



May 29, 2026

Quang Nguyen
US Army Environmental Command
2455 Reynolds Road
Joint Base San Antonio Fort Sam Houston, TX 78234

SENT BY ELECTRONIC MAIL

Subject: DNR Comments on Site Inspection Report – Settling Ponds
Former Badger Army Ammunition Plant, Baraboo, WI
DNR BRRTS Activity # 02-57-561617

Dear Quang Nguyen:

The Wisconsin Department of Natural Resources (DNR) has received and reviewed the document entitled “Site Inspection Report Settling Ponds” (Report), dated November 2025, prepared for the U.S. Army Environmental Command (Army) by SpecPro Professional Services, LLC (SpecPro).

Background:

The Report describes the activities conducted to determine the presence or absence of soil contamination at the settling ponds of the former Badger Army Ammunition Plant (BAAP). Shallow soil samples were collected at depths between 0.5 and 11 feet below ground surface (ft bgs) at Final Creek, Settling Ponds 1 and 3, and Spoil Disposal Areas I, II, III, IV, and V. A total of 186 discrete depth soil samples were collected from 64 separate sample locations. All soil samples were analyzed for explosives, total metals, and semi-volatile organic compounds (SVOCs), and a subset of soil samples were additionally analyzed for volatile organic compounds (VOCs) and nitrocellulose. Each analyte detected was compared against the applicable Environmental Protection Agency (EPA) Regional Screening Level (RSL) for industrial soil to determine the presence or absence of soil contamination. A Site Inspection for Settling Pond 2 had already been completed in 2021.

Based on the soil sample results, the Report recommends that the Army proceed with a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Investigation (RI) as additional delineation of soil contamination is necessary in the settling ponds and spoil disposal areas. The Report also recommends collecting soil samples from the portion of Settling Pond 4 on Parcel M1.

DNR provides the following comments on the Report and for the Army to consider as the project moves forward.

DNR Comments:

DNR provides the following comments to consider while finalizing the Report:

- Section 4.1 and Table 1 of the Report provide descriptions of soil samples collected. Many of the samples are described as having an odor. If available, further information regarding what type of odor was noticed should be provided.

- Section 4.2 of the Report discusses the presence of propellant grains identified during all field activities and Section 4.5 of the Report discusses analytical results. Additional discussion regarding any correlation between the presence of propellant grains and the degree of soil contamination would be useful to better understand the current conceptual site model. Additional discussion regarding any colocation of contaminants would also be useful to better understand the current conceptual site model.

In general, DNR concurs with the Report's recommendation for the Army to proceed with an RI. DNR provides the following comments to consider while preparing to conduct the RI:

- DNR understands that in addition to conducting an RI, the Army is planning to perform an interim remedial action to address the propellant grains. This interim remedial action should be conducted as soon as practicable.
- As Section 4.4 of the Report notes, the EPA RSLs used to compare soil sample results are not approved cleanup goals for the Site, and cleanup goals will be determined as part of the RI. Site cleanup goals should be developed in accordance with Wis. Admin. Code NR 720. Until approved cleanup goals for the Site have been developed, DNR expects that additional soil investigation(s) will not be limited to only the analytes which were detected above their respective EPA RSL for industrial soils.
- Section 5.3 of the Report states groundwater is a pathway of concern because precipitation over the settling ponds likely infiltrates through the soil and into the sandy aquifer below and there are multiple irrigation and drinking water wells which draw groundwater from this aquifer. While the Report only compares analytes to EPA RSLs for industrial soil, the RI should evaluate the soil to groundwater pathway for each analyte. Analytes should be compared to DNR's Residual Contaminant Levels (RCLs) based on protection of groundwater in accordance with Wis. Admin. Code NR 720.10. A groundwater investigation associated with the settling ponds and spoil disposal areas may be warranted if the soil to groundwater pathway is determined to be a concern.
- DNR notes that the DNR RCL for mercury in industrial (and non-industrial) soils is 3.13 mg/kg whereas the EPA RSL for mercury in industrial soils is 30 mg/kg. The DNR RCL is based on the soil saturation concentration for mercury (i.e. theoretical threshold above which a substance may exist as a free-phase liquid, C_{sat}).
- DNR notes that DNR RCLs generally use a 10 weight percent (100,000 mg/kg) as a maximum threshold value. The EPA RSL for industrial soils for acetophenone (120,000 mg/kg), diethylphthalate (660,000 mg/kg), and nitrocellulose (2,500,000 mg/kg) are greater than the DNR RCL maximum threshold value. Additionally, DNR notes that the EPA RSL for industrial soil for nitrocellulose is equivalent to 250 weight percent which is not physically possible.
- The Report proposes further horizontal and vertical delineation of soil contamination. DNR notes that samples collected during the Site Inspection were generally from areas most likely to be contaminated. In addition to further delineating the areas where contamination was identified as part of the Site Inspection, other portions of the settling ponds and/or spoil disposal areas should also be evaluated for further investigation.
- Given that BAAP utilized technical grade dinitrotoluene (DNT), the detections of 2,4- and 2,6-DNT in soil noted in the Report, the existence of a Wis. Admin. Code NR 140 Enforcement Standard for total DNT (inclusive of all six isomers), and detections of all six isomers of DNT in groundwater throughout the broader BAAP Site, the RI should evaluate soil for all six isomers of DNT for potential direct contact risk and possible leaching to groundwater. The next workplan for additional investigation should include details regarding sampling and analysis of soil for all six isomers of DNT.
- DNR requests a schedule for when additional investigation and interim remedial action activities will take place.

DNR appreciates your efforts to investigate and remediate this site. If you have any questions, please contact me at (608) 206-5809 or luke.lampo@wisconsin.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lampo', with a stylized flourish at the end.

Luke Lampo
Hydrogeologist
Remediation and Redevelopment Program

cc: Joel Janssen, SpecPro
Issac Ross, DNR