

U.S. EPA Performance Evaluation Samples: Weathered Gasoline & Diesel Fuel Soils Testing Total Petroleum Hydrocarbons

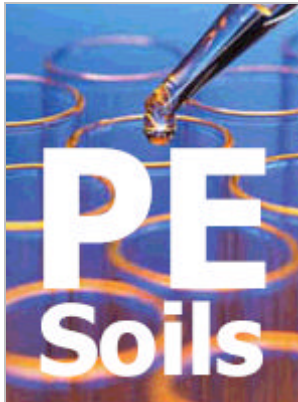


Photo Courtesy of ERA, Inc.

Performance Evaluation Samples

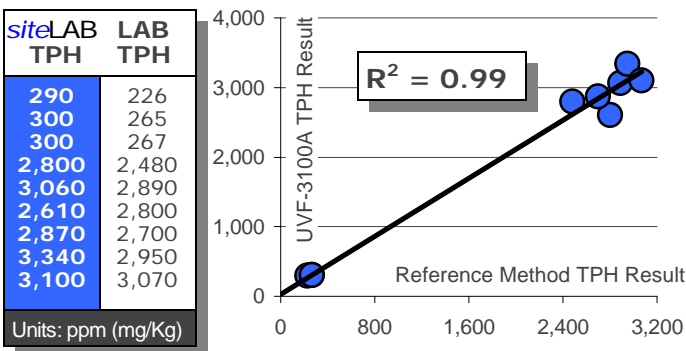
During the SITE demonstration at Port Hueneme, California, Performance Evaluation (PE) samples were provided to **siteLAB®** and the reference laboratory. The EPA obtained the PE samples from a commercial provider, Environmental Resource Associates (ERA) in Arvada, Colorado. PE samples were used to evaluate accuracy and precision as well as to verify that the reference method's performance was acceptable. Samples were prepared using two types of soils; Ottawa sand and processed garden soil (sandy silt). Each PE soil was then spiked with a known type of contaminant at a known concentration.

Eighteen of the 89 PE soil samples analyzed on the UVF-3100A contained certified concentrations of diesel fuel and weathered gasoline only. Both the reference laboratory and **siteLAB®** separately analyzed the samples for gasoline range (GRO) and extended diesel range (EDRO) hydrocarbons. Results were added together and reported as total petroleum hydrocarbons (TPH).

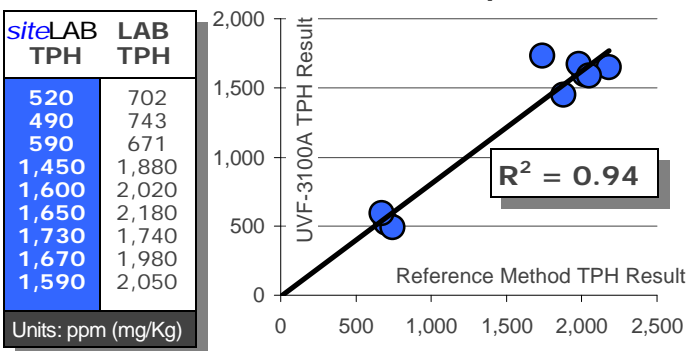
Measuring Accuracy...

Linear regression analysis was performed by EPA to determine whether or not a significant correlation existed between the **siteLAB®** UVF-3100A and the reference method TPH results, as illustrated below:

Comparison of Diesel Performance Evaluation Sample Results

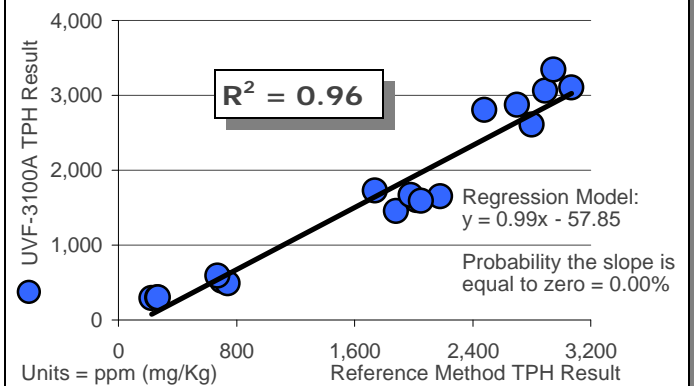


Comparison of Weathered Gasoline Performance Evaluation Sample Results



Linear Regression Summary...

Comparison of Diesel & Weathered Gasoline Performance Evaluation Sample Results



Correlation of TPH Results...

“Based on the R^2 and probability values, the UVF-3100A and reference method results were considered to be (1) highly correlated for...weathered gasoline and diesel soil PE samples...”

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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.