Global Leader in the Oil and Gas, Environmental and Remediation Markets

With a global focus on the environment, water and soil contaminated by petroleum hydrocarbons has been a hot topic for a long time. This heavily regulated industry requires laboratory analysis be performed, which takes time, often days or weeks to get test results. The use of portable test equipment, capable of getting accurate, reliable data is in high demand to improve monitoring, treatment and remediation efforts. In 2020, a partnership between two U.S. companies and a company from Denmark, collaborated together to provide innovative solutions to this market.

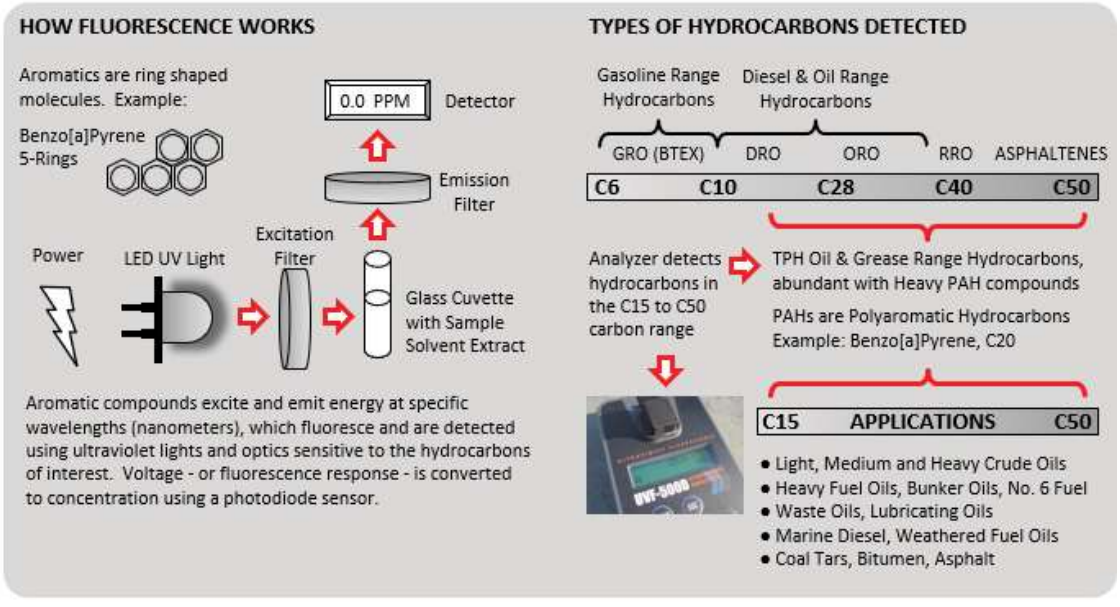
The heart in the set-up is the Sitelab UVF-500D analyzer, a rugged, handheld, battery-operated instrument used for testing oil in water and oil in soil on-site or in the laboratory. It's made for Sitelab Corporation in the U.S. by Turner Designs, Inc. and is a direct replacement for the previous version called the TD-500D, long used in the oil and gas market all over the world.

The analyzer is ideal for all types of crude oils and heavy fuel oils. Samples only take a few minutes to analyze, useful for making quick field decisions. The equipment is easy to operate and no training is needed. Most importantly, results correlate well to certified laboratory methods.

The UVF-500D is sold online and distributed worldwide by Obstitech ApS in Denmark. A full line of test supplies and accessories are also available.

Turner Designs, Inc. has been the industry leader manufacturing fluorescence-based instruments for over 45 years. All that knowledge is incorporated into the UVF-500D to have the lowest cost, most user friendly, ruggedized, accurate, and repeatable oil in water and oil in soil analyzer on the market.

For over 20 years, Sitelab, located in Massachusetts, USA, has been the industry leader in providing portable hydrocarbon field analysers to the petroleum, environmental and soil remediation markets. Sitelab is a small business focused on hydrocarbon analysis using UVF technology. Sitelab's laboratory develops methods, improves products and services the UVF-500D. Each analyzer is calibrated and tested for quality control. Test kits and other supplies available used with the equipment ensures customers get accurate, reliable test results.



Obstitech has more than 35 years' experience in both the on and offshore oil and gas market and related industries. Obstitech is located in Esbjerg, Denmark and is a flexible, dynamic company with focus on the customer's needs and satisfaction. Obstitech's strong team understand the customer's applications, problems and solutions for monitoring petroleum hydrocarbons in water and soil.

Technology

The UVF-500D analyzer is based on using ultraviolet fluorescence technology which is the most accurate and reliable

method to quantify hydrocarbons. When exposed to UV light, polycyclic aromatic hydrocarbons (PAHs) excite and emit energy or "fluoresce", which is measured by the detector. The amount of fluorescence is then quantitated using an oil calibration standard with a known concentration. Readings only take a few seconds and concentrations are displayed in "PPM" units. Simple in a way, but a highly effective technology.

The analyzer uses hexane and methanol solvents to prepare water and soil samples for analysis. The UVF-500D can be used for a wide range of applications. Use it to detect oil in seawater, fresh water, produced water, discharge water, bilge water, wastewater, groundwater, stormwater, soil, sediment, sand, drill cuttings, asphalt, bitumen and oil on metal.

A case involving the use of a UVF-500D for oil in water application - Decommissioning Offshore Oil Platforms in California

Coal Oil Point in Santa Barbara, CA is a popular spot for surfers with Platform Holly looming in the distance. This and a network of other oil platforms were permanently closed down after the 2015 pipeline spill at Refugio State Beach.

A contractor is using the UVF-500D to test oil in water on-site for plugging and abandonment operations. These huge structures contain miles of pipe, which must be cleaned out to remove any residual oils. The California State Lands Commission requires the water to be tested and treated prior to disposal.

The UVF-500D uses fluorescence to detect concentrations of total petroleum hydrocarbons (TPH) in water. The analyzer is very sensitive to all types of crude oils. Samples are extracted in hexane solvent for analysis. This is the same solvent used by EPA Method 1664 performed off-site by the certified lab for confirmation. The analyzer arrives factory calibrated to TPH from zero to 100 ppm. Most oils can be detected to <1 ppm. There is no upper limit; highly contaminated sample extracts can be diluted further in solvent for analysis.

UVF-500D handheld.

Platform Holly, California.

A case involving the use of a UVF-500D for oil in soil application - Soil Remediation Projects in Kuwait from 1991 Iraq War

Photo from the U.S. Space Shuttle (credit: nasa.gov), show oil wells set on fire along the Persian Gulf in June 1991. Hundreds of wells burned, some up to ten months. An estimated 1 to 1.5 billion barrels of crude oil was released, leaving behind hundreds of lakes of oil and "tarcrete" soot across 5% of Kuwait's landscape.

Today, Kuwait has big plans to finish remediating the contamination. Field screening samples using a handheld device has been specified. The UVF-500D analyzer is ideal for this application. Field screening TPH in soil takes only minutes, useful for making real time sampling decisions, site characterization, excavation and treatment verifications.

Sitelab's UVF instruments have been used in Kuwait on previous projects with great success. Accuracy was good over a wide range of concentrations compared to certified laboratory results. Hundreds of soils were tested.

Facts

The UVF-500D is the most robust, lowest cost, easiest to use, most accurate oil in water oil in soil analyzer on the market. Obstitech, Sitelab and Turner Designs (together) are 100% committed and take great pride in providing the customers with the best products and support possible. •

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