STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

KEITH CREAGH
DIRECTOR

February 29, 2016

Mr. David Strainge
BRAC Environmental Coordinator
Loring/Pease/O'Hare
154 Development Drive, Suite G
Limestone, Maine 04750

Dear Mr. Strainge:

SUBJECT: Residential Well Protection
Perfluoroalkyl and Polyfluoroalkyl Chemicals
Former Wurtsmith Air Force Base
Iosco County

Michigan Department of Environmental Quality (MDEQ) has evaluated the perfluorinated chemical (PFC) contamination at the former Wurtsmith Air Force Base (base). It has recently come to our attention that PFC contamination has moved beyond the former base limits and into areas where groundwater is currently used for drinking water. As such, numerous residential drinking water wells and Type I community drinking water wells have been impacted by PFCs.

Under Section, 324.20114(h)(*iv*), Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994, PA451 as amended, the MDEQ is requesting that the Air Force prevent further off base movement of PFC impacted groundwater so as to protect residents who are using the aquifer for drinking water purposes. In order to achieve this request and document that actions are protective, the Air Force must do the following:

- Regularly monitor (quarterly) existing area residential and Type I community wells for PFCs using the United States Environmental Protection Agency's (USEPA) method - EPA Method 537 Rev 1.1, September 2009
- Fully characterize the PFC plumes in the areas up gradient of the impacted residential and Type I community wells.
- Implement a sentinel monitoring well system to assure higher level PFC contamination is not moving toward the portion of the aquifer that is used as a drinking water source.
- Evaluate the existing groundwater extraction systems as an interim remedial action to control PFC plume migration toward the impacted residential and Type I community wells.
- Present a plan to the MDEQ that provides for final remedial actions.

Finally, the MDEQ urges the Air Force to provide an alternate drinking water source to affected well users. We urge this for three principle reasons:

- The plumes have not been fully delineated and there is no certainty that higher level contamination will not move into the wells in the near future.
- The wells are impacted with several PFCs for which there is insufficient health based data to determine their toxicity.
- It is unknown how long and at what concentrations well users have been exposed to these contaminants through their drinking water.

The MDEQ stands ready to assist the Air Force in any way possible to address this difficult situation. If you have any questions, please contact Mr. Bob Delaney, Superfund Section, RRD at 517-284-5085; delaneyr@michigan.gov; or MDEQ, P.O. Box 30426, Lansing, Michigan 48909-7926

Sincerely,

Robert Wagner, Chief
Remediation and Redevelopment Division
517-284-5144

cc: Mr. Robert Stalker, Oscoda Township
Ms. Denise Bryan, District Health Department #2
Mr. Paul Rekowski, AGEISS
Ms. Debra MacDonald, ECC
Ms. Andrea Stawowy, ECC
Mr. Dale Corsi, DLZ
Ms. Angela Ayers, Governor's Office
Ms. Christina Bush, MDHHS
Mr. Keith Creagh, Director, MDEQ
Mr. Jim Sygo, Chief Deputy Director, MDEQ
Mr. David Kline, MDEQ
Mr. Bob Delaney, MDEQ
Mr. Matt Baltusis, MDEQ
Mr. Matt Remus, MDEQ

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

18 March 2016

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Mr. Robert Wagner
Chief, Remediation and Redevelopment Division
State of Michigan
Department of Environmental Quality
525 West Allegan Street
PO Box 30425
Lansing, MI 48909-7926

RE: Your letter dated 29 Feb 16, Residential Well Protection Perfluoroalkyl and Polyfluoroalkyl Chemicals, Former Wurtsmith United States Air Force Base, Iosco County, Michigan

Dear Mr. Wagner:

Thank you for your letter received on 4 March 2016. The Air Force will continue to exercise due diligence to protect human health and the environment with regard to perfluorinated compounds (PFCs) contamination from use of firefighting foam at Wurtsmith. The Air Force is committed to the safety and well-being of the general public both on and off its former installations. Where the Air Force releases PFOA/PFOS into the environment and has a reasonable basis to believe there is the potential for unacceptable risk to human health and the environment, we will take action under applicable Federal or state law, in cooperation with the appropriate regulatory agencies, to protect the public from such risk. At the former Wurtsmith AFB, we are identifying all locations on the installation where the Air Force has reason to suspect there may have been a release of PFOA/PFOS attributable to Air Force actions and where those releases create a potential unacceptable risk to human health or the environment under applicable Federal or state law.

Some PFC sampling was conducted prior to the May 2012 discovery of unacceptable PFC levels in fish tissue from waters adjacent to Wurtsmith, but this event initiated considerable Air Force effort to address PFC releases. Over the next few months, the AF investigated the former fire training area suspected as the source of contamination. In 2013, the Air Force conducted a treatment feasibility analyses leading to an interim remedial action (pump and treat system) under CERCLA. Since April 2015, the Air Force has operated the pump and treat system which intercepts the PFC contaminated groundwater before it discharges to surface water. In 2012, we also screened all active restoration sites at the base for PFCs. Results of sampling over time and discussion with DEQ showed PFC contamination was contained on the former installation. The

Air Force completed a records search to identify additional firefighting foam releases across the installation in 2015.

In late 2015, we identified sites with releases of PFC contamination and the potential risk to nearby drinking water wells. The Air Force sampled private water wells that might be impacted by PFCs in groundwater. We detected PFOA or PFOS in 10 of 28 wells sampled. PFOA detections ranged 0.017 to 0.051 µg/l, PFOS ranged from 0.006 to 0.028 µg/l roughly an order of magnitude below the EPA Provisional Health Advisory (PHA). The Air Force notified all the well owners of the sampling results, and no further action is planned based upon levels being well below the PHA.

Many Oscoda residents are seasonal and there were 24 wells in our target area where residents were not available for sampling in December 2015. We will contact the homeowners for permission to sample these wells in the spring of 2016. Should PFOA or PFOS exceed the EPA's PHA levels in a well utilized for drinking water, the Air Force will take action to supply affected residents with alternate sources of drinking water.

We will follow the CERCLA process for addressing PFC contamination, and our efforts continue to focus on protection of public health. With completion of the ongoing investigations to confirm PFC release sites, the Air Force will delineate the extent of contamination in the groundwater. This includes monitoring of appropriate wells to understand PFC movement. The delineation and understanding of the PFC movement and direction are important to determining whether mitigation actions are needed to prevent contamination above the PHA level in drinking water supplies – municipal or private wells. The Air Force will take the actions in cooperation with the appropriate regulatory agencies in the CERCLA response to releases from its past activities.

Thank you for your ongoing cooperation with the cleanup program at Wurtsmith. We agree that addressing emerging contaminants in an evolving scientific and regulatory environment is difficult. I have directed our BRAC Environmental Coordinator, Mr. David Strainge, AFCEC/CIBE, (207) 328-7109, david.strainge@us.af.mil, to continue to work closely with Mr. Delaney and the DEQ to execute a PFC management program that is protective of the citizens of Oscoda.

Sincerely,

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