2005 Salt Lake City Annual Meeting (October 16–19, 2005)

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THE PET ROCK PROJECT: AN INTRODUCTION TO THE CULTURE OF RESEARCH

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Undergraduate students can have an effective introduction into the culture of research in the context of geology majors classes. Over the last 10 years, this has been done at LSU through the Pet Rock Project, a semester-long project integrated into the junior-level Igneous and Metamorphic Petrology class. Because LSU is in an outcrop-challenged state, the instructor brings in a collection of unprocessed rock samples and has students randomly select a sample. Early in the semester each student cuts their own rock, makes a chip and learns about procedures of the rock and thin section preparation lab. In the initial portion of the class, students acquire petrographic and petrologic skills that will be used later for more sophisticated interpretations of their pet rock. After gaining sufficient petrographic expertise on several class reference samples, students use these reference samples to discover the complementary information that the electron microprobe/SEM can give. Students learn about energy dispersive spectrometry of individual minerals (and identification of minerals with their elemental spectra) and capabilities of secondary and backscattered electron imaging. The Pet Rock Project culminates by having each student spend several hours with the instructor using the electron microprobe to identify more difficult minerals with certainty, attain high quality digital backscattered images and obtain electron microprobe analyses of selected minerals. Ultimately, each student interprets the petrographic, mineral chemical and geothermobarometric information, writes a report explaining the process and petrologic results, and orally presents the information to the class. This project is designed to give petrology students experience in the methods and approaches taken by petrologists to solve real petrologic problems. This project ranges from basic descriptive aspects to utilization of the electron microprobe facility i.e. it follows the process used in research in petrology. Class assessment indicates that this project provides an effective and memorable aspect to petrology instruction.

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General Information for this Meeting

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