

On-Site Analysis of Gasoline Range Organics (GRO) in Soil and Groundwater Using Field Portable Purge and Trap GC / FID / PID

Although leaking underground storage tanks account for the majority of gasoline contamination in soils and groundwater, other events such as accidents during product transportation or delivery are also significant. Spill clean-ups and tank replacements have an immediacy to them due to the very steep relationship between delay and cost. Since gasoline is highly mobile in the environment, it is very likely that a clean-up crew will be chasing a plume to points unknown, which requires almost continuous testing during the project. Bottlenecks occur when samples must be collected, transported to a lab and then analyzed. The bottleneck can be eliminated by high performance, on-site testing.

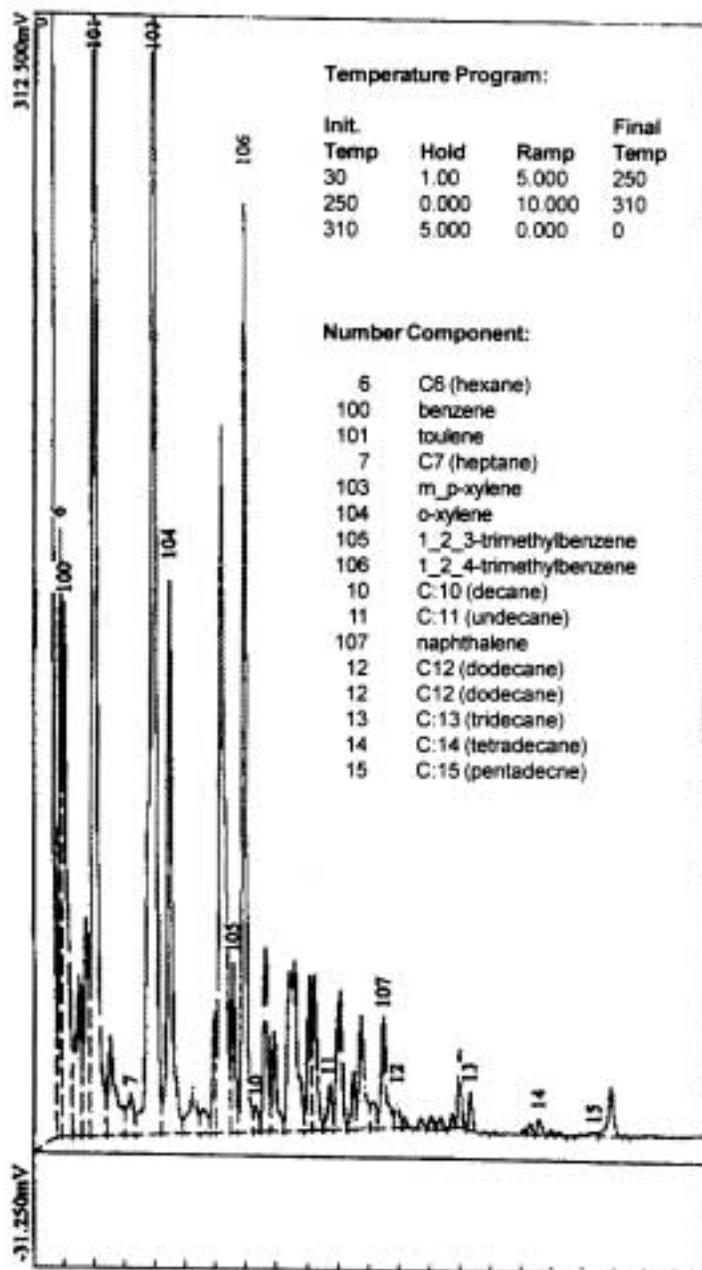
For labs wanting to out-perform the competition, the Buck Scientific Series 300 and 910 Gas Chromatographs have the right features. Both models utilize our very responsive flame ionization detector (FID) and photo ionization detector (PID) for GRO analyses. The PID gives greater sensitivity for the BTEX aromatics group allowing positive identifications possible with a single analytical column.

Both models are equipped with our built-in purge and trap module for EPA method performance and low level detection. The sample is purged using disposable sparging vessels, eliminating cross-contamination problems or time consuming clean-ups.

The GC is operated using the DOS or Windows® based PeakSimple II software system from any IBM compatible computer. The system comes complete with a column, sparging tubes, and a library of environmental methods and system controls, ready for immediate analysis. The analysis can be performed by direct injection or purge and trap as needed. The GRO components typically elute in less than 12 minutes by direct injection (20 minutes by purge & trap). At that rate, nobody can complain about bottlenecks.

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On-Site Analysis of Gasoline Range Organics



Detector Specifications

Flame Ionization:

Sensitivity:
5.9mV sec/ng Hydrocarbon

Detection Limit:
0.458mg-L⁻¹ as DRO

Linear Range:
10⁷

Photo Ionization:

Sensitivity:
18.02mV sec/pg as Benzene

Detection Limit:
0.004mg-L⁻¹ as Benzene

Linear Range:
10⁵



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