muds of the passage beds and Utica advanced on the region from the east, and Trenton conditions persisted longer westward. In other words, that, while the upper Trenton was accumulating in comparatively clear waters, in the Trenton falls region, incursions of mud were producing the lithologic combination of the passage beds about Middleville and eastward, while yet farther east shales were being laid down. This is by no means a new suggestion, though the stratigraphic evidence for it has not been so marshaled hitherto. Even if it be granted, it does not fully explain the sudden increase in thickness at Trenton falls, when compared with the much more trivial variations which characterize the whole length of the Mohawk valley below Canajoharie.

Concerning the formation along the west side of the Adiron-dacks, our knowledge is very fragmentary. As has been stated, the heavy drift cover on this side of the region is an effective bar to satisfactory areal work. Well to the north, about Watertown, conditions are much better, and the Trenton is magnificently shown. Emmons's descriptions show that it has the same lithologic characters here as at Trenton falls and elsewhere, consisting partly of dark, fine grained, and partly of gray, crystalline limestone, the former often interleaved with shales; also that often the summit is gray and massive, as at Trenton falls, which is not the case in the Mohawk and Champlain valleys. He states the thickness at Watertown to be about 300 feet, which, judging from his estimates of thickness of the rocks in other parts of the second district, is likely to be an underestimate.

Quite fortunately the gas wells drilled within the past 20 years to the west and southwest of the region help to bridge the gap in the sections and furnish important data in regard to the thickness of the formation. The wells at Pulaski and Sandy Creek in Oswego county, which are 55 miles northwest of Trenton falls, and respectively 25 and 32 miles to the west of south of Watertown, have been described, and the sections interpreted by Professor Orton.² As is often the case, it is difficult to determine precise formation boundaries from the records, owing to a variety of causes. At Sandy Creek the thickness of the Trenton is uncertain but seems surely as much as 600 feet. At Pulaski the wells

¹Geol. N. Y. 2d Dist. p.387-88.

²N. Y. State Mus. Bul. 30, p.434-48.