

MDHHS Water Data Evaluation – Resolute Forest Products Fire, Menominee

October 16, 2022

Background

On October 6, 2022, a large fire started at Resolute Forest Products located at 701 4th Ave in Menominee, MI. The fire spread to the adjoining Tyco Fire Products facility which houses firefighting foam. MDHHS has partnered with local, state, and federal agencies to respond to the incident. On October 13, the Michigan governor declared a state of emergency for Menominee County.

The Resolute Forest Products warehouse is located along the Menominee River near the inlet to Lake Michigan. Due to water runoff from the fire and the presence of chemicals stored in the affected buildings per- and polyfluoroalkyl substances (PFAS) have been released to the river and lake. The water intake for the Menominee water treatment facility is located in Lake Michigan approximately three miles north of the site. The water treatment facility does not have the capacity to remove PFAS from the water.

Unified Command agencies have conducted surface water sampling and sampling of raw and treated water at the treatment plant.

Data Evaluation

MDHHS reviewed the following water data reported between noon on **10/15/2022** and noon on **10/16/2022**.

Table 1. Water samples collected by EPA from the Menominee fire site and analyzed for PFAS.

Sample date	Sample ID	Sample type
10/13/2022	SWEF2210121335WB	Finished drinking water at Menominee water treatment plant
10/13/2022	SWIN2210130747WB	Raw water at Menominee water treatment plant
10/13/2022	9 samples	Surface water along the Menominee River
10/12/2022	SWIN2210120940WB	Raw water at Menominee water treatment plant
10/7/2022	8 samples	Non-PFAS Surface water along the Menominee River

Table 2. PFAS chemical detections for water samples collected between 10/7/22 and 10/13/22, as identified in Table 1.

Chemical	Raw Water Menominee (ng/L or ppt)	Menominee River surface water* (ng/L or ppt)	Raw Water Menominee (ng/L or ppt)	Finished DW (ng/L or ppt)	MDHHS Comparison Value or MCL [1] (ng/L or ppt)	Other CV or risk assessment value (ng/L or ppt)
Date	10/12/22	10/13/22	10/13/22	10/13/22		
6:2FTS	340	2.7 – 220	81	29		3300 [2]
PFHxA	7.9	2.1 – 7.4	3.9	4	400,000	
PFPeA	4	2.1 – 3.7	3.3	4		51 [4]
PFBA	ND	ND	ND	2		7000 [3]
PFHpA	ND	ND – 2	ND	ND		

PFOA	2.3	ND	ND	ND	8	
PFOS	2.6	ND	ND	ND	8	

*Data reported as minimum-maximum, n=9 samples.

ng/L = nanograms per liter, ppt = parts per trillion, ND = Not detected

NOTE: data might not be fully validated and could change

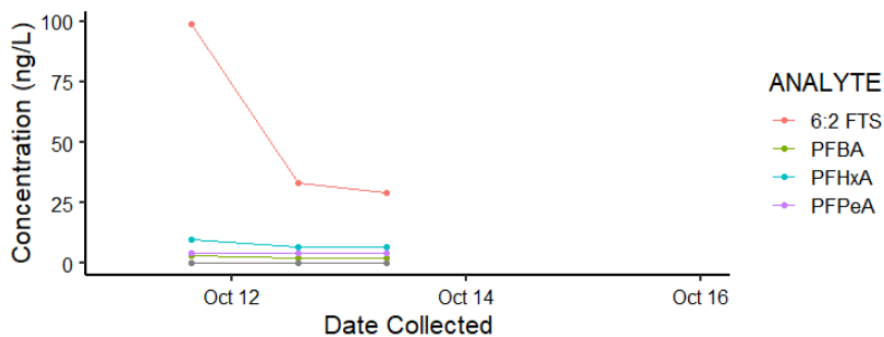
Non-PFAS samples

Surface water sampling at on 10/7 (8 samples) shows the presence of metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). No herbicides, pesticides, or mercury were detected. Screening using the ATSDR PHAST tool and recommended comparison values only show concentrations of antimony (found in 1 of 9 samples at 4.6 parts per billion (ppb)) exceeding the intermediate environmental media evaluation guidance screening value (EMEG) for a child (4.2 ppb). Lead was detected in only 1 of 9 surface water samples at 4.6 ppb. Both antimony and lead were found in the same single sample directly adjacent to the impacted site; further upstream and downstream sampling shows no-detection of these chemicals. Since the river is not a drinking water source and the measured values were only slightly elevated, no immediate action is needed. Metals in the finished drinking water should be evaluated.

Water Trend

Pre-incident concentrations of PFAS in the finished drinking water were non-detect. Since the start of measurements post-incident, levels have been **decreasing** or have remained **unchanged** for all PFAS detected. No new PFAS have been detected in Michigan finished drinking water since the initial post-event sampling.

Figure 1. PFAS chemical detections in Menominee finished drinking water samples collected between 10/11/22 and 10/13/22.



Conclusions

Unchanged from 10/14/22, conclusions for reference below:

- There is a completed exposure pathway through Menominee city drinking water as a result of the Menominee Fire incident.
- At this time, risk assessment of PFAS would indicate there is **no apparent public health concern**.
 - All detections of PFAS in any sample is below the comparison value or the risk assessment resulted in a hazard quotient well below 1.

- Further sampling is needed to continue to evaluate municipal water quality for PFAS and other chemicals that were released.

Recommendations

Unchanged from 10/14/22, recommendations for reference below:

- Notify consumers of Menominee city water of the presence of PFAS in the water and that there is no apparent health concern for those that are consuming it.
- Need for continued testing and ongoing monitoring of Public Water Supply.
- Contingency planning for mitigation or alternative water.

References

1. <https://www.michigan.gov/-/media/Project/Websites/pfasresponse/documents/MPART/Reports/2019-Health-Based-Drinking-Water-Value-Recommendations-PFAS-MI.pdf?rev=0dc919f0d56d44f98d5bb1130a8c8907>
<https://www.michigan.gov/pfasresponse/drinking-water/mcl>
2. <https://stateofmichigan.sharepoint.com/:b:/r/sites/DHHS-Teams-Menominee-Michigan-Warehouse-Fire-Response/Shared%20Documents/Environmental%20Unit/Risk%20Assessments/221013%20Menominee%2062FTS%20Tox%20assessment.pdf?csf=1&web=1&e=AwRTPE>
3. <https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/pfba2summ.pdf>
4. No toxicity value is available for risk assessment, Texas CEQ evaluated PFPeA like PFHxS for which we do have an MCL.
<https://www.awwa.org/Portals/0/AWWA/ETS/Resources/Technical%20Reports/Summary-PFAS-Toxicological-Research.pdf?ver=2020-11-10-100756-377>
5. <https://www.dhs.wisconsin.gov/chemical/pfas.htm>