

1 what is your name and your affiliation?

Hang Deng, from ConocoPhillips School of Geology & Geophysics, the University of Oklahoma.

2 Please describe your research interests.

My MS research interest is outcrop-based stratigraphic analysis of the Wufeng-Longmaxi shale formation in the Sichuan Basin in China, which allows for better understanding the subsurface stratigraphic patterns. I am interested in studying the relationships between the stratigraphic variability and the depositional processes of the Wufeng-Longmaxi formation through documenting and interpreting the stratigraphy of the formation at the multiple scales.

3 What are your research plans? How will they be useful?

My research consists of a careful study of the outcrops which includes measuring and documenting stratigraphic sections, recording outcrop gamma ray spectrometry by hand-held gamma ray scintillometer, as well as petrographic study, organic geochemical analysis, X-ray diffraction and X-ray fluorescence analysis of selected samples from the outcrops. My plan is to document and understand the stratigraphic variability, depositional processes, and evolution of the Wufeng-Longmaxi formation. I will generate a depositional model to illustrate the stratigraphic evolution of the formation and a Petrel (TMSchlumberger) model to illustrate the changes of properties.

The Wufeng-Longmaxi shale formation was buried deeper than most U.S. shales and experienced several episodes of intensive tectonic events that increases its structural complexity. The outcrop-based stratigraphic analysis of the formation with correlation to the subsurface allows for better understanding the shale reservoir and provides an analog for the resource shale exploration and production in North America and other countries.

4 Please describe one of the most exciting moments you've had so far in conjunction with your research.

The MS research leaves me many exciting, memorable moments. One of the most exciting ones is when I organized a team and went to the Sichuan Basin for field work during the summer. I formulated a clear field work plan before the field trip to the Sichuan Basin. With the field work plan, I divided the work and assign them to each member, which made the field work more efficient. During the field work, we left some time for discussion after completing a session of the work when we encountered uncertainty to recognize some specific features. A variety of opinions and points of views were shared in the discussions, which helped in better identifying the interesting mudrock features. During the evenings after daily field work, I also checked references online, shared and discussed my understandings with my teammates of the problems that we encountered during the day. The discussions during and after the daily work allowed me and my teammates to get a better understanding of the formation and figure out some problems that we didn't learn from class and/or companies. When the field work was completed, I asked my teammates for their feedback. I was very excited when I heard that the field work experience had meet their objectives of learning more about mudrock studies which would also benefit them in their future studies.