



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Evan M. Norris	Project Number J0925
Project Title Gas Stations vs. Soil	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to determine whether gas stations affect the soil around them by comparing the dominant types of soil microbes, as well as the pH level of soil samples, from the land around a typical gas station with those from land away from the gas station.</p> <p>Methods/Materials Soil samples from the land around three different gas station locations were tested to determine whether bacterial growth from these samples differs from the bacterial growth from soil samples taken from urban, rural, and suburban, areas away from the gas stations, which will serve as the controls. Then, the pH levels of the soil samples from the different locations will be determined by performing a pH indicator test. The samples were cultured, incubated, Gram-Stain</p> <p>Results The soil samples of the gas stations had an average of 7029.2 colonies counted, where the control samples colonies were too numerous to count, except for the rural sample had 5520 colonies. The gas stations' samples were mostly spherical in shape, where the control were mostly rod shaped. The gas stations were all identified as gram-negative where the control samples were all gram-positive. The gas stations had an average of 8.3 pH level, the controls were a 7.0 level.</p> <p>Conclusions/Discussion My hypothesis states: If there is a difference in the pH levels or bacterial growth between gas station samples and the control samples then it can be concluded that gas stations have an effect on the surrounding environment. My project brought up the following question, "What caused the difference in the soil? I would like to further my research to find out if it was caused by gasoline leakage. I would also like to test the ground water for contaminants.</p>	
Summary Statement My project is to determine if gas stations affect the soil around them.	
Help Received Alex Perez at CalState donated her lab, and my mom helped type, drove me to areas, and helped me with the airbrushing on my board.	