

Joe Pope

*Got Oil? The Study of Oil Absorption in Rocks*

My question was: what kind of rock will store oil the best? I wanted to know where oil would be for drilling purposes. I thought that sandstone would absorb the oil the best because of the rocks I collected sandstone has the coarsest grains, creating small pockets for oil to hide and move. I also thought shale will be the worst at absorbing oil. So I collected sandstone, limestone, shale, granite, and coal. Then I placed them on a flat surface, labeling each one. Next I examined each one with a magnifying glass to look for fined-grained and coarse-grained rocks with porosity and permeability. Then I added three drops of motor oil to each surface. I observed and recorded data in tables regarding absorption of oil for each rock in the time intervals of 30 seconds, 5 minutes, 30 minutes, 1 hour, and 24 hours. Then I repeated the experiment to make sure that the results were accurate and repeatable. In my project sandstone was fully absorbed at 24 hours and same with limestone. Coal and shale were almost fully absorbed at 24 hours. Granite still had a lot of oil at 24 hours. The oil absorption from both tests from highest to lowest was: sandstone, limestone, coal, shale, granite. My project is important to the world because it helps petroleum engineers find good places to look for oil. My project also answers some questions about carbon sequestration, trying to put earth's excess carbon deep underground.