

STATE OF SOUTH DAKOTA
M. Michael Rounds, Governor
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
Steven M. Pimer, Secretary
DIVISION OF FINANCIAL AND TECHNICAL ASSISTANCE
David Tompkins, Director
GEOLOGICAL SURVEY
Dorrie L. Hies, State Geologist

OIL AND GAS INVESTIGATION 2

Cross Sections Showing Geophysical Logs of Phanerozoic Rocks in South Dakota

Plate 16. Structural Cross Section P-P'

J.E. FOX, K.A. MCCORMICK, AND T.N. HAGGAR
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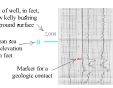
Prepared in cooperation with the Department of Geology and Geological Engineering, South Dakota School of Mines and Technology

Explanation

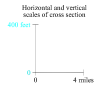
- Correlation line at an unconformable geologic contact. Interpreted from a geophysical log or lithologic description. Observed where measured.
- Correlation line at an unconformable geologic contact. Interpreted from a geophysical log or lithologic description. Observed where measured.
- Correlation line at an unconformable geologic contact. Interpreted from Tomlinson and Schultz (2004).
- Profile of land surface derived from U.S. Geological Survey digital elevation models.
- Profile of the bedrock surface east of the Missouri River. Observed where measured. Due to the scale of the cross section, bedrock outcrop areas are not shown. Modified from Tomlinson and Schultz (2004).
- Boundary of nonconformity change. Boundary shown in orange on index map below. Boundary and nonconformity generally coincide with Fahrenholtz and others (2007).

Correlation lines are not intended to show detailed structure or actual elevation of a geologic unit between data points. Correlation lines are not projected to land surface near the Black Hills even though some geologic units crop out. The generalized nature of the cross section does not lead itself to illustrations of these outcrop areas.

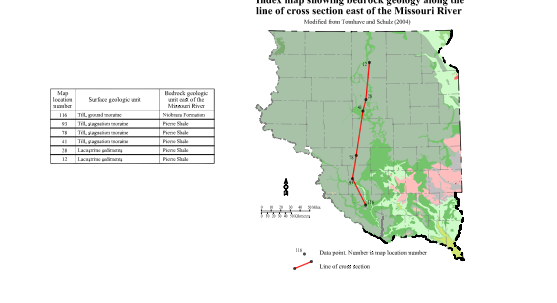
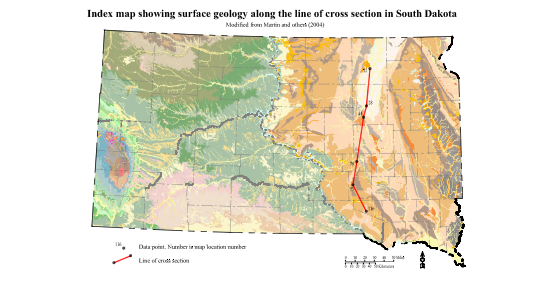
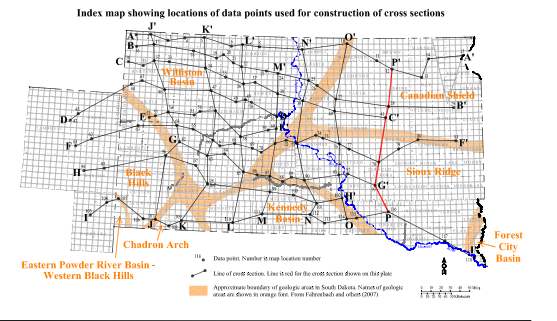
Depth of well, in feet, below Kelly bushing or ground surface:



Horizontal and vertical scales of cross section:



Datum for cross section is mean sea level. Vertical exaggeration = 52.8X.



References

Fahrenholtz, M.D., Soren, J.V., Sorensen, J.F., McCormick, K.A., Tompkins, D.L., and Rabbin, J.A., 2007. South Dakota stratigraphic correlation chart. South Dakota Geological Survey Oil and Gas Investigation 1.

Martin, J.F., Sorensen, J.F., Fahrenholtz, M.D., Tompkins, D.L., and Schultz, L.D., 2004. Geologic map of South Dakota. South Dakota Geological Survey General Map 70, scale 1:500,000.

Tompkins, D.W., and Schultz, L.D., 2004. Bedrock geologic map showing configuration of the bedrock surface in South Dakota east of the Missouri River. South Dakota Geological Survey General Map 70, scale 1:500,000.