



DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

JAN 11 2018

AFCEC/CIB
2261 Hughes Avenue, Ste 155
JB SA Lackland, TX 78236-9853

Ms. Kathleen Shirey
Acting Director, Remediation and Redevelopment Division
525 West Allegan Street
P.O. Box 30473
Lansing, MI 48909-7973

Dear Ms. Shirey:

During our telephone discussion on January 4, 2018, it was determined that there were seven primary issues which the Michigan Department of Environmental Quality (MDEQ) is disputing as presented in your December 14, 2017 letter. It was decided that the Air Force (AF) would provide a response to the dispute. Our discussion resulted in identification of the items being disputed as the six numbered items in your December 14, 2017 letter, plus the issue regarding additional sampling to evaluate groundwater-surface water interface (GSI) locations. The AF response to each of the issues follows.

1. **MDEQ:** Regularly monitor existing Residential and Type I community wells for PFAS Contamination.

AF: The AF has performed two rounds of potable well sampling for the Residential and Type I wells in the affected area and results on both rounds are consistent. The first sampling events were conducted in the Winter/Fall of 2015 and the summer of 2016, and the second round in the Summer of 2017. There has been only one exceedance of a USEPA lifetime health advisory (HA) for PFOS/PFOA at a private drinking water well. No further sampling has been conducted of water from wells that showed no detectable levels of PFOS and PFOA.

The AF plan is to sample quarterly for the next year the drinking water wells sampled in 2017, which all had PFOS/PFOA below the HAs, then annually for the next two (2) years. We will evaluate these results in coordination with MDEQ to determine further monitoring needs. For example, if sampling results indicate stable concentrations and these are below one half the HA, these wells may not require further sampling.

2. **MDEQ:** Fully characterize the PFAS plumes in areas up gradient of the impacted residential and Type I community wells.

AF: The AF conducted an initial Site Inspection (SI) for PFAS from April 2016 to November 2016. The SI field work consisted of 60 soil samples and 209 groundwater

samples. In addition, the AF conducted a Supplemental Site Inspection (SSI) from August 2017 to December 2017. Field work conducted for the SSI consisted of 201 more groundwater samples. Further investigation will depend on the results of this field work, and the results are expected to be final by March 2018. The results will be evaluated and decisions will be made on whether further sampling is needed or enough data has been obtained to characterize the plume. The AF is following a phased approach and is prioritizing locations that are up gradient of potable residential and Type I community wells impacted by PFOS/PFOA. The SSI results will also refine the delineation of the width of the fire training area (FT002) plume.

3. **MDEQ:** Implement a sentinel monitoring well system to assure that higher level PFAS contamination is not moving toward the portion of the aquifer that is used as a drinking water source

AF: The results of sampling described in items 1 and 2 will determine whether existing monitoring well or new wells up gradient of drinking water wells impacted by PFOS/PFOA can serve as sentinel wells.

4. **MDEQ:** Evaluate the existing groundwater extraction systems as an interim remedial action to control the PFAS plume migration toward the impacted residential and Type I community wells

AF: The current SSI will provide information on the effectiveness of the three main pump and treat systems (Arrow Street, Mission Street, and Benzene Plant) which are up gradient of the vast majority of the private wells. Based on the SSI evaluation, it will be determined if further plume capture action is needed to protect down gradient drinking water wells from PFOS/PFOA contamination above the HA.

5. **MDEQ:** Present a plan to the MDEQ providing for final remedial actions

AF: In accordance with the Comprehensive Environmental, Compensation and Liability Act and 40 CFR § 300.420, at the conclusion of the SSI the AF will determine whether further action is warranted. Final remedial actions will be determined under the CERCLA process and these will come after a remedial investigation (including risk assessments) and feasibility study are completed.

6. **MDEQ:** Provide an alternative drinking water source to affected well users

AF: The AF notes that in its February 29, 2016 letter MDEQ “urged” the AF to take this action. It was not on MDEQ’s list of five demands. Where drinking water samples indicate unacceptable risk to human health, as defined by exceeding one or more of the USEPA’s HAs for PFOA, PFOS or PFOA and PFOS combined, the AF will take appropriate mitigation action for public and private water sources reasonably believed to be contaminated by AF actions.

The AF has provided municipal water to the one residential potable water well that was found to have concentrations of PFOA and PFOS above the USEPA HAs for PFOA and

PFOS combined. Likewise, the AF will provide an alternate drinking water source for any future drinking water wells at which sampling results exceed one or more of the HAs.

7. **MDEQ:** Additional sampling is needed to evaluate compliance with Michigan's statewide criteria for groundwater-surface water interface (GSI) locations as set forth in Part 201. The USAF must move more aggressively and more quickly to define and remove the ongoing threat to public health and the environment, starting with the USAF action to provide a long-term potable water supply to affected well users and followed by response actions to remediate impacted ecosystems, including surface waters, groundwater, fish, birds, and mammals.

AF: As described in item 6, the AF has provided long-term potable water to the only well exceeding the USEPA HA levels. We will continue to take the appropriate mitigation actions for public and private drinking water wells reasonably believed to be contaminated above the HA levels by AF actions. Our first priority remains protection of drinking water.

The AF has installed a groundwater treatment system for the plume from the fire training area (FT002). This system is designed to control the levels of PFOS/PFOA in groundwater up gradient from surface water and provide protection of fish in the human food chain. After further base wide investigations, PFOS/PFOA was discovered in areas that are up gradient of potential drinking water exposures, and this has taken on the highest priority. Ongoing design and construction of a treatment system for the Arrow Street and Benzene Plants will intercept and remove PFOS/PFOA from groundwater and reduce the levels reaching surface water. The SSI will provide additional information about plumes migrating toward surface waters. We will address the other locations that do not have potential drinking water exposures by following the CERCLA process.

The responses to the concerns raised in the MDEQ dispute demonstrate the AF is taking the appropriate actions that address each concern. I look forward to our discussion on the items of concern and resolution of the dispute.

Sincerely,



STEPHEN G. TERMAATH, GS-15, DAF
Chief, BRAC Program Management Division
Installations Division

cc:

Mr. Robert Delaney

Mr. Matt Marrs