

QUARTERLY REPORT OF TECHNICAL PROGRESS  
D.O.E. Eastern Gas Shale Project  
Contract #EY-76-S-05-5198 (Modification #A002)  
October, November, December, 1978

**MASTER**

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SUMMARY

The Penetration and Show Map (TASK 3200-1-2) and the Drilling Depth Map (TASK 3200-3-5) have been completed and accepted by DOE, Morgantown, WV. The 9 stratigraphic cross sections (TASK 2100-1-1) have been completed and accepted by DOE, Morgantown, WV, but problems related to their large size have delayed printing. A 1:250,000 scale Onondaga Structure Map had to be corrected and drafting has only just begun on this project. Data collection for the 1:1,000,000 scale shale and sand maps is complete and all of the maps have been constructed, including 34 isopach maps (TASK 2100-1-2), 6 structure maps (TASK 2100-2-1), and 46 lithofacies maps (TASK 2100-3-1). These 86 maps have been reviewed and narrowed to 39, including 15 isopach, 6 structure, and 18 lithofacies maps. The shale maps (9 isopach, 6 structure, and 7 lithofacies maps) are complete and in camera-ready form. Drafting of the sand maps is complete. These maps are presently being reviewed and corrected before being completed in camera-ready form. Encoding is 100% complete, and the data sheets have been sent to USGS, Denver, CO, for inclusion into their computer system. Delays in delivery of products have been due to problems which resulted from lack of drafting formats for the cross sections and maps from DOE. Also the change-over in personnel (geologists and draftsman) caused some delays. Thus, drafting and reproduction for the 1:250,000 scale Onondaga Structure Map was delayed. In October, the Second Annual Eastern Gas Shales Symposium was held in Morgantown, WV. A paper dealing with the progress of work to date on the black shales in Pennsylvania was included in the preprints of the meeting (METC/SP-78/6, V. I).

The final text has been drafted, reviewed, and corrected. It is presently awaiting completion of all 1:1,000,000 scale maps, at which time the text and maps will be submitted for publication to DOE, Morgantown, WV.

CONTRACT OBJECTIVES

1. Identify all wells in Pennsylvania which penetrate the Devonian shale sequence and indicate all gas production and shows from shales (Production and Show Map, TASK 3200-5-3).
2. Provide a preliminary stratigraphic framework for the clastic sediments between the Berea-Cussewago-Murrysville sand interval (approximate Mississippian-Devonian boundary) and the Onondaga Group of Middle Devonian age, using gamma ray data with supplementary lithologic logs (Cross Sections, TASK 2100-1-1).
3. Provide a preliminary structural picture for the black shale facies and related rocks in Pennsylvania (Structure Map, TASK 2100-2-1).

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4. Define and map the black shale facies and related rocks within this sequence in order to understand their sedimentological history and to help in predicting and evaluating potential gas resources in the Devonian shales (Subsurface Geology, TASK 3200-1-2; Isopach Maps, TASK 2100-1-2; Lithofacies Maps, TASK 2100-3-1).
5. Provide and maintain a storage site for all data and cores obtained in Pennsylvania for the Devonian Black Shale Project.
6. Encode data in a computer retrieval format.

#### TECHNICAL PROGRESS

##### TASK 2100-1-1 CROSS SECTIONS

Work Status: The nine stratigraphic cross sections have been completed and were sent to DOE, Morgantown, WV. Task 2100-1-1 is complete. The cross sections were behind schedule due to lack of drafting formats from DOE.

##### TASK 2100-1-2 ISOPACH MAPS

Work Status: Nine isopach maps of the black shales have been completed in camera-ready form. Six isopach maps of the sands were drafted and are being reviewed. Task 2100-1-2 is 95% complete.

Work Plan: Continue review and correction of the sand isopach maps.

##### TASK 2100-2-1 STRUCTURE MAPS

Work Status: Six structure maps have been completed in camera-ready form. Task 2100-2-1 is 90% complete.

Problem Areas: The Onondaga Structure Map at 1:250,000 scale is behind schedule. Drafting of this map was delayed because of lack of drafting formats by DOE which also delayed the cross sections and the Drilling Depth and Production Maps. Drafting of the Onondaga Structure Map had been put off until the 1:1,000,000 scale maps were completed. Drafting has now begun on this map.

Work Plan: Continue drafting 1:250,000 scale Onondaga Structure Map.

##### TASK 2100-3-1 LITHOFACIES MAP

Work Status: Seven shale lithofacies maps have been completed in camera-ready form. Eleven sand maps have been drafted and are presently being reviewed and corrected. Task 2100-3-1 is 95% complete.

Work Plan: Continue review and correction of sand maps.

TASK 3200-1-2 SUBSURFACE GEOLOGY

Work Status: The Drilling Depth Map was completed and sent to DOE, Morgantown, WV. Task 3200-1-2 is complete. Delivery of this map was delayed due to lack of drafting formats from DOE.

TASK 3200-5-3 PRODUCTION MAP

Work Status: The Production and Show Map was completed and sent to DOE, Morgantown, WV. Task 3200-5-3 is complete. Delivery of this map was delayed due to lack of drafting formats from DOE.

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