

O. THE SCOPE OF REMAINING SURFACE-MINABLE COAL IN THE STUDY AREA

1. Demonstrated Coal Reserves

The Energy Information Administration provides an estimate of the demonstrated reserve base of coal in each state, by most likely type of mining method. This EIS deals only with the Appalachian region and bituminous coal seams, where the “demonstrated reserve base” consists of the portion of coal seams that are at least 28 inches thick and no greater than 1,000 feet deep. The demonstrated coal reserve information, as of 1996, is displayed in Table III.O-1. The data in this table includes demonstrated reserves outside of the EIS study area in portions of northern West Virginia and western Kentucky.

**Table III.O-1
Coal Reserves and Remaining Production Life**

Region	Demonstrated Reserve Base (million short tons)			Remaining Years of Production	
	Underground	Surface	Total	Underground	Surface
Kentucky	1,400	5,600	7,000	19	108
West Virginia	16,800	2,800	19,600	144	49
Tennessee	300	200	500	215	105
Virginia	900	500	1,400	33	49
Four-state Total	19,400	9,100	28,500	na	na
U.S. Total	122,900	151,900	273,900	na	na

Source: U.S. Dept. of Energy, Energy Information Administration, 1998. Coal Industry Annual, 1997.

2. Remaining Extent of Major Surface Mined Coal Seams

a. Introduction

The EIS Steering Committee commissioned several studies to determine the extent of remaining surface mineable coal seams. The seams analyzed account for the majority of current surface mining production as well as the potential future production in eastern Kentucky, central/southern West Virginia, and southwestern Virginia. Defining the location of these seams allows a spatial representation where likely future surface coal mining will result in the types of aquatic, community and terrestrial impacts described and analyzed in other sections of this EIS. One of the principle impacts evaluated by this EIS is excess spoil disposal in valley fills. Portraying the location of remaining surface mineable coal also generally identifies the potential areas where valley fills could occur.

III. Affected Environment and Consequences of MTM/VF

b. Methodology

Information on surface mineable coal zones in Kentucky was provided to OSM under contract with Dr. Jerry Weissenfluh of the Kentucky Geologic Survey (KGS). Nick Fedorko of the West Virginia Geologic and Economic Survey (WVGES) prepared the data for West Virginia coal seams at the direction of the West Virginia Legislature. Dr. Eric C. Westman, Department of Mining and Mineral Engineering, Virginia Polytechnic Institute and State University (VPI), prepared the information for Virginia under contract to OSM. The following reports were provided to OSM, and, as described below, used to prepare the map in this section. The individual reports and GIS coverages are available from OSM or the authors.

b.1. West Virginia

WVGES prepared “Projecting Future Coal Mining in Steep Terrain of Appalachia,” May 2000. The report identifies three surface mineable coal zones in central/southern West Virginia. The coal zones selected by WVGES were based on a review of past and current mining trends, coupled with the general knowledge of the remaining extent of surface mineable seams. WVGES concluded that future surface mining activity will involve the Coalburg coal zone (Coalburg, Stockton and associated riders) and/or the overlying 5 Block coal zone (includes 5 Block, 6 Block and 7 Block). Using standard geologic techniques and a geographic information system (GIS), the contour or outcrop of the Coalburg and 5-Block coals were mapped as a GIS layer for each of the USGS topographic quadrangles in the West Virginia portion of the EIS study area.

Information on areas of existing permitted surface or underground mines and previously mined out areas for each of the coal zones were obtained by WVGES from the West Virginia Division of Environmental Protection and the mining industry. The past and current mining extent was also stored as a GIS cover. OSM developed the areas of remaining coal, using the GIS, by subtracting the mined out and permitted areas from the coal zone extent GIS coverage [see Figure III.O-1].

b.2. Kentucky

KGS submitted “Estimation of Future Mountain-Top Removal Areas in the eastern Kentucky,” July 2000. The report covers three surface mineable coal zones in Eastern Kentucky. The outcrop of the Richardson, Broas, and Peach Orchard coal seams were mapped in a GIS coverage. KGS selected this interval because of the historical importance and likely remaining extent of these coals.

Information on areas of existing permitted surface or underground mines and previously mined out areas for each of the coal zones were obtained by KGS from the Kentucky Department of Mines, Department for Surface Mining Reclamation and Enforcement, and the mining industry. The past and current mining extent was also stored as a GIS cover. OSM developed the areas of remaining coal, using the GIS, by subtracting the mined out and permitted areas from the coal zone extent GIS coverage [see Figure III.O-1].

III. Affected Environment and Consequences of MTM/VF

b.3. Virginia

VPI provided the report, “Estimation of South Western Virginia Reserve Base of Surface Mineable Coal,” July, 2000. Five coal seams with potential for surface mining were identified based on information obtained from the mining industry and the Virginia Department of Mines, Minerals, and Energy and its Division of Mined Land Reclamation (VADMLR). The seams assessed were the Blair, Dorchester, Norton, Upper Banner, and Lower Banner. The outcrop and extent of these seams were mapped in a GIS coverage.

Information on areas of existing permitted surface or underground mines and previously mined out areas for each of the coal seams were obtained by VPI from the VADMLR and the mining industry. The past and current mining extent was also stored as a GIS cover. OSM developed the areas of remaining coal, using the GIS, by subtracting the mined out and permitted areas from the coal seam extent GIS coverage [see Figure III.O-1].

3. Geologic Extent of Remaining Mountaintop-Minable Coal in the EIS Study Area

It is very important to note that the extent of coal shown on map III.O-1 is not necessarily the extent of future surface mining [see Figure III.O-1]. The maps merely show the extent of coal seams that could be surface mined. The actual mining areas are dependent on the consistency of the coal bed, thickness, stripping ratio, coal quality, size of coal reserve block, and other factors used in site specific mining feasibility analysis. Thus, the areas that will actually be mined will likely be much smaller than the extent of the seam shown.

III. Affected Environment and Consequences of MTM/VF

III.O.1 - Extent of Potential Mountaintop-Minable Coal

