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Vertical and Lateral Distribution of Hydrothermal Dolomite Reservoirs in Trenton-Black River Carbonates of New York

Most of the producing Black River hydrothermal dolomite reservoirs in New York are in a relatively small trend that extends from Steuben County to Chemung County in the south central part of New York State. Most productive wells are dolomitized in the uppermost clean carbonates in the Black River and variably throughout the lower parts of the Black River and rarely in the Trenton Group. The purpose of this poster is to show that hydrothermal dolomite occurs in the same stratigraphic intervals far to the north, east and west of the current producing area. All wells that penetrate the Black River with density logs were used to find occurrences of dolomite. This analysis shows what is interpreted to be tight hydrothermal dolomite occurs as far east as Otsego County (approximately 100 miles east of the current production), and as far west as western Cattaraugus County (approximately 90 miles west of current production). The occurrence of dolomite suggests that the same processes have occurred in these locations that made the reservoirs in the south central part of the State. To the north, dolomite was found in the Blue Tail Rooster and Auburn Geothermal Fields in Cayuga and Onondaga Counties (50 miles northeast of current production). The well at the Auburn Geothermal Field has been producing behind pipe from the dolomitized interval for more than 20 years. This work suggests that armed with the appropriate model, explorationists may soon find Black River hydrothermal dolomite reservoirs across much of central and western New York.