Spatial distribution of water and heavy metals influenced by combined air and liquid pressure. (S01-dychung080643-Poster)

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Abstract:

To develop the remediation technology for a heavy metal contaminated soil, we employed the combined air and liquid pressures to observe the vertical and lateral distribution of the heavy metals along with water under the initially saturated soil column condition. Time required to reach no flux was rapidly shortened with increasing pressures within the ranges from 0 to 3 bars, while the concentration of the heavy metals in the effluent was gradually retarded with decreasing pressure. These phenomena showed that the movement of the heavy metals was closely related with water movement. The distribution of water and heavy metals was higher at the lower part of soil column than the upper part. However, the amount of solid-phase heavy metals at the upper part of soil column was higher than that of the lower part of soil column, while the total amount of the heavy metals increased with increasing column depth. From this we may conclude that the distribution and movement of the heavy metals can be strongly influenced by the additional pressure exceeding the atmospheric pressure.

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