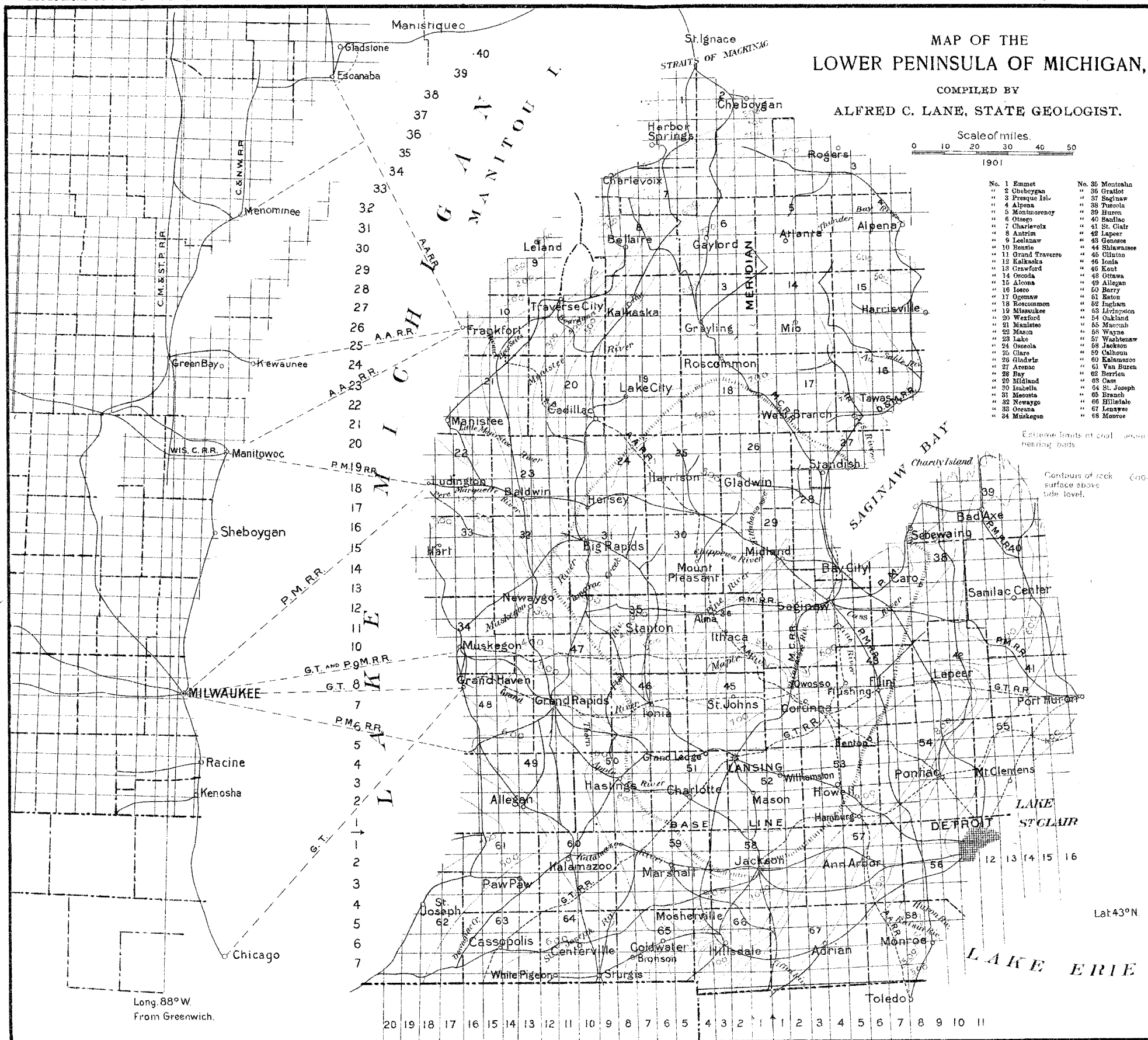




Board of
Geological Survey
For 1902

HON. A. T. BLISS, President
HON. PATRICK H. KELLEY
HON. DELOS FALL, Sec'y

Geological
Map of Michigan



Copyright
1902
by
Silas Farmer

Scale:
1 in. equals
56 miles.

COMPILED AND REVISED BY
ALFRED C. LANE
State Geologist

EXPLANATIONS

(Nearly equivalent names in italics)

FORMATION.

Pattern

ARCHEAN--Precambrian

Laurentian, *Basement complex*, and granitic rocks. Granite, serpentine, gold, and other veins.

Huronian, *Lower Algonkian*, Iron-bearing rocks. Iron ores, graphite, slate, jaspilite, etc.

Lower Keweenaw, *Copper-bearing rocks*, native copper, nickel and copper ore, porphyry, melaphyre and conglomerate, road metal.

Line between Cambrian and Archean uncertain

Upper Keweenaw and Lake Superior Sandstone.

Potsdam: Brownstone and redstone

SILURIAN

Calciferous, *Lower Magnesian* and *St. Peter's*. Sandy dolomites.

Trenton, including also Birdseye and Chazy. Dolomite and limestone somewhat oil-bearing.

Lorraine and Utica, *Hudson and Cincinnati*. Blue and black shales, with some limestone.

Niagara, including *Guelph* and probably *Clinton*. White dolomites and limestone, gas (?)

Monroe, including *Waterslime, Salina, Onondaga*. Dolomites with rock salt, gypsum, glass-sand, strontium minerals, brines and mineral waters.

In Monroe County the full line indicates the course of the Sylvania sandstones, the dotted line a bed of oolite.

DEVONIAN

Dundee, *Carver*, *Upper Helderberg*. Mineral (Sulphur) water, oil and gas signs, limestone for chemical uses.

Traverse, *Hamilton* and *Marcellus*. Some pure limestone in reefs, some dolomite, much blue argillaceous limestone, shales, cement material, oil and gas signs.

Antrim, *Ohio, New Albany, Genesee, Portage* and *Chemung*. Mainly black shale, often bituminous and cause of vain efforts for coal, oil and gas.

CARBONIFEROUS

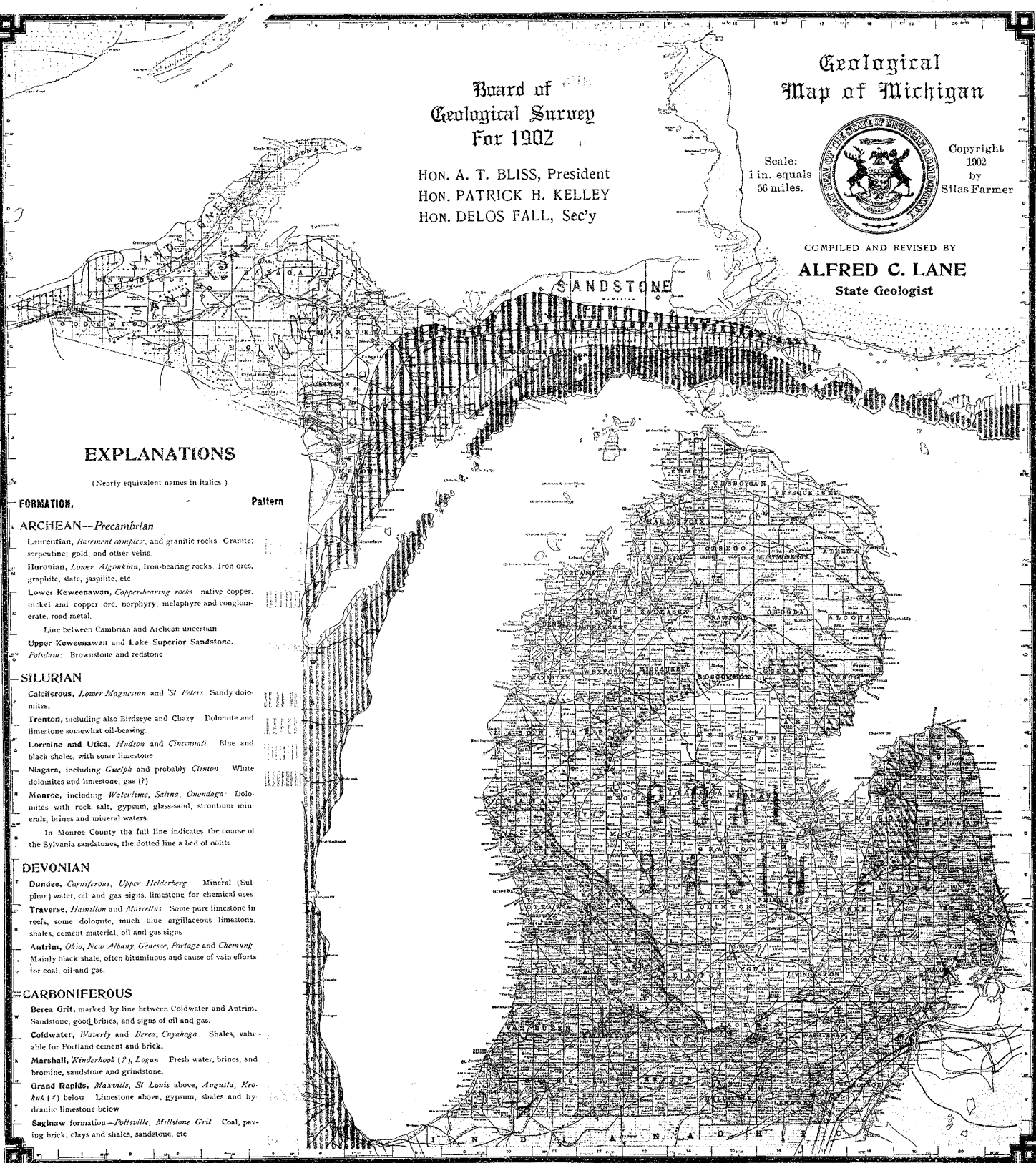
Berea Grit, marked by line between Coldwater and Antrim. Sandstone, good brines, and signs of oil and gas.

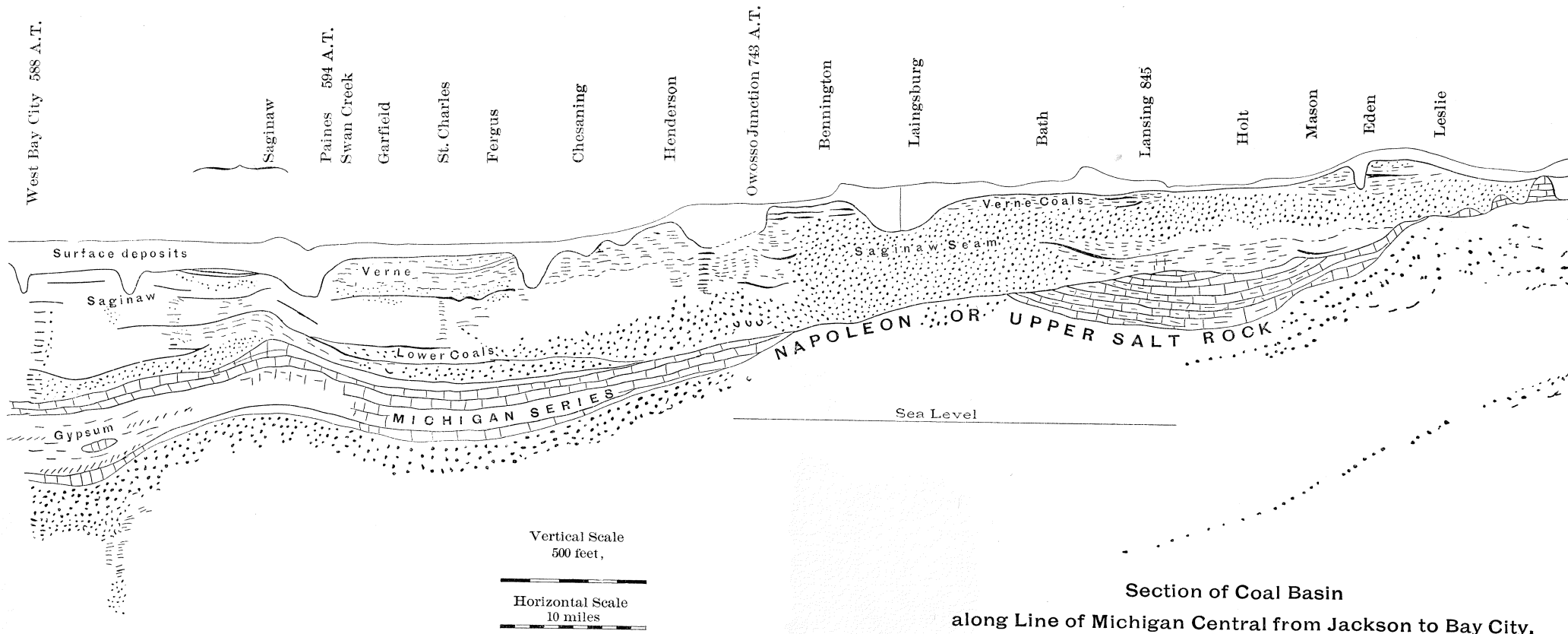
Coldwater, *Waverly* and *Berea, Cuyahoga*. Shales, valuable for Portland cement and brick.

Marshall, *Kinderhook* (?), *Logan*. Fresh water, brines, and bromine, sandstone and grindstone.

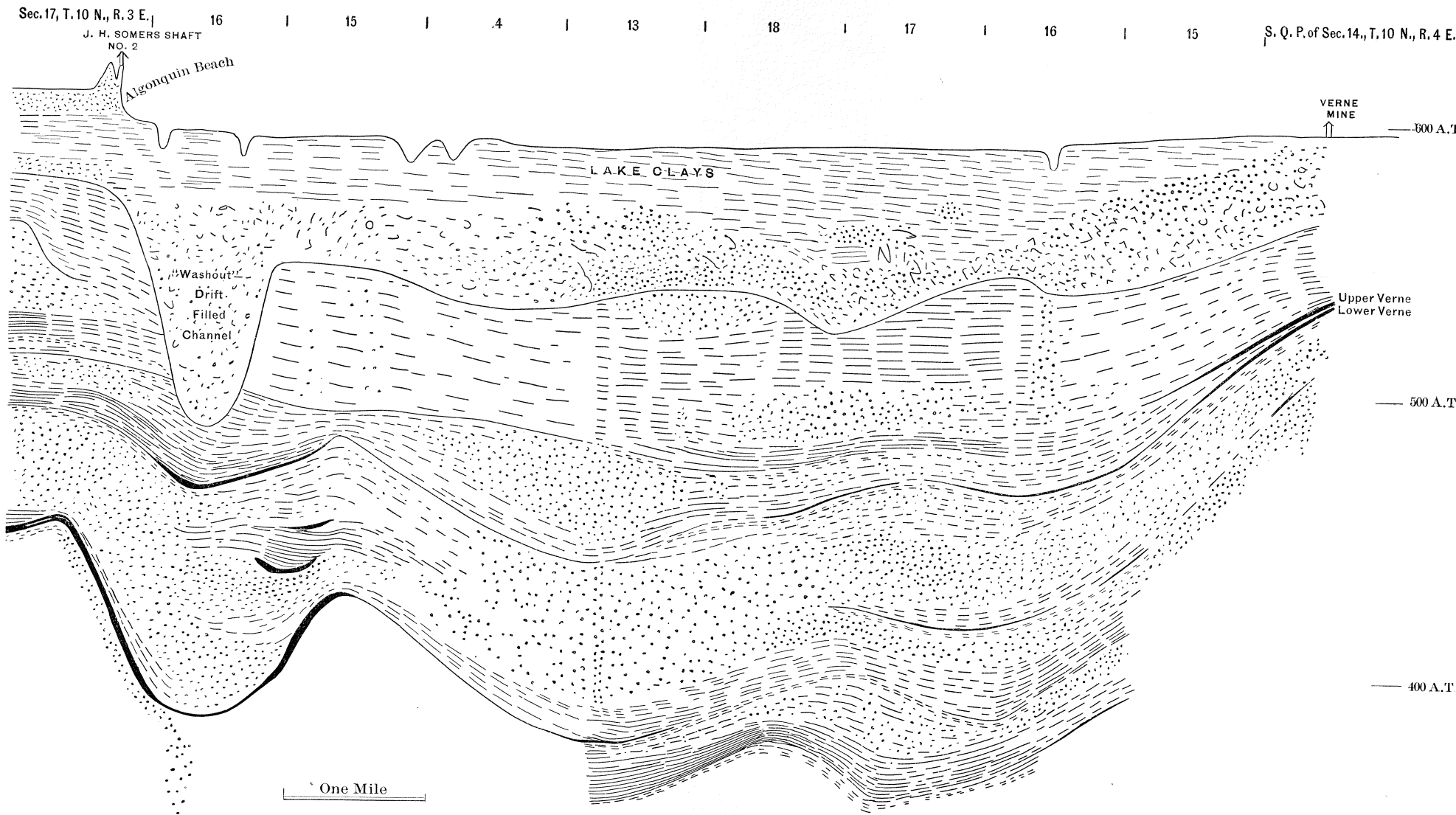
Grand Rapids, *Maxville, St. Louis* above, *Augusta, Kekuk* (?) below. Limestone above, gypsum, shales and bydraulic limestone below.

Saginaw formation--*Pottsville, Millstone Grit*. Coal, paving brick, clays and shales, sandstone, etc.

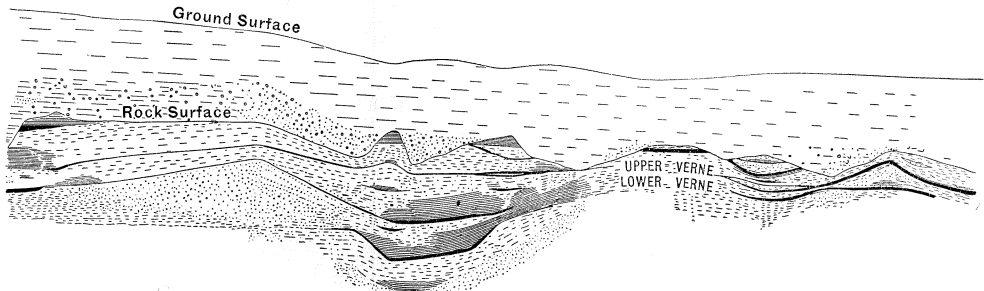
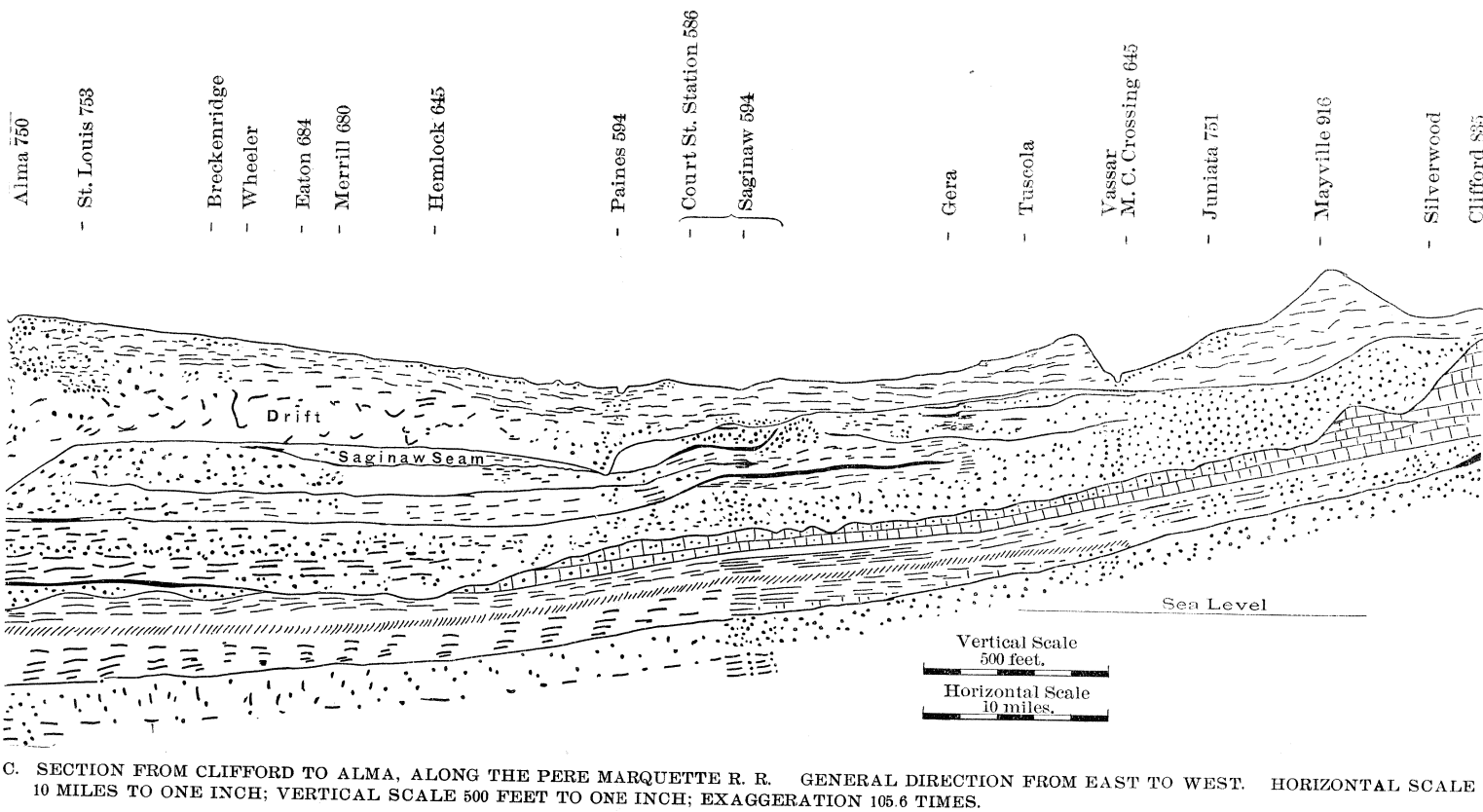
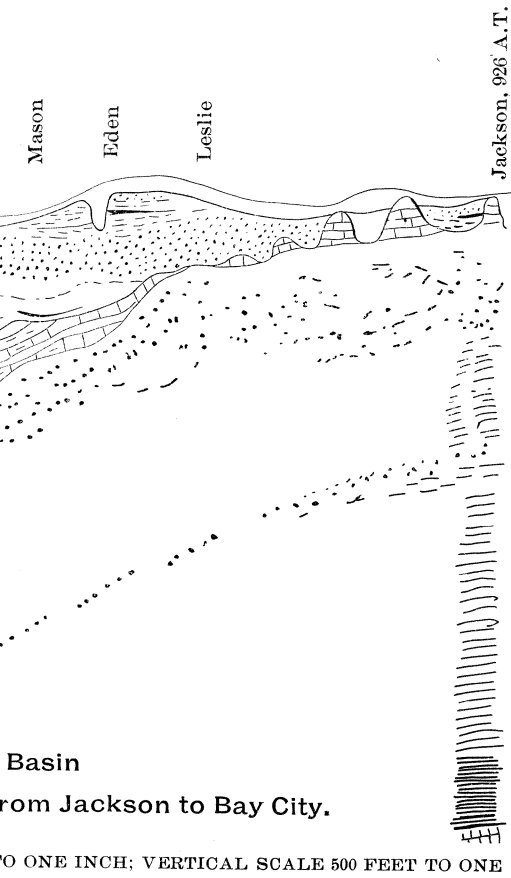




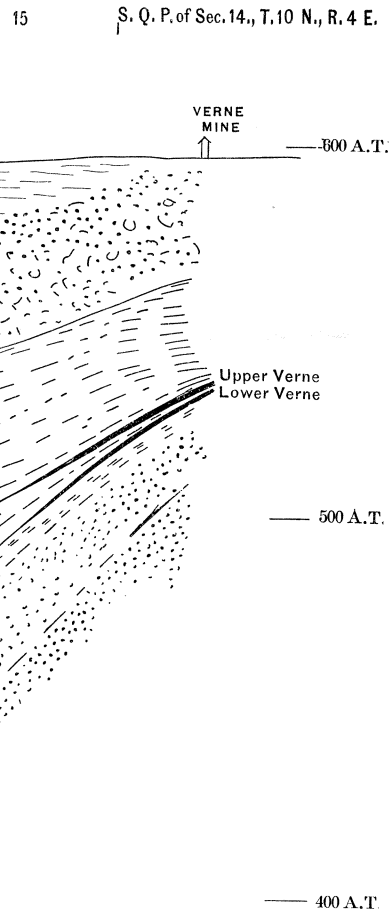
A. SECTION FROM JACKSON TO BAY CITY, FOLLOWING MICHIGAN CENTRAL RAILROAD. GENERAL DIRECTION EAST OF NORTH. HORIZONTAL SCALE 10 MILES TO ONE INCH; VERTICAL SCALE 500 FEET TO ONE INCH; EXAGGERATION 105.6 TIMES.



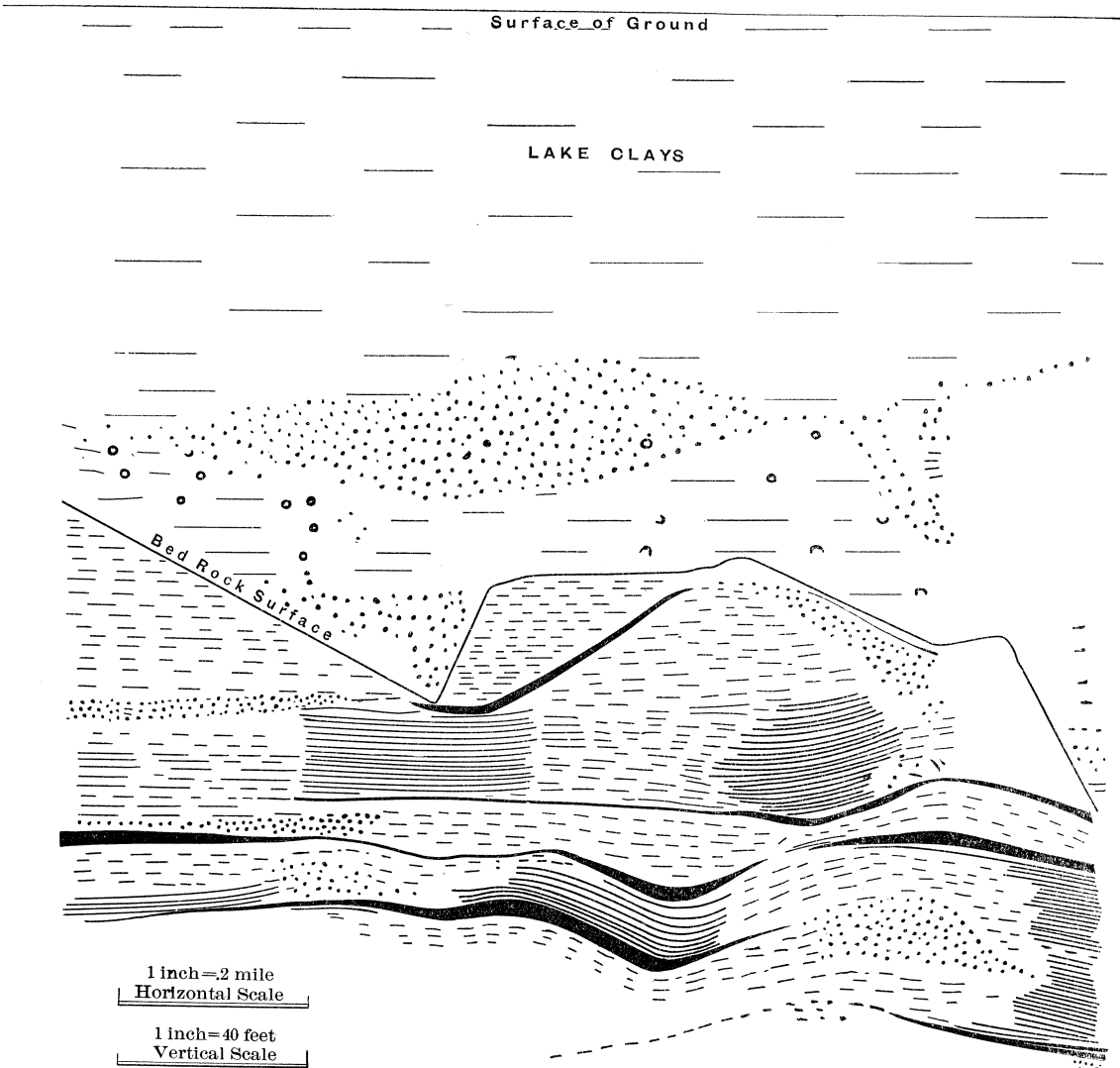
B. SECTION FROM ST. CHARLES, A LITTLE SOUTH OF EAST, TO THE VERNE MINE, SHOWING THE SUPPOSED RELATION OF THE VERNE COALS TO THE SEAMS MINED AT ST. CHARLES. HORIZONTAL SCALE ONE MILE TO THE INCH; VERTICAL SCALE 50 FEET TO THE INCH; EXAGGERATION 105.6 TIMES.



D. SECTION RUNNING N. 30° E. FROM THE AMELITH SHAFT TO THE CENTRAL AND MICHIGAN MINES OF MONITOR TOWNSHIP. HORIZONTAL SCALE 1 MILE TO ONE INCH; VERTICAL SCALE 200 FEET TO ONE INCH; EXAGGERATION 26.4 TIMES.



33° E. →
THE SEAMS MINED AT ST. CHARLES.



E. SECTION FROM S. W. 1/4 OF S. E. 1/4 OF SEC. 15, T. 13 N., R. 4 E., N. 37° W., FROM THE AMELITH SHAFT TOWARD BAY SHAFT No. 2. HORIZONTAL SCALE 0.2 MILE TO ONE INCH; VERTICAL SCALE 40 FEET TO ONE INCH; EXAGGERATION 26.4 TIMES.