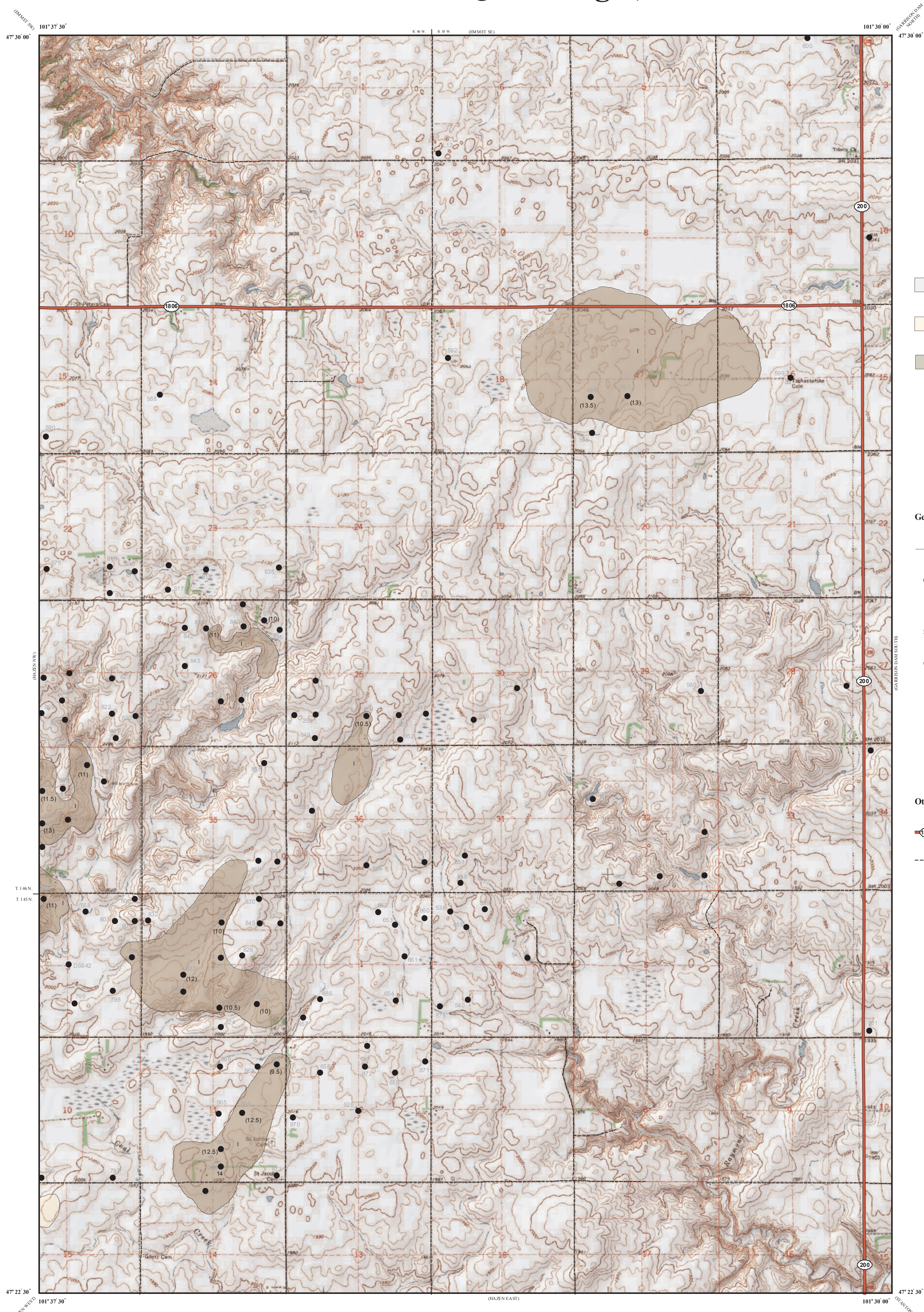





Lignite Reserves

Hazen NE Quadrangle, North Dakota

Edward C. Murphy
2007

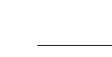





UNIT DESCRIPTIONS

-  Geology Undifferentiated
-  Areas of Mined Coal
-  Economic Coal Deposits


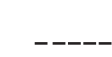
Economic coal deposits are those that meet the minimum criteria established by coal companies operating surface mines in North Dakota. These economic criteria include a minimum cumulative coal thickness of ten feet-typically occurring in less than two beds, a minimum individual bed thickness of at least 2.5 feet, a ratio of overburden to coal thickness of not more than 10:1, a minimum of 25 feet of overburden, and a maximum depth to coal of approximately 150 feet.

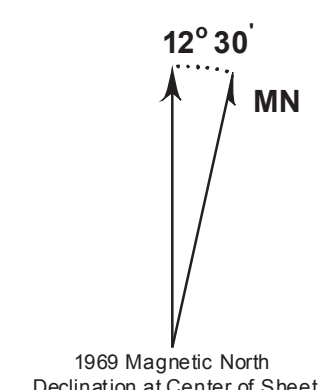
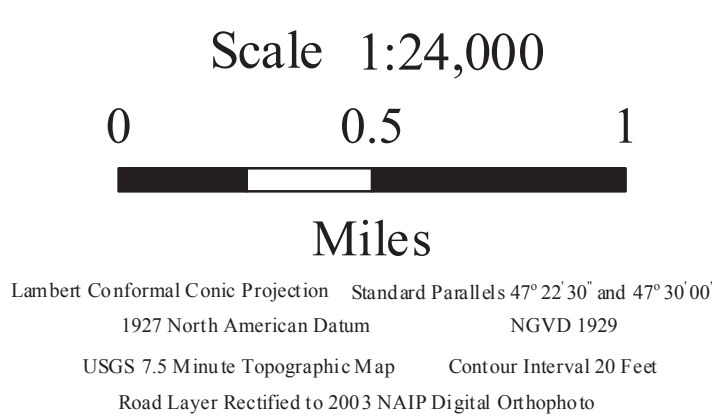
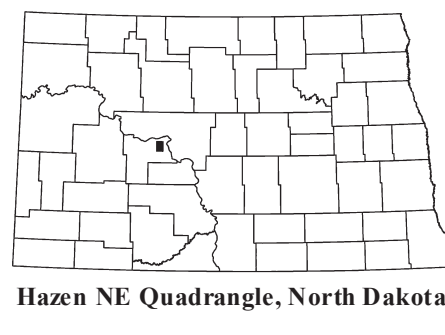
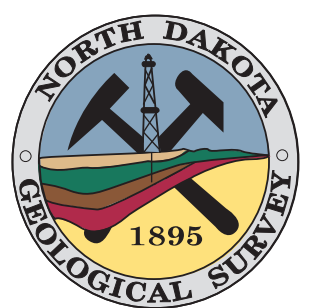
Geologic Symbols

-  Extent of Local Lignite Reserves
-  Data Points
Includes Coal Exploration NDGS/USGS drill holes, Sub-surface Mineral drill holes, Oil & Gas drill holes, and NDSWC drill holes.
-  Drill Hole Numbers
-  Thickness (in feet) of Mineable Lignite
Thickness in () signifies two beds of coal.

Coal thicknesses were determined by interpretation of electric logs from individual drill holes. Gamma and density logs were typically available for coal exploration holes but, oil wells were often limited to a gamma log run through surface casing.

Other Features

-  State Highway
-  Unpaved Road



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