

The 26<sup>th</sup> Oil Shale Symposium was held at the Colorado School of Mines Oct. 16-20. The conference was attended by 266 people from 20 countries. Sessions covered a wide range of topics including ongoing oil shale activities, geochemical properties of oil shale, stratigraphy, modeling, socioeconomic impacts, data review and assessment, policy, and evaluation of oil shale options. A two-day field trip was run through the Piceance Basin of western Colorado and the Uinta Basin of Utah and western Colorado. This was the first oil shale symposium to be held in about 15 years. Oil shale activities are currently being revived in most of the countries represented at the conference after they were suspended due to low oil prices 15-20 years ago. Most of the attendees that I talked to had worked on oil shale in the past and had been recently reassigned to work on oil shale again. Needless to say, the average age of the attendees was rather high with Hugh Guthrie of the Department of Energy taking honors as the oldest attendee at 92. Several new technologies to extract hydrocarbons from oil shale were presented. A list of talks presented can be found at [http://www.mines.edu/outreach/cont\\_ed/oilshale/](http://www.mines.edu/outreach/cont_ed/oilshale/).

The USGS oil shale web site is up and running. The address of the site is [http://energy.cr.usgs.gov/newsite/other/oil\\_shale/](http://energy.cr.usgs.gov/newsite/other/oil_shale/). The site includes links to tiff images of all USGS publications dealing with the Colorado and Utah oil shales and will soon have tiff images of Wyoming oil shale publications as well. A series of critical assessment reports on the Piceance Basin oil shales, consisting of structure contour and isopach maps, and isoresource maps, were digitized into ARC-Map files, and these layers are now available on the web site. The USGS is currently constructing a map-driven project to be included on the web site that will display all the known coreholes and drillholes in the oil shale areas of Colorado, Wyoming, and Utah. The holes will be hot buttoned to show data available data including tops to stratigraphic units in the oil shale interval, geophysical logs, Fischer assays, ect. Details of the project are still being worked out. This project should be completed within a year.

The USGS is starting a four-year project to re-assess the significant oil shale deposits in the United States, with the first two years devoted to the oil shales of the Green River Formation and the final two years devoted to oil shales in the eastern US. Major problems are being encountered with data sets that were recorded in the 1970s through the early 1990s in out-of-date digital mediums. Much of the data was recorded on reel to reel magnetic tapes that have deteriorated over the past 20 years to the point that they are no longer readable.

The USGS plans to remove oil shale core that is currently being stored in an abandoned oil shale mine at Anvil Points Co. and bring it to the USGS Core Facility in Lakewood Co. More than 170,000 linear feet of core were transferred to the mine in 1995 because of a lack of funds to store it. Much of the core was obtained from oil companies that had planned to dispose of the core. The road to the mine is deteriorating and the BLM may close up the mine for good. Funding for this effort was recently cut by Congress but the USGS is hopeful that it will be restored.

In the Piceance Basin, Shell is constructing a major test of the freeze wall technology that they plan to use for their in-situ oil shale retort. Freeze walls have been used successfully in the past at construction and mining sites. Shell plans to use a freeze wall to isolate the area being retorted to avoid contaminating the ground water. A

vertical refrigeration hole is being drilled about every six feet around the perimeter of the test area that is roughly the size of a football field. Once the freeze wall is in place, Shell will attempt to break it in order to test its strength. If the freeze wall test is a success, Shell will begin work on a larger test that could produce hydrocarbons sometime after 2010. One of Shell's experimental sites produced a significant amount of high-quality oil-much better quality than from a typical surface retort, with little product greater than C<sub>20</sub>. Shell process employs heaters placed in closely-spaced vertical holes. Reliability of the heaters has been a problem, but Shell believes that they have the problem solved. In past experiments, the heaters have tended to crush as the oil shale expanded during heating.

ExxonMobil's proposed in-situ process is different from Shell's in that horizontal holes are drilled beneath the oil shale. The oil shale is then fractured and the fractures are filled with an electrically conductive material to heat the oil shale. There process has been successfully tested in the laboratory but has not been field tested. ExxonMobil's proposal to test their technology in the Piceance Basin was rejected by the BLM. EGL in-situ process also plans to heat the oil shale from horizontal holes drilled beneath the oil shale, and their proposed experimental site in the Piceance Basin has been approved by the BLM.