

Sampling Non-potable Water, Wastewater, and Sludges ($\leq 2\%$ Solids) for Per- and Polyfluoroalkyl Substances (PFAS) using ASTM D7979 Modified

Please read and understand this entire procedure prior to beginning any sampling.

[NOTE: The maximum holding time for a sample stored above freezing and at or below 6 degrees C ($> 0\text{ }^{\circ}\text{C}$ to $\leq 6\text{ }^{\circ}\text{C}$) is 28 days from sample collection until analysis.

SAMPLING PROCEDURE

BEFORE YOU BEGIN

- (1) It is important to get familiarized with this ASTM D7979 Modified sampling procedure prior to beginning with the sampling. Sampling guidelines must be followed to perform the sampling correctly. Additional PFAS Sampling Guidance is available from the Michigan EGLE MPART website at: https://www.michigan.gov/pfasresponse/0,9038,7-365-88059_91297---,00.html.
- (2) Be aware that PFAS contamination can easily occur while sampling. PFAS can be present in cosmetics & lotions, insect repellents & sunscreens, fast food wrappers, recycled paper products, latex gloves, and certain treated clothing. Best practice is to avoid using these products.
[NOTE: For more specific details, and to find out about approved products vs. non-approved products visit the Michigan EGLE links provided above and in the References section.]
- (3) Wash your hands thoroughly before collecting samples.
- (4) Gather and wear all appropriate PPE such as powderless nitrile gloves, safety glasses, etc.
- (5) Each PFAS kit contains a minimum of four empty 15-mL conical tubes, two 15-mL conical that contain 5-mL reagent water (see below), one 250-mL bottle for a Total Suspended Solids (TSS) collection, one disposable 250-mL beaker, and one disposable transfer pipet. Each 15-mL conical tube is provided in 2 resealable bags. After sampling, each tube shall be returned to the same resealable bags in which it was provided.
 - (a) The Field Blank (FB) tube contains 5-mL reagent water.
 - (b) The Trip Blank (TB) tube contains 5-mL reagent water and is custody-sealed.
- (6) One kit is utilized per sampling site to avoid cross contamination. After sampling, please return each PFAS sample kit to the cooler in which it was originally provided.

SAMPLING STEPS

Reminders:

- Please WASH YOUR HANDS thoroughly prior to beginning with the sample collection.
 - Please DO NOT break the custody seal on the Trip Blank (TB).
 - Please DO NOT dump out the water that is provided in the FB and TB tubes.
- (1) Gather and wear appropriate PPE; ensure a new clean pair of powderless nitrile gloves are worn for each sampling event.
 - (2) Remove the Field Blank (FB) tube from the sampling kit, then from its bag. Slowly open the Field Blank (FB) tube and expose the content to the sampling environment. Keep the Field Blank (FB) tube open and uncapped until sample collection is completed.
 - (3) Using the 250-mL disposable beaker, collect the water sample, ensuring the water to be tested has only contacted the beaker.
 - (4) Unbag and transfer EXACTLY 5 mL of water sample from the beaker to each 15-mL sample tube with the disposable pipet provided. Upon receipt at the laboratory, samples greater or less than 5 mL will NOT be accepted. Properly label each sample with the information requested on each bottle label. Place tubes back into the bags in which they were originally received.
 - (5) Fill and label the 250-mL TSS bottle with sample.
 - (6) Recap the Field Blank (FB) tube after sample collection is completed and place the tube in the original resealable bags provided.
 - (7) Place all rebagged sample containers back into the cooler in which they were originally sent.
 - (8) Place NATURAL ICE that has been double-bagged into the cooler to immediately begin chilling the samples to at or below $6\text{ }^{\circ}\text{C}$ ($\leq 6\text{ }^{\circ}\text{C}$).

FINAL STEPS

- (1) Record the sample location, date, and time on the Chain-Of-Custody (COC) Record, FORM-N0013A. Ensure this information matches the information on the sample tube labels.
- (2) It is best to have chilled the samples prior to being packed for shipping or transport. Just prior to shipping or transport, repack the cooler with fresh double-bagged NATURAL ICE (drain out as much melted ice as possible).
- (3) Be sure to maintain the temperature from $> 0\text{ }^{\circ}\text{C}$ to $\leq 6\text{ }^{\circ}\text{C}$ during sample shipment/transport.
- (4) Place custody seal on cooler. Return the samples promptly to the lab.

ACKNOWLEDGEMENT

I hereby acknowledge that I _____ (Int), **HAVE / HAVE NOT** (circle one) collected all submitted samples for Per- and Polyfluoroalkyl Substances (PFAS) testing as summarized above. I understand that not collecting samples using ASTM D7979 procedures may jeopardize the validity of any results obtained.

(Signature)

(Date)

Submit this document with the completed Chain-of-Custody Record that accompanies samples.

Reference Information

Bottles & Supplies

PROVIDED ROUTINELY:

- (1) Each PFAS kit for wastewater and sludges ($\leq 2\%$ solids) contains:
 - (a) One Trip Blank, custody sealed 15-mL conical tube containing reagent water
 - (b) One Field Blank, 15-mL conical tube containing reagent water
 - (c) Four empty 15-mL conical tubes for sample collection
 - (d) One 250-mL bottle for a Total Suspended Solids (TSS) sample collection
 - (e) One disposable 250-mL beaker
 - (f) One disposable transfer pipet
- (2) Each 15-mL conical tube is provided in 2 resealable bags. After sampling, each tube shall be returned to the same resealable bags in which it was provided.
- (3) Each PFAS kit for non-potable water, wastewater, and sludges ($\leq 2\%$ solids) is provided in its own dedicated cooler.

References

- (1) ASTM International. 2020. Standard Test Method for Determination of Per- and Polyfluoroalkyl Substances in Water, Sludge, Influent, Effluent, and Wastewater by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS). [ASTM D7979](#). ASTM International: West Conshohocken, PA.
- (2) Michigan DEQ. 2018. [General PFAS Sampling Guidance](#). MI EGLE: Lansing, October 16.
- (3) Michigan DEQ. 2018. [Wastewater PFAS Sampling Guidance](#). MI EGLE: Lansing, October 11.
- (4) Michigan EGLE. 2019. [Biosolids & Sludge PFAS Sampling Guidance](#). MI EGLE: Lansing, October.

Revision History

Rev	Description of Change	Originator	Reviewer	Approver	Source File	Effective Date
0	Initial Release (based on working draft)	JEK-296	JKP-288	JMS-225	SOP-N0179-R0.docx	7/20/21