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Effects of the Type of Soil on the Efficiency of a Bioremediation Dispositive by Using Bacterium Hydrocarbonoclastes

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Abstract : The present work aims to find the influence of the nature of the soil on the effectiveness of the biodegradation of hydrocarbons by a mixture of bacterial strains hydrocarbonoclastes. Processes of bioaugmentation and biostimulation trial are applied to samples of soils polluted voluntarily by the crude oil. For the evaluation of the biodegradation of hydrocarbons, the bacterial load, the pH and organic carbon total are followed in the different experimental batches. He bacterial load of the sandy soil varies among the witnesses of 45,2 .108 CFU/ml at the beginning of the experimentation to 214,07.108 CFU/ml at the end of the experiment. Of the soil silty-clay varies between 103,31 .108 CFU/ml and 614,86.108 CFU/ml . It was found a strong increase in the bacterial biomass during the processing of all samples. This increase is more important in the samples of sand bioaugmente or biomass increased from 63.16 .108 CFU/ml to 309.68 .108 CFU/ml than in soil samples silty clay-bioaugmente whose content in bacteria evolved of 73,01 .108 CFU/ml to 631.80 . 108CFU/ml

Keywords : pollution, hydrocarbons, bioremediation, bacteria hydrocarbonoclastes, ground, texture
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