



DEPARTMENT OF THE ARMY  
BADGER ARMY AMMUNITION PLANT  
2 BADGER ROAD  
BARABOO, WISCONSIN 53913-5000

October 4, 2012

SUBJECT: Alternative Feasibility Study – Final Creek, Settling Ponds, and Spoils Disposal Areas,  
Badger Army Ammunition Plant

Mr. Will Myers  
Hydrogeologist Program Coordinator  
Wisconsin Department of Natural Resources  
South Central Region  
3911 Fish Hatchery Road  
Fitchburg, WI 53711-5397

Dear Mr. Myers:

Enclosed please find a compact disc containing the Alternative Feasibility Study (AFS) – Final Creek, Settling Ponds, and Spoils Disposal Areas for your review and approval. Please note that six of the figures in this report are large format and hard copies are being furnished for your convenience.

The document summarizes the results of historic investigation work, proposes site-specific remediation goals based on risk factors, and evaluates three remedial alternatives to address residual soil contamination at the Final Creek, Settling Ponds, and Spoils Disposal Areas at the Badger Army Ammunition Plant (BAAP).

The 2009 *Baseline Ecological Risk Assessment* report is included in the discussion on ecological risk to provide support that there is no significant threat to the native fauna under pre-remedial conditions. Therefore, implementation of a remedy (such as soil excavation and on-site disposal and the soil that exceeds the proposed cleanup standards) will be even more protective of this potential receptor.

Section 8 of the document describes the applicable regulations and procedures used to develop the proposed remediation goals in more detail. The contaminants of concern (COCs), listed in the In-field Conditions Report (IFCR) plan modification were originally developed in 1993. In preparing this AFS, these COCs were screened against current regulatory standards and background concentrations. Table 1 of the AFS shows the 1993 IFCR, current United States Environmental Protection Agency (USEPA) and state standards, and maximum concentrations found. Several COCs have maximum site concentrations below the current regulatory standard. Table 4 shows the proposed remediation goals for those COC exceeding current regulatory standards.

The remediation goals listed in Table 4 were taken from the USEPA Industrial Regional Screening Level (RSL), Wisconsin Department of Natural Resources (WDNR) NR 720 Table 2 Industrial Residual Contaminant Level (RCL), WDNR NR 720.19 Site-Specific RCL, or are established background concentration for BAAP.

Although site-specific soil RCLs could have been calculated for all the COCs, based on the NR 720.19 guidance, using a value for recreational land use, the concentrations at the site did not warrant this level of effort; therefore, adopting the industrial/background values already developed is more appropriate and provides an even more stringent level of protection.

The lowest standard practicable was used in determining each of the proposed remediation goals. WDNR-approved background levels previously established for BAAP were applied if available. Then, for COCs that have an NR 720 Table 2 RCL, the industrial standard was applied as it would be most similar to the proposed land use. Where the state standard was not defined, the industrial USEPA RSL was applied.

However, for two of the three dinitrotoluene (DNT) COCs, the impracticability of the IFCR goal and the RSLs led to the development of site specific standards. The recreator scenario was used in establishing site-specific cleanup standards for 2,4-DNT and 2,4/2,6-DNT mixture.

In establishing a legitimate estimate for typical park day-use hours, the following resources were used: the Risk Assessment Information System, the USEPA RSL for Chemical Contaminants at Superfund Sites (screening tools), the USEPA Exposure Factors Handbook, and various state and federal documents. These sources indicated day-use hours were in the range of 4 to 6 hours and that the site-specific value of 5 hours is a reasonable estimate.

In summary, based on information pertaining to current and future land use, the combination of background, industrial, and site-specific cleanup values proposed as remedial goals provide a level of protection that is protective of human health and the environment.

The Department of the Army is requesting concurrence from the Wisconsin Department of Natural Resources on the proposed remediation goals and the selected remedial alternative (Option 3).

Please do not hesitate to contact me at 608-643-3361 if you have any questions.

Sincerely,



Joan M. Kenney  
Commander's Representative

Enclosures

Copy furn: Brian Freeman, U.S. Environmental Protection Agency  
Rick Walgenbach, U.S. Dairy Forage Research Center  
Ryan Wozniak, Wisconsin Department of Health and Family Services  
Ralph Jesse, U.S. Department of Agriculture  
Hank Kuehling, Wisconsin Department of Natural Resources  
Badger Technical Services, LLC  
(All w/CD only)