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# THE PROFILE OF PHYSICOCHEMICAL PROPERTIES OF SPILLED CRUDE OIL IN MARINE SEDIMENTS IN NIGER DELTA, NIGERIA

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## ABSTRACT

*The research works focused on the profile of physicochemical properties of the study areas of Niger Delta, Nigeria. Most frequently, in the Niger Delta zone spilled oil in the marine sediments is prevalent. The research, therefore, focused at first instance to evolve the parametric control properties which have direct interactions with the spilled oil. Four (4) oil spill sites samples sediments A, B, C, and D were collected from the designated study areas of Southern Ijaw, Ekeremor, Ogbia, Brass and Nembe local government areas hosting the major oil producing companies along the coastal regions of Niger Delta-Nigeria. The samples were subjected to instrumental analysis for determination of pH 5.2 (acidic); electrical conductivity 169 (µS/cm); redox potential -134 mV; temperature 25.7 centigrade; bulk density 3.3; particle density 2.75; porosity 41.6; organic matter 8.60; clay 28.70; silt 56.80; sand 14.5; total hydrocarbon content 83.33; and the metallic components of the samples (mg/kg) stood as follows-Zinc (Zn) 1.47; Lead (Pb) 0.070; copper (Cu) 2.06; cadmium (0.51); Nickel (Ni) 0.82; manganese (Mn) 4.75; iron (Fe) 7.60; and chromium (Cr) 0.98. Sample Sediment A gave appreciable values on all the parameters for good judgment on the rest samples Sediment B, Sediment C and Sediment D results. The possible reasons being there are much physicochemical interactions on the sample which bring concomitant effects on animals, fishes, humans' health and regions degradation tendencies and perennial consequences of social agitations for remediation and compensations.*

**Keywords:** Physicochemical-properties, Sample-sediments, Metallic-components, Silt and sand, Total-hydrocarbons-content, Instrumental-analysis.

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