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RECONNAISSANCE MAP SHOWING SOME COAL AND CLINKER BEDS
IN THE FORT UNION AND WASATCH FORMATIONS IN THE EASTERN POWDER RIVER BASIN,
CAMPBELL AND CONVERSE COUNTIES, WYOMING

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The coal beds in the eastern Powder River Basin were mapped as part of the U.S. Geological Survey program to evaluate coal lands for their resources and to distinguish between Federal coal lands subject to competitive coal leases and the lands subject to coal prospecting permit provisions of the Mineral Leasing Laws.

Previous coal work in the area was done by Stone and Lupton (1910), Davis (1912), Dobbin and Barnett (1927), Thom (1927), Wegemann, Howell, and Dobbin (1928), Olive (1957), and Robinson and Mapel (1964). Smith, Ayler, Knox, and Pollard (1972) synthesized available data to outline the strippable coal reserves throughout Wyoming. Much of the early work was published on small-scale maps that are not adequate to subdivide the lands into 40-acre tracts as required under the Mineral Leasing Act. Consequently, during the field seasons of 1968 through 1971 the major coal outcrop or burn line was mapped on a reconnaissance basis. Detailed geologic mapping of 7½-minute quadrangles is presently in progress in the area. Because topographic maps at a suitable scale were not available until 1972, most of the mapping was done on Army Map Series high-altitude aerial photographs at a scale of approximately 1:63,360. The land grid was projected on the basis of the few section corners found in the field and data obtained from survey plats, 1:250,000-scale Army Map Series maps, and County highway maps.

All the coal in the report area is in the Paleocene Fort Union Formation and the Eocene Wasatch Formation. In the general area of the Wyodak strip mine in T. 50 N., R. 71 W., the one principal coal bed is known as the Wyodak bed. This bed is approximately 90 feet thick in the pit. The top of the bed is considered to be the contact between the Tongue River Member of the Fort Union Formation and the overlying Wasatch Formation. The authors believe that north of the Wyodak area the Wyodak bed splits into several coal beds (see generalized cross section), but present data are insufficient to prove this hypothesis. South of the Wyodak area the Wyodak bed is known to split into two or more beds in some areas and to combine into one bed in other areas.

Available gamma-ray, density, sonic, and electric logs from more than 400 oil and gas tests in the area were studied for coal data. Logs from additional tests are available for future study. Only some of the data obtained from the logs of the oil and gas tests are plotted on the maps to present the general outline of coal thicknesses and overburden. Part of the available data from published reports and data from several fire projects were added. The fire projects are areas where coal in small open-pit mines or outcrops had ignited and the resultant coal fires were extinguished through projects sponsored by the U.S. Bureau of Mines.

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