



Sitelab Corporation
 Visit: site-lab.com
 USA: 978-363-2299

Extended Diesel Range Organics

Sitelab Calibration Kit CAL-042 is used for EDRO analysis. The UVF-3100 detects hydrocarbons in the C10-C36 range.

A Licensed Site Professional (LSP) used Sitelab to investigate a commercial waterfront property, contaminated with a plume of LNAPL resulting from fuel tanks which once stored heating oil, diesel and gasoline dating back to the 1950s. The site is in Massachusetts, where laboratories are required to test TPH in soil using the Mass DEP's method for Extractable Petroleum Hydrocarbons (EPH).



One soil from each boring was sent to a certified laboratory for confirmation analysis

EPH is very similar to U.S. EPA Method 8015M and other GC-FID methods which detect hydrocarbons in the C10 to C36 range, except aliphatics and aromatics are reported separately. When adding all the fractions together, Sitelab correlates well. The EDRO kit is formulated to account for the aliphatics which are not detectable by fluorescence.

Contaminated Wharf Site, Massachusetts UVF-3100 Analyzer EDRO Performance vs. Total EPH Method

Soil #	Concentrations in ppm units (mg/Kg)				Lab GC Total EPH	UVF-3100 EDRO
	C9-C18 Aliphatics	C19-C36 Aliphatics	C11-C22 Aromatics	Sum of 16 PAHs		
1	67	78	96	ND	241	350
2	270	57	140	11	478	390
3	1,600	120	750	21	2,491	1,300
4	1,600	170	650	45	2,465	1,750
5	1,700	150	630	49	2,529	2,450
6	3,200	280	1,700	72	5,252	3,500
7	2,700	220	1,100	83	4,103	5,050
8	3,600	290	1,700	102	5,692	6,872
9	8,800	750	2,400	220	12,170	12,800
10	12,000	1,100	3,400	182	16,682	16,420



- 75 soils tested during two day project.
- UVF includes software to record test results.

UVF Accuracy vs. Lab GC
 $R^2 = 0.97, y = 0.95x$ Good!

Map generated by client using Sitelab data shows subsurface plume of fuel oils where former tanks were located

