

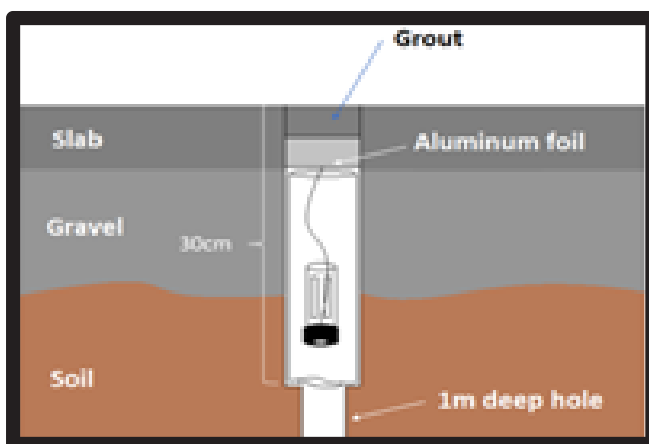
vZorb* Passive Sampler for Early Phase Soil Testing

The Fastest and Most Affordable Way to Zone In on Potential Land Contamination

Volterre Environmental believes that better business decisions are possible when it comes to land development projects. Every site poses different challenges - from local land use and zoning requirements to unique geographic and geological characteristics. Local politics almost always come into play. That's why standard testing is seldom the answer. Today's businesses require customized, creative and flexible environmental solutions that are both scientifically and legally defensible.

Introducing the vZone* Passive Soil Gas Sampler

vZorb*, our simple yet smart environmental technology, identifies and maps contamination zones on sites impacted by toxic chemicals such as Total Petroleum Hydrocarbons (TPH), Volatile Organic Compounds (VOCs), and Chlorinated byproducts with adverse impacts on human health and the environment. **vZorb** is proven to be far more effective than active sampling and traditional soil gas surveys, yet less costly than full-risk assessments.



What Makes It Better?

In a word: simplicity. When you are at the start of a land development project, we recommend a more affordable, less labor-intensive testing solution to size the problem - if any. **vZorb** is an initial gauge - pinpointing specific locations across the area. Primary benefits of the approach include:

Finding Needles in Haystacks

Land projects are acres and sometimes miles in scope. The first step in knowing with certainty whether you've inherited a soil contamination problem or not is through a qualitative assessment.

Doing that through early, affordable, passive sampling means you can pinpoint any concerning areas on a big site without field employees.



Passive sampling and early readings also decrease your future financial liability before you're in too deep.

It can also tell you whether contamination problems are pre-existing, naturally occurring, or the ultimate responsibility of others.

vZorb* Passive Sampler

1 Precise Location Tracking: It zones in and identifies toxic hotspots with minimal interference with the earth below and light above which can degrade toxic compounds leading to an inaccurate reading. The larger tube is made of the safest materials – pure glass, stainless steel, and polytetrafluoroethylene (commonly manufactured as Teflon*). It is installed into a 1-meter deep and 1.2-cm round hole below the ground. Inside is a 4 ml vial placed 30 cm down between the gravel and soil layers. (If vZorb detects toxic hot spots, Volterre Environmental can further assess those with a more precise, risk-based assessment called vZorb*.)



2 Accurate and Affordable: While simple, the technology is ingenious in its accuracy of the TPH and VOC presence. Why? Because vZorb stays longer in the ground than traditional active sampling. Because it samples soil vapors for one week or longer, it fully accounts for the slow migration of gaseous contaminants into the samplers.

In contrast, active sampling typically measures for minutes or hours with a fast uptake rate, so it is not as sensitive to potential gaseous compounds in soil. In addition, each amber vial has an engraved serial number as a tracking feature. When you have dozens or even hundreds of vZorb samplers on your site, it is critical to know where each sampler came from. If not, soil quality investigations can go in the wrong direction and undermine big and timely financial decisions.

Finally, vZorb can be used at any kind of site and is completely water resistant. The sampling cap, for example, is very porous yet hydrophobic, allowing any gaseous toxins to enter the vial with minimal interaction with the compounds themselves, i.e. dioxane, toluene, xylene, vinyl chloride.



3 Fast Yet Fully Compliant: While it takes up one or two weeks, vZone is certainly faster than a full risk-based assessment yet more accurate than conventional soil gas surveys. Our lab analyses use: thermal desorption and GC/MS compliant with the U.S. EPA TO-17; Quality Control samples namely blanks and duplicates, and; all other strict industry requirements.

Make Smart Money Decisions with vZorb

Early readings with vZorb passive soil gas sampling provide accurate data on whether to proceed or not with land purchase and use decisions.

It narrows in on exactly where to focus potential problem areas and remediation efforts - separating public perception from scientific reality.

Having solid answers earlier is a better use of your dollars and time than finding yourself too far down an investment path. Let Volterre Environmental assist with your science-driven business solutions.

