



EXPLANATION

-  No Coal
-  Surface Minable Coal
-  Deep Minable Coal
-  Streams
-  Public Roads

DISCUSSION

This map of surface and deep minable Haddix D coal was generated using GRASS (Geographic Resource Analysis Support System) for analysis and ARC/INFO for map production. An elevation surface for the Haddix D coal bed was created using a coal bed elevation site file and an Inverse distance weighting algorithm. An U.S.G.S. Digital Elevation Model (DEM) was imported into GRASS as a raster layer to provide topographic elevation data. Coal bed elevation was subtracted from topographic elevation in order to estimate overburden. Areas of no coal occurred where the coal bed elevation surface was at higher elevation than the land elevation surface. Surface minable coal and deep minable coal had overburden values of 0-200 feet and greater than 200 feet, respectively. The largest area containing measured, indicated, and inferred coal was determined by placing 3-mile buffers around each observed coal elevation point. The GRASS raster was ported to ARC/INFO where it and relevant collar information were plotted automatically using an ARC Macro Language program or aml.

The ratio of the area with deep coal to total area of surface and deep coal was estimated and used along with data on coal thickness, the results of detailed coal availability studies, and linear regression to develop a method to extrapolate the results of the detailed coal availability studies to other quadrangles.

REFERENCES

Watson, William, and Bryant, Karen, 1993, Assessing U.S. Coal Resources: An Integration of GIS and Statistical Methods. GIS/LIS Proceedings, November 1993; Minneapolis, MN Vol. 2, American Society for Photogrammetry and Remote Sensing, p. 738-752.

Base from U.S. Geological Survey, 1952. Revised 1976. Edited 1980. Roads and streams extracted from U.S. Geological Survey 1:100,000 digital line graph (Hazard, KY) Universal Transverse Mercator Projection, 1927 North American Datum, Clark 1866 Ellipsoid, Zone 17.

APPROXIMATE MEAN DECLINATION, 1995

SCALE 1:24,000



INTERIOR - GEOLOGICAL SURVEY - RESTON, VA - 1984
This map was digitally produced by the National Coal Resources Data System. August 9, 1995

**SURFACE AND DEEP MINABLE HADDIX D COAL
HOSKINSON 7.5-MINUTE QUADRANGLE, EASTERN KENTUCKY**

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