

April 18, 2025

BRIAN E CHRISTLE
OPERATIONS MANAGER
BESSER QUINN MACHINE & FOUNDRY
1518 12TH STREET
BOONE IA 50036
bchristle@besser.com

Re: Besser Quinn Machine & Foundry – Boone Pit
DNR ID #08-BUD-08-99
Water Quality Reporting Deficiencies

Dear Mr. Christle:

The Iowa Department of Natural Resources (DNR) has completed its review of 1) the revised First Semi-Annual 2023 Groundwater Sampling Report ([Doc #109332](#)), received February 27, 2024, 2) the First Semi-Annual 2024 Groundwater Sampling Report ([Doc #111072](#)), received October 15, 2024, and 3) the December 2024 Groundwater Sampling Summary ([Doc #111944](#)), received January 15, 2025, and has identified several issues that require further clarification/action. For ease of reference, we have used a sequential numbering system for each DNR comment under each document. Please use this format in your response.

A. Revised First Semi-Annual 2023 Groundwater Sampling Report (dated July 2023)

- 1) According to the lab data included within the revised First Semi-Annual 2023 Groundwater Sampling Report (Doc #109332) and the First Semi-Annual 2024 Groundwater Sampling Report (Doc #111072), the Appendix B ([Doc #95772](#)) parameters are being sampled. However, the narrative discussion and statistics continue to only be performed on a select subset. This is contrary to your response (Doc #109332) provided to the DNR's December 6, 2023 review comments that stated *"A table will be added to the Appendix for each monitoring well and the historic data for that particular well. The report discussion will address all analyses parameters."* Please address why this was not completed within the subsequent reports.
- 2) While this submission stated that Stone Environmental Engineering was going to test sand samples from several locations at the site to determine Appendix B parameters that could possibly be removed from the groundwater monitoring program, nothing was provided in the subsequent Semi-Annual Water Quality Report (SAWQR)(Doc #111072). Please address why this was not completed, provide a detailed sampling program description, and provide a schedule for completing this activity.
- 3) The provided sampling forms do not contain the required documentation, including but not limited to, purging volumes or stabilization of parameters before sampling. Without this documentation, the

validity of the data gathered cannot be confirmed. Please use the DNR's forms or another form that contains the necessary information on future reports.

- 4) Concerning Special Condition 9(h) of the executed beneficial use determination, an Annual Water Quality Report (AWQR) is to be submitted to the DNR by March 1st each year covering the prior year's semi-annual sampling. Given that sampling from March 2023 and June 2023 was collected, there should've been a 2023 AWQR covering this sampling data, but one was never submitted to the DNR. In addition, there has been no discussion of exceedances and statistics as far as next steps within this submission, as required by the executed determination. Please advise why this report was not submitted.
- 5) There are several instances within this report of incorrect date references and not correctly noting exceedances. At a minimum, this is confusing, but more than likely is an incorrect presentation of data, which makes it impossible to review and/or draw valid conclusions. Please resolve these quality issues in future submittals.
- 6) Cobalt and Manganese in background monitoring wells QE, QN, and QNE exceed the groundwater protection standard (GWPS). Therefore, a site-specific standard could be developed and requested in a typical situation. However, these exceedances may be a result of high total suspended solids (TSS), which is further discussed in Section B below.
- 7) Monitoring well QN has a Chloride exceedance. Please provide an evaluation if this is a valid background well.
- 8) Pursuant to Special Condition 9(h) of the executed determination, the AWQR shall *"...include a site map that delineates all monitoring points where water quality samples were taken, and plume(s) of contamination, if any."* No such site map was included within this submission. Please include a site map in future submittals.

B. First Semi-Annual 2024 Groundwater Sampling Report (dated August 2024)

- 1) According to Table 2 of the SAWQR for the August 2024 sampling event (Doc #111072), sampling also occurred in December of 2023 (3rd event of 2023). However, no statistics were run on the December 2023 data, nor was an AWQR submitted for all the 2023 data (March, June, and December). Please address why the 2023 AWQR was not submitted.
- 2) Monitoring well QE (BG) had a TSS result of 852 mg/L in August 2024, which, from our experience, is unlikely when following proper low-flow sampling procedures. Similar results (626 mg/L) for monitoring well QNW were reported. Further, there appears to be a correlation between TSS and metals, which was not discussed as previously requested. Please provide a discussion on the potential causes for the high TSS results, the potential correlation of TSS and metals, and a detailed sampling procedure to address reducing TSS.
- 3) Due to the noted statistically significant increases (SSIs), this site may need to proceed to assessment monitoring. However, there is only one round of low-flow sampling, and as noted above it appears the sampling procedures did not consistently reduce TSS. Therefore, the data is suspect and may not provide an accurate conclusion regarding groundwater impact. Please provide an analysis and discussion of the validity of the current background data set. In addition, if the data is not valid, provide a sampling

plan to obtain sufficient and suitable background data. If auto-correlation is not a concern, the DNR recommends sampling at least quarterly.

- 4) As was noted in prior submissions and pursuant to Special Condition 9(h) of the executed determination, the AWQR shall *“include a site map that delineates all monitoring points where water quality samples were taken, and plume(s) of contamination, if any.”* See comment A.8 above.

C. December 2024 Groundwater Sampling Summary

- 1) As part of this January 15, 2025 submission, there was an extension request ([Doc #111945](#)) to submit the 2024 Annual Water Quality Report (AWQR) to the DNR “after the May/June sampling event.” Pursuant to Special Condition 9(h) of the executed determination, these AWQRs “shall be submitted to the DNR by March 1st each year.” As for your extension request, the August 2024 sampling event is the first event in 2024 because the DNR allowed an extension to see if the spring rains would improve well recharge, and then sampling was delayed due to acquisition issues of low-flow sampling equipment by Stone Environmental Engineering. And as noted in the extension request, Stone Environmental Engineering sampled in December 2024. Therefore, the August 2024 and December 2024 sampling events shall be used to prepare the 2024 AWQR (do not include the Spring 2025 sampling). Please submit this report **on or before June 15, 2025**.
- 2) It appears the intent of the December 2024 Groundwater Sampling Summary submittal was to provide a SAWQR. However, as previously noted, SAWQRs are not a required report, and the DNR does not intend to review them. Instead, the DNR will closely review the 2024 and 2025 AWQRs to ensure it addresses all of the groundwater monitoring program requirements expressed within the determination.

D. Additional Comments

- 1) Due to the noted SSIs, the ongoing concerns regarding the data validity, and the unknown impact of the site on groundwater, the DNR requests a receptor survey (i.e. water wells, public drinking water intakes, etc.), so that if groundwater impact is occurring, that we are proactively determining where the plume may be going.
- 2) Future AQWR submissions that fail to include sampling, lab analysis, statistical evaluation, and reporting conducted on all parameters, as previously discussed, will be determined to be materially deficient, returned to the permit holder, and may result in escalated enforcement by the DNR.

Please respond to our comments **on or before June 13, 2025**. Meanwhile, the DNR requests an in-person meeting at our office by May 16, 2025 to address these ongoing deficiencies and to discuss plans for regaining compliance. The meeting shall include the owner’s responsible official, Stone Environmental Engineering, and the DNR. Please provide dates and times to us by May 2, 2025 .

We anticipate and appreciate your cooperation in resolving these issues. If you have any questions, please contact me at [\(515\) 725-8351](tel:5157258351) or Brian Rath at [\(515\) 537-4051](tel:5155374051).

Sincerely,

Brian L. Rath, P.E.
Environmental Engineer Senior
Land Quality Bureau

Chad A. Stobbe
Environmental Specialist Senior
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cc: Iowa DNR Field Office #5, Des Moines

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