

could probably be obtained in the treatment of molybdenite ores by the same units, but no definite data either as to capacities or as to costs of any oil-flotation process when applied to molybdenite ore have, to the author's knowledge, been made public. In fact, owing to the policy of secrecy adopted by most companies interested in the development of oil-flotation methods, little information is available regarding the economics of the various processes, even as more commonly applied to the concentration of the sulphides of copper, lead, and zinc. However, comprehensive data with regard to the costs of treating Broken Hill lead-zinc tailings by four well-known processes, namely, the Potter-Delprat, De Bavay, Elmore, and minerals separation, are given by Hoover. His estimates of 3s. 6d. (\$0.85) per ton as the average cost of flotation and 9s. 3d. (\$2.25) per ton as the average total cost of re-treating these tailings on a large scale form a poor basis on which to estimate the cost of treating molybdenite ores by the same processes in small plants such as might be installed at mines producing 50 or 100 tons of ore a day. It is safe to say, however, that the costs of small-scale concentration of molybdenite ores would be considerably higher than those given above.

HOLLINGER MINING COSTS.

The following table shows the distribution of the costs of mining at the Hollinger in 1916:

Account.	Labor.	Stores.	Totals.	Milled.
General mining charges..	\$10,513	\$7,884	\$18,397	\$0.031
Superintendence	35,783	7	35,790	.059
Diamond drilling	3,024	2,234	5,259	.009
Crosscutting	16,458	22,426	38,884	.065
Drifting	54,997	68,303	123,300	.205
Raising	10,353	11,433	21,786	.036
Winzes.	3,409	1,397	4,807	.008
Timbering winzes	2,322	2,154	4,476	.007
Stoping.	230,641	259,045	489,686	.813
Scaling	12,006	3	12,009	.020
Timbering stopes and raises	38,925	19,109	57,135	.095
Re-timbering	7,170	4,751	11,922	.020
Back-filling	2,940	88	3,028	.005
Track-laying	13,722	6,854	20,576	.034
Tramming	205,074	9,901	214,975	.357
Pipefitting underground...	9,439	6,671	16,110	.027
Mine drainage	6,700	8,986	15,687	.026
Hoisting.	34,903	16,228	51,131	.085
Landing and dumping.....	24,526	890	25,417	.042
Drill repairs	5,864	40,167	46,031	.076
Sharpening steel	29,867	11,810	41,678	.069
Distributing steel	21,623	7	21,630	.036
Mine sampling	9,959	84	10,044	.017
Change house	2,738	1,582	4,321	.007
Mine lighting	770	8,524	9,294	.015
Assaying	1,916	952	2,868	.005
Surveying	9,329	1,869	11,199	.019
	\$804,083	\$513,372	\$1,317,455	\$2.188

SUPPLIES FOR NICKEL REFINERY.

The nickel refinery at Port Colborne now under construction is expected to be in operation before the end of the year. It will consume annually 100,000 tons of materials such as bituminous coal, coke, fuel oil, nitre cake and other chemicals. The output will be at the rate of 15,000,000 lb. nickel per year.

HOLLINGER ORE RESERVES.

The following figures give a good idea of the character of the ore developed at the Hollinger. The estimate is as of December 31, 1916:

	Tons.	Value per Ton.
No. 1 Vein	325,190	\$11.19
No. 2 Vein (North)	64,690	14.62
No. 2 Vein (South)	97,070	7.64
No. 3 Vein	18,000	5.10
No. 4 and 50 Veins.....	613,140	8.25
No. 5 Vein	32,540	10.00
No. 7 Vein	17,000	10.47
No. 8, 38 and 53 Veins.....	637,890	7.60
No. 10 Vein	25,400	7.35
No. 13 Vein	37,000	5.54
No. 14 Vein	162,080	8.81
No. 15 Vein	65,010	10.19
No. 16 Vein	7,040	7.40
No. 26 Vein	24,860	9.33
No. 37 Vein	20,750	8.45
No. 41 Vein	317,730	7.32
No. 44 Vein	8,000	20.00
No. 51 Vein	14,600	6.36
No. 52 and 52A Veins.....	86,460	10.09
No. 54 Vein	122,260	7.21
No. 55 Vein	47,570	13.13
No. 56 Vein	88,210	6.07
No. 58 Vein	276,000	8.96
No. 59 Vein	57,970	10.84
No. 65 Vein	49,300	12.47
No. 74 Vein	14,000	4.21
No. 79 Vein	17,730	5.52
No. 83 Vein	24,780	5.79
No. 84 Vein	99,120	7.01
No. 85 Vein	217,540	7.75
No. 88 Vein	2,970	14.74
No. 200 Vein	3,300	18.77
No. 204 Vein	5,920	6.40
No. 206 Vein	7,360	6.95
No. 207 Vein	42,000	6.00
No. 226 Vein	12,180	30.37
Surface.	275,880	9.80
	3,938,540	\$8.68

Commenting on these estimates, Manager Robbins says:

"In estimating the reserves we use the actual measurements of the ore in place, but when the ore is mined, it is not possible to prevent a certain amount of waste rock from being broken and becoming intermingled with the ore. This dilution with waste has the effect of lowering the value per ton of the mixture, although it increases the number of tons. Our experience, after five years of operations, has been that there is a dilution of approximately 10 per cent., and hence the present estimate of 3,938,540 tons at \$8.68 per ton will when milled probably yield approximately 4,300,000 tons, averaging about \$7.75 per ton."

A WAR "MOVE."

On account of Caxton House having been commandeered by the War Office, the address of the Institute of Metals will in future be 36 Victoria Street, London, S.W. The new offices are much more extensive and better suited to the purposes of a scientific society than those recently vacated.