

## ABSTRACT

A concentration profile of volatile organic carbons (VOCs) was prepared and spiked on samples of Petroleum contaminated soils collected from Ikot Ada Udo Village of Akwa Ibom State after crude oil spillage. Sample extraction was carried out using Buchi extractor and separation was achieved using gas chromatography equipped with flame ionization detector (GC-FID). The result revealed that concentration detection levels of the VOCs and HCs in the spiked samples varied. The limit of detection for benzene was less than 5 ppm, less than 6.0% with standard deviation between 1.5 and 2.5 at reproducibly accepted 95% confidential level (95% CL). This study seeks to establish the concentration of the contaminants, assess the minimal adsorption of VOCs and some hydrocarbons through the soil layers over the contaminated area. This information would be usefully employed in actions that will combat the concentration levels of contaminants through bioremediation process.

Key words: Volatile organic compounds, petroleum contaminated soil, GC-FID, limit of detection.