

PTTC Focused Technology Workshop

“Hydrothermal Dolomite Core Workshop and Field Trip”

June 6, 2005; Albany, NY

Workshop Summary

This was the second of two workshops that we held at either end of the basin - Lexington, Kentucky and Albany, NY - in which we could combine lectures with core examination and trips to the field to actually examine outcrop analogs in their natural setting. Therefore, this workshop, like the one that preceded it six days earlier, had to be limited to approximately 40 registrants.

Dr. Langhorne “Taury” Smith, our workshop coordinator from the New York State Museum Institute, recruited two speakers, plus himself, to present the results of Institute research funded by DOE and the New York State Energy Research Development Administration (NYSERDA). This research was essentially a field study of fault-related hydrothermal dolomite in the Tribes Hill Formation of New York State.

The overall goal of the workshop and field trip, according to Dr. Smith, was to give attendees an overview of the geology of the Trenton-Black River hydrothermal dolomite play, with an emphasis on the local structure and fault-related diagenesis. To accomplish this goal, a morning session, developed around formal presentations interspersed with intervals of time for core examination, was followed by a field trip to a quarry where a hydrothermal dolomite body had been excavated for detailed study.

The morning lectures consisted of summaries of the current understanding of the Trenton-Black River play; summaries of wrench faulting and pull-apart basins; and descriptions of an outcrop analog for the play that would be visited in the afternoon. Following a group lunch in the New York State Museum, the group traveled an hour to the west to a quarry where a large dolomite feature had been discovered, excavated and studied in detail by researchers.

A 3-D ground penetrating radar survey had been run over the feature in the quarry and six cores had been cut in and adjacent to the dolomite body. These cores were laid out next to the visible core holes in the quarry, allowing participants to get an impression of the three dimensional extent of the dolomite. Cross sections from one side of the feature to the other, based on the cores and the 3-D ground penetrating radar surveys, were available in the field as well.

Participants really enjoyed this workshop, and stated emphatically that the opportunity to examine core between talks and then go to the field for further examination thoroughly reinforced what they had heard and seen during the lecture portion of the workshop. Having additional cores and cross sections in the quarry was an added bonus.

Preliminary conclusions concerning the play that were presented include: Trenton-Black River dolomite fields formed from hydrothermal fluids flowing up active faults, perhaps during Late Ordovician time; the faults had a clear strike-slip component; and the outcrop analog helps to understand the structural setting and geometry of these faults. Conclusions presented regarding the outcrop in the quarry are: the outcrop overlies a low angle releasing bend; the left-stepping dolomite bodies and faults formed due to a combination of left-lateral strike-slip and extension; and the structure is elongate, relative to most sandbox models.

Workshop participants received the usual notebook with copies of power point slides used by the speakers, plus a CD that contained the actual power point slides, a satellite image of New York from the USGS, and pdf files of poster presentations on the quarry exposure and descriptions of other cores from Trenton-Black River producing areas in New York.

Participants at this workshop were predominantly from industry (67%), and came from a dozen states, mainly those that extend from Michigan and Illinois on the west to Tennessee and South Carolina on the south. However, three registrants came from Colorado.

Based on the audience participation and personal feedback during the workshop and field trip, plus comments received on the evaluation forms (below), we would have to conclude that the workshop was very well received.

Evaluation Forms

Only 16 evaluation forms were received, perhaps due to the hotter than normal, very sunny day during which temperatures reached and exceeded 90 degrees in the open quarry. Therefore, many of those who chose not to complete the form until after the field trip retired immediately to their rooms when the vans returned them to their hotels. Of those that were received, 13 were from industry, who gave high marks for the overall program, the speakers and the organization of the talks, core examination and field trip. Thirteen of the 16 had attended other PTTC workshops. Five of these stated that they had used new technologies based on knowledge gained through PTTC workshops, and four of them were willing to share this information.

Only one person suggested a topic for a future workshop, a very low number indeed. This person apparently was interested in the Onondaga Limestone. Additional comment were "good program - lecture, core and outcrop;" "well presented;" "great to see work in progress - especially as it applies to current work going on in the field."

Attendance List

The list of final attendees is attached. Of the 46 that pre-registered, 39 actually attended, but two of these were PTTC staff. Thus, the final count was 37.

