



STATE OF MICHIGAN
DEPARTMENT OF HEALTH AND HUMAN SERVICES
LANSING

RICK SNYDER
GOVERNOR

NICK LYON
DIRECTOR

March 11, 2016

Denise Bryan, Health Officer
District Health Department #2
630 Progress Street
West Branch, MI 48661

Dear Ms. Bryan:

This letter is in response to your request that the Michigan Department of Health and Human Services (MDHHS) evaluate perfluorinated chemical (PFC) concentrations detected in private drinking water wells near the former Wurtsmith Air Force Base (WAFB) and the municipal water system (Huron Shores Regional Utility Authority [HSRUA]) in Oscoda (Iosco County), Michigan. MDHHS previously evaluated PFCs detected in four private drinking water wells in Oscoda in 2015. Additional water sampling has occurred since then, including samples collected from two Type 1 water-supply wells at a mobile home park and from HSRUA, which gets its water from Lake Huron.

This letter focuses on the drinking water pathway, although other exposure pathways are likely present near WAFB: PFC contamination at the former base has impacted on-site soils, groundwater, surface water, and some area fish and wildlife.

Total PFC concentrations in the private wells and the mobile home park wells ranged up to 249 parts per trillion (ppt). Treated water from HSRUA had 6.7 ppt total PFCs and is considered to be anthropogenic (i.e., caused by human activity) background. Although the U.S. Environmental Protection Agency (EPA) has Provisional Health Advisory Levels (which address short-term drinking water exposure) for two specific PFCs, there are no final EPA or State of Michigan drinking water standards for these chemicals at this time.

MDHHS has concluded that continued exposure to PFCs in groundwater-derived drinking water near WAFB could harm human health. This is based on the following facts:

- ❖ There is a completed exposure pathway connecting the release of PFCs at WAFB to residents that use the PFC-contaminated groundwater as their drinking water source.
- ❖ The various PFC release areas at the base have not been fully characterized or controlled.
- ❖ Concentrations of PFCs in the drinking water wells are higher than in the municipal system, which obtains its water supply from Lake Huron.
- ❖ Animal and laboratory research has shown that PFCs can adversely affect the thyroid, liver, immune system, and developing fetus and neonate.
- ❖ Studies of human populations have linked PFC exposure to negative health outcomes such as lowered immune response and certain cancers.
- ❖ PFCs are persistent in the environment and build up in the food chain.

- ❖ Some PFCs have long half-lives in humans, meaning they can build up and remain in the human body for many years.

MDHHS's conclusion is limited by:

- the small number of drinking water well samples taken so far (only two Type 1 water-supply and 24 private residential wells at this time),
- uncertainty about the magnitude of past exposure,
- uncertainty about the duration of any past exposure,
- lack of a comprehensive knowledge base of PFC toxicity,
- lack of predictability about the groundwater plumes and how PFC concentrations could change, and
- the likelihood and magnitude of other exposures (consumption of local fish or wild game).

MDHHS recommends the following actions be conducted by the appropriate agencies and responsible party for the protection of public health:

- Sample remaining drinking water wells that are downstream of WAFB.
- Prevent exposure to site-related PFCs in the drinking water.
- Control PFC contamination at WAFB so that PFCs do not continue to enter drinking water wells.

The attached technical review details the supporting information for the conclusion above. Please contact MDHHS toxicologist Christina Bush at bushc6@mi.gov or 517-335-9717 if you have questions about the review.

In closing, thank you for continuing to partner with MDHHS in striving to protect the public health from environmental contamination.

Sincerely,



Nick Lyon
Director

NL:jb

Enclosure

CC: James Baier, Oscoda Township Supervisor
Agency for Toxic Substances and Disease Registry (ATSDR), Division of Community Health Investigations
ATSDR, Region 5 Office
Mary Ann Dolehanty, Michigan Department of Environmental Quality (MDEQ), Office of Drinking Water and Municipal Assistance Chief
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