

### REFERENCE METHODS

EPA METHODS: 8000B, 8015C, 3540C, 3510C, 3535  
ISO 9377-2, ISO 16703, EN 5991/7219

### CALIDUS™ 101-HT UltraFast GC

Total Petroleum Hydrocarbons (TPH) in Soil and Water

GC analysis for TPH (C<sub>8</sub>-C<sub>44</sub> hydrocarbons) in soil and/or water extracts using soxhlet, liquid/continuous liquid, or SPME. Viable for laboratory, at-line, or transportable analysis in less than 4 minutes.

### APPLICATION OVERVIEW

The Sample Processing Module with a standard split/splitless injection port, incorporating either a syringe through septum injection, or Auto Sampler delivers the sample to a Programmed Temperature Column Module (PTCM). The inlet includes septum purge to prevent bleed components from entering the system.

The PTCM is controlled by the method. It contains a MXT-1 High Temperature Resistively Heated Stainless Steel Capillary Column and is operated in a temperature programmed mode. The column provides the separation of the hydrocarbons in the liquid extract. (See Figures 2 & 3).

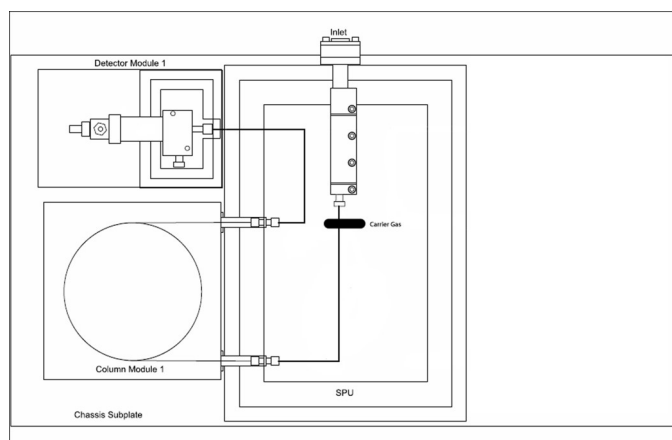


Figure 1: CALIDUS 101-HT Functional Diagram

Figure 2: Chromatogram of C<sub>5</sub>-C<sub>44</sub> RTMix in Hexane

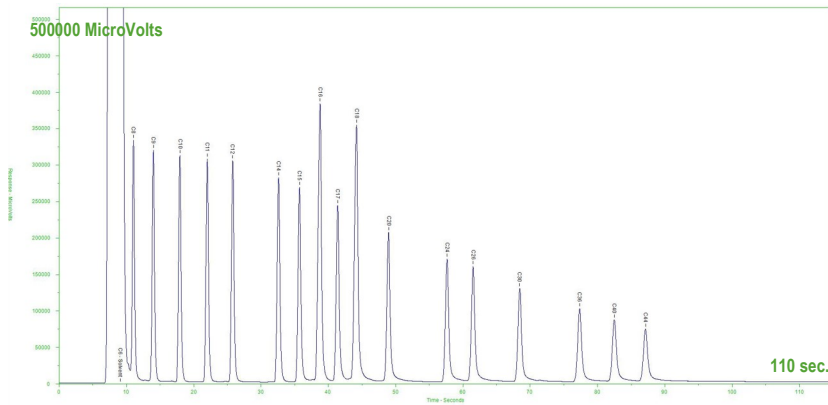
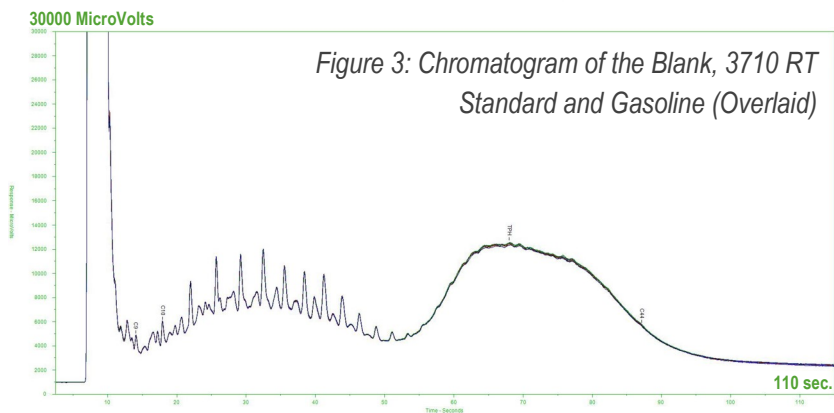


Figure 3: Chromatogram of the Blank, 3710 RT Standard and Gasoline (Overlaid)



The analyzer includes Chromperfect® chromatography data system, fully integrated, with InfoMetrix® LineUp™ running on a Windows PC, for calculating TPH concentrations for any carbon range from C<sub>8</sub>-C<sub>44</sub>.

# TOTAL PETROLEUM HYDROCARBONS

## Implications

The analysis of Total Petroleum Hydrocarbons (TPH) is a far-reaching analysis that is frequently used in several industries. In many cases, distinct speciation is not as important as quantitation across specific carbon ranges.

Methods like Diesel Range Organics(DRO) by EPA Method 8015, ISO 9377-2, and EN 5991/7219 utilize this quantification method, and can have run times of 30 minutes or more. By taking advantage of the Calidus patented technologies, these analytical methods can now be run in less than 4 minutes. Increasing sample throughput, laboratory/process capabilities, and decreasing backlogs.

## Major Analytical Advantages

Fastest analysis time in the industry for TPHs, with excellent performance and reliability.

Incorporates patented Resistively Heated Stainless Steel Capillary Column Module and its thermal management system, resulting in a paradigm shift in GC analysis.

The most powerful, durable, compact and lightweight analytical solution for Ultra-Fast TPH Analysis (43 cm L X 21.5 cm D X 27.9 cm W, wt. 9.07 kg).

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