

## **Biomarkers, A Reliable Tool for Delineating Spill Trajectory**

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**Abstract :** Oil (Petroleum) spill occur frequently and in this era of a higher degree of awareness, it is pertinent that the trajectory of the spill is properly defined, to make certain of the area of impact by the spill. In this study, biomarkers that are known as the custodians of paleo information in oils are suggested to be used as reliable tools for defining the pathway of a spill. Samples were collected as tills alongside the GPS coordinates of the sample points suspected to have been impacted by a spill. Oils in the samples were extracted and analyzed as whole oil using GC-MS. Some biomarker parametric ratios were derived, and the ratio showed consistency of values along the sample trail from sample 1 to sample 20. The consistency of the values indicates that the oils at each sample point are the same hence the same value. This method can be used to validate the trajectory/pathway of a spill and also to define or establish a suspected pathway for a spill. The Oleanane/C30Hopane ratio showed good consistency and was suggested as a reliable parameter for establishing the trajectory of an oil spill.

**Keywords :** spill, biomarkers, trajectory, pathway

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