



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Flora E. Barbash	Project Number J0504
Project Title Harmful Mineral Deposits of India?	
Abstract Objectives/Goals The objective is to determine weather the colorful, imported slate we have from India which has an oily metallic residue, will have any harmful or negative effects on our freshwater pond. Methods/Materials Different colored mineral specimens from the slate, in equal amounts were first pulverized, then combined into individual beakers filled with pond water (the experiment), distilled water (used as a control factor) and ocean water (for curiosity), then tests were performed to measurer Ph, Alkalinity, Hardness, Nitrite and Nitrate. In addition, 15 other mineral identification tests were undertaken, including the flame, bead and hydrochloric acid tests. While doing these tests, I researched minerals and had four interviews with professional geologists and a fisheries biologist.. Results There were no negative chemical reactions exhibited throughout the water-testing period. Instead, the chemical levels varied to points of harmful qualities going up, then to harmful qualities going down, allowing the water to be neutral for most of the experiment/process. The other tests, except for the bead test proving there is iron present, were inconclusive as to what the minerals might be. Conclusions/Discussion India is 11,000 miles away, making it difficult for local geologists to guess/identify what the exact components are in the slate without knowing the specific location of its origin. My thorough research has shown that the area is rich in petroleum (oil, coal) and metals (including lead, zinc, copper and iron) confirming my previous observations as to what the substances in the slate might be. I learned that since some minerals are toxic chemicals, there is a strong possibility these could be poisonous to our pond life. Without further extensive equipment and research about minerals, it is difficult to determine what specific substances are in the slate.	
Summary Statement In my project, I researched minerals and performed 17 tests on the main color deposits throughout the slatr imported from India, to determine if it could harm our pond.	
Help Received Mr LaBolle helped with testing in lab, mother helped organize backboard and drove me to library to do research, father helped with computer.	