AASG 2010 Mid-Conference Geologic Field Trip to Delaware Water Gap National Recreation Area and Sterling Hill Mining Museum

The Delaware River is the longest free-flowing river in the eastern United States. Its branches begin north of Hancock, NY, winding south through Delaware Water Gap National Recreation Area (DEWA), flowing past Trenton, NJ, at tide water, and ending in Delaware Bay, a distance of 410 miles to the south shore of New Jersey, at Cape May. It records many dramatic human events and the area in New Jersey and Pennsylvania has been the site of numerous geologic controversies. At the next few stops we will discuss aspects of structural geology, stratigraphy, glacial geology, paleontology, and environmental concerns that have placed this local in both the regional and national geologic spotlight.

Stop 1. 10:15 – 11:15 AM - DELAWARE WATER GAP, Point of Gap Overlook, Pa. You read correctly, our first stop is in the Keystone State to better view the New Jersey side of Delaware Water Gap and Mount Tammany. Jack Epstein, USGS Emeritus (the Bret Farve of geologists), will lead a discussion on stratigraphy, structure, and geomorphology of Delaware Water Gap. Ron Witte, NJGS will present an overview of New Jersey's ice age and discuss glaciofluvial and postglacial terraces in Delaware Valley, and Don Monteverde, NJGS, will provide comic relief. Lastly, a guest speaker from DEWA will discuss the history of the park, and Tocks Island.

Stop 2. 11:30 – 12:15 – Delaware Water Gap, Kittatinny visitor's center. Finally, back in New Jersey. Stop 2 is a lunch stop (peanut butter and mint jelly sandwiches and warm soda). There will be no formal geologic discussions here (we all need to rest up for Stop 3). However, there will be a few posters and geologic maps on the back wall (river side) of utility building near the small pavilion.

Stop 3. 12:45 – 2:00 – Fairview Lake Overlook, Kittatinny Mountain. A short hike (12 minutes) along the Appalachian Trail will take us to a sweeping vista of Kittatinny Valley and the New Jersey Highlands (this can't be New Jersey). Don Monteverde will lead a discussion on regional tectonics (ain't no nappes here), Jack Epstein will speak about the Shawangunk Formation (we're standing on it) and the Taconic Unconformity, and Ron Witte will discuss the view from the Schooley peneplain or is it a view from the crest of a very long monoclinal ridge, held up by a very resistant rock that weathers so slowly over time that it stands out in greater relief amongst the softer rocks on its flanks. Topics of discussion

include glacial erosion, late Wisconsinan deglaciation, and time permitting the history of New Jersey's caged erratic.

Stop 4. 3:00 – 8:30 - Sterling Hill Mining Museum. This stop provides an unparalleled opportunity to visit the world-famous Sterling Hill zinc mine, hosted by the Mesoproterozoic-age Franklin Marble, and unique among zinc deposits in the world. Participants will have access to the interior of the mine at the adit level and, through a self-guided tour of 15 stations, will be able to view the complete thickness of the east limb of the orebody in incandescent and ultraviolet light, various exhibits of mining equipment and methods, results of current and ancient geologic processes, and mine drifts and stopes, as well as the Thomas S. Warren Museum of Fluorescence, and the Zobel Exhibit Hall. Limited mineral collecting on a fee basis will be permitted on the Mine Run Dump.

There will also be geologist-led tours of the Passaic pit to view the up-plunge projection of the orebody and discuss the geologic relationships of the zinc deposit and surrounding area. Participants will be able to examine the mineralogy of the east limb of the orebody, as well as some interesting post-metamorphic mineralization.

At about 6:00 P.M., following the self-guided and guided tours, there will be a catered dinner at the mine for trip participants.