



**Leeder  
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**Leeder Analytical** provides specialist testing and expert advice in a wide range of areas including environmental forensics, identification of unknown chemical compounds, chemical residues and impurities.

## **Volatile Organic Compounds - Soil Gas & Flux Emissions**

Analysis of VOCs is a complex science requiring consideration of many factors which may influence results. Leeder Analytical offer a range of options for the determination of VOCs in soil gas, flux emissions and workplace air. Depending on your requirements we provide solutions to enable you to collect samples actively using sorbent tubes with pumps or passively using diffusion samplers.

### **US EPA TO-17**

US EPA Method TO-17 is the International Standard for the "Determination of VOCs in Ambient Air using Active Sampling onto Sorbent Tubes" and is validated for the widest range compounds down to nanogram levels (<0.1ppbv in air). Sampling using "solid sorbent tubes" is recognised as having numerous advantages over canister and other sampling methods. The VOCs are transferred directly from the sampling tube to the GC-MS (Gas Chromatograph Mass Spectrometer), reducing interference, increasing sensitivity and greater sample stability compared to other sampling methods. Specific compounds can be targeted as well as scanning and identifying other compounds all in one test.

**USEPA TO-17 is suitable for a wide range of application including:**

**Soil Gas**

**Flux Emissions**

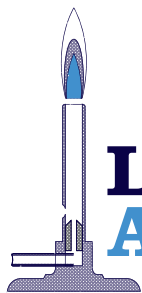
**Indoor air**

**Odour Investigations**

**Fumigants**



Please contact us to discuss your project requirements.



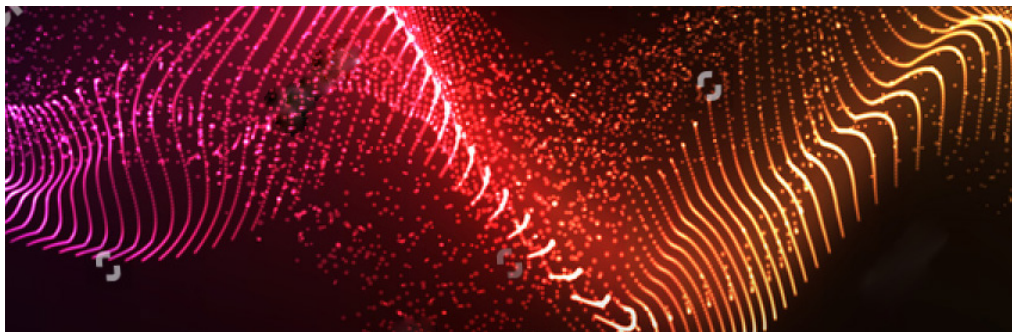
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**Pictured right: The Chromatographic profile shows the Volatile Organic Compounds identified in soil gas collected from an impacted petroleum site. The peaks include Benzene, Toluene and other VOCs with concentrations in the range of 2 - 100  $\mu\text{g}/\text{m}^3$ .**

## Sampling Procedures & Media

Accurate measurement of VOC levels is an essential part of evaluating potential health risks. Sampling Procedures & Media form an integral part of obtaining reliable results. We work with our clients to ensure the proposed sampling techniques will satisfy their "DQOs", (data quality objectives). Each sampling tube is individually analysed and "certified clean" prior to being supplied for sampling.

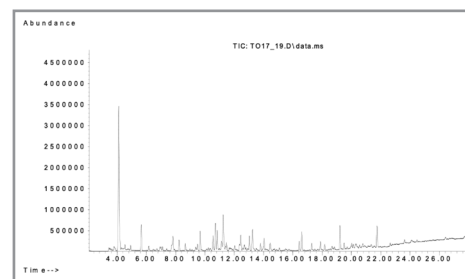
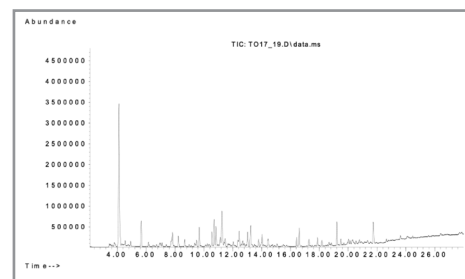
## Analytical Technology

Analytical Technology includes a high tech, state of the art, MARKES, UK Automated Thermal Desorber coupled with a High-Resolution Capillary Gas Chromatography - Mass Spectrometry. This equipment offers superior sensitivity & specificity, allowing for a wide range of compounds to be analysed in the one test.

## Target Analytes

In addition to targeting your specific compounds of interest, three standard analytical suites are available. The "TO-17 ACH" suite provides a range of compounds ideal for petroleum related sites. The "TO-17 60" and "TO-17 90" suites offer a range of compounds ideal for sites where industrial chemicals may be the focus.

Client specific methods can be set-up for non-target or unusual site-specific compounds.



Please contact us to discuss your projects requirements.