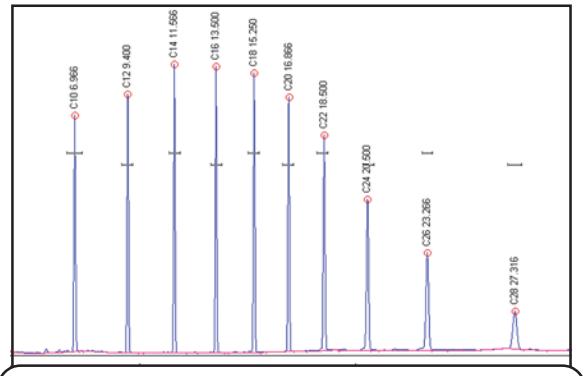
Thermal Desorber

- ***Volatile & Semivolatile compounds in Solid Matrices***
- ***Mounts in the Valve Oven on the 8610C GC***
- ***High Temperature & High Sensitivity***
- ***Manually Actuated 10-port Valve***
- ***No solvent extraction required***
- ***Simple to Use***

The SRI Thermal Desorber accessory permits volatile and semivolatile compounds in soil, or other solid matrices, to be injected and analyzed with little or no sample preparation, and with very high sensitivity.

With the Thermal Desorber, no solvent extraction is required. This is a major convenience for field operations, and helps save on costs. Little operator skill is needed, and 4-10 analyses can be run per hour, depending on specific requirements.



This chromatogram is from a GC with a Thermal Desorber and an FID detector. Synthetic diesel range samples like this are used to verify complete desorption. Sample: 2000ng synthetic diesel range organics desorbed from soil.

Up to one gram of soil is loaded into a reusable glass tube, and secured in place with plugs of glass wool. The tube is then inserted into the hot (275 °C) thermal desorber fitting, which is mounted in the heated valve oven compartment of the 8610C GC.

Because of the large sample size—up to 1 gram, an analyte present in the soil at 1ppm desorbs 1000 nanograms onto the GC column. This results in detection limits in the ppb range for most compounds. Sandy soil can typically be desorbed with no sample preparation at all. Clay soil is first mixed with sodium sulfate granules to break the clay into a fine powder coating the granules, then the clay and sodium sulfate mix is desorbed.

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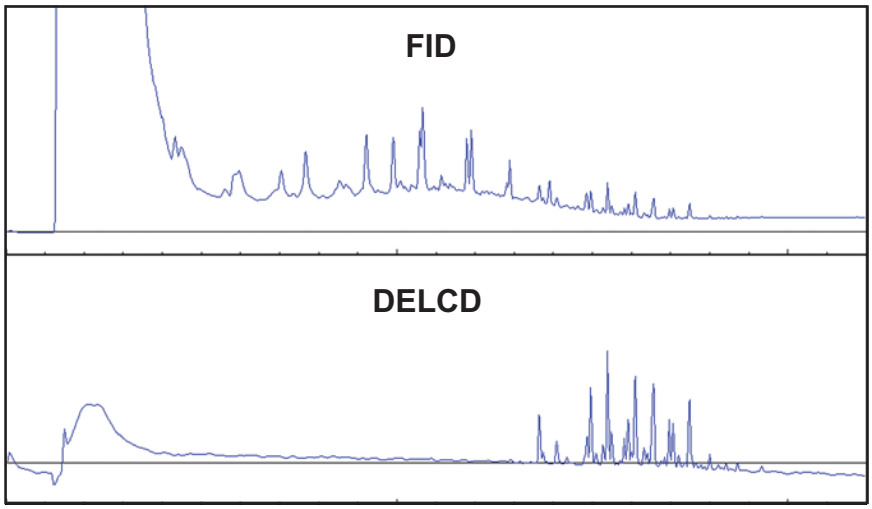
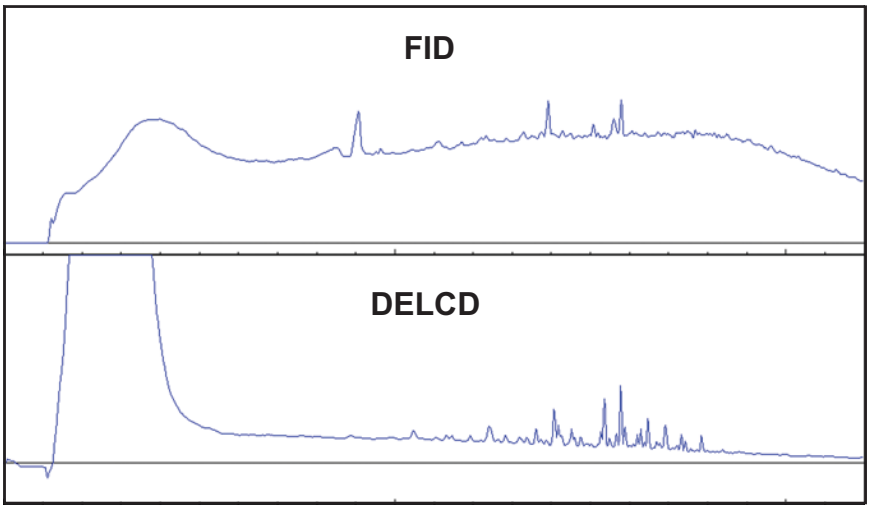
Soil samples can typically contain 20-50% water. FID or FID/DELCD detectors are commonly used with the Thermal Desorber, because the SRI FID automatically relights the flame after the large water peak. The Thermal Desorber + FID/DELCD configuration is perfect for detecting PCBs, pesticides, PAHs, JP-4, kerosene, and diesel in soil. Due to the extreme selectivity of the DELCD, PCBs can be discriminated even in the presence of massive hydrocarbon contamination.



The top two chromatograms show the analysis of PCB 1254 standard in diesel oil with our PCB GC System, which is equipped with a Thermal Desorber and FID/DELCD detectors in combination. The FID shows the diesel hydrocarbons and the PCBs, but the PCB peaks are obscured by the diesel peaks. In contrast, the DELCD shows the PCBs only, revealing what was essentially hidden in the FID chromatogram.



The bottom set of chromatograms show the analysis of a real-world standard: 0.3 grams of soil from a contaminated site. This real-world standard is NIST certified to contain 1.34ppm PCBs. The FID shows a large hydrocarbon matrix which is precombusted in the FID flame prior to reaching the DELCD, which shows a clean PCB 1254 chromatogram. Precombustion of the sample by the FID protects the DELCD from hydrocarbon contamination.

8690-1088	**Thermal Desorber on 8610C GC** Includes 10 reusable glass desorber tubes
8690-1087	**10-pack reusable ground glass desorber tubes**