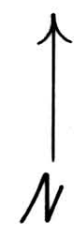
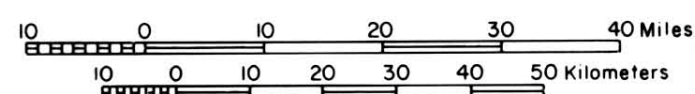


Relation of Natural Gas Occurrences to Lineaments, South Dakota

R.F. Bretz¹ and G.W. Shurr^{2,3}
1981



scale 1:1,000,000



○ well location — number indicates total number of closely spaced wells

Lineament Classification

- Class I
- - - - - Class II
- · - · - Class III
- - - - - Class IV

This map presents a preliminary and ongoing study of the relation of natural gas occurrences to lineaments in the state of South Dakota. It is published as a general exploratory tool for industry gas and oil exploration.

The map is a companion to Bretz (1981), which gives information on the well locations plotted here. The majority of the natural gas occurrences shown here are methane and higher gases, but a few are hydrogen sulfide, nitrogen, and other nonhydrocarbon gases.

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The lineaments shown belong to four classes, as follows:

- Class I lineaments were seen by two workers on Landsat MSS bands 5 and 7 images
- Class II by two workers on bands 5 or 7
- Class III by one worker on bands 5 and 7
- Class IV by one worker on bands 5 or 7

Further lineament refinement is provided by showing only those with geophysical expression on a vertical-intensity magnetic map of the State (Petsch, 1967). The lineaments shown represent preliminary analysis of both enhanced and unenhanced images and are being currently refined. This is an expansion of work first done in western South Dakota (Shurr, 1978) wherein the rationale and justification for employing lineaments as an exploratory tool was explained.

Lineament analysis of Landsat images ably provided by Terri Erickson and William Larson, former St. Cloud State University, Minnesota, students, is gratefully acknowledged.

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