

عنوان مقاله:

Contamination effect of mud from oil drilling on soil characteristics physical and chemical

محل انتشار:

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خلاصه مقاله:

Soil and water contaminated by industrial, urban, and agriculture pollution. Total Petroleum hydrocarbons (TPHs) from exploration drilling fluid have destructive and irreversible effects on the environment and ecosystems in the exploration regions. This study examined the impact of drilling mud pollution in physical and chemical properties of soil at four sites with variety of operational areas in South-West of Iran. Several soil samples from the exploration oil drilling area were collected and the physical and chemical properties of them were analyzed. In addition the non-infected soil smeared with 0, 25, 50, 75 and 100% percentage of drilling mud as well. The statistical results show that concentrations of sodium and acidity of the soil contamination by oil-based drilling mud at 75 and 100% at 1% level Duncan test are significant. This appears to be due to the high soil acidity and the amount of oil based drilling mud in containing sodium bentonite. Also due to the presence of organic matter in oil based drilling mud and adhesion of soil particles with aggregates, bulk density increased.

کلمات کلیدی:

Soil physical properties, chemical properties of soil, oil based drilling mud, petroleum hydrocarbons

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