

pickel in Marmora will be for ever indebted to him. For him and his friends we bespeak the kind consideration and aid of all mining men in the district.

SALT.

The Province of Ontario is possessed of the most extensive deposit of rock salt which has yet been proved on this continent, or in fact in Europe. Not only are the beds of salt remarkable for their great extent, but equally so on account of the exceptional purity of the mineral itself. The counties of Bruce, Huron and Lambton are underlaid to a considerable extent by the saliferous strata. At Goderich the salt was first discovered in May, 1866, at a depth of 1,010 feet by a boring which was made in search of petroleum. The bore-hole was carried through 41 feet of the salt-bearing stratum, of which 30 feet were solid rock salt. Other wells were soon put down in the same neighborhood and the adventurers were invariably rewarded with salt, from which they pumped up a supply of saturated brine. About three years later a boring was made at Kincardine, thirty miles north of Goderich, and the salt rock reached at a depth of 900 feet. In the township of Warwick, about sixty miles south of Goderich, the saliferous strata were struck at a depth of 1,220 feet and brine of full strength obtained, although not equaling in purity those of Goderich and Kincardine. To the eastward successful wells were sunk at Clinton and Seaforth, the latter place being about 20 miles south-east of Goderich. The productive salt measures have therefore been proved over an area of 1,200 square miles, and their limits have not yet been determined, except to the northward where the base of the Onondaga formation crops out at the mouth of the Saugenee river.

All of these borings were made by the ordinary percussion drill, used so generally in the oil regions, but through the enterprise of Mr. H. Y. Attrill, the diamond drill has been brought into use at Goderich and a depth reached in December last of 1,517 feet. This machine brings up a solid core of all the strata through which it passes, thus furnishing the geologist and miner with an exact section of the rocks underlying. These cores were carefully preserved and sent to Dr. T. Sterry Hunt, F. R. S., for examination. Dr. Hunt has already given, in the reports of the Geological Survey, a very detailed description of the Onondaga formation, but at the last meeting of the Institute of Mining Engineers he read a paper on the Goderich salt region, giving the result of his later observations. The following is the record of the salt-bearing strata, commencing at a depth of 997 feet:

	Feet.	Total depth.
Rock salt, first bed.	31	1,028 ft
Dolomites, with marl towards the base	32	1,060
Rock salt, second bed	25	1,085
Dolomite	7	1,092
Rock salt, third bed	35	1,127
Marl, with dolomite and layers of anhydrite	80	1,207
Rock salt, fourth bed	18	1,225
Marl and dolomite	7	1,230

	Feet.	Total depth.
Rock salt, fifth bed.	13	1,243
Marls, soft red and bluish with beds of anhydrite.	136	1,379
Rock salt, sixth bed.	6	1,385
Marls, soft green and greyish, with dolomite and anhydrite	132	1,517

There is thus proved here a thickness of 126 feet of solid rock salt, and the magnesian limestones of the underlying Guelph formation not yet reached! This is equal to 365,000 tons per square acre, or the enormous quantity of 233,600,000 tons of salt underlying each square mile. It is evident that the salt supply of western Ontario is likely to last for generations yet to come. The beds referred to as the second and third, are very pure salt, fit for mining and sending to market after being crushed to the necessary fineness. A bench of 10½ feet thick is of extraordinary purity, containing, by analysis, 99½ per cent of salt. The Syracuse, Saginaw, and Turks Island salt contain from 1½ to 2½ per cent of impurities. At present salt is manufactured extensively at Goderich, Kincardine, Clinton, and Seaforth, from saturated brine pumped up from the salt measures. This is boiled down in large open pans, the salt raked out and thrown into bins to dry. The cost by this method averages from \$3.50 to \$4.00 per ton; but Mr. Attrill proposes to sink a shaft down to the rock salt and mine it like coal; the rock salt to be crushed and graded by proper machinery to suit the various requirements of consumers. It is estimated that salt can be mined, crushed and put on board vessels or cars for about \$1.25 per ton. The sinking of a shaft to the depth of 1100 feet, so near to the lake, will require not only a very large expenditure of capital, but will also demand a very high degree of engineering skill.—*Monetary Times.*

The exports of salt during the fiscal year ending the 30th June, 1876 were 870,437 bushels, value \$90,216.

"Everyone," says the *Monetary Times*, "understands the necessity of salt for domestic purposes, but few have any idea of its enormous consumption in the arts and manufactures. It is estimated that fully half a million tons are consumed annually by British metallurgists and chemical manufacturers." The materials for many manufactures into which salt enters are abundant in Canada, especially pyrites, which is the principal source of sulphuric acid.

SILVER.

No details have been received of operations in silver mining. The province of Ontario exported, during the fiscal year ending the 30th June, 1876, 691 tons of ore, value, \$584,738.

IRON.

Among the exports of Ontario, of the above mentioned year, appears an item of 14,279 tons of iron ore, value \$30,604.

PETROLEUM.

At an early day in the history of petroleum in Canada, the officers of the Geo-