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Characteristics of Leakage Pollution of Longpan Road Gas Station and Its Enlightenment

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ABSTRACT

Geological penetrating radar combined with drilling and chemical analysis has been applied to investigate leakage pollution of Longpan Road gas station in Nanjing, China. The results indicate that radar images show strong reflection anomalies along the northeast to the gas station, characterized by contaminants or contaminant plumes spreading downstream and below. The drilling results confirmed the contents of monocyclic and polycyclic aromatic hydrocarbons contained in the layers of fine sands ranging from 0.60 m to 6.0 m beneath the surface mostly exceed Chinese standard severely, such as toluene and isobutylbenzene with high content at 2738 $\mu\text{g}/\text{kg}$ and 64505 $\mu\text{g}/\text{kg}$, respectively. Therefore, it is considered that geological penetrating radar can be employed to investigate leakage contamination of gas stations, and remediation and administration should be conducted in the polluted soil layers and aquifers.

KEYWORDS

Gas Stations; Leakage Contamination; Geological Penetrating Radar; Nanjing

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