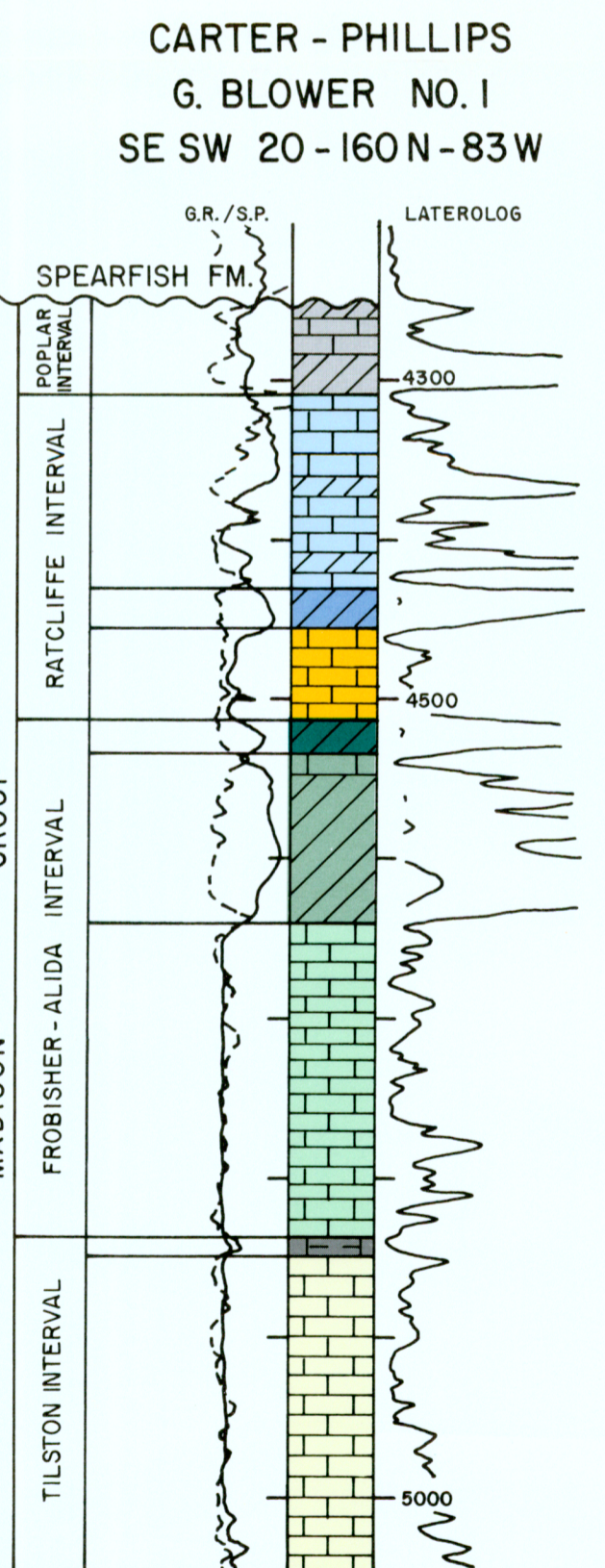
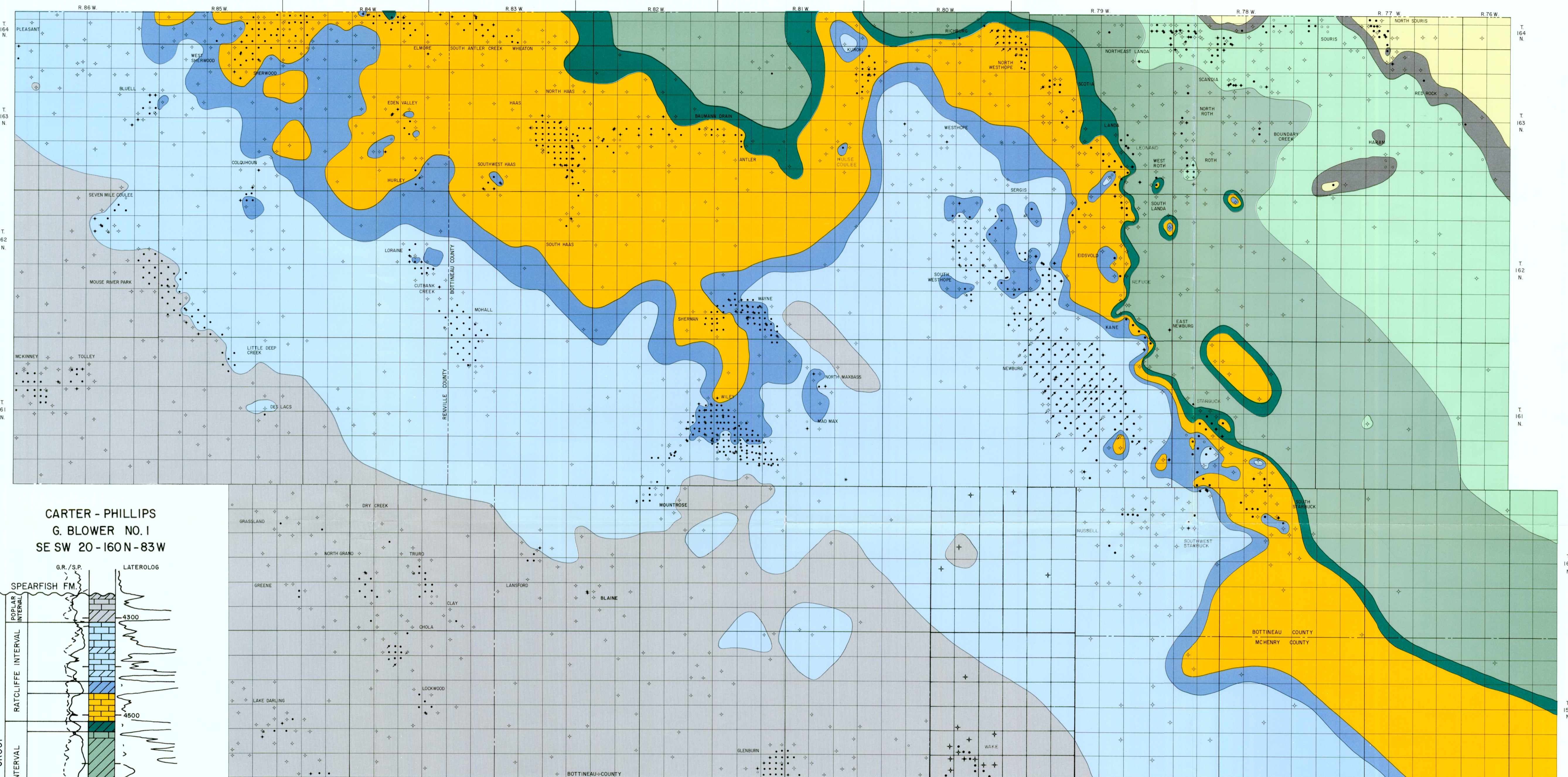


MADISON SUBCROP - NORTH CENTRAL NORTH DAKOTA

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 1986



DISCUSSION

The map area (Twp159-164N, Rs76-86W) lies in north-central North Dakota along the Canadian border. This map is a revision of a previous subcrop map (1965) and reflects the changes due to subsequent drilling and changes in the terminology applied to the Madison Formation.

All wells that were completed as of October 1, 1986 were plotted on the map, even though some of them did not provide data for the subcrop. Mechanical logs were available for most, but not all wells, and all available logs were used. In some cases, where the wells penetrated only a few feet of Madison, the interval or subinterval could not be determined. Many wells within the study area have a well-developed secondary anhydrite at the unconformity. Where this anhydrite is present the rock was assigned to the appropriate stratigraphic unit.

The terminology applied to the Madison is that currently in use by the North Dakota Geological Survey and is a revision of the terminology of the Saskatchewan Geological Society (1956) as proposed by Smith (1960, p. 19) and subsequently published by Bluemle and others (1986). The log of the Carter, Phillips-G. Blower No. 1 well was selected to show the log characteristics of the marker beds used for subdivision of the Madison Formation. Informal intervals present in the map area are Poplar, Ratcliffe, Frobisher-Alida and Tilston. These intervals were further subdivided into subintervals for added detail on the map. Informal names for most of these subintervals are indicated on the adjoining log.

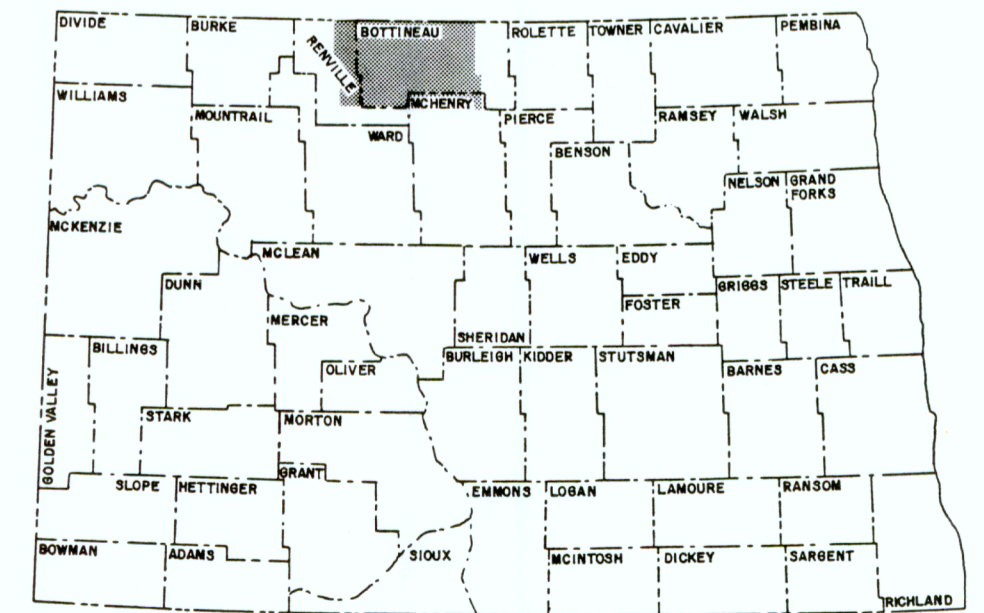
The map indicates a synclinal area is present in Twp160-163N, Rs79-81W. The western edge of this synclinal area is closely coincident with the present edge of the Devonian salt. It is assumed that dissolution of the Prairie salt and resultant collapse of the overlying beds is responsible for formation of the synclinal area.

SELECTED REFERENCES

- Anderson, S. B., and Carlson, C. G., 1965, Madison subcrop-Spearfish isopach map-Bottineau area: North Dakota Geological Survey Report of Investigation 30.
- Bluemle, J. P., Anderson, S. B., Andrew, J. A., Fischer, D. W., and LeFever, J. A., 1986, North Dakota Stratigraphic Column: North Dakota Geological Survey Miscellaneous Series 66, 2 sheets.
- Saskatchewan Geological Society, 1956, Report of the Mississippian names and correlations committee: Regina, Saskatchewan.
- Smith, M. H., 1960, Revised nomenclature for the Williston basin (abstract): American Association of Petroleum Geologists Bulletin, v. 44, p. 959-960.

EXPLANATION

- OIL WELL
- ABANDONED PRODUCER
- ⊕ PRESSURE MAINTENANCE, WATER INJECTION
- ◇ DRY HOLE



LOCATION MAP