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**ISOPACH MAP OF
HIGHLY RADIOACTIVE BLACK SHALE IN
THE THREE LICK BED AND HURON SHALE
MEMBER OF THE OHIO SHALE (UNITS 2,3,
4 & 5) IN KENTUCKY**

By S. B. Dillman and F. R. Effensohn

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**UNITED STATES
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SAMPLE LOG-STRATIGRAPHIC CHART

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1981
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Base Map from Kentucky Geological Survey
Drafting by Donna L. Antoine
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diactivity in green shales reflects radioactive potassium associated with the dominant clay fraction (Ettensohn and others, 1979). Nevertheless, the small size and number of green shales and their generally known stratigraphic occurrences (in Units 2, 5, 6; see Swager, 1978, and Ettensohn and others, 1979) suggest that their possible radioactive input is insignificant and predictable.

[illegible]

This map is one of a series of five radioactive isopach maps (E.G.S.P. Series Nos. 502-506) showing the thickness of highly radioactive black shales in each of four radioactive units in eastern Kentucky, and in the Chattanooga Shale of south-central Kentucky. The isopached interval on each map is indicated by arrows on the accompanying log-stratigraphic chart. Because the individual units undergo pronounced thinning on the Cincinnati Arch in south-central Kentucky, they are commonly too thin to be recognized or accurately measured, and are treated together as the Chattanooga Shale on E.G.S.P. Series No. 502.

[illegible]

The faults on the map are all surface faults and were taken from the Oil and Gas Map of Kentucky (Wilson and Sutton, 1973, 1976). The axis of the Cincinnati Arch was taken from Jilison (1931) who used data from Ordovician rocks to determine its position. Thicker than normal accumulations of highly radioactive black shale show some relationship with structural trends. Thick accumulations are seen along parts of the Rome Trough, the Floyd County channel, a probable southern arm of the Rome Trough (Ammerman and Keller, 1973), and along unnamed synclinal (?) structures in Pike and Greenup counties (see Dillman, 1980).

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ISOPACH MAP OF HIGHLY RADIOACTIVE BLACK SHALE IN THE THREE LICK BED AND HURON SHALE MEMBER OF THE OHIO SHALE (UNITS 2,3,4 &5)

RADIOACTIVE DATUM: 20 API Units above an intermediate peak in the Three Lick Be

CONTOUR INTERVAL: 25 Feet