AN OVERVIEW OF NEW MEXICO'S COAL INDUSTRY

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My principal intent in preparing this paper is to give a general feeling for the coal business in New Mexico, what it is now, where it is taking place, and what its future may be.

Figure 1 is intended only to make the point that within the limits imposed by today's commercial technology and today's market economics, coal is the largest source of accessible energy. In this connection, I am thinking of coal as a stop-gap energy source to buy some time. We need that time for orderly development of obviously better sources of energy and I leave to you the decision as to the ideal energy source. The transition back and forth among fossil fuels is relatively easy, so we can rely more and more upon coal for the near term, while we make the much more fundamental shift to more suitable energy sources for the long term.

I would like to see us eventually turn to coal for petro-chemical feedstock only, and build a New Mexico coal industry based on underground mining or in-place extraction. We would ship a far more valuable product, and benefit from the returns on the additional capital, in the forms of both money and labor, invested in it. But enough of philosophy.

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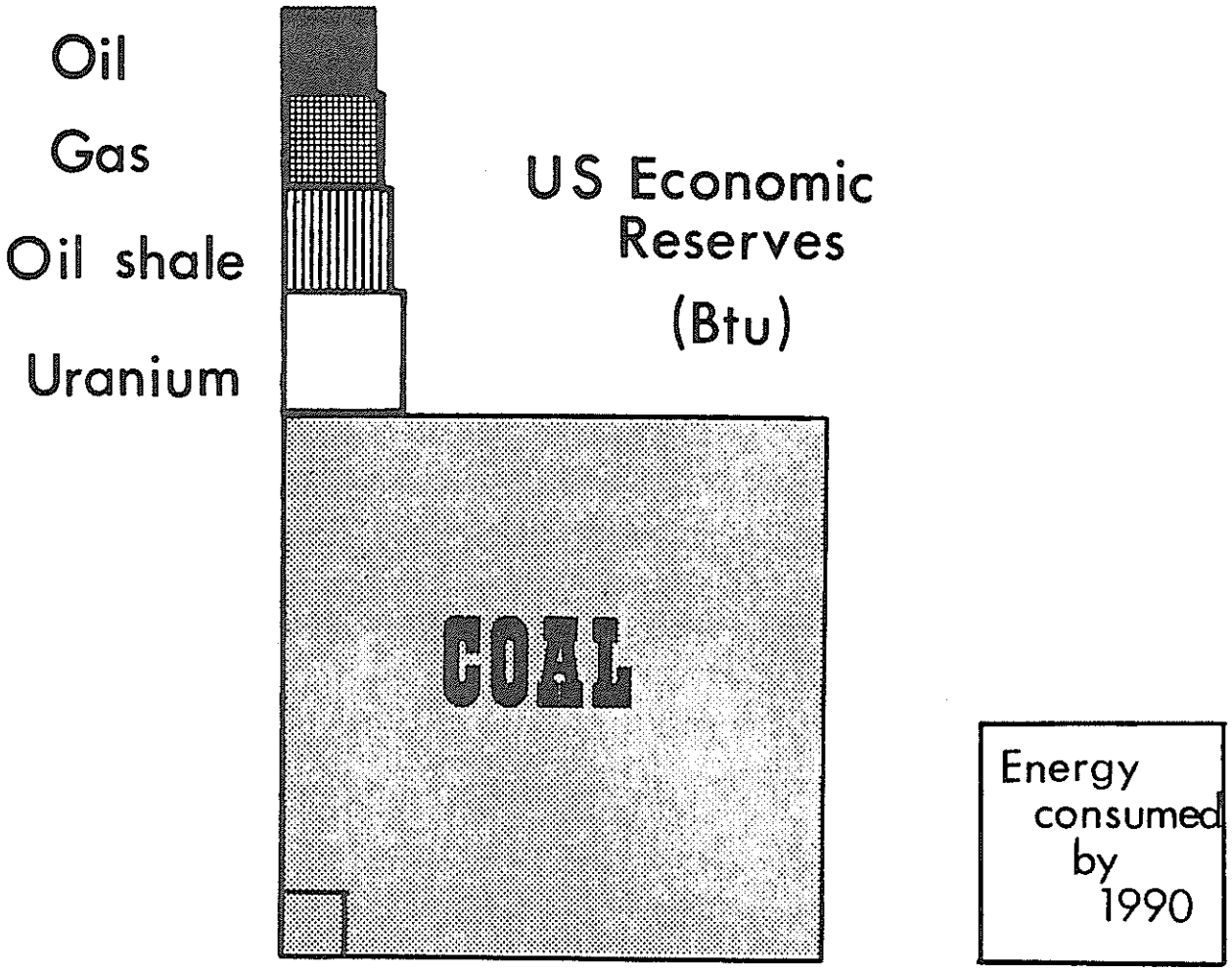

FIGURE 1. COMPARISON OF UNITED STATES ECONOMIC ENERGY RESERVES

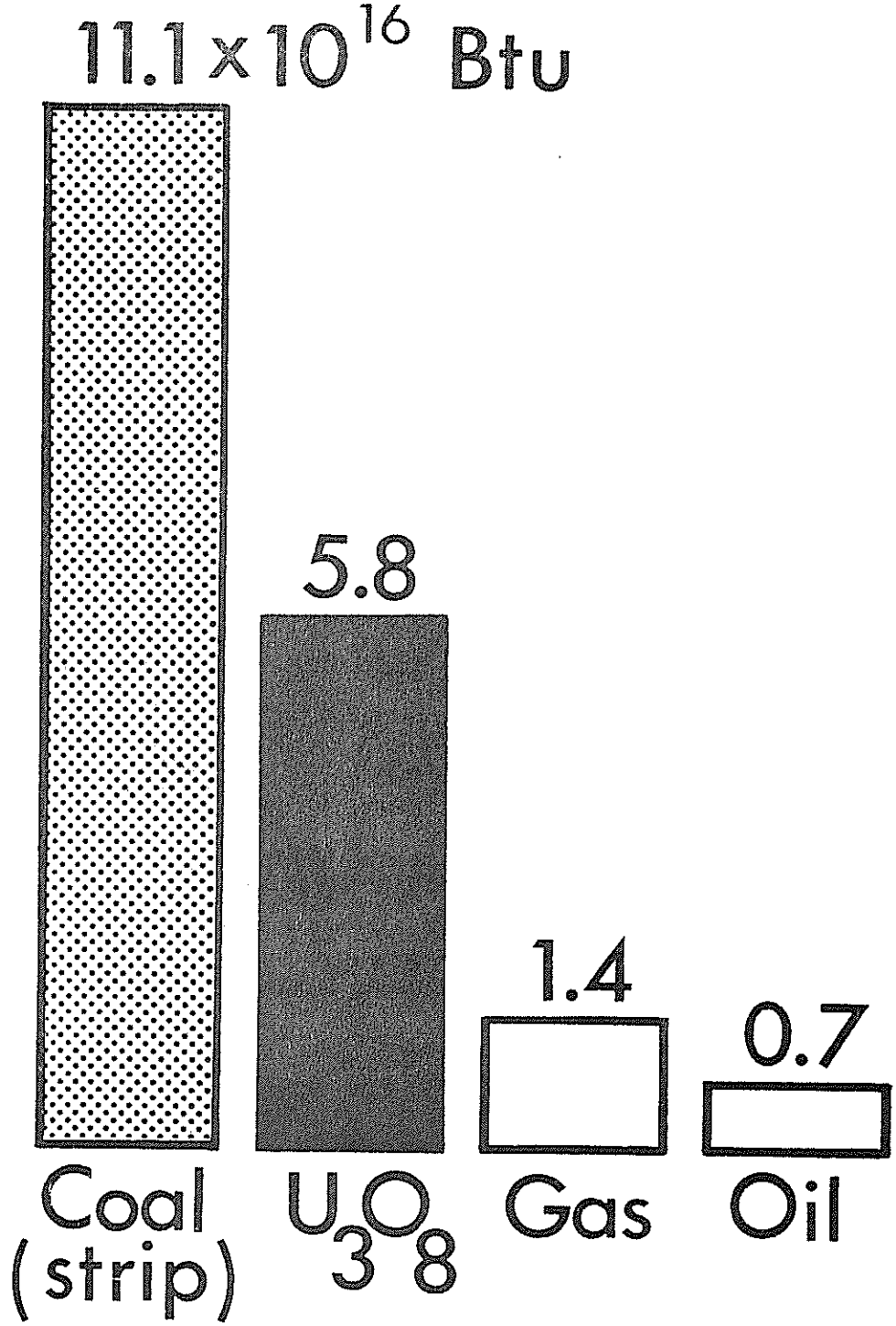

FIGURE 2. COMPARISON OF NEW MEXICO'S ECONOMIC ENERGY RESERVES

New Mexico has quite a bit of coal, on the order of 280,000 million tons. That figure is of course only an educated guess, since only a tiny fraction of the resource is explored in any more than reconnaissance detail. It is also important to note early in the game that only about 6,600 million tons-- about 2.4 percent of the total--is minable by today's economic standards. Figure 2 then represents our energy resources in perspective, including only presently-minable coal, projected oil and gas reserves, and uranium reserves assuming current mining costs and methods of utilization.

Figure 3 shows in a very general way the distribution of coal within the state. Dark shading indicates areas with potential for surface-minable coal; these areas are greatly exaggerated, of course, so they can be seen. The total acreage of strippable coal land is estimated at between 300,000 and 400,000 acres, between 0.4 and 0.5 percent of the state's area. This estimate is based on a very conservation estimate of 10 feet for the average thickness of coal. Light shading indicates those areas which are underlain by coal-bearing rocks, regardless of depth.

The map can be broken down into three general groupings of coal areas; the first and most important is the San Juan Basin, marked J. The second is the Raton Basin, marked I; and the third is everything else. It may be that major reserves will be discovered in the Datil Mountain area (H) and in the Sierra Blanca area (D) so we shouldn't write them off too hastily. A major reserve would be no less than 75 million tons, enough to justify a mine-mouth power plant. Smaller reserves, down to only a few million tons, support profitable operations on a spot-market sales basis, and reserves on this order are possible in each of the areas.

The coals of the San Juan Basin are virtually all rather high ash, low sulfur coals, of sub-bituminous A or high-volatile bituminous C rank. They are non-agglomerating, non-coking and so are useless for metallurgical purposes, but are good steam and gasification coals.

The Raton Basin coals are of similar or somewhat better quality, but in contrast are good coking coals. This fact is important in discussion of market position.

The New Mexico part of the Raton Basin is thought to contain, about 715 million tons of currently minable coal, or about 11 percent of the state's total. It is also estimated that on the order of 4 thousand million tons lie beyond current reach. The coal is good metallurgical fuel, and is almost all privately held. Kaiser Steel Corp. controls most of it, and is the only active operator.

The San Juan Basin is in the northwest quarter of New Mexico. Gallup and Farmington are the two black stars on Figure 4. The geologic formations that comprise the basin may be thought of as a stack of shallow, very irregular bowls whose rims are turned up sharply in some areas, but slope only very gently in others. The northern part of the basin is across the line in Colorado, not shown on the map. Two of the bowls are coal-bearing formations: the lower bowl, represented by the southerly band, is the strippable portion of the Menefee Formation, and the upper, represented by the other band is the strippable part of the Fruitland Formation.

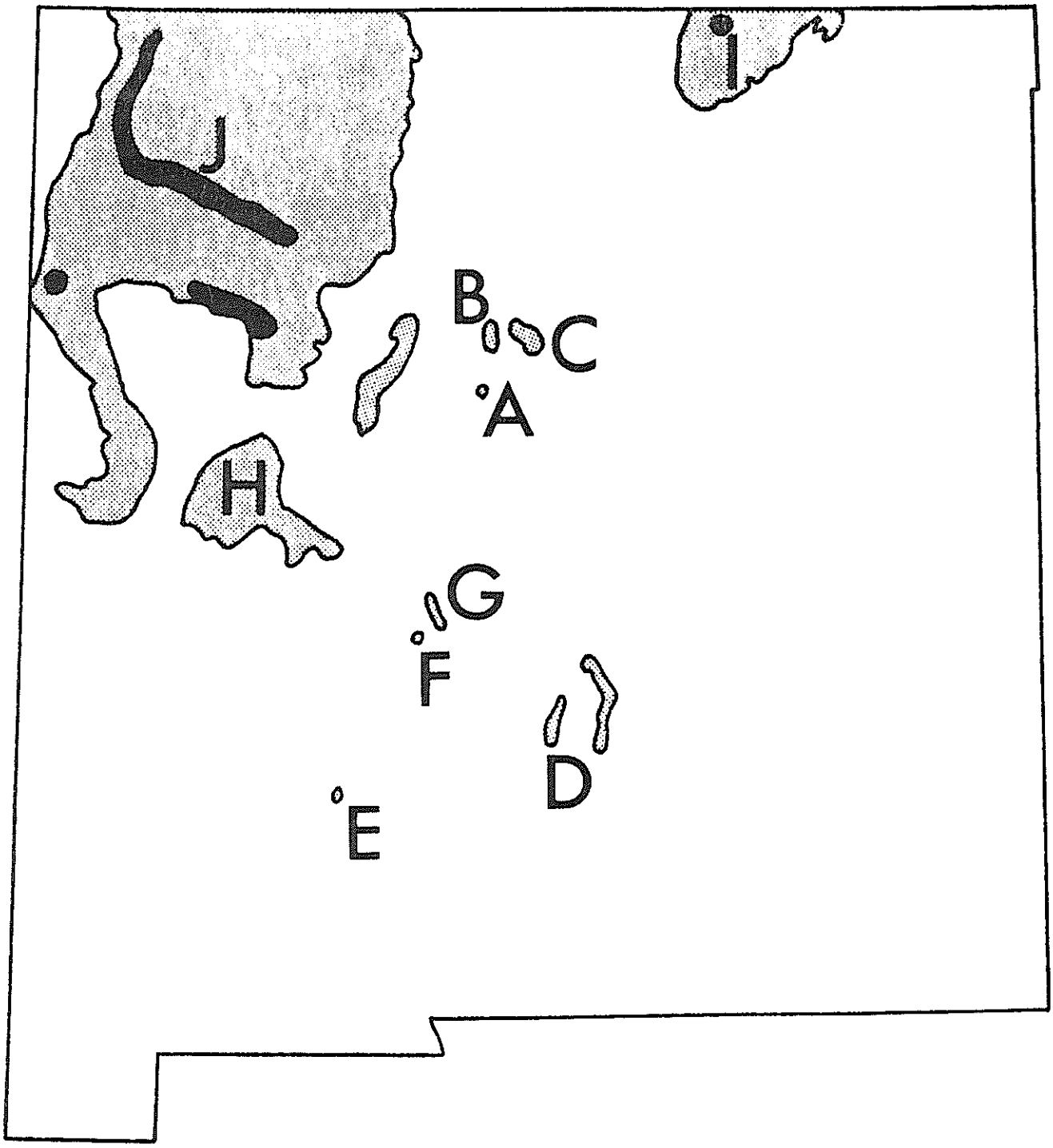

FIGURE 3. NEW MEXICO'S COAL AREAS