GEOLOGIC MAP OF WISCONSIN

SHOWING

ARTESIAN CONDITIONS AND ELEVATIONS OF THE PRE-CAMBRIAN

BY

SAMUEL WEIDMAN

Geology based on previous work of the Wisconsin and United States Geological Surveys

Scale 1/1000000

10 0 10 20 30 40 Miles

0 0 10 20 30 40 50 Kilometers

LAKE SUPERIOR

LAKE MICHIGAN

ILLINOIS

THE APOSTLE ISLANDS

LEGEND

DEVONIAN

Milwaukee Formation (*chiefly shale with some dolomite; about 130 ft. thick*)

Unconformity

SILURIAN

Niagara Dolomite (*including the overlying Waubakee limestone beds and underlying "Clinton" iron ore; usually 300 to 600 ft. thick*)

Unconformity

"Cincinnati Shale" (*includes Maquoketa shale in S. W. Wis. 160 ft., and "Maquoketa" and Richmond shales in E. Wis.; 250 to 500 ft.*)

Unconformity

ORDOVICIAN

Galena Dolomite (*including Decorah shale, and Platteville limestone in western Wisconsin and dolomites of similar ages in eastern Wisconsin; 200 to 250 ft. thick*)

Unconformity

St. Peter Sandstone (*chiefly pure sandstone, but occasionally some shale; quite variable in thickness, 0 to 200 ft.*)

Unconformity

Lower Magnesian Dolomites (*includes the Shakopee dolomite 80 ft., unconformably overlying the Oneota dolomite 190 ft.; mainly dolomite but also some shale and sandstone*)

CAMBRIAN

Upper Cambrian or St. Croixan Sandstone ("*Potsdam*", *including Madison and Mendota beds (Ozarkian) and underlying true Cambrian Jordan, St. Lawrence, Franconia, Dresback, Eau Claire and Mt. Simon formations; total thickness usually 500 to 1,000 ft.*)

Unconformity

KEWEENAWAN

Lake Superior Sandstones (*includes several sandstone formations with much shale; total thickness estimated at 22,000 ft.*)

Unconformity

Keweenawan Trap Rock (*includes gabbro and diabase, and basic lava flows with basic and acid intrusives; total thickness very great*)

Unconformity

PRE-CAMBRIAN

LAURENTIAN AND HURONIAN

Huronian Formations (*includes metamorphic sedimentary rocks—quartzites, slates, iron formations of Upper, Middle, and Lower Huronian series; thickness in places over 5,000 ft.*)

Unconformity

Huronian and Laurentian (*chiefly igneous rocks—granites, gneisses, gabbros, porphyries; includes large areas of Huronian sedimentary rocks in regions not yet surveyed in detail.*)

Border of Wisconsin Drift

Border of Old Drift (Pre-Wisconsin Drift)

The drift covered portion of the State lies east and north of the drift border, the Driftless Area being in the southwestern part of the State

750 — *Contours at top of the impervious Pre-Cambrian formations and at base of the Upper Cambrian water bearing formations; figures show elevations above or below sea level; contour interval 250 ft.*

900 — *Artesian contours showing head of the water under pressure in the St. Peter and Upper Cambrian (Potsdam) sandstone formations. Contour interval 100 ft.*

Flowing artesian wells, usually deep, in the St. Peter and Upper Cambrian sandstones

Flowing artesian wells, usually shallow, mainly in surface deposits, occasionally in the Niagara and other formations

A. HOEN & CO. BALTIMORE