May 23, 2018

Ms. Jennifer Borski
Wisconsin Department of Natural Resources
625 East County Road Y, Suite No. 700
Oshkosh, WI 54901-9731

Re: Responses to WDNR Questions/comments regarding the RAOR
Appleton Wire (Former)
908 N. Lawe Street
Appleton, Wisconsin 54911
BRRTS# 02-45-000015

Dear Ms. Borski:

The following are responses to your letter request for additional information dated April 12, 2018. The additional information requested relates to your review of the Remedial Action Options Report (RAOR) prepared by EnviroForensics, LLC (EnviroForensics) for the Appleton Wire, Former Albany International Chrome Plant located at 908 North Lawe Street in Appleton, Wisconsin. Please keep in mind that the RAOR was presented to meet NR 700 deadlines, but we are still evaluating remedial options. The RAOR was meant to present the most feasible options for remediation given our site knowledge at the time and set a pathway for selection of the most practical method, or combination of methods, that will reduce contaminant mass and be protective of human health, safety, and welfare and the environment. There are still unanswered questions regarding the extent of chromium impacts and the feasibility of chromium reduction and stability through groundwater injections.

We have completed pilot test injections for groundwater treatment and will be monitoring these injections for effectiveness over the next three months. If not effective or practical, then other remedial options, or combinations of options, presented in the RAOR will be pursued. These modifications to the RAOR will be presented within a remedial action plan (RAP) document. The RAP will contain the results of the pilot testing and other justifications for selection of an appropriate combination of remedial methods.

To keep in compliance with your requests of April 12th, we provide the responses below. The answers are to the best of our current knowledge and follow the numeric sequence of requests outlined in your April letter.

EnviroForensics, LLC
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Phone: 262-290-4001 • Fax 317-972-7875

1. At the time of the RAOR preparation, the area of significant hexavalent chromium impacts outside of the warehouse to the north was considered to be in a limited area within the existing French drain, and directly adjacent to the French drain. Option #2 included the addition of reducing agent to the French drain, which we felt would treat contaminated soil and groundwater within the French drain and the area immediately adjacent to the French drain through diffusion. Since then, additional soil sampling has occurred in this area and the results indicate a wider area of soil impacts existing between the French drain and the north wall of the warehouse and extending to the north (the results of this additional sampling, along with additional subsurface sampling you have requested to supplement the SIR will be presented together in a separate report). These impacts exist below the water table. If pilot testing indicates that injection is effective, then the area of injections will be expanded to this outside area north of the warehouse.

   The fill around the basement area will be targeted for injection and the approach will be presented in the RAP. In general, we anticipate that injections into the basement fill will occur after the basement is backfilled. In addition, injections will occur on the south side of the warehouse near the MW-5 monitoring well cluster. These impacts exist below the water table. It is anticipated that the basement fill is hydraulically connected to this area.

2. A proposed schedule for implementing the selected remedial action option is as follows:
   - Monitoring of the injection pilot study is anticipated to continue through August of 2018;
   - Analysis of injection pilot test data and completion of a Remedial Action Plan (RAP) is anticipated by November of 2018;
   - If injection is applicable, then an injection permit application will be submitted along with the RAP. WDNR approval of the RAP and full-scale injection permit is anticipated by January or February of 2019;
   - If there are questions, comments, or other needed modifications to the above documents, those are anticipated to be completed by March or April of 2019;
   - Final approval by the WDNR is anticipated by May of 2019;
   - Since the warehouse will need to be completely evacuated during remedial actions, alternate warehousing options will need to be identified. This may come in the form of outside temporary storage under tented cover. This is only practical in the late spring through early fall months. Therefore, remedial activities are not anticipated to begin until June or July of 2019 with completion anticipated within 4-5 weeks; and

- Regardless of whether Option #2 or Option #3 is selected, the existing groundwater treatment system will be discontinued just prior to, and in conjunction with, backfilling of the basement area during full remediation.

3. The objective of Option #2 is to create subsurface reducing conditions suitable for converting hexavalent chromium in groundwater to trivalent chromium and produce insoluble and immobile precipitates. This reaction is anticipated to be relatively quick within the subsurface. We will be monitoring our pilot test injections monthly for three months. This should be enough time to determine if this conversion is occurring, at what rate, and to what lateral and vertical extent. For full-scale injections, we will propose a monitoring schedule in the groundwater injection permit application and this schedule will also be included in the RAP. For reference, we would anticipate monitoring select wells located both inside and outside of the warehouse area with variable frequency over a period of between 2-4 years to determine the efficacy of this conversion.

4. Option #2 includes excavation of unsaturated soil in limited areas identified as source areas containing total chromium concentrations up to 2,600 milligrams per kilogram and hexavalent chromium concentrations up to 460 milligrams per kilogram. This action will remove approximately 15-20% of the total chromium soil mass. For saturated soil below about five feet, we intend to convert hexavalent chromium to trivalent chromium and form insoluble precipitates. Groundwater sampling will be utilized to assess the stability of chromium concentrations in saturated soil. We may opt to also sample soil as part of our assessment of stability.

   As enumerated in NR 722.09(2)(b)1, the typical remedial goal for groundwater is the Preventative Action Limit (PAL). For total chromium, the PAL is 10 micrograms per liter. For this site, the PAL is not expected to be technically or economically feasible; therefore, we are hopeful that remedial efforts will be effective to achieve groundwater concentrations within the source areas below the groundwater enforcement standard (ES) of 100 micrograms per liter. Groundwater monitoring will be performed to determine if this goal is technically and economically achievable. If after the results of pilot testing it is determined that the ES goal is not attainable, then we will re-evaluate our target objective for groundwater.

5. For Option #2, the treatment residuals are anticipated to be drill cuttings from confirmatory soil sampling and groundwater purge and sampling water. These waste materials are anticipated to be small quantities managed in 55-gallon drums. We do not anticipate that these wastes will be characteristically hazardous, but we will sample and profile the waste prior to removal from the site by a licensed contractor. Our plan is to

utilize all of the contaminated soil that is excavated in Option #2 as backfill for the basement area, followed by in-situ treatment of this contaminated backfill via mixing in place or injection of reducing agents. This will prevent landfilling of the excavated material.

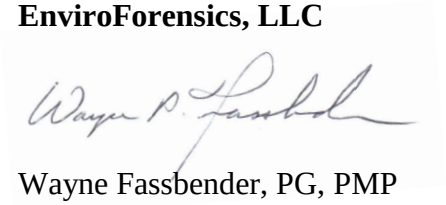
If Option #3 is employed, then it is anticipated that the material will be treated in outside areas on site to reduce toxicity, and the material will be landfilled as special waste.

6. Sustainable practices are addressed as follows:

    - Proposed treatment of excavated soil within the basement eliminates landfilling of the contaminated soil and avoids fuel expenditures related to trucking;
    - In-situ mixing of reducing agents in some outside areas eliminates landfilling;
    - Injection of reducing agents avoids operational expenses of traditional groundwater extraction and treatment methods such as periodic regeneration of cation exchange resins, continual consumption of groundwater treatment chemicals, and continual consumption of power needed to run pumps, lights, and other treatment equipment; and
    - Use of institutional controls and/or natural attenuation limits the amount of energy needed for active remediation while still providing protection of human health, safety, and welfare and the environment.

If you have any questions regarding this submittal, feel free to contact me at 414-982-3988 or by email at wfassbender@enviroforensics.com.

Sincerely,
EnviroForensics, LLC



Wayne Fassbender, PG, PMP
Senior Project Manager

cc: JP Hammerton, Albany International
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