 165/18000 | | |
| Operating Interval Duration | Hr:Min | | | | |
| Average Hydraulic Load | gpm/ft² | | | | |
| GSF Influent Pressure | psig | | 36 | | |
| GSF Effluent Pressure | psig | | | | |
| GSF Differential Pressure | ΔP | | | | |
| | | | | | |
| FIELD MONITORING: | | | | | |
| Temperature – GSF Influent | | | 1.8 | | |
| Temperature – GSF Effluent | | | | | |
| Turbidity – GSF Influent | | | 0.059/0.027 | | |
| Diss, Oxygen – GSF Influent | | | | | |
| Diss, Oxygen – GSF Effluent | | | | | |
| pH – GSF Influent | | | 7.66 | | |
| pH – GSF Effluent | | | | | |
| TDS – GSF Influent | | | | | |
| TDS – GSF Effluent | | | | | |
| Sp. Cond. – GSF Influent | | | | | |
| Sp. Cond – GSF Effluent | | | | | |
| Cl Residual – GSF Influent | | | 1.51 | | |
| Cl Residual – GSF Effluent | | | | | |
| Manganese – GSF Influent | | | | | |
| Manganese – GSF Effluent | | | | | |
| Iron – GSF Influent | | | | | |
| Iron – GSF Effluent | | | | | |
| Long Pond Fe | | | | | |
| Long Pond Mn | | | | | |
| Sulfate – GSF Influent | | | | | |
| Sulfate – GSF Effluent | | | | | |
| | | | | | |
| | | | | | |
| Total Volume Treated/Cycle | gallons | | | | |
| Total Operating Days/Cycle | No. Days | | | | |
| Average Daily Volume | gpd | | | | |
| Average System Flowrate | gpm | | | | |
| Average Hydraulic Loading | gpm/ft² | | | | |

APPENDIX C
PILOT PLANT ANALYTICAL DATA-
LABORATORY CERTIFICATES OF
ANALYSIS



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1466

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/17/2023
Reported: 01/20/2023

Analytical Testing Parameters

| | | | |
|-------------------|----------------|------------------|------------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:45 |
| Lab Sample ID: | D3A1466-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

SM 2540 D-1997

| | | | | | | | | |
|------------------------------|-------|------|------|---|---|---------------|---------------|-----|
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | Y | 01/18/23 1730 | 01/19/23 1730 | AJD |
|------------------------------|-------|------|------|---|---|---------------|---------------|-----|

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

SM 2120 B-2001

| | | | | | | | | |
|------------------|----|---|----|---|----|---------------|---------------|-----|
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |

SM 2130 B-2001

| | | | | | | | | |
|-----------|--------|-------|-----|---|--|--|---------------|-----|
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/17/23 2120 | MMK |
|-----------|--------|-------|-----|---|--|--|---------------|-----|

SM 4500-H+ B-2000

| | | | | | | | | |
|----|------|--|------|---|----|--|---------------|-----|
| pH | 7.53 | | S.U. | 1 | H1 | | 01/17/23 2120 | MMK |
|----|------|--|------|---|----|--|---------------|-----|

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

EPA 200.7, Rv. 4.4 (1994)

| | | | | | | | | |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1133 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1133 | DLO |

| | | | |
|-------------------|----------------|------------------|------------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:45 |
| Lab Sample ID: | D3A1466-02 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

EPA 200.7, Rv. 4.4 (1994)

| | | | | | | | | |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1136 | DLO |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1466

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:50 |
| Lab Sample ID: | D3A1466-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <6.25 | 6.25 | mg/L | 3 | Y | 01/18/23 1730 | 01/19/23 1730 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/17/23 2120 | MMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.65 | | S.U. | 1 | H1 | | 01/17/23 2120 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1140 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1140 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:50 |
| Lab Sample ID: | D3A1466-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1144 | DLO |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1466

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:55 |
| Lab Sample ID: | D3A1466-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | Y | 01/18/23 1730 | 01/19/23 1730 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/17/23 2120 | MMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.65 | | S.U. | 1 | H1 | | 01/17/23 2120 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1147 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1147 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:55 |
| Lab Sample ID: | D3A1466-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1158 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:57 |
| Lab Sample ID: | D3A1466-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 85.0 | 1.00 | mg CaCO3/L | 1 | | | 01/19/23 1640 | EMK |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1466

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:40 |
| Lab Sample ID: | D3A1466-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/19/23 1640 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | Y | 01/18/23 1730 | 01/19/23 1730 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/17/23 2120 | MMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.60 | | S.U. | 1 | H1 | | 01/17/23 2120 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1202 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1202 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 16:40 |
| Lab Sample ID: | D3A1466-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1000 | 01/19/23 1206 | DLO |

Definitions

- CU:** Color Unit
- DF:** Dilution Factor representing the amount the sample was diluted during analysis and may not represent preparation factors.
- H1:** Sample was received past holding time.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1466

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

6/20



Chain of Custody

NWSI - Northeast Water Solutions, Inc.
www.Microbac.com



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Copy of Report To
 CUSTOMER: NWSI-Northeast Water Solutions
 ADDRESS: 567 S County TRL
 Exeter, RI 02822
 ATTENTION: Robert Ferrari
 E-MAIL: labreports@nwsj.net
 PHONE: 401-667-7463

Billing Information (for credit card only)
 BILL TO: same
 ADDRESS:
 ATTENTION:
 TELEPHONE:
 PURCHASE ORDER # :

Project Information
 Project: Housatonic HWWC
 Project Location: Housatonic MA
 Project Manager:
 EMAIL: smurphy@nwsj.net
 TELEPHONE:
 Fax:

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | Sample Matrix | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | | | |
|-----------------------------|----------------|----------------|-------------|------|-----------------|---------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|--|--|
| | | | COMPOSITE | Grab | | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | |
| GSF1 - Effluent | 11/6/03 | 16:45 | X | X | 3 | dw | X | X | X | | X | | | | | | |
| GSF2 - Effluent | | 16:50 | X | X | 3 | dw | X | X | X | | X | | | | | | |
| GSF3 - Effluent | | 16:55 | X | X | 3 | dw | X | X | X | | X | | | | | | |
| GSF-Effluent | | 16:57 | X | | 1 | dw | | | | X | | | | | | | |
| GSF- Inflow | | 16:40 | X | X | 4 | dw | X | X | X | | X | | | | | | |
| RESERVATIVE VERIFIED | | | | | | | | | | | | | | | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

CUSTOMER TRANSFER (at drop off)
 SAMPLER: [Signature]
 RECEIVED: [Signature] 11/7/03 11:10
 RELINQUISHED: [Signature] 11/7/03 14:56
 RECEIVED: [Signature] 11/7/03 14:56
 RELINQUISHED: [Signature] 11/7/03 18:18
 RECEIVED: [Signature] 11/7/03 15:18

HARD COPY of E-MAIL
 EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:
 Cash Check#
 AUTH#: [Signature]

Please do not list credit card number on paperwork
 CONDITIONS UPON RECEIPT: (CHECK ONE)
 COOLED
 AMBIENT 2.8 °C Upon Receipt at LAB
 3.7

9.00°C



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/17/2023
Reported: 01/24/2023

Analytical Testing Parameters

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | HWWC - RAW | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:49 |
| Lab Sample ID: | D3A1472-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.99 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1142 | 01/19/23 0216 | IMM |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | HWWC - RAW | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:49 |
| Lab Sample ID: | D3A1472-02 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 3.09 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1141 | 01/18/23 1553 | IMM |

| | | | |
|-------------------|--------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 1 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:39 |
| Lab Sample ID: | D3A1472-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.20 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1142 | 01/19/23 0247 | IMM |

| | | | |
|-------------------|--------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 1 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:39 |
| Lab Sample ID: | D3A1472-04 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.21 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1141 | 01/18/23 1655 | IMM |

| | | | |
|-------------------|-------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 2- Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:37 |
| Lab Sample ID: | D3A1472-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.06 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1142 | 01/19/23 0318 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|--------------------|-------------------------|-----------------|
| Client Sample ID: | SS Filter 2 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:37 |
| Lab Sample ID: | D3A1472-06 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.11 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1141 | 01/18/23 1726 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:20 |
| Lab Sample ID: | D3A1472-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.37 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1142 | 01/19/23 0350 | IMM |
| Volatile Organic Compounds by GCMS | | | | | | | | |
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Benzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Bromobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Bromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Bromodichloromethane | 2.89 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Bromoform | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Bromomethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| tert-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| sec-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| n-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Carbon tetrachloride | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Chlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Chloroethane (Ethyl chloride) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Chloroform | 13.0 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Chloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 2-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 4-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Dibromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Dibromomethane (Methylene bromide) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,4-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,2-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,3-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Dichlorodifluoromethane (Freon-12) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,2-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,1-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| trans-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| cis-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,1-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,3-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 2,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,1-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| trans-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| cis-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Ethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Hexachlorobutadiene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Isopropylbenzene (Cumene) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 4-Isopropyltoluene (p-Isopropyltoluene) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:20 |
| Lab Sample ID: | D3A1472-07 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Methyl tert-butyl ether (MTBE) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Methylene chloride (Dichloromethane) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Naphthalene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| n-Propylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Styrene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,1,1,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,1,2,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Tetrachloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Toluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,2,4-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,2,3-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,1,1-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,1,2-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Trichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Trichlorofluoromethane (Freon 11) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,2,3-Trichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,2,4-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| 1,3,5-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Vinyl chloride | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| m,p-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| o-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Xylenes (total) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1801 | IMM |
| Surrogate: 4-Bromofluorobenzene | 108 | Limit: 70-130 | % Rec | 1 | | | 01/19/23 1801 | IMM |
| Surrogate: 1,2-Dichlorobenzene-d4 | 102 | Limit: 70-130 | % Rec | 1 | | | 01/19/23 1801 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:20 |
| Lab Sample ID: | D3A1472-08 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.12 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1141 | 01/18/23 1758 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:22 |
| Lab Sample ID: | D3A1472-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.07 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1142 | 01/19/23 0421 | IMM |
| Volatile Organic Compounds by GCMS | | | | | | | | |
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Benzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Bromobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Bromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Bromodichloromethane | 3.13 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Bromoform | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Bromomethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| tert-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| sec-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| n-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Carbon tetrachloride | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Chlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Chloroethane (Ethyl chloride) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Chloroform | 15.0 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Chloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 2-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 4-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Dibromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Dibromomethane (Methylene bromide) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,4-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,2-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,3-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Dichlorodifluoromethane (Freon-12) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,2-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,1-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| trans-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| cis-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,1-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,3-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 2,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,1-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| trans-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| cis-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Ethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Hexachlorobutadiene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Isopropylbenzene (Cumene) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 4-Isopropyltoluene (p-Isopropyltoluene) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:22 |
| Lab Sample ID: | D3A1472-09 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Methyl tert-butyl ether (MTBE) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Methylene chloride (Dichloromethane) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Naphthalene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| n-Propylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Styrene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,1,1,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,1,2,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Tetrachloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Toluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,2,4-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,2,3-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,1,1-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,1,2-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Trichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Trichlorofluoromethane (Freon 11) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,2,3-Trichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,2,4-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| 1,3,5-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Vinyl chloride | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| m,p-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| o-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Xylenes (total) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1825 | IMM |
| Surrogate: 4-Bromofluorobenzene | 107 | Limit: 70-130 | % Rec | 1 | | | 01/19/23 1825 | IMM |
| Surrogate: 1,2-Dichlorobenzene-d4 | 111 | Limit: 70-130 | % Rec | 1 | | | 01/19/23 1825 | IMM |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:22 |
| Lab Sample ID: | D3A1472-10 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.12 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1141 | 01/18/23 1829 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:24 |
| Lab Sample ID: | D3A1472-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.07 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1142 | 01/19/23 0452 | IMM |
| Volatile Organic Compounds by GCMS | | | | | | | | |
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Benzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Bromobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Bromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Bromodichloromethane | 3.08 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Bromoform | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Bromomethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| tert-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| sec-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| n-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Carbon tetrachloride | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Chlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Chloroethane (Ethyl chloride) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Chloroform | 15.1 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Chloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 2-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 4-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Dibromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Dibromomethane (Methylene bromide) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,4-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,2-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,3-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Dichlorodifluoromethane (Freon-12) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,2-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,1-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| trans-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| cis-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,1-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,3-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 2,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,1-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| trans-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| cis-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Ethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Hexachlorobutadiene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Isopropylbenzene (Cumene) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 4-Isopropyltoluene (p-Isopropyltoluene) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:24 |
| Lab Sample ID: | D3A1472-11 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Methyl tert-butyl ether (MTBE) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Methylene chloride (Dichloromethane) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Naphthalene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| n-Propylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Styrene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,1,1,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,1,2,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Tetrachloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Toluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,2,4-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,2,3-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,1,1-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,1,2-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Trichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Trichlorofluoromethane (Freon 11) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,2,3-Trichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,2,4-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| 1,3,5-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Vinyl chloride | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| m,p-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| o-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Xylenes (total) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1850 | IMM |
| Surrogate: 4-Bromofluorobenzene | 116 | Limit: 70-130 | % Rec | 1 | | | 01/19/23 1850 | IMM |
| Surrogate: 1,2-Dichlorobenzene-d4 | 114 | Limit: 70-130 | % Rec | 1 | | | 01/19/23 1850 | IMM |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:24 |
| Lab Sample ID: | D3A1472-12 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.12 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1141 | 01/18/23 1900 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:26 |
| Lab Sample ID: | D3A1472-13 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.11 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1142 | 01/19/23 0523 | IMM |
| Volatile Organic Compounds by GCMS | | | | | | | | |
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Benzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Bromobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Bromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Bromodichloromethane | 3.03 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Bromoform | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Bromomethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| tert-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| sec-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| n-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Carbon tetrachloride | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Chlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Chloroethane (Ethyl chloride) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Chloroform | 13.5 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Chloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 2-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 4-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Dibromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Dibromomethane (Methylene bromide) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,4-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,2-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,3-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Dichlorodifluoromethane (Freon-12) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,2-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,1-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| trans-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| cis-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,1-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,3-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 2,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,1-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| trans-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| cis-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Ethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Hexachlorobutadiene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Isopropylbenzene (Cumene) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 4-Isopropyltoluene (p-Isopropyltoluene) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:26 |
| Lab Sample ID: | D3A1472-13 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Methyl tert-butyl ether (MTBE) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Methylene chloride (Dichloromethane) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Naphthalene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| n-Propylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Styrene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,1,1,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,1,2,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Tetrachloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Toluene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,2,4-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,2,3-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,1,1-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,1,2-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Trichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Trichlorofluoromethane (Freon 11) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,2,3-Trichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,2,4-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| 1,3,5-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Vinyl chloride | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| m,p-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| o-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Xylenes (total) | <0.50 | 0.50 | ug/L | 1 | | | 01/19/23 1914 | IMM |
| Surrogate: 4-Bromofluorobenzene | 114 | Limit: 70-130 | % Rec | 1 | | | 01/19/23 1914 | IMM |
| Surrogate: 1,2-Dichlorobenzene-d4 | 106 | Limit: 70-130 | % Rec | 1 | | | 01/19/23 1914 | IMM |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 10:26 |
| Lab Sample ID: | D3A1472-14 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.11 | 0.500 | mg/L | 1 | Y1 | 01/18/23 1141 | 01/18/23 1931 | IMM |

Definitions

- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- RL:** Reporting Limit
- ug/L:** Micrograms per Liter
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1472

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery

Quality Assurance Officer

Reported: 01/24/2023 16:54

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



Chain of Custody

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

www.Microbac.com

nwsi - Northeast Water Solutions, inc.

Copy of Report To

CUSTOMER: **NWSI-Northeast Water Solutions**
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsj.net
PHONE: 401-667-7463

Billing Information (for credit card only)

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project: **Housatonic HWWC**
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsj.net
TELEPHONE:
Fax:

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | Sample Matrix | TOC | DOC | VOC | Preservatives | | | | | | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|---------------|-----|-----|-----|---------------|-----|------|-------|----------|--|--|--|
| | | | COMPOSITE | GRAB | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | | |
| HWWC - RAW | 1/17/03 | 9:49 | | X | 4 | aw | X | X | | | | | | | | | |
| SS Filter 1-Eff. | | 9:39 | | X | 4 | | X | X | | | | | | | | | |
| SS Filter 2-Eff. | | 9:37 | | X | 4 | | X | X | | | | | | | | | |
| GSF-Influent | | 9:41/10:10 | | X | 6 | | X | X | X | | | | | | | | |
| GSF1-Effluent | | 9:47/10:00 | | X | 6 | | X | X | X | | | | | | | | |
| GSF2-Effluent | | 9:45/10:04 | | X | 6 | | X | X | X | | | | | | | | |
| GSF3-Effluent | | 9:43/10:06 | | X | 6 | | X | X | X | | | | | | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

AMBIENT 5.0 °C Upon Receipt at LA

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: <i>Ch. Ferrari</i> | 1/17/03 | 11:10 |
| RECEIVED: <i>OPP mwwj 1087</i> | 1/17/03 | 11:10 |
| RELINQUISHED: <i>CRayboldt</i> | 1-17-03 | 1456 |
| RECEIVED: <i>Ch. Ferrari</i> | 1-17-03 | 1456 |
| RELINQUISHED: <i>Ch. Ferrari</i> | 1-17-03 | 1456 |
| RECEIVED: <i>Ch. Ferrari</i> | 1/17/03 | 1456 |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1464

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/17/2023
Reported: 01/20/2023

Analytical Testing Parameters

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:05 |
| Lab Sample ID: | D3A1464-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

SM 2540 D-1997

| | | | | | | | | |
|------------------------------|-------|------|------|---|---|---------------|---------------|-----|
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | Y | 01/18/23 1730 | 01/19/23 1730 | AJD |
|------------------------------|-------|------|------|---|---|---------------|---------------|-----|

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

SM 2120 B-2001

| | | | | | | | | |
|------------------|----|---|----|---|----|---------------|---------------|-----|
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |

SM 2130 B-2001

| | | | | | | | | |
|-----------|--------|-------|-----|---|--|--|---------------|-----|
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/17/23 2120 | MMK |
|-----------|--------|-------|-----|---|--|--|---------------|-----|

SM 4500-H+ B-2000

| | | | | | | | | |
|----|------|--|------|---|----|--|---------------|-----|
| pH | 7.50 | | S.U. | 1 | H1 | | 01/17/23 2120 | MMK |
|----|------|--|------|---|----|--|---------------|-----|

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

EPA 200.7, Rv. 4.4 (1994)

| | | | | | | | | |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/18/23 1456 | 01/19/23 1424 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/18/23 1456 | 01/19/23 1424 | DLO |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:05 |
| Lab Sample ID: | D3A1464-02 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

EPA 200.7, Rv. 4.4 (1994)

| | | | | | | | | |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1500 | 01/19/23 1512 | DLO |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1464

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:10 |
| Lab Sample ID: | D3A1464-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|---|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | Y | 01/18/23 1730 | 01/19/23 1730 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|---------------|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/17/23 2120 | MMK |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.64 | | S.U. | 1 | H1 | | 01/17/23 2120 | MMK |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/18/23 1456 | 01/19/23 1428 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/18/23 1456 | 01/19/23 1428 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:10 |
| Lab Sample ID: | D3A1464-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1500 | 01/19/23 1516 | DLO |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1464

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:15 |
| Lab Sample ID: | D3A1464-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | Y | 01/18/23 1730 | 01/19/23 1730 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/17/23 2120 | MMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.65 | | S.U. | 1 | H1 | | 01/17/23 2120 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/18/23 1456 | 01/19/23 1432 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/18/23 1456 | 01/19/23 1432 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:15 |
| Lab Sample ID: | D3A1464-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1500 | 01/19/23 1520 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:18 |
| Lab Sample ID: | D3A1464-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/19/23 1640 | EMK |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1464

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:00 |
| Lab Sample ID: | D3A1464-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/19/23 1640 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | Y | 01/18/23 1730 | 01/19/23 1730 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | 01/17/23 2120 | 01/17/23 2233 | MMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/17/23 2120 | MMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.69 | | S.U. | 1 | H1 | | 01/17/23 2120 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/18/23 1456 | 01/19/23 1435 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/18/23 1456 | 01/19/23 1435 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:00 |
| Lab Sample ID: | D3A1464-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/19/23 1500 | 01/19/23 1530 | DLO |

Definitions

- CU:** Color Unit
- DF:** Dilution Factor representing the amount the sample was diluted during analysis and may not represent preparation factors.
- H1:** Sample was received past holding time.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1464

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection



D 3 A 1 4 6 4

Chain of Custody

nwsi - northeast water solutions, inc.

www.microbac.com

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Copy of Report To
CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRIL
 Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsi.net

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurbhy@nwsi.net
TELEPHONE:
Fax:

Billing Information (for credit card only)
BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

| Sample Identification | Date Collected | Sample Type | | # of containers | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | | | | | | | | |
|------------------------|----------------|-------------|------|-----------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|--|--|--|--|--|--|--|
| | | COMPOSITE | GRAB | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | | | | | | |
| GSF1- Effluent | 11/7/03 | | X | 3 | X | X | X | | X | X | | | | | | | | | | |
| GSF2- Effluent | 9:05 | | X | 3 | X | X | X | | X | X | | | | | | | | | | |
| GSF3 - Effluent | 9:10 | | X | 3 | X | X | X | | X | X | | | | | | | | | | |
| GSF-Effluent | 9:15 | | X | 3 | X | X | X | | X | X | | | | | | | | | | |
| GSF- Influent | 9:18 | X | | 1 | X | | | X | | | | | | | | | | | | |
| GSF- Influent | 9:00 | | X | 4 | X | X | X | | X | X | | | | | | | | | | |
| Preserved Upon Receipt | | | | | | | | | | | | | | | | | | | | |
| Date: 11/17/03 | | | | | | | | | | | | | | | | | | | | |
| Time: 18:45 | | | | | | | | | | | | | | | | | | | | |
| Initials: WJF | | | | | | | | | | | | | | | | | | | | |
| PRESERVATIVE | | | | | | | | | | | | | | | | | | | | |
| VERIFIED | | | | | | | | | | | | | | | | | | | | |
| Initials | | | | | | | | | | | | | | | | | | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTOMER TRANSFER (at drop off) | DATE | TIME |
|---------------------------------|----------|-------|
| SAMPLER: [Signature] | 11/17/03 | 11:10 |
| RECEIVED: [Signature] | 11/17/03 | 11:10 |
| RELINQUISHED: [Signature] | 11/17/03 | 14:56 |
| RECEIVED: [Signature] | 11/17/03 | 14:56 |
| RELINQUISHED: [Signature] | 11/17/03 | 18:18 |
| RECEIVED: [Signature] | 11/17/03 | 18:18 |

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash Check# Auth#

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED

AMBIENT

2.8 °C Upon Receipt at LAB

3.7 °C Upon Receipt at LAB

4.0 °C



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0242

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/17/2023
Reported: 01/20/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1-Effluent, Drinking Water, L3A0242-01, Sean Murphy, 01/17/2023 9:47.

Analyses Performed by: Phoenix Environmental Laboratories, Inc

Table with 10 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM5910 B-2000, pH (7.56), UV 254 (0.026).

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF-Influent, Drinking Water, L3A0242-02, Sean Murphy, 01/17/2023 9:41.

Analyses Performed by: Phoenix Environmental Laboratories, Inc

Table with 10 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM5910 B-2000, pH (7.67), UV 254 (0.026).

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include HWWC-Raw, Drinking Water, L3A0242-03, Sean Murphy, 01/17/2023 9:49.

Analyses Performed by: Phoenix Environmental Laboratories, Inc

Table with 10 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM5910 B-2000, pH (7.93), UV 254 (0.056).

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include SS Filter 1-Eff., Drinking Water, L3A0242-04, Sean Murphy, 01/17/2023 9:39.

Analyses Performed by: Phoenix Environmental Laboratories, Inc

Table with 10 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM5910 B-2000, pH (7.59), UV 254 (0.044).



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0242

| | | | |
|--------------------------|------------------|-------------------------|-----------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:37 |
| Lab Sample ID: | L3A0242-05 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.61 | 1 | S.U. | 1 | | 01/17/23 0937 | 01/18/23 0000 | SUB |
| UV 254 | 0.037 | 0.001 | abs/cm | 1 | | 01/17/23 0937 | 01/18/23 0000 | SUB |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:45 |
| Lab Sample ID: | L3A0242-06 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.63 | 1 | S.U. | 1 | | 01/17/23 0945 | 01/18/23 0000 | SUB |
| UV 254 | 0.026 | 0.001 | abs/cm | 1 | | 01/17/23 0945 | 01/18/23 0000 | SUB |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/17/2023 9:43 |
| Lab Sample ID: | L3A0242-07 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.68 | 1 | S.U. | 1 | | 01/17/23 0943 | 01/18/23 0000 | SUB |
| UV 254 | 0.026 | 0.001 | abs/cm | 1 | | 01/17/23 0943 | 01/18/23 0000 | SUB |

Definitions

- abs/cm:** Absorbance per Centimeter
- MCL:** US EPA Maximum Contaminant Level
- RL:** Reporting Limit
- S.U.:** Standard Units

Project Requested Certification(s)

Phoenix Environmental Laboratories, Inc
 PH-0618
 M-CT007
 63

Connecticut Department of Public Health
 Massachusetts Department of Environmental Protection
 Rhode Island Department of Health



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0242

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Christine F. Reynolds".

Christine F. Reynolds

Service Center Manager

Reported: 01/20/2023 15:27



L 3 A 0 2 4 2

NWSI - Northeast Water Solutions, Inc.

 80 Run Way
 Lee, MA 01238 (413) 776-5025 fax: 413-776-50

WWW.Microbac.com

| | | | | | |
|--|--|---|--|--|--|
| Copy of Report To | | Billing Information (for credit card only) | | Project Information | |
| CUSTOMER: <u>Northeast Water Solutions</u> | | BILL TO: <u>same</u> | | Project: <u>Housatonic HWWC</u> | |
| ADDRESS: <u>567 S County TRL</u> | | ADDRESS: _____ | | Project Location: <u>Housatonic MA</u> | |
| <u>Exeter, RI 02822</u> | | _____ | | Project Manager: _____ | |
| ATTENTION: <u>Robert Ferrari</u> | | ATTENTION: _____ | | EMAIL: <u>smurphy@nws.net</u> | |
| E-MAIL: <u>labreports@nws.net</u> | | TELEPHONE: _____ | | TELEPHONE: _____ | |
| PHONE: <u>401-667-7463</u> | | PURCHASE ORDER #: _____ | | Fax: _____ | |

| Sample Identification | Date Collected | Time Collected | Sample Type | | Sample Matrix | # of containers | UV254 | Analysis | | | | Preservatives | | | | |
|-----------------------|----------------|-------------------|-------------|------|---------------|-----------------|-------|----------|--|--|--|---------------|-----|------|-------|----------|
| | | | COMPOSITE | GRAB | | | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric |
| GSF1- Effluent | 11/17/23 | 9:47 | | | | | X | | | | | X | | | | |
| GSF-Influent | | 9:41 | | | | | X | | | | | X | | | | |
| HWWC-Raw | | 9:49 | | | | | X | | | | | X | | | | |
| SS Filter 1-Eff. | | 9:39 | | | | | X | | | | | X | | | | |
| SS Filter 2-Eff. | | 9:37 | | | | | X | | | | | X | | | | |
| GSF2-Effluent | | 9:45 | | | | | X | | | | | X | | | | |
| GSF3-Effluent | | 9:43 | | | | | X | | | | | X | | | | |
| XXXXXXXXXX | | XXXXXX | | | | | | | | | | | | | | |

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|-----------------|--------------|
| SAMPLER: <u>Ju / 10/17</u> | <u>11/17/23</u> | <u>11:10</u> |
| RECEIVED: <u>OP Reynolds</u> | <u>1/17/23</u> | <u>11:10</u> |
| RELINQUISHED: | | |
| RECEIVED: | | |
| RELINQUISHED: | | |
| RECEIVED: | | |

TURNAROUND (INDICATE IN CALENDAR DAYS): _____

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: _____

Cash _____ Check# _____ Auth#: _____

Please do not list credit card numbr on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT 5.0 °C Upon Receipt at LAB



Thursday, January 19, 2023

Attn:
Microbac Laboratories, Inc
80 Run Way
Lee, MA 01238

Project ID: L3A0242
SDG ID: GCN25013
Sample ID#s: CN25013 - CN25019

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

January 19, 2023

SDG I.D.: GCN25013

Project ID: L3A0242

| Client Id | Lab Id | Matrix |
|------------|---------|----------------|
| L3A0242-01 | CN25013 | DRINKING WATER |
| L3A0242-02 | CN25014 | DRINKING WATER |
| L3A0242-03 | CN25015 | DRINKING WATER |
| L3A0242-04 | CN25016 | DRINKING WATER |
| L3A0242-05 | CN25017 | DRINKING WATER |
| L3A0242-06 | CN25018 | DRINKING WATER |
| L3A0242-07 | CN25019 | DRINKING WATER |



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 19, 2023

FOR: Attn: Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/17/23
 01/18/23

Time

9:47
 10:30

Laboratory Data

SDG ID: GCN25013
 Phoenix ID: CN25013

Project ID: L3A0242
 Client ID: L3A0242-01

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----|---------------|
| pH | 7.56 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/18/23 22:55 | MW | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.026 | 0.001 | 1 | /cm | | | | 01/18/23 18:31 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
 January 19, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 19, 2023

FOR: Attn: Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/17/23
 01/18/23

Time

9:41
 10:30

Laboratory Data

SDG ID: GCN25013
 Phoenix ID: CN25014

Project ID: L3A0242
 Client ID: L3A0242-02

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----|---------------|
| pH | 7.67 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/18/23 22:55 | MW | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.026 | 0.001 | 1 | /cm | | | | 01/18/23 18:33 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 19, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 19, 2023

FOR: Attn: Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/17/23
 01/18/23

Time

9:49
 10:30

Laboratory Data

SDG ID: GCN25013
 Phoenix ID: CN25015

Project ID: L3A0242
 Client ID: L3A0242-03

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----|---------------|
| pH | 7.93 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/18/23 22:55 | MW | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.056 | 0.001 | 1 | /cm | | | | 01/18/23 18:36 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
 January 19, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 19, 2023

FOR: Attn: Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/17/23
 01/18/23

Time

9:39
 10:30

Laboratory Data

SDG ID: GCN25013
 Phoenix ID: CN25016

Project ID: L3A0242
 Client ID: L3A0242-04

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----|---------------|
| pH | 7.59 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/18/23 22:55 | MW | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.044 | 0.001 | 1 | /cm | | | | 01/18/23 18:39 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 19, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 19, 2023

FOR: Attn: Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/17/23
 01/18/23

Time

9:37
 10:30

Laboratory Data

SDG ID: GCN25013
 Phoenix ID: CN25017

Project ID: L3A0242
 Client ID: L3A0242-05

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----|---------------|
| pH | 7.61 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/18/23 22:55 | MW | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.037 | 0.001 | 1 | /cm | | | | 01/18/23 18:45 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
 January 19, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 19, 2023

FOR: Attn: Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/17/23
 01/18/23

Time

9:45
 10:30

Laboratory Data

SDG ID: GCN25013
 Phoenix ID: CN25018

Project ID: L3A0242
 Client ID: L3A0242-06

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----|---------------|
| pH | 7.63 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/18/23 22:55 | MW | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.026 | 0.001 | 1 | /cm | | | | 01/18/23 18:47 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 19, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 19, 2023

FOR: Attn: Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/17/23
 01/18/23

Time

9:43
 10:30

Laboratory Data

SDG ID: GCN25013
 Phoenix ID: CN25019

Project ID: L3A0242
 Client ID: L3A0242-07

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----|---------------|
| pH | 7.68 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/18/23 22:55 | MW | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.026 | 0.001 | 1 | /cm | | | | 01/18/23 18:50 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 19, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 19, 2023


QA/QC Data

SDG I.D.: GCN25013

| Parameter | Blank | Blk RL | Sample Result | Dup Result | Dup RPD | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|-------|--------|---------------|------------|---------|-------|--------|---------|------|-------|--------|--------------|--------------|
| QA/QC Batch 660555 (PH), QC Sample No: CN24958 (CN25013, CN25014, CN25015) | | | | | | | | | | | | | |
| pH | | | 7.65 | 7.59 | 0.80 | 99.7 | | | | | | 85 - 115 | 20 |
| Comment: | | | | | | | | | | | | | |
| Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 660556 (PH), QC Sample No: CN25016 (CN25016, CN25017, CN25018, CN25019) | | | | | | | | | | | | | |
| pH | | | 7.59 | 7.53 | 0.80 | 99.8 | | | | | | 85 - 115 | 20 |
| Comment: | | | | | | | | | | | | | |
| Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 660507 (/cm), QC Sample No: CN25010 (CN25013, CN25014, CN25015, CN25016, CN25017, CN25018, CN25019) | | | | | | | | | | | | | |
| UV-254 (Absorbance) | BRL | 0 | 0.106 | 0.105 | 0.90 | 109 | | | | | | | |

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference


 Phyllis Shiller, Laboratory Director
 January 19, 2023

Thursday, January 19, 2023

Criteria: MA: DW

State: MA

Sample Criteria Exceedances Report

GCN25013 - MICROBAC-MA

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

January 19, 2023

SDG I.D.: GCN25013

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.



**SUBCONTRACTED CHAIN OF CUSTODY
L3A0242**

*2.1 mic
1.2*

SENDING LABORATORY:

Microbac Laboratories, Inc., Lee
80 Run Way
Lee, MA 01238
Phone: 413-776-5025
Lab Manager: Shelby Jendrewski
Email: Shelby.Jendrewski@microbac.com

RECEIVING LABORATORY:

Phoenix Environmental Laboratories, Inc
587 E Middle TPKE PO BOX 370
Manchester, CT 06040
Phone: (860) 645-1102

Project Info:

PWSID: Project Type: ENV-DrinkingWater Report TAT: 7
Project Location: Massachusetts Due: 01/26/2023 17:00

Project Requested Certifications

Massachusetts Department of Environmental Protection

Sample ID: L3A0242-01 *25013* **Sampled: 01/17/2023 09:47** Sampler: Sean Murphy
Matrix: Drinking Water Description: GSF1-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/17/2023 10:00 | 01/17/2023 10:01 |
| UV254 SM5910-B | SM5910 B-2000 | 01/19/2023 09:47 | 01/19/2023 09:47 |

Sample ID: L3A0242-02 *25014* **Sampled: 01/17/2023 09:41** Sampler: Sean Murphy
Matrix: Drinking Water Description: GSF-Influent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/17/2023 09:55 | 01/17/2023 09:55 |
| UV254 SM5910-B | SM5910 B-2000 | 01/19/2023 09:41 | 01/19/2023 09:41 |

Sample ID: L3A0242-03 *25015* **Sampled: 01/17/2023 09:49** Sampler: Sean Murphy
Matrix: Drinking Water Description: HWWC-Raw

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/17/2023 10:03 | 01/17/2023 10:03 |
| UV254 SM5910-B | SM5910 B-2000 | 01/19/2023 09:49 | 01/19/2023 09:49 |

Sample ID: L3A0242-04 *25016* **Sampled: 01/17/2023 09:39** Sampler: Sean Murphy
Matrix: Drinking Water Description: SS Filter 1-Eff.

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/17/2023 09:53 | 01/17/2023 09:53 |
| UV254 SM5910-B | SM5910 B-2000 | 01/19/2023 09:39 | 01/19/2023 09:39 |



SUBCONTRACTED CHAIN OF CUSTODY
L3A0242

2.10 WC
10

Project Requested Certifications

Massachusetts Department of Environmental Protection

Sample ID: L3A0242-05

Sampled: 01/17/2023 09:37

Sampler: Sean Murphy

Matrix: Drinking Water

25017

Description: SS Filter 2-Eff.

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/17/2023 10:00 | 01/17/2023 09:51 |
| UV254 SM5910-B | SM5910 B-2000 | 01/19/2023 10:00 | 01/19/2023 09:37 |

Sample ID: L3A0242-06

Sampled: 01/17/2023 09:45

Sampler: Sean Murphy

Matrix: Drinking Water

25018

Description: GSF2-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/17/2023 10:00 | 01/17/2023 09:59 |
| UV254 SM5910-B | SM5910 B-2000 | 01/19/2023 10:00 | 01/19/2023 09:45 |

Sample ID: L3A0242-07

Sampled: 01/17/2023 09:43

Sampler: Sean Murphy

Matrix: Drinking Water

25019

Description: GSF3-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/17/2023 10:00 | 01/17/2023 09:57 |
| UV254 SM5910-B | SM5910 B-2000 | 01/19/2023 10:00 | 01/19/2023 09:43 |

CF Reynolds
Released By

1/17/23
Date

Received By

Date

Fedex
Released By

Date

[Signature]
Received By

1-18-23 10:30
Date



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1533

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/18/2023
Reported: 01/24/2023

Analytical Testing Parameters

Table with sample details: Client Sample ID: GSF3 Backwash 2 Min., Sample Matrix: Aqueous, Lab Sample ID: D3A1533-01, Collected By: Customer, Collection Date: 01/18/2023 4:21

Inorganics Total

Table row for SM 2540 D-2015: Total Suspended Solids (TSS) with Result 20.8, RL 10.0, Units mg/L, DF 4, Note, Prepared 01/19/23 1655, Analyzed 01/20/23 1705, Analyst AJD

General Parameters

Table row for SM 2130 B-2011: Turbidity with Result 74.2, RL 0.100, Units NTU, DF 1, Note Y1, Prepared, Analyzed 01/18/23 2035, Analyst AMF

Metals Total by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with Result 1.60, RL 0.00200, Units mg/L, DF 1, Note, Prepared 01/19/23 1530, Analyzed 01/23/23 2114, Analyst DLO

Table with sample details: Client Sample ID: GSF3 Backwash 4 Min., Sample Matrix: Aqueous, Lab Sample ID: D3A1533-02, Collected By: Customer, Collection Date: 01/18/2023 4:23

Inorganics Total

Table row for SM 2540 D-2015: Total Suspended Solids (TSS) with Result 12.8, RL 10.0, Units mg/L, DF 4, Note, Prepared 01/19/23 1655, Analyzed 01/20/23 1705, Analyst AJD

General Parameters

Table row for SM 2130 B-2011: Turbidity with Result 59.2, RL 0.100, Units NTU, DF 1, Note Y1, Prepared, Analyzed 01/18/23 2035, Analyst AMF

Metals Total by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with Result 1.63, RL 0.00200, Units mg/L, DF 1, Note, Prepared 01/19/23 1530, Analyzed 01/23/23 2126, Analyst DLO



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1533

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:25 |
| Lab Sample ID: | D3A1533-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 13.4 | 5.00 | mg/L | 2 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 43.3 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.76 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2130 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:27 |
| Lab Sample ID: | D3A1533-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 9.20 | 5.00 | mg/L | 2 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 37.3 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.74 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2134 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:29 |
| Lab Sample ID: | D3A1533-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 9.60 | 5.00 | mg/L | 2 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 45.4 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.12 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2138 | DLO |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1533

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:31 |
| Lab Sample ID: | D3A1533-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 9.40 | 5.00 | mg/L | 2 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 34.8 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.51 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2151 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:33 |
| Lab Sample ID: | D3A1533-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.20 | 5.00 | mg/L | 2 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 34.7 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.44 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2156 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:35 |
| Lab Sample ID: | D3A1533-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.75 | 3.13 | mg/L | 1 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 35.6 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.54 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2200 | DLO |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1533

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:37 |
| Lab Sample ID: | D3A1533-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 6.13 | 3.13 | mg/L | 1 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 31.2 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.37 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2204 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 20 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:39 |
| Lab Sample ID: | D3A1533-10 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.99 | 2.78 | mg/L | 1 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.5 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.17 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2217 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 22 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 4:41 |
| Lab Sample ID: | D3A1533-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.88 | 2.78 | mg/L | 1 | | 01/19/23 1655 | 01/20/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 29.9 | 0.100 | NTU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.24 | 0.00200 | mg/L | 1 | | 01/19/23 1530 | 01/23/23 2222 | DLO |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1533

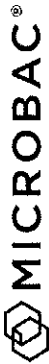
Definitions

- DF:** Dilution Factor representing the amount the sample was diluted during analysis and may not represent preparation factors.
 - MCL:** US EPA Maximum Contaminant Level
 - mg/L:** Milligrams per Liter
 - NTU:** Nephelometric Turbidity Units
 - RL:** Reporting Limit
 - Y1:** Accreditation is not offered by the accrediting body for this analyte.
-

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection



Chain of Custody

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50

WWW.Microbac.com

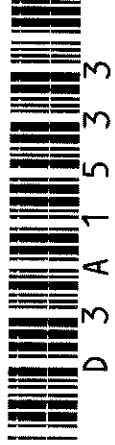
Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsj.net
PHONE: 401-667-7463

Billing Information (for credit card only)

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project: **Housatonic HWWC**
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsj.net
TELEPHONE:
Fax:



NWSI - Northeast Water Solutions, inc.

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | TSS Turbidity | Analysis | | | | Preservatives | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|------------------|----------|-----|------|-------|---------------|---|---|
| | | | COMPOSITE | GRAB | | | Non-pres | HCl | HNO3 | NH4Cl | Sulfuric | | |
| GSF3 Backwash 2 min. | 1/18/13 | 4:01 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 4 Min. | | 4:03 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 6 Min. | | 4:05 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 8 Min. | | 4:07 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 10 min. | | 4:09 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 12 Min. | | 4:31 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 14 min. | | 4:33 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 16 min. | | 4:35 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 18 min. | | 4:37 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 20 Min. | | 4:39 | X | X | 2 | X | X | X | X | X | X | X | X |
| GSF3 Backwash 22 min. | | 4:41 | X | X | 2 | X | X | X | X | X | X | X | X |

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|---------|-------|
| SAMPLER: <i>CP</i> | 1/18/13 | 11:50 |
| RECEIVED: <i>CP</i> | 1/18/13 | 11:50 |
| RELINQUISHED: <i>CP</i> | 1/18/13 | 12:11 |
| RECEIVED: <i>CP</i> | 1/18/13 | 12:11 |
| RELINQUISHED: <i>CP</i> | 1/18/13 | 12:11 |
| RECEIVED: <i>CP</i> | 1/18/13 | 12:11 |

HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE
COMMENTS:
Cash _____ Check# _____ Auth#:
Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)
 AMBIENT COOLED COOL
3.9 °C Upon Receipt at LAB
Page 6 of 6



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1636

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/19/2023
Reported: 01/26/2023

Analytical Testing Parameters

Table with 2 columns: Parameter and Value. Includes Client Sample ID (GSF2 Backwash 2 Min.), Sample Matrix (Aqueous), Lab Sample ID (D3A1636-01), Collected By (Customer), and Collection Date (01/18/2023 20:41).

Inorganics Total

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2540 D-2015 Total Suspended Solids (TSS) with result 20.0.

General Parameters

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2130 B-2011 Turbidity with result 57.8.

Metals Total by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for EPA 200.7, Rv. 4.4 (1994) Manganese with result 1.37.

Table with 2 columns: Parameter and Value. Includes Client Sample ID (GSF2 Backwash 4 Min.), Sample Matrix (Aqueous), Lab Sample ID (D3A1636-02), Collected By (Customer), and Collection Date (01/18/2023 20:43).

Inorganics Total

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2540 D-2015 Total Suspended Solids (TSS) with result 14.2.

General Parameters

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2130 B-2011 Turbidity with result 54.4.

Metals Total by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for EPA 200.7, Rv. 4.4 (1994) Manganese with result 1.41.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1636

| | | | |
|--------------------------|----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 20:45 |
| Lab Sample ID: | D3A1636-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 11.2 | 5.00 | mg/L | 2 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 43.8 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.31 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/23/23 2346 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 20:47 |
| Lab Sample ID: | D3A1636-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 8.44 | 2.78 | mg/L | 1 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 40.9 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.43 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/23/23 2350 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 20:49 |
| Lab Sample ID: | D3A1636-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 8.44 | 2.78 | mg/L | 1 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 35.5 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.01 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/24/23 0007 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1636

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 20:51 |
| Lab Sample ID: | D3A1636-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 6.88 | 2.78 | mg/L | 1 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 34.2 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.16 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/24/23 0012 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 20:53 |
| Lab Sample ID: | D3A1636-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 6.11 | 2.78 | mg/L | 1 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 33.6 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.24 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/24/23 0016 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 20:55 |
| Lab Sample ID: | D3A1636-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 6.11 | 2.78 | mg/L | 1 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 30.0 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.03 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/24/23 0028 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1636

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 20:57 |
| Lab Sample ID: | D3A1636-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.88 | 2.78 | mg/L | 1 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 27.4 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.04 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/24/23 0032 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 20 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 20:59 |
| Lab Sample ID: | D3A1636-10 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.88 | 2.78 | mg/L | 1 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.1 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.957 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/24/23 0037 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 22 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/18/2023 21:01 |
| Lab Sample ID: | D3A1636-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.89 | 2.78 | mg/L | 1 | | 01/20/23 1705 | 01/23/23 1705 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 21.1 | 0.100 | NTU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.845 | 0.00200 | mg/L | 1 | | 01/20/23 1515 | 01/24/23 0041 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1636

Definitions

- MCL: US EPA Maximum Contaminant Level
- mg/L: Milligrams per Liter
- NTU: Nephelometric Turbidity Units
- RL: Reporting Limit
- Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <<https://www.microbac.com/standard-terms-conditions>>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/26/2023 14:00



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50



D 3 A 1 6 3 6
NWSI - Northeast Water Solutions, inc.

Lab WO#: _____
Project Manager: _____

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsinc.net
PHONE: 401-667-7463

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project Information

Project: **Housatonic HWWC**
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsinc.net
TELEPHONE:
Fax:

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | TSS, Turbidity | Analysis | | | | Preservatives | | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|----------------|----------|----------|-----|------|---------------|----------|---|---|
| | | | COMPOSITE | GRAB | | | Total Mn | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | |
| GSF 2 Backwash 2 min. | 1/19/23 | 8:41 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 4 Min. | | 8:43 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 6 Min. | | 8:45 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 8 Min. | | 8:47 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 10 min | | 8:49 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 12 Min | | 8:51 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 14 min | | 8:53 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 16 min | | 8:55 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 18 min | | 8:57 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 20 Min | | 8:59 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF 2 Backwash 22 min | | 9:01 PM | X | X | 2 | X | X | X | X | X | X | X | X | X |

PRESERVATIVE VERIFIED

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: GSF GSFZ per scan 1/19/23

Cash _____ Check# _____ Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT 3.4 °C Upon Receipt at LAB

3.0 °C

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|---------|-------|
| SAMPLER: [Signature] | 1/19/23 | 11:05 |
| RECEIVED: [Signature] | 1-19-23 | 1436 |
| RELINQUISHED: [Signature] | 1-19-23 | 1436 |
| RECEIVED: [Signature] | 1-19-23 | 1851 |
| RELINQUISHED: [Signature] | 1-19-23 | 1851 |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1534

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/18/2023
Reported: 01/24/2023

Analytical Testing Parameters

Table with client and collection information: Client Sample ID: GSF1 - Effluent, Sample Matrix: Drinking Water, Lab Sample ID: D3A1534-01, Collected By: Customer, Collection Date: 01/18/2023 10:40

Inorganics Total

Table row for SM 2540 D-1997: Total Suspended Solids (TSS) with result <2.78, RL 2.78, units mg/L, DF 1, Note L1,Y, Prepared 01/19/23 1900, Analyzed 01/20/23 1735, Analyst AJD

General Parameters

Table rows for SM 2120 B-2001: Color - Apparent (<1, RL 1, CU, DF 1, Note Y1) and Color - True (0, CU, DF 1, Note Y1)

Table row for SM 2130 B-2001: Turbidity with result <0.100, RL 0.100, units NTU, DF 1, Note H1, Prepared 01/18/23 2035, Analyzed 01/18/23 2035, Analyst AMF

Table row for SM 4500-H+ B-2000: pH with result 7.46, units S.U., DF 1, Note H1, Prepared 01/18/23 2035, Analyzed 01/18/23 2035, Analyst AMF

Metals Total by ICP

Table rows for EPA 200.7, Rv. 4.4 (1994): Manganese (<0.00204, RL 0.00204, mg/L, DF 1, Note H1, Prepared 01/23/23 1515, Analyzed 01/23/23 1656, Analyst DLO) and Iron (<0.0500, RL 0.0500, mg/L, DF 1, Note H1, Prepared 01/23/23 1515, Analyzed 01/23/23 1656, Analyst DLO)

Table with client and collection information: Client Sample ID: GSF1 - Effluent, Sample Matrix: Drinking Water, Lab Sample ID: D3A1534-02, Collected By: Customer, Collection Date: 01/18/2023 10:40

Metals Dissolved by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with result <0.00204, RL 0.00204, units mg/L, DF 1, Note H1, Prepared 01/23/23 1515, Analyzed 01/23/23 1707, Analyst DLO



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1534

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 10:45 |
| Lab Sample ID: | D3A1534-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|---|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | Y | 01/19/23 1900 | 01/20/23 1735 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/18/23 2035 | AMF |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/18/23 2035 | AMF |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.46 | | S.U. | 1 | H1 | | 01/18/23 2035 | AMF |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1710 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1710 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 10:45 |
| Lab Sample ID: | D3A1534-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1714 | DLO |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1534

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 10:50 |
| Lab Sample ID: | D3A1534-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | Y | 01/19/23 1900 | 01/20/23 1735 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/18/23 2035 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/18/23 2035 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.57 | | S.U. | 1 | H1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1717 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1717 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 10:50 |
| Lab Sample ID: | D3A1534-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1721 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 10:52 |
| Lab Sample ID: | D3A1534-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/19/23 2030 | EMK |



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1534

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 10:35 |
| Lab Sample ID: | D3A1534-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | A27 | | 01/19/23 2030 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <6.25 | 6.25 | mg/L | 3 | L1,Y | 01/19/23 1900 | 01/20/23 1735 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/18/23 2035 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/18/23 2035 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/18/23 2035 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.69 | | S.U. | 1 | H1 | | 01/18/23 2035 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1732 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1732 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 10:35 |
| Lab Sample ID: | D3A1534-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1735 | DLO |

Definitions

- A27:** Headspace was present in the bottle used for the alkalinity analysis.
- CU:** Color Unit
- DF:** Dilution Factor representing the amount the sample was diluted during analysis and may not represent preparation factors.
- H1:** Sample was received past holding time.
- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

PRELIMINARY REPORT: DATA SUBJECT TO CHANGE

D3A1534

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection



D 3 A 1 5 3 4

Chain of Custody



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

www.microbac.com

NWSi - Northeast Water Solutions, inc.

Copy of Report To
Customer: NWSI-Northeast Water Solutions
Address: 567 S County TRL
 Exeter, RI 02822
Attention: Robert Ferrari
E-Mail: labreports@nwsil.net

Bill To: same
Address: Housatonic MA
Attention: smurphy@nwsil.net
E-Mail: smurphy@nwsil.net
Telephone:
Telephone:
Purchase Order #:

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
Email: smurphy@nwsil.net
Telephone:
Fax:

| Sample Identification | Date Collected | Sample Type | | Time Collected | # of containers | Sample Matrix | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | | |
|-----------------------|----------------|-------------|------|----------------|-----------------|---------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|--|
| | | COMPOSITE | GRAB | | | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| GSF1- Effluent | 11/8/03 | | X | 10:40 | 3 | dw | X | X | X | | X | X | | | | |
| GSF2- Effluent | | | X | 10:45 | 3 | dw | X | X | X | | X | X | | | | |
| GSF3 - Effluent | | | X | 10:50 | 3 | dw | X | X | X | | X | X | | | | |
| GSF-Effluent | | | X | 10:52 | 1 | dw | | | | X | | | | | | |
| GSF- Influent | | | X | 10:35 | 4 | dw | X | X | X | X | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

PRESERVATIVE VERIFIED Initials

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash

Check#

Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED

AMBIENT

5.6 °C Upon Receipt at LAB

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: <i>Ch. My</i> | 11/8/03 | 11:50 |
| RECEIVED: <i>CP Remond</i> | 11/8/03 | 11:50 |
| RELINQUISHED: <i>CP Remond</i> | 11/8/03 | 12:01 |
| RECEIVED: <i>CP Remond</i> | 11/8/03 | 12:01 |
| RELINQUISHED: <i>W. J. Smith</i> | 11/8/03 | 12:01 |
| RECEIVED: <i>W. J. Smith</i> | 11/8/03 | 12:01 |

4.0 °C



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1537

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/18/2023
Reported: 01/25/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF-Influent, Drinking Water, D3A1537-01, Customer, 01/18/2023 11:00.

Inorganics Total

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows include Hach Test Kit, DOC326.98.00004, Carbon dioxide, SM 2510 B-1997, Conductivity at 25°C, SM 2540 C-1997, Total Dissolved Solids (TDS), SM 4500-NO3- F-2000, Nitrate as N, Nitrite as N, SM 4500-SO4- E-1997, Sulfate as SO4.

Metals Total by CVAA

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row includes EPA 245.1, Rv. 3 (1994), Mercury.

Metals Total by ICP

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows include EPA 200.7, Rv. 4.4 (1994), Aluminum, Calcium, Magnesium, Potassium, Zinc, Sodium.

Metals Total by ICPMS

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows include EPA 200.8, Rv. 5.4 (1994), Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead.

Volatile Organic Compounds by GCMS

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row includes EPA 524.2, Rv. 4.1 (1995).



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1537

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF-Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 11:00 |
| Lab Sample ID: | D3A1537-01 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------------------|--------|---------------|-------|----|------|---------------|---------------|---------|
| Total Trihalomethanes | 31.3 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1713 | ADF |
| Bromodichloromethane | 2.95 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1713 | ADF |
| Bromoform | <0.500 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1713 | ADF |
| Chloroform | 28.3 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1713 | ADF |
| Dibromochloromethane | <0.500 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1713 | ADF |
| Surrogate: 4-Bromofluorobenzene | 115 | Limit: 70-130 | % Rec | 1 | | 01/23/23 0900 | 01/23/23 1713 | ADF |
| Surrogate: 1,2-Dichlorobenzene-d4 | 115 | Limit: 70-130 | % Rec | 1 | | 01/23/23 0900 | 01/23/23 1713 | ADF |

| Semivolatile Organic Compounds by GC/ECD | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|---------------|-------|----|------|---------------|---------------|---------|
| EPA 552.2, Rv. 1 (1995) | | | | | | | | |
| Total Haloacetic acids (HAA5) | 23.3 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0203 | ALG |
| Chloroacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0203 | ALG |
| Bromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0203 | ALG |
| Dichloroacetic acid [2C] | 8.66 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0203 | ALG |
| Trichloroacetic acid [2C] | 14.6 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0203 | ALG |
| Dibromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0203 | ALG |
| Surrogate: 2,3-Dibromopropionic acid | 103 | Limit: 70-130 | % Rec | 1 | | 01/19/23 1302 | 01/20/23 0203 | ALG |
| Surrogate: 2,3-Dibromopropionic acid [2C] | 105 | Limit: 70-130 | % Rec | 1 | | 01/19/23 1302 | 01/20/23 0203 | ALG |

| Anions by IC | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|------|-------|----|------|----------|---------------|---------|
| EPA 300.0, Rv. 2.1 (1993) | | | | | | | | |
| Chloride | 12.2 | 1.00 | mg/L | 1 | | | 01/19/23 1553 | IMM |

Definitions

- AL:** US EPA Action Level
- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- RL:** Reporting Limit
- ug/L:** Micrograms per Liter
- umhos/cm:** Umhos per Centimeter
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1537

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery

Quality Assurance Officer

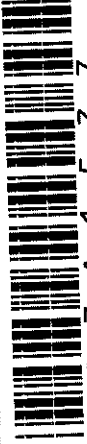
Reported: 01/25/2023 16:31



Chain of Custody

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

www.Microbac.com



D 3 A 1 5 3 7

NWSI - Northeast Water Solutions, inc.

Copy of Report To
NWSI-Northeast Water Solutions

CUSTOMER: Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsinc.com
PHONE: 401-667-7463

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager
EMAIL: smurphy@nwsinc.com
TELEPHONE: 774-573-1147
Fax:

Billing Information (for credit card on

| Sample Identification | Date Collected | Sample Type | | Time Collected | # of containers | Sample Matrix | TDS, Con, NO2, NO3, SO4, Chloride | CO2 | Analysis | | | | | Preservatives | | | | | | | | | | |
|-----------------------|----------------|-------------|------|----------------|-----------------|---------------|-----------------------------------|-----|-----------------------|-------------|----------|-----|------|---------------|----------|---|---|---|---|---|--|--|--|--|
| | | COMPOSITE | GRAB | | | | | | Al, Na, Mg, Zn, Ca, K | Heavy Metal | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | | | | | | | | |
| GSF Influent | 1/18/03 | X | | 11:00 | 2 | du | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

PRESERVATIVE
VERIFIED
INITIALS

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: <i>John</i> | 1/18/03 | 11:50 |
| RECEIVED: <i>CP Reynolds</i> | 1/18/03 | 11:50 |
| RELINQUISHED: <i>CP Reynolds</i> | 1/18/03 | 12:11 |
| RECEIVED: <i>John</i> | 1/18/03 | 12:11 |
| RELINQUISHED: <i>John</i> | 1-17-03 | 19:21 |
| RECEIVED: <i>John</i> | 1/18/03 | 19:21 |

HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:
Cash _____ Check# _____ Auth# _____

Please do not list credit card number on paperwork
CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT 6.6 °C Upon Receipt at LAB

4.0 °C



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1535

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/18/2023
Reported: 01/25/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF-Effluent, Drinking Water, D3A1535-01, Sean Murphy, 01/18/2023 11:10.

Main data table with 9 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows include Hach Test Kit, SM 2510 B-1997, SM 2540 C-1997, SM 4500-CI G-2000, SM 4500-NO3- F-2000, SM 4500-SO4- E-1997, Metals Total by CVAA, EPA 245.1, Rv. 3 (1994), Metals Total by ICP, EPA 200.7, Rv. 4.4 (1994), Metals Total by ICPMS, EPA 200.8, Rv. 5.4 (1994).



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1535

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/18/2023 11:10 |
| Lab Sample ID: | D3A1535-01 | | |

| Volatiles Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------------------|--------|---------------|-------|----|------|---------------|---------------|---------|
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Total Trihalomethanes | 29.7 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1650 | ADF |
| Bromodichloromethane | 3.07 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1650 | ADF |
| Bromoform | <0.500 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1650 | ADF |
| Chloroform | 26.6 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1650 | ADF |
| Dibromochloromethane | <0.500 | 0.500 | ug/L | 1 | | 01/23/23 0900 | 01/23/23 1650 | ADF |
| Surrogate: 4-Bromofluorobenzene | 111 | Limit: 70-130 | % Rec | 1 | | 01/23/23 0900 | 01/23/23 1650 | ADF |
| Surrogate: 1,2-Dichlorobenzene-d4 | 111 | Limit: 70-130 | % Rec | 1 | | 01/23/23 0900 | 01/23/23 1650 | ADF |

| Semivolatile Organic Compounds by GC/ECD | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|---------------|-------|----|------|---------------|---------------|---------|
| EPA 552.2, Rv. 1 (1995) | | | | | | | | |
| Total Haloacetic acids (HAA5) | 26.0 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0141 | ALG |
| Chloroacetic acid | <1.00 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0141 | ALG |
| Bromoacetic acid | <1.00 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0141 | ALG |
| Dichloroacetic acid [2C] | 9.92 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0141 | ALG |
| Trichloroacetic acid [2C] | 16.1 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0141 | ALG |
| Dibromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/19/23 1302 | 01/20/23 0141 | ALG |
| Surrogate: 2,3-Dibromopropionic acid | 95.4 | Limit: 70-130 | % Rec | 1 | | 01/19/23 1302 | 01/20/23 0141 | ALG |
| Surrogate: 2,3-Dibromopropionic acid [2C] | 106 | Limit: 70-130 | % Rec | 1 | | 01/19/23 1302 | 01/20/23 0141 | ALG |

| Anions by IC | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|------|-------|----|------|----------|---------------|---------|
| EPA 300.0, Rv. 2.1 (1993) | | | | | | | | |
| Chloride | 11.8 | 1.00 | mg/L | 1 | | | 01/19/23 1536 | IMM |

Definitions

- AL:** US EPA Action Level
- H1:** Sample was received past holding time.
- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- RL:** Reporting Limit
- ug/L:** Micrograms per Liter
- umhos/cm:** Umhos per Centimeter
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1535

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery

Quality Assurance Officer

Reported: 01/25/2023 16:30



Chain of Custody

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50

WWW.Microbac.com

Copy of Report To

NWSI-Northeast Water
Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsinc.net
PHONE: 401-667-7463

Billing Information (for credit card only)

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsinc.net
TELEPHONE:
Fax:



D 3 A 1 5 3 5
NWSI - Northeast Water Solutions, Inc.

| Sample Identification | Date Collected | Sample Type | | Time Collected | # of containers | TDS Con. Cl. NO2, NO3, SO4 | CO2 | Al, Na, Zn, Ca Mg, K | Heavy Metals | Preservatives | | | | | | | |
|-----------------------|----------------|-------------|------|----------------|-----------------|-------------------------------|-----|-------------------------|--------------|---------------|-----|------|-------|----------|---------|--|--|
| | | COMPOSITE | GRAB | | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | Na2S2O3 | | |
| GSF Effluent | 1/15/03 | X | | 11:10 | X | X | X | X | X | X | | | | | | | |
| GSF1-Effluent | | | | | | | | | | | | | | | | | |
| GSF2-Effluent | | | | | | | | | | | | | | | | | |
| GSF3-Effluent | | | | | | | | | | | | | | | | | |

PRESERVATIVE
VERIFIED
Initials

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|---------|-------|
| SAMPLER: J. M. V. | 1/15/03 | 11:50 |
| RECEIVED: J. P. Russo | 1/18/03 | 11:50 |
| RELINQUISHED: J. P. Russo | 1/18/03 | 12:11 |
| RECEIVED: J. P. Russo | 1/19/03 | 12:11 |
| RELINQUISHED: J. P. Russo | 1/18/03 | 19:21 |
| RECEIVED: J. P. Russo | 1/18/03 | 19:21 |

COMMENTS:

Cash Check# Auth#

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT °C Upon Receipt at LAB

4.0 °C



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1637

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/19/2023
Reported: 01/26/2023

Analytical Testing Parameters

| | | | |
|-------------------|-----------------|------------------|-----------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:55 |
| Lab Sample ID: | D3A1637-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

SM 2540 D-1997

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/20/23 1717 | 01/24/23 1848 | AJD |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

SM 2120 B-2001

| | | | | | | | | |
|------------------|----|---|----|---|----|--|---------------|-----|
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/19/23 2115 | AMF |
|------------------|----|---|----|---|----|--|---------------|-----|

| | | | | | | | | |
|--------------|---|--|----|---|----|--|---------------|-----|
| Color - True | 0 | | CU | 1 | Y1 | | 01/19/23 2115 | AMF |
|--------------|---|--|----|---|----|--|---------------|-----|

SM 2130 B-2001

| | | | | | | | | |
|-----------|--------|-------|-----|---|--|--|---------------|-----|
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/19/23 2115 | AMF |
|-----------|--------|-------|-----|---|--|--|---------------|-----|

SM 4500-H+ B-2000

| | | | | | | | | |
|----|------|--|------|---|----|--|---------------|-----|
| pH | 7.46 | | S.U. | 1 | H1 | | 01/19/23 2115 | AMF |
|----|------|--|------|---|----|--|---------------|-----|

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

EPA 200.7, Rv. 4.4 (1994)

| | | | | | | | | |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1746 | DLO |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|

| | | | | | | | | |
|------|---------|--------|------|---|--|---------------|---------------|-----|
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1746 | DLO |
|------|---------|--------|------|---|--|---------------|---------------|-----|

| | | | |
|-------------------|-----------------|------------------|-----------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:55 |
| Lab Sample ID: | D3A1637-02 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

EPA 200.7, Rv. 4.4 (1994)

| | | | | | | | | |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1754 | DLO |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1637

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:00 |
| Lab Sample ID: | D3A1637-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/20/23 1717 | 01/24/23 1848 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/19/23 2115 | AMF |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/19/23 2115 | AMF |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.48 | | S.U. | 1 | H1 | | 01/19/23 2115 | AMF |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1757 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1757 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:00 |
| Lab Sample ID: | D3A1637-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1801 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1637

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:05 |
| Lab Sample ID: | D3A1637-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/20/23 1717 | 01/24/23 1848 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/19/23 2115 | AMF |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/19/23 2115 | AMF |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.58 | | S.U. | 1 | H1 | | 01/19/23 2115 | AMF |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1804 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1804 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:05 |
| Lab Sample ID: | D3A1637-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1808 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:07 |
| Lab Sample ID: | D3A1637-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|------|------|------------|---|--|---------------|---------------|-----|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | 01/20/23 2028 | 01/20/23 2028 | EMK |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1637

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:50 |
| Lab Sample ID: | D3A1637-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | 01/20/23 2028 | 01/20/23 2028 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/20/23 1717 | 01/24/23 1848 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/19/23 2115 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/19/23 2115 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/19/23 2115 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.61 | | S.U. | 1 | H1 | | 01/19/23 2115 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1819 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1819 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:50 |
| Lab Sample ID: | D3A1637-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1822 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | HWWC - Raw | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:45 |
| Lab Sample ID: | D3A1637-10 | | |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|---------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.0153 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1826 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1826 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1637

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | HWWC - Raw | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:45 |
| Lab Sample ID: | D3A1637-11 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|---------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.00718 | 0.00204 | mg/L | 1 | | 01/23/23 1515 | 01/23/23 1829 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS #1 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:47 |
| Lab Sample ID: | D3A1637-12 | | |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/24/23 1348 | 01/24/23 1444 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/24/23 1348 | 01/24/23 1444 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS #1 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:47 |
| Lab Sample ID: | D3A1637-13 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/24/23 1348 | 01/24/23 1448 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS #2 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:49 |
| Lab Sample ID: | D3A1637-14 | | |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/24/23 1348 | 01/24/23 1452 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/24/23 1348 | 01/24/23 1452 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS #2 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 9:49 |
| Lab Sample ID: | D3A1637-15 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/24/23 1348 | 01/24/23 1455 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1637

Definitions

- CU: Color Unit
- H1: Sample was received past holding time.
- L1: Elevated reporting limit due to insufficient sample.
- MCL: US EPA Maximum Contaminant Level
- mg CaCO3/L: Milligrams Calcium Carbonate per Liter
- mg/L: Milligrams per Liter
- NTU: Nephelometric Turbidity Units
- RL: Reporting Limit
- S.U.: Standard Units
- SMCL: US EPA Secondary Maximum Contaminant Level
- Y: This analyte is not on the laboratory's current scope of accreditation.
- Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <<https://www.microbac.com/standard-terms-conditions>>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/26/2023 14:26

6nd



D 3 A 1 6 3 7

Chain of Custody

NWSi - Northeast Water Solutions, Inc.

WWW.Microbac.com



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County Trl
 Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsinc.com

PHONE: 401-667-7463

Project Information

Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsinc.com
TELEPHONE:
Fax:

Billing Information (for credit card only)

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:

PURCHASE ORDER # :

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|
| | | | COMPOSITE | GRAB | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric |
| GSF1 - Effluent | 1/19/83 | 9:55 | | X | 3 | x | x | x | | X | X | | | |
| GSF2 - Effluent | | 9:10:00 | | X | 3 | x | x | x | | X | X | | | |
| GSF3 - Effluent | | 10:05 | | X | 3 | x | x | x | | X | X | | | |
| GSF-Effluent | | 10:07 | X | | 1 | | | | X | | | | | |
| GSF - Influent | | 9:50 | | X | 4 | X | X | X | X | | | | | |
| Housatonic - Influent | | 9:45 | | X | 3 | X | X | X | | | | | | |
| SS #1 - eff. | | 9:47 | | X | 3 | X | X | X | | | | | | |
| SS #2 - eff. | | 9:49 | | X | 3 | X | X | X | | | | | | |

PRESERVATIVE VERIFIED Initials

TURNAROUND (INDICATE IN CALENDAR) _____

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth# _____

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT Upon Receipt at LAB

4.9
2.8
2.8

| CUSTOMER TRANSFER (at drop off) | DATE | TIME |
|---------------------------------|---------|-------|
| SAMPLER: [Signature] | 1/19/83 | 11:05 |
| RECEIVED: [Signature] | 1/19/83 | 11:05 |
| RELINQUISHED: [Signature] | 1/19/83 | 14:36 |
| RECEIVED: [Signature] | 1/19/83 | 14:36 |
| RELINQUISHED: [Signature] | 1/19/83 | 18:36 |
| RECEIVED: [Signature] | 1/19/83 | 18:36 |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1641

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/19/2023
Reported: 01/26/2023

Analytical Testing Parameters

| | | | |
|-------------------|----------------|------------------|------------------|
| Client Sample ID: | HWWC - Raw | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:10 |
| Lab Sample ID: | D3A1641-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 3.08 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1322 | 01/21/23 0710 | IMM |

| | | | |
|-------------------|----------------|------------------|------------------|
| Client Sample ID: | HWWC - Raw | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:10 |
| Lab Sample ID: | D3A1641-02 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 3.23 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1319 | 01/20/23 1842 | IMM |

| | | | |
|-------------------|------------------|------------------|------------------|
| Client Sample ID: | SS Filter 1-Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:13 |
| Lab Sample ID: | D3A1641-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.23 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1322 | 01/21/23 0742 | IMM |

| | | | |
|-------------------|------------------|------------------|------------------|
| Client Sample ID: | SS Filter 1-Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:13 |
| Lab Sample ID: | D3A1641-04 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.32 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1319 | 01/20/23 1913 | IMM |

| | | | |
|-------------------|------------------|------------------|------------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:16 |
| Lab Sample ID: | D3A1641-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.11 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1322 | 01/21/23 0813 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1641

| | | | |
|--------------------------|------------------|-------------------------|------------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:16 |
| Lab Sample ID: | D3A1641-06 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.15 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1319 | 01/20/23 1945 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:19 |
| Lab Sample ID: | D3A1641-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.14 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1322 | 01/21/23 0844 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:19 |
| Lab Sample ID: | D3A1641-08 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.19 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1319 | 01/20/23 2016 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:22 |
| Lab Sample ID: | D3A1641-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.12 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1322 | 01/21/23 0915 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:22 |
| Lab Sample ID: | D3A1641-10 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.19 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1319 | 01/20/23 2047 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:25 |
| Lab Sample ID: | D3A1641-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.11 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1322 | 01/21/23 1049 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1641

| | | | |
|-------------------|----------------|------------------|------------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:25 |
| Lab Sample ID: | D3A1641-12 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.20 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1319 | 01/20/23 2118 | IMM |

| | | | |
|-------------------|----------------|------------------|------------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:28 |
| Lab Sample ID: | D3A1641-13 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.12 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1322 | 01/21/23 1120 | IMM |

| | | | |
|-------------------|----------------|------------------|------------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:28 |
| Lab Sample ID: | D3A1641-14 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.15 | 0.500 | mg/L | 1 | Y1 | 01/20/23 1319 | 01/20/23 2149 | IMM |

Definitions

- MCL: US EPA Maximum Contaminant Level
- mg/L: Milligrams per Liter
- RL: Reporting Limit
- Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/26/2023 14:01

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Chain of Custody

WWW.Microbac.com

NWSi - Northeast Water Solutions, inc.

Copy of Report To

CUSTOMER: **NWSI-Northeast Water Solutions**
 ADDRESS: 567 S County TRL
 Exeter, RI 02822
 ATTENTION: Robert Ferrari
 E-MAIL: labreports@nwsinc.net
 PHONE: 401-667-7463

Billing Information (for credit card)

BILL TO: same
 ADDRESS:
 ATTENTION:
 TELEPHONE:
 PURCHASE ORDER #:

Project Information

Project: **Housatonic HWWC**
 Project Location: Housatonic MA
 Project Manager:
 EMAIL: smurphy@nwsinc.net
 TELEPHONE:
 Fax:

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | TOC | DOC | VOC | Preservatives | | | | | | | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|-----|-----|-----|---------------|-----|------|-------|----------|--|--|--|--|
| | | | COMPOSITE | GRAB | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | | | |
| HWWC - RAW | 1/19/03 | 10:10 | | | | X | | | | | | | | | | | |
| SS Filter 1-Eff. | | 10:13 | | | | X | X | | | | | | | | | | |
| SS Filter 2-Eff. | | 10:16 | | | | X | X | | | | | | | | | | |
| GSF-Influent | | 10:19 | | | | X | X | | | | | | | | | | |
| GSF1-Effluent | | 10:23 | | | | X | X | | | | | | | | | | |
| GSF2-Effluent | | 10:25 | | | | X | X | | | | | | | | | | |
| GSF3-Effluent | | 10:28 | | | | X | X | | | | | | | | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: <i>[Signature]</i> | 1/19/03 | 11:05 |
| RECEIVED: <i>[Signature]</i> | 1/19/03 | 11:05 |
| RELINQUISHED: <i>[Signature]</i> | 1/19/03 | 14:30 |
| RECEIVED: <i>[Signature]</i> | 1/19/03 | 14:36 |
| RELINQUISHED: <i>[Signature]</i> | 1-19-03 | 18:30 |
| RECEIVED: <i>[Signature]</i> | 1/19/03 | 18:30 |

HARD COPY or E-MAIL
 EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

AMBIENT 37 °C Upon Receipt at LA

(2-8⁰⁰ WF)



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0334

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/19/2023
Reported: 01/26/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1-Effluent, Drinking Water, L3A0334-01, Sean Murphy, 01/19/2023 10:22.

Analyses Performed by: Phoenix Environmental Laboratories, Inc

Table with 10 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM5910 B-2000, pH (7.66), UV 254 (0.029).

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF-Influent, Drinking Water, L3A0334-02, Sean Murphy, 01/19/2023 10:19.

Analyses Performed by: Phoenix Environmental Laboratories, Inc

Table with 10 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM5910 B-2000, pH (7.42), UV 254 (0.029).

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include HWWC-Raw, Drinking Water, L3A0334-03, Sean Murphy, 01/19/2023 10:10.

Analyses Performed by: Phoenix Environmental Laboratories, Inc

Table with 10 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM5910 B-2000, pH (7.77), UV 254 (0.059).

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include SS Filter 1-Eff., Drinking Water, L3A0334-04, Sean Murphy, 01/19/2023 10:13.

Analyses Performed by: Phoenix Environmental Laboratories, Inc

Table with 10 columns: Inorganics Total, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM5910 B-2000, pH (7.56), UV 254 (0.044).



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0334

| | | | |
|--------------------------|------------------|-------------------------|------------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:16 |
| Lab Sample ID: | L3A0334-05 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.72 | 1 | S.U. | 1 | | 01/19/23 1016 | 01/20/23 0000 | SUB |
| UV 254 | 0.04 | 0.001 | abs/cm | 1 | | 01/19/23 1016 | 01/20/23 0000 | SUB |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:25 |
| Lab Sample ID: | L3A0334-06 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.66 | 1 | S.U. | 1 | | 01/19/23 1025 | 01/20/23 0000 | SUB |
| UV 254 | 0.03 | 0.001 | abs/cm | 1 | | 01/19/23 1025 | 01/20/23 0000 | SUB |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/19/2023 10:28 |
| Lab Sample ID: | L3A0334-07 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.79 | 1 | S.U. | 1 | | 01/19/23 1028 | 01/20/23 0000 | SUB |
| UV 254 | 0.029 | 0.001 | abs/cm | 1 | | 01/19/23 1028 | 01/20/23 0000 | SUB |

Definitions

- abs/cm:** Absorbance per Centimeter
- MCL:** US EPA Maximum Contaminant Level
- RL:** Reporting Limit
- S.U.:** Standard Units

Project Requested Certification(s)

Phoenix Environmental Laboratories, Inc
 PH-0618
 M-CT007
 63

Connecticut Department of Public Health
 Massachusetts Department of Environmental Protection
 Rhode Island Department of Health



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0334

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Christine F. Reynolds".

Christine F. Reynolds

Service Center Manager

Reported: 01/26/2023 15:06



L 3 A 0 3 3 4

NWSI - Northeast Water Solutions, Inc.

80 Run Way
 Lee, MA 01238 (413) 776-5025 fax: 413-776-50

WWW.Microbac.com

| | | |
|---|---|--|
| Copy of Report To | Billing Information (for credit card only) | Project Information |
| CUSTOMER: <u>Northeast Water Solutions</u> | BILL TO: <u>same</u> | Project: <u>Housatonic HWWC</u> |
| ADDRESS: <u>567 S County TRL</u> <u>Exeter, RI 02822</u> | ADDRESS: _____ | Project Location: <u>Housatonic MA</u> |
| ATTENTION: <u>Robert Ferrari</u> | ATTENTION: _____ | Project Manager: _____ |
| E-MAIL: <u>labreports@nws.net</u> | TELEPHONE: _____ | EMAIL: <u>smurphy@nws.net</u> |
| PHONE: <u>401-667-7463</u> | PURCHASE ORDER #: _____ | TELEPHONE: _____ |
| | | Fax: _____ |

| Sample Identification | Date Collected | Time Collected | Sample Type | | Sample Matrix | # of containers | UV254 | Analysis | | | | Preservatives | | | | |
|-----------------------|----------------|----------------|-------------|------|---------------|-----------------|-------|----------|--|--|--|---------------|-----|------|-------|----------|
| | | | COMPOSITE | GRAB | | | | | | | | Non-pres | HCL | HNO3 | NH4CI | Sulfuric |
| GSF1- Effluent | 1/19/23 | 10:22 | | X | 2 | 2 | x | | | | | X | | | | |
| GSF-Influent | | 10:19 | | X | 2 | 2 | x | | | | | x | | | | |
| HWWC-Raw | | 10:10 | | X | 2 | 2 | x | | | | | x | | | | |
| SS Filter 1-Eff. | | 10:13 | | X | 2 | 2 | X | | | | | x | | | | |
| SS Filter 2-Eff. | | 10:16 | | X | 2 | 2 | X | | | | | x | | | | |
| GSF2-Effluent | | 10:25 | | X | 2 | 2 | X | | | | | x | | | | |
| GSF3-Effluent | | 10:28 | | X | 2 | 2 | X | | | | | x | | | | |
| TRIP BLANK | | | | | | | | | | | | | | | | |

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|----------------|--------------|
| SAMPLER: <u>J. [Signature]</u> | <u>1/19/23</u> | <u>11:05</u> |
| RECEIVED: <u>[Signature]</u> | <u>1/19/23</u> | <u>11:05</u> |
| RELINQUISHED: | | |
| RECEIVED: | | |
| RELINQUISHED: | | |
| RECEIVED: | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):
 _____ HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS: _____
 Cash _____ Check# _____ Auth#: _____

Please do not list credit card numbr on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT 3.7 °C Upon Receipt at LAB



Tuesday, January 24, 2023

Attn: Shelby Jendrewski
Microbac Laboratories, Inc
80 Run Way
Lee, MA 01238

Project ID: L3A0334
SDG ID: GCN27357
Sample ID#s: CN27357 - CN27363

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

January 24, 2023

SDG I.D.: GCN27357

Project ID: L3A0334

| Client Id | Lab Id | Matrix |
|------------|---------|----------------|
| L3A0334-01 | CN27357 | DRINKING WATER |
| L3A0334-02 | CN27358 | DRINKING WATER |
| L3A0334-03 | CN27359 | DRINKING WATER |
| L3A0334-04 | CN27360 | DRINKING WATER |
| L3A0334-05 | CN27361 | DRINKING WATER |
| L3A0334-06 | CN27362 | DRINKING WATER |
| L3A0334-07 | CN27363 | DRINKING WATER |



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 24, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: 96 Hour
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/19/23
 01/20/23

Time

10:22
 10:30

Laboratory Data

SDG ID: GCN27357
 Phoenix ID: CN27357

Project ID: L3A0334
 Client ID: L3A0334-01

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----------|---------------|
| pH | 7.66 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/20/23 21:12 | IW/ML/KD | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.029 | 0.001 | 1 | /cm | | | | 01/20/23 20:01 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 24, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 24, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: 96 Hour
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/19/23
 01/20/23

Time

10:19
 10:30

Laboratory Data

SDG ID: GCN27357
 Phoenix ID: CN27358

Project ID: L3A0334
 Client ID: L3A0334-02

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----------|---------------|
| pH | 7.42 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/20/23 21:14 | IW/ML/KD | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.029 | 0.001 | 1 | /cm | | | | 01/20/23 20:05 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 24, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 24, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: 96 Hour
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/19/23
 01/20/23

Time

10:10
 10:30

Laboratory Data

SDG ID: GCN27357
 Phoenix ID: CN27359

Project ID: L3A0334
 Client ID: L3A0334-03

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----------|---------------|
| pH | 7.77 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/20/23 21:19 | IW/ML/KD | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.059 | 0.001 | 1 | /cm | | | | 01/20/23 20:08 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 24, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 24, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: 96 Hour
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/19/23
 01/20/23

Time

10:13
 10:30

Laboratory Data

SDG ID: GCN27357
 Phoenix ID: CN27360

Project ID: L3A0334
 Client ID: L3A0334-04

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----------|---------------|
| pH | 7.56 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/20/23 21:21 | IW/ML/KD | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.044 | 0.001 | 1 | /cm | | | | 01/20/23 20:15 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 24, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 24, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: 96 Hour
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/19/23
 01/20/23

Time

10:16
 10:30

Laboratory Data

SDG ID: GCN27357
 Phoenix ID: CN27361

Project ID: L3A0334
 Client ID: L3A0334-05

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----------|---------------|
| pH | 7.72 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/20/23 21:23 | IW/ML/KD | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.040 | 0.001 | 1 | /cm | | | | 01/20/23 20:13 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 24, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 24, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: 96 Hour
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/19/23
 01/20/23

Time

10:25
 10:30

Laboratory Data

SDG ID: GCN27357
 Phoenix ID: CN27362

Project ID: L3A0334
 Client ID: L3A0334-06

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----------|---------------|
| pH | 7.66 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/20/23 21:25 | IW/ML/KD | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.030 | 0.001 | 1 | /cm | | | | 01/20/23 20:18 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 24, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 24, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: 96 Hour
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/19/23
 01/20/23

Time

10:28
 10:30

Laboratory Data

SDG ID: GCN27357
 Phoenix ID: CN27363

Project ID: L3A0334
 Client ID: L3A0334-07

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|----------|---------------|
| pH | 7.79 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/20/23 21:49 | IW/ML/KD | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.029 | 0.001 | 1 | /cm | | | | 01/20/23 20:20 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 24, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 24, 2023


QA/QC Data

SDG I.D.: GCN27357

| Parameter | Blank | Blk RL | Sample Result | Dup Result | Dup RPD | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|-------|-----------|------------------|---------------|------------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| QA/QC Batch 660993 (pH), QC Sample No: CN27239 (CN27357, CN27358, CN27359, CN27360, CN27361, CN27362) | | | | | | | | | | | | | |
| pH | | | 8.17 | 8.09 | 1.00 | 99.9 | | | | | | 85 - 115 | 20 |
| Comment: | | | | | | | | | | | | | |
| Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 660994 (pH), QC Sample No: CN27533 (CN27363) | | | | | | | | | | | | | |
| pH | | | 8.0 | 8.05 | 0.60 | 100 | | | | | | 85 - 115 | 20 |
| Comment: | | | | | | | | | | | | | |
| Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 660943 (/cm), QC Sample No: CN27357 (CN27357, CN27358, CN27359, CN27360, CN27361, CN27362, CN27363) | | | | | | | | | | | | | |
| UV-254 (Absorbance) | BRL | 0 | 0.029 | 0.028 | 3.50 | 106 | | | | | | | |

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference


 Phyllis Shiller, Laboratory Director
 January 24, 2023

Tuesday, January 24, 2023

Criteria: MA: DW

State: MA

Sample Criteria Exceedances Report

GCN27357 - MICROBAC-MA

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

January 24, 2023

SDG I.D.: GCN27357

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.



**SUBCONTRACTED CHAIN OF CUSTODY
L3A0334**

Wcip 2.1

| | |
|---|--|
| SENDING LABORATORY: Microbac Laboratories, Inc., Lee 80 Run Way Lee, MA 01238 Phone: 413-776-5025 Lab Manager: Shelby Jendrewski Email: Shelby.Jendrewski@microbac.com | RECEIVING LABORATORY: Phoenix Environmental Laboratories, Inc 587 E Middle TPKE PO BOX 370 Manchester, CT 06040 Phone: (860) 645-1102 |
|---|--|

Project Info:

PWSID: Project Type: ENV-DrinkingWater Report TAT: 5
Project Location: Massachusetts Due: 01/26/2023 17:00

Project Requested Certifications

Massachusetts Department of Environmental Protection

Sample ID: L3A0334-01 *27357* **Sampled: 01/19/2023 10:22** Sampler: Sean Murphy
Matrix: Drinking Water Description: GSF1-Effluent
Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/26/2023 16:00 | 01/19/2023 10:36 |
| UV254 SM5910-B | SM5910 B-2000 | 01/26/2023 16:00 | 01/21/2023 10:22 |

Sample ID: L3A0334-02 *27358* **Sampled: 01/19/2023 10:19** Sampler: Sean Murphy
Matrix: Drinking Water Description: GSF-Influent
Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/26/2023 16:00 | 01/19/2023 10:33 |
| UV254 SM5910-B | SM5910 B-2000 | 01/26/2023 16:00 | 01/21/2023 10:19 |

Sample ID: L3A0334-03 *27359* **Sampled: 01/19/2023 10:10** Sampler: Sean Murphy
Matrix: Drinking Water Description: HWWC-Raw
Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/26/2023 16:00 | 01/19/2023 10:24 |
| UV254 SM5910-B | SM5910 B-2000 | 01/26/2023 16:00 | 01/21/2023 10:10 |

Sample ID: L3A0334-04 *27360* **Sampled: 01/19/2023 10:13** Sampler: Sean Murphy
Matrix: Drinking Water Description: SS Filter 1-Eff.
Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/26/2023 16:00 | 01/19/2023 10:27 |
| UV254 SM5910-B | SM5910 B-2000 | 01/26/2023 16:00 | 01/21/2023 10:13 |



SUBCONTRACTED CHAIN OF CUSTODY
L3A0334

loop 2.1

Project Requested Certifications

Massachusetts Department of Environmental Protection

Sample ID: L3A0334-05

Sampled: 01/19/2023 10:16

Sampler: Sean Murphy

Matrix: Drinking Water

27361

Description: SS Filter 2-Eff.

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/26/2023 16:00 | 01/19/2023 10:30 |
| UV254 SM5910-B | SM5910 B-2000 | 01/26/2023 16:00 | 01/21/2023 10:16 |

Sample ID: L3A0334-06

Sampled: 01/19/2023 10:25

Sampler: Sean Murphy

Matrix: Drinking Water

27362

Description: GSF2-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/26/2023 16:00 | 01/19/2023 10:39 |
| UV254 SM5910-B | SM5910 B-2000 | 01/26/2023 16:00 | 01/21/2023 10:25 |

* Sample ID: L3A0334-07

27363

Sampled: 01/19/2023 10:28

Sampler: Sean Murphy

Matrix: Drinking Water

27363

Description: GSF3-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|------------------|------------------|
| pH for UV | SM5910 B-2000 | 01/26/2023 16:00 | 01/19/2023 10:42 |
| UV254 SM5910-B | SM5910 B-2000 | 01/26/2023 16:00 | 01/21/2023 10:28 |

* Noa vial received broken. (mp)

C Reynolds

1/19/23

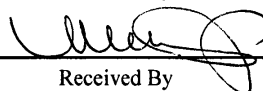
Released By

Date

Received By

Date

Fedex



1-20-23 10:30

Released By

Date

Received By

Date



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1718

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/20/2023
Reported: 01/26/2023

Analytical Testing Parameters

Table with 2 columns: Parameter and Value. Includes Client Sample ID (GSF1 Backwash 2 Min.), Sample Matrix (Aqueous), Lab Sample ID (D3A1718-01), Collected By (Customer), and Collection Date (01/20/2023 6:15).

Inorganics Total

Table with 10 columns: Parameter, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2540 D-2015 Total Suspended Solids (TSS) with Result 7.40.

General Parameters

Table with 10 columns: Parameter, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2130 B-2011 Turbidity with Result 41.3.

Metals Total by ICP

Table with 10 columns: Parameter, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for EPA 200.7, Rv. 4.4 (1994) Manganese with Result 2.27.

Table with 2 columns: Parameter and Value. Includes Client Sample ID (GSF1 Backwash 4 Min.), Sample Matrix (Aqueous), Lab Sample ID (D3A1718-02), Collected By (Customer), and Collection Date (01/20/2023 6:13).

Inorganics Total

Table with 10 columns: Parameter, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2540 D-2015 Total Suspended Solids (TSS) with Result 7.40.

General Parameters

Table with 10 columns: Parameter, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2130 B-2011 Turbidity with Result 40.3.

Metals Total by ICP

Table with 10 columns: Parameter, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for EPA 200.7, Rv. 4.4 (1994) Manganese with Result 0.794.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1718

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/20/2023 6:11 |
| Lab Sample ID: | D3A1718-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.55 | 2.78 | mg/L | 1 | | 01/23/23 1615 | 01/24/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 39.9 | 0.100 | NTU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.801 | 0.00200 | mg/L | 1 | | 01/23/23 1520 | 01/24/23 1839 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/20/2023 6:09 |
| Lab Sample ID: | D3A1718-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.55 | 2.78 | mg/L | 1 | | 01/23/23 1615 | 01/24/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 39.7 | 0.100 | NTU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.836 | 0.00200 | mg/L | 1 | | 01/23/23 1520 | 01/24/23 1843 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/20/2023 6:07 |
| Lab Sample ID: | D3A1718-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.10 | 2.78 | mg/L | 1 | | 01/23/23 1615 | 01/24/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 39.6 | 0.100 | NTU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.854 | 0.00200 | mg/L | 1 | | 01/23/23 1520 | 01/24/23 1856 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1718

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/20/2023 6:05 |
| Lab Sample ID: | D3A1718-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 6.99 | 2.78 | mg/L | 1 | | 01/23/23 1615 | 01/24/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 38.5 | 0.100 | NTU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.30 | 0.00200 | mg/L | 1 | | 01/23/23 1520 | 01/24/23 1901 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/20/2023 6:03 |
| Lab Sample ID: | D3A1718-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.99 | 2.78 | mg/L | 1 | | 01/23/23 1615 | 01/24/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 37.2 | 0.100 | NTU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.22 | 0.00200 | mg/L | 1 | | 01/23/23 1520 | 01/24/23 1914 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/20/2023 6:01 |
| Lab Sample ID: | D3A1718-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 6.99 | 2.78 | mg/L | 1 | | 01/23/23 1615 | 01/24/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 36.9 | 0.100 | NTU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.988 | 0.00200 | mg/L | 1 | | 01/23/23 1520 | 01/24/23 1918 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1718

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/20/2023 5:59 |
| Lab Sample ID: | D3A1718-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.88 | 2.78 | mg/L | 1 | | 01/23/23 1615 | 01/24/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 35.1 | 0.100 | NTU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.09 | 0.00200 | mg/L | 1 | | 01/23/23 1520 | 01/24/23 1923 | DLO |

Definitions

- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <<https://www.microbac.com/standard-terms-conditions>>.

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/26/2023 15:02

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



Chain of Custody



D 3 A 1 7 1 8

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-51

WWW.Microbac.com

nwsI - Northeast Water Solutions, inc.

Copy of Report To

Billing Information (for credit card only)

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRl
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsI.net
PHONE: 401-667-7463

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsI.net
TELEPHONE:
Fax:

| Sample Identification | Date Collected | Sample Type | | Time Collected | # of containers | TSS, Turbidity | Analysis | | | | Preservatives | | | |
|-----------------------|----------------|-------------|------|----------------|-----------------|----------------|----------|-----|------|-------|---------------|---|--|--|
| | | COMPOSITE | GRAB | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | | |
| GSF/ Backwash 2 min. | 1/20/13 | | X | 6:15 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 4 Min. | | | X | 6:13 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 6 Min. | | | X | 6:11 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 8 Min. | | | X | 6:09 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 10 min. | | | X | 6:07 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 12 Min. | | | X | 6:05 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 14 min. | | | X | 6:03 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 16 min. | | | X | 6:01 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 18 min. | | | X | 5:59 | 2 | X | | X | | | | X | | |
| GSF/ Backwash 20 Min. | | | X | | 2 | X | | X | | | | X | | |
| GSF/ Backwash 22 min. | | | X | | 2 | X | | X | | | | X | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash Check# Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED 36 °C AMBIENT

17 °C Upon Receipt at LAB

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: <i>[Signature]</i> | 1/20/13 | 10:13 |
| RECEIVED: <i>[Signature]</i> | 1/20/13 | 10:13 |
| RELINQUISHED: <i>[Signature]</i> | 1/20/13 | 13:00 |
| RECEIVED: <i>[Signature]</i> | 1/20/13 | 13:00 |
| RELINQUISHED: <i>[Signature]</i> | 1/20/13 | 15:00 |
| RECEIVED: <i>[Signature]</i> | 1/20/13 | 15:00 |

RESERVATIVE

VERIFIED

Initials *[Signature]*

RESERVATIVE
VERIFIED
Initials *[Signature]*



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1719

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/20/2023
Reported: 01/26/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1719-01, Customer, 01/20/2023 8:10.

Inorganics Total

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2540 D-1997 Total Suspended Solids (TSS) with result <3.13.

General Parameters

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM 2120 B-2001 Color - Apparent and Color - True.

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2130 B-2001 Turbidity with result <0.100.

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 4500-H+ B-2000 pH with result 7.30.

Metals Total by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for EPA 200.7, Rv. 4.4 (1994) Manganese and Iron.

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1719-02, Customer, 01/20/2023 8:10.

Metals Dissolved by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for EPA 200.7, Rv. 4.4 (1994) Manganese with result <0.00204.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1719

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/20/2023 8:15 |
| Lab Sample ID: | D3A1719-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/20/23 1717 | 01/24/23 1848 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/20/23 1932 | AMF |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/20/23 1932 | AMF |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.55 | | S.U. | 1 | H1 | | 01/20/23 1932 | AMF |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1902 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1902 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/20/2023 8:15 |
| Lab Sample ID: | D3A1719-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1906 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1719

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/20/2023 8:20 |
| Lab Sample ID: | D3A1719-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/20/23 1717 | 01/24/23 1848 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/20/23 1932 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/20/23 1932 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.63 | | S.U. | 1 | H1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1909 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1909 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/20/2023 8:20 |
| Lab Sample ID: | D3A1719-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1913 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/20/2023 8:22 |
| Lab Sample ID: | D3A1719-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/24/23 1600 | EMK |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1719

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/20/2023 8:05 |
| Lab Sample ID: | D3A1719-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 85.0 | 1.00 | mg CaCO3/L | 1 | | | 01/24/23 1600 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <6.25 | 6.25 | mg/L | 3 | L1,Y | 01/20/23 1717 | 01/24/23 1848 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/20/23 1932 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/20/23 1932 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/20/23 1932 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.69 | | S.U. | 1 | H1 | | 01/20/23 1932 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1924 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1924 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/20/2023 8:05 |
| Lab Sample ID: | D3A1719-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/23/23 1518 | 01/23/23 1927 | DLO |

Definitions

- CU:** Color Unit
- H1:** Sample was received past holding time.
- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1719

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/26/2023 15:03

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com

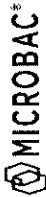
Page 5 of 6



D 3 A 1 7 1 9

Chain of Custody

NWSi - Northeast Water Solutions, Inc.



WWW.Microbac.com

80 Run Way Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Copy of Report To
 CUSTOMER: NWSI-Northeast Water Solutions
 ADDRESS: 567 S County TRL Exeter, RI 02822
 ATTENTION: Robert Ferrari
 E-MAIL: labreports@nwsinc.com

Billing Information (for credit card only)
 BILL TO: same
 ADDRESS:
 ATTENTION:
 TELEPHONE:
 PURCHASE ORDER #:

Project Information
 Project: Housatonic HWWC
 Project Location: Housatonic, MA
 Project Manager:
 EMAIL: smurphy@nwsinc.com
 TELEPHONE:
 Fax:

| Sample Identification | Date Collected | Sample Type | | Time Collected | # of containers | Sample Matrix | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | | |
|-----------------------|----------------|-------------|------|----------------|-----------------|---------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|--|
| | | COMPOSITE | GRAB | | | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| GSF1- Effluent | 1/20/03 | | X | 8:10 | 3 | dw | X | X | X | | X | X | | | | |
| GSF2- Effluent | | | X | 8:15 | 3 | dw | X | X | X | | X | X | | | | |
| GSF3 - Effluent | | | X | 8:20 | 3 | dw | X | X | X | | X | X | | | | |
| GSF-Effluent | | | X | 8:30 | 1 | dw | | | | X | | | | | | |
| GSF- Influent | | | X | 8:05 | 4 | dw | X | X | X | X | | | | | | |

PRESERVATIVE VERIFIED Initials SJK

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash Check# Auth#

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED 307 AMBIENT

1/20/03

| CUSTODY/TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|---------|-------|
| SAMPLER: [Signature] | 1/20/03 | 10:13 |
| RECEIVED: [Signature] | 1/20/03 | 10:13 |
| RELINQUISHED: [Signature] | 1/20/03 | 10:00 |
| RECEIVED: [Signature] | 1/20/03 | 10:00 |
| RELINQUISHED: [Signature] | 1/20/03 | 15:40 |
| RECEIVED: [Signature] | 1/20/03 | 15:40 |

VERIFIED

INITIALS



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1808

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/23/2023
Reported: 01/27/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1808-01, Customer, 01/21/2023 18:00.

Inorganics Total

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2540 D-1997 Total Suspended Solids (TSS) with result <2.78.

General Parameters

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM 2120 B-2001 (Color) and SM 2130 B-2001 (Turbidity).

Metals Total by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for EPA 200.7, Rv. 4.4 (1994) Manganese and Iron.

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1808-02, Customer, 01/21/2023 18:00.

Metals Dissolved by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for EPA 200.7, Rv. 4.4 (1994) Manganese.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1808

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/21/2023 18:05 |
| Lab Sample ID: | D3A1808-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/24/23 1620 | 01/25/23 1620 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|----|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | H1 | | 01/23/23 1945 | EMK |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.51 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1739 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1739 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/21/2023 18:05 |
| Lab Sample ID: | D3A1808-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1743 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1808

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/21/2023 18:10 |
| Lab Sample ID: | D3A1808-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/24/23 1620 | 01/25/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | H1 | | 01/23/23 1945 | EMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.54 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1746 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1746 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/21/2023 18:10 |
| Lab Sample ID: | D3A1808-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1750 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/21/2023 18:12 |
| Lab Sample ID: | D3A1808-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/24/23 2115 | EMK |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1808

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/21/2023 18:00 |
| Lab Sample ID: | D3A1808-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/24/23 2115 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.50 | 3.13 | mg/L | 1 | Y | 01/24/23 1620 | 01/25/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | 10 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | 9.25 | 0.100 | NTU | 1 | H1 | | 01/23/23 1945 | EMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.96 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1800 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1800 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/21/2023 18:00 |
| Lab Sample ID: | D3A1808-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1804 | DLO |

Definitions

- CU:** Color Unit
- H1:** Sample was received past holding time.
- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1808

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/27/2023 17:00

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com

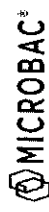


D 3 A 1 8 0 8

NWSI - Northeast Water Solutions, inc.

Chain of Custody

WWW.Microbac.com



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Copy of Report To
CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County Trl
 Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsil.net
PHONE: 401-667-7463

Billing Information (for credit card only)
BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsil.net
TELEPHONE:
Fax:

| Sample Identification | Date Collected | Sample Type | | # of containers | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | |
|-----------------------|----------------|-------------|------|-----------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|
| | | COMPOSITE | GRAB | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric |
| GSF1- Effluent | 1/21/23 | | X | 3 | X | X | X | | X | X | | | |
| GSF2- Effluent | | | X | 3 | X | X | X | | X | X | | | |
| GSF3 - Effluent | | | X | 3 | X | X | X | | X | X | | | |
| GSF-Effluent | | | | 1 | | | | X | | | | | |
| GSF- Influent | | | X | 4 | X | X | X | X | | | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTODY/TRANSFER (at drop off) | DATE | TIME |
|---------------------------------|-----------|-------|
| SAMPLER: <i>Ch. M</i> | 1/23/23 | 10:10 |
| RECEIVED: <i>CF Pomy...</i> | 1-23-23 | 10:10 |
| RELINQUISHED: <i>CF Pomy...</i> | 1-23-23 | 11:25 |
| RECEIVED: <i>...</i> | 1-20-2023 | 11:25 |
| RELINQUISHED: <i>...</i> | 1-20-2023 | 14:15 |
| RECEIVED: <i>...</i> | 1-20-23 | 19:05 |

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash Check# Auth#

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT °C Upon Receipt at LAB

PRESERVATIVE
VERIFIED
Initials RL

6.8
4.2°C



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1809

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/23/2023
Reported: 01/27/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, and Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1809-01, Customer, and 01/22/2023 18:05.

Inorganics Total

Table with 10 columns: SM 2540 D-1997, Total Suspended Solids (TSS), Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <2.78, 2.78, mg/L, 1, L1,Y, 01/24/23 1620, 01/25/23 1620, AJD.

General Parameters

Table with 10 columns: SM 2120 B-2001, Color - Apparent, Color - True, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <1, 1, CU, 1, Y1, 01/23/23 1945, EMK.

Table with 10 columns: SM 2130 B-2001, Turbidity, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <0.100, 0.100, NTU, 1, 01/23/23 1945, EMK.

Table with 10 columns: SM 4500-H+ B-2000, pH, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include 7.44, S.U., 1, H1, 01/23/23 1945, EMK.

Metals Total by ICP

Table with 10 columns: EPA 200.7, Rv. 4.4 (1994), Manganese, Iron, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <0.00204, 0.00204, mg/L, 1, 01/25/23 1525, 01/25/23 1815, DLO.

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, and Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1809-02, Customer, and 01/22/2023 18:05.

Metals Dissolved by ICP

Table with 10 columns: EPA 200.7, Rv. 4.4 (1994), Manganese, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <0.00204, 0.00204, mg/L, 1, 01/25/23 1525, 01/25/23 1822, DLO.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1809

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/22/2023 18:10 |
| Lab Sample ID: | D3A1809-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/24/23 1620 | 01/25/23 1620 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/23/23 1945 | EMK |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.49 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1825 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1825 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/22/2023 18:10 |
| Lab Sample ID: | D3A1809-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1829 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1809

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/22/2023 18:15 |
| Lab Sample ID: | D3A1809-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/24/23 1620 | 01/25/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/23/23 1945 | EMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.53 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1833 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1833 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|------------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/22/2023 18:15 |
| Lab Sample ID: | D3A1809-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1843 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/22/2023 18:17 |
| Lab Sample ID: | D3A1809-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/24/23 2115 | EMK |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1809

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/22/2023 18:00 |
| Lab Sample ID: | D3A1809-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 85.0 | 1.00 | mg CaCO3/L | 1 | | | 01/24/23 2115 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/24/23 1620 | 01/25/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/23/23 1945 | EMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.80 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1847 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1847 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|------------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/22/2023 18:00 |
| Lab Sample ID: | D3A1809-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1525 | 01/25/23 1850 | DLO |

Definitions

- CU:** Color Unit
- H1:** Sample was received past holding time.
- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1809

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/27/2023 17:01

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



D 3 A 1 8 0 9

Chain of Custody

nwsi - Northeast Water Solutions, inc.

www.Microbac.com



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County Trl
 Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsi.net

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsi.net
TELEPHONE:
Fax:

Billing Information (for credit card only)
BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

| Sample Identification | Date Collected | Sample Type | | # of containers | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | | |
|-----------------------|----------------|-------------|------|-----------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|--|
| | | COMPOSITE | GRAB | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| GSF1 - Effluent | 1/22/03 | | X | 3 | x | x | x | | X | X | | | | |
| GSF2 - Effluent | 18:10 | | X | 3 | x | x | x | | X | X | | | | |
| GSF3 - Effluent | 18:15 | | X | 3 | x | x | x | | X | X | | | | |
| GSF-Effluent | 18:17 | X | | 1 | | | | X | | | | | | |
| GSF - Influent | 18:00 | | X | 4 | X | X | X | X | X | | | | | |

CUSTOMY TRANSFER (at drop off)

SAMPLER: *Ch. 1/23*

RECEIVED: *C. P. Reynolds* 1/23/03 10:10

RELINQUISHED: *C. P. Reynolds* 1/23/03 11:25

RECEIVED: *Ray Collins* 1/23/03 11:25

RELINQUISHED: *Ray Collins* 1/23/03 11:45

RECEIVED: *Ray Collins* 1/23/03 11:45

TURNAROUND (INDICATE IN CALENDAR DAYS): _____ HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth# _____

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)
 COOLED AMBIENT 6-8 °C Upon Receipt at LAB

6-8
4.2K

PRESERVATIVE
VERIFIED
Initials R



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1810

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/23/2023
Reported: 01/30/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, and Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1810-01, Customer, and 01/23/2023 9:05.

Inorganics Total

Table with 10 columns: SM 2540 D-1997, Total Suspended Solids (TSS), Result (<2.78), RL (2.78), Units (mg/L), DF (1), Note (L1,Y), Prepared (01/24/23 1620), Analyzed (01/25/23 1620), Analyst (AJD).

General Parameters

Table with 10 columns: SM 2120 B-2001, Color - Apparent, Color - True, Result (<1, 0), RL (1), Units (CU), DF (1), Note (Y1), Prepared, Analyzed (01/23/23 1945), Analyst (EMK).

Table with 10 columns: SM 2130 B-2001, Turbidity, Result (<0.100), RL (0.100), Units (NTU), DF (1), Note, Prepared, Analyzed (01/23/23 1945), Analyst (EMK).

Table with 10 columns: SM 4500-H+ B-2000, pH, Result (7.54), RL, Units (S.U.), DF (1), Note (H1), Prepared, Analyzed (01/23/23 1945), Analyst (EMK).

Metals Total by ICP

Table with 10 columns: EPA 200.7, Rv. 4.4 (1994), Manganese, Iron, Result (<0.00204, <0.0500), RL (0.00204, 0.0500), Units (mg/L), DF (1), Note, Prepared (01/25/23 1509), Analyzed (01/25/23 1610), Analyst (DLO).

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, and Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1810-02, Customer, and 01/23/2023 9:05.

Metals Dissolved by ICP

Table with 10 columns: EPA 200.7, Rv. 4.4 (1994), Manganese, Result (<0.00204), RL (0.00204), Units (mg/L), DF (1), Note, Prepared (01/25/23 1509), Analyzed (01/25/23 1614), Analyst (DLO).



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1810

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:10 |
| Lab Sample ID: | D3A1810-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/24/23 1620 | 01/25/23 1620 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/23/23 1945 | EMK |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.56 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1617 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1617 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:10 |
| Lab Sample ID: | D3A1810-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1621 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1810

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:15 |
| Lab Sample ID: | D3A1810-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <6.25 | 6.25 | mg/L | 3 | L1,Y | 01/24/23 1620 | 01/25/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/23/23 1945 | EMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.58 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1632 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1632 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:15 |
| Lab Sample ID: | D3A1810-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1635 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:17 |
| Lab Sample ID: | D3A1810-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 82.5 | 1.00 | mg CaCO3/L | 1 | | | 01/24/23 2115 | EMK |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1810

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:00 |
| Lab Sample ID: | D3A1810-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/24/23 2115 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.50 | 2.50 | mg/L | 1 | L1,Y | 01/24/23 1620 | 01/25/23 1620 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/23/23 1945 | EMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/23/23 1945 | EMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.59 | | S.U. | 1 | H1 | | 01/23/23 1945 | EMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1639 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1639 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:00 |
| Lab Sample ID: | D3A1810-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1642 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | HWWC - Raw | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:20 |
| Lab Sample ID: | D3A1810-10 | | |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|---------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.00936 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/27/23 1406 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1540 | 01/27/23 1406 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1810

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | HWWC - Raw | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:20 |
| Lab Sample ID: | D3A1810-11 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|---------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.00379 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/27/23 1411 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS #1 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:23 |
| Lab Sample ID: | D3A1810-12 | | |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1653 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1653 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS #1 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:23 |
| Lab Sample ID: | D3A1810-13 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/25/23 1509 | 01/25/23 1657 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS #2 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:25 |
| Lab Sample ID: | D3A1810-14 | | |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00200 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/27/23 1415 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1540 | 01/27/23 1415 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS #2 - Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/23/2023 9:25 |
| Lab Sample ID: | D3A1810-15 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00200 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/27/23 1419 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1810

Definitions

- CU: Color Unit
H1: Sample was received past holding time.
L1: Elevated reporting limit due to insufficient sample.
MCL: US EPA Maximum Contaminant Level
mg CaCO3/L: Milligrams Calcium Carbonate per Liter
mg/L: Milligrams per Liter
NTU: Nephelometric Turbidity Units
RL: Reporting Limit
S.U.: Standard Units
SMCL: US EPA Secondary Maximum Contaminant Level
Y: This analyte is not on the laboratory's current scope of accreditation.
Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at https://www.microbac.com/standard-terms-conditions>.

Reviewed and Approved By:

M. Montgomery (handwritten signature)

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/30/2023 15:14



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Chain of Custody

WWW.Microbac.com



D 3 A 1 8 1 0

NWSi - Northeast Water Solutions, Inc.

Copy of Report To
Customer: NWSI-Northeast Water Solutions
Address: 567 S County Trl
 Exeter, RI 02822
Attention: Robert Ferrari
E-Mail: labreports@nwsj.net
Phone: 401-667-7463

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
Email: smurphy@nwsj.net
Telephone:
Fax:

Billing Information (for credit card only)
Bill To: same
Address:
Attention:
Telephone:
Purchase Order #:

| Sample Identification | Date Collected | Sample Type | | Time Collected | # of containers | Sample Matrix | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | | |
|-----------------------|----------------|-------------|------|----------------|-----------------|---------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|--|
| | | COMPOSITE | GRAB | | | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| GSF1 - Effluent | 1/23/03 | | X | 9:05 | 3 | dw | x | x | x | | x | | | | | |
| GSF2 - Effluent | | | X | 9:10 | 3 | dw | x | x | x | | x | | | | | |
| GSF3 - Effluent | | | X | 9:15 | 3 | dw | x | x | x | | x | | | | | |
| GSF - Effluent | | | | 9:17 | 1 | dw | | | | x | | | | | | |
| GSF - Influent | | | X | 9:00 | 4 | dw | x | x | x | x | | | | | | |
| Hwwc Raw | | | X | 9:00 | 2 | dw | x | x | x | | | | | | | |
| SS #1 - effluent | | | X | 9:03 | 2 | dw | x | x | x | | | | | | | |
| SS #2 - effluent | | | X | 9:05 | 2 | dw | x | x | x | | | | | | | |

CUSTOMER TRANSFER (at drop off)

SAMPLER: [Signature]
RECEIVED: [Signature] 1/23/03 10:10
RELINQUISHED: [Signature] 1/23/03 11:25
RECEIVED: [Signature] 1/23/03 11:25
RELINQUISHED: [Signature] 1/23/03 11:45
RECEIVED: [Signature] 1/23/03 11:45

TURNAROUND (INDICATE IN CALENDAR DAYS): _____

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:
 Cash _____ Check# _____ Auth# _____
 Please do not list credit card number on paperwork
 CONDITIONS UPON RECEIPT: (CHECK ONE)
 COOLED AMBIENT Upon Receipt at LAB

4.2 K

PRESERVATIVE VERIFIED Initials [Signature]



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2158

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/25/2023
Reported: 01/31/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1 Backwash 2 Min., Aqueous, D3A2158-01, Customer, 01/24/2023 21:15.

Inorganics Total

Table with 10 columns: SM 2540 D-2015, Total Suspended Solids (TSS), Result (17.2), RL (5.00), Units (mg/L), DF (2), Note, Prepared (01/26/23 1800), Analyzed (01/27/23 1805), Analyst (AJD).

General Parameters

Table with 10 columns: SM 2130 B-2011, Turbidity, Result (50.4), RL (0.100), Units (NTU), DF (1), Note (Y1), Prepared, Analyzed (01/25/23 2010), Analyst (AMF).

Metals Total by ICP

Table with 10 columns: EPA 200.7, Rv. 4.4 (1994), Manganese, Result (0.786), RL (0.00200), Units (mg/L), DF (1), Note, Prepared (01/27/23 1530), Analyzed (01/30/23 1523), Analyst (DLO).

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1 Backwash 4 Min., Aqueous, D3A2158-02, Customer, 01/24/2023 21:17.

Inorganics Total

Table with 10 columns: SM 2540 D-2015, Total Suspended Solids (TSS), Result (20.6), RL (5.00), Units (mg/L), DF (2), Note, Prepared (01/26/23 1800), Analyzed (01/27/23 1805), Analyst (AJD).

General Parameters

Table with 10 columns: SM 2130 B-2011, Turbidity, Result (53.7), RL (0.100), Units (NTU), DF (1), Note (Y1), Prepared, Analyzed (01/25/23 2010), Analyst (AMF).

Metals Total by ICP

Table with 10 columns: EPA 200.7, Rv. 4.4 (1994), Manganese, Result (0.679), RL (0.00200), Units (mg/L), DF (1), Note, Prepared (01/27/23 1530), Analyzed (01/30/23 1527), Analyst (DLO).



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2158

| | | | |
|--------------------------|----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:19 |
| Lab Sample ID: | D3A2158-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 9.80 | 5.00 | mg/L | 2 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 43.9 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.27 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1531 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:21 |
| Lab Sample ID: | D3A2158-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 12.0 | 5.00 | mg/L | 2 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 42.5 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.735 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1542 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:23 |
| Lab Sample ID: | D3A2158-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.66 | 2.78 | mg/L | 1 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 39.0 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.51 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1546 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2158

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:25 |
| Lab Sample ID: | D3A2158-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.00 | 2.78 | mg/L | 1 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 36.5 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.24 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1550 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:27 |
| Lab Sample ID: | D3A2158-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.55 | 2.78 | mg/L | 1 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 32.6 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.882 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1553 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:29 |
| Lab Sample ID: | D3A2158-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.77 | 2.78 | mg/L | 1 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 36.5 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.719 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1609 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2158

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:31 |
| Lab Sample ID: | D3A2158-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.44 | 2.78 | mg/L | 1 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 34.5 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.16 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1613 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 20 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:33 |
| Lab Sample ID: | D3A2158-10 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.44 | 2.78 | mg/L | 1 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 31.9 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.738 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1616 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF1 Backwash 22 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 21:35 |
| Lab Sample ID: | D3A2158-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.77 | 2.78 | mg/L | 1 | | 01/26/23 1800 | 01/27/23 1805 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 31.3 | 0.100 | NTU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.875 | 0.00200 | mg/L | 1 | | 01/27/23 1530 | 01/30/23 1628 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2158

Definitions

MCL: US EPA Maximum Contaminant Level
mg/L: Milligrams per Liter
NTU: Nephelometric Turbidity Units
RL: Reporting Limit
Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

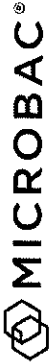
*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/31/2023 16:18

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



Chain of Custody

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50

WWW.Microbac.com

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nws.net
PHONE: 401-667-7463

Billing Information (for credit card only)

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project Information

Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nws.net
TELEPHONE:
Fax:



D 3 A 2 1 5 8

NWSI - Northeast Water Solutions, inc.

| Sample Identification | Date Collected | Sample Type | | # of containers | TSS, Turbidity | Analysis | | | | Preservatives | | | |
|-----------------------|----------------|-------------|------|-----------------|----------------|----------|-----|------|-------|---------------|---|---|---|
| | | COMPOSITE | GRAB | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | | |
| GSF1 Backwash 2 min. | 1/24/23 | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 4 Min | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 6 Min. | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 8 Min | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 10 min | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 12 Min | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 14 min | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 16 min | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 18 min | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 20 Min | | X | X | 2 | X | X | X | X | X | X | X | X | X |
| GSF1 Backwash 22 min | | X | X | 2 | X | X | X | X | X | X | X | X | X |

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: <i>[Signature]</i> | 1/25/23 | 10:15 |
| RECEIVED: <i>[Signature]</i> | 1/25/23 | 10:15 |
| RELINQUISHED: <i>[Signature]</i> | 1/25/23 | 14:55 |
| RECEIVED: <i>[Signature]</i> | 1/25/23 | 17:20 |
| RELINQUISHED: <i>[Signature]</i> | 1/25/23 | 17:20 |
| RECEIVED: <i>[Signature]</i> | 1/25/23 | 17:20 |

Cash
Please do not list credit card number on paperwork
CONDITIONS UPON RECEIPT: (CHECK ONE)
 AMBIENT COOLED Cooled Upon Receipt at LAB

2.5 °C
NWSI

RESERVATIVE
VERIFIED
NWSI



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1957

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/24/2023
Reported: 01/31/2023

Analytical Testing Parameters

Table with client sample details: Client Sample ID: GSF2 Backwash 2 Min., Sample Matrix: Aqueous, Lab Sample ID: D3A1957-01, Collected By: Customer, Collection Date: 01/24/2023 10:20

Main analytical results table for sample D3A1957-01, including Inorganics Total (TSS: 11.6), General Parameters (Turbidity: 49.2), and Metals Total by ICP (Manganese: 0.863).

Table with client sample details for second sample: Client Sample ID: GSF2 Backwash 4 Min., Sample Matrix: Aqueous, Lab Sample ID: D3A1957-02, Collected By: Customer, Collection Date: 01/24/2023 10:22

Main analytical results table for sample D3A1957-02, including Inorganics Total (TSS: 6.60), General Parameters (Turbidity: 45.1), and Metals Total by ICP (Manganese: 1.04).



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1957

| | | | |
|--------------------------|----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:24 |
| Lab Sample ID: | D3A1957-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.00 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 39.4 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.886 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1327 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:26 |
| Lab Sample ID: | D3A1957-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.44 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 35.2 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.810 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1338 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:28 |
| Lab Sample ID: | D3A1957-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.77 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 32.6 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.859 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1343 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1957

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:30 |
| Lab Sample ID: | D3A1957-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.00 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 31.2 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.766 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1346 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:32 |
| Lab Sample ID: | D3A1957-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.11 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 29.0 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.737 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1351 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:34 |
| Lab Sample ID: | D3A1957-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.33 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 27.8 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.742 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1355 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1957

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:36 |
| Lab Sample ID: | D3A1957-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1 | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 27.0 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.742 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1359 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 20 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:38 |
| Lab Sample ID: | D3A1957-10 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.22 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.8 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.679 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1412 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|------------------|
| Client Sample ID: | GSF2 Backwash 22 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 10:40 |
| Lab Sample ID: | D3A1957-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.44 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.3 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.649 | 0.00200 | mg/L | 1 | | 01/26/23 1540 | 01/30/23 1416 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1957

Definitions

- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- R3:** Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
- RL:** Reporting Limit
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

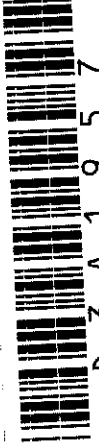
*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <<https://www.microbac.com/standard-terms-conditions>>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/31/2023 14:21



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50



D 3 A 1 9 5 7

NWSI - Northeast Water Solutions, inc.

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsil.net
PHONE: 401-667-7463

Project Information

Project: **Housatonic HWWC**
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsil.net
TELEPHONE:
Fax:

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

| Sample Identification | Date Collected | Sample Type | | # of containers | TSS, Turbidity | Analysis | Preservatives | | | | | |
|-----------------------|----------------|-------------|------|-----------------|----------------|----------|---------------|-----|------|-------|----------|--|
| | | COMPOSITE | GRAB | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| GSF Backwash 2 min. | 10/20/03 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 4 Min. | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 6 Min. | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 8 Min. | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 10 min | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 12 Min | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 14 min | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 16 min | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 18 min | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 20 Min | 10/20 | X | aq | 2 | X | | X | X | X | X | | |
| GSF Backwash 22 min | 10/20 | X | aq | 2 | X | | X | X | X | X | | |

PRESERVATIVE VERIFIED

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|----------|-------|
| SAMPLER: J. W. ... | 10/21/03 | 11:15 |
| RECEIVED: C. Penwoods | 10/21/03 | 11:15 |
| RELINQUISHED: C. Penwoods | 10/21/03 | 13:51 |
| RECEIVED: W. ... | 10/21/03 | 13:51 |
| RELINQUISHED: W. ... | 10/21/03 | 17:27 |
| RECEIVED: W. ... | 10/21/03 | 17:27 |

TURNAROUND (INDICATE IN CALENDAR DAYS):
HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE
COMMENTS:
Cash _____ Check# _____ Auth#:
Please do not list credit card number on paperwork
CONDITIONS UPON RECEIPT: (CHECK ONE)
 COOLED AMBIENT 3.0 °C Upon Receipt at LAB

2.30



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1962

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/24/2023
Reported: 01/30/2023

Analytical Testing Parameters

Table with sample details: Client Sample ID: GSF3 Backwash 2 Min., Sample Matrix: Aqueous, Lab Sample ID: D3A1962-01, Collected By: Customer, Collection Date: 01/24/2023 6:40

Inorganics Total

Table row for SM 2540 D-2015: Total Suspended Solids (TSS) with Result 23.4, RL 5.00, Units mg/L, DF 2, Note, Prepared 01/25/23 1620, Analyzed 01/26/23 1715, Analyst AJD

General Parameters

Table row for SM 2130 B-2011: Turbidity with Result 53.7, RL 0.100, Units NTU, DF 1, Note Y1, Prepared, Analyzed 01/24/23 2010, Analyst MMK

Metals Total by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with Result 1.86, RL 0.00200, Units mg/L, DF 1, Note, Prepared 01/25/23 1535, Analyzed 01/26/23 2304, Analyst DLO

Table with sample details: Client Sample ID: GSF3 Backwash 4 Min., Sample Matrix: Aqueous, Lab Sample ID: D3A1962-02, Collected By: Customer, Collection Date: 01/24/2023 6:42

Inorganics Total

Table row for SM 2540 D-2015: Total Suspended Solids (TSS) with Result 7.80, RL 5.00, Units mg/L, DF 2, Note, Prepared 01/25/23 1620, Analyzed 01/26/23 1715, Analyst AJD

General Parameters

Table row for SM 2130 B-2011: Turbidity with Result 43.8, RL 0.100, Units NTU, DF 1, Note Y1, Prepared, Analyzed 01/24/23 2010, Analyst MMK

Metals Total by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with Result 1.56, RL 0.00200, Units mg/L, DF 1, Note, Prepared 01/25/23 1535, Analyzed 01/26/23 2308, Analyst DLO



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1962

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 6:44 |
| Lab Sample ID: | D3A1962-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.11 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 36.7 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.40 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/26/23 2312 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 6:46 |
| Lab Sample ID: | D3A1962-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.88 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 32.4 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.26 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/26/23 2317 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 6:48 |
| Lab Sample ID: | D3A1962-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.00 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 32.1 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.20 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/26/23 2321 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1962

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 6:50 |
| Lab Sample ID: | D3A1962-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|---------------|-----------|--------------|-----------|-------------|-----------------|-----------------|----------------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.33 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 28.3 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.21 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/26/23 2333 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 6:52 |
| Lab Sample ID: | D3A1962-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|---------------|-----------|--------------|-----------|-------------|-----------------|-----------------|----------------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.00 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 27.1 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.17 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/26/23 2337 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 6:54 |
| Lab Sample ID: | D3A1962-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|---------------|-----------|--------------|-----------|-------------|-----------------|-----------------|----------------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.55 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.8 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.12 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/26/23 2341 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1962

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 6:56 |
| Lab Sample ID: | D3A1962-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.55 | 2.78 | mg/L | 1 | | 01/25/23 1620 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.5 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.07 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/26/23 2346 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 20 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 6:58 |
| Lab Sample ID: | D3A1962-10 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.11 | 2.78 | mg/L | 1 | | 01/25/23 1520 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.4 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.08 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/26/23 2359 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 22 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/24/2023 7:00 |
| Lab Sample ID: | D3A1962-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.22 | 2.78 | mg/L | 1 | | 01/25/23 1520 | 01/26/23 1715 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 24.9 | 0.100 | NTU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.05 | 0.00200 | mg/L | 1 | | 01/25/23 1535 | 01/27/23 0003 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1962

Definitions

MCL: US EPA Maximum Contaminant Level
mg/L: Milligrams per Liter
NTU: Nephelometric Turbidity Units
RL: Reporting Limit
Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/30/2023 16:12

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com

6mo



D 3 A 1 9 6 2



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50

nwSi - Northeast Water Solutions, inc.

Lab WO#: _____
Project Manager: _____

Copy of Report To Billing Information (for credit card only)

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County Trl
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsj.net
PHONE: 401-667-7463

BILL TO: same
ADDRESS: _____
ATTENTION: _____
TELEPHONE: _____
PURCHASE ORDER #: _____

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager: _____
EMAIL: smurphy@nwsj.net
TELEPHONE: _____
Fax: _____

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | Total Mn | TSS | Turbidity | Analysis | | | | Preservatives | | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|----------|-----|-----------|----------|-----|------|-------|---------------|---|---|---|
| | | | COMPOSITE | GRAB | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | | |
| GSF3 Backwash 2 min. | 1/21/23 | 6:40 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 4 Min. | | 6:47 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 6 Min. | | 6:44 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 8 Min. | | 6:46 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 10 min | | 6:48 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 12 Min | | 6:50 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 14 min | | 6:50 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 16 min | | 6:54 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 18 min | | 6:56 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 20 Min | | 6:58 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |
| GSF3 Backwash 22 min | | 7:00 | X | X | 2 | X | X | X | X | X | X | X | X | X | X | X |

PRESERVATIVE VERIFIED Initials WLF

TURNAROUND (INDICATE IN CALENDAR DAYS): _____

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: <i>[Signature]</i> | 1/21/23 | 11:15 |
| RECEIVED: <i>[Signature]</i> | 1/24/23 | 11:15 |
| RELINQUISHED: <i>[Signature]</i> | 1/24/23 | 12:51 |
| RECEIVED: <i>[Signature]</i> | 1/24/23 | 13:51 |
| RELINQUISHED: <i>[Signature]</i> | 1-24-23 | 17:21 |
| RECEIVED: <i>[Signature]</i> | 1-24-23 | 17:21 |

COMMENTS:

Cash _____ Check# _____ Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT 3.0 °C Upon Receipt at LAB

2.3°C



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0344

Revised Report:
Amended - See Case
Narrative.

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/24/2023
Reported: 01/27/2023

Case Narrative

Revision 1 - 1/27/2023: Revised due to incorrect subcontract data (L3A0334) mistakenly entered for the original report. This revision corrects that error.

Analytical Testing Parameters

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | L3A0344-01 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.83 | 1 | S.U. | 1 | | 01/24/23 0910 | 01/26/23 0000 | SUB |
| UV 254 | 0.027 | 0.001 | abs/cm | 1 | | 01/24/23 0910 | 01/25/23 0000 | SUB |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF-Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | L3A0344-02 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.73 | 1 | S.U. | 1 | | 01/24/23 0910 | 01/26/23 0000 | SUB |
| UV 254 | 0.029 | 0.001 | abs/cm | 1 | | 01/24/23 0910 | 01/25/23 0000 | SUB |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | HWWC-Raw | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:00 |
| Lab Sample ID: | L3A0344-03 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 8.02 | 1 | S.U. | 1 | | 01/24/23 0900 | 01/26/23 0000 | SUB |
| UV 254 | 0.057 | 0.001 | abs/cm | 1 | | 01/24/23 0900 | 01/25/23 0000 | SUB |



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0344

| | | | |
|--------------------------|------------------|-------------------------|-----------------|
| Client Sample ID: | SS Filter 1-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:05 |
| Lab Sample ID: | L3A0344-04 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.8 | 1 | S.U. | 1 | | 01/24/23 0905 | 01/26/23 0000 | SUB |
| UV 254 | 0.042 | 0.001 | abs/cm | 1 | | 01/24/23 0905 | 01/25/23 0000 | SUB |

| | | | |
|--------------------------|------------------|-------------------------|-----------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | L3A0344-05 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.89 | 1 | S.U. | 1 | | 01/24/23 0910 | 01/26/23 0000 | SUB |
| UV 254 | 0.04 | 0.001 | abs/cm | 1 | | 01/24/23 0910 | 01/25/23 0000 | SUB |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:15 |
| Lab Sample ID: | L3A0344-06 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.84 | 1 | S.U. | 1 | | 01/24/23 0915 | 01/26/23 0000 | SUB |
| UV 254 | 0.029 | 0.001 | abs/cm | 1 | | 01/24/23 0915 | 01/25/23 0000 | SUB |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:15 |
| Lab Sample ID: | L3A0344-07 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.92 | 1 | S.U. | 1 | | 01/24/23 0915 | 01/26/23 0000 | SUB |
| UV 254 | 0.031 | 0.001 | abs/cm | 1 | | 01/24/23 0915 | 01/25/23 0000 | SUB |

Definitions

- abs/cm:** Absorbance per Centimeter
- MCL:** US EPA Maximum Contaminant Level
- RL:** Reporting Limit
- S.U.:** Standard Units



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0344

Project Requested Certification(s)

Phoenix Environmental Laboratories, Inc

PH-0618

M-CT007

63

Connecticut Department of Public Health

Massachusetts Department of Environmental Protection

Rhode Island Department of Health

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Christine F. Reynolds

Service Center Manager

Reported: 01/27/2023 09:24

Microbac Laboratories, Inc.

80 Run Way | Lee, MA 01238 | 413-776-5025 p | www.microbac.com



Chain of Custody



L 3 A 0 3 4 4

NWSI - Northeast Water Solutions, Inc.

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50

WWW.Microbac.com

Copy of Report To
CUSTOMER: Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsj.net
PHONE: 401-667-7463

Billing Information (for credit card only)
BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsj.net
TELEPHONE:
Fax:

Table with columns: Sample Identification, Date Collected, Time Collected, Sample Type (COMPOSITE, GRAB), Sample Matrix, # of containers, UV254, Analysis, Preservatives (Non-pres, HCL, HNO3, NH4Cl, Sulfuric). Rows include GSF1-Effluent, GSF-Influent, HWWC-Raw, SS Filter 1-Eff., SS Filter 2-Eff., GSF2-Effluent, GSF3-Effluent, and TRIP BLANK.

CUSTODY TRANSFER (at drop off) table with columns: SAMPLER, RECEIVED, RELINQUISHED, DATE, TIME. Includes handwritten signatures and dates.

TURNAROUND (INDICATE IN CALENDAR DAYS):
HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE
COMMENTS:
Cash Check# Auth#:
Please do not list credit card numbr on paperwork
CONDITIONS UPON RECEIPT: (CHECK ONE)
[] COOLED [] AMBIENT [x] °C Upon Receipt at LAP



Thursday, January 26, 2023

Attn:Shelby Jendrewski
Microbac Laboratories, Inc
80 Run Way
Lee, MA 01238

Project ID: L3A0344
SDG ID: GCN29441
Sample ID#s: CN29441 - CN29447

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

January 26, 2023

SDG I.D.: GCN29441

Project ID: L3A0344

| Client Id | Lab Id | Matrix |
|------------|---------|----------------|
| L3A0344-01 | CN29441 | DRINKING WATER |
| L3A0344-02 | CN29442 | DRINKING WATER |
| L3A0344-03 | CN29443 | DRINKING WATER |
| L3A0344-04 | CN29444 | DRINKING WATER |
| L3A0344-05 | CN29445 | DRINKING WATER |
| L3A0344-06 | CN29446 | DRINKING WATER |
| L3A0344-07 | CN29447 | DRINKING WATER |



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 26, 2023

FOR: Attn:Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/24/23
 01/25/23

Time

9:10
 10:30

Laboratory Data

SDG ID: GCN29441
 Phoenix ID: CN29441

Project ID: L3A0344
 Client ID: L3A0344-01

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|-------|---------------|
| pH | 7.83 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/26/23 02:24 | MW/EG | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.027 | 0.001 | 1 | /cm | | | | 01/25/23 17:16 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 26, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 26, 2023

FOR: Attn:Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/24/23
 01/25/23

Time

9:10
 10:30

Laboratory Data

SDG ID: GCN29441
 Phoenix ID: CN29442

Project ID: L3A0344
 Client ID: L3A0344-02

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|-------|---------------|
| pH | 7.73 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/26/23 02:26 | MW/EG | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.029 | 0.001 | 1 | /cm | | | | 01/25/23 17:19 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 26, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 26, 2023

FOR: Attn:Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/24/23
 01/25/23

Time

9:00
 10:30

Laboratory Data

SDG ID: GCN29441
 Phoenix ID: CN29443

Project ID: L3A0344
 Client ID: L3A0344-03

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|-------|---------------|
| pH | 8.02 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/26/23 02:28 | MW/EG | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.057 | 0.001 | 1 | /cm | | | | 01/25/23 17:21 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 26, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 26, 2023

FOR: Attn:Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/24/23
 01/25/23

Time

9:05
 10:30

Laboratory Data

SDG ID: GCN29441
 Phoenix ID: CN29444

Project ID: L3A0344
 Client ID: L3A0344-04

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|-------|---------------|
| pH | 7.80 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/26/23 02:30 | MW/EG | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.042 | 0.001 | 1 | /cm | | | | 01/25/23 17:24 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 26, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 26, 2023

FOR: Attn:Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/24/23
 01/25/23

Time

9:10
 10:30

Laboratory Data

SDG ID: GCN29441
 Phoenix ID: CN29445

Project ID: L3A0344
 Client ID: L3A0344-05

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|-------|---------------|
| pH | 7.89 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/26/23 02:33 | MW/EG | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.040 | 0.001 | 1 | /cm | | | | 01/25/23 17:28 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 26, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 26, 2023

FOR: Attn:Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/24/23
 01/25/23

Time

9:15
 10:30

Laboratory Data

SDG ID: GCN29441
 Phoenix ID: CN29446

Project ID: L3A0344
 Client ID: L3A0344-06

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|-------|---------------|
| pH | 7.84 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/26/23 02:38 | MW/EG | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.029 | 0.001 | 1 | /cm | | | | 01/25/23 17:31 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 26, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 26, 2023

FOR: Attn:Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SW
 Analyzed by: see "By" below

Date

01/24/23
 01/25/23

Time

9:15
 10:30

Laboratory Data

SDG ID: GCN29441
 Phoenix ID: CN29447

Project ID: L3A0344
 Client ID: L3A0344-07

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|-------|---------------|
| pH | 7.92 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/26/23 02:40 | MW/EG | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.031 | 0.001 | 1 | /cm | | | | 01/25/23 17:33 | MW | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 26, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 26, 2023


QA/QC Data

SDG I.D.: GCN29441

| Parameter | Blank | Blk RL | Sample Result | Dup Result | Dup RPD | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|-------|-----------|------------------|---------------|------------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| QA/QC Batch 661618 (pH), QC Sample No: CN29884 (CN29441, CN29442, CN29443, CN29444, CN29445, CN29446, CN29447) | | | | | | | | | | | | | |
| pH | | | 7.66 | 7.61 | 0.70 | 99.1 | | | | | | 85 - 115 | 20 |
| Comment: | | | | | | | | | | | | | |
| Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 661497 (/cm), QC Sample No: CN29441 (CN29441, CN29442, CN29443, CN29444, CN29445, CN29446, CN29447) | | | | | | | | | | | | | |
| UV-254 (Absorbance) | BRL | 0 | 0.027 | 0.028 | 3.60 | 102 | | | | | | | |

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference


 Phyllis Shiller, Laboratory Director
 January 26, 2023

Thursday, January 26, 2023

Criteria: MA: DW

State: MA

Sample Criteria Exceedances Report

GCN29441 - MICROBAC-MA

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

January 26, 2023

SDG I.D.: GCN29441

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.



**SUBCONTRACTED CHAIN OF CUSTODY
L3A0344**

*1.20wc
ln*

SENDING LABORATORY:

Microbac Laboratories, Inc., Lee
80 Run Way
Lee, MA 01238
Phone: 413-776-5025
Lab Manager: Shelby Jendrewski
Email: Shelby.Jendrewski@microbac.com

RECEIVING LABORATORY:

Phoenix Environmental Laboratories, Inc
587 E Middle TPKE PO BOX 370
Manchester, CT 06040
Phone: (860) 645-1102

Project Info:

PWSID: Project Type: ENV-DrinkingWater Report TAT: *Std TAT*
Project Location: Massachusetts Due: ~~01/24/2023 15:00~~

Project Requested Certifications

Massachusetts Department of Environmental Protection

Sample ID: L3A0344-01 * **Sampled: 01/24/2023 09:10** Sampler: Sean Murphy
Matrix: Drinking Water Description: GSF1-Effluent *29441*
 Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|-------------------------------|
| pH for UV | SM5910 B-2000 | 01/24/2023 10:00 | 01/24/2023 09:24 |
| UV254 SM5910-B | SM5910 B-2000 | 01/24/2023 10:00 | 01/26/2023 09:10 <i>29442</i> |

Sample ID: L3A0344-02 X **Sampled: 01/24/2023 09:10** Sampler: Sean Murphy
Matrix: Drinking Water Description: GSF-Influent
 Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|-------------------------------|
| pH for UV | SM5910 B-2000 | 01/24/2023 10:00 | 01/24/2023 09:24 <i>29443</i> |
| UV254 SM5910-B | SM5910 B-2000 | 01/24/2023 10:00 | 01/26/2023 09:10 |

Sample ID: L3A0344-03 X **Sampled: 01/24/2023 09:00** Sampler: Sean Murphy
Matrix: Drinking Water Description: HWWC-Raw
 Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|-------------------------------|
| pH for UV | SM5910 B-2000 | 01/24/2023 10:00 | 01/24/2023 09:14 <i>29444</i> |
| UV254 SM5910-B | SM5910 B-2000 | 01/24/2023 10:00 | 01/26/2023 09:00 |

Sample ID: L3A0344-04 X **Sampled: 01/24/2023 09:05** Sampler: Sean Murphy
Matrix: Drinking Water Description: SS Filter 1-Eff.
 Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|-------------------------------|
| pH for UV | SM5910 B-2000 | 01/24/2023 10:00 | 01/24/2023 09:19 <i>29445</i> |
| UV254 SM5910-B | SM5910 B-2000 | 01/24/2023 10:00 | 01/26/2023 09:05 <i>(52)</i> |



SUBCONTRACTED CHAIN OF CUSTODY
L3A0344

1.2 ^{oac}
IP

Project Requested Certifications

Massachusetts Department of Environmental Protection

Sample ID: L3A0344-05 X

Sampled: 01/24/2023 09:10

Sampler: Sean Murphy

Matrix: Drinking Water

Description: SS Filter 2-Eff.

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|-----------------------------------|
| pH for UV | SM5910 B-2000 | 01/24/2023 10:00 | 01/24/2023 09:24 ²⁹⁴⁴⁶ |
| UV254 SM5910-B | SM5910 B-2000 | 01/24/2023 10:00 | 01/26/2023 09:10 ²⁹⁴⁴⁵ |

Sample ID: L3A0344-06 X

Sampled: 01/24/2023 09:15

Sampler: Sean Murphy

Matrix: Drinking Water

Description: GSF2-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|-----------------------------------|
| pH for UV | SM5910 B-2000 | 01/24/2023 10:00 | 01/24/2023 09:29 ²⁹⁴⁴⁷ |
| UV254 SM5910-B | SM5910 B-2000 | 01/24/2023 10:00 | 01/26/2023 09:15 ²⁹⁴⁴⁶ |

* Sample ID: L3A0344-07

Sampled: 01/24/2023 09:15

Sampler: Sean Murphy

Matrix: Drinking Water

Description: GSF3-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|-----------------------------------|
| pH for UV | SM5910 B-2000 | 01/24/2023 10:00 | 01/24/2023 09:29 ²⁹⁴⁴⁸ |
| UV254 SM5910-B | SM5910 B-2000 | 01/24/2023 10:00 | 01/26/2023 09:15 ²⁹⁴⁴⁷ |

* * 1 VOA received Broken (mp)

x 2 Amber VOA vials (Lomi) (mp)

C Reynolds
Released By

1/24/23
Date

Fedex
Date

Received By

1-25-23 10:30
Date

Released By

Date

Received By

Date



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1968

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/24/2023
Reported: 01/30/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, and Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1968-01, Customer, and 01/24/2023 9:23.

Inorganics Total

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2540 D-1997 Total Suspended Solids (TSS) with result <3.13.

General Parameters

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM 2120 B-2001 (Color) and SM 2130 B-2001 (Turbidity).

Metals Total by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for EPA 200.7, Rv. 4.4 (1994) Manganese and Iron.

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, and Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A1968-02, Customer, and 01/24/2023 9:23.

Metals Dissolved by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for EPA 200.7, Rv. 4.4 (1994) Manganese.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1968

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:25 |
| Lab Sample ID: | D3A1968-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/26/23 1845 | 01/27/23 1835 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|--------------------------|--------|-------|------|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/24/23 2010 | MMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/24/23 2010 | MMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.56 | | S.U. | 1 | H1 | | 01/24/23 2010 | MMK |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 1944 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 1944 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:25 |
| Lab Sample ID: | D3A1968-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 1949 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1968

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:28 |
| Lab Sample ID: | D3A1968-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/26/23 1845 | 01/27/23 1835 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/24/23 2010 | MMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/24/23 2010 | MMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.56 | | S.U. | 1 | H1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 1953 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 1953 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:28 |
| Lab Sample ID: | D3A1968-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2005 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:30 |
| Lab Sample ID: | D3A1968-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/26/23 1605 | EMK |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1968

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:20 |
| Lab Sample ID: | D3A1968-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/26/23 1605 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/26/23 1845 | 01/27/23 1835 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/24/23 2010 | MMK |
| Color - True | 0 | | CU | 1 | Y1 | | 01/24/23 2010 | MMK |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/24/23 2010 | MMK |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.55 | | S.U. | 1 | H1 | | 01/24/23 2010 | MMK |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2009 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2009 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:20 |
| Lab Sample ID: | D3A1968-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2013 | DLO |

Definitions

- CU:** Color Unit
- H1:** Sample was received past holding time.
- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1968

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/30/2023 16:28

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com

BND



D 3 A 1 9 6 8

Chain of Custody

NWSi - Northeast Water Solutions, inc.

WWW.Microbac.com



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Copy of Report To
CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
 Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsj.net

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsj.net
TELEPHONE:
Fax:

Billing Information (for credit card only)
BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:

PURCHASE ORDER #:

| Sample Identification | Date Collected | Sample Type | | # of containers | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | | |
|-----------------------|----------------|-------------|------|-----------------|-----------------------|------------|-------|------------|--|-----|------|-------|----------|--|
| | | COMPOSITE | GRAB | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| GSF1- Effluent | 1/24/13 | | X | 3 | X | X | X | | X | X | X | | | |
| GSF2- Effluent | 9:05 | | X | 3 | X | X | X | | X | X | X | | | |
| GSF3 - Effluent | 9:05 | | X | 3 | X | X | X | | X | X | X | | | |
| GSF- Effluent | 9:30 | X | | 1 | | | | X | | | | | | |
| GSF- Influent | 9:30 | | X | 4 | X | X | X | | X | X | X | | | |
| | | | | | | | | | PRESERVATIVE VERIFIED Initials: <i>WJF</i> | | | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS): _____ HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:
 Cash _____ Check# _____ Auth# _____
 Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)
 COOLED AMBIENT 4-8 °C Upon Receipt at LAB

2-3-13

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|---------|-------|
| SAMPLER: <i>WJF</i> | 1/24/13 | 11:15 |
| RECEIVED: <i>OP Romano</i> | 1/24/13 | 11:15 |
| RELINQUISHED: <i>OP Romano</i> | 1/24/13 | 12:51 |
| RECEIVED: <i>WJF</i> | 1/24/13 | 12:51 |
| RELINQUISHED: <i>WJF</i> | 1/24/13 | 1:07 |
| RECEIVED: <i>WJF</i> | 1/24/13 | 1:07 |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1973

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/24/2023
Reported: 01/27/2023

Analytical Testing Parameters

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | HWWC-Raw | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:00 |
| Lab Sample ID: | D3A1973-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 3.05 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1030 | 01/25/23 2058 | IMM |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | HWWC-Raw | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:00 |
| Lab Sample ID: | D3A1973-02 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 3.12 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1028 | 01/25/23 1515 | IMM |

| | | | |
|-------------------|------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 1-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:05 |
| Lab Sample ID: | D3A1973-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.25 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1030 | 01/25/23 2200 | IMM |

| | | | |
|-------------------|------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 1-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:05 |
| Lab Sample ID: | D3A1973-04 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.25 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1028 | 01/25/23 1617 | IMM |

| | | | |
|-------------------|--------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 2 - Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | D3A1973-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.14 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1030 | 01/25/23 2231 | IMM |



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CERTIFICATE OF ANALYSIS

D3A1973

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|--------------------------|------------------|-------------------------|-----------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | D3A1973-06 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.17 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1028 | 01/25/23 1648 | IMM |



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CERTIFICATE OF ANALYSIS

D3A1973

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | D3A1973-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.17 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1030 | 01/26/23 0005 | IMM |
| Volatile Organic Compounds by GCMS | | | | | | | | |
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Benzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Bromobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Bromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Bromodichloromethane | 3.35 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Bromoform | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Bromomethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| tert-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| sec-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| n-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Carbon tetrachloride | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Chlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Chloroethane (Ethyl chloride) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Chloroform | 14.6 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Chloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 2-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 4-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Dibromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Dibromomethane (Methylene bromide) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,4-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,2-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,3-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Dichlorodifluoromethane (Freon-12) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,2-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,1-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| trans-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| cis-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,1-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,3-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 2,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,1-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| trans-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| cis-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Ethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Hexachlorobutadiene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Isopropylbenzene (Cumene) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 4-Isopropyltoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| (p-Isopropyltoluene) | | | | | | | | |



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CERTIFICATE OF ANALYSIS

D3A1973

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|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | D3A1973-07 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Methyl tert-butyl ether (MTBE) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Methylene chloride (Dichloromethane) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Naphthalene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| n-Propylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Styrene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,1,1,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,1,2,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Tetrachloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Toluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,2,4-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,2,3-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,1,1-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,1,2-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Trichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Trichlorofluoromethane (Freon 11) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,2,3-Trichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,2,4-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| 1,3,5-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Vinyl chloride | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| m,p-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| o-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Xylenes (total) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1406 | IMM |
| Surrogate: 4-Bromofluorobenzene | 107 | Limit: 70-130 | % Rec | 1 | | | 01/25/23 1406 | IMM |
| Surrogate: 1,2-Dichlorobenzene-d4 | 108 | Limit: 70-130 | % Rec | 1 | | | 01/25/23 1406 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | D3A1973-08 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.17 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1028 | 01/25/23 1719 | IMM |



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CERTIFICATE OF ANALYSIS

D3A1973

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|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | D3A1973-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.14 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1030 | 01/26/23 0036 | IMM |
| Volatile Organic Compounds by GCMS | | | | | | | | |
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Benzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Bromobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Bromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Bromodichloromethane | 3.43 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Bromoform | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Bromomethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| tert-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| sec-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| n-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Carbon tetrachloride | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Chlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Chloroethane (Ethyl chloride) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Chloroform | 15.8 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Chloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 2-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 4-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Dibromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Dibromomethane (Methylene bromide) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,4-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,2-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,3-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Dichlorodifluoromethane (Freon-12) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,2-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,1-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| trans-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| cis-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,1-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,3-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 2,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,1-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| trans-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| cis-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Ethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Hexachlorobutadiene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Isopropylbenzene (Cumene) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 4-Isopropyltoluene (p-Isopropyltoluene) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1973

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|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | D3A1973-09 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Methyl tert-butyl ether (MTBE) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Methylene chloride (Dichloromethane) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Naphthalene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| n-Propylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Styrene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,1,1,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,1,2,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Tetrachloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Toluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,2,4-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,2,3-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,1,1-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,1,2-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Trichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Trichlorofluoromethane (Freon 11) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,2,3-Trichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,2,4-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| 1,3,5-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Vinyl chloride | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| m,p-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| o-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Xylenes (total) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1430 | IMM |
| Surrogate: 4-Bromofluorobenzene | 106 | Limit: 70-130 | % Rec | 1 | | | 01/25/23 1430 | IMM |
| Surrogate: 1,2-Dichlorobenzene-d4 | 113 | Limit: 70-130 | % Rec | 1 | | | 01/25/23 1430 | IMM |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:10 |
| Lab Sample ID: | D3A1973-10 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.19 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1028 | 01/25/23 1750 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1973

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:15 |
| Lab Sample ID: | D3A1973-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.17 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1030 | 01/26/23 0107 | IMM |
| Volatile Organic Compounds by GCMS | | | | | | | | |
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Benzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Bromobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Bromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Bromodichloromethane | 3.22 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Bromoform | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Bromomethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| tert-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| sec-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| n-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Carbon tetrachloride | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Chlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Chloroethane (Ethyl chloride) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Chloroform | 14.6 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Chloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 2-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 4-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Dibromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Dibromomethane (Methylene bromide) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,4-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,2-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,3-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Dichlorodifluoromethane (Freon-12) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,2-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,1-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| trans-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| cis-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,1-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,3-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 2,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,1-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| trans-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| cis-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Ethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Hexachlorobutadiene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Isopropylbenzene (Cumene) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 4-Isopropyltoluene (p-Isopropyltoluene) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1973

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:15 |
| Lab Sample ID: | D3A1973-11 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Methyl tert-butyl ether (MTBE) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Methylene chloride (Dichloromethane) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Naphthalene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| n-Propylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Styrene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,1,1,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,1,2,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Tetrachloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Toluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,2,4-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,2,3-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,1,1-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,1,2-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Trichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Trichlorofluoromethane (Freon 11) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,2,3-Trichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,2,4-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| 1,3,5-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Vinyl chloride | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| m,p-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| o-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Xylenes (total) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1454 | IMM |
| Surrogate: 4-Bromofluorobenzene | 105 | Limit: 70-130 | % Rec | 1 | | | 01/25/23 1454 | IMM |
| Surrogate: 1,2-Dichlorobenzene-d4 | 106 | Limit: 70-130 | % Rec | 1 | | | 01/25/23 1454 | IMM |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:15 |
| Lab Sample ID: | D3A1973-12 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.19 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1028 | 01/25/23 1822 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1973

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:15 |
| Lab Sample ID: | D3A1973-13 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.21 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1030 | 01/26/23 0138 | IMM |
| Volatile Organic Compounds by GCMS | | | | | | | | |
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Benzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Bromobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Bromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Bromodichloromethane | 3.52 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Bromoform | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Bromomethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| tert-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| sec-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| n-Butylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Carbon tetrachloride | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Chlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Chloroethane (Ethyl chloride) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Chloroform | 16.1 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Chloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 2-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 4-Chlorotoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Dibromochloromethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Dibromomethane (Methylene bromide) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,4-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,2-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,3-Dichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Dichlorodifluoromethane (Freon-12) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,2-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,1-Dichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| trans-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| cis-1,2-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,1-Dichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,3-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 2,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,2-Dichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,1-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| trans-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| cis-1,3-Dichloropropene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Ethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Hexachlorobutadiene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Isopropylbenzene (Cumene) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 4-Isopropyltoluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| (p-Isopropyltoluene) | | | | | | | | |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1973

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:15 |
| Lab Sample ID: | D3A1973-13 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Methyl tert-butyl ether (MTBE) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Methylene chloride (Dichloromethane) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Naphthalene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| n-Propylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Styrene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,1,1,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,1,2,2-Tetrachloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Tetrachloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Toluene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,2,4-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,2,3-Trichlorobenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,1,1-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,1,2-Trichloroethane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Trichloroethene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Trichlorofluoromethane (Freon 11) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,2,3-Trichloropropane | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,2,4-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| 1,3,5-Trimethylbenzene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Vinyl chloride | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| m,p-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| o-Xylene | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Xylenes (total) | <0.50 | 0.50 | ug/L | 1 | | | 01/25/23 1519 | IMM |
| Surrogate: 4-Bromofluorobenzene | 104 | Limit: 70-130 | % Rec | 1 | | | 01/25/23 1519 | IMM |
| Surrogate: 1,2-Dichlorobenzene-d4 | 108 | Limit: 70-130 | % Rec | 1 | | | 01/25/23 1519 | IMM |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/24/2023 9:15 |
| Lab Sample ID: | D3A1973-14 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.17 | 0.500 | mg/L | 1 | Y1 | 01/25/23 1028 | 01/25/23 1853 | IMM |

Definitions

- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- RL:** Reporting Limit
- ug/L:** Micrograms per Liter
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A1973

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Melisa L. Montgomery

Quality Assurance Officer

Reported: 01/27/2023 17:04

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



Chain of Custody

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

www.Microbac.com

NWSi - Northeast Water Solutions, Inc.

Copy of Report To

Billing Information (for credit card only)

Project Information

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsinc.net
PHONE: 401-667-7463

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsinc.net
TELEPHONE:
Fax:

| Sample Identification | Date Collected | Sample Type | | # of containers | Sample Matrix | Preservatives | | | | | | | | | | | | |
|-----------------------|----------------|-------------|------|-----------------|---------------|---------------|-----|-----|----------|-----|------|-------|----------|---|---|---|---|---|
| | | COMPOSITE | GRAB | | | TOC | DOC | VOC | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | | | | |
| HWWC - RAW | 11/24/03 | | X | 4 | aw | X | X | X | X | X | X | X | X | X | X | X | X | X |
| SS Filter 1-Eff. | | | X | 4 | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| SS Filter 2-Eff. | | | X | 4 | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| GSF-Influent | | | X | 6 | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| GSF1-Effluent | | | X | 6 | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| GSF2-Effluent | | | X | 6 | | X | X | X | X | X | X | X | X | X | X | X | X | X |
| GSF3-Effluent | | | X | 6 | | X | X | X | X | X | X | X | X | X | X | X | X | X |

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|----------|-------|
| SAMPLER: <i>[Signature]</i> | 11/24/03 | 11:15 |
| RECEIVED: <i>[Signature]</i> | 11/24/03 | 11:15 |
| RELINQUISHED: <i>[Signature]</i> | 11/24/03 | 12:51 |
| RECEIVED: <i>[Signature]</i> | 11/24/03 | 12:51 |
| RELINQUISHED: <i>[Signature]</i> | 11/24/03 | 17:07 |
| RECEIVED: <i>[Signature]</i> | 11/24/03 | 17:07 |

HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

AMBIENT

4.8 °C

Upon Receipt at LA

2.2.04



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2160

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/25/2023
Reported: 01/31/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF Effluent, Drinking Water, D3A2160-01, Customer, 01/25/2023 8:53.

Inorganics Total

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows include Hach Test Kit, DOC326.98.00004, Carbon dioxide, SM 2510 B-1997, Conductivity at 25°C, SM 2540 C-1997, Total Dissolved Solids (TDS), SM 4500-NO3- F-2000, Nitrate as N, Nitrite as N, SM 4500-SO4- E-1997, Sulfate as SO4.

Metals Total by CVAA

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row includes EPA 245.1, Rv. 3 (1994), Mercury.

Metals Total by ICP

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows include EPA 200.7, Rv. 4.4 (1994), Aluminum, Calcium, Magnesium, Potassium, Zinc, Sodium.

Metals Total by ICPMS

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows include EPA 200.8, Rv. 5.4 (1994), Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead.

Volatile Organic Compounds by GCMS

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row includes EPA 524.2, Rv. 4.1 (1995).



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2160

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:53 |
| Lab Sample ID: | D3A2160-01 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Total Trihalomethanes | 26.9 | 0.500 | ug/L | 1 | | | 01/30/23 1751 | ADF |
| Bromodichloromethane | 2.76 | 0.500 | ug/L | 1 | | | 01/30/23 1751 | ADF |
| Bromoform | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1751 | ADF |
| Chloroform | 24.1 | 0.500 | ug/L | 1 | | | 01/30/23 1751 | ADF |
| Dibromochloromethane | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1751 | ADF |
| Surrogate: 4-Bromofluorobenzene | 108 | Limit: 70-130 | % Rec | 1 | | | 01/30/23 1751 | ADF |
| Surrogate: 1,2-Dichlorobenzene-d4 | 101 | Limit: 70-130 | % Rec | 1 | | | 01/30/23 1751 | ADF |

| Semivolatile Organic Compounds by GC/ECD | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|---------------|-------|----|------|---------------|---------------|---------|
| EPA 552.2, Rv. 1 (1995) | | | | | | | | |
| Total Haloacetic acids (HAA5) | 29.3 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2039 | ALG |
| Chloroacetic acid [2C] | 1.08 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2039 | ALG |
| Bromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2039 | ALG |
| Dichloroacetic acid [2C] | 10.8 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2039 | ALG |
| Trichloroacetic acid [2C] | 17.3 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2039 | ALG |
| Dibromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2039 | ALG |
| Surrogate: 2,3-Dibromopropionic acid | 109 | Limit: 70-130 | % Rec | 1 | | 01/30/23 1308 | 01/30/23 2039 | ALG |
| Surrogate: 2,3-Dibromopropionic acid [2C] | 98.1 | Limit: 70-130 | % Rec | 1 | | 01/30/23 1308 | 01/30/23 2039 | ALG |

| Anions by IC | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|------|-------|----|------|----------|---------------|---------|
| EPA 300.0, Rv. 2.1 (1993) | | | | | | | | |
| Chloride | 12.4 | 1.00 | mg/L | 1 | | | 01/27/23 0309 | IMM |

Definitions

- AL:** US EPA Action Level
- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- RL:** Reporting Limit
- ug/L:** Micrograms per Liter
- umhos/cm:** Umhos per Centimeter
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2160

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery

Quality Assurance Officer

Reported: 01/31/2023 16:19



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2159

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/25/2023
Reported: 01/30/2023

Analytical Testing Parameters

| | | | |
|-------------------|-----------------|------------------|-----------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:23 |
| Lab Sample ID: | D3A2159-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

SM 2540 D-1997

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/26/23 1845 | 01/27/23 1835 | AJD |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

SM 2120 B-2001

| | | | | | | | | |
|------------------|----|---|----|---|----|--|---------------|-----|
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/25/23 2010 | AMF |

SM 2130 B-2001

| | | | | | | | | |
|-----------|--------|-------|-----|---|--|--|---------------|-----|
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/25/23 2010 | AMF |
|-----------|--------|-------|-----|---|--|--|---------------|-----|

SM 4500-H+ B-2000

| | | | | | | | | |
|----|------|--|------|---|----|--|---------------|-----|
| pH | 7.45 | | S.U. | 1 | H1 | | 01/25/23 2010 | AMF |
|----|------|--|------|---|----|--|---------------|-----|

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

EPA 200.7, Rv. 4.4 (1994)

| | | | | | | | | |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2018 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2018 | DLO |

| | | | |
|-------------------|-----------------|------------------|-----------------|
| Client Sample ID: | GSF1 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:23 |
| Lab Sample ID: | D3A2159-02 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

EPA 200.7, Rv. 4.4 (1994)

| | | | | | | | | |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2031 | DLO |
|-----------|----------|---------|------|---|--|---------------|---------------|-----|



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2159

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:25 |
| Lab Sample ID: | D3A2159-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/26/23 1845 | 01/27/23 1835 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/25/23 2010 | AMF |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/25/23 2010 | AMF |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.56 | | S.U. | 1 | H1 | | 01/25/23 2010 | AMF |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2035 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2035 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:25 |
| Lab Sample ID: | D3A2159-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2039 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2159

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:27 |
| Lab Sample ID: | D3A2159-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/26/23 1845 | 01/27/23 1835 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/25/23 2010 | AMF |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/25/23 2010 | AMF |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.57 | | S.U. | 1 | H1 | | 01/25/23 2010 | AMF |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2043 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2043 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:27 |
| Lab Sample ID: | D3A2159-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2055 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:29 |
| Lab Sample ID: | D3A2159-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|------|------|------------|---|--|--|---------------|-----|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/27/23 2045 | EMK |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2159

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:20 |
| Lab Sample ID: | D3A2159-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/27/23 2045 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <6.25 | 6.25 | mg/L | 3 | L1,Y | 01/26/23 1845 | 01/27/23 1835 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/25/23 2010 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/25/23 2010 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/25/23 2010 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.59 | | S.U. | 1 | H1 | | 01/25/23 2010 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2100 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2100 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:20 |
| Lab Sample ID: | D3A2159-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/26/23 1548 | 01/26/23 2104 | DLO |

Definitions

- CU:** Color Unit
- H1:** Sample was received past holding time.
- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2159

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/30/2023 16:29

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com

Page 5 of 6

620



D 3 A 2 1 5 9



Chain of Custody

nwsi - Northeast Water Solutions, inc.

80 Run Way

Lee, MA 01238 (413) 776-5025

fax: 413-776-5029

WWW.Microbac.com

Copy of Report To
CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRl
 Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsil.net
PHONE: 401-667-7463

Billing Information (for credit card only)
BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsil.net
TELEPHONE:
Fax:

| Sample Identification | Date Collected | Sample Type | | Time Collected | # of containers | Sample Matrix | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | |
|-----------------------|----------------|-------------|------|----------------|-----------------|---------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|
| | | COMPOSITE | GRAB | | | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric |
| GSF1 - Effluent | 10/5/03 | | X | 8:03 | 3 | dw | x | x | x | | X | | | | |
| GSF2 - Effluent | | | X | 8:05 | 3 | dw | x | x | x | | X | | | | |
| GSF3 - Effluent | | | X | 8:07 | 3 | dw | x | x | x | | X | | | | |
| GSF-Effluent | | | X | 8:09 | 1 | dw | | | | X | | | | | |
| GSF- Inffluent | | | X | 8:00 | 4 | dw | X | X | X | X | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

PRESERVATIVE
VERIFIED
Initials

| CUSTOMY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|---------|-------|
| SAMPLER: | 10/5/03 | 10:15 |
| RECEIVED: | 10/5/03 | 10:15 |
| RELINQUISHED: | 10/5/03 | 10:37 |
| RECEIVED: | 10/5/03 | 10:37 |
| RELINQUISHED: | 10/5/03 | 10:37 |
| RECEIVED: | 10/5/03 | 10:37 |

TURNAROUND (INDICATE IN CALENDAR DAYS):
 HARD COPY or E-MAIL
 EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE
COMMENTS:
 Cash Check# Auth#
 Please do not list credit card number on paperwork
 CONDITIONS UPON RECEIPT: (CHECK ONE)
 COOLED AMBIENT 2.5 °C Upon Receipt at LAB

10/2/03
 MW



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2161

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/25/2023
Reported: 01/31/2023

Analytical Testing Parameters

Table with client and sample information: Client Sample ID: GSF Influent, Sample Matrix: Drinking Water, Lab Sample ID: D3A2161-01, Collected By: Customer, Collection Date: 01/25/2023 8:50

Inorganics Total

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows include Hach Test Kit, DOC326.98.00004, Carbon dioxide, SM 2510 B-1997, Conductivity at 25°C, SM 2540 C-1997, Total Dissolved Solids (TDS), SM 4500-NO3- F-2000, Nitrate as N, Nitrite as N, SM 4500-SO4- E-1997, Sulfate as SO4.

Metals Total by CVAA

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row: EPA 245.1, Rv. 3 (1994), Mercury.

Metals Total by ICP

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows: EPA 200.7, Rv. 4.4 (1994), Aluminum, Calcium, Magnesium, Potassium, Zinc, Sodium.

Metals Total by ICPMS

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows: EPA 200.8, Rv. 5.4 (1994), Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead.

Volatile Organic Compounds by GCMS

Table with 9 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row: EPA 524.2, Rv. 4.1 (1995).



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2161

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:50 |
| Lab Sample ID: | D3A2161-01 | | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| Total Trihalomethanes | 25.4 | 0.500 | ug/L | 1 | | | 01/30/23 1814 | ADF |
| Bromodichloromethane | 2.64 | 0.500 | ug/L | 1 | | | 01/30/23 1814 | ADF |
| Bromoform | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1814 | ADF |
| Chloroform | 22.7 | 0.500 | ug/L | 1 | | | 01/30/23 1814 | ADF |
| Dibromochloromethane | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1814 | ADF |
| Surrogate: 4-Bromofluorobenzene | 94.2 | Limit: 70-130 | % Rec | 1 | | | 01/30/23 1814 | ADF |
| Surrogate: 1,2-Dichlorobenzene-d4 | 97.0 | Limit: 70-130 | % Rec | 1 | | | 01/30/23 1814 | ADF |

| Semivolatile Organic Compounds by GC/ECD | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|---------------|-------|----|------|---------------|---------------|---------|
| EPA 552.2, Rv. 1 (1995) | | | | | | | | |
| Total Haloacetic acids (HAA5) | 32.5 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2059 | ALG |
| Chloroacetic acid [2C] | 1.05 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2059 | ALG |
| Bromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2059 | ALG |
| Dichloroacetic acid | 13.4 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2059 | ALG |
| Trichloroacetic acid [2C] | 18.1 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2059 | ALG |
| Dibromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2059 | ALG |
| Surrogate: 2,3-Dibromopropionic acid | 97.0 | Limit: 70-130 | % Rec | 1 | | 01/30/23 1308 | 01/30/23 2059 | ALG |
| Surrogate: 2,3-Dibromopropionic acid [2C] | 106 | Limit: 70-130 | % Rec | 1 | | 01/30/23 1308 | 01/30/23 2059 | ALG |

| Anions by IC | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|------|-------|----|------|----------|---------------|---------|
| EPA 300.0, Rv. 2.1 (1993) | | | | | | | | |
| Chloride | 12.3 | 1.00 | mg/L | 1 | | | 01/27/23 0324 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2161

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | SS1 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/25/2023 8:57 |
| Lab Sample ID: | D3A2161-02 | | |

| Volatiles Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Total Trihalomethanes | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1838 | ADF |
| Bromodichloromethane | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1838 | ADF |
| Bromoform | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1838 | ADF |
| Chloroform | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1838 | ADF |
| Dibromochloromethane | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1838 | ADF |
| Surrogate: 4-Bromofluorobenzene | 111 | Limit: 70-130 | % Rec | 1 | | | 01/30/23 1838 | ADF |
| Surrogate: 1,2-Dichlorobenzene-d4 | 115 | Limit: 70-130 | % Rec | 1 | | | 01/30/23 1838 | ADF |

| Semivolatile Organic Compounds by GC/ECD | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|---------------|-------|----|------|---------------|---------------|---------|
| EPA 552.2, Rv. 1 (1995) | | | | | | | | |
| Total Haloacetic acids (HAA5) | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2119 | ALG |
| Chloroacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2119 | ALG |
| Bromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2119 | ALG |
| Dichloroacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2119 | ALG |
| Trichloroacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2119 | ALG |
| Dibromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2119 | ALG |
| Surrogate: 2,3-Dibromopropionic acid | 110 | Limit: 70-130 | % Rec | 1 | | 01/30/23 1308 | 01/30/23 2119 | ALG |
| Surrogate: 2,3-Dibromopropionic acid [2C] | 105 | Limit: 70-130 | % Rec | 1 | | 01/30/23 1308 | 01/30/23 2119 | ALG |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2161

| | |
|---|---|
| Client Sample ID: SS2 - Effluent | Collected By: Customer |
| Sample Matrix: Drinking Water | Collection Date: 01/25/2023 9:00 |
| Lab Sample ID: D3A2161-03 | |

| Volatil Organic Compounds by GCMS | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------------------|--------|---------------|-------|----|------|----------|---------------|---------|
| EPA 524.2, Rv. 4.1 (1995) | | | | | | | | |
| Total Trihalomethanes | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1901 | ADF |
| Bromodichloromethane | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1901 | ADF |
| Bromoform | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1901 | ADF |
| Chloroform | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1901 | ADF |
| Dibromochloromethane | <0.500 | 0.500 | ug/L | 1 | | | 01/30/23 1901 | ADF |
| Surrogate: 4-Bromofluorobenzene | 109 | Limit: 70-130 | % Rec | 1 | | | 01/30/23 1901 | ADF |
| Surrogate: 1,2-Dichlorobenzene-d4 | 101 | Limit: 70-130 | % Rec | 1 | | | 01/30/23 1901 | ADF |

| Semivolatile Organic Compounds by GC/ECD | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---|--------|---------------|-------|----|------|---------------|---------------|---------|
| EPA 552.2, Rv. 1 (1995) | | | | | | | | |
| Total Haloacetic acids (HAA5) | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2139 | ALG |
| Chloroacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2139 | ALG |
| Bromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2139 | ALG |
| Dichloroacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2139 | ALG |
| Trichloroacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2139 | ALG |
| Dibromoacetic acid [2C] | <1.00 | 1.00 | ug/L | 1 | | 01/30/23 1308 | 01/30/23 2139 | ALG |
| Surrogate: 2,3-Dibromopropionic acid | 107 | Limit: 70-130 | % Rec | 1 | | 01/30/23 1308 | 01/30/23 2139 | ALG |
| Surrogate: 2,3-Dibromopropionic acid [2C] | 106 | Limit: 70-130 | % Rec | 1 | | 01/30/23 1308 | 01/30/23 2139 | ALG |

Definitions

- AL:** US EPA Action Level
- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- RL:** Reporting Limit
- ug/L:** Micrograms per Liter
- umhos/cm:** Umhos per Centimeter
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

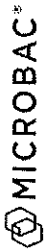
The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <<https://www.microbac.com/standard-terms-conditions>>.

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/31/2023 16:20

Microbac Laboratories, Inc.

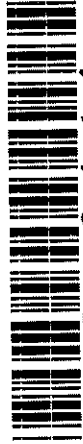
61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



Chain of Custody

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

www.Microbac.com



D 3 A 2 1 6 1

nwsi - Northeast Water Solutions, inc.

Copy of Report To
NWSI-Northeast Water Solutions

CUSTOMER: Solutions
ADDRESS: 567 S County TRL
 Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsi.net
PHONE: 401-667-7463

Billing Information (for credit card or

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager
EMAIL: smurphy@nwsi.net
TELEPHONE: 774-573-1147
Fax:

| Sample Identification | Date Collected | Time Collected | Sample Type | | Sample Matrix | # of containers | THM/HAA | Soluble Mn | TDS, Con, NO2, NO3, SO4, Chloride | CO2 | Analysis | | | | Preservatives | | | | |
|-----------------------|----------------|----------------|-------------|------|---------------|-----------------|---------|------------|-----------------------------------|-----|-----------------------|-------------|----------|-----|---------------|-------|----------|---|---|
| | | | COMPOSITE | GRAB | | | | | | | Al, Na, Mg, Zn, Ca, K | Heavy Metal | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | |
| GSF Influent | 10/5/03 | 8:00 | X | X | dw | 8 | X | X | X | X | X | X | X | X | X | X | X | X | X |
| SS1-effluent | ↓ | 8:57 | X | X | dw | 5 | X | | | | | | | | | | | | |
| SS2-effluent | ↓ | 9:00 | X | X | dw | 5 | X | | | | | | | | | | | | |

PRESERVATIVE
VERIFIED
INITIALS

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: [Signature] | 10/5/03 | 10:15 |
| RECEIVED: [Signature] | 10/5/03 | 10:15 |
| RELINQUISHED: [Signature] | 10/5/03 | 12:37 |
| RECEIVED: [Signature] | 10/5/03 | 12:47 |
| RELINQUISHED: [Signature] | 10/5/03 | 17:30 |
| RECEIVED: [Signature] | 10/5/03 | 17:30 |

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth# _____

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT 2.5 °C Upon Receipt at LAB

Handwritten initials
 [Signature]



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2219

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/26/2023
Reported: 02/01/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A2219-01, Customer, 01/26/2023 9:13.

Inorganics Total

Table with 10 columns: SM 2540 D-1997, Total Suspended Solids (TSS), Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <2.78, 2.78, mg/L, 1, L1,Y, 01/30/23 1920, 01/31/23 1550, AJD.

General Parameters

Table with 10 columns: SM 2120 B-2001, Color - Apparent, Color - True, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <1, 1, CU, 1, Y1, 01/26/23 1912, AMF.

Table with 10 columns: SM 2130 B-2001, Turbidity, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <0.100, 0.100, NTU, 1, 01/26/23 1912, AMF.

Table with 10 columns: SM 4500-H+ B-2000, pH, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include 7.45, S.U., 1, H1, 01/26/23 1912, AMF.

Metals Total by ICP

Table with 10 columns: EPA 200.7, Rv. 4.4 (1994), Manganese, Iron, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <0.00204, 0.00204, mg/L, 1, 01/30/23 1400, 01/30/23 1717, DLO.

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, Collected By, Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A2219-02, Customer, 01/26/2023 9:13.

Metals Dissolved by ICP

Table with 10 columns: EPA 200.7, Rv. 4.4 (1994), Manganese, Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Values include <0.00204, 0.00204, mg/L, 1, 01/30/23 1400, 01/30/23 1721, DLO.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2219

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:15 |
| Lab Sample ID: | D3A2219-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/30/23 1920 | 01/31/23 1550 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/26/23 1912 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/26/23 1912 | AMF |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/26/23 1912 | AMF |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.57 | | S.U. | 1 | H1 | | 01/26/23 1912 | AMF |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1725 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1725 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:15 |
| Lab Sample ID: | D3A2219-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1730 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2219

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:18 |
| Lab Sample ID: | D3A2219-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/30/23 1920 | 01/31/23 1550 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/26/23 1912 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/26/23 1912 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/26/23 1912 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.57 | | S.U. | 1 | H1 | | 01/26/23 1912 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1733 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1733 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:18 |
| Lab Sample ID: | D3A2219-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1746 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:20 |
| Lab Sample ID: | D3A2219-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/27/23 2045 | EMK |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2219

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:10 |
| Lab Sample ID: | D3A2219-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/27/23 2045 | EMK |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/30/23 1920 | 01/31/23 1550 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/26/23 1912 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/26/23 1912 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/26/23 1912 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.58 | | S.U. | 1 | H1 | | 01/26/23 1912 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1749 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1749 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:10 |
| Lab Sample ID: | D3A2219-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1753 | DLO |

Definitions

- CU:** Color Unit
- H1:** Sample was received past holding time.
- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2219

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

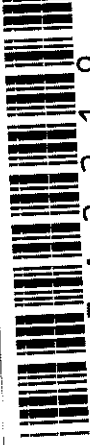
Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 02/01/2023 15:11

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com

Page 5 of 6



D 3 A 2 2 1 9

Chain of Custody

NWSI - Northeast Water Solutions, inc.



80 Run Way Lee, MA 01238 (413) 776-5025 fax: 413-776-5029 WWW.Microbac.com

Copy of Report To
Customer: NWSI-Northeast Water Solutions
Address: 567 S County Trl Exeter, RI 02822
Attention: Robert Ferrari
E-Mail: labreports@nws.net
Phone: 401-667-7463

Billing Information (for credit card only)
Bill To: same
Address:
Attention:
Telephone:
Purchase Order #:

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
Email: smurphy@nws.net
Telephone:
Fax:

| Sample Identification | Date Collected | Sample Type | | Time Collected | # of containers | Sample Matrix | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | | |
|-----------------------|----------------|-------------|------|----------------|-----------------|---------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|--|
| | | COMPOSITE | GRAB | | | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| GSF1- Effluent | 11/26/03 | | X | 9:13 | 3 | dw | X | X | X | | X | X | | | | |
| GSF2- Effluent | | | X | 9:15 | 3 | dw | X | X | X | | X | X | | | | |
| GSF3 - Effluent | | | X | 9:18 | 3 | dw | X | X | X | | X | X | | | | |
| GSF-Effluent | | | | 9:00-9:30 | 1 | dw | | | | X | X | X | | | | |
| GSF- Influent | | | X | 9:10 | 4 | dw | X | X | X | | X | X | | | | |

PRESERVATIVE INITIALED

CUSTOMY TRANSFER (at drop off)

SAMPLER: [Signature]
RECEIVED: [Signature] 11/26/03 10:05
RELINQUISHED: [Signature] 11/26/03 10:05
RECEIVED: [Signature] 11/26/03 14:44
RELINQUISHED: [Signature] 11/26/03 14:44
RECEIVED: [Signature] 11/26/03 16:53
RELINQUISHED: [Signature] 11/26/03 16:53

TURNAROUND (INDICATE IN PAR DAYS): _____
 HARD COPY or E-MAIL
 EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:
 Cash _____ Check# _____ Auth# _____
 Please do not list credit card number on paperwork
 CONDITIONS UPON RECEIPT: (CHECK ONE)
 COOLED AMBIENT 4-1
 Upon Receipt at LAB

2-2-04



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2220

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/26/2023
Reported: 01/31/2023

Analytical Testing Parameters

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | HWWC - Raw | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:45 |
| Lab Sample ID: | D3A2220-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.91 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1310 | 01/28/23 0026 | IMM |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | HWWC - Raw | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:45 |
| Lab Sample ID: | D3A2220-02 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 3.04 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1308 | 01/27/23 1740 | IMM |

| | | | |
|-------------------|------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 1-Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:48 |
| Lab Sample ID: | D3A2220-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.25 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1310 | 01/28/23 0058 | IMM |

| | | | |
|-------------------|------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 1-Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:48 |
| Lab Sample ID: | D3A2220-04 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.33 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1308 | 01/27/23 1843 | IMM |

| | | | |
|-------------------|------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:50 |
| Lab Sample ID: | D3A2220-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.21 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1310 | 01/28/23 0231 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2220

| | | | |
|--------------------------|------------------|-------------------------|-----------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:50 |
| Lab Sample ID: | D3A2220-06 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.25 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1308 | 01/27/23 1914 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:53 |
| Lab Sample ID: | D3A2220-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.15 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1310 | 01/28/23 0302 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:53 |
| Lab Sample ID: | D3A2220-08 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.20 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1308 | 01/27/23 1945 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:55 |
| Lab Sample ID: | D3A2220-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.14 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1310 | 01/28/23 0333 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:58 |
| Lab Sample ID: | D3A2220-10 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.19 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1308 | 01/27/23 2016 | IMM |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:58 |
| Lab Sample ID: | D3A2220-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.16 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1310 | 01/28/23 0405 | IMM |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2220

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:58 |
| Lab Sample ID: | D3A2220-12 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.18 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1308 | 01/27/23 2047 | IMM |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:00 |
| Lab Sample ID: | D3A2220-13 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Total Organic Carbon (TOC) | 2.12 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1310 | 01/28/23 0436 | IMM |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:00 |
| Lab Sample ID: | D3A2220-14 | | |

| Inorganics Dissolved | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------------------|--------|-------|-------|----|------|---------------|---------------|---------|
| TOC-DW/SM 5310 C-2000 | | | | | | | | |
| Dissolved Organic Carbon (DOC) | 2.18 | 0.500 | mg/L | 1 | Y1 | 01/27/23 1308 | 01/27/23 2118 | IMM |

Definitions

- MCL: US EPA Maximum Contaminant Level
- mg/L: Milligrams per Liter
- RL: Reporting Limit
- Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <<https://www.microbac.com/standard-terms-conditions>>.

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 01/31/2023 16:20

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com

BND



D 3 A 2 2 2 0

Chain of Custody

www.microbac.com

NWSi - Northeast Water Solutions, Inc.



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Billing Information (for credit card only)

BILL TO: same

ADDRESS:

567 S County TRL
Exeter, RI 02822

ATTENTION: Robert Ferrari

E-MAIL: labreports@nwsinc.net

PHONE: 401-667-7463

Project Information

Project: Housatonic HWWC

Project Location: Housatonic MA

Project Manager:

EMAIL: smurphy@nwsinc.net

TELEPHONE:

Fax:

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions

ADDRESS: 567 S County TRL
Exeter, RI 02822

ATTENTION: Robert Ferrari

E-MAIL: labreports@nwsinc.net

PHONE: 401-667-7463

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | TOC | DOC | VOC | Preservatives | | | | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|-----|-----|-----|---------------|-----|------|-------|----------|--|
| | | | COMPOSITE | GRAB | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| HWWC - RAW | 1/26/03 | 8:45 | X | X | 4 | X | X | X | X | | | | | |
| SS Filter 1-Eff. | | 8:48 | X | X | 4 | X | X | X | X | | | | | |
| SS Filter 2-Eff. | | 8:50 | X | X | 4 | X | X | X | X | | | | | |
| GSF-Influent | | 8:53 | X | X | 4 | X | X | X | X | | | | | |
| GSF1-Effluent | | 8:55 | X | X | 4 | X | X | X | X | | | | | |
| GSF2-Effluent | | 8:58 | X | X | 4 | X | X | X | X | | | | | |
| GSF3-Effluent | | 9:00 | X | X | 4 | X | X | X | X | | | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|---------|-------|
| SAMPLER: J. Murphy | 1/26/03 | 10:05 |
| RECEIVED: C. Raymo | 1/26/03 | 10:05 |
| RELINQUISHED: C. Raymo | 1/26/03 | 14:24 |
| RECEIVED: W. J. Murphy | 1/26/03 | 14:24 |
| RELINQUISHED: W. J. Murphy | 1/26/03 | 16:56 |
| RECEIVED: W. J. Murphy | 1/26/03 | 16:56 |

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

AMBIENT °C Upon Receipt at LA

4/

W. J. Murphy



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0365

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/26/2023
Reported: 01/31/2023

Analytical Testing Parameters

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF1-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:55 |
| Lab Sample ID: | L3A0365-01 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.79 | 1 | S.U. | 1 | | 01/26/23 0855 | 01/28/23 0000 | SUB |
| UV 254 | 0.041 | 0.001 | abs/cm | 1 | | 01/26/23 0855 | 01/28/23 0000 | SUB |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | GSF-Influent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:53 |
| Lab Sample ID: | L3A0365-02 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.85 | 1 | S.U. | 1 | | 01/26/23 0853 | 01/28/23 0000 | SUB |
| UV 254 | 0.041 | 0.001 | abs/cm | 1 | | 01/26/23 0853 | 01/28/23 0000 | SUB |

| | | | |
|-------------------|----------------|------------------|-----------------|
| Client Sample ID: | HWWC-Raw | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:45 |
| Lab Sample ID: | L3A0365-03 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.97 | 1 | S.U. | 1 | | 01/26/23 0845 | 01/28/23 0000 | SUB |
| UV 254 | 0.065 | 0.001 | abs/cm | 1 | | 01/26/23 0845 | 01/28/23 0000 | SUB |

| | | | |
|-------------------|------------------|------------------|-----------------|
| Client Sample ID: | SS Filter 1-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:48 |
| Lab Sample ID: | L3A0365-04 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.71 | 1 | S.U. | 1 | | 01/26/23 0848 | 01/28/23 0000 | SUB |
| UV 254 | 0.052 | 0.001 | abs/cm | 1 | | 01/26/23 0848 | 01/28/23 0000 | SUB |



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0365

| | | | |
|--------------------------|------------------|-------------------------|-----------------|
| Client Sample ID: | SS Filter 2-Eff. | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:50 |
| Lab Sample ID: | L3A0365-05 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.9 | 1 | S.U. | 1 | | 01/26/23 0850 | 01/28/23 0000 | SUB |
| UV 254 | 0.049 | 0.001 | abs/cm | 1 | | 01/26/23 0850 | 01/28/23 0000 | SUB |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 8:58 |
| Lab Sample ID: | L3A0365-06 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.93 | 1 | S.U. | 1 | | 01/26/23 0858 | 01/28/23 0000 | SUB |
| UV 254 | 0.034 | 0.001 | abs/cm | 1 | | 01/26/23 0858 | 01/28/23 0000 | SUB |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3-Effluent | Collected By: | Sean Murphy |
| Sample Matrix: | Drinking Water | Collection Date: | 01/26/2023 9:00 |
| Lab Sample ID: | L3A0365-07 | | |

Analyses Performed by: Phoenix Environmental Laboratories, Inc

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------|--------|-------|--------|----|------|---------------|---------------|---------|
| SM5910 B-2000 | | | | | | | | |
| pH | 7.78 | 1 | S.U. | 1 | | 01/26/23 0900 | 01/28/23 0000 | SUB |
| UV 254 | 0.036 | 0.001 | abs/cm | 1 | | 01/26/23 0900 | 01/28/23 0000 | SUB |

Definitions

- abs/cm:** Absorbance per Centimeter
- MCL:** US EPA Maximum Contaminant Level
- RL:** Reporting Limit
- S.U.:** Standard Units

Project Requested Certification(s)

Phoenix Environmental Laboratories, Inc
 PH-0618
 M-CT007
 63

Connecticut Department of Public Health
 Massachusetts Department of Environmental Protection
 Rhode Island Department of Health



Microbac Laboratories, Inc., Lee

CERTIFICATE OF ANALYSIS

L3A0365

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

A handwritten signature in black ink that reads "Christine F. Reynolds".

Christine F. Reynolds

Service Center Manager

Reported: 01/31/2023 15:37



Chain of Custody



L 3 A 0 3 6 5

NWSI - Northeast Water Solutions, Inc.

80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50

WWW.Microbac.com

Copy of Report To
CUSTOMER: Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nws.net
PHONE: 401-667-7463

Billing Information (for credit card only)
BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nws.net
TELEPHONE:
Fax:

Table with columns: Sample Identification, Date Collected, Time Collected, Sample Type (COMPOSITE, GRAB), Sample Matrix, # of containers, UV254, Analysis, Preservatives (Non-pres, HCL, HNO3, NH4Cl, Sulfuric). Rows include GSF1-Effluent, GSF-Influent, HWWC-Raw, SS Filter 1-Eff., SS Filter 2-Eff., GSF2-Effluent, GSF3-Effluent, and TRIP-BLANK.

CUSTODY TRANSFER (at drop off) table with columns: SAMPLER, RECEIVED, RELINQUISHED, DATE, TIME. Includes handwritten signatures and dates.

TURNAROUND (INDICATE IN CALENDAR DAYS):
HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE
COMMENTS:
Cash Check# Auth#
Please do not list credit card numbr on paperwork
CONDITIONS UPON RECEIPT: (CHECK ONE)
[] COOLED [] AMBIENT 4.1 °C Upon Receipt at Lab



Monday, January 30, 2023

Attn: Shelby Jendrewski
Microbac Laboratories, Inc
80 Run Way
Lee, MA 01238

Project ID: L3A0365
SDG ID: GCN31125
Sample ID#s: CN31125 - CN31131

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

January 30, 2023

SDG I.D.: GCN31125

Project ID: L3A0365

| Client Id | Lab Id | Matrix |
|------------|---------|----------------|
| L3A0365-01 | CN31125 | DRINKING WATER |
| L3A0365-02 | CN31126 | DRINKING WATER |
| L3A0365-03 | CN31127 | DRINKING WATER |
| L3A0365-04 | CN31128 | DRINKING WATER |
| L3A0365-05 | CN31129 | DRINKING WATER |
| L3A0365-06 | CN31130 | DRINKING WATER |
| L3A0365-07 | CN31131 | DRINKING WATER |



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 30, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SR1
 Analyzed by: see "By" below

Date

01/26/23
 01/27/23

Time

8:55
 10:42

Laboratory Data

SDG ID: GCN31125
 Phoenix ID: CN31125

Project ID: L3A0365
 Client ID: L3A0365-01

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|--------|---------------|
| pH | 7.79 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/28/23 01:41 | MW/KDB | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.041 | 0.001 | 1 | /cm | | | | 01/28/23 00:32 | AKS | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 30, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 30, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SR1
 Analyzed by: see "By" below

Date

01/26/23
 01/27/23

Time

8:53
 10:42

Laboratory Data

SDG ID: GCN31125
 Phoenix ID: CN31126

Project ID: L3A0365
 Client ID: L3A0365-02

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|--------|---------------|
| pH | 7.85 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/28/23 01:43 | MW/KDB | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.040 | 0.001 | 1 | /cm | | | | 01/28/23 00:35 | AKS | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 30, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 30, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SR1
 Analyzed by: see "By" below

Date

01/26/23
 01/27/23

Time

8:45
 10:42

Laboratory Data

SDG ID: GCN31125
 Phoenix ID: CN31127

Project ID: L3A0365
 Client ID: L3A0365-03

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|--------|---------------|
| pH | 7.97 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/28/23 01:46 | MW/KDB | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.065 | 0.001 | 1 | /cm | | | | 01/28/23 00:40 | AKS | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

January 30, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 30, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SR1
 Analyzed by: see "By" below

Date

01/26/23
 01/27/23

Time

8:48
 10:42

Laboratory Data

SDG ID: GCN31125
 Phoenix ID: CN31128

Project ID: L3A0365
 Client ID: L3A0365-04

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|--------|---------------|
| pH | 7.71 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/28/23 01:48 | MW/KDB | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.052 | 0.001 | 1 | /cm | | | | 01/28/23 00:43 | AKS | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 30, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 30, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SR1
 Analyzed by: see "By" below

Date

01/26/23
 01/27/23

Time

8:50
 10:42

Laboratory Data

SDG ID: GCN31125
 Phoenix ID: CN31129

Project ID: L3A0365
 Client ID: L3A0365-05

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|--------|---------------|
| pH | 7.90 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/28/23 02:14 | MW/KDB | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.049 | 0.001 | 1 | /cm | | | | 01/28/23 00:46 | AKS | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 30, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 30, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SR1
 Analyzed by: see "By" below

Date

01/26/23
 01/27/23

Time

8:58
 10:42

Laboratory Data

SDG ID: GCN31125
 Phoenix ID: CN31130

Project ID: L3A0365
 Client ID: L3A0365-06

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|--------|---------------|
| pH | 7.93 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/28/23 02:17 | MW/KDB | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.034 | 0.001 | 1 | /cm | | | | 01/28/23 00:48 | AKS | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 30, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
 January 30, 2023

FOR: Attn: Shelby Jendrewski
 Microbac Laboratories, Inc
 80 Run Way
 Lee, MA 01238

Sample Information

Matrix: DRINKING WATER
 Location Code: MICROBAC-MA
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by: SM
 Received by: SR1
 Analyzed by: see "By" below

Date

01/26/23
 01/27/23

Time

9:00
 10:42

Laboratory Data

SDG ID: GCN31125
 Phoenix ID: CN31131

Project ID: L3A0365
 Client ID: L3A0365-07

| Parameter | Result | RL/ PQL | DIL | Units | AL | MCL | Other | Date/Time | By | Reference |
|---------------------|--------|------------|-----|----------|----|-----|---------|----------------|--------|---------------|
| pH | 7.78 | 1.00 | 1 | pH Units | | | 6.5-8.5 | 01/28/23 02:19 | MW/KDB | SM4500-H B-11 |
| UV-254 (Absorbance) | 0.036 | 0.001 | 1 | /cm | | | | 01/28/23 00:51 | AKS | SM5910B-00 |

RL/PQL=Reporting/Practical Quantitation Level DIL=Dilution (analysis required diluting to evaluate) ND=Not Detected
 BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.)
 AL = Action Level MCL = Maximum Contaminant Level Other = Other Goals or Guidances

Comments:

Other Levels (OTHER): 40 CFR Part 143 Secondary Goals. Other are non-enforceable goals or guidances.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

UV-254:

The sample was filtered using a 0.45um filter and read at a wavelength of 256nm.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 30, 2023

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
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 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 30, 2023


QA/QC Data

SDG I.D.: GCN31125

| Parameter | Blank | Blk RL | Sample Result | Dup Result | Dup RPD | LCS % | LCSD % | LCS RPD | MS % | MSD % | MS RPD | % Rec Limits | % RPD Limits |
|---|-------|-----------|------------------|---------------|------------|----------|-----------|------------|---------|----------|-----------|--------------------|--------------------|
| QA/QC Batch 661919 (pH), QC Sample No: CN31129 (CN31129, CN31130, CN31131) | | | | | | | | | | | | | |
| pH | | | 7.90 | 7.82 | 1.00 | 99.3 | | | | | | 85 - 115 | 20 |
| Comment: Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 661918 (pH), QC Sample No: CN31220 (CN31125, CN31126, CN31127, CN31128) | | | | | | | | | | | | | |
| pH | | | 6.65 | 6.60 | 0.80 | 99.5 | | | | | | 85 - 115 | 20 |
| Comment: Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%. | | | | | | | | | | | | | |
| QA/QC Batch 661915 (/cm), QC Sample No: CN31125 (CN31125, CN31126, CN31127, CN31128, CN31129, CN31130, CN31131) | | | | | | | | | | | | | |
| UV-254 (Absorbance) | BRL | 0 | 0.041 | 0.037 | 10.3 | 101 | | | | | | | |

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference


 Phyllis Shiller, Laboratory Director
 January 30, 2023

Monday, January 30, 2023

Criteria: MA: DW

State: MA

Sample Criteria Exceedances Report

GCN31125 - MICROBAC-MA

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|
|--------|-------|-----------------|----------|--------|----|----------|----------------|-------------------|

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

January 30, 2023

SDG I.D.: GCN31125

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.



SUBCONTRACTED CHAIN OF CUSTODY

L3A0365

4.8cc
WC
IFM

| SENDING LABORATORY: | RECEIVING LABORATORY: |
|---|--|
| Microbac Laboratories, Inc., Lee 80 Run Way Lee, MA 01238 Phone: 413-776-5025 Lab Manager: Shelby Jendrewski Email: Shelby.Jendrewski@microbac.com | Phoenix Environmental Laboratories, Inc 587 E Middle TPKE PO BOX 370 Manchester, CT 06040 Phone: (860) 645-1102 |

Project Info:

PWSID: Project Type: ENV-DrinkingWater Report TAT: ^{std} 5
Project Location: Massachusetts Due: ~~02/02/2023 17:00~~

Project Requested Certifications

Massachusetts Department of Environmental Protection

Sample ID: L3A0365-01 ³¹¹²⁵ Sampled: 01/26/2023 08:55 Sampler: Sean Murphy
Matrix: Drinking Water Description: GSF1-Effluent
Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 02/02/2023 16:00 | 01/26/2023 09:09 |
| UV254 SM5910-B | SM5910 B-2000 | 02/02/2023 16:00 | 01/28/2023 08:55 |

Sample ID: L3A0365-02 ³¹¹²⁶ Sampled: 01/26/2023 08:53 Sampler: Sean Murphy
Matrix: Drinking Water Description: GSF-Influent
Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 02/02/2023 16:00 | 01/26/2023 09:07 |
| UV254 SM5910-B | SM5910 B-2000 | 02/02/2023 16:00 | 01/28/2023 08:53 |

Sample ID: L3A0365-03 ³¹¹²⁷ Sampled: 01/26/2023 08:45 Sampler: Sean Murphy
Matrix: Drinking Water Description: HWWC-Raw
Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 02/02/2023 16:00 | 01/26/2023 08:59 |
| UV254 SM5910-B | SM5910 B-2000 | 02/02/2023 16:00 | 01/28/2023 08:45 |

Sample ID: L3A0365-04 ³¹¹²⁸ Sampled: 01/26/2023 08:48 Sampler: Sean Murphy
Matrix: Drinking Water Description: SS Filter 1-Eff.
Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 02/02/2023 16:00 | 01/26/2023 09:02 |
| UV254 SM5910-B | SM5910 B-2000 | 02/02/2023 16:00 | 01/28/2023 08:48 |



SUBCONTRACTED CHAIN OF CUSTODY
L3A0365

4,800
WCC
IPK

Project Requested Certifications

Massachusetts Department of Environmental Protection

Sample ID: L3A0365-05 31129

Sampled: 01/26/2023 08:50

Sampler: Sean Murphy

Matrix: Drinking Water

Description: SS Filter 2-Eff.

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 02/02/2023 16:00 | 01/26/2023 09:04 |
| UV254 SM5910-B | SM5910 B-2000 | 02/02/2023 16:00 | 01/28/2023 08:50 |

Sample ID: L3A0365-06 31130

Sampled: 01/26/2023 08:58

Sampler: Sean Murphy

Matrix: Drinking Water

Description: GSF2-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 02/02/2023 16:00 | 01/26/2023 09:12 |
| UV254 SM5910-B | SM5910 B-2000 | 02/02/2023 16:00 | 01/28/2023 08:58 |

Sample ID: L3A0365-07 * 31131

Sampled: 01/26/2023 09:00

Sampler: Sean Murphy

Matrix: Drinking Water

Description: GSF3-Effluent

Loc ID:

| Analysis | Method | Analysis Due | Expires |
|----------------|---------------|-----------------------------|------------------|
| pH for UV | SM5910 B-2000 | 02/02/2023 16:00 | 01/26/2023 09:14 |
| UV254 SM5910-B | SM5910 B-2000 | 02/02/2023 16:00 | 01/28/2023 09:00 |

* One vial from L3A0365-07 received broken.

Rec'd 2-60mL vials per sample

CF Reynolds
Released By

1-26-23
Date

FedEx
Received By

Date

FedEx

[Signature]
Received By

1/27/23 1042
Date

Released By

Date

Received By

Date



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2356

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/27/2023
Reported: 02/03/2023

Analytical Testing Parameters

Table with sample details: Client Sample ID (GSF1 Backwash 2 Min.), Sample Matrix (Aqueous), Lab Sample ID (D3A2356-01), Collected By (Customer), Collection Date (01/27/2023 9:12)

Inorganics Total

Table row for SM 2540 D-2015: Total Suspended Solids (TSS) with Result 11.8, RL 5.00, Units mg/L, DF 2, Note, Prepared 01/30/23 1540, Analyzed 01/31/23 1520, Analyst AJD

General Parameters

Table row for SM 2130 B-2011: Turbidity with Result 50.5, RL 0.100, Units NTU, DF 1, Note Y1, Prepared, Analyzed 01/27/23 1840, Analyst AMF

Metals Total by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with Result 3.21, RL 0.00200, Units mg/L, DF 1, Note, Prepared 01/30/23 1520, Analyzed 01/31/23 1425, Analyst DLO

Table with sample details: Client Sample ID (GSF1 Backwash 4 Min.), Sample Matrix (Aqueous), Lab Sample ID (D3A2356-02), Collected By (Customer), Collection Date (01/27/2023 9:14)

Inorganics Total

Table row for SM 2540 D-2015: Total Suspended Solids (TSS) with Result 9.60, RL 5.00, Units mg/L, DF 2, Note, Prepared 01/30/23 1540, Analyzed 01/31/23 1520, Analyst AJD

General Parameters

Table row for SM 2130 B-2011: Turbidity with Result 52.5, RL 0.100, Units NTU, DF 1, Note Y1, Prepared, Analyzed 01/27/23 1840, Analyst AMF

Metals Total by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with Result 2.39, RL 0.00200, Units mg/L, DF 1, Note, Prepared 01/30/23 1520, Analyzed 01/31/23 1429, Analyst DLO



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2356

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:16 |
| Lab Sample ID: | D3A2356-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 6.77 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 47.0 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.473 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1433 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:18 |
| Lab Sample ID: | D3A2356-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.88 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 43.0 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.78 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1446 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:20 |
| Lab Sample ID: | D3A2356-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.66 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 40.2 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.576 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1450 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2356

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:22 |
| Lab Sample ID: | D3A2356-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 5.11 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 37.9 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.49 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1455 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:24 |
| Lab Sample ID: | D3A2356-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.11 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 37.3 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.46 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1459 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:26 |
| Lab Sample ID: | D3A2356-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.00 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 36.2 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.23 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1512 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2356

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:28 |
| Lab Sample ID: | D3A2356-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.11 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 35.3 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.01 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1516 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 20 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:30 |
| Lab Sample ID: | D3A2356-10 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.55 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 35.4 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.39 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1520 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF1 Backwash 22 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:32 |
| Lab Sample ID: | D3A2356-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 6.11 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 34.8 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.652 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 01/31/23 1525 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2356

Definitions

MCL: US EPA Maximum Contaminant Level
mg/L: Milligrams per Liter
NTU: Nephelometric Turbidity Units
RL: Reporting Limit
Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 02/03/2023 13:04

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsj.net
PHONE: 401-667-7463

Billing Information (for credit card only)

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project Information

Project: **Housatonic HWWC**
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsj.net
TELEPHONE:
Fax:



D 3 A 2 3 5 6
NWSI - Northeast Water Solutions, inc.

Lab WO#: _____
Project Manager: _____

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | TSS, Turbidity | Analysis | Preservatives | | | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|----------------|----------|---------------|-----|------|-------|----------|
| | | | COMPOSITE | GRAB | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric |
| GSF Backwash 2 min. | 1/27/23 | 9:10 | X | X | 2 | X | | X | | | | |
| GSF Backwash 4 Min. | | 9:14 | X | X | 2 | X | | X | | | | |
| GSF Backwash 6 Min. | | 9:16 | X | X | 2 | X | | X | | | | |
| GSF Backwash 8 Min. | | 9:18 | X | X | 2 | X | | X | | | | |
| GSF Backwash 10 min | | 9:20 | X | X | 2 | X | | X | | | | |
| GSF Backwash 12 Min | | 9:22 | X | X | 2 | X | | X | | | | |
| GSF Backwash 14 min | | 9:24 | X | X | 2 | X | | X | | | | |
| GSF Backwash 16 min | | 9:26 | X | X | 2 | X | | X | | | | |
| GSF Backwash 18 min | | 9:28 | X | X | 2 | X | | X | | | | |
| GSF Backwash 20 Min | | 9:30 | X | X | 2 | X | | X | | | | |
| GSF Backwash 22 min | | 9:32 | X | X | 2 | X | | X | | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

_____ HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|-----------|-------|
| SAMPLER: <i>[Signature]</i> | 1/27/23 | 10:00 |
| RECEIVED: <i>[Signature]</i> | 1/27/23 | 10:20 |
| RELINQUISHED: <i>[Signature]</i> | 1/27/23 | 13:35 |
| RECEIVED: <i>[Signature]</i> | 1/27/23 | 13:35 |
| RELINQUISHED: <i>[Signature]</i> | 1/27/2023 | 16:20 |
| RECEIVED: <i>[Signature]</i> | 1-27-23 | 16:20 |

COMMENTS:

Cash _____ Check# _____ Auth#: _____
Please do not list credit card number on paperwork
CONDITIONS UPON RECEIPT: (CHECK ONE)
 COOLED AMBIENT °C Upon Receipt at LAB

PRESERVATIVE
VERIFIED
Initials *[Signature]*

36°C



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2357

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/27/2023
Reported: 02/03/2023

Analytical Testing Parameters

Table with sample details: Client Sample ID: GSF2 Backwash 2 Min., Sample Matrix: Aqueous, Lab Sample ID: D3A2357-01, Collected By: Customer, Collection Date: 01/27/2023 8:47

Inorganics Total

Table row for SM 2540 D-2015: Total Suspended Solids (TSS) with Result 12.4, RL 5.00, Units mg/L, DF 2, Note R3, Prepared 01/30/23 1540, Analyzed 01/31/23 1520, Analyst AJD

General Parameters

Table row for SM 2130 B-2011: Turbidity with Result 46.1, RL 0.100, Units NTU, DF 1, Note Y1, Prepared, Analyzed 01/27/23 1840, Analyst AMF

Metals Total by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with Result 0.669, RL 0.00200, Units mg/L, DF 1, Note, Prepared 01/30/23 1520, Analyzed 02/01/23 1432, Analyst DLO

Table with sample details: Client Sample ID: GSF2 Backwash 4 Min., Sample Matrix: Aqueous, Lab Sample ID: D3A2357-02, Collected By: Customer, Collection Date: 01/27/2023 8:49

Inorganics Total

Table row for SM 2540 D-2015: Total Suspended Solids (TSS) with Result 10.2, RL 5.00, Units mg/L, DF 2, Note, Prepared 01/30/23 1540, Analyzed 01/31/23 1520, Analyst AJD

General Parameters

Table row for SM 2130 B-2011: Turbidity with Result 49.8, RL 0.100, Units NTU, DF 1, Note Y1, Prepared, Analyzed 01/27/23 1840, Analyst AMF

Metals Total by ICP

Table row for EPA 200.7, Rv. 4.4 (1994): Manganese with Result 6.93, RL 0.00200, Units mg/L, DF 1, Note, Prepared 01/30/23 1520, Analyzed 02/01/23 1435, Analyst DLO



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2357

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:51 |
| Lab Sample ID: | D3A2357-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.66 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 43.8 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.89 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1439 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:53 |
| Lab Sample ID: | D3A2357-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.55 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 33.3 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 4.21 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1443 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:55 |
| Lab Sample ID: | D3A2357-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 9.77 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 29.9 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.949 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1446 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2357

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:57 |
| Lab Sample ID: | D3A2357-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.77 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 28.6 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.12 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1457 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:59 |
| Lab Sample ID: | D3A2357-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.77 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 27.9 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.01 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1501 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:01 |
| Lab Sample ID: | D3A2357-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.33 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 27.1 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.01 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1504 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2357

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:03 |
| Lab Sample ID: | D3A2357-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.55 | 2.78 | mg/L | 1 | | 01/30/23 1540 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.1 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.827 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1508 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 20 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:05 |
| Lab Sample ID: | D3A2357-10 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1 | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.2 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.824 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1519 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 Backwash 22 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 9:07 |
| Lab Sample ID: | D3A2357-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1 | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 25.9 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.508 | 0.00200 | mg/L | 1 | | 01/30/23 1520 | 02/01/23 1523 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2357

Definitions

- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- R3:** Duplicate RPD is outside of acceptance criteria. The difference between the results is less than 2x Method Reporting Limit.
- RL:** Reporting Limit
- Y1:** Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <<https://www.microbac.com/standard-terms-conditions>>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 02/03/2023 13:07

620



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-51

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsj.net
PHONE: 401-667-7463



D 3 A 2 3 5 7
NWSI - Northeast Water Solutions, Inc.

Lab WO#: _____
Project Manager: _____

Project Information

Project: **Housatonic HWWC**
Project Location: Housatonic MA
Project Manager: _____
EMAIL: smurphy@nwsj.net
TELEPHONE: _____
Fax: _____

BILL TO: same
ADDRESS: _____
ATTENTION: _____
TELEPHONE: _____
PURCHASE ORDER #: _____

| Sample Identification | Date Collected | Sample Type | | # of containers | TSS, Turbidity | Analysis | | | | Preservatives | | | |
|-----------------------|----------------|-------------|------|-----------------|----------------|---------------|----------|----------|-----|---------------|-------|----------|--|
| | | COMPOSITE | Grab | | | Sample Matrix | Total Mn | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | |
| GSF Backwash 2 min. | 1/27/03 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 4 Min. | 8:49 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 6 Min. | 8:51 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 8 Min. | 8:53 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 10 min | 8:55 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 12 Min | 8:57 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 14 min | 8:59 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 16 min | 9:01 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 18 min | 9:03 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 20 Min | 9:05 | | X | aq | 2 | X | | | | X | | | |
| GSF Backwash 22 min | 9:07 | | X | aq | 2 | X | | | | X | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT Upon Receipt at LAB

1.8 °C
3.6 °C

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|----------------------------------|---------|-------|
| SAMPLER: <i>[Signature]</i> | 1/27/03 | 10:00 |
| RECEIVED: <i>[Signature]</i> | 1/27/03 | 10:20 |
| RELINQUISHED: <i>[Signature]</i> | 1/27/03 | 13:35 |
| RECEIVED: <i>[Signature]</i> | 1/27/03 | 13:35 |
| RELINQUISHED: <i>[Signature]</i> | 1/27/03 | 16:20 |
| RECEIVED: <i>[Signature]</i> | 1/27/03 | 16:20 |

PRESERVATIVE
VERIFIED
Initials *[Signature]*



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2358

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/27/2023
Reported: 02/03/2023

Analytical Testing Parameters

| | | | |
|-------------------|----------------------|------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 2 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:16 |
| Lab Sample ID: | D3A2358-01 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 12.8 | 5.00 | mg/L | 2 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | | | | | | | | |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 45.8 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | | | | | | | | |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 3.92 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1603 | DLO |

| | | | |
|-------------------|----------------------|------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 4 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:18 |
| Lab Sample ID: | D3A2358-02 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 7.60 | 5.00 | mg/L | 2 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | | | | | | | | |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 42.3 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | | | | | | | | |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 2.15 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1606 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2358

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 6 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:20 |
| Lab Sample ID: | D3A2358-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.44 | 2.78 | mg/L | 1 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 34.0 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.986 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1610 | DLO |

| | | | |
|--------------------------|----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 8 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:22 |
| Lab Sample ID: | D3A2358-04 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 4.44 | 2.78 | mg/L | 1 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 33.8 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.918 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1614 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 10 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:24 |
| Lab Sample ID: | D3A2358-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.77 | 2.78 | mg/L | 1 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 30.9 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.20 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1617 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2358

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 12 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:26 |
| Lab Sample ID: | D3A2358-06 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.11 | 2.78 | mg/L | 1 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 27.1 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.755 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1628 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 14 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:28 |
| Lab Sample ID: | D3A2358-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.55 | 2.78 | mg/L | 1 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 28.1 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.786 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1632 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 16 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:30 |
| Lab Sample ID: | D3A2358-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.77 | 2.78 | mg/L | 1 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 26.2 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 1.13 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1635 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2358

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 18 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:32 |
| Lab Sample ID: | D3A2358-09 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.22 | 2.78 | mg/L | 1 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 25.6 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.870 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1639 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 20 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:34 |
| Lab Sample ID: | D3A2358-10 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | 3.44 | 2.78 | mg/L | 1 | | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 24.9 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.790 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1650 | DLO |

| | | | |
|--------------------------|-----------------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 Backwash 22 Min. | Collected By: | Customer |
| Sample Matrix: | Aqueous | Collection Date: | 01/27/2023 8:36 |
| Lab Sample ID: | D3A2358-11 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|--------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-2015 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1 | 01/30/23 1655 | 01/31/23 1520 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2130 B-2011 | | | | | | | | |
| Turbidity | 25.2 | 0.100 | NTU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | 0.718 | 0.00200 | mg/L | 1 | | 01/31/23 1530 | 02/01/23 1654 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2358

Definitions

- L1: Elevated reporting limit due to insufficient sample.
- MCL: US EPA Maximum Contaminant Level
- mg/L: Milligrams per Liter
- NTU: Nephelometric Turbidity Units
- RL: Reporting Limit
- Y1: Accreditation is not offered by the accrediting body for this analyte.

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

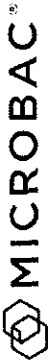
Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <<https://www.microbac.com/standard-terms-conditions>>.***

Reviewed and Approved By:

Melisa L. Montgomery
Quality Assurance Officer
Reported: 02/03/2023 13:08



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-50

Copy of Report To

CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County TRL
Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsj.net
PHONE: 401-667-7463

B

BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

Project Information

Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsj.net
TELEPHONE:
Fax:



D 3 A 2 3 5 8
NWSI - Northeast Water Solutions, inc.

Lab WO#: _____
Project Manager: _____

| Sample Identification | Date Collected | Time Collected | Sample Type | | # of containers | TSS, Turbidity | Analysis | | | | Preservatives | | | |
|-----------------------|----------------|----------------|-------------|------|-----------------|----------------|----------|----------|-----|------|---------------|----------|---|---|
| | | | COMPOSITE | GRAB | | | Total Mn | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric | | |
| GSF 3 Backwash 2 min. | 1/27/03 | 8:16 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 4 Min. | | 8:18 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 6 Min. | | 8:20 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 8 Min. | | 8:22 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 10 min | | 8:24 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 12 Min | | 8:26 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 14 min | | 8:28 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 16 min | | 8:30 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 18 min | | 8:32 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 20 Min | | 8:34 | X | aq | 2 | X | X | X | X | X | X | X | X | X |
| GSF 3 Backwash 22 min | | 8:36 | X | aq | 2 | X | X | X | X | X | X | X | X | X |

TURNAROUND (INDICATE IN CALENDAR DAYS):

HARD COPY or E-MAIL
EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

| CUSTODY TRANSFER (at drop off) | DATE | TIME |
|--------------------------------|-----------|-------|
| SAMPLER: | 1/27/03 | 10:00 |
| RECEIVED: | 1/27/03 | 10:20 |
| RELINQUISHED: | 1/27/03 | 10:35 |
| RECEIVED: | 1-27-2003 | 1:25 |
| RELINQUISHED: | 1-27-2003 | 1:25 |
| RECEIVED: | 1-27-03 | 16:20 |

COMMENTS:

Cash _____ Check# _____ Auth#:

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT °C Upon Receipt at LAB

PRESERVATIVE
VERIFIED
Initials RV



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2359

Northeast Water Solutions, Inc

Project Name: HWWC

Robert Ferrari
567 S County TRL
Exeter, RI 02822

Project / PO Number: N/A
Received: 01/27/2023
Reported: 02/01/2023

Analytical Testing Parameters

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, and Collected By/Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A2359-01, and Customer 01/27/2023 7:42.

Inorganics Total

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for SM 2540 D-1997 Total Suspended Solids (TSS) with result <2.78.

General Parameters

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for SM 2120 B-2001 (Color) and SM 2130 B-2001 (Turbidity), and SM 4500-H+ B-2000 (pH).

Metals Total by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Rows for EPA 200.7, Rv. 4.4 (1994) Manganese and Iron.

Table with 4 columns: Client Sample ID, Sample Matrix, Lab Sample ID, and Collected By/Collection Date. Values include GSF1 - Effluent, Drinking Water, D3A2359-02, and Customer 01/27/2023 7:42.

Metals Dissolved by ICP

Table with 10 columns: Result, RL, Units, DF, Note, Prepared, Analyzed, Analyst. Row for EPA 200.7, Rv. 4.4 (1994) Manganese.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2359

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/27/2023 7:45 |
| Lab Sample ID: | D3A2359-03 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|------------------|--------|----|-------|----|------|----------|----------|---------|
|------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|------------------------------|-------|------|------|---|------|---------------|---------------|-----|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <3.13 | 3.13 | mg/L | 1 | L1,Y | 01/30/23 1920 | 01/31/23 1550 | AJD |

| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|--------------------|--------|----|-------|----|------|----------|----------|---------|
|--------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|-----------------------|----|---|----|---|----|--|---------------|-----|
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/27/23 1840 | AMF |

| | | | | | | | | |
|-----------------------|--------|-------|-----|---|--|--|---------------|-----|
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/27/23 1840 | AMF |

| | | | | | | | | |
|--------------------------|------|--|------|---|----|--|---------------|-----|
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.59 | | S.U. | 1 | H1 | | 01/27/23 1840 | AMF |

| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|---------------------|--------|----|-------|----|------|----------|----------|---------|
|---------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1821 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1821 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF2 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/27/2023 7:45 |
| Lab Sample ID: | D3A2359-04 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-------------------------|--------|----|-------|----|------|----------|----------|---------|
|-------------------------|--------|----|-------|----|------|----------|----------|---------|

| | | | | | | | | |
|----------------------------------|----------|---------|------|---|--|---------------|---------------|-----|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1833 | DLO |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2359

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/27/2023 7:47 |
| Lab Sample ID: | D3A2359-05 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <2.78 | 2.78 | mg/L | 1 | L1,Y | 01/30/23 1920 | 01/31/23 1550 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/27/23 1840 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/27/23 1840 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.54 | | S.U. | 1 | H1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1838 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1838 | DLO |

| | | | |
|--------------------------|-----------------|-------------------------|-----------------|
| Client Sample ID: | GSF3 - Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/27/2023 7:47 |
| Lab Sample ID: | D3A2359-06 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1841 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF-Effluent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/27/2023 7:50 |
| Lab Sample ID: | D3A2359-07 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|-----------------------|--------|------|------------|----|------|----------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 81.7 | 1.00 | mg CaCO3/L | 1 | | | 01/28/23 1828 | AMF |



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2359

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/27/2023 7:40 |
| Lab Sample ID: | D3A2359-08 | | |

| Inorganics Total | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|------------|----|------|---------------|---------------|---------|
| SM 2320 B-1997 | | | | | | | | |
| Alkalinity to pH 4.5 | 80.0 | 1.00 | mg CaCO3/L | 1 | | | 01/28/23 1828 | AMF |
| SM 2540 D-1997 | | | | | | | | |
| Total Suspended Solids (TSS) | <6.25 | 6.25 | mg/L | 3 | L1,Y | 01/30/23 1920 | 01/31/23 1550 | AJD |
| General Parameters | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| SM 2120 B-2001 | | | | | | | | |
| Color - Apparent | <1 | 1 | CU | 1 | Y1 | | 01/27/23 1840 | AMF |
| Color - True | 0 | | CU | 1 | Y1 | | 01/27/23 1840 | AMF |
| SM 2130 B-2001 | | | | | | | | |
| Turbidity | <0.100 | 0.100 | NTU | 1 | | | 01/27/23 1840 | AMF |
| SM 4500-H+ B-2000 | | | | | | | | |
| pH | 7.50 | | S.U. | 1 | H1 | | 01/27/23 1840 | AMF |
| Metals Total by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1845 | DLO |
| Iron | <0.0500 | 0.0500 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1845 | DLO |

| | | | |
|--------------------------|----------------|-------------------------|-----------------|
| Client Sample ID: | GSF - Influent | Collected By: | Customer |
| Sample Matrix: | Drinking Water | Collection Date: | 01/27/2023 7:40 |
| Lab Sample ID: | D3A2359-09 | | |

| Metals Dissolved by ICP | Result | RL | Units | DF | Note | Prepared | Analyzed | Analyst |
|----------------------------------|----------|---------|-------|----|------|---------------|---------------|---------|
| EPA 200.7, Rv. 4.4 (1994) | | | | | | | | |
| Manganese | <0.00204 | 0.00204 | mg/L | 1 | | 01/30/23 1400 | 01/30/23 1849 | DLO |

Definitions

- CU:** Color Unit
- H1:** Sample was received past holding time.
- L1:** Elevated reporting limit due to insufficient sample.
- MCL:** US EPA Maximum Contaminant Level
- mg CaCO3/L:** Milligrams Calcium Carbonate per Liter
- mg/L:** Milligrams per Liter
- NTU:** Nephelometric Turbidity Units
- RL:** Reporting Limit
- S.U.:** Standard Units
- SMCL:** US EPA Secondary Maximum Contaminant Level
- Y:** This analyte is not on the laboratory's current scope of accreditation.
- Y1:** Accreditation is not offered by the accrediting body for this analyte.



Microbac Laboratories, Inc. - Dayville

CERTIFICATE OF ANALYSIS

D3A2359

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
M-CT008

Massachusetts Department of Environmental Protection

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

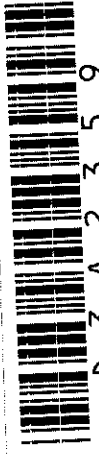
A handwritten signature in black ink that reads "Melisa L. Montgomery".

Melisa L. Montgomery
Quality Assurance Officer
Reported: 02/01/2023 15:24

Microbac Laboratories, Inc.

61 Louisa Viens Drive | Dayville, CT 06241 | 860.774.6814 p | www.microbac.com

600



Chain of Custody

WWW.Microbac.com

NWSi - Northeast Water Solutions, inc.



80 Run Way
Lee, MA 01238 (413) 776-5025 fax: 413-776-5029

Copy of Report To
CUSTOMER: NWSI-Northeast Water Solutions
ADDRESS: 567 S County Trl
 Exeter, RI 02822
ATTENTION: Robert Ferrari
E-MAIL: labreports@nwsinc.com

Project Information
Project: Housatonic HWWC
Project Location: Housatonic MA
Project Manager:
EMAIL: smurphy@nwsinc.com
TELEPHONE:
Fax:

Billing Information (for credit card only)
BILL TO: same
ADDRESS:
ATTENTION:
TELEPHONE:
PURCHASE ORDER #:

| Sample Identification | Date Collected | Sample Type | | # of containers | TSS, Color, Turbidity | Soluble Mn | Fe/Mn | Alkalinity | Preservatives | | | | |
|-----------------------|----------------|-------------|------|-----------------|-----------------------|------------|-------|------------|---------------|-----|------|-------|----------|
| | | COMPOSITE | GRAB | | | | | | Non-pres | HCL | HNO3 | NH4Cl | Sulfuric |
| GSF1- Effluent | 1/27/03 | | X | 3 | x | x | x | | X | X | | | |
| GSF2- Effluent | 1/27/03 | | X | 3 | x | x | x | | X | X | | | |
| GSF3 - Effluent | 1/27/03 | | X | 3 | x | x | x | | X | X | | | |
| GSF-Effluent | 1/27/03 | X | | 1 | | | | X | X | X | | | |
| GSF- Influent | 1/27/03 | | X | 4 | X | X | X | X | X | X | | | |

TURNAROUND (INDICATE IN CALENDAR DAYS):

| CUSTOMER TRANSFER (at drop off) | DATE | TIME |
|---------------------------------|---------|-------|
| SAMPLER: [Signature] | 1/27/03 | 10:20 |
| RECEIVED: [Signature] | 1/27/03 | 10:20 |
| RELINQUISHED: [Signature] | 1/27/03 | 13:05 |
| RECEIVED: [Signature] | 1/27/03 | 13:05 |
| RELINQUISHED: [Signature] | 1/27/03 | 16:20 |
| RECEIVED: [Signature] | 1/27/03 | 16:20 |

HARD COPY or E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS:

Cash _____ Check# _____ Auth# _____

Please do not list credit card number on paperwork

CONDITIONS UPON RECEIPT: (CHECK ONE)

COOLED AMBIENT Upon Receipt at LAB

PRESERVATIVE
VERIFIED
Initials FL

1.6
3/2/03
96