



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Eric J. Holcomb
Governor

January 31, 2017

Bruno L. Pigott
Commissioner

Via Certified Mail 1Z 198 24W 03 9444 5552

Mr. Bryant Hoffer
Project Manager
August Mack Environmental, Inc.
1302 N. Meridian St., Suite 300
Indianapolis, Indiana 46202

Re: *Fourth Quarter 2016 Ground Water
Monitoring Report – December 29, 2016*
Lighting Resources, LLC, and MA-RI-AL
Corp., d.b.a. Beaver Materials
Case No: 2014-22417-S, 2014-22418-S,
and 2014-22460-H

Dear Mr. Hoffer:

IDEM Office of Land Quality (OLQ) staff reviewed the *Fourth Quarter 2016 Ground Water Monitoring Report* ("Report") – December 29, 2016, submitted by August Mack Environmental on behalf of the facility (VFC #80397050). The Report included the fourth quarter ground water monitoring report, a response to IDEM's November 3, 2016 *Monitoring Well Inspection* letter (VFC# 80374672), and well completion diagrams for the installation of the monitoring wells. IDEM provides the following comments:

Geology Comments

1. The Low-Flow System Purge Record does not record the water levels over the entire purging time. In addition, it appears MW-2 exceeded the four inches of drawdown, with a change of 5.52 inches from the initial to the final water level readings. Please provide all ground water level measurements and pump rates during purging in future reports, and if possible, reduce the pump rate to ensure the sampler achieves a drawdown of less than four inches.
2. The Report listed water level and turbidity measurements of 0.00 for the last four measurements at MW-5. The summary table indicates the sampler was able to collect other field parameters. Please ensure future tables include all measurements or provide an explanation for the missing data.
3. Please identify the parameters used to determine stabilization and ensure that future ground water purging meets the stability requirements before collecting samples.



4. Your response to the *Monitoring Well Inspection* letter dated November 3, 2016 (VFC# 80374672) was adequate and the well inspection is considered complete. IDEM appreciates your cooperation in ensuring proper maintenance as observed at the well head.
5. The well completion diagrams were acceptable. In the next ground water sampling report, please provide the Universal Transverse Mercator northing and easting coordinate locations collected for each well.

Chemistry Comments

1. Most of the groundwater results indicated concentrations below the Remediation Closure Guide ("RCG") Ground Water Screening Levels ("GWSLs"). However, the total and dissolved cobalt results were reported at below the reporting limit of 10 ppb. The total and dissolved cobalt reporting limit of 10 ppb slightly exceeded the 6 ppb RCG GWSL and it could not be determined if the actual sample concentrations were below the 6 ppb RCG GWSL. Therefore, the total and dissolved cobalt results are considered estimated. In the future, the laboratory should revise the method of analysis to one with a reporting limit that is equal or less than the 6 ppb RCG GWSL.
2. In the field notes, the water level and turbidity data indicated zero for the final four measurements. This data appears in error and should be revised based on the data in the original field notes.
3. According to the laboratory reports and the custody form, the dissolved metals were laboratory filtered instead of field-filtered. However, since the samples were laboratory filtered within ten days of sample collection, the data was not affected. In the future, the filtering procedure should be revised to include field-filtering to support the integrity of the samples.

If you have any questions concerning this matter or if you prefer to meet to discuss the comments and recommendations, I may be reached at 317-233-5971 or at lmccclure@idem.in.gov.

Sincerely,



Linda L. McClure
Senior Environmental Manager
Office of Land Quality
Enforcement Section

cc: Daniel P. Gillespie, Lighting Resources, LLC
Chris Beaver, MA-RI-AL Corp., d.b.a. Beaver Materials
Cyndi Jones, IDEM, Permits Branch, Geology Section
Sandra Roberts, IDEM, Chemistry Services Section



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