



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Scarlett C. Winningham</b>	<b>Project Number</b> <b>J0921</b>
<b>Project Title</b> <b>Oil Spills</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of my project was to see how much oil soil samples absorbed, and if the absorption rate differed over a course of five days. I also wanted to investigate if the properties of the soils changed before the oil was spilt, and after.</p> <p><b>Methods/Materials</b> The oil spills were conducted upon 250 ml. of seven different types of soil. Some types of soil that I used were pebbles, fine sand, and clay. I conducted five test per one of the seven soil types, so I tested thirty-five different samples. I recorded the properties of the soil samples before the oil was spilt on them. I then proceeded to pour 60 ml. of 10W-40 oil over each soil sample and recorded how much oil each sample absorbed. I did this every day for five days. (The oil was poured over the same samples on time each day.) I then recorded the properties of the soils after the five-day oil spill, and compared the properties of the soils before the oil spill occurred.</p> <p><b>Results</b> The finer grained soils absorbed the most oil in the beginning of the oil spill, but their pores were soon filled with oil. The larger grained soils absorbed less oil in the beginning, but still absorbed some oil. Then, by the end of the oil spill, the fine grained soils barely absorbed any oil, and the larger grained soils, absorbed slightly more than the finer grained. This happened because the fine grained soils absorbed a lot in the beginning, but their absorption rate dropped immensely, because their pores were already filled with oil, making them absorb the least in the end. The larger grained soils absorbed roughly the same over all five days, which made them absorb the most in the end. Also, I found that the oil spills made the soils smell horrible, create a sticky, compacted texture, and a wet, greasy appearance.</p> <p><b>Conclusions/Discussion</b> In my hypothesis, I didn't expect the absorption rates to differ over the five days. The fine grained soils absorbed the most in the beginning, and the least in the end. And the larger grained soils absorbed the least in the beginning and then the most. I also concluded that no matter what type of soil, (large grained or fine grained) all of the soils took on a completely different texture, scent, and appearance after the oil spill occurred, demonstrating the effect of an oil spill. Hopefully, by doing my experiment I have shown that oil spills harm our land, and make it hard for animals and for us to enjoy it.</p>	
<b>Summary Statement</b> I wanted to determine how the properties of soils changed after an oil spill has occurred compared to before, to see how much oil different grain sized soils will absorb, and if the absorption rate changes over a course of five days.	
<b>Help Received</b> Parents and teacher proofread papers. Parents bought materials, and helped clean up any mess.	