

APPLICATION OF ORGANIC GEOCHEMISTRY TO IDENTIFICATION OF THE ORIGIN OF OIL SPILLS

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A methodology for determining the source of oil spills has been developed by PETROBRAS. This methodology is based on specific analytical techniques and geochemical interpretation of isotopic and molecular data instead of using merely a simple fingerprint interpretation. The Research Center of PETROBRAS has investigated more than 250 occurrences of oil spills since January 1989 by using analytical techniques, as such medium pressure liquid chromatography (MPLC), high resolution gas chromatography (HRGC), carbon isotope mass spectrometry and gas chromatography-mass spectrometry (GC-MS), as well as a database with more than 5000 oil samples from many basins around the world.

Some case histories are presented in order to emphasize the application of organic geochemistry in the determination of the origin of oil spills.