

Lignite Reserves

Washburn SW Quadrangle, North Dakota

Edward C. Murphy
2008

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.

The boundaries of these economic coal deposits were modified from a map provided by the Falkirk Mining Company.

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.

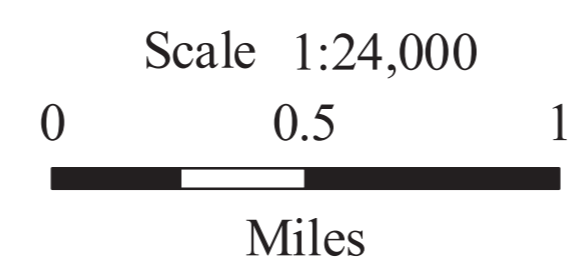
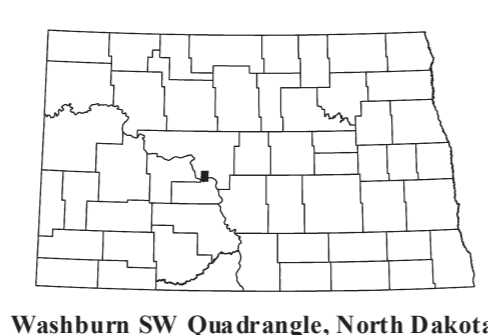
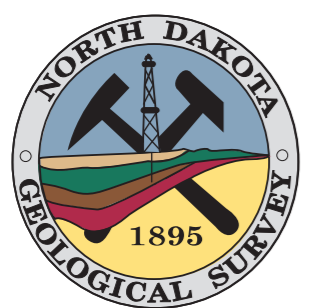
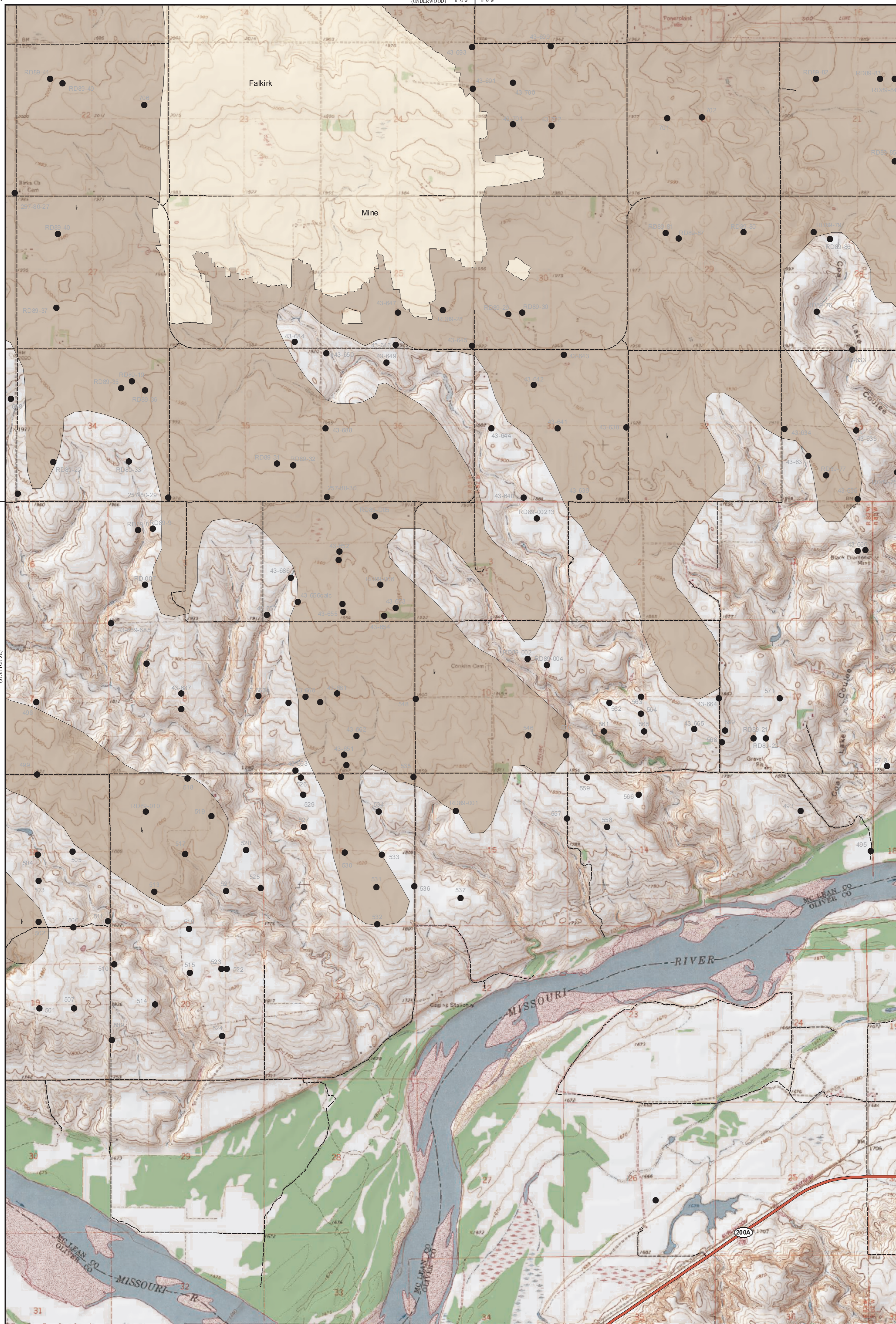
Coal thicknesses were determined by interpretation of electric logs from individual drill holes. Gamma and density logs were typically available for coal exploration holes but, oil wells were often limited to a gamma log run through surface casing.

Other Features

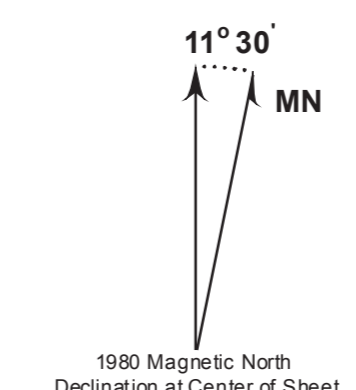
 State Highway

 Paved Road

 Unpaved Road



Lambert Conformal Conic Projection Standard Parallels 47° 15' 00" and 47° 22' 30"
1927 North American Datum NGVD 1929
USGS 7.5 Minute Topographic Map Contour Interval 10 Feet
Road Layer Rectified to 2003 NAIP Digital Orthophoto



This project was supported by, in part by the U.S. Geological Survey, Department of Interior, under assistance awards 02ERTAG0016 and 05ERAG0053.