



DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY ENVIRONMENTAL COMMAND
2450 CONNELL ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7664

IMAE-M

April 29, 2020

SUBJECT: Groundwater Investigation of Trichloroethene (TCE)
Weigand's Bay Area
Badger Army Ammunition Plant

Mr. Steve Martin
Wisconsin Department of Natural Resources
GEF2 Central Office
PO Box 7921
Madison, WI 53707-7921

Dear Mr. Martin:

The Army is proposing to further investigate the occurrence of trichloroethene (TCE) in residential wells located on the north side of Weigand's Bay in the Walchs' Bays subdivision (see Figure 1).

During 2018 and 2019, SpecPro Professional Services, LLC (SPS), conducted a special one-time sampling of 182 residential wells near the former Badger Army Ammunition Plant (BAAP). TCE was detected above the NR 140 Enforcement Standard (ES) in three residential wells (E12697, E12720, and E12692A) located north of Weigand's Bay (see Figure 2). TCE was detected above the NR 140 Preventive Action Limit (PAL) but below the NR 140 ES in three residential wells (E12655/Wenger, E12753, and E12759). The NR 140 PAL and ES are 0.5 and 5 micrograms per liter, respectively.

The source of TCE in the residential wells has not been determined. The six residential wells are in the Walchs' Bays subdivision located on the north edge of Weigand's Bay. The Walchs' Bays subdivision is located approximately 5,000 feet southeast (downgradient) of the former BAAP boundary and 2,000 feet east of the Deterrent Burning Ground (DBG) Plume extent. Each of the six residential wells has a jet pump attached to a shallow well drilled into the sand. Based on a 2012 sampling investigation of a residential well (not located in Walchs' Bays) with a shallow jet pump, the source of TCE may have been within the well jet pump.

Since the 1980's, the Army has maintained a network of monitoring wells related to the DBG Plume. Based on the groundwater data collected from these monitoring wells over the past 30 years, there has not been a source of TCE identified on the former BAAP and near the DBG Plume. Groundwater flows from the northwest (BAAP) towards the southeast (Walchs' Bay subdivision) and discharges into Weigand's Bay.

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SPS will direct the installation of five borings upgradient of the residential wells in the Walchs' Bays subdivision that detected TCE above the NR 140 ES or PAL (see Figure 2). A direct push drilling machine (Geoprobe) will be utilized to sample the groundwater. The boring locations are intended to capture groundwater flow between the former BAAP and the residential wells.

The borings or temporary wells will be constructed into the groundwater table with a stainless-steel screen point sampler. The groundwater table is anticipated to be 10 - 12 feet below ground. The sampler will be advanced to two (2) separate vertical intervals, five feet below the water table and 13 - 15 feet below the water table. The maximum depth of the temporary wells is anticipated to be 25 feet. These proposed sample depths are intended to be near the same depths as the residential sand point wells. The screen point sampler and drilling rods will be decontaminated prior to collecting each groundwater sample. The groundwater samples collected from the borings or temporary wells will be laboratory analyzed for volatile organic compounds (VOCs), which includes TCE. Borings will be abandoned with bentonite.

SPS will contact the owners of the six residential wells that had detections of TCE detections above either the NR 140 ES or PAL in the Walchs' Bay subdivision. The owners will be asked if they want their wells resampled for VOCs. SPS proposes to sample each of the six residential wells with and without the use of their well jet pump. The sampling results will determine if the TCE is either present in the groundwater or in the jet pump.

The well jet pump will be turned on to purge the well of standing water and remove four well volumes to properly develop the well. Then a groundwater sample will be collected from the jet pump. The well piping will be disconnected from the jet pump and new decontaminated polypropylene tubing will be lowered into the well. Groundwater will be pumped through the tubing using a peristaltic pump. A groundwater sample will be collected from the peristaltic pump tubing. Groundwater samples collected from both the jet pump and peristaltic pump will be laboratory analyzed for VOCs, which includes TCE.

The results from the temporary well groundwater sampling laboratory testing, and residential well sampling laboratory testing will be provided to the Wisconsin Department of Natural Resources.

Please do not hesitate to contact me at 210-466-1684 if you have any questions.

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Sincerely,



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Bryan P. Lynch
Commander's Representative

Enclosure

Copy furn: Joel Janssen, SpecPro Professional Services, LLC



