

APRIL 14, 1989
NARRATIVE FOR
GREGORY COUNTY, SOUTH DAKOTA
OIL AND GAS DEVELOPMENT POTENTIAL MAP

INTRODUCTION:

Gregory County is located in the south eastern part of the state. The topography is rolling hills and open grasslands with a general dendritic drainage pattern flowing eastward to the Missouri River.

Regional geology shows the Cretaceous age Pierre Shale and Miocene Arikare Formation to be intermixed at the surface. Structurally the Pre-Cambrian basement rock varies from -100 to +200 feet above sea level across the county. The regional dip is east to south-east. A major basement fault system as mapped by Houser (1987) strikes northwest with its trace along the Missouri River, its down dropped side is to the west.

There have been only 7 wells drilled in the entire county, and none in the past 15 years. Currently there is no production in the county.

There are no Indian lands within this county.

OCCURRENCE POTENTIAL:

All of Gregory County is classified as moderate occurrence potential. This is based on the presence of a sedimentary package of Cretaceous age rocks that are estimated to be 2,000 feet thick (Mallory, 1972), and the lack of established production with in the county.

There is no type log within this county.

DEVELOPMENT POTENTIAL:

All of Gregory County is classified as moderate development potential. This is because the sediment package that is known to exist in this county, has potential source and reservoir rocks that produce elsewhere in the state, and the possibility of structural or stratigraphic traps. However, because there is no production or no significant shows from the drilling that did occur, this county has only a moderate development potential.

Based on the past drilling activity in the county, and lack of the Paleozoic section, it is expected that only one to three wells will be drilled in this county in the next 15 years.

REFERENCES CITED

Houser, B. B., 1987, Southwestern bounding fault of the Sioux Quartzite, South Dakota: U. S. Geological Survey, Open File Report 87-626, 11p.

Mallory, W. W., (ed.) 1972, Geologic atlas of the Rocky Mountain Region: Rocky Mountain Association of Geologists, p.56.