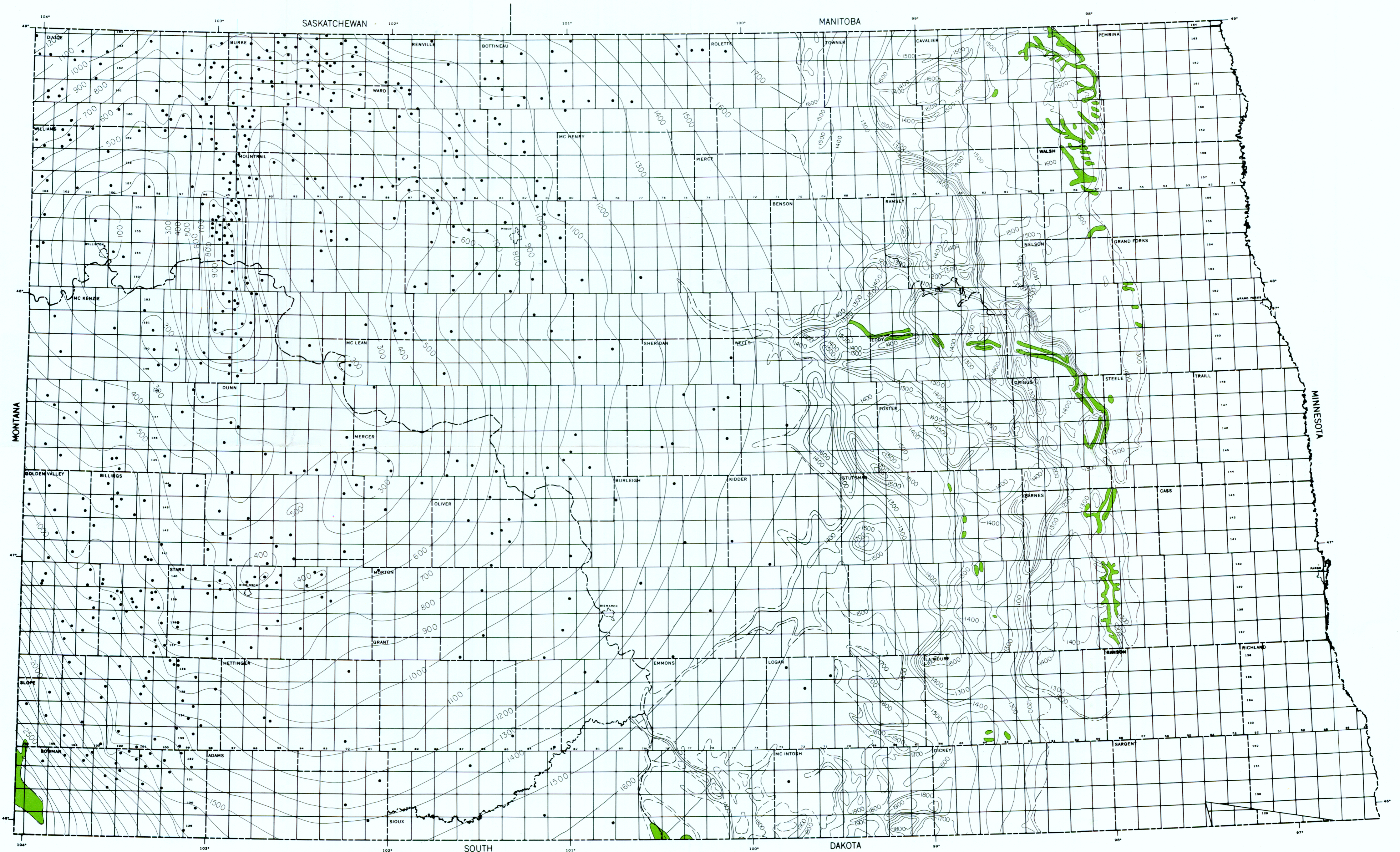
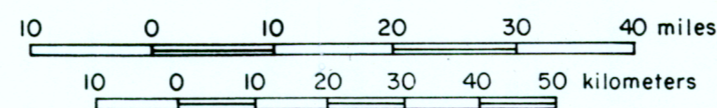


STRUCTURE MAP ON TOP OF THE CRETACEOUS PIERRE FORMATION IN NORTH DAKOTA

by C. G. Carlson 1982



Scale 1:1,000,000



- PIERRE FORMATION AT SURFACE
- TOPOGRAPHY TOP OF PIERRE FORMATION
- STRUCTURE TOP OF PIERRE FORMATION
- EASTERN LIMIT OF PIERRE FORMATION
- EASTERN LIMIT OF FOX HILLS FORMATION
- CONTROL POINTS FOR STRUCTURE

This map shows the elevation, in feet above sea level, of the top of the Cretaceous Pierre Formation in North Dakota. Throughout the western part of the state the Pierre Formation is conformably overlain by the Cretaceous Fox Hills Formation, except in southwesternmost North Dakota along the Cedar Creek Anticline, where it is exposed at the surface (green area). In eastern North Dakota, where the Fox Hills Formation is absent (east of the dashed line), the Pierre Formation is unconformably overlain by Quaternary Coleharbor Group sediments of glacial origin. In this area, the upper part of the Pierre Formation has been removed by erosion that occurred prior to and during the glacial epoch so that the top of the formation is a topographic rather than a structural top. In some places, especially in eastern North Dakota along the edge of the Red River Valley, shale of the Pierre Formation is exposed at the surface (areas shown in green). Many of these exposures are too small to show on a map of this scale and the shapes of the areas of exposure as shown on the map are generalized.