

MDHHS Water Data Evaluation – Resolute Forest Products Fire, Menominee

October 24, 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 water data reported between noon on **10/18/2022** and noon on **10/24/2022**.

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

Sample dates	Sample ID	Sample type
10/15 to 10/19	4 samples	Finished drinking water at Menominee water treatment plant
10/15 to 10/19	4 samples	Raw water at Menominee water treatment plant
10/14 to 10/19	44 samples	Surface water along the Menominee River

Table 2. PFAS chemical detections for water samples as identified in Table 1.

Chemical	Menominee Raw Water* (ng/L or ppt)	Menominee Finished Drinking water* (ng/L or ppt)	Menominee River surface water† (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	10/15 to 10/19	10/15 to 10/19	10/14 to 10/19		
6:2FTS	17 – 86 (n=4)	4 – 12 (n=4)	2.1 – 1500 (n=30)		3300 [2]
PFHxA	3.2 – 6.4 (n=4)	3 – 4 (n=4)	2.3 – 7.8 (n=25)	400,000	
PFPeA	3 – 5.2 (n=4)	3 – 4 (n=4)	2.5 – 4.8 (n=25)		51 [4]
PFBA	ND	2 – 2 (n=4)	ND		7000 [3]
PFOA	ND	ND	ND	8	
PFOS	2.3 (n=1)	ND	2.4 – 11 (n=4)	8	
4:2 FTS	2.1 (n=1)	ND	2.2 – 51 (n=6)		

*Data reported as minimum-maximum, n=# of detects out of 4 samples.

†Data reported as minimum-maximum, n=# of detects out of 44 samples.

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

NOTE: data might not be fully validated and could change

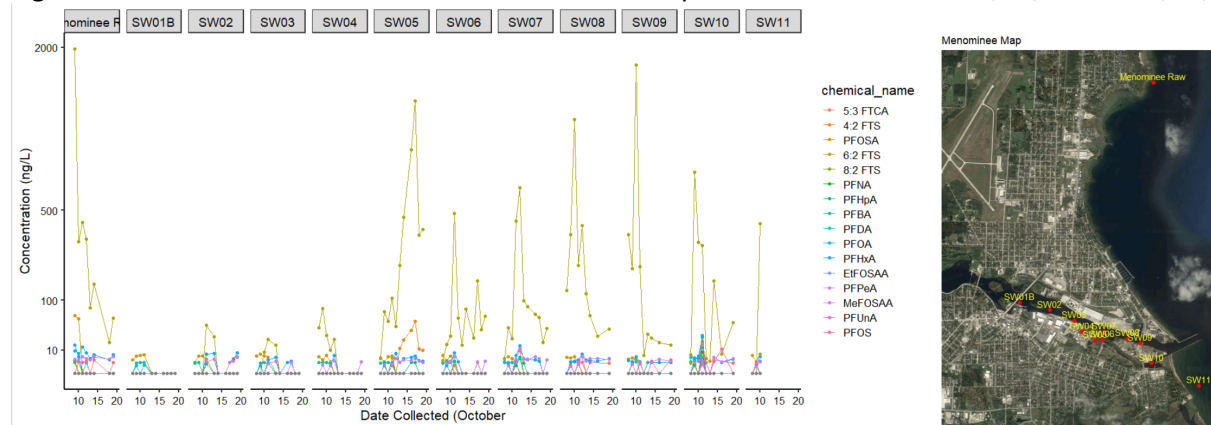
Non-PFAS samples

No new data was received for the reporting period.

Surface Water Trend

Available data from VISTA and EGLE lab sampling was combined to understand trends in surface water concentrations. The purpose is for understanding continued need for sampling. The trend at the drinking water intake is encouraging and decreasing since the first days of the incident; other locations are not necessarily decreasing. This shows a need for continued frequent monitoring of PFAS concentrations at these locations, especially SW05 and SW06.

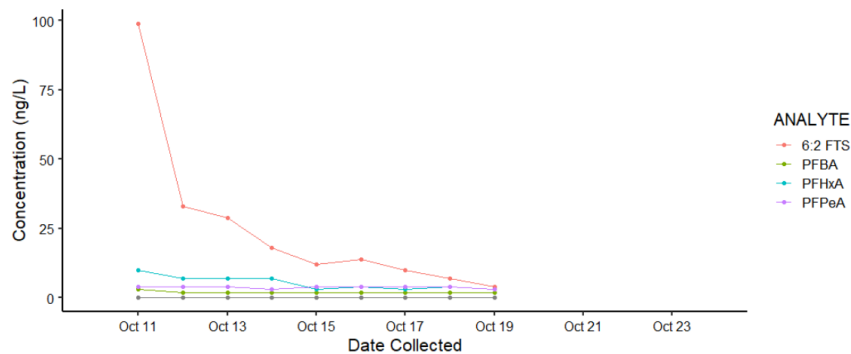
Figure 1. PFAS chemical detections in surface water samples collected between 10/08/22 and 10/19/22.



Drinking 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 2. PFAS chemical detections in Menominee finished drinking water samples collected between 10/11/22 and 10/19/22.



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=AwRTPF>
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>