

## **Microbial Population of Oil polluted Soils in Romania at Suplacu de Barcau**

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### **Abstract**

Bioremediation is the enhancement of live soil organisms as fungi, bacteria and plant to break down hydrocarbon and organic contaminants. Our studies were made on soil samples collected from the petroliferous exploitation site Suplacu de Barcau, Romania, and are part of a national research project PNII.

There were collected 6 randomly soil samples at depth of 0-15 and 30-60 cm from: 4 points of the petroliferous site, 2 points from sludge sediment and 1 point from unpolluted soil (as control). Subsamples of 1g were suspended in 99 ml of 0.1% saline solution, agitated on a water-bath shaker (100rpm at 28°C for 30 min). A serial decimal dilution was performed to 99 ml of 0.1 % saline solution. Aliquots of 0.1 ml from each dilution were transferred on 3 types of agar medium: *Pseudomonas* agar F Base, *Pseudomonas* agar P base and Topping. The morphological characterization of each isolate was first performed by noticing color, size and colony characteristics (form, margins, elevation) and Gram staining reaction. For identification were used biochemical tests like: oxidaze, catalase, indole formation, citrate utilization, glucose fermentation, nitrate reduction and methyl red. The microscopically examination revealed bacilli, cocco-bacilli and cocci, Gram stained positive or negative. The colonies developed on all types of medium and were assigned to genus *Pseudomonas*, *Bacillus*, *Arthrobacter*, *Acinetobacter*, *Micrococcus*, *Flavobacterium*, and *Alcaligenes*.

Key words: bioremediation, oil polluted soils, bacteria