FORTY-FIFTH ANNUAL REPORT

OF THE

ONTARIO DEPARTMENT OF MINES

1936

PART I

LETTER OF TRANSMISSION

To the Honourable Herbert Alexander Bruce, Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR:---

The undersigned has the honour to transmit to you herewith, for presentation to the Legislative Assembly of the Province of Ontario, the Forty-fifth Annual Report, 1935, of the Department over which I have the honour to preside.

Respectfully submitted,

PAUL LEDUC, Minister of Mines

DEPARTMENT OF MINES, Toronto, 1936.

INTRODUCTORY LETTER

To The Honourable Paul Leduc, Minister of Mines.

SIR,—The undersigned has the honour to submit the Forty-fifth Annual Report of the Department of Mines, issued in seven parts, as follows:—

Part I

Statistical Review of the Mineral Industry of Ontario for 1935, by A. C. Young. List of Mines, Quarries, and Works, 1935. Mines of Ontario in 1935, by D. G. Sinclair, E. C. Keeley, D. F. Cooper, E. B. Weir, A. R. Webster. Mining Accidents in 1935, by D. G. Sinclair, E. C. Keeley, D. F. Cooper, A. R. Webster. Classes for Prospectors, 1935–36, by E. M. Burwash.

Part II

The Eastern Part of the Sturgeon River Area, with Map No. 45a, by E. L. Bruce. The Western Part of the Sturgeon River Area, with Map No. 45a, by H. C. Laird.

PART III

Geology of the North Central Part of the Lake of the Woods, with Map No. 45b, by Jas. E. Thomson.

Gold Deposits on Shoal Lake (West), by Jas. E. Thomson.

Part IV

Geology of the Birch-Springpole Lakes Area, with Map No. 45c, by W. D. Harding.

Part V

Natural Gas in 1935, by R. B. Harkness. Petroleum in 1935, by R. B. Harkness.

Part VI

Geology of the Ramore Area, with Map No. 45d, by E. S. Moore. Geology of the Afton-Scholes Area, by E. S. Moore. Geology of the Burntbush Area, with Map No. 45e, by Robert Thomson.

PART VII

Lake Iroquois, with Map No. 45f, by A. P. Coleman. Geology of the North Shore of Lake Ontario, by A. P. Coleman. Geology of Pelee and Adjacent Islands, by E. M. Kindle.

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Only Part I is bound with the Sessional Papers of the Legislature. All parts, together with accompanying geological maps as indicated above by number and letter, are available on application to the Department.

Respectfully submitted,

T. F. SUTHERLAND, Deputy Minister of Mines.

DEPARTMENT OF MINES, Toronto, 1936.



PROVINCE OF ONTARIO DEPARTMENT OF MINES

HON. PAUL LEDUC, Minister of Mines

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T. F. SUTHERLAND, Deputy Minister

FORTY-FIFTH ANNUAL REPORT

OF THE

ONTARIO DEPARTMENT OF MINES

BEING

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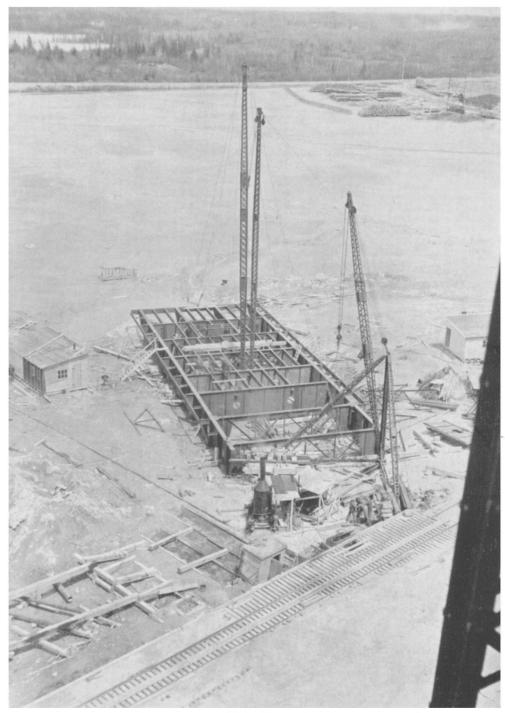
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View from the water tower of Lake Shore Mines showing construction of the steel deck for the new No. 5 shaft.

Statistical Review of the Mineral Industry of Ontario for 1935

By A. C. Young

GENERAL SUMMARY

Mineral Production

Mineral production for 1935 reached a new high of \$159,580,955 and exceeded that of 1934, which was \$145,854,173, by \$13,726,782, a gain of 9.39 per cent.

Reference to the tables on pages 2 and 3 shows that each of the main groups, except structural materials, has improved its position. Metals rose from \$129,273,033 to \$142,888,565, an improvement of 10.5 per cent.; the nonmetallic group, which has maintained its position between seven and eight millions of dollars during the past five years, showed a slight improvement of \$213,086. Clay products have been very low in value since 1931, but with the gradual recovery of building this group is slowly regaining its former important position. Structural materials, which include cement, lime, stone, and sand and gravel, are dependent on heavy construction work, such as roads, foundations, and abutments. Cement showed rather a heavy drop due to a decline in consumption on highways, and stone also registered a drop. Conditions in this industry, although much below those obtaining during the prosperous years, are gradually recovering. The following excerpt from the *Monthly Review of Business Statistics* for December, 1935, describes the construction industry as follows:—

The records of the construction industry are of great value for barometric purposes. During a time of depression, the existing plant and equipment, generally speaking, is more than sufficient to meet current demands for industrial products. Once the fixed capital equipment is again operated at a high percentage of capacity, corresponding to the state of affairs in the preceding period of maximum prosperity, the construction industry immediately acquires additional momentum. The awards in excess of \$400,000,000 per year from 1926 to 1929 constitutes a fitting commentary upon the correlation of construction operations with economic progress. The decline in construction from 1930 to 1933 coincided with the recurrence of a major depression. While marked percentage gains were shown in the records of new business obtained by the construction industry in 1935, over the preceding year, the level was still low relative to the predepression years. The gain in contracts awarded in the 11-month period from \$119,749,000 to \$155,940,000 in 1935 was 30.2 per cent. Engineering projects took the lead in the main groups of construction, the total advancing from \$47,610,000 to \$64,325,000, a gain of no less than 35.1 per cent. The gains in residential and business contracts was 23.3 per cent. and 35.3 per cent, respectively, while the increase in industrial projects was 23.3 per cent.

Employment in the building trades on the first of November, after seasonal adjustment, was only 60 per cent. of the average for the base year of 1926. The gain of about 16 per cent. over the same date of 1934 indicates, however, a betterment in building activity over the stagnant conditions of a short time ago.

The greatest prosperity, as may be seen in the tables, occurred in the metalmining group, and the increases in the values of some of the items were important; for example, gold was up 5.4 per cent.; nickel, 9.9 per cent.; copper, 30.2 per cent.; and silver 56.5 per cent. A great improvement in employment was also apparent in this group. The number of wage-earners rose from 16,424 in 1934 to 18,869 in 1935, and wages paid from \$24,973,938 to \$29,381,598. More complete details are given in the sections that follow.

METALLICMETALLICMagesGold	Product	Quantity ¹	Value		Wagaa
Gold		Quantity	value		wages
Silver	Goldoz				\$17,839,318
Copper in matte exported ²	Silver	6 320 670			396 341
Copper, metallic and in concentrates, exported, in speiss, and in ore ex- ported; metallic nickel; and nickel con- tent of oxides and salts. 239,483,489 18,668,743 *7,194 *11,005,12 Platinum metalls bs. 138,516,240 35,345,103 *7,194 *11,005,12 Selenium. bs. 190,107 5,407,392 *7,194 *11,005,12 Selenium. bs. 144,097 6,796 *120 *121,253 Colait in metal, oxides, salts, ores, and bs. 22,532 706 *142,888,565 18,869 \$29,381,598 Chromite bs. 25,558,789 \$75,326 (*) (*) *122,853 Carphite, crude and ground bs. 100 4,600 12 \$3,545,003 40,233 Fleidspar, crude and refined bs. 100 4,600 12 \$3,535,00 30,235 Graphite, crude and refined bs. 509,826 7,144 12 1,536 Mineral waters mp, gals. 19,900 1,477 666,57 206 127,862 Petroleum, crude bis. 164,807 77 99,137 1,219	Copper in matte exported ² lbs.	12,544,439			000,011
Nickel in matte, in speiss, and in ore exported; metallic nickel; and nickel content of oxides and salts .138,516,240 $35,345,103$ $37,194$ $311,005,12$ Platinum metals .05 .190,107 $5,407,392$ $37,194$ $311,005,12$ Selenium .15s .75,363 144,697 $35,345,103$ $37,194$ $311,005,12$ Bismuth .15s .75,363 144,697 $28,530$ $35,345,103$ 4120 $4121,253$ Cobalt in metal, oxides, salts, ores, and residues .15s $7,796$ 706 4120 $4121,253$ Lead in concentrates exported .15s $22,553$ 706 $19,565$ $38,956$ $510,003,400$ $22,353,500$ Total	Copper, metallic and in concentrates,				
Nickel in matte, in speiss, and in ore exported; metallic nickel; and nickel content of oxides and salts. $35,345,103$ $37,194$ $311,005,12$ Platinum metals. 0.5 $190,107$ $5,407,392$ $37,194$ $311,005,12$ Selenium. Ibs. $128,516,240$ $35,345,103$ $37,194$ $311,005,12$ Selenium. Ibs. $12,275$ $28,550$ $37,769$ 4120 $4121,255$ Cobalt in metal. oxides, salts, ores, and Ibs. $22,532$ 706 20 $19,565$ Lead in concentrates exported Ibs. $22,552$ 706 20 $19,565$ Chromite tons $78,99,576$ 20 $19,565$ $35,99,381,598$ Total states. for same second $512,528,789$ $$77,53,226$ $(*)$ $(*)$ $(*)$ Pictopara. for same second for same second $75,900$ 30 $22,555$ Graphite, crude and refined. tons $38,247$ $124,893,331$ $1,273$ $1,219,527$ Mica waters Inp sats $19,900$ $1,477$ $12,556$ $18,560$ <td>exportedlbs.</td> <td>239,483,489</td> <td>18,668,743</td> <td></td> <td></td>	exportedlbs.	239,483,489	18,668,743		
tent of oxides and salts					
Platinum metals				³ 7,194	³ 11,005,124
Selenium					
			5,407,392		
Bismuth.					
Cobalt in metal, oxides, salts, ores, and residues. 681,419 $512,705$ 4120 $4121,255$ Lead in concentrates exported .1bs. $22,532$ 706 20 19,566 Total.)	
residues.		7,079	6,796		(
Teshdos 105 $22,532$ 706 20 19,562 Chromite tons 798 9,575 20 19,562 Total 105 $22,532$ 706 18,869 $$22,332,526$ (*) Arsenic, white 105 $2,558,789$ $$75,326$ (*) (*) (*) Particle 100 $4,600$ 12 $$$3,591$ $$23,592$ (*) (*) Feldspar, crude and refined tons $8,656$ $75,003$ 00 2 800 Graphite, crude and refined tons $38,247$ $164,807$ 77 $99,133$ Sulphur ⁴ tons $13,292$ $132,920$ $32,920$ $32,955$ Mineral waters Imp. gals $19,900$ 2 800 77 $99,137$ $1,219,520$ Petroleum, crude bls $109,005$ 55 $24,638$ $122,976$ 22 $12,300$ $32,804$ $31,23,814$ $322,976$ 22 $12,300$ $32,844$ $312,384$ Patoslomin, crude tons $13,710$				4120	4121 252
$\begin{array}{c c c c c c c c c c c c c c c c c c c $					-121,200
Total Non-METALLIC \$142,888,565 18,869 \$29,381,593 Arsenic, white				/	
Non-METALLIC Ibs. 2,558,789 \$75,326 (*) (*) Arsenic, white \$3,591 Feldspar, crude and ground 8,656 75,003 40 20,337 Fluorspar 75 900 2 800 Graphite, crude and refined 78,500 30 22,555 Gypsum				20	19,562
Arsenic, white	Total		\$142,888,565	18,869	\$29,381,598
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Fluorspar. tons 75 900 2 800 Graphite, crude and refined. tons 38,247 164,807 77 99,133 Sulphur ⁴ tons 13,292 132,920 901 91,133 Sulphur ⁴ tons 13,292 132,920 90,133 1,219,520 Mica. Ibs. 509,826 7,144 12 1,536 Mineral waters. Imp. gals. 19,900 1,477 1,219,520 Natural gas. M cu, ft. 8,157,256 4,894,353 1,219,520 Peat. tons 1,340 5,761 7 496 Prosphate tons 165,040 346,156 221 127,862 Quarzite and quartz. tons 83,034 120,005 55 24,638 Silica brick	Feldspar, crude and groundtons	8,656			
Graphite, crude and refined.tons7778,5003022,555Gypsum.tons38,247164,8077799,137Sulphur*tons13,292132,920132,920132,920Micabs.509,8267,144121,536Mineral watersmp. gals.19,9001,4771,219,520Natural gasmos8,157,2564,894,3531,2731,219,520Petroleum, crudemos8,157,2564,894,3531,2731,219,520Phosphatemos8,157,2564,894,3531,2731,219,520Posphatemos83,034120,0055524,636Silica brickmos83,034120,0055524,636Saltmos320,0031,698,508274309,354Totalmos\$7,766,6572,056\$1,866,001Structurat, MATERIALSmos1,243,836\$1,752,148402\$334,833Lydrated limemos8,154,6182,095,610230134,751Sand and gravelmos8,154,6182,095,610230134,751Sand and gravelmos28,064,195275,555,5081,685\$1,055,781Totalmos28,064,195275,8355131,758Structural, roofing, and floormos28,067,34125,593753\$397,799Tile, drainmosmos5,060,734125,593753\$397,799	Fluorspartons				800
Gypsum tons $38,247$ $164,807$ 77 $99,137$ Sulphur ⁴ tons $13,292$ $132,920$ 1477 $1,219,520$ $124,950$ $127,300$ $1,219,520$ $122,956$ $122,9276$ 221 $122,960$ 221 $122,960$ 221 $122,900$ $334,120,0005$ 555 $24,638$ $322,976$ 222 $122,302$ $320,003$ $1698,508$ 274 $309,354$ $320,003$ $1698,508$ 274 $309,354$ $320,003$ $158,505$ $212,302$ $328,506$ $31,666,607$ $20,555$ $24,638$ $22,797$ $220,556$ $$1,866,001$ $334,833$ $14,748,106$ $32,514$ $227,197$ 210 $147,397$ $32,514$ $227,197$ 210 $147,397$	Graphite, crude and refinedtons				
Sulphur ⁴ tons 13,292 132,920 Mica lbs. $509,826$ $7,144$ 12 $1,536$ Mineral waters Imp. gals. $19,900$ $1,477$ 490 Natural gas M cu. ft. $8,157,256$ $4,894,353$ $1,273$ $1,219,520$ Peat tons $1,340$ $5,761$ 7 490 Petroleum, crude bbls. $165,040$ $346,156$ 221 $127,862$ Phosphate tons 70 60 $127,862$ $122,976$ 22 $12,300$ Quartzite and quartz tons $320,003$ $1,698,508$ 274 $309,354$ Silica brick tons $320,003$ $1,698,508$ 274 $309,354$ Tate tons $320,003$ $1,698,508$ 274 $309,354$ Tate tons $320,003$ $1,698,508$ 274 $309,354$ Tate tons $32,514$ $22,976$ 22 $334,833$ Hydrated lime tons $8,154,618$ $2,095,610$ 230 <td< td=""><td>Gypsumtons</td><td>38,247</td><td></td><td></td><td></td></td<>	Gypsumtons	38,247			
Mica	Sulphur ⁶ tons	13,292			
Mineral watersImp. gals.19,9001,477Natural gasM cu. ft. $8,157,256$ $4,894,353$ $1,273$ $1,219,520$ Peattoms $1,340$ $5,761$ 7 499 Petroleum, crudebbls. $165,040$ $346,156$ 221 $127,862$ Phosphatetoms 700 60 60 1477 499 Quartzite and quartztoms $83,034$ $120,005$ 55 $24,638$ Silica brickM 493 $22,976$ 22 $12,305$ Salttoms $320,003$ $1,698,508$ 274 $309,354$ Taltoms $12,31,710$ $138,161$ 31 $23,864$ Mydrated limetoms $1,243,836$ $\$1,752,148$ 402 $\$334,833$ Hydrated limetoms $198,338$ $1,477,106$ 210 $147,397$ Sand and graveltoms $$1,54,618$ $2,095,610$ 230 $134,751$ Stone: limestone, trap, granite, sandstone toms $2,122,941$ $1,863,892$ 792 $407,042$ Totaltom $$2,0759,108$ $275,835$ $$1,685$	Micalbs.		7.144	12	1.536
Peat tons $1,340$ $5,761$ 7 492 Petroleum, crude bbls. $165,040$ $346,156$ 221 $127,862$ Phosphate tons $83,034$ $120,005$ 55 $24,638$ Quartzite and quartz tons $83,034$ $120,005$ 55 $24,638$ Silica brick M 493 $22,976$ 22 $123,05$ Salt tons $1321,0031$ $1698,508$ 274 $309,354$ Talc tons $1324,0836$ $81,752,148$ 402 $334,833$ Total STRUCTURAL MATERIALS $1,243,836$ $\$1,752,148$ 402 $\$334,833$ Lydrated lime tons $198,338$ $1,478,106$ 210 $147,397$ Sand and gravel tons $8,154,618$ $2095,610$ 230 $134,751$ Sand and gravel tons $8,154,618$ $2095,610$ 230 $134,751$ Sand and gravel tons $21,22,941$ $1,863,892$ 792 $407,042$ Total tons $28,064,195$	Mineral waters	19,900			_,
Peat. tons 1.340 5.761 7 499 Petroleum, crude bbls. 165,040 346,156 221 127,866 Phosphate tons 70 60 60 60 60 Quartzite and quartz tons 83,034 120,005 55 24,638 531 Silica brick M 493 22,976 22 12,305 309,354 Salt tons 13,710 138,161 31 23,864 Total tons 13,710 138,161 31 23,864 Mydrated lime tons 198,338 1,478,106 210 147,397 Sand and gravel tons 198,338 1,478,106 210 147,397 Sand and gravel tons 8,154,618 2,095,610 230 134,751 Sand-lime products ⁷ sandstone tons 2,122,941 1,863,892 792 407,042 Total zons 20,759,108 275,5508 1,685 \$1,055,781 Brick, face No 20,759,108 275,835 \$1,055,781	Natural gas M cu. ft.	8,157,256		1.273	1.219.520
Petroleum, crude bbls. 165,040 346,156 221 127,862 Phosphate. tons 70 60	Peattons	1,340			499
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Petroleum, crudebbls.	165,040		221	
Silica brickM 493 $22,976$ 22 $12,305$ Salttons $320,003$ $1,698,508$ 274 $309,354$ Talctons $13,710$ $138,161$ 31 $23,364$ Totaltons $57,766,657$ $2,056$ $\$1,866,001$ STRUCTURAL MATERIALStons $\$2,514$ $227,197$ 210 Cement, Portlandtons $23,514$ $227,197$ 210 $147,397$ Quicklimetons $198,338$ $1,478,106$ 210 $147,397$ Sand and graveltons $8,154,618$ $2,095,610$ 230 $134,751$ Sand and graveltons $8,154,618$ $2,095,610$ 230 $134,751$ Stone limestone, trap, granite, sandstone tons $2,122,941$ $1,863,892$ 792 $407,042$ Totaltons $20,759,108$ $275,835$ $\$1,055,781$ Brick, faceNo $20,759,108$ $275,835$ $\$397,799$ Shick, sewerNo $5,060,734$ $125,593$ 753 $\$397,799$ Tile, drainNo $5,060,734$ $125,593$ 753 $\$397,799$ Sewer pipe, copings, flue-linings, etc. $50,000$ 7093 753 $\$397,799$ Total 702 753 $\$397,799$ Total 702 753 $\$397,799$	Phosphatetons	70	60		
Salt tons $320,003$ $1,698,508$ 274 $309,354$ Talc tons $13,710$ $138,161$ 31 $23,864$ Total structural MATERIALS \$7,766,657 $2,056$ \$1,866,001 Structural MATERIALS structural MATERIALS $22,514$ 402 \$334,833 Quicklime tons $23,514$ $227,197$ 210 $147,397$ Quicklime tons $8,154,618$ $2,095,610$ 230 $134,751$ Sand and gravel tons $8,154,618$ $2,095,610$ 230 $134,751$ Sand-lime products ⁷ tons $8,154,618$ $2,095,610$ 230 $134,751$ Stone : limestone, trap, granite, sandstone tons $2,122,941$ $1,863,892$ 792 $407,042$ Total ton $8,064,195$ $$545,231$ $81,055,781$ $81,055,781$ Brick, face No $12,935$ 728 $8397,799$ 753 $$397,799$ Tile, structural, roofing, and floor Sof06,734 $125,935$ 753 $$397,799$ Sewer pipe, copings, flu				55	24,638
Tale tons 13,710 138,161 31 23,864 Total STRUCTURAL MATERIALS \$7,766,657 2,056 \$1,866,001 STRUCTURAL MATERIALS tons 23,514 227,197 210 147,397 Quicklime tons 23,514 227,197 210 147,397 Sand and gravel tons 8,154,618 2,095,610 230 134,751 Sand-lime products ⁷ tons 8,154,618 2,095,610 230 134,751 Stone: limestone, trap, granite, sandstone. tons 2,122,941 1,863,892 792 407,042 Total CLAY PRODUCTS \$7,555,508 1,685 \$1,055,781 Brick, face No 28,064,195 \$275,835 \$1,055,781 Brick, fancy and ornamental No 12,935 728 \$397,799 Brick, sewer No 5,060,734 125,593 753 \$397,799 Tile, structural, roofing, and floor 50,000 7009 \$397,799 \$397,799 Sewer pipe, copings, flue-linings, etc. 50,000 753 \$397,799 Yotal <td< td=""><td></td><td></td><td>22,976</td><td>22</td><td>12,305</td></td<>			22,976	22	12,305
Talc tons 13,710 138,161 31 23,864 Total \$7,766,657 2,056 \$1,866,001 STRUCTURAL MATERIALS \$2,514 227,197 210 \$334,833 Quicklime tons 23,514 227,197 210 147,397 Sand and gravel tons 8,154,618 2,095,610 230 134,751 Sand-lime products ⁷ 138,555 51 31,758 31,758 Stone : limestone, trap, granite, sandstone tons 2,122,941 1,863,892 792 407,042 Total \$7,555,508 1,685 \$1,055,781 Brick, face No. 28,064,195 \$245,231 \$1,055,781 Brick, face No. 22,955 728 \$1,055,781 Brick, fancy and ornamental No. 12,935 728 \$397,799 Stile, structural, roofing, and floor 196,647 196,647 \$397,799 Tile, structural, roofing, and floor 50,000 753 \$397,799 Total \$1,370,225 753 \$397,799 Total \$1,370,225 753			1,698,508	274	309,354
STRUCTURAL MATERIALS 1,243,836 \$1,752,148 402 \$334,833 Hydrated lime tons 23,514 227,197 210 147,397 Quicklime tons 8,154,618 2,095,610 230 134,751 Sand and gravel tons 8,154,618 2,095,610 230 134,751 Sand-lime products ⁷ 138,555 51 31,758 31,758 Stone: limestone, trap, granite, sandstone tons 2,122,941 1,863,892 792 407,042 Total CLAV PRODUCTS \$7,555,508 1,685 \$1,055,781 Brick, fancy and ornamental No. 28,064,195 275,835 \$1,055,781 Brick, sewer No 5,060,734 125,593 753 \$397,799 Tile, structural, roofing, and floor 50,000 50,000 7093 \$397,799 Total 7041 753 \$397,799 \$397,799	Talcton _s	13,710	138,161	31	23,864
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Total	• • • • • • • • • • • •	\$7,766,657	2.056	\$1,866.001
Hydrated lime tons 23,514 227,197 210 147,397 Quicklime tons 198,338 1,478,106 210 147,397 Sand and gravel tons 8,154,618 2,095,610 230 134,751 Sand-lime products ⁷ 138,555 51 31,758 31,758 Stone : limestone, trap, granite, sandstone tons 2,122,941 1,863,892 792 407,042 Total \$7,555,508 1,685 \$1,055,781 Brick, face No. 28,064,195 \$545,231 \$1,055,781 Brick, face No. 20,759,108 275,835 \$1,055,781 Brick, sewer No. 12,935 728 \$397,799 Brick, sewer No. 5,060,734 125,593 753 \$397,799 Tile, structural, roofing, and floor	STRUCTURAL MATERIALS				
Hydrated lime tons 23,514 227,197 210 147,397 Quicklime tons 198,338 1,478,106 210 147,397 Sand and gravel tons 8,154,618 2,095,610 230 134,751 Sand-lime products ⁷ 138,555 51 31,758 31,758 Stone : limestone, trap, granite, sandstone tons 2,122,941 1,863,892 792 407,042 Total \$7,555,508 1,685 \$1,055,781 Brick, face No. 28,064,195 \$545,231 \$1,055,781 Brick, face No. 20,759,108 275,835 \$1,055,781 Brick, sewer No. 12,935 728 \$397,799 Brick, sewer No. 5,060,734 125,593 753 \$397,799 Tile, structural, roofing, and floor	Cement, Portlandbbls.	1.243.836	\$1.752.148	402	\$334 833
Quicklime tons 198,338 1,478,106 210 147,397 Sand and gravel tons 8,154,618 2,095,610 230 134,751 Sand-lime products ⁷ 138,555 51 31,758 Stone: limestone, trap, granite, sandstone. tons 2,122,941 1,863,892 792 407,042 Total \$7,555,508 1,685 \$1,055,781 Brick, face No. 28,064,195 \$545,231 \$1,055,781 Brick, face No. 20,759,108 275,835 728 Brick, sewer No. 12,935 728 \$397,799 Tile, structural, roofing, and floor				۱ I	
Sand and graveltons 8,154,618 2,095,610 230 134,751 Sand-lime products ⁷ 138,555 51 31,758 Stone: limestone, trap, granite, sandstone. tons 2,122,941 1,863,892 792 407,042 Total CLAY PRODUCTS \$7,555,508 1,685 \$1,055,781 Brick, face	Quicklime tons				147,397
Sand-lime products ⁷ 138,555 51 31,758 Stone: limestone, trap, granite, sandstone: tons 2,122,941 1,863,892 792 407,042 Total \$7,555,508 1,685 \$1,055,781 Brick, face No. 28,064,195 \$545,231 \$1,055,781 Brick, face No. 20,759,108 275,835 \$1,055,781 Brick, fancy and ornamental No. 12,935 728 \$1,055,791 Brick, sewer No. 5,060,734 125,593 753 \$397,799 Tile, drain No. 5,060,734 125,593 753 \$397,799 Sewer pipe, copings, flue-linings, etc. 196,647 \$0,000 \$0,000 \$1,370,225 753 \$397,799 Total State 1,370,225 753 \$397,799	Sand and graveltons	8.154,618			134 751
Stone: limestone, trap, granite, sandstone.tons 2,122,941 1,863,892 792 407,042 Total.	Sand-lime products ⁷		138.555		
Total. \$7,555,508 1,685 \$1,055,781 CLAY PRODUCTS 28,064,195 \$545,231 \$1,055,781 Brick, face No. 20,759,108 275,835 728 Brick, fancy and ornamental. No. 12,935 728 728 Brick, sewer No. 5,060,734 125,593 753 \$397,799 Tile, drain No. 5,060,734 196,647 50,000 709 Total 7041 \$1,370,225 753 \$397,799	Stone: limestone, trap, granite, sandstone . tons	2,122,941			
CLAY PRODUCTS 28,064,195 \$545,231 Brick, face No. 20,759,108 275,835 Brick, fancy and ornamental No. 12,935 728 Brick, sewer No. 5,060,734 125,593 Brick, structural, roofing, and floor No. 5,060,734 125,593 Sewer pipe, copings, flue-linings, etc. 168,128 196,647 Pottery 50,000 7,093 753 Total \$1,370,225 753 \$397,799					
Brick, face No. 28,064,195 \$545,231 Brick, common No. 20,759,108 275,835 Brick, fancy and ornamental No. 12,935 728 Brick, sewer No. 12,935 970 Brick, sewer No. 5,060,734 125,593 Sewer pipe, copings, flue-linings, etc. 168,128 753 \$397,799 Haydite and clay 7,093 753 \$397,799 Total \$1,370,225 753 \$397,799				1,000	φ1,000,701
Brick, common No. 20,759,108 275,835 Brick, fancy and ornamental No. 12,935 728 Brick, sewer No. 12,935 728 Brick, sewer No. 60,295 970 Tile, drain No. 5,060,734 125,593 753 Sewer pipe, copings, flue-linings, etc. 196,647 196,647 196,647 Pottery 50,000 7,093 753 \$397,799 Total \$1,370,225 753 \$397,799		28 064 105	#EAE 021	、	
Brick, fancy and ornamental. No. 12,935 728 Brick, sewer No. 60,295 970 Tile, drain No. 5,060,734 125,593 753 \$397,799 Sewer pipe, copings, flue-linings, etc. 196,647 50,000 7003 125,993 753 \$397,799 Total 7041 \$1,370,225 753 \$397,799					
Brick, sewer No 60,295 970 Tile, drain No 5,060,734 125,593 753 Sewer pipe, copings, flue-linings, etc. 168,128 196,647 Pottery 50,000 7,093 1397,799 Total 753 \$397,799	Brick, fancy and ornamental No.				
Tile, drain No. 5,060,734 125,593 753 \$397,799 Tile, structural, roofing, and floor 168,128 196,647 50,000 753 \$397,799 Sewer pipe, copings, flue-linings, etc. 50,000 753 \$397,799 \$397,799 Haydite and clay 753 50,000 753 \$397,799 Total \$1,370,225 753 \$397,799					
Tile, structural, roofing, and floor 168,128 Sewer pipe, copings, flue-linings, etc. 196,647 Pottery 50,000 Haydite and clay 7,093 Total \$1,370,225 753 \$397,799				759	¢207 700
Sewer pipe, copings, flue-linings, etc 196,647 Pottery 50,000 Haydite and clay 7,093 Total \$1,370,225 753 \$397,799				100	4981,188
Pottery 50,000 Haydite and clay 7,093 Total \$1,370,225 753 \$397,799	Sewer pipe, copings, flue-linings, etc	•••••	106,120		
Haydite and clay 7,093 Total \$1,370,225 753 \$397,799					
Total					
					A005 50-
10TAL VALUE in Canadian tunds		•••••	\$1,370,225		
	I OTAL VALUE in Canadian funds	· · · · · · · · · · · · · · · · · · ·	\$159,580,955	23,363	5 32,701,1 79

¹All tons in this table are 2,000 pounds. ²Copper in matte valued at 4½ cents per pound, and nickel at 18 cents. ³Employees and wages for nickel-copper mines, smelters, and refineries include statistics of the Ontario Refining Company. ⁴Employees and wages for silver-cobalt smelters and refineries. ⁴Employees and wages included with figures for silver-cobalt smelters and refineries (4). ⁶Tonnage given is sulphur content of sulphuric acid; no iron pyrites was sold in 1935. ¹No deduction made for line used in manufacturing

'No deduction made for lime used in manufacturing.

Data pris and m. Str. 3,532 7,285 3,731 3,444 6,796 Molybdenite 280 480 9,576 Chromite 480 9,576 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Non-METALLIC \$456 \$365 \$365 \$365 Arsenic, white 135,170 \$98,914 \$56,534 \$64,412 \$375,326 Barite 135,170 \$98,914 \$56,534 \$64,412 \$75,536 Barite 103,008 42,920 45,350 \$61,665 75,5003 Peldspar, crude and refined 32,149 18,483 10,145 \$64,999 78,500 Gypsum 374,469 186,176 112,319 141,389 164,807 Mineral waters 8,578 2,473 2,347 1,622 1,477 Natural gas 4,365,497 4,719,297 4,523,084 4,713,68 4,894,353 Peat fuel 1,096 1,1074 9059 7,144 Silica brick 13,702 4,303 7,7551 14,730	COMPARATIVE VA			KODUCII		
Gold (Canadian value) \$45,043,837,\$53,418,449 \$61,044,951 \$72,208,688 \$75,0085,109 Platinum metals 2,812,834 1,998,911 1,501,233 6,187,992 512,705 Nickel' 651,179 587,957 567,752 592,497 512,705 Nickel' 15,005,080 7,179,862 20,130,480 32,139,425 19,295,965 Sclenium 32,108 53,745 91,226 144,697 144,697 144,697 Tellurium 3,532 7,728 3,731 3,444 6,796 Molydenite 3,532 7,728 3,731 3,444 6,796 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Non-METALLIC \$456 \$365 \$37,371 \$365 \$7,5326 Non-METALLIC \$446 309 1,298 1,690 4,600 Pluorspar 103,008 42,220 45,350 61,685 75,033 Ploatomite 32,445 32,345 132,920 464 1,064 9498 764,899 Oraphite, crude and refined <td>Product</td> <td>1931</td> <td>1932</td> <td>1933</td> <td>1934</td> <td>1935</td>	Product	1931	1932	1933	1934	1935
Gold (Canadian value) \$45,043,837,\$53,418,449 \$61,044,951 \$72,208,688 \$75,0085,109 Platinum metals 2,812,834 1,998,911 1,501,233 6,187,992 512,705 Nickel' 651,179 587,957 567,752 592,497 512,705 Nickel' 15,005,080 7,179,862 20,130,480 32,139,425 19,295,965 Sclenium 32,108 53,745 91,226 144,697 144,697 144,697 Tellurium 3,532 7,728 3,731 3,444 6,796 Molydenite 3,532 7,728 3,731 3,444 6,796 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Non-METALLIC \$456 \$365 \$37,371 \$365 \$7,5326 Non-METALLIC \$446 309 1,298 1,690 4,600 Pluorspar 103,008 42,220 45,350 61,685 75,033 Ploatomite 32,445 32,345 132,920 464 1,064 9498 764,899 Oraphite, crude and refined <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Silver, Landan, 1997, 1910, 937 1.912, 934 2.600, 303 4.068, 900 Plainium metals 2.812, 834 1.998, 911 1.501, 233 6.187, 992 5.407, 392 Cobalt* 15,005,090 7.073, 862 0.501, 430 33, 345, 103 Copper, metallic and in matte 8,907,099 5,025,684 10,118, 847 14,822,704 144,697 Selemium 32,108 53,745 91,286 144,697 19,285,946 Plainuth 25,59 7.006 502,5684 10,118,847 14,822,704 144,697 Simuth	METALLIC	ALT 040 007	050 410 440	001 044 051	e70 000 600	@79 068 160
Total 2812,834 1.968,911 1.507,233 6.187,907 507,752 502,497 512,705 Nickel ¹ 15,005,050 7,179,862 20,130,430 32,139,425 14,822,704 19,295,965 Sopringer actallic and in matte 8,907,069 50,25,684 10,118,847 14,822,704 19,295,965 Sopringer actallic and in matte 8,907,069 50,27,58 3,731 3,444 6,796 Sigmuth 3,532 7,289 3,731 3,444 6,796 Molybdenite 280 7,258 3,731 3,444 6,796 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Non-METALLC \$456 \$365 \$375,320 19,298 1,920 4,600 Parsenic, white 135,170 \$98,814 \$56,534 \$66,412 \$75,7326 Barite. 136,170 \$98,814 \$66,412 \$75,7326 \$75,326 Ploapmite. \$464 .004 219,093 \$27,530 \$1,460 \$36,97 \$7,333 \$142,888 16,461 \$19,950 \$7,144 </td <td></td> <td>\$45,043,837</td> <td>\$53,418,449</td> <td></td> <td></td> <td></td>		\$45,043,837	\$53,418,449			
Cobalt* 651 179 587 557 597 752 592 497 533 452 533 451 533 451 533 451 533 451 533 451 533 451 533 451 533 451 533 451 533 451 533 451 533 451 533 451 533 745 91 ,285 144,697 Cabalt*						
Nicket: 15,005,050 7,179,852 20,130,450 32,139,425 33,345,103 Copper, metallic and in matte 8,907,069 50,25,684 10,118,847 14,822,704 19,295,965 Sclenium 32,108 53,745 91,286 25,559 28,550 Dead, pig and in ore 41,987 1,756 602 25,559 28,550 Bismuth 3,532 7,289 3,731 3,444 6,796 Molybdenite 280 280 440 9,576 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Actinolite 3440 103,008 42,920 \$1,928 1,920 4,600 Peldspar, crude and ground 103,008 42,920 \$1,843 16,445 \$64,988 78,500 Graphite, crude and refined 32,149 18,483 16,145 \$64,988 78,500 Graphite, crude and refined 32,149 18,483 16,445 \$98,914 164,5980 132,292 Micral waters 8,578 2,473 2,347 1,622 1,477						
Actor 3,007,069 5,025,684 10,118,847 14,822,704 144,607 Selenium 32,108 53,745 91,286 144,607 Selenium 32,008 53,745 91,286 144,607 Dismuth 3,532 7,289 3,731 3,444 6,796 Molybdenite 280 480 9,576 700 Chromite 352 7,289 3,731 3,444 6,796 Molybdenite 135,170 \$98,914 \$56,534 56,412 \$77,326 Arsenic, white 135,170 \$98,914 \$56,534 56,412 \$75,326 Barite 620 464 1,064 2,100 900 Graphite, crude and ground 103,008 42,920 45,350 61,665 75,003 Fluorspar 620 464 1,064 2,100 900 7446 145,980 7449 136,477 145,980 132,920 145,980 132,920 132,920 145,980 132,920 145,980 132,920 145,980 132,920 145,980 132,920 145,980 13	Cobalt ¹					
Selenim 53,748 91,286 144,697 Tellurium 41,987 1,756 692 52,599 Dismuth 3,552 7,289 3,731 3,444 6,796 Molybdenite 280 7,080 3,731 3,444 6,796 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Actinolite \$456 \$365,344 56,412 \$75,326 Parite 135,170 \$99,914 \$56,534 56,412 \$75,326 Diatomite \$440 309 1,298 1,606 75,003 Fluorspar. 620 464 1,064 2,100 990 Gypsum 374,469 186,176 112,319 141,389 164,809 Gypsum, crude and refined 32,497 4,719,207 4,523,084 4,741,388 4,841,380 164,809 3,771 Mineral waters 8,574 3,614 144,572 111,071 900 7,343 5,761 Past luel 1,906 10,107 900 7,343 5,761 86,146	Nickel ²	15,005,080	7,179,862			
Selenium 32,108 53,745 91,286 144,697 Tellurium 3,532 7,289 3,731 3,444 6,796 Molybdenite 3,532 7,289 3,731 3,444 6,796 Molybdenite 25,509 3,731 3,444 6,796 Molybdenite 280 7,289 3,731 3,444 6,796 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Non-METALLIC \$456 \$56,534 \$56,412 \$77,326 Arsenic, white 135,170 \$98,914 \$56,534 \$56,412 \$77,326 Barite 133,008 42,290 45,350 61,665 75,003 Peldspar, crude and refined 32,149 18,483 16,145 60 98 78,500 Gypsum 374,469 186,176 112,319 141,389 164,807 7,433 5,761 Mineral waters 8,578 2,473 2,347 1,622 1,477 Natural gas 4,634,497 4,719,297 4,523,084 4,741,368 4,804,355	Copper, metallic and in matte	8,907,069	5,025,684	10,118,847		
Tellurium 22,599 28,550 Lead, pig and in ore 41,887 1,756 602 525 706 Bismuth 3,552 7,259 3,731 3,444 6,796 Molybdenite 280 480 9,576 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,566 Non-METALLIC \$456 56,534 \$6,412 \$7,326 Actinolite 135,170 \$98,914 \$56,534 \$6,412 \$7,326 Barite 00 440 309 1,288 1,920 4,600 Cappsum 914,598 186,176 112,319 141,889 164,807 Juorspat 23,465 2,752 9,371 9,059 7,144 Minear waters 8,578 2,473 2,347 1,622 1,477 Minear waters 4,854,874 2,473 2,347 1,622 1,477 Silca brick 1,760,388 178,978 1,48,94,353 56,146 134,572 Iron pyrites and sulphur ³ 65,060 33,320 81,4741,368		32,108		53,745		
Lead, pig and in ore. 41,987 1,756 692 525 706 Bismuth. 3,532 7,289 3,731 3,444 6,796 Molybdenite 280 7,289 3,731 3,444 6,796 Molybdenite 280 7,289 3,731 3,444 6,796 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Actinolite 135,170 \$98,914 \$56,534 56,412 \$75,326 Barite 133,170 \$98,914 \$60 12,288 1,665 7,003 Piotospar 600 12,319 14,4398 136,292 4,600 900 Gypsun 374,469 186,176 112,319 141,389 164,807 7,343 Petroleum, crude and refined 32,445 2,473 2,347 1,622 1,477 Mineral waters 8,578 2,473 2,347 1,622 1,477 Mineral waters 8,578 2,473 2,347 1,622 1,477 Matral gas 1,999 24,7408 253,486					25,599	28,550
Bismuith 3,532 7,289 3,731 3,444 6,796 Chromite 280 480 9,576 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Non-METALLIC \$446 \$365 \$129,273,033 \$142,888,565 Actinolite \$400 309 \$26,534 \$6,412 \$75,326 Barite 340 309 1,288 1,920 4,600 \$66,573,000 Pluorspar 60 444 1,064 2,100 900 \$76,003 Gypsum 724,469 186,176 112,319 44,808 132,920 4605 Yorpyrites and sulphur ³ 65,080 33,200 81,960 145,580 132,292 1,473 Mineral waters 8,578 2,473 2,344 1,474,388 4,594,333 5,741 1,760 829,874 3,661,46 134,572 1,11,074 Silica brick 1,760,382 \$7,468 253,486 299,873 3,574 86,146 134,572 1,221,190 1,231,90 1,222,91 1,253,48 1,665 <td></td> <td>41.987</td> <td>1.756</td> <td>692</td> <td>525</td> <td>706</td>		41.987	1.756	692	525	706
Dailybdenite 280 480 9,576 Chromite 480 9,576 Total \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Arsenic, white 135,170 \$98,914 \$56,534 \$64,12 \$75,326 Arsenic, white 135,170 \$98,914 \$56,534 \$64,12 \$75,326 Diatomite 840 309 1,298 1,920 4,600 Peldspar, crude and ground 03,008 42,920 45,350 61,665 75,003 Graphite, crude and refined 32,149 18,451 64,198 78,500 145,980 132,920 145,800 Graphite, crude and refined 32,149 18,451 2,473 2,347 1,622 1,477 Mitea 8,578 2,473 2,347 1,622 1,477 Mitea 1,096 10,107 900 7,343 5,766 Petroleum, crude 219,993 247,468 253,486 299,574 86,146 134,572 Matural gas 1,276,038 1,789,752 1,755,057 111,074		3 532	7 289			6,796
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Circonine \$74,378,766 \$70,130,845 \$95,364,365 \$129,273,033 \$142,888,565 Non-METALLIC \$456 \$56,534 \$56,534 \$66,412 \$75,326 Arsenic, white 135,170 \$98,914 \$56,534 \$66,412 \$75,326 Diatomite 840 309 1,298 1,920 4,600 Feldspar, crude and ground 103,008 42,290 45,350 61,665 75,003 Graphite, crude and refined 32,149 18,453 16,145 64,998 78,500 Gypsum 23,449 18,617 112,319 141,389 164,807 700 734,459,801 32,920 Mica 23,449 18,6176 112,319 141,389 164,807 719,9059 7,144 Mineral waters 8,578 2,473 2,347 1,622 1,477 Matral gas 4,635,407 4,719,207 4,523,084 4,741,368 4,894,352 Quartzite and quartz 148,642 93,574 86,146 134,573 111,074 Statt 1,700,338 1,780,483 1,781,484 136,971	Character ite	200				9.576
Non-METALLIC \$456 \$365 Arsenic, white 135,170 \$98,914 \$56,534 56,412 \$75,326 Barite 840 300 1,290 1,920 4,600 Diatomite 840 300 1,292 4,600 Graphite, crude and ground 103,008 42,920 45,350 61,665 75,003 Graphite, crude and refined 32,149 18,483 16,145 64,998 78,500 Gypsum 374,469 186,176 112,319 141,389 164,807 Jion pyrites and sulphur ³ 26,500 33,320 81,960 145,980 132,920 Micar 23,465 2,752 9,371 9,059 7,144 Mineral waters 4,635,497 4,719,297 4,523,084 4,741,368 4,894,353 Petroleum, crude 10,090 7,343 1,4730 5,761 1,751,484 22,974 36,616 134,572 111,074 Silica brick 13,702 4,303 7,351 147,760,488 1789,752	Chromite			· · · · · · · · · · · · · · · ·	100	
Actinolite \$456	Total	\$74,378,766	\$70,130,845	\$95,364,365	\$129,273,033	\$142,888,565
Actinolite \$456	Non-Metallic					
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Barite 60 60 Diatomite 640 309 1.298 1.920 4.600 Peldspar, crude and ground 103,008 42,920 45,350 61,665 75,003 Graphite, crude and refined 32,149 18,483 16,145 64,998 78,500 Graphite, crude and refined 374,469 186,176 112,319 141,389 164,807 Nica. 23,465 2,752 9,371 9,059 7,144 Mineral waters 8,578 2,473 2,3471 1,622 1,477 Matural gas. 4,635,494 71,927 4,523,084 4,741,438 4.894,353 Petroleum, crude 219,993 247,468 253,486 299,874 346,156 Quartzite and quartz. 148,642 93,574 86,146 134,572 111,074 Silica brick 13,702 4,303 7,351 14,730 22,976 Satt 12,044 111,585 142,134 135,978 138,161 Total \$7,642,308 \$7,361,897 \$7,094,636 \$7,553,571	Arsenic white	135,170		\$56,534	56,412	\$75,326
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Tetospar, crude and refined. 32,149 13,064 2,100 900 Graphite, crude and refined. 32,149 18,483 16,145 64,998 78,500 Gypsum. 374,469 186,176 112,319 141,389 143,980 132,920 Mica. 23,465 2,752 9,371 9,059 7,144 Mineral waters. 8,578 2,473 2,347 1,622 1,477 Natural gas. 4,635,497 4,719,297 4,523,084 4,741,368 4,894,353 Peat fuel. 1,096 10,107 900 7,343 5,761 60 Quartzite and quartz. 148,642 93,574 86,146 134,572 111,074 Silica brick. 13,702 4,303 7,351 14,730 22,976 Salt. 1,760,388 1,789,752 1,755,087 1,754,196 1,698,500 Tale and soapstone 1,22,044 111,585 142,134 135,628 1,705,302 Lime, hydrated and quicklime 1,21,190 1,273,230 1,275,956 \$1,567,812 \$2,403,590 \$1,752,146 <td< td=""><td>Foldener, erude and ground</td><td></td><td></td><td></td><td></td><td></td></td<>	Foldener, erude and ground					
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Natinal gas 1,096 10,107 10,007 7,343 5,761 Petroleum, crude 219,993 247,468 253,486 299,874 346,156 60 Quartzite and quartz 148,642 93,574 86,146 134,572 111,074 Silica brick 13,702 4,303 7,351 14,730 22,976 Salt 1,760,388 1,789,752 1,755,087 1,734.196 1,698,500 Salt 1,760,388 1,789,752 1,755,087 1,734.196 1,698,500 Staucorreation 122,044 111,585 142,134 135,978 138,161 Total \$7,642,308 \$7,361,897 \$7,094,636 \$7,553,571 \$1,752,148 Lime, hydrated and quicklime 1,221,190 1,273,230 1,227,196 1,536,288 1,705,303 Sand and gravel 2,317,015 2,000,298 2,467,916 1,714,569 2,095,610 Sate 2,197,297 1,655,016 983,268 1,965,507 1,863,389 State 600 1,833,321 18,638 3,683 5,992 976 B						
Petroleum, crude. 219,993 247,468 253,486 299,874 346,156 Phosphate 148,642 93,574 86,146 134,572 111,074 Salt 13,702 4,303 7,351 14,730 22,976 Salt 1,760,388 1,789,752 1,755,087 1,734,196 1,698,500 Tale and soapstone 122,044 111,585 142,134 135,978 138,161 Total \$7,642,308 \$7,361,897 \$7,094,636 \$7,553,571 \$7,766,657 Streverval MATERIALS \$5,006,826 \$2,288,975 \$1,587,812 \$2,403,590 \$1,752,148 Lime, hydrated and quicklime 1,221,190 1,273,230 1,227,196 1,766,653 \$1,705,305 Sand and gravel 23,17,015 2,000,298 2,467,916 1,714,569 \$2,095,610 Slate	Natural gas					
Phosphate 219,000 22,976 111,074 22,976 1,734,196 1,698,500 1,698,500 138,161 Total 122,044 111,585 142,134 135,978 138,161 1,752,148 135,978 138,161 Cement, Portland \$7,642,308 \$7,361,897 \$7,094,636 \$7,553,571 \$7,766,657 \$7,295,017 \$1,587,812 \$2,403,590 \$1,752,148 Lime, hydrated and quicklime 1,221,190 1,273,230 1,227,196 1,536,288 1,705,303 Sand and gravel 253,228 78,398 69,785 146,009 138,557 State \$11,995,556 \$7,295,917 \$6,335,977 \$7,766,563 \$7,555,500 CLAY PRODUCTS \$11,278,954 \$532,728 \$351,292 \$479,850 \$545,231 Brick, face 622,777 </td <td>Peat fuel</td> <td>1,096</td> <td></td> <td></td> <td></td> <td></td>	Peat fuel	1,096				
Phosphate 148,642 93,574 86,146 134,572 111,074 Silica brick 13,702 4,303 7,351 14,730 22,976 Salt 1,760,388 1,789,752 1,755,087 1,734,196 1,698,500 Talc and soapstone 122,044 111,585 142,134 135,978 138,161 Total \$7,642,308 \$7,361,897 \$7,094,636 \$7,553,571 \$7,766,657 STRUCTURAL MATERIALS \$5,006,826 \$2,288,975 \$1,587,812 \$2,403,590 \$1,752,148 Lime, hydrated and quicklime 1,221,190 1,273,230 1,227,196 1,746,569 2,095,610 Sand and gravel 2,317,015 2,000,298 2,467,916 1,714,569 2,095,607 Stone: limestone, trap, granite, etc. 3,197,297 1,655,016 983,268 1,965,507 1,863,892 State	Petroleum, crude	219,993	247,468	253,486	299,874	
Quartzite and quartz.148,64293,57486,14613,752111,074Silt.111,074111,074111,074Salt.7,765,0871,775,0871,774,1961,696,500Total\$7,642,308\$7,094,636\$7,553,571\$7,766,657SrRUCTURAL MATERIALS\$5,006,826\$2,288,975\$1,587,812\$2,403,590\$1,752,148Lime, hydrated and quicklime.1,221,1901,277,1961,536,2881,705,303Sand and gravel2,317,0152,000,2982,467,9161,71,714,5692,095,610Sand-lime products'23,17,0152,000,2982,467,9161,714,5692,095,610Sand-lime products'23,17,0152,000,2982,467,9161,714,15692,095,610Sand-lime products'23,17,0152,000,2982,467,9161,714,5692,095,610Sand and gravel2,317,0152,000,2982,467,9161,714,569Colspan="2">Sand and gravel3,1						60
Silica brick. 13,702 4,303 7,351 14,730 22,976 Salt. 1,760,388 1,789,752 1,755,087 1,734,196 1,698,500 Talc and soapstone 122,044 111,585 142,134 135,978 138,161 Total \$7,642,308 \$7,361,897 \$7,094,636 \$7,553,571 \$7,766,657 STRUCTURAL MATERIALS \$5,006,826 \$2,288,975 \$1,587,812 \$2,403,590 \$1,752,148 Lime, hydrated and quicklime. 1,221,190 1,227,196 1,536,288 1,705,305 Sand and gravel 2,317,015 2,000,298 2,467,916 1,714,569 2,095,610 Sand-lime products' 253,228 78,398 69,785 146,009 138,555 Stee: \$11,995,556 \$7,295,917 \$6,335,977 \$7,766,563 \$7,553,500 CLAY PRODUCTS \$1,278,954 \$532,728 \$351,292 \$479,850 \$545,231 Brick, fancy and ornamental 16,829 1,700 387 835 726 Brick, sewer 33,321 18,638 3,683 5,992 977 Brick, sew		148.642	93.574	86.146	134,572	111,074
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Talc and soapstone 122,044 111,585 142,134 135,978 138,161 Total \$7,642,308 \$7,361,897 \$7,094,636 \$7,553,571 \$7,766,657 STRUCTURAL MATERIALS \$5,006,826 \$2,288,975 \$1,587,812 \$2,403,590 \$1,752,148 Lime, hydrated and quicklime 1,221,190 1,273,230 1,227,196 1,536,288 1,705,303 Sand and gravel 2,317,015 2,000,298 2,467,916 1,714,569 2,095,610 Sand lime products ⁴ 253,228 78,398 69,785 146,009 138,555 Store: limestone, trap, granite, etc. 3,197,297 1,655,016 983,268 1,965,507 1,863,892 Slate						1,698,500
Total.\$7,642,308\$7,361,897\$7,094,636\$7,553,571\$7,766,657STRUCTURAL MATERIALS Cement, Portland.\$5,006,826\$2,288,975\$1,587,812\$2,403,590\$1,752,148Lime, hydrated and quicklime.1,221,1901,273,2301,227,1961,536,2881,705,303Sand and gravel.2,317,0152,000,2982,467,9161,714,5692,095,610Sand-lime products ⁴ 2,317,0152,000,2982,467,9161,714,5692,095,610Stone: limestone, trap, granite, etc.3,197,2971,655,016983,2681,965,5071,863,892Slate					135,978	138,161
STRUCTURAL MATERIALS Cement, Portland				·		
Cement, Portland $\$5,006,826$ $\$2,288,975$ $\$1,587,812$ $\$2,403,590$ $\$1,752,148$ Lime, hydrated and quicklime $1,221,190$ $1,273,230$ $1,227,196$ $1,536,288$ $1,705,302$ Sand and gravel $2,317,015$ $2,000,298$ $2,467,916$ $1,714,569$ $2,095,610$ Sand-lime products' $253,228$ $78,398$ $69,785$ $146,009$ $138,555$ Stone: limestone, trap, granite, etc. $3,197,297$ $1,655,016$ $983,268$ $1,965,507$ $1,863,892$ Slate $511,995,556$ $\$7,295,917$ $\$6,335,977$ $\$7,766,563$ $\$7,555,508$ CLAY PRODUCTS $\$1,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$545,231$ Brick, face $$1,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$545,231$ Brick, facy and ornamental $16,829$ $1,790$ 387 835 722 Brick, sewer $244,368$ $144,579$ $179,015$ $137,699$ $125,590$ Tile, drain $244,368$ $144,579$ $179,015$ $137,699$ $125,590$ State and clay $696,964$ $451,786$ $185,138$ $226,005$ $196,642$ Pottery $73,860$ $67,866$ $52,650$ $52,578$ $50,000$ Total $\$3,552,799$ $\$1,690,505$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$ Total $\$3,552,799$ $\$1,690,505$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$	Total	\$7,642,308	\$7,361,897	\$7,094,636	\$7,553,571	\$1,100,001
Cement, Portland $\$5,006,826$ $\$2,288,975$ $\$1,587,812$ $\$2,403,590$ $\$1,752,148$ Lime, hydrated and quicklime $1,221,190$ $1,273,230$ $1,227,196$ $1,536,288$ $1,705,302$ Sand and gravel $2,317,015$ $2,000,298$ $2,467,916$ $1,714,569$ $2,095,610$ Sand-lime products' $253,228$ $78,398$ $69,785$ $146,009$ $138,555$ Stone: limestone, trap, granite, etc. $3,197,297$ $1,655,016$ $983,268$ $1,965,507$ $1,863,892$ Slate $511,995,556$ $\$7,295,917$ $\$6,335,977$ $\$7,766,563$ $\$7,555,508$ CLAY PRODUCTS $\$1,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$545,231$ Brick, face $$1,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$545,231$ Brick, facy and ornamental $16,829$ $1,790$ 387 835 722 Brick, sewer $244,368$ $144,579$ $179,015$ $137,699$ $125,590$ Tile, drain $244,368$ $144,579$ $179,015$ $137,699$ $125,590$ State and clay $696,964$ $451,786$ $185,138$ $226,005$ $196,642$ Pottery $73,860$ $67,866$ $52,650$ $52,578$ $50,000$ Total $\$3,552,799$ $\$1,690,505$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$ Total $\$3,552,799$ $\$1,690,505$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$	STRUCTURAL MATERIALS		1			
Lime, hydrated and quicklime $1,221,190$ $1,273,230$ $1,227,196$ $1,536,288$ $1,705,303$ Sand and gravel $2,317,015$ $2,000,298$ $2,467,916$ $1,714,569$ $2,095,610$ Sand-lime products' $253,228$ $78,398$ $69,785$ $146,009$ $138,555$ Stone: limestone, trap, granite, etc. $3,197,297$ $1,655,016$ $983,268$ $1,965,507$ $1,863,892$ State $511,995,556$ $\$7,295,917$ $\$6,335,977$ $\$7,766,563$ $\$7,555,508$ CLAY PRODUCTS $\$1,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$7,555,508$ Brick, face $\$1,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$545,231$ Brick, fancy and ornamental $16,227,777$ $286,928$ $163,338$ $227,276$ $275,838$ Brick, sewer $33,321$ $18,638$ $3,683$ $5,992$ 970 Tile, structural, roofing, and floor. $378,193$ $169,824$ $74,064$ $120,981$ $168,128$ sewer pipe, copings, flue-linings, etc $696,964$ $451,786$ $185,138$ $226,005$ $196,642$ Pottery $73,860$ $67,866$ $52,650$ $52,578$ $50,000$ Haydite and clay $167,533$ $16,905,055$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$ Total $\$3,552,799$ $\$1,690,505$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$		\$5,006.826	\$ \$2,288,975	\$1,587,812	\$2,403,590	\$1,752,148
Sand and gravel. 2,317,015 2,000,298 2,467,916 1,714,569 2,095,610 Sand and gravel. 253,228 78,398 69,785 146,009 138,555 Stone: limestone, trap, granite, etc. 3,197,297 1,655,016 983,268 1,965,507 1,863,892 Slate \$11,995,556 \$7,295,917 \$6,335,977 \$7,766,563 \$7,555,508 CLAY PRODUCTS \$11,278,954 \$532,728 \$351,292 \$479,850 \$545,231 Brick, face \$11,278,954 \$532,728 \$351,292 \$479,850 \$545,231 Brick, fancy and ornamental 16,829 1,790 387 \$35 728 Brick, sewer 244,368 144,579 179,015 137,699 125,593 Tile, drain 378,193 169,824 74,064 120,981 168,128 Sewer pipe, copings, flue-linings, etc. 73,860 67,866 52,650 52,578 50,000 Haydite and clay 167,533 16,366 15,012 9,790 7,093 Total \$3,552,799 \$1,690,505 \$1,024	Lime hydrated and quicklime					1,705,303
Sand-lime products*146,009138,555Sand-lime products*253,22878,39869,785146,009138,555Stone: limestone, trap, granite, etc. $3,197,297$ $1,655,016$ $983,268$ $1,965,507$ $1,863,892$ Slate $1,995,556$ $\$7,295,917$ $\$6,335,977$ $\$7,766,563$ $\$7,555,506$ Total $\$11,995,556$ $\$7,295,917$ $\$6,335,977$ $\$7,766,563$ $\$7,555,506$ Brick, face $\$11,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$545,231$ Brick, fancy and ornamental $622,777$ $286,928$ $163,338$ $227,276$ $275,833$ Brick, sewer $33,321$ $18,638$ $3,683$ $5,992$ 977 Tile, drain $244,368$ $144,579$ $179,015$ $137,699$ $125,593$ Tile, structural, roofing, and floor. $378,193$ $169,824$ $74,064$ $120,981$ $168,128$ Sewer pipe, copings, flue-linings, etc. $696,964$ $451,786$ $185,138$ $226,005$ $196,642$ Pottery $167,533$ $16,366$ $15,012$ $9,790$ $7,093$ Total $\$3,552,799$ $\$1,690,505$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$						2,095,610
Stone: limestone, trap, granite, etc.3,197,2971,655,016983,2681,965,5071,863,892Stone: limestone, trap, granite, etc.3,197,2971,655,016983,2681,965,5071,863,892Stone: limestone, trap, granite, etc.3,197,2971,655,016983,2681,965,5071,863,892Stone: limestone, trap, granite, etc.3,197,2971,655,016983,2681,965,5071,863,892CLAY PRODUCTSBrick, face.\$1,278,954\$532,728\$351,292\$479,850\$545,231Brick, face.\$1,278,954\$532,728\$351,292\$479,850\$545,231Brick, face.\$1,278,954\$532,728\$351,292\$479,850\$545,231Brick, face.\$3,321\$8,638\$,683\$,692Tile, drain244,368\$144,579\$179,015\$137,699\$125,593File, structural, roofing, and floor.\$378,193\$169,824\$74,064\$20,005\$196,642Pott						· · · · · · · · · · · · · · · · · · ·
$ \begin{array}{c} \hline \text{Slate} & & & & & & & & & & & & & & & & & & &$						
State Total Total Total State Total Total State Total CLAY PRODUCTS Brick, face \$\$11,995,556 \$7,295,917 \$6,335,977 \$7,766,563 \$7,555,508 Brick, face \$\$1,278,954 \$532,728 \$351,292 \$\$479,850 \$545,231 Brick, common 622,777 286,928 163,338 227,276 275,835 Brick, fancy and ornamental 16,829 1,790 387 \$35 722 Brick, sewer 33,321 18,638 3,683 5,992 976 Tile, drain 244,368 144,579 179,015 137,699 125,593 Tile, structural, roofing, and floor. 378,193 169,824 74,064 120,981 168,128 setc 73,860 67,886 52,650 52,578 50,000 Haydite and clay 167,533 16,366 15,012 9,790 7,093			1,000,010	1 -		
CLAY PRODUCTS Brick, face. \$1,278,954 \$532,728 \$351,292 \$479,850 \$545,231 Brick, face. 622,777 \$286,928 163,338 227,276 275,833 Brick, fancy and ornamental. 16,829 1,790 387 835 722 Brick, sewer 33,321 18,638 3,683 5,992 976 Tile, drain. 244,368 144,579 179,015 137,699 125,593 Tile, structural, roofing, and floor. 378,193 169,824 74,064 120,981 168,128 etc. 73,860 67,866 52,650 52,578 50,000 Haydite and clay. 167,533 16,366 15,012 9,790 7,093 Total. \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223	Jidle					
Brick, face. $\$1,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$545,231$ Brick, common $622,777$ $286,928$ $163,338$ $227,276$ $275,836$ Brick, fancy and ornamental $16,829$ $1,790$ 387 835 722 Brick, sewer $33,321$ $18,638$ $3,683$ $5,992$ 976 Tile, drain $244,368$ $144,579$ $179,015$ $137,699$ $125,593$ Tile, structural, roofing, and floor. $378,193$ $169,824$ $74,064$ $120,981$ $168,128$ Sewer pipe, copings, flue-linings, etc. $696,964$ $451,786$ $185,138$ $226,005$ $196,642$ Pottery $73,860$ $67,866$ $52,650$ $52,578$ $50,000$ Haydite and clay $167,533$ $16,366$ $15,012$ $9,790$ $7,093$ Total $\$3,552,799$ $\$1,690,505$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$	Total	\$11,995,556	3 \$7,295,917	\$6,335,977	\$7,766,563	\$7,555,508
Brick, face. $\$1,278,954$ $\$532,728$ $\$351,292$ $\$479,850$ $\$545,231$ Brick, common $622,777$ $286,928$ $163,338$ $227,276$ $275,836$ Brick, fancy and ornamental $16,829$ $1,790$ 387 835 722 Brick, sewer $33,321$ $18,638$ $3,683$ $5,992$ 976 Tile, drain $244,368$ $144,579$ $179,015$ $137,699$ $125,593$ Tile, structural, roofing, and floor. $378,193$ $169,824$ $74,064$ $120,981$ $168,128$ Sewer pipe, copings, flue-linings, etc. $696,964$ $451,786$ $185,138$ $226,005$ $196,642$ Pottery $73,860$ $67,866$ $52,650$ $52,578$ $50,000$ Haydite and clay $167,533$ $16,366$ $15,012$ $9,790$ $7,093$ Total $\$3,552,799$ $\$1,690,505$ $\$1,024,579$ $\$1,261,006$ $\$1,370,223$	CLAY PRODUCTS					
Brick, common 622,777 286,928 163,338 227,276 275,834 Brick, fancy and ornamental 16,829 1,790 387 835 726 Brick, sewer 33,321 18,638 3,683 5,992 976 Tile, drain 244,368 144,579 179,015 137,699 125,593 Sewer pipe, copings, flue-linings, etc. 378,193 169,824 74,064 120,981 168,128 Pottery 73,860 67,866 52,650 52,578 50,000 Haydite and clay 167,533 16,366 15,012 9,790 7,093 Total \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223	Brick, face	\$1,278,954	\$532,728	\$351,292	\$479,850	\$545,231
Drick, fancy and ornamental 16,829 1,790 387 835 725 Brick, fancy and ornamental 16,829 1,790 387 835 725 Brick, sewer 33,321 18,638 3,683 5,992 977 Tile, drain 244,368 144,579 179,015 137,699 125,593 Tile, structural, roofing, and floor. 378,193 169,824 74,064 120,981 168,128 Sewer pipe, copings, flue-linings, etc. 696,964 451,786 185,138 226,005 196,642 Pottery 73,860 67,866 52,650 52,578 50,000 Haydite and clay 167,533 16,366 15,012 9,790 7,093 Total \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223	Brick common.					275,835
Brick, sewer 33,321 18,638 3,683 5,992 970 Tile, drain 244,368 144,579 179,015 137,699 125,593 Tile, structural, roofing, and floor. 378,193 169,824 74,064 120,981 168,128 Sewer pipe, copings, flue-linings, etc. 696,964 451,786 185,138 226,005 196,642 Pottery 167,533 16,366 15,012 9,790 7,093 Total \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223	Brick fancy and ornamental	16 820				
Tile, drain 244,368 144,579 179,015 137,699 125,593 Tile, structural, roofing, and floor. 378,193 169,824 74,064 120,981 168,128 Sewer pipe, copings, flue-linings, etc. 696,964 451,786 185,138 226,005 196,642 Pottery 73,860 67,866 52,650 52,578 50,000 Haydite and clay 167,533 16,366 15,012 9,790 7,093 Total \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223						
Tile, structural, roofing, and floor. 378,193 169,824 74,064 120,981 168,128 Sewer pipe, copings, flue-linings, etc. 696,964 451,786 185,138 226,005 196,647 Pottery. 73,860 67,866 52,657 52,578 50,000 Haydite and clay. 167,533 16,366 15,012 9,790 7,093 Total. \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223						
Intersection all, contract, contract, structure and clay. Otopics Display Display Sewer pipe, copings, flue-linings, etc. 696,964 451,786 185,138 226,005 196,642 Pottery. 73,860 67,886 52,650 52,578 50,000 Haydite and clay. 167,533 16,366 15,012 9,790 7,093 Total. \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223						
etc. 696,964 451,786 185,138 226,005 196,647 Pottery. 73,860 67,866 52,650 52,578 50,000 Haydite and clay. 167,533 16,366 15,012 9,790 7,095 Total. \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223			109,024	14,004	120,001	100,120
Pottery 73,860 67,866 52,650 52,578 50,000 Haydite and clay 167,533 16,366 15,012 9,790 7,093 Total \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223			4 41 700	105 100	006 005	106 647
Haydite and clay 167,533 16,366 15,012 9,790 7,093 Total \$3,552,799 \$1,690,505 \$1,024,579 \$1,261,006 \$1,370,223						
Total		1 405 800				
	Haydite and clay	167,53	3 16,366	15,012	9,790	7,098
GRAND TOTAL	Total	\$3,552,799	9 \$1,690,505	\$1,024,579	\$1,261,006	\$1,370,225
	GRAND TOTAL	\$97,569.42	9 \$86,479,164	\$109,819.557	\$145,854,173	\$159,580,955

¹Cobalt in oxide, metallic cobalt, and cobalt content of residues marketed. ²Nickel in matte, oxide, and metallic nickel. ³Includes value of sulphuric acid produced. ⁴No deduction made for lime consumed in manufacturing. Note that the figures prior to 1934 refer to sand-lime brick only.

Department of Mines

The table below shows the aggregate value of metals from the time production began in Ontario and of other minerals beginning with 1891. Since 1914 the statistics of annual production credit the province only with the value of the pig iron made from Ontario ore. This is but a small part of the total output, since the great bulk of the iron ore charged to the blast furnaces of the province is "lake" ore from the mines of Minnesota and Wisconsin. In the production tables, credit is taken only for the ore exported or shipped to points other than Ontario blast furnaces, since to include the value of the domestic ore converted into pig iron in Ontario would involve a duplication of this item.

Year	Exchange equalization or discount	Metallics	Non- metallics	Structural materials	Clay products	Total
Before 1891 ¹		\$9,520,269	·			\$9,520,269
1891		388,715		\$4,316,958		4,705,673
		864,382		4,509,757		5,374,139
		614,762		5,505,991		6,120,753
		842.750		5,244,008		6.086.758
		616,055				5,170,138
	· · · · · · · · · · · · · ·	963,288		4,554,083		
1897	•••••	1,038,089		4,271,715		5,235,003 5,518,541
				4,480,452		
	· • • • • • • • • • • • •	1,689,002		5,546,875		7,235,877
1899		2,055,592		6,361,081		8,416,673
1900		2,565,286		6,733,338		9,298,624
1901		5,016,734		6,814,352		11,831,086
1902		6,257,499		7,134,135		13,391,634
1903		5,242,575		7,628,018		12,870,593
1904		4,906,677		6,665,970		11,572,647
1905		10,201,010		7,653,286		17,854,296
1906		13,353,080		9,035,303		22,388,383
1907		14,550,835	3,020,537	3,876,275	3,571,726	25,019,373
1908		16,754,986	2,629,749	3.396,406	2,856,476	25,637,617
1909	•••••	22,928,496	2,825,751	4.028.206	3,198,922	32,981,375
1910		28,161,678	3,141,658	4,380,000	3,630,559	39,313,895
1911		29,102,867	3,674,926	4,935,609	4,263,395	41,976,797
1912		34,799,734	4,009,643	4,701,170	4,831,056	48,341,603
1913		37,507,935	4,296,450	5,866,775	5,561,151	53.232.311
1914		33,345,291	4,339,703	4,505,368	4,105,597	46,295,959
1915		44,109,769	4,655,250	3,609,371	1,871,379	54,245,679
1916		55,002,918	4,982,140			65,303,822
1917		56,831,857		3,734,065	1,584,699	72,093,832
			7,702,942	4,962,284	2,596,749	
1918	• • • • • • • • • • • •	66,178,059	7,815,062	4,297,401	2,018,450	80,308,972
1919	A1 070 077	41,590,759	6,308,182	7,208,413	3,776,562	58,883,916
1920	\$1,376,275	48,281,553	8,141,796	11,921,019	4,735,154	74,455,797
1921		28,777,581	6,636,217	13,967,386	5,183,125	55,923,945
1922	208,621	40,290,157	7,591,913	13,640,166	6,944,218	68,675,075
1923	279,446	44,076,660	8,511,786	13,139,757	6,269,140	72,276,789
1924	196,749	52,130,314	7,555,283	12,398,465	5,137,865	77,418,676
1925	2,838	62,495,472	7,488,034	12,451,174	5,148,626	87,580,468
1926		59,218,297	7,842,632	12,681,308	5,356,469	85,098,111
1927	235	62,631,255	7,638,605	14.160,552	5,853,035	90,283,212
1928	2,811	71,267,003	7,822,641	14,815,814	6,177,664	100,085,933
1929	157,456	83,967,446	8,621,427	18,541,687	6,830,162	118,118,178
1930	36,702	83,356,365	8,492,263	16,571,626	5,221,214	113,678,170
1931	1,926,222	72,452,544	7,642,308	11.995.556	3,552,799	97,569,429
1932	6,133,828	63,997,017	7,361,897	7.295,917	1.690.505	86,479,164
1933	16,486,437	78,877,928	7,094,636	6.335.977	1.024.579	109.819.557
1934	29,287,439	99,985,594	7,553,571	7,766,563	1,261,006	145,854,173
1935	32,169,797	110,718,768	7,766,657	7,555,508	1,370,225	159,580,955
		\$1,609,524,813	e	649,081,306		\$2,349,123,870

TOTAL MINERAL PRODUCTION

¹Prior to 1891, when the Ontario Bureau (now Department) of Mines was established, it is estimated that metals to the value of \$9,520,269 were produced. No estimate has been made of the output of non-metallics up to 1891.

4

Metal Production

In the total production of metals in Ontario, noted hereunder, gold moved up from third to first place in 1927:—

Metal or product	To December 31, 1934	1935	To December 31, 1935
Gold. Exchange equalization. Nickel, including nickel oxides and salts. Silver Copper ¹ . Pig iron from domestic ore. Cobalt ² . Platinum metals. Iron ore ³ . Lead. Zinc, in ore and concentrates. Molybdenite. Bismuth. Selenium. Tellurium. Chromite	$\begin{array}{r} 84,775,556\\ 26,521,766\\ 30,994,184\\ 9,463,516\\ 4,485,839\\ 535,696\\ 210,015\\ 154,903\\ 177,139\\ 25,599\\ \end{array}$	\$45,898,372 32,163,797 35,345,103 4,068,906 19,295,965 512,705 5,407,392 6,796 144,697 28,550 9,576	4,486,545 535,696
		\$142,888,565	\$1,69 9,142,564

METAL PRODUCTION TO DECEMBER 31, 1935

¹Includes small quantities of copper sulphate.

Includes metal, oxide, salts, and cobalt contents of residues exported.

³Value of ore shipped out of the province.

Dividends.—During 1935 dividends were paid by 14 gold, 2 nickel-copper, and 3 silver-cobalt mining companies. Total payments by metal mines of the province are rated hereunder by groups:—

DIVIDENDS PA	AID BY	METAL	MINES	ΤO	DECEMBER	31,	1935
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Industry	To end of 1934	1935	To end of 1935
Nickel-copper Gold Silver-cobalt	179,948,856	\$13,865,195 25,208,545 367,000	\$173,714,837 205,157,401 98,350,781
Total	\$437,782,279	\$39,440,740	\$477,223,019

Diamond-Drilling

During the past three years diamond-drilling in Ontario has been active. Twenty companies were operating in 1935, and the statistics which follow are complete. In 1934 there were 285 drills in use, and employment was given to 518 men, who received \$759,285 in wages. The corresponding figures for 1935 are 171 drills, 608 men, and \$891,644 in wages. Diamond-drilling operations afford an excellent yard-stick in appraising the general trend in mining development and prospecting. As these Ontario firms do considerable drilling in the neighbouring provinces, Quebec and Manitoba, and also much farther afield, statistics covering the work done in these outside areas are also shown. It should, however, be pointed out that the data for outside provinces may be incomplete.

No.	4
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Province		1934		1935	
Trovince	Holes	Core footage	Holes	Core footage	
Ontario. Quebec Manitoba. Saskatchewan and N.W.T.	3,891 1,023 418 31	672,011 215,153 81,226 5,791	5,156 1,336 549 31	883,840 261,907 86,230 10,525	
Total	5,365	974,181 (184.5 miles)	7,072	1,242,502 (235.3 miles)	

DIAMOND-DRILLING OPERATIONS, 1934 AND 1935

On the other hand consumption of diamonds used in drilling refers to footage drilled in all provinces in which work was reported, and is indicative of the trade available for diamond merchants as well as the amount of wear or wastage of these abrasives in our hard pre-Cambrian rocks. The total consumption of borts, ballas, and carbons was 43,680.69 carats, as shown below:—

Period	Borts	Ballas	Carbons
Diamonds on hand December 31, 1934 Purchased in 1935	carats 13,380.92 47,743.73	carats 76.57 79.98	carats 3,695.00 2,878.95
Diamonds on hand December 31, 1935deduct	61,124.65 19,507.38	$156.55 \\ 71.30$	6,573.95 4,695.78
Diamonds consumed (43,680.69) in 1935	41,617.27	85.25	1,978.17

CONSUMPTION OF DIAMONDS BY REPORTING FIRMS, 1935

Prospecting

An index of activity is afforded by the following table:---

Year	No.	Year	No.	Year	No.
1907	13,996	1917	1,936	1927	15,554
1908	4,634	1918	1,534		15,046
1909	9,746	1919	2,918		8,207
1910	5,792	1920	2,160		3,886
1911	9,001	1921	2.459		5,779
1912	3.104	1922	5.686		4.945
1913	4.320	1923	6.092		8.077
1914	1.913	1924	5.222		16.888
	2,519	1925			9.460
	2,470	1926			0,100

MINING CLAIMS RECORDED, 1907-1935

It will be noted that 1934 was the most active year for claim-staking in the history of the province. In the Port Arthur mining division alone, 6,842 claims were recorded as a result of prospecting activity in the Little Long Lac and Sturgeon River gold areas, which lie east of Lake Nipigon close to the Canadian National railway.

METALLICS

Gold

General Summary

The production of gold from all sources in Ontario during 1935 totalled 2,220,-336 fine ounces, valued at \$78,068,169 in Canadian funds, as against 2,105,341 fine ounces, worth \$72,808,688, during the corresponding period of the previous year. Of this year's output, 2,151,305 ounces were recovered by the auriferous quartz mines, and the balance, 69,024 ounces, from the refining of nickel-copper mattes.

The record of the gold mines alone, including the value of the silver recovered in the crude gold bullion, was \$75,927,718 in 1935, as against \$70,929,796 in 1934. Reference to the table for gold-mining will show that the Porcupine camp with eleven mines slightly improved its position. On the other hand the Kirkland Lake belt, also with eleven properties, was \$765,394 below the high of 1934. This decline, however, was more than made up by increases in both Matachewan and Northwestern Ontario, where many new producers have appeared.

During 1935 important developments have taken place in all gold fields. Commencing with the eastern areas, the old Larder Lake camp has come to life after many years of inactivity. Omega Gold Mines, Limited, which was formed by Castle-Trethewey Mines, acquired the property of Canadian Reserve Mines, consisting of 22 mining claims formerly owned by the Crown Reserve Consolidated Mines, Canadian Associated Goldfields, and Kitchener Kirkland Gold Mines, and the mill, headframe, and underground layout have been completely overhauled or renewed. This one operation has stimulated interest in an area that was very prominently before the investing public during the past two decades.

The eastern Kirkland area (Gull Lake) has been active. At the Lake Shore a new shaft, now completed to the bed of the lake, will be sunk to depth. At the Wright-Hargreaves, a new internal shaft is under construction; and at the western edge of the camp the Macassa is developing to 3,000 feet in depth. Matachewan is now represented by three properties, Ashley, Young-Davidson, and Matachewan Consolidated. A deep shaft is being sunk on the Young-Davidson.

At Porcupine one of the most important developments has been the work undertaken by Noranda Mines in the eastern section of the area on the Pamour property, formerly owned by the Three Nations Mining Company, where a campaign of deep diamond-drilling carried on during the past summer has had favourable results. During the latter part of the season the Ontario Department of Mines made a special survey of this section of the area, using air service in preparing the map.

The most outstanding relative improvement, however, has taken place in the northwestern part of the province, including the Sudbury area. Twentyeight mines throughout this area were active during the period, the production ranging from a few hundred dollars to almost a million.

Recently a new find of gold-bearing veins was made on the Sachigo river, located about 40 miles due east of the Manitoba boundary in about the same latitude as Gods lake. This area is roughly about 250 miles north of Superior Junction on the Canadian National railway.

Prospecting and development work have been carried on extensively throughout the province, and a pleasing feature is that interest is being maintained in the old established camps, in all of which extensions of the ore deposits have been found.

Production and Dividends

The following tables show the dividends paid by the various gold-mining companies, the production by areas in 1935, the total gold production from 1866 to 1935, and the annual production by mines in each area.

NIES TO DECEMBER 31, 1935	ndsDividendsRateTotalDate whenusesand bonusescent.,dividendsandlast dividendendpaid duringorperbonusespaidor bonusbit1935shareto Dec. 31, 1935was paid	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	¹ On April 22, 1922, the capital of Dome Mines Company, Limited, was reduced from \$5,000,000 to \$4,500,000, and \$176,667 (repayment of capital not included in above table) distributed to shareholders in addition to dividends paid to September 30, 1923, when the new company, Dome Mines, Limited, issued 1,000,000 no par value shares at \$7.00 per share. Of these 46,666 shares are transferred to a trustee and held in trust for the company. ³ Hollinger Consolidated Gold Mines, Limited, is an amalgamation of the Acme Gold Mines, Limited; Millerton Gold Mines, Limited; and Hol-linger Gold Mines, Limited. Dividends include \$160,000 paid in 1915 by Acme, and \$4,170,000 paid by Hollinger to May 25, 1916, the date of consolidation.
GOLD-MINING COMPANIES	ur Dividends ue and bonuses and to end tr of 1934		ced from \$5,00 paid to Septe 6 shares are tr ne Gold Mine , and \$4,170,0
INIM	Par value per sshare	252,605 No par 577,007 81.00 717,447 No par 600,000 50.00 600,000 5.00 50.00 600,000 5.00 50.00 600,000 5.00 50.00 600,000 5.00 50.00 850,000 1.00 50.00 850,000 1.00 50.00 850,000 1.00 50.00 850,000 1.00 50.00 850,000 1.00 50.00 850,000 1.00 50.00 850,000 1.00 50.00 850,000 1.00 50.00 800,000 1.00 50.00 800,000 1.00 50.00 800,000 1.00 50.00 800,000 1.00 50.00 800,000 50.00 50.00	s reduc dends 46,666 ne Acn Acme,
	Capital stock issued, \$ or shares		imited, wa on to divid Of these tation of th n 1915 by
S PAID BY	Authorized capital, \$ or shares	1933 2,000,000 1932 \$1,000,000 1929 6,000,000 19216 \$25,000,000 19216 \$25,000,000 19216 \$5,000,000 19216 \$5,000,000 19215 5,500,000 19216 \$5,000,000 19217 \$5,000,000 19218 \$2,000,000 19219 \$5,000,000 19211 \$4,000,000 19213 \$2,000,000 19213 \$2,000,000 19213 \$2,000,000 19213 \$2,000,000 19213 \$2,000,000 19213 \$2,000,000 1923 \$5,000,000 1923 \$5,000,000 1923 \$5,000,000 1923 \$5,000,000 1923 \$5,000,000 1923 \$5,000,000 1923 \$5,000,000 1931 \$2,000,000 1931 \$2,000,000	ompany, L rrs in additi) per share. un amalgam ,000 paid ii
S AND BONUSES PAID	Date of incorporation	Oct. 16, 1933 Oct. 5, 1923 July 4, 1929 Sept. 30, 1923 Mar. 12, 1926 Mar. 12, 1926 Nov. 19, 1915 Feb. 25, 1914 April 12, 1926 Mar. 25, 1913 April 5, 1911 July 16, 1913 June 13, 1913 June 13, 1913 July 15, 1923 June 16, 1916 June 16, 1916	Oome Mines C I to shareholde shares at \$7.00 s, Limited, is a s include \$160
DIVIDENDS AN	Name of company	Anglo-Huronian, Ltd. Buffalo Ankerite Gold Mines, Ltd. Coniaurum Mines, Ltd. Dome Mines, Ltd. Howey Gold Mines, Ltd. Howey Gold Mines, Ltd. Kirkland Lake Gold Mining Co., Ltd. Lake Shore Mines, Ltd. McEntyre-Porcupine Mines, Ltd. McEntyre-Porcupine Mines, Ltd. Northern Empire Mines, Ltd. Porcupine Crown Mines, Ltd. Porcupine Crown Mines, Ltd. Schumacher Gold Mines, Ltd. Schumacher Gold Mines, Ltd. Teck-Hughes Gold Mines, Ltd. Toburn Gold Mines, Ltd. Vight-Hargreaves Mines, Ltd. Vright-Hargreaves Mines, Ltd.	¹ On April 22, 1922, the capital of I not included in above table) distributed Limited, issued 1,000,000 no par value s ² Hollinger Consolidated Gold Mines linger Gold Mines, Limited. Dividends solidation.

"The dividends are paid in United States funds. "The dividends are paid in United States funds. "The Schumacher mine was sold to the Hollinger in 1922, and a total of \$1,591,000, or 86 per cent. of the assets, distributed to shareholders, the final payment being made July 30, 1923. "The rate of 25 per cent. includes 5 per cent. paid out of 1933 profits. The dividends are paid in United States funds. "Formerly the Tough-Oakes Gold Mines, Limited." "The authorized and issued capital was changed in May. 1927, from 2,750,000 shares of \$1.00 par value to 5,500,000 shares of no par value.

Department of Mines

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	Total value of bullion.	Value funds	\$1,035,	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	167 56,933 71,238 14,700,511 33 965 8 653 406			$\begin{array}{cccccccccccccccccccccccccccccccccccc$	\$137,698 \$34,202,950	 	215 143,698		16	1,0	555 79,498		3,521 714,261	1,355 7,528,563	\$121,660 \$33,438,282	
	Fine silver	Quantity V ₆	ounces 2,618		$\begin{array}{c c} 251 \\ 105,843 \\ 54,385 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3 \\ 3$			2,628	211,391 \$13	c	336		112,678 7	3,498	806	9,030		33,556 2	192,574 \$12:	
Gold bullion shipped		Value, Canadian funds	\$1,034,331	573 1,130,803 7,265,187	$\begin{array}{c} 56,766\\ 14,629,273\\ 8.619.531\end{array}$	3,828 290,096	25,479 23,599	563,877 417,269 3,666	\$34,065,252	C L U C	\$973 143,483	43,379 775,299	16,188,630 10	1,065,002	78,943	1,911,820	710,740	7,507,208	\$33,316,622	
Gold bulli	gold	Exchange equalization	\$433,986 405	241 466,172 2,990,354	$\begin{array}{c} 23,445\\ 6,028,764\\ 3.550.671\end{array}$	1,579	9,728	$\begin{array}{c} 232,541 \\ 172,008 \\ 1,512 \end{array}$	\$14,043,630		59,090	17,897 319,474	6,658,528	439,227	32,569	788,177 9 014 440	293,171	3,094,363	\$13,718,813	
	Fine	Value, standard ¹	\$600,345 560	664,631 4,274,833	33,321 8,600,509 5.068,860	2,249 168,375	14,9/0	245,261 245,261 2,154	\$20,021,622	0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	84,393	25,482 $455,825$	9,530,102 6	625,775	46,374	1,123,643	417,569	4,412,845	\$19,597,809	e ounce.
		Quantity	ounces 29,041.714 27 504	$\begin{array}{c} 16.083\\ 32,151.552\\ 206,795.029\end{array}$	$\begin{array}{c c} 1,611.883\\ 416,049.642\\ 245,206.125\end{array}$			$16,028.371 \\11,864.500 \\104.191$	968,545.980	200	4,082.511		461,018.700. 296	30,271.870	2,243.351	54,356.230 138.027_175	20,199.895	213,4/1.380	948,044.132	671834 per fin
	Ore	milled	tons 159,383	151,055 549,100	5,122 1,837,153 869,100	59,380	10,681	79,845 106,393	3,829,279	76	35,172	71,920	836,322	68,627 31	7,912	152,281 3417 017	35,360	301,149	1,997,864	o gold at \$20.
	Ares	3	Porcuring Brit Buffalo Ankerite	Concordia (Jones-Porter) Coniaurum Dome	Gulties Lake-Forcupine Hollinger	McLaren-Porcupine	Naybob (Hayden)	raymaster Consolidated	Total	KIRKLAND LAKE BELT ² Argonant	Barry-Hollinger	Kirkland Lake Gold	Lake Shore Lucky Cross (S. Payne)	Macassa	Moffatt-Hall	Sylvanite Teck-Hughes	Toburn	w right-margreaves.	Total	¹ The term "standard" here refers to gold at \$20.671834 per fine ounce. ² Includes Larder Lake area.

PRODUCTION OF GOLD MINES, 1935

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Statistical Review for 1935

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		Total value of bullion	Canadian funds	\$440,531 356,818 713,380	\$1,510,729	\$1,372 293 273,315	\$274,980	\$3,008 17,750 196,252 338,388 49,027	\$604,425	\$32,531 450 49,118 2,252 1,108,269 645,296 645,296 645,296 303,152 76,627	\$2,247,053
		ilver	Value	\$1,249 1,048 4,537	\$6,834	\$ 10 3 190	\$203	\$ 6 28 28 83 83 88 83 88 88 88 88 88 88 88 88 88	\$451	\$2,714 597 597 1,689 1,686 1,686 1,259 1,259	\$8,673
	- -	Fine silver	Quantity	ounces 1,992 1,650 7,150	10,792	15 5 294	314	57 132 459 75	731	$\begin{array}{c} 5,675\\ 5,675\\ 914\\ 214\\ 2,710\\ 2,710\\ 2,638\\ 1,958\\ 1,071\\ 1,071\end{array}$	15,052
ntinued	ı shipped		Value, Canadian funds	\$ 439,282 355,770 708,843	\$1,503,895	\$1,362 290 273,125	\$274,777	\$3,002 17,722 196,169 338,102 48,979	\$603,974	\$ 29,817 449 48,521 2,232 1,106,580 643,610 643,610 301,893 301,893	\$2,238,380
GOLD MINES, 1935-Continued	Gold bullion shipped	gold	Exchange equalization	\$181,171 146,704 292,302	\$620,177	\$561 119 112,368	\$113,048	\$1,234 7,313 81,014 139,265 20,207	\$249,033	\$12,264 \$12,264 20,029 456,365 12,083 12,083 124,454 31,355	\$923,422
		Fine	Value, standard ¹	\$258,111 209,066 416,541	\$883,718	\$810 171 160,757	\$161,729	\$ 1,768 10,409 115,155 198,837 28,772	\$354,941	\$17,553 264 28492 1,310 1,310 650,215 17,245 177,845 177,439 44,600	\$1,314,958
PRODUCTION OF			Quantity	ounces 12,486.139 10,113.568 20,150.169	42,749.876	38.733 8.248 7,776.630	7,823.611	$\begin{array}{c} 85.547\\ 85.547\\ 503.512\\ 5,570.621\\ 9,618.760\\ 1,391.844\end{array}$	17,170.284	849.143 12.765 1,378.292 63.382 31.454.131 833.980 18.278.242 8,583.600 2,157.526	63,611.061
PROD			milled	tons 47,366 48,362 229,793	325,521	211 45 40,218	40,474	205 2,103 34,890 20,871 7,946	66,015	5,884 3,295 3,295 3,295 62,073 1,404 1,404 45,736 45,736	175,820
			Area	MATACHEWAN AREA Ashley Matachewan Consolidated Young-Davidson	Total	SUDBURY DISTRICT Halcrow-Swayze Mac-Auer	Total	ALGOMA DISTRICT (Michipicoten and Goudreau areas) Algoma Summit Darwin Jubilee Parkhill Van Sickle (S. B. Smith)	Total	THUNDER BAY DISTRICT Ardeen (Moss)	Total

PRODUCTION OF GOLD MINES, 1935-Continued

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Department of Mines

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KENORA AND RAINY RIVER DISTRICTS Cedar Island (Kenora Prospectors) Clark	3,095 87	656.762 35.634		\$9,588 511	\$ 23,164 1,248	531 4	\$342 2	\$23,506 1,250
ell C. ^s	475	$\begin{array}{c c} & 19.172 \\ & 2,097.666 \\ & 7.076 \end{array}$		273 30,454 102	669 73,817 248	232 232 2	$151 \\ 1$	671 73,968 249
Total	3,675	2,816.310	\$58,218	\$40,928	\$99,146	772	\$498	\$99,644
Parricia Porrion Central Patricia. Howey J-M Consolidated (first quarter)	35,192 $484,966$ $1,381$	22,061.260 37,673.912 361.091	649	\$320,069 546,518 5,225	\$776,116 1,325,307 12,689	2,297 12,185 287	\$1,454 7,643 162	\$777,570 1,332,950 12,851
McKenzie Red Lake Pickle Crow Red Crest (Rowan Discovery) Sol-D'Or	36,117 37,277 174 119	15,113.456 24,925.493 109.038 40.768		$\begin{array}{c} 218,989\\ 361,861\\ 1,562\\ 599\end{array}$	531,412 877,116 3,816 1,442	2,771 2,572 24 4	1,811 1,629 12 2	$\begin{array}{c} 533,223\\ 878,745\\ 3,828\\ 1,444\end{array}$
Total	595,226	100,285.018	\$2,073,075	\$1,454,823	\$3,527,898	20,140	\$12,713	\$3,540,611
Miscellaneous prospectors		89.180 169.766	\$1,802 3,509	\$1,260 2,465	\$3,062 5,974	15	30	\$3,070 5,974
Total		258.946	\$5,311	\$3,725	\$9,036	15	8 8	\$9,044
Total for gold mines.	7,033,874	2,151,305.218	\$44,471,381	\$31,167,599	\$75,638,980	451,781	\$288,738	\$75,927,718
Nickel-copper refining.		69,023.958 6.700	\$ 1,426,852 139	\$1,002,101 97	\$2,428,953 236			
Total Total Total Total Sold output, 1935.		69,030,658 2,220,335.876	\$1,426,991 \$45,898,372	\$1,002,198 \$ 32,169,797	\$2,429,189 \$78,068,169			
CALENDAR YEAR 1934 Porcupine Belt	3,711,714 1,957,058 100,054 644,184	949,799.57 988,045.65 17,738.98 89,381.93 60,374.48	\$ 19,634,097 20,424,716 366,697 1,847,688 1,248,051	\$13,275,684 13,694,400 246,491 1,235,995 834,869	$\begin{array}{c} \textbf{\$32,909,781}\\ \textbf{\$4,119,116}\\ \textbf{\$4,119,116}\\ \textbf{$613,188}\\ \textbf{$613,188}\\ \textbf{$3,083,683}\\ \textbf{$2,082,920} \end{array}$	$196,084 \\ 181,291 \\ 3,522 \\ 52,008 \\ \dots$	\$92,989 84,560 1,721 24,758	\$33,002,770 \$4,203,676 614,909 3,108,441 2,082,920
Total gold output, 1934	6,413,010	2,105,340.61	\$43,521,249	\$29.287,439	\$72,808,688	432,905	\$204,028	\$73,012,716
⁴ Includes 10,012 tons of tailings.								

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Includes 10,012 tons of tailings. Includes 10,012 tons of tailings. In production was derived from the Foley, Lucky Coon, and two other unnamed mining claims. Derived from unidentified gold ores treated at Cobalt during past years.

GOLD PRODUCTION, 1866-1935

(On the standard basis of \$20.671834 per ounce, or one dollar = 0.048375 ounces)

Year	Total production.	Porcupin	e belt	Kirkland L	ake belt	N.W. C	ntario ¹
	value	Value	Per cent	. Value	Per cent.	Value	Per cent
1866-1891 ²	\$190,258						
1892-19093	2,509,492						
1910	68,498	\$35,539	51.8				
1911	42,637	15,437	36.2				• • • • • • • •
1912	2,114,086	1,730,628	81.8				
1913	4,558,518	4,294,113	94.1	\$86.316	1.9		
1914	5,544,979	5.206.006	93.8	114.154	2		
1915	8,501,391	7.462.111	88.6	551.069	6.5		1
1916	10,339,259	9,391,408	90.8	702,761	6.8		
1917	8,698,735	8.229.744	94.5	404.346	4.6		
1918	8.502.480	7,767,907	91.4	632,007	7.4	• • • • • • • • • • •	
1919	10.451.709	9.941.803	95.1	486,809	4.7	•••••	
1920	11.686.043	10,597,572	90.7	1.033.478	8.8	•••••	
1921	14.692.357	13,103,526	89.5	1.524.851	10.4	•••••	
1922	20,579,569	18.374.658	89.3	2.159.581	10.4 10.5		•••••
1923	20.136.287	17,313,115	85.9	2,719,939	13.5		• • • • • • • • •
1924	25,669,303	22,135,534	86.2	3,446,632	13.4	• • • • • • • • • • •	
1925	30.206.432	24,733,120	81.8	5.385.256	17.8	•••••	• • • • • • • •
1926	30,950,753	23,680,670	76.5	7.174.083	23.2	• • • • • • • • • • •	• • • • • • • •
1927	33.627.040	23,851,857	70.9	9,674,114	28.7	• • • • • • • • • •	• • • • • • • •
1928	32.629.111	20,246,319	62	12,233,524	37.5	• • • • • • • • • • •	•••••
1929	33,535,226	19,281,286	57.6	14.046.596	41.8	••••••••••••••••••••••••••••••••••••••	
1930	35,886,558	17,758,842	49.6	17,172,770	47.9	\$22,988	0.07
1931	43,117,615	19.891.521	46.2	21.734.729	47.9 50.4	461,730	1.3
1932	47.284.621	21.422.117	45.2	23.782.313		1,007,756	2.3
1933	44,558,514	21,624,617	48.5		50.3	1,607,831	3.4
1934	43,521,249	19.634.097	48.0 45	20,817,277	46.7	1,352,017	3
1935	45.898.372	20,021,622	40 43.6	20,424,716	46.9	2,214,385	5
1000	чэ,090,91 <i>2</i>	20,021,022	43.0	19,597,809	42.7	4,851,950	1.5
Total	\$575,501,092	\$367.745.169	62.8	\$185,905,130	32.3		

¹Recent production only. Gold output from 1866 to 1909, inclusive, came from Hastings county and Northwestern Ontario. No segregation of statistics can now be made. ²Estimated.

³Maximum yearly output was \$424,568 in 1899.

Gold Mines of Southeastern Ontario (Peterborough, Hastings, and Frontenac Counties).—The earliest recorded discovery of gold in Ontario is referred to on page 27 of the Report of the Royal Commission (1890) on the Mineral Resources of Ontario, as follows:—

In the early part of August, 1866, gold was discovered by a man named Powell and a Dutch miner on the eastern part of lot 18, range 5, in the township of Madoc [Hastings county] belonging to Mr. J. Richardson, who. however, did not recognise it as the precious metal till informed of the fact by the late Mr. H. G. Vennor of the Geological Survey, who was then working in the neighbourhood. Mr. Vennor in his report for that year, addressed to Sir William Logan, described the gold as occurring in "a series of crevices or openings in a gold-bearing bed, formed of chloritic and epidotic gneiss (or schist) holding patches of dolomite and calcspar, the openings being nothing more than such as are so often met with in the dolomites and calc-schists of this region." The gold was found along with particles of black carbonaceous matter in a brown ferruginous earth filling the longitudinal crevices, parallel to the bedding, one of which had been struck at a depth of 4 and another at 15 feet from the surface at the time of Mr. Vennor's visit. Numerous small nuggets were also found enclosed in the adjacent dolomite and calcspar. The strata here dip nearly due north at an angle of 45°, and the gold-bearing bed is "overlaid by a siliceous ferruginous dolomite and underlaid by a band resembling an impure steatite." Its geological position is not far above the iron-bearing belt of that region. The Richardson mine has been worked at different times since the above date, and a good deal of gold extracted from it. This discovery was followed by many others of the precious metal which have been made at different times in the townships of Marmora, Madoc, Elzevir, Kaladar, Lake and Tudor, and there is now a probability of gold-mining becoming an established industry in this region. One of the most notable of the attempts at gold mining in the district is that at the Gatling (since called the Canada Consolidated) mine in the township of Marmora. The gold here occurs in veins of quartz containing much mispickel and cutting a crushed syenite or a mixture of schist and syenite, close to a large area of the latter rock. Assays of twelve different samples of the ores of this mine gave an average of 1.9107 ounces or \$39.47 to the ton of 2,000 pounds. In spite of this richness, the difficulty of separating the gold from the sulphide of arsenic is so great that only partial success has attended the working of the mine, after the expenditure of a large sum of money in buildings, machinery, working the mine and experimenting.

A considerable quantity of gold has been extracted from the Gladstone and Feigle mine, situated on the continuation of the same set of veins as the Canada Consolidated, at a distance of two or three miles to the northward of it. Another mine called the Dean and Williams on lot 8, range 9 of Marmora, about a mile and a half southward of the Canada Consolidated, was worked for a time with some success. At present it is reported that from six to eight dollars worth of gold per ton are being extracted at the Guinard mine, in Kaladar, from a set of small quartz veins cutting a rock which is described as a conglomerate with quartz pebbles in a matrix of micaceous schist.

Statistical records in the Department of Mines at Ottawa do not predate 1888, but according to Ottawa reports for 1866 an Inspector of Mines, a Mr. Campbell, in that year reported that the recovery from the Richardson property in Hastings county was valued at \$1,500 or \$2,000. Another statement, probably referring to the same year, was that 60 pounds of crude bullion, worth \$15 to \$20 per ounce, was exported to the United States and that the estimated value was \$1,020. Other reports state that the Cook mine, on lot 7, concession IX, Marmora township, also in Hastings county, milled 1,000 tons prior to 1871, from which 500 ounces valued at \$10,000 was recovered. The Feigle mine, lot 8, concession VIII, Marmora township, produced \$4,000 prior to 1870. The property of the Canada Consolidated Gold Mining Company at Deloro, Marmora township, was credited with \$9,926 prior to June 30, 1884, and the amount expended in development work approximated \$350,000. The Gatling and the Thomas and Derry properties were active in 1871 and 1879, respectively.

The following excerpts from the Report of the Royal Commission, also give some indication of the extent of these early mining operations. D. E. K. Stewart stated that he commenced mining in Hastings county in 1878 and, under a lease on the Feigle, recovered about \$20,000; the mill heads ranged from \$3 to \$50 per ton. The Gatling ore treated at Malone ran about \$14 per ton. He also stated that some \$30,000 to \$40,000 worth of gold was recovered by a Mr. Osler, who operated a 20-stamp battery in the same area. Charles Taylor, at that time operating the Canada Consolidated, stated that the average ore ran about \$15 to the ton. With two men he was treating 8 tons per day, and the recovery was from \$100 to \$150 per week. Deroche and Burrows, lot 25, concession VI, Kaladar township, in 1887 shipped 3 tons of rock to the mill at Malone, and the bar of gold recovered was valued at \$65.

Statistics available to this Department do not contain any records of the above reports, and returns by gold producers were not obligatory until after the formation of the Bureau (now Department) of Mines in 1891. Partially complete individual statistics are available in this Department from 1897 on, but it was not until 1910, after the discovery of the rich fields at Porcupine and Kirkland Lake, that greater accuracy in ounces recovered and value was insisted upon. As a result the statistics covering gold-mining operations in this field and elsewhere in Ontario for the nineties and during the first decade of this century are more or less incomplete, and the table which follows does not represent all the gold recovered.

SOUTHEASTERN ONTARIO Production Statistics of Gold Mines, 1891–1922

(Value includes gold and silver, and exchange and equalization have been added since 1920)

Mine	Year	Quantity	Value
Atlas Arsenic	1900, 1902, 1903 1895	tons 6,114	\$44,667 58
Belmont. See Cordova. Big Dipper Boerth Canadian Goldfields. See Deloro.	1907, 1909 1900	52 	340 208
Cleveland Cleveland Cobalt Frontenac	1908 1919, 1922		$5,475 \\ 1,356$
Cook Land	1901, 1902, 1904 1892, 1893	1,483 560	6,989 5,450
Cordova (Belmont)	1912–1917	16,194	289,517 45,426
Craig Crescent Deloro (Canadian Goldfields)	1905, 1906 1891, 1892 1897–1902	1,700	5,760 6,780 213,973
Gatling Pearce	1893–1902 1893 1909, 1910		1,918
Golden Fleece. See Cobalt Frontenac. Ledyard	1893, 1894		. 236
Little Doris	1898 1900		2,500 850 861
Sovereign	1900 1905, 1907		1,941
Total		141,263	\$637,974

Gold Mines of Algoma District.—The gold-mining region in Algoma district, which includes the Goudreau and Michipicoten areas as well as the areas bordering the northeast shore of Lake Superior, Sault Ste. Marie, and the North channel of Lake Huron, was the scene of some of the earliest mining ventures in Ontario. In 1770 the Jesuit Fathers experimented with native copper near Point Mamainse, and in 1848 copper was discovered near Bruce Mines, where the Montreal Mining Company successfully concentrated the ore and shipped the concentrates, which ran 15 per cent. copper, to England in 1853 and 1854. The property was closed down in 1865.

The first gold discovery in this district was made early in 1898 by an Indian, William Teddy, a member of the Michipicoten band of Indians, whose hunting grounds were in the area between Wawa and Bauldry lakes. The find was sold for \$1,000. A staking rush then ensued, and most of the claims were located between Wawa lake and the Michipicoten river. The first inspector of the Michipicoten Mining Division, D. G. Boyd, opened a recording office in the old Hudson's Bay Post at Michipicoten River on April 29, 1898, which was one of the first recording offices in Ontario outside of Toronto. During this period, or until navigation closed that year, 152 miner's licenses were issued and 228 notices of mining claims registered and filed at Michipicoten River, and the fees totalled \$2,316. The first machinery to be installed in this field was a stamp mill, which was built by Thomas Westcott, of Sault Ste. Marie. The stamps, which weighed 830 pounds each, were cast at Sault Ste. Marie as well as the frames. The vanner and the copper plates were bought from Fraser and Chalmers, of Chicago, and the crusher and ore feeder were supplied by A. K. Williams, Toronto. Power was provided by a second-hand plant purchased from a lumber company near by. The foundations of this plant were laid October 13, 1898, but no trace of it remains to-day.

The gold-producing mines of Algoma district are listed in the table on page 18. In the early years great difficulty was experienced in securing accurate and complete statistics, and the data shown do not by any means cover the entire production. The figures represent all the data available to this Department.

Gold Mines of Thunder Bay District.—An excerpt from the Report of the Royal Commission (1890) on the Mineral Resources of Ontario, page 25, regarding gold in Thunder Bay district runs as follows:—

The first discovery of gold in notable quantity was made in 1871 by Mr. Peter McKellar (following up a clue obtained from an Indian) near Jackfish lake, at what is now called the Huronian mine, situated on location H1 in the township of Moss. It here occurs in a true and persistent vein from 6 to 8 feet wide, of which from 2 to 5 feet are quartz, the rest being incorporated schist. The country-rock consists of interbedded talcoid, chloritic, dioritic and a little dolomitic schist, siliceous magnetite and massive diorite, all dipping north-west at angles of 65° to 80°. The vein runs north-eastward, cutting the strata at a small angle and underlying to the north-west side at an inclination of 15° from the perpendicular. Intrusive syenite appears about a mile to the north-east of the mine, and this may have had something to do with the enrichment of the vein. The gold occurs free and as sylvanite (or telluride of gold) associated with galena, iron and copper pyrites and blende, which, with the white quartz, constitute a beautiful looking ore. A 10-stamp mill was erected in 1883 at great expense, on account of the difficulties of transportation, and in 1884 some mining and milling were done. The gold secured is understood to have been equal to \$21 to the ton, which was, however, far short of the whole amount contained in the ore. Work was resumed for three or four months in 1885, but, from the want of proper means of transportation to the mine, operations are for the present suspended. Openings have been made and similar ore obtained from a continuation of the same vein, called the Highland mine.

This property was later known as the Moss, and more recently as the Ardeen. The mine was reopened in 1932 and produced gold from that year to 1935, inclusive, operating a 200-ton mill.

The data shown in the table for Thunder Bay district on page 19 are all that are available to this Department and while covering the principal mines are known to be incomplete for the earlier years.

Gold Mines of Kenora and Rainy River Districts.—The earliest record of gold in Kenora and Rainy River is described on page 25 of the Report of the Royal Commission (1890) on the Mineral Resources of Ontario, as follows:—

Gold was discovered on Lake-of-the-Woods in 1878, or earlier. In the . . . Geological Survey report for 1881, page 15c, it is stated that "in 1879 I [A. R. C. Selwyn, the writer of the report] was presented by Mr. J. Dewe with a specimen from Hay island, of white quartz containing needle-like crystals of hornblende with a little calcspar, which showed distinct specks of gold. It was assayed by Mr. Hoffmann, chemist to the Survey, and found to contain 37.318 ounces of gold and 1.431 ounces of silver to the ton of 2,000 pounds." During the succeeding four or five years some mining was done at a few places around the northern part of this lake, and in some instances with the prospect of ultimate success, but owing to the impossibility of obtaining titles, on account of the dispute between the Dominion and the Ontario governments as to the ownership of the territory, it was impossible to obtain sufficient capital and no thorough test has yet been made to determine the real productiveness or otherwise of any of the mines. Trials have been made at several promising places, such as Sultana island, the Winnipeg Consolidated and the Pine Portage properties, and now that the matter of title is set at rest there is a probability that work will be prosecuted on a sufficient scale to determine the question whether gold is to be found in this region in paying quantities or not. It occurs both free and in combination with sulphides in veins of synetic. These deposits would appear to lie towards the bottom of the series as developed at the Lake-of-the-Woods. Specimens of free gold in quartz have been shown to the writer as having been obtained not far from Taché, on the Canadian Pacific railway.

Statistics of production by the gold mines of Kenora and Rainy River districts were not collected during the eighties, and are incomplete for the nineties and also for the early years of this century (see tables on pages 22 and 23).

	Total	\$ 314	14,005 5,204	11,334 2,631 29,888 549	73,262 152,072 271,161 229,650 338,600 174,681	219,726 235,3347 235,3347 11,766 153,948 148,266	2,476,174
		tons 125	480	1,502 735 4,637	24,178 24,178 36,651 48,761 65,592 43,275	32,038 32,038 35,001 5,459 33,457 35,227	426,017
e 1920)	Gold Hill	69	· · · · ·		865 12,784		13,649
dded sinc	Gold	tons			4,377		4,416
935 ive been a	Telluride elters Corp.)	\$				835 468	1,303
s, 1911–1 ization ha	Telluride (Smelters Corp.	tons				24 24	104
BY MINE and equal	Canadian Associated Goldfields	\$ 314	* 10,000		34,595 17,700		62,609
TATISTICS premium	Canadian Associatec Goldfields	tons ² 125			11,966 10,619		22,710
ANNUAL FRODUCTION STATISTICS BY MINES, 1911–1935 d silver, and exchange premium and equalization have	Miller Independence	699 · · ·		1,283		3,590	4,873
lver, and	M Indepe	tons				31	31
ANNUAL FRODUCTION STATISTICS BY MINRS, 1911–1935 Ludes gold and silver, and exchange premium and equalization have been added since 1920)	Argonaut ¹	677 · · ·	4,005 5,204	2,631 29,888 549	$\begin{array}{c} 73,262\\152,072\\214,183\\143,387\\127,448\\32,430\\9,959\end{array}$	1,891 	799,759
e includes	Argoi	tons	480	4,637	$\begin{array}{c} 4,818\\ 24,178\\ 28,515\\ 35,081\\ 35,081\\ 27,873\\ 5,219\\ \end{array}$	13 12 24	131,585
(Value inc	Barry-Hollinger	69 : 		10,051	56,978 56,978 86,263 175,692 111,767 151,758	217,835 234,512 181,585 71,766 152,076 143,698	1,593,981
	Barry-]	tons		•1,502	8,136 8,136 13,680 25,714 23,060 22,343	31,725 31,958 34,977 5,459 33,445 35,172	267,171
	Year	1911 1912	1914 1914 1915 1916	1917 1918 1919 1920 1922	1924	1930 1931 1932 1933 1934	Total.

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ANNUAL PRODUCTION STATISTICS BY MINES, 1911-1935 LARDER LAKE GOLD AREA

No. 4

¹The production shown for 1913 and 1914 was from La Mine D'Or Huronia, which has been known as the Argonaut since 1919. The values shown are exclusive of copper. Reddick mine, which was bought by Associated Goldfields in 1917. Associated Goldfields, which was acquired by Canadian Associated Goldfields in 1921. Patricia mine, afterwards called Barry-Hollinger.

	Contraction of the local division of the loc
es gold and silver, and exchange premium and equalization have been added since 1920)	
(Value inclue	

Total	4,650 88,936 117,644 555,539 711,552 667 409,552 636,667 489,552 636,667 489,552 133,421 5,133,421 5,133,421 5,133,421 5,133,421 5,133,421 5,133,421 5,133,421 5,133,421 5,133,421 5,133,421 5,133,421 5,154,422 5,165,715 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3,200,0128 3	Value	\$ 650 14,880 10,082 11,172 1,662 64,952	103,398
To	12333333333333333333333333333333333333	AKE AREA Ouantity	tons 175 2,536 6,496 12,60 12,60	11,368
Miscellaneous ²	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	MISCELLANEOUS PRODUCTION, KIRKLAND LAKE Mine Vear Oua	1935 1933, 1934	
Miscell	675 4,160 6,496 35 35 1 1 1,368	CTION, KIRI	1911. 1913, 1933, 1935. 1922. 1911, 1913. 1925, 1929, 1933,	
Moffatt-Hall	87,071 2 79,498 8 166,569	US PRODU		-
Moff	44 88,476 0 7,912 4 16,388	CELLANEO Mine	Kirkland G and ² .	
Bidgood	· · · · · · · · · · · · · · · · · · ·	MIS	Gold Pyramid. Lucky Cross (Kirkland Gatewayl) Intario-Kirkland ² . Swastika. Trout Creek. Miseellaneous ³ .	Total
B	72 96 11,148 13,581		W130Fro	-
Macassa	27 1,067,196 85 2,288,466			
	$\begin{array}{c} & & & & & & & & & & & & & & & & & & &$			
Toburn (Tough-Oakes Burnside ¹)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
Kirkland Lake Gold	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
Kirk	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
Sylvanite	1 420,424 479 420,424 479 420,424 479 429,425 323 589,465 3371 1072,975 3371 1072,975 3371 1072,975 3371 1072,975 3371 1072,975 3371 1072,975 3371 1073,975 3371 1073,975 3371 1073,975 3371 1073,976 3371 1073,976 3371 1073,976 3371 1073,976 3371 1073,976 3373,982 1033,952			
	$\begin{array}{c} 1,127\\ 1,127\\ 1,892\\ 7,445\\ 2,761\\ 2,761\\ 2,761\\ 1,916\\ 4,0,479\\ 1,916\\ 4,0,479\\ 1,728\\ 8,754\\ 9,791\\ 8,754\\ 91,25\\ 96,931\\ 1,25\\ 96,931\\ 1,25\\ 96,931\\ 2,292\\ 111,767\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 8,563\\ 152,281\\ 152$			
Wright- Hargreaves	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
H	222 222 222 222 223 238 266,181 256,053 266,181 153,392 266,181 153,392 266,181 153,392 209,164 285,255 209,164 285,255 200,4369 11 3,004,369 11 3,004,369 11 3,004,369 11 3,004,369 11 3,004,369 11 3,004,369 11 1,004,369 10,004,369 10 10,004,369 10 10,004,369 10 10,004,369 10 10,004,369 10 10,004,369 10 10,004,369 10 10,004,369 10 10,004,369 10,00			
Teck-Hughes	7 86,722 86,570 67,722 86,570 86,570 87,878 83,59,844 1,137,523 41,137,523 1,137,523 1,137,523 1,137,523 1,137,523 1,137,523 1,137,523 1,137,523 1,137,523 1,137,523 1,137,523 1,137,523 1,137,553 1,2781,962 1,5,081,0707 5,5,081,0707 6,5,081,0707 7,5,5,007 7,5,007 7,5,007			
Teck	11,257 11,774 11,774 11,774 11,774 11,774 11,774 11,774 11,774 11,774 11,774 13,656 11,194 10,442,709 15,2220 155,2220 155,2220 155,2220 155,2220 155,2220 155,2220 155,2220 155,2220 155,2220 155,2220 155,2220 155,7745 155,771 152,745 174,776 174,777 152,7700 152,7700			
Lake Shore	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			
Lake	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			
Year	1911 1912 1913 1915 1916 1916 1916 1917 1923 1923 1924 1923 1928 1929 1929 1929 1929 1929 1929 1929 1920 192			

Mine	Year	Quantity	Value
Gold Pyramid Lucky Cross (Kirkland Gateway1) Ontario-Kirkland ² . Tout Creek. Miscellaneous ⁸ .		tons 175 2,536 6,496 12,60	\$ 650 14,880 10,082 11,172 11,172 64,952
Total		11,368	103,398

INow owned by Golden Gate Mining Company, Limited. 2Now owned by Kirkland Gold Rand, Limited. This includes gold recovered from scrapped machinery, origin unknown, and high-grade.

MATACHEWAN GOLD AREA ¹ ANNUAL PRODUCTION STATISTICS BY MINES, 1922 AND 1932–1935 cludes gold and silvet, and exchange premium and equalization have been added since 1920)	Matachewan Atlas ² White Rock ² Total	tons \$ tons \$ tons \$ tons \$ second \$	DBURY DISTRICT ¹ STATISTICS OF GOLD MINES, 1897–1935 ange premium and equalization have been added since 1920)	Mac-Auer McMillan Shakespeare (R. Downey) Total	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$
] ANNUAL PRODUC	Young-Davidson	tons \$	¹ Includes West Shiningtree area (Atlas and White Rock mines) ² Acquired by Bilmac Gold Mines, Limited, in 1934. SUJ ANNUAL PRODUCTION (Value includes gold and silver, and exch	Lebel-Oro (Long Lake²)	\$ tons \$ tons \$ tons \$ tons 1000 200 3794 18,553 4,550 37,963 400 1000 3294 18,553 4,040 4,380 4,380 101750 3294 18,553 14,040 4,380 4,380 101750 114,833 114,833 112,313 67,344 112 206,846 187,103 40,218 273,315 67,344 12 205,31 282,123 12,218 67,344 12 12 205,346 187,103 12,313 67,344 12 12 205,346 187,103 20,316 20,344 12 12 205,346 187,103 52,531 340,659 8,590 50,984 12
(Value includes go	Ashley	\$ 70,142 495,364 456,830 440,531 1 462 867	¹ Includes West Shiningtree area (Atlas and White) ² Acquired by Bilmac Gold Mines, Limited, in 1934 Annual (Value includes gold and silve	Halcrow- Swayze	
•	₩	tons 6,805 37,975 43,532 47,366	st Shiningt Bilmac Gc	stal	1,896 1,602 1,500 1,500 21 21
	Year	Total	ludes Wes quired by	Crystal	tons 3000 1600 270
	Υ	1922 1932 1933 1935 1935	¹ Inc ² Acc	Year	1897 1805 1905 1906 1906 1906 1908 1914 1914 1914 1915 1915 1915 1932 1935 1935 1935

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ANNUAL PRODUCTION STATISTICS BY MINES, 1910–1935 PORCUPINE GOLD BELT

(Value includes gold and silver, and exchange premium and equalization have been added since 1920)

Total	\$ 35,549 15,437 15,437 15,437 15,437 15,437 15,437 5,231,680 7,605,993 7,605,993 8,345,367 7,906 11,953,906 11,954,903 11	16,454 $657,942$ $51,494,342$ $412,421,719$
Ţ	tons 139,951 554,775 554,775 554,775 554,776 1,725 1,725 1,092,7440 1,179,469 1,179,469 1,179,469 1,179,469 1,178,972 3,015,607 3,015,607 3,015,607 3,351,2632 3,351,2632,352,352,352,352,352,352,352,352,352,3	1,494,342
1eous ¹⁴	\$ 4,200 9,134 9,134 9,134 11,327 17,327 11,327 11,327 11,327 5,270 3,453 3,5491 5,222 3,272 3,272 3,272 3,27200 3,2720 3,2720 3,2720 3,2720 3,272000 3,272000 3,27200000000000000000000000000000000000	657,942 5
Miscellaneous ¹⁴	tons 255 3,831 3,003 5,630 5,630 5,630 5,630 5,630	16,454
aren- 1pine	() () () () () () () () () ()	4,505
McLaren- Porcupine	tons	676
Naybob (Hayden ¹³)	\$ 1,497 3,188 3,188 11 23,666	14,854 28,351
Na (Haj	tons 5 2,580 1,593 10,681	
Gillies Lake- Porcupine (Porcupine United ¹²)	\$ 44,285 5 6,933 5 6,933 5 6,933	19,181 163,570
Gillie Por (Por Uni	tons (4,848) 7,815 1,396	
Munro Croesus ¹¹	\$ 7 51,722 66,73,215 66,732 66,780 6,520 6,520 7 25,513	323,809
Cro	tons 1,541 1,541 1,541 518 518 550	5,320
Night Hawk Peninsular ¹⁰	\$ 268,518 196,947 111,154 166	576,785
Night Penin	tons 39,758 39,758	99,688
ke and)ome e ⁹	\$ 102,880 16,814 16,814 103,745 23,531 103,745 23,531 103,745 23,531 103,745 155,797 155,797	120,306
Dome Lake and West Dome Lake®	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	188,488 1,120,306
	\$ 2,800 135,025 183,271	
Paymaster ⁸	tons 228,049 62,129 1 94,050	184,228 384,647
ter ated ⁷	\$ 69,522 567,076	
Paymaster Consolidated ⁷	toms	93,669 636,598
ti ()	\$ \$ 11,835 5,263 33,565 5,303 5,268	54,663
Marbuan (Marc h ®)	tous 4,665 32,627 53,953 53,953 26,030 1 59,380 22,800 1 59,380 1	317,769 1,454,663
erite (5)	\$ \$ 114,588 359,0588 71,684 71,684 650,591 712,898 650,591 712,898 650,591 712,898 650,591	
Buffalo Ankerite (Ankerite ^s)	tons 23,060 12,912 55,267 111,402 65 103 103 103 103 103 103 103 103	630,213 3,509,127
	\$ tc 1125,255 125,255 36,925 1,447 1,447 1,516 1,516 235,346 235,445 12 733,941 733,941 733,941 733,941 733,941 733,941 733,945 12 945,765 111 977,007 55 945,766 133	
Coniaurum (Newray ⁴)		139 6,598
	1	30 1,003,
Porcupine Crown (Northcrown) ³		226,180 2,893,730 1,003,139 6,598,581
Porcu (No	tons tons	
Vipond ²	22 559 25 5,160 25 16,259 246,053 11 209,738 224,532 224,532 224,532 224,532 224,532 235,213 235,534 246,053 233,234 265,213 275,266 275,276 275,275	$112,124 \left 564,984 \right 9,042,191 \left 81,268,784 \right 9,045,867 \left 76,509,797 \right 1,265,906 \left 8,490,831 \right 1,265,106 \left 8,490$
Vi	$\begin{array}{c} \text{tons} \\ 5,168\\ 5,168\\ 5,168\\ 5,168\\ 5,168\\ 5,168\\ 5,168\\ 134,971\\ 35,899\\ 34,971\\ 15,134\\ 134,971\\ 10,717\\ 15,134\\ 115,134\\ 10,717\\ 10,756\\ 10,7984\\ 8&114,667\\ 107,984\\ 8&114,667\\ 107,984\\ 107,986\\ 100,738\\ 100,758\\ 100,758\\ 100,758\\ 100,758\\ 100,758\\ 100,758\\ 100$	1,265,900
пе	$\begin{array}{c} \$ \\ \$ \\ 4,355 \\ 4,377 \\ 4,277 \\ 4,277 \\ 1,242,625 \\ 1,0242,625 \\ 1,530,287 \\ 1,530,287 \\ 1,480,174 \\ 1,480,174 \\ 1,480,174 \\ 1,280,3127 \\ 1,280,307 \\ 8,537,624 \\ 4,4178,936 \\ 4,405,199 \\ 4,307,624 \\ 4,405,199 \\ 3,590,557 \\ 7,14943 \\ 3,940,053 \\ 7,147,087 \\ 7,177,087 \\ 7,187 $	6,509,797
Dome	tons 75,088 75,088 75,088 75,088 317,740 317,740 317,740 359,570 359,570 359,570 359,570 5543,000 5543,000 5543,000 5543,000 5544,500 544,500 5440,500 5440,5000 5440,5000 5440,50000000000	045,867 7
re- ne	77,657 77,657 77,657 77,657 7549,1269 549,1264 1,770,204 1,770,204 1,770,204 1,770,204 1,770,204 1,770,204 1,770,204 1,770,204 1,770,204 1,978,0144 1,978,0144 1,978,0144 1,978,0144 1,955,803 3,625,493 3,625,493 3,562,2104 4,700,2114 6,155,757 6,155,757 7,559,845 8,553,126 8,553,126 8,553,126 8,553,126 8,553,126 8,553,126 8,553,226 8,553,226 8,553,226 8,553,226 8,553,226 8,553,226 8,553,226	368,784 9,0
McIntyre- Porcupine	tons 14,500 29,669 629,669 629,669 11,7 1175,893 11,7 1175,893 11,7 1175,893 11,7 1175,893 11,7 1175,893 11,7 1175,893 11,7 1172,287 11,9 11,9 11,9 11,9 11,2 229,459 3,5 524,698 3,3 550,100 4,3 3,5 524,695 4,2 29,5 524,695 4,2 29,5 550,100 4,3 3,5 550,100 4,3 3,5 550,100 4,3 3,5 550,100 4,3 3,5 550,100 4,3 3,5 550,100 4,3 3,5 550,100 4,3 3,5 550,100 4,3 3,5 550,100 4,3 550,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,100 4,500,1000,1000,1000,1000,1000,1000,1000	2,191 81,2
er ¹	48 20 10 11 14 23 12 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13 14 14 14 13 14 14 14 14 14 15 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55	,984 9,04
Schumacher ¹	tons 9,240 37,323 19,098 92, 19,098 92, 19,098 19,246 19,246 19,098 19,246 19,098 19,246 19,098 19,246 19,246 19,098 19,098 19,098 19,098 19,098 19,098 19,098 19,098 10,098	,124 564
<i>й</i>		
Hollinger	$\begin{array}{c} 22,24\\ 25,25,25\\ 10,25\\$	395 227,234,709
Ho	$\begin{array}{c} tons \\ 45,195 \\ 138,291 \\ 238,291 \\ 238,291 \\ 238,291 \\ 238,291 \\ 238,291 \\ 5514,301 \\ 5514,301 \\ 5514,301 \\ 5514,301 \\ 556,205 \\ 650,205 \\ 650,205 \\ 5113,825 \\ 5113,825 \\ 1,072,493 \\ 1,072,493 \\ 1,072,493 \\ 1,072,855 \\ 1,022,528 \\ 1,022,5$	29,228,39
Year	$\begin{array}{c} 1910\\ 1912\\ 1912\\ 1913\\ 1913\\ 1914\\ 1916\\ 1916\\ 1916\\ 1916\\ 1916\\ 1926\\ 1923\\ 1923\\ 1926\\ 1923\\ 1924\\ 1923$ 1923 1923 1923 1923	Total. 29,228

MISCELLANEOUS PRODUCTION, PORCUPINE BELT

Mine	Year	Quantity	Value	Mine	Year	Quantity	Value
Blue Quartz (Amal. Goldfields) Bourkes	1923, 1926, 1928 1934 1927, 1928 1937, 1928 1935, 1914, 1922, 1923, 1924 1935, 1919, 1920	tons 500 315 9,371 5,630	2,12,683 1,303 1,303 1,130 1,130 2,1152 30,575 30,575 53,914 13,386 13,386 13,386 13,386 13,386 146 13,386 13,386 14,44 13,386 14,44 13,386 14,44 13,386 14,44 13,386 14,44 14,44414,444 14,44414,444 14,444 14,444 14,444 14,444 14,444 14,444 14,444 14,44414,444 14,444 14,444 14,44414,444 14,444 14,44414,444 14,444 14,44414,444 14,444 14,44414,444 14,444 14,44414,444 14,44414,444 14,444 14,44414,444 14,44414,444 14,44414,444 14,44414,444 14,44414,444 14,44414,444 14,44414,444 14,44414,444 14,44414,444 14,44414,444 14,444414,444 14,44414,444 14,44414,444 14,444414,444 14,4444 14,444414,4444 14,444414,4444 14,444414,4444 14,444414,4444 14,444414,4444 14,444414,4444 14,444414,4444 14,4444414,4444 14,4444414,4444414,44444 14,4444414,44444 14,44444414,44444414,4444444444	Hill Gold (Beatty tp.) J. Huddlestone and P. Clyne Hughes. Northern Turnbull Porcupine Pet Porcupine Pill J. Spence (Triple Lake) Tommy Burns.	1918. 1926. 1926. 1924. 1914. 1914. 1915. 1915. 1927. 1935.	tons 25 30 30 155 155	\$ 3,257 3,257 3,257 10,551 6,236 2,738 2,738 510,379
Cold Rect.	1910, 1917,	071	2,100	Total		16,454	657.942

IThis is all high-grading, with the exception of the year 1933, when \$76,737 was recovered from scrapped machinery.

¹Purchased by the Hollinger in 1922. ²Acquired by Anglo-Huronian, Limited, in 1933. ³The Porcupine Crown was acquired by Northerown Porcupine Mines, Limited, on May 15, 1920, and by Vipond Consolidated Mines, Limited (now Anglo-Huronian, Limited) in 1926. ⁴The Rea mine (production of which is shown in the figures for 1913, 1914, and 1915) was operated by Newray Mines, Limited, in 1918. In 1924 the Newray was taken over by Coniaurum Mines,

Limited. Free many hyperbolic production 1932. The Marchuan was taken over by Buffalo Ankerite in 1933; the Buffalo Ankerite operated the Marbuan mill in 1933, treating 2,800 tons from the dump of the New York Porcupine Gold Mines, Limit-The Marbuan was taken over by Buffalo Ankerite in 1933. The Marbuan was taken over by Buffalo Ankerite in 1933. The Marbuan was taken over by Buffalo Ankerite in 1933. The Marbuan was taken over by Buffalo Ankerite in 1933. The Marbuan was taken over by Buffalo Ankerite in 1930. The Marbuan was taken over by Buffalo Ankerite in 1930. The Marbuan was taken over by Buffalo Ankerite in 1930. The Marbuan was taken over by Buffalo Ankerite in 1930. The Marbuan was taken over by Buffalo Anker, Limited. The Marbuan was taken over by Buffalo Anker, Limited. The Marbuan was taken over by Buffalo Anker, Limited. The Marbuan was taken over by Buffalo Anker, Limited. The Marbuan was taken over by Buffalo Anker, Limited. The Marbuan was taken over by Buffalo Anker, Limited. The Marbuan was taken over by Partine and West Donne Lake Buffalo Anker, Limited, and United Anker, Limited. The Marbuan was taken over by Partine Anker, Limited. The Marbuan Partine Partine Partine Partine Anker, Limited. The Anton 1916 to 1920, the production shown was from the Donne Lake Mines, Limited. The Anton 1915 to 1920, the production shown was from the Donne Lake Mines, Limited, and United, Limited, and United, Limited. The Anton 1915 to 1920, the production shown was from the Donne Lake Mines, Limited, and S2,402 from the West Donne Lake Mines, Limited, Barbara, Limited, Barbara, Limited, In 1930 United by Parameter Consolidated Mines, Limited, in 1934. The Hayden mine was acquired by Parameter Jan. The Hayden mine was acquired by Mines, Limited, in 1934. The Radee Colline Lake Anton 1925 and that figure should have been \$235,091 instead of \$287,758, as shown in previous tables. The figure for 1927 was altered to make fallowance for this discreted marba for the over 1925. The Marb

(Value includes gold and silver, and exchange premium and equalization have been added since 1920)	Total	tons \$	36,466 25,574	(627) 734 450 270,365 (6627) 734 450 175,820 658,057	50 3.789 67, 558 1, 193, 749 1, 594 46, 833 68, 243 840, 943 101, 499 586, 852 12, 861 76, 942 1, 134 2, 942 360, 643 3, 553, 981	Originally known as the Huronian; this mine produced in the seventies, but no records are available; acquired by Ardeen Gold Mines, Limited, in 1933. Acquired by J. Bruce McMartin in 1934, and by Sarmac Gold Mining Corporation in 1935. Acquired from Schreiber Gold Mines, Limited, by North Shores Gold Mines, Limited, in 1933. Records are incomplete; operations were reported 1905 to 1907, 1911 to 1913, 1917, 1918, 1921, 1929. This property was formerly called Northern
	Miscel- laneous	tons \$	•1,100 2,49	734 45	1,134 2,94	n Gold Min was forme
	Tashota	tons \$	34 315	12,827 76,627 734 450	12,861 76,942	ired by Ardee This property
	St. Anthony ⁴	tons \$	35,331 160,502	17 2,252 62,073 1,104 29,507 195,647 21,618 123,198 734 450 17 2,252 62,073 1,404 29,358 45,736 645,296 44,550 303,152 12,827 76,627 734 450	101,499 586,852	
	Northern Empire	tons \$	•	22,507 195,647 45,736 645,296	68,243 840,943	ian; this mine produced in the seventies, but no records are availatin in 1934, and by Sarmac Gold Mining Corporation in 1935. Mines, Limited, by North Shores Gold Mines, Limited, in 1933, tions were reported 1905 to 1907, 1911 to 1913, 1917, 1918, 192
	North Shores (McKellar- Longworth ³)	tons \$	1,707	11 288 1,404 29,358	1,594 46,833	e seventies, bu Gold Mining (hores Gold Mi 1907, 1911 to
	Long Lac	tons \$		5,485 85,480 2,073 1,108,269	7,558 1,193,749	produced in th nd by Sarmac ed, by North S ported 1905 to
	Harkness- Hays	tons \$	•1 63 39 1 474			m; this mine n in 1934, an Aines, Limite ions were rej
	Dikdik ^a	tons \$	•	230 37,638 3,295 49,118	3,525 86,756	s the Huronis sce McMarti reiber Gold N plete; operat
	Ardeen (Moss ¹)	tons \$	95 363 106 473	1933	Total 104,179 715,175 3,525 86,756	¹ Originally known as the Huronian; this mine produced in the seventies, but no records are available; acqued to by J. Bruce McMartin in 1934, and by Sarmac Gold Mining Corporation in 1935. ¹ Acquired from Schreiber Gold Mines, Limited, by North Shores Gold Mines, Limited, in 1933. ¹ Records are incomplete; operations were reported 1905 to 1907, 1911 to 1913, 1917, 1918, 1921, 1929.
	Year		Prior to 1932	1933 1934 1935	Total	¹ Origina Acquire Records

THUNDER BAY DISTRICT Annual Production Statistics of Gold Mines, 1905-1935 W.S. Jackson claims: acquired by Harkness-Hays in 1925. •Empress, 1,100 tons, \$2,378 (no statistics available, data taken from report of J. H. Chewett, April 22, 1897); Mary J. Coveney, \$114. *Caouette claims (Afton).

1936

	Total	69	307	14,631	460,857		_	165 641	500 0601 829 308	595,2263,540,611	9,247,516
	To	tons	30		110,438	211,552	284 664			595,226	2,047,180
~	iscel- teous	\$	3307	414,631				6505			15,443
1920	la M	tons	30	:	:				:	: :	30
since	Sol-D'Or ² Miscel-	69	:		:			175 3 700	130 9 551	112 1,444	7,695
ded	Sol-	tons \$:	:	:			175	130		424
ееп ас	Red Crest (Rowan Discovery)	tons 💲	:	:						3,828	3,825
avet	Disc RC H	tons	:	:	:					174	174
zation h	Pickle Crow	69	••••••	••••••	••••••	•				878,745	878.745
equali	C Fi	tons								37,277	37,277
nd exchange premium and equalization have bee	McKenzie Red Lake	\$	•••••							533,223	533,223
e prem	McK Red	tons	•••••							36,117	36,117
exchang	J-M Con- solidated (Jackson Manion)	649	:	:					35.389	12,851	48,240
and	J-M Solic Ma	tons		:	:	:	:	:	3.443	1,381	4,824
(Value includes gold and silver, and exchange premium and equalization have been added since 1920)	Howey	\$			460,857	914,291	1,268,780	1,161,436	1.594.223 3.443 35.389	` `	1321.917,512 6.732,537 4.824 48,240 36,117 533.223 37.277 878.745 174 3.828 424 7.698 30 15,443 2,047,180 9,247,516
tdes gold	Ho	tons			110,438	211,052	284,664		481,757		1,917,512
alue inclı	Central Patricia	69				:			219,562	777,570	997,132
(V	Pat	tons				•••••••••••••••••••••••••••••••••••••••	•••••	••••••	11,536	35,192	46,728
	tsey 1mit ¹	v ə			:	:		•	30,673	:	Total. 4,094 30,673 46,728 997,1
	Casey Summit ¹	tons		:	:	•	:		4,094	:	4,094
	Year	Prior to	1929	1020	1001	1000	1932	1933	1934	1935 35,192 777,570	Total.

ANNUAL PRODUCTION STATISTICS OF GOLD MINES, 1911-1935

PATRICIA PORTION OF KENORA DISTRICT

¹Bought by Argosy Gold Mines, Limited, in 1935. ²This property was operated in 1933 by the Highgrade Syndicate and in 1934 by J. Hendrick, when it was acquired by Sol-D'Or Gold Mines, Limited.

W. D. Cooper and P. A. Barry produced gold from the McDonald, \$126.
 Bathurst (Woman Lake), \$3,107 (high-grade); Bobjo, \$11,510 (high-grade); P. Edwards, \$14.
 Geo. Singleton, \$137; G. A. Rowan, \$368.
 W. D. Cooper and P. A. Barry produced gold from the McIntyre Birch Lake property in 1934, statistics not available.

KENORA DISTRICT

PRODUCTION STATISTICS OF GOLD MINES, 1885-19351

(Value includes gold and silver, and exchange and equalization have been added since 1920)

Mine	Year	Quantity	Value
		tons	
Baden-Powell ²	1902, 1905	104	\$1.273
Big Master	1902, 1903, 1905	5.027	39,261
Black Jack	1893	50	300
Britannia	1899	20	110
Cameron Island (Damascus) ³	1898, 1906, 1934, 1935	$5\overline{72}$	76,790
Cameron Island (Damascus)	1904–1906	7,717	7,531
Camp Bay	1896, 1932, 1935	3,168	29,019
Cedar Island (Cornucopia) ⁴	1890, 1952, 1955	^{5,108} ⁵100	29,019
Champion (Bad)	1900	87	1 950
Clark	1935		1,250
Combined	1904	37	220
Cornucopia. See Cedar Island.			
Crown Point	1900	150	900
Duport. See Cameron Island.			
Empire	1908	300	1,800
Glass Reef	1900		171
Gold Hill	1886. 1893	220	19,610
Gold Panner	1900	100	900
Grace	1902, 1907, 1908	415	865
Kenora Prospectors and Miners. See	,,		
Cedar Island and Mikado.			
Laurentian ⁶	1906–1909	19,950	141,140
Mikado ⁷	1896-1902, 1910, 1911, 1931	57,813	421,070
Minerva	1885	28	1.372
Olympia	1906, 1911, 1912	1.148	3.564
Ophir	1893, 1894, 1900, 1910	6.089	22,677
Opening Jaland	1899	176	1.063
Quarry Island	1895-1899, 1902, 1904, 1905	24,597	133,799
Regina ⁸			122
Royal Sovereign	1902	350	560
Rush Bay (Golden Horn)	1906, 1907		
Sakoose (Golden Whale)	1899-1901	8,028	58,758
Sultana	1894–1902, 1904–1906	77,436	428,638
Sunbeam	1904	650	4,875
Treasure	1898	34	529
Twentieth Century	1902, 1903		43,586
Vermilion Lake (Botham)	1930, 1935	43	575
Wabigoon-Contact Bay ⁹	1905,10 1916,11 1917,11 1918,12		
0	1920, ¹³ 1923, ¹³ 1929	1,839	7,936
Wendigo	1900	141,200	
Total		226,136	\$1,450,264

'In addition to the figures given and duplicating them in part, the following reduction plants carried on operations in Kenora, then called Rat Portage, and reported as follows: (1) Dominion Reduction Company (1895, 1897, 1900), 666 tons, \$5,298; (2) Ottawa Gold Mill-ing and Mining Company (1898–1900), 5,153 tons, \$26,181; (3) Rat Portage Reduction Works (1900) milled 200 tons of Wendigo ore; no data of recovery made are available; (4) Keewatin Reduction Works (1900) milled 100 tons ore from Champion and 1,000 tons from Wendigo; no data of recovery made are available.

²Northern Lights Mines Company.

³Acquired by Duport Mining Company, Limited, in 1929. ⁴Acquired by Kenora Prospectors and Miners, Limited, in 1928. The mine was called Cornucopia prior to 1932.

*Reported milled in custom mill, no data.

Operated by Imperial Gold Mines, Limited.

'Acquired by Kenora Prospectors and Miners, Limited, in 1928.

⁸Or Black Eagle; now owned by Horseshoe Mines, Limited.

Contact Bay Mines, Limited, was incorporated in 1918 and acquired the Rognon, Redeemer, and Bonanza claims; the name was changed to Wabigoon-Contact Bay Mines, Limited, in 1923; and in 1935 the property was acquired by Northern Mines, Incorporated.

¹⁰Redeemer. ¹¹Rognon.

¹²Redeemer (with exception of 8 tons, valued at \$46, from Rognon).

18Bonanza.

¹⁴Milled in custom mill.

RAINY RIVER DISTRICT

Production Statistics of Gold Mines, 1895–1935

(Value includes gold and silver, and exchange and equalization have been added since 1920)

Mine	Year	Quantity	Value	
	1000	tons		
Barker	1898	70	\$490	
Central Canada ¹	1934	350	742	
Elizabeth	1912	50	400	
Foley	1897, 1898, 1933–1935	5,553	51,403	
Poley	1934 (in concentrates)	15	1,255	
Gold Winner	1900	15	70	
Golden Crescent (A.D. 2)	1897	192	1.543	
Golden Star	1898–1901, 1934	15.262	168,768	
Hammond Reef	1897	977	3.857	
Harold Lake	1895, 1896	1.131	11.236	
Independence (Bennett tp.)	1898	125	1,906	
Lucky Coon	1899. 1935	10	144	
Manitou	1896	$\tilde{1}\tilde{2}$	413	
Olive	1897–1900	6.925	47.166	
Saundary ²	1934	13	435	
Sawbill	1897–1899	2.416	8.982	
W. E. Stone	1919, 1920	2	319	
Total		33,118	\$299,129	

¹Formerly the Walsh.

²Formerly the Headlight or Swede Boy.

Labour Statistics

The following figures summarize labour statistics for the gold-mining industry, as reported to the Ontario Department of Mines:—

		1934		1935				
Area	No. of wage- earners	Wages paid	Average wage per annum	No. of wage- earners	Wages paid	Average wage per annum		
Porcupine Kirkland Lake Matachewan and West	5,295 3,525	\$ 8,541,490 5,706,528	\$1,613 1,619	5,781 3,589	\$ 9,433,723 5,687,611	\$1,632 1,306		
Shiningtree Sudbury district ¹ Algoma district Thunder Bay district Patricia portion Kenora and Rainy River districts	1,373	1,672,151	1,217 {	297 82 233 528 533 89	507,430 115,929 325,108 722,379 933,542 113,596	1,709 1,414 1,395 1,368 1,751 1,276		
Operating but non- producing	1,195	1,059,506	886	997	1,072,443	1,076		
Total	11,388	\$16,979,675	\$1,491	12,129	\$18,911,761	\$1,559		

AVERAGE YEARLY WAGE, GOLD-MINING INDUSTRY, 1934 AND 1935

¹Exclusive of West Shiningtree.

Gold-Milling Plants

The milling capacity in tons per day of plants operating, under construction, and idle at the end of 1935, and that of projected plants and proposed expansion of existing plants for 1936, are summarized as follows:—

DAILY TONNAGE OF GOLD-MILLING PLANTS AT ONTARIO MINES, 1935

Concordia (Jones-Porter). 10 Consurum. 500 Gillies Lake-Porcupine. 50 McIngre-Porcupine. 2,500 McIngre-Porcupine. 15 Marbuan. 175 Marbuan. 50 Marbuan. 50 Marbuan. 15 Marbuan. 50 Northern Turnbull. 50 Parmostr. 500 Paroupine Peninsular. 500 Porcupine Peninsular. 500 Porcupine Peninsular. 100 Biggood. 65 Golden Summit. 225 Lake Shore. 2,350 Lucky Cross (Golden Cate). 235 Martschular. 25 Morris Kirkland. 25 Morris Kirkland. 350 Swastika (Teck-Otto Gold Mines, Ltd.) 350 Sylvanite. 350 Martaertwan AND WEST StitistorkEEE AREAS: 50 Ashley. 100 Martaertwan AND WEST StitistorkEEE AREAS: 50 Ashl	Area and mine	Operating	Under con- struction	Idle	Proposed
Buffalo Ankerite 500	POPCUPINE BELT:				
Canusa.	Buffalo Ankerite	500			
Concordia (Jones-Porter). 10 Conjaurum. 500 Dome 500 Gillies Lake-Porcupine 50 McIntyre-Porcupine 50 McIntyre-Porcupine 15 Marbuan 15 Marbuan 15 Marbuan 50 Northern Turnbull 50 Parmaster Consolidated 300 Porcupine Peninsular 500 Parymaster Consolidated 300 Porcupine Peninsular 500 Parymaster Consolidated 225 Vipond (Anglo-Huronian) 300 Kirkland Lake Gold 225 Lake Shore 2,350 Lucky Cross (Golden Gate) 225 Markanon 100 Miler Independence 25 Morris Kirkland 350 Syster 500 Systantic 500 Systantic 500 Systantic 50 Markenwan Nab West Strinsortee Akeast 50 Markenwan Nabu West Strinsortee Akea				25	
Coniaurum 500 Dome 1,500 Gillies Lake-Porcupine 50 Hollinger 500 McLaren-Porcupine 15 Matouan 175 Munro Croesus 250 Northern Turnbull 50 Parmour 500 Parmaster Consolidated 300 Porcupine Peninsular 500 Ross (Hollinger), Hislop township 100 Vimy 100 Vimy 225 Vimy 100 Bidgood 65 Lake Store 225 Kirkland Lake Gold 225 Lake Store 2350 Lake Store 2350 Maroxis (Krkland 500 Soft Odden Gate) 200 Macasa 200 Maroxis (Krkland 500 Soft Ormer (Codd Mines, Ltd.) 350 Sylvanite 1300 Teck-Hughes 1300 Toburn 100 Matachewan Consolidated	Concordia (Iones-Porter)	10			
Dome 1,500 Gillies Lake-Porcupine 50 Hollinger 5,000 McIntyre-Porcupine 15 Marbuan 15 Marbuan 15 Manuan 15 Marbuan 15 Marbuan 15 Marbuan 15 Marbuan 15 Marbuan 15 Marbuan 500 Northern Turnbull 500 Parmater Consolidated 300 Porcupine Peninsular 100 Ross (Hollinger), Hislop township 100 Vipond (Anglo-Huronian) 300 KIRKLAND LAKE BELT: 100 Barry-Hollinger 100 Bidgood 65 Golden Summit 225 Macassa 200 Miller Independence 255 Morris Kirkland 350 Omega (formerly Candian Reserve) 550 Sylvanite 500 Wright-Hargreaves 1,100 Marchewan Consolidated	Conjourum				1
Gillies Lake - Porcupine. 50 Hollinger. 500 McIntyre-Porcupine. 15 Marbuan. 15 Marbuan. 25 Naybol (Hayden). 50 Northern Turnbull. 50 Parmour. 50 Northern Turnbull. 50 Parmour. 50 Northern Turnbull. 50 Parmour. 50 Northern Turnbull. 50 Paroupine Peninsular. 50 Northern Turnbull. 200 Ross (Hollinger), Hislop township 100 Vimy. 200 Vimolinger. 100 Barry-Hollinger. 100 Bidgood. 225 Lake Shore. 2,350 Lake Shore. 2,350 Miler Independence. 25 Mornris Kirkland. 200 Miler Independence. 25 Mornris Kirkland. 350 Sylvanite. 100 Sylvanite. 100 Matachewan Consolidated. 150 Young-Davidson. <	Dome				
Hollinger 5.000 McLaren-Porcupine 2.500 McLaren-Porcupine 15 Mathouan 175 Martouan 175 Martouan 175 Northern Turnbull 25 Naybob (Hayden) 50 Northern Turnbull 50 Paymaster Consolidated 300 Porcupine Peninsular 100 Ross (Hollinger), Hislop township 100 Vipond (Anglo-Huronian) 300 Strektanb Lake BELT: 100 Bidgood 65 Golden Summit 225 Lucky Cross (Golden Gate) 200 Macassa 200 Mata Lake Solor 20 Macassa 200 Miller Independence 25 Morris Kirkland 000 Omega (Grmerly Canadian Reserve) 500 Sylvanite 350 Toburn 100 Wright-Hargreaves 150 Matachewan Consolidated 150 Young-Davidson 700 SUbauguet 50 G					1
McIntyre-Porcupine 2,500 McLaren-Porcupine 15 Marbuan 175 Munro Croseus 25 Naybob (Hayden) 50 Northern Turnbull 50 Paymaster Consolidated 300 Porcupine Peninsular 500 Ross (Hollinger), Hislop township 100 Viny 25 Vipond (Anglo-Huronian) 300 Stratkland Lake BELT: 100 Barry-Hollinger 20 Kirkland Lake Gold 225 Lake Shore 2,350 Lucky Cross (Golden Gate) 200 Morris Kirkland 200 Morris Kirkland (Teck-Otto Gold Mines, Ltd.) 350 Sylvanite 350 Toburn 100 Matchewan And West StimingTREE AREAS: 1300 Ashley 350 Subury District: 50 Bousquet 50 Gomak 350 Subury District: 50 Bousquet 50 Gomak 350 Alace Man Distrect (Michipicoten and Goudreau)	Hollinger	5.000			
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\sim contenting (1. D. Office Diffeo)	Centennial (L. B. United Mines)	50			

Area and mine	Operating	Under con- struction	Idle	Proposed
THUNDER BAY DISTRICT—Continued Dikdik (J. Bruce McMartin) Harkness-Hayes Little Long Lac North Shores Northern Empire St. Anthony Schreiber Pyramid Sturgeon River Tashota	$ \begin{array}{c} 25 \\ 200 \\ 25 \\ 200 \\ 125 \\ \dots \end{array} $	50		
KENORA AND RAINY RIVER DISTRICTS: Cedar Island (Kenora Prospectors) Duport Golden Star Horseshoe Saundary Wendigo	50		5	50
PATRICIA PORTION: Argosy (Casey Summit) Central Patricia Howey Hudson-Patricia J-M Consolidated McKenzie Red Lake	$125 \\ 1,500 \\ \\ 30 \\ 150$	· · · · · · · · · · · · · · · · · · ·	50	50
Pickle Crow Red Crest Red Lake Gold Shore Sol-D'Or EASTERN ONTARIO:	$ \begin{array}{r} 100\\ 200\\ 5\\ \dots\\10\end{array} $	50		125
Craig Gilmour	100	<i>.</i>	· · · · · · · · · · · · · · · · · · ·	100
Total	21,575	1,485	405	575

DAILY TONNAGE OF GOLD-MILLING PLANTS AT ONTARIO MINES, 1935-Continued

Mint Receipts from Ontario Mines

The table below shows the record over a five-year period of receipts of crude gold bullion from Ontario mines at the Royal Canadian Mint.

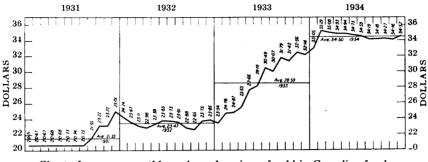
		Preciou	s metals	Total	Buying rate in Canada	
Year	Quantity	Gold	Silver	value (standard)	for New York funds1	
1931 1932 1933 1934 1935	2,441,467 2,668,456	fine ounces 1,441,602 2,248,106 1,879,659 - 2,031,719 2,195,386	fine ounces 171,408 300,927 270,377 292,445 310,104	\$29,850,774 46,554,898 38,945,178 42,134,234 45,578,512	cents 104.272 113.580 109.472 .990 100.54	

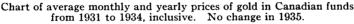
RECEIPTS OF CRUDE GOLD BULLION FROM ONTARIO MINES AT THE ROYAL CANADIAN MINT, OTTAWA, 1931-1935

¹The average rate of premium on New York funds is based on the day to day record of current quotations. The Federal Department of Finance pays for gold in Canadian funds and reimburses producers by an amount equivalent to the exchange premium on New York funds. Export of gold is prohibited except under license. After April 19, 1933, when the United States forsook the gold standard, Canadian output was marketed in London.

24

The average monthly value of gold in Canadian funds in 1935 ranged from \$34.948 in January to \$35.493 in October, and dropped to \$35.324 per ounce in December. The average for the twelve months was \$35.19.





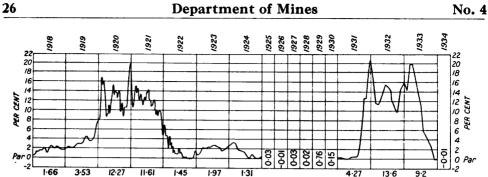
Exchange Equalization

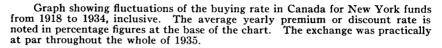
The figure for exchange equalization published for 1933, namely \$16,486,437, refers to the actual quantity of gold marketed during that period. Owing to the fact that in former years some mines reported only the exchange received during the calendar year and not exchange actually due on the year's gold shipments, some small corrections have been made on the following table for the years 1931 and 1932, as follows: \$81,728.42 received in 1933 should be credited to 1932, and \$113,088.91 should be deducted from 1932 and credited to 1931. In 1930, the exchange did not overlap with 1931.

Year	Porcupine	Kirkland Lake	Matachewan	N. W Ontario	Other areas	Total
1920	\$1,265,644	\$110.354		\$257		\$1,376,275
1921	1,238,211	121,425				1,359,636
1922	189,022	19,591				208,621
1923	241,602	38,565		29		280,196
1924	172,722	24,028				196,750
1925 ¹	-2,607	-231				-2,838
1926 ¹		- 595				-595
1927 ¹]			
1928		2.811				2,811
1929	87,173	70,283			1	157,456
1930	20.912	15,791				36,703
1931	830,799	1,006,607		61,857	26,958	1,926,221
1932	2,815,381	3,106,487		211,959	330	6,134,157
1933	8,249,321	7,305,041	\$143,866	² 495,335	292,874	16,486,437
1934	13,275,684	13,694,400	246,491	1,235,995	834,869	29,287,439
1935	14,043,630	13,718,813	620,177	2,784,979	2,429,189	33,596,788
Total	\$42,427,514	\$39,233,370	\$1,010,534	\$4,790,411	\$3,584,228	\$91,046,057

EXCHANGE EQUALIZATION RECEIVED ON GOLD MARKETED BY ONTARIO PRODUCERS, 1920–1935

¹Discounts paid during years when Canadian funds were at a premium. Figures for the three years have been deducted to arrive at the net totals.





World Output

The figures for the output by the leading gold-producing countries from 1931 to 1935, inclusive, in the following table are those published by the American Bureau of Metal Statistics.

OUTPUT BY THE LEADING GOLD-PRODUCIN	G COUNTRIES, 1931–1935 ¹
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	1931	1932	1933	1934	²1935
North America:	fine ounces	fine ounces	fine ounces	fine ounces	fine ounces
United States ³	2.395.878		2.536,913		
Canada	2,693,892				
Mexico	628,468	584.487	637,727		
Newfoundland	12,221	17.661	15.689		
	12,221	17,001	10,009	12,000	15,000
Total North America	5,730,459	6,095,567	6,139,638	6,561,837	7,599,283
CENTRAL AMERICA AND WEST INDIES	67,730	82,238	87,075	130,000	*150,000
South America:				-	
Chile	21,381	37,778	147,392	237.656	264.398
Brazil	119.500	119,868	122,534	113.621	125.000
Colombia	194.274	248.249	298.242	344.140	328,991
Ecuador	59.616	65.629	60.667	66,427	70.000
Peru	80,182	86.101	96.781	98,861	*110.000
Guiana—British	10.183	13.926	23.352	27.510	*30.000
	3.800	7.200	10.000	9.600	*10.000
	47,500	45,010	42,456	9,000 47,454	*50,000
					115,000
Venezuela	42,310	77,087	95,720	109,053	
Other South America	18,328	13,245	33,871	65,501	*65,000
Total South America	597,074	714,093	931,015	1,119,823	1,168,389
EUROPE:					······
Czechoslovakia	1.055	2.283	3.803	7.587	*8,000
France	60.800	92,013	94.521	100.597	*100,000
Tugoslavia	(4)	(4)	70.344	71.342	76.485
Rumania	88,123	102.591	142.585	111.496	145.000
Russia and Siberia.	1,700,000	1,990,000	2,667,100	4.262.770	5,500,000
Sweden	61,632	132,458	288.643	246.687	230,000
Other Europe	31,000	152,458 55,530	288,043	240,087	230,000
Other Europe	51,000	00,000	19,180	31,338	30,000
Total Europe	1,942,610	2,374,875	3,286,182	4,832,037	6,089,485

(One dollar = 0.048375 ounces)

	1931	1932	1933	1934	1935
OCEANIA:				1	
New South Wales	19,673	27,941	29,252	36,123	50,000
Queensland	13,147	23,263	91,997	115,471	102,990
Victoria	43,637	47,745	58,183	70,275	87,600
Western Australia	510,570	605,561	637,207	651,338	649,049
Tasmania	4,759	5,937	6,673	5,622	8,343
New Guinea	(5)	(5)	150,000	200,000	280,000
New Zealand	129,861	166,354	161,755	160,248	158,000 30,000
Other Oceania	62,455	121,071	18,800	22,500	
Total Oceania	784,102	997,872	1,153,867	1,261,577	1,365,982
Asia:					
British India	330.489	329.682	336,108	322,143	325,000
China	96,750	96,750	150,000	150,000	*150,000
Chosen (Korea)	274,754	276,002	328,040	350,000	400,000
Netherlands India	100,083	78,186	78,829	71,765	70,000
Formosa	18,133	25,045	72,242	121,518	*100,000
Japan	429,620	401,779	441,387	471,394	572,000
Other Asia	34,047	36,526	50,000	86,700	77,000
Total Asia	1,283,876	1,243,970	1,456,606	1,573,520	1,694,000
AFRICA		·			
Belgian Congo	211.758	242.691	283,144	337,382	370,000
French West Africa	(6)	(6)	68,737	97,706	115,000
Madagascar	8,585	11,338	13,374	15,979	*20,000
Rhodesia	541,447	580,503	645,087	693,265	727,927
British West Africa ⁷	267,300	292,510	338,110	384,268	425,000
Tanganyika	(6)	(6)	32,516		51,300
Transvaal, Cape Colony, and Natal	10,877,777	11,558,532	11,013,713	10,479,857	10,773,991
Other Africa	58,000	111,494	53,700	100,000	110,000
Total Africa	11,964,867	12,797,068	12,448,381	12,151,063	12,593,218
TOTAL FOR WORLD	22,370,713	24,305,683	25,502,764	27,629,857	30,660,357

OUTPUT BY THE LEADING GOLD-PRODUCING COUNTRIES, 1931-1935-Continued (One dollar = 0.048375 ounces)

¹From the Year Book of the American Bureau of Metal Statistics, 1935.

²The 1935 compilation contains some preliminary data and conjectural figures (*) have been inserted where necessary.

³Production of the Philippine Islands is included with the United States.

⁴Included in "Other Europe." ⁵Included in "Other Oceania."

Included in "Other Africa."

⁷Including Gold Coast.

Maximum Canadian production Maximum Russian production Maximum U.S. production	5,500,000 ounces in 1935
Maximum Transvaal, Cape Colony, and Natal production Maximum World production	11,558,532 ounces in 1932

Nickel-Copper and Platinum Metals

The nickel-copper industry during 1935 eclipsed all records. As may be observed in the accompanying table, the tonnage of ore and concentrate treated has topped that of 1934 by more than 24 per cent. in quantity. Refined nickel and blister copper produced have shown corresponding increases in quantity. On the other hand, matte exported was slightly lower than in 1934 but considerably above the figures for 1933. Increases may also be observed in the quantity of gold and silver recovered, which are now important acquisitions to the pro-

Depa	rtme	nt of	Mines
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duction of those metals. The production of metals of the platinum group has increased to such an extent that the Sudbury nickel-copper mines have become one of the world's most important sources of these precious metals. Since the year 1930, the entire Ontario production has been derived from the Sudbury area; it rose from 68,040 ounces in that year to a total of 200,109 in 1934. The 1935 output was slightly lower.

	1931	1932	1933	1934	1935
Platinum metals:	ounces	ounces	ounces	ounces	ounces
Platinum Palladium	44,725 39,313	27,284	24,746	116,177	105,335.28 81,902.61
Rhodium, ruthenium, os- mium, and iridium	7,605	37,613	31,009	83,932	2,869.00
Totalounces Value	91,643 \$2,812,834	64,897 \$1,998,911	55,755 \$ 1,501,233	200,109 \$6,187,992	190,106.89 \$5,407,392
Gold ounces Silver ounces		$22,675 \\ 663,795$	36,983 1,026,370	60,370 1,882,293	69,023.96 2,243,746.00

PRECIOUS METALS RECOVERED, 1931-1935

The producing mines at Sudbury were operated at the following rates: the Frood, 10,500 tons of ore hoisted per day; the Creighton, 1,000 tons; and the Falconbridge, 1,000 tons per day.

A new shaft, No. 5, is now being sunk at the Creighton and has reached a depth of 2,100 feet. The final objective is 4,250 feet. At the Falconbridge a new shaft, which is to be 1,450 feet in depth, has been sunk to 1,350 feet.

NICKEL-COPPER MINING AND SMELTING, 1931–1935

Item	1931	1932	1933	1934	1935
 Ore and concentrate shipped Ore and concentrate treated Blister copper produced in Ontario Nickel produced in Ontario Matte exported¹ Nickel content of matte exported² Copper content of matte exported² 	tons 1,690,192 1,884,959 49,786 15,939 30,294 16,847 6,620	tons 790,614 793,552 7,063 21,778 8,068 8,825	tons 1,533,887 1,523,814 60,398 20,748 43,315 25,811 12,323	tons 2,903,310 2,896,959 95,826 35,487 46,755 28,771 6,692	tons 3,608,437 3,616,223 119,720 40,191 46,371 28,949 6,272

¹All matte was exported prior to 1918, when refining in Canada began at Port Colborne, Ont. The British America Nickel Corporation commenced refining operations at Deschênes, Que., in 1920, and closed down finally in July, 1924. In 1934 and 1935, a few thousand tons were brought back to Canada for treatment. These have been deducted.

²In 1932, after the reorganization of the metallurgical practice, the Orford process, i.e. the separation of the matte into copper tops and nickel bottoms, was carried out at Copper Cliff.

Dividends

Total dividends paid to the end of 1933 and payments in 1935 are given in the following table. For convenience of comparison Mond figures have been converted to dollars on the basis $\pounds 1 = \$4.8665$. The Falconbridge Nickel Mines paid its first dividend in 1933.

28

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CKEL-COPPER INDUSTRY IN ONTARIO, 1933, 1934, AND 1935.
ICKEL-COPPER
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STATISTICAL SI

	roducts ²	Value	\$21,197,469 9,005,195 764,508 388,303	1,501,233 53,745 \$32,910,453	\$32,092,032	14,218,611 1,247,957 834,526 864,646 6,187,992	\$55,562,649	\$35,906,541	$\begin{array}{c} 18,665,345\\ 1,426,852\\ 1,002,101\\ 1,453,721\\ 5,407,392\\ 173,247\end{array}$	\$64,035,199	ides the book
SYNOPSIS OF THE NICKEL-COPPER INDUSTRY IN ONTARIO, 1933, 1934, AND 1935	Selling value of products ²	Kind	Matte (exported) Metallic nickel Nickel oxide Converter copper Gold (standard)	Platinum metals	Matte (exported) Metallic nickel	Aucket oxuce Converter copper Gold (standard). Exchange Silver. Platinum metals		Matte (exported) Metallic nickel	Converter copper Gold (standard) Exchange Silver Platinum metals		In the report for 1929, Volume XXXIX, Part I, the capital shown includes the book npany.
FARIO, 1933,	Wage-earners	Wages	\$2,238,271 2,040,548 971,614	\$5,250,433	\$4,037,707 3,185,306 1 280,448	1,000, 11 0	\$8,603,461	\$5,789,096 3,633,678 1.582,350		\$11,005,124	XXIX, Part I,
N ON	Wa	Ňo.	$^{1,459}_{1,413}_{751}$	3,623	2,505 2,210 1,078	010(1	5,793	3,449 2,548 1,197		7.194	tme XX
NDUSTRY I	d employees	Salaries	\$157,795 287,817 251,895	\$697,507	\$149,890 444,873 320,101	101,620	\$923,864	\$143,776 439,726 352,876		\$936,378	for 1929, Volı
PER I	Salaried	No.	46 71 98	215	45 107 101		273	43 119 141		303	report
NICKEL-COF	Dividondo	paid	\$ 2,746,330	\$2,746,330	\$10,126,014		\$10,126,014	\$13,865,196		\$13,865,196	l lands. In the ands. fining Company.
OPSIS OF THE		Capital invested ¹	891,785,900	\$91,785,900	\$102,801,859		\$102,801,859	\$107,648,331		\$107,648,331	¹ The capital invested is exclusive of value of mineral lands. In the te for mineral lands, or a total of \$74,077,808 for the lands. ² Figures do not include the output of the Ontario Refining Company. ³ Plants Port Colborne and Copper Cliff.
STATISTICAL SYN	No of alanta	NO. OI PLANUS in Ontario	4 mines 3 smelters 2 refineries ³		4 mines ⁴ 3 smelters			4 mines ⁴ 3 smelters 2 refineries		· · · · ·	id is exclusive of or a total of \$74, the output of the and Copper C
STA1	No. of	producing companies	2		2			2		•••••••••••••••••••••••••••••••••••••••	¹ The capital invested is exclusi value for mineral lands, or a total of ² Figures do not include the outp ³ Plants Port Colborne and Copp ⁴ Includes Cumptau.
		Year	1933.	Total.	1934		Total	1935		Total.	¹ The ca value for min ² Figures ³ Plants ⁴ Include

Statistical Review for 1935

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Company	Period (inclusive)	To end of 1934	1935
Canadian Copper Company International Nickel Company ¹ preferred common International Nickel Company preferred of Canada, Limited ² common Falconbridge Nickel Mines, Limited	1894–1901 1906–1928 1909–1928 1929–1932 1929–1932 1928–1933	\$1,975,000.00 12,299,273.00 65,811,694.00 11,382,710.28 40,374,198.06 1,715,640.76	\$1,933,898.75 10,933,626.75 997,669.77
Total		\$133,558,516.10	\$13,865,195.27
Mond Nickel Company ³ deferred	1906–1914 1904–1929 1905–1929	£264,043 2,556,359 2,581,984	
Total	· · · · · · · · • • · · · · ·	£5,402,386 or \$28,291,126	
GRAND TOTAL		\$159,849,642.10	\$13,865,195.27

DIVIDENDS PAID BY NICKEL COMPANIES TO END OF 1935

¹Successors to the Canadian Copper Company. The International Nickel Company paid dividends on the common stock from 1909 to 1919, inclusive, and again from 1925 to 1928, inclusive. Common stock outstanding was \$41,834,600, and preferred stock \$8,912,600, or a total of \$50,747,200 at the beginning of 1928. On December 19, 1928, the authorized capital stock of \$62,000,000 of the New Jersey company was reduced by changing the par value of the shares from \$25 to \$1 each, and at the same time the name of the company was changed to Nickel Holdings Corporation. On December 31, 1928, the authorized capital was further reduced to \$993,425 fully issued or subscribed-for stock, consisting of \$843,700 preferred stock and \$149,725 common stock, par value in each case.

²Dividends paid by the International Nickel Company of Canada, Limited, on the common stock in 1929 were 90 cents per share, and \$1.00 per share in 1930. Common stock was increased to 15,000,000 shares of no par value on July 25, 1930; as a result shares issued were increased from 13,758,208 to 14,584,025. Seven per cent. preferred stock (cumulative) now stands at \$27,627,825. Dividends on common stock aggregated 45 cents a share in 1931.

\$27,827,825. Dividends on common stock aggregated 45 cents a share in 1931.
³Upon completion of the exchange of stock under the amalgamation of the Mond and International companies, effective December 31, 1928, stock issued or issuable was as follows:
\$27,627,825 of 7 per cent. cumulative preferred, and 13,758,208 common shares without par value. Dividends paid on February 16, 1929, by the Mond company cover the 8 months' period ending December 31, 1928.

Demand for Palladium

Platinum and metals of the platinum group have heretofore been recovered mainly from placer workings, as in Russia, but of late years the recoveries in the refining of nickel-copper mattes from Sudbury have placed Ontario in the forefront of world producers. The Russian output has been estimated at 100,000 ounces, reliable statistics not being available. The state of Colombia was formerly a prominent producer of these metals, but production has fallen off. In 1935, according to *Mineral Trade Notes* of the United States Bureau of Mines¹ most of the crude platinum of Colombia was saved on dredges working in the Interdencia of Chaco near Andagoya. Production in 1935 totalled 38,628 ounces, which, with the exception of 24 ounces, was exported. The output was about 16,000 ounces less than in the previous year.

A note from a German publication *Metallwirtschaft* regarding palladium runs as follows:—

In the last three years leaf palladium has been on the market. It is made and used in the same way as leaf silver and gold. Palladium leaf has a platinum-white colour and has no tendency to tarnish or spot. The leaf is made of 99.8 per cent. pure metal. Palladium is easily worked, and alloys with other metals quite freely. It has a melting point of 1554° C., and its specific gravity is 12.16; this is 20 per cent. lighter than 18-carat gold. The tensile strength of the pure metal is very good, and its alloys have high tensile strength values. The chief sources of palladium to-day are the nickel-copper ores of Sudbury, Ont. It occurs in smaller quantities

¹Vol. 2, No. 6, p. 11.

in South Africa, Russia, and South America. In recent years, leaf palladium has found many uses, and among others, for the gilding of the surface of wooden sculpture. It is also used extensively in the bookbinding industry for book titles and for ornamentation of the book covers. It can be printed not only on leather but on wood.

Palladium is used extensively as a dental metal, and in electro-technique. In dentistry, it often replaces gold, either alone or alloyed. It greatly improves dental alloys to which it is added, especially the alloys with platinum, gold, and silver. For the most part, the alloys are white, and in the jewellery trade it replaces "white gold" because it is much more easily worked. For such purposes it is often alloyed with chodium, or ruthenium, which produces a very strong alloy. In the electric industry, palladium is used for contacts, especially for telephone relays, because of its cleanliness and good conductivity. The use of palladium in future is likely to increase considerably because of its special properties, including its value as a catalyst.

The two operating nickel companies have both announced important additions to their plants at Sudbury for 1936. The International Nickel Company will add 40 per cent. to its smelting capacity. This enlargment has been necessitated mainly by the increased peace-time uses to which nickel is now being put and will permit the keeping of supplies of the refined metal on hand. It is understood that two reverberatory furnaces and eight converters are to be installed in a new addition to the smelter, which will be served by a new high stack. Employment in the nickel-copper industry during the year was at its highest level. This activity has an important bearing on other industries, such as lumbering and transportation.

Copper-refining was also active in 1935. The plant of the Ontario Refining Company at Copper Cliff, which has an annual capacity of 120,000 tons and is the largest copper refinery in Canada, treated 118,681 tons of blister copper and produced 109,765 tons of refined copper, 58,364 ounces of gold, 2,077,572 ounces of silver, 75,363 pounds of selenium, and 14,275 pounds of tellurium. Copper was produced in the form of wire bars, ingot bars, small ingots, cakes, billets, and cathodes.

A new development of great importance to Canada is the organization of companies to produce stainless steel and a large list of monel metal products.

The International Nickel Company of Canada, Limited, which has formed the Whitehead Metal Products Company of Canada, Limited, with a plant at Port Colborne, will manufacture monel metal products, range boilers, waterheating tanks, and gas heaters. The plant commenced operations in March, 1936.

The Fahralloy Canada, Limited, backed by Ventures, Limited, and Falconbridge, has taken over a plant at Orillia, which is now undergoing extensive alteration, with equipment being installed to manufacture nickel-steels now so widely in demand.

Silver-Cobalt

The silver-mining industry has brightened considerably in Ontario recently, owing to the improved price of the metal and more stable industrial conditions, with a consequent better market for the metal cobalt, which is associated with the silver. Refining of nickel-copper mattes has supplied important quantities of silver, and with that recovered from an expanding gold industry the production of this metal has improved.

The production was 6,320,670 ounces, valued at \$4,068,906, during 1935, as against 5,523,938 ounces, worth \$2,600,393, in 1934. The increase in quantity was due entirely to heavier shipments of silver concentrates and a much larger recovery in the refining operations of the nickel-copper industry.

During the year twenty-eight properties shipped silver-cobalt and cobalt ore. Eighteen of these are located at Cobalt, namely Cobalt Properties, Temiskaming, Cross Lake (O'Brien), Foster, Crown Reserve, Drummond, Beaver, Right-of-Way, Colonial, Nipissing, Cobalt Comet, Buffalo, Cobnor, Hudson Bay; Yorkshire Cobalt, Dominion Reduction Company, Silver Queen, and Silver Cliff, and seven in South Lorrain, as follows, Wettlaufer, Bellellen, Canadian Lorrain, Frontier, Keeley, and Nipissing Lorrain; and three at Gowganda, Miller Lake O'Brien, Silverado, and Morrison. In most cases these operations were carried on by lessees and the shipments ranged from one ton, a carload lot, or several carloads to more than 4,000 tons from the Nipissing. The active demand for cobalt and for nickel-bearing ores has been the cause of this revival in operations.

The price of silver on the New York market for 1935 averaged 64.273 cents per fine ounce, as compared with 46.973 in 1934. World silver markets were demoralized early in December with offers flooding the market and no buyers, as the United States Treasury refused to bid for metal in the face of Far Eastern selling orders. The low of 49.75 cents was reached in December, at which point it finished the year.

The following table shows the total silver production for the years 1934 and 1935:—

Same	19	34	19	35
Source	Fine ounces	Value	Fine ounces	Value
Sales of bullion by the reduction com- panies, smelters, and mines Contained in silver-cobalt concentrates	2,681,104	\$1,244,081	3,181,282	\$2,051,089
and residues exported Estimated as recovered from concen-	288,552	141,544	144,229	94,177
trates treated outside of Ontario	299,084	146,094	299.632	181,181
In crude gold bullion	432,905	204,028	451.781	288,738
Recovered by nickel-copper refineries	1,822,293	864,646	2,243,746	1,453,721
Total	5,523,938	\$2,600,393	6,320,670	\$4,068,906

SILVER PRODUCTION, 1934 AND 1935

The following shipments of silver-cobalt ore in 1935 are taken from data compiled and supplied by A. A. Cole, mining engineer for the T. & N. O. railway: silver ore from Cobalt 1,902.49 tons, from South Lorrain 23.37 tons, and from Gowganda 229.02 tons, a total of 2,154.88 tons; cobalt ore from Cobalt 2,845.48 tons, and from South Lorrain 36.15 tons, a total of 2,881.63 tons. The total shipments by railway, therefore, were 5,036.51 tons, of which silver ores totalling 885.19 tons were shipped to Deloro, Ont., 895.19 tons to Noranda, Que., and 374.50 tons to Tadanac, B.C. The cobalt ores were largely exported, only 183.18 tons going to Deloro, while 2,386.36 tons were exported to Europe and 312.09 tons to the United States.

Shipments of silver mines by camps during 1934 and 1935 were as follows:---

SILVER SHIPMENTS BY CAMPS, 1934 AND 1935

<u></u>		1934			1935	
Camp	Silver	Col	balt ¹	Silver	Cob	alt ¹
Cobalt Gowganda South Lorrain		$201,025 \\ 32,273$	\$59,867	fine ounces 2,737,592 829,195 36,585	lbs. 437,728 20,818 9,326	\$130,239 No,pay 3,867
Total	3,029,638	233,298	\$59,867	3,603,372	447,054	\$134,106

¹Figures represent the quantities paid for by the smelter and values received by the mines.

Total	Value	\$136,217 1,473,196	3,764,113 6 201 005	0,284,869	12,617,580	15,603,455	16,199,346	17,051,839	13,501,469	12,695,809	18,001,597	19,741,490	14,474,523	12,802,882	0,407,001 9.355,642	9,151,445	9,060,222	9,295,791 8 866 090	6.989.480	5,812,658	6,286,727	4,754,445 9 276 206	2,308,733	2,069,703	2,231,990	2,990,568	\$291,155,975	ludes 22,258	en reported.
Silver	Value		3,667,551										12,738,994		0,004,034			6,700,129 5,541 000						• •	•••	2,326,447	\$256,776,388	In 1932, it includes 22,258	Since that date recoveries have been reported re not reported prior to 1923.
1904–1935	Ounces		5,401,766					29,681,975		24,746,534					10,711,127				8,883,829					3,939,990		3,625,143	426,764,915		e nickel, cobalt, and arsenic in the ores. Since that date recoveries h Recoveries of bismuth from base bullion were not reported prior to 1923
REFINERIES, 19 Arsenic	Value	\$903 2,693					74,609 80 546			148,379							323,186								56,412	75,326	\$5,759,333	s refineries. iss residues	. Since th were not re
REFIN	Tons		1,440 9 058									2,545			2.059		1,915			2,049	1,871	1,375	1,212	734	824	1,279	70,811	d State: and spe	the ores bullion
TERS AND Cobalt ³	Value	\$19,960 100,000	80,704	111.118	94,965	54,699	314 381	420,386	590,406	383,261	1 138 190	1,640,310	1,019,479	1,605,365	010,233	1,803,872	1,662,526	2,328,517	1,764,534	1,671,900	1,801,915	1,143,031	587 957	576,465	592,497	512,705	\$26,837,177	¹ Copper and lead are recovered from certain silver ores and concentrates shipped to United States refineries. ² Nickel metal and metallic contents of all nickel compounds. ³ Cobalt metal and metallic contents of all cobalt compounds, and cobalt contained in ores and speiss residues exported. ⁴ Coverth 210 ,094 from northwestern Ontario.	cobalt, and arsenic in the ores. es of bismuth from base bullion w
SMELTERS Cobalt	Tons	$118 \\ 118$	321	-	1,533	1,098	852								120	380	476	008 220	440	477	464	347	245	200	297	341	15,631	tes ship alt cont	balt, and f bismu
SILVER MINES, Nickel ²	Value	\$3,467 10,000	1 174	1,1,1			14 220	13,326	28,978	28,353	125.071	156,893	188,418	93,233	34,987	19,321	26,862	30.051	52,829	57,039	63,167	27,455	17,772	41,730	47,393	65,784	\$1,362,565	d concentra s. ds, and cob	the nickel, col *Recoveries o
SILVER N	Tons	14 75	160	612	2992	504	392	377	06	35	155												33	32	85	118	5,996	ores an mpound	of th
IPMENTS FROM S	Value			:		••••••	•••••			•••••					10/2		7,295					1,748	1 756	692	525	206	\$29,790	I from certain silver ores and tents of all nickel compounds. tents of all cobalt compounds stern Ontario.	id on assays was made idues, worth \$153,116.
ENTS	Tons		:			:	:			:		:					45						43		10	11	331	m certain s of all nic s of all co	1 assay s, wort
SHIPM Copper ¹	Value		:								C 20 840	35.712			5 4 7 8	39		17, 1	201	ι _δ ι	ŝ	ເດັນ	20	2,802		2,804	\$276,845	are recovered from metallic contents of I metallic contents (from northwestern (e based on a ss residues,
ں 	Tons		:	:		<u>.</u>	:					32	110	<u>2</u> 2;	. IU3	56		11		38				191			894	metalli metalli metalli	stimate of spei
Bismuth	s Value			:						•	:					\$48,139		18,578	1005	5,067			_	3 731		-	\$149,877	¹ Copper and lead are recovered from ² Nickel metal and metallic contents ³ Cobalt metal and metallic contents counds worth \$10,074 from northwestern	⁴ Prior to 1914 an estimate base Includes 460 tons of speiss res
Â	Tons			:										:	:	:		2,	- U	~ 1 ~	13		40	04	4	со 	75	pper a skel m balt m	or to Judes
	Year	1904	1906	1008	1909.	1910.	1911	1913	19144	1915	1916 1017	1918	1919.	1920	1921	1923	1924.	1925	1927	1928.	1929	1930	1020	1933	1934.	1935	Total	¹ Col	Pri Pri Inc

1936

33

1935
31,
DECEMBER
TO
COMPANIES
DIVIDENDS AND BONUSES PAID BY SILVER-MINING COMPANIES TO DECEMBER 31, 1
BΥ
PAID
BONUSES
AND
DIVIDENDS AND

Name of company	Date of incorporation	Authorized capital	Capital stock issued	Par value per share	Dividends and bonuses paid to end of 1934	Dividends and bonuses paid during 1935	Total dividends and bonuses paid to Dec.31, 1935	Date when last dividend was paid
Aladdin Cobalt Company, Ltd	Aug. 23, 1912	\$500,000	\$500,000	\$5.00	\$75,000.00		\$75,000.00	\$75,000.00 April 30, 1917
Beaver Consolidated Mines, Ltd	. Mar. 1, 1907	2,000,000	2,000,000	1.00	710,000.00		710,000.00	710,000.00 May 31, 1920
Casey Cobalt Silver Mining Co., Ltd	Dec. 19, 1906	100,000	100,000	1.00	203,249.33		203,249.33	203,249.33 April 22, 1914
Castle-Trethewey Mines, Ltd	Jan. 20, 1922	2,000,000	12,000,000	1.00	18,027.00		18,027.00	18,027.00 April 15, 1925
Cobalt Central Mines Co., Ltd	Dec. 13, 1905	5,000,000	5,000,000	1.00	192,845.00		192, 845.00	192,845.00 Aug. 25, 1909
Cobalt Comet Mines, Ltd. ²	April 16, 1913	1,000,000	1,000,000	1.00	230,000.00		230,000.00	230,000.00 April 1, 1915
Cobalt Properties, Ltd	Aug. 24, 1931	25,000	25,000	1.00	32,500.00	97,000.00	129,500.00	129,500.00 Oct. 31, 1935
Coniagas Mines, Ltd., The ³	Nov. 24, 1906	4,000,000	4,000,000	5.00	11,640,000.00	100,000.00	11,740,000.00 Jan. 10, 1935	Jan. 10, 1935
McKinley-Darragh-SavageMinesofCobalt,Ltd. ³ April 27, 1906	April 27, 1906	2,500,000	2,247,692	1.00	5,955,391.86	•	5,955,391.86 Oct.	Oct. 1, 1920
Mining Corporation of Canada, Ltd. ³	Nov. 23, 1916	8,300,250	8,300,250	5.00	7,573,937.47		7,573,937.47	7,573,937.47 Dec. 19, 1929
Buffalo Mines, Ltd., The ⁴	April 27, 1906	500,000	150,000	.50	2,787,000.00		2,787,000.00	2,787,000.00 May 28, 1924
City of Cobalt Mining Co., Ltd. ⁵	Jan. 7, 1909	1,500,000	1,500,000	1.00	145,000.00	· · · · ·	145,000.00	145,000.00 April 15, 1920
Cobalt Lake Mining Co., Ltd. ⁵	Dec. 22, 1906	3,000,000	3,000,000	1.00	465,000.00	•••••••••••••••••••••••••••••••••••••••	465,000.00	465,000.00 May 29, 1914
Cobalt Townsite Mining Co., Ltd. ⁵	. May 8, 1906	100,000	45,011	1.00	1,042,259.61	•	1,042,259.61	1,042,259.61 Nov. 11, 1914
Right of Way Mines, Ltd. ³	Sept. 11, 1909	2,000,000	1,685,500	1.00	252,825.00		252,825.00	252,825.00 Mar. 17, 1917
Cobalt Silver Queen, Ltd.	April 1, 1906	1,500,000	1,500,000	1.00	315,000.00	· · · · · · · · · · · · · · · · · · ·	315,000.00	315,000.00 Dec. 31, 1908
Crown Reserve Mining Co., Ltd	Jan. 16, 1907	2,000,000	1,999,957	1.00	6,190,849.00		6,190,849.00	6,190,849.00 Dec. 28, 1916
Foster Cobalt Mining Co., Ltd.	Feb. 14, 1906	1,000,000	915,588	1.00	45,000.00		45,000.00 Jan.	Jan. 1, 1907

No. 4

ug. 31, 1913	lar. 15, 1928	ct. 13, 1927	lar. 24, 1923	ıly 15, 1925	ec. 24, 1935	ept. 10, 1917	an. 2, 1917	ct. 1, 1909	ec. 15, 1916	an. 31, 1920	ov. 10, 1914	an. 2, 1919	ept. 22, 1913		oer 21, 1919, each. The ited.
778,909.42 Aug. 31, 1913	2,240,000.00 Mar. 15, 1928	10,521,000.00 Oct. 13, 1927	6,600,546.84 Mar. 24, 1923	150,000.00 July 15, 1925	31,498,297.25 Dec. 24, 1935	175,461.65 Sept. 10, 1917	462,350.35 Jan.	324,643.93 Oct.	1,579,817.20 Dec. 15, 1916	2,159,156.25 Jan. 31, 1920	1,940,250.00 Nov. 10, 1914	1,211,998.50 Jan.	637,465.50 Sept. 22, 1913	98,350,781.16	1.00, redeemed April, 1925, and capital reduced from \$2,200,000 to \$2,000,000. 1.00 paid on April 27, 1917. 1.01 company was reduced from \$1,000,000 to \$750,000; in 1918, from \$750,000 to \$500,000; and on December 21, raing to shareholders amounts equal to the reduction in capital, leaving 300,000 shares issued of 50 cents each. 2.00 of Canada and operated by it in 1920 and subsequently; it is now owned by Cobalt Properties, Limited. ation of Canada. Limited, sold to Cobalt Properties, Limited, in 1935. The Temiskaming and Hudson Bay in 1909. amounting to \$600,000 was made on July 3, 1919, to stockholders of the Kerr Lake Mines, Limited, an September 10, 1917, and an equal amount on April 24, 1918. private companies such as M. J. O'Brien, Limited.
· · · · ·			· · · · ·		170,000.00									\$367,000.00 \$98,350,781.16	81.00, redeemed April, 1925, and capital reduced from \$2,200,000 to \$2,000,000. (a) Limited. (a) Limited. (a) Company was reduced from \$1,000,000 to \$750,000; in 1918, from \$750,000 to \$500,000; and on Dering to shareholders amounts equal to the reduction in capital, leaving 300,000 shares issued of 50 campany was reduced by it in 1920 and subsequently; it is now owned by Cobalt Properties, by Mining Corporation of Canada. Limited, cobalt Properties, Lid.; now owned by Cobalt Properties, Ltd. (a) Temiskaming and Hudson Bay in 1909. (a) Temiskaming the Nipissing Mines Company (the holding company) to the end of 1935. (a) South of Conada and operated by it in 1920 and subsequently; it is now owned by Cobalt Properties, Ltd. (a) No would by Cobalt Properties, Ltd. (b) Mining Corporation of Canada. Limited, sold to Cobalt Properties, Limited, in 1935. (a) Temiskaming and Hudson Bay in 1909. (b) Mining Corporation of Canada and operated sold to Cobalt Properties, Ltd. (c) Ltd.; now owned by Cobalt Properties, Ltd. (c) Source \$100,000 was made on July 3, 1919, to stockholders of the Kerr Lake Mines, Limited. (c) Source \$10, 1917, and an equal amount on April 24, 1918. (fines, Ltd. (fines, Ltd. (fines, Ltd. (p) Properties and source to the reduction in the end of 1916. (fines, Ltd. </td
778,909.42	2,240,000.00	*10,521,000.00	6,600,546.84	150,000.00	°31,328,297.25	10175,461.65	462,350.35	324,643.93	1,579,817.20	2,159,156.25	1,940,250.00	1,211,998.50	637,465.50	\$97,983,781.16	0,000 to \$2,000 8, from \$750,00 ital, leaving 30 broperties, Lir holders of the I company) to t
5.00	1.00	00.00	1.00	1.00	00.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		n \$2,20 in 191 in 191 cobalt Cobalt Cobalt Cobalt Cobalt Cobalt Cobalt Cobalt Cobalt Cobalt Cobalt Cobalt
3,200,050	2,000,000	40,000 100.00	1,500,000	1,500,000	250,000 100.00	1,349,705	2,469,802	499,518	478,884	2,500,000	7,761	1,000,000	1,416,590		reduced fron educed fron o \$750,000; he reduction 20 and subst ted; sold to perties, Ltd. 9. 7, 3, 1919, to ippany (the k mount on A n, Limited.
3,500,000	2,000,000	40,000	1,500,000	1,500,000	250,000	1,500,000	3,000,000	500,000	500,000	2,500,000	25,000	2,000,000	1,500,000		and capital and capital \$1,000,000 t is equal to to to by it in 19 anada, Limi Cobalt Pro a Bay in 190 made on Jul made on Jul an equal a M. J. O'Brie
. July 16, 1909	June 22, 1922	Aug. 9, 1905	May 31, 1908	Mar. 20, 1923	Dec. 16, 1904	April 24, 1912	. April 11, 1906	July 13, 1906	Sept. 29, 1911	Nov. 5, 1906	July 10, 1903	May 30, 1906 June 1, 1911	Nov. 30, 1908		1.00, redeemed April, 1925, and capital reduced from paid on April 27, 1917. es. Limited. es. Limited. es. Limited. es. Limited. enpany was reduced from \$1,000,000 to \$750,000 init to shareholders amounts equal to the reduction of chanda and operated by it in 1920 and sultion of Canada. Limited: sold subortion of Canada. Limited: sold subort to the reduction of September 10, 1917, and an equal amount on ines. Ltd.
Hudson Bay Mines, Ltd. ⁷	Keeley Silver Mines, Ltd	Kerr Lake Mining Co., Ltd.	La Rose Mines, Ltd	Lorrain Trout Lake Mines, Ltd	Nipissing Mining Co., Ltd.	Penn-Canadian Mines, Ltd	Peterson Lake Silver-Cobalt Mining Co., Ltd	Right of Way Mining Co., Ltd. ¹¹	Seneca-Superior Silver Mines, Ltd	Temiskaming Mining Co., Ltd	Temiskaming and Hudson Bay Mining Co., Ltd. July 10, 1903	Trethewey Silver Cobalt Mines, Ltd	Wettlaufer Lorrain Silver Mines, Ltd	Total ¹⁰	^{1200,000} preferred shares, par \$1.00, redeemed April, 1925, and capital reduced from \$2,200,000 to \$2,000,000. ² Cash assets amounting to \$50,000 paid on April 27, 1917. ³ Now owned by Cobalt Properties, Limited. ⁴ In 1917 the capital stock of the company was reduced from \$1,000,000; in 1918, from \$750,000 to \$500,000; and on December 21, from \$500,000 to \$150,000, but returning to shareholders amounts equal to the reduction in capital, leaving 300,000 shares issued of 50 cents each mine was sold to the Mining Corporation of Canada. Limited, sold to Cobalt Properties, Limited. ⁶ Succeeded Right of Way Mining Corporation of Canada. Limited, sold to Cobalt Properties, Limited. ⁷ Name of company changed from Temiskaming and Hudson Bay in 1909. ⁸ In addition a return of capital amounting to \$600,000 was made on July 3, 1919, to stockholders of the Kerr Lake Mines, Limited. ⁹ In addition a return of capital amounting to \$600,000 way Mines Company (the holding company) to the end of 1916. ⁹ In addition a return of Capital amounting to \$600,000 was made on July 3, 1919, to stockholders of the Kerr Lake Mines, Limited. ⁹ In addition a return of Capital amounting to \$600,000 way Mines Company (the holding company) to the end of 1916. ⁹ Include \$10,282,297.25 paid in dividends by the Nipissing Mines Company (the holding company) to the end of 1916. ¹⁰ Succeeded by Right of Way Mines, Ltd. ¹¹ Succeeded by Right of Way Mines, Ltd.

N	0.	4

Since 1904, silver shipments as reported by operators were as follows:----

$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Year	Cobalt	Casey township	South Lorrain	Gow- ganda	Montreal R., Maple Mountain, etc.	Total	Average price per ounce (New York)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			fine	fine	fine	fine	fine	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				ounces	ounces	ounces		cents
$\begin{array}{c c c c c c c c c c c c c c c c c c c $							206,875	57.221
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		2,451,356					2,451,356	60.352
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		5,401,766					5,401,766	66.791
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1907	10,023,311					10,023,311	65.237
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1908	19,424,251					19,437,875	52.864
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1909	25,658,683	26,185	194,955		18.002	25.897.825	51.502
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1910	29,849,981			471,688	9,835		53.486
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			114,789	933,912	468,687	510	31,507,791	53.340
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1912	28,605,940		834,119	549.976			60.835
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1913	28,105,505	825,108	248,992				57.791
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1914	24.155.699	499.643	108,199				54.811
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1915	24.280.366	223,939		242.229			49.684
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1916	19.008.517	445,900	77.280	383,393			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1917	18.327.258						81.417
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1918	16.807.407						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1919	10.314.689						111.122
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1920	10,402,249						100.900
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								62.654
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1922	9 239 147	1 028					67.528
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			1,020	2 955 646				64.873
$\begin{array}{cccccccccccccccccccccccccccccccccccc$								66.781
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1925	6 252 115						69.065
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1926	6 262 940						62.107
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					1 741 614	• • • • • • • • • • •	Q 542 512	56.370
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								58.176
$\begin{array}{cccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						350		52.993 38.154
1932 3,262,380 22,144 1,374,780 4,659,304 27.4 1933 2,397,118 1,244,812 3,641,930 34.4 1934 1,990,073 1,039,565 3,029,638 47.4 1935 2,737,592 36,585 829,195 3,603,372 64.55								
1933 2,397,118 1,244,812 3,641,930 34.4 1934 1,990,073 1,039,565 3,029,638 47.4 1935 2,737.592 36,585 829,195 3,603,372 64.5	1022							
1934 1,990,073 1,039,565 3,029,638 47.4 1935 2,737,592 36,585 829,195 3,603,372 64.5								27.892
$1935 \dots 2,737 592 \dots 36,585 829,195 \dots 3,603,372 64.5$	1900							34.727
								47.973
Total 379,068,907 2,799,740 22,810,578 23,484,914 48,558 428,212,697								64.273
	Total	379,068,907	2,799,740	22,810,578	23,484,914	48,558	428,212,697	

SILVER SHIPMENTS BY CAMPS, 1904-1935

¹Includes 885 ounces from Silver Islet, Lake Superior.

²Silver Islet, Lake Superior. ³Nickel Hill Syndicate in the Sudbury area shipped silver-cobalt ore.

Iron Ore, Pig Iron, Steel, and Coke

As shown in the following table, foreign ore charges amounted to 931,569 long tons, the average price of which was \$4.65 (American funds, sales tax extra) at lower lake ports. From this ore, 554,977 long tons of pig iron was produced, including 371,344 long tons of basic, 93,921 of foundry, and 89,712 of malleable.

IRON AND STEEL STATISTICS, 1931-1935

Year	Foreign ore	Limestone	Coke	Pig iron	produced	Steel	made
	smelted	flux		Quantity	Value	Quantity	Value
1931 1932 1933 1934 1935	long tons 568,886 198,063 182,060 462,705 647,597	short tons 149,454 56,880 46,944 118,350 172,609	short tons 320,133 119,064 113,102 253,532 339,551	long tons 318,645 113,665 110,562 271,725 391,792	\$6.363.101 2,558,799 2,066,049 6,249,675 9,011,256	long tons 444,107 244,693 258,841 476,699 584,239	\$15,099,638 8,319,562 8,800,594 16,207,766 19,864,126

At Montreal No. 1 pig iron (2.25 to 2.75 per cent. silicon) was quoted at \$23.00, and malleable the same. No quotations were available for basic pig iron. Steel billets were quoted at \$34.00 per long or gross ton at Hamilton.

PIG IRON, STEEL, AND FERRO- AND OTHER ALLOY PRODUCERS, 1935

Company	Location
Abrasive Company of Canada, Ltd. ^{1 2}	Hamilton.
Algeme Steel Corporation 1 td ² ³ ⁴	baun ore. mane.
Consider Atlas Steels Itd 4	wenand.
Consider Carborundum Co. Itd ¹ ²	iniagala rans.
Canadian Electro Castings, Ltd. ⁴	Unina.
Condian Europe Co. Ltd ² ⁸	i Magara Pans.
Chromium Mining & Smelting Corporation, Ltd. ²	Hamilton.
Dominion Foundries and Steel Itd 4	namiton.
Electro-Metallurgical Co. of Canada, Ltd. ²	Welland.
Exolon Company, Ltd. ¹ ²	Thorold.
Ford Motor Co. ⁴	Ford.
Kennedy, Wm., and Sons, Ltd. ⁴	Owen Sound.
Kennedy, Wm., and Sons, Ltu.	Stamford.
Lionite Abrasives, Ltd. ¹ ²	
Steel Company of Canada, Ltd. ³ ⁴	Sault Ste. Marie.
Superior Allows I td 5	Saure Ste. Marie.
Welland Electric Steel Foundry ⁴	j wenand.

¹These firms produce ferro-silicon as a by-product in the manufacture of ferro-alumina. ²Ferro-alloys. ³Pig iron. ⁴Steel. ⁶Calcium molybdate.

During 1935 the output of pig iron increased from 271,725 to 554,977 long tons, and although the increase amounts to 104.2 per cent. in quantity this figure remains considerably below the 769,359 tons produced in 1929, the peak year. The Algoma Steel Corporation at Sault Ste. Marie had a 450-ton furnace in operation during the year. The Steel Company of Canada at Hamilton also operated a 550-ton unit throughout the year, and the Canadian Furnace Company at Niagara Falls operated its 350-ton furnace for nine months, reporting no production during March, April, and May.

	Ctaalaa	Fur		
Company	Stacks operating	No. of stacks	Daily capacity	Location
Algoma Steel Corporation, Ltd Canadian Furnace Company, Ltd Steel Company of Canada, Ltd	1 1 1	4 1 2	long tons 1,600 350 825	Sault Ste. Marie. Port Colborne. Hamilton.

IRON BLAST FURNACES IN OPERATION, 1935

Ferro-Alloys

Of the fourteen plants listed in the 1931 report only seven reported production, which with an additional plant, the Canadian Carborundum Company, Limited, not listed in 1931, produced a total of 57,424 long tons of various kinds of ferro-alloys in 1935, as against 32,932 tons in the previous year.

STATISTICS OF FERRO-ALLOYS PRODUCTION IN ONTARIO, 1931–1935

Year	No. of producing companies	Quantity produced	Kind of material
1931 1932 1933 1934 1935	5 6 7	long tons 46,440 15,595 30,569 32,932 57,424	Ferro-silicon, ferro-manganese, silicon spiegel, spiegeleisen, calcium manganese silicon, zirconium manganese silicon, calcium molybdate.

Coke

The coking industry in Ontario is carried on by the large iron and steel metallurgical works and by chartered companies operating in the cities supplying artificial gas to householders and industries.

The statistics shown in the following table are combined and show raw materials used and products made. These figures were supplied by the Dominion Bureau of Statistics.

	Quantity	Cost at works
MATERIALS USED:		
Coaltons	1,821,448	\$8,038,691
Coketons	38 899	275.477
OilImp. gals.	3 610 628	272.767
Absorbing and wash oil	107 114	13,746
Caustic soda	472 142	14.805
Limetons	739	6,663
Oxide for purification	3 153	35,233
Sulphuric acid 66° Be, purchased	25 680 321	181.087
All other materials		181,087
Total		\$8,857,312
		\$0,001,012
GAS MADE:	M cu. ft.	
Retort coal gas	5.079.584	
Coke oven gas	14,412,246	
Carburetted water gas	2,068,114	
Oil gas and acetylene gas	12,287	
Total	21,572,231	•••••
Gas Consumed:	M cu. ft.	
Sold	8,555,654	\$7,381,526
Used in producing plants.	6,227,591	939,036
Used in associated metallurgical works	5,824,168	871.318
Otherwise accounted for	361.342	
Not accounted for	720,498	97,985 611,316
Total	21,689,253	\$9,901,181
		#9,901,101
COKE AND BY-PRODUCTS MADE: Coke, including breezetons	1 994 001	
TarImp. gals.	1,334,081	\$9,868,953
Ammonia liquorlbs. NH _a	16,037,490	845,930
Ammonium sulphatelbs.	1,808,291	18,083
Renzol	30,388,313	310,327
Benzol	2,148,017	471,304
Other light oils.	1,176,401	127,681
All other products		392
Total		\$11,642,670
	Соке	BREEZE
Coke Sold and Used, and Stocks:	tons	tons
Used by reporting companies.	431,853	75.178
Sold for domestic use		
Other uses	710,525	13,353
On hand, December 31, 1932	175,746	1,862
	189,145	3,337

COKING INDUSTRY, 1935

Coke statistics for the past five years, as collected by the Dominion Bureau of Statistics, are shown in the following table:---

39

	1931	1932	1933	1934	1935
Production	short tons 1,113,509 694,982	short tons 1,087,122 605,307	short tons 1,153,509 615,818	short tons 1,388,709 881,235	short tons 1,361,553 489,439
Total Deduct exports	1,808,491 106	1,692,429	1,769,327	2,2 39,944 54	1,850,992
Apparent consumption.	1,808,385	1,692,429	1,769,327	2,2 39,890	1,850,992

COKE STATISTICS, 1931-1935

Chromite

The smelting of chromite has been commenced in Ontario at Sault Ste. Marie, the first unit of Chromium Mining and Smelting Corporation, Limited, having been started on August 23, 1935. The ore comes from the company mine east of Obonga lake. Demand for chromium and its alloys has greatly increased during the past few years. Recent world conditions for this mineral, as outlined in *Metal and Mineral Markets*, November 21, 1935, were as follows:—

The continued improvement in general industrial conditions in 1934 was reflected in increased demand for chromite in the United States. Requirements of the domestic chromite industry are met principally by imports of ore. Imports of ore in 1934, largely from Southern Rhodesia, Cuba, Turkey, and Greece, were 65 per cent. greater than those in 1933 but were 14 per cent. less than the average annual amount imported in the period 1925 to 1929. Domestic chromite production in 1934 was insignificant in relation to the needs of consumers. Chromite statistics, in long tons, follow:—

	1925-29 average	1930	1931	1932	1933	1934
Production	262	310	762	200	966	341
Consumption: Imports Domestic shipments Apparent available supply Prices per ton at New York, ap- proximate average of all grades Origin of imports, per cent. of	224,357 276 224,633 \$22.46	362,617 80 326,697 \$21.50	212,528 268 212,796 \$18.50	89,143 155 89,298 \$18.00	116,511 843 117,354 \$17.00	¹ 192,297 369 192,666 \$19.00
total: Southern Rhodesia New Caledonia Greece (largely trans-ship- ments from Jugoslavia) U.S.S.R. (Russia) Cuba	6 9 15	45 10 1 14 4 13	32 19 1 14 8 7	17 13 20 18 5	10 13 24 10 11 20	25 10 15 12 10 26 2
Others World production	18 428,000	$\begin{array}{c}13\\551,000\end{array}$	19 407,000	27 291,000	12 384,000	(2)

¹Imports for consumption; general imports not available.

²Data not available.

Preliminary work on the ore of the Obonga Lake deposits has been carried on at Niagara Falls, N.Y., and the operating company announced that the diamond-drilling campaign indicated some 225,000 tons of 17 per cent. chromite ore available. A mill of 100 tons daily capacity is now being completed. The concentrate will be shipped to the furnaces at Sault Ste. Marie, Ont.

In 1935 some 798 tons of crude ore were shipped. For purposes of compilation a value of \$12.00 per ton was placed on this material.

Molybdenite

There was considerable interest observed during the past year in molybdenite, perhaps because the European demand was more pressing than formerly. This foreign market is the only one available to Ontario producers, as the United States tariff of 35 cents per pound on the metallic molybdenum content does not permit competition.

No shipments of concentrate were reported in 1935. The best known ore deposit, that of the Phoenix Molybdenite Corporation, Limited, situated on the west half of lots 27 and 28 in concession IV, Bagot township, Renfrew county, was actively developed from April to December. As many as 23 men were employed on the surface and underground, and 976 tons of ore were raised during the period, none of which was concentrated. Molybdenite occurs widely in Ontario in the southeastern section, Hastings, Lanark, and Renfrew counties, and also north of Sault Ste. Marie. During the war when prices were high many Ontario molybdenite properties were in operation. Molybdenum is used in the production of alloy steel.

Radium and Uranium

Although pitchblende, which is the source of radium and uranium, has not been produced in commercial quantities from Ontario ores, there is now a wellequipped extraction plant in successful operation at Port Hope, Ont., owned by the Eldorado Gold Mines, Limited, for the treatment of pitchblende concentrates from Great Bear lake, some 4,000 miles distant. The refinery, which commenced operating in 1933, was considerably enlarged in 1934, and in January, 1935, the concentrator at Labine Point was placed in commission.

In 1935 a total of 232,114 pounds of pitchblende and silver concentrates was treated chemically at Port Hope, from which radium and uranium products worth \$420,000 were recovered. In addition, 116,902 ounces of silver were produced, having a value of \$68,840. Of this silver, 89,041 ounces were contained in 16,840 pounds of silver-lead bars and 47,861 ounces in 4,746 pounds of silver sulphide.

NON-METALLICS

With the exception of sulphur, mica, mineral waters, quartz, and salt, every item in the non-metallic group showed an improvement in 1935; and in the case of salt, while the selling value was lower, the quantity production showed a considerable increase. This group though relatively small in production value is important and is closely related to the chemical and building industries and supplies much of the raw materials consumed by them. The total value of the non-metallic group in 1935 was \$7,766,657, as against \$7,553,571 in 1934, a slight increase. The details of quantities and values marketed are set out in the table "Summary of Mineral Statistics, 1935" on page 2.

Actinolite and Asbestos

Actinolite and asbestos do not appear in the statistics of Ontario's mineral production in 1935. With the exception of a small sample lot of 100 pounds, worth \$1, no actinolite was sold. Development work was carried on at the asbestos property of Rahn Lake Mines Corporation in Bannockburn township during the year. About 400 tons of mill rock asbestos ore was placed on the stock pile and was expected to average about \$8 to \$10 per ton. No sales were reported however. An average of 5 men was employed throughout the greater part of the year.

Arsenic

Ontario production of white arsenic (As_2O_3) comes from the smelting of the silver-cobalt arsenides of Northern Ontario by the Deloro Smelting and Refining Company. The output in 1935 was 2,558,789 pounds, valued at \$75,326, as against 1,647,513 pounds, worth \$56,412, in 1934.

Barite

A small output of barite was reported in 1933 for the first time since 1923. Several deposits of this mineral are known to exist in the province. Although considerable investigation into markets has been undertaken, and several enquiries have been received from outside sources, no steady development work was under way at any of the Ontario deposits. Canada Night Hawk Mines, which is equipped for milling, did not report any work. The deposits in Yarrow township and at Tionaga were idle, and no shipments were reported.

Diatomite

Several deposits of diatomite have been under development for a number of years in Muskoka, but the production to date has been small. In 1935 some 100 tons, valued at \$4,600, was reported as shipped from Martin's Siding by the Canadian Multi-Cell Company, as against 46 tons, worth \$1,920, in 1934.

Feldspar and Nepheline Syenite

The feldspar industry is gradually gaining in production in Ontario, owing entirely to a slowly increasing domestic consumption. The United States duty, which formerly was \$1.00 per ton, later reduced to 50 cents, is now fixed at 35 cents per ton under the new trade agreement. This reduction, however, is not expected to stimulate exports to any appreciable extent. With a free entry to the United States it is questionable whether Ontario spar could compete in any except the border states. The prevailing price of spar in Ontario is around \$5.00 per short ton f.o.b. mines. In 1935, shipments from the mines of Ontario totalled 8,656 tons of crude material, valued at \$75,003, of which \$29,511 was the increase due to grinding. In 1934 the output was 7,302 tons, worth \$61,665, of which \$21,944 was the added value due to grinding operations.

Canadian Nepheline, Limited, which operates a nepheline deposit in Methuen township, Peterborough county, constructed a grinding plant of 24 tons capacity at Lakefield during 1935. No shipments, however, were reported. Mention of this deposit was made in Bulletin No. 98 (1934).

Fluorspar

Fluorspar is consumed as a flux in smelters and also in the chemical industries. The domestic consumption is not large and is confined mostly to Ontario. In 1935 a total of 75 tons, worth \$900, was reported as shipped. In 1934 the ouput was 150 tons, valued at \$2,100.

Graphite

Only one producer of graphite was active in 1935, the Black Donald Graphite Company, Limited, at its property on lots 16, 17, and 18 in concession III, Brougham township, Renfrew county, near the village of Calabogie. This deposit is the largest amorphous graphite mine on the American continent. In 1935 production to the value of \$78,500 was reported, as against \$64,998 in 1934.

Gypsum

The output of gypsum in Ontario rose from 33,234 tons in 1934 to 38,247 in 1935, and came from two companies: Gypsum, Lime and Alabastine, Canada, Limited, with a plant at Caledonia, and the Canadian Gypsum Company at Hagersville. The increase is indicative of the general revival in the building industry in Ontario. While the improvement in 1935 was important, the output figures still remain far below those of good times:—

Grade	1931	1932	1933	1934	1935
Crushed Fine-ground Calcined, sold Calcined, used in products	1,606	tons 5,656 364 217 29,418	tons 2,753 795 165 20,747	tons 5,636 . 376 226 26,996	tons 5,381 187 121 32,558
Total sold or used	53,358	35,655	24,460	33,234	38,247
Total value No. of workers Wages paid		\$186,176 ¹⁹⁸ \$85,036	\$112,319 ¹ 79 \$46,782	\$141,389 ¹ 69 \$53,718	\$164,807 77 \$99,137

GYPSUM	SALES.	1931-1935
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¹Exclusive of wage-earners employed in the manufacturing division of the Caledonia plant.

Iron Pyrites and Sulphuric Acid

The sulphur content of the acid manufactured at Copper Cliff by Canadian Industries, Limited, from sulphur fumes derived from the smelting operations, was 13,292 tons, worth \$132,920, as against 14,598 tons, valued at \$145,980, in 1934. No pyrite ore was shipped.

Mica

Despite a general pick-up in the mica trade of the United States, there was a decrease in the total production from Ontario mines. The position of higher grades, however, was improved, and the decline was due to the lower exports of scrap material to the United States.

In Ontario there were only five active producers during 1935, who reported shipments of 509,826 pounds, worth \$7,144, as against 1,236,302 pounds, valued at \$9,059, in the previous year. Prices have generally improved in the United States, where operations were being carried on to capacity. Scrap and byproduct mica are bringing twice the price of the depression lows. Conditions in Ontario tend to reflect those in the United States.

The major portion of the provincial output is made by direct mining, in which large crystals are recovered and treated. There is little or no by-product mica such as is recovered in North Carolina from kaolin and feldspar deposits.

	193	1933		1934		35
Grade	Quantity	Value	Quantity	Value	Quantity	Value
Ground and rough Thumb-trimmed Splittings and knife- trimmed Scrap	pounds 19,000 44,219 11 1,268,200	\$239 3,287 19 5,820	pounds 2,459 30,315 303 1,203,225	\$514 3,094 110 5,341	pounds 10,852 2,734 496,240	\$3,223 1,738 2,183
Total	1,331,430	\$9,371	1,236,302	\$9,059	509,826	\$7,144

SHIPMENTS OF MICA, 1933, 1934, AND 1935

The prices for the various sizes and grades of thumb-trimmed mica did not vary greatly from those reported by the producers in 1934:—

Size	Price per lb.	SIZE	Price per lb.
1 by 1 inch	\$0.07	2 by 4 inches	\$0.45
1 by 2 inches	15	3 by 3 inches	
2 by 2 inches	20	3 by 4 inches	
$2\frac{1}{4}$ by $2\frac{1}{2}$ inches		3 by 5 inches	
2 by 3 inches	30–. 50	4 by 6 inches	. 1.35-1.75
	a · • • • • • • • • • • • • • • • • • •		

Scrap mica, \$9.00 per ton (net). Rough-cobbed, 20 cents per pound.

Mineral Waters

Only three producers reported production of mineral water from Ontario wells in 1935, which amounted to 19,900 Imperial gallons, worth \$1,477, as compared with 21,775 gallons, valued at \$1,622, in the previous year. The production has gradually declined in Ontario to a fraction of the former output.

Natural Gas and Petroleum

Natural Gas

The production of natural gas in 1935 surpassed that of the year 1934 by approximately 500,000 M cubic feet, and in value by \$150,000, the total produced being 8,158,825 M cubic feet and the value \$4,938,084. The average retail price is down somewhat owing to discounts in certain areas. The increase in production is mainly due to a more active sales campaign by the larger gas companies aided by weather conditions. Several thousand new customers have been added during the year, notably in the city of London, where manufactured gas has been used heretofore. Natural gas was turned into the mains in October, 1935. The gas comes from the Dawn field through a 10-inch pipe line 55 miles long. No new fields were discovered, but the Dover and Eden fields were considerably extended and each has promise of further development.

Petroleum

Petroleum produced in 1935 shows a considerable increase, 25,000 barrels, over the previous year. The increase was common to all our larger fields excepting Mosa township. The Dover field leads in new development, followed by the Dawn field. Both these fields show considerable promise. By renovating wells from 40 to 60 years old in the eastern end of the Bothwell field and drilling a very few new wells, the production has almost doubled since 1931. Similar treatment in Oil Springs and Petrolia has caused an increase. Bothwell production now equals that of 1912; this field, of course, cannot be expected to be as stable as a newly discovered field; its decline will no doubt be rapid.

CRUDE	PETROLEUM	PRODUCTION,	1931–1935 ¹
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Field	1931	1932	1933	1934	1935
	barrels	barrels	barrels	barrels	barrels
Petrolia and Enniskillen township	57,515	58,871	57,298	57,938	59,282
Oil Springs	30,792	31,438	31,343	29,863	31,646
Moore township	3,739	3,272	2,192	2,963	3,263
Sarnia township	1.466	1,227	2,181	825	870
Plympton township	296	274	211	202	237
Bothwell	18,084	19,460	22,935	32,133	34,715
Thamesville	462	534	847	614	428
Dover township	891	453	763	558	13,117
Dawn township		5,061	8,589	4,169	11,538
Onondaga township	34	543	946	601	431
Mosa township	8,517	8,429	8,168	9,031	8,788
Dunwich township(Dutton and Iona)	628	781	346	283	408
Tilbury East township				264	195
Raleigh township Brooke				1.941	195
Total quantity	122,364	130,343	136,058	141,385	165,040
Value	\$219,993	\$247,468	\$253,486	\$299,874	\$346,156
Average price per barrel	\$1.80	\$1.89	\$1.87	\$2.12	\$2.10

¹Information furnished by the Imperial Oil Refiners, Limited, of Sarnia, and others.

Peat

During the past year or two considerable interest has been exhibited in the peat bogs of Ontario. The names of operators and locations are given on page 69. The production by 4 operators during 1935 was 1,340 tons, valued at \$5,761.

Quartz, Quartzite, and Silica Products

The output of quartz, quartzite, and silica products, which gained slightly in 1934, showed a decline in 1935, falling from 89,838 to 83,034 tons. On the other hand, silica products, reflecting improved building activity, showed a slight gain in quantity. Production figures for the past five years follow:—

Year	Rock sold or used		Silica brick	Total value	
real .	Quantity	Value	Quantity	Value	
	tons		M		
1931	97,888	\$148,642	279	\$13,702	\$162,344
1932	66,135	93,574	93	4,303	97,877
1933	66,562	86,146	183	7.351	93,497
1934	89,838	134,572	369	14,730	149,302
1935	83.034	120,005	493	22,976	142,981

QUARTZ, QUARTZITE, AND SILICA BRICK, 1931-1935

Salt

During 1935, seven companies produced salt or brine. This industry in part supplies the raw materials for two large chemical manufacturing companies: Canadian Industries, Limited, and Brunner Mond, Canada, Limited. While the quantity output rose from 276,751 to 320,003 tons in 1935, the value was slightly lower. Production figures covering a 5-year period follow:—

SALT SOLD OR USED, 1931-1	SALT	SOLD	OR	USED,	1931-1935
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Schedule	1931	1932	1933	1934	1935
Table and dairy. Fine. Coarse. Land.	17,678	tons 59,620 59,036 15,673 557	tons 61,231 63,786 14,086 283	tons 69,779 67,777 14,730 347	tons 73,704 82,608 17,997 261
Total Brine (salt equivalent)		134,896 96,242	139,386 104,721	152,633 124,118	174,570 145,433
Total sold or used	231,299	231,138	244,107	276,751	320,003
Value	233	215	242	\$1,734,196 252 \$296,116	\$1,698,508 274 \$309,354

¹Workers at the Sandwich salt and chemical works are included.

Talc

Statistics covering a 5-year period show that the talc industry serves a fairly stable and assured market. Two companies were active at Madoc in Hastings county, where the industry is centred, both of them mining a high-grade product, which is milled and refined at the mines. The Geo. H. Gillespie Company, Limited, operates the Henderson mine, and the Canada Talc Company, Limited, the Conley mine.

Ţ	Sa	les	Wage- earners,	Wages	
Year	Quantity	Value	mine and mill	paid	
1931 1932 1933 1934 1935	tons 11,806 12,064 15,114 13,934 13,710	\$122,044 111,585 142,134 135,978 138,161	No. 36 38 43 47 31	\$29,419 30,587 31,813 33,796 23,864	

TALC STATISTICS, 1931-1935

STRUCTURAL MATERIALS

Building Permits

In 58 Canadian cities building permits in 1935 were valued at \$46,236,702. Of this total 30 Ontario cities accounted for \$23,704,388, as noted in the following table abstracted from the Annual Review of Building Permits in Canada in 1935, issued by the Dominion Bureau of Statistics, Department of Trade and Commerce, Ottawa:---

BUILDING PERMITS, 1920-1935

Year	30 Ontario cities, value	Wholesale prices index ¹	Toronto metropolitan area, ² value	Wages index 1913 = 100 ³
1920 1921 1922	59,315,845	4144 122.8 108.7	\$30,049,413 31,979,346 36,405,625	$180.9 \\ 170.5 \\ 162.5$
1922. 1923. 1924. 1925.	74,673,080 57,330,141	111.9 106.6 102.9	39,530,877 29,636,428 32,408,636	166.4 169.1 170.4
1926 1927 1928	65,373,757 79,883,344 104,777,566	100 96.1 97.4	31,588,124 37,316,511 59,817,568	172.1 179.3 185.6 197.5
1929 1930 1931		99 90.8 81.9 77.2	57,522,927 38,371,587 27,950,136 9,461,050	197.5 203.2 195.7 178.2
1932 1933 1934 	9,116,743 14,351,380	78.3 82.6 82.2	5,114,351 8,396,775 9,905,455	158 154.8 159.8

Applies to average index numbers for Canadian wholesale prices of building materials on the basis of 1926=100, as compiled by the Dominion Bureau of Statistics. In 1913 the index was 67, dropping to a low of 60.5 in 1915.

²Includes York and East York municipalities.

³Average index numbers of wages in Canadian building trades as compiled by the Federal Department of Labour on the basis of 1913=100

⁴Peak year.

Construction Contracts

The value of Canadian construction contracts awarded for 1935, reported by the McLean Building Review, was \$160,305,000, as compared with \$125,811,500 in 1934. Ontario contracts in 1935 amounted to \$70,872,800, or 44.2 per cent. of the total. Prices of materials were considerably below the peak of 1920, and decided drops were recorded in 1930, 1931, and 1932, but a perceptible recovery was recorded in 1934, which fell off slightly in 1935. Canadian construction contracts in 1933 were on a par with the war years, 1916-18, dropping below the \$10,000,000 mark. Figures by classes of construction for a 5-year period follow:----

VALUE OF CONSTRUCTION CONTRACTS, 1931–1935								
Classification	1931	1932	1933	1934	1935			
Residential. Business Industrial. Engineering	28,819,400 6.836,300	16,925,600 1,871,000	9,716,100	15,795,600	20,340,800 3,645,000			
Total	\$125,452,300	\$49,291,800	\$42,573,400	\$63,358,300	\$70,872,800			

Cement

Ontario's production of cement came from the two companies: the Canada Cement Company, with plants at Lakefield, Belleville, and Port Colborne, the first two being idle, although shipments were made from the Belleville plant; and the St. Marys Cement Company, with a plant at St. Marys, which was in operation throughout the year.

Year	Operating _	Sales					
	plants	Quantity	Value	Average price per barrel			
	No.	barrels ¹					
1925	4	3,462,358	\$5.253.911	\$1.52			
926	$\frac{4}{3}$	3,398,860	4,792,857	1.41			
927	4	3.751.786	5,144,326	1.34			
.928	4	3.911.795	5,520,897	1.41			
.929	4	4.624.712	6,608,246	1.43			
930	4	3.942.690	5,779,404	1.45			
.931	4	3,470.056	5,006,826	1.44			
.932	4	1,599,342	2,288,975	1.44			
933	3	1,095,845	1,587,812	1.44			
934		1,702,128	2,403,590	1.45			
935	4 2	1,243,836	1,752,148	1.41			

PORTLAND	CEMENT	STATISTICS,	1925-1935

¹350 pounds.

Cement Products

In recent years the cement products industry in Ontario has assumed considerable importance. Since 1924 no data have been included in the tables of mineral production, as the raw materials entering into the manufacture of these products have all been accounted for. Cement products being so closely allied to the building industry, statistics are included so that complete information covering all structural materials is available under one cover. Monolithic construction is not included.

PRINCIPAL STATISTICS OF THE CEMENT PRODUCTS INDUSTRY, 1931-19351

Year	No. of plants	Wage- earners, average No.	Salaries and wages	Cost of fuel and electricity	Capital invested	Value of products at works
1931. 1932. 1933. 1934. 1935.	92 69 48 54 57	$562 \\ 352 \\ 245 \\ 251 \\ 268$	\$599,640 308,898 199,056 274,045 299,170	\$43,429 27,692 19,008 24,394 21,090	\$2,995,610 2,286,460 1,642,244 1,784,166 1,635,243	\$1,782,400 737,326 550,185 687,176 774,589

¹Supplied by Dominion Bureau of Statistics, Ottawa.

	193	34	1935		
Materials used	Quantity	Cost at works	Quantity	Cost at works	
Portland cement bbls.	64,755	\$ 154,039	68,032	\$156,937	
Duicklimebu.	8	8	4	4	
andcu. yds.	21.985	23.233	21,264	23,133	
Gravelcu. yds.	10,621	14.078	29,451	22,593	
Crushed stone	4,298	5,958	5,765	7,230	
Cinders	2,867	6.159		6,875	
Boxes, crates, lumber, etc		7,340		9,629	
Reinforcingtons		9.741	159	10,022	
Haydite		31.921	4,318	8,638	
Brass		11,350			
Other materials		57,258		93,811	
Total		\$321,085		\$338,872	
Products made	Quantity	Selling value	Quantity	Selling value	
Artificial stone		\$32,314		\$43.307	
Cinder blocks		72,509	700	94,480	
Cement bricks		7,645	374	6,616	
Cement hollow building blocks		179.814	1,796	228,832	
Cement laundry tubsNo.		17.115	3,873	29,374	
Cement posts, poles, etc		6,610			
Cement sewer, culvert, and drain pipe		119,086		148,353	
Cement stucco		8,215		7,323	
Burial vaults		9,805	125	2,790	
Haydite blockstons		40,248	2,562	22,348	
Haydite roof slabstons		55,517	1,184	38,320	
Other products		137,647		152,596	
Custom work and repairs		651		250	
Total		\$687,176		\$774,589	

CEMENT PRODUCTS MANUFACTURE, 1934 AND 19351

¹Supplied by Dominion Bureau of Statistics, Ottawa.

Lime

Lime is used quite extensively for chemical purposes in addition to being an ingredient of mortar and sand-lime brick. During 1935, 17 companies and individuals, operating 20 plants, reported sales that totalled 221,852 tons, valued at \$1,705,303, as against 191,041 tons, worth \$1,536,288, in 1934. Statistics for the past five years follow:—

		L	ime m a rl	ceted or use	eđ				
Year	Hydrated			Quicklime			Fuel costs	Wage- earners	Wages
	Quantity	Total value	Per ton	Quantity	Total value	Per ton			
1931 1932 1933 1934 1935	tons 34,284 23,518 19,733 22,281 23,514	\$379,996 255,223 220,291 249,038 227,197	\$11.08 10.85 11.16 11.18 9.66	tons 113,267 143,185 126,460 168,760 198,338	\$841,194 1,018,007 1,006,905 1,287,250 1,478,106	\$7.43 7.11 7.96 7.63 7.45	\$177,310 204,546 188,317 173,951 324,295	No. 287 203 210 187 210	\$216,337 154,361 111,637 116,020 147,397

LIME STATISTICS, 1931-1935

Industrial consumption	Qui	cklime	Hydrated lime		
	Quantity	Value	Quantity	Value	
Building trades: finishing and masons Sand-lime brick Agriculture Chemical and metallurgical industries:	tons 10,857 5,041 76,166	\$67,145 30,558 569,402	tons 20,650 583	\$200,793 5,404	
Smelters. Iron and steel. Gold-milling. Pulp and paper. Glass. Sugar.	$\begin{array}{r} 4,725\\ 8,512\\ 24,087\\ 3,827\\ 5,003\\ 7.032\end{array}$	$\begin{array}{c c} 25,420\\ 59,735\\ 173,686\\ 21,399\\ 34,558\\ 57,021 \end{array}$	75 23 3 668	694 216 28 6,010	
Tanneries. Fertilizers and insecticides. Dealers and others. Other chemicals ¹ .	2,8916002,25147,346	18,639 4,202 16,647 399,614	180 291 260 781	1,618 2,691 2,561 7,182	
Total	198,338	\$1,478,106	23,514	\$227,197	

Distribution of the quicklime and hydrated lime sold in 1935, as reported by the producing companies, was as follows:—

¹Uses for lime under this heading include the manufacture of alkali, acetate of lime, and calcium carbide, the last-mentioned being used largely for making cyanamid.

Sand and Gravel

A marked rise in the production of sand and gravel was noted in the dredging operations during 1935. Much of this increase was due to work done in Toronto harbour. Output from the pits of private operators was about the same as in the previous year.

Source		934	1935	
	Quantity	Value	Quantity	Value
Private pit operators Dredged from Great Lakes and rivers Department of Northern Development Department of Highways Miscellaneous counties and townships Estimate for other producers	$\begin{array}{r} 464,507\\ 4,345,694\\ 620,000\\ 1,273,580\end{array}$	\$249,980 292,467 225,332 310,000 636,790	tons 554,032 1,764,645 3,393,750 383,096 1,959,095 100,000	\$238,878 426,430 251,389 149,366 979,547 50,000
Total	7,254,926	\$1,714,569	8,154,618	\$2,095,610

OUTPUT OF SAND AND GRAVEL, 1934 AND 1935

Sand-Lime Products

The past three or four years have been dull for marketing sand-lime brick. This is, in part, owing to a depressed construction industry, but competition of other products, such as cinder blocks and kindred materials has cut into this trade considerably. Four companies were active in the Toronto metropolitan area, and in addition to brick produced sand-lime building blocks, ready mixed mortar, and plaster. These items have been included in the table "Summary of Mineral Statistics, 1935," on page 2, under the title "Sand-lime products." It should be pointed out that in the table on page 3 the figures prior to 1934 refer to sand-lime brick only. The selling value in 1935 was \$138,555, as against \$146,009 in the previous year.

Stone

A new feature in the stone-production industry in 1934 was the inclusion of slate, which has been absent from the list of building materials for several decades. A slate quarry situated in the northwest corner of lot 5, concession VI, Madoc township, was worked fifty years ago and supplied roofing slates for a few buildings in various towns of Eastern Ontario. There is a potential market for roofing shingles, blackboards, granules, and slate flour. The new operator is Ontario Slate Mines, Limited, which later became Canadian Slate Products, Limited. This company carried on development work in 1935. An initial shipment of 120 tons of granules was made during 1934. The Crespay Slate Products, Limited, also commenced development work near Madoc. No shipments were reported by either company in 1935.

	19	33	19	934	19	35
Variety	Quantity	Value	Quantity	Value	Quantity	Value
Limestone and marble Trap Granite Sandstone Slate	17,201 2,449 8,889	\$931,501 26,629 12,804 12,334	tons 2,374,671 48,298 27,227 10,105 120	\$1,808,663 96,314 32,072 28,458 600	$\begin{array}{r} \text{tons} \\ 2,065,932 \\ 44,351 \\ 122 \\ 12,536 \\ \dots \dots \dots \end{array}$	\$1,716,020 91,979 1,486 54,407
Total	1,253,907	\$983,268	2,460,421	\$1,966,107	2,122,941	\$1,863,892

OUTPUT OF STONE, 1933, 1934, AND 1935

CLAY PRODUCTS

The following table shows in detail the quantities and values of the several kinds of clay products made and sold by Ontario producers:—

Kind	Quantity	Value
Brick:	F FEO 007	#104 971
Soft-mud process	5,552,987	\$104,271
commonNo.	10,025,774	128,205
Stiff-mud (wire cut) process {face	16,557,729	321,581
commonNo.	9,170,057	125,559
Dry-press{face	5,953,479	119,379
Dry-press common	1,563,277	22,071
Fancy or ornamental brick (including special shapes, embossed		
and enamelled brick)No.	12.935	728
SewerNo.	60,295	970
Tile:	00,200	
Structural (hollow blocks, including fireproofing and load-		
bearing tile)	22.983	156,702
bearing tile)tons	82,015	3.669
Roofing tileNo.		7.142
Floor tile (quarries)sq. ft.	40,940	
DrainNo.	5,060,734	125,593
Sewer pipe (including copings, flue linings, etc.)		196,647
Pottery (flower pots), from domestic clay		50,000
Haydite and other products		7,093
Total value		\$1,369,610

HEAVY CLAY PRODUCTS MARKETED, 1935

The value of clay products marketed for the last pre-war year, 1913, for the year of maximum output, 1922, and for the past five years is given below:—

No.	4

Product	1913	1922	1931	1932	1933	1934	1935
Pressed, fancy,	}	\$ 2,614,120	\$662,777	\$305,566	\$167,021	\$227,276	\$275,835
building tile, etc. Pottery Drain tile Sewer pipe Haydite and other	52,875	88,889 368,180	73,860 244,368 696,694	67,866 144,579 451,786	52,740 179,015 185,048	¹ 52,578 137,699 226,005	50,000 125,593 196,647
Total	\$5,392,693	<u></u> \$6 ,944,218	167,533 \$ 3,552,799				.,

VALUE OF CLAY PRODUCTS SOLD OR USED, 1913, 1922, AND 1931-35

¹Includes fire-clay blocks and shapes worth \$90.

MISCELLANEOUS STATISTICS

Mining Company Incorporations

A summary of mining companes incorporated and licensed in Ontario from 1913 to 1935, inclusive, is given hereunder:---

Year		Incorp	orated			a-provincial and main companies licensed
rear	No.	Nominal	"No p	ar'' companies	No.	Capital for use
	110.	capital	No.	Shares	110.	in Ontario
1913	119	\$78,000,000			12	\$21,735,000
1914	80	39,030,000			13	5,445,000
1915	59	42,005,000			2	10,200,000
1916	83	109,079,500			8	7,011,650
1917	100	117,183,000			7	7,302,000
1918	59	49,800,000			7	15,000,000
1919	149	223,600,000			10	9,554,197
1920	119	146,094,000			12	9,435,000
1921	67	105,715,000			6	1,030,500
1922	91	181,040,000			6	830,000
1923	88	179,295,500			6	1,775,000
1924	85	156,485,000			2	200,000
1925	70	107,400,000	4	9,010,000	3	162,510
1926	145	165,655,750	28	22,386,500	6	4,850,000
1927	199	344,145,000	30	40,034,000	10	3,260,000
1928	211	495,575,000	28	30,778,400	17	7,208,500
1929	97	142,390,000	27	32,557,200	13	1,540,000
1930	37	23,234,600	20	16,808,909	6	5,525,000
1931	44	60,670,000	15	5,909,000	1	400,000
1932	43	58,766,000	12	5,844,000	0	
1933	95	158,365,000	21	23,165,000	8	1,290,000
1934	212	488,335,000	82	86,183,000	9	925,000
1935	116	205,320,000	24	18,054,500	1	40,000

MINING COMPANIES INCORPORATED AND LICENSED, 1913-1935

Of the 140 companies incorporated in 1935, 116 had specified capital only, 24 were companies having shares without nominal or par value exclusively, and 5 companies had shares of both kinds.

EXTRA-PROVINCIAL COMPANIES LICENSED BY ORDER-IN-COUNCIL IN 1935

Name of company	Place of incorporation	Date of license (O.C.)	Value of land holdings in Ontario
Parry Sound Mining and Developing Company	Massachusetts ¹	Jan. 25	\$40,000

¹Where a company is of foreign incorporation, or is incorporated in a province of Canada other than Quebec with which a reciprocity agreement exists, it is necessary for it to take out an Extra-Provincial License to do business in Ontario and to declare the amount of capital for use in Ontario.

MINING COMPANIES INCORPORATED IN ONTARIO IN 1935 HAVING SHARES WITHOUT NOMINAL OR PAR VALUE

Name of company	Head office	Date of incorpo- ration	No. of shares
Avocalon Extension Syndicate, Limited Blackburn Pattison Mines, Limited Brimac Exploration and Development, Limited Canadian Multi-Cell, Limited Canadian Multi-Cell, Limited Crespay Slate Products, Limited ¹ . Deseronto Refineries, Limited ¹ . Bestronto Refineries, Limited ¹ . Gachin Gold, Limited Hanna Fuels, Canada, Limited Hisbert Mines, Limited Hisbert Mines, Limited Kir-Vit Gold Mines, Limited Mac-Ryan Enterprises, Limited ¹ (private) Mac-Ryan Enterprises, Limited. Minaura Mines, Limited Mining Projects of Canada, Limited. North American Land and Minerals, Limited O'Neill Thompson Gold Mines, Limited. Rush Bay Holding Company, Limited ¹ Wineva Gold Mines, Limited.	Deseronto Toronto Toronto Toronto Toronto Toronto Toronto Toronto Toronto Toronto Toronto Toronto Toronto Toronto Ottawa North Bay Sault Ste. Marie	Dec. 13 Nov. 4 Aug. 26 July 8 Jan. 26	$\begin{array}{c} 2,500\\ 3,000,000\\ 40,000\\ 250,000\\ 250,000\\ 250,000\\ 25,000\\ 550,000\\ 550,000\\ 1,000\\ 3,000,000\\ 4,000\\ 10,000\\ 90,000\\ 10,000\\ 10,000\\ 10,000\\ 10,000\\ 10,000\\ 1,000,000\\ 1,000,000\\ 1,000,000\\ 1,000,000\\ 1,000,000\\ 1,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,000\\ 2,000,000\\ 10,0$
Total (24 companies)		• • • • • • • • • •	18,054,500

¹See also list with specified capital. Five companies having both specified capital and "no par" shares are included in both lists.

ONTARIO	COMPANIES	WITH	SPECIFIED	CAPITAL	INCORPORATED
			IN 1935		

Name of company	Head office	Date of incorpo- ration	Capital
Adelaide Gold Mines, Limited. Aerial Prospectors, Limited. Amorada Gold Mines, Limited. Ardmore Properties, Limited. Argosy Gold Mines, Limited. Avon Exploration Company, Limited. Ascot Gold Mines, Limited. Athabaska Beaverlodge Gold Mines, Limited. Athabaska Portal Gold Mines, Limited. Athabaska Portal Gold Mines, Limited. Axis Gold Exploration, Limited.	Toronto. Toronto. Toronto. Toronto. Stratford. Toronto. Toronto. Toronto. Toronto. Toronto. Toronto. Toronto. Toronto. Toronto. Toronto.	Feb. 26 April 3 May 17 May 2 April 4 April 1 Mar. 15 Mar. 28 April 6	\$3,000,000 100,000 3,000,000 40,000 3,000,000 100,000 3,000,000 3,000,000 25,000 3,000,000 40,0000

ONTARIO COMPANIES WITH SPECIFIED CAPITAL INCORPORATED IN 1935—Continued

Name of company	Head office	Date of incorpo- ration	Capital
Baden Gold Mines, Limited		Jan. 24	2,000,000
Beaverhouse Lake Gold Mines, Limited		June 8	3,000,000
Benneweiss Gold Mines, Limited Big Master Consolidated Gold Mines, Limited	Toronto	Feb. 1	40,000
Big Seven Gold Mines, Limited	Toronto Windsor		3,000,000 40,000
Bluenose Gold Mines, Limited	Toronto		3,000,000
Brazilian Gold Syndicate, Limited	Toronto		150,000
Buffalo Beardmore Gold Mines, Limited	Toronto	Jan. 18	3,000,000
Bullion Basin Mines, Limited.	Toronto	Dec. 4	1,000,000
Canadian Nepheline, Limited Canyon Creek Gold Mines, Limited	Toronto		30,000
Capps Gold Mines, Limited.	Toronto	Mar. 27	3,000,000
Ceres Explorations, Limited	Toronto Ottawa	July 9	3,000,000
Champion Long Lac Gold Mines, Limited	Toronto	Feb. 2 May 10	250,000 5,000,000
Cincinnati-Porcupine Mines, Limited	Toronto	July 5	2,500,000
Corless Patricia Gold Mines. Limited	Toronto	Jan. 7	3,000,000
Crespay Slate Products, Limited	Toronto	Oct. 14	250,000
Dan Cushing, Limited	Toronto	Mar. 2	40,000
Darkwater Mines, Limited. Deseronto Refineries, Limited.	Toronto	Oct. 22	1,500,000
Duquesne Mines, Limited	Deseronto	Sept. 4	150,000
Elora Gold Mines, Limited	Toronto Toronto	April 12	5,000,000
Emperor Gold Syndicate, Limited	Toronto	Aug. 20 Dec. 2	3,000,000 100,000
Excelsior Gold Mines. Limited	Toronto	Feb. 19	100,000
Fairmac Silver Mines, Limited	Toronto	June 14	3,000,000
Falcon Gold Mines, Limited	Toronto	Sept. 10	2,500,000
Florence River (Quebec) Gold Mines, Limited	Toronto	Oct. 11	3,000,000
Fox Lake Gold Mines, Limited Garth Chiboug Gold Syndicate, Limited	London	May 13	1,000,000
Geraldton Long Lac Gold Mines, Limited	Toronto	May 21	100,000
Gilmour Gold Mines, Limited	Toronto Toronto	Aug. 14	2,500,000
Gold Creek Mines, Limited	Toronto	Aug. 2 Jan. 8	3,000,000 1,000,000
Gold Fern Mines, Limited	Toronto	April 1	2,000,000
Jold Quartz Mining Corporation Limited	Toronto	Feb. 12	2,000,000
Goward Gold Mines, Limited	Toronto	Feb. 13	3,000,000
Gunter Galena Mines, Limited Harrison-Hibbert Mines, Limited	Toronto	April 18	100,000
Hottah Lake Gold and Radium Mines, Limited	Toronto	May 30	1,000,000
Hutchinson Lake Gold Mines, Limited	Toronto	May 7	3,000,000
Industrial Metal Recovery Corporation Limited	Toronto	June 27 July 26	3,000,000 1,000,000
oannes Gold Mines, Limited	New Liskeard	Aug. 29	3,000,000
owsey Denton Gold Mines, Limited	Toronto	Jan. 16	3,000,000
ubilee Long Lac Gold Mines, Limited.	Toronto	Feb. 9	3,000,000
Killeon Gold Syndicate, Limited Kittson Hazelton Gold Mines, Limited	Toronto	April 26	35,000
Kotter Gold, Limited	Toronto	Jan. 2	3,500,000
acoma Gold Mine. Limited	Toronto	July 24	40,000
ake Expanse Gold Mines. Limited	Toronto	May 11 July 8	3,000,000 3,000,000
a Sarre Gold Mines, Limited.	Toronto	June 11	3,000,000
eacroft Mining Service, Limited ¹ (private)	Toronto	Sept. 6	10,000
egren Gold Mines, Limited	Kirkland Lake	June 26	250,000
eitch Gold Mines, Limited iberty-Lorne Gold Mines, Limited	Toronto	July 23	3,000,000
ost River Gold Mining Company, Limited, The	Toronto	Mar. 9	2,500,000
I. and R. Airways, Limited ¹	Kapuskasing	July 13	40,000
Acaboug Exploration Company, Limited	Toronto	May 17 Sept. 11	40,000
Aadsen Red Lake Gold Mines, Limited	Toronto	Mar. 8	75,000 3,000,000
Aann Consolidated Silver Mines, Limited	Toronto	July 3	3,000,000
Aarten Rapids Gold Syndicate. Limited	Toronto	April 13	125,000
Aines Purchasing Corporation, Limited	Toronto	April 11	100,000
Aorris Kirkland Gold Mines, Limited Aud Lake Gold Mines, Limited	Toronto	Jan. 11	2,500,000
And Lake Gold Mines Limited		Aug. 7	3,000,000

ONTARIO COMPANIES WITH SPECIFIED CAPITAL INCORPORATED IN 1935—Continued

IN 1886 00m			
Name of company	Head office	Date of incorpo- ration	Capital
Murmac Lake Athabaska Mines, Limited	Toronto	April 5	3,000,000
New Golden Rose Mines, Limited	Toronto	April 4	3,000,000
Norcastle Gold Mines, Limited	Toronto	Aug. 7	1,500,000
Olive Gold Mines, Limited	Toronto	Jan. 4	3,000,000
Omega Gold Mines, Limited	McVittie	May 16	5,000,000
Orphan Gold Mines, Limited	Tellicoe	May 4	2,000,000
Parmoray Development and Mining Co., Ltd	Toronto	Mar. 12	40,000
Perseverance Mining and Development Co., Ltd	Toronto	May 17	100,000
Polaris Gold Mines (Canada), Limited	Toronto	April 12	3.000,000
Porcupine Reef Gold Mines, Limited	Toronto	Oct. 1	3,000,000
Porquin Gold Mines, Limited	Toronto	Aug. 27	3,000,000
Primrose Exploration Company, Limited	Ottawa	July 19	250,000
Producer Mines, Limited	Toronto	May 9	200,000
Prospectors' Interests, Limited	Toronto	April 9	100,000
Quebec Maidens Silver Prospectors, Limited	Toronto	May 29	25,000
Rhodes Exploration and Finance of Canada, Limited.	Toronto	April 17	250,000
Rosedale Gold Mines, Limited	Toronto	May 3	3,000,000
Sagamore Mines, Limited	Toronto	Aug. 29	3,000,000
Sagawitchewan Gold Mines, Limited	Toronto	Mar. 1	3,000,000
Sand River Gold Mining Company, Limited	Toronto	Feb. 8	3,000,000
Shenango Gold Mines, Limited	Toronto	Mar. 14	3,000,000
Shinintree Gold Mines, Limited	Toronto	Mar. 19	1,000,000
Silverado Gowganda Mines, Limited	Toronto	April 27	2,000,000
Skookum Gold Mines, Limited	Toronto	Dec. 19	4,000,000
Soo Diamond Drilling Company, Limited ¹	Sault Ste. Marie.	Jan. 12	30,000
South Tiblemont Gold Mines, Limited	Toronto	Feb. 7	2,500,000
Spooner Gold Mines, Limited	Toronto	Jan. 5	3,000,000
St. Albans Canadian Gold Holdings, Limited	Ottawa	June 18	100,000
States-Canadian Gold Mine, Limited	Toronto	June 6	60,000
Sycee Cobalt Silver Mines, Limited	Toronto	July 30	1,000,0 00
Tecumseh Gold Mines, Limited	Toronto	April 18	2,000,000
Tombill Gold Mines, Limited	Empire	Oct. 17	1,000,000
Transcanada Share Corporation, Limited	Toronto	Jan. 7	500,000
Trinova Cobalt Silver Mines, Limited	Toronto	July 11	1,500,000
Tyranite Mines, Limited	Kirkland Lake	Sept. 23	3,000,000
Universal Gold Investments, Limited	Toronto	Mar. 26	505,000
Val D'Or Mineral Holdings, Limited	Toronto	Sept. 5	750,000
Vanderbilt Gold Mines, Limited	Toronto	Sept. 12	500,000
Vortex Deloro Mines, Limited	Toronto	May 10	40,000
Wendigo Mines, Limited	Toronto		2,000,000
Wesley Gold Mines, Limited	Toronto		3,000,000
White Otter Mines, Limited	Hamilton		500,000
Wilport Gold Mines, Limited	Toronto	Nov. 14	3,000,000
(T) (110	-		\$205,320,000
Total (116 companies)	<u> </u>		#4 00,0 2 0,000

""No par" shares issued in addition. See list of companies having shares without nominal or par value.

Mining Revenue and Expenditures

The revenue of the Department of Mines for the fiscal year ending October 31, 1934, was \$1,487,886.94, as compared with \$942,721.62 in the previous year. Expenditures were \$298,520.74. In February, 1935, the end of the fiscal year for provincial revenue accounts was changed by the Legislature from October 31 to March 31. The first table below covers a five months' period, November 1, 1934, to March 31, 1935, and the second, the fiscal year ending March 31, 1936.

Sand and gravel		
Royalties Licenses	\$12,225.21 200.00	
Casual fees.		
Sale of record books, Unwrought Metal Sales Act	26.00 400.00	
Inspection—cable-testing fees		927. 2,243.
Assessment— Acreage tax	\$10,725.56	i
Gas tax		
Chemical and assay—fees Mine rentals—	· · · · · · · · · · · · · ·	
Mining leases		
Licenses of occupation		- 7,537.
Miners' licenses Fees—		
Recording Miscellaneous	\$34,785.93 1,750.50	
Maps—sales	916.52	
Natural Gas Commissioner—permits	\$1,270.81	
Sulphur Fumes Arbitrator—damages Temiskaming Testing Laboratories—fees	2,248.98 4,766.71	
Salaries, expenses, etc	30.00	8,316.
APITAL:		\$97,934.
Mining recorders—mining land sales		32.403.
Sand and gravel— Royalties	TO MAR. 3 \$24,333.57	\$130,338.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel—	TO MAR. 3	\$130,338. 1, 1936
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties Licenses Casual fees	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26	\$ 130,338. 1, 1936
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00	\$ 130,338. 1, 1936
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15	\$130,338. 1, 1936 \$25,883.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00	\$130,338. 1, 1936 \$25,883. 7,367.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment—	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00	\$130,338. 1, 1936 \$25,883. 7,367.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel Royalties Licenses Casual fees Sale of record books, Unwrought Metal Sales Act Gas leases Expenses re lignite Dredging leases Inspectioncable-testing fees Assessment Acreage tax Profit tax	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14	\$130,338. 1, 1936 \$25,883. 7,367.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals—	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals— Mining leases.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836. 1,854.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspectioncable-testing fees. Assessment Acreage tax. Profit tax. Gas tax. Chemical and assay-fees. Mine rentals Mining leases. Licenses of occupation.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 112.00 \$42,554.20 1,400,656.14 33,626.14 \$8,986.04 5,261.62	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836. 1,854. 14,247.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals— Mining leases. Licenses of occupation. Miners' licenses. Fees—	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14 \$8,986.04 5,261.62	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836. 1,854. 14,247.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals— Mining leases. Licenses of occupation. Miners' licenses. Fees— Recording. Miscellaneous.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14 \$8,986.04 5,261.62 \$106,125.29 4,870.23	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836. 1,854. 14,247.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals— Mining leases. Licenses of occupation. Miners' licenses. Fees.— Recording.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14 \$8,986.04 5,261.62 \$106,125.29	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836. 1,854. 14,247. 70,328.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals— Mining leases. Licenses of occupation. Miners' licenses. Fees— Recording. Miscellaneous. Maps—sales. Sale of machinery. Natural Gas Commissioner—permits.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14 \$8,986.04 5,261.62 \$106,125.29 4,870.23 2,680.26 150.00 \$1,487.51	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836. 1,854. 14,247. 70,328.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals— Mining leases. Licenses of occupation. Miners' licenses. Fees— Recording. Miscellaneous. Maps—sales. Sale of machinery. Natural Gas Commissioner—permits. Sulphur Fumes Arbitrator—damages.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 112.00 \$42,554.20 1,400,656.14 33,626.14 \$8,986.04 5,261.62 \$106,125.29 4,870.23 2,680.26 150.00 \$1,487.51 4,284.37	\$130,338.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals— Mining leases. Licenses of occupation. Miners' licenses. Fees— Recording. Miscellaneous. Maps—sales. Sale of machinery. Natural Gas Commissioner—permits.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14 \$8,986.04 5,261.62 \$106,125.29 4,870.23 2,680.26 150.00 \$1,487.51	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836. 1,854. 14,247. 70,328. 113,825.
REVENUE, DEPARTMENT OF MINES, APRIL 1, 1935, RDINARY: Sand and gravel— Royalties. Licenses. Casual fees. Sale of record books, Unwrought Metal Sales Act. Gas leases. Expenses re lignite. Dredging leases. Inspection—cable-testing fees. Assessment— Acreage tax. Profit tax. Gas tax. Chemical and assay—fees. Mine rentals— Mining leases. Licenses of occupation. Miners' licenses. Fees— Recording. Miscellaneous. Maps—sales. Sale of machinery. Natural Gas Commissioner—permits. Sulphur Fumes Arbitrator—damages. Temiskaming Testing Laboratories—fees.	TO MAR. 3 \$24,333.57 1,550.00 \$1,432.26 41.15 5,770.00 12.00 112.00 \$42,554.20 1,400,656.14 33,626.14 \$8,986.04 5,261.62 \$106,125.29 4,870.23 2,680.26 150.00 \$1,487.51 4,284.37 17,291.71 102.00	\$130,338. 1, 1936 \$25,883. 7,367. 5,030. 1,476,836. 1,854. 14,247. 70,328.

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BUSINESS TRANSACTED IN THE SEVERAL MINING DIVISIONS DURING 1935	orcu- Iarder Sault Port Kowkash Timis- Gow- Montreal Kenora Red Total Dine Lake Marie Marie Total	917 4,191 2,107 3,077 842 1,326 788 1,036 2,860 2,262 26,359 ,891 4,063 2,014 2,887 861 1,090 665 1,144 2,662 2,109 25,129	350 430 170 631 88 188 91 278 363 3.335 450 1,018 269 1,126 69 425 91 278 363 3,335	729 1,258 429 1,815 84 290 205 276 874 754 8,934 484 2,010 144 2,310 35 313 129 523 426 416 9,240	351 664 406 2,262 49 91 136 236 525 411 6,396	.471.85 \$19 ,747.00 \$6 ,737.05 \$ 33,290.65 \$1 ,681.75 \$5 ,529.00 \$ 2,094.25 \$4 ,798.25 \$11 ,936.60 \$1 3,526.50 \$1 39,760.15	.671.30 \$4 ,359.91 \$ 2,663.98 \$ 12,760.43 \$ 635.02 \$208.60 \$404.45 \$1,061.42 \$1,431.69 \$11,142.29 \$56,731.94	,143.15 \$ 24,106.91 \$ 9,401.03 \$ 46,051.08 \$ 2,316.77 \$ 5,737.60 \$ 2,498.70 \$ 5,859.67 \$ 13,368.29 \$ 24,668.79 \$ 196,492.09	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		12 20	399 890 227 1,531 59 33 64 238 495 981 5,882	60 61 29 127 5 6 12 22 19 126 515	63 48 33 132 5 14 11 22 19 124 523 69 56 99 130 5 3 11 22 19 124 523		4 9 1 14 2 49 1 4 49 49 40	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
IING DIV		1,325 1,090	188 425	290 313	91	\$5,529.00		\$2,737.60 \$ 2	7			33	9	14 8)		361
RAL MIN		842 861	88 89	84 35	49		\$635.02		12			59	ũ	יט ענ	•	5	182 59
HE SEVE	Port Arthur	3,077 2,887	$631 \\ 1,126$	1,815 2,310	2,262	\$33,290.65	\$12,760.43	\$46,051.08	157 36			1,531	127	132		14	3,939 749
ED IN T	Sault Ste. Marie	2,107 2,014	170 269	429 144	406	\$6,737.05	\$2,663.98	\$9,401.03	32			227	29	33		1	497 293
ANSACTI	Larder Lake	4,191 4,063	430 1,018	1,258 2,010	664	\$19,747.00	\$4,359.91	\$24,106.91	20 12		12	890	61	44 r 80 r	8	6	1,464 1,848
NESS TR	Porcu- pine	2,917 2,891	350 450	729 484	351	\$11,471.85	\$6,671.30	\$18,143.15	5			399	60	63	3	4	932 1,000
OF BUSI	Sudbury	3,947 3,549	675 694	2,013 2,227	1,169	\$25,808.25	\$13,972.12	\$39,780.37	00 00		×	821	35	39 118		7	1,717 1,000
SUMMARY	Fort Frances	1,007 1,194	71 142	207 223	96	\$3,139.00 \$25	\$1,420.73 \$13	\$4,559.73				144	13	13	2		286 124
SUN	Schedule item	1. Letters received	 Miner's Licenses issued. Miner's Licenses renewed. 	 Mining claims recorded1 Mining claims cancelled 	 Agreements, transfers, etc., recorded Receipts for Miner's Licen- 	ses, Permits, Recording Fees, etc	9. Receipts as Purchase Money or Rental	ment	 Claims of which surveyors' plans were filed Disputes entered 	13. Disputed cases decided by Recorders	14. Appeals to Mining Court	15. Extensions of time granted		20000	19. Forest Reserve Permits	20. Substitute Miner's Licenses	21. Abstracts issued

Statistical Review for 1935

	Total	5 2,066.00 734.75 2,341.83 2,341.83 2,341.83 2,341.83 10,941.78 4,968.65 17,794.46 1,316.25 19,659.15 2,749.50	\$74,844.34	31, 1936	Total	\$4,476,13 2,553,76 6,096,45 2,399,45 2,399,45 20,828,62 27,179,67 27,352,02 8,592,05 33,533,99 8,592,05 33,533,99 8,592,05 33,533,99 8,592,05 33,533,99 8,592,05 33,533,99 8,592,05 33,533,99 8,592,05 33,533,99 8,592,05 33,533,905,73 14,198,4014,198,40 14,198,40 14,198,4014,198,40 14,198,4014,198,40 14,198,4014,198,40 14,198,4014,198,40 14,198,4014,198,40 14,1	
, 1935	Recording fees	\$640.00 628.00 1,151.00 228.00256 6,523.002556 6,523.00 3,662.00 3,662.00 3,662.00 3,662.00 3,662.00 3,662.00 3,503.00 3,503.00 3,503.00	\$33,460.56		Sale of machinery	\$150.00	
TO MAR. 31,	Miner's licenses	\$148.00 89.00 165.00 165.00 459.00 459.00 989.00 376.00 376.00 383.00 383.00 383.00 299.00	\$5,290.00	ENDING I	Recording fees	\$ 1,365,00 1,000,00 3,103,65 1,586,00 11,547,10 12,586,00 11,547,10 8,946,00 20,317,60 20,317,60 20,317,60 21,783,00 21,783,00 10,016,00 \$ 10,016,00 10,016,00 \$ 10,016,00 \$ 10,000 \$ 20,317 \$ 000 \$ 000 \$ 20,317 \$ 000 \$ 000	
V. 1, 1934, 1	Miscel- laneous fees	8 196.00 12.50 81.75 81.75 81.75 15.50 15.50 15.50 24.00 24.00 525.65 76.75 76.75 76.75 76.75 76.11	\$1,750.50	FOR THE FISCAL YEAR ENDING	Miner's licenses	\$1,378,00 959,25 959,25 315,00 5,348,00 9,236,00 5,087,00 5,087,00 5,087,00 5,087,00 5,087,00 3,066,00 3,066,00 3,066,00	
NDERS, NO	Maps	\$ 23.00 5.25 5.26 20.25 66.25 173.00 32.00 19.25 19.25 19.25 29.00 29.29	\$605.25	R THE FIS	Miscel- laneous fees	\$666.50 54.75 54.75 94.00 346.75 473.75 593.25 593.25 721.75 1,122.43 1,122.43 1,122.43 197.25 293.10 293.10	
MINING RECORDERS, NOV. 1, 1934,	Purchase price	\$ 1,059.00 923.83 923.83 1,6679.56 1,665.15 1,665.15 13,768.71 13,768.71 13,768.71 13,768.71 137.75 727.75	\$33,738.03	RDERS FC	Maps	\$68.00 17.00 17.00 133.80 305.50 508.50 508.50 508.50 271.00 115.00 70.00 134.25 1134.25 1134.25	
ВΥ	Address	nces e. preupine is. ury hur.	••••••••••••	MINING RECORDERS	Purchase price	\$ 998. 63 522. 26 378. 55 378. 55 378. 55 378. 55 3, 281. 27 4, 300. 64 211. 80 5, 907. 30 3, 025. 98 599. 05 \$ 36, 568. 42	
MONIES REMITTED	۹ 	Fort Frances. Tashota Elk Lake Elk Lake South Porcupine Swastika. Goldpines. Sudbury Port Arthur Port Arthur Sault Ste. Marie Kenora	· · · · · · · · · · · · · · · · · · ·	ВΥ	Address	Fort Frances Tashota Elk Lake Bik Lake South Porcupine Swatika Goldpines Haileybury Port Arthur Port Arthur Sault Ste. Marie Kenora	
MONIE	of recorder	r, J. A. , P. M. F. M. F. M. F. M. F. N. J. D. C. D. C.	• • • • • • • •	IES REMITTED		Fort France Tashota Elk Lake Fik Lake South Porci Swath Porci Swat	
STATEMENT OF	Name of	Alexander, J. A. Bolduc, J. P. Coghill, J. M. Coghill, J. M. O'Rourke, M. F. O'Rourke, M. F. McAulay, N. J. McAulay, N. J. McGregor, C. F. Miller, W. N. Smith, J. D. C.	Total	STATEMENT OF MONIES	Name of recorder	FrancesAlexander, J. A.kashStory, M. A.treal RiverBolduc, J. P.gandaBolduc, J. P.upineO'Rourke, M. F.LakeO'Rourke, M. F.LakeHolland, H. E.DuryMcArthur, T. A.skamingMcArthur, T. A.StreamingMcGregor, C. F.TotalSmith, J. D. C.	
STA	sion			MENT			
	Mining division	Fort Frances Kowkash Montreal River Gowganda Porcupine Larder Lake Red Lake Sudbury Port Arthur Port Arthur Sault Ste. Marie Kenora	Total	STATE	Mining division	Fort Frances Kowkash Montreal River. Gowganda Porcupine Porcupine Sudbury Port Arthur Sault Ste. Marie Kenora	

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Department of Mines

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	IM	MINING CI	•	AIMS	RECC	RECORDED	D IN	THE		SEVERAL	MINING		DIVISIONS,	NS, 1907	DAND		1916-1935				
Mining division 1907 1916 1917	1907	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
Coleman ¹	291	291							:	:			:	:	: 1		: 1		· · · ·		· 100
Fort Frances	:		• (•	:	• • •	• •	:	• •	:					22	21	175	86	137	313	237
Gowganda		51	113	52		215	5		33		077	96		40	940	104	1001	909	271	201	007 700
Kenora	:	40,	32	40		22			001		677	000		020	210	101	E C S	30	270	0.22	10
Kowkash		160	135	201		1011	010	c	2002	· -	000	1 520		1 7 21	810 801	71	0000	04 4	1 720	1107	1 952
Larder Lake	3,813	103	001	423	134	12	310	174	400	471	471	2001	0,141	15,101	48	661	1 127	156	444	627	276
Parry Sound ²	100	<u>2</u>	267	121		38	OF T	:	2	:			:							; ;	754
Porcinine		401	236	14		192	273	760	1.424	556	620	1.297	3,127	611	650	135	307	387	613	785	729
Port Arthur	317	172		99		108	120	296	222	300	494	1.278	982	1,269	691	338	609	475	006	6,842	1,815
Red Lake	5											5,827	2,018	1,100	973	305	298	185	343	1,036	754
Sault Ste Marie	201	44	135	199	60	06	216	541	498	284	451	395	735	702	487	318	276	92	450	532	429
Sudbury	456	464		168	673	267	319	701	436	559	546	1,367	3,351	6,424	2,164	807	1,597	1,986	2,362	1,549	2,013
Timiskaming	7.860	156		184	244	329	159	328	971	735	634	438	875	499	346	202	78	63	256	688	290
At Toronto.		128	96	39	231	87	145	171	116	139	226	203	795	1,576	1,186	171	142	356	307	534	476
Total 13,996 2,470 1,936	13,996	2,470	1,936	1,534	2,918	2,160	2,450	5,686	6.092	5,222	4,751	13,496	15,564	15,046	8,207	3,886	5,779	4,945	8,077	16,888	9,440
¹ Joined with Timiskaming since	Timiskar	ning s	1	1911.	² Office	at	Parry S	Sound v	was closed in	osed in	1921,	and re	records a	are now	kept at	the	Depart	Department of	of Mines,		Toronto.

Under The Mining Tax Act, a graduated tax is levied on the net profits of mining companies in excess of 10,000 per annum. The basic rate is 3 per cent. on profits up to 1,000,000. On profits over 1,000,000 and up to 5,000,000, the tax is 5 per cent.; and on profits in excess of the latter amount, the rate is 6 per cent. A part of this money is returned to organized municipalities.

The following statement, prepared by the Accounts Branch of the Department, gives details of the profit tax collected under the supervision of G. R. Mickle, Mine Assessor, for the year 1935:—

	DETAILS	OF	PROFIT	TAX
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DETAILS OF PROFIL TAX		
Gold:		
Anglo-Huronian, Limited	\$662.00	
Ashley Gold Mining Corporation, Limited	420.81	
Dome Mines, Limited	129,237.49	
Hollinger Consolidated Gold Mines, Limited	157,056.15	
Howey Gold Mines, Limited	8,649.85	
Kirkland Lake Gold Mining Company, Limited	983.35	
Lake Shore Mines, Limited	404,738.42	
Macassa Mines, Limited	8,289.39	
McIntyre-Porcupine Mines, Limited	116,233.75	
Minto Gold Mines, Limited	345.23	
Parkhill Gold Mines, Limited	976.19	
Sylvanite Gold Mines, Limited	11,461.13	
Teck-Hughes Gold Mines, Limited	77,127.63	
Toburn Gold Mines, Limited	3,995.74	
Wright-Hargreaves Mines, Limited	128,407.25	
-	\$	1,048,584.38
SILVER:		
Beaver mine	\$47.28	
Cobalt Properties, Limited	454.28	
Nipissing Mining Company, Limited	1,207.35	
O'Brien, M. J., Limited (O'Brien mine, \$2,798.53; Miller Lake		
O'Brien mine, \$5,114.42)	7,912.95	
-		9,621.86
NICKEL-COPPER:		
Falconbridge Nickel Mines, Limited		
International Nickel Company of Canada, Limited.	325,532.78	
		342,449.90
M		1 400 050 14
Total	\$	1,400,656.14

The figures of monies derived from sales and leases, divided according to district, do not agree with corresponding items of the preceding revenue statements, which record collections of monies actually received during the periods. Details are given in the following tables, the first of which covers the five months, November 1, 1934, to March 31, 1935, and the second, the fiscal year ending March 31, 1936.

District		Sales			Lease	s	T	otal sales a	nd leases
District	No.	Acres	Amount	No.	Acres	Amount	No.	Acres	Amount
Algoma	15	643.07	\$1,785.37				15	643.07	\$1,785.37
Cochrane	55	2.019.13	5.333.39				55	2.019.13	5,333.39
Kenora	24	659.77	1,655.21				24		1,655.21
Nipissing									
Patricia	28						28	1.097.75	3,191.52
Rainy River	9	303.60	759.00				9	303.60	759.00
Sudbury	117	4,498.37	17,816.63				117	4,498.37	17,816.63
Thunder Bay.	41	1,599.81	4,188.30	7	298.32	\$298.32	48	1,898.13	4,486.62
Timiskaming.	25	853.41	2,229.62	9	391.71	416.73	34	1,245.12	2,646.35
Elsewhere	4	182.17	49.29				4	182.17	49.29
Total	318	11,857.08	\$37,008.33	16	690.03	\$715.05	334	12,547.11	\$37,723.38

MINING LANDS SOLD AND LEASED, NOV. 1, 1934, TO MAR. 31, 1935

MINING LANDS SOLD AND LEASED FOR FISCAL YEAR ENDING MARCH 31, 1936

District		Sales	5		Lease	s	Т	otal sales a	nd leases
	No.	Acres	Amount	No.	Acres	Amount	No.	Acres	Amount
Algoma Cochrane Kenora	$\begin{array}{r} 31\\ 45\\ 60\end{array}$	1,039.85 1,697.70 2,246.75	4,988.88		394.60		$\begin{array}{r} 41 \\ 45 \\ 60 \end{array}$		4,988.88
Nipissing Patricia	168	-,	17,316.96	$2 \\ \dots$		6.33		177.97	350.58 17,316.96
Rainy River Sudbury	$12 \\ 45 \\ 07$	1,621.44	5,405.26	16		80.60		2,300.39	5,485.86
Thunder Bay Timiskaming Elsewhere	87 43 1	$3,230.88 \\ 1,627.45 \\ 200.00$	4,262.66	74	,	1,659.11	92 117		5,921.77
Total	495		\$51,111.35		4,097.70	\$2,375.68	602		\$53,487.03

The following is a comparative statement of mining licenses and renewals issued, claims recorded, profit tax, and total revenue during the past ten years:-PROSPECTING ACTIVITY, PROFIT TAX, AND TOTAL REVENUE, 1926-1935

		ι	Calendar	year		Fiscal year ¹
Year	New min er's licenses issued	Miner's licenses renewed	Total licenses and renewals	Mining claims recorded	Profit tax	Total mining revenue
1926 1927 1928 1929 1930 1931 1932	3,271	5,521 7,221 8,688 8,049 5,885 4,808 3,670	$12,152 \\ 14,144 \\ 14,747 \\ 11,320 \\ 7,439 \\ 6,982 \\ 5,705$	$13,486 \\ 15,564 \\ 15,046 \\ 8,207 \\ 3,886 \\ 5,779 \\ 4.945$	\$410,974.17 340,890.08 356,033.83 397,004.41 502,525.38 480,300.69 515,153.59	\$838,415.81 839,793.43 968,243.84 882,026.05 1,017,030.67 799,240.06 793,759.20
1932. 1933. 1934. 1935.	2,035 3,365 7,409 3,335	3,911 4,757 5,113	7,276 12,166 8,448	8,077 16,888 9,763	679,731.07 1,073,824.46 1,400,656.14	942,721.62 1,487,886.94 21,917,981.93

¹Up to and including 1934, the fiscal year was from November 1 of the previous year to October 31 of the year shown. The fiscal year now ends on March 31. ²Includes \$130,338.18 for the five months' period November 1, 1934, to March 31, 1935, and \$1,787,643.75 for the new fiscal year ending March 31, 1936.

Temiskaming Testing Laboratories

This plant, located at Cobalt and equipped for sampling and assaying, has been operated by the Department since July, 1921, under the management of A. A. Cole, mining engineer, of the T. & N. O. Railway Commission.

COMPARATIVE FINANCIAL STATEMENT OF THE TEMISKAMING TESTING LABORATORIES, 1922–1935

Year	Cash receipts	Earnings	Expendi- tures	Operating profit	Operating loss
1922	\$18,096.19	\$17,749.51	\$19,173.19		\$1,424.68
923		20,117.81	19,781.25	\$336.56	
.924		25,417.61	23,206.66	2,200.95	
925		20,041.08	20,043.31		2.23
926		21,119.98	20,658.19	461.79	
927		19,400.55	20,012.09		611.54
928	14.875.58	14,369.66	18,181.68		3.812.02
929		21,690.60	18,088.41	3,602.19	
930		24,316.82	24.153.03	163.79	
931		20.770.06	23.553.61		
932		11.150.42	15.219.64		4.069.22
933	6.206.68	6,508.49	13,318,18		0.000 00
934		11.359.81	12,762.68		1,402.87
935		15,405.80	15.212.83	192.97	

Provincial Assay Office

W. K. McNeill, Provincial Assayer and Chemist, reports as follows:-

The Provincial Assay Office, which was established in Belleville in 1898, as an aid in the development of the mineral resources of Ontario, is now situated in the East Block, Queen's Park, Toronto.

During the year 1935, a total of 5,407 samples were received at the office and reports on them issued. Of these, 3,548 were done free, as provided by R.S.O., Chap. 45, Sec. 69.

In addition complete analyses were made of 20 rocks for the geologists employed by the Department of Mines, and 218 samples were identified and reports on them issued. Several hundred samples were brought directly to the Laboratory; of these no records are kept.

Forty samples of peat were tested for the geologists of the Department and several samples of water for the Natural Gas Commissioner.

The work of the Branch was carried on with the assistance of T. E. Rothwell and W. F. Green, assayers and chemists, and Robert Stewart and William Ley, laboratory assistants.

The schedules of charges for the Provincial Assay Office and Chemical Laboratory may be obtained on application. Minerals and rocks not requiring chemical analysis are identified free of charge. Tests for radio-activity are free.

Draughting Office, North Bay

As mining claims are recorded in each mining division, sketches and recording notices are forwarded by the recorders to the Draughting Office, North Bay, and the same practice applies when surveys are filed. Tracings are prepared from the data furnished and blue-prints supplied to the recorders and to the general public at a nominal charge. North Bay is a convenient centre, and considerable time for Northern Ontario residents is saved through the mails compared with former practice when blue-prints were prepared at Toronto. The office was established in February, 1920. It is now in charge of A. D. Williams.

	ADDRESS		Collins.		Goudreau. Goudreau. Goldthorpe. Timmine		Hawk Junction. Geraldton. 57 Bloor St. W., Toronto. Kirkland Lake.	 35 Temperance St., Toronto. 207 Turner Bldg., Hamilton. 1/1 Yonge St., Toronto. Shiningtree. South Porcupine. 		330 Bay St., Toronto. Pickle Crow. Schumacher. 45 Richmond St. W., Toronto. Dyment.
	Manager		A. R. Globe		R. F. Mitchell F. A. Brant C. Alschbach W. R. Adam			S3 Temperance Si Lionel Brooke		A. J. AndersonF. G. StevensR. R. Clark
METALLICS	MINE	CHROMIUM	Obonga Lake	GOLD ¹	Algold McCarthy-Webb (tp. 49, range 27) Alschbach	Arbade. Moss. Argosy. Ashlev	Atnel Bankfield Barry-Hollinger Bidgood	biumac. Bob Tough Bousquet. Bramor Buffalo Ankerite.	Marouan Buffalo Beardmore Canusa Canusa Caouette claims Brennan-Kenty	Central Matachewan
	OPERATOR		Chromium Mining and Smelting Corp., Ltd., Obonga Lake		Algold Mines, Ltd. *Algoma Summit Gold Mines, Ltd. Alschbach Gold Mining Co., Ltd.	Arbade Gold Mines, Ltd. *Ardeen Gold Mines, Ltd. Argosy Gold Mines, Ltd. *Ashlev Gold Mining Corporation, Ltd.		Bumac Gold Mures, Ltd Bubb Tough Gold Mines, Ltd. Bousquet Gold Mines, Ltd. Bramor Mining (Ontario), Ltd.	Buffalo Beardmore Gold Mines, Ltd. *Canusa Gold Mines, Ltd. Canyon Creek Gold Mines, Ltd *Caouette Claims (Afton) Casey Contact Gold Mines, Ltd	Central Matachewan Mining Corp., Ltd. *Central Patricia Gold Mines, Ltd Central Porcupine Mines, Ltd Churchill Mining and Milling Co., Ltd. *Clark Gold Mines, Ltd.

¹The names of companies whose mines are producing are marked with an asterisk (*).

LIST OF MINES, QUARRIES, AND WORKS, 1935

02		Department of Mines	10. 1
Address		Cole. Timmins. Mine Centre. Schumacher. Schumacher. Schumacher. Schumacher. Schumacher. Schumachen. Flinton. Jackson Manion. Jackson Manion. Jackson Manion. Jackson Manion. Jackson Manion. South Porcupine. Box 1299, Timmins. South Porcupine. New Liskeard. Kenora. New Liskeard. Kenora. South Porcupine. New Liskeard. Kenora. South Porcupine. Joronto. Job Bay St., Toronto. Box 2048, Timmins. South Porcupine. South	709 Excelsior Life Bldg., Toronto.
Manager		John Y. Cole. C. L. Laederer Russell Cone. D. C. McKechnie. C. A. Seaton. D. C. McKechnie. C. B. White. W. M. Rice. W. M. Rice. M. H. Frohberg. J. F. R. Akehurst. J. F. R. Akehurst. J. H. Stovel. A. R. Durond. J. M. Forbes. J. M. Forbes. J. M. Forbes. J. M. Forbes. J. M. Parosow. W. M. Pleming. L. W. Adams. K. A. Pain. W. J. Simpson. R. D. Jones.	
MINE	GOL,D-Continued	Cole Jones-Porter Lucky Coon Coniaurum Coniaurum Coniaurum McKenzie NcIntyre Birch Lake Corless Patricia McIntyre Birch Lake Corless Patricia McConess Patricia Coulson Craig Dorse Darwin Delnite Delnite Dorse Bidwards Edgelake Bizabeth Dorne Duport Fort Hope Dorne Dumort Bizabeth McConnell Argonaut Fort Hope Ontario Champion Fort Hope Golden Barle Golden Summit Golden Summit Golden Summit	crow-Swayze
Operator		Cole Gold Mines, Ltd *Concordia Gold Mining Co., Ltd *Concordia Gold Mining Co., Ltd *Coniaurum Mines, Ltd Consolidated Mining and Smelting Co. of Canada, Ltd. Consolidated Mining and Smelting Co. of Canada, Ltd. (under option). Consolidated Mines and Smelting Co. of Canada, Ltd. (under option). Consolidated Mines, Ltd Consolidated Gold Mines, Ltd Conlson Consolidated Gold Mines, Ltd Conlson Consolidated Gold Mines, Ltd Conlson Consolidated Gold Mines, Ltd Conlson Consolidated Gold Mines, Ltd Conson Mines, Ltd Conson Mines, Ltd Delmite Mines, Ltd Delmite Mines, Ltd Conson Mines, Ltd Delmite Mines, Ltd Conson Mines, Ltd Craig Gold Mines, Ltd Conson Mines, Ltd Conson Mines, Ltd Dumond Mining Co., Ltd Fizabeth Gold Syndicate Falcon Gold Mines, Ltd Fort Hope Consolidated Cold Mines, Ltd	*Halcrow-Swayze Mines, Ltd

1The Afton property is now called the New Golden Rose.

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Geraldton. Schreiber. 645 Queen St. E., Sault Ste. Marie, Ont. Ramore. Timmins. Tionaga.	Box 811, Kenora. Red Lake. Narrow Lake, via Sioux Lookout. 533 Richmond St. W., Toronto. Jackson Mansion. Kenora. 702 Excelsior Life Bldg., Toronto. 360 St. James St. W., Montreal. Box 700, New Liskeard. Firkland Lake. Gold Park. Gold Park. Oll Excelsior Life Bldg., Toronto. Kirkland Lake. Gold Park. Box 156, Sudbury. Finpire. Oklend. SF Richmond St. W., Toronto. Kirkland Lake. University Tower, Montreal, Que. SF Richmond St. W., Toronto. Red Lake. University Tower, Montreal, Que. Setth Porcupine. South Porcupine. South Porcupine. Setthury. Red Lake. McKenzie Island. South Porcupine. Setthury. Red Lake. McKenzie Island. Sudbury. Red Lake. SF Richmond St. W., Toronto. Timagami. Larder Lake. SF Richmond St. W., Toronto. SF Richmond St. W., Toronto. Red Lake. SF Richmond St. W., Toronto. Setthury. Red Lake. SF Richmond St. W., Toronto. SF Richmond St. W., Toronto. Setthury. Red Lake. SF Richmond St. W., Toronto. Setthury. Red Lake. SF Richmond St. W., Toronto. Setthury.
J. C. Dumbrille	Frank WilliamsEdward FuttererJ. M. ThompsonD. M. ThomsonD. M. ThomsonD. M. ThomsonC. SpearmanP. J. HarrisP. J. BrownleeP. W. DonsonR. J. HackerN. R. MorrisonN. R. MorrisonN. R. MorrisonP. J. HackerJ. M. RosesW. J. HackerJ. M. McLarenJ. M. McLarenJas. G. MacGregorJohn CampbellThos. L. WellsNelson Spiers
Hard RockJ. C. Dumbrille.Harkness-HaysJ. F. Anderson.HillsideJ. F. Anderson.RillsideJ. P. Anderson.I Brennan David (Hislop)John Knox.HollingerG. F. Gibbs.r Horwood Lake (Smith-Thorne)G. F. Gibbs.	HorseshoeFrank WilliamsHoweyJ. M. ThompsonHoweyJ. M. ThompsonHudson-PatriciaD. M. ThompsonJellicoeD. M. ThompsonJ.M ConsolidatedD. M. ThompsonJ.M ConsolidatedD. M. ThompsonJ.M ConsolidatedD. M. ThompsonJ.M ConsolidatedD. M. ThompsonKirkland FladeEdwardKirkland FladeD. M. ThompsonKirkland FladeEdwardKirkland FladeD. M. ThompsonKirkland FladeD. M. ToddLafayette Long LacD. M. ToddLafayette Long LacW. J. Harris.Lafayette Long LacW. J. HackerLafayette Long LacW. J. HackerLafayette Long LacN. R. MorrisonMacandrewN. R. MorrisonMacandrewN. R. MorrisonMacandrewN. R. MorrisonMacineR. J. EnnisMacineJ. L. RamsellMacineJ. M. MilterMacineJ. M. MilterMacineJ. M. MilterMacineJ. M. MilterMacineJ. M. MilterMatchewan ConsolidatedJ. M. MilterMatchewan ConsolidatedJ. M. MilterMatchewan ConsolidatedJ. M. StevenMatchewan PioneerJohn CampbellMatchewan PioneerJohn CampbellMatchewan ConsolidatedJohn CampbellMatchewan PioneerJohn CampbellMatchewan PioneerJohn CampbellMatchewan PioneerJohn CampbellMatchewan Pioneer </td
Hard, Kock Gold Mines, Ltd	 Horesshoe Mines, Ltd. Howey Gold Mines, Ltd. Hudson-Patricia Gold Mines, Ltd. Jellicoe Gold Mining Co., Ltd. Jellicoe Gold Mining Co., Ltd. Kenara Prospectors and Mines, Ltd. Kirkland -Hudson Bay Gold Mines, Ltd. Kirkland -Hudson Bay Gold Mines, Ltd. Kirkland Lake Gold Mines, Ltd. Lafayette Long Lac Gold Mines, Ltd. Late Shore Mines, Ltd. Lates Shore Mines, Ltd. Leelel Oro Mines, Ltd. Leitch Gold Mines, Ltd. Leitch Gold Mines, Ltd. Leitch Gold Mines, Ltd. Leitch Gold Mines, Ltd. Macassa Mines, Ltd. Macandrew Red Lake Gold Mines, Ltd. Macondrew Red Lake Gold Mines, Ltd. Macioe Sturgeon Gold Mines, Ltd. Mackenzie Red Lake Gold Mines, Ltd. Macioe Sturgeon Gold Mines, Ltd. Mackenzie Red Lake Gold Mines, Ltd. <

1See also Young-Davidson Mines, Ltd.

Operator	MINE	Manager	Address
	GOLD-Continued		
*Miller Independence Mines (1924), Ltd Milmac Mines, Ltd	Miller Independence	Lohn Knov Tr	39 New Bank of Toronto Bldg., London. 612 Queen St. F., Sault Ste. Marie. Wawa
*Minto Gold Mines, Ltd			wawa. Haileybury. King Kirkland.
*Munro Croesus Mines, Ltd	Munro Croesus Murray-Algoma	J. E. Grant G. J. Lamb E. A. Boadway Roht I. Navlor	Hauleybury. Hawk Junction. TVabigoon.
Neville Cond Mines, Ltd. Novth Shores Gold Mines, Ltd. *North Shores Gold Mines, Ltd.	Neville Canadian North Shores Northern Empire		347 Bay St., Toronto. Schreiber. Empire.
Northern Mines, Incorporated	Wabigoon-Contact		olo Wallbridge Bidg., Bunalo, N.Y. Mine Centre. Larder Lake 1005 Federal Bidz. Toronto.
Oro Plata Munug Co., Ltd Pamour Porcupine Mines, Ltd *Parkhill Gold Mines, Ltd *Pickle Crow Gold Mines, Ltd	Oro Flata Pamour Parkhill Paymaster Consolidated Pickle Crow	R. M. Macaulay R. E. Barrett Chas. F. Cook Alex. G. Hattie	Pamour. Gold Park. South Porcupine. Pickle Crow.
Porcupine Law Gold Mining Co., Ltd. Porcupine Lake Gold Mining Co., Ltd. *Red Crest Gold Mines, Ltd. Red Lake Gold Mines, Ltd. Dishelion Cold Mines, T td.	Porcupine Lake (Hunter). Porcupine Peninsular Rowan Discovery. Red Lake Gold Shore		 112 Yonge St., Toronto. 80 King St. W., Toronto. 80 den Arm, Red Lake. 330 Bay St., Toronto.
Rickard Ramore Gold Mines, Ltd. St. Anthony Gold Mines, Ltd. Sakoose Gold Mines, Ltd. Selected Canadian Golds, Ltd. (under option). Selected International Mines, Ltd. (under lease)	Raty St. Anthony Sakoose Sultana Cheltonia-Swastika		Iroquois Falls. Savant Lake. 231 St. James St., Montreal, Que. Bank of Commerce Bldg., Toronto. Swastika.
Shenango Gold Mines, Ltd. Shinintree Gold Mines, Ltd. Suith, S. B. Sol-D'Or Gold Mines, Ltd. South Shore Gold Syndicate. South Vermillion Gold Mines, Ltd. Stanley Gold Mines, Ltd.	Shenango. Shinintree Van Sickle. Sol-D'Or South Shore. South Vermillion Stanley.	lack Owens. Lionel Brooke. Dr. S. B. Smith. Dr. H. S. Hicks. R. J. C. Godden. A. Pacitto. S. MacDougall.	Oba. Shiningtree. Cleveland, Ohio. Narrow Lake. Box 542, South Porcupine. Mine Centre. Wawa.

Frank Carnegie.Emo.C. M. Bowyer.Jellicoe.Walter F. StewartSavant Lake.Narrow Lake.Narrow Lake.C. E. RodgersKirkland Lake.A. E. SubertsonTashetanA. B. J. HenryKirkland Lake.Edward H. OrserLightning River.M. W. HotchkinBinyter.M. W. HotchkinBinpire.M. U. HotchkinEmpire.M. U. HotchkinEmpire.M. U. BrownCoraldton.V. L. BrownCeraldton.M. W. Summerhayes.Kirkland Lake.M. U. BrownGeraldton.M. W. Summerhayes.Kirkland Lake.M. W. J. Brown11 King St. W., Toronto.M. W. Summerhayes.Fik Lake.M. W. Summerhayes.Fik Lake.C. T. Young.1 Toronto St., Toronto.	Ashdad.	Goward. Falconbridge. Creighton. Frood. Worthington.	Cheddar.
	F. L. Stinson.	Geo. M. Lee Ernest Craig S. J. Kidder F. J. Eager W. F. Taylor	Frank Austin
Straw Lake beach Sturgeon River Supreme Swain-Harris-Cavano Swain-Harris-Cavano Swain-Harris-Cavano Swain-Harris-Cavano Syvanite Tashota Tasho	MOLYBDENITE	NICKEL AND COPPER ines, Ltd	, Ltd
Straw Lake Beach Gold Mines, Ltd. Supreme Gold Mines, Ltd. Supreme Gold Mines, Ltd. Swain, Harris, and Cavano Swain, Harris, and Cavano "Sylvanic Gold Mines, Ltd. "Teck-Hughes Gold Mines, Ltd. "Teck-Hughes Gold Mines, Ltd. "Toburn Gold Mines, Ltd. "Toburn Gold Mines, Ltd. "Tombill Gold Mines, Ltd. "Tombill Gold Mines, Ltd. "Vimy Gold Mines, Ltd. Wells Longlac Mines, Ltd. Wells Longlac Mines, Ltd. Wells Longlac Mines, Ltd. "Werdigo Gold Mines, Ltd. Wells Longlac Mines, Ltd.	Phoenix Molybdenite Corporation, L	Cuniptau Mines, Ltd	Canada Radium Mines, Ltd

List of Mines, Quarries, and Works, 1935

OPERATOR	Mine or Works	MANAGER	ADDRESS
	SILVER AND COBALT		
Bellelten. Bellerain Mines, Ltd	ert.	Max Kaplan H. F. Fancy Bruce Williams Bruce Williams George Martin George Martin H. G. Müller A. G. Morgenthalor H. G. Mosher Hugh Park W. A. O'Flynn H. G. Kennedy J. C. O'Donald C. W. Price Richard Sandoe Richard Sandoe Richard Sandoe Richard Sandoe Bichard Sandoe Richard Sandoe	Kirkland Lake. Cobalt. Cobalt. Cobalt. Kirkland I.ake. Cobalt. Box 700, New Liskcard. Cobalt. Silver Centre. Silver Centre. 2108 South Second St., Philadelphia. 165 Sparks St., Ottawa. Cobalt. Cobalt. O'Brien. Cobalt.
Algoma Steel Corporation, Ltd. Canadian Furnace Co., Ltd. Canadian Industries, Ltd. Deloro Smelting and Refining Co., Ltd. Falconbridge Nickel Mines, Ltd. International Nickel Co. of Canada, Ltd. Ontario Refining Co., Ltd.	METALLUKGLOAL WOKAS Iron blast furnace Jas. H. Bell Iron blast furnace W. J. Higgins Reid and chemical plant W. J. Higgins Silver-coblat refinery W. J. Tamplin Nickel-copper smelter M. J. Tamplin Nickel-copper smelter Peter Macdonal Nickel-copper smelter Peter Macdonal	 M. J. Higgins Jas. H. Bell. W. J. Higgins E. Jordon S. B. Wright Peter Macdonald Peter Macdonald Peter Macdonald Peter Macdonald R. A. Gillies 	Sault Ste. Marie, Ont. Port Celborne. Copper Cliff. Deloro. Falconbridge. Copper Cliff. Conston. Port Colborne. Copper Cliff.

Department of Mines

No. 4

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Address		Madoc.		Calabogie.		Hagersville. Caledonia.		Copper Cliff. 1400 Guardian Bldg., Cleveland, Ohio.		6 Church St., Perth. 114 Gore St., Kingston. Bedford Mills. Schenectady, N.Y. 336 Besserer St., Ottawa. Verona.		Carlsbad Springs. Bourget. 1016 Bleury St., Montreal, Que.
Manager		Chas. A. Stoklosar		R. F. Bunting		W. E. Allen	C ACID	G. G. Vincent		H. V. Bennett Berth W. C. Kent		
Mine, Quarry, or Works	FLUORSPAR	W. ½ lot 3, con. I, Madoc tp., Hastings co. Chas. A. Stoklosar Madoc.	GRAPHITE	Black Donald, Brougham tp., Renfrew co. R. F. Bunting Calabogic.	GYPSUM	Hagersville.	IRON PYRITES AND SULPHURIC ACID	Acid plants, Copper Cliff	MICA	H. V. Bennett6 Church St., Perth.Bob's Lake mineW. C. KentN. J. LeeBedford Mills.Various prospectsGeneral Electric CoFrontenac and Lanark countiesS. H. Orser	MINERAL WATERS	Carlsbad Springs. T. R. Boyd Bourget Springs
Operator		Stoklosar, Chas. A		Black Donald Graphite Co., Ltd		Canadian Gypsum Co., Ltd		Canadian Industries, Ltd. Canadian Pyrites, Ltd		Bennett, H. V Kent Bros. (buyers) Lee and Son, W. W. Loughborough Mining Co., Ltd. Martin, A. G. (buyer). 30 Island Lake Mica Co.		Carlsbad, Ltd. (now T. R. Boyd) Deneault, F

19.	50		List of Mines, Qua	arrie	es, and Work	s, 19	935 69
	Lakefield.		I Pollock.Box 445, Brampton.anChesterville.Morewood.Morewood.R. R. 2, St. Anns.eelR. 2, St. Anns.ielMilverton.rR. R. 2, Milverton.rR. R. 2, Milverton.115 Cameron St. N., Kitchener.		Sault Ste. Marie.340 University Ave., Toronto.Brnest CraigP. MacDonaldP. MacDonaldGeo. S. Cowie.		mical use) C. K. MacFetridge Amherstrurg. al use and salt)
NEPHELINE SYENITE	Lot 14, con. IX, Methuen tp., Peterbor- H. R. Deeth Lakefield.	PEAT	Lot 27, con. I, Caledon tp., Peel coBurbidge and Pollock. Box 445, Brampton.Lot 22, con. IX, Winchester tp., Dundas co.G. CountrymanE. ½ lot 20, W. ½ lot 21, Winchester tp., J. FlemingMorewood.E. ½ non IV, Wainfleet tp., Welland co.Morewood.Lot IS, con. VII. Winchester tp., Dundas co.W. L. HummelR. R. 2, St. Anns.R. R. 2, St. Anns.Lot IS, con. VII. Winchester tp., Dundas co.W. L. HummelLot II, con. XII, Winchester tp., Dundas co.W. L. HummelLot II, con. XIV, Ellice tp., Perth coW. LeasaLot II, con. XIV, Elma tp., Perth coW. B. BrewerLot 35, con. XIV, Elma tp., Perth coA. RunkeLot 55, Waterloo tp., Waterloo coA. RunkeLot 55, Waterloo tp., Waterloo coA. Runke	QUARTZ, QUARTZITE, AND SILICA BRICK	Silica brick (quartz from Deroche tp.)Sault Ste. Marie.Killarney, north shore of Lake Huron, East Neebish island (idle).940 University Ave., Toronto.Rast Neebish island (idle).Ernest CraigFalconbridge.Quarry on propertyP. MacDonald.Hybla.Quarry, Deroche tp., Algoma distP. MacDonald.960 Queen St., Sault Ste. Marie.	SALT	Amherstburg (brine for chemical use) C. K. MacFetridge Amherstburg. Sandwich (brine for chemical use and salt) W. H. Spence, Box 1260, Montreal, Que. Sarnia Box 1260, Montreal, Que. Sarnia Coderich Rincardine (operated by Canadian Indus- C. Walker, Pres. Port Franks. London. Highway No. 7, Warwick tp., Lambton co. B. Witkon B. Witkon 287 MacPherson Ave., To.
	Canadian Nepheline, Ltd		Caledon Peat Co. Countryman, Gordon Fleming, John Hodgkins and Son, H. L. Leasa, Wm Northern Peat Co. Roe, Stephen Runke and Sons, Geo.		Algoma Steel Corporation, Ltd Dominion Mines and Quarries, Ltd Falconbridge Nickel Mines, Ltd MacDonald, P.		Brunner Mond, Canada, Ltd Canadian Industries, Ltd Dominion Salt Co., Ltd Goderich Salt Co., Ltd Kincardine Salt, Ltd. (idle in 1935) Walker Salt Corporation, Limited ¹ Warwick Pure Salt Co., Ltd Western Canada Flour Mills Co., Ltd

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List of Mines, Quarries, and Works, 1935

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Address		Madoc. Madoc.			Box 290, Station B, Montreal, Que. 357 Bay St., Toronto.		R.R. 4, Chesley. R.R. 1, Golden Lake. 491 9th Ave. E., Owen Sound. Amherstburg. Carleton Place. 114 Cluny Drive, Toronto. Wallaceburg. Chatham.	1221 Day St. 1 oronto. 1689 7th Street W., Owen Sound. 941 Dominion Square Bldg., Montreal. Upper James St., Hamilton. Beachville.	Hora. Hespeler. Milton. Limehouse.
Manager		Roy Taylor	S		Box 290, Station B,] 357 Bay St., Toronto.		Harry Bell Albert G. Biederman Wm. Brown C. K. MacFetridge W. M. Cameron Chas. R. Christie	D. S. Dams. Miss M. Chalmers.	C H Douring
MINE, PLANT, OR QUARRY	TALC	Connolly—mill at mine Henderson mine—mill at Madoc	STRUCTURAL MATERIALS	CEMENT	Belleville, plant No. 5 (idle in 1935) Lakefield, plant No. 7 (idle in 1935) Port Colborne, plant No. 8	LIME	van tp., Grey co. o	Owen Sound (idle in 1935) Bganville Hamilton (idle in 1935) Beachville Beachville	: : : :
OPERATOR		Canada Talc Co., Ltd			Canada Cement Co., Ltd St. Marys Cement Co., Ltd		Bell, Harry. Biederman, Albert G. Brown's Lime Works. Brunner Mond, Canada, Ltd. Cameron, W. M. Canada Lime Co., Ltd. Canada and Dominion Sugar Co., Ltd.	Calladar Oypsun Co, Lu.	Gypsum, Lime and Alabastine, Canada, Ltd Innerkin Lime and Stone Co., Ltd.

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d Renfrew. 82 Cremazie St., Hull, Que. Delta. Niagara Falls, Ont. Eganville. R.R. 2, Priceville.		Smiths Falls.HaliburtonBox 60, Rmbrun.geBox 60, Rmbrun.Box 60, Rmbrun.Box 50, Rmbrun.Box 50, Rmbrun.Box 148, Niagara Falls.nHagersville.Dundas.Box 148, Niagara Falls.L49 Wellington St. E., Toronto.52 Elgin St., Hamilton.52 Elgin St., Hamilton.52 Elgin St., Hamilton.52 Elgin St., Marys.Freet and Bathurst Streets, Toronto.Kirkfield.St. Marys.Fergus.St. Wellington St. N., Woodstock.Milton.Hagersville.Milton.Casselman.Hagersville.Milton.St. Wellington St. N., Woodstock.Milton.Cummings Bridge.
J. A. Jamieson A. B. Robillard S. Morris Geo. H. Dennis H. Weppler	(BLE)	F. R. Billie. P. H. Bolender I. W. Bohrer I. C. K. MacFetridge der- C. K. MacFetridge J. H. Legate J. H. Legate J. Stephens Godon Gilbertson A. Michte A. M
RenfrewJ. A. JamiesonDuarriesDuarriesDeltaA. B. RobillardDettaS. MorrisDuarry at Beachville, kilns at Niagara FallsMorrisDuarry at Beachville, kilns at Niagara FallsMorrisDuarry at Beachville, kilns at Niagara FallsMorrisLot 5, con. X1, Bramosa tp., Wellington co. Geo. H. DennisGeo. R. ShaneLot 7, con. II, Glenelg tp., Grey co., (idleH. Wepplerin 1935).in 1935).	STONE (Limestone and Marble)	A. The Perth Smiths Falls. A. The Marmora tp., Hastings co. P. H. Bolender Haliburton. A. The Marmora tp., Hastings co. P. H. Bolender Box 61, Marmora. Diregton, con. VII, Russell tp., Russell co. J. B. Bourgie Box 61, Marmora. Lots 6, 7, 8, con. 11, lots 2, 3, con. 11, Ander- C. K. MacFetridge. Box 61, Marmora. Lucks from of Thurlow tp., Hastings co. J. H. Legette Belleville. Regression Walpole tp., Haldinand co. Gordon Gilbertson Buddas. F. J. Dundas. Margara tp., Jincoln co. Dundas, Town of Stephens Box 148, Niagara Falls. Foronto. Niagara tp., Jincoln co. Dordon Gilbertson Buddas. A. Michne Box 148, Niagara Falls. Niagara tp., Jincoln co. Decewsville (idle in 1935) A. Michne Box 148, Niagara Falls. Decewsville (idle in 1935) A. Michne Box 148, Niagara Falls. Toronto. Stevens quarry, 2 miles south of Hawkes C. H. Covey 248 Albert St., Ottawa. Durds. St. Marys E. H. Salmon Fleet and Bathurst Streets, T Walpole tp., Haldinand co. Nithe St. Marys.
Jamieson Lime Co		Billie and Son, Chas. V Ferth F. R. Billie Smiths 1 Bolter Markers P. H. Bolter

12	Department of Mines	No.
Address	 Smiths Falls. Parliament Bldgs., Toronto. Alexandria. Alexandria. Alexandria. Box 22, Kingston. 215 Sussex St., Ottawa. Longford Mills. Toronto. Magava Falls. Ont. Verona. Stevensville. Londas Square., Toronto. Maeria. Lindsay. Ridgeway. 	Garden St., Gananoque. Smiths Falls. Butler, via Ignace.
Manager		NE (GRANITF) T. A. Appleby Garden St., Ganan F. R. Billie Butler, via Ignace.
QUARRY OR LOCATION	STONE (LIMESTONE AND MARBLE)—Continued Kitley tp., Leeds co. (idle in 1935) M. G. Henniger Various quarries. R. M. Smith. See Dufferin Paving and Crushed Stone Co. R. M. Smith. Near Centreville (idle in 1935) R. M. Smith. Portsmouth. R. M. Smith. Portsmouth. Samuel Donaldson See Dufferin Paving and Crushed Stone Co. R. M. Craig See Dufferin Paving and Crushed Stone Co. R. M. Craig See Dufferin Paving and Crushed Stone Co. R. M. Craig See Dufferin Paving and Crushed Stone Co. R. M. Craig See Dufferin Paving and Crushed Stone Co. R. M. Craig See Dufferin Paving and Crushed Stone Co. R. M. Craig See Dufferin Paving and Crushed Stone Co. R. M. Craig Owen Sound and Collingwood B. J. Williams One V, Orillia tp., Simcoe co. R. W. Peacock One V, Orillia tp., Simcoe co. R. W. Peacock Collins Bay, Frontenac co. R. W. Peacock Conn V, Orilla tp., Wellachbury B. J. Williams Portland tp., Frontenac co. S. H. Orser Portland tp., Frontenac co. S. H. Orser Portland tp., Frontenac co. S. H	STONE (GRANTTE)Leeds co. (idle in 1935)Leeds co. (idle in 1935)Bathurst tp., Lanark co.ButlerButler
Operator	STONE (LMESTONE AND MABLE)—Continued Henniger, M. G. Henniger, M. G. Highways, Department of Irvine Co., Itd., The T. Sidney Kitley tp., Leeds co. (idle in 1935) M. G. Henniger. Irvine Co., Itd., The T. Sidney Near Centreville (idle in 1935) R. M. Smith. Frivine Co., Itd., The T. Sidney Near Centreville (idle in 1935) R. M. Smith. Kinsfeld Crushed Stone Co R. M. Smith. Near Centreville (idle in 1935) R. M. Caig Kinkfeld Crushed Stone Co., Itd. Near Centreville (idle in 1935) R. M. Caig Samuel Donaldson. Lake St. John Quarry Co., Itd. Near Construction Co., Itd. Near Construction Co., Itd. M. C. Lapierre Lake St. John Quarry Co., Itd. Sae Dufferin Paving and Crushed Stone Co. R. M. Craig Lake Construction Co., Itd. Reader village and Collingwood R. W. Planeson. Law Construction Co., Itd. North American Cyanamid Co. M. C. Lapierre North American Cyanamid Co. North American Cyanamid Co. M. C. Lapierre North American Cyanamid Co. North American Cyanamid Co. M. C. Lapierre North American Cyanamid Co. North American Cyanamid Co. M. C. Lapierre North American Cyanamid Co. North Amer	Appleby, Thos. A. Billie, Chas. V. Horne, Wm.

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Department of Mines

No. 4

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	Westboro. Terra Cotta. Box 400, Georgetown. Limehouse. Georgetown. Terra Cotta.		Verona, Ont. City Hall, Fort William. R.R. 3, Havelock.		Fleet St., Toronto. Mount Dennis. 897 Bay St., Toronto. 447 Victoria Park Ave., Toronto.		Midland. Chatham. Box 148, Port Arthur. 47 Wellington St., Chatham. Brock St., Sault Ste. Marie. 12 Industrial St., Leaside. 635 Common St., Montreal, Que. 402 Harbour Bldg., Toronto. 20 Thomas St., Brockville. 16 New St., Hamilton. Wallaceburg.
	M. N. Cummings A. A. Corner. H. Logan A. W. Norton Thos. Sykes. J. L. Craine		A. de Wolfe City Engineer H. L. Scott.		K. M. Goodings Jas. H. Hinde W. A. Smyth	ng Operations)	
STONE (SANDSTONE)	Carleton co.M. N. CummingsWestboro.Peel co.A. A. CornerTerra CottaGeorgetownH. LoganBox 400, GeHalton co.Thos. Sykes.Georgetown.Halton co.J. L. Craine.Terra Cotta	STONE (Trap)	Portland tp., Frontenac co.A. de Wolfe.Verona, Ont.Rifle range, City quarry.City EngineerCity Hall, Fort William.Belmont and Methuen tps., PeterboroughH. L. Scott.R.R. 3, Havelock.co.co.co.	SAND-LIME BRICK	Fleet St. at BathurstK. M. Goodings134 Northland Ave., TorontoJas. H. HindeScarboroughW. A. Smyth447 Victoria Park Ave., TorontoW. A. Smyth	SAND AND GRAVEL (LICENSED DREDGING OPERATIONS)	Lake Superior Thames Tiver Thames Superior Take Superior Lake Superior Lake Brie Lake Brie St. Lawrence river St. Lawrence river St. Lawrence river St. Clair river
	Campbell Sandstone Quarries, Ltd. Corner, Austin A Logan, Harry. Norton, A. W. Sykes, Thos. Terra Cotta Quarries.		Building Products, Ltd. Fort William, City of		Harbour Brick Co., Ltd. Hinde Bros. Toronto Brick Co., Ltd. York Sandstone Brick Co., Ltd.		Canadian Dredging Company Cowley, Mrs. K. Cowley, Mrs. K. Cowley, Mrs. K. Cowley and Lake Services, Ltd. Hadley's Chatham, Ltd. McLean and Sons, A. B. McNamara Construction Co., Ltd. Montreal Trust Co., Ltd. (Trustee for Sin-Mac Montreal Trust Co., Ltd. (Trustee for Sin-Mac Pyke Salvage Co. Pyke Salvage Co. Simpson and Sons, J. H Tees Transit Co., Ltd. Wallaceburg Sand and Gravel Co., Ltd.

List of Mines, Quarries, and Works, 1935

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Address		wn, Brantford 243 Cumberland Ave., Hamilton. 243 Cumberland Ave., Hamilton. 402 Harbour Bldg., Toronto. r tps., Carleton co. 86 Spadina Ave., Ottawa. k tp., York co. 134 Northlands Ave., Toronto. anide tp., Elgin co. H. Newall k tp., York co. 60 Carlton St., Toronto.		 243 Cumberland Ave., Hamilton. 15 Park St., Stratford. Belle River. Main St. N., Brampton. Box 137, Kingsville. 195 Ottawa St. S., Hamilton. 195 Ottawa St. S., Peterborough. 18 R. 4, Thorndale. R.R. 1, Greenock. Wilkesport.
Manager	RATIONS)	H. Newall.	_	W. P. Barnes W. P. Barnes C. H. Packham B. F. Broadwell J. C. Wright. H. W. Chapman H. W. Chapman H. Y. Harvay G. C. Henderson H. T. Harvay John Curtis Edwin Curtis. Albert Deller Wm. H. Deller Wm. H. Deller Mfred Deller Mfred Deller T. G. Donaldson J. P. Douglas.
Pit or Works	SAND AND GRAVEL ¹ (Pit Operations)	Spring Vale, Waterdon Paris Durham. Fuller. Waterford. Northlands Ave., Yorl Whitby tp., Ontario co Lot 35, con. VIII, Ma Lambton Rd., Etobicc Essex co	listed. CLAY PRODUCTS	Hamilton W. P. Barnes Lot 44, con. I, Hope tp., Durham co W. P. Pougnet Lot 12, con. IV, Gosfield S. tp. Essex co W. V. Pougnet Lot 12, con. IV, Gosfield S. tp., Essex co B. E. Broadwell Lot 2, con. IV, Gosfield S. tp., Essex co B. E. Broadwell Keppel tp., Grey co B. F. Broadwell Keppel tp., Grey co H. T. Packham Hort Ave., S., Hamilton J. C. Wright. Lot 2, con. II, East York tp., York co H. W. Chapman Hort Ave., North York tp., York co H. T. Harvay. Lot 21, con. III, Bosanquet tp., Lambton co G. C. Henderson Wilson Ave., North York tp., York co J. T. Harvay. Lot 23, con. V, Ops tp., Victoria co John Curtin Lot 15, con. V, Ops tp., Wictoria co John Curtin Lot 5, con. V, Nissouri tp., Middlesex co Mibert Deller Lot 5, con. XII, Norwich tp., Albert Deller Lot 19, con. XIV, Culross tp., Bruce co Co. E. Baker Lot 19, con. XIV, Sombra tp., Lambton co. J. P. Douglas.
Operator		Barnes Co., Ltd., Wm. R. Consolidated Sand and Gravel, Ltd. Durham Stone and Sand Co., Ltd. Fuller Gravel, Ltd. Waterford Sand and Gravel Co., Ltd. Foster, R. R. Finde Bros. Jupp Construction Co., Ltd., A. E. Newall, H. Smythe Ltd., C. Woollatt Fuel and Supply Co., Ltd.	10nly operators producing 5,000 tons or over are listed	Barnbard, W. H. 243 Cumberland A Barnhard, W. H. 243 Cumberland A Barnhard, W. H. 20144, con. I, Hope tp., Durham co. 28 Barnhard. 243 Cumberland A Barnhard, W. H. Lot 44, con. I, Hope tp., Durham co. 28 Barnhard. 25 Park St., Stratt Barnpton Pressed Brick Co. Lot 44, con. I, Hope tp., Durham co. 28 Barnhard. 25 Park St., Stratt Brangton Pressed Brick Co. Lot 12, con. IV, Gosfield S, tp., Essex co. E. Broadwell and Son, B. 243 Cumberland A Broadwell and Son, B. Lot 12, con. IV, Gosfield S, tp., Essex co. E. Broadwell Broadwell Brick Co. 28 Barlbow Lake. 160 Datawas St. S., Vright. Canadian Pressed Brick Co. Reiniwork have. Bart York tp., York co. H. W. Pougnet. 195 Ottawas St. S., Canstron Casemore and Son, R. Lot 21, con. III, Bosanquet tp., Lambton co. C. Henderson. 145. Con. York co. 146. Constron 145. Con. York co. 147. Ha

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Department of Mines

20 South St., Chatham. 519 Wellington St. S., Sault Ste. Marie. Glenannan. Fort William. Main St. W., Hamilton. 415 Dundurn St. S., Hamilton. Carleton Place. Powassan.		Dutton. Box 3, Petrolia. Box 308, Huntsville. 672 Dupont St., Toronto.		Pembroke. St. Clements. R.R. 2, Wallaceburg. R.R. 2, London. R.R. 5, Watford. Forest. I48 Jane St., Toronto. R.R. 3, Napanee. 96 Bloor St. W., Toronto. 44 Victoria St., Toronto.
nt co. James McHardy Jas. Elliott, Jr Wm. Elliott M. M. Piper S. Foster Arthur Frid Thos. Godfrey arry F. A. Gomoll		Mrs. J. H. Hodder Chas. H. Stevens W. E. Secker	W. B. Jackson	Lorne J. Fraser loo co. J. Z. Koebel co co co Geo. C. Lindsay sex co. Geo. T. L. McComb n co R. Wheeler co co John Moulton x and R. L. Chapman E. M. Campbell ghtp. R. H. New
in Rd., Dover tp., Kent co. ma dist Culross tp., Bruce co ort William din Sts., Hamilton S. Himsworth tp., Parry		Lot 9, con. A, Dunwich tp., Elgin co King St., Petrolia. Sydenham Ave., Brigden Lot 8, con. I, Chafiey tp., Muskoka dist Cooksville Milton, lots 1-46, Nassagaweya tp., Halton.	, Chinguacousy tp	Stafford tp., Renfrew co
Dover Brick and Tile Works. Elliott, Jas. J. Fort William Brick Co. Foster Pottery Co. Frid Bros., Ltd. Godfrey and Co., Thos Gomoil Brick and Tile Works.	Grimsby Brick and Tile Works. Hallett, B. E. Hamilton Presed Brick Co. Harper Brick Works. Hill, A. W. Hill, Aaron. Hitch, D. A.	Hodder and Sons	Jackson, W. B. Jamieson Lime Co. James, D. A.	Johnson, James, Estate of Koebel Bros

Operator	Works	Manager	ADDRESS
	CLAY PRODUCTS-Continued		
New Liskeard Brick Works. Ontario Brick and Tile Plant. O'Reilly, T. E. Ott Brick and Tile Mfg. Co., Ltd. Ott Brick and Terra Cotta Co., Ltd. Ottawa Brick and Terra Cotta Co., Ltd. Owen Sound Brick Co., Ltd. Parks Tileyard, The H. W. Parks Tileyard, The H. W. Phinn, Geo. A. Phinn, Geo. A. Phippen and Sons. Phippen and Sons. Phippen and Sons. Standard Brick Co., Ltd. Superior Brick and Tile Co., Ltd. Wagstaff, Chas., Estate of Wallace and Son, R. Wein, Aaron. Weitzel, J. E.	New Liskeard New Liskeard Near Town of Mimico. Wm. L. McJannet. Inspector of Prisons, Parliament Bldgs., Toronto. Prescott Highway, Nepean tp., Carleton co. Owen O'Reilly 320 Bay St., Toronto. Ritchener. Lot 19, Gloucester tp., Carleton co. Owen O'Reilly 320 Bay St., Toronto. Lot 19, Gloucester tp., Carleton co. Casper Braun 16 Andrew St., Ritchener. 32 Cameron St., Ottawa. Lot 19, Gloucester tp., Carleton co. P. Lesle. Owen Sound. Deve. Sound. Lot 19, Gloucester tp., Carleton co. P. Lesle. Owen Sound. Lot 19, Gloucester tp., Carleton co. P. Lesle. Owen Sound. Lot 19, Gloucester tp., Carden tp., Kent co. P. Lesle. Owen Sound. Lot 17, con. V, Camden tp., Kent co. P. Lesle. Owen Sound. Lot 11, con 1, Thurlow tp., Hastings co. D. W. Rolins. Box 11, Coleman P.O., Toronto. Lot 11, con 1, Thurlow tp., Hastings co. D. W. McIshar the Box 11, Coleman P.O., Toronto. Lot 11, con 1, Thurlow tp., Hastings co. D. W. Reihardon Box 11, Coleman P.O., Toronto. Lot 11, con 1, Thurlow tp., Hastings co. D. W. Reihardon Box 14, Sont W. Lot 11, con 1, Thurlow tp., Hastings co. D. W. M. Sproat. </td <td>David Dunn. Wm. L. McJannet. Wm. L. McJannet. Carleton co. Owen O'Reilly 1 co. 1 co. 1 co. 1 P. Leslie. 1 P. V. Phippen. 1 Fred R. Phinn. 1 Fred R. Phinn. 1 Fred R. Phinn. 2 N. Rollins. 2 N. M. Sproat. 3 Stings co. 1 H. M. Sproat. 3 Stings co. 1 H. M. Baukey. 2 Nipissing 1 Coronto General 1 Trusts Corp. 3 Kord co. 1 Huron co. 1 Noright.</td> <td> Box 74, New Liskeard. Inspector of Prisons, Parliament Bldgs., Toronto. 320 Bay St., Toronto. 16 Andrew St., Ritchener. 32 Cameron St., Ottawa. 32 Cameron St., Ottawa. 22 Cameron St., Ottawa. 23 Cameron St., Duradon. R.R. 2, Dresden. R. 2, Dresden. Box 11, Coleman P.O., Toronto. 33 Strathmore Blvd., Toronto. 33 Strathmore Blvd., Toronto. 33 Strathmore Blvd., Toronto. 33 Strathmore Blvd., Toronto. 253 Bay St., Toronto. 253 Bay St., Toronto. R.R. 1, Tavistock. Crediton. R.R. 1, Tavistock. </td>	David Dunn. Wm. L. McJannet. Wm. L. McJannet. Carleton co. Owen O'Reilly 1 co. 1 co. 1 co. 1 P. Leslie. 1 P. V. Phippen. 1 Fred R. Phinn. 1 Fred R. Phinn. 1 Fred R. Phinn. 2 N. Rollins. 2 N. M. Sproat. 3 Stings co. 1 H. M. Sproat. 3 Stings co. 1 H. M. Baukey. 2 Nipissing 1 Coronto General 1 Trusts Corp. 3 Kord co. 1 Huron co. 1 Noright.	 Box 74, New Liskeard. Inspector of Prisons, Parliament Bldgs., Toronto. 320 Bay St., Toronto. 16 Andrew St., Ritchener. 32 Cameron St., Ottawa. 32 Cameron St., Ottawa. 22 Cameron St., Ottawa. 23 Cameron St., Duradon. R.R. 2, Dresden. R. 2, Dresden. Box 11, Coleman P.O., Toronto. 33 Strathmore Blvd., Toronto. 33 Strathmore Blvd., Toronto. 33 Strathmore Blvd., Toronto. 33 Strathmore Blvd., Toronto. 253 Bay St., Toronto. 253 Bay St., Toronto. R.R. 1, Tavistock. Crediton. R.R. 1, Tavistock.

MINES OF ONTARIO IN 1935

By

Chief Inspector of Mines, D. G. Sinclair, Toronto; Inspectors, E. C. Keeley, Kirkland Lake; D. F. Cooper, Sudbury; E. B. Weir, Timmins; A. R. Webster, Toronto

CHROMIUM

Chromium Mining and Smelting Corporation, Limited

The Chromium Mining and Smelting Corporation, Limited, was incorporated in 1934, succeeding the Chromium Alloy Company, Limited. It has an authorized capitalization of 3,000,000 shares of no par value, of which 1,500,000 have been issued. The officers and directors of the company are: A. R. Globe, president and managing director; R. O. Denman, secretary-treasurer; F. J. Maw, R. S. Hart, and Scott Misener, directors.

The mine property is situated 26 miles south of Collins, a station on the main line of the Canadian National Railways, Thunder Bay district. The holdings include 12 patented claims and 35 unpatented claims, making a total area of about 1,900 acres.

Development work done on the property to date includes a large amount of surface-trenching, diamond-drilling, and underground development from a shaft 350 feet in depth. From the 100-foot level of this shaft 500 feet of crosscutting and 120 feet of drifting have been done. Stations have also been cut at the 225-foot and 325-foot levels. No underground work was done at the mine in 1935.

Several ore zones have been found on the property. The largest and most extensively developed is known as the "E" zone, in which the 350-foot shaft has been sunk. In 1934, 12 diamond-drill holes, with total footage of 3,146 feet, were drilled in this zone. Officials of the company have stated that work done in this zone has indicated 225,000 tons of ore, 17 per cent. Cr₂ O₃, in a section 770 feet in length and 300 feet in depth. The total amount of diamonddrilling done on the property is 6,150 feet in 33 holes. Ten of these holes were drilled in 1929–30; the remainder in 1934. Work at the property in 1935 consisted chiefly of surface work and the making of a tractor road between the mine and Collins, a distance of 26 miles.

In May, 1935, the refining and smelting plant of Superior Alloys. Limited, at Sault Ste. Marie, Ont., was purchased.

The following is taken from the company's first annual report:-

After alterations and repairs, silicon operations were started on June 23, and chromium on August 23. This plant was built in 1929 for the production of ferro-alloys, and a considerable amount of manganese ore was treated prior to the general slump in that year. In the fall of 1934, operations were again resumed in the production of silicon mainly for overseas markets.

The building is of the usual steel construction which is used in furnace rooms for operations of this type, floor space being 60 by 160 feet. At the time this plant was taken over, there was in operation, one 3,000 k.w. electric furnace producing ferro-silicon, and transformers and other electrical equipment for a second furnace suitable for the smelting of chromium ore. From this equipment, together with the furnace from Niagara Falls, N.Y., a furnace for the chromium smelting has been assembled. In addition to the above, there is a considerable quantity of furnace parts which can be brought together later for more capacity. The plant having been originally designed for the production of ferro-alloys, extensions and additions may be added with a minimum amount of alterations. The capacity of this plant is 350 tons of ferro-silicon per month at the present time. This is being marketed through well-established channels. Dependent upon the type of alloy processed, from 60 to 200 tons of chromium alloy is being produced monthly. A third furnace is being made ready for chromium and will add to the capacity. In addition to the purchase of the plant of Superior Alloys, Limited, the company also secured by lease, with option to purchase, the FitzGerald laboratory, which adjoins your furnace plant. The FitzGerald Testing Laboratory is fully equipped with chemical laboratory, two electrical furnaces, and the usual allied equipment for research work. The plant also includes one of the finest libraries of its kind in Canada, the Fitzgerald Memorial and Metallurgical Library.

Ore milled in 1935 amounted to 1,200 tons. Early in 1935, 750 tons of chromium ore was hauled to Collins from the mine by tractor. This was stockpiled at Collins. Nine cars, a total of 400 tons, of this stock was drawn on during the year.

The average number of men employed during 1935 at the mine was 20. During the last seven months of the year an average of 44 men was employed at the smelter. A. R. Globe is general manager of the company's operations. The mine address is Collins.

GOLD

Algold Mines, Limited

Algold Mines, Limited, was incorporated in February, 1934, with an authorized capitalization of 2,500,000 shares of no par value. A first mortgage bond issue of \$270,000, issued by New Goudreau Mines, Limited, stands against the property. The officers and directors are: W. R. Knox, president; J. G. Merrick, secretary-treasurer; J. J. Gray, M. C. Van der Voort, and Wm. Edwards, directors. The head office is at 45 Richmond Street West, Toronto.

The property is located in township 28, range 26, district of Algoma. By road, it is about 6 miles west of Goudreau on the Algoma Central railway. The mine address is Goudreau.

Previous operators sank a 425-foot and a 200-foot shaft, both of which are 2-compartment, 70-degree shafts. They established levels at 100, 120, 140, 200, and 400 feet, and mined two small stopes on the 100-foot level.

Algold Mines, Limited, started work in July, 1934. Underground operations were carried on from August, 1934, until the end of February, 1935, suspended until July, and then carried on until December, when they were again suspended.

Level	Drif	ting	Crosse	utting	Raising	
Level	1934-35	Total	1934-35	Total	1934-35	Total
100-foot	feet 365	feet 865 35	feet 40	feet 95	feet	feet
140-foot 200-foot 400-foot	$35 \\ 318$	$110 \\ 1,388 \\ 470$	$\begin{array}{c} 15\\ 40\\ \ldots\end{array}$	$\begin{array}{r}15\\625\\150\end{array}$	110	110
Total	718	2,868	95	885	110	110

The development work accomplished by this company from August, 1934, to the end of 1935, and the total in the mine at the end of 1935, on the various levels, was as follows:—

The plant included a 1,100-cubic-foot Ingersoll-Rand electric compressor, and an $8\frac{1}{2}$ - by 10-inch air hoist.

An average of 12 men was employed during 1935. R. F. Mitchell was in charge, except for a short period during which Frank Williams had charge.

Anglo-Huronian, Limited

Anglo-Huronian, Limited, incorporated in 1933, has an authorized capitalization of 2,000,000 shares of no par value, of which 1,252,605 are issued. The officers and directors are: André Dorfman, president; J. H. Black, vice-president; J. Ingram, secretary-treasurer; G. C. Andrew, J. Ritchie, R. D. Stewart, F. H. Hamilton, E. Turk, and Sir A. Hamilton Grant, directors. The head office is at 80 King Street West, Toronto.

The company owns and operates the Vipond mine, which lies south of and adjacent to the Hollinger mine in Tisdale township, district of Cochrane. The following table shows the development work done on the various levels to July 31, 1934; the work accomplished during the last fiscal year, August 1, 1934, to July 31, 1935; and the total:—

	Previous to August 1, 1934			From August 1, 1934, to July 31, 1935			Total		
Levels	Drifts	Cross- cuts	R:.ises¹	Drifts	Cross- cuts	Raises	Drifts	Cross- cuts	Raises
	feet	feet	feet	feet	feet	feet	feet	feet	feet
100-foot	3.250	1.605		59		36	3,309	1,605	36
200-foot	7.089	5,703	157	25		54	7,114	5,703	211
300-foot		2,021	815	11		216	7,010	2,021	1,031
400-foot	7,601	5,005	579	180		226	7,781	5,005	805
500-foot		5,287	757	20		113	8,213	5,287	870
600-foot		2,797	371	250	157	457	4,695	2,954	828
733-foot		2,270	666	314	226		4,757	2,496	666
866-foot	2,736	4,689	208			17	2,736	4,689	225
1,000-foot	3,888	5,336	10	664	609	186	4,552	5,945	196
1,200-foot	3.750	1,895	218	324	12	220	4,074	1,907	438
1,450-foot	2,807	2,131	1,227	622	192	12	3,429	2,323	1,239
	55,201	38,739	5,008	2,469	1,196	1,537	57,670	39,935	6,545

DEVELOPMENT WORK BY LEVELS TO JULY 31, 1935

¹No record available previous to August 1, 1931.

No shaft-sinking or winzing was done during the year, but for purposes of comparison with the preceding table a summary of the work on shafts and winzes to July 31, 1934, is set out below:—

SHAFT-SINKING AND WINZING TO JULY 31, 1935

	Feet
North Thompson (No. 3) shaft	1,200
North Thompson (No. 3) winze (an extension of No. 3 shaft)	250
Vipond (No. 1) shaft	400
Vipond (No. 4) winze (from the 300- to the 500-foot level)	200
Crown (No. 2) shaft	500
Crown (No. 5) winze (inclined, from the 500- to the 900-foot level)	400
Crown (No. 6) winze (from the 900- to the 1,100-foot level)	200

Diamond-drilling done between August 1, 1934, and July 31, 1935, amounted to 17,484 feet. In the same period the mill treated 104,764 tons of ore, which yielded \$277,238.73, valuing gold at \$20.67 an ounce. Previous to August 1, 1934, the total tonnage treated from the mine was 1,342,808 tons, which yielded \$10,583,956.49.

The average number of men employed at the Vipond mine in 1935 was 149, of this number 106 worked underground, 17 in the mill, and 26 on surface. Robt. E. Dye was manager throughout the year; and was succeeded early in 1936 by W. R. Adam. The mine address is Timmins.

Arbade Gold Mines, Limited

Arbade Gold Mines, Limited, has an authorized capitalization of 3,500,000 shares of \$1 par value, of which 2,112,939 have been issued.

The officers and directors are: C. A. Floyd, president; C. C. Floyd, secretary-treasurer; D. E. Sanderson and J. F. Kilawee, directors. The head office is at 10 Adelaide Street East, Toronto. The mine address is Matachewan.

The company owns 39 claims in Argyle and Baden townships, district of Timiskaming.

During 1935 a programme of surface development and diamond-drilling was carried out on the southwest group of claims. A mining plant was erected, and camps to accommodate 50 men were completed. A shaft was sunk to a depth of 60 feet.

An average of 7 men was employed.

Ardeen Gold Mines, Limited

Ardeen Gold Mines, Limited, was incorporated in December, 1933, with an authorized capitalization of 3,000,000 shares of \$1 par value. In 1935 the capitalization was increased to 4,000,000 shares of \$1 par value. The officers and directors are: H. G. White, president; Wm. Taylor, secretary-treasurer; Dr. V. M. Pierce, A. R. Miller, Jr., J. J. McInerney, C. G. Greenshields, James Cooper, and R. E. Allan, directors. The executive office is at 132 St. James Street West, Montreal, Que.

The property is located in Moss township, district of Thunder Bay, and is $18\frac{1}{2}$ miles by road from Tip Top Spur on the Fort Frances branch of the Canadian National Railways.

Underground operations, which had been suspended in January, 1935, were resumed in August. Milling was resumed in the middle of November.

The lateral work accomplished from the resumption of operations until the end of the year consisted of 581 feet of drifting and 47 feet of crosscutting on the 1,000-foot level. Stoping was done on the 875- and 1,000-foot levels. A total of 3,871 feet of diamond-drilling was also done.

During November and December the 200-ton cyanide mill treated a total of 3,970 tons of ore.

An average of 28 men was employed during 1935 under the direction of W. R. Osborne. The mine address is Tip Top Spur, via Port Arthur.

Argosy Gold Mines, Limited

Argosy Gold Mines, Limited, incorporated in May, 1935, has an authorized capital of 3,000,000 shares of \$1 par value, of which 1,489,905 shares were outstanding on December 31, 1935. The officers and directors are: F. L. Tretheway, president; J. B. Tyrrell, vice-president; V. H. Emery, managing director; A. L. Bishop and J. A. Wilson, directors. L. Appleyard is secretary-treasurer. The head office of the company is at 8 Wellington Street East, Toronto. The mine office address is Casummit Lake, via Sioux Lookout.

The property held by Argosy Gold Mines, Limited, consists of 21 claims at Casummit lake, about 100 miles north of Sioux Lookout in the Patricia portion of Kenora district. This property was purchased from Casey Summit Gold Mines, Limited, in May, 1935, along with all the other assets of that company. Argosy Gold Mines, Limited, also assumed all liabilities of its predecessor company. Argosy Gold Mines, Limited, commenced dewatering the mine shaft on May 23. Underground development work was started on June 18. Development work on the partly explored No. 2 vein was continued on the 300-foot level, and a winze was started on the vein from this level to establish new levels at 400 feet and 500 feet. A crosscut was also started on the 300-foot level to intersect the No. 3 vein, which had not previously been developed underground.

Equipment was ordered late in the year to alter the 50-ton amalgamation mill, built and operated for a short time by Casey Summit Gold Mines, Limited, to a 75-ton cyanide mill.

Steam and Diesel engine power are used at this mine. When underground work was resumed, the new company installed a 650-cubic-foot air compressor with direct connection to a 150 h.p. Diesel engine. No other important changes were made in the mining plant.

An average of 42 men was employed at this mine from May, 1935, to the end of the year. R. Massey Williams is mine manager.

Ashley Gold Mining Corporation, Limited

The Ashley Gold Mining Corporation, Limited, has a capitalization of \$3,000,000, in shares of \$1 par value. The officers and directors are: J. H. C. Waite, president; G. C. Ames, secretary-treasurer; Charles McCrea, C. G. McCullagh, W. R. P. Parker, E. H. Rose, and C. E. Trafford, directors. M. F. Fairlie is managing engineer. The head office is at 350 Bay Street, Toronto. The mine address is Elk Lake.

The mine in Bannockburn township, district of Timiskaming, was operated continuously throughout the year.

The following is taken from the report of the president for the year ending December 31, 1935.—

Operating profits amounted to \$54,205.69, as against \$60,428.92 in the previous year. After writing off prior development costs of \$63,607.11 and transferring \$4,000.00 from contingency reserve, there was a net loss of \$5,311.42. Net liquid assets increased by \$77,513.22 during the year and amounted to \$159,683.89 at December 31.

Development of new ore did not keep pace with production, and ore reserves decreased both in tonnage and grade. Estimated reserves at the end of the year amounted to 10,760 tons, averaging slightly less than 0.3 ounces per ton. In addition, there is a considerable quantity of backfill from the initial stoping operations, which, at the current price for gold and with mining costs written off, can be handsorted and treated at a small profit.

There were 47,367 tons of ore, with an average grade of 0.2636 ounces per ton, milled during the year, as compared with 43,532 tons averaging 0.315 ounces in 1934. The value of bullion produced amounted to \$440,553.70, against \$456,831.86 in the previous year. The total value of bullion shipments to the end of 1935 was \$1,465,495.97.

The cost per ton of ore milled, including mining, development and exploration, milling, administration and head office, was \$8.26. An appreciable reduction in operating costs was attained towards the end of the year.

Development and exploration work done during the year consisted of 5,265 feet of diamonddrilling, 2,097 feet of drifting, 727 feet of crosscutting, and 2,182 feet of raising.

In September a complete geological examination of the mine was made by an independent consulting geologist, who planned an extensive exploration programme, which is being carried out under his direction. As a result of this work several vein intersections have been located by diamond-drilling, but subsequent development by drifting, raising, etc., has failed to prove any considerable quantity of new ore. Unless new discoveries are made the life of this mine will be short.

An average of 120 men was employed. J. W. Robertson is resident manager.

Bankfield Gold Mines, Limited

Bankfield Gold Mines, Limited, was incorporated in April, 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value, of which 2,520,005

shares have been issued. The officers and directors are: C. D. H. MacAlpine, president; T. H. Stinson, vice-president; F. J. Bailes, secretary-treasurer; Jos. Errington, D. M. Morin, and J. H. C. Waite, directors. The head office is at 1006 Concourse Building, Toronto.

The property is located in the Magnet Lake section of the Little Long Lac area, Thunder Bay district. It is reached by a 3-mile road from Kenwell on the Long Lac-Port Arthur branch of the Canadian National Railways. The mine address is Geraldton.

Underground operations were carried on throughout 1935. The 3-compartment vertical shaft was continued to a depth of 552 feet, and levels were established at 275 and 525 feet. A station was cut at 400 feet. The work accomplished on the various levels was as follows:---

Level	Drifting	Crosscutting	Raising
150-foot	feet 1,323 901 244	feet 404 377	feet 17 51
Total	2,468	781	68

In addition 2,237 feet of diamond-drilling was done from surface, and 1,416 feet from underground.

The plant included two 90 h.p. boilers, an 11- by 8-inch Ingersoll-Rand steam hoist, and a 750-cubic-foot Ingersoll-Rand steam compressor.

An average of 54 men was employed, of whom 19 were underground. J. W. MacKenzie was in charge.

Barry-Hollinger Mines, Limited

Barry-Hollinger Mines, Limited, is capitalized at 4,000,000 shares of \$1 par value. The officers and directors are: Dr. E. Herbert Greene, president; J. P. Patterson, vice-president; D. McKinnon, secretary-treasurer; E. S. Williams, director. The head office is at 57 Bloor Street West, Toronto.

The mine, in the township of Pacaud, district of Timiskaming, was operated throughout the year with an average of 48 men. Operations ceased in January, 1936.

Development for the year consisted of 72 feet of drifting. Ore hoisted amounted to 35,172 tons. The total value of the production for the year was \$143,698.26. Douglas Bryden was manager.

Bidgood Kirkland Gold Mines, Limited

Bidgold Kirkland Gold Mines, Limited, has an authorized capitalization of \$2,000,000, in shares of \$1 par value. The officers are: A. L. Herbert, president; N. W. Byrne, secretary-treasurer; W. Crawford, R. J. Neelands, H. Koza, A. E. Belcher, and O. L. Knutson, directors. O. L. Knutson is mine manager, and S. A. Pain is consulting engineer. Both the head office and mine office are at Kirkland Lake. The company owns 753 acres in Lebel township, district of Timiskaming.

During 1935 work at the mine was confined to the 500-foot level of the No. 2 shaft. The main crosscut was extended 280 feet to the south and tapped the vein system running across the north end of the Moffatt-Hall mine into Bidgood ground.

In this zone a total of 1,337 feet of crosscutting and drifting was carried out, and 1,471 feet of diamond-drilling.

The cyanide mill treated 6,960 tons of ore extracted from the Moffatt-Hall mine under lease during the first seven months of the year, but after July all production was from the Bidgood mine, from which 11,148 tons derived from stoping and drifting on the 500-foot level was treated.

The mill has been gradually stepped up and is currently treating 60 to 70 tons daily. The crusher and rolls are capable of handling 300 tons daily, and the ball mill 110 tons daily. A tube mill is being installed, and with a few additions the cyanide end of the mill can treat 150 tons a day.

The mining plant consists of a 1,000-cubic-foot Sullivan compressor driven by a 200 h.p. motor, a 720-cubic-foot compressor driven by a 125 h.p. motor, and an electrically driven hoist.

The mine water is handled by vertical triplex and horizontal duplex pumps, each handling 100 g.p.m., with a 250 g.p.m. centrifugal pump as a standby.

Production for the year amounted to 2,243 ounces of gold and 806 ounces of silver from the Moffatt-Hall lease and 1,308 ounces of gold and 855 ounces of silver from the Bidgood mine.

An average of 42 men was employed.

Bilmac Gold Mines, Limited

Bilmac Gold Mines, Limited, was incorporated in September, 1934, with an authorized capitalization of 2,000,000 shares of no par value. The officers and directors are: L. F. Hogarth, president; G. E. McVittie, vice-president; A. C. Laing, treasurer; W. R. Marchment, secretary; A. V. Kellum and Edward Coleman, directors. The head office is at 33 Temperance Street, Toronto.

The property consists of six claims in Macmurchy township, West Shiningtree area, district of Sudbury, and comprises the former White Rock, Atlas, Harvey Kirkland, and McVittie properties.

In October, 1934, sampling and mapping were started; and in February, 1935, underground work was commenced on the old White Rock property. Previous operators had put down a 2-compartment vertical shaft to a depth of 175 feet, established levels at 65 and 175 feet, and done 290 feet of drifting and 20 feet of crosscutting on the 65-foot level and 915 feet of drifting and 125 feet of crosscutting on the 175-foot level. They had also put up an inclined raise from the 65-foot level to surface, and mined a small stope on that level.

Work was suspended by the company in June, 1935, after the shaft had been deepened to 425 feet, and about 35 feet of crosscutting on a new level at 410 feet had been accomplished.

The plant included a 104 h.p. boiler, a 560-cubic-foot steam compressor, and a 9- by 8-inch Ingersoll-Rand double-drum hoist. There was an old mill on the property consisting of a jaw-crusher, a Tremaine stamp, and amalgamation plates.

An average of 35 men was employed during the period of work in 1935, of whom 10 were underground. J. E. Grant was manager, and Sydney Brown was superintendent. The mine address is Shiningtree.

Bob Tough Gold Mines, Limited

Bob Tough Gold Mines, Limited, was incorporated in September, 1933, with an authorized capitalization of 3,000,000 shares of no par value. The officers and directors are: R. R. Tough, president; H. J. Tiedt, vice-president;

J. H. Stevens, secretary-treasurer; Albert Levan, assistant secretary; E. B. Ratcliffe, managing director; F. H. Gage, R. E. Thompson, and H. J. Simons, directors. The executive office is at 207 Turner Building, Hamilton.

The property is located in McKinnon township, district of Sudbury, and is reached by a 16-mile road from Massey station on the Canadian Pacific railway.

During 1935 the installation of the plant was completed, and the 3-compartment vertical shaft was sunk 120 feet to a total depth of 150 feet. A level was established at 150 feet, where 118 feet of crosscutting was accomplished. Underground work was suspended in August, and surface work only carried on until the end of October, when all operations ceased.

The plant included a 99 h.p. horizontal return tubular boiler; a 750-cubicfoot Ingersoll-Rand compressor, driven by a 125 h.p. steam engine; and an 8by 10-inch Jenckes single-drum hoist.

An average of 12 men was employed during the period of operation in 1935, of whom 5 were underground. E. B. Ratcliffe was in charge.

Bousquet Gold Mines, Limited

Bousquet Gold Mines, Limited, was incorporated in November, 1920, with an authorized capitalization of 2,000,000 shares of \$1 par value. The capitalization was increased to 3,000,000 shares in 1935. The officers and directors are: Lionel Brooke, president; C. H. Hitchcock, vice-president; Globe Investment, Limited, treasurer; W. B. McPherson, secretary; H. P. Snelgrove, director. The head office is at 171 Yonge Street, Toronto. The mine address is Willisville.

The property consists of 20 mining claims located in two groups in township 11, district of Sudbury. By winter road it is 7 miles east of West River, on the Algoma Eastern railway.

During 1935 the 2-compartment vertical shaft was sunk an additional 134 feet, to a total depth of 468 feet, and a third level established at 450 feet. The lateral work accomplished in 1935, and the total to the end of 1935 on the various levels was as follows:—

	Drif	Crosscutting		
Level	1935	Total	1935	Total
150-foot	feet	feet 605	feet	feet 67
300-foot	$\begin{array}{c} 177\\526\end{array}$	447 526	136	102 136
Total	703	1,578	136	305

In addition 1,908 feet of diamond-drilling was done from underground.

Anglo-Huronian, Limited, optioned a large block of shares in the company at the beginning of the year, and was responsible for the work done from the middle of February until June, when the option was dropped. The company suspended all work for 1935 at the end of July.

The plant used included an 80 h.p. and a 60 h.p. boiler, a 500-cubic-foot steam compressor, and an 8- by 10-inch steam hoist.

An average of 29 men was employed from the first of the year until the end of July. C. W. MacDonald was in charge during the option period, and Lionel Brooke during the remaining time.

Buffalo Ankerite Gold Mines, Limited

Buffalo Ankerite Gold Mines, Limited, was incorporated in 1932 with an authorized capitalization of 1,000,000 shares of \$1 par value. The number of shares issued and outstanding at the end of 1935 was 701,679; this includes shares to be issued to Marbuan Gold Mines, Limited, in consideration of the transfer of their net assets to this company. The officers of the company at the end of 1935 were: Geo. R. Feine, president; G. R. Loesch, vice-president; Henry Kobler, treasurer; R. P. Kinkel, assistant treasurer; E. G. Kinkel, secretary and managing director. The directors were: H. J. Tiedt, J. Betz, and A. J. Baldeck. The executive office of the company is at 1728 Rand Building, Buffalo, N.Y. The head office and mine office are at South Porcupine. The property is in Deloro township, district of Cochrane.

In 1935 plans were made for the acquisition of Marbuan Gold Mines, Limited, by Buffalo Ankerite Gold Mines, Limited. These plans were not approved by the shareholders of each company until January, 1936, but at this time the approval was given as of November 30, 1935.

The following is taken from the managing director's report to the shareholders for the fiscal year ending December 31, 1935:—

The recoveries for the year are indeed gratifying, having exceeded the \$1,000,000 mark, the total recovery being \$1,023,358.51 (Ankerite mill) and including the Marbuan mill for December, \$1,056,653.85, as compared to \$712,898.29 in the year 1934, with an average daily tonnage of \$15.65 marks and the second s

345.6 tons. The operating profit, before depreciation and deferred development write-off, was \$311,-941.30.
941.30. This shows considerable improvement over 1934.

During the fiscal year the company acquired by outright purchase claim H.R.951 on Mc-Donald lake, lying about one mile northwest of the company's property, consisting of about 40 acres, for a reasonable cash consideration. This claim may prove of considerable importance to the company in the future.

The most important step taken by the company during the year was the acquiring of the properties of the Marbuan Gold Mines, Limited. This transaction was approved by the Marbuan Gold Mines, Limited, stockholders on January 22, 1936, and the transfer of its properties to this company has been completed. By the consummation of this transaction the mining area of the company has been increased from approximately 155 acres to 331 acres. The milling capacity has been increased by the acquisition of the Marbuan mill to approximately 700 tons per day, with possibilities of being able to increase tonnage in 1936.

uay, with possibilities of being able to increase toilinage in 1950. During the year 1935 the company employed the Canadian Appraisal Company, Limited, of Montreal, to make a thorough appraisal of the buildings, machinery, and equipment. The report of the Canadian Appraisal Company shows the valuations as of June 29, 1935, as follows:---

	Buffalo Ankerite	Marbuan
Buildings, replacement value. Buildings, present value. Machinery and equipment, replacement value. Grand total, replacement value. Grand total, present value.	406,940.08 296,019.54 538,930.62	\$71,222.53 50,381.85 192,252.46 127,055.50 263,474.99 177,437.35

The operation policy for 1936 includes the completion of the crosscut from the Marbuan winze to the No. 5-7 ore zone, the connecting of this crosscut with the main Ankerite shaft, crosscutting to the Nos. 1 and 2 veins from the main shaft on the 875- and 1,050-foot levels, and drifting east and west on these veins. Alterations will be made in the crusher plant and Ankerite and Marbuan mills to increase capacity, providing that the development work progresses sufficiently to warrant increased tonnage.

Ciently to warrant increased tonnage. The broken ore reserves (Ankerite) have increased in grade and tonnage over 1934. The positive ore reserves as estimated have increased from 107,997 tons to 360,648 tons. The estimated values have, however, decreased from the per ton value shown in the 1934 report. We believe this value to be more in line with recoveries of 1935. The excellent values and widths shown in diamond-drill cores below the 875-foot level, north zone, are very encouraging indications of increasing values at depth. In the 1934 report of Marbuan the broken ore reserves were stated to be 12,375 tons of \$3.75 grade. In the 1935 report this has been increased to 15,665 tons of \$3.10 grade. In 1934 there were no positive ore reserves, and in 1935 there were 33,520 tons of \$2.97 grade. In 1934 the possible ore was given at 11,867 tons of \$6.85 assay value. The 1935 report shows 34,740 probable and possible ore reserves with an average assay value of \$2.63, all values above being at \$20.67.

The following is taken from the report of the manager to the president for the year ending December 31, 1935:—

Production

During the period the mill treated 159,383 dry tons, yielding \$1,023,358.51. Recovery per ton milled was \$6.42.

Milling

Percentage of total possible running time	97.88
Tons treated per day	437 7
Tons treated per 24 hours running time	447 3
Mill heads (at \$20.67 per ounce).	\$3 801
Mill tailings (at \$20.67 per ounce)	#0.091 #0.001
	₽U. <u>2</u> 20

Mining

Ore broken in stopes and stope preparation Ore broken in development	Tons 170,170 33,522
- Total	203.692

Development and Exploration

The objectives for 1935 were the development of the Nos. 5 and 7 vein structures on the 250-, 350-, 725-, and 875-foot levels, and the extensions of the Nos. 1 and 2 veins on the 475- and 600-foot levels.

Drifta	Feet
Drifts	6,892
Crosscuts	70
Raises	2,477
Shafts	466
Diamond-drilling	11.179.5
	cui ft
Stations and pockets	9,537.8

Level	Vein	Feet
475-foot 600-foot 725-foot	No. 91. No. 91. Nos. 89, 90, 91, 2. Nos. 83, 1, 2. Nos. 90, 91, 89. Nos. 89, 90, 91, 92, 93.	$687 \\ 279 \\ 840$

Shaft-Sinking

The main shaft was repaired, and the timbers were relined from the 475-foot level to the bottom. Shaft sets between the 600-foot level and the bottom were replaced and jacked back into position. Shaft-sinking preparations were completed late in September, and actual sinking started October 10; 466 feet of shaft was sunk and the 875-foot station partially cut by the end of the year. Serpentine entered the shaft above the 1,050-foot station location. The shaft section from this horizon to the 1,200-foot level is in serpentized peridotite and serpentine.

Shaft set intervals were reduced, and it was found necessary to spile the last 35 feet of the section. It appears that the shaft is in the main serpentine mass, and it is questionable whether it would be advisable to continue sinking in this location.

Costs

The total operating costs per ton milled (for a total of 159,383 tons), including workmen's compensation, silicosis, and fire insurance, follow:—

	Total c ost	Cost per ton
Overall Operating Costs:		
Exploration	\$15,341.55	\$0.096
Development	103,405.52	.648
Mining.	366.362.93	2.299
Milling	124.862.62	.783
General expense and personnel loss		. 385
Total	\$671,412.80	\$4.213
UNIT COSTS:		
Per ton of ore broken in stopes		\$1.032
Per foot of drifts		12.859
Per foot of crosscuts		10.253
Per foot of raises		
Per foot of diamond-drilling		1.240
Per foot of shaft (8 by 22 feet)		78.308

Ore Reserves

The development factor has improved over that existing at the end of 1934. It is not up to normal at present. The sinking of the main shaft with stations established at the 875- and 1,050-foot levels will expedite the development of the No. 5-7 and South zone veins on these levels. Diamond-drilling has proved the downward extension of the structures to the 1,100- and 1,000-foot horizons, respectively, with favourable results.

Broken ore reserves are estimated at 105,379 tons, with an assay value of \$4.54, and positive ore reserves at 360,648 tons, with an assay value of \$5.42 per ton, both values being based on gold at \$20.67 per ounce.

Construction

Minor buildings were erected. The Marbuan steam plant was overhauled and is being used as a central heating unit for Marbuan and Ankerite. The necessary lines were installed to Ankerite. The tailings dam was increased in height to provide additional storage.

General

A second-hand Symons cone crusher was purchased and installed in the crushing plant. Two additional discs were purchased and installed on the American filter in the mill, raising the capacity of this machine to 500 tons plus. Costs have been reduced materially.

During 1935, the average number of men employed at the Buffalo Ankerite mine was 274, and at the Marbuan mine 110. Chas. L. Hershman was manager at both properties.

MARBUAN MINE

The following memorandum of the report on the operations of the Marbuan Gold Mines, Limited, for the year 1935 is taken from the annual report of the Buffalo Ankerite Gold Mines, Limited, for the same period.

This memorandum is made for the purpose of supplying general information regarding this property to Buffalo Ankerite Gold Mines, Limited, stockholders, although the property was not acquired until after the expiration of the year ending December 31, 1935.

Production

During the period the mill treated 59,380 dry tons, yielding \$287,012.17. Recovery per ton milled was \$4.833.

Milling

Percentage of total possible running time Tons treated per day Tons treated per 24 hours' running time Mill heads (at \$20.67 per ounce) Mill tailings (at \$20.67 per ounce) Extraction, per cent	162.3 191 \$2.61 \$0.189
Mining	Tons

Ore broken in stopes and stope preparation	58,105
Ore broken in development	9,413

Development and Exploration

The objectives for 1935 were the development of the indicated Nos. 3 and 5 structures on the 8th, 9th, and 10th winze levels.

Drifts	
Crosscuts Raises	
Diamond-drilling	

Costs

The total operating costs per ton milled, including work men's compensation, silicosis, and fire insurance, follow:—

OVERALL OPERATING COSTS:	Per ton
Exploration	\$0.159
Development	1.222
Mining	2.112
Milling.	1.061
General expense and personnel loss	.489
Total	\$ 5.043
Per ton broken in stopes	\$ 1.137
Per foot drifts	13.143
Per foot crosscuts Per foot raises Per foot diamond-drilling	$\begin{array}{c} 12.094 \\ 15.903 \\ 1.185 \end{array}$

Ore Reserves

Ore reserve calculations are based on extensions within the operating areas and the indicated possibilities beyond stope sections on all horizons.

Cre reserves	Tons	Assay value ¹
Broken	$\begin{array}{r} 15,665\\ 35,520\\ 18,380\\ 16,360\end{array}$	\$3.10 2.97 2.70 2.55
Total	83,925	\$2.85

¹Gold at \$20.67 per ounce.

Construction

The steam plant was overhauled and placed in operation as a central heating unit for both the Ankerite and Marbuan. All pipe-lines, steam and water, were replaced and insulated. A new fuse-house was built. The tailings dam was increased in height to provide additional storage.

General

A set of second-hand rolls were purchased and installed in the rock-house. Operating costs were reduced.

Canusa Gold Mines, Limited

Canusa Gold Mines, Limited, was incorporated in July, 1932, with an authorized capitalization of 1,500,000 shares of \$1 par value. In December, 1935, the shareholders of the company authorized an increase in the capitalization to 4,500,000 shares of \$1 par value. The officers and directors of the company in 1935 were: D. D. Wessels, president; Geo. Neukom, vice-president; Thos. R. Deacon, secretary; Robt. Schram, treasurer; H. Kendrick and P. Du Bois, directors. The head office is at 371 Bay Street, Toronto. The mine office address is South Porcupine.

The company holds 440 acres, 80 acres in Tisdale township and 360 in Whitney township, district of Cochrane. The claims are all in one group and were formerly held by the Scottish-Ontario Syndicate.

Mines of Ontario in 1935

	To Dec. 31, 1934	1935
	feet	feet
Shaft-sinking	320	
40-foot level:		
Drifting	140	40
Crosscutting	10	
Raising	15	15
100-toot level:		
Drifting	600	225
Crosscutting	305	150
Raising	240	
300-foot level:		
Drifting	225	
Crosscutting	790	
Raising	20	

There is a 25- to 50-ton amalgamation mill on this property. Only a small tonnage was milled in 1935. No bullion sales have been reported.

Other plant equipment includes one 40 h.p. locomotive-type boiler, one 20 h.p. marine-type boiler, two air compressors, capacities 850 and 300 cubic feet, a single-drum hoist, and electric motors to drive both compressors and hoist.

Operations were suspended at the property about September 1, 1935, with the exception of pumping operations. The average number of men employed was about 14. Robt. Schram was general manager during 1935.

Casey Contact Gold Mines, Limited

In June, 1934, the charter of Brookbank Gold Mines, Limited, incorporated in March, 1929, was acquired by Casey Contact Gold Mines, Limited. The authorized capitalization was increased in November, 1934, from 3,000,000 shares to 3,500,000 shares of \$1 par value. The officers and directors are: F. W. Purdy, president; H. L. Walker, vice-president; E. M. Hand, secretarytreasurer; E. L. Cousins, A. K. Roberts, and H. F. Cassidy, directors. The head office is at 67 Yonge Street, Toronto.

The company acquired in 1934 the Brennan-Kenty east group of 12 claims, located about $8\frac{1}{2}$ miles northwest of Nezah in the Sturgeon River area, district of Thunder Bay. Surface work and diamond-drilling was carried on until June, 1935, when underground work was started. A 2-compartment vertical shaft was sunk to a depth of 228 feet. A station was cut at 100 feet, and a level established at 200 feet. All work was suspended at the end of September owing to financial difficulties. A total of 408 feet of lateral work was accomplished on the 200-foot level.

The plant included a 165 h.p. locomotive-type boiler, a 6- by 8-inch Canadian Mead single-drum hoist, and a 275-cubic-foot Sullivan steam-driven compressor.

An average of 23 men was employed in 1935 to the end of September, under the direction of H. M. Parrington. The mine address is Jellicoe. There is a winter road to the property from Nezah.

The company also owns a group of 33 claims at Casummit lake, 100 miles north of Sioux Lookout, in Patricia portion of Kenora district.

At the beginning of 1936 arrangements were being made to change the name of the company to Brengold Mines, Limited.

Central Patricia Gold Mines, Limited

Central Patricia Gold Mines, Limited, was incorporated in 1931, succeeding Central Patricia Mines, Limited, formed in 1927. It has an authorized capitalization of 2,500,000 shares of \$1 par value.

The officers and directors are: F. M. Connell, president; W. H. Connell, vice-president; Alan Cockeram, secretary-treasurer; J. H. Rattray, L. Cohen, and G. B. Webster, directors. The head office is at 85 Richmond Street West, Toronto.

The mine is situated in the Crow River area, district of Kenora, Patricia portion. The mine camp is about 110 miles north of Savant Lake Station on the Canadian National railway. It lies about 6 miles west of the property of the Pickle Crow Gold Mines, Limited. The holdings include 85 claims, which lie in several large groups in the surrounding area.

The following is an extract from the president's report for the year ending December 31, 1935:—

Following the addition to the mill in April, increasing the capacity to 100 tons per day, production was maintained at that rate throughout the balance of the year. The total yield was 22,061.26 ounces of gold and 2,296.96 ounces of silver, valued at \$777,570.49, from 35,192 tons of ore treated.

A further addition to the mill was decided on in July to bring the milling capacity to 150 tons per day. All the necessary equipment has been purchased and it is expected to have the enlarged plant in operation by March 1, 1936.

Under the existing contract with the Hydro-Electric Power Commission of Ontario, power was delivered to the mine in April and has resulted in a considerable saving. With future requirements in mind, negotiations were opened with the commission for additional power. Your company has concluded a new contract, agreeing to purchase 800 horse-power per annum at \$65 per horse-power for a period of seven years. Power exceeding the 800 horse-power is to be supplied at a \$35 rate. After the seven-year period, all power is to be supplied at \$35 per horse-power for the life of the mine. This new contract will come into effect when the additional power is delivered following the completion of the construction of a second unit at the Rat Rapids development site.

A further reduction in transportation costs was effected on the completion of the Root River portage development last July. Freight can now be transported from Hudson on the Canadian National railway to Doghole bay at the east end of Lake St. Joseph. Doghole bay is 21 miles from the property. The government is now considering the construction of a road from this point to the mine. The road is urgently needed for the general development of this new and proved mining area.

Patents were obtained on 46 mining claims held by your company, representing 2,024.16 acres, making a total of 64 claims, or 2,624.44 acres, on which patents have been acquired. The company has in addition 40 mining claims which will be patented when the required assessment work is completed.

During the coming year it is proposed to sink the main shaft from the 500- to the 1,000-foot level and also carry on further lateral exploration. The amount of development that can be done will be governed by the power available. Delivery of the extra power contracted for is not expected until the 1st of October next.

Development at the No. 2 operation (Springer) was carried out as planned, and the results of the work are covered in the mine manager's report. Power requirements at the main mine made it impossible to carry on further work at this operation for the time being, but in view of the satisfactory results obtained it is the intention of your directors to extend the present shaft to the 500-foot level and do further lateral work when the power is available.

At the close of the year, after treating 35,192 tons, the ore reserves amounted to 95,413 tons, averaging 0.64 ounces per ton.

The development at the main mine continues to be very satisfactory, and that at the No. 2 operation has indicated a substantial length of high-grade ore; and future development of this property shows much promise.

The following is taken from the mine manager's report for the year ending December 31, 1935:—

Production

During the year, 35,192 tons of ore were treated, from which was recovered \$777,570.49. The average extraction was 97.36 per cent.

Development

Development was restricted to the opening of the known ore shoots. The "B" and "C" ore shoots were developed on the 3rd and 4th levels. This work has shown the ore to have

greater widths and lengths than previously estimated and has consequently increased the tonnage of ore available while maintaining the same grade.

Diamond-drilling has improved the outlook for increased ore reserves. Drilling was done from underground workings and at surface. A hole drilled from the station at the 500-foot level cut the "C" ore shoot at a vertical depth of 140 feet below that level. An ore intersection in this hole gave 0.55 ounces gold across a width of 9 feet. Shallow surface drilling was done 1,200 feet west of the shaft and has disclosed a new ore area. The results of this work indicate a section 233 feet long by 2.5 feet wide, with an average grade of 0.4 ounces gold. Further exploration of this showing will be undertaken by means of underground work on the 375-foot level. Preparations were made to sink the main shaft from the 500-foot to the 1,000-foot level.

ORE ESTIMATE

	Tons	Grade
"A" ore body. "B" ore body. "C" ore body. "D" ore body. Broken ore in stopes.	$\begin{array}{c} 6,395\\ 31,295\\ 36,965\\ 4,450\\ 16,308 \end{array}$	ounces 0.59 .60 .68 .52 .65
Total	95,413	0.64

Construction

During March and April, a complete change-over from steam to electric power was effected, and at the same time a second mill unit was installed and put into operation, raising the daily capacity from 50 to 100 tons. This change-over of the plant necessitated the construction of a new power-house and a new headframe.

The installation in the power-house of two new compressors, a double-drum hoist, and a standby unit was completed.

The following additional buildings were constructed and equipped: kitchen and dining hall (capacity 150 men), central heating plant, 5 houses, recreation building, machine shop.

No. 2 Operation (Springer)

A plant (electrically operated) was set up and a shaft sunk to 175 feet. A station was established at 150 feet and a total of 1,022.5 feet of crosscutting and drifting was done.

Four ore shoots, varying in length from 25 feet to 90 feet, were found to the west of the main crosscut, giving a total ore length of 198 feet, averaging 2.35 ounces over a width of 14 inches. It was necessary to suspend this work in order to have sufficient power available to carry on shaft-sinking operations at the main property. The results of the exploration to date are very satisfactory, and further sinking and development will be carried on as soon as hydro power is available.

Summary

The change-over from steam to electric power, together with the improved mine conditions, necessitated a complete rearrangement of the plant and camp buildings. The major expenditures have been completed, so the expense of the construction programme for the ensuing year should be moderate.

In July, it was decided to increase the daily capacity of the mill to 150 tons. Material and equipment for this purpose were purchased and the mill addition is now being erected. All work, apart from capital expenditures, has been written into the operating costs.

An average of 105 men was employed during the year. A. J. Anderson is mine manager. The mine address is Pickle Crow.

Central Porcupine Mines, Limited

Central Porcupine Mines, Limited, incorporated December, 1933, has an authorized capitalization of 5,000,000 shares of \$1 par value. The officers and directors of the company are: E. Ward Wright, president; C. D. H. MacAlpine, vice-president; Geo. G. Blackstock, secretary-treasurer; W. J. Aikens, W. J. Hume, H. C. McCloskey. and Jos. Montgomery, directors. The head office is at 25 King Street West, Toronto. The mine office is at Schumacher.

The property held by Central Porcupine Mines consists of 13 claims, 520 acres, in the township of Tisdale, district of Cochrane. It lies south of the

Coniaurum mine and east of the McIntyre and Hollinger mines, and adjoins each. Development of this property has been carried on through the Goldale shaft of the Coniaurum mines, work being done from the 1,000-foot level. In 1934 a crosscut, approximately 2,220 feet in length, was started to reach Central Porcupine ground. About 1,303 feet advance was made in this crosscut in 1934. Early in 1935 a vein was encountered on Coniaurum ground, and crosscutting was temporarily held up while some development work was done on this Work on the crosscut was later resumed and Central Porcupine ground vein. The was entered about 650 feet east of the northwest corner of the property. crosscut was continued in a direction S.25°E., for 1,252 feet beyond the boundary. A line drive from a point 85 feet back of the face was then carried due east for 689 feet, from which point a crosscut was again started in a southerly direction. Only a few rounds had been taken from this crosscut at the end of the year. The total advance in 1935 was 2,908 feet. From the same level 3,109 feet of diamond-drilling was done in 1935.

The average number of men employed in 1935 was 32. F. G. Stevens is general manager of this property, and Chas. Workman is mine superintendent.

Churchill Mining and Milling Company, Limited

The Churchill Mining and Milling Company, Limited, was incorporated in March, 1918, and now has an authorized capitalization of 4,000,000 shares of \$1 par value. The officers and directors are: W. R. Knox, president; K. G. Merrick, secretary-treasurer; D. Lieberman, H. H. Van Wart, and F. H. Geddes, directors. The head office is at 45 Richmond Street West, Toronto.

The property held by this company includes a group of four claims in Churchill township, in the West Shiningtree area, district of Sudbury.

Operations at this property, which were suspended in October, 1934, were resumed in July, 1935, and again suspended at the end of November. During 1935 a level was established at the bottom of the 109-foot, 2-compartment shaft, sunk in 1934, and a total of 70 feet of drifting and 154 feet of crosscutting was accomplished.

The plant included a 47 h.p. locomotive-type boiler, a 270-cubic-foot Sullivan compressor driven by a steam engine, and a 6- by 8-inch Jenckes hoist.

An average of 10 men was employed during the period of operation, under the direction of A. Lantagne.

Clark Gold Mines, Limited

Clark Gold Mines, Limited, was incorporated in October, 1934, with an authorized capitalization of 2,000,000 shares of \$1 par value, 650,000 of which have been issued. The officers and directors are: R. H. Miner, president; A. J. Reece, vice-president; G. S. Andrews, secretary-treasurer; W. S. Lighthall, A. C. Dick, and M. A. Carton, directors. The executive office is at 7411 De Lanaudiere Street, Montreal, Que. The mine address is Dyment.

The property consists of a group of 15 claims located about 8 miles southwest of Dyment on the Canadian Pacific railway, district of Kenora.

Work was started in October, 1934, and carried on until November, 1935. Some open-cut mining was done, and several shipments of ore were made. Underground work was started in April, 1935, and suspended at the end of September, 1935. An old 2-compartment, 75-degree shaft, 75 feet deep, was slashed to vertical and timbered. A level was established at 68 feet, on which 20 feet of drifting was done. The plant included a 310-cubic-foot gasoline compressor and a small air hoist. Buildings erected consisted of a power-house, blacksmith shop, and powder magazine.

An average of 21 men was employed during 1935, under the direction of R. R. Clark.

Cole Gold Mines, Limited

Cole Gold Mines, Limited, incorporated in November, 1933, has an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors of the company are: John Y. Cole, president; Wm. Exton, Jr., vicepresident; Cecily Cole, secretary-treasurer. The executive office and the mine office are both located at Cole, a recently established post office.

The holdings of the company are located along the southwestern shore of the Pipestone Bay section of Red lake, in the Patricia portion of Kenora district.

The property is being developed through a 2-compartment shaft, which was sunk to 200 feet in 1933. In 1934, a large amount of development work was done on the 200-foot level and a number of veins were partially developed. In 1935, the 300-foot level was opened. Development continued on this level until about the middle of September, when sinking was again resumed, with an objective depth of 550 feet. This work was completed about the end of the year. Two new levels at 300 feet and 400 feet are to be opened.

Work to date has been carried on with a small steam-operated plant, which includes one 70 h.p. locomotive-type boiler, a Canadian Ingersoll-Rand 250-cubic-foot air compressor, and an 8- by 10-inch Jenckes hoist. Arrangements for the supply of electric power to the mine by the Hydro-Electric Power Commission of Ontario were recently reported to have been completed.

From 45 to 55 men were employed at the mine in 1935. John Y. Cole is manager of the property.

Concordia Gold Mining Company, Limited

The Concordia Gold Mining Company, Limited, is a subsidiary company of Associated Gold Mining and Finance Company, Limited. The company was incorporated in May, 1934, with an authorized capitalization of 3,000,000 shares of no par value, of which 1,501,000 shares are reported held by the parent company. The head office of the company is at 276 St. James Street West, Montreal, Que. The officers and directors of the company are: A. E. Ladouceur, president; Walter F. Costigan, secretary-treasurer; Theo. Lanctot and Stuart Grant, directors. C. L. Laederer is mine manager, and E. E. Elliott is mine superintendent. The mine address is Timmins.

The Concordia Gold Mining Company took over the property of Jones-Porter Mines, Limited, consisting of 14 claims in Deloro township, district of Cochrane. The underground workings consist of a 3-compartment shaft, 158 feet in depth, with station at 125 feet, at which level 177.8 feet of crosscutting and 55.7 feet of drifting had been done to December 19, 1935. During 1935, 10 diamond-drill holes were drilled from underground, and 8 from surface. Total footage in all these holes combined was slightly in excess of 2,400 feet.

During the year the plant was altered, and several additions were made. Buildings and equipment are as follows: office and staff residence; cookery; 2 bunk-houses; fully equipped assay office; blacksmith shop, with Climax drillsharpener; superintendent's residence; oil-house; magazines; auxiliary boilerhouse, with two vertical-type boilers, 25 to 30 horse-power each, used for heating and to supply part of the power required in the mill; a main boiler-house, under construction, and 2 locomotive-type boilers of 100 h.p. each; and a large combination building, in which there is a fully equipped machine shop, welding shop, dry-house, engineering office, mill, and hoist-room. In the hoist-room there is an 8- by 10-inch Jenckes hoist; a Sullivan, steam-driven, 2-stage, 1,000-cubic-foot air compressor; a second compressor with a rated capacity of 180 cubic feet; and a 20 k.w. steam-driven lighting unit.

In a building attached to the hoist-room is a 12- by 14-inch Ingersoll-Rand 480-cubic-foot air compressor belted to a Hercules TXO 110 h.p. gasoline power unit. This power plant was installed in 1935 and supplies the air for the present mining operations.

The Canadian Straub mill, also installed in 1935, has a capacity of from 5 to 9 tons. It was put into operation in October; and it is estimated that about 230 tons were treated during October, November, and December. On December 15, 1935, the first shipment, 32.9842 ounces of bullion was sent to the Royal Mint.

During 1935 the average number of men employed monthly was 24.

Russell C. Cone

In the spring of 1935, Russell C. Cone obtained a lease on No. 5 vein on the Lucky Coon property, mining claim P. 655, located about 4 miles south of Mine Centre in the Rainy River district.

There is an old 2-compartment vertical shaft on this vein, which is reported to be 115 feet deep, but no headframe or buildings were left.

Work was started in June to move equipment into the property and to construct buildings. A small mill was completed and put in operation on October 1 to test ore from the dump, but was shut down a month later. The mill equipment included a jaw-crusher, Gibson rod mill, and amalgamation plates. A 20 h.p. boiler and a 5- by 7-inch single-drum hoist were taken into the property, but no underground work had been started by the end of the year.

An average of 5 men was employed under the direction of Russell Cone. The mine address is Mine Centre.

Coniaurum Mines, Limited

Coniaurum Mines, Limited, has an authorized capitalization of 6,000,000 shares of no par value, of which 2,717,947 shares have been issued. The officers and directors of the company are: Thayer Lindsley, president; A. L. Bishop, vice-president; H. Whittingham, secretary-treasurer; Alex. Longwell, H. Lindsley, H. S. Monroe, T. H. Rea, directors. The head office is at 25 King Street West, Toronto. The mine address is Schumacher. John Redington is mine manager.

The mine property consists of about 760 acres adjoining the McIntyre-Porcupine mine on its east boundary, in Tisdale township, district of Cochrane.

The property has been developed through two shafts and several winzes. The Main, or Bishop, shaft was deepened in 1935 to 3,700 feet. A second shaft goes down to the 1,000-foot level. Some 833 feet of winze-sinking was also done in 1935, bringing the total winze footage up to 1,678 feet.

The following is taken from the mine manager's report for the year ending December 31, 1935:—

Development

Development in various parts of the mine has consisted of considerable lateral work, as well as sinking and raising. The Bishop, or Main, shaft has now reached a depth of 3,700 feet.

Two new levels have been established: the 3,250-foot and the 3,500-foot. In addition, a winze is being put down near the east boundary of the West Goldale claim. This has now reached a depth of 900 feet below the 3,000-foot level. Considerable amounts of drifting and crosscutting have been done on the 1,000-, 1,750-, 2,000-, 3,000-, and 3,500-foot levels.

Exploration

The 3,250- and 3,500-foot levels are now under vigorous exploration. No. 10 crosscut is being driven on the 3,250-foot level to intersect the No. 7 vein fracture, which is located on the south side of the Coniaurum porphyry mass. On the 3,500-foot level M2 crosscut is being driven west to connect with the winze, where a level has already been established. From this point M2 crosscut will be driven due west to the McIntyre boundary. Veins Nos. 7, 25, and 26 have been indicated on the 3.500-foot level and are now under

Veins Nos. 7, 25, and 26 have been indicated on the 3.500-foot level and are now under exploration. Vein No. 24 on the 1,000-foot level has been driven on for some distance. This vein is located in the southwest portion of the property. On the 3,000-foot level, veins Nos. 21 and 22 have been developed for some distance. Both of these provided considerable ore for mill feed.

This year has been one of large expansion both underground and on surface. The full value of this will not begin to make itself apparent until about June of 1936. At that time we expect to bring into production at least two new levels.

Diamond-drilling, as in other years, has been carried on for the purpose of obtaining geological information, as well as for the location of ore bodies.

SUMMARY OF DEVELOPMENT

	Feet
Sinking	1.338
Drifting	2.481
Crosscutting	4.373
Raising	1.857
Diamond-drilling	12,942

The footage driven in ore was 1,684 feet, with an average value of 5 pennyweights per ton over a width of 4.8 feet. Vein No. 15 has been developed on the 350-foot, vein No. 15A on the 1,750-foot, and veins Nos. 21 and 22 on the 3,000-foot level.

Ore Reserves

Broken ore reserves are greater than those of last year and are now 200,067 tons. Stoping supplied 199,357 tons, and development another 17,622 tons of ore. The mill drew 151,055 tons, leaving a carry-forward of 200,067 tons of ore at the end of the year. Unbroken ore reserves are estimated at 171,320 tons, having an average grade of 4.1 pennyweights.

Milling

During the year the mill treated 151,055 tons of ore with an average recovery of \$7.51 per ton, extracting 95.94 per cent. of the gold content, operating 354.73 days, or 97 per cent. of the possible running time. The mill was closed down for a period of ten days while making the change-over of crusher into the new crusher building.

New Equipment and Improvements to Buildings

A new hoisting engine, with a maximum speed of 1,800 feet per minute, was installed. A new headframe was erected, and the crushing plant rearranged to facilitate handling larger tonnage. Also some additional equipment was added to the machine shop. The new buildings consist of a fireproof hoist-house and electrical shop; an addition to the dry-house; and an addition to the main office for the use of the resident doctor, as well as a new residence to accommodate the physician.

Tailings Dam

A large tailings dam is now under construction. When complete it will have a storage capcity that will serve our requirements for many years. We are very fortunate in having this available space on our property.

The average number of men employed during the year was 296; of this number 211 were employed underground.

Consolidated Mining and Smelting Company of Canada, Limited

The Consolidated Mining and Smelting Company of Canada, Limited, is capitalized at \$20,000,000, divided into 800,000 shares of \$25. The officers and directors are: Jas. J. Warren, president; Jas. E. Riley, secretary-treasurer; Jas. J. Warren, Sir Edward Beatty, S. G. Blaylock, Henry Joseph, J. C. Hodgson, F. G. Osler, R. S. McLaughlin, Sir Herbert Holt, W. A. Black, R. H. McMaster, Thayer Lindsley, Hon. R. R. Bruce, Sir Charles Gordon, and L. A. Campbell, directors. The head office is at 215 St. James Street, Montreal, Que. An office is maintained at 302 Bay Street, Toronto.

Afton Mine

The company started underground operations on this property in January, 1935, and carried them on throughout the year. The property is in Afton township, Timagami Forest Reserve, district of Sudbury.

Previous operators had driven a 200-foot adit, from which a 2-compartment vertical winze had been sunk to a depth of 150 feet. A level was established at that depth, on which 270 feet of crosscutting was accomplished.

During 1935 the winze was sunk an additional depth of 266 feet, to a total depth of 416 feet, and levels were established at 275 and 400 feet. The lateral work accomplished in 1935 consisted of 34 feet of drifting on the 150-foot level, 616 feet of drifting and 249 feet of crosscutting on the 275-foot level, 751 feet of drifting and 210 feet of crosscutting on the 400-foot level. During the year a total of 1,321 feet of diamond-drilling was done from underground, and 957 feet from surface.

The plant used included two 53 h.p. horizontal return tubular boilers, a 360-cubic-foot steam-driven compressor, and an 8- by 6-inch Ingersoll-Rand single-drum hoist.

New Golden Rose Mines, Limited, was incorporated in April, 1935, with an authorized capitalization of 3,000,000 shares of \$1 par value to take over this property from Afton Mines, Limited, in return for 1,000,000 shares of New Golden Rose stock. Under the terms of the option Consolidated Smelters was to receive approximately 2,000,000 shares of New Golden Rose stock on an expenditure basis. This expenditure was completed during 1935 and the option fulfilled.

An average of 54 men was employed during 1935, of whom 23 were underground. D. C. McKechnie is mine manager, and W. E. Aitchison is superintendent. The mine address is Sudbury.

Cordova Mine

The company acquired the old Cordova property on the east half of lot 20, concession I, Belmont township, Peterborough county.

In 1935 the old No. 3 shaft was dewatered, retimbered, and enlarged to the 5th, or bottom, level. An additional 160 feet of sinking was done and new hoisting equipment installed. Some 22 feet of drifting and 36 feet of cross-cutting was done, and 600 tons of ore and 5,000 tons of waste were hoisted.

C. A. Seaton was manager, employing 39 men. The mine address is Cordova.

Golden Horn Mine

In May, 1935, work was started under option at the old Golden Horn mine, Rush bay, Lake of the Woods, district of Kenora. It is about 22 miles southwest of Kenora.

Previous operators put down two shafts on this property to depths of 106 and 254 feet, and established levels at 100, 166, and 235 feet. They accomplished 231 feet of drifting and 65 feet of crosscutting on the 1st level, 362 feet of drifting and 31 feet of crosscutting on the 2nd level, and 118 feet of drifting and 285 feet of crosscutting on the 3rd level. A small amount of stoping was done. They constructed a small mill containing a jaw-crusher, rolls, Huntingdon mill, and three concentrating tables, with which some gold was produced. The company dewatered the workings and carried on sampling work till the end of July, when the option was dropped.

The mill and cookery were all that remained of the old equipment. A 310cubic-foot gasoline compressor was used to dewater the workings.

An average of 7 men was employed during the period of work, under the direction of C. E. White.

McKenzie Claims

The company has under option the McKenzie group consisting of 9 claims, or about 360 acres, in Garrison township, district of Cochrane.

The following work was done in 1935: shaft-sinking, 256 feet; crosscutting, 712 feet; and drifting, 293 feet; about 7,612 tons of waste were hoisted.

The plant consists of a gasoline compressor and a single-drum air hoist. An average of 20 men was employed at the property during the year. The mine address is Matheson. A. S. Hudson was manager.

Rich Rock

The company has under option the property of Rich Rock Mines, Limited, in Kaladar township, Lennox and Addington county. The property consists of 298 acres in lots 24 and 25, concession VI.

Work was started on April 24, 1935, and to the end of the year the following work was accomplished: shaft-sinking, 125 feet; crosscutting, 57 feet; and drifting, 30 feet. About 150 tons of ore and 1,700 tons of waste were hoisted.

C. E. White was manager, employing an average of 25 men. The mine address is Flinton.

Cooper and Barry

W. D. Cooper and P. A. Barry continued operations, on a lease basis, on the Birch Lake property of McIntyre-Porcupine Mines, Limited, to the end of 1935. This property consists of 8 claims on the north side of Birch lake, two miles east of the Argosy mine, in Kenora district, Patricia portion.

In 1934, mining was carried on from an open stope. In 1935, a shaft was started from the bottom of the stope, 42 feet below surface, and sunk to 98 feet. The ore was found to be cut off in this shaft by a horizontal fault. Some exploration work was done along the fault-plane, but the downward continuation of the ore was not found. Work was then resumed at the 42-foot level. Drifting was started from each end of the stope, and about 100 feet of lateral work was done. Some ore was taken down above the drifts. In September, 1935, about 20 tons of ore was being milled daily in a small stamp and amalgamation mill.

The lease was dropped about the end of the year, and since then part of the mill equipment has been removed from the property.

The average number of men employed in 1935 was 19.

Corless Patricia Gold Mines, Limited

Corless Patricia Gold Mines, Limited, was incorporated under the laws of Ontario on January 7, 1935. It is capitalized at 3,000,000 shares of \$1 par value; 1,000,000 shares were issued for property. The officers and directors are: Edwin C. Graves, president; H. J. Carmichael, vice-president; Joseph Simpson, secretary-treasurer; Charles Buchanan and Robt. White, directors. The head office address is 25 Richmond Street West, Toronto. The mine address is Jackson Manion.

The property consists of 26 patented claims, approximately 1,000 acres, in Corless township, in the Woman Lake area, district of Kenora, Patricia portion. It lies about $5\frac{1}{2}$ miles west of the property of J-M Consolidated Gold Mines, Limited, and may be reached from Hudson by a canoe route through Lac Seul, Pakwash lake, Trout Lake river, and Woman river, to Woman lake, but the best route is by air from Hudson or Sioux Lookout. The planes land on Corless lake about one mile from the camp.

Work to date has consisted of trenching and diamond-drilling. Active development was begun in January, 1935. During the year 26 diamond-drill holes, averaging 184 feet in depth, were drilled. Further drilling is planned for 1936.

Ten log buildings have been erected on the property, including a fully equipped assay office.

A. A. Robins was manager during 1935, and was succeeded by W. M. Rice. An average of 15 men was employed at the property during the year.

Coulson Consolidated Gold Mines, Limited

Coulson Consolidated Gold Mines, Limited, has a capitalization of 3,000,000 shares of \$1 par value, of which 1,378,980 shares have been issued. The officers and directors are: Nicholas Kinsella, president; A. Ritchie, secretary-treasurer; L. V. Sutton, Raymond Sutcliffe, G. S. Haines, and D. McKenna, directors. The head office is at 1809 Royal Bank Building, Toronto.

The property in Coulson township, district of Cochrane, operated throughout 1935. Underground work was suspended in November.

During the year the south shaft was deepened to 570 feet, and 1,000 feet of drifting and 1,500 feet of crosscutting were done on the 550-foot level.

An average of 35 men was employed. The mine address is Painkiller Lake, via Matheson.

Craig Gold Mines, Limited

Craig Gold Mines, Limited, has a capitalization of 5,000,000 shares of \$1 par value, of which 1,923,252 shares have been issued.

The officers and directors are: F. W. Clements, president; W. N. Agnew, vice-president; F. J. Slater, secretary-treasurer; Geo. W. Scobell and Gerald D. Martin, directors. The head office is at 330 Bay Street, Toronto. The mine address is Madoc. The company owns nine claims in Tudor township, Hastings county.

Two shafts have been sunk, No. 1 to a depth of 245 feet and No. 2 to a depth of 200 feet. In No. 1 shaft, stations have been cut at 50, 125, and 225 feet. About 350 feet of drifting was done on the 50-foot level, and 110 feet on the 225-foot level. The mine operated from January to October 15, when work was temporarily suspended.

An average of 30 men was employed under the management of J. G. A. Stevenson. E. B. E. de Camps is consulting engineer and acting manager.

Darwin Gold Mines, Limited

Darwin Gold Mines, Limited, was incorporated in August, 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: Geo. Royce, president; David Gross, Robert Fennell, R. E. Hore, and R. A. Darwin, directors. Corporation Management and Executives, Limited, is secretary-treasurer. The executive office is at 304 Bay Street, Toronto. The mine address is Gold Park. The property is located in township 29, range 23, in the Michipicoten area, district of Algoma. It is about 7 miles by road from Wawa station on the Algoma Central railway.

Work was continued throughout 1935. The 2-compartment 60-degree shaft was sunk an additional 100 feet to a total depth of 543 feet, and a 5th level established at 533 feet on the incline. In July, a 3-compartment vertical shaft was started from surface, and by the end of the year it had reached a depth of 418 feet, with sinking still in progress. Stations had been cut at depths of 276 and 367 feet, connecting with the 3rd and 4th levels from the inclined shaft.

The development work accomplished on the various levels during the year, and the total to the end of 1935, was as follows:—

Level	Drifting		Crosset	utting	Raising	
Lever	1935	Total	1935	Total	1935	Total
200-foot	feet	feet 640	feet	feet 106	feet	feet 50
300-foot	198	957	205	431	232	347
400-foot	$\begin{array}{c} 328 \\ 645 \end{array}$	$1,632 \\ 645$	$\begin{array}{c} 210 \\ 50 \end{array}$	$\begin{array}{c} 591 \\ 50 \end{array}$	$\begin{array}{c} 255\\112\end{array}$	$\begin{array}{c} 373 \\ 112 \end{array}$
Total	1,171	3,874	465	1,178	599	882

The 50-ton amalgamation-flotation mill, which has been on the property since 1929, was changed to an amalgamation-cyanidation circuit and put in operation on November 5. The equipment now includes a jaw-crusher, Marcy ball mill, Hardinge mill, Dorr Duplex classifier, Dorr Simplex classifier, 4 Pachuca tanks, 2 thickeners, 2 Oliver filters, and a Merrill-Crowe precipitation unit. By the end of 1935, the mill had treated a total of 2,086 tons of ore.

Additions to the plant during 1935 included a 42-inch double-drum electric hoist, and a 770-cubic-foot Ingersoll-Rand electric compressor. A steel headframe was erected for the new shaft. Buildings constructed included a shafthouse, blacksmith and machine shop, hoist-compressor house, dry-house, bunkhouse, and additions to the original mill building.

An average of 61 men was employed during 1935, of whom 30 men were underground. M. H. Frohberg was in charge of operations.

Delnite Mines, Limited

Delnite Mines, Limited, was incorporated in November, 1934, and is capitalized at 3,000,000 shares of \$1 par value. This company is a subsidiary of Sylvanite Gold Mines, Limited, and Erie Canadian Mines, Limited. The latter company, a wholly owned subsidiary of Sylvanite Gold Mines, Limited, received Delnite shares for preliminary expenditures and development done during the summer of 1934 and the option to purchase other shares, so that if fully exercised Erie Canadian will hold 1,291,500 shares of the issued capital. There were 840,000 shares issued for the property, which consists of the property of the former La Roche Mines, Limited, and the Rendix or Martin claims, three patented claims located 3 miles southeast of Timmins in the township of Deloro, district of Cochrane. The officers and directors are: E. L. Koons, president; W. L. Marcy, vice-president; Welles V. Moot, managing director; C. L. Ingham, treasurer; W. S. Walton, secretary; Harry Yates, Jas. E. Day, and Jas. Savage, directors. The head office of the company is at 603 Royal Bank Building, Toronto. The mine address is Timmins.

During 1935, a second bunk-house, 24 by 36 feet, and other small buildings were erected. A 60- by 16-inch air receiver was added to the mining plant, and the 10- by 12-inch air hoist was improved by alterations, including a geardriven indicator. An electric pump was placed underground after the shaft was deepened. A magneto phone system and an electric cage-call system, to connect each level with the shaft-house and hoist-room, were installed.

An average of 37 men was employed during 1935. J. F. R. Akehurst is resident manager of the mine.

The following is an extract from the general manager's report for the fiscal year ending March 31, 1936:---

During the period, in addition to continuing work on the 125-foot level, the shaft was deepened and two new levels were opened up at the 250- and 375-foot horizons. A summary of the work done during the year is shown in conjunction with all previous work.

Summary	of Develo	PMENT AND	Exploratio	on, March 3	31, 1936	
	Drifting	Cross- cutting	Shaft- sinking	Shaft stations	Total	Diamond- drilling
To March 31, 1935	feet 1,233	feet 903.5	feet 138	feet 25	feet 2,299.5	feet 7,099
April 1, 1935, to March 31, 1936	3,015.5	1,599	253	66.5	4,934	9,179
	4,248.5	2,502.5	391	91.5	7,233.5	16,278

Development

In the 3,015.5 feet of drifting done during the year, 1,121 feet of ore were developed. In the 4,248.5 feet of drifting which has been done at the property since the beginning of operations, 1,439 feet of ore have been developed, which have an estimated average grade of 0.215 ounces over an average width of 5.1 feet. The average grade was calculated from channel sampling, in which all high assays have been reduced to 1 ounce. This combined footage and grade of ore is classified by levels as follows:—

Level	No. of ore shoots	Total length	Value at \$20.67	Value at \$35.00
125-foot 250-foot 375-foot	5 3 3	feet 445 428 566	\$5.18 3.96 4.24	\$8.75 6.70 7.17
Total		1,439	\$4.45	\$7.53

Diamond-Drilling.—Of the 9,179 feet of drilling done during the year, 5,364 feet was done from surface and 3,815 feet from underground. As part of the surface drilling, a series of three holes were put down to cut, at 750 feet vertical depth, the zone being developed in underground operations. Results indicated vein structure similar to that found in the lateral work.

In the drilling from underground, in addition to the drilling required by current development work, a series of five holes has been put down to explore the values in the downward extensions of vein No. 301 at the 500-foot level. The holes were spaced 100 feet apart. The results secured in these holes indicate the same ore situation on this vein at the 500-foot horizon as has been found at the 375-foot level.

Structure.—The veins on which the drifting has been done are located in a basalt formation, which strikes in a general east-west direction and dips 50° - 60° N. The main ore zone is a band of altered basalt, 200 feet wide, which lies between two roughly parallel bands of chlorite schist, which have resulted from intense alteration of previous basalt beds. To the north and south of the above area further basalt flows are shown by drilling. Vein indications and a quartz porphyry intrusive have been cut in this outer basalt, but the importance of the areas has not been determined.

The veins in the main ore zone follow the primary flow structure of the basalt. Where the normal strike and dip of the structure has not been disturbed, the veins of the Nos. 101 to 301 vein system have shown continuity of ore on the levels and in the drilling below the 375-foot level mentioned previously.

In the area 500 feet northeast of the shaft, a drag fold exists in the basalt beds, and the vein structure is irregular, resulting in a condition that does not permit straight-away development. The ore developed in this area has been found to be of higher grade than the average of the mine.

Plant and Equipment

The plant and equipment were maintained in good operating condition. A second bunkhouse was erected. A mine ventilation fan was installed on surface to exhaust from the two bottom levels. Expenditures on new buildings and plant were kept at a minimum pending a decision on a permanent building programme.

General

The total expenditures for the year were \$118,684.35. The ore occurrences developed to date and the possible ore indicated by drilling both on and below the present workings, are encouraging.

De Santis Porcupine Mines, Limited

The name of the De Santis Gold Mining Company, Limited, was changed to De Santis Porcupine Mines, Limited, in June, 1935. The capitalization was reduced to \$2,400,000 by the cancellation of 1,600,000 issued shares, and then increased to \$3,000,000 by the creation of 600,000 additional \$1 shares. Shareholders received one new share for each two of the old.

The officers and directors are: Peter De Santis, president and mine manager; Jos. V. Friel, vice-president; Giuseppe Giustini, secretary-treasurer; Theodore Schultze, T. Pomeroi, R. T. Payton, and Frank Prest, directors. The executive office is at $24\frac{1}{2}$ Second Avenue, Timmins. The mine address is Box 1299, Timmins.

The company holds nine claims in Turnbull township and nine in Ogden township, district of Cochrane. It is on this latter group, lying about $4\frac{1}{2}$ miles southwest of Timmins, that development work has been conducted in late years.

The property has been partially developed to a depth of 200 feet. The first shaft sunk was 210 feet in depth. Levels were opened at 90 and 200 feet below the collar. The total amount of crosscutting and drifting done to the end of 1935 on the 90-foot level was 327 feet. On the 200-foot level, the crosscutting and drifting amounted to 3,991 feet. During 1935 a main working shaft was started. It was raised to surface from the 200-foot level, and then then timbered from the surface down. A new timber headframe was erected and enclosed, but the proposed sinking below the 200-foot level had not been begun at the end of the year.

The average number of men employed in 1935 was 26. Fred Knutson was succeeded by H. McQuarrie as mine superintendent during the year.

Dome Mines, Limited

The authorized capital stock of Dome Mines, Limited, consists of 1,000,000 shares of no nominal or par value, of which 46,666 are held under an agreement in trust for the company; the dividends on these shares are returned to the treasury of the company. The mine property lies in Tisdale and Whitney townships, district of Cochrane.

The officers of the company are: Jules S. Bache, president and treasurer; J. H. Stovel, first vice-president; G. C. Miller, second vice-president; Morton F.

Stern, third vice-president; Alex. Fasken, secretary; E. P. Goetz, assistant treasurer and assistant secretary; C. C. Calvin, assistant secretary; John B. Robinson, assistant secretary.

The directors are: Jules S. Bache and Morton F. Stern, New York; G. C. Miller, Buffalo; Dwight B. Lee, Detroit; G. H. Harris and Simon N. Stein (who fills the vacancy caused by the death of Innis P. Allen), Rochester; Alex. Fasken, Frank E. Maulson, and Frederick Burnett, Toronto.

The death took place during 1935 of H. P. De Pencier, who for many years had been first vice-president and general manager of the company. This position has been filled by J. H. Stovel, who was formerly general superintendent. Robert E. Dye joined the staff of the mine as general superintendent early in 1936.

The office of the executive and financial department is at 42 Broadway, New York. The Toronto office is at 36 Toronto Street. The mine address is South Porcupine.

During 1935 there was an average of 738 men employed at the mine; of this number about 439 were employed underground.

The following is taken from the report of the general manager for the year ending December 31, 1935.—

During the year 635,700 tons were hoisted; of this 549,100 tons was ore, which was sent to the mill and treated, and 86,600 tons was waste, which was dumped on the surface. In addition, 4,600 tons of waste was dumped into old stopes.

The 549,100 tons of ore milled yielded bullion containing 204,842.595 ounces of gold, the yield per ton being 0.3731 ounces. In addition, there was recovered from the treatment of by-product, 1,952.434 ounces.

All values of ore, etc., will be expressed in pennyweights throughout this report. One pennyweight equals one-twentieth of an ounce, troy weight.

The following statement gives particulars of revenue and expenditure for the year under review:----

OPERATING STATEMENT

for the year ended December 31, 1935

EARNINGS:

Bullion production (after deducting gold bullion tax and mint charges— \$346,202.04).....\$\$6,939,988.68

OPERATING AND MAINTENANCE EXPENDITURE:

Development and exploration	\$658,460.76	
Mining, including hoisting	731.369.56	
Crushing and conveying	120.313.78	
Milling	504.505.84	
Bullion expense	10.438.84	
Fire protection	6.673.02	
Warehouse expense.	12.135.54	
Auditing expense.	2.828.81	
Administrative expense:	_,	
Mine office	111.293.90	
Executive office	70,305.19	
Registrar and transfer fees and expenses	11,810.33	
Municipal taxes	18,065.99	
Insurance	15,408.32	
Ontario corporation capital tax	1,220.20	
	_	2,274,830.08
COPERATING PROFIT FOR THE YEAR	-	\$4.665.158.60

Development

The following table gives details of the development accomplished during the year:-

Level	Stations	Drifts	Cross- cuts	Drift and crosscut slashing	Raises	Winzes	Box- holes	Raise, winze, and box- hole slashing	Total	Dia- mond- drilling
1st 3rd 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th 16th.(No.6 shaft). 17th 18th 20th 23rd 23rd 25th 26th		$\begin{array}{c} 353\\ 298\\ 519\\ 756\\ 288\\ 397\\ 216\\ 1,136\\ 793\\ 289\\ 2,997\\ 84\\ 493\\ \end{array}$		feet 11 41 17 56 117 32 37 16 291 98 141 1,187 52 101 6 7 142 146 59	feet 28 126 32 115 27 53 150 134 208 157 663 229 264	62 650 20 59	· · · · · · · · · · · · · · · · · · ·		-,	feet 123 1,211 1,234.5 1,211 1,234.5 4,202.5 6,71 6,128.5 6,360 4,51 1,385 4,026 4,851
27th Total		447 11,650	2.04 <u>6</u> <u>2,643</u>	$\begin{array}{r} 59\\6\\\hline 2.563\end{array}$	2,483	791	4,782	$\frac{13}{24}$	594 26,201	7,474.5

SUMMARY OF DEVELOPMENT BY LEVELS FOR THE YEAR 1935

Approximately 26,200 feet of drifting, crosscutting, raising, winzing, and box-holing, and 41,500 feet of diamond-drilling, has been done in the course of searching for and opening up the various ore bodies.

Above the 16th level, about 13,600 feet of development work was done, mostly in connection with known ore bodies or extensions of same.

At the directors' meeting, held at the time of the annual meeting of this company in the latter part of April, 1935, permission was given your management to proceed with the sinking of a main underground shaft from the 2,050-foot or 16th level. This shaft was to be located about 4,500 feet in an east-northeasterly direction from our No. 3 main shaft. The section of this new or No. 6 shaft will be approximately the same as the present No. 3 shaft and will have similar hoisting equipment and capacity. The hoisting equipment ordered for this shaft is designed for a depth of 3,000 feet, but can be used to 4,000 feet, if it is found desirable to do so. It is planned to sink this shaft at one lift to the 31st level, or 4,250 feet below the collar of No. 3 shaft. This will give us four new levels to explore as well as enable us to do further work in that area between the 18th and 27th levels. Further sinking may be done later from this point.

Drifting to the site of No. 6 shaft was started in May, and this drift reached the general area of the shaft in late December. In all, 3,000 feet of drifting was done, and 1,400 feet of old drift was slashed out to the size of this main haulage drift, which is 9 by 12 feet. A trolley haulage has been established on this drift capable of handling the normal capacity of the mine.

Considerable work remains to be done before sinking can be started from this level. The shaft has to be raised about 160 feet above the level, excavations have to be made for hoist-rooms, ore and waste pockets, a station, and a station storage yard, and rope-way raises from hoist-rooms to sheave wheels. It involves approximately 7,000 cubic yards of excavation. All necessary equipment has been ordered and is in process of manufacture or has been received and installed.

On the 16th level, in addition to the main development, about 700 feet of drifting was done. On the 17th level, a small amount of drifting was done in connection with known ore bodies.

Between the 18th and 23rd levels, approximately 1,300 feet of drifting and sinking was done in connection with establishing a second entry into the 23rd level. This work was completed in September, giving the needed ventilation to the lower levels and permitting a start at actual mining on these levels. In further development of the ore zones below the 23rd level, approximately 6,200 feet of development work was done; also 17,700 feet of diamond-drilling. The vein structure in drift No. 2,504 has been further drifted on at the 26th and 27th levels, where lengths of 790 feet and 470 feet, respectively, have been established. Also several small, but not yet thoroughly understood ore occurrences in the greenstone to the north and west of this vein structure have been found on the 24th and 25th levels. No development has been attempted on these on the 26th and 27th levels as yet. All the ore occurrences on these levels are characterized by the presence of much visible gold.

The work done to date indicates the probability of securing over 425,000 tcns of ore from the 23rd to the 27th levels. It is felt that the grade of this ore will be considerably better than the grade of the ore in the older areas of the mine.

Of the tonnage milled, the stopes yielded 466,600 tons, averaging 7.89 pennyweights per ton, and development work yielded 82,500 tons, averaging 5.95 pennyweights per ton; a total of 549,100 tons, averaging 7.59 pennyweights per ton.

The expenditure on mining was \$731,369.56, or \$1.33 per ton milled. The expenditure on development was \$658,460.76, or \$1.20 per ton milled. Of the \$1.20 per ton, approximately 32 cents was chargeable directly to the major development work on the 16th level.

Ore Reserves

The ore reserves are estimated at 2,000,000 tons. This includes 773,700 tons of broken ore but does not include 300,000 tons indicated as probable ore between the 23rd and 25th levels.

The Mill

The following are the results of the mill operations during the year from a total of 549,100 tons treated:—

	Value per ton	Extraction per cent.
Heads Recovery	dwt. 7.5944 7.4610	98.24

The small plant treating old iron and other scrap produced 1,952.434 ounces.

Exploration

As hitherto, we have continued to examine prospects and properties. No new properties were taken up during the year.

General

Operating costs for the year were \$4.143 per ton milled, as against \$3.877 in the year 1934. Actual mine operating costs were slightly less than last year, the increase being due to development work in connection with No. 6 shaft.

ment work in connection with No. 6 shaft. The acquisition of the Foley O'Brien Corporation, Limited, in August, 1935, has added thirteen claims to our holdings. While it may be several years before our workings will reach this property, the trend of our ore bodies is all in the direction of these claims, and it is felt that these facts fully justify their purchase.

The death of our late general manager, Mr. H. P. De Pencier, late in November, was a severe loss to the company and to his many friends and admirers on our staff. His passing from the Dome picture is genuinely regretted by all.

Duport Mining Company, Limited

The Duport Mining Company, Limited, was incorporated in January, 1929, with an authorized capitalization of 2,000,000 shares of no par value. The officers and directors are: J. G. Cross, president; Thayer Lindsley, vicepresident; W. J. Matthews, secretary-treasurer; W. C. Robinson and R. V. Whiteside, directors. The head office is at 215 Public Utilities Building, Port Arthur. The mine address is Kenora.

The property held by this company includes the Cameron Island mine, located at Shoal lake, district of Kenora. It is about 28 miles southwest of Kenora by air.

Underground operations were continued at the property until November 24, when they were suspended until after Christmas. During 1935 a total of 530

feet of drifting and 137 feet of crosscutting was done on the 124-foot, or 2nd level; a 2-compartment 75-degree winze was sunk from the second level to a depth of 120 feet; and a 3rd level was established at that depth, on which 376 feet of drifting and 318 feet of crosscutting was accomplished. A small high-grade lens on the second level was stoped out.

During the year 376.16 tons of ore was shipped to Tacoma, Wash., and 98.54 tons of ore to Flin Flon, Man. The average gold content of these shipments was 4.45 ounces per ton.

The plant included an 84 h.p. boiler, 40 h.p. boiler, 300-cubic-foot steam compressor, a 500-cubic-foot Diesel compressor, a 7- by 9-inch hoist on surface, and a 6- by 8-inch hoist underground.

An average of 22 men was employed, of whom 12 were underground. J. G. Cross was in charge of operations, with C. Nelson as mine captain.

Edgelake Gold Mining Company, Limited

The Edgelake Gold Mining Company, Limited, was incorporated in September, 1934. The authorized capitalization is 3,000,000 shares of \$1 par value. The officers and directors of the company are: P. B. Cameron, president and manager; J. A. Picotte, vice-president; J. M. Forbes, secretary; K. G. Cameron, treasurer; Robert McKinnon and David Craig, directors. The executive office address is Box 128, Schumacher. The mine address is Tashota.

The property consists of ten claims, approximately 400 acres, surrounding the west end of Tashota lake, $1\frac{1}{2}$ miles north of Tashota station on the transcontinental line of the Canadian National Railways, Thunder Bay district.

During 1935, with an average of 2 men per month over a 9-month period, the following construction work was done: a 34-foot headframe was erected over a shaft, sunk at an earlier date to a depth of 32 feet; a boiler- and hoist-room building, 30 by 30 feet, with a 30- by 16-foot wing, was erected; and an Ingersoll-Rand 460-cubic-foot compressor and a 50 h.p. boiler were installed. Other equipment includes a 20 h.p. portable locomotive-type boiler and a 6- by 8-inch Jenckes steam hoist. An assay office and a small cabin were also erected. The president and vice-president have done most of the work so far accomplished at the property. Activities ceased temporarily late in the fall of 1935.

Edwards Gold Mines, Limited

Edwards Gold Mines, Limited, has an authorized capitalization of 2,000,000 shares of \$1 par value. The company was formerly known as Del Sol Gold Mines, Limited; the change of name was authorized by letters patent in April, 1935. The officers and directors were: H. C. Orton, president; J. B. Kleckner, vice-president; H. H. Huevelman, secretary-treasurer; Murdock L. Martin, assistant secretary; F. E. Matthews, Neill Richards, R. G. Orton, E. B. Tilton, and H. C. Miller, directors. The head office is at 302 Sterling Tower, Toronto. A business office is maintained at 231 South La Salle Street, Chicago, Ill.

The company acquired the Edwards property, located in township 48, range 27, district of Algoma, on which the Gold Lands Syndicate of Algoma sank a 2-compartment 80-degree shaft to a depth of 97 feet, and did 60 feet of lateral work at that depth.

Underground work was started in March and continued until June, during which period about 400 feet of additional lateral work was accomplished on the 97-foot level. The plant included a 110-cubic-foot and 310-cubic-foot Gardner Denver gasoline compressor and a gasoline hoist.

An average of 8 men was employed during 1935 under the direction of J. A. S. Roussac.

The property is reached by road from either Goudreau or Lochalsh. The mail address is Lochalsh.

Elizabeth Gold Syndicate

The Elizabeth Gold Syndicate was formed in 1935 to acquire the old Elizabeth mine in Rainy River district about 10 miles north of Atikoken on the Fort Frances branch of the Canadian National Railways. W. L. Doyle is manager of the syndicate. The head office is at 9 Adelaide Street East, Toronto.

The Elizabeth mine was discovered in 1900 and worked until 1903. It was again worked during parts of 1912, 1913, and 1914. A 10-stamp mill was installed in 1902. The old workings include a 280-foot shaft, with levels at 65, 146, and 246 feet.

The syndicate started work in May. During the balance of the year the underground workings were dewatered and examined, in addition to surface work. Buildings and part of the old mining equipment were reconditioned. Operations were practically suspended for the winter at the end of the year.

An average of 15 men was employed during the period of operation, under the direction of C. N. Thompson.

Falcon Gold Mines, Limited

Falcon Gold Mines, Limited, was incorporated in September, 1935, with an authorized capitalization of 2,500,000 shares of \$1 par value. The officers and directors are: W. G. Chapman, president; C. H. Hitchcock, vice-president; S. E. Cassan, secretary-treasurer; John Elliott and Lionel Brooke, directors. The head office is at 200 Bay Street, Toronto. The mine address is Sudbury.

The property consists of four claims in Falconbridge township, district of Sudbury, and was formerly known as the McConnell or Beckley property. It is about 7 miles northeast of Wanapitei village, to which it is connected by road.

Operations were started in March, 1935, by the parent company, South Tiblemont Gold Mines, Limited, and continued until Falcon Gold Mines, Limited, took it over in September. The latter continued work until the end of November, when operations were suspended.

Previous operators sank a 45-foot shaft and did some diamond-drilling. During 1935 the diamond-drilling was extended to a total of 3,000 feet. A power-house, blacksmith shop, office, bunk-house, and cookery were constructed, and a headframe was erected over the old shaft. A 20 h.p. boiler and a 6- by 8-inch steam hoist had been installed when operations were suspended.

An average of 5 men was employed during the period of work, under the direction of J. E. Jerome.

Foley O'Brien Corporation, Limited

The Foley O'Brien Corporation, Limited, which was incorporated in 1934, has an authorized capitalization of 2,100,000 shares of \$1 par value. The officers and directors of the company are: Wm. H. Kinch, president; Samuel J. Dark, secretary-treasurer; John G. Ullmann, A. J. McNab, and Carroll Searls, directors.

The Foley O'Brien Corporation, Limited, purchased from Foley O'Brien, Limited, 520 acres located in concessions II and III of Tisdale township, district of Cochrane. This property adjoins the holdings of Dome Mines, Limited, on the northeast, and in 1935 it was purchased by Dome Mines, Limited.

The following work was done underground at this property before it was taken over by the Foley O'Brien Corporation, Limited:—

Shaft and level	Shaft-sinking	Drifts and crosscuts	Raises
No. 1 Shaft:	feet . 79	feet	feet
39-foot		80 10	
50-foot			
No. 2 Shaft	. 165		
WINZE (from the 160- to the 250-foot level)	. 90		
250-foot		670	20
80-foot			
230-foot		130	

The Foley O'Brien Corporation, worked on this property from July, 1934, to May, 1935. In this period they did the following work: Seventeen diamonddrill holes, having an aggregate depth of 14,757 feet, were drilled; five of these holes, totalling 2,882 feet, were drilled from the underground workings from No. 2 shaft; the rest were drilled from surface. (Former operators had drilled 6 holes totalling 2,477 feet.) Eight pits or trenches were dug with mechanical shovels and scrapers on that part of the property known as Slate Hill; dirt removed from these pits totalled 13,082 cubic yards. Hand-cleaning and washing in the bottom of these pits exposed about 2,300 square yards of bed rock. Hand-dug trenches totalled 2,053 linear yards; of this, 1,733 yards reached bed rock. The average depth of these trenches was about 5 feet, with a maximum depth of 15 feet. The total sampling amounted to 1,518.5 feet. This was divided as follows: surface, 704.4 feet; No. 1 shaft, 261.9 feet; No. 2 shaft, 552.2 feet. The No. 3 shaft was not pumped out by the Foley O'Brien Corporation.

A small wooden headframe and shaft-house were erected over the No. 2 shaft, and a 20- by 40-foot compressor- and hoist-house was built.

P. C. Benedict was manager of this property for the Foley O'Brien Corporation. The mine address is South Porcupine.

Fort Hope Consolidated Gold Mines, Limited

Fort Hope Consolidated Gold Mines, Limited, was incorporated in 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value, succeeding Fort Hope Gold Mines, Limited. The officers and directors are: J. C. Mackay, president; L. M. Reid, secretary-treasurer; R. D. Felton and C. Cooper, directors. The head office is at 507 Confederation Life Building, Toronto.

The property acquired consists of 16 claims at the northwest end of Eabamet lake, north of the Albany river, in the Patricia portion of Kenora district. The mine is about 115 miles northeast of Collins, a station on the Canadian National railway, from which it is most easily reached by air. Mail going to the mine is addressed to Collins.

In 1928, a 2-compartment shaft was sunk to a depth of 125 feet and about 300 feet of lateral work was done on the 100-foot level. No further work was

done underground until 1935, when the mine was pumped out and sampled. The mine had nearly refilled when it was inspected late in August, 1935. No work of consequence was being done at that time, and at the end of the month only two employees remained at the mine.

The mining plant on the property includes two 50 h.p. locomotive-type boilers, a 350-cubic-foot Canadian Ingersoll-Rand straight-line air compressor, and an 8- by 10-inch Rand sinking hoist.

About 160 cords of wood were cut early in 1935. This work and the examination work done in the spring and summer were in charge of R. Halet.

Fox Lake Gold Mines, Limited

Fox Lake Gold Mines, Limited, was incorporated in May, 1935, with an authorized capitalization of 1,000,000 shares of \$1 par value. The officers and directors are: L. W. Adams, president; P. M. A. Hare, vice-president; J. W. Westervelt, secretary-treasurer; D. A. Anderson and Thomas C. Benson, directors. The head office is at 39 New Bank of Toronto Building, London, Ont.

The property includes a group of nine claims in Mongowin township, district of Sudbury, which was taken over from the Fox Lake Gold Syndicate on incorporation. It is on the Espanola-Little Current highway, about 12 miles south of Espanola.

The 25-ton amalgamation mill, the construction of which was started in November, 1934, was completed and put in operation in February, 1935. It was operated for two weeks and then shut down for the rest of the year. Surface work was carried on throughout 1935. Diamond-drilling was started in August and continued intermittently for the balance of the year.

An average of 11 men was employed under the direction of L. W. Adams. The mine address is Espanola.

Franklin Gold Mining Company, Limited

The Franklin Gold Mining Company, Limited, was incorporated in August, 1934, with an authorized capitalization of 3,500,000 shares of \$1 par value. The officers and directors were: F. M. Sheehan, president; H. E. Martin, vice-president; M. E. Hoult, secretary-treasurer; G. A. Davis and A. T. McCabe, directors. The head office is at 330 Bay Street, Toronto.

The company took over the property of Ontario Champion Mines, Limited, situated in Haycock township, district of Kenora, 8 miles east of Kenora. Previous operators sank a 2-compartment 55-degree shaft to a depth of 230 feet and established levels at 130 and 230 feet, where 225 feet and 120 feet, respectively, of lateral work were accomplished. A 120-foot adit was also driven to intersect the shaft at a depth of 70 feet. A 70-foot section was stoped out to a height of 50 feet on the 130-foot level. In the spring of 1935 the company dewatered the underground workings and sampled them, but did not do any development work. Surface exploration and mapping was carried on until November.

The plant on the property includes two 40 h.p. locomotive-type boilers, a 10- by 12-inch Allis-Chalmers single-drum hoist, and a 400-cubic-foot Gardner compressor.

R. Adair was in charge. The mine address is Kenora.

Gillies Lake-Porcupine Gold Mines, Limited

Gillies Lake-Porcupine Gold Mines, Limited, was incorporated in January, 1933. It was formerly known as the Porcupine United Gold Mines, Limited, which was a consolidation of Canadel Gold, Limited, Rochester Consolidated Mines Corporation, and Canadian Gold Mines, Limited, a merger which took place in 1928. The company is capitalized at 2,000,000 shares of \$1 par value. The officers and directors are: Ray M. Stanley, president; Howard Thurston, vice-president; Frederick Grotz, secretary-treasurer; F. O. Tidy, A. R. Sproule, and Dr. H. H. Moore, directors. Bernard N. Hyman is general manager. G. C. Chase is resident manager. The head office is at 9 Toronto Street, Toronto. The mine address is Box 2048, Timmins.

The property now consists of six claims adjoining the holdings of both McIntyre-Porcupine Gold Mines and Hollinger Consolidated Gold Mines. It is adjacent to the former on the west end, and to the latter on the north side. Underground work to date has been confined to one claim, the northwest quarter of the north half of lot 2, concession II, Tisdale township, district of Cochrane.

The shaft has two compartments and is 947 feet deep. Levels have been opened at 100, 300, 500, 800, and 925 feet. About 6,780 lineal feet of drifts and crosscuts were driven by previous operators. The present operators commenced underground work on April 2, 1935. Development work during the remainder of the year comprised approximately 120 feet of drifting, 260 feet of raising, and 70 feet of winze-sinking.

During 1935, 5,098 tons of ore were milled, giving a recovery of 1,595.703 ounces of gold and 248.87 ounces of silver, the total value of which amounted to \$57,276.95. Milling operations commenced April 3, 1935, at which time two recently installed Kennedy Nutt mills, with a rated capacity of from 10 to 15 tons, were put into operation. The overflow from these mills was passed over blanket tables and the concentrates were stored. Concentrates derived from a second unit, consisting of a Hardinge mill, $4\frac{1}{2}$ feet by 16 inches, a classifier, and blanket tables, were also stored. Later a 6-cell flotation unit was installed to treat the tailings. In the fall of 1935, the two Kennedy Nutt mills were taken out, and a second Hardinge mill, 6 feet by 16 inches, was installed. A 12-inch by 18-foot double-rake Dorr classifier was also installed to classify the product from both ball mills. The installation of cyanide equipment to treat all the concentrates was completed at the end of the year.

No changes were made during 1935 in the mining plant, the principal items of which are: an Ingersoll-Rand single-drum, steam-operated hoist; a 150 h.p. locomotive-type boiler; and a 14- by 12-inch Chicago pneumatic single-stage air compressor, driven by a 100 h.p. General Electric motor.

The average number of men employed during the year was 30.

Gilmour Gold Mines, Limited

Gilmour Gold Mines, Limited, was incorporated in August, 1935, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: M. F. Burrows, president; J. Summers, secretary-treasurer; A. E. Broadley and Dr. R. A. Gemmill, directors. The head office is at 21 King Street West, Toronto. The mine address is Gilmour.

The property consists of 116 acres in Grimsthorpe township, Hastings county. All the development work on the property was done by previous operators. No 1 shaft is 85 feet deep, and during 1935 a station was cut at 75 feet. No. 4 shaft is 260 feet deep, with levels at 75, 125, and 250 feet. About 1,000 feet of drifting and 75 feet of crosscutting have been done from this shaft. About 500 tons of ore was hoisted during the period of operation in 1935.

Buildings on the property include an office, bunk-house, power-house,

hoist-house, assay office, mill, powder-house, and thaw-house. The 100-ton mill was put into operation in September.

An average of 15 men was employed. W. Hitchins was manager and was succeeded by A. A. Kenniger.

Gold Eagle Gold Mines, Limited

Gold Eagle Gold Mines, Limited, incorporated in February, 1934, is capitalized at 3,000,000 shares of \$1 par value. The officers and directors are: W. F. Stafford, president; Millard C. Dorntge, treasurer; Bruce P. Davis, secretary; Chas. E. St. Paul, managing director; W. S. Rogers and J. T. Oliver, directors. The head office of the company is at 350 Bay Street, Toronto.

The holdings of this company consist of 24 claims on Mackenzie island in Red lake, Patricia portion of Kenora district, adjoining the south and west sides of the property of McKenzie Red Lake Gold Mines. The mine address is McKenzie Island, a post office established on the island in 1935 to serve these two mines.

The mining plant was installed on the property during the late summer and fall of 1934, and shaft-sinking was commenced late that year. The first station at the 125-foot level was being cut at the end of 1934. The following figures show the total amount of underground development work done up to August 27, 1935, when work was temporarily suspended.

Shaft, vertical 125-foot level	, 3 comp (station	artmer	ıts		 Feet 525
			rosscuttii	ıg)	 275
375-foot level	` "	"	"		 400
500-foot level	"	"	"	• • • • • • • • • • • • •	 755

There is a good steam-operated mining plant on the property. No new additions were made to the plant during 1935. Alex. Gillies, the first manager of the property, was succeeded by F. M. Passow during the summer of 1935. An average of 33 men was employed during the first eight months of 1935.

Golden Summit Mines, Limited

Golden Summit Mines, Limited, has a capitalization of 2,500,000 shares of \$1 par value, of which 1,650,000 have been issued. The officers and directors are: Wm. J. Simpson, president; Benjamin Kerr, Jr., vice-president; Gordon Belyea, secretary-treasurer; John M. Calder, J. G. Jarvis, Dr. J. J. Matheson, and Theodore G. Miller, directors. The head office is at 2374 Bloor Street West, Toronto. The mine office is at Sesekinika.

The company owns 460 acres in the townships of Maisonville and Grenfell, district of Timiskaming.

The property was operated throughout 1935, with an average force of 21 men, under the management of Wm. J. Simpson.

Development work consisted of 853 feet of crosscutting and 571 feet of drifting; 4,612 tons of ore was hoisted. A 35-ton mill was installed during the year.

Gomak Mines, Limited

Gomak Mines, Limited, was incorporated in December, 1933, with an authorized capitalization of 1,000,000 shares of \$1 par value. The officers and directors are: C. N. Haldenby, president; Dr. W. H. Wright, vice-president;

F. O. Gallagher, secretary; Mrs. E. M. Clyde and R. M. West, directors. The head office is at 320 Bay Street, Toronto. The mine address is Gogama.

The property consists of a group of 17 claims in Chester township, Three Duck Lakes area, district of Sudbury. It is reached by a 21-mile winter road southwest from Gogama on the Canadian National railway.

Surface work and diamond-drilling were carried on until June, 1935, when a 2-compartment 65-degree shaft was started on claim S. 20,009. Underground development was suspended at the end of September after 75 feet of sinking and 180 feet of drifting on the 65-foot level, had been accomplished. Some diamond-drilling was done during October and November from underground.

At the end of the year a mill site had been excavated, and plans made to install a 20-ton amalgamation-flotation mill.

The plant included two 260-cubic-foot Ingersoll-Rand gasoline compressors, and a 5- by 7-inch Jenckes hoist. Buildings included a hoist-compressor house, blacksmith shop, office, bunk-house, and cookery.

An average of 10 men was employed during 1935, under the direction of R. D. Jones.

Halcrow-Swayze Mines, Limited

Halcrow-Swayze Mines, Limited, was incorporated in November, 1932, with an authorized capitalization of 2,500,000 shares of \$1 par value. The officers and directors were: Horace F. Strong, president; H. A. Butt, vicepresident; J. B. Allen, secretary-treasurer; W. J. Yeoell and Martin Shunsby, directors. The executive office is at 709 Excelsior Life Building, Toronto.

The property is situated in Halcrow township, Swayze area, district of Sudbury. By air, it is about 20 miles east of Chapleau on the Canadian Pacific railway.

All work was suspended at this property on February 15, 1935. The underground work accomplished during 1935 consisted of about 35 feet of raising on the 200-foot level, and the same amount on the 354-foot level, for sampling purposes. The 25-ton test-mill treated about 220 tons of ore in 1935.

About 15 men were employed under the direction of H. F. Strong.

Hard Rock Gold Mines, Limited

Hard Rock Gold Mines, Limited, was incorporated in January, 1934, with an authorized capitalization of 2,500,000 shares of \$1 par value. The officers and directors are: T. H. Rea, president; Jos. Errington, vice-president; W. S. Walton, secretary-treasurer; A. B. Gordon and H. R. Aird, directors. The head office is at 603 Royal Bank Building, Toronto. The mine address is Geraldton.

The company continued development of its property in Ashmore township in the Little Long Lac area, Thunder Bay district, throughout 1935. The 3-compartment vertical shaft, started in 1934, was at a depth of 463 feet at the end of 1935, and sinking was in progress with an objective of 475 feet. Levels were established at 200 and 325 feet. During 1935, a total of 1,109 feet of drifting and 494 feet of crosscutting was accomplished on the 200-foot level, and 959 feet of drifting and 474 feet of crosscutting on the 325-foot level; 1,342 feet of diamond-drilling was done from surface, and 3,020 feet from underground.

There were no changes in the plant during the year. An assay office and a directors' lodge were constructed, and an automobile road from Geraldton to the property was completed. An average of 39 men was employed, of whom 16 were underground. J. C. Dumbrille was in charge, with E. J. Bolger as engineer.

Harkness-Hays Gold Mines, Limited

Harkness-Hays Gold Mines, Limited, was incorporated in July, 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: R. W. Lee, president; H. J. Sender, secretary-treasurer; Dr. H. L. Van Norstrand, H. L. Duncan, and W. J. Wadsworth, directors. The head office is at 310 Temple Building, Toronto.

The property consists of a group of 8 claims, situated 2 miles east of Schreiber on the main line of the Canadian Pacific railway, district of Thunder Bay.

During 1935 work was carried on from January until the middle of April, and from the middle of July until the end of the year. The underground work accomplished during the year consisted of 110 feet of drifting in No. 3B adit. A 220-cubic-foot Ingersoll-Rand gasoline compressor was used.

A 25-ton amalgamation mill was constructed and was operated intermittently during August and September, when a total of 119 tons of ore was milled. The equipment included a jaw-crusher, vibrating screen, 2 Kennedy Nutt units, 2 Wilfley tables, and two blanket tables, operated by a 20 h.p. Diesel engine.

About 500 tons of rock was mined from open cuts and the ore sorted out, some of which went to the mill.

An average of 13 men was employed during the period of operation. J. F. Anderson was in charge. The mine address is Schreiber.

Hillside Gold Mines, Limited

Hillside Gold Mines, Limited, was incorporated in August, 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: E. V. McMillan, president; G. E. MacMillan, secretary; J. J. Phillips, treasurer; M. I. McMillan, M. Kuittinen, and H. Aarnio, directors. The executive office is at 645 Queen Street East, Sault Ste. Marie.

The property consists of thirty-five claims, located in the northeastern part of township 29, range 23, in the Michipicoten area, district of Algoma.

Underground work, which had been suspended in December, 1934, was resumed in the middle of March and continued until August, when all operations ceased for the balance of 1935. During this period the adit on claim S.S.M. 4,925 was driven a further distance of 390 feet, to a total of 790 feet, and 49 feet of crosscutting done. In addition an old 52-foot adit on claim S.S.M. 7,367 was driven a further distance of 56 feet, to a total of 108 feet.

In January, 1935, the construction of a power line and 50-ton mill was commenced. The power line, $1\frac{1}{4}$ miles long, was extended from the property of Stanley Gold Mines, Limited, and completed in March. Mill construction was suspended after the building was erected, and a jaw-crusher, Hardinge ball mill, and Wilfley table were set up. A 310-cubic-foot Ingersoll-Rand electric compressor was used for driving the main adit.

An average of 18 men was employed from the first of the year until August. D. S. Baird, J. A. Ogilvy, and Howard Webb were successively in charge.

Hollinger Consolidated Gold Mines, Limited

The authorized capital of Hollinger Consolidated Gold Mines, Limited, is \$25,000,000, in 5,000,000 shares of \$5 par value. At December 31, 1935,

4,920,000 shares were outstanding. The head office of the company is at Timmins. The general office is at 602 Royal Bank Building, Toronto.

The officers at December 31, 1935, were: Noah A. Timmins, president; Jules R. Timmins, vice-president; John B. Holden, secretary-treasurer; A. F. Brigham, consulting engineer; and John Knox, general manager. On January 23, 1936, the company sustained the loss, by death, of its president. Jules R. Timmins has now been appointed president; John B. Holden, vice-president and treasurer; and P. C. Finlay, secretary. The directors of the company are: Jules R. Timmins, John B. Holden, W. L. McDougald, Leo. H. Timmins, Wilson Bell, James Y. Murdoch, Allen A. McMartin, John I. Rankin, and N. A. Timmins, Jr.

The following tribute to the late Mr. Timmins is taken from the new president's statement to the shareholders under date of February 21, 1936:—

Before commenting in detail on the results of the operations of your company during the past year I desire to refer, on behalf of the board and myself, to the great loss sustained by your company through the death of our late president, Mr. N. A. Timmins, on the 23rd of January of the present year.

He was the last of the original five founders of the company, and president since its incorporation. No one had the interests of the company more at heart nor was more intimately associated with its affairs. The late Mr. Timmins was a man of vision, who had in full measure the pioneer spirit and the courage to back his convictions. He will be especially missed by his fellow directors, who have been associated with him for many years, as well as by the Hollinger organization. Not only our company, but the entire mining industry of the Dominion has suffered the great loss.

The following is taken from the general manager's report for the year ending December 31, 1935:---

PROFIT AND LOSS STATEMENT

for the year ending December 31, 1934

SOURCES OF 1935 INCOME: Net value of gold and silver produced Less Dominion Government tax on bullion	\$ 14,704,625.19 577,783.55	\$14,126,841.64
Interest on investments and other income		220,372.86
		\$14,347,214.50
DISPOSAL OF 1935 INCOME: Milling charges. Marketing bullion Workmen's compensation. Silicosis assessment. General charges.	\$1,189,388.67 5,979,810.04 106,306.43 141,922.93 130,779.17 679,679.10	
		\$6,119,328.16
Deduct:		
Taxes-		
Province of Ontario: Corporation tax Mining profits tax	\$ 40,240.99 157,056.15	
Royalties: Town of Timmins	51,398.09	
Township of Tisdale	12,770.18	
Municipal: Town of Timmins	68,416.15	
Township of Tisdale	2,980.76	
Dominion of Canada re 1933 income tax	1,263.79	
Miscellaneous	76.44	
Dominion, provincial, and municipal, reserved for	521,886.20	
Net profit from operations before depreciation		\$5.263,239.41

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Depreciation: \$23,709.89 Plant. 4,917.07 down. 4,917.07 Expenditures on properties abandoned. 219,954.03	,
NET PROFIT FROM OPERATIONS CARRIED TO SURPLUS ACCOUNT	\$5,014,658.42
SURPLUS ACCOUNT BALANCE BROUGHT FORWARD, JANUARY 1, 1935 Net profits from operations Net profits from the sale of securities and other assets	5,014,658.42 34,843.85
PAID OUT IN DIVIDENDS.	\$10,352,515.06 4,428,000.00
BALANCE CARRIED FORWARD, DECEMBER 31, 1935	\$5,924,515.06
BULLION STATEMENT	
INVENTORY, JANUARY 1, 1935: Solutions. Slags, lithurge, and miscellaneous. Precipitates held over. Gold in process to scavenger. Silver.	880.00 3,671.00 4,500.00
Total	\$105,442.14
GROSS VALUES PRODUCED IN 1935: Ore milled	
Inventory, December 31, 1935: Solutions	\$14,232,283.78 106,298.72
Precipitates held over	4,160.00
Bullion shipped during 1935	\$112,458.72 14,119,825.06
	\$14,232,283.78

YEARLY AVERAGE COSTS

Account	Sundries	Labour	Stores	Total	Per ton ore milled
General miscellaneous charges and administration Surface services Fire insurance Group insurance Marketing bullion Workmen's compensation Milling charges Mining charges Silicosis assessment	\$54,411.11 106,306.43	61,484.09 74,049.93 141,922.93 487,834.90 4,208,872.15	43,627.75	$105,111.84\\54,411.11\\74,049.93\\106,306.43\\141,922.93\\1,189,388.67\\5,979,810.04$	0.0572 0.0296 0.0403 0.0579 0.0772 6474 3.2549
Total charges	\$160,717.54	\$5,426,450.23	\$2,640,718.57	\$8,227,886.34	\$4.4786

Employees

The average number of men	n employed during the year l	has beer	12,889, distributed as follow	/s:—
MINERS: Exploration 32 Development 440 Production 1,463	MECHANICS: Operation Maintenance		GENERAL: Mill and refinery Technical Clerical Miscellaneous Outside properties.	90 41 157
Total 1,935	– Total	330	– Total	624

The Mill

1,837,153 \$8.00	Milling results were as follows:— Ore milled. Average value per ton. Gross value. Deduct loss in tailings. 573,644.88
14,126,841.64	Net value recovered
87.6 5,793 tons 0.99 \$0.31	Average tons per day Per cent. of possible time run. Tons per 100 per cent. running time. Solution precipitated per ton ore. Value per ton tailings Cyanide consumed per ton of ore. Zinc consumed per ton of ore. Zinc consumed per ton of ore. Lime consumed per ton of ore. Lead acetate per ton of ore. Average value of pregnant solution. Average value received per ounce of gold sold.

Ore Reserves

Our ore reserves on the 31st of December, 1935, consisted of 7,355,318 tons, of a total value of \$51,918,222.00, having an average value of \$7.06 per ton. These figures compare with 7,061,926 tons of a total value of \$51,440,260.00, having an average value of \$7.28 per ton, at the end of 1934.

In the calculations dealing with ore reserves, the statutory price of gold, namely \$20.67 per ounce, has been taken as the basis of value, and the same minimum ore grade as used in former years continued.

Hollinger Mill

During the year alterations have been made to the central shaft crushing plant, which makes its efficiency compare favourably with the most modern plants.

Hollinger Mine

Operations in the upper levels demanded a greater tonnage of backfill than formerly. During the year, 1,224,004 tons of backfill were placed.

The subshaft from the 3,950-foot level, known as No. 25 shaft, has been sunk to the 5,000foot level and will be continued for another 150 feet before development operations are commenced. The drift west from Schumacher shaft, mentioned in the last annual report, has been extended to a point immediately under the central shaft. No. 21 shaft, which is immediately west of the central shaft, has been sunk to the 3,800-foot level and will be continued to connect with the drift above mentioned, thus given improved ventilation to the lower workings.

Intensive exploration in the upper levels has been continued with gratifying results. Approximately 37 per cent. of the ore came from above the 800-foot level. This figure indicates the importance of this work to the future life of the mine. As a result of this policy it has been unnecessary to draw on the ore reserves below the 2,750-foot level. This will ultimately result in concentration of the mining operations to more restricted areas, allowing considerable decrease in operating costs.

As mentioned in the previous report, operations are still carried on on all levels from surface to the 3,950-foot. There have been no outstanding ore discoveries of note during the year, but general developments have been up to expectations. There has been a further increase of \$500,000 in the ore reserves for the year.

Young-Davidson Mine

The operations have been satisfactory during the year. As intimated in the last report a shaft has been sunk to a depth of 475 feet and a station cut at the 262-foot level. Drifting has been extended from this station to the ore body, and crosscuts are now being driven to open up the ore body for production.

Some 229,793 tons were treated during the year. Operating profits amounted to \$234,000. The recovery for the year was \$3.12 per ton.

Hislop Property

The shaft was extended from the 150-foot level to a depth of 450 feet. Development work has been carried out on the 150-, 300-, and 450-foot levels. The results to date are in-

conclusive. A small mill has been erected on the property for test purposes and went into operation January 1.

Smith-Thorne Property

Work was started on the Smith-Thorne property at Horwood lake, district of Sudbury, in September, 1935. It is reached by a 17-mile winter road southwest from Tionaga on the Canadian National railway.

Buildings were constructed, a plant was installed, and the sinking of a 2-compartment 45-degree shaft was started on claim S. 25,339 on October 28. At the end of the year the shaft was at an inclined depth of 206 feet, and a station was being cut at 200 feet. It is planned to sink to 600 feet before starting lateral work.

The plant included a 42 h.p. boiler, an 8- by 6-inch Ingersoll-Rand steam hoist, a 315-cubic-foot and a 350-cubic-foot oil-engine compressor. Buildings erected included an office, cookery-bunkhouse, steel shop-dry house, boilerhouse, and hoist-compressor house.

An average of 38 men was employed during the period of operation. G. F. Gibbs was in charge. The mine address is Tionaga.

Examinations and Explorations

The following is taken from the consulting engineer's report on outside properties for the year ending December 31, 1935:—

In all, 100 examinations on properties of varying merit were undertaken during the year, of which 82 were in Ontario, 17 in Quebec, and one in Manitoba. On some of them a limited amount of work has been done, and during the coming year several will be further investigated when favourable weather and transport conditions obtain.

Prospecting, development, and exploration work on outside properties (except the Young-Davidson and Hislop properties) involved an expenditure of \$245,000.

Horseshoe Mines, Limited

Horseshoe Mines, Limited, was incorporated in February, 1929, with an authorized capitalization of 4,500,000 shares of \$1 par value. The officers and directors are: Dr. T. B. Armstrong, president; John Aiken, vice-president; M. Abraham, secretary-treasurer; R. J. Dixon, director. The head office is at 801 Excelsior Life Building, Toronto.

The property of this company includes the old Regina mine in the Lake of the Woods area, district of Kenora. It is forty-five miles southeast of Kenora.

The mine was idle from September, 1934, until September, 1935. Work was carried on from September 10 until December 25, and then suspended. The work consisted of repairs to the buildings, a geological survey of part of the property, and repairs to the shaft.

A crew of 9 men was employed during the period of operation, under the direction of W. R. Sutton, who was succeeded by Frank Williams. The mine address is Box 811, Kenora.

Howey Gold Mines, Limited

Howey Gold Mines, Limited, was incorporated in March, 1926. The authorized capitalization of the company is 5,000,000 shares of \$1 par value, all of which are issued. The officers and directors are: R. T. Birks, president; W. S. Cherry, vice-president; H. C. McCloskey, secretary-treasurer; B. E. Martin, assistant secretary-treasurer; J. E. Hammell and John A. Northway, directors. Fraser D. Reid is general manager, Edward Futterer is resident manager, Ralph E. Sullivan is mill superintendent, and Robert Basserman is mine superintendent. The executive office of the company is at 717 Federal Building, Toronto; the head office and mine office are at Red Lake.

The company's holdings lie along both sides of the boundary between Dome and Heyson townships, at the southeast corner of the lower part of Red lake, in the Patricia portion of Kenora district. The greater part of the town of Red Lake is built on Howey property.

During 1935, a new hoist was bought and installed at the 1,000-foot level winze. This winze was completed to the 1,500-foot level early in the year. A new 50 h.p. Westinghouse motor was also bought to drive the hoist. The average number of men employed during 1935 was 218.

The following is taken from the general manager's report for 1935:--

	1935	1934	1933
Drifts, crosscuts, raises, etcfeet	5,143.8	3,955	1,879
Shafts and winzesfeet	249	177	200
Shaft stations, slashing, etccu. yds.	52	296	3,860
Diamond-drilling (underground)feet	4,185	3,629	1,837.6
Diamond-drilling (outside exploration)feet	1,514	851	
Box-holesfeet Ore brokentons Low-grade material discarded by sortingtons	442 650,156 82.746	$\begin{array}{r} 972 \\ 502,508 \\ 85.648 \end{array}$	414,611 53,170
Milled after sorting	402,220	396,109	290,965
	456,958	301,990	276,526

SUMMARY OF WORK ACCOMPLISHED

EARNINGS STATEMENT

	1935	1934	1933
Total receipts from sale of gold and silver Total operating cost including Toronto office expense	\$1,319,764.26 844,239.38	\$1,594,222.51 881,869.52	\$1,158,470.03 770,010.56
Operating profit	\$475,524.88	\$712,352.99	\$388,459.47

MISCELLANEOUS OPERATING DATA¹

	1935	1934	1933	Total from start of operations
Tonnage milled and sorted Tonnage discarded by sorting Tonnage milled Value a ton hoisted Value a ton material discarded by sorting Value a ton of ore milled Loss in tailings a ton milled	82,746 402,220 \$1.76 \$0.21 \$2.08	481,757 85,648 396,109 \$2,20 \$0,21 \$2,64 \$0,214	344,135 53,170 290,965 \$2.73 \$0.54 \$3.12 \$0.24	1,978,213 282,265 1,695,948 \$2.79 \$0.335 \$3.20 \$0.226
Loss a ton of ore hoisted (in milling and sorting) Net percentage recovery a ton of ore hoisted Total net recovery of gold and silver	30.141	\$0.213 90.3 \$1,594,222.51	\$0.286 89.5 \$1,158,470.03	\$ 0.242 91.3 \$ 6,715,955.81

¹All values are figured on gold at \$20.67 per ounce.

	193 (484,966		1934 (481,757 tons)		1933 (344,135 tons)	
	Total cost	Cost per ton milled and sorted	Total cost	Cost per ton milled and sorted	Total cost	Cost per ton milled and sorted
Mine operation Outside exploration Crushing and convey-	\$467,385.23 4,326.53		\$497,155.74 2,389.43		\$445,033.50 484.39	
ing Ore sorting Milling General expense	$\begin{array}{r} 40,294.21\\ 14,200.53\\ 217,786.10\\ 67,451.02\end{array}$		44,902.88 23,485.72 217,909.85 63,993.85	$.049 \\ .452$	34,918.07 15,612.00 198,877.14 48,277.67	.045
Total plant cost. Toronto office salaries and general expense Interest and exchange	32,762.26	. 068	\$849,837.47 32,028.69 3.36	\$1.764 .066	\$743,202.77 27,578.92	\$ 2.160
Total operating ex- penses before depre- ciation, Dominion and provincial taxes, and pre-						
operating charges Dominion and pro-	\$ 844,239.38	\$1.741	\$ 881,869.52	\$1.830	\$ 770,781.69	\$ 2.240
vincial taxes Depreciation (on 10	39,472.01	. 081	43,284.59	. 090	13,016.83	. 038
per cent. basis) Pre-operating charges	135,705.24		132,749.76 96,351.40		119,108.64 103,240.50	
Total cost	\$1,116,409.83	\$2.302	\$ 1,154,255.27	\$2.396	\$1,006,147.66	\$2.924

ANALYSIS	OF COSTS
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CAPITAL EXPENDITURES

Dwellings	\$1,266.60
Incinerator	1.243.45
Motor-boat (net)	516.65
Surface pipe line	1.116.86
Miscellaneous surface	556.04
Electric hoist, underground	4.327.63
Miscellaneous, underground	1,418.30
Total	\$10,445.53

Ore Reserves

The broken ore reserves as of December 31, 1935, amounted to 456,958 tons, compared to 301,990 tons the previous year. The unbroken reserves amount to 1,267,500 tons of ore, as compared to 1,853,000 tons the previous year.

In addition to this there is a possible 185,000 tons of ore in place indicated in the 1,175-foot level, west block, and 100,000 tons of ore that will in all probability be recovered from the permanent pillars. The total positive ore, and ore indicated as possible, amounts to 2,009,450 tons, with a gold content of between \$3.00 and \$3.50 a ton at the current price.

Exploration

The 1,175-foot level east drift was extended to a point 1,042 feet east of the shaft, in an attempt to establish the downward extension of the narrow ore body encountered in the 1,000-foot level east drift. Diamond-drilling indicated the presence of a number of short lenses of mineralized quartz, none of which were of sufficient size to be mined at a profit. The 1,175-foot level west drift was driven to a point 545 feet west of the shaft, and the dike

The 1,175-foot level west drift was driven to a point 545 feet west of the shaft, and the dike systematically diamond-drilled to establish the downward extension of the 1,000-foot level west ore body. The results obtained justified our including this west block of 185,000 tons in the ore reserves as probable ore.

The winze was sunk to a point 271 feet below the 1,315-foot haulage level. A station was cut at the 1,500-foot level, and the dike explored by drifting and systematic diamond-drilling over a length on the strike of 770 feet. This work disclosed a mineralized section 6 feet wide and 300 feet long, having an approximate value of \$4.25 (gold at \$35.00 an ounce) per ton. This,

however, cannot be classified as ore. The assay results and results generally from the work done on this level were disappointing.

Surface prospecting and a limited amount of diamond-drilling from the surface was done during the year, resulting in no developments of importance.

Hudson-Patricia Gold Mines, Limited

Hudson-Patricia Gold Mines, Limited, was incorporated in April, 1934, with authorized capitalization of 2,500,000 shares of \$1 par value. The capitalization was increased in December, 1935, to 3,500,000 shares. The officers and directors of the company are: W. R. Salter, president; M. H. Lebel, vicepresident; P. A. Lavallee, managing director; M. F. Blue, secretary-treasurer; J. L. A. Tetreault, A. J. H. St. Denis, C. H. Ackerman, and General B. R. Hepburn, directors. The head office of the company is at 200 Bay Street, Toronto. The mine office address is Narrow Lake, via Sioux Lookout.

The holdings of the company consist of 26 claims in the townships of Goodall and Dent in the Woman Lake area of the Patricia portion of Kenora district. This company succeeded Metals Development, Limited, the shareholders of which received one share of Hudson-Patricia Gold Mines, Limited, for each four shares of the old company held.

The following table shows the amount of work done up to April, 1934, when the property was taken over by the present operators; at December 31, 1934; and at December 31, 1935:—

	April, 1934	Dec. 31, 1934	Dec. 31, 1935
	feet	feet	feet
SHAFT No. 1 (inclined)	100	100	100
100-foot level:			
Crosscutting	15	15	15
Drifting	312	320	320
SHAFT NO. 2 (vertical)	237	237	237
211-foot level:			
Crosscutting	900	1,749	1,851
Drifting		1,061	1,312
Raising			169
WINZE (inclined 74° from 211-foot level)			144
325-foot level:			
Crosscutting		1	133
Crosscutting Drifting			579

Mining operations underground were suspended in August owing to lack of funds. Later in the year the capitalization was increased. Plans for a 50-ton cyanide mill were drawn up and approved, and the equipment for this mill was purchased early in 1936.

J. M. Thompson is manager. The average number of men employed at the mine from January 1 to October 1 was 27.

J-M Consolidated Gold Mines, Limited

J-M Consolidated Gold Mines, Limited, incorporated in February, 1932, is capitalized at 3,500,000 shares of \$1 par value, of which 2,329,341 shares have been issued. The officers and directors are: J. E. Day, president; Chas. Taylor, vice-president; T. J. Day, secretary-treasurer; Hon. J. D. Chaplin and F. L. Hutchison, directors. The head office of the company is at 1116 Federal Building, 85 Richmond Street, West, Toronto. The mine office address is Jackson Manion.

This company holds 34 claims in the Woman Lake area, Patricia portion of Kenora district. Access by water is from Hudson, through Lac Seul, Pakwash lake, Trout Lake river, and Woman river, to Woman lake. Aircraft reach the property in about an hour flying from Hudson or Sioux Lookout.

The following table shows the development work done up to December 31, 1934, the work accomplished during 1935, and the total:—

	To Dec. 31, 1934	1935	Total
<u> </u>	feet	feet	feet
Shaft	404		404
Winzes (below the 375-foot level)		115	145
25-foot level:			
Drifts	730	305	1,035
Crosscuts		81	241
Raises		30	200
200-foot sublevel:			
Drift	50	31	81
250-foot level:			
Drifts	808	482	1,290
Crosscuts	212	57	269
Raises	170	30	200
75-foot level:			
Drifts	472	504	976
Crosscuts	288	·	288
Raises	20	105	125
82-foot level:			
Drifts		68	68
Crosscuts		9	9

A cyanide mill of approximately 30 tons daily capacity was installed at this property early in 1934, and operated from May, 1934, to the end of March, 1935. Gross production from 3,448 dry tons milled during 1934 was \$34,709.32; and from 1,381 dry tons milled in 1935, gross production was \$13,464.99.

No major alterations or additions were made to the mining plant during 1935. The average number of men employed per month during 1935 was 38, divided as follows: underground, 12; mill, 11 (3 months only), and surface 23. D. M. Thomson is manager.

Kenora Prospectors and Miners, Limited

Kenora Prospectors and Miners, Limited, was incorporated in February, 1928. The company has an authorized capitalization of 1,000,000 shares of \$1 par value. The officers and directors are: Thayer Lindsley, president; I. A. Lindsley, vice-president and managing director; A. G. Fulton, secretarytreasurer; I. F. Machin and Jos. Errington, directors. The secretary's address is 25 King Street West, Toronto. The head office and mine office are at Kenora.

The property includes the Cedar Island mine, located in Shoal lake, Lake of the Woods area, district of Kenora. It is 25 miles southwest of Kenora by air.

Work was continued throughout 1935 at the Cedar Island mine. During 1935 the Cornucopia, or No. 2 shaft, which is a vertical 2-compartment shaft, was sunk an additional 208 feet to a total depth of 601 feet, and levels were established at 393 and 500 feet. A total of 927 feet of drifting, 368 feet of crosscutting, and 40 feet of raising was accomplished on the 393-foot level; and 712 feet of drifting, 257 feet of crosscutting, and 9 feet of raising on the 500-foot level. In addition stoping was started on these two levels and on the 144-foot level at No. 1 shaft. In June the construction of a 30-ton amalgamation-flotation mill was commenced. It was completed and put in operation on October 15. The equipment included a jaw-crusher, two ball mills, a thickener, a 6-cell flotation machine, and amalgamation equipment, operated by a 150 h.p. Diesel engine. By the end of the year a total of 3,095 tons had been milled.

The plant included a 55 h.p. boiler, a 20 h.p. boiler, an 11- by 9-inch Ingersoll-Rand steam hoist, and a 600-cubic-foot Diesel compressor.

An average of 45 men was employed during 1935, of whom 15 were underground. Hilding Johnson was superintendent.

Kirkland Consolidated Mines, Limited

Kirkland Consolidated Mines, Limited, is capitalized at 7,000,000 shares of \$1 par value. The officers and directors are: Ira Scheifley, president; Ferdinand Frohe, vice-president; C. C. Tyx, secretary-treasurer; Geo. F. Pfeiffer, Kevin Killeen, Norman R. Davis, Richard W. Langford, directors. The head office is at 702 Excelsior Life Building, Toronto.

The company owns 1,200 acres: 4 claims in McVittie township, 14 in Gauthier township, and 14 in Grenfell township, district of Timiskaming. The mine was reopened on August 10, and closed on September 30, 1935. During the operating period 100 feet of drifting was done on the 250-foot level and 1,000 feet of diamond-drilling. Ten men were employed, and Ralph Hurd was manager.

Kirkland Lake Gold Mining Company, Limited

The officers and directors of the Kirkland Lake Gold Mining Company, Limited, are: J. B. Tyrrell, president; R. G. O. Thomson, vice-president; R. Graham, secretary; V. H. Emery, managing director; A. C. Matthews, J. A. Dalton, J. C. Haight, R. V. Le Sueur, and W. S. Walton, directors. The company owns 465 acres in the township of Teck, district of Timiskaming, and is capitalized at 5,500,000 shares of \$1 par value. The head office is at 1312 Metropolitan Building, Toronto. The mine address is Kirkland Lake. P. J. Harris is superintendent. An average of 158 men was employed during the year.

The following is taken from the managing director's report for the year ending December 31, 1935:—

	Total cost	Cost per ton milled
Development and exploration Stoping. Transporting ore, hoisting, etc. Milling. Marketing bullion. Taxes. General and undistributed charges (rebuilding and strengthening shaft-house, addition to mill equipment, maintenance mine buildings, administration and management, insurance,	$\begin{array}{r} 160,118.93\\91,747.57\\87,890.42 \end{array}$	\$1.52 2.22 1.27 1.22 .14 .26
workmen's compensation, portion of extension to Kirkland Lake Hospital and drainage tunnel, miscellaneous)	97,461.47	1.36
 Total	\$574,794.42	\$7.99

ANALYSIS OF OPERATING COSTS

Summary of Work Done in Mine

As a means of showing the distribution of the work done, the mine has been divided into three vertical sections or hoisting lifts, and percentages are shown from each.

1st hoisting liftfi	rom the	2,400-foot level	to surface.
2nd hoisting liftfr	rom the	4.900-foot level	to the 2,400-foot level.
3rd hoisting lift fr			

	Quantity	1st lift	2nd lift	3rd lift
		per cent.	per cent.	per cent.
Ore brokentons	86,064	54.2	29.2	16.6
Driftingfeet	6,020	63.3	32.4	4.3
Crosscutting	943	68.4	16.8	14.8
Raisingfeet		34.6		65.4
Slashing		• 74.4	21.7	3.9
Diamond-drillingfeet		64.4	29	7.4
Distribution of all development		67.6	25	7.4

It will be seen from this that the majority of the development was done in the upper levels of the mine.

Practically no attempt was made to develop new ore in the lower lift. It is necessary to carry to completion the stopes already started in this section on account of the comparatively short life of the timber, which, if left for any appreciable time, would have to be replaced. If this had not been the case, for economic reasons, work for the time being would have been sus-dended in this lift.

Production

Although there were 6,968 tons more milled than in the year previous, there was a gain in broken ore reserves for the year of 14,134 tons, bringing the total broken ore reserves to 33,648 tons.

MILLING STATISTICS

Ore milledtons	71,920
Average value per ton	\$12.02
Gross value	\$864,477.04
Loss in tailings	\$85,921.92
Net value recovered	\$778,555.12
Recovery per ton milled	\$10.83
Average tons milled per day	197
Value in tailings per ton.	\$1.19
Per cent. extraction	90.1

During the year there were alterations and additions made to the mill equipment, which resulted in a considerable increase in the milling capacity, with an improvement in the extraction.

General

The surface plant was maintained in good repair, and a number of improvements were made for convenience and efficiency of operation. During the year much of the timber in the shaft-house had to be replaced, and considerable repairing done.

Also, your company had to bear, with the other mines of the camp, its share of the cost of the new Kirkland Lake Hospital extension and the drainage tunnel under the town of Kirkland Lake. Part of the cost of the latter, however, will not be due until 1936. All of the above unusual expenditures, which amounted to \$12,950.50, have been charged and paid for out of operations.

Lafayette Long Lac Gold Mines, Limited

Lafayette Long Lac Gold Mines, Limited, has an authorized capitalization of 3,000,000 shares of \$1 par value. The name of the company was changed from Swayze-Rand Gold Mines, Limited, in 1934. The officers and directors were: H. J. Martin, president; W. G. Chapman, secretary-treasurer; P. Roche, M. S. McLaughlin, and Lloyd Woods, directors. The head office is at 200 Bay Street, Toronto. The property includes a group of 25 claims in Errington township, Little Long Lac area, district of Thunder Bay. It is located about $1\frac{1}{4}$ miles south of Geraldton on the Canadian National railway.

Diamond-drilling was carried on at this property during 1935. In December a small 2-compartment shaft was started. By the end of the year it had been sunk to a depth of 30 feet by hand-steel and windlass.

J. A. Brownlee is in charge. The mine address is Geraldton.

Lake Shore Mines, Limited

Lake Shore Mines, Limited, is capitalized at \$2,000,000, in shares of \$1 par value. The executive officers and directors are: Dr. W. P. St. Charles, president and treasurer; W. H. Wright, vice-president; A. L. Blomfield, managing director; Kirkland Securities, Limited, secretary; Albert Wende and Ernest Martin, directors. The mine and works are at Kirkland Lake, Teck township, district of Timiskaming.

An average of 1,397 men was employed during the year. E. W. Todd is mine superintendent.

The following is taken from the report of the superintendent for the fiscal year ending June 30, 1936:—

During the period, 873,101 dry tons of ore were milled, having a gross value of \$16,361,529.69. The bullion produced yielded 463,427 fine ounces of gold and 104,721 ounces of silver.

· Period	Months	Tons milled	Gross value of bullion	Dividends paid
Mar. 1, 1918, to Nov. 30, 1918	9	14,948	\$372,352.35	\$100,000
Dec. 1, 1918, to Nov. 30, 1919	9	11,907	302,518.17	100,000
Dec. 1, 1919, to Nov. 30, 1920	12	18,889	525,278.38	80,000
Dec. 1, 1920, to Nov. 30, 1921	12	21.681	523,597.39	120,000
Dec. 1, 1921, to June 30, 1923	19	36.825	850,282.92	160,000
July 1, 1923, to June 30, 1924	12	24,223	590,119.98	160,000
July 1, 1924 , to June 30, 1925	$\overline{12}$	96,838	1,812,008.05	600,000
July 1, 1925, to June 30, 1926	12	125,676	2,233,475.85	700,000
July 1, 1926, to June 30, 1927	12	214,335	3,105,047.85	1,200,000
July 1, 1927, to June 30, 1928	12	237,962	3,629,317.57	1,600,000
July 1, 1928, to June 30, 1929	12	367,015	ð,519,138.86	2,000,000
July 1, 1929, to June 30, 1930	12	467,648	6,609,728.42	2,600,000
July 1, 1930, to June 30, 1931	12	698,624	9,153,546.62	3,600,000
July 1, 1931, to June 30, 1932	12	834,434	13,798,128.33	6,000,000
July 1, 1932, to June 30, 1933	12	797,673	13,277,685.72	6,000,000
July 1, 1933, to June 30, 1934	12	836,991	16,382,274.27	6,000,000
July 1, 1934, to June 30, 1935	12	833,094	16,026,108.57	8,000,000
July 1, 1935, to June 30, 1936	12	873,101	16,361,529.69	8,000,000
Total		6,511,864	\$111,072,138.99	\$47,020,000

PRODUCTION RECORD

¹Includes exchange premiums.

Department of Mines

Level	Drift- ing	Cross- cutting	Rais- ing	Box- holing	Sub- drifting	Shaft- raising	Shaft- sink- ing	Total footage	Diamond- drilling	Sta- tion- cutting
···	feet	feet	feet	feet	feet	feet	feet		ft. in.	cu. ft.
Surface							93	93		
200-foot.		91.2				97	173	361.2	357 10	8,520
400-foot		282.3	.			186.5	171.5	640.3	111 8	8,388
600-foot		188.2	20		41.9	186.4	28	464.5	32	9,372
800-foot		181.4	44		161	188.5		574.9	293 7	9,132
1,000-foot.	47.1	305.2	233.4		266.6	185		1,037.3	406 5	8,484
1,200-foot.		254.7			107.7	188.5		550.9		7,860
1,400-foot.		140	394.4	53.5	203.3	183.9		975.1	587 4	6,420
1,600-foot.	399.2	548.2			16.2	100.9		1,064.5	237 3	7,116
1,800-foot.	446.9	604.2	199.7		37.2	188.5		1,476.5	948 4	8,160
2,000-foot.	547.3	351	392.6	10.5	251.9	22.5		1,575.8	947 10	9,492
2,200-foot.		291.6	230.6		332.4			854.6	713	4,968
2,325-foot.		279.2	253.8	12.9	57.6	34.3		637.8	194 3	5,400
2,450-foot.	69	250.1	149.5	20.4	116.3			605.3	170	
2,575-foot.	58.9	41.3	450.1	31.5	204.2			786	586 9	
2,700-foot.	281.5	96.5	681.5		370.8			1,430.3	1,146 4	
2,825-foot.	957.5	274.4	226.7		184.8			1,643.4	1,304 10	
2,950-foot.	1,772.2	200.7	620.5					2,593.4	1,655 3	
3,075-foot.	506.3	249.9	721.5		86.2			1,563.9		
3,200-foot.	1,243.6	76.2	526		41.8			1,887.6		
3,325-foot.	151.8		49.5					201.3	332 3	
3,450-foot.									137 4	
3,825-foot.			· ·						357 3	
										· · · · · ·
Total	6,481.3	4,706.3	5,193.8	128.8	2,479.9	1,562	465.5	21,017.6	15,697 11	93,312

Development Footage for the Year 1935-36

SUMMARY OF ORE TRAMMED FOR THE YEAR 1935-36

Level	Development	Stoping	Total
	tons	tons	tons
200-foot		127	127
400-foot		160	160
600-foot	131	16,952	17,083
800-foot		21,152	21,152
,000-foot	1,588	33,032	34,620
,200-foot	488	5,447	5,935
,400-foot	265	53,127	53,392
,600-foot	320	6,465	6,785
,800-foot	1,406	1,245	2,651
,000-foot	2,143	52,659	54,802
,200-foot	1,304	86,447	87,751
,325-foot	1,297	57,486	58,783
,450-foot	760	85,105	85,865
,575-foot	1,476	118,079	119,555
,700-foot ·	2,854	93,087	95,941
825-foot	3,267	96,451	99,718
,950-foot	6,568	56,939	63,507
.075-foot	6,910	40,658	47,568
,200-foot	2,921	11,566	14,487
,325-foot	596	846	1,442
450-foot		74	74
Total	34,294	837,104	871,398

SUMMARY OF DEVELOPMENT WORK PERFORMED SINCE THE BEGINNING OF OPERATIONS

	Feet
Drifting	128,333
Crosscutting	36,041
Raising	84,128
Subdrifting	18,623
Ore and waste passes	11,647
Shaft-sinking	7,998
Shaft-raising	2,902
Shaft-slashing	1,227
Winze-sinking	1,151
Diamond-drilling	120,629
	•
D 1 1	cu. ft.
Box-holing	342,272
Station-cutting	854,993
Sumps	57,068

STATEMENT OF COSTS FOR THE YEAR

	Cost
	per ton
Development	\$0.457
Mining	3.409
Milling and refining	1.194
Marketing bullion	. 243
General and administrative expense	. 317
Operating cost	\$5.620
Depreciation	. 295
	\$5.915
Provision for taxes	1.937
Total cost	\$7.852

Development

Exploration for new ore was limited to clean-up work in intermediate levels of No. 2 vein and to the further opening of No. 1 vein to a depth of 3,200 feet. The total drifting amounted to 6,481 feet, of which 2,489 feet were driven in ore having an average grade of 0.655 ounces per ton across an average width in the drifts of 54.7 inches. The policy of stressing development of the No. 1 or hanging-wall zone in preference to the No. 2 or footwall ore bodies has been continued in order that stoping operations in the former may be brought in advance of mining in the latter.

No. 1 vein continued to yield average results under intensive development of intermediate levels, and the amount of ore provided from this zone increased. The proportion of the total, taken from No. 1 vein, is held abnormally high at present in order to conform with the policy referred to above; in future it may be expected to decrease somewhat.

No. 5 Shaft.—Sinking of the concrete caissons to rock through the bed of Kirkland lake was completed with entirely satisfactory results. A pilot raise was driven from the 200-foot level to connect with the inside of the shaft caisson, and a routine underground programme of crosscutting, raising, slashing, and installation of equipment was begun. At the end of the year crosscut connections with mine workings were completed to the 2,450-foot level, pilot-raising to the 1,800-foot level, and shaft-slashing to a depth of 613.5 feet below the collar. Steel sets were installed to 565.2 feet below the surface, and the fireproof lining placed to a depth of 425.2 feet below the shaft collar. The No. 5 shaft is to be sunk to a depth of 4,075 feet.

Stoping.—New sections of No. 1 and No. 2 veins were prepared for stoping on levels extending from the 2,825- to the 3,200-foot levels, and mining will proceed in these working places during the coming year. A filled square-set rill method of stoping has been adopted as most suitable to the ground conditions.

The length of ore exposed in drifts and not prepared for stoping at the end of the fiscal year amounted to 13,819 feet, having an exposed average width before slashing of 61 inches and an average grade of 0.70 ounces. These figures indicate that ore available for mining continues well in excess of requirements.

The total amount of backfill placed in stopes during the year amounted to 515,844 tons.

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Additions to Surface Plant

A new assay office and research laboratory was built and equipped, using fireproof materials throughout. A hoist-room was built to house the new hoists for No. 5 shaft and the steel head-frame completed. Minor additions and alterations were made to mill equipment.

Milling

Milling results have responded to improvements installed, the extraction being increased to 96 per cent. Operation of the flotation unit was discontinued with a resultant reduction in milling costs.

Supplies and Equipment Purchased, 1918-1936

An indication of the amounts spent by Lake Shore Mines, Limited, for supplies and equipment, purchased mostly in Canada, is given in the list below.

Explosives	\$1,682,730
Lumber and timber (83 per cent. local)	2,061,156
Rock drills and parts	657,198
Pipe and fittings, plumbing supplies	576,344
Electrical supplies	852,812
Mill supplies	2,759,481
Machinery and parts	3,672,029
Building materials	612,043
Fuel	396,248
Steel products	1,513,301
Oils and lubricants.	224,757
Groceries	580,247
Trucks and cars	63,611
Miscellaneous	1.378.534
Backfill	462.536
Power	3.394.332

Freight and express included in above materials, \$1,555,750.

L. B. United Mines, Limited

L. B. United Mines, Limited, was incorporated in May, 1934, with an authorized capitalization of 3,500,000 shares of \$1 par value. The officers and directors were: Dr. W. E. Tindale, president; Allen C. McLean, secretary-treasurer; P. J. Elward, M. A. Chadwick, and Stuart Fleming, directors. The executive office is at 767 Yonge Street, Toronto.

The company optioned the property of Centennial Gold Mines, Limited, located in township 29, range 22, in the Michipicoten area, district of Algoma, and started work on April 2, 1935. The property had been idle since December 4, 1934.

The 130-foot, 2-compartment, 33-degree shaft was deepened to 262 feet, and levels were established at 100 and 250 feet. During 1935, a total of 89 feet of drifting and 51 feet of crosscutting was accomplished on the 1st level, and 478 feet of drifting and 100 feet of crosscutting on the 2nd level. Connections were made on the 1st level with two old 110-foot shafts, which are situated on either side of the main shaft, where 47 feet of drifting had been done at that horizon.

A 50-ton amalgamation-flotation mill was installed and put in operation on October 22. By the end of the year it had treated a total of 2,587 tons of ore, obtained from development work and stope preparation. Flotation concentrates, totalling 34 tons, were shipped to Sault Ste. Marie, where the company has established a refinery. The mill equipment included a jaw-crusher, Marcy ball mill, Dorr classifier, Deister table, 4-cell Denver Sub-A flotation unit, filter, and amalgamation equipment.

The plant included a 218-cubic-foot electric compressor, a 320-cubic-foot electric compressor, and a small electric hoist. Buildings erected in 1935 included an office, mill, cookery, and two bunk-houses.

An average of 33 men was employed during the period of work. A. D. McWilliams, J. E. Ronaldson, and L. K. Lytle were successively in charge of operations. The mine address is Gold Park.

Lebel Oro Mines, Limited

Lebel Oro Mines, Limited, was incorporated in April, 1920. Early in 1936 the capitalization was increased from 3,000,000 to 3,500,000 shares of \$1 par value. The officers and directors are: L. K. Fletcher, president; A. B. Mortimer, secretary-treasurer; W. H. Englebright, E. J. Dwyer, and T. H. Rea, directors. The head office is at Room 10, 320 Bay Street, Toronto.

The property of this company includes the old Long Lake mine, located in township 69, district of Sudbury. It is 16 miles southwest of Sudbury.

Work was resumed at this property in May, 1935, after a suspension of six months. During the balance of the year the work consisted of dewatering the old workings and diamond-drilling 2,391 feet from underground and 1,458 feet from surface. At the end of the year the company was preparing to install a mining plant.

The 200-ton cyanide mill, constructed in 1934, did not operate during 1935. It had been built with the intention of milling the tailings from the original operation, and was not equipped with a grinding unit.

An average of 13 men was employed during the period of operation. The mine address is Box 156, Sudbury. Wm. D. M. Ross is mine manager.

Leitch Gold Mines, Limited

Leitch Gold Mines, Limited, was incorporated in July, 1935, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: K. J. Springer, president; W. E. Segsworth, vice-president; H. J. Mackay, secretary-treasurer; Dr. J. H. C. McClelland, and R. Cryderman, directors. The head office is 320 Bay Street, Toronto.

The property this company acquired consists of about 400 acres in Thunder Bay district, about 4 miles northwest of Beardmore station on the Long Lac-Port Arthur branch of the Canadian National Railways. It is reached by a 6-mile road from Beardmore.

Work was started in August. Following surface work and diamond-drilling, shaft-sinking was started early in November with a gasoline compressor and carried to a depth of 30 feet. The 3-compartment vertical shaft was then collared, a headframe erected, and a mining plant installed. Sinking was resumed on December 29, and was at a depth of 46 feet at the end of 1935. A total of 3,630 feet of diamond-drilling was done in 1935.

The plant included an 8- by 6-inch Ingersoll-Rand hoist and a 530-cubic-foot compressor, driven by a 114 h.p. Diesel engine. Buildings erected included an office, power-house, blacksmith shop, bunk-house, cookery, and stable.

An average of 27 men was employed under the direction of W. J. Hacker. The mine address is Empire.

Little Long Lac Gold Mines, Limited

Little Long Lac Gold Mines, Limited, was incorporated in January, 1933, with an authorized capitalization of 2,000,000 shares of no par value. The officers and directors are: Jos. Errington, president; Thayer Lindsley, vice-president; L. A. Macdonald, secretary-treasurer; D. M. Morin, A. B. Gordon, and D. M. Hogarth, directors. The head office is at 1331 Canadian Bank of Commerce Building, Toronto. The mine address is Oklend.

The property is two miles south of Geraldton, on the Port Arthur-Long Lac branch of the Canadian National Railways, district of Thunder Bay. There is an automobile highway from Geraldton to the mine.

Work was continued throughout 1935. Shrinkage stopes were mined on the 204-, 325-, 445-, and 570-foot levels, and preparations were being made to backfill empty stopes with waste rock.

The plant includes a 125 h.p. boiler, 94 h.p. boiler, a 1,250-cubic-foot Ingersoll-Rand electric compressor, and an Ingersoll-Rand electric double-drum hoist. Electric power was obtained from Cameron falls, 95 miles away.

An average of 170 men was employed during the year, of whom 71 men were underground. A. A. Barton is manager; D. A. Duff is mine captain; and A. Rennick is mill superintendent.

The following is an extract from the manager's report for the fiscal year ending December 31, 1935, and covering further operations to March 31, 1936:—

Construction

Although the mill was completed and went into operation in November, 1934, the past year was still one of construction. The mill was enlarged and the following equipment installed: a second dewatering thickener, two dewatering filters, a 10-cell Sub-A flotation machine, with conditioner tank, thickener, and filter for the treatment of residues. A roasting plant for the treatment of concentrates has been completed and went into operation on April 1. This plant consists of a 15-spindle Edwards roaster and a complete cyanide plant for the treatment of calcines. Another thickener and filter is now being added to the cyanide plant.

The shaft headframe has been raised 15 feet higher and the capacity of the shaft ore bin increased by 125 tons.

A 2,000-cubic-foot Bellis and Morcom compressor and a 125 h.p. stoker-fired boiler has been added to the power plant. Also, an underground air hoist has been installed for shaft-sinking.

This plant enlargement entailed the following costs:-

Mill enlargement and equipment Roasting plant and equipment	$\$75,510.00 \\ 42,500.00$
Power plant enlargement and the purchase and installation	12,000.00
of a Bellis and Morcom compressor and a new beiler and stoker	19.329.75
Sprinkler system.	12.827.75
Mill storage warehouse.	422.65
Machine shop and blacksmith shop addition and equipment	4.652.22
Outside pipe systems	8,764.03
Power and light lines	1,383.97
Docks, sidings, and fences	1,544.87
Shaft-house and headframe	2,180.31
New barn	1,717.56
Powder magazine	882.69
Extensions to bunk-house, hospital, commissary	10,327.15
Employees' residences	19,934.81
Miscellaneous plant buildings	3,421.55
- Total	\$205,399.31
Further expenditures in mine and plant equipment	22,135.49
- Total	\$227,534.80

Production

The following is a report on mill operation and production for the year ending December 31, 1935:—

Dry tons milled	62.073
Gold production	31.445.81
Gold lost in residues	4.896.21
Calculated amount gold in mill heads	36,342.02
Calculated mill head assayounces	. 585
Mill residue assayounces	. 0788
Percentage recovery	86.51

During 1935 the mill operated 361 days, indicating 98.9 per cent. running time. Tonnage milled was increased from 160 tons to 200 tons per day on September 1. During the year consulting metallurgists concluded that the flotation of refractory sulpho-arsenides from the cyanide plant residue, with subsequent roasting, was fully warranted. This idea was put into practice with the flotation plant operating late in December.

The following figures are typical of mill performance at the present time:-

	Per cent.
Gold recovered by blanket plant	. 65
Gold recovered by cyanidation	21.7
Gold contained in flotation concentrate	. 10.5
Gold contained in flotation residue	. 2.8

Roasting Plant

The results obtained from the first week's operation clearly indicate that the performance is up to expectations; a total recovery of 95 per cent. is reasonably assured and, it is expected, will be further improved during the ensuing year.

Development

During the year new ore was developed on the 4th level, 400 feet south of the main vein to date 300 feet of 0.3 grade has been drifted on. Further new ore has been developed on 2nd, 3rd, and 4th levels, a parallel mineable vein zone about 200 feet long on the 2nd level and above the 3rd level. This parallel zone is connected to the main vein by a series of folded quartz veins, making at these points a mineable zone 80 feet in length by 50 feet wide. To date, no development has been done in this area below the 4th level.

Development work accomplished for the year and to March 31st, is as follows:-

	1935	Total
Driftingfeet	3,187.5	3,836
Crosscutting	1,024	1,120
Slashingcu. ft.	11,283	31,835
Raisingfeet	976.5	1.336.5
Sumpscu. ft.	2,004	
Station-cutting		9.060
Shaft-sinking		166.5
Diamond-drilling:		
Surfacefeet	14.966	19.667
Underground	,	
Exploration; groutingfeet	5,508	8,229

Ore Reserves

	Tons	Ounces gold per ton
Proven ore Broken ore Probable ore Possible ore	85,910 22,435 135,320 77,090	$\begin{array}{r} 0.565 \\ .575 \\ .484 \\ .496 \end{array}$
	320,755	0.515

Operating Costs

	Total cost	Cost per ton
Exploration development and diamond-drilling Mining Milling Mine office and supervision General expense at property Administrative and general expense, Toronto office	$\begin{array}{c} 133,195.34\\ 105,758.23\\ 26,963.60\\ 31,938.63\end{array}$	\$1.7678 2.4680 1.7038 .4344 .5145 .3905
Total	\$451,826.97	\$7.2790

It is expected that these costs will be lowered during the present year, due to less exploration, greater tonnage milled, and higher recovery.

Macassa Mines, Limited

The capitalization of Macassa Mines, Limited, is 3,000,000 shares of \$1 par value. The officers and directors are: Robert A. Bryce, president; L. Soliague, secretary-treasurer; John D. Perrin, Henry M. Porteous, Thomas Riggs, and Arthur G. Slaght, directors. G. A. Howes is mine manager. The head office is at 85 Richmond Street West, Toronto. The mine office is at Kirkland Lake. About 145 men were employed at the mine during the year.

The company owns 6 claims, adjoining the Kirkland Lake Gold mine on the west, in Teck township, district of Timiskaming.

The following is an extract from the report of the mine manager for the twelve months ending March 31, 1936 —

Production

During the year, 69,455 dry tons of ore were treated, from which the gross recovery was \$1,140,470.22 in bullion, or \$16.42 per ton. In addition, sundry revenue amounted to \$1,674.78. The average recovery in ounces per ton was 0.468, with a 93.81 per cent. extraction. The average daily milling rate was 189 tons at 96.62 per cent. running time.

Development

As intimated in the last annual report, the mine had reached the stage, both in hoisting facilities and working places, where a much more intensive exploration and development programme could be carried on. As a result, new ore was found on the 1,300-, 1,400-, 2,000-, 2,175-, 2,575-, 2,675-, and 3,000-foot levels. While the 3,000-foot (or bottom) level has still 1,010 feet east and 1,300 feet west to go before reaching the boundaries, the length explored has proved it to be the best level in the mine to date as regards lengths, widths, and grade of ore.

The abnormal exploration and development programme during the past year increased the costs but also increased the ore reserves. As there is still a great deal of exploration to be done both on the 3,000-foot level and all levels and sublevels above, it is deemed advisable to continue at the present rate of work, the object being to further improve the developed ore position. It was decided that opening up levels below the 3,000-foot level. It will be the same size as the present main shaft.

The cutting-out of an underground chamber on the 3,000-foot level for the hoist and headframe is nearly complete, and this cost is absorbed in the development cost figure below. Sinking will be under way in May. General mining costs were higher than last year for two reasons: (1) In certain sections stull stoping and backfilling had to be used to prevent dilution of ore; and (2) the broken ore reserve was increased over that of last year, the costs of which were completely absorbed during the year.

The summary of development work is as follows:-

Mines of Ontario in 1935

	1935-36	1934-35	1933-34
Drifting Crosscutting Raising Shaft-sinking Station-cutting	feet 9,094.5 1,697 1,700 101 43	feet 5,988 1,033 1,409 481 91	feet 3,483.5 349 744 30
Total	12,635.5	9,002	4,606.5
Diamond-drilling	10,109	3,489	2,701.5

Ore Reserves

In the following estimate of ore reserves, only fully developed ore is included.

	Tons	Ounces per ton	Value per ton at \$35
Unbroken ore Broken ore Surface dump	13.605	$\begin{array}{r} 0.45 \\ .46 \\ .43 \end{array}$	\$15.75 16.10 15.05

In addition to the above-mentioned fully developed ore, there are lengths and widths of lower-grade ore throughout the mine, and also indicated ore of better grade, which as yet is not fully developed.

Mill

The mill operated efficiently throughout the year. A number of tests have been made, having as their object changes which we think would give us better extraction and lower costs per ton.

Operating Costs

No deferred development charges were set up during the year. Except for the items of capital expenditures listed below, all costs are included in the following, before provision for depreciation, pre-development, and taxes:—

	n milled
Development and exploration	\$2.80
Mining (stoping, tramming, pumping, etc.)	2.48
Milling	1.49
Administration, and general charges (including head office, Mint	
charges, and bullion-handling charge)	. 97
Total	\$7.74

Capital Expenditure

A total of \$38,766.98 was spent on additions during the year, as against \$72,249.79 in 1934-35. A good portion of it was on underground equipment, spare motors, and additional company dwellings. The itemized list is as follows:—

Residences (4)	\$8,854.37
Substation	
Machine shop	785.41
Assay office and refinery	1.576.78
Crusher plant and mill	8,000.59
Mine equipment	14.143.13
Office	404.35
Miscellaneous	3,358.14
Total	\$38,766.98

It is planned to install during the year a new mine surface hoist and to transfer the original one underground for future work below the 3,000-foot level.

Mac-Auer Gold Mines, Limited

Mac-Auer Gold Mines, Limited, was incorporated in March, 1934, with a capitalization of 50,000 shares of no par value. The officers and directors were: S. P. Myers, president; C. E. Loy, vice-president; M. Auerbach, secretary treasurer; L. Chatelle and M. G. Greenblatt, directors. The head office is at University Tower, Montreal.

The company acquired 10 claims in Davis township, and 9 claims in Scadding township, district of Sudbury, located at the north end of Ashganing lake, and work started on May 15, 1935. The property includes claim W.R. 35, on which are located two old inclined shafts, 100 feet and 32 feet deep, respectively, and about 200 feet apart. These shafts were dewatered and sampled, and the 100-foot shaft partially retimbered. About 30 feet of drifting was accomplished with a gasoline compressor at a depth of 50 feet in No. 1 shaft. A 10-ton amalgamation mill was erected and operated for about 10 days.

All work was suspended at the end of August and the mill equipment removed. Buildings constructed included a small mill building and a compressor-house of sheet metal, a canvas cookery-bunkhouse, and two small canvas buildings.

About 10 men were employed under the direction of H. I. Huestis.

McIntyre-Porcupine Mines, Limited

McIntyre-Porcupine Mines, Limited, has an authorized capitalization of 800,000 shares of \$5 per value, of which 798,000 shares are issued.

The officers of the company are: J. P. Bickell, president; Bernard E. Smith, vice-president; E. D. Fox, secretary; Balmer Neilly, treasurer. The directors are: D. H. McDougall, Strachan Johnston, and R. S. McLaughlin. R. J. Ennis is general manager. The executive office of the company is at 15 King Street West, Toronto. The head office and mine office are at Schumacher.

The company's main property is at Schumacher, in the township of Tisdale, district of Cochrane. The company has also numerous holdings in other parts of the Dominion.

During 1935, McIntyre-Porcupine Mines employed an average of 1,209 men at their Schumacher property. Of this number, 923 were employed underground and 65 were regular mill employees.

The following is taken from the general manager's report for the fiscal year ending March 31, 1936:----

Production

Ore treatedtons \$73,000 Value per ton (0.280 ounces) \$9.88 Gross value \$8,621,410.67 Bullion recovered: Gold (232,112.054 ounces at \$35.17) Silver (46,048.30 ounces at \$0.604) \$10.604	\$8,162,825.88 27,813.26
- Total value	\$8,190,639.14
Recovered per ton (0.266 ounces)\$9.79Bullion melting, refining, and handling charges\$9.79	90,800.26
Less Dominion production tax	\$8,099,838.88 105,587.58
·	\$7,994,251.30

Period	Months	Tons milled	Value per ton	Gross value	Recovery per ton	Total value	Price received per ounce for gold
1912. 1913 Jan. 1, '14, to Mar. 31, '15 Apr. 1, '15, to Mar. 31, '16 Apr. 1, '16, to June 30, '17	15	$\begin{array}{r} 14,500\\31,979\\85,654\\105,758\\195,307\end{array}$	\$7.00 7.85 8.87 7.71 10.00	\$101,555.16 251,314.45 760,232.16 815,345.49 1,954,793.28	7.05 8.39 7.38 9.55	\$76,166.38 225,752.25 718,331.71 779,990.94 1,864,914.28	
July 1, '17, to June 30, '18. July 1, '18, to June 30, '19. July 1, '19, to June 30, '20. July 1, '20, to June 30, '21. July 1, '21, to June 30, '22.	$ \begin{array}{c} 12 \\ 12 \\ 12 \end{array} $	178,327 179,874 188,835 171,916 193,971 245,257	$ \begin{array}{r} 10.05 \\ 9.78 \\ 11.52 \\ 11.67 \\ 10.69 \\ 00 \end{array} $	1,793,197.55 1,759,627.40 2,175,891.31 2,005,672.00 2,074,088.40	$9.29 \\ 11.02 \\ 11.08 \\ 9.99$	1,714,258.00 $1,671,646.03$ $2,080,178.44$ $1,904,326.36$ $1,937,105.07$	\$20.67
July 1, '22, to June 30, '23, July 1, '23, to June 30, '24, July 1, '24, to June 30, '25, July 1, '25, to June 30, '26, July 1, '26, to Mar, 31, '27, Apr. 1, '27, to Mar, 31, '28,	12 9	$\begin{array}{r} 240,615\\ 360,140\\ 400,259\\ 460,909\\ 385,409\\ 585,409\end{array}$	9.96 9.69 9.43 8.72 8.08	$\begin{array}{c} 2,397,303.00\\ 3,488,863.00\\ 3,774,068.00\\ 4,020,326.00\\ 3,113,500.07\\ \end{array}$	$9.14 \\ 8.86 \\ 8.25 \\ 7.67$	$\begin{array}{c} 2,249,741.63\\ 3,291,178.22\\ 3,546,637.52\\ 3,804,774.90\\ 2,957,060.97\end{array}$	
Apr. 1, '28, to Mar. 31, '29 Apr. 1, '29, to Mar. 31, '30 Apr. 1, '30, to Mar. 31, '31 Apr. 1, '31, to Mar. 31, '32	$ \begin{array}{c} 12 \\ 12 \\ 12 \\ 12 \\ 12 \end{array} $	520,460 538,165 550,495 558,115 655,030	8.09 8.24 8.46 8.84 8.47	$\begin{array}{c} 4,207,553.00\\ 4,433,378.00\\ 4,657,188.00\\ 4,934,122.00\\ 5,548,278.10\\ \end{array}$	8.10	3,987,634.94 4,212,624.82 4,433,626.45 4,633,140.73 5,305,475.29	21.95
Арг. 1, '32, to Mar. 31, '33 Арг. 1, '33, to Mar. 31, '34 Арг. 34, to Mar. 31, '35 Арг. 35, to Mar. 31, '36 Total	$\begin{array}{r}12\\12\\12\\12\end{array}$	736,300 776,845 862,100 873,000 9,263,963	8.45 10.68 10.23 9.88 \$9.31	6,224,493.40 8,296,704.60 8,819,660.27 8,621,410.67 \$86,228,565.31	8.12 10.24 9.78 9.38 \$8.85	5,981,714.69 7,957,252.54 8,430,670.26 8,190,639.14 \$81,954,841.56	

PRODUCTION SINCE THE BEGINNING OF MILLING OPERATIONS IN 1912

Mining

Ore broken in stopes	773,976
Total Ore hoisted	

Development

Development work amounted to 35,410 feet. This includes 21,546 feet of drifting, of which 4,518 feet was on line and 17,028 feet in vein material; of this, 6,696 feet was in ore averaging 0.378 ounces per drift width.

	Tons	Fine ounces gold	Value at \$20.67	Value at \$35.00
Estimated Broken	3,393,905 180,815	1,059,962 51,748	\$21,909,425 1,069,630	\$37,098,670 1,811,180
Total	3,574,720	1,111,710	\$22,979,055	\$38,909,850
Average per ton	••••••	0.3120	\$6.40	\$10.88

ORE RESERVES, 1935-36

SUMMARY OF DEVELOPMENT AND EXPLORATION, 1935-36

Period	Drifts	Cross- cuts	Raises	Winzes	Shafts	Stations	Sumps	Pockets and passes	Total footage	Total excava- tion	Dia- mond- drilling
	feet	feet	feet	feet	feet	cu. ft.	cu. ft.	feet	feet	cu. ft.	feet
1	1,817	1,064	78						2,959		4,532
2	1,699	1,150	170						3,019	. . .	4,180
3	1,268	1,092	35		· · · · · · · · ·				2,395		2,627
4	$1,269 \\ 1.447$	914	130 107		· · · · · · · · ·				2,313	······	4,010
5	1,447	$1,066 \\ 1.049$	216						2,620		4,607
6 7	2,407	660	80						2,999		4,199
8		1,176	122						$3,147 \\ 3,569$		4,179
9		1,061	32						2,953	· • • • • • • • •	4,188
10	2,068	1,304	02						3,372		5,310
11		1,223							3,204		4,681 5,380
12	1,765	1,069	26						2,860		5,967
	21,546	12,828	996						35,410		53,860
Previous to date	232,656.8	113,725.8	22,559.9	612.7	14,549.4	1,013,582	55,039	139,699	384,104.6	1,208,320	437,628
Total to date	254,202.8	126,553.8	23,555.9	612.7	14,549.4	1,013,582	55,039	139,699	419,514.6	1,208,320	491,488

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Department of Mines

Operating Costs

	Total c ost	Cost per ton ore milled
MINING: Exploration Development Breaking and stoping	\$ 93,258.29 494,755.13 2,497,447.19	\$0.1068 .5668 2.8607
Milling Administration and general expense	3,085,460.61 609,489.38 100,286.31	\$3.5343 .6982 .1149
	\$3,795,236.30	\$4.3474

Analysis of Mining Costs per Ton Milled

	Stoping	Drifting	Cross- cutting	Raising	Total cost	Cost per ton
Labour	\$1,180,193.42	\$161,820.75	\$81,809.10		\$1,431,884.50	\$1.6402
Explosives		60,807.27	36,793.70	1,555.27		
Supplies		4,322.08	2,619.24			
Power	79,056.79	15,497.72	7,522.49	1,797.09	103,874.09	. 1190
Timbering						. 2890
Shaft repairs	4,077.76	 <i>.</i>			4,077.76	
Backfilling	210,683.27			. 	210,683.27	
Retimbering	33,412.71				33,412.71	
Guniting		1,286.37	7,267.21			
Steel-sharpening	36,413.21	13,871.35				
Drill repairs	24,862.80	5,059.12	2,427.93	582.51	32,932.36	. 0377
Surveying and engin-						
eering	33,638.17	6,804.55	3,275.45	747.18	44,465.35	. 0509
Sampling and assay-						
ing		3,607.74	1,745.05			
Pumping		2,442.30	1,185.45	275.39	16,478.80	.0189
Ventilating	14,377.66	2,615.80	1,176.30	294.07	18,463.83	.0212
Fire protection	888.98				888.98	.0010
Underground lighting	11,050.64				11,050.64	
Tramming	113,114.32	20,375.07	9,797.26	2,242.17	145,528.82	. 1667
Underground crush-						
ing	7,274.52				7,766.55	. 0088
Hoisting	231,356.73	15,239.00			246,595.73	. 2825
Total	\$2,497,447.19	\$314,241.15	\$162,888.19	\$17,625.79	\$2,992,202.32	
Exploration					93,258.29	. 1068
Total					\$3,085,460.61	\$3.5343
Unit cost per ton	\$2.8607	\$0.3600	\$0.1866	\$0.0202		•••••

SUMMARY OF MILLING COSTS

	Labour	Supplies	Shop repairs and m ain- tenance	Power	Total cost	Cost per ton
Crushing and convey- ing	\$36,329.03 48,696.67 40,770.49 7,055.19 6,347.22	$\begin{array}{c} 116,984.96\\ 163,987.86\\ 10,546.28\\ 2,775.10 \end{array}$	8,817.22 5,639.50 557.65 1,311.53	66,811.91 24,625.57 1,367.28 2,020.12	241,310.76 235,023.42 19,526.40	.2764 .2692 .0224 .0143
Total	\$147,187.67	\$325,769.50	\$22,777.23	\$ 113,754.98	\$609,489.38	\$0.6982

Additions to Plant Buildings and Equipment

Miscellaneous surface buildings and equipment Aerial tramway for backfill Miscellaneous underground equipment Buildings and equipment at Mud lake	68,106.34 40,823.30
Total	

General

New ore developed during the year has been sufficient to fully maintain our ore reserve position. Development work on the upper levels has resulted in finding further extensions to previously worked ore bodies and, as anticipated, these areas continue to contribute large tonnages of good-grade ore.

On the lower levels from No. 12 internal shaft, some of the ground considered favourable for ore has been explored with fair results. Referring to the summary of mine development, it will be noted that No. 22 vein was developed for an additional 1,976 feet in ore averaging 0.360 ounces over drift width.

Outside Exploration

Fifty-seven properties were sampled and reported on during the year, and favourable recommendations were made on six. One of these was optioned, and others are under consideration.

Diamond-drilling on properties optioned in Chibougamau, mentioned in last year's report, did not confirm surface sampling, and the option was allowed to lapse.

The option on the O'Leary Malartic group of 19 claims in Guillet township, Lake Expanse district, Quebec, was completed, and we now own an 80 per cent. interest in these claims. A shaft was sunk to 375 feet, with levels at 125, 225, and 325 feet; and 1,824 feet of horizontal work developed 24,000 tons of ore, averaging 0.415 ounces per ton. Thirteen other claims adjoining this group were purchased outright, and our prospectors staked 15 claims also adjoining, bringing the total number of claims in this district to 47.

One one of the groups of claims purchased outright, commonly referred to as the Ranger group, a promising discovery was made. Trenching and diamond-drilling have indicated 41,000 tons of ore, averaging 0.31 ounces per ton from the surface to the 125-foot horizon, and established the continuity of the vein with payable values to the 300-foot horizon. A 3-compartment shaft is being sunk to a depth of 550 feet, and a 100-ton test mill is being erected.

McKenzie Red Lake Gold Mines, Limited

McKenzie Red Lake Gold Mines, Limited, incorporated February 1, 1933, has an authorized capitalization of 3,000,000 shares of \$1 par value, of which 2,900,000 shares have been issued. The officers and directors are: W. G. Armstrong, president; F. D. Reid, vice-president; H. M. Anderson, secretarytreasurer; M. F. Fairlie, managing director; G. W. Quinn, director. John W. Shaw is consulting engineer, and J. L. Ramsell is resident manager. The head office is at 507 National Building, 347 Bay Street, Toronto. The mine office address is McKenzie Island.

The mine property consists of 11 claims on the northern end of Mackenzie island, in Red lake, in the Patricia portion of Kenora district. Summer transportation to the property is by barge from Hudson. Plane service from Hudson or Sioux Lookout lands passengers, freight, and mail at the mine. McKenzie Island P.O., established in 1935, is located at the mine. Electric power is supplied to the mine over the company's own line, which taps the Hydro line from Ear Falls to the Howey mine, near the Howey mill.

Underground work was started at this property in the summer of 1933. Development work done since that time to the end of 1935, and during the year 1935, is shown in the following table:—

Department of Mines

	To Dec. 31, 1934	1935	Total
	feet	feet	feet
Shaft	272	189	461
Winze	305		305
125-foot level:			
Drifts	838	285	1,123
Crosscuts	225	21	246
Raises	30	395	425
Box-holes			388
250-foot level:			
Drifts	1,133	1,295	2,418
Crosscuts	269	387	656
Raises	210	554	764
Box-holes			497
375-foot level:			
Drifts	616	882	1,498
Crosscuts	98	313	411
Raises		351	351
Box-holes			100
450-foot level:			
Drifts	50	909	959
Crosscuts		480	480
Raises		79	79

Installation of machinery in the 125-ton cyanide mill, erected in the fall and early winter of 1934–35, was completed in February, and production commenced about March 1, 1935. Tonnage milled in 1935 was 36,117 tons, and production amounted to \$530,857.65, including the premium on bullion sold.

The average number of men employed in 1935 was 88, divided as follows: mine, 45; mill, 8; construction, 13; and surface, 21.

McLaren-Porcupine Gold Mines, Limited

McLaren-Porcupine Gold Mines, Limited, incorporated in August, 1934, has an authorized capitalization of 3,000,000 shares of no par value. Of this number, 1,500,000 issued for property are pooled, 800,000 have been underwritten, and 700,000 remain in the treasury. The officers and directors of the company are: Dr. W. M. McLaren, president; J. M. McLaren, vice-president; J. J. Gallagher, secretary-treasurer; N. W. Kingsland and Gerard Ruel, directors. Both the head office and the mine office are at South Porcupine.

The property held by the company consists of about 300 acres in Deloro township, district of Cochrane. It is accessible by motor road from either South Porcupine or Timmins.

Buildings on the property consist of a cookery and bunk-house, 24 by 50 feet; an office, 16 by 18 feet; small log cabin, compressor-house and blacksmith house combined, magazine, and mill.

During 1935, mining was carried on from an open glory hole, which has now reached a depth of 50 feet. The material removed from this pit was sorted, and during the year approximately 300 tons was milled. One corner of the glory hole was recently slashed out and will be timbered to serve as a shaft, when proposed drifting from the bottom of the pit commences.

The mill equipment consists of a jaw-crusher, a recently added hammer mill, bin, Kennedy Nutt mill, and blankets. Power for the mill is supplied by Diesel engine. Mining equipment includes a Sullivan portable air compressor, 2-drill capacity; Climax rock drills; and a 5- by 6-inch Jenckes hoist. During the year about 300 tons were milled with an approximate value of \$5,000, as compared with about 100 tons milled in 1934 with an approximate value of \$1,000.

The average number of men employed per month was 17. J. M. McLaren is general manager at the property.

J. Bruce McMartin

J. Bruce McMartin, 941 Dominion Square Building, Montreal, Que., is the owner of a group of 9 claims in Rickaby township, district of Thunder Bay, about 10 miles northeast of Jellicoe, on the Long Lac-Port Arthur branch of the Canadian National Railways.

During 1935 underground work was carried on at this property from January 1 to March 10, and from May 6 to November 1. When work was suspended on November 1, the underground development consisted of a 2-compartment vertical shaft, 262 feet deep, 218 feet of drifting and 40 feet of crosscutting on the 150-foot level, and 360 feet of drifting and 45 feet of crosscutting on the 250-foot level. Two small stopes had been mined on the first level, and one on the second level.

A 20-ton cyanide mill was erected early in 1935, and milling started on April 17. The mill was shut down on October 9, after treating a total of 3,295 tons of ore. A Diesel engine was used to supply power.

The mining plant included a 22 h.p. boiler operating an 8- by 10-inch hoist, and a 370-cubic-foot Ingersoll-Rand Diesel compressor.

An average of 23 men was employed under the direction of W. A. Coughlan.

McMillan Gold Mines, Limited

McMillan Gold Mines, Limited, was incorporated in December, 1926. The capitalization was increased in 1935 from 3,000,000 to 4,000,000 shares of \$1 par value. The officers and directors are: G. M. Miller, president; G. A. Foot, vice-president; F. A. Lafferty, secretary-treasurer; W. J. Hussey, J. M. R. Corbet, C. B. Goldsborough, and R. L. Patterson, directors. The head office is at Sudbury. The property is about 60 miles southwest of Sudbury, in Mongowin township, district of Sudbury. The mine address is Footbanks.

Work was continued throughout 1935. Underground operations and milling were suspended on December 24, and a diamond-drilling campaign was started.

During 1935 a winze was sunk from the 625-foot level to a depth of 275 feet, and levels were established at depths of 750 and 875 feet. The development work accomplished on the various levels during the year and the total to the end of 1935 were as follows:—

	Drift	ing	Crosscu	itting	Rais	ing
Level	1935	Total	1935	Total	1935	Total
225-foot		feet 429 1,355 333 1,609 768 177	feet 13 14	feet 13 504 95 639 143 14	feet 260 90 100 310	feet 292 392 132 355
750-foot		118	$\hat{45}$	45		
 Total	359	4,789	72	1,453	760	1,171

Shrinkage stoping was done on all levels, except the 750- and 875-foot. The 125-ton mill treated a total of 40,213 tons during 1935, of which 33,814 tons was obtained from stoping, 633 tons from development, and the balance from surface dumps. A concentrating jig and amalgamation equipment were added to the mill circuit.

A total of 1,478 feet of diamond-drilling was done from surface, and 2,407 feet from underground.

An average of 82 men was employed during the year, of whom 49 were underground. Jas. G. MacGregor was consulting engineer; George C. Dunn was general superintendent; and W. R. Dennis was mill superintendent.

Madsen Red Lake Gold Mines, Limited

Madsen Red Lake Gold Mines, Limited, was incorporated in March, 1935. with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors of the company are: F. R. Marshall, president; Jos. McDonough, vice-president; W. G. Hughson, secretary-treasurer; G. A. La Bine, A. J. Doane, and M. Madsen, directors. The head office of the company is at 67 Yonge Street, Toronto. The mine office address is Red Lake.

The holdings of this company, 29 claims, are situated at Faulkenham lake, about $7\frac{1}{2}$ miles southwest of the Howey mine, in the Red Lake area, district of Kenora, Patricia portion. The property was bought from Jomac Gold Syndicate and Falcon Gold Syndicate. The claims were prospected and developed by surface trenching and 12 diamond-drill holes in 1935. A vertical shaft, which was started late in the same year with an objective depth of 325 feet, was down about 175 feet at the end of the year. It is located on the hanging-wall side of the vein, which dips toward it at 60 to 65 degrees. It is estimated the vein will be intersected by crosscuts about 200, 150, and 100 feet from the shaft on the 100-, 200-, and 300-foot levels, respectively.

Madsen Red Lake Gold Mines bought the steam plant used in the early stages of development of the McKenzie Red Lake mine. This plant was moved to the Madsen property after the freeze-up in the fall of 1935.

In December, 1935, there were 31 employees at the mine. A. Honsberger is mine manager.

Manitoba and Eastern Mines, Limited

Manitoba and Eastern Mines, Limited, is capitalized at 5,000,000 shares, of which 3,100,006 were issued, 2,000,000 shares being optioned to Bobjo Mines, Limited, for \$202,500.

The property consists of 16 claims in Strathy township, district of Nipissing. The head office is at 25 King Street West, Toronto. The officers of the company are: W. E. Hurd, president; W. G. Chipp, treasurer; T. M. Mungovan, secretary; R. J. Jowsey and L. K. Fletcher, directors. The mine address is Timagami.

Underground operations were suspended in February, 1935. Surface exploration was carried on at the west end of the property during the summer and fall.

An average of 6 men was employed. Jas. G. MacGregor is general manager.

Martin Bird Syndicate

The Martin Bird Syndicate owns 9 claims in Hearst township, district of Timiskaming. The officers and directors are: S. J. Bird, president; G. O'Meara, secretary-treasurer; Dr. R. Armstrong, J. Martin, and D. Lough, directors. John Campbell is mine manager. The mine address is Larder Lake.

Buildings on the property include a log cabin, two bunk-houses, cook-house, office, compressor and hoist house, and headframe.

Operations were resumed in June, 1935, and continued to the end of the year. At the end of 1935 the shaft had been deepened to 140 feet, and a total of 700 feet of drifting and 420 feet of crosscutting had been done on the 125-foot level. Ore hoisted during the year amounted to 2,000 tons and waste to 1,500 tons. An average of 12 men was employed.

Matachewan Consolidated Mines, Limited

Matachewan Consolidated Mines, Limited, owns 21 claims, comprising 840 acres, in Powell and Cairo townships, district of Timiskaming. The authorized capital is 4,000,000 shares of no par value, of which 1,200,000 shares are issued to Matachewan Canadian Gold, Limited, shareholders. The balance of the stock is optioned to Ventures, Limited, and Sudbury Basin Mines, Limited, to be taken up as money is expended on the property. The officers and directors are: Thayer Lindsley, president; H. H. Sutherland, vice-president; H. Wittingham, secretary-treasurer; W. J. Boland and Jos. Errington, directors. Ernest Craig is general manager; and Thos. L. Wells is superintendent. The head office is at 25 King Street West, Toronto. The mine address is Elk Lake. During the year an average of 42 men was employed in the mine, 12 in the mill and 26 on surface, making a total of 81.

The following is a summary of the work done in 1935 as reported by the superintendent:---

Shaft-sinking amounted to 176 feet; raising, 99 feet; station-cutting, 86 feet; sumps, 1,878 cubic feet. Development work, by levels, was as follows:—

Level	Drifting	Crosscutting	Raising	Box-holing
160-foot	feet 151 595	feet 492	feet 67	feet 105
Total	746	492	67	105

From surface, 204 feet of diamond-drilling was done; and from underground, 2,261 feet.

Ore hoisted amounted to 49,487 tons; waste, 9,680 tons; and ore broken in stopes, 73,296 tons.

The mill operated 365 days, treating 48,362 tons, with an average per day of $132\frac{1}{2}$ tons.

The following figures show the gold and silver production, with the total gross value:—

	Fine ounces	Fine ounces	Total gross
	gold	silver	value
Bullion shipped	9,761.441	1,402.34	\$344,265.14
Slag shipped	352.127	248.09	12,558.53
Total	10,113.568	1,650.43	\$356,823.67

New construction completed during the year includes the following: headframe, shaft-house, ore bin, power-house and a direct-driven electric hoist and compressor, change-house with lockers and shower baths, new refinery.

Matachewan Pioneer Syndicate

The Matachewan Pioneer Syndicate, capitalized at 7,000 units of no par value, was formed to take over 9 patented claims in Cairo township, district of Timiskaming, which were staked in 1906. During 1935 the syndicate was under the management of C. G. Knott and G. W. Pinner. The head office address is 1109 Northern Ontario Building, Toronto.

During 1935 a 2-compartment shaft was sunk to a depth of 50 feet, and 42 feet of crosscutting was done. Five men were employed under the direction of H. A. Steven. The mine address is Matachewan.

At the beginning of 1936 arrangements were being made to refinance and form a company to be known as Matachewan Hub Pioneer Mines, Limited.

May-Spiers Gold Mines, Limited

May-Spiers Gold Mines, Limited, was incorporated in July, 1934, and is capitalized at 3,000,000 shares of \$1 par value, of which 1,280,000 shares are issued. The officers and directors are: Otto May, president and managing director; Nelson Spiers, vice-president; C. M. Lamb, secretary-treasurer; Geo. C. McCullagh, director. The head office of the company is at 159 Bay Street, Toronto. The mine office address is Red Lake.

The mine property consists of 8 patented claims, located at the west end of Red lake, Middle Bay section, in the township of Ball, Patricia portion of Kenora district. A large part of this group of claims lies under water. The mining plant is located on an island about a thousand feet in length.

A mining plant has been taken in to the property and is partially installed. It includes two 80 h.p. John Inglis R.T. boilers, one 840-cubic-foot Sullivan straight-line air compressor, a 7- by 11-inch Stephens-Adamson steam hoist, and all necessary blacksmith and machine shop equipment. A complete set of camp buildings to house a crew of 36 men has been erected.

A shaft has been dug down to bed rock, a distance of 8 feet, and cribbed in preparation for drilling operations.

Work at the property was reported temporarily suspended late in the summer of 1935. An average of 6 men was employed for the first nine months of the year, under the direction of Nelson Spiers.

Minto Gold Mines, Limited

Minto Gold Mines, Limited, was incorporated in July, 1930, with an authorized capitalization of 8,000 shares of no par value. The officers and directors are: John Knox, Jr., president and manager; M. E. Knox, secretary-treasurer; A. Dorfman and J. Ingram, directors. The executive and mine offices are at Wawa.

The property consists of the Minto, Jubilee, and Cooper mines, all located in township 29, range 23, in the Michipicoten area, district of Algoma.

Underground operations were continued at the Jubilee mine throughout 1935. Open stoping was done on the 2nd, 3rd, and 4th levels, and the ore transported by truck from the Jubilee mine to the 100-ton cyanide mill at the Minto mine, where it was milled.

The mill operated 340 days during 1935 and treated a total of 34,890 tons of ore, of which 2,212 tons was obtained from the 2nd level, 9,980 tons from the 3rd level, and 22,798 tons from the 4th level.

The development work accomplished during the year at the Jubilee mine consisted of a 150-foot raise from the 2nd level to surface, 30 feet of drifting on the 3rd level, and 63 feet of drifting on the 4th level.

Work was done at the Cooper property from March 15 to July 15. Previous operators put down a 45-degree shaft to a depth of 65 feet. In 1935 a power line was constructed from the Jubilee-Stanley line to the old shaft, and a compressor-house, bunk-house, and cookery were erected. A 310-cubic-foot Ingersoll-Rand electric compressor was installed, and work was then suspended.

An average of 40 men was employed during 1935, of whom 18 were underground. John Knox, Jr., was in charge of operations; Frank McLennan was mine captain; and Wm. Hosking was mill superintendent.

Moffatt-Hall Mines, Limited

Moffatt-Hall Mines, Limited, has a capitalization of \$5,000,000, in shares of \$1 par value. The officers are: L. R. Moffatt, president; and C. F. Tuer, Haileybury, secretary-treasurer. The company owns 15 claims in Lebel township, district of Timiskaming.

The property was operated under lease during the first seven months of 1935 by the Bidgood Kirkland Gold Mines, Limited. An account of this operation appears on page 82 of this report.

Morris Kirkland Gold Mines, Limited

Morris Kirkland Gold Mines, Limited, was formed in January, 1935, with an authorized capitalization of 2,500,000 shares of \$1 par value. The officers and directors are: George W. Morris, president; M. C. Smith, vice-president; Jas. E. Day, vice-president; L. H. Watts, treasurer; Roy Weldon, secretary; W. B. Robb, Dr. W. H. Bennett, C. F. Jordan, H. P. Armstrong, and L. B. Black, directors. The head office is at 902 Kent Building, Toronto. The mine address is King Kirkland.

The company took over the assets of Kirkland Gold Belt Mines, Limited, on a basis of one share of Morris Kirkland Gold Mines for three shares of Kirkland Gold Belt Mines. The property consists of 292 acres in Lebel township, district of Timiskaming.

At the beginning of the year the shaft was 768 feet deep, and 727 feet of crosscutting and 3,529 feet of drifting had been done. During 1935 the present owners did 75 feet of raising, 445 feet of crosscutting, 2,556 feet of drifting, and 740 feet of slashing. A 12,000-gallon sump was cut on the 500-foot level.

An average of 32 men was employed under the management of T. C. Fawcett.

Munro Croesus Mines, Limited

Munro Croesus Mines, Limited, owns 160 acres in Munro township, district of Cochrane, 12 miles east of Matheson. The authorized capital is 40,000 shares of \$1 par value. The officers of the company are: Robert Coffey, president; J. E. Grant, Haileybury, vice-president and general manager; L. A. Lillico, secretary-treasurer.

Operations were renewed in July, 1935, and continued to the end of the year, with an average of 14 men. During that time there were 800 tons of ore and 200 tons of waste mined and hoisted. The production was 31 ounces of crude bullion, having an approximate value of \$930, and 25 tons of concentrates, valued at \$4,500.

At the end of the year the property was leased to Tellaurum Gold Mines, Limited, of which Douglas Mutch is president. The deal was financed through an option given to Thayer Lindsley on 2,000,000 shares of Tellaurum stock.

Murray-Algoma Mining Company, Limited

The Murray-Algoma Mining Company, Limited, was incorporated in January, 1934, with an authorized capitalization of 40,000 shares of no par value. The officers and directors are: Dr. A. Sinclair, president; E. G. Archer, vice-president; G. J. Lamb, managing director; E. L. Lamb, secretary-treasurer; T. E. Carmichael, director. The executive office is at 18 Lansdowne Avenue, Sault Ste. Marie.

The property consists of a group of 18 claims in township 28, range 24, district of Algoma, a short distance west of Hawk Junction on the Algoma Central railway.

During 1935 sampling was carried on until the end of March, and work was then suspended until July. During the balance of the year a 2-mile power line was constructed from Hawk Junction to the property. Buildings erected included a compressor-house, blacksmith shop, cookery, and stable. By the end of the year a 220-cubic-foot Sullivan compressor, driven by a 50 h.p. motor, and an 1,800-gallon centrifugal pump, driven by a 5 h.p. motor, had been installed. It is planned to do open-cut mining and to install a small mill during 1936.

An average of 7 men was employed from July to the end of the year, under the direction of G. J. Lamb. The mine address is Hawk Junction.

Murwood Gold Mines, Limited

Murwood Gold Mines, Limited, was incorporated in June, 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: A. T. Gilles, president; J. A. Griffith, treasurer; R. E. Hore, Benjamin Meen, Robert Fennell, Dr. A. McD. Murray, and J. R. Gifford, directors. Corporation Management and Executives, Limited, is secretary. The head office is at 304 Bay Street, Toronto.

In October, 1935, work was started under option at the old Big Master mine, located on Upper Manitou lake, district of Kenora. It is about 20 miles south of Wabigoon on the Canadian Pacific railway.

Previous operators sank a shaft to 270 feet and established three levels, on which a total of 1,888 feet of lateral work was done. They also obtained about 5,000 tons of ore from stoping, which was treated in a 10-stamp mill.

By the end of 1935 the company had installed a mining plant, dewatered the mine, and repaired the old buildings and shaft. Sinking was started from the bottom of the 270-foot shaft on January 1, 1936.

The plant included a 45 h.p. boiler, a steam hoist, a 370-cubic-foot Ingersoll-Rand semi-Diesel compressor, and a 220-cubic-foot Ingersoll-Rand gasoline compressor.

An average of 16 men was employed during the period of operation. E. A. Boadway was in charge. The mine address is Wabigoon.

Naybob Gold Mines, Limited

Naybob Gold Mines, Limited, incorporated in January, 1934, has an authorized capitalization of 3,500,000 shares of \$1 par value. The officers and directors are: R. J. Naylor, president; Richard N. Clarke, vice-president; H. J.

Haddleton, secretary-treasurer; Geo. E. Beggs, John G. Jones, Sherman J. Le Pard, and Jos. Montgomery, directors. The executive office is at 808 Genesee Valley Trust Building, Rochester, N.Y.; the head office is at 808 Federal Building, Toronto, and the mine office address is Timmins.

The mine was formerly operated by the Hayden Gold Mines Company, Limited. The property consists of 16 claims in Ogden and Deloro townships, district of Cochrane, about 4 miles south of the town of Timmins.

The property has been developed to date from a 2-compartment vertical shaft, 719 feet in depth. Levels have been established at 100, 200, 300, 400, 550, and 700 feet. Naybob Gold Mines, Limited, has worked on only the 300-and 700-foot levels. The following table shows the work done on these two levels:—

	To Dec. 31, 1934	1935
	feet	feet
300-Foot Level: Crosscutting Drifting.	$\begin{array}{c} 325\\ 40\end{array}$	745 390
700-Foor Level: Crosscutting. Drifting. Raising.	1,030 835 48	1,180 1,324 219

The company added a ball mill to the old Hayden mill, which consisted of a flotation unit and a cyanide unit. This addition considerably increased the capacity. Milling began March 1, 1935. A maximum capacity of slightly over 100 tons per day was reached, but average tonnage milled to the end of October, when operations ceased for the year, was only about 44 tons. The total tonnage milled was 10,681 tons. The gross value of production was \$23,338.29. A small refinery was erected in 1935.

The average number of men employed during the 10-month period of activity in 1935 was 43. Operations were suspended owing to lack of capital, and negotiations for refinancing are proceeding. Robt. J. Naylor is general manager of the mine.

Neville Canadian Gold Mines, Limited

Neville Canadian Gold Mines, Limited, was incorporated in March, 1934, with an authorized capitalization of 3,000,000 shares of no par value. The officers and directors are: E. H. Dickenson, president; P. A. Fisher, vice-president; J. H. Thomas, secretary-treasurer; T. M. Mungovan, W. H. Schneider, and L. J. Lahay, directors. The head office is at 347 Bay Street, Toronto. The mine address is Shiningtree.

The property consists of a group of 9 claims in Churchill and Macmurchy townships, in the West Shiningtree area, district of Sudbury. It is about 23 miles by road north of Westree, on the Canadian National railway.

Work was resumed at this property on March 14, 1935, after a suspension of three months. It was again suspended at the end of March, after the mine had been dewatered, and the first two levels sampled by the Reward Mining Company, of British Columbia.

The property remained idle until August 14 when Bramor Mining (Ontario), Limited, in return for stock in the company, commenced the erection of a 30-ton mill. The mine was again dewatered while the mill building was constructed. Work was suspended on October 17 before any mill equipment was installed. G. F. Milne was in charge.

At the beginning of 1936 arrangements were being made to form a company, to be known as Ronda Gold Mines, Limited, to take over the property.

North Shores Gold Mines, Limited

North Shores Gold Mines, Limited, was incorporated in November, 1933, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: E. E. Watts, president; P. L. Howell, vice-president; H. A. Coon, secretary; J. A. Ross and R. N. Palmer, directors. The executive office is at 1022 Federal Building, Toronto.

The property is located about $3\frac{1}{2}$ miles south of Schreiber, on the main line of the Canadian Pacific railway, district of Thunder Bay.

Work was continued throughout 1935. During the year three new adits were started, making a total of five on the property. A 130-foot 27-degree winze was put down from the 1st level adit on the strike of the vein, and a sublevel was established at the bottom. The lateral work accomplished in the various adits during 1935, and the total to the end of 1935, was as follows:—

Level	Relative	Lateral work	
	elevation	1935	Total
1st level Sublevel Crosscut level 2nd level No. 11 vein Sublevel	feet zero 50 95 175 175	feet 260 370 40 75	feet 930 260 370 440 75
Total		745	2,075

Four small stopes were mined on the sublevel, and two on the 2nd level. The 25-ton amalgamation mill was operated for 192 days during 1935, and treated a total of 1,404 tons of ore.

An average of 37 men was employed during the year. D. E. Graham is in charge. The mine address is Schreiber.

In December a syndicate was formed from shareholders of the company to supply working capital in return for a mortgage on the property and buildings. The syndicate is to control operations during the life of the mortgage.

Northern Empire Mines Company, Limited

The Northern Empire Mines Company, Limited, was incorporated in July, 1932. The company has an authorized capitalization of 500,000 shares of \$1 par value. The officers and directors are: Fred Searls, Jr., president; G. B. Agnew, vice-president; H. E. Dodge, secretary-treasurer; Carroll Searls and A. Douglas, directors. The executive office is at 14 Wall Street, New York. The mine address is Empire.

The property is located at Empire, on the Port Arthur–Long Lac branch of the Canadian National Railways, district of Thunder Bay.

Work was continued at this property throughout 1935. The 2-compartment

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vertical shaft was sunk to a total depth of 667 feet. The development work accomplished during the year on the various levels was as follows:—

Level	Drifting	Crosscutting	Raising
150-foot	feet	feet 18	feet
300-foot	509 187	135 19	86
600-foot	1,279	230	52
Total	1,975	402	138

The amalgamation-flotation-cyanidation mill was operated throughout the year. Additional equipment was installed in August, including two flotation units, two Dorr thickeners, and an Oliver filter, which permitted the tonnage milled to be increased from 125 tons to 150 tons per day. A total of 45,736 tons of ore was milled during 1935, which was obtained from cut-and-fill stoping on the 150-, 300-, and 450-foot levels, and from development work.

The plant included two 1,080-cubic-foot Ingersoll-Rand electric compressors and a double-drum electric hoist. Electric power was obtained from Cameron Falls, 55 miles away.

An average of 123 men was employed during 1935, of whom 82 were underground. R. J. Hendricks was in charge, with P. E. Corrin as mine captain and W. Hargraft as mill superintendent.

Northern Mines, Incorporated

Northern Mines, Incorporated, was incorporated in Delaware in 1934, with an authorized capitalization of 4,000,000 shares of \$1 par value. The officers and directors for 1935 were: I. E. Haight, president; F. Erion, vicepresident; F. Dobmeier, secretary-treasurer; W. B. Woodbury and E. W. De Wilton, directors. The executive office was at 516 Walbridge Building, Buffalo, N.Y.

In March, 1935, this company started work on the property of Wabigoon-Contact Gold Mines, Limited, located at Contact bay, Wabigoon lake, about 7 miles south of Dryden, in Kenora district. Previous operators had put down two 80-degree shafts on the property, No. 1 shaft to a depth of 63 feet without lateral work, and No. 2 shaft to a depth of 100 feet with 40 feet of drifting at the bottom.

The company dewatered and sampled the shafts and carried on surface work. A mining plant was being set up at No. 2 shaft, including a 10- by 12-inch steam hoist and three boilers, totalling 104 h.p., when operations were suspended early in September.

About 15 men were employed under the direction of W. L. Haight.

Olive Gold Mines, Limited

Olive Gold Mines, Limited, was incorporated in January, 1935, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: Dr. W. C. Ryckman, president; J. J. Hoefle, vice-president; C. V. Jacobs, E. J. Wolfe, and H. F. Lichtenstein, directors. The head office is at 372 Bay Street, Toronto. The mine address is Mine Centre.

The property consists of the old Olive mine, located $4\frac{1}{2}$ miles west of

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Mine Centre, district of Rainy River. The Fort Frances branch of the Canadian National Railways is within a short distance of the property.

Previous operators sank a 2-compartment 70-degree shaft to a depth of 251 feet, and established levels at 60, 135, and 245 feet. They did 867 feet of drifting on the 60-foot level, 290 feet on the 135-foot level, and 177 feet of drifting and 65 feet of crosscutting on the 245-foot level. A second shaft was connected with the 1st level 300 feet east of the first shaft; and a third shaft, 50 feet deep, was put down 290 feet east of the second shaft. Considerable stoping was done on all levels, and the ore milled in a 25-stamp mill.

Work was started in May, 1935. The underground workings were dewatered and sampled during June and July. In September the construction of buildings and the installation of a plant was started. By the end of the year a power-house, blacksmith shop, office, bunk-house, cookery, dwelling house, and assay office had been built. A 472-cubic-foot Ingersoll-Rand compressor, driven by a 100 h.p. semi-Diesel engine, and a 9- by 12-inch Jenckes hoist were installed, with the intention of starting underground work early in 1936.

An average of 7 men was employed during the period of work, under the direction of F. G. Huycke.

Omega Gold Mines, Limited

Omega Gold Mines, Limited, was incorporated in May, 1935, with a capitalization of \$5,000,000 in shares of \$1 par value.

The officers and directors are: J. P. Bickell, president; Balmer Neilly, assistant to the president; E. D. Fox, secretary-treasurer: Dr. A. F. Demary, A. Dorfman, and E. M. Thomson, directors. A. D. Campbell is manager. The executive office is at 15 King Street West, Toronto. The head office and mine office are at Larder Lake.

The company acquired the Costello and Crown Reserve properties in McVittie township, district of Timiskaming. Work was commenced on surface in July, 1935. The Crown, or No. 1, shaft was put into shape for mining operations, a small amount of rock work only being done. A new 75-foot headframe and hoist-house was erected at the shaft. Underground mining commenced in January, 1936.

A complete new 300-ton milling plant was constructed and brought into operation in January, 1936.

Power for the mine's operation was supplied after December 1 by the Hydro-Electric Power Commission of Ontario, which extended its 110,000-volt line from Kirkland Lake to a new substation at the mine.

The following is an extract from the manager's report, dated April 16, 1936:---

The preparation of a report that covers only the first two months' production from a new plant presents certain difficulties, and the results set forth cannot be accepted as indicative of what may be normally expected from such plant after the preliminary and necessary adjustments have been completed. Actual construction of the plant commenced August 1 last, and in the interval the mill has been completed and put in operation and there has been provided the necessary shops, office, boarding house, and other essential and complementary plant and equipment.

Shaft heads were renewed and re-equipped, and underground, on the 300- and 550-foot levels the crosscuts and drifts were enlarged to provide for production equipment. In addition, a certain amount of work in preparation for stoping and early development work was completed.

The tonnage treated during the two months' operations under review came from surface dumps and from the work done underground in slashing and preparing for regular stoping operations. At present raises are started from the 550-foot level on either side of the main hoisting shaft and when completed to surface will provide for cut-and-fill stoping operations. Shaft stations and crosscuts have been enlarged; two connections between Nos. 1 and 2 shafts have been provided and, as soon as stoping operations are well organized, an aggressive plan for further underground development will be formulated and put in effect. The milling practice finally adopted is an adaptation of the McIntyre system of flotation followed by cyanidation. The mill went into production with few mechanical difficulties and soon demonstrated its capacity to be in excess of 300 tons per day. Indeed, with slight changes and little or no additional equipment, this capacity can be increased to approximately 500 tons per day.

During February and March the mill treated 17,352 tons of ore, from sources previously described, for a net recovery of \$60,992.30, and for a cost, as now computed, of approximately the same amount. As previously explained, these results are preliminary and will be gradually improved. Costs to date have averaged \$3.70 per ton of ore treated.

Ore reserves are estimated at 440,000 tons, averaging 0.197 ounces per ton, and in addition to the ore thus computed, a considerable low-grade tonnage, though indicated, has not been developed sufficiently to permit its inclusion in a reserve calculation.

Pamour Porcupine Mines, Limited

Pamour Porcupine Mines, Limited, was incorporated in March, 1934, under a Dominion charter. The company is capitalized at 5,000,000 shares of no par value. The officers and directors are: J. Y. Murdoch, president; G. H. Rainville, vice-president; A. Lafontaine, secretary-treasurer; Jules R. Timmins, M. Kendall, E. Hibbard, T. N. Hay, and W. Meen, directors. R. M. Macaulay is general manager. The executive office is at 804 Royal Bank Building, Toronto. The mine office address is Pamour, a post office established in 1935.

Pamour Porcupine Mines, Limited, was formed by the Quebec Gold Mining Corporation to take over three properties known as Three Nations, La Palme, and Porcupine Grande, in all about 800 acres situated in the northeast corner of Whitney township, district of Cochrane, near the east end of the Porcupine area. The Temiskaming and Northern Ontario railway (Timmins branch) passes through the property, as does also the main highway. The property is 6 miles east of South Porcupine.

The following is taken from the general manager's report for the year 1935:----

Diamond-Drilling

Diamond-drilling from surface was continued until August, during which time 55 holes were drilled, aggregating 29,105.5 feet. This drilling intersected 2,337 feet of vein material, or about 8 per cent. of the footage drilled. The record is as follows:—

	Feet
Old drilling	6,569.8
1934—16 holes	5,966.5
1935—55 holes	29,105.5
Total drilling to date	41,641.8

Most of this drilling was done to locate ore at the 200-foot horizon. A few holes were drilled to locate ore at the 400-foot horizon, with only two holes to locate ore at the 600-foot horizon. Both these two holes cut ore at the 600-foot horizon.

Mine Development

The old No. 2 shaft and steam equipment was operated continuously and only shut down at the end of the year. A new large 5-compartment main shaft, located 1,100 feet east of No. 2 shaft, was started in the fall and was sunk and timbered to 356.4 feet deep. Stations were cut at the 200- and 300-foot levels. During the year 3,458.7 feet of development work was done, and the following is the development record of the mine:—

	1935	Total to date
Shafts	feet 356.4	feet 686.4
Winzes. Drifts. Crosscuts. Raises.	$1,547.1 \\ 1,304.9 \\ 250.3$	33 3,825.6 2,752.4 490.3
	3,458.7	7,787.7

All drifting, crosscutting, and raising was done on the 200-foot level, and the muck was hoisted through the old No. 2 shaft until December, when the new main shaft was ready for use to the 200-foot level and underground work could be speeded up. The development work on the 200-foot level covers a distance of 1,600 feet along the bedding, opening up three different ore sections.

Ore Reserves

The property was diamond-drilled from the surface over the area east of No. 2 shaft, but only a restricted area was drilled sufficiently closely to allow of connecting up the ore intersections to form indicated ore. In this area, from No. 2 shaft east to diamond-drill hole No. 53, a distance of 3,000 feet, ore indicated by diamond-drilling aggregated 1,530,000 tons, averaging 0.261 ounces in gold.

Development underground on the 200-foot level so far has proved three ore sections to aggregate 726,000 tons, averaging 0.246 ounces in gold. In mining the above ore there will, of course, be dilution with waste and lower-grade ore, so the grade of ore sent to the mill will be somewhat less than given above.

Plant Construction

Construction of a mining plant was started in July and the following construction has been completed: main shaft-house, crusher building with conveyor runways and junction house, hoist- and power-house, substation, shops buildings, change-house, assay office, warehouse and office, central heating plant, elevated water tank, pumping plant, powder magazine, 3 bunkhouses, dining room and cook-house, 7 residences. Plant buildings are of permanent and substantial construction, steel frames on heavy concrete foundations, with a special copper-lined insulboard siding, covered with corrugated iron, or of brick and tile.

Power from the Ontario Hydro Commission's Abitibi development was contracted for in the summer, and a secondary transmission line was built from their substation at Timmins to the mine. Delivery of power at 26,400 volts to the mine substation began in October.

Plans have been completed for a first unit mill. The foundations are completed and erection will begin early in 1936.

Parkhill Gold Mines, Limited

Parkhill Gold Mines, Limited, was incorporated in April, 1929, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers are: Sir Thomas Tait, president; A. P. Earle, vice-president; G. F. Racine, secretary-treasurer; C. F. Elderkin, G. M. McKee, Charles Adams, and Dr. C. A. Peters, directors. The executive office is at 1835 Beaver Hall Building, Montreal. The mine address is Gold Park. The property is located 6 miles from Wawa on the Algoma Central railway, in township 29, range 23, Michipicoten area, district of Algoma.

During 1935 the 2-compartment 40-degree shaft was sunk an additional 197 feet to a total depth of 1,500 feet on the incline; and levels, the 10th and 11th, were established at 1,332 and 1,450 feet.

Development footages accomplished on the various levels during 1935 were as follows:---

Level	Drifting	Crosscutting	Raising
2nd	feet 36	feet	feet 18
3rd	4	29	
5th 6th	37 41	18	67
7th 8th 9th	$397 \\ 373 \\ 1.953$	$\begin{array}{c} 69\\ 183 \end{array}$	177 504
0th	1,597 192	92 85	$\begin{array}{c} 259\\ 24 \end{array}$
Total	4,630	476	1,049

A total of 20,714 tons of ore was obtained from the mine during 1935, of which 17,420 tons was from stoping and the balance from development. Stoping

was done by open-stoping methods on all levels from the 1st to the 10th, inclusive, although over half of the stope production was obtained from the 8th and 9th levels. A total of 1,371 feet of diamond-drilling was done from underground. An average of 97 men was employed, of whom 67 were underground. R. E. Barrett was in charge.

Paymaster Consolidated Mines, Limited

Paymaster Consolidated Mines, Limited, was incorporated in February, 1930. It has an authorized capitalization of 9,000,000 shares of \$1 par value, 7,761,000 of which have been issued. The officers and directors at December 31, 1935, were: A. S. Fuller, president; E. H. Walker, vice-president; E. L. O'Reilly, secretary-treasurer; A. W. Hodgetts, assistant secretary; Chas. E. Cook, general manager; C. J. O'Brien and H. D. Rothwell, directors. The executive office is at 804 McKinnon Building, Toronto. The head office address and mine office address are both South Porcupine.

Paymaster Consolidated Mines, Limited, holds large acreages in Tisdale township, district of Cochrane. The chief property is the block of ground between the Dome mine and the Buffalo Ankerite mine. There are 6 shafts on this property having an aggregate depth of 3,099 feet. The old Dome Lake or No. 5 shaft and the West Dome (Heinze) or No. 6 shaft are the only two which have been used by this company. No. 5 shaft is 1,097 feet in depth, and No. 6 shaft, inclined at 62 degrees, is 456 feet in depth.

The following is an extract from the president's report to the shareholders for the fiscal year ending June 30, 1936:—

During the period covered by the report your company has produced bullion having a gross value of \$782,533.48. This production is more than double the production for the preceding fiscal year. After deducting all costs of operation, including exploration and development, but before provision for depreciation on plant, buildings, and equipment, an operating profit of \$166,539.09 has resulted.

All production to June 30, 1936, amounting to \$1,111,288.63, has been taken from ore mined at our No. 5 and No. 6 shafts only. Your board now considers it advisable to open shafts No. 2 and No. 3, near the Buffalo Ankerite boundary, and these shafts have both been dewatered to the 400-foot level, and within the past few weeks our geologists and engineers and samplers have been examining the 100-, 200-, and 300-foot levels. As a result larger mining operations are contemplated.

Two 40-acre claims in Tisdale township, formerly known as the "Apex mine" and adjoining the No. 5 shaft section of our property to the northwest, have been acquired by purchase.

The following is taken from the report of the general manager for the fiscal year ending June 30, 1936:—

Mining

During the year an active development campaign was carried out, consisting of: deepening of No. 2 winze at No. 5 shaft from the 1,325-foot to the 1,575-foot level with stations and sump; excavating for winze headframe, bins, and hoist-room on the 400-foot level, No. 6 shaft, and sinking from the 400-foot level to the 1,050-foot horizon with intermediate levels at 525, 665, and 805 feet; excavating for a headframe, bins, and hoist-room at No. 3 winze in the 1,008 section at No. 5 shaft; drifting, crosscutting, and raising, which opened up new ore on the 600-, 750-, 900-, 1,050-, 1,200-, 1,325-, and 1,450-foot levels at No. 5 shaft, and on the 200-, 300-, and 400foot levels at No. 6 shaft.

Work on the 1,575-foot level at No. 5 shaft is now under way, and a small amount of drifting has been accomplished on the new 525- and 665-foot levels at No. 6 shaft since sinking was completed. Stoping was carried out on all levels from the 400-foot to the 1,200-foot level at No. 5 shaft and from surface to the 400-foot level at No. 6 shaft.

Broken ore reserves were increased 561 per cent., from 9,500 to 62,798 tons.

Diamond-Drilling

As will be noted in the following tabulation a total of 32,178 feet of diamond-drilling was done. Three No. 10 "E" Mitchell diamond-drills were purchased, and the contracting of diamond-drilling discontinued. Costs on this work done to date show a saving of approximately 50 per cent. In addition to the above, a larger drill (Mitchell No. 20) has been ordered.

Summary of Stoping and Development

Driftingfeet	7,371
Crosscuttingfeet	525
Raisingfeet	600
Diamond-drillingfeet	32,178
Winzing	927
Station- and sump-cuttingcu. yds.	713
Ore stopedtons	151,770
Ore produced from developmenttons	16,668
Waste hoistedtons	19,756

Ore Reserves

Ore reserves, which during the year were increased 74.2 per cent., from 166,400 tons as of June 30, 1935, to 289,899 tons as of June 30, 1936, are as follows:—

	Tons	Ounces per ton
Ore blocked out, two or more sides	84,726 142,375 62,798	$0.261 \\ .228 \\ .176$
	289,899	0.227

Milling

During the fiscal year there were milled 113,971.7 dry tons of ore, having an assay value of 0.213 ounces per ton of ore milled. The average daily tonnage milled for July, 1935, was 201.3 dry tons per day, as compared with 401.9 dry tons per day for June, 1936, an increase of 99.65 per cent. The increased tonnage rate in the mill was due to the finer mill feed made possible by the installation of a vibrating screen and a gyratory crusher in the crusher-house.

Costs

The mining costs per ton broken for the year were as follows: No. 5 shaft, \$2.46; No. 6 shaft, \$3.07.

Following is an analysis of operating costs:-

	Total cost	Cost per ton milled
Exploration AND Development: Diamond-drilling, underground Diamond-drilling, surface Surface exploration Outside exploration Development No. 5 shaft Development No. 6 shaft Sinking, stations and sumps, No. 5 shaft Sinking, stations and sumps, No. 6 shaft Station-cutting No. 5 shaft	\$23,094.34 320.46 199.56 229.12 74,815.84 34,486.09 20,047.23 2,727.82 1,759.68	\$0.20
	\$157,680.14	\$1.38
MINING: No. 5 shaft No. 6 shaft	\$258,195.35 143,615.34	· · · · · · · · · · · · · · · · · · ·
Less for breaking 54,466.3 tons more than drawn from stopes	\$401,810.69 144,335.70	
	\$257,474.99	\$2.26
Ore transportation	\$21,737.83 5,398.48 25,570.02 97,140.52 42,888.33	\$0.19 .05 .22 .85 .38
Total operating costs	\$607,890.31	\$ 5.33

General

The saving effected by the change over to Hydro-Electric Power Commission power has been sufficient to completely pay for all the new equipment and the cost of installation. In addition there has also been paid to the Hydro-Electric \$3,170.16 on the total of the required deposit of \$15,000.00

A 24- by 14¹/₂- by 12-inch Canadian Ingersoll-Rand X.V.H.E. 2 air compressor with a capacity of 1,586 C.F.M. actual, and driven by a 300 h.p. synchronous motor was purchased and put in operation at No. 5 shaft. Two 1¹/₂-ton storage-battery locomotives and 40 additional ore cars were purchased and put in service at No. 5 shaft.

The blacksmith and steel-sharpening shop at No. 6 shaft was destroyed by fire. The loss was fully covered by insurance. All steel sharpening, blacksmithing, and plate work has now been centralized in the newly equipped shop at No. 5 shaft.

During 1935 the average number of employees at the mine was 192, divided as follows: underground, 121; mill, 17; and surface, 53. A. Pugsley is underground superintendent, and D. Robinson is mill superintendent.

Pickle Crow Gold Mines, Limited

Pickle Crow Gold Mines, Limited, incorporated in January, 1934, is capitalized at 3,000,000 shares of \$1 par value. The officers and directors of this company are: J. E. Hammell, president; A. L. Smith, vice-president; Robt. Fennell, secretary-treasurer; G. A. Cavin, assistant secretary-treasurer; Mrs. Eola Hammell and B. H. Budgeon, directors. The executive office of the company is at 930 Canadian Bank of Commerce Building, Toronto. The head office and the mine office of the company are at Pickle Crow.

The company's property consists of 59 claims in the Pickle Lake-Crow River area, in the Patricia portion of Kenora district. The main claims of the property were originally staked in 1928, and early development work was done by Northern Aerial Minerals Exploration, Limited. The property is reached by airplane from Hudson, Sioux Lookout, or Collins, on the Canadian National railway, to Pickle lake, from which point a truck road, constructed during the summer of 1935, leads to the property, 8 miles east of the lake. Supplies are taken in by water from Hudson over Lac Seul, up the Root river, across a marine railway to Lake St. Joseph, and thence to Doghole bay, which is about 25 miles from the property. From here supplies are transported to Pickle lake by plane during the summer and by tractor during the winter. Supplies are also freighted by tractor from Savant Lake during the winter.

A mining plant was taken into this property in 1933. The sinking of a 3-compartment shaft was commenced in September, 1933. Since that date operations have been continuous. At the end of 1934, the shaft was down 380 feet; and by the end of 1935, it was 789 feet deep. The following table shows the amount of development work by levels done at this property to the end of 1934 and at the end of 1935:—

	Crosse	utting	Drif	ting	Rai	sing	Diamon	d-drilling
Level		To Dec. 31, 1935		To Dec. 31, 1935			To Dec. 31, 1934	
125-foot		$ \begin{array}{c c} 222 \\ 379 \\ 166 \\ 162 \\ 2 \end{array} $	1,135 1,478	$\begin{array}{r} 1,427 \\ 1,135 \\ 1,529 \\ 226 \end{array}$	177 73	134 177 881/2		1,189 1,337 2,180 202
750-foot Surface		222	· · · · · · · · · ·					6,604
Total	7271/2	$1,271\frac{1}{2}$	3,320	4,317	250	3991⁄2	6,902	11,512

A mill, comprising both amalgamation and cyanide units and having a daily capacity of 150 tons, was constructed during the latter part of 1934 and the winter of 1935. The mill was first turned over on April 17, 1935, and actual milling operations were started on May 1, 1935. During the last eight months of the year the mill treated 36,200 tons, having a gross value of \$874,088.72.

During 1935 the following additions were made to the plant equipment: a 1,000-cubic-foot Ingersoll-Rand cross-compound, electrically driven compressor; the 600-cubic-foot Ingersoll-Rand steam-driven compressor was converted to an electrically driven compressor; an Ingersoll-Rand, 42- by 30inch, class PE-I, 8,000-lb. pull, electric hoist and 60 h.p. motor; a Fairbanks-Morse horizontal split-case, double-action suction, centrifugal pump (for fire protection); and a Continental industrial type engine with automatic starter (attached to pump). An emergency power unit has also been installed. This consists of a gasoline engine and electric generator, which generates 125 horsepower, sufficient to operate all necessary mill units and to light the buildings in case of failure of the main power supply.

The following buildings were erected or completed during 1935: mine warehouse, 26 by 58 feet; machine shop, 26 by 60 feet; mine dry, 30 by 40 feet; compressor and hoist room, 31 by 78 feet; refinery, 14 by 16 feet, equipped; shaft-house and steel headframe, 60 feet in height, completed; standby power unit building, 14 by 16 feet; bunk-house, 26 by 30 feet; 2 dwellings, 22 by 25 feet and 24 by 28 feet; cookery warehouse, 16 by 40 feet; 2 warehouses at Doghole bay, 24 by 60 feet and 24 by 30 feet.

An average of 102 men was employed at the mine during 1935. Alex. G. Hattie is mine manager.

Porcupine Lake Gold Mining Company, Limited

The Porcupine Lake Gold Mining Company, Limited, was incorporated in 1927, and at that time took over the property of the old Porcupine Lake Gold Mines, Limited; it has an authorized capitalization of 3,000,000 shares of no par value. The officers and directors are: C. E. Calvert, president; H. H. Sutherland, vice-president; Geo. McKeown, secretary-treasurer; J. R. L. Starr and H. J. Batkin, directors. The head office of the company is at 112 Yonge Street, Toronto. The property, often called the Hunter mine, is located at the northeast corner of Porcupine lake, Whitney township, district of Cochrane.

The mine workings consist of a shaft, inclined at 65 degrees, and one level about 275 feet below the collar of the shaft. About 700 feet of crosscutting and drifting was done on this level by Porcupine Lake Gold Mines, Limited, before the mine was closed down in 1914. From that year until 1927 the property was idle. In 1927 it was pumped out and sampled, and some diamond-drilling was done. Work ceased again in June, 1928, and it was not until November, 1935, that the mine was again pumped out.

Work commenced in September, 1935, with the repairing of several of the old buildings and a diamond-drilling programme. About 2,000 feet of diamond-drilling was done from surface by the Porcupine Lake Gold Mining Company. The mine was pumped out early in November, and on the 23rd of the month Hollinger Consolidated Gold Mines became interested in the property, and sampled it and drilled 8 diamond-drill holes from underground, with a total footage of 1,764 feet. Hollinger completed this work in December, and no further work was done to the end of the year.

The mining equipment now on hand at the property includes an 80 h.p. boiler, which was reconditioned in October; a Jenckes straight-line air compres-

sor, steam-driven, with a steam cylinder, 10 by 12 inches, and an air cylinder, 12 and $7\frac{1}{2}$ by 12 inches; and an 8- by 10-inch steam hoist, built by Ottumwa Iron Works.

Wm. Sixt was in charge of the work done by the Porcupine Lake Gold Mining Company. Geo. M. Henderson was superintendent.

Red Lake Gold Shore Mines, Limited

Red Lake Gold Shore Mines, Limited, incorporated in December, 1927, has an authorized capitalization of 5,000,000 shares of no par value, of which 4,500,-000 shares are outstanding. The officers and directors are: Chas. E. St. Paul, president and managing director; Ira E. Hough, vice-president; Dr. Robt. W. Breuls, secretary-treasurer; Chas. V. Gallagher and Henry A. Newman, directors. The head office is at 244 Bay Street, Toronto. The mine office is at Red Lake.

The holdings of this company consist of 23 claims in the townships of Dome and Heyson, Red Lake area, in the Patricia portion of Kenora district. The mine shaft is about a mile west of the town of Red Lake. The present programme of work was commenced in June, 1934, although surface-trenching had been done on the property some years ago. Shaft-sinking was started late in the summer of 1934. At the end of 1934, the shaft was down 182 feet, with a level at 180 feet; at the end of 1935, it was 435 feet deep, with additional levels at 300 and 425 feet. The following table shows the development work accomplished during the past two years:—

	At Dec. 31, 1934	At Dec. 31, 1935
Crosscutting Drifting Raising	80	feet 220 1,429 157

Equipment for a mill to be built in 1936 has been purchased. The initial capacity will be 125 tons, and provision will be made for enlarging the capacity to 250 tons if needed.

In 1935, electric power was made available at the mine. The formerly steam-driven compressor of 750-cubic-foot capacity was electrified. The mine pump was also electrified. A new Ingersoll-Rand double-drum hoist was installed in 1935. New buildings erected in 1935 included an assay office, a combined pipe- and machine-shop, and enlargements to the hoist- and compressor-building.

The average number of employees in 1935 was 34. W. P. Mackle is mine manager.

Richelieu Gold Mines, Limited

Richelieu Gold Mines, Limited, incorporated in May, 1934, is capitalized at 3,000,000 shares of \$1 par value, of which 1,614,407 shares have been issued. The officers and directors are: A. B. Stodart, president; W. R. P. Parker, vicepresident; W. J. McDonough, secretary-treasurer; H. R. Drummond-Hay and R. Spreckels, directors. The head office of the company is at 330 Bay Street, Toronto. The mine office address is Savant Lake.

The property consists of 24 claims, totalling 854 acres in Thunder Bay district. Fifteen of these claims are in one group, located on a peninsula extending southward into the northeast bay of Sturgeon lake, about 10 miles

southeast of Savant Lake station on the transcontinental line of the Canadian National Railways. The sixteenth claim, 104 acres, adjoins the St. Anthony Gold mine, about 4 miles to the southwest. In addition to the above holdings, the company recently acquired 8 claims, comprising approximately 400 acres, known as the Iron Duke group, 6 miles south of the main group.

On the main group, a 2-compartment shaft was started in December, 1934. By the end of 1934 it had reached a depth of 115 feet. Sinking continued in 1935 to a depth of 278 feet. Levels were established at 125 and 250 feet, and exploration by drifting was actively carried on to September 17, 1935, when the mine was closed down.

The mining plant at this property includes two boilers, one of 70 and one of 150 horse-power; a Canadian Ingersoll-Rand 2-stage air compressor, of 614-cubic-foot capacity; and a Canadian Ingersoll-Rand, 8- by 6-inch reversible steam hoist.

The average number of men employed up to September 17, 1935, was 35. J. G. Harkness was mine manager from the commencement of operations till the mine shut down.

Rickard Ramore Gold Mines, Limited

Rickard Ramore Gold Mines, Limited, was incorporated in October, 1934, with a capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: W. H. C. McEachern, president; E. Wise, secretary-treasurer; J. W. Morrison, consulting engineer; H. Hollands-Hurst, mine superintendent; and Jas. Travis, director. The head office is at 601 Concourse Building, Toronto. The mine office is at Iroquois Falls.

The company acquired claims Nos. 18,405, 18,406, 18407, 19,629, and 19,630 in the township of Rickard, district of Cochrane. The property, which was staked in 1917, was formerly known as the Raty mine. A mining plant was installed and camps were erected.

Previous operators had sunk an inclined shaft to a depth of 100 feet and had done over 700 feet of lateral work on the 100-foot level. The present company began operations in December, 1934, and at the end of 1935 the lateral work amounted to about 1,000 feet. Some 10,000 feet of diamond-drilling and considerable surface-trenching has been done.

St. Anthony Gold Mines, Limited

St. Anthony Gold Mines, Limited, was incorporated in 1921 with an authorized capitalization of 3,000,000 shares of \$1 par value. The capitalization was increased to 3,300,000 shares in 1934. All shares are issued. The officers and directors at the end of 1935 were: H. P. Bellingham, president and general manager; R. F. Taylor, vice-president; R. F. Cairns, secretary-treasurer; R. Robertson and D. M. Bellingham, directors. The head office of the company is at 159 Bay Street, Toronto. The mine office address is Savant Lake.

The mine property, in the Sturgeon Lake area, lies 12 miles south of Savant Lake station on the main line of the Canadian National Railways, in Thunder Bay district. A $3\frac{1}{2}$ -mile wagon road from Savant Lake station leads to the north end of the North arm of Sturgeon lake. From this point transportation to the mine is by water. Large scows and power-boats are used to transport supplies over the water route.

The following is taken from the president's report for the fiscal year ending December 31, 1935:— Continuous mining and milling operations were carried on throughout the year, and a total of 44,550 tons of ore was treated. The actual cost of mining and treating this ore was \$5.18 per ton.

The total bullion production for the year was \$303,151.80, as against \$123,263.57 in the year 1934, an increase of \$179,888.23, or 146 per cent. There was an operating profit of \$73,-516.61. After charging \$37,520.73 for depreciation, \$17,269.00 for development, \$16,684.44 for the balance of rehabilitation, and sundry write-offs and provisions for Dominion and provincial taxes, the sum of \$2,042.44 was transferred to earned surplus.

The following is taken from the mine manager's report for the year ending December 31, 1935:---

Mine

A total tonnage of 34,912 tons of ore was broken and 34,538 tons delivered to the mill. This ore, with the exception of 700 tons recovered from the development work on the 500-foot level was drawn from the 250-foot and 350-foot levels. Ore was mined over widths from 5 to 15 feet as against an original width calculated at 5 feet. The balance of the tonnage was derived from the old mill tailings.

A total of 842 feet of drifting and crosscutting was accomplished during the year. The drifting accounted for 579 feet distributed as follows: 250-foot level, 191 feet; 350-foot level, 148 feet: 500-foot level, 240 feet.

feet; 500-foot level, 240 feet. The crosscutting done was in connection with the new inclined shaft and distributed as follows: 150-foot level, 114 feet; 250-foot level, 84 feet; 350-foot level, 65 feet.

SUMMARY OF WORK ACCOMPLISHED TO DATE

	Feet
New inclined shaft	121
Old shaft	150
Winzes and raises	500
Drifts	5,164
Crosscuts	1,093
Total	7,628

After the 500-foot level was dewatered, drifting was carried on and the main vein was exposed for a total length of 330 feet, with an average grade of 0.40 ounces of gold per ton. This level is much drier than the upper levels, and pumping is carried on only 4 per cent. of the time.

The management decided that economical mining required the excavation of an inclined shaft from the 500-foot level to the surface. This work was started near the end of the year, and a total footage of 121 feet had been excavated by December 31. This new shaft will improve the working conditions considerably, in comparison with the system of hoisting through a series of winzes, which is not efficient and is more costly. Operating through the new inclined shaft will permit us to save labour costs in tramming, mucking, cage-tending, and hoisting, together with power costs, and should, in the aggregate, account for the majority of the capital outlay during the year 1936.

At this time the small amount of development work that has been done north in the granodiorite does not justify my making any estimate as to ore reserves in this section of the mine, although the vein intersections are large and may be profitably mined on a large tonnage basis.

Mill

The mill operated 90 per cent. of the possible running time. The tonnage treated was as follows:—

	Tons	Ounces per ton
Old mill tailings Underground ore	$10,012 \\ 34,538$	0.17 .26
	44,550	

The average tons milled per day of 24 hours' running time was 136.63 tons. The total gold bullion recovered and shipped was 8,538.6 fine ounces. The total silver bullion recovered and shipped was 1,957.7 fine ounces. The average recovery was 91 per cent. The average cost of milling was \$1.473 per ton. A new crusher, amalgam barrels, and blanket tables were added to the mill circuit during the year.

Hydro-Electric Power Plant

The power plant was damaged by fire due to lightning. It was found, however, that the undamaged generator supplied sufficient power to carry on all mining and milling operations. The cost of repairs to the plant was fully covered by insurance.

The rapids, about a mile below the power plant, were lowered during the summer, which improved the gross head approximately one and a half feet. This improvement in the gross head relieves us of any further anxiety with regard to power shortage. The plant is now operated by 3 employees where 4 were employed.

General

Building construction work throughout the year was confined to minor changes in the bunk-house and the erection of a new cabin at the power site. A new stable was erected at the mine. A steam-heating system was installed throughout the mine buildings.

mine. A steam-heating system was installed throughout the name bundlags. Two major accidents were reported during the year. One of the employees was injured in the mill and fully recovered, the other accident occurred in the mine and proved fatal. An average of 114 men was employed throughout the year. Mine timber and cordwood are being recovered as near to the mine property as possible.

Developed Ore

While the character of the ore in the mine is difficult to sample, there is, in my opinion, one year's ore available at this time. However, the opening-up of the ore on the 500-foot level for a distance of 330 feet would indicate there is a continuity of ore to a greater depth than now opened up and as formerly indicated by diamond-drilling.

R. P. Teare was manager throughout the year, employing an average force of 108 men.

Sakoose Gold Mines, Limited

Sakoose Gold Mines, Limited, was incorporated in June, 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors were: A. H. Acres, president; M. J. Maloney, vice-president; D. McGrory, secretary-treasurer; M. S. Shulman, director. The head office is at 231 St. James Street, Montreal, Que. The mine address is Dyment.

The property of this company includes the old Sakoose mine, located about 6 miles south of Dyment, in Kenora district.

During 1935 the new 2-compartment vertical shaft was continued to a depth of 143 feet. All work was suspended in May.

In August, the assets of the company were taken over by Nordic Sturgeon Gold Mines, Limited, but no work was undertaken by them at this property during 1935.

An average of 31 men was employed during the period of operation in 1935 under the direction of D. H. Traynor.

Selected Canadian Golds, Limited

Selected Canadian Golds, Limited, was incorporated in March, 1932, with an authorized capitalization of 10,000 preferred shares of \$100 par value, and 15,000 common shares of no par value. The officers and directors were: D. M. Hogarth, president; G. G. Blackstock, secretary-treasurer; Halstead Lindsley, R. Livermore, W. T. McEachern, Quincey Shaw, and C. D. H. MacAlpine, directors. The head office was at the Bank of Commerce Building, Toronto.

The company continued work, until March 1, under their option, on the old Sultana mine, located about 7 miles southeast of Kenora, and then dropped the option. The work accomplished in 1935 consisted of 79 feet of drifting on the 4th level, 136 feet of drifting on the 7th level, and 1,703 feet of diamond-drilling from underground.

A crew of 23 men was employed under the direction of Cameron McDonald.

Selected International Mines, Limited

Selected International Mines, Limited, an English company, with a capitalization of £1,000, in shares of £1 par value, leased the property of CheltoniaSwastika Mines, Limited, in June, 1935. C. F. Davies is chairman of the board of directors. Thomas Evans and J. J. L. Helou are directors. The head office is at 33 Chancery Lane, London, W.C.2, England. C. J. Poole was manager at the property, employing 18 men. The mine address is Swastika.

The property consists of 5 claims in Eby and Otto townships, district of Timiskaming. The operating company did 105 feet of shaft-sinking and 60 feet of lateral work on the 100-foot level.

Shenango Gold Mines, Limited

Shenango Gold Mines, Limited, was incorporated in March, 1935, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: Louis Normandin, president; Bruce Cameron, vice-president; James Hutchison, secretary-treasurer; Jack Owens and William Cromar, directors. The head office is at 1107 Bank of Hamilton Building, Toronto.

The property consists of a group of 4 claims in Hawkins township, and one of 12 claims in Walls township, district of Algoma.

During 1935 work was confined to the group in Hawkins township, where open-cut mining was done on a small scale. In November the construction of a 25-ton amalgamation mill was started. By the end of the year the mill building was completed and the installation of equipment begun, with the expectation of starting up the mill in March, 1936. The equipment will include a crusher, Morley mill, rolls, ball mill, and amalgamation equipment, to be operated by gasoline engines.

It is expected that ore for the mill will be obtained from open-cut operations. A 220-cubic-foot gasoline compressor was installed in December.

Buildings erected included the mill, blacksmith shop, office, 2 bunk-houses, and cookery. The mill is located about three-quarters of a mile east of Langdon, on the Algoma Central and Hudson Bay railway, and about 5 miles from Oba. The mine address is Oba. About 15 men were employed under the direction of Jack Owens.

Shinintree Gold Mines, Limited

Shinintree Gold Mines, Limited, was incorporated in March, 1935, with an authorized capitalization of 1,000,000 shares of \$1 par value. The officers and directors were: Lionel Brooke, president; C. H. Hitchcock, vice-president; W. B. McPherson, secretary-treasurer; Gilbert Bennett and W. J. Laforest, directors. The head office is at 171 Yonge Street, Toronto. The mine address is Shiningtree.

The property consists of claims W.D. 1,406 and T.R.S. 2,507, totalling 126 acres, in Macmurchy township, West Shiningtree area, district of Sudbury. It is 26 miles by road northeast of Westree on the Canadian National railway. Previous owners did some surface stripping and put down a vertical shaft to 36 feet.

The company started work in May. The old shaft was cleaned out and timbered into two compartments, and sinking started with hand-steel and windlass. By the end of the year the shaft had reached a depth of 100 feet, and a level had been started at that depth, on which 26 feet of drifting had been done.

Buildings erected consisted of a bunk-house, cookery, and blacksmith shop. No mining plant or headframe was installed.

An average of 9 men was employed during the last eight months of 1935, under the direction of Lionel Brooke.

S. B. Smith

Dr. S. B. Smith, Cleveland, Ohio, is the owner of claim S.S.M. 301, formerly known as the Van Sickle mine, located in township 29, range 23, in the Michipicoten area, district of Algoma. It adjoins the east boundary of the Parkhill mine. The mine address is Gold Park.

During 1935 the 2-compartment 45-degree shaft was sunk an additional 149 feet, to a total depth of 289 feet on the incline, and a second level established at 261 feet.

Stopes were started on both levels during the second half of the year, from which 6,122 tons of ore was obtained on the first level and 1,534 tons on the second level, by open-stoping methods.

The 15-ton mill installed in 1934 was replaced by a 50-ton mill, which started operating on June 1. The equipment included a Telsmith crusher, ball mill, rake classifier, four Wilfley tables, and amalgamation equipment. By the end of the year the mill had treated a total of 7,946 tons of ore.

A 312-cubic-foot electric compressor was added to the plant. An assay office was constructed in addition to the mill.

Operations were suspended early in January, 1936. An average of 38 men was employed during 1935, of whom 20 were underground. J. C. Canfield was in charge.

Sol-D'Or Gold Mines, Limited

Sol-D'Or Gold Mines, Limited, incorporated in September, 1934, has an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors elected at the first annual meeting are as follows: C. M. Edwards, president; E. R. Bremner, vice-president; F. W. Runge, A. B. Wright, and G. W. Mitchell, directors. A. W. Reynolds is secretary-treasurer for the company. The head office is at Room 505, 140 Wellington Street, Ottawa. The mine office address is Narrow Lake.

The company's holdings, which consist of 24 patented claims and 14 unpatented claims, lie in the northeast corner of Honeywell township, the northwest corner of McNaughton township, and in the block immediately north of these two townships. These claims take in part of the western end of Grace or Rainbow lake, a small lake south of Birch lake in the Patricia portion of Kenora district. Most of these claims were formerly held by T. W. Bathurst, Limited, and more recently by Rainbow Lake Gold Mines, Limited.

The most important discoveries made to date on this property are on claim No. 10,790. Five narrow veins carrying visible gold have been discovered within a few rods of each other. In 1932–33 a Jack Nutt mill was taken into the property, and several hundred tons were milled. The ore was taken from an open cut on the No. 3 or centre vein. The cut has a maximum length of 250 feet and a maximum depth of 40 feet. The ore was sorted before being sent to the mill. The value of production, from 400 tons milled from this cut in 1932–33, is reported as about \$10,000.

Sol-D'Or Gold Mines erected a new mill in 1935 and equipped it with a Mitchell jaw-crusher, a 10-ton Straub ball mill, amalgamation plates, and a Straub table. A new 9 h.p. Diesel engine was bought to supply power for the mill. Milling was commenced about October 1 and continued for two and a half months. In this period 119.38 tons were milled, and the value of production was \$1,390.78.

The following exploration and development work has been done on the property by Sol-D'Or Gold Mines and by former operators: 800 feet of trenching,

ranging from 5 to 40 feet in depth, including the open cut from which mill feed has been taken; 2,000 feet of stripping and a number of test pits; 3,000 feet of diamond-drilling (done in the winter of 1934-35). No shaft-sinking has been done on the property.

Buildings include a log-cabin office, log-construction bunk-house, warehouse, powder magazine, cap-house, and pump-house. The last three buildings were erected in 1935.

Milton Hersey Company, Limited, was engaged to direct the operations at the mine and to act as consulting engineers. They have placed Dr. H. S. Hicks in charge of the property as mine manager. An average of 9 men was employed at the mine during 1935.

South Vermillion Gold Mines, Limited

South Vermillion Gold Mines, Limited, was incorporated in April, 1934, with an authorized capitalization of 1,500,000 shares of \$1 par value. The officers and directors were: A. E. Broadley, president; A. Pacitto, vice-president; G. McLaughlin and F. J. McFarlane directors; M. F. Burrows, secretarytreasurer. The head office was at 21 King Street East, Toronto.

The property owned by this company consists of a group of three claims located on Bad Vermilion lake, about 3 miles southwest of Mine Centre, Rainy River district.

The 2-compartment vertical shaft was sunk an additional 5 feet by handsteel during January, 1935. to a total depth of 45 feet. During the balance of the year a bunk-house and cookery were constructed, and surface work was carried on intermittently.

A 300-cubic-foot Ingersoll-Rand compressor and a 175 h.p. boiler were obtained but not put in use.

A. Pacitto was in charge. The mine address is Mine Centre.

Stanley Gold Mines, Limited

Stanley Gold Mines, Limited, was incorporated in November, 1933, with a capitalization of 2,000,000 shares of \$1 par value. The officers and directors are: H. E. Perry, president; J. C. MacKay, vice-president; Mrs. Stanley Siscoe, secretary-treasurer; and Armand Bastien, director. The head office was at 231 St. James Street West, Montreal, Que. The mine address is Wawa.

The property is located in township 29, range 23, in the Michipicoten area, district of Algoma. It is about 5 miles by road from Wawa on the Algoma Central railway.

Work was supended at this property at the end of December, 1934, following the death of Stanley Siscoe, who had been privately financing the work. A 2compartment inclined shaft had been sunk to a depth of 300 feet, and levels had been established at 123 and 256 feet. A total of 648 feet of drifting and 97 feet of crosscutting had been done on the 123-foot level, and 778 feet of drifting and 71 feet of crosscutting on the 256-foot level.

The property remained idle until December 29, 1935, when dewatering of the mine was started in preparation for the resumption of underground work.

S. MacDougall is in charge of operations.

Straw Lake Beach Gold Mines, Limited

Straw Lake Beach Gold Mines, Limited, was incorporated in August, 1934, with an authorized capitalization of 2,500,000 shares of no par value. The

officers and directors are: W. E. Segsworth, president and secretary; L. L. Steindler, vice-president and treasurer; R. J. Jowsey, J. D. Conover, and J. A. Gairdner, directors. The head office is at 67 Yonge Street, Toronto.

The property consists of a group of 9 claims at Straw lake, district of Kenora, which were taken over from Straw Lake Beach Gold Mines Syndicate, Limited. It is about 35 miles north of Fort Frances, and is reached by a 70-mile route from Emo on the Canadian National railway.

During 1935 operations were carried on until the end of October, when they were suspended for the winter. The 2-compartment vertical shaft was deepened to 320 feet, and a second level established at 300 feet. The total footage of lateral work underground when operations were suspended consisted of 558 feet of drifting and 92 feet of crosscutting on the 100-foot level and 719 feet of drifting and 77 feet of crosscutting on the 300-foot level. A total of 1,560 feet of diamond-drilling was done from surface during 1935.

The plant used included a 310-cubic-foot Ingersoll-Rand gasoline compressor and a 6- by 8-inch Ingersoll-Rand air hoist.

An average of 19 men was employed during the period of operation in 1935. Frank Carnegie was in charge, with A. J. MacDonnell as contractor. The mine address is Emo.

Sturgeon River Gold Mines, Limited

Sturgeon River Gold Mines, Limited, was incorporated in August, 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors were: A. L. Bishop, president; J. M. Wood, vice-president; C. S. Kennedy, secretary-treasurer; F. D. Reid, general manager; A. Longwell, W. T. Brown, and Fraser Raney, directors. The head office is at 320 Bay Street, Toronto.

The property consists of a group of $\vec{7}$ claims in the Sturgeon (Namewaminikan) River area, district of Thunder Bay, about 8 miles northwest of Nezah station, on the Long Lac-Port Arthur branch of the Canadian National railway.

A 3-compartment vertical shaft was started on May 9, 1935, and completed to a depth of 523 feet. Levels were established at 125, 250, 375, and 500 feet. The work completed on these levels to the end of 1935 was as follows:—

Level	Drifting	Crosscutting	Raising
125-foot	feet 213 277 426 361	feet 29 24 40 180	feet 44 57 87
Total	1,277	273	188

A total of 3,200 feet of diamond-drilling was done from surface in 1935. The plant included two 70 h.p. locomotive-type boilers, a 750-cubic-foot Babcock and Wilcox steam compressor, and a 9- by 8-inch Ingersoll-Rand double-drum hoist. Buildings erected included a hoist-compressor house, boiler-house, blacksmith-machine shop, assay office, dry-house, 2 bunk-houses, office, cook-house, and manager's residence.

An average of 46 men was employed throughout 1935. C. M. Bowyer was in charge. The mine address is Jellicoe in summer and Nezah in winter.

Supreme Gold Mines, Limited

Supreme Gold Mines, Limited, was incorporated in February, 1934. The authorized capitalization is 2,000,000 shares of \$1 par value. Officers of the company are: Walter F. Stewart, president and manager; H. M. Richardson, vice-president; Harry J. Beck, secretary-treasurer. There is also an advisory board of three: Frank Grew, John Rennie, and Walter G. Lumbers. The head office is at 314 Metropolitan Building, Toronto. The mine office address is Savant Lake.

In September, 1935, the company held 32 claims, east of Couture lake between the North and the Northeast arms of Sturgeon lake, in Thunder Bay district.

A mining plant was freighted into this property in the spring of 1935. It includes one Case boiler of approximately 25 h.p., a 240-cubic-foot Schram portable gasoline compressor, a Ledgerwood tandem-drum hoist, and a tractor. This mining plant has not been set up. Buildings include a combined cookery and bunk-house, office, residence, and powder magazine.

Work during 1935 was confined chiefly to prospecting and trenching. There were 7 men employed at this property at the end of the summer.

Swain, Harris, and Cavano

Messrs. Swain, Harris, and Cavano hold 9 claims, Nos. 12,254–62, three miles south of the west end of Birch lake in the Patricia portion of Kenora district. On these claims they discovered a rusty zone in which fairly coarse residual gold is found. During the summer of 1935, they carried on small-scale mining operations on claim No. 12,258, digging up rusty, oxidized material out of small pits, packing it to a stream a few hundred feet distant, and there passing it over crude ripples and blankets on cradles. In this way, handling about half a ton of material per day, they recovered a heavy concentrate of arsenopyrite and gold, but the value of their concentrate is unknown. No report of a shipment of bullion or concentrate had been received up to the end of the year.

The post office address is Narrow Lake.

Sylvanite Gold Mines, Limited

Sylvanite Gold Mines, Limited, has an authorized capital of 3,300,000 shares of \$1 par value. The officers and directors of the company are: Edward L. Koons, president; William L. Marcy, vice-president; W. S. Walton, secretary: Clark L. Ingham, treasurer; Welles V. Moot, managing director; C. E. Rodgers, general manager; Alfred H. Sharpe and Harry Yates, directors. The head office is at Kirkland Lake, and the executive office is at 300 Erie County Bank Building, Buffalo, N.Y.

The property is situated in the township of Teck, district of Timiskaming. An average of 270 men was employed during the year.

The following is taken from the general manager's report for the fiscal year ending March 31, 1936:—

Ore Reserves

Comparing broken ore reserves as at March 31, 1935, with the figure for the same date in 1936, we have, respectively, 82,990 and 82,415 tons, showing a negligible change, notwithstanding the substantial increase in tons treated last year.

Department of Mines

Operating Costs

	Total cost	Cost per ton ore milled
932:		
Development and exploration	\$184,936.28	\$1.962
Mining	285,365.41	3.026
Milling	112,630.68	1.194
General charges	43,863.49	. 465
Administrative charges	24,594.16	. 261
Bullion selling expense ¹ (insurance, shipping, and Mint		
Bullion selling expense ¹ (insurance, shipping, and Mint refining charges)	5,615.12	. 060
Total	\$657,005.14	\$ 6.968
933:		
Development and exploration	\$227,278.95	\$2.364
Mining	249,907.58	2.599
Milling	105,168.81	1.094
General charges	44,083.76	. 459
Administrative charges	23,437.97	.244
Bullion selling expense (insurance, shipping, and Mint		
refining charges)	4,823.89	. 050
Total	\$ 654,700.96	\$6.810
1934:		
Development and exploration	\$235,067.63	\$2.391
Mining	217,517.25	2.213
Milling	111,849.51	1.138
General charges	42,160.87	. 429
Administrative charges	34,774.84	353
Bullion selling expense (insurance, shipping, and Mint		
refining charges)	5,912.90	. 060
Total	\$647,283.00	\$6 .584
1935 :		
Development and exploration	\$242,173.47	\$1.938
Mining	263,644.48	2.109
Milling	151,620,64	1.213
General charges	39,314.93	. 315
Administrative charges Bullion selling expense ² (insurance, shipping, and Mint	39,000.00	. 312
refining charges)	5,525.11	. 044
Total	\$741,278.63	\$5.931
1936:		
Development and exploration	\$211,169.44	\$1.372
Mining	348,251.50	2.262
Milling	167,324.47	1.087
General charges	47,641.25	. 310
Administrative charges (partly mine)	59,116.83	. 384
Township drainage tunnel expense	5,914.12	.038
Kirkland District Hospital building expense Bullion selling expense:	3,868.15	. 025
	5,834.38	.038
Insurance, shipping, and Mint refining charges Mint handling charge	16,750.88	. 109
Total	\$865,871.02	\$5.625

¹The item "bullion selling expense" was included with the item "general charges" in previous annual reports.

²Mint bullion handling charge, effective for the month of April, 1934, at 35 cents per ounce, amounted to \$1,007.70, which together with bullion tax was deducted from production.

Production

The mill extraction, based upon Mint assays, plus tailing loss, was 95.95 per cent. for the full year; 96.27 per cent. for the last six months, and 96.40 per cent. for March. Mill heads were lowered slightly to permit inclusion of a greater amount of low-grade and marginal ore.

Fiscal year ending March 31	Tons milled	Production	Average recovery, troy ounces per ton
1931	83,034	\$837,013.97	0.49
1932	94,276	948,926.13 ¹	. 49
1933	96,140	$912,377.15^{1}$. 40
1934	98,311	1,558,912.871	. 52
1935	124.956	1,584,817.392	. 41
1936	153.942	1,931,891.873	. 36

¹Including exchange on bullion.

²Including exchange on bullion, after bullion tax is deducted.

³Including exchange on bullion, after deducting bullion tax effective for period April 1, 1935, to May 31, 1935, but before deducting Mint handling charge of 35 cents per fine ounce gold, effective for period June 1, 1935, to March 31, 1936.

		Ore broken		Waste			Total
Vear	In Stopes	From develop- ment	Total	Hoisted to surface	Used for backfill	Total	ore and waste broken
1933 1934 1935 1936	tons 66,130 54,423 93,883 111,091	tons 37,467 31,971 37,161 42,183	tons 103,597 86,394 131,044 153,274	tons 21,774 25,457 11,812 12,576	tons 5,347 5,838 10,623 7,607	tons 27,121 31,295 22,435 20,183	tons 130,718 117,689 153,479 173,457

During last year drifting and subdrifting through ore amounted to 3,342.5 feet. This represented 36.4 per cent. of the total advance. Structural features and geological evidence encountered generally throughout the sections mined, remained favourable.

Class of work	Year ending March 31, 1934	Year ending March 31, 1935	Year ending March 31, 1936	Total from beginning of operations to March 31, 1936
Drifting Crosscutting Raising Sublevel drifting Box-hole raising Winzing Shaft-sinking	2,3472,464.51,473.5429275	feet 8,985 2,688 1,905.5 1,268.5 352	feet 8,837 2,875.5 1,392.5 349.5 301	feet 57,227.5 27,701 15,131 9,640 6,945.5 97.5 5,654
Total	11,823	15,199	13,755.5	122,396.5
Per cent. of crosscutting to total of crosscutting and drifting	34.8	23.2	24.6	32.6
Shaft stations and sump excavations. Diamond-drilling	feet	cu. ft. 840 feet 15,952	cu. ft. 1,420 feet 19,359	cu. ft. 207,278 feet 96,385

Development and Exploration

No. 2 Shaft.—A continued programme of extensive exploration on and between levels was carried out during the year. Particular attention was given to further successful development near the 875-foot level and below the 2,500-foot level, mentioned in last year's report. Approximately one-half of the footage of ore drifted on this year was in these horizons. Upper level work, also continued in volume and wide extent, was productive to an encouraging degree. In addition, ore was developed at the 1,750-foot level on the south vein system, west of the major fault, in an area where previous exploration had been disappointing.

Mining

No. 4 Shaft.—Of the ore sent to the mill, this part of the property produced 21,552 tons. Considerable exploration has yet to be completed here and this, with clean-up operations, is expected to continue to furnish a fair volume. Beginning with 1933, the tonnage of ore coming from this section of the mine was, respectively, 51,916 tons, 47,189 tons, 36,362 tons, and 21,552 tons.

Additional Buildings and Equipment.—These included an extension to the main office, which enlarged the directors' quarters, store-house, engineering office, and general office. A section and fire-wall were also added to the machine shop-steelshop building. Three-ton aluminum skips replaced the two-ton steel units previously used. One agitator and one filter were added to the mill and some additional experimental equipment was purchased for the mill laboratory.

Summary

Promising areas in both sedimentary and igneous formation responded well to development, and general conditions appear to warrant continued confidence in profitable operation. Earnings were substantial and in excess of dividend requirements.

Compared with the previous period, the year ending March 31, 1936, showed: production increased by \$347,074.48; 28,986 more tons treated; milling costs reduced by 12.6 cents per ton; and a decline in operating costs of 30.6 cents per ton. Persistent experimental work in the mill has resulted in increased extraction and tonnage, and will be continued.

Tashota Goldfields, Limited

Tashota Goldfields, Limited, incorporated November, 1932, has an authorized capitalization of 3,000,000 shares of \$1 par value, of which 2,894,598 shares have been issued. The officers and directors are: H. H. Vaughan, president and managing director; Thomas Arnold, vice-president; P. W. Ogden, secretarytreasurer; W. A. Eden, H. Preston Corsan, W. A. RuKeyser, and R. J. R. Stokes, directors. Both the head office and the mine office of the company are at Tashota. The management of this property is controlled by Minefinders, Limited, whose head office is at 100 Adelaide Street West, Toronto.

The property consists of 9 patented claims and 9 unpatented claims, in one group, with a total area of 642.24 acres, lying about 15 miles south of Tashota station on the main line of the Canadian National Railways, in Thunder Bay district. In winter, access to the property is by way of a 17-mile road; in summer it is reached by an 18-mile canoe route, starting from Paska Siding, and a 6-mile wagon road. A third route by airplane was established in the fall of 1935 from Robinson Lake Siding, 2 miles west of Tashota, to Onaman lake, 4 miles southeast of the mine, and thence by a 4-mile wagon road to the property.

Tashota Goldfields, Limited, succeeded Tashota Gold Mines, Limited. The latter company started underground operations in 1928. To the end of 1935 the following development work had been done: crosscutting, 924 feet; drifting, 2,134 feet; raising, 392 feet; diamond-drilling, 13,415 feet.

Early in 1935 a 50- to 75-ton mill was installed. From April 25 to December 31, 1935, the tonnage milled was 12,828 tons. A Denver jig and blankets catch the coarser gold, and this concentrate is treated in an amalgamation barrel. The greater part of the gold is recovered in a flotation concentrate, which is shipped to a smelter for further treatment. On account of the high cost of summer transportation of this product from the mine to the railway, only about one-third of this had been shipped and treated at the end of the year.

The average number of men employed at the mine in 1935 was 68; of this number, 22 were underground, 6 in the mill, 10 working as construction labourers, and 29 on surface. A. Robertson was acting mine superintendent at the end of the year.

Teck-Hughes Gold Mines, Limited

Teck-Hughes Gold Mines, Limited, has an authorized capital of 5,000,000 shares of \$1 par value, of which 4,807,144 shares are issued. The officers and directors are: Albert W. Johnston, chairman of the board; D. L. H. Forbes, president and general manager; George C. Miller, vice-president; H. C. McCloskey, secretary; K. P. Emmons, treasurer; P. Nugent Tapley, assistant-treasurer; J. W. Stephenson, assistant-secretary; John F. Lash and John F. Thompson, directors. R. J. Henry is general superintendent. The head office is at Kirkland Lake, and the executive office is at 25 King Street West, Toronto. An average of 635 men was employed during 1935 at the mine in Teck township, district of Timiskaming.

The following is an extract from the general superintendent's report for the 12 months ending August 31, 1935:—

During this period the mills treated 383,958 tons of ore from the mine and 40,290 tons of tailing. The total recovery in bullion and precipitate was the equivalent of 144,384.37 Troy ounces of fine gold, and 4,610.25 ounces of this came from retreatment of tailing. After deducting the bullion tax of \$338,281.44, the realizable value of the gold and silver production was \$4,678,-875.02. With addition of income from investments, the gross revenue was \$4,810,545.03, or \$11.34 per ton.

The total operating cost amounted to \$2,194,202.93, or \$5.17 per ton milled. After making provision of \$279,453.66 for taxes other than the bullion tax, and adding \$19,027.50, a profit derived from the sale of bonds, the surplus for the twelve months was \$2,355,915.94. Following is an analysis of operating costs:—

	Total cost	Cost per ton of ore treated	Cost per ounce of gold produced
Development and exploration	\$332,317.78	\$0.78	\$2.30
Mining	1.083.287.05	2.55	7.50
Milling	456,809.26	1.08	3.16
General expense	286,502.52	. 68	1.98
Examination of new properties	35,286.32	. 08	. 25
Total	\$2,194,202.93	\$5.17	\$15.19

During the year the sinking of the No. 3 winze was completed at the 50th level, a depth of 6,100 feet below surface. On the 49th and 48th levels, drifting in the ore zone was begun during August. Lateral development on the 47th and 46th levels had exposed on September 1 a total of 463 lineal feet of ore at an average grade of 10.41 pennyweights over 7.8 feet of width. Development of the block of levels from 41 to 45 inclusive, was practically completed during the year, and the ore found totalled 2,065 feet at an estimated average grade of 9.46 pennyweights per ton. Development footage for the year was as follows:—

Drifting. Subdrifting. Crosscutting. Raising. Winzing.	1,903.5 4,989.5
Total development	

Diamond-drill exploration amounted to 18,449.1 feet. Ore produced from drifting and crosscutting totalled 12,655 tons.

The technical estimate of "positive ore" reserve at September 1 is as follows:-

	Tons	Gold content in troy ounces	Average grade in pennyweights per ton
Broken oreBlocked ore	243,660 440,049	86,551.7 193,504.5	7.10 8.79
Total	683,709	280,056.2	8.19

Teddy Bear Valley Mines, Limited

Teddy Bear Valley Mines. Limited, has a capitalization of \$10,000,000, in shares of \$1 par value. The property consists of 1,500 acres in Holloway and Harker townships, district of Cochrane. Finances for development are furnished by the Teddy Bear Valley Syndicate, which has an office at 503 Royal Bank Building, Toronto. C. Ellwood Hoffman is president.

From April 16 to August 9 operations at the property were confined to diamond-drilling, 602 feet of drilling being done from surface and 2,310 feet underground.

Total development work at October 31 consisted of two shafts, 32 feet and 300 feet deep, 922 feet of drifting and crosscutting on the 150-foot level, and 186 feet on the 275-foot level.

Operations were suspended for the winter months. Edward H. Orser is consulting engineer. The mine address is Lightning River.

Thesaurus Gold Mines, Limited

Thesaurus Gold Mines, Limited, has an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: W. L. Forrest, president; G. W. Adams, secretary-treasurer; M. Conkey and P. E. F. Smiley, directors. The head office is at 320 Bay Street, Toronto.

The property consists of 16 claims in Baden township, district of Timiskaming.

There is a 300-foot shaft on the property, and about 300 feet of lateral work had been done on the 100- and 300-foot levels prior to the end of 1924.

In July, 1935, the mine was pumped out, and a small amount of lateral work was done on the 300-foot level. Operations ceased in September. Harry Crawford was manager, employing 8 men.

Toburn Gold Mines, Limited

Toburn Gold Mines, Limited, has a capitalization of 2,000,000 shares of \$1 par value. The officers and directors are: H. A. Guess, president; R. F. Goodwin, vice-president; G. A. Brockington, secretary; Charles Earl, assistant secretary; J. C. Emison, treasurer; E. C. Corson, assistant treasurer; W. J. Boland and James Moore, directors; F. G. Hamrick, comptroller and auditor. The New York office is at 120 Broadway, and the Toronto office at 217 Bay Street, in care of W. J. Boland.

The mine is in Teck township, district of Timiskaming. During 1935 an average of 133 men was employed. M. W. Hotchkin, Kirkland Lake, is manager.

The following is an extract from the president's report for the year ending December 31, 1935:---

Your company was formed in January, 1931, to take title to an option upon the Tough-Oakes Burnside gold property in the Kirkland Lake district of Ontario and, later, purchased the property. The property, although idle for several years prior to that time, was the first producer in Kirkland Lake district and contained several miles of underground workings and several shafts, the more important being the main hoisting shaft from surface to the 1,090-foot level and an interior shaft from the 1,090-foot level to the 1,850-foot level, and it was equipped with a mining plant and a cyaniding mill of 100 tons daily capacity.

The foregoing general information is given for the enlightenment of such of the minority stockholders as may have acquired share ownership since the issuance of the last annual report, and for these there is also given the information that of the total of 1,850,000 shares issued of your company, Premier Gold Mining Company, Limited, owns 1,490,000.

Your manager's summary of the exploration and development work done upon your property for the calendar year 1935 is as follows:-

During the year a small amount of surface cross-trenching was done in deep overburden in an effort to trace the eastward continuation of the No. 7 vein, but the results of this trenching were not conclusive. Total development work done during the year 1935 amounted to 8,826 feet, all of which was above the 1,090-foot level. This development consisted of 3,939 feet of drifting, 1,293 feet of sublevel drifting, 2,351 feet of crosscutting, 1,055 feet of raising, 17 feet of winzing, and 171 feet of slashing. Of this total, approximately 2,962 feet was done on ore, breaking 8,738 tons, which was sent to the mill. Approximately 91 per cent. of the year's develop-ment was confined to the A-200, No. 3 shaft, 400-, 800-, 893-, 1,018-, and 1,090-foot levels. The most important development results for the year 1935 were:—

1. Location of the No. 410 drift vein structure, west of the dike fault, which is considered to be the eastward continuation of the North vein system in the Kirkland Lake camp. Its vertical extensions were identified in the No. 306 drift, at the A-300-foot level, and in the Nos. 548, 678, 804, and 928 drifts.

The location of the downward extension of the No. 7 vein, east of the dike fault in the No. 211 drift east, at the A-200-foot level, which indicates excellent possibilities for both downward and eastward continuity.

3. Extending the ore on the nearly vertical No. 11 vein to the 800-foot level on the west side of the dike, and from the 100-foot level to the 300-foot level, east of the dike fault.

The location of the No. 921 drift vein east of the dike from its junction with the North branch of the South break, in the No.1,031 stope upward to the No.808 drift on the 800-foot level. 5. Locating ore on the North branch of the South break to the east of the dike, in the

Nos. 1,031 and 1,099 drifts. Production figures for 1935, compared with those of the year 1934, are:---

Year	Tons	Average ounces	Ounces fine	Percentage
	milled	gold per ton	gold produced	mill recovery
1934 1935	36,230	0.583	20,401	96.6
	35,360	.592	20,200	96.5

The estimated ore reserves broken and unbroken at December 31, 1934, were 60,550 tons, averaging 0.63 ounces gold per ton, and at December 31, 1935, were 82,650 tons, averaging 0.57 ounces gold per ton. This means that 57,460 tons of new ore, averaging 0.52 ounces gold per ton were found and opened up by the exploration and development of 1935.

Earnings for the year 1935, after deducting administration and taxes, but before deduction of \$60,894.25 depreciation and depletion, were \$280,118.32.

Tombill Gold Mines, Limited

Tombill Gold Mines, Limited, was incorporated in October, 1935, with an authorized capitalization of 1,000,000 shares of \$1 par value. The officers and directors are: P. E. Hopkins, president; Fred Searls, Jr., first vice-president; D. E. Thomas, second vice-president; A. W. Burt, secretary; Carroll Searls, assistant secretary; Henry E. Dodge, treasurer; T. A. Johnson, H. D. Smith, W. R. G. Johnson, and C. R. Ellis, directors. The head office and mine office are at Empire. The executive office is at 171 Yonge Street, Toronto.

The property consists of a group of six claims in Lindsley township, district of Thunder Bay, located immediately to the west of the property of Bankfield Gold Mines, Limited, near Magnet lake.

The Newmont Mining Company of New York has optioned a minority interest in this company, under an agreement which gives them the management of the company.

Work was started in November, and by the end of 1935 a bunk-house, cookhouse, warehouse, blacksmith shop, and powder magazine had been erected. A vertical 3-compartment shaft had been sunk with hand-steel to a depth of 21 feet, and a headframe constructed. A mining plant, including a 60 h.p. locomotive-type boiler, a portable Diesel compressor, and an 8- by 6-inch Ingersoll-Rand double-drum hoist, was in transit to the property.

R. J. Hendricks was in charge.

Vimy Gold Mines, Limited

Vimy Gold Mines, Limited, owns 320 acres in Hislop township, district of Cochrane. The company is capitalized at 1,000,000 shares of \$1 par value. The officers and directors are: Douglas Jones, president and manager; Joseph Berini, vice-president; Frank N. Bowes, secretary-treasurer; Nelson A. Mc-Dougall and J. A. Mongeon, directors. The head office is at Timmins, and the secretary's office is at 906 Excelsior Life Building, Toronto. The mine address is Ramore.

A 25-ton mill was installed on the property in 1935 and operated for a short time with ore from an open cut. A 2-compartment shaft, begun late in the fall, had reached a depth of 35 feet at the end of the year.

Joseph Berini was in charge of the work, employing about 20 men.

Wells Longlac Mines, Limited

Wells Longlac Mines, Limited, was incorporated in June, 1934, with an authorized capitalization of 3,000,000 shares of \$1 par value. The officers and directors are: A. J. Felton, president; A. W. Burt, vice-president; F. E. Forster, secretary-treasurer; E. C. J. McCracken and Chas. Palmer, directors. The head office is at 347 Bay Street, Toronto.

The option which the company held on the Stagee property in the Mine Centre area was dropped at the end of February, 1935, after a total of 125 feet of drifting had been completed on the 100-foot level.

The property owned by the company consists of 15 claims in the Magnet Lake section of the Little Long Lac area, district of Thunder Bay. It is to the east of the Bankfield property.

During 1935 surface work and diamond-drilling were carried on at this property. During the year 4,062 feet of diamond-drilling was done, making a total of 24,641 feet accomplished to the end of 1935. No construction work was done, nor was any machinery installed during the year. The equipment of the company used at the Stagee property was brought to Kenwell, 3 miles from the Magnet Lake property, and stored there.

W. L. Brown was in charge of the work at the Magnet Lake property. The mine address is Geraldton.

Wendigo Gold Mines, Limited

Wendigo Gold Mines, Limited, was incorporated in October, 1933, with an authorized capitalization of 2,000,000 shares of \$1 par value. The capitalization was increased to 3,000,000 shares in July, 1935. The officers and directors were: H. D. Tudor, president; H. G. Young, vice-president; H. R. Tudhope, secretary-treasurer; A. J. Bolton and W. G. Cameron, directors. The head office is at 701 Dominion Bank Building, Toronto.

The property of this company is located at Witch bay, on the Lake of the Woods, district of Kenora, and is 22 miles southeast of Kenora.

The mining plant installed included a 100 h.p. boiler, a 375-cubic-foot Ingersoll-Rand steam compressor, two 525-cubic-foot Ingersoll-Rand steam compressors, and an $8\frac{1}{4}$ - by 10-inch Ingersoll-Rand hoist.

In 1935 underground work was carried on from the first of the year until the middle of February, during which period 341 feet of drifting and 66 feet of crosscutting was accomplished on the 500-foot level, and 1,855 feet of diamonddrilling from underground. Operations were not resumed until the middle of December, when a start was made to take down backs on the 100-foot level in preparation for stoping.

At the end of September the construction of a 50-ton amalgamationcyanidation mill was commenced, and at the end of the year it was expected that it would be completed and in operation in February, 1936.

The mill equipment includes a Dodge crusher, Allis-Chalmers ball mill, Dorr rake classifier, two blanket tables, two Dorr agitators, two Dorr thickeners, two Oliver filters, and a Merrill-Crowe precipitation unit. It is to be operated by a 264 h.p. Ruston Diesel engine, direct-coupled to a 219 k.v. a. generator.

An average of 31 men was employed during 1935, under the direction of C. L. Spencer. The mine address is Kenora.

West Red Lake Gold Mines, Limited

West Red Lake Gold Mines, Limited, is capitalized at 3,000,000 shares of \$1 par value, of which 1,999,205 shares have been issued. The officers and directors of the company at December 31, 1935, were: F. J. Bailes, president; H. Hunter, secretary-treasurer; W. S. Hall, A. J. Doane, B. Johnston, and W. T. McEachern, directors. The head office is at 11 King Street West, Toronto.

The property consists of 27 claims in four groups located in the townships of Todd and Ball in the Pipestone Bay section of the Red Lake area, Kenora district, Patricia portion. The main group consists of 9 claims, totalling approximately 375 acres. The mining plant is on claim No. 10,057, approximately 21 miles west of the Howey gold mine.

Operations were resumed at this mine in July, 1935, after an eight months' period of idleness, during which period the company was reorganized. During July, the plant was reconditioned and the mine dewatered. Underground exploration work was carried on throughout August and most of September. During October some diamond-drilling was done from surface, but all operations were again suspended on October 27, 1935. During the four months' period when operations were carried on, an average of 16 men was employed, under the direction of C. H. E. Stewart.

The following figures show the amount of development work done at the property in the past two years:—

	1934	1935	Total
Shaft (vertical 2-compartment)	feet 200	feet	feet 217
Crosscutting	95	49.7	144.7
Drifting, 200-foot level	280	347	627
Station-cutting	cu. ft. 1,260	cu. ft. 724	cu. ft. 1,984

No additions were made to the plant or equipment during 1935.

Wright-Hargreaves Mines, Limited

Wright-Hargreaves Mines, Limited, has an authorized capital of 5,500,000 shares of no par value. The officers and directors of the company are: E. L. Miller, president and managing director; W. H. Wright, vice-president; P. H. Gerhard, secretary; Gerard F. Miller, treasurer; M. W. Summerhayes, general manager; Oliver G. Donaldson and James Y. Murdoch, directors. The head office is at Fort Erie. The mine address is Kirkland Lake.

An average of 779 men was employed during 1935 at the mine in Teck township, district of Timiskaming.

The following is taken from the general manager's report for the fiscal year ending August 31, 1935:—

During this period 350,196 tons of ore were treated, containing 211,674 ounces fine gold and 31,716 ounces fine silver. There was realized from marketing this bullion, \$6,844,539.20. The average grade of the ore going to the mill at \$20.67 per ounce was 0.625 ounces, or \$12.919 per ton, with a recovery of 0.605 ounces, or \$12.503 per ton, an extraction of 96.78 per cent.

ANALYSIS OF OPERATING COSTS

	Total	Cost per ton milled
Development, exploration, and pumping	\$488,238.04	\$1.394
Stoping	713.853.98	2.038
Transporting ore (hoisting, etc.)	260.997.94	.745
Milling charges	462,896.59	1.322
General surface charges	35,476,49	. 101
Stock transfer, dividend, and annual report expense	13.632.13	.039
Employees' group insurance, silicosis, workmen's compensation, property taxes, and insurance	69,584.97	. 199
General and undistributed charges (storehouse, hospital, main- tenance miscellaneous mine buildings, mine management and administration, exchange, legalexpenses, miscellaneous) Depreciation buildings and equipment. Marketing bullion	141,857.96 292,287.17 23,148.06	.405 .835 .066
Marketing building charge	21,375.92	.061
Provision for taxes (exclusive of bullion tax) Amount written off, shaft No. 4	\$2,523,349.25 470,000.00 85,299.62	\$7.205 1.342 .244
Total	\$3,078,648.87	\$8.791

PRODUCTION RECORD, 1921–1935 (Based on gold at \$20.67 per ounce)

Year	Tons milled	Value per ton	Gross value	Recovery per ton	Bullion produced	Dividends
1921 (8 mos.) 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932	$\begin{array}{r} 36,081\\ 66,181\\ 79,242\\ 84,487\\ 147,939\\ 153,392\\ 209,164\\ 256,331\\ 188,238\\ 220,430\\ 266,352\\ 295,525\\ 295,525\\ \end{array}$	\$13.96 12.49 10.48 14.16 14.49 15.66 11.77 8.36 10.29 12.20 11.73 12.85	\$503,302 827,447 830,992 1,194,217 2,148,554 2,400,795 2,455,460 2,144,002 1,938,552 2,687,828 3,124,533 3,796,295	\$13.00 11.52 9.52 12.89 12.93 14.02 10.51 7.20 9.25 11.03 10.93 12.00	\$468,665 762,752 754,978 1,088,725 1,913,401 2,150,844 2,151,916 1,845,923 1,741,872 2,431,896 2,912,308 3,546,903	\$412,500 206,250 206,250 550,000 893,750 1,237,500 825,000 275,000 825,000 1,100,000 550,000 ²
$\frac{1933 \ (8 \ mos.)^1 \dots }{1934^3 \dots } \frac{1935 \dots }{Total \dots }$	$ \begin{array}{r} 193,441 \\ 330,741 \\ 350,196 \\ \hline 2.877.740 \end{array} $	13.5613.6812.92\$12.41	2,623,456 4,525,150 4,524,193 \$35,724,776	$ \begin{array}{r} 12.63 \\ 13.07 \\ 12.50 \\ \hline \$11.44 \end{array} $	2,443,760 4,321,945 4,378,326 \$32,914,214	2,750,000 3,300,000 \$13,131,250

¹In 1933, the fiscal year closing changed from December 31 to August 31; the years 1921 to 1932, inclusive, are calendar years.

²April and July dividends only.

³The 12 months of the fiscal year ended August 31, 1934.

Mines of Ontario in 1935

SUMMARY OF DEVELOPMENT AND EXPLORATION August 31, 1935

	Drifting	Shaft- sinking	Cross- cutting	Raising	Total footage	Diamond- drilling	Excavation
August 31, 1934 Fiscal year	feet 136,626 20,483	feet 10,681 535	feet 48,110 3,892	feet 9,178 1,298	feet 204,595 26,208	feet 104,391 16,801	cu. ft. 398,168 85,384
August 31, 1935.	157,109	11,216	52,002	10,476	230,803	121,192	483,552

MILLING STATISTICS

.

September 1, 1934, to August 31, 1935

Ore milled tons	350,196
Average value per ton	\$12.919
Gross value\$4,524,193.19	
Loss in tailings	
Net value recovered\$4	378.326.17
Average tons milled per day	959.44
Per cent. of possible running time	95.94
Tons 100 per cent. running time	1,000
Solution precipitatedtons	1.369.884
Solution precipitated per ton of oretons	3,91
Value per ton in tailings	\$0.417
Per cent. extraction	96.78
Cvanide consumed per ton of ore (K.C.N.)lbs.	0.535
Zinc consumed per ton of oreounces	1.956
Zinc consumed per ton of solutionounces	0.500
Lime consumed per ton of orelbs.	3.595
Steel consumed per ton of ore, ball millslbs.	2.685
Steel consumed per ton of ore, tube millslbs.	2.593
Cost of flotation reagents consumed per ton of ore	\$0.048
Average value of pregnant solution per ton	\$3.166
Average h.p. consumed per day	2,410
Average h.p. consumed per ton milled	2.513
Power cost per h.p. consumed	\$55.43
$\mathbf{N} = \mathbf{M} = $	

N.B.-All values at \$20.67 per ounce.

ORE RESERVES ESTIMATE

	Tons	Ounces	Grade	Value at \$20.67 per ounce
On hand August 31, 1934	1,185,204	0.639	\$13.20	\$15,643,197
Developed in fiscal year	409,649	.507	10.48	4,292,223
Milled in fiscal year	1,594,853	0.604	\$12.50	\$19,935,420
	350,196	.625	12.92	4,524,193
Ore reserves, August 31, 1935	1,244,657	0.599	\$12.38	\$15,411,227

Additions to Plant, Buildings, and Equipment September 1, 1934, to August 31, 1935

Mill structure and equipment Shops and equipment	\$20,754.67 4,279.28
Power-house and electrical equipment	53,422.88 102.00
Assay office General surface and buildings	24.498.44
Sprinkler system	6,718.88
Tailings disposal	29,107.41
Underground equipment	7,449.54
Substation	$2,427.37 \\ 1.325.67$
New buildings Offices	6.465.47
	0,100.11
Total	\$156,551.61

The policy outlined in our report of 1933, to as soon as possible complete the development and mine out a number of the upper levels, with the object of reducing the maintenance cost of of having so many levels producing and, too, the need as deeper workings are opened up, to facilitate ventilation, has been rigorously followed. The results have been the finding of considerable new tonnages of ore of lower grade. At the present time we have 28 operating levels, none of which can yet be abandoned.

This programme together with the fact that the present developments are in the more easterly and westerly areas, where the ore occurrences are more scattered and of somewhat lower grade, has resulted in the percentage of ore developed and the grade of ore found being lower. There were 409,649 tons of new ore developed, and after deducting 350,196 tons milled, 59,453 tons were added to ore reserves. Of the 20,483 feet of drifting, 7,654 feet was on ore.

The preparations for sinking an interior shaft to open up the mine below the 3,900-foot level, as outlined in our last report, were completed, and the sinking of this shaft is now actively being carried out. There were 535 feet of shaft work done during the year, all in the new interior shaft, 2900 feet above the 3,900-foot level and 245 feet below that level. At the present writing the depth of this shaft is 4,300 feet.

Milling

It is satisfactory to note that the per cent. extraction is considerably better than our pilot mill work indicated, and while the extraction for the whole period under review is 96.78 per cent., the extraction for the last quarter was 97.04 per cent.

General

The trouble which existed in the refining of our precipitates, and referred to in our last report, has been completely overcome and our new process is enabling us to check satisfactorily with the Mint, the difference in assays during the twelve months' period being only 0.013 per cent.

Young-Davidson Mines, Limited

The officers and directors of Young-Davidson Mines, Limited, are: Gideon Grant, president; C. G. Knott, vice-president; F. M. McKay, secretary-treasurer; Jacob A. Davidson, W. C. Young, Roy Driscoll, directors. The capitalization is \$3,000,000, in shares of \$1 par value.

The company owns a property in Powell township, district of Timiskaming, which is being operated under agreement by the Hollinger Consolidated Gold Mines, Limited. An account of the work done on the property appears on page 115 of this report. The mine address is Elk Lake.

Young-Shannon Gold Mines, Limited

Young-Shannon Gold Mines, Limited, was incorporated in 1932, with an authorized capitalization of 3,000,000 shares of no par value. The officers and directors are: C. T. Young, president; S. J. Defoe, secretary; W. C. Huff, treasurer; and A. J. Bolton, director. The head office is at 1 Toronto Street, Toronto. The mine office is at Gogama.

The property includes a group of claims at Clam lake on the west boundary of Chester township, district of Sudbury. Work was suspended at this property in February, 1935, after a 2-compartment vertical shaft had been sunk to a depth of 100 feet, and 100 feet of lateral work done at that depth.

Work was then transferred to the property of the Martin Syndicate, consisting of a group of 25 claims at the north end of Three Duck lakes in Chester township, west of and adjoining the Gomak property. During the balance of the year about 600 feet of diamond-drilling was done, as well as surface trenching and pitting. Operations were carried on under a percentage of profits agreement.

An average of 4 men was employed during 1935, under the direction of C. T. Young.

GRAPHITE

Black Donald Graphite Company, Limited

The officers of the Black Donald Graphite Company, Limited, are: R. F. Bunting, president and manager; W. B. Bunting, vice-president; R. A. Telfer, secretary-treasurer.

The mine and refinery in Brougham township, Renfrew county, operated almost continuously during 1935. Graphite to the value of \$78,500 was produced.

An average of 9 men was employed in the mine, and 25 in the refinery. The mine address is Calabogie.

GYPSUM

Canadian Gypsum Company, Limited

The Canadian Gypsum Company, Limited, has a capitalization of \$300,000, divided into 3,000 shares of \$100 par value. The officers and directors of the company are: S. L. Avery, president; R. G. Bear, secretary-treasurer; O. M. Knode, C. F. Henning, Otis Wack, and J. E. MacLeish, directors. The head office is at 1221 Bay Street, Toronto. The head office officials are: B. S. Barns, agent and comptroller, and F. B. Gibbs, manager. Otis Wack, Windsor, N.S., is director of operations.

The company operates a gypsum mine and plant near Hagersville, in Oneida township, Haldimand county. All commercial gypsum products are produced at the plant, which includes a mill, wall board and block manufacturing buildings. During 1935 some 19,569 tons of rock were hoisted. An average of 53 men was employed. W. E. Allen, Hagersville, is superintendent.

The company also operates a quarry and lime plant at Guelph; a large gypsum quarry at Windsor, N.S.; a gypsum mill at Hillsborough, N.B.; a gypsum calcining mill at Iona, Cape Breton; and a winter gypsum storage depot at Deep Brook, N.S.

Associated with the company is the Gypsum Packet Company, Limited, operating four 7,000-ton freight and passenger steamers between Nova Scotia and United States ports.

Gypsum, Lime and Alabastine, Canada, Limited

Gypsum, Lime and Alabastine, Canada, Limited, has a capitalization of 2,000,000 shares of no par value. The officers are: R. E. Haire, president and manager; S. H. J. Reid, secretary-treasurer; W. E. Armstrong, Henry Cockshutt, H. J. Haire, Jas. R. Inksater, G. H. Kranenberg, J. E. McConnell, R. S. McCurdy, N. L. Nathanson, W. C. Pitfield, and John F. Cameron, directors. The head office is at Paris, Ont.

The mine and mill at Caledonia, Seneca township, Haldimand county, was operated throughout the year. L. V. Robinson was superintendent, employing an average of 92 men.

There were hoisted 28,461 tons of rock. Of this, some 2,716 tons of crushed and fine-ground gypsum were sold, and the rest was manufactured into landplaster, stucco, Paristone, Gyproc, dry Insulex, gypsum lath, and other building products.

In addition to the Caledonia mine, the company operates gypsum plants at Montreal, Winnipeg, Vancouver, and Calgary.

Lime plants are situated at Beachville, Elora, Hespeler, Milton, Limehouse, and Puslinch, Ont., and at St. Mark and Joliette, Que.

Quarries are operated at Mabou, N.S.; Gypsumville, Man.; and Salmon River, B.C. The alabastine plant is at Paris, Ont.

MOLYBDENITE

Phoenix Molybdenite Corporation, Limited

The Phoenix Molybdenite Corporation, Limited, has a capitalization of 1,000,000 shares of \$1 par value, of which 700,000 are issued. The property is in Bagot township, Renfrew county. The officers and directors are: F. L. Stinson, president and manager; E. A. Dempster, vice-president; W. G. Chipp, secretary-treasurer; Geo. Joynt and John Thomson, directors. The head office is at 710 Excelsior Life Building, Toronto. Work was started on May 17, 1935, and continued to the end of the year with an average force of 15 men. The mine address is Ashdad.

The following work was done during the year: drifting, 631 feet; crosscutting, 422 feet; shaft-sinking, 65 feet; station, 12 by 12 by 12 feet; ore hoisted, 976 tons; waste hoisted, 2,974 tons.

NICKEL AND COPPER

Cuniptau Mines, Limited

Cuniptau Mines, Limited, has an authorized capital of 3,000,000 shares of \$1 par value, of which 2,500,000 shares have been issued. The property consists of 62 claims in Strathy township, district of Nipissing.

The officers of the company are: B. W. Watkins, president; A. L. Herbert, vice-president; W. G. Watkins, secretary-treasurer; Gordon McLaughlin and Ian MacLaren, directors. The Mining Research Corporation are consulting engineers. Geo. M. Lee is mine manager. The mine address is Goward. The head office is at 465 Bay Street, Toronto.

In January, 1935, a small quantity of ore was tested in the 50-ton blast furnace. During the rest of the year operations were confined to surface exploration, with an average force of 10 men.

In November funds were raised by the sale of treasury stock to enable the purchase of concentrating and converter equipment, and to carry on further underground work.

Falconbridge Nickel Mines, Limited

The officers and directors of Falconbridge Nickel Mines, Limited, are: Thayer Lindsley, president; N. F. Parkinson, secretary-treasurer; Halstead Lindsley and J. G. Hardy, vice-presidents; W. S. Morlock, director. The authorized capital is 5,000,000 shares of no par value. The head office is at 25 King Street West, Toronto.

The company operates a nickel-copper mine, concentrator, and smelter in Sudbury district, and a refinery at Kristiansand, Norway. Ernest Craig is general superintendent of operations in the Sudbury district; J. R. Gill, assistant general superintendent; E. J. Martin, mine superintendent; R. C. Mott, concentrator superintendent; and M. J. Tamplin, smelter superintendent. During 1935 an average of 567 men was employed, of whom 185 were underground. The mine address is Falconbridge.

The following is an extract from the annual report of the company for the vear ending December 31, 1935:—

As heretofore, interruptions to continuous operation were due entirely to necessary periodic repair campaigns in the single-unit smelting plant.

Mine Development

Development footages attained during the year, and combined over all levels, distribute as tabulated below:—

Drifting and crosscutting (including slashing)feet	5,708
Raising (including slashing)feet	1,813
Ore passes (including slashing)feet	869
Fill passes (including slashing)feet	416
	6
Diamond-drillingfeet	4,805
Station-cuttingcu. ft.	47,389
Loading stationcu. ft.	7,620
Shaft-sinkingfeet	856

Practically all lateral work along the ore zone was confined to the 500- and 1,200-foot levels. On the former, an advance of 986 feet was made easterly in ore averaging 15.1 feet in width, though of slightly below mine average grade. This drive continues in ore at 1,600 feet from No. 5 shaft. On the 1,200-foot level, 153 feet and 807 feet were driven east and west, respectively, from No. 5 shaft in ore of mine average grade, with a mean width of 12.5 feet. Both these faces continue in ore.

No. 5 shaft was deepened 856 feet to a point slightly below the 1,400-foot level. Stations were established on the 200-, 325-, 1,200-, and 1,400-foot levels, and a loading station commenced at 1,350 feet. Stations for three levels between the 500- and 1,200-foot horizons are yet to be taken out. As the 1,200-foot level is a main haulageway, considerable work was carried out in anticipation of the large tonnage to be handled. A pump sump of sufficient size to accommodate a large volume of water is being excavated.

Steps were taken during the year to abandon the shrinkage method of mining and adopt the cut-and-fill system, with the conversion of active shrinkage stopes to the new practice. In preparation for this, as well as to back-fill the old stopes as they are emptied, a fill pass system was established near No. 1 shaft and two further series of passes were commenced, one located west of No. 1 shaft and the other east of No. 5 shaft. Ore passes were completed from the 350-to the 750-foot levels. At present, cut-and-fill stopes are yielding 25 per cent. of the ore hoisted, and this figure will be increased as the shrinkage reserves are drawn.

Ore Reserves

Ore reserves, computed as at December 31, 1935, are tabulated hereunder:--

Ore reserves as at December 31, 1934 Plus new ore added 1935	Tons 2,960,238 1,436,780
- Total Less: drawn during 1935	
Total ore reserves (averaging 1.93 per cent. nickel and 0.91 per cent. copper), December 31, 1935	4,059,475

Mining

The results of mining activities during the year are set out in the following table:-

BROKEN ORE IN STOPES	Tons
Balance December 31, 1934	509,742
Broken during 1935	170,196
Total	679,938
Less: hoisted from stopes during 1935	292,601
Broken ore reserves December 31, 1935	387,337

ORE HOISTED

From stopes, 1935 From development, 1935 From concentrating dump, 1935 From development dump, 1935	25,781 16,762
- Total ore to crushing plant, 1935	337,543

Crushing, Sorting, and Transportation

From 337,543 tons of ore delivered to the crushing plant, 35,206 tons, or 10.4 per cent., of waste was eliminated by sorting. The balance, amounting to 302,337 tons, was transported over the aerial tramway to the treatment plant bins.

Smelter

The reduction plant was in operation 346.93 days, or 95.3 per cent., of possible time. That the plant is being burdened beyond its limit is reflected in higher metallurgical losses as the result of slightly increased production.

Results of operation tabulate as below:-

	Short tons
Total ore treated	302,510
Matte produced	10.029.50
Nickel in matte produced	5,651.55
Copper in matte produced	2,597.26
Metals per ton of ore:	Pounds
Nickel	40.97
Copper	19.71
Metallurgical losses per ton of ore:	
Nickel	3.43
Copper	2.54

Construction

An extensive construction programme at No. 5 shaft embraced the erection of a steel headframe, power-house with hoisting and compressor equipment, change-house with office accommodation for the mine staff, carpenter shop, combined drill-steel and repair shop, central heating plant and substation. All buildings are of steel and concrete-block construction with fireproof roofing. A substation was also erected at the property by the Hydro-Electric Power Commission, and 25-cycle power at 26,400 volts was being delivered before the end of the year. Standard-gauge track to the extent of almost $1\frac{1}{2}$ miles was laid during the year to tie in the future ore and backfill handling system. Additional grinding, flotation, and thickening equipment was added in the concentrator.

Housing facilities were further increased by the erection of a number of dwellings. In addition, a spacious community hall was built for the use of employees and their families.

Refinery

The refinery, which is located in Norway, operated very steadily throughout the year, keeping in step with the somewhat increased matte production. A certain amount of additions and alterations took place, which raised the total capacity of the plant, including capacity for custom matte, to 7,000 short tons of nickel annually, at which rate it occasionally operated.

Custom matte was received regularly at a rate of 1,000 long tons of nickel annually. The plant for separation of precious metals started delivery of gold, silver, platinum, and palladium. The quality was found satisfactory, and the marketing took place without difficulty. The quality of the nickel and copper was maintained to the satisfaction of the market at the high quality previously set.

For the year 1935, the amount of metals in matte received from the smelter, the refinery production, the metals in process, and metals in matte on hand at the end of the year is set out in the following table:—

	Nickel	Copper
Metals in Falconbridge matte received, less refining losses Produced in marketable form during the year Metals in process of refining at end of year Metals in matte on hand at end of year	10,753,756 2,260,586	lbs. 4,768,704 5,029,525 427,043 319,041

Marketing

This key factor in our business was favourable during the year and reached a peak in the third quarter. European exchange difficulties, of course, had their effect, as did the observance lately of "sanctions." At that, sales of nickel totalled 10,829,865 pounds and of copper 5,129,483 pounds, which closely parallels our year's production, and closed the year with little change in stocks. These continue to be lower than we would like to see, but should be reinforced by the steps now taken to increase production by the end of 1936. Forward bookings for 1936 deliveries are again higher than in prior years.

International Nickel Company of Canada, Limited

The authorized capital of the International Nickel Company of Canada, Limited, consists of \$27,679,900 of preferred shares of \$100 and \$5 par value, and 15,000,000 shares of common stock of no par value.

The officers are: Charles Hayden, chairman of the board; Robert C. Stanley, president; John F. Thompson, vice-president; Paul D. Merica and John C. Nicholls, assistants to the president; James L. Ashley, secretary-treasurer.

The directors whose term expires in 1936 are: John P. Bickell, Hon. H. Cockshutt, Wm. N. Cromwell, D. Owen Evans, Sir Harry McGowan, R. H. McMaster, Wm. W. Mein, Rt. Hon. Lord Melchett, Paul D. Merica, Sir Robert Mond, Thomas Morrison, Seward Prosser, and Grant B. Shipley.

The directors whose term expires in 1937 are: James L. Ashley, John F. Dulles, Reg. Halladay, Charles Hayden, J. W. McConnell, R. S. McLaughlin, Britton Osler, J. A. Richardson, Robt. C. Stanley, Andrew V. Stout, John F. Thompson, and Rt. Hon. Lord Weir of Eastwood.

The executive office is at 67 Wall Street, New York, N.Y., and the general offices are at Copper Cliff, Ont.

This company and subsidiary companies operate hydro-electric power plants at High Falls, Big Eddy, Wabageshik, and Nairn Falls, Ont.; nickelcopper mines in Sudbury district, Ont.; smelters at Copper Cliff and Coniston, Ont.; refineries at Copper Cliff and Port Colborne, Ont., Acton, England, and Clydach, Wales; rolling mills at Birmingham, England, Huntington, W. Va., and Glasgow, Scotland; a colliery at Pontardawe, Wales; and a foundry at Bayonne, N.J.

The following information is extracted from the annual report of the company covering the year ending December 31, 1935:----

General

The progressive improvement in your company's business, which started in May, 1932, continued throughout 1935. Total sales of nickel were in excess of those recorded during 1929, which formerly was the peak year in the history of the nickel industry, and consumption was well diversified geographically and industrially. New sales records were achieved, not alone for nickel but for copper and the platinum metals as well.

During the year operations at mines and plants were conducted without interruption, and output was increased in order to meet the growing demand for your company's products. As a result of these activities pay-rolls increased in all plants, and unemployment was reduced in Sudbury district as well as in the town of Port Colborne, where your Canadian nickel refinery is located.

Attention is called to the redemption of outstanding debentures and to the acquisition of the minority interest in the Ontario Refining Company, Limited. The former transaction, by eliminating all funded debt, leaves your company and its subsidiaries in an entirely unencumbered financial position; and the latter gives your company full ownership in the copper-refining enterprise which was organized in 1929 primarily to refine your company's copper. A net profit of \$26,086,527.47 was realized after all charges, including provision for taxes,

A net profit of \$26,086,527.47 was realized after all charges, including provision for taxes, depreciation, mine depletion, and other purposes. After payment of preferred dividends of \$1,933,898.75, there remained \$24,152,628.72, or \$1.65 per share of common stock. Cash on hand of \$30,473,311.32 indicates a strong financial position, which is now more than ever necessary to assure at all times adequate production facilities and a continuation of aggressive market development to meet the exigencies of expanding business.

There follows a classified digest of essential facts concerning your company's varied activities during the year under review.

Sales

Your company's sales of nickel in all forms, including nickel in alloys, amounted to 129,-850,207 pounds, comparable with 91,459,554 pounds in 1934, an increase of 42 per cent. Sales of nickel in products of the Port Colborne and Clydach refineries amounted to 105,620,318 pounds, comparable with 73,964,621 pounds in 1934, an increase of 43 per cent. Sales of nickel in products of the Copper Cliff smelter amounted to 4,085,570 pounds, comparable with 1,357,008 pounds. Sales of nickel in products of the rolling mills at Birmingham, Glasgow, and Huntington, and of the foundry at Bayonne, totalled 20,144,319 pounds, comparable with 16,137,925 pounds, an increase of 25 per cent.

Sales of Monel metal, a nickel alloy made direct from Creighton ore, totalled 13,411,624 pounds, comparable with 10,763,821 pounds in 1934, an increase of 25 per cent.; sales of pure rolled nickel were 9,339, 595 pounds, comparable with 7,469,914 pounds, an increase of 25 per cent., and sales of Increased from 428,605 pounds to 609,632 pounds, or 42 per cent.

Sales of copper increased from 194,870,682 pounds in 1934 to 233,009,392 pounds, or 20 per cent.

Gold sales were 69,944 ounces, comparable with 74,375 ounces in 1934; silver sales were 3,160,222 ounces, comparable with 1,006,808 ounces; and sales of the platinum metals were 128,874 ounces, comparable with 124,424 ounces. Sales of selenium were 72,616 pounds, comparable with 73,516 pounds in 1934; and sales of tellurium increased from 1,110 pounds to 9,987 pounds.

Mines

During 1935 a total of 3,382,409 tons of ore was mined and shipped to the smelters at Copper Cliff and Coniston. All of this ore was extracted from the Frood and Creighton properties, which were operated continuously throughout the year. The Frood mine furnished 2,875,599 tons, and the Creighton mine 506,810 tons.

Development work in the Frood was carried on at a rate to conform to ore requirements. The advance of shafts, drifts, and crosscuts, raises, winzes, and box-holes for the year was 16,012 feet, bringing the total development footage in this mine to 183,211. There are now available for production 103 stopes and 16 pillar stopes, having respectively a daily capacity of 125 tons and 55 tons each.

In the Creighton mine development work was advanced 9,200 feet. Good progress was made in shaft-sinking and surface-plant construction. It is expected that this undertaking will be completed during the current year and that ore from this development will be available in 1937. The new shaft, 16 feet by 28 feet in cross-section, is being sunk to a depth of 4,200 feet and will be served by a hoist capable of handling 4,000 tons of ore per day.

By replacing mild steel skips with lighter skips made from nickel steel, the hoisting capacity at the Frood and Creighton mines has been increased approximately 15 per cent.

Smelters

The concentrator treated 2,584,666 tons of ore, the largest tonnage handled since this plant was built. Further improvements in metallurgy were effected, and from the standpoint of efficiencies and recoveries results were the most gratifying thus far attained. Milling was increased to 8,000 tons per day, and it is planned to expand capacity to 11,000 tons per day during the current year. Results have further shown the value of research experimentation, and work of this character will be intensified when the new research laboratory is completed.

At the Copper Cliff smelter there were produced 118,016 tons of bessemer matte and 121,574 tons of blister copper. All of the reverberatory furnaces, five in number, and all twelve converters, were in use from February until the end of the year. Operating results were satisfactory in respect to tonnage of ore smelted, fuel consumption, and slag losses. The Orford process department was operated throughout the year with improvement in costs, partly due to the increased tonnage of bessemer matte consumed.

The Coniston smelter, with the exception of the month of July, ran continuously with four blast furnaces and five converters in operation. Ore to the amount of 790,351 tons was processed, and 54,248 tons of bessemer matte produced. Plant practice was efficient as reflected in the higher percentage recovery of metal from ore smelted.

Hydro-Electric Plants

Your company's hydro-electric power plants are in good condition, and the capital expenditures thereon during the year were comparatively small. All of the plants are fully equipped and were operated throughout the year to the extent of the available water supply. Power purchases from the Hydro-Electric Power Commission of Ontario, including the requirements of the Port Colborne nickel refinery, totalled \$759,906.07.

Refineries

Port Colborne Nickel Refinery.—Increased demand for nickel necessitated operating the electrolytic plant at capacity for the first time since additional units were installed in 1929. The year began with six circuits in service, to which were added during the year the three reserve circuits, this bringing the refinery to maximum output. There was produced 80,381,532 pounds

of nickel in all forms. Continuous research and experimentation have resulted in many minor process improvements through which improved quality of product and lower costs have been attained.

Ontario Refining Company, Limited.—There was a substantial increase in the tonnage of blister copper treated at this refinery, and plant output and copper shipments increased correspondingly. Refined copper production was 109,966 tons, comparable with 95,558 tons in 1934. Shipments of refined copper were 107,032 tons, comparable with 97,292 tons in 1934.

A new selenium plant was completed and put into operation in March, 1935, thus enabling your company to produce a substantially larger quantity of this metal. In order to eliminate silver losses and to further increase recovery of selenium a Cottrell electrical precipitator was installed and has shown satisfactory results. A plant to produce "single" and "double" nickel salts for the Canadian market was authorized in 1935 and is now completed and in operation.

An electric furnace installation for producing high-quality copper wire-bars and other shapes, authorized in 1935, will be put in operation during the current year. Research work was continued in all departments. Many improvements have resulted, and in consequence cost has been lowered and quality bettered.

Your company purchased for \$1,175,000 the 10 per cent. minority capital stock of the Ontario Refining Company, Limited, and the latter is now a wholly owned subsidiary.

Ore Reserves

Proved ore reserves at December 31, 1935, were 205,590,592 tons. Additional ore proved during the year amounted to 4,573,538 tons.

Outlook

International use of nickel for industrial purposes is essentially dependent upon assured source of supply, prompt deliveries, and price schedules advantageous to consumer and producer alike. Furthermore, it is necessary at all times, while avoiding undue expansion, to maintain reserve productive capacity and adequate stocks of metal. In furtherance of this policy your plants in Canada and Great Britain are being enlarged with due regard to balanced operations from mine to market.

Sales and development activities, now world-wide in scope, have been augmented as new uses for your metals have been found. The potential field of application for nickel is extensive and in a large measure still unexplored.

The trend of consumption has been upward for nearly four years and more nickel is being used currently than ever before. It is not unreasonable to assume that with a continuation of your company's established methods this upward trend will continue as world trade improves.

Employees

The total number of employees at the year end was 12,452, distributed as follows: Canada 8,117, Great Britain 2,990, United States 1,293, other countries 52. Employees on December 31, 1934, numbered 9,154. The increase, amounting to 36 per cent., was due to the increased scale of operations and to the construction work in progress in Canada and Great Britain.

During 1935 an average of 1,894 men was employed at Copper Cliff, 456 at Coniston, 2,243 at Frood, and 883 at Creighton. Of these, an average of 1,835 was employed underground at Frood, and 552 at Creighton.

Donald MacAskill is general manager; R. D. Parker, general superintendent; H. J. Mutz, superintendent of mines; S. J. Kidder, superintendent of the Creighton mine; F. J. Eager, superintendent of the Frood mine.

Van Nickel Mines, Limited

In January, 1935, the name of Delta Metals, Limited, was changed to Van Nickel Mines, Limited. It has an authorized capitalization of 4,000,000 shares of \$1 par value. Wm. Spears is president, and Dr. W. R. Naylor, vicepresident. The head office is at 43 Victoria Street, Toronto.

In March work was started on the property of the Delta Mines Syndicate, located about 5 miles northwest of Worthington in Drury township, district of Sudbury.

In August a 2-compartment vertical shaft was started. Sinking was suspended at the end of September at a depth of 65 feet, and surface work done for the balance of the year. The plant installed included a 55 h.p. boiler, an 8- by 10-inch steam hoist, and a 200-cubic-foot compressor, which was replaced by a 1,000-cubic-foot compressor after sinking was suspended. Buildings erected included a powerhouse, magazine, and cap-house. A bunk-house, cookery, office, blacksmith shop, and assay office had been erected in previous years.

An average of 12 men was employed during the year, under the direction of W. F. Taylor. The mine address is Worthington.

PEAT

Caledon Peat Company

A few miles south of Orangeville, in lot 27, concession I, Caledon township, Peel county, the Caledon Peat Company produced from 100 to 150 tons of peat fuel, which sold at approximately \$10.00 per ton. The work was done under the direction of C. H. Burbridge and J. Pollock, Brampton.

The deposit is quite small, only 3 to 4 acres. The peat ranges from 4 to 5 feet in thickness with a few inches of humus and grass covering it. The actual operation consisted in cutting the peat out in blocks and spreading it on the ground to dry.

In quality the peat fuel is fairly good, having a low ash and good heating content. The operation ceased in the fall of 1935.

H. L. Hodgkins and Son

At a peat operation near the Forks Road, 5 miles from the village of Wainfleet, Wainfleet township, Welland county, 75 tons of peat fuel was produced and sold in the neighbouring towns. The fuel sold for \$7.00 per ton at the bog, and \$8.00 per ton delivered. The operators are H. L. Hodgkins and Son, R.R. 2., St. Ann's.

The peat is about $5\frac{1}{2}$ feet thick. The upper $1\frac{1}{2}$ feet is a mossy peat, which is sold to the nurseries for packing trees and shrubs; the lower 4 feet is a fair quality peat, rather high in ash.

The raw peat is processed in a manner similar to the Leasa operation near Stratford. The raw material is fed into a rebuilt clay pug mill, mixed, caught on drying racks, and placed in the open to dry. In all, about 7 men were employed for the greater part of the summer months.

Wm. Leasa

The largest peat operation in the province for the past year is located in lot 11, concession X, Ellice township, county of Perth, some seven miles north of Stratford. The operator is Wm. Leasa, Milverton.

The deposit is 1,200 acres in size. The area is wooded around the margin with small poplar, and in the centre, grasses and small shrubs are abundant. The thickness of peat utilized for peat fuel is only one foot.

The peat fuel is prepared by passing the raw peat through a clay pug mill, in which the peat is mixed to a soft plastic pulp. By means of a force feed the soft pulped peat is extruded from shaping mouthpieces on to drying racks. When only partially dry, the peat blocks are taken off the racks and placed in a drying shed.

During the summer of 1935 between 550 and 800 tons of peat fuel was produced and sold at \$7.00 per ton, delivered. The quality of the fuel is fairly good, having a high heating content, but also high in ash.

Northern Peat Company

The Northern Peat Company, under the direction of W. B. Brewer, Timmins, produced and sold in Timmins 100 to 150 tons of machine-made peat fuel at approximately \$9.75 per ton delivered, or 18 cents per bushel.

The deposit is located $5\frac{1}{2}$ miles west of Timmins in lot 8, concession III, Mountjoy township, district of Cochrane, and is estimated to contain at least 100,000 tons of peat. The thickness varies from a few inches at the margins to over 20 feet in the central zone.

In much the same manner as the Leasa and Hodgkins peat operations, raw peat is cut and broken down by knives rotating in opposite directions. The pulped peat then passes through extruders on to racks and is dried.

During 1936 the operator will try out new methods of handling both the raw and pulped peat. Handling of the raw peat is a very important factor, since seven to nine tons of raw peat are required to make one ton of salable peat fuel.

G. Runke and Sons

G. Runke and Sons, 115 Cameron Street, Kitchener, produced and sold about 115 tons of peat fuel from a small bog, 20 acres in extent, situated in the upper part of the German tract, lot 55, Waterloo township, Waterloo county. The fuel sold readily in Kitchener, and according to the operators many times the quantity produced in 1935 can be sold in the area surrounding the deposit.

The thickness of peat that is used for peat fuel runs from $1\frac{1}{2}$ feet to 2 feet. Approximately 8 inches of moss, covered by grass and small shrubs, overlies the peat. The quality is excellent, being low in ash and high in heating value.

The processing is carried on with a rebuilt brick press, which produces a very solid peat fuel, which sells at \$7.00 per ton, delivered in Kitchener.

From 7 to 10 men were employed for the greater part of the summer.

RADIUM

Canada Radium Mines, Limited

Canada Radium Mines, Limited, has a capitalization of 2,500,000 shares of no par value, of which 1,561,037 shares have been issued. The property consists of 750 acres in Cardiff township, Haliburton county. The officers and directors are: K. W. Wright, president; I. L. Fletcher, secretary-treasurer; Frank Austin, managing director; A. Arthur, Geo. F. McCandless, E. W. Austin, and John G. Cole, directors. H. L. McClelland is consulting engineer. The head office is at 244 Bay Street, Toronto. The mine address is Cheddar.

The shaft has been sunk to a depth of 388 feet, with levels at 125, 250, and 365 feet. Approximately 1,200 feet of lateral work has been done.

About 15 men are employed at the mine.

SILVER AND COBALT

Bellorain Mines, Limited

Bellorain Mines, Limited, has an authorized capitalization of 1,000,000 shares of no par value. M. Lebovitz, Cobalt, is president; and Max Kaplan, Kirkland Lake, is secretary-treasurer. The address is Box 206, Cobalt.

The company acquired the old Bellellen property in South Lorrain township, district of Timiskaming. Previous operators had sunk a shaft to a depth of 400 feet and done considerable lateral work.

The present owners operated from July 15 to November 10, 1935, employing an average of 24 men. Some 77 feet of diamond-drilling was done; ore hoisted amounted to 39.5 tons; and shipments of ore, having a value of \$1,687 in silver and \$3,067 in cobalt, were made.

Cobalt Properties, Limited

Cobalt Properties, Limited, is capitalized at \$25,000, in shares of \$1 par value. The officers are: Ambrose Murphy, president; Arthur Brocklebank, managing director; T. Wainwright, vice-president; H. E. Tomney, secretarytreasurer; Agnes Reid, director. The head office is at Cobalt.

The company owns the following properties in the township of Coleman, district of Timiskaming: Coniagas, Mining Corporation, Right of Way, McKinley-Darragh-Savage, and Cobalt Townsite.

During the year 74 feet of drifting was done and 854 tons of ore were hoisted, from which 279,414 ounces of silver were produced. An average of 72 men was employed.

Cobnor Silver Mines, Limited

Cobnor Silver Mines. Limited, owns one claim of 40 acres in the township of Bucke, district of Timiskaming. The company is capitalized at 750,000 shares of no par value. The officers and directors are: M. King, president; Norman D. Johnston, vice-president; C. B. Munday, secretary-treasurer; Percy Luscombe, managing director; Edmund Eaves and Edward Smith, directors. H. F. Fancy is mine manager. An average of 20 men is employed.

The property was reopened on September 9, 1935, and the following work was done to the end of the year: drifting, 485 feet; crosscutting, 20 feet; ore hoisted, 900 tons; waste hoisted, 900 tons. About 20 tons of cobalt ore was shipped. The mine address is Cobalt.

Comet Leasing Company

Jas. H. Price and Bruce Williams, of Kirkland Lake, leased the Drummond mine in Coleman township, district of Timiskaming, under the name of the Comet Leasing Company.

Two men were employed throughout the year. Shipments totalling 23,010 ounces of silver, valued at \$14,862, were made.

Dean and Downey

J. C. Dean and Ralph Downey, of Cobalt, leased the surface at the Wettlaufer mine in South Lorrain township, district of Timiskaming, and employed 3 men from April 24 to September 24 in picking over the dumps.

From 135 tons of ore shipped, a recovery of 6,538 ounces of silver, valued at \$4,309.00, was obtained.

Hudson Bay Mines, Limited

The property owned by Hudson Bay Mines, Limited, in Coleman township, district of Timiskaming, was leased to several operators during 1935.

Shipments of ore yielded a total of 1,527 ounces of silver, valued at \$774. The company's address is Box 700, New Liskeard.

George Martin

The Crown Reserve mine in Coleman township, district of Timiskaming, was leased to George Martin, of Cobalt.

Three men were employed from May 1 to December 31 sorting ore from the dumps, and 4 men were employed in the mill from June to October.

Shipments amounting to 10,551 ounces of silver, valued at \$6,208, were made.

H. G. Miller

H. G. Miller, Silver Centre, leased the dumps on the Canadian Lorrain property, in South Lorrain township, district of Timiskaming, and employed three men during part of October and November picking over the rock in the dumps. A recovery of 812 ounces of silver, valued at \$357, was obtained from 16 tons of ore shipped.

Mr. Miller also leased the Keeley mine in South Lorrain township and employed four men from May to November to pick over the dumps. Shipments from this property yielded 2,412 ounces of silver, having a value of \$1,226.

A. G. Morgenthalor

A. G. Morgenthalor, 2108 South Second Street, Philadelphia, Pa., acquired the old Beaver mine in Coleman township, district of Timiskaming. The property was operated throughout the year, with an average force of 8 men.

Development work amounted to 112 feet of winze-sinking, 180 feet of drifting, and 30 feet of crosscutting. About 305 tons of ore were hoisted, which yielded 51,771 ounces of silver, valued at \$31,770.

Morrison Mines, Limited

Morrison Mines, Limited, has a capitalization of \$3,000,000, in shares of \$1 par value. The officers and directors are: Horace F. Strong, president and manager; H. D. Fripp, vice-president; Jas. F. Cunningham, secretary-treasurer; W. W. Robinson and Jos. Montgomery, directors. The head office is at 165 Sparks Street, Ottawa.

The property consists of two claims, T.C. 204 and 205, in Nicol township, district of Timiskaming.

Operations at the mine were resumed in June, 1935, after a period of idleness since December, 1930. The shaft was sunk an additional 162 feet, and new levels were established at 500 and 575 feet. The following table shows the work done on these levels:—

	500-foot level	575-foot level
Drifting Crosscutting Raising	feet 192 120 66	feet 44 86

About 700 tons of ore and 3,800 tons of waste rock were hoisted. Production amounted to 28,526 ounces of silver.

An office and an addition to the shaft-house were built. Operations ceased at the end of the year, during which an average of 18 men was employed.

Mosher, Richardson, and Lafrange

I. E. Mosher and associates, of Cobalt, leased the Buffalo mine in Coleman township, district of Timiskaming, and made a clean-up of the mill from June 10 to October 12, 1935.

Some 46 tons of residues and precipitates, having a silver content of 5,597 ounces, valued at \$3,582, were sold to Noranda Mines, Limited.

Nipissing Mining Company, Limited

Nipissing Mines Company, Limited, has a capital of 1,200,000 shares of \$5 par value. The directors of the company are: E. P. Earle, president and treasurer; Alexander Fasken, vice-president and secretary; Richard T. Greene, Dr. F. R. Bennetto, C. W. Nichols, Halstead Lindsley, and Hugh Park, directors. The head office is at the Excelsior Life Building, Toronto, and the New York office is at 165 Broadway.

The operating company is the Nipissing Mining Company, Limited, with a capital of 2,500 shares of \$100 par value. The officers and directors of the company are: Alexander Fasken, president and secretary; E. P. Earle, vicepresident and treasurer; Richard T. Greene, C. W. Nichols, Dr. F. R. Bennetto, Halstead Lindsley, and Hugh Park, directors. Hugh Park, Cobalt, is general manager.

Mining operations at the property in Coleman township, district of Timiskaming, consisted principally of the extraction of cobalt ore at No. 81 shaft. An average of 38 men was employed, some in mining work and some on surface, in connection with shipping residue and general clean-up.

The following is an extract from the general manager's report for the year ending December 31, 1935:—

Operations at the Cobalt property were of the same nature as in the previous year, consisting largely of mining cobalt ore, shipping cobalt-nickel-arsenic residues, and recovering silver clean-up from various parts of the property, all operations showing a profit. Total shipments amounted to 4,380 tons, as against 1,692 tons in 1934. There was an increased demand and higher prices for cobalt, with the result that shipments of residue were 1,000 tons greater than in 1934.

The following shipments were made during the year:-

	Tons	Ounces silver
Fine bullion. Clean-up. Leasers' ore Residue. Cobalt ore	$\begin{array}{r} 39.75\\ 552.32\\ 1,884.39\\ 1,615.13\\ 288.49 \end{array}$	$\begin{array}{c} 1,158,985.50\\ 57,800.22\\ 90,883.58\\ 112,673.43\\ \end{array}$
Total	4,380.08	1,420,342.73

There was considerable variation in the price of silver, the variations at times being extreme from day to day, with comparatively long periods of more or less constant quotations. The year opened at 55 cents; a low of $53\frac{1}{2}$ cents was recorded on February 1; a high of 81 cents on April 26; the average for the year was 64.27 cents, closing at $49\frac{3}{4}$ cents. During most of February and March of 1936 the price has been fairly constant at $44\frac{3}{4}$ cents.

The stock of refined bullion held in storage at Cobalt was sold in December at varying prices, averaging 62 cents per ounce. This silver was held during the severe decreases during the past three or four years, including the low of 24¼ cents in 1932.

There still remains some indeterminate amounts of cobalt and silver in scattered surface workings and in dumps, which might be profitably concentrated if prices for both metals remain at their present levels.

Some ore was also obtained on the property by leasers. The recovery in given in the company's table of shipments above.

M. J. O'Brien, Limited

Cross Lake Mine

The Cross Lake mine in Coleman township, district of Timiskaming, is owned and operated by M. J. O'Brien, Limited. J. G. Dickenson is general manager, and W. A. O'Flynn is manager. About 105 men are employed. The mine address is Cobalt.

The following development work was done in 1935: drifting and crosscutting, 4,585 feet; raising, 446 feet; sinking, 10 feet.

The following table shows the ore hoisted and milled in 1934:--

	Tons
Total tons broken	44,597
Ore hoisted	25,860
Waste hoisted	
Ore milled	
Custom ore milled.	

The silver recovered amounted to 1,036,643 ounces, of which 138,783 ounces was from custom ore. There were shipped:—

Cobaltlb	s. 60,545
Copperlb	s. 35,969
Leadlb	s. 13,136
Goldounce	es 6.7

Miller Lake O'Brien Mine

The Miller Lake O'Brien mine. Nicol township, district of Timiskaming, is owned and operated by M. J. O'Brien, Limited. J. G. Dickenson is general manager and H. G. Kennedy is manager. The mine address is O'Brien. The average number of men employed was 95.

The 1934 report is as follows:-

	reet
Drifting	1,871
Crosscutting	963
Raising Sinking	56
	Tons
Ore stoped	18,918
Ore and waste broken	28,375
Ore hoisted Waste hoisted	20,091
waste noisted	•,000

J. C. O'Donald

In 1935, J. C. O'Donald, Cobalt, leased the old Silver Queen mine in Coleman township, district of Timiskaming, for three years.

During the year a shaft was sunk 64 feet and a shaft-house, machine shop, and dry were built.

About 60 tons of low-grade ore was hoisted, and 500 tons of waste. The production for the year amounted to \$1,269 in silver and cobalt. An average of 12 men was employed under Mr. O'Donald's supervision. The post office address is Box 286, Cobalt.

C. W. Price

The Foster mine in Coleman township, district of Timiskaming, was operated under lease by C. W. Price, Cobalt, who employed 2 men. Shipments of ore yielded 1,591 ounces of silver, having a value of \$969, and cobalt to the value of \$130.

These

Rowe and Stuckey

Alfred Rowe and Charles Stuckey, of Cobalt, leased the surface and dumps of the Frontier mine, in South Lorrain township, district of Timiskaming, during 1935. Shipments of silver ore and mill rock yielded 14,000 ounces of silver and 13,000 pounds of cobalt.

Sandoe and Moyle

The Temiskaming mine in Coleman township, district of Timiskaming, was leased to Richard Sandoe and H. Moyle, of Cobalt.

Production amounted to 10,246 ounces of silver, valued at \$6,660, and 12,844 pounds of nickel-cobalt ore, valued at \$534.

Silver Cliff Syndicate

R. H. Lyman leased the old Silver Cliff mine in Coleman township, district of Timiskaming, in April, 1935, and operated it as lessee until August. From then until November 26 he operated as manager for the Silver Cliff Syndicate. Mr. Lyman died on November 30.

During these operations there were sent to the O'Brien mill 694 tons of ore, which yielded 19,404 ounces of silver, valued at \$11,836.

Silverado Gowganda Mines, Limited

Silverado Gowganda Mines, Limited, held under lease nine claims in the Gowganda area, Leith township, district of Timiskaming. F. E. Forster, 347 Bay Street, Toronto, is secretary of the company.

Work was started on May 15, 1935, and continued until December 1, an average force of 20 men being employed. About 387 feet of drifting and 78 feet of crosscutting were done.

Donald E. Sirola

Donald E. Sirola, Kirkland Lake, operated the Colonial mine in Coleman township, district of Timiskaming, under lease, from June to December 31, 1935. Production amounted to 11,860 fine ounces of silver and 669 pounds of cobalt. An average of 7 men was employed.

Smith Cobalt Mines, Limited

Smith Cobalt Mines, Limited. has a capitalization of 4,000,000 shares of \$1 par value. The officers and directors are: W. H. Smith, president; A. A. Amos and E. F. Armstrong, vice-presidents; A. Kelso Roberts, secretary-treasurer; R. D. Hoffman, director. The head office and mine office are at Cobalt. The secretary's office is at 320 Bay Street, Toronto.

The property is in Coleman township, district of Timiskaming, east of Cross lake. Operations were carried on from May to December 31, 1935, an average of 21 men being employed. The following work was done:—

Level	Winze- sinking	Station- cutting	Drifting and cross- cutting	Raising	Stoping
450-foot	feet 17 59	cu. ft. 3,259 520	feet 931 365	feet 19	cu. ft. 1,508

About 9,570 pounds of cobalt ore was shipped. The late G. S. Scott was manager until August, and was succeeded by D. G. Russell.

A. Wood

The old mill of the Dominion Reduction Company, at Cobalt, was leased to A. Wood. Two men were employed from July 5 to November 10 in making a clean-up of the plant. Screenings from the mill site yielded 10,694 ounces of silver, valued at \$4,307, and 165 ounces of gold, valued at \$5,198. This mill at one time treated high-grade gold ores from several Ontario properties.

TALC

Canada Talc Company, Limited

The mine and mill of the Canada Talc Company, Limited, at Madoc, Huntingdon township, Hastings county, were operated throughout the year with an average force of 18 men. The officers and directors of the company are: W. S. Morden, president; E. S. James, vice-president; Roy Taylor, Madoc, secretary and manager. The company owns 50 acres. The capitalization is \$50,000.

During 1935, 250 feet of shaft-sinking and 850 feet of drifting were done. Ore hoisted and milled amounted to 6,379 tons.

Geo. H. Gillespie Company, Limited

The officers and directors of the Geo. H. Gillespie Company, Limited, are: Geo. H. Gillespie, president; M. H. Ludwig, secretary-treasurer; Alexander Longwell, director. The head office and mine office are at Madoc.

The property, which is called the Henderson mine, consists of 400 acres in Huntingdon township, Hastings county.

The production for 1935 was 7,330 tons mined and milled. L. Ashley is manager. About 12 men were employed in 1935.

METALLURGICAL WORKS

Algoma Steel Corporation, Limited

During 1935 only one blast furnace was operated by the Algoma Steel Corporation, Limited, located at Sault Ste. Marie. No. 4 furnace was in blast from February 8 to December 31, and produced a total of 119,394 gross tons of iron.

Jas. H. Bell was blast furnace superintendent.

Canadian Furnace Company, Limited

The Canadian Furnace Company, Limited, at Port Colborne, operated the furnace from January 1 to February 1, and from June 20 to December 31, in 1935. The production for the year was as follows:—

Gr	oss tons
Pig iron Spiegeleisen	64,484 8 037
	0,301
Total	73,421

The officers of the company are: Frank B. Baird, Buffalo, N.Y., president; Richard C. Yates, Port Colborne, vice-president and manager; Frederick C. Slee, Buffalo, N.Y., secretary. W. J. Higgins, Port Colborne, is superintendent.

The average number of men employed during 1935 was 102.

Canadian Industries, Limited

During 1935 the plant of Canadian Industries. Limited, located at Copper Cliff, was in continuous operation.

The three 50-ton-per-day sulphuric acid units were operated to capacity. These units manufacture the acid from converter gases produced at the smelter of the International Nickel Company. The oleum unit was also operated to capacity. The nitre-cake unit, in which sodium sulphate is treated with sulphuric acid to produce nitre cake, used in the Orford process of separating nickel from copper, was operated at about 70 per cent. of capacity.

An average of 46 men was employed. E. Jordon was plant manager.

Deloro Smelting and Refining Company, Limited

The blast furnace at the plant of the Deloro Smelting and Refining Company, Limited. operated for short periods during each quarter in 1935. Silver production amounted to 2,090,737 ounces. Arsenic and cobalt products, including stellite, were also produced.

The officers of the company are: M. J. O'Brien, chairman of the board; J. A. O'Brien, president; S. F. Kirkpatrick, vice-president and managing director; S. B. Wright, general manager; F. A. Bapty, secretary-treasurer; R. A. Elliott, works superintendent.

International Nickel Company of Canada, Limited

The refinery of the International Nickel Company of Canada, Limited, at Port Colborne was operated continuously throughout the year. An account of the operations appears on page 178 of this report.

Ontario Refining Company, Limited

The copper refinery of the Ontario Refining Company, Limited. situated at Copper Cliff, was operated continuously during 1935. Operations were increased from 85 per cent. of the rated capacity of the plant at the first of the year to about 95 per cent. at the end of 1935.

By-product departments were further expanded. A new selenium recovery plant was built and put in operation in March. A Cottrell unit was being installed at the end of the year to reduce the dust losses in the by-product departments.

The refinery operated chiefly on blister copper from the smelter of the International Nickel Company, although several lots of gold ores, gold-bearing slags, and mattes from various Canadian mines were treated during the year.

An average of 547 men was employed, in comparison with 462 in 1934. F. Benard was plant manager.

Steel Company of Canada, Limited

The Steel Company of Canada, Limited, operated "B" furnace for 365 days, with a production of 208,230 gross tons of pig iron. The average number of men employed was 87. R. A. Gillies is blast furnace superintendent.

The officers of the company are: Charles S. Wilcox, chairman of the board; R. H. McMaster, president; H. M. Jaquays and H. T. Diplock, vice-presidents; H. H. Champ, vice-president and treasurer; H. S. Alexander, secretary; S. E. Le Brocq, comptroller. The address is Hamilton.

MINING ACCIDENTS IN 1935

Chief Inspector of Mines, D. G. Sinclair, Toronto; Inspectors, E. B. Weir, Timmins; E. C. Keeley, Kirkland Lake; D. F. Cooper, Sudbury; A. R. Webster, Toronto.

Accidents during 1935

During the year 1935 at the mines, metallurgical works, quarries, and clay, sand, and gravel pits regulated by *The Mining Act*, there were 2,079 accidents to employees reported to the Department of Mines up to January 16, 1936. Thirty-five fatalities arising out of 31 separate accidents were reported.

These returns represent an increase of 134 in the total number of accidents and an increase of 1 in the number of fatalities recorded over the preceding year.

The report shows a fatality rate of 1.52 men killed per thousand men employed, which is a decrease of 0.13 from the rate for the preceding year and 1.09 per thousand lower than the average for the past twenty-five years.

There were 90 non-fatal accidents per thousand men employed, which is a decrease of 3 per thousand from the rate for 1934.

The percentage of non-fatal accidents followed by infection increased from 7.1 in 1934 to 7.4 in 1935.

^		*		0	
Distribution	1931	1932	1933	1934	1935
Mines, underground Mines, surface Metallurgical works Quarries Clay, sand, and gravel pits	$\begin{array}{c} 21\\8\\1\\2\\4\end{array}$	17 0 1 1 4	$\begin{array}{c} 20\\1\\1\\0\\2\end{array}$	$\begin{array}{c} 23\\ 2\\ 5\\ 1\\ 2\end{array}$	$\begin{array}{c} 25\\ 2\\ 3\\ 0\\ 1 \end{array}$
Total	36	23	24	33	31

Fatal Accidents

A comparison of fatal accidents for the past five years is given below:-

Month	No. accidents	No. men killed
January	4	4
February	1	1
March		2
April	1	1
May		0
June		5
July	4	4
August	5	5
September	5	5
October	4	5
November		2
December	1	1
Total	31	35

By months the fatal accidents occurred as follows:----

Classifying the fatalities according to industries gives the following:-

Gold mines	
Nickel mines	8
Silver mines	0
Talc mines	0
Metallurgical works	
Quarries	U U
Sand, gravel, and clay pits	T
Total	35

		1			
Cause	1931	1932	1933	1934	1935
Fall of ground Run of ore or rock Shaft accidents. Explosives Miscellaneous, underground Surface.	$ \begin{array}{r} 3.5\\ 17.2\\ 6.9\\ 13.8 \end{array} $	per cent. 21 5.3 15.8 31.6 26.3	per cent. 23 9 9 9 9 9 45 5	per cent. 31 8 8 18 27 8	per cent. 45 6.5 10 16 16 6.5

ANALYSIS OF FATALITIES AT MINES, 1931-1935

TABLE OF FATAL ACCIDENTS IN MINES, METALLURGICAL WORKS, QUARRIES, AND GRAVEL, SAND, AND CLAY PITS, 1911–1935

Year	Persons killed at metallurgical works and mines	Persons employed at metallurgical works and producing mines	Persons employed at non-producing mines (estimated)	Total persons employed	Fatal accidents per 1,000 employed
1911	49	12,543	2,000	14,543	3.37
1912	43	13,108	2,000	15,108	2.84
1913	64	14,293	2,000	16,293	3.93
1914	58	14,361	1,500	15,861	3.6
1915	22	13.114	1,500	14,614	1.51
1916	51	14.624	2,000	16,624	3.07
1917	36	16,791	1,000	17,791	2.02
1918	32	14,726	500	15,226	2.1
1919	39	11,926	1,000	12,926	3
1920	29	10,486	1,000	11,486	2.61
1921	24	8,436	1,000	9,436	2.54
1922	30	9,500	1,500	11,000	2.72
1923	30	10,500	1,500	12,000	2.5
1924	40	11,000	1,500	12,500	3.2
1925		11,500	1,500	13,000	3.23
1926	32	11,500	1,500	13,000	2.46
1927	33	13,311	2,000	15,311	2.1
1928	85	15,787	2,000	17,787	4.76
1929	55	17,145	1,849	18,994	2.89
1930	56	18,217	317	18,534	3.02
1931	.37	17,820	447	18,267	2.03
$1932\ldots\ldots$	25	14,378	431	14,809	1.69
1933	25	15,080	804	15,884	
1934	34	19,302	1,254	20,556	$1.65 \\ 1.52$
$1935\ldots\ldots$	35	21,444	1,528	22,972	1.52

The comparative fatality rate per thousand men employed at mines, metallurgical works, quarries, and clay, sand, and gravel pits is as follows:-

	Men employed	No. killed	Rate per thousand
Mines. Metallurgical works. Quarries. Člay, sand, and gravel pits.	4,479 700	$\begin{array}{c} 31\\ 3\\ 0\\ 1 \end{array}$	$ \begin{array}{r} 1.80 \\ .63 \\ 0 \\ 1.67 \end{array} $
 Total	22,972	35	1.52

The ages of the men killed were as follows:---

17-20	21-25	26-30	31–35	36-40	41-45	46-50	Over 50	Total
1	6	6	7	6	5	2	2	35

Occupation	British	Czecho- Slovakian	Finn	Italian	Jugo-Slav	Norwegian	Pole	Ukrainian	Total
Chute-blaster. Conductor. Driller. Hoistman Labourer. Machine helper. Mucker. Pumpman. Scaler. Shaft leader. Shaft leader. Shaft leader. Slusherman. Stope boss. Switchman. Tableman. Teamster. Timberman. Unitman.	1 1 1		1 			1		······	1 1 10 1 2 5 1 1 2 2 1 1 1 1 1 1 1 1 1
Total	16	2	2	4	5	1	4	1	35

The occupation and nationality of the men killed at mines, metallurgical works, and clay, sand, and gravel pits are set out in the following table:--

Non-fatal Accidents

The causes of non-fatal accidents at mines are shown in the following table :----

Cause	Surface	Under- ground	Total
Fall of persons	107	157	264
Falling objects	62	131	193
Rock or ore at chute		138	138
Flying objects, sledging, etc	28	105	133
Handling rock or ore	-5	116	121
Fall of rock or ore, scaling, drilling, etc	Ū	120	120
Crushed between two objects	25	90	115
Hand tools	51	51	102
Tramming	7	92	99
Fall of rock or ore at face		80	80
Strain while lifting	28	51	79
Nails or splinters	$\frac{28}{24}$	43	67
Drilling machines.	24	65	65
Machinery.	45	9	54
Running into or striking objects	45	40	54 47
Care skip or busket	4	27	27
Cage, skip, or bucket	20	21	
Burns.	20	4	24
Fall down shaft, winze, or stope		16	16
Explosives		11	11
Air or rock blast		8	8
Poisoning from cyanide	4		4
Electricity	3		3
Gas	2	1	3
Explosions from carbide	1		2
Unclassified	14		14
Total	433	1,356	1,789

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The causes of non-fatal accidents at clay, sand, and gravel pits were:---Strain while lifting..... Fall of material 5 Falling objects..... 4 Fall of persons..... 3 Hand tools..... Crushed between two objects..... 3 Machinery..... ž Total..... The causes of non-fatal accidents at metallurgical works were:-32Transportation..... Falling objects..... 21Hand tools..... Fall of persons..... Strain while lifting..... 10 Machinery..... Flying objects, sledging, etc..... 10 Nails or splinters..... Burns...... Burned by slag, matte, or scrap..... 7 Burns by acid..... 5 Electricity..... Gas..... $\mathbf{5}$ Cranes, ladles, hooks..... Crushed between two objects..... 4 Total..... 112 The causes of non-fatal accidents at quarries were:-

Handling material	31
Fall of rock	14
Fall of persons	14
Flying objects, sledging, etc	12
Hand tools	10
Falling objects	8
Transportation	8
Strain while lifting	7

Machinery	5
Crushed between two objects	5
Derricks, cranes, etc	3
Explosives	3
Nails or splinters	3
Electricity	1
Total 12	24

Infection

Location	No. of accidents	Accidents followed by infection	Per cent. infection
Mines, underground Mines, surface Metallurgical works Quarries Clay, sand, and gravel pits	$1,356 \\ 433 \\ 112 \\ 124 \\ 23$	$\begin{array}{c}103\\38\\2\\9\end{array}$	7.6 8.8 1.8 7.2
Total	2,048	152	7.4

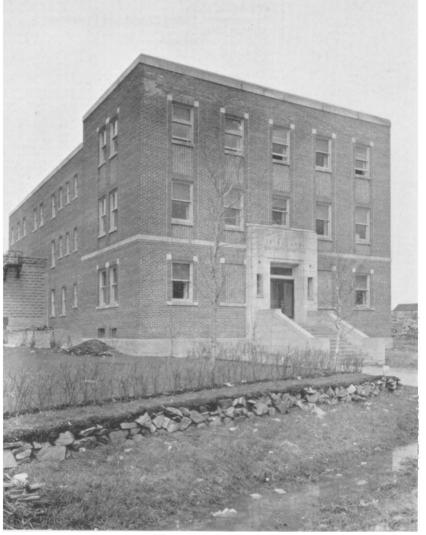
Accidents from Explosives

	Non-	fatal	Fa	tal	Total	
Cause	No. of accidents	Men injured	No. of accidents	Men killed	No. of accidents	Men killed or injured
Delayed too long blasting Drilled into explosive Unexplained blast Concussion from blast Cap exploded while being tested Hit by rock from blast Walked into blast Fumes from blasting	$\begin{array}{c}2\\2\\2\\1\\2\\1\end{array}$	$ \begin{array}{r} 3 \\ 2 \\ 2 \\ 1 \\ 2 \\ 1 \\ \dots \end{array} $	· · · · · · · · · · · · · · · · · · ·	2 1 2	1 1	$5 \\ 3 \\ 2 \\ 1 \\ 3 \\ 1 \\ 2$
Total	13	14	4	5	17	19

Electric Accidents

The following table shows the fatal accidents due to the use of electricity at mines, metallurgical works, and quarries during the last ten years:---

1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	Total
	2	1		6						9



Kirkland Lake Hospital.

The following table shows the total number of non-fatal electric accidents during the last ten years:—

1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	Total
5	10	4	14	10	7	3	4	4	6	67

Classification of Non-fatal Accident Rates at Producing Mines

In the following table the producing mines are arranged in order, according to their rate of non-fatal accidents per thousand men employed:—

0–50	{ Canadian Gypsum Howey McIntyre-Porcupine
50–100	 O'Brien (Cobalt) International Nickel (Frood and Creighton) Minto (Jubilee) Miller Lake O'Brien Nipissing Sylvanite Kirkland Lake Gold Naybob (Hayden) Hollinger Dome Darwin Tashota J-M Consolidated Lake Shore Young-Davidson Northern Empire
	Average producing mines—99.2 per M Wright-Hargreaves
101–150	Coniaurum Parkhill Anglo-Huronian (Vipond) Falconbridge (mine) Teck-Hughes McKenzie Red Lake Ashley Gypsum, Lime and Alabastine Central Patricia St. Anthony Van Sickle (S. B. Smith)
151-200	(Ardeen (Moss) Henderson Talc Little Long Lac Cobalt Properties Toburn Gillies Lake-Porcupine
Over 200	Matachewan ConsolidatedBidgoodBarry-HollingerMacassaNorth ShoresMcMillanPickle CrowPaymaster ConsolidatedBuffalo AnkeriteCanada TalcMarbuanKenora Prospectors (Cedar Island)Black Donald

Mine Fires

Hollinger Consolidated Gold Mines, Limited

About 5.30 A.M., January 27, a small fire was discovered in a by-pass chute at the 975-foot station off the Central shaft at the Hollinger mine.

The discovery was made by Joseph Bell, night-shift ore-pass operator on the 675-foot level. Bell had smelled wood smoke while at his work on the 675-foot

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level and, being unable to locate the source of the smoke on that level, descended first to the 800-foot level and eventually to the 975-foot level, where he located the fire in the timbers of an unused by-pass chute behind the shaft. Two 12-foot 10- by 10-inch timbers, bolted together to form the end posts of this chute, were found to be smouldering. A section of these timbers extending from the floor of the level to a height of 8 feet was charred along the contact of the two timbers to a maximum depth of 5 inches. In the centre of the burned section the 20-inch face formed by the two timbers was charred across the full width.

The fire was easily extinguished and no material damage was done, but the consequences might have been serious indeed had it not been for the persistence of Bell in tracing the origin of the slight smoke he noticed on the 675-foot level.

During the afternoon of January 26 a crew of repair men had used an oxyacetylene torch to cut out some plates and bolts at this chute and the original ignition of the timbers is presumed to have been due to this operation. The last cutting with the torch was completed about 2 P.M. and, although this crew worked at the location for nearly an hour and three-quarters after the last use of the torch, they noticed no indication of fire up to the time they stopped work and went to surface.

While it seems that from 2 P.M. to 5.30 A.M. was an almost incredible length of time for the fire to smoulder without spreading farther, this is partly accounted for by the nature of the wood in the posts—it was dry-rotted on the outer surface—and by the fact that until the waste-pass was drawn by the night shift there was little or no circulation of air through this by-pass.

It is thought that either the flame of the oxy-acetylene torch impinged on the joint between the two timbers while the cutting operations were under way or that a splash of molten metal became lodged in the joint and caused the fire.

International Nickel Company of Canada, Limited

On April 15, at 1.15 A.M., a smouldering timber was discovered by Motor Repairman F. Anderson at the 26th level crusher station, Creighton mine. It was thoroughly wetted and all signs of fire were easily extinguished.

An acetylene torch had been used in the vicinity on the previous shift to "burn" some crusher plates overlying this timber, and it is presumed that this operation was responsible for the ignition.

Lake Shore Mines, Limited

A small fire broke out in the hoist-room of No. 1 shaft, 2,000-foot level of the Lake Shore mine, on the afternoon of April 12.

This hoist-station contains the hoist-room proper and the adjoining gridroom, which is separated from the hoist-room, by a partition of metal lath and plaster, erected on 2- by 6-inch studding. Ventilation in the station is usually supplied by a fan. At the time of the fire, however, a repair job was being carried on and the fan was temporarily shut off.

The fire was confined to one stud and is presumed to have originated from the heat generated in the grids.

No damage was done, but, in order to guard against a repetition of the occurrence, the old partition was torn out and replaced by a concrete wall.

Porcupine Lake Gold Mining Company, Limited

Fire broke out in the shaft of the Porcupine Lake mine (formerly the Hunter) on the night of November 18, completely destroying three sets of shaft timbers, including the collar set, and damaging the three sets immediately below. The sills of the shaft-house were also damaged, and approximately 170 square feet of shaft-house flooring was burned.

After the watchman discovered the fire, between 10.30 and 10.45 P.M., its progress was retarded by good work on the part of a quickly organized bucket brigade, who worked until the arrival of the chemical truck and firemen from South Porcupine. But for the prompt action of the watchman and his hastily summoned assistants, and the timely arrival of the fire department with chemical extinguishers, the entire shaft-house and boiler-compressor-hoist-house, which stands much too near the shaft-house, would undoubtedly have been destroyed.

Until early in October, when the buildings were repaired preparatory to dewatering the mine and examining the underground workings, no work had been done at this property for a number of years. Dewatering was completed early in November, after which the pumping crew on night shift was laid off and only a watchman-fireman retained on the shift.

The cause of the fire, at the time of writing, remains unknown.

Prosecution

A charge was laid against Norman S. Blue, chute blaster at the Frood mine of the International Nickel Company of Canada, Limited, in connection with a fatal accident to K. Karjula, for blasting in No. 1 north drift on the 2,600-foot level on September 9, without first causing all entrances to be effectively guarded, contrary to Subsection 61, Section 163, of *The Mining Act*.

Blue was convicted of the charge by Magistrate J. S. McKessock at Sudbury on October 9, and a fine of \$10 and costs, or one month in jail, was imposed.

Summary of Rope Tests, 1935

The following is a summary of the tests made in the Wire Rope Testing Laboratories of the Department of Mines during 1935:—

Test for Ontario mines under Act 3	
Special informative tests for mines	11
Tests for wire-rope manufacturers.	
Tests for mines outside Ontario	
Other tests	5
—	
Total	29

Classes for Prospectors, 1935-36

By E. M. Burwash

Introduction

Classes for the instruction of prospectors in mineralogy and geology were held during the past winter as usual, this being the ninth season during which the present instructor has had charge of the classes. The places visited were ten in number, including Hamilton, in which this work had not been done before, and Schreiber, where there had been no classes for a number of years. The numbers in attendance at these two places were fairly satisfactory.

Analysis of Class Attendance

The following table gives detailed information of the last season's work. The heading "Total registration" means enrollment for the daylight classes in mineralogy and petrography. The actual attendance at these classes is given under "Mineralogy." The heading "Geology" refers to attendance at illustrated lectures given in the evening. The column marked "Student hours" contains an estimate of the total hours of study done by the classes as a whole.

		Total	Average	Total attendance		Student
Places	Dates		attendance	Mineralogy	Geology	hours
	1935		per cent.			
Hamilton	Nov. 12	62	60.5	300	408	708
Ottawa	Nov. 21	38	67.4	205	126	419
Sudbury	Dec. 2	22	57.1	103	60	225
Sault Ste. Marie	Dec. 12	51	60.5	247	127	615
Toronto	1936 Jan. 2	227	70.3	1,277	820	3,135
Fort Frances.			54.8	57	37	151
Fort William			64.7	321	123	696
Schreiber			56.25	117	93	320
Kirkland Lake			63.9	414	286	1.114
Kapuskasing		22	64.8	114	154	365
Total		604		3,155	2,234	7,748
Averages	 .	75.5	62.03	315.5	223.4	774.8

TABLE OF ATTENDANCE, 1935-36

The total registration shows a considerable falling off as compared with the ten places visited a year ago, when the total was 1,084.

COMPARISON	OF	REGISTRATION	BY	YEARS
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Year	No. of places	Total registration
1927-28	16	492 .
1928–29	14	353
1929-30	15	281
1930-31	15	345
1931-32	13	614
1932–33	13	1,667
1933-34	15	1,257
1934-35	10	1,084
1935–36	10	604

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The conclusion drawn in previous reports that the attendance decreases as the prosperity of business in general advances and increases with depressed business conditions seems well sustained.

Acknowledgments

Acknowledgments are due to the following persons and public bodies who have aided in the promotion of the classes in the various centres where they were held, or who have provided rooms or otherwise assisted our work:—

Hamilton—F. P. Healey, Secretary, and the Hamilton Chamber of Commerce; and Mc-Master University for use of lecture room.

Ottawa-F. C. C. Lynch and the Geological Survey of Canada for the use of rooms at 227 Sparks Street.

Sudbury—L. E. R. Stephens, Principal, and the Board of the Sudbury Mining and Technical School.

Sault Ste. Marie-A. D. Hone, Principal, and the Board of the Sault Ste. Marie Technical School; W. N. Miller, Mining Recorder.

Toronto—Chester S. Walters, Deputy Minister of Public Works, and the Governors of the University of Toronto for the use of a classroom in the Economics Building, 273 Bloor Street West.

Fort Frances-The Town Council and the Town Clerk, J. W. Walker.

Fort William—H. E. Johnston, Secretary, and the Thunder Bay Chamber of Mines; the Mayor and City Council for the use of their auditorium.

Schreiber-W. A. Spicer, Clerk, and the Mayor and Town Council for use of space in the Town Hall.

Kirkland Lake-H. G. Ginn, Mining Recorder, Swastika, for arrangements for the class at Kirkland Lake.

Kapuskasing-Herbert J. Swetman, Manager, and the Community Club.

The employment of a regular travelling assistant for the classes was abandoned in favour of the securing of local assistance as far as practicable. Jas. E. Thomson, geologist of the Department of Mines, did this work at Hamilton, Schreiber, Kirkland Lake, and Kapuskasing; and D. G. Sinclair, Chief Inspector of Mines, officiated very ably at Sudbury.

Local helpers were D. J. O'Brien at Sault Ste. Marie, J. McVey at Fort Frances, and Douglas Fraser at Fort William, who were employed for this work in whole or in part and performed their respective duties quite satisfactorily.

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Headlight gold m	$\begin{array}{c} 47\\ 22\\ 48\\ 149\\ 76\\ 157\\ 74\\ 153\\ 194\\ 20\\ 167\\ 722\\ 173\\ 194\\ 20\\ 165\\ 119\\ 174\\ 61\\ 70\\ 147\\ 158\\ 187\\ 177\\ 20\\ 75\end{array}$
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