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Effect of Oil Contamination on the Liquefaction Behavior of Sandy Soils

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Abstract : Oil leakage from the pipelines and the tanks carrying them, or during oil extraction, could lead to the changes in the characteristics and properties of the soil. In this paper, conducting a series of experimental cyclic triaxial tests, the effects of oil contamination on the liquefaction potential of sandy soils is investigated. The studied specimens are prepared by mixing the Firoozkuh sand with crude oil in 4, 8 and 12 percent by soil dry weight. The results show that the oil contamination up to 8% causes an increase in the soil liquefaction resistance and then with increase in the contamination, the liquefaction resistance decreases.

Keywords : cyclic triaxial test, liquefaction resistance, oil contamination, sandy soil
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