HCOL 195 Geology’s intersection with health Oil drilling exercise

We will work in 3 groups today – each group will have a set of materials with which to accomplish the first 3 steps of our experiment. Everyone will also prepare a report detailing your design solutions to each challenge, and the observed behaviors of each system.

Experiment Step 1: constructing an oil deposit

Challenge: Using a beaker, sand, cooking oil (representing crude oil), and clay, put together an oil reservoir filled with oil sealed with a trap.

Experiment Step 2: Oil drilling simulation

Challenge: Using materials available, design a method to extract the oil and attempt to remove oil from the production layer

Challenge: Simulate differences in how oil flows between deposits that may be deeper and under more rock

Experiment Step 3: Plugging the well

Challenge: imagine the well blows out, discuss several techniques that have been proposed to seal the well and why each may or may not work.