

***Improved Enzyme Leach<sup>®</sup> VI Soil Collection Procedure***

It has been found that Enzyme Leach<sup>®</sup> VI soil samples have a much longer shelf life and produce higher quality results if during collection they are placed in airtight, light-proof containers that are completely filled with the soil sample. The object is to eliminate as much air from the sample container at the time of collection as possible, and to achieve roughly the same degree of compaction in the container as when the soil was in the ground. Following the new collection procedure also speeds our new processes in the laboratory.

It is still important that the samples not be allowed to get too hot between collection and the laboratory.

Completely fill a 50 mL dark amber plastic centrifuge tube with the soil material, packing it tightly to eliminate air, and tightly screwing on the cap. This keeps the sample in a state similar to the conditions in the ground until the container is opened in the lab. Don't worry if the soil is wet; we adjust for that when the sample is processed in the lab.

***For finer-grained soils (medium sand and finer), with a few rocks:***

1. Label a 50 mL dark amber plastic centrifuge tube with the sample site identifier.
2. Dig a hole to a depth of about 6 inches (15 cm).
3. Collect soil from a depth of 5 to 8 inches (13-20 cm) on the tip of your spade, trenching shovel, or another tool.
4. Use a stainless-steel spatula (like for cake icing) to tightly pack the sample into a 50 mL dark amber plastic centrifuge tube. (You want about the same degree of compaction as when the sample was in the ground. Don't over pack.) With the soil packed smooth and level with the top of the tube, screw on the plastic cap, making sure it is fully tightened.

Tip: You can aid settling and compaction of the soil by lightly taping the side of the vial or tamping the soil with the handle of the spatula.

Once you are into a routine, loading the sample vials should take about a minute at each sample site.

***For stony soils (i.e. they are too rocky to pack into the vials without sieving):*** Use a stainless steel colander that is placed inside a stainless-steel mixing bowl to sieve enough fine material to fill the sample container.

***Tip for stony soils that offer too little fine soil material to completely fill the sample container:*** Take stones or small pebbles from the colander or the sample hole and place them in the sample container until it is 2/3 to 3/4 full. Place some of your finer soil material in the container and tap the tube until the soil sifts down, filling the spaces between the rocks. Then use the spatula to finish filling the tube.

***Rock chip samples along fractures and joints where there is no soil:*** If you have to collect a sample where only rock is exposed at the surface, use a rock hammer or chisel to break off small rock chips along joints and fractures. Pack those chips in the same soil



sample vials that you would use for a normal soil sample. Fill the tube with the loose chips and seal it as normal. We have a laboratory process for extracting the Enzyme Leach<sup>®</sup> signatures from the chips.

If you use these amber vials as your sample containers, there is no sample prep charge (except for rock chip samples).

If you are out of the amber vials, you can use the tried and true 1 qt. Ziploc freezer bags, label the bag and fill the bag about 1/4 to 1/3 full. Then roll the bag to squeeze as much air as possible out before sealing it. As soon as possible, get these bagged samples to the lab, where we can transfer them to the amber vials.

***Source for amber centrifuge tubes:***

1. Skyline Assayers & Laboratories will supply customers with the tubes.
2. Or you can order them over the Internet at:  
[https://www.thomassci.com/Tubes-and-Racks/Greiner-Bio-One-ConicalTubes/\\_/CELLSTAR-Centrifuge-Tubes?q=1186Q39](https://www.thomassci.com/Tubes-and-Racks/Greiner-Bio-One-ConicalTubes/_/CELLSTAR-Centrifuge-Tubes?q=1186Q39)

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