

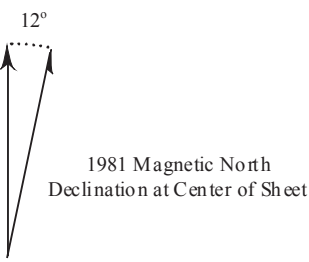
Dickinson 100K Sheet, North Dakota

# Lignite Reserves

## Dickinson 100K Sheet, North Dakota

Grassy Butte	Killdeer	Hazen
Belfield		Glen Ullin
Bowman	Mott	Elgin

Adjoining 100K Maps



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There are just over one billion tons of economically mineable lignite within the Dickinson 100k Sheet (Murphy et al., in press). As much as 800 million tons of this reserve may be attributable to the Lehigh bed which extends throughout the northwestern corner of this map sheet. The Lehigh coal is more than 25 feet thick north of Dickinson (JK Ranch Deposit) and is 15 to 17 feet thick in the South Heart area (Murphy et al., 2000). JK Ranch (356 million tons), Belfield (201 million tons), West Dickinson (158 million tons), and Duck Creek (92 million tons) are the largest deposits in this map sheet (Murphy et al., in press).

The Lehigh bed is overlain by the Dickinson bed, both seams were mined in the Dickinson area. Underground mining began in the Lehigh area in the 1880s and switched to surface mining in the 1940s. The last coal mine to operate in Stark County was the JK Ranch mine which ceased operation in 1990. Great Northern Properties is currently studying the feasibility of establishing a coal mine and constructing a power plant south of the town of South Heart.

References  
Murphy, E.C., Kruger, N.W., and Goven, G.E., 2000, The major coals in Billings, Golden Valley, and Stark counties, North Dakota: North Dakota Geological Survey Open-File Report 00-1, 42 p.  
Murphy, E.C., 2006, in press. The Lignite Reserves of North Dakota: North Dakota Geological Survey Report of Investigation No. 104.

### UNIT DESCRIPTIONS

Geology Undifferentiated

Area of Mined Lignite

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-typicallyoccurring in less than two beds, a minimum individual bed thickness of at least 2.5 feet, a ratio of overburden to coalthickness 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 wells, and NDSWC drill holes.

### Other Features

- |                             |                    |
|-----------------------------|--------------------|
| Water                       | County Boundary    |
| Water - Intermittent        | Interstate Highway |
| Water - Inundated           | State Highway      |
| River/Stream - Perennial    | Paved Road         |
| River/Stream - Intermittent | Unpaved Road       |
| Section Corners             |                    |

Scale 1:100,000

0 1 2 3 4  
Miles

Mercator Projection 1927 North American Datum  
Standard parallel 46°30' Central meridian 102°30'  
USGS NED Shaded Relief - Vertical Exaggeration 9x

The North Dakota Geological Survey can publish on demand 1:24,000 scale quadrangle maps (24k - c series) of the mineable coal deposits in the Dickinson 100k sheet. These maps would include information on mineable coal thickness.

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