North Dakota Geological Survey
Geologic Investigations No. 59
Bakken Formation Map Series: Sheet 2
2008

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Isopach of the Upper Bakken Shale

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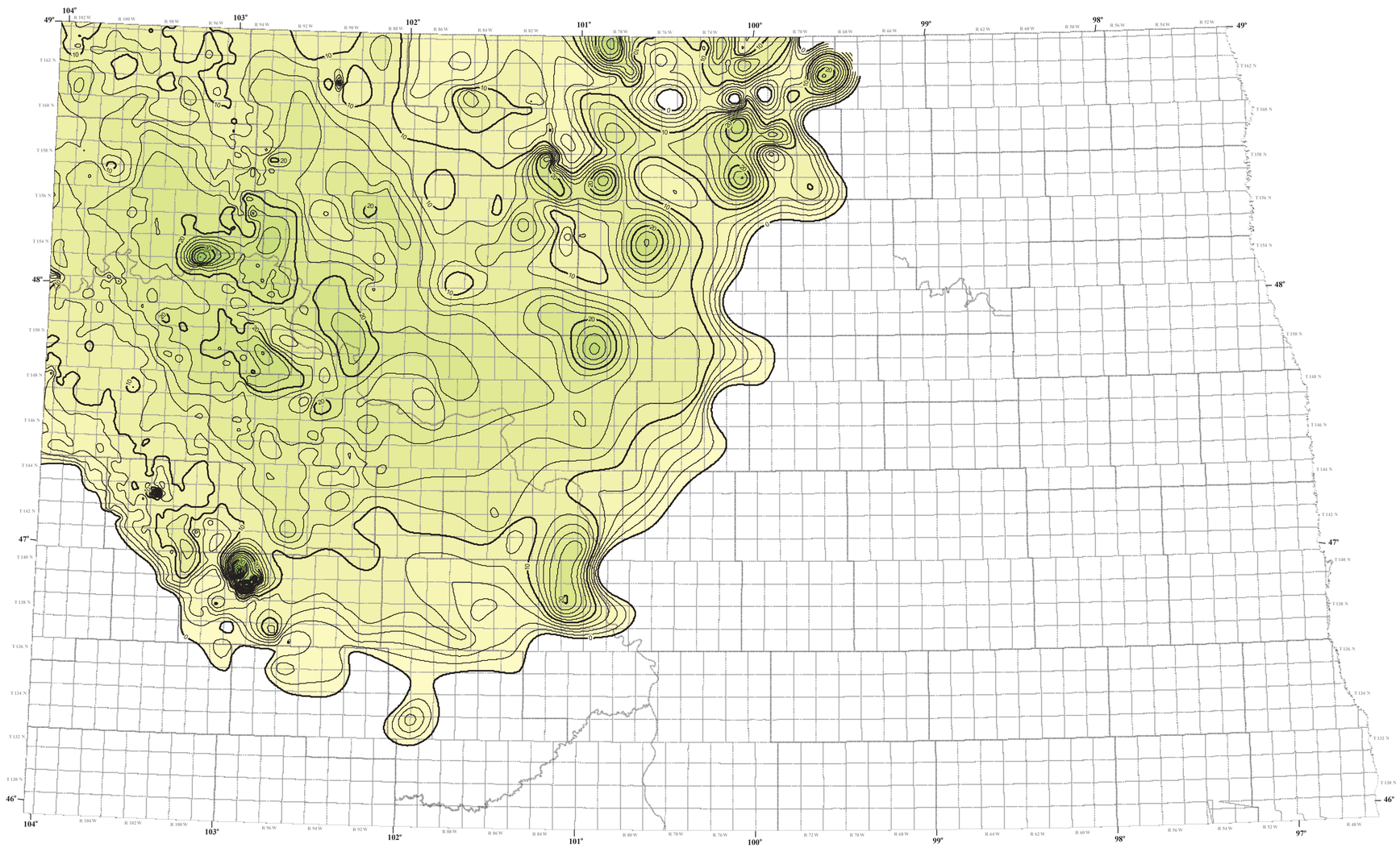

ISOPACH OF THE UPPER BAKKEN SHALE

The maximum extent of the Bakken seas is represented by the upper Bakken shale. This shale attains a maximum thickness of 23 ft (7 m) within a broad, poorly defined depocenter situated along the eastern side of McKenzie and Dunn counties (see Map). In the vicinity of the Dickinson Lodgepole mounds however, the upper shale reaches a local maximum thickness of 58 ft (18 m). The Bottineau County sub-basin is readily apparent on the upper shale map by its irregular distribution of isolated thick sections that are probably related to Prairie salt tectonics.

The upper Bakken shale is laminated to massive with poorly-sorted beds of silt-sized material. The upper shale is organic rich and consists of minor amounts of clay, silt, and dolomitic grains. However, it lacks the crystalline limestone and siltstone that is frequently found in the lower shale. Sedimentary structures within the upper shale range from thinly laminated beds to massive, poorly-sorted beds of silt-sized material. A lag rich in conodonts, fish bones, teeth and phosphatic particles is often found along the basal contact of the member.

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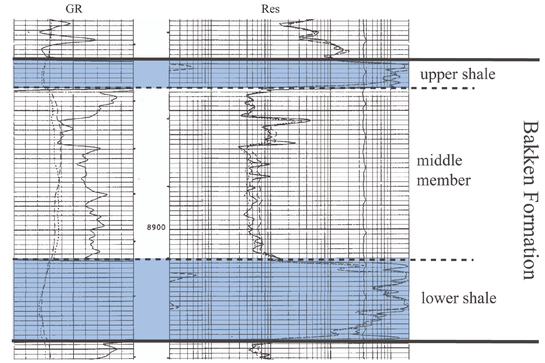

Typical Log

Explanation

- Thickness of the Upper Bakken Shale (in feet)
- Township Boundaries
- County Boundaries

Scale 1:1,000,000

0 20 40 60 80
Miles

0 20 40 60 80
Kilometers

North American Datum 1927 Lambert Conformal Conic

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