

Chamaiporn Sukthamruksa 2012: Effect of Groundwater Levels Changing on Distribution of LNAPL. Master of Engineering (Environmental Engineering), Major Field: Environmental Engineering, Department of Environmental Engineering. Thesis Advisor: Assistant Professor Sanya Sirivithayapakorn, Ph.D. 81 pages.

Groundwater contaminated by LNAPL (Light Non-Aqueous Phase Liquid) is usually the groundwater in the shallow aquifer, where the groundwater table level can be changed by pumping and recharging by rain. Since, conducting study in the real place is quite difficult, therefore, this research employed the physical model to study the vertical movement and distribution of LNAPL. In this research, we choosed Heptane and Decane as the representative of LNAPL to study the distribution caused by changing of groundwater level. In this case, we simulated groundwater level changing in a sand layer and collecting the data by taking digital images. Subsequently, we analyzed the images by using Photoshop and plot the graphs between distribution of LNAPL with sand layer height. The results from this experiment could be used for management in the real contaminated site.

The results showed that rates of water level changing and LNAPL characteristics could affect the vertical distribution of LNAPL. In the case of water level changed rapidly, more air and LNAPL residual were found in sand pore. In the case of water level changed slowly, Decane remained in sand pore more than Heptane.

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Student's signature

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Thesis Advisor's signature