

## SOIL SAMPLING OPTIONS FOR VOLATILE ORGANIC COMPOUNDS BY 5035A

### Background

The Washington State Department of Ecology has adopted EPA Method 5035A that significantly alters the way soil samples are collected and prepared when analyzed for volatile compounds.

The new method focuses on several areas where volatile constituents can be lost during sampling and/or preparation. Some of the key aspects of the new method are collection of undisturbed soil cores by using sampling devices (e.g. EnCore or Core'n One) or coring syringes, minimization of soil container changes, chemical/ physical preservation and, in many cases delivery to the lab within 48 hours.

This method offers a number of different collection options and variations. All options are intended to prevent the loss of VOCs during sample collection, transport and analysis.

### Method 5035A Sampling Options

**For gasoline range organics and high-level volatile organics >200 ug/kg.** This option requires that samples be either preserved in the field with methanol during sample collection (WDOE preferred method), or preserved in the laboratory within 48 hours. If samples are preserved in the field with the proper preservation kit, (described below) they have a 14-day holding time. If samples are to be lab preserved they must be delivered to the lab within 48 hours.

#### Option 1, Field Preservation. (WDOE preferred method)

For gasoline range organics and high level volatile organics to be field preserved. Sample kit includes the following:

- 1 pre-weighed 40ml VOA vial containing a pre-measured and recorded amount of methanol.
- 1 four-ounce jar for percent solids determination.
- 1 syringe.
- Fees: \$12 per sample kit, which includes the items listed above.

#### Option 2, Lab Preservation.

For gasoline range organics and high level volatile organics to be lab preserved. Sample kit includes the following:

- 1 pre-weighed 40ml VOA vial.
- 1 four-ounce jar for percent solids determination
- 1 syringe.
- Fees: \$10 per sample kit, which includes the items listed above.

Sample must be delivered to lab within 48 hours for lab preservation.

**For low level volatile organics <200 ug/kg.** This option requires that a 10-gram sample be collected in a 40ml VOA vial. The sample must be preserved by freezing within 48 hours. Frozen samples have a 14-day holding time. Since each container can only be analyzed one time it is recommended that you collect two vials per sample.

**Option 3.**

For low-level volatile organics to be frozen within 48 hours. Sample kit includes the following for each sample:

- 2 pre-weighed 40ml VOA vials containing a small magnetic stir bar.
- 1 four-ounce jar for percent solids determination.
- 1 syringe.
- Fees: \$10 per sample kit, which includes the items listed above.

Samples must be delivered to lab within 48 hours.

**For low level and high-level volatile organics.** This option requires that samples be collected in three 40ml VOA vials, one with methanol and two without. The non methanol containers must be preserved by freezing within 48 hours. Frozen samples have a 14-day holding time.

**Option 4.**

For low level and high level volatile organics to be field preserved. Sample kit includes the following for each sample:

- 2 pre-weighed 40ml VOA vials containing a small magnetic stir bar.
- 1 pre-weighed 40ml VOA vial containing a pre-measured and recorded amount of methanol.
- 1 four-ounce jar for percent solids determination.
- 1 syringe.
- Fees: \$15 per sample kit, which includes the items listed above.

Samples must be delivered to lab within 48 hours.

*Note-* Methanol is a toxic flammable solution. If samples will be shipped to the laboratory via couriers such as, UPS or Federal Express, DOT labeling requirements must be met. Contact the lab for additional information concerning labeling requirements.