

## **Efficient of Technology Remediation Soil That Contaminated by Petroleum Based on Heat without Combustion**

**Authors :** Gavin Hutama Farandiarta, Hegi Adi Prabowo, Istiara Rizqillah Hanifah, Millati Hanifah Saprudin, Raden Iqrafia Ashna

**Abstract :** The increase of the petroleum's consumption rate encourages industries to optimize and increase the activity in processing crude oil into petroleum. However, although the result gives a lot of benefits to humans worldwide, it also gives negative impact to the environment. One of the negative impacts of processing crude oil is the soil will be contaminated by petroleum sewage sludge. This petroleum sewage sludge, contains hydrocarbon compound and it can be calculated by Total Petroleum Hydrocarbon (TPH). Petroleum sludge waste is accounted as hazardous and toxic. The soil contamination caused by the petroleum sludge is very hard to get rid of. However, there is a way to manage the soil that is contaminated by petroleum sludge, which is by using heat (thermal desorption) in the process of remediation. There are several factors that affect the success rate of the remediation with the help of heat which are temperature, time, and air pressure in the desorption column. The remediation process using the help of heat is an alternative in soil recovery from the petroleum pollution which highly effective, cheap, and environmentally friendly that produces uncontaminated soil and the petroleum that can be used again.

**Keywords :** petroleum sewage sludge, remediation soil, thermal desorption, total petroleum hydrocarbon (TPH)

**Conference Title :** ICESSE 2016 : International Conference on Environmental Systems Science and Engineering

**Conference Location :** Tokyo, Japan

**Conference Dates :** May 26-27, 2016