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Indigenous organisms isolated in this study were selected by enrichment culturing technique. As the results in table (2) indicates a significant increase in hydrocarbon degrading microorganisms in PCS-1, after the first and second week of enrichment in 4T engine oil. In PCS I original sample the CFU was  $1.3 \times 10^9$  before adding the substrate. As the substrate 4T engine oil was added to the sample, the CFU was  $8.3 \times 10^{10}$  after 1st enrichment, and again increased when 2<sup>nd</sup> enrichment was performed ( $9.4 \times 10^{10}$ ). In second sample PCS II, the CFU was  $1.6 \times 10^9$  before enrichment culture. After 2<sup>nd</sup> and 3<sup>rd</sup> enrichment it increased up to  $6.4 \times 10^9$  and  $7.3 \times 10^9$  respectively. Due to high diversity of microorganisms after second enrichment 15 bacterial isolates were collected from the samples. All these isolate were tested for their ability to utilize various hydrocarbons. Five bacterial strains were found to be the best degrader of 4T engine oil.

The type of enrichment substrate significantly affected the microbial population. It is observed that the large and more complex the structure of hydrocarbon, the more slowly is oxidized. This may depend on the type of organisms involved in the degradation,

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