Toxicity results for the 4/6/2020 test start date were not in compliance with the permit limits. An LC_{50} value of 56% and a C-NOEC value of <5% were reported as compared to limits of 100% and ≥5%. Barnhardt Manufacturing Company (BMC) continues to investigate the cause of toxicity. In addition to testing reported with the last DMR, one of the scouring chemicals suspected to be contributing to toxicity was replaced but testing did not show any significant improvement. Toxicity testing after calcium addition is underway to evaluate the effect of low hardness and high TDS levels on toxicity. The final results on this testing are pending.

Projected Schedule for Additional Toxicity Identification Work	Expect Completion Date
1. Complete work in progress including: a. Calcium addition trials; b. Toxicity testing of cotton hot water scour liquor; and c. Evaluation of WWTP effluent toxicity following scour chemical change.	6/30/2020
2. Determine the concentrations of pesticides and herbicides commonly used for cotton growing as well as known degradation by-products for: a. Organic cotton scour liquor; b. Conventional cotton scour liquor; c. WWTP influent; and d. WWTP effluent.	7/31/2020

3. Compile results from all testing performed to identify toxicants and present report.	8/15/2020
4. Develop a plan of action for additional testing to identify toxicants and to achieve permit compliance.	8/31/2020

Since treatment alternatives previously evaluated, including activated carbon, EDTA chelation, chemical coagulation and microfiltration, have not been successful in reducing toxicity, efforts are underway to identify the source of toxicants. To investigate the presence of toxicants originating from the cotton, samples of organically grown cotton, and conventional cotton were scoured using hot water only and the water samples were tested for acute toxicity. Final results are not currently available, however preliminary results show that both samples exhibited acute toxicity to *Ceriodaphnia dubia*. This indicates that toxicants are present on the cotton and may be due to the use of pesticides and/or herbicides used during the cotton growing cycle. A laboratory has been identified to perform screening tests to determine the concentration of over 400 herbicides and pesticides including those thought to be used in the geographical regions from which BMC's cotton is sourced. This testing should be completed during June 2020.

BMC has been working proactively to identify the cause(s) of non-compliant toxicity observations reported since issuance of the current NPDES permit. Results from a number of the studies are pending and should be completed within the next few months. Based on the current status of the work, the schedule presented below is projected for completion of on-going evaluations and development of a plan of action for additional work.

It should be noted that progress to date has been hindered by Covid-19 restrictions which may also impact BMCs ability to meet the proposed dates shown above.