

Technical Data Sheet: TDS 11

SOIL PROBES

Contaminated land can be particularly difficult to identify due to the fact that the pollution is often underground. In addition pollutants such as volatile or semi-volatile organic compounds can move through the soil depending on the hydro –geological nature of the site. The plume of pollution may migrate some distance from the original leak or spillage, which could have occurred several years or even decades ago.

Oil refineries, chemical plant, waste tips, filling stations and industrial sites in general are all subject to contamination. Derelict industrial land (brownfield sites) may also be polluted with organics. The sheer size and number of these sites makes it difficult to assess the level of pollution and monitor its distribution economically.

Gradko Environmental offer a cost-effective solution for monitoring organics in soil, suitable for both small surveys or larger assessments of industrial sites; the soil probe pinpoints leaks and identifies the plume of underground contamination at minimal cost.



Description: The SOIL PROBE TM * pinpoints leaks and identifies the plume of underground VOC contamination. The probes are used in conjunction with the VOC thermal desorption diffusion tube and are positioned in the soil, in a grid pattern over key areas of a site. Organic pollutants migrate through the holes drilled at precise intervals into the hollow steel probe and are retained on a standard diffusive or pumped sorbent tube. This type of screening provides a quick, low cost indication of pollution “hot spots”.

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Concentrations absorbed by the tube are measured by thermal desorption and analysis by Gas Chromatography / FID or Mass Spectroscopy (UKAS Accredited Methods).

Materials:

PROBE BODY: Stainless steel with hardened steel tip.

CAP: Aluminium alloy fitted with Viton ® ‘O’ rings to prevent ingress of water and soil debris.

Optional Parts: Stainless steel mesh to prevent ingress of sand particles in dry sandy areas. Brass Impact Former to assist in driving probe into soil.

Dimensions: Available in three lengths: 280mm, 430mm, and 880mm. Diameter: 33mm.

Recommended Exposure Periods: The unique cap allows the probe to be suitable for both diffusive and pumped sampling and provides a range of sampling regimes, for example:

- Diffusive monitoring over a 24-hour period.
- Pumped monitoring for short time periods.
- The connection of two tubes in series to monitor the breakthrough of highly volatile compounds.

Some Applications:

- Survey landfill / commercial sites using grid sampling.
- Pinpoint undersoil leakages.
- Check sites before and after construction projects to provide evidence of effective land contamination prevention measures.
- Track flows of sub-soil pollution.
- Draw up detailed contour maps of soil pollution.

Tubes and sampling cap assemblies may be prepared and sealed ready for use in the field where soil probes are already in place.

*The VOC-Mole Soil Probe is a registered trademark of Markes International Ltd

For details on sorbent tubes required, please see VOC Technical Data Sheet