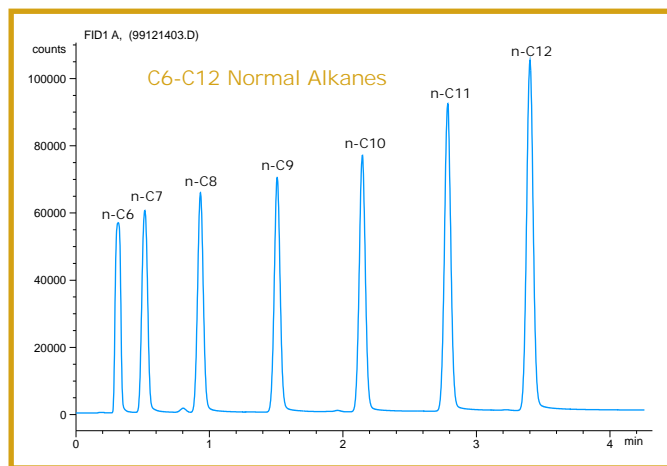


C6 - C12 Hydrocarbon Analysis

Refinery gas streams can be sampled using high pressure cylinders or low pressure MiniCans. High pressure streams can be sampled into MiniCans using pressure reduction samplers (see Page 29). When sampling streams with heavier hydrocarbons, heated pressure reduction regulators can be used (GO Instruments or equivalent) to prevent the condensation of the heavy ends. This produces a low pressure, single phase sample that can be analyzed more easily by automated inlet



systems, such as the 21 position 7032A-L loop injection autosampler. Using the 7032A-L with a splitting option on a GC/FID system, samples with concentrations ranging from % level down to sub-PPM levels can be analyzed without changing the loop size. The 7032A-L's automated surrogate spiking option can add further reliability to analytical results by virtually eliminating the possibility that incorrect injection volumes would go unnoticed.

Inlet: 7032A-L
System Configurations: G (Pg. 57)
Sample Size: 1cc
Concentration: 10 PPMv
Split Mode: 7032A-L Splitter Off
Column: HP1, 5m, 0.53mm ID, 1um film
Carrier: He, 25ccm constant flow
Oven Temp: 40°C, 1 min, 20°C/min to 100°C, 0 min hold
GC: Agilent 6890
Detector: FID

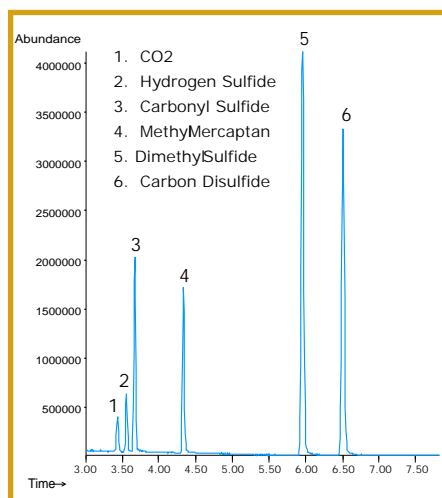
Notes: Standard introduced into evacuated Silonite canister without "flow-thru" equilibration. Virtually no loss of C10-C12 to canister walls was observed.

Sulfur in Refinery Gas

Sulfur compounds can be analyzed down to sub-PPM levels by simple loop injection. With a sulfur specific detector (chemiluminescence, FPD, PFPD, AED) or by mass spectrometry, sulfur compounds can be monitored well down into the PPB range by loop injection techniques. Sulfur samples are collected in Silonite (fused silica) coated high pressure cylinders (Page 8) or coated MiniCans (Page 14). The Silonite coating prevents the adsorption of sulfur compounds onto the walls of the sampling container, allowing analysis days or even weeks later. The need for

coating of fittings in the sampling train depends on the flow rate (residence time) during sampling. The 7032A-L loop autosampler uses Silonite coated tubing and sample loops to prevent adsorption of sulfur species during GC injection. Automated analysis of up to 21 samples allows greater sample throughput and a high degree of reproducibility. The 7032A-L can also be programmed to perform multiple injections for each sample to provide even greater analytical accuracy. As discussed under "Sampling Sulfur Compounds (Pg. 31), humidity levels need to be minimized for maximum sulfur compound stability.

5 PPM Sulfur Standard



Inlet: 7032A-L
System Configurations: A, B, C, D (Pg. 57)
Sample Volume: 1.0 cc
7032A-L Split Ratio: 10:1
Column: HP1, 60m, 0.32mm ID, 1um film
Carrier: He, 1.5 ccm constant flow
Oven Temp: 35°C, 9 min. Isothermal
GCMS: Agilent 5973
MS Scan: 33-270 amu, 3.1Hz, EI, EM=0 Rel.
Tune: BFB

5 PPM, 7 Day Stability Study

