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Chouteau County

MONTANA BUREAU OF MINES AND GEOLOGY

BUTTE, MONTANA 59701

~~Office of the Associate Director~~ June 6, 1972

Mr. Oscar Pederson, District Conservationist
Soil Conservation Service
Fort Benton, Montana 59442

Dear Oscar:

Here is the brief description that you requested regarding the mineral resources of Chouteau County.

NONMETALLIC MINERALS

Much of the western part of the county is underlain by Cretaceous shale of the Colorado Group. It is very likely that some beds within this shale are suitable for use in the manufacture of lightweight aggregate. The Claggett Shale exposed in the northeastern part of the county contains several beds of bentonite. The quality of the bentonite in these beds is not known.

Sodium sulfate in yet undetermined quantities occurs in the intermittent lakes in Shonkin Sag southeast of Fort Benton. If the sodium sulfate is present in large quantities, these deposits might be of commercial significance.

Glacial outwash scattered over much of the county would provide a source of sand and gravel. Physically durable rock suitable for use as riprap or ballast could be quarried at a number of localities in the Highwood Mountains.

METALLIC MINERALS

There are no known metallic mineral resources in Chouteau County. However, this does not preclude the possibility that such resources will be found in the future, particularly in the Highwood or Bearpaw Mountains.

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OIL AND GAS

There have been approximately 167 wells drilled in Chouteau County in the search for oil and gas. Bannatyne Field has produced for many years and still produces a few thousand barrels of oil annually from Jurassic rocks. A recent gas discovery in T. 27 N., R. 16 E., signifies the importance of Montana's gas reserves and fits into the geologic picture of the Bearpaw Arch gas fields.

Only 11 of the wells drilled reached rocks of Cambrian age, 6 reached Devonian, 64 reached Mississippian, 10 reached Jurassic, and 76 only drilled into Cretaceous rocks. Vast areas of the county remain unexplored and constitute a potentially important reserve of mineral resources.

COAL

The occurrence of coal in Chouteau County has been described by Bowen (1914) and by Pierce and Hunt (1937). Thin coal beds have been mapped as occurring in the Eagle Formation, the Judith River Formation, and in the Fort Union Formation. The thickest coal bed (subbituminous coal) in the county has been reported at 7 feet occurring in the Fort Union Formation at the Mackton mine, located in sec. 18, T. 28 N., R. 14 E., about 6 miles east of Big Sandy. The coal mining potential is limited due to the confined area of the Fort Union Formation. In general, the coal beds occurring in the Eagle and Judith River Formations are thin, discontinuous, and of small economic interest.

Bowen, C. F., 1914, The Big Sandy coal field, Chouteau County, Montana: U. S. Geol. Survey Bull. 541-H, p. 356-378.

Pierce, W. G., and Hunt, C. B., 1937, Geology and mineral resources of north-central Chouteau, western Hill, and eastern Liberty Counties, Montana: U. S. Geol. Survey Bull. 847-F, p. 225-264.

Very truly yours,

Marvin Miller, Chief
Groundwater Division

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