UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WILLOW CROSSING QUADRANGLE
MONTANA
7.5 MINUTE SERIES (TOPOGRAPHIC)

OPEN FILE REPORT 79-101
PLATE 1A OF 13

SHEET 1 OF 2

OPEN-FILE REPORT
This report has not been edited for conformity with U.S. Geological Survey editorial standards or stratigraphic nomenclature.

SEE PLATE 1B FOR DRILL HOLE DATA.

EXPLANATION

(1) INDEX NUMBER OF MEASURED SECTION SHOWN ON PLATE 3 OF CRO MAP—Coal section measured at point of triangle.

[2] LINE OF COMPOSITE SECTION—Showing index number of section shown on plate 3 of CRO map. Composite section is based on nearby coal bed thickness measurements.

(11) ● GL 3050
R 79
C 3 (F-G)
R 8
C 6 (F-G)
R 110
C 6 (L)
R 10+

OIL AND GAS TEST HOLE—Showing index number of hole shown on plate 3 of CRO map and drill-hole data, in feet.

GL 3125
● NR 270
R 60
C 6 (L)
R 10+

OIL AND GAS TEST HOLE—Showing drill-hole data, in feet.

(13) ○ GL 3152
R 69
C 57 (Kn)
R 15
TD 141

COAL TEST HOLE—Showing index number of hole shown on plate 3 of CRO map, and drill-hole data, in feet.

GL— Ground elevation
NR— No Record
R— Rock interval
C— Coal interval
TD— Total depth

DRILL-HOLE DATA SYMBOLS

Ck_2—Lower Cook
E —E bed
L—Local
Ca—Cache
D—D bed
C—C bed
Sa—Sawyer
Sa_1—Upper Sawyer
Sa_2—Lower Sawyer
Kn—Knobloch

F-G—Flowers-Goodale

COAL BED SYMBOLS AND NAMES

2.4 / 4.3+ / 0.5 / C 2.6 (Sa_1) R 13.0 C 1.0 (L) — Sa_1

TRACE OF COAL BED OUTCROP—Dashed where approximately located; short dashed where inferred. Showing thickness of coal, or coal-rock intervals, in feet, measured at triangle. Where a thickness fraction is shown, it indicates the net coal thickness (upper number) and net partings thickness (lower number). Letters designate the name of the coal bed as listed above. Arrows point toward coal-bearing area. Trace of coal outcrop has been modified from Bass (1932, pl. 3), Matson and Blumer (1973, pl. 12, 13), McKay (1976, MF-802), and Warren (1959, pl. 19) to fit modern topographic map.

BURNED AND CLINKERED COAL BED—Showing area of baked and fused rock (v symbol). Dotted line indicates the inferred limit of burning.

U / D

FAULT—Dashed where approximtately located. U, upthrown side; D, downthrown side.

ANTICLINE—Showing crestline. Dashed where approximately located.

12.0+ BENSON MINE

COAL MINE—Showing mine name and thickness of coal bed, in feet.

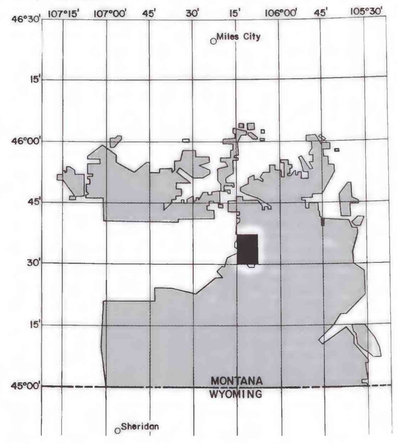
REFERENCES FOR NONINDEXED DATA POINTS

BASS, N.W., 1932, The Ashland coal field, Rosebud, Powder River, and Custer Counties, Montana: U.S. Geol. Survey Bull. 831-B, p. 19-105.

MATSON, R.E., and BLUMER, J.W., 1973, Quality and reserves of strippable coal, selected deposits, southeastern Montana: Mont. Bur. Mines and Geol. Bull. 91, 135 p.

McKAY, E.J., 1976, Preliminary geologic map and coal sections of the Willow Crossing quadrangle, Rosebud and Powder River Counties, Montana: U.S. Geol. Survey Miscellaneous Field Studies, Map MF-802.

WARREN, W.C., 1959, Reconnaissance geology of the Birney-Broadus coal field, Rosebud and Powder River Counties, Montana: U.S. Geol. Survey Bull. 1072-J, p. 561-585



INDEX MAP—Showing location of the Willow Crossing quadrangle and the Northern Powder River Basin Known Recoverable Coal Resource Area (stippled), Montana

NOTE: This inferred F-G coal bed has been mapped on the adjacent (Ashland) quadrangle by Bass, N.W., 1932.

Base map from U.S. Geological Survey, 1966

Compiled in 1977

SCALE 1:24000

UTM GRID AND 1966 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

MONTANA
QUADRANGLE LOCATION

COAL RESOURCE OCCURRENCE MAP OF THE WILLOW CROSSING QUADRANGLE, POWDER RIVER AND ROSEBUD COUNTIES, MONTANA

BY

COLORADO SCHOOL OF MINES RESEARCH INSTITUTE

1979

PLATE 1A

COAL DATA MAP