siteLAB®

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PERFORMANCE STUDY

U.S. EPA SITE Program Investigative Samples: Air Force Base / B-38 Fuel Tank Area Testing Gasoline Range Organic Hydrocarbons

Kelly Air Force Base - San Antonio, Texas

The B-38 Area at Kelly AFB is part of an active underground storage tank (UST) farm that serves the government vehicle refueling station at the base. Soils tested consisted of sandy clays with silty sand and gravel. The soils were contaminated with low concentrations of both fresh and weathered gasoline, diesel fuel and trace amounts of lubricating oil with a carbon range from C6 through C40.

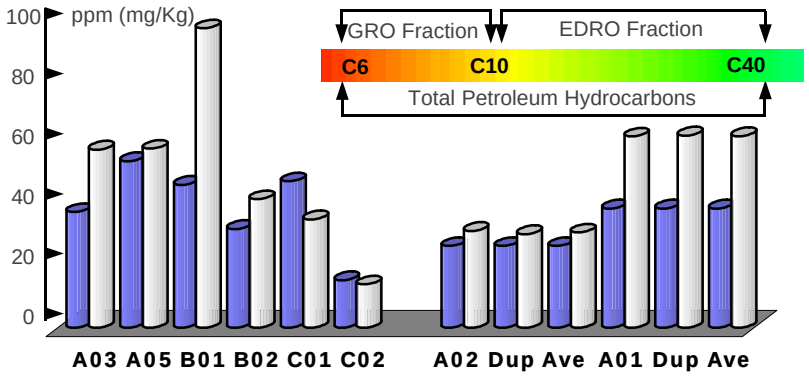
Both *site*LAB® and the Reference Laboratory tested eight soils, plus two sets of duplicates, for GRO and EDRO as samples contained petroleum hydrocarbons in both gasoline and diesel ranges. Results were added together and reported as total petroleum hydrocarbons (TPH). The TPH action level used to evaluate analytical accuracy for this site was 100 ppm.

GRO in TPH Test Results...

Sample ID #	*site*LAB® GRO	Lab GRO
B38 A03	34	52.3
B38 A05	49	52.6
B38 B01	42	88.0
B38 B02	29	37.8
B38 C01	43	31.8
B38 C02	14	12.7
Extract Duplicates:		
B38 A02	24	28.4
B38 A02-ED	24	27.5
Average A02	24	28.0
B38 A01	35	56.2
B38 A01-ED	35	56.5
Average A01	35	56.3

Units = ppm (mg/Kg)

This graph compares the performance of *site*LAB® to the Reference Laboratory's 8015-GRO results analyzing the B-38 soils for the Gasoline Range Organics (GRO) fraction in TPH. *site*LAB® analyzed the samples on the UVF-3100A using a calibration kit containing a mixture of volatile petroleum hydrocarbons (BTEX compounds).



EDRO results not illustrated here.

GRO Measurement Bias...

"...seven of the eight UVF-3100A results were within 50 percent of the reference method results."

Sitelab ITVR: Page 66

TPH Action Level Conclusions...

Percentage of samples for which UVF-3100A and Reference Method conclusions agreed = **88%!**

Sitelab ITVR: Page 65, Table 7-3

Source: ITVR# EPA/600/R-01/080, September 2001

Sitelab data was generated in the U.S. EPA's Superfund Innovative Technology Evaluation (SITE) Program's "Field Measurement Technologies for Total Petroleum Hydrocarbons in Soil," directed by EPA's Office of Research and Development. *Date: June 2000.*

Disclaimer: EPA does not endorse any product offered for sale by developers in the SITE Program.