



DEPARTMENT OF THE ARMY
BADGER ARMY AMMUNITION PLANT
S7273 BLUFF ROAD
MERRIMAC, WISCONSIN 53561

May 23, 2016

SUBJECT: Submittal of April 2016 Monitoring Well and Residential Well Groundwater Data
Badger Army Ammunition Plant

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

Dear Mr. Myers:

Enclosed is the Badger Army Ammunition Plant (BAAP) April 2016 Monitoring Well and Residential Well Groundwater Data. This was a semi-annual sampling event. SpecPro Professional Services, LLC (SPS) collected groundwater samples from 126 monitoring wells and two residential wells associated with the Central Plume, Deterrent Burning Ground Plume, Nitrocellulose Production Area Plume, and Propellant Burning Ground Plume. The enclosed compact disc contains copies of the signed Environmental Monitoring Data Certification Forms, a list of wells sampled, a map showing the well locations, residential well lab results summary spreadsheet, and residential well lab results. Per previous discussions, the Army understands that the WDNR will be mailing the results to each residential well owner.

Based on the WDNR *2014 Monitoring Well Optimization Plan* email approval dated May 27, 2014, seven (7) monitoring wells associated with the Central Plume were sampled during April 2016. The groundwater results indicated that dinitrotoluene (DNT) concentrations decreased to no detections.

Based on the WDNR *2014 Monitoring Well Optimization Plan* email approval dated May 27, 2014, 48 monitoring wells associated with the Deterrent Burning Ground (DBG) Plume were sampled during April 2016. The groundwater results indicated that DNT concentrations in the DBG Plume were similar or decreased since September 2015.

Per your October 3, 2014 request, we have included dinitrotoluene (DNT) groundwater data from four (4) wells located near the former DNT Screen House. These monitoring wells help define the extents of DNT in the Nitrocellulose Production Area Plume. The groundwater results indicated that DNT concentrations in this area were similar or decreased since September 2015.

Based on the WDNR *Propellant Burning Ground Monitoring Requirements* dated January 5, 2015, 66 monitoring wells associated with the Propellant Burning Ground (PBG) Plume were sampled during April 2016. One additional monitoring well, PBN-9304B, was sampled during April 2016. Nine (9) monitoring wells had to be resampled for DNT on April 25, 2016 due to a laboratory error. These nine (9) wells were originally sampled on April 7, 2016 and analyzed for volatile organic compounds. The groundwater results indicated that DNT and volatile organic compounds (VOCs) concentrations in the PBG Plume were relatively unchanged since September 2015.

No compounds were detected above the NR 140 Preventive Action Limit (PAL) in the two (2) residential wells sampled.

SPS conducted an internal quality control review of the groundwater data. The internal review did find that laboratory volatile organic compound trip blanks and/or method blanks were contaminated with the following compounds at varying concentrations: acetone, chloroethane, chloromethane, and tetrahydrofuran. The SPS environmental professional did note that acetone was detected in six samples, chloromethane was detected in eight samples, and tetrahydrofuran (THF) was detected in three samples. The following compounds were also detected: bromoform in one sample, bromomethane in one sample, bromodichloromethane in 30 samples, carbon disulfide in 23 samples, dibromochloromethane in three samples, dichlorodifluoromethane in 15 samples, methylene chloride in one sample, and 2-nitropropane in five samples. All these detections were flagged and rejected based on professional judgment.

THF was detected in ELN-8203A (210) and ELN-8203B (211) at 1.1 and 20 micrograms per liter ($\mu\text{g/l}$), respectively. These two THF detections were not rejected because THF was not detected in that day's laboratory blanks, the THF concentrations were much higher than the average blank concentration of $0.33 \mu\text{g/l}$, and THF is a suspected contaminant in this area. ELN-8203A and ELN-8203B are located directly downgradient from Landfill #5. THF concentrations in ELN-8203A and ELN-8203B will be closely monitored during future sampling events.

All groundwater samples were analyzed by CT Laboratories, LLC (CT Lab) in Baraboo, Wisconsin. CT Lab is a WDNR Chapter NR 149 certified laboratory and accredited by the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP).

Please do not hesitate to contact me at 608-434-5374 if you have any questions.

Sincerely,

Robert M. Sitton
Commander's Representative

Enclosure

Copy furn: Roger Walton, Contracting Officer's Representative