



June 25, 2020

Mr. Matthew Turner
Superior Refining Company, LLC
2407 Stinson Avenue
Superior, WI 54880

Subject: Superior Refining Company, LLC
2407 Stinson Avenue, Superior, WI
BRRTS ID #:02-16-581317
FID #:816009590

Dear Mr. Turner,

The Wisconsin Department of Natural Resources (DNR) has completed a review of the Site Investigation Report, Superior Refinery April 26, 2018 Incident (SIR), prepared and submitted to the DNR on February 28, 2020 by Barr Engineering (Barr). An SIR review fee of \$1050 was also submitted for the DNR's review and comment.

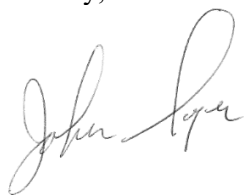
In a letter dated August 26, 2019, the DNR approved the work proposed in the June 2019 Site Investigation Work Plan (SIWP). The DNR approval was based on the understanding that results from this phase of the site investigation would be used to expand the site investigation as necessary to determine the degree and extent of contamination in all affected media from hazardous substance discharges that occurred as a result of the April 26, 2018 explosion and fire. Based on that understanding, the DNR has the following comments on the SIR:

- The Insight Environmental (Insight) soil samples 3A, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 11A, 14A, and 14B detected elevated concentrations of Diesel Range Organics (DRO). The DRO results indicate petroleum contamination in these areas may remain undefined. Additional information on the details of the Insight sampling needs to be documented in the SIR. It appears additional sampling is necessary to define the degree and extent of petroleum contamination in the area of these samples.
- Based on the information in the SIR, it appears the Insight samples were analyzed for Gasoline Range Organics (GRO), DRO, and Volatile Organic Compounds (VOCs). Polynuclear Aromatic Hydrocarbons (PAHs) would have been an appropriate analysis to detect heavier petroleum compounds associated with the hazardous substance discharges of April 26, 2018. Additionally, the depths of the Insight samples should be referenced in the SIR. The DNR requests copies of all documentation associated with the Insight Environmental sampling efforts. This information will assist the evaluation of the degree and extent of contamination.
- Analytical results from the Insight samples collected in the Crude Unit and the Fluid Catalytic Cracking Unit (FCCU) were not included in the SIR. Details and analytical results from these samples may provide additional information on the contamination detected in soil borings SB-3 and SB-5.
- Details of the refinery construction excavations, such as depth of excavation in relation to the Insight sample depths, is not provided in the SIR. The SIR also does not contain cross sections as required in Wis. Admin. Code NR716.15 (4)d. Cross sections provide perspective and detail on the areas excavated for construction and the locations and depth of soil samples.

- The SIR suggests petroleum contamination detected in soil borings SB-3 and SB-5 is from an existing cleanup site; however, supporting information for this site, other than BRRTS numbers, was not included. Information from the investigation of the suspected source site is needed to show the contamination found at soil borings SB-3 and SB-5 is from a site other than the April 26, 2018 hazardous substance discharges. The SIR should include maps, data tables, other information that associates the contamination found at soil boring SB-3 and SB-5 with a particular site.
- Several soil boring logs mention “black streaks” in the soil description. Additional information on the composition of the black streaks is needed. The black streaks could be associated with free product.
- The DNR concurs with the recommendation in the SIR to remove any remaining product and asphalt-contaminated soil in the area of soil boring HA-1. Proper documentation of removal, confirmation samples, and additional investigation will be necessary for the DNR to consider the investigation and cleanup of petroleum contamination in this area completed.
- The monitoring well network associated with the Facility-wide ERP site is not adequate to determine the effect the April 26, 2018 hazardous substance discharges had on groundwater in the source area. It is expected groundwater monitoring wells will be needed in the source area to determine the degree and extent of Per- and Polyfluoroalkyl Substances (PFAS) contamination resulting from the use of firefighting foam during the April 26, 2018 explosion and fire. These wells may also be able to be used to evaluate petroleum contamination in the source area.

Based on the above comments, the DNR cannot approve the completion of the petroleum portion of the site investigation at this time. Upon receipt of the information requested above, the DNR may provide additional comments. The DNR appreciates the opportunity to provide specific comments regarding the site investigation activities conducted to date. Please contact me at (715) 392-7822 or john.sager@wisconsin.gov if you have any questions or if you would like to discuss anything contained in this letter.

Sincerely,

A handwritten signature in cursive script, appearing to read "John Sager".

John Sager
Hydrogeologist
Remediation and Redevelopment Program

C: Lynette Carney, Barr