



What is the En Core® Sampler?

The **En Core® Sampler**, a disposable volumetric sampling device, was developed to assist field personnel in taking soil samples with *minimal handling and maximum accuracy*.

The **En Core® Sampler** collects, stores and delivers soil samples...all within one easy-to-use device. The airtight sealing cap prevents the transfer of volatiles as the **En Core® Sampler** becomes its own self-contained package.

- *No chemicals are involved in the field.*



The **En Core® Sampler**, made of high-tech inert composite polymer is available in 5 gram and 25 gram versions.

Besides its simplicity of use, the disposable **En Core® Sampler** avoids many of the problems of current VOC soil collection techniques, including:

- The **Sampler** eliminates the need for methanol preservation;
- The **Sampler** eliminates the need for preservation with sodium bisulfate, an alternate method.
- Most importantly, the **Sampler** avoids many sources for lab discrepancies, thus assuring more consistent and accurate analyses.



At Left, an attachable, reusable **En Core® T-handle** is used to push sampler into the soil.

Note: The disposable En Core® Sampler is designed for one-time-use only. Complete sampling instructions are included in each packet.

En Core® is covered by one or more of the following U.S. Patents: 5,343,771; 5,505,098; 5,517,868; 5,522,271; 5,706,904. Other U.S. and foreign patents pending.

Summary and Comparison of Current Soil Collection Practices

Collection and storage of soils for VOC analysis using current US EPA methodology has changed since the promulgation of SW846 Method 5035. The collection options are:

- **En Core Sampler Preservation.** Collect 3 En Cores and a dry weight for each sample point. Ship to lab within 48 hours of collection.
- **Methanol Preservation.** Requires coring and weighing 5 gram samples and placing in 40 mL vials preserved with methanol. VOC losses are prevented by both retarding volatilization and preventing biodegradation. However, this method involves use of a hazardous substance and weighing samples in the field. VOC detection limits are elevated 25 to 50 fold. Unused methanol and samples must be disposed of as hazardous waste.
- **Acid Preservation.** Requires coring and weighing 5 gram samples and placing in 40 mL vials preserved with an acid solution (formed from sodium bisulfate). While this method overcomes the methanol objections and eliminates subsampling in the lab, different limitations are presented:
 - Acid may be insufficient for preserving soils with high buffering capacity.
 - Alkaline soils may react vigorously with the acid and the vials may explode.
 - Acid may salt in or salt out contaminants, depending on organic carbon content.
 - A high level analysis may be needed in addition to the low level analysis.



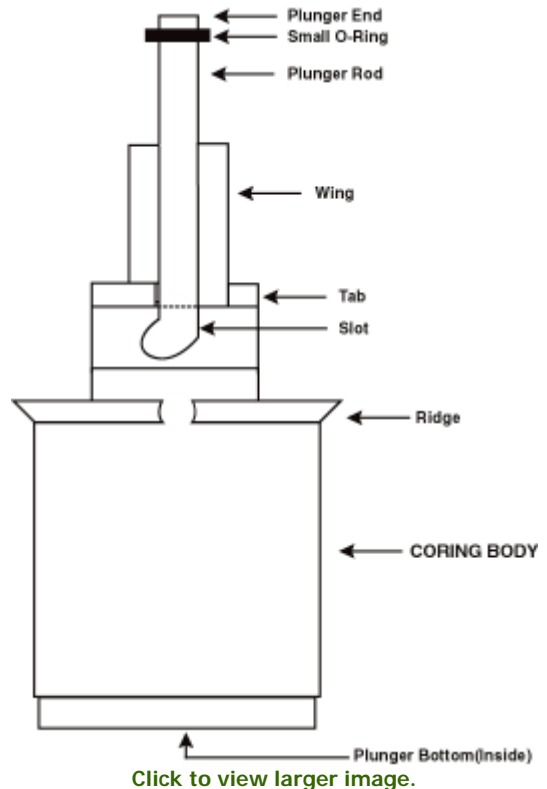
NOTE:

1. En Core Sampler is a Single Use device. It cannot be cleaned and/or reused.
2. En Core Sampler is designed to store soil. Do not use En Core Sampler to store solvent or free product!
3. En Core Sampler must be used with En Core® T-Handle and/or En Core® Extrusion Tool exclusively. (These items are sold separately.)

Using The En Core® T-Handle

Before Taking Sample:

1. Hold coring body and push plunger rod down until small o-ring rests against tabs. This will assure that plunger moves freely.



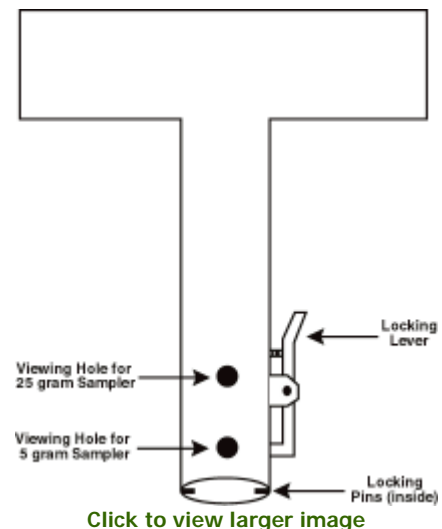
[Click to view larger image.](#)

2. Depress locking lever on En Core T-Handle. Place coring body, plunger end first, into open end of T-Handle, *aligning the (2) slots on the coring body with the (2) locking pins in the T-Handle*. Twist coring body clockwise to lock pins in slots. Check to ensure Sampler is locked in place. Sampler is ready for use.

Taking Sample:

3. Turn T-Handle with T-up and coring body down. This positions plunger bottom flush with bottom of coring body (ensure that plunger bottom is in position). Using T-Handle, push Sampler into soil until coring body is completely full. When full, small o-ring will be centered in T-Handle viewing hole. Remove Sampler from soil. Wipe excess soil from coring body exterior.

4. Cap coring body while it is still on T-handle. Push cap over flat area of ridge. **Push and twist cap to lock arm in place. Cap must be seated to seal sampler (see diagram below).**

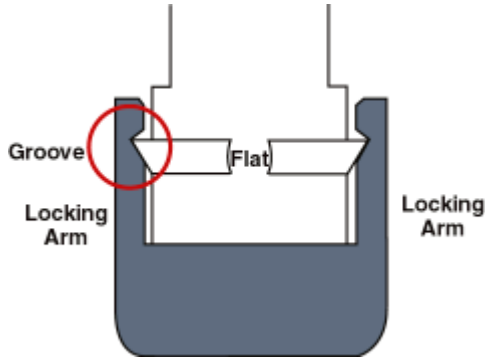


[Click to view larger image.](#)

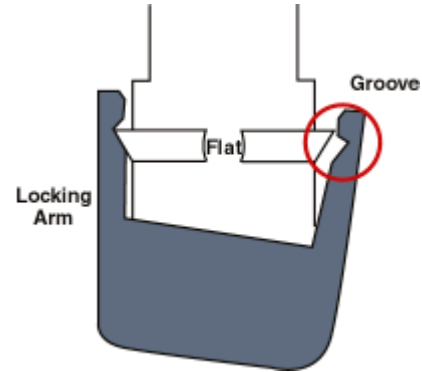
Sampler Correctly Capped

Sampler Incorrectly Capped

Locking arm grooves seated over coring body ridge.



Cap appears crooked; locking arm grooves not fully seated over coring body ridge



Preparing Sampler For Shipment:

5. Remove the capped Sampler by depressing locking lever on T-Handle while twisting and pulling Sampler from T-Handle.
6. Lock plunger by rotating extended plunger rod fully counter-clockwise until wings rest firmly against tabs (see plunger diagram at right).
7. Attach completed label (from En Core Sampler bag) to cap on coring body.
8. Return full En Core Sampler to zipper bag. Seal bag and put on ice.



Frequently Asked Questions

Does the En Core Sampler work in tight clay?

Does the En Core Sampler work in sand?

Does the En Core Sampler work in rocks?

Does the En Core Sampler work with down-hole sampling methods?

How do I know if the En Core Sampler is full?

How do I know if the cap is on properly?

What is the status with hold times?

Who do I contact if I have more questions?

Does the En Core® Sampler work in tight clay?

The En Core excels in sampling tight soils. A cutting edge was designed into the front of the body. Push and twist the sampler into the clay to take a core sample.

Does the En Core® Sampler work in sand?

The En Core cannot be used to sample sand in the normal way since dry sand will not form a cohesive plug. Pull the plunger back to form an o-ring seal on the back end of the body and scoop or push sand into the sampler. When the cap is attached, the sand will be kept in a headspace-free state.

Does the En Core® Sampler work in rocks?

The En Core sampler does not work with rocks. Rocks are a difficult matrix to sample no matter what approach is used. We would recommend that you have some methanol available if you need to sample rocks. You may need to break up the rocks to get a sufficiently small sample.

Does the En Core® Sampler work with down-hole sampling methods?

At the present time, the En Core does not work with down hole sampling. You must bring the soil core or split spoon to the surface and quickly punch out a sample.

How do I know if the En Core® Sampler is full?

There is a viewing hole in the handle. The back o-ring on the plunger will show in the viewing hole when soil has pushed the plunger fully to the back. However, there is another check you should make on every sample. The plunger can only be rotated when it is fully pushed to the back of the body. If you can twist the plunger, you have guaranteed that the soil has filled the sampler and the back o-rings have sealed.

How do I know if the cap is on properly?

When you put the cap on, it is important that you twist the cap as you push it on. The cap is properly sealed when the two locking arms are completely and symmetrically over the body ridge. This means the cap is sealed.

What is the status with hold times?

Currently, the hold time for all methods is 48 hours. This means that the soil must be placed in a preservative before the end of the 48 hour period. A recommendation is currently pending with EPA to extend hold time to either 7 days when stored at 4 degrees C., or to 14 days when stored at -13 degrees C.