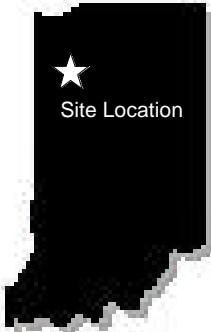


## U.S. EPA SITE Program Investigative Samples: Petroleum Company / Slop Fill Tank Area Testing Total Petroleum Hydrocarbons



### Petroleum Company: SFT Area - North Central, Indiana

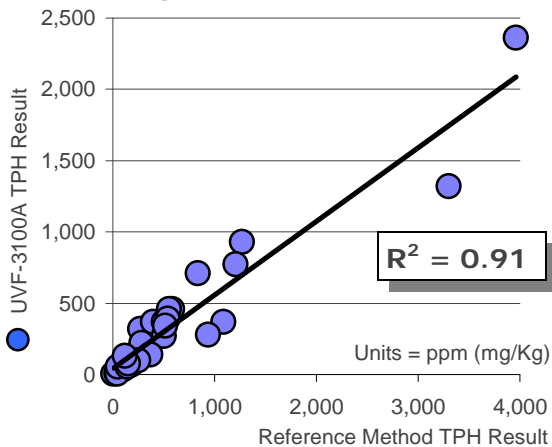
The Slop Fill Tank (SFT) Area is part of an active fuel tank farm. Although the primary contaminant is gasoline, a heating oil release had also occurred north of the site. Soils tested consisted of sandy silts and clays. The soils were contaminated with low to high concentrations of slightly weathered gasoline, kerosene, jet fuel and diesel with a carbon range from C6 through C32.

Both **siteLAB®** and the Reference Laboratory tested twenty-eight soils, plus four sets of extract 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 500 ppm.

### Measuring Accuracy...

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

Linear Regression Plots for SFT Soils



### Linear Regression Analysis Results

- Regression Model:  $y = 0.52x + 43.23$  ( $y =$  Sitelab TPH and  $x =$  Lab TPH)
- The square of correlation coefficient,  $R^2$ , is 0.91
- The F-test probability that the slope of the regression line was equal to zero is 0.00%

### 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...SFT Area Samples...”

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“The probabilities for the slopes of the regression lines being equal to zero were less than 5 percent for the SFT Area...indicating that the UVF-3100A and reference method results did not correlate only by chance for these samples.”

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### TPH Action Level Conclusions...

Percentage of samples for which UVF-3100A and Reference Method conclusions agreed =

More than half the samples which did not agree were within only 8% or less of the 500 ppm action level.

Sitelab ITVR: Page 65, Table 7-3

**20**  
for  
**28!**

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.