PROPER HANDLING OF THE FLUID SAMPLE

1. To determine if the waste fluid meets the MCLs and other health-based standards at the point of injection, the fluid sample must be collected from the last accessible place before the point of injection. The point of injection is defined in 40 CFR 144.3 as "the last accessible sampling point prior to waste fluids being released into the subsurface environment through a Class V injection well. For example, the point of injection of a Class V septic system might be the distribution box - the last accessible sampling point before the waste fluids drain into the underlying soils. For a dry well, it is likely to be the well bore itself." If there is an oil/water separator or a septic tank, but no distribution box before the drainfield, then collect the sample from the second chamber of the tank from the inflow point. If no tank is accessible, then collect the sample from the sump in the floor drain.

2. Use a clean container to collect the sample. If there is a floating oil layer on top of the waste water, try to collect only the water below the oil layer.

3. If a trained sampling person is not going to collect the sample, be sure to collect the correct number of samples, preserve the samples as necessary, and return the samples to the analyzing laboratory within the proper timeframe, at the proper temperature and pH.

4. The following table shows types of sample containers, preservative methods, holding times, and analytical methods for each group of analytes. Parameters within each analyte group can be analyzed from the same sample (i.e. only 1 sample needs to be collected per analyte group).

Variable, Units	Analyte group	sample volume & container type	Preservative	Holding time	Method
VOCs	Group A	2 each - 40 ml clear glass container with septum	Wet Ice to 4^{0}C ascorbic acid if chlorine present	14 days	524.2
Semi-volitiles	Group B	1 liter amber glass bottles	HCl to pH<2	7 days until extraction 30 days after extraction	8270
Total Metals	Group C	1-liter glass or polyethene container	Wet Ice to 4^{0}C and HNO_3 to pH<2	6 months	200.7, 200.8, 200.9, 212.3, 272.1
Total Mercury	Group C	1-liter glass or polyethene container	Wet Ice to 4^{0}C and HNO_3 to pH<2	28 days	245.1, 245.2 or 200.8
Chloride	Group D	1-liter polyethene container	No preservation required	28 days	300.0
Fluoride	Group D	1-liter polyethene container	No preservation required	28 days	330.1, 330.2, 330.3, 330.4 or 330.5
Nitrate + Nitrite as N	Group E	1-liter glass or polyethene container	Wet Ice to 4^{0}C and H_2SO_4 to pH<2	28 days	300.0, 353.2

5. Each sample needs to be labeled with:
    - name of facilitiy being sampled,
    - date & time of sample collection,
    - name of person collecting the sample,
    - the intended analyses to be performed on the sample, and
    - the type of preservation used.

6. Sample Collection & Preservation:

    The samples to be analyzed for **Volatile Organic Compounds** (VOCs) should be collected first, because the fluid sample collection process may disturb the fluid in the tank, possibly releasing any volatile components dissolved in the waste fluids. From the sample collection device, pour the VOC samples slowly into 40 ml glass bottles, tilted to minimize turbulence of the sample and degassing of the dissolved volatiles. If chlorine is present in the waste stream, ascorbic acid needs be added to the sample bottles before the sample is poured into the bottle. Add 3 drops of 1:1 hydrochloric acid to each vial as the preservative, then fill the vial with the sample to form a positive meniscus on top of the sample bottle. Cap the bottles with a cap containing a Teflon lined septum. After capping, turn the bottle upside down to check for air bubbles. If air bubbles exist, uncap bottle and add drops of additional sample to form a meniscus.

    The samples to be analyzed for **Semivolatiles** should be placed in 1 liter amber glass bottles and preserved with concentrated Hydrochloric acid to pH below 2.

    The samples collected for analysis of **Total Metals** should be preserved with nitric acid to bring the sample pH down to 2.

    The samples to be analyzed for **Chloride and Fluoride** need no added preservative.

    The samples to be analyzed for **Nitrate + Nitrite** should be preserved with sulfuric acid to bring the sample pH down to 2. It is important to use sulfuric acid. If nitric acid is accidentally used, it could damage the analytical equipment, in addition to invalidating the sample.

    The samples should be placed in a cooler filled with ice to maintain sample temperature below 4^0 centigrade. The VOC trip blank consisting of 2 glass vials containing Milli-Q water and any preservatives should be included with the VOC samples.

7. The information that the analyzing laboratory should provide includes
    1. The date the fluid sample was sent to the laboratory,
    2. The date(s) laboratory analyses were performed,
    3. The name of the individual(s) who performed the analyses,
    4. The analytical techniques or methods and quality control used by laboratory personnel, and
    5. The results of each analysis.