

BESURE

SAMPLE COLLECTION KIT™

Instructions for PSG Sampler Deployment, Retrieval and Return to Beacon Environmental

Following are instructions for the BeSure Sample Collection Kit™ for the deployment and retrieval of Beacon Passive Soil Gas Samplers (PSG). Before going into the field, confirm you have everything you need by checking the enclosed PSG Kit Inventory sheet.

**If at any time you have questions or need additional assistance,
please call us at 1-410-838-8780 or email help@beacon-usa.com.**

**IMPORTANT: TRIP BLANKS ARE TO REMAIN CLOSED AT ALL TIMES
NO SMOKING WHILE HANDLING SAMPLES**

DO NOT INSTALL A SECOND SAMPLER TO COLLECT A DUPLICATE!

Duplicate analysis can be performed for any field sample because each sampler contains two sets of adsorbent cartridges. To select field sample duplicates, note them on the Chain-of-Custody; a second (co-located) sample is not necessary. Add a second entry to the Chain-of-Custody with the field sample ID followed by “D” or “Dup” (i.e., PSG-08-Dup is the duplicate for PSG-08). There is an additional per sample charge for analysis of any duplicates.

**NOTE: Do not deploy Samplers within 10 ft. (3 m) of a monitoring well,
penetrometer, hydropunch shaft, or other intrusive sampling apparatus that
could potentially create a preferential pathway for gases.**

Sampler Deployment

Need help? Call 1-410-838-8780
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PSG KIT INSTRUCTIONS

SOIL / VEGETATION



- Use a hammer drill and drill bits to create the soil vapor pathway.

 - Drill a 1.25 - 1.5 in. (3 - 4 cm) diameter hole to a depth of 12 - 14 in. (30 - 35 cm).
 - Using a 0.5 - 0.75 in. (1.25 - 2 cm) drill bit, drill a hole to a depth of 30 - 36 in. (75 - 90 cm).

See diagram on pg. 4

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- Place the Sampling Kit and these materials within easy access:

 - 12 in. (30 cm) Length of Pipe
 - Pipe Cutter / Hacksaw
 - Tapping Dowel
 - Hammer
 - Sampling Cap
 - Aluminum Foil
 - Beacon Sampler



- Lower the pipe into the hole and push or tape the pipe 0.5 in. (1.25 cm) below grade using the tapping dowel and a hammer. If necessary, first cut the pipe so that it is flush or just below grade before tapping the pipe into the hole.



- Remove a Beacon Sampler and unwind the retrieval wire wrapped around it, leaving a small coil of wire at the end. Extend the wire so that the Sampler will easily go into the pipe.



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PSG KIT INSTRUCTIONS

SOIL / VEGETATION



5 Replace the Solid White Shipping cap with a Black Sampling cap (one-hole cap with screen meshing insert). Place the White Solid Cap in the Cap Storage Container.

IMPORTANT: Make sure the black sampling cap is on the vial before installing the sampler.



6 Lower the Sampler, open-end down, into the metal pipe so the open-end of the Sampler is at the bottom of the pipe.



7 Make Sure the end of the retrieval wire remains above the surface.

IF ASPHALT / CONCRETE
Hook the end of the wire (with a small coil) and hang it over the top and outside of the pipe



8 Cover and plug the open end of the pipe with a balled-up wad of aluminum foil, pressing it tightly on top of the pipe with the tapping dowel so it forms a flattened seal on the pipe approximately 0.25 in. (0.8 cm) below grade.

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PSG KIT INSTRUCTIONS

SOIL / VEGETATION



9 Cover the hole to grade with local soils, leaving the end of the wire exposed above the surface of the ground. Use a hammer to collapse/pack the soil above the Sampler. Coil the wire and lay it flat on the ground surface.



10 Close the Field Kit and record the following information on the Chain-of-Custody: Sample ID, Serial Number, date/time of deployment (to the nearest minute), and other relevant information.

IF ASPHALT / CONCRETE

Cover the hole to grade with a 0.25 in. (0.8 cm) thick concrete patch. (If it is thicker, it will be difficult to remove during retrieval.)

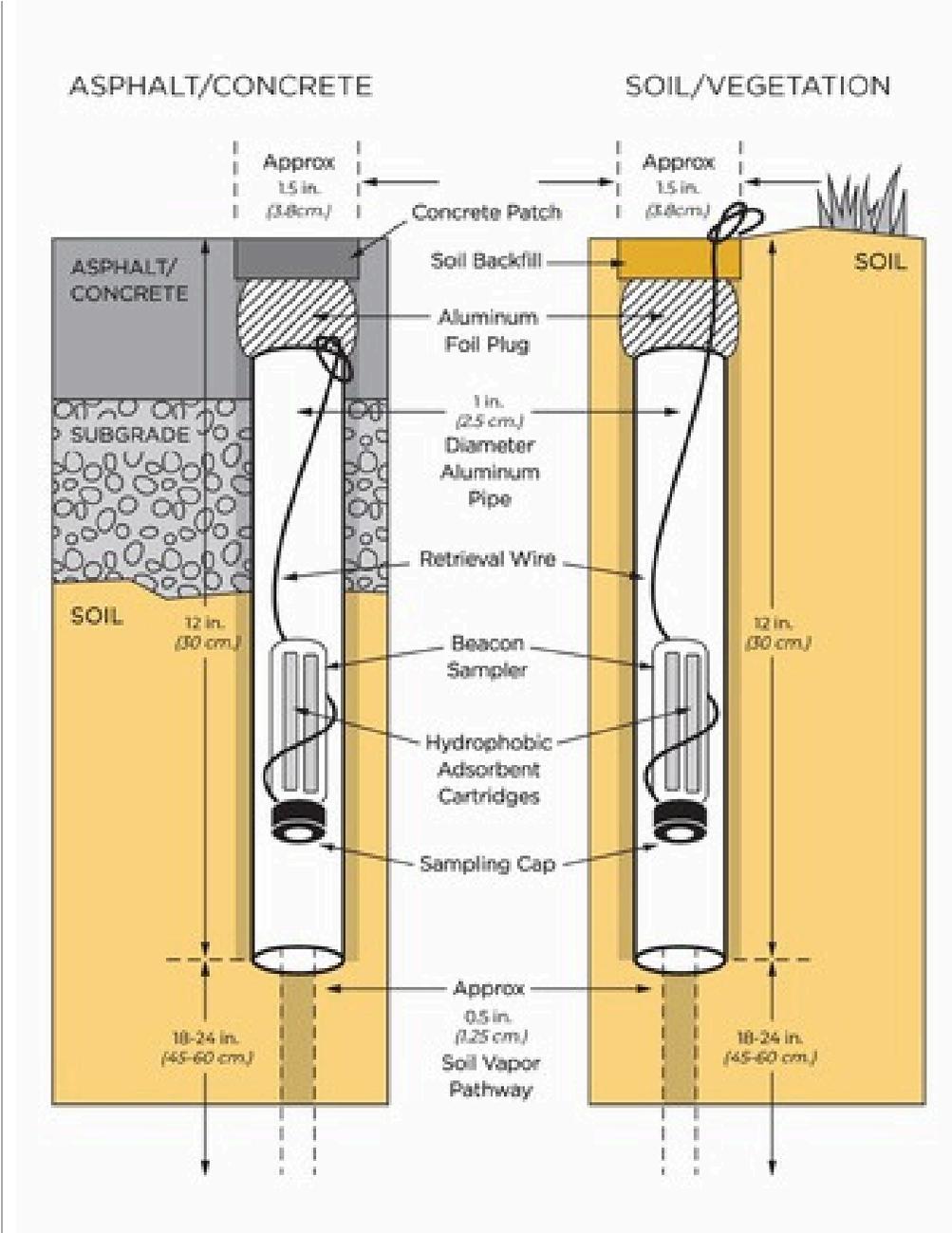
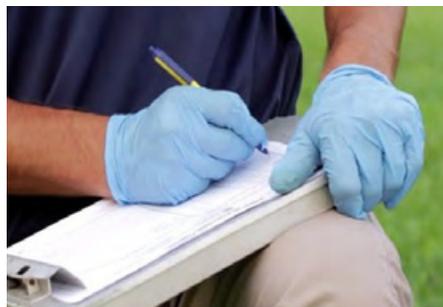
IMPORTANT: Only use Dry Concrete Mortar Mix. Do not use Premixed Patching Compounds. They contain solvents.

Repeat steps 1 - 10 until all samplers have been installed.

For Trip Blanks (if applicable)

After deploying all samplers, place each Trip Blank in an Individual Sampler bag. Store the Trip Blank(s) in the Return Shipment bag(s) until retrieval. Ideally, include one (1) Trip Blank in each Return Shipment bag.

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Sampler Retrieval

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PSG KIT INSTRUCTIONS

SOIL / VEGETATION



1 Place the Sampling Kit and these materials within easy access:

- Small Screwdriver
- Wire Cutters
- White Solid Shipping Cap
- Clean Towels or Gauze Cloths
- Individual Sampler Bag
- Return Shipment Bag

IF ASPHALT / CONCRETE

- Hammer and Chisel



2 Clear the soil and gently remove the aluminum foil plug using a small screwdriver, if necessary. Retrieve the Sampler from the hole by gently pulling the wire.

IF ASPHALT / CONCRETE

Remove the concrete plug with the hammer and chisel. Carefully remove the aluminum foil plug using the screwdriver. Retrieve the Sampler from the hole by gently pulling the wire.



3 Clean the sides of the Sampler with the towel and remove the Black Sampling cap. Do not return the used Sampling caps.

Transport vials (green labels) are only used if a Sampler is broken during retrieval. If this occurs, transfer all contents from the broken Sampler to the transport vial.



4 Cut ALL wire from the Sampler using wire cutters, and clean the vial threads completely with a clean towel or gauze cloth.

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Sampler Retrieval

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PSG KIT INSTRUCTIONS

SOIL / VEGETATION



5 Firmly screw the solid cap onto the vial. Use a ballpoint pen to write the Sample ID on the Vial "ID" label **and** the cap label.

IMPORTANT: Do not use a Sharpie or Gel Pen to mark the caps. It can contaminate the samples.



6 Place the sealed and labeled Beacon Sampler into the Resealable bag. Write the Sample ID on the white block on the bag using a ballpoint pen. Place the individually bagged and labeled Sampler into the larger Return Shipment bag.



7 On the Chain-of-Custody, record the date/time of the retrieval (to the nearest minute), and other relevant information.

Move to next location. Repeat steps 1 - 7, until all Samplers are retrieved. Patch or back-fill holes as necessary.



8 To prepare for return shipment, verify that all Samplers are stored in the Return Shipment bag, containing an adsorbent pak and a Trip Blank (if applicable).

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PSG KIT INSTRUCTIONS

SOIL / VEGETATION



9 Seal the Return Shipment bag and place it in the upper tray of the Field Kit. Then place the provided tools and materials below the tray in the lower compartment (blocks, extra samplers, tools, etc).

IMPORTANT: Do not return used sampling caps, used pipe, or wire with the field kit. They may bias the samplers.



10 Close the Field Kit, and secure it with the provided Custody Seal. Sign and Date the Chain-of-Custody. Take a picture, and scan or make a photocopy for your records.



11 Package the Field Kit into the original shipment box. Place the Chain-of-Custody on top of the Kit. Seal the box, affix a Priority Shipment label to it, and send it to the address noted below:

**Beacon Environmental
Attn: Receiving
526 Underwood Lane
Bel Air, Maryland 21014, USA
1-410-838-8780**

IMPORTANT: Do not use styrene peanuts, newspaper or other packing materials. They may contaminate the samples.



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FAQs

Does Beacon receive samples on weekends? No. If possible, store the samples in a clean environment until Monday and then ship.

How large of a diameter hole should I make? The preferred diameter is 1.25 - 1.5 in. (3 - 4 cm). If you must make a hole larger than 1.5 in. (4 cm), please contact Beacon.

Can I install samples in the rain? Beacon's sorbent is hydrophobic. The only issues with precipitation are:

- if the the vadose zone is saturated and vapors are not able to migrate,
- if there is so much rain during install that the holes are being filled with water.

In these situations, please contact Beacon to discuss.

Can I install samplers in gravel? Yes, make sure that you clear away enough surface gravel until you reach soil that will stay open as you create your hole. If this is not possible, please contact Beacon to discuss options.

Tips

- Remember to remove all the wire during retrieval. There should be no wire on the Beacon Sampler.
- Return all extra Samplers, wood blocks, and unused pipe to avoid replacement fees.
- Note any duplicates on the Chain-of-Custody.



DISCOVER THE BENEFITS OF LONG DURATION TIME-INTEGRATED AIR SAMPLING

To learn more, call **1-410-838-8780**, email **info@beacon-usa.com** or visit **beacon-usa.com**

Make the Switch to Beacon!

If you've been using Canisters for your Indoor and Ambient Air Sampling projects, **it's time to make the switch to Beacon Samplers!** Beacon Environmental's Passive Air Samplers are quickly becoming the industry standard for effective and reliable sample collection. Not only are they much smaller than canisters and easier to use, they can be used to sample over a brief period (hours) or extended periods (days or weeks) to provide more accurate time-weighted average concentration data.



Vapor Intrusion Monitoring



Fenceline Air Quality Monitoring



Global Leader in Soil Gas and Air Analyses

Beacon Environmental
DoD ELAP/ISO 17025 Accredited Laboratory, TNI NEFAP Accredited Field Sampling Organization, Accreditation No. 72690

Beacon Environmental is ISO/IEC 17025, DoD ELAP and NELAP accredited for the analysis of sorbent samples following US EPA Methods TO-17, TO-15, 8260D and 325B.