

## Mining.

## NOVA SCOTIA GOLD MINING REVIEW.

The weather has again interfered with open air operations, but the reports from underground works continue encouraging. There is less demand for new investment, either in stocks or land, and prices of both have a falling tendency.

**SHERBROOKE.**—"Wentworth" reports:—The explorations of the Canada Co. are still perseveringly prosecuted. The Woodbine Co. have suspended operations, but it is understood only for a brief period, pending a meeting of the shareholders. The New York and Sherbrooke Companies staff is being lessened, Mr. Zwickel contemplating a return to Europe, while new machinery is being prepared for the mine. The Stanley Company have stopped work altogether. The Meridian Co. are prosecuting a shaft on the line of the Dominion lode, and their mill is going to work in a day or two on their own rock. The Metropolitan Co., which owe their success mainly to the good management of Captain James Warren, an English miner, have sent up 102 ozs. 7 dwts. of gold. A bar of 84 ozs., sent up in July, was not reported in the *Gazette*. They are now working on the south shaft, in which they have about two feet of pay ore. The Dominion mill is working satisfactorily.

**WINE HARBOR.**—The new developments in this district promise well.

**ISAAC'S HARBOR.**—The Mulgrave Co. represented by Mr. Balcum, sent up \$3000 worth of gold on the 20th ult.

**ECUM SECUM.**—The Atlantic Co. are pushing forward their works and have commenced erecting their crusher. They have thus far exposed twenty-nine lodes, and have sunk three shafts, two on the North lode, which is two feet thick and shows fine gold, and one on a fourteen inch lode running between walls of slate. A band of quartz seven feet wide, containing nine lodes, two showing gold, forms part of the exposed ground. They employ a force of twenty men at present, but as the work proceeds will increase their staff. The batteries have been supplied by Montgomery & Co., of Halifax, and the mill is being put up by Mr. McPherson, of Sherbrooke. The soil averages from two to six feet, and the road to the western field is in good condition. The journey from Halifax can be accomplished in two days. Mr. F. S. Andrews, the manager for the Atlantic Co., reports encouragingly of the prospects of alluvial washings being found in this district, and, having had experience in California, his opinion is entitled to some weight.

**TANGIER.**—The Strawberry Hill Co. have cleared up 108 oz. 12 dwts. from 31 tons of quartz, as the product of last month's work.

**RENFREW.**—The Ophir Co. are opening up the new lode lately spoken of, which still improves in depth. The Andrews lot is being worked to advantage. An experimental crushing from the Macdonald and Thomas lot gave 1 oz., 14 dwts., 15 grs. to the ton, and the lode shows well the deeper it is sunk upon. The Carnarvon Co. have about twenty men at work, and have laid bare several new lodes, which will soon be tested.

**MONTAGUE.**—The works of the Montreal Exploration Co. have been suspended for the season. The Albion Co. have not furnished any report.

**LAWRENCETOWN.**—The works of the Montreal Exploration Co. in this district, too, have been suspended for the winter. A property, consisting of forty-nine areas, belonging to Mr. E. M. Strange, and offering an extent of nearly half a mile on the lodes, worked by Messrs. Chapel & Werner, is placed in the market, or rather \$15,000 are sought to be raised for its proper development.

**UNIACKE.**—The Montreal Exploration Co. have suspended operations for the winter; not from any discouragement met with, but because the sum voted for preliminary works on their various properties at Uniacke, Lawrencetown, and Montague has been spent, and the season is unfavorable for

further prospecting. The Mayflower Co. have been industriously trenching, and exposed several veins of moderate size. The Westlake Co.'s mill is again running. The Queen Co. show the quality of their ore and the capabilities of the district by some handsome specimens at the Exhibition. The Brunswick Co. report a new lode, supposed to be the Macintosh. The Uniacke, Central, Prince of Wales, North St. Lawrence, and Montreal Companies have not reported. Mr. Burkner's large lode gave 9 oz., 12 dwts., 3 grs., from a crushing of 17½ tons. The Alpha Co. have ceased explorations, but the mill is fully employed on custom work, and next week will be fitted with a third battery.

**THE OVENS.**—Captain Cornwall and Mr. Clarke, of Boston, are trying to retrieve the character of this district. The former is going to some expense in the erection of a smelting furnace. The latter has bought up the Macdonald claims. Work on Mr. McCulloch's property is also spoken of as about to be resumed before winter sets in.

**GOLD RIVER.**—The property of the late Chester Co. will, we understand, be taken hold of and worked this fall by Canadian capitalists, and a mill put in operation forthwith.

**MUSQUODOBOIT.**—Rich specimens full of fine gold from this district, from the lode, were brought to town by Mr. Burkner, who has just returned from the district. Most of the veins run in slate. Three lodes are already opened: one 15 in., one 7 in., and one 5 inches in width. The slate shows fine gold freely. The present drawback to prospecting on this field is the great depth of soil.—*Halifax Mining Gazette*.

**COPPER.**—The proprietors of the Tilt Cove Mine, Newfoundland, estimate their shipments for this year at 8,000 tons.

**OIL DISCOVERIES.**—A reliable informant, just returned from an exploration tour in Cape Breton, relates the discovery of an oil spring there, but for reasons which can be appreciated, does not at present wish the precise locality to be named.

## QUICKSILVER VS. MELTED ZINC.

Successful gold mining comprises the possession of sufficiently rich gold quartz to pay the extraction and working, and the ability to extract the gold from the quartz economically and perfectly, in a few operations, and with as simple machinery as possible, requiring the presence of only such conditions as are anywhere at hand.

When we fairly examine the retentive faculty of quicksilver for gold, we find it very limited, indeed;—that the affinity acts on the perfectly pure surface of both—a minority of cases in reality and that a reduction in temperature so greatly—reduces the affinity, that it hardly exists below a temperature of 42° Fah. The result is that on an average only one half, or thereabout, of the gold is extracted by quicksilver from the ore; the rest is either carried away as flat-gold, by the water required for the batteries, or remains in the tailings. This fact, known to every intelligent operator, should alone be sufficient to point out the imperative necessity of devising other extracting agents for that great majority of ore, containing more than \$20 to \$25 per ton; but not rich enough to leave a profit by direct chlorination. Concentration of the sulphurets, for chlorination is at best a great loss in float-gold. Many localities, with rich quartz veins, have insufficient water for batteries within convenient distance, and for the greater part of the year the ore has to be hauled long distances, with heavy expenditure, to a mill-site with water, or the mine must be abandoned and lie idle.

The case therefore stands thus: What is required, is an extracting agent, that does the work complete, cheaper than chloride, and requiring no water to reduce the ore, except such as is needed for the engine.

Zinc, of all substances in existence, chloride not excepted, has the greatest affinity to gold. Its

action, in a melted state, on gold, is to instantaneously dissolve the same in any proportion. Its specific gravity, about 7, is sufficiently high to float all debris, not expecting sulphurets of iron, the constant companion of gold. It melts at a comparatively low temperature, and requires but little heat to retain its melted state. It is sufficiently volatile to permit of retorting, as in the use of quicksilver, but by a covered surface and a temperature below a dark red heat the loss by volatilization and burning is hardly appreciable, while the metal is obtained at a low price and in any quantity required. Thus we have ~~indeed~~ a material manageable and fulfilling the conditions required of a gold extracting agent in a high degree, higher than any other known.

The mode of applying it for this purpose was patented, April 7th, 1868, by the undersigned, for many years engaged in gold mining. It consists simply in gradually introducing the gold-bearing pulverized substance, below the surface, into a bath of melted zinc, which will immediately attack and dissolve nearly or every particle of gold, while the debris rises to the surface to be taken off. The mechanism is very simple and durable. Should sulphurets, in which particles of gold are so firmly imbedded as not to offer any contact even on the smallest point, prevent the extraction to such a degree, that it will pay to work it over by concentration, roasting and chlorination, it may be done. But all the gold, in the other lost as float-gold, and much more, is certainly already saved by the zinc. Dry crushers to be used in preference.

Millions of tons of tailings, now worthless waste might thus be worked profitably, and thousands of good mines not capable of profitable working by amalgamation or chlorination, could be made to yield fair profits. Millions of dollars annually would thus be saved to the country.

Gold mining throughout the country languishes for the want of such a radical improvement. The additional cost of extraction by zinc may be stated as about \$8 to \$12 per ton, or less than half of chlorination while it does the work fully or nearly as effectually, certainly infinitely quicker.—*Wall St. Journal*.

**THE INTERCOLONIAL COAL CO.**—The opening of the railway of the Drummond Colliery, at the works of the Intercolonial Coal Co. at Middle River, County Pictou, was celebrated on the first October. Sir Wm. E. Logan, the Honorable M. M. Jackson, U. S. Consul at Halifax, Major Norton, U. S. Consul at Pictou, and the Honorable Messrs. Howe, Keith, Robertson, and other distinguished guests, honored the occasion with their presence. The *Citizen* says:—"Operations were commenced in November, 1867, and since that time the Company have sunk a double slope on the seam, to the depth of 730 feet, with lateral galleries at intervals of from 200 to 300 feet, from which about 20,000 tons of coal have been brought to the surface, where it is ready for shipment—they have built a railroad over seven miles long, on which there are several large and costly structures and heavy cuttings—and have built a wharf 750 feet long, with 'shoots' at which five ships can be simultaneously loaded, and capable of putting on board 1,500 tons a day; the whole being accomplished in eleven months, and at a cost of about four hundred thousand dollars. The railway was built under contract by Mr. Moore, of Montreal; and the mining works have been conducted by the Company's manager, Mr. Dunn—two gentlemen who seem to thoroughly understand their business. The day after the opening, the steamer *Margaretta Stevenson* was loaded with coal for Montreal at the company's wharf."

**HOW TO SAVE QUICKSILVER.**—G. H. Munn proposes to save the mercury wasted in the process of amalgamation; he entertains the opinion that 300,000 tons of that metal has been lost by that process. It escapes in the form of a chloride, or calomel, as it is called. He advises the treating