



August 18, 2020

1st Lieutenant Brian Schrader
128th Air Refueling Wing
1919 East Grange Avenue
Milwaukee, WI 53207

Subject: Review of *Draft-Final Feasibility Study Report*
General Mitchell Air National Guard Base (CG019), 1919 E. Grange Ave., Milwaukee, WI
BRRTS #: 02-41-579106, FID #: 241496970

Dear 1st Lieutenant Schrader:

On May 26, 2020, the Wisconsin Department of Natural Resources (DNR) received the *Draft-Final Feasibility Study Report* (Report), dated May 20, 2020. The Report was prepared on behalf of the Wisconsin Air National Guard by their consultant, Wood. DNR has completed our review of the Report and this letter summarizes our comments.

Background

The 128th Air Refueling Wing (ARW) is located at the Air National Guard (ANG) base at General Mitchell International Airport (GMIA). The 128th ARW was organized at General Mitchell Field between 1946 and 1948, and began its air refueling mission in the early 1960s. The ARW continues to operate at GMIA, providing fuel to U.S. military and allied aircraft, aero-medical evacuation, and the lift personnel and equipment to strategic locations.

Previous releases at the 128th ARW have been reported to the DNR. Previous and current investigations include, but are not limited to, the 1968 Westshore Pipeline release, during which approximately 600,000 gallons of gasoline were spilled, a jet fuel release from the aboveground receipt headers and associated underground piping at Building 610, known as the legacy spill, and a secondary release of jet fuel from an emergency vent located on the roof of Building 606.

This specific case, identified as CG019, is related to vinyl chloride (VC) in groundwater at concentrations exceeding the Wis. Admin. Code ch. NR 140 Enforcement Standard (ES). The exceedances have been observed primarily along an east-west drainage ditch on the north side of Prime Beef Drive. The source of the VC groundwater plume is unknown. The DNR previously reviewed and responded to the *Draft-Final Remedial Investigation Report* (RI), which summarized the investigative activities conducted for five separate sites at the 128th Air Refueling Wing, including the CG019 site.

Report Summary

The objective of the Report was to evaluate an appropriate range of remedial alternatives that would reduce risks to human health and the environment at the CG019 site and to determine the most reasonable remediation strategy for the site. Following a preliminary screening of technologies, the following four alternatives were chosen for further analysis: no action, monitored natural attenuation (MNA), groundwater extraction and treatment, and chemical injections plus MNA. The Report concludes by recommending the implementation of chemical

injections plus MNA and long-term monitoring (LTM) in order to reduce VC concentrations in groundwater to below the Wis. Admin. Code ch. NR 140 ES. After LTM indicates that groundwater concentrations have decreased below the applicable standards, a request for No Further Action will be completed.

The Report was reviewed for compliance with Wis. Admin. Code ch. NR 722, which explains the standards for identifying and evaluating remedial action options and selecting remedial actions. The DNR provides the following comments:

- The DNR has concerns with the selected remedy and would like to see additional justification for the chemical injections. Specific concerns include but are not limited to: the lack of current groundwater data, lack of identification of a source, potential for plume migration and short-circuiting in preferential pathways as a result of the injections, potential effect on any per- and polyfluoroalkyl substance contamination at the base, and the ability to reduce already low concentrations.
- Wood indicates that the Report was developed in accordance with the requirements of DNR environmental clean-up statutes and rules. Requirements outlined in NR 700 were not met in previous documents and should be included as applicable or relevant and appropriate requirements (ARARs). Specifically, all applicable and relevant Wisconsin statutes and rules including, but not limited to, sections of NR 700-799 should be clearly identified in Section 3.1.2 of the RAOR. If ARARs regarding Wisconsin statutes and rules cannot be met, provide a rationale.
- Section 4.1 Remedial Alternative Evaluation should be revised to include the restoration timeframe, as identified in Wis. Admin. Code § NR 722.07(4)(a)4. NR 722 is considered an ARAR, and although the other evaluation criteria such as long-term effectiveness, short-term effectiveness, Implementability, and economic feasibility identified in NR 722.07(4) are also included in the National Contingency Plan remedy evaluation criteria utilized in the RAOR, restoration timeframe is not included.
- Prior to conducting chemical injections, a temporary exemption from Wis. Admin. Code § NR 140.28 and a variance from Wis. Admin. Code § NR 812.50 for the injection of a remedial material must be requested. Additionally, a Wisconsin Pollution Discharge Elimination System (WPDES) General Permit from the DNR Southeast Region Wastewater Program is required prior to the injection of remedial materials into the subsurface. The requests should be submitted prior to the implementation of any pilot test, and a subsequent request should be submitted after the DNR has received and reviewed documentation of the pilot test results.
- The Report indicates that four rounds of groundwater monitoring will occur post-injection to verify concentrations of VC are below the applicable standards. The amount of groundwater monitoring needed will be determined by the results of the post-injection monitoring. Additionally, monitoring wells should be selected/installed to monitor changes in VC concentrations and to determine if the plume is being displaced. The sampling should not be conducted in the wells that were used to inject the treatment materials.
- The DNR understands that Wood intends to complete a request for No Further Action once LTM indicates that groundwater concentrations have decreased below the applicable standards. To meet the requirements of NR 700, Wood should submit a closure request on DNR Form 4400-202 when appropriate.

The DNR would like to reiterate the following comments from the review of the RI report:

- The Wis. Admin. Code NR 700 series requires that certain submittals be certified by a professional hydrogeologist. The RI report, which is generally equivalent to the Wis. Admin. Code ch. NR 716 site investigation report, required a professional hydrogeologist certification due to the groundwater investigation in addition to certification by a professional engineer. The Report is equivalent to the Wis. Admin. Code ch. NR 722 remedial actions options report, which also requires certification by a

professional hydrogeologist when addressing groundwater, in addition to the current certification by a professional engineer. These requirements are detailed in Wis. Admin. Code § NR 712.07

- Ensure all data, including those data from previous investigations, are included in site submittals. This is beneficial for displaying that the degree and extent of contamination is defined in all media, as required by Wis. Admin. Code § NR 716.11.
- Cross-sections are required by Wis. Admin. Code § NR 716.15(4)(d) and must include the stratigraphy, screened intervals of monitoring wells, water table, confining units, contaminant source locations, vertical and horizontal extent of contamination in soil and groundwater, highest and lowest water table and piezometric elevations, and screen lengths.
- Wis. Admin. Code § NR 716.11(5) requires the full investigation of the vapor migration pathway. Assess possible vapor intrusion into nearby buildings due to groundwater contamination. To assess vapor intrusion, refer to the DNR's vapor intrusion guidance, "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin," RR-800.

To facilitate this site moving through the NR 700 process, the DNR is requesting a meeting to discuss the topics identified in this review letter. Additionally, the DNR understands that Wood intends to submit a Remedial Action Work Plan. This submittal should incorporate the comments outlined in this letter, as well as previous letters from the DNR, and be in compliance with the Wis. Admin. Code NR 700 series, specifically Wis. Admin. Code ch. NR 724. Future submittals should also be in compliance with applicable NR 700 rules and requirements.

The DNR appreciates the efforts you are taking to address the contamination at this site. After you have had a chance to review this letter, please contact me, the DNR Project Manager, at (414) 750-7030, or by email at Riley.Neumann@wisconsin.gov to schedule a time to discuss.

Sincerely,



Riley D. Neumann
Hydrogeologist/Project Manager
Remediation & Redevelopment Program

cc: Saamih Bashir, Associate Engineer/Project Manager, Wood Group (electronic)