

Typical Questions for Per- and polyfluoroalkyl substances (PFAS) Analysis

PFAS are a group of man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals.

How much sample is needed for analysis?

Drinking Water

GEL requests 2 x 250ml HDPE. Samples are preserved with Trizma for EPA method 537.1 and are preserved with ammonium acetate for EPA method 533.

Groundwater and Wastewater

For modified method 537, GEL requests 2 x 250ml HDPE containers and 5mls in a screening vial. The screening vial is necessary if PFAS concentration is unknown to help protect our instruments.

For EPA Draft method 1633, GEL requests 1 x 250ml HDPE, 1 x 500ml HDPE, and 5mls in a screening vial. Do not fill the bottle past the shoulder, to allow room for expansion during frozen storage. The screening vial is necessary if PFAS concentration is unknown to help protect our instruments.

Solids including soils, vegetation, food products, other consumer products

For modified method 537, approximately 10g of solid material is requested. A second container for percent moisture should be sent for soils that are to be reported on a dry weight basis. All other solids are reported as received unless there is client direction to report differently.

For EPA Draft method 1633, approximately 50g of soil and sediment is requested. Approximately 20g of biosolid and tissue material is requested. A second container for percent moisture should be sent for soils that are to be reported on a dry weight basis. Maintain solid samples protected from light from the time of collection until receipt at the laboratory. All other solids are reported as received unless there is client direction to report differently.

AFFF

Approximately 5ml is requested for either the modified method 537 or EPA Draft 1633.

What is the holding time for analysis?

Drinking Water samples must be extracted within 14 days of collection and analyzed within 28 days after extraction. GEL applied the same holding time to all other waters received for PFAS analysis. Solid samples must be extracted and analyzed within 28 days. AFFF does not have an assigned holding time.

For EPA Draft method 1633, the samples must be received at GEL within 48 hours from collection and maintained at 6°C or lower. Once received, the samples will be frozen, extending the holding time to 90 days from collection.

What are the field QC recommendations?

Field Reagent Blanks (FRB)

Both drinking water methods (EPA 537.1 and EPA 533) have a **requirement** to collect a FRB. A FRB is an aliquot of PFAS-free water transferred to an empty container in the field. The PFAS-free water containers the appropriate preservative per reporting method. The FRB data is to determine if any method analytes or other interferences are present in the field environment.

EPA Draft method 1633 does not require a field blank. Many PFAS guidance resources being developed encourage FRB.

Equipment Blanks (EB)

EBs are recommended for sampling equipment due to the widespread commercial use of PFAS products.

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Other Sampling Guidance?

Use Nitrile gloves for sample collection. Fill the PFAS sample containers before any other container for other analyses at the same sampling point. Do not touch the inside of the cap or around the edge of the bottle. Do not place the cap on any surface when collecting the sample. Place PFAS containers inside a ziplock bag separate from other containers when collection is complete.

GEL highly recommends reviewing the documents on the Interstate Technology Regulatory Council (ITRC) website prior to sampling: <https://pfas-1.itrcweb.org/fact-sheets/>. The document "Site Characterization Considerations, Sampling Precautions, and Laboratory Analytical Methods" contains a list of materials to use and avoid during sampling.

The EPA website also has a Technical Brief issued February 2019 for PFAS test methods and sampling guidance: https://www.epa.gov/sites/production/files/2019-02/documents/pfas_methods_tech_brief_28feb19_update.pdf

How do I ship the samples to GEL?

Samples should be shipped to GEL in coolers with wet ice. Waters are required to be less than 10°C if received within 48 hours of collection for EPA method 533 or EPA 537.1. Waters are required to be less than 6C if more than 48 hours for these methods. Samples are required to be less than 6C for EPA Draft method 1633. Otherwise, they must be less than 6°C. Solids should be received less than 6°C. All samples need to be clearly labeled and a completed and signed Chain of Custody should be included in the shipment.

Deliver direct or ship via FedEx or UPS to the attention of your project manager or Sample Receiving at:

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