PROVINCE OF ONTARIO
DEPARTMENT OF MINES

HON. LESLIE M. FROST, *Minister of Mines* H. C. RICKABY, *Deputy Minister*

FIFTY-FOURTH ANNUAL REPORT

OF THE

ONTARIO DEPARTMENT OF MINES

BEING

VOL. LIV, PART I, 1945

Statistical Review of the Mineral Industry of Ontario for 1944 - 1-55

List of Quarries and Works for Structural Materials and Clay Products, 1944 - - - - - - - - - - - - - 56-62

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LETTER OF TRANSMISSION

To the Honourable Albert Matthews,
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 Fifty-fourth Annual Report, 1945, of the Department over which I have the honour to preside.

Respectfully submitted,

Leslie M. Frost,
Minister of Mines.

Department of Mines,
Toronto, 1947

INTRODUCTORY LETTER

To the Honourable Leslie M. Frost,
Minister of Mines.

Sir,—The undersigned has the honour to submit the Fifty-fourth Annual Report of the Department of Mines, issued in four parts, as follows:—

Part I

Statistical Review of the Mineral Industry of Ontario for 1944, by Maurice Tremblay.
List of Quarries and Works for Structural Materials and Clay Products, 1944.

Part II

Mines of Ontario in 1944, by W. O. Tower, R. L. Smith, W. E. Bawden, D. F. Cooper, J. B. Taylor, E. S. Little, E. B. Weir, D. P. Douglass.
Mining Accidents in 1944, by W. O. Tower, R. L. Smith, W. E. Bawden, D. F. Cooper, J. B. Taylor, E. S. Little, E. B. Weir, D. P. Douglass.

Part III

Natural Gas in 1944, by R. B. Harkness.
Petroleum in 1944, by R. B. Harkness.

Part IV

Geology of Township 47, Missinaibi Area, with map No. 1946-2, by E. L. Bruce.

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,

H. C. Rickaby,
Deputy Minister of Mines.

Department of Mines,
Toronto, 1947.

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Tables Showing Annual Gold Production by Mines and Areas
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Statistical Review of the Mineral Industry of Ontario for 1944

By Maurice Tremblay

GENERAL SUMMARY

Mineral Production

The shortage of experienced labour was the main cause of a serious drop in the production value of Ontario's mining industry in 1944. Final figures show that the aggregate output value amounted to $212,755,354 in 1944 and $233,-910,304 in 1943. The recession is equal to 9.04 per cent.

Production of metals and metallic minerals was valued at $185,940,774, down 9.84 per cent.; non-metallic minerals and fuels, $11,075,707, down 11.41 per cent.; clay products, $2,347,396, down 4.33 per cent. Structural materials registered the only increase of all the divisions of the industry; the production was valued at $13,391,477, an increase of 5.37 per cent.

Gold-mining suffered most from the labour shortage. The output value of the gold mines alone dropped by 18.67 per cent. in 1944. The lifting of war-time restrictions on underground development at non-producing mines gave much encouragement to the gold-mining industry. Rising markets and the wholesale public participation in the stock market supplied millions of dollars for exploration and development work in Ontario's northland. The number of mining incorporations as well as that of mining claims recorded took a sudden jump in 1944.

The nickel-copper industry produced matte and metals valued at $111,208,-828 in 1944, as against $120,489,177 in 1943. The output value of this single industry is now the most important of the mining group, having surpassed gold in recent years. The value of nickel receded by 3.45 per cent. and that of platinum metals by 41.39 per cent., whilst that of copper rose by 5.12 per cent. The production of magnesium, a comparative newcomer to the list of metals, rose in value by 24.15 per cent. over 1943.

Ontario's position as a producer of iron was improved during the year with the initial commercial shipments of ore from Steeprock lake. Production of beneficiated and high-grade raw ore was valued at $1,036,773, a gain of 17.66 per cent. over the preceding year.

The continued drop in the output of natural gas, which is the most important item in the non-metallic group, resulted in a lower aggregate production value.

Labour statistics, which are given in detail in the reviews covering individual minerals, indicate that 29,918 wage-earners received $55,726,089 in 1944, as against 30,158 wage-earners and wages amounting to $57,243,951 in 1943.

It should be noted that in the table of "Total Mineral Production" on page 6 and the table of "Metal Production to December 31, 1944" on page 7 that since 1914 the province has been credited with the value of pig iron made from domestic ore only. Credit is also given for Ontario iron ores exported or shipped outside the boundaries of the province.

SUMMARY OF MINERAL STATISTICS, 1944

Product	Quantity	Value[1]	Employees	Wages
METALLIC				
Gold ..... oz.	1,731,838	$35,800,299	9,996	$20,736,026
Exchange equalization	.....	30,874,701	.....	.....
Silver ..... oz.	3,143,275	1,342,275	355	559,316
Copper in matte exported[2] ..... lbs.	13,033,181	1,172,986		
Copper, metallic and in concentrates, exported ..... lbs.	272,274,097	32,672,646		
Nickel in matte,[2] in speiss, and in ore exported; metallic nickel; and nickel content of oxides and salts ..... lbs.	274,598,629	69,204,152	[3]14,227	[3]26,666,760
Platinum metals ..... oz.	200,452	8,024,719		
Selenium ..... lbs.	65,000	117,000		
Tellurium ..... lbs.	9,900	17,325		
Cobalt in metal, oxides, salts, ores, and residues ..... lbs.	36,283	34,106	357	$560,107
Lead in concentrates exported ..... lbs.	1,065,741	47,958	.....	.....
Zinc ..... lbs.	2,429,176	104,455	62	56,511
Pig iron[5] ..... tons	105,796	2,909,390	480	990,007
Iron ore[6] ..... tons	294,841	1,036,773		
Tungsten, concentrates ..... lbs.	63,152	5,212	.....	.....
Molybdenum, concentrates ..... lbs.	2,815	1,082	.....	.....
Magnesium ..... lbs.	10,579,778	2,575,695	304	557,477
Total	.....	$185,940,774	25,781	$50,126,204
NON-METALLIC				
Arsenic, white[7] ..... lbs.	358,955	$26,922	([8])	([8])
Corundum ..... tons	173	17,111	37	$31,809
Feldspar, crude and ground ..... tons	5,667	50,361	40	33,721
Fluorspar ..... tons	6,906	217,031	72	66,308
Garnet rock ..... tons	3	90	.....	.....
Graphite, crude and refined ..... tons	1,582	171,166	40	61,666
Gypsum ..... tons	90,288	348,873	52	98,751
Mica (amber) ..... lbs.	3,473,596	68,984	36	29,588
Mica (white) ..... lbs.	273,843	577,761	233	175,578
Mineral waters ..... Imp. gals.	7,185	805	.....	.....
Natural gas ..... M cu. ft.	7,082,509	4,694,097	[9]560	[9]728,709
Nepheline syenite ..... tons	47,625	217,989	62	73,488
Peat fuel ..... tons	200	1,800	5	700
Peat moss ..... lbs.	24,981,760	144,820	211	140,713
Petroleum, crude ..... bbls.	125,067	296,420	109	94,350
Quartzite and quartz[10] ..... tons	1,326,288	868,389	140	196,924
Silica brick ..... M	1,066	135,089	31	52,578

Salt ..... tons	603,806	2,906,117	351	577,380
Sulphur[11] ..... tons	17,876	178,760	.....	.....
Talc ..... tons	13,584	153,122	22	24,348
Total	.....	$11,075,707	2,001	$2,386,611
STRUCTURAL MATERIALS				
Cement, Portland ..... bbls.	1,863,210	$2,730,381	335	$600,181
Hydrated lime ..... tons	37,607	424,399	199	382,467
Quicklime ..... tons	391,678	2,886,778		
Sand and gravel ..... tons	9,529,803	4,417,427	338	389,359
Sand-lime products[12]	.....	22,512	8	3,372
Stone: limestone, marble, trap, granite, sandstone, slate ..... tons	2,988,283	2,909,980	604	963,638
Total	.....	$13,391,477	1,484	$2,339,017
CLAY PRODUCTS				
Brick, face ..... No.	45,600,768	$1,114,860		
Brick, common ..... No.	10,791,870	203,534		
Brick, fancy and ornamental ..... No.	28,403	866		
Brick, sewer	233,100	4,391		
Tile, drain ..... No.	10,784,916	309,245	652	$874,257
Tile, structural, roofing, and floor	562,557	334,587		
Sewer pipe, copings, flue-linings, etc.	.....	312,081		
Pottery and other products	.....	60,000		
Haydite and clay	.....	7,832		
Total	.....	$2,347,396	652	$874,257
GRAND TOTAL	.....	$212,755,354	29,918	$55,726,089

[1]Canadian funds.
[2]Copper in matte valued at 7 cents per pound, and nickel at 18 cents.
[3]Employees and wages for nickel-copper mines, smelters, and refineries include statistics of the Ontario Refining Company and Kam-Kotia Porcupine Mines.
[4]Employees and wages for silver-cobalt smelters and refineries.
[5]Production from Ontario ore only. Total output of blast furnaces, 1,456,194 tons of pig iron, worth $35,484,407.
[6]Exports and shipments to points other than Ontario blast furnaces. Total shipments of iron ore, 553,252 tons, valued at $1,909,608.
[7]Shipments from Ontario sources and not actual production figures.
[8]Employees and wages included with figures for silver-cobalt smelters and refineries ([4]).
[9]Employment figures for the natural gas industry in previous years included salaried employees. These figures are for wage-earners only.
[10]Includes 3,076 tons tourmaline-quartz andesite used as grinding pebbles and valued at $12,983.
[11]Tonnage given is sulphur content of sulphuric acid.
[12]No deduction made for lime used in manufacturing.

COMPARATIVE VALUE OF MINERAL PRODUCTION, 1940–1944

Product	1940	1941	1942	1943	1944
METALLIC					
Gold (Canadian value)	$125,579,597	$122,977,102	$106,413,978	$81,517,998	$66,675,000
Silver	2,074,321	1,899,778	1,897,131	1,192,408	1,342,275
Platinum metals	7,760,157	8,144,164	19,176,254	13,691,748	8,024,719
Cobalt[1]	1,235,220	255,904	88,444	191,407	34,106
Nickel[2]	59,822,590	68,656,795	69,998,427	71,675,322	69,204,152
Copper, metallic and in matte	34,742,229	33,192,644	30,625,404	32,194,369	33,845,632
Selenium	260,429	272,171	145,920	143,500	117,000
Tellurium	5,607	18,394	15,200	15,050	17,325
Pig iron	1,971,130	2,590,066	2,870,432	2,094,126	2,909,390
Iron ore	739,031	803,071	784,169	881,143	1,036,773
Lead, in ore	11,614	54,559	107,018	85,362	47,958
Bismuth	24,620	10,379	3,219	.....	.....
Tungsten concentrates	690	2,432	145,241	356,478	5,212
Magnesium	.....	.....	208,520	2,074,652	2,575,695
Molybdenum	.....	.....	150	.....	1,082
Zinc	.....	37,553	160,671	131,992	104,455
Total	$234,227,235	$238,915,012	$232,640,178	$206,245,555	$185,940,774
NON-METALLIC					
Arsenic, white	$62,798	$114,792	$152,331	$32,924	$26,922
Barite	4,577	.....	.....	.....	.....
Celestite	.....	280	.....	.....	.....
Corundum	.....	.....	.....	.....	17,111
Feldspar, crude and ground	98,619	107,124	49,353	61,549	50,361
Fluorspar	58,952	93,867	113,957	301,424	217,031
Garnet rock	.....	160	176	.....	90
Graphite, crude and refined	94,038	132,924	117,904	197,431	171,166
Gypsum	313,512	276,459	304,170	335,637	348,873
Mica (amber)	31,962	47,047	57,703	58,262	68,984
Mica (white)	.....	.....	31,540	237,927	577,761
Mineral waters	2,426	14,469	14,189	5,748	805
Natural gas	7,745,867	7,115,473	6,669,819	6,354,045	4,694,097
Nepheline syenite	117,849	227,583	246,893	292,010	217,989
Peat fuel	75	2,155	1,204	2,560	1,800
Peat moss	.....	42,708	147,729	136,595	144,820
Petroleum, crude	397,078	337,760	306,242	311,356	296,420
Phosphate	.....	.....	4,458	4,113	.....

Quartzite and quartz	810,285	899,687	914,256	852,196	868,389
Silica brick	62,661	118,922	120,495	125,722	135,089
Salt	2,371,780	2,512,166	2,793,328	2,892,839	2,906,117
Sulphur[3]	186,880	100,570	186,340	169,070	178,760
Talc and soapstone	154,734	204,884	174,295	131,216	153,122
Total	$12,514,093	$12,349,030	$12,406,382	$12,502,624	$11,075,707
STRUCTURAL MATERIALS					
Cement, Portland	$3,518,247	$4,019,656	$3,998,294	$2,872,732	$2,730,381
Lime, hydrated and quicklime	2,752,786	3,246,647	3,125,574	3,115,194	3,311,177
Sand and gravel	4,025,026	4,524,463	3,433,986	3,620,852	4,417,427
Sand-lime products[4]	267,153	397,812	223,250	141,135	22,512
Stone: limestone, granite, etc.	3,387,395	3,274,027	2,985,937	2,958,383	2,909,980
Total	$13,950,607	$15,462,605	$13,767,041	$12,708,296	$13,391,477
CLAY PRODUCTS					
Brick, face	$1,008,506	$1,256,246	$950,435	$875,535	$1,114,860
Brick, common	450,044	520,622	399,227	310,634	203,534
Brick, fancy and ornamental	12,500	2,100	676	191,424	866
Brick, sewer	11,222	7,749	9,480	4,203	4,391
Tile, drain	173,079	225,334	234,971	279,806	309,245
Tile, structural, roofing, and floor	360,095	541,429	457,410	369,831	334,587
Sewer pipe, copings, flue-linings, etc.	399,212	480,036	409,660	348,641	312,081
Pottery and other products	79,954	46,670	25,000	63,600	60,000
Haydite and clay	19,272	7,430	62,628	10,155	7,832
Total	$2,513,884	$3,087,616	$2,549,487	$2,453,829	$2,347,396
GRAND TOTAL	**$263,205,819**	**$269,814,263**	**$261,363,088**	**$233,910,304**	**$212,755,354**

[1]Cobalt in oxide, metallic cobalt, and cobalt content of residues marketed.
[2]Nickel in matte, oxide, and metallic nickel.
[3]Value of sulphuric acid produced.
[4]No deduction made for lime consumed in manufacturing.

TOTAL MINERAL PRODUCTION

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
1892	.....	864,382		4,509,757		5,374,139
1893	.....	614,762		5,505,991		6,120,753
1894	.....	842,750		5,244,008		6,086,758
1895	.....	616,055		4,554,083		5,170,138
1896	.....	963,288		4,271,715		5,235,003
1897	.....	1,038,089		4,480,452		5,518,541
1898	.....	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	.....	44,109,679	4,655,250	3,609,371	1,871,379	54,245,679
1916	.....	55,002,918	4,982,140	3,734,065	1,584,699	65,303,822
1917	.....	56,831,857	7,702,942	4,962,284	2,596,749	72,093,832
1918	.....	66,178,059	7,815,062	4,297,401	2,018,450	80,308,972
1919	.....	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	1,359,636	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	280,196	44,076,660	8,511,786	13,139,757	6,269,140	72,277,539
1924	196,750	52,130,314	7,555,283	12,398,465	5,137,865	77,418,677
1925	−2,838	62,495,472	7,488,034	12,451,174	5,148,626	87,580,468
1926	−595	59,218,297	7,842,632	12,681,308	5,356,469	85,098,111
1927	.....	62,631,255	7,638,605	14,160,552	5,853,035	90,283,447
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	36,703	83,356,365	8,492,263	16,571,626	5,221,214	113,678,171
1931	1,926,221	72,452,544	7,642,308	11,995,556	3,552,799	97,569,428
1932	6,134,157	63,997,017	7,361,897	7,295,917	1,690,505	86,479,493
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
1936	34,139,926	131,091,593	8,933,036	8,931,899	1,573,936	184,670,390
1937	37,028,708	167,814,485	10,055,177	13,241,244	2,033,845	230,173,459
1938	42,070,230	155,835,230	9,949,317	10,012,203	2,083,496	219,950,476
1939	48,322,783	161,208,555	11,470,739	10,705,629	2,341,617	234,049,323
1940	58,154,794	176,072,441	12,514,093	13,950,607	2,513,884	263.205,819
1941	56,925,914	181,989,098	12,349,030	15,462,605	3,087,616	269,814,263
1942	49,280,883	183,359,295	12,406,382	13,767,041	2,549,487	261,363,088
1943	37,751,307	168,494,248	12,502,624	12,708,296	2,453,829	233,910,304
1944	30,874,701	155,066,073	11,075,707	13,391,477	2,347,396	212,755,354
Total..	$484,168,312	$3,090,455,831		$884,393,518		$4,459,017,661

[1]Prior 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.

Metal Production

The aggregate metal production of Ontario mines from the earliest records up to the end of 1944 was valued at $3,574,624,143. The value of this production in 1944, at $185,940,774, equals 87.40 per cent. of the total production of Ontario's mining industry.

METAL PRODUCTION TO DECEMBER 31, 1944

Metal or product	To December 31, 1943	1944	To December 31, 1944
Gold	$1,036,192,293	$35,800,299	$1,071,992,592
Exchange equalization	453,293,611	30,874,701	484,168,312
Nickel, including nickel oxides and salts	905,202,024	69,204,152	974,406,176
Silver	279,596,409	1,342,275	280,938,684
Copper[1]	441,757,965	33,845,632	475,603,597
Pig iron from domestic ore	95,348,118	2,909,390	98,257,508
Cobalt[2]	32,461,538	34,106	32,495,644
Platinum metals	121,203,407	8,024,719	129,228,126
Iron ore[3]	12,730,868	1,036,773	13,767,641
Lead	4,749,293	47,958	4,797,251
Zinc, in ore and concentrates	871,795	104,455	976,250
Molybdenum	223,028	1,082	224,110
Bismuth	218,841	.....	218,841
Selenium	1,853,121	117,000	1,970,121
Tellurium	137,955	17,325	155,280
Chromite	55,090	.....	55,090
Tungsten in concentrates	504,841	5,212	510,053
Magnesium	2,283,172	2,575,695	4,858,867
Total	$3,388,683,369	$185,940,774	$3,574,624,143

[1]Includes small quantities of copper sulphate.
[2]Includes metal, oxide, salts, and cobalt content of residues exported.
[3]Value of ore shipped out of the province.

Dividends.—During 1944 dividends were paid by 31 gold, 2 nickel-copper, and 1 silver-cobalt mining companies. Investment or holding companies, of which there are several, have been excluded in the case of gold and nickel-copper companies but not in the case of silver-cobalt companies.

DIVIDENDS PAID BY METAL-MINING COMPANIES TO DECEMBER 31, 1944

Industry	To end of 1943	1944	To end of 1944
Gold	$454,407,311	$19,303,871	$473,711,183
Nickel-copper	421,799,842	25,759,606	447,559,448
Silver-cobalt	101,554,786	70,000	101,624,786
Total	$977,761,939	$45,133,477	$1,022,895,417

Metal Prices and Exchange

The following table is a computation of the average exchange rate of the United States dollar in Canadian funds, the pound Sterling in Canadian funds, the price of silver and copper on the New York and London markets, and the price of gold in Canadian dollars per fine ounce. There were no variations in 1944. The price of gold in Canadian funds has not changed since it was pegged in the fall of 1939.

Month	Average exchange rate U.S. dollars in Canadian funds	£ Sterling in Canadian funds	Silver, cents per oz.		Copper, cents per lb.		Gold in Canadian dollars per fine oz.
			New York market, U.S. funds	in Canadian funds	New York export, U.S. funds	London in Canadian funds	
1943							
January....	1.1	4.43	44.75	49.23	11.7	10.086	38.50
February...	1.1	4.43	44.75	49.23	11.7	10.086	38.50
March.....	1.1	4.43	44.75	49.23	11.7	10.086	38.50
April.....	1.1	4.43	44.75	49.23	11.7	10.086	38.50
May.....	1.1	4.43	44.75	49.23	11.7	10.086	38.50
June.....	1.1	4.43	44.75	49.23	11.7	10.086	38.50
July.....	1.1	4.43	44.75	49.23	11.7	10.086	38.50
August.....	1.1	4.43	44.75	49.23	11.7	10.086	38.50
September..	1.1	4.43	44.75	49.23	11.7	10.086	38.50
October.....	1.1	4.43	44.75	49.23	11.7	10.086	38.50
November...	1.1	4.43	44.75	49.23	11.7	10.086	38.50
December...	1.1	4.43	44.75	49.23	11.7	10.086	38.50
Average[1] (12 months)..	1.1	4.43	44.75	49.23	11.7	10.086	38.50
1944							
January....	1.1	4.43	44.75	49.2	11.7	10.086	38.50
February...	1.1	4.43	44.75	49.2	11.7	10.086	38.50
March.....	1.1	4.43	44.75	49.2	11.7	10.086	38.50
April.....	1.1	4.43	44.75	49.2	11.7	10.086	38.50
May.....	1.1	4.43	44.75	49.2	11.7	10.086	38.50
June.....	1.1	4.43	44.75	49.2	11.7	10.086	38.50
July.....	1.1	4.43	44.75	49.2	11.7	10.086	38.50
August.....	1.1	4.43	44.75	49.2	11.7	10.086	38.50
September..	1.1	4.43	44.75	49.2	11.7	10.086	38.50
October.....	1.1	4.43	44.75	49.2	11.7	10.086	38.50
November...	1.1	4.43	44.75	49.2	11.7	10.086	38.50
December...	1.1	4.43	44.75	49.2	11.7	10.086	38.50
Average[1] (12 months)..	1.1	4.43	44.75	49.2	11.7	10.086	38.50

[1]Computed from daily quotations.

Diamond-Drilling

Returns were received from 20 diamond-drilling companies for the year 1944, as against 18 in 1943. According to these returns, a total of 1,348,813 feet was drilled in 1944, as against 1,416,213 feet in the preceding year. Income from drilling was evaluated at $2,031,296 in 1944, $1,760,264 in 1943, and $1,407,967 in 1942. The statistics covered in this review do not include figures on operations at any of the mines where diamond-drilling is carried out by the companies who use their own machines and drill crews.

Labour statistics relating to the diamond-drilling industry showed a continued improvement. The number of wage-earners was reported at 682, and they were paid $1,042,591. In 1943, comparable figures were 502 wage-earners and $818,949 in wages.

Consumption of Diamonds

The industry reported that in 1944 it had used 25,302 carats of borts, 387 carats of carbons, and ready-set bits containing stones valued at $21,686. The total value of diamonds used during the 1944 operations was $96,457. It must be pointed out that although a breakdown of footage drilled by provinces is con-

tained in the returns to the Department, it is impossible to analyse the consumption of diamonds by provinces as the work of many of the bigger operators is interprovincial in character.

Prospecting

Good news on the war fronts and the abundance of risk capital available for mining development resulted in a series of gold rushes and the staking of the greatest number of mining claims in Ontario since 1937. The following table, which gives a record of mining claims recorded and cancelled since the year 1907, shows that in 1944 a total of 12,527 claims were recorded and that only 2,376 claims were cancelled. Stock-market operations in gold were at their greatest volume since 1936 and 1937.

Discoveries of gold were reported from many areas of the Province. Owing to the demand for experienced prospectors, it was very difficult for a new mining company to find qualified men to stake claims or carry out prospecting work on their ground.

MINING CLAIMS RECORDED AND CANCELLED IN ONTARIO, 1907 TO 1944

Year	No. recorded	No. cancelled[1]	Year	No. recorded	No. cancelled	Year	No. recorded	No. cancelled
1907.....	13,996	.....	1920.....	2,160	2,203	1933.....	8,077	4,813
1908.....	4,634	.....	1921.....	2,459	1,791	1934.....	16,888	5,041
1909.....	9,746	.....	1922.....	5,686	1,490	1935.....	9,460	9,240
1910.....	5,792	.....	1923.....	6,092	2,328	1936.....	17,280	6,653
1911.....	9,001	361	1924.....	5,222	2,804	1937.....	15,292	11,445
1912.....	3,104	.....	1925.....	4,751	2,460	1938.....	9,047	8,978
1913.....	4,320	442	1926.....	13,496	5,322	1939.....	6,772	9,086
1914.....	1,913	7,913	1927.....	15,554	5,537	1940.....	4,667	7,242
1915.....	2,519	1,093	1928.....	15,046	3,662	1941.....	4,254	10,514
1916.....	2,470	1,911	1929.....	8,207	8,090	1942.....	3,593	9,028
1917.....	1,936	602	1930.....	3,886	8,887	1943.....	5,232	3,057
1918.....	1,534	304	1931.....	5,779	10,885	1944.....	12,527	2,376
1919.....	2,918	1,481	1932.....	4,945	15,425			

[1]Data on claims cancelled are not available for 1907, 1908, 1909, 1910, and 1912. These figures do not include cancellations of claims in Eastern Ontario, Parry Sound district, or Patricia portion of Kenora district.

METALLICS

Gold

General Summary

Ontario's production of gold from all sources amounted to 1,731,838 ounces, valued at $66,675,000, in 1944, as against 2,117,218 ounces, worth $81,517,998, in 1943. The decrease in value is equivalent to 18.2 per cent. The gold-mining industry alone accounted for 96.8 per cent. of the total value. Most of the remainder was by-product gold produced by the nickel-copper industry.

At the end of the year, 38 gold mines were in production, as against 40 in January. The industry milled 6,800,568 tons of ore, the lowest since 1934, and the recovery of 1,676,532 ounces of gold was the lowest since 1929. The industry also produced 620,014 ounces of silver, which was the lowest since 1938. The total value of bullion sales amounted to $64,803,009, as against $79,739,273 in 1943 and $122,626,601 in 1940, the year of peak production value. The average grade of ore treated, at $9.53, was the lowest recorded by the industry since 1931.

Two gold mills ceased production during the year: the McMarmac in Red Lake and the Hard Rock in Thunder Bay.

Dividend payments by the producing gold mines amounted to $19,303,871 in 1944, as against $22,542,160 in 1943 and $35,550,871 in 1941, the latter figure being the all-time high.

Shortage of labour was responsible for the general drop in production. Producing mines employed 9,996 wage-earners, who received $20,736,026, and 997 salaried employees, who received $3,436,397. Total salaries and wages amounted to $24,172,423, as against $26,692,328 in 1943 and $40,286,825 in 1941, the year of peak employment. Process supplies valued at $7,298,398 and fuel and electricity worth $3,805,237 were used by the producing gold mines. The mines also purchased plants and equipment and did construction work costing $937,605.

The effect of the recession in gold production was also felt by the governments. Total taxes paid out to the Dominion, the Provincial, and the municipal governments amounted to $7,819,475 in 1944, as against $10,905,251 in 1943. Of the total taxes paid in 1944, the Dominion Government received $6,988,266, which accounts for 89.37 per cent. of the total. The Province of Ontario received $641,941, and the municipalities $189,268. General assessments of the Workmen's Compensation Board of Ontario amounted to $626,720; the silicosis assessment, to the same organization, $293,216; and unemployment insurance, $148,877.

Increasing interest in prospective mines resulted in a considerable jump in the amount of money expended by the producing mines for exploration purposes in the Province. In 1943, these mines spent $181,047, and in 1944 this figure was estimated at $316,515. The companies reported that the cost of freight and express on ore and bullion amounted to $101,541 and that smelting charges amounted to $773,600.

Statistics covering development work by the producing gold mines showed that the aggregate footage for shaft-sinking amounted to 4,471 feet; raises and winzes, 6,812 feet; drifting, 116,704 feet; and crosscutting, 47,876 feet. Diamond-drilling done by the producing mines was estimated at 908,255 feet.

The wide interest displayed in producing mines, potential producers, and raw prospects resulted in a resurgence of development work by a considerable number of gold-mining companies. Whereas in 1943 only two non-producing but active companies reported work, in 1944 that number had reached 29. Exploration by these companies in Ontario cost $128,400, and salaries and wages totalled $253,647. Thirty-five salaried employees and 125 wage-earners were employed. This group of companies used electricity valued at $20,750, fuel worth $30,785, and process supplies estimated at $44,484. Total taxes of $10,545 were paid out to the Dominion, the Province, and the municipalities.

Dividends and Production

The following tables show the production by areas in 1944, the dividends paid by the various gold-mining companies, the yearly dividends by areas, the annual production by mines in each area, and the total gold production from 1866 to 1944.

DIVIDENDS AND BONUSES PAID BY GOLD-MINING COMPANIES TO DECEMBER 31, 1944

Name of company	Date of incorporation	Authorized capital, $ or shares	Capital stock issued, $ or shares	Par value per share	Dividends and bonuses paid to end of 1943	Dividends and bonuses paid during 1944	Rate per cent. or per share, 1944	Total dividends and bonuses paid to Dec. 31, 1944	Date when last dividend or bonus was paid
Acme Gold Mines, Ltd.	Dec. 13, 1911	$3,000,000	$3,000,000	$5.00	$160,000.00	.....	.....	$160,000.00	Dec. 31, 1916
Aunor Gold Mines, Ltd.	May 19, 1939	$2,000,000	$2,000,000	1.00	1,000,000.00	$400,000.00	20c.	1,400,000.00	Dec. 1, 1944
Berens River Mines, Ltd.	July 2, 1936	$2,000,000	$2,000,000	1.00	420,000.00	.....	.....	420,000.00	June 10, 1943
Broulan Porcupine Mines, Ltd.	Mar. 18, 1936	$3,000,000	$2,694,005	1.00	808,201.50	228,990.43	8½c.	1,037,191.93	Oct. 31, 1944
Buffalo Ankerite Gold Mines, Ltd.	Oct. 5, 1932	$1,000,000	$701,679	1.00	2,622,672.88	105,251.85	15c.	2,727,924.73	Sept. 18, 1944
Central Patricia Gold Mines, Ltd.	April 20, 1931	$2,500,000	$2,500,000	1.00	3,375,000.00	300,000.00	12c.	3,675,000.00	Sept. 30, 1944
Chesterville Larder Lake Gold Mining Co., Ltd.	Mar. 20, 1907	$2,000,000	$1,735,559	1.00	442,567.55	.....	.....	442,567.55	Apr. 15, 1943
Cline Lake Gold Mines, Ltd.	Aug. 5, 1936	$2,000,000	$1,611,505	1.00	64,200.20	.....	.....	64,200.20	Feb. 28, 1941
Cochenour Willans Gold Mines, Ltd.	April 19, 1936	$3,000,000	$2,961,655	1.00	798,146.85	177,699.30	6c.	975,846.15	May 10, 1944
Coniaurum Mines, Ltd.	July 4, 1929	3,000,000	2,766,743	No par	2,785,072.35	221,339.44	8c.	3,006,411.79	Dec. 21, 1944
Delnite Mines, Ltd.	Oct. 23, 1934	$3,000,000	$2,978,767	1.00	625,541.07	.....	.....	625,541.07	May 31, 1943
Dome Mines, Ltd.[1]	July 7, 1923	2,000,000	2,000,000	No par	55,621,870.55	2,920,002.00	$1.50	58,541,872.55	Oct. 30, 1944
Gold Eagle Gold Mines, Ltd.	Feb. 13, 1943	$3,000,000	$2,638,339	1.00	[2]237,450.51	.....	.....	[2]237,450.51	Oct. 21, 1942
Hallnor Mines, Ltd.	April 6, 1936	$2,000,000	$2,000,000	1.00	5,100,000.00	400,000.00	20c.	5,500,000.00	Dec. 1, 1944
Hard Rock Gold Mines, Ltd.	Jan. 6, 1934	$3,000,000	$2,990,074	1.00	926,922.94	.....	.....	926,922.94	June 21, 1943
Hollinger Consolidated Gold Mines, Ltd.	May 25, 1916	$25,000,000	$24,600,000	5.00	116,126,400.00	2,263,200.00	46c.	118,389,600.00	Dec. 28, 1944
Howey Gold Mines, Ltd.	Mar. 12, 1926	$5,000,000	$5,000,000	1.00	2,100,000.00	50,000.00	1c.	2,150,000.00	Dec. 10, 1943
Jason Mines, Ltd.	Nov. 9, 1938	$3,000,000	$2,999,005	1.00	119,960.20	.....	.....	119,960.20	Dec. 30, 1941
Kerr-Addison Gold Mines, Ltd.	April 9, 1936	$5,000,000	$4,730,301	1.00	5,676,361.20	1,419,090.30	30c.	7,095,451.50	Dec. 28, 1944
Kirkland Lake Gold Mining Co., Ltd.	Nov. 19, 1915	$5,500,000	$5,326,699	1.00	3,933,875.42	213,067.96	4c.	4,146,943.38	Oct. 31, 1944
Lake Shore Mines, Ltd.	Feb. 25, 1914	$2,000,000	$2,000,000	1.00	90,820,000.00	1,600,000.00	80c.	92,420,000.00	Dec. 15, 1944
Leitch Gold Mines, Ltd.	July 23, 1935	$3,000,000	$2,850,005	1.00	1,225,502.15	229,100.40	8c.	1,454,602.55	Nov. 15, 1944
Little Long Lac Gold Mines, Ltd.	Jan. 26, 1933	2,000,000	1,841,000	No par	3,700,815.00	110,460.00	6c.	3,811,275.00	Nov. 30, 1944

[1]On April 22, 1922, the capital of Dome Mines Company, Limited, was reduced from $5,000,000 to $4,500,000, and $476,667 (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. In 1936, 20,000 shares were paid in part payment for the Schumacher claims and 26,666 shares were then held in trust for the company. On June 20, 1938, the share capital was doubled from one to two million shares, and the shares held in trust then became 53,332.

[2]This is not a dividend, but a partial distribution of capital.

DIVIDENDS AND BONUSES PAID BY GOLD-MINING COMPANIES TO DECEMBER 31, 1944—*Continued*

Name of company	Date of incorporation	Authorized capital, $ or shares	Capital stock issued, $ or shares	Par value per share	Dividends and bonuses paid to end of 1943	Dividends and bonuses paid during 1944	Rate per cent. or per share, 1944	Total dividends and bonuses paid to Dec. 31, 1944	Date when last dividend or bonus was paid
Macassa Mines, Ltd.	April 12, 1926	$3,000,000	$2,678,068	$1.00	$6,326,130.82	$482,052.24	18c.	$6,808,183.06	Dec. 15, 1944
McIntyre Porcupine Mines, Ltd.[3]	Mar. 16, 1911	$4,000,000	$3,990,000	5.00	33,069,466.43	2,657,340.00	$3.33	35,726,806.43	Dec. 1, 1944
McKenzie Red Lake Gold Mines, Ltd.[4]	Feb. 1, 1933	$3,000,000	$2,935,000	1.00	2,596,400.07	205,449.82	7c.	2,801,849.89	Sept. 16, 1944
McMarmac Red Lake Gold Mines, Ltd.	July 21, 1939	$3,000,000	$2,050,005	1.00	82,000.20	.....	.....	82,000.20	May 10, 1943
MacLeod-Cockshutt Gold Mines, Ltd.	Sept. 22, 1933	$3,000,000	$2,862,490	1.00	1,284,020.50	143,124.50	5c.	1,427,145.00	Dec. 15, 1944
Madsen Red Lake Gold Mines, Ltd.	Mar. 8, 1935	$3,500,000	$3,499,528	1.00	733,700.88	279,962.24	4c.	1,013,663.12	Dec. 18, 1944
Magnet Consolidated Mines, Ltd.	April 23, 1936	$3,000,000	$3,000,000	1.00	855,000.00	.....	.....	855,000.00	Dec. 10, 1943
Matachewan Consolidated Mines, Ltd.	July 10, 1933	4,000,000	3,430,000	No par	68,600.00	.....	.....	68,600.00	Nov. 30, 1940
Moneta Porcupine Mines, Ltd.	Oct. 14, 1910	$3,000,000	$2,543,860	1.00	1,297,368.60	101,754.40	4c.	1,399,123.00	July 15, 1944
Naybob Gold Mines, Ltd.	Jan. 3, 1934	$5,000,000	$4,970,309	1.00	190,912.36	.....	.....	190,912.36	Oct. 15, 1941
Northern Empire Mines Co., Ltd.	July 28, 1932	$500,000	$400,000	1.00	1,492,000.00	.....	.....	1,492,000.00	Dec. 15, 1943
Pamour Porcupine Mines, Ltd.	Mar. 7, 1934	5,000,000	5,000,000	No par	3,050,000.00	250,000.00	5c.	3,300,000.00	Dec. 8, 1944
Paymaster Consolidated Mines, Ltd.	Feb. 15, 1930	$9,000,000	$8,629,090	1.00	517,743.60	86,290.90	1c.	604,034.50	Jan. 10, 1944
Pickle Crow Gold Mines, Ltd.	Jan. 8, 1934	$3,000,000	3,000,000	1.00	7,650,000.00	300,000.00	10c.	7,950,000.00	Dec. 31, 1944
Porcupine Crown Mines, Ltd.	May 25, 1913	$2,000,000	$2,000,000	1.00	840,000.00	.....	.....	840,000.00	July 15, 1917
Preston East Dome Mines, Ltd.	Jan. 7, 1911	$3,000,000	$3,000,000	1.00	2,700,000.00	600,000.00	20c.	3,300,000.00	Oct. 15, 1944
Rea Consolidated Gold Mines, Ltd.	April 5, 1911	$1,000,000	$200,000	5.00	12,000.00	.....	.....	12,000.00	1915
Sturgeon River Gold Mines, Ltd.	Aug. 22, 1934	$3,000,000	$2,749,758	1.00	219,980.64	.....	.....	219,980.64	Apr. 30, 1942
Sylvanite Gold Mines, Ltd.	June 13, 1913	$3,300,000	$3,299,500	1.00	7,951,795.00	395,940.00	12c.	8,347,735.00	Oct. 16, 1944
Teck-Hughes Gold Mines, Ltd., The	Mar. 2, 1923	$5,000,000	$4,807,144	1.00	39,008,080.72	961,428.80	25c.	39,969,509.52	Oct. 1, 1944
Toburn Gold Mines, Ltd.	Jan. 24, 1931	$2,000,000	$1,850,000	1.00	2,183,000.00	74,000.00	4c.	2,257,000.00	Nov. 22, 1944
Tombill Gold Mines, Ltd.	Oct. 7, 1935	$2,000,000	$1,520,000	1.00	454,000.00	.....	.....	454,000.00	Dec. 23, 1942
Tough-Oakes Gold Mines, Ltd.	July 15, 1913	$3,000,000	$2,657,500	5.00	398,625.00	.....	.....	398,625.00	Dec. 27, 1916
Upper Canada Mines, Ltd.	April 4, 1929	$3,000,000	$2,963,009	1.00	1,200,019.24	222,225.68	7½c.	1,422,244.92	Aug. 31, 1944
Vipond Consolidated Mines, Ltd.	July 17, 1922	$2,500,000	$2,250,000	1.00	67,500.00	.....	.....	67,500.00	Apr. 15, 1927
Wendigo Gold Mines, Ltd.	Oct. 5, 1933	$2,000,000	$1,749,445	1.00	157,450.05	507,339.05	.....	664,789.10	Aug. 1, 1944
Wright-Hargreaves Mines, Ltd.[5]	June 16, 1916	5,500,000	5,500,000	No par	41,057,500.00	1,375,000.00	25c.	42,432,500.00	Oct. 2, 1944
Young-Davidson Mines, Ltd.	April 8, 1926	$3,000,000	$1,584,108	1.00	253,457.28	23,761.62	1½c.	277,218.90	Dec. 23, 1944
Total	.....	.....	.....	.....	$454,407,311.76	$19,303,870.93	.....	$473,711,182.69	.....

[3]Dividends are translated into Canadian funds.

[4]Distribution was also made in December, 1940, to shareholders of 1 share of stock of Madsen Red Lake Gold Mines, Limited, for each 5 shares of McKenzie Red Lake Gold Mines, Limited, then held.

[5]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. The dividends are paid in United States funds.

YEARLY DIVIDENDS AND BONUSES PAID BY GOLD-MINING COMPANIES IN THE KIRKLAND LAKE BELT,[1] 1915–1944

Year	Tough-Oakes Gold Mines	Lake Shore Mines	Teck-Hughes Gold Mines	Wright-Hargreaves Mines	Sylvanite Gold Mines	Toburn Gold Mines	Kirkland Lake Gold Mining Co.	Macassa Mines	Kerr-Addison Gold Mines	Upper Canada Mines	Chesterville Larder Lake Gold Mining Co.	Total
	$	$	$	$	$	$	$	$	$	$	$	$
1915	132,875											132,875.00
1916	265,750											265,750.00
1917												
1918		100,000										100,000.00
1919		100,000										100,000.00
1920		80,000										80,000.00
1921		120,000										120,000.00
1922		80,000	412,500.00									492,500.00
1923		160,000	206,250.00									366,250.00
1924		380,000		206,250								586,250.00
1925		600,000		550,000								1,150,000.00
1926		1,000,000	474,714.40	893,750								2,368,464.40
1927		1,400,000	713,571.60	1,237,500								3,351,071.60
1928		2,000,000	2,860,286.40	825,000								5,685,286.40
1929		2,200,000	2,866,286.40									5,066,286.40
1930		3,000,000	2,872,286.40		65,990							5,938,276.40
1931		4,800,000	3,118,143.60	825,000	131,980							8,875,123.60
1932		6,000,000	2,884,286.40	962,500	164,975							10,011,761.40
1933		6,000,000	2,884,286.40	1,512,500	164,975							10,561,761.40
1934		7,000,000	2,643,929.20	3,025,000	824,875	148,000	157,173.69	131,403.40				13,930,381.29
1935		8,000,000	1,922,857.60	3,300,000	659,900	148,000	157,173.69	396,710.20				14,584,641.49
1936		10,000,000	2,163,214.80	3,300,000	659,900	148,000	316,974.66	401,710.20				16,989,799.66
1937		12,000,000	2,403,572.00	3,850,000	824,875	166,500	479,402.91	535,613.60				20,259,963.51
1938		8,000,000	2,163,214.80	3,850,000	824,875	259,000	532,669.90	669,517.00				16,299,276.70
1939		7,500,000	2,067,071.92	3,850,000	824,875	296,000	532,669.90	870,372.10				15,940,988.92
1940		4,000,000	2,163,214.80	3,850,000	989,850	370,000	639,203.88	937,323.80	709,545.15	177,780.54	86,777.95	13,923,696.12
1941		3,100,000	1,922,857.60	4,001,250	923,860	333,000	585,936.89	937,323.80	1,655,605.35	414,821.26	260,333.85	14,134,988.75
1942		1,600,000	1,442,143.20	2,475,000	494,925	240,500	319,601.94	803,420.40	1,655,605.35	311,115.96	43,388.98	9,385,700.83
1943		1,600,000	1,442,143.20	1,925,000	395,940	74,000	213,067.96	642,736.32	1,655,605.35	296,301.48	52,066.77	8,296,861.08
1944		1,600,000	961,428.80	1,375,000	395,940	74,000	213,067.96	482,052.24	1,419,090.30	222,225.68		6,742,804.98
Total	398,625	92,420,000	39,969,509.52	42,432,500	8,347,735	2,257,000	4,146,943.38	6,808,183.06	7,095,451.50	1,422,244.92	442,567.55	205,740,759.93

[1]Including Larder Lake area.

YEARLY DIVIDENDS AND BONUSES PAID BY GOLD-MINING COMPANIES IN THE PORCUPINE BELT, 1912-1944[1]

Year	Hollinger Consol. Gold Mines	Porcupine Crown Mines	Dome Mines	Acme Gold Mines	Rea Consol. Gold Mines	McIntyre Porcupine Mines[2]	Vipond Consolidated Mines	Coniaurum Mines	Buffalo Ankerite Gold Mines
	$	$	$	$	$	$	$	$	$
1912	270,000	.....	.....	.....	.....	.....	.....	.....	.....
1913	1,170,000	.....	.....	.....	.....	.....	.....	.....	.....
1914	1,170,000	240,000	.....	.....	.....	.....	.....	.....	.....
1915	1,560,000	240,000	400,000.00	160,000	12,000	.....	.....	.....	.....
1916	3,126,000	240,000	800,000.00	.....	.....	.....	.....	.....	.....
1917	738,000	120,000	300,000.00	.....	.....	541,542.45	.....	.....	.....
1918	1,230,000	.....	.....	.....	.....	543,042.45	.....	.....	.....
1919	1,722,000	.....	.....	.....	.....	364,028.30	.....	.....	.....
1920	2,214,000	.....	416,886.00	.....	.....	546,042.45	.....	.....	.....
1921	3,198,000	.....	478,947.75	.....	.....	546,042.45	.....	.....	.....
1922	3,198,000	.....	715,000.50	.....	.....	548,346.06	.....	.....	.....
1923	3,198,000	.....	1,430,001.00	.....	.....	558,270.54	.....	.....	.....
1924	3,198,000	.....	1,906,668.00	.....	.....	783,054.00	.....	.....	.....
1925	4,378,800	.....	1,906,668.00	.....	.....	798,374.06	.....	.....	.....
1926	5,805,600	.....	1,906,668.00	.....	.....	798,405.23	.....	.....	.....
1927	6,396,000	.....	1,191,667.50	.....	.....	798,405.23	67,500	.....	.....
1928	5,412,000	.....	953,334.00	.....	.....	798,779.29	.....	.....	.....
1929	3,198,000	.....	953,334.00	.....	.....	804,265.54	.....	.....	.....
1930	3,444,000	.....	953,334.00	.....	.....	798,093.51	.....	.....	.....
1931	3,444,000	.....	953,334.00	.....	.....	830,262.87	.....	.....	.....
1932	3,690,000	.....	1,239,334.20	.....	.....	1,135,154.99	.....	80,923.41	.....
1933	4,182,000	.....	1,716,001.20	.....	.....	1,631,785.30	.....	.....	42,571.29
1934	6,888,000	.....	3,336,669.00	.....	.....	1,617,446.24	.....	.....	89,371.77
1935	4,428,000	.....	3,813,336.00	.....	.....	1,589,142.18	.....	.....	115,546.40
1936	5,412,000	.....	3,873,336.00	.....	.....	1,596,000.00	.....	.....	140,335.80
1937	5,412,000	.....	4,380,003.00	.....	.....	1,595,750.63	.....	273,044.70	508,717.28
1938	5,412,000	.....	3,893,336.00	.....	.....	1,588,207.03	.....	411,381.85	701,679.00
1939	5,412,000	.....	3,893,336.00	.....	.....	1,649,615.63	.....	442,678.88	526,259.25
1940	5,412,000	.....	3,893,336.00	.....	.....	2,637,390.00	.....	498,013.74	217,520.49
1941	5,412,000	.....	3,893,336.00	.....	.....	2,657,340.00	.....	442,678.88	210,503.70
1942	3,198,000	.....	3,309,335.60	.....	.....	2,657,340.00	.....	359,676.59	.....
1943	3,198,000	.....	3,114,668.80	.....	.....	2,657,340.00	.....	276,674.30	70,167.90
1944	2,263,200	.....	2,920,002.00	.....	.....	2,657,340.00	.....	221,339.44	105,251.85
Total	118,389,600	840,000	58,541,872.55	160,000	12,000	35,726,806.43	67,500	3,006,411.79	2,727,924.73

[1]The dividends of Anglo-Huronian, Limited, are not included because it is a holding company with widespread interests. To the end of 1944, dividends to the amount of $2,925,605 have been paid.

[2]Represents total paid translated into Canadian funds.

YEARLY DIVIDENDS AND BONUSES PAID BY GOLD-MINING COMPANIES IN THE PORCUPINE BELT, 1912-1944—*Continued*

Year	Pamour Porcupine Mines	Paymaster Consol. Mines	Moneta Porcupine Mines	Hallnor Mines	Preston East Dome Mines	Delnite Mines	Broulan Porcupine Mines	Aunor Gold Mines	Naybob Gold Mines	Total
	$	$	$	$	$	$	$	$	$	$
1912										270,000.00
1913										1,170,000.00
1914										1,410,000.00
1915										2,212,000.00
1916										4,326,000.00
1917										1,699,542.45
1918										1,773,042.45
1919										2,086,028.30
1920										3,176,928.45
1921										4,222,990.20
1922										4,461,346.56
1923										5,186,271.54
1924										5,887,722.00
1925										7,083,842.06
1926										8,510,673.23
1927										8,453,572.73
1928										7,164,113.29
1929										4,955,599.54
1930										5,195,427.51
1931										5,227,596.87
1932										6,145,412.60
1933										7,572,357.79
1934										11,931,487.01
1935										9,946,024.58
1936										11,021,671.80
1937										12,169,515.61
1938	600,000	86,290.00	76,315.80							12,769,209.68
1939	600,000	172,580.90	305,263.20	1,200,000						14,201,733.86
1940	600,000	86,290.90	305,263.20	1,200,000	600,000	178,726.02	161,640.30			15,790,180.65
1941	600,000		254,386.00	1,200,000	900,000	178,726.02	242,460.45	320,000	190,912.36	16,502,343.41
1942	400,000	86,290.90	203,508.80	800,000	600,000	178,726.02	161,640.30	320,000		12,274,518.12
1943	250,000	86,290.90	152,631.60	700,000	600,000	89,363.01	242,460.45	360,000		11,797,596.96
1944	250,000	86,290.90	101,754.40	400,000	600,000		228,990.43	400,000		10,234,169.02
Total	3,300,000	604,034.50	1,399,123.00	5,500,000	3,300,000	625,541.07	1,037,191.93	1,400,000	190,912.36	236,828,918.36

YEARLY DIVIDENDS AND BONUSES PAID BY GOLD-MINING COMPANIES IN NORTHWESTERN ONTARIO, 1934-1944

Year	Howey Gold Mines	Northern Empire Mines Co.	Pickle Crow Gold Mines	Little Long Lac Gold Mines	Central Patricia Gold Mines	McKenzie Red Lake Gold Mines	Leitch Gold Mines	Hard Rock Gold Mines	Tombill Gold Mines	Young-Davidson Mines	MacLeod-Cockshutt Gold Mines
	$	$	$	$	$	$	$	$	$	$	$
1934	500,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1935	250,000	170,500	.....	.....	.....	.....	.....	.....	.....	.....	.....
1936	100,000	.....	600,000	549,900	200,000	203,000.00	.....	.....	.....	.....	.....
1937	200,000	170,750	1,050,000	733,200	300,000	261,000.00	.....	.....	.....	.....	.....
1938	200,000	290,750	1,200,000	549,900	450,000	348,000.00	57,000.10	.....	.....	.....	.....
1939	250,000	300,000	1,200,000	551,500	525,000	406,000.00	228,000.40	119,602.96	50,000	31,682.16	.....
1940	250,000	200,000	1,200,000	552,300	575,000	351,150.00	228,000.40	299,007.40	100,000	31,682.16	568,398.00
1941	200,000	160,000	1,200,000	368,200	600,000	352,200.00	228,000.40	239,205.92	152,000	63,364.32	286,249.00
1942	100,000	120,000	900,000	322,175	425,000	352,200.00	228,000.40	179,404.44	152,000	63,364.32	286,249.00
1943	50,000	80,000	300,000	73,640	300,000	322,850.07	256,500.45	89,702.22	.....	63,364.32	143,124.50
1944	50,000	.....	300,000	110,460	300,000	205,449.82	229,100.40	.....	.....	23,761.62	143,124.50
Total	2,150,000	1,492,000	7,950,000	3,811,275	3,675,000	2,801,849.89	1,454,602.55	926,922.94	454,000	277,218.90	1,427,145.00

Year	Magnet Consol. Mines	Madsen Red Lake Gold Mines	Cochenour Willans Gold Mines	Matachewan Consol. Mines	Sturgeon River Gold Mines	Wendigo Gold Mines	Berens River Mines	Cline Lake Gold Mines	Jason Mines	Gold Eagle Gold Mines	McMarmac Red Lake Gold Mines	Total
	$	$	$	$	$	$	$	$	$	$	$	$
1934	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	500,000.00
1935	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	420,500.00
1936	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,652,900.00
1937	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,714,950.00
1938	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,095,650.10
1939	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,661,785.52
1940	300,000	208,771.68	87,349.65	68,600	54,995.16	52,483.35	.....	.....	.....	.....	.....	5,127,737.80
1941	375,000	104,985.84	177,699.30	.....	109,990.32	52,483.35	60,000	64,200.20	119,960.20	.....	.....	4,913,538.85
1942	90,000	209,971.68	266,548.95	.....	54,995.16	52,483.35	240,000	.....	.....	[1]237,450.51	.....	4,279,842.27
1943	90,000	209,971.68	266,548.95	.....	.....	.....	120,000	.....	.....	.....	82,000.20	2,447,702.39
1944	.....	279,962.24	177,699.30	.....	.....	[1]507,339.05	.....	.....	.....	.....	.....	2,326,896.93
Total	855,000	1,013,633.12	975,846.15	68,600	219,980.64	664,789.10	420,000	64,200.20	119,960.20	237,450.51	82,000.20	31,141,504.40

[1]This is not a dividend, but a partial distribution of capital.

YEARLY DIVIDENDS AND BONUSES PAID BY GOLD-MINING COMPANIES BY AREAS, 1912–1944

Year	Porcupine	Kirkland Lake[1]	Northwestern Ontario	Total
1912	$270,000.00	.....	.....	$270,000.00
1913	1,170,000.00	.....	.....	1,170,000.00
1914	1,410,000.00	.....	.....	1,410,000.00
1915	2,212,000.00	$132,875.00	.....	2,344,875.00
1916	4,326,000.00	265,750.00	.....	4,591,750.00
1917	1,699,542.45	.....	.....	1,699,542.45
1918	1,773,042.45	100,000.00	.....	1,873,042.45
1919	2,086,028.30	100,000.00	.....	2,186,028.30
1920	3,176,928.45	80,000.00	.....	3,256,928.45
1921	4,222,990.20	120,000.00	.....	4,342,990.20
1922	4,461,346.56	492,500.00	.....	4,953,846.56
1923	5,186,271.54	366,250.00	.....	5,552,521.54
1924	5,887,722.00	586,250.00	.....	6,473,972.00
1925	7,083,842.06	1,150,000.00	.....	8,233,842.06
1926	8,510,673.23	2,368,464.40	.....	10,879,137.63
1927	8,453,572.73	3,351,071.60	.....	11,804,644.33
1928	7,164,113.29	5,685,286.40	.....	12,849,399.69
1929	4,955,599.54	5,066,286.40	.....	10,021,855.94
1930	5,195,427.51	5,938,276.40	.....	11,133,703.91
1931	5,227,596.87	8,875,123.60	.....	14,102,720.47
1932	6,145,412.60	10,011,761.40	.....	16,157,174.00
1933	7,572,357.79	10,561,761.40	.....	18,134,119.19
1934	11,931,487.01	13,930,381.29	$500,000.00	26,361,868.30
1935	9,946,024.58	14,584,641.49	420,500.00	24,951,166.07
1936	11,021,671.80	16,989,799.66	1,652,900.00	29,664,371.46
1937	12,169,515.61	20,259,963.51	2,714,950.00	35,144,429.12
1938	12,769,209.68	16,299,276.70	3,095,650.10	32,164,136.48
1939	14,201,733.86	15,940,988.92	3,661,785.52	33,804,508.30
1940	15,790,180.65	13,923,696.12	5,127,737.80	34,841,614.57
1941	16,502,343.41	14,134,988.75	4,913,538.85	35,550,871.01
1942	12,274,518.21	9,385,700.83	4,279,842.81	25,940,061.85
1943	11,797,596.96	8,296,861.08	2,447,702.39	22,542,160.43
1944	10,234,169.02	6,742,804.98	2,326,896.93	19,303,870.93
Total	$236,828,918.36	$205,740,759.93	$31,141,504.40	$473,711,182.69

[1]Including Larder Lake area.

The tables showing the production statistics of gold mines for the following areas will be found in the pocket at the back of the report: Larder Lake gold area (No. I), Kirkland Lake gold belt (No. II), Porcupine gold belt (No. III), Algoma district (No. IV), Thunder Bay district (No. V), and Patricia portion of Kenora district (No. VI); and the annual production by areas (No. VII).

The production tables for Southeastern Ontario, Rainy River district, the Matachewan and West Shiningtree areas, and Sudbury and Kenora districts will be found in the following pages.

SOUTHEASTERN ONTARIO

PRODUCTION STATISTICS OF GOLD MINES, 1891–1944

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

Mine	Year	Quantity	Value
		tons	
Atlas Arsenic	1900, 1902, 1903	6,114	$44,667
Bannockburn	1895	.....	58
Big Dipper	1907, 1909	52	340
Boerth	1900	.....	208
Cleveland	1908	239	5,475
Cobalt Frontenac	1919, 1922	.....	1,364
Cook Land	1901, 1902, 1904	1,483	6,989
Cordova (Belmont)	1892, 1893	560	5,450
	1898–1903	70,185	289,517
	1912–1915, 1917	16,491	45,480
	1939, 1940	33,434	134,101
Craig	1905, 1906	1,850	5,760
Crescent	1891, 1892	1,700	6,780
Deloro (Canadian Goldfields)	1897–1902	39,143	213,973
Gatling Pearce	1893	.....	1,918
Gilmour	1909, 1910	550	3,669
Ledyard	1893, 1894	55	236
Little Doris	1898	400	2,500
Old Diamond (Mayboro)	1941	300	2,310
Sophia	1900	1,500	850
Sovereign	1900	262	861
Star of the East	1905, 1907	976	1,941
Miscellaneous[1]	1937	.....	238
Total	.....	175,294	$774,685

[1]In 1937, a total of 6.795 fine ounces, worth $238, was shipped to the Ontario Refining Company from Arden in Frontenac county by G. E. Fielding. This shipment could not be credited to any particular property.

RAINY RIVER DISTRICT

PRODUCTION STATISTICS OF GOLD MINES, 1895–1944

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

Mine	Year	Quantity	Value
		tons	
Barker	1898	70	$490
Big Turtle River	1929	19	245
Central Canada[1]	1934	350	742
Elizabeth	1912	50	400
Foley[2]	1897, 1898, 1933–1935	5,568	52,658
Gold Winner	1900	15	70
Golden Crescent (A.D. 2)	1897	192	1,543
Golden Star[3]	1898–1901, 1934, 1938, 1941	19,345	170,616
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, 1936	10	249
Manitou	1896	12	413
Olive	1897–1900, 1937, 1941, 1942	7,255	80,636
Saundary[4]	1934	13	435
Upper Seine (Sawbill[5])	1897–1899, 1940, 1941	5,368	21,785
White Lilly	1933	65	53
W. E. Stone	1919, 1920	2	319
Miscellaneous[6]	1935	.....	263
Total	.....	40,567	$347,916

[1]Formerly the Walsh. [2]Acquired in 1936 by Santa Fe Gold Mines, Limited.
[3]Acquired in 1936 by Orelia Mines, Limited. [4]Formerly the Headlight or Swede Boy.
[5]Acquired in 1936 by Upper Seine Gold Mines, Limited. [6]Mint sundries.

MATACHEWAN AND WEST SHININGTREE GOLD AREAS

ANNUAL PRODUCTION STATISTICS BY MINES, 1922 AND 1932–1944

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

Year	Ashley		Young-Davidson		Matachewan Consolidated		Ronda		Tyranite		Miscellaneous		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
1922	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[1]987	.....	987
1932	6,805	70,142	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,805	70,142
1933	37,975	495,364	.....	.....	.....	.....	.....	.....	.....	.....	[2]29	620	38,004	495,984
1934	43,532	456,830	51,842	134,511	4,680	23,568	.....	.....	.....	.....	.....	.....	100,054	614,909
1935	47,366	440,531	229,793	713,380	48,362	356,818	.....	.....	.....	.....	.....	.....	325,521	1,510,729
1936	21,958	158,533	301,163	892,713	55,797	425,259	.....	.....	.....	.....	.....	.....	378,918	1,476,505
1937	.....	.....	337,556	1,127,247	132,754	709,607	.....	.....	.....	.....	.....	.....	470,310	1,836,854
1938	.....	.....	359,266	1,249,374	154,409	822,555	.....	.....	.....	.....	.....	.....	513,675	2,071,929
1939	.....	.....	376,265	1,438,041	155,238	867,025	24,592	97,644	35,752	198,128	.....	.....	591,847	2,600,838
1940	.....	.....	368,247	1,505,338	182,033	828,655	.....	.....	79,875	385,478	.....	.....	630,155	2,719,471
1941	.....	.....	346,715	1,374,609	196,962	889,324	.....	.....	76,800	431,386	.....	.....	620,477	2,695,319
1942	.....	.....	296,942	1,306,794	315,040	974,132	.....	.....	31,383	151,648	.....	.....	643,365	2,432,574
1943	.....	.....	192,727	772,171	249,779	723,713	.....	.....	.....	.....	.....	.....	442,506	1,495,884
1944	.....	.....	161,773	561,771	179,586	544,106	.....	.....	.....	.....	.....	.....	341,359	1,105,877
Total	157,636	1,621,400	3,022,289	11,075,949	1,674,640	7,164,762	24,592	97,644	223,810	1,166,640	29	1,607	5,102,996	21,128,002

[1]White Rock.
[2]White Rock, 17 tons, $419; Atlas, 12 tons, $201.

SUDBURY DISTRICT[1]

Annual Production Statistics of Gold Mines, 1897-1944

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

Year	Long Lake[2]		McMillan		New Golden Rose[3]		Smith-Thorne (Tionaga)		Jerome		Miscellaneous[4]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1911	[5]3,294	18,553	.....	.....	.....	.....	.....	.....	.....	.....	9,320	55,982	12,614	74,535
1911	1,750	9,828	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,750	9,828
1913	20,646	114,833	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20,646	114,833
1914	45,458	217,103	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45,458	217,103
1915	44,271	282,123	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	44,271	282,123
1916	26,846	187,103	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26,846	187,103
1932	[6]22	2,993	.....	.....	.....	.....	.....	.....	.....	.....	10	725	32	3,718
1934	7	1,256	12,313	67,344	.....	.....	.....	.....	.....	.....	.....	.....	12,320	68,600
1935	.....	.....	40,218	273,315	.....	.....	.....	.....	.....	.....	256	1,665	40,474	274,980
1936	.....	.....	.....	3,139	.....	.....	.....	.....	.....	.....	10,555	77,476	10,555	80,615
1937	23,687	150,422	7,608	26,874	16,811	135,541	.....	.....	.....	.....	7,961	88,910	56,067	401,747
1938	34,627	226,096	.....	.....	40,161	492,496	2,122	22,272	.....	.....	.....	588	76,910	741,452
1939	20,462	141,854	.....	.....	36,195	460,702	4,531	58,787	.....	.....	.....	.....	61,188	661,343
1940	.....	.....	.....	.....	38,575	443,045	.....	.....	.....	.....	.....	.....	38,575	443,045
1941	.....	.....	.....	.....	12,495	132,680	.....	.....	58,824	338,050	.....	.....	71,319	470,730
1942	.....	.....	.....	.....	.....	.....	.....	.....	168,628	1,138,027	.....	.....	168,628	1,138,027
1943	.....	.....	.....	.....	.....	204	.....	.....	107,608	719,574	.....	.....	107,608	719,778
1944	.....	.....	.....	.....	.....	1,895	.....	.....	.....	.....	.....	23	.....	1,918
Total	221,070	1,352,164	60,139	370,672	144,237	1,666,563	6,653	81,059	335,060	2,195,651	28,102	225,369	795,261	5,891,478

[1]Exclusive of Matachewan and West Shiningtree areas.
[2]Acquired by Lebel Oro Mines, Limited, in 1933.
[3]Acquired by Consolidated Mining and Smelting Company of Canada, Limited, in 1942.
[4]See table of "Miscellaneous Production" to the right.
[5]Production for 1910.
[6]R. Downey.

Miscellaneous Production, Sudbury District

Mine	Year	Quantity	Value
		tons	$
Bousquet	1936-1938	17,129	163,528
Crystal	1897, 1898, 1908	730	4,998
Ensign (Shakespeare[1])	1905-1907, 1944	8,590	51,007
Gomak	1936	1,387	3,446
Halcrow-Swayze	1935	211	1,372
Mac-Auer	1935	45	293
Young, Cyril T.	1932	10	725
Total		28,102	225,369

[1]Acquired by Ensign Gold Mines, Limited, in 1934.

KENORA DISTRICT

PRODUCTION STATISTICS OF GOLD MINES, 1885–1944[1]

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

Mine	Year	Quantity	Value
		tons	$
Baden-Powell[2]	1902–1905	163	4,952
Big Master[3]	1902, 1903, 1905, 1942, 1943	14,470	75,115
Black Jack	1893	50	300
Britannia	1899	20	110
Cameron Island (Damascus)[4]	1898, 1906, 1934, 1935, 1936	1,287	163,871
Camp Bay	1904–1906	1,417	7,559
Cedar Island (Cornucopia)[5]	1896, 1932, 1935, 1936	17,050	174,146
Champion (Bad)	1900	[6]100	.....
Clark	1935	87	1,250
Combined	1904	37	220
Cross, J. G.	1937	.....	107
Crown Point	1900	150	900
Darkwater	1936, 1937	13	1,086
Eldorado	1904	30	251
Elora[7]	1936, 1937, 1939	13,766	49,017
Empire	1908	300	1,800
Glass Reef	1900	.....	171
Gold Hill	1886, 1893	220	19,610
Gold Panner	1900	100	900
Gold Rock	1929	300	726
Grace	1902, 1907, 1908	415	865
Kenricia	1939, 1940	22,344	97,518
Laurentian[7]	1906–1909[8]	19,950	141,140
Mikado[9]	1896–1902, 1910, 1911, 1931	57,813	421,070
Minerva	1885	28	1,372
Olympia	1906, 1911, 1912, 1915	1,598	4,782
Ophir	1893, 1894, 1900, 1911	6,089	22,677
Quarry Island	1899	176	1,063
Regina[10]	1895–1899, 1902, 1904, 1905, 1936, 1941, 1943	36,828	299,552
Royal Sovereign	1902	.....	122
Rush Bay (Golden Horn)	1904, 1906, 1907	615	1,120
Sakoose (Golden Whale)	1899–1901	8,028	58,758
Sandybeach Lake	1941, 1942	.....	478
Straw Lake Beach	1938–1941	33,662	429,477
Sultana	1894–1902, 1904–1906	77,481	428,803
Sunbeam	1904	650	4,875
Treasure	1898	34	529
Twentieth Century	1902, 1903	8,688	43,586
Van Houten	1940	.....	114
Vermilion Lake (Botham)	1930, 1935	43	575
Wabigoon–Contact Bay[11]	1905,[12] 1916,[13] 1917,[13] 1918,[14] 1920,[15] 1923,[15] 1929	1,839	7,936
Wendigo	1900,[16] 1936–1943	206,054	2,509,751
Miscellaneous[17]	1940–1942	476	10,851
Total		532,371	4,989,105

[1]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 Milling 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.

[2]Northern Lights Mines Company.

[3]Acquired by Kenwest Gold Mines, Limited, in 1939.

[4]Acquired by Duport Mining Company, Limited, in 1929.

[5]Acquired by Kenora Prospectors and Miners, Limited, in 1928. The mine was called Cornucopia prior to 1932.

[6]Reported milled in custom mill, no data.

[7]Elora Gold Mines, Limited, acquired the Laurentian mine in 1935.

[8]Operated by Imperial Gold Mines, Limited.

[9]Acquired by Kenora Prospectors and Miners, Limited, in 1928.

[10]Or Black Eagle; acquired by Kenland Gold Mines, Limited, in 1936, from Horseshoe Mines, Limited, and by Goldwood Gold Mines, Limited, in 1938.

[11]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.

[12]Redeemer.

[13]Rognon.

[14]Redeemer (with the exception of 8 tons, valued at $46, from Rognon).

[15]Bonanza.

[16]Some 1,200 tons milled in custom mill in 1900, but no statistics of values available.

[17]Recoveries by Kenopo Mining and Milling, Limited, from shipments from the C. Alcock, Silverman, Dr. A. MacDonald, and Algot Nilson claims; La-Re Exploration Company; El Diver Mines; and Mint sundries.

GOLD PRODUCTION, 1866–1944

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

Year	Total production, value	Porcupine belt		Kirkland Lake belt[1]		N.W. Ontario[2]	
		Value	Per cent.	Value	Per cent.	Value	Per cent.
1866–1891[3]	$190,258	.....	.....	.....	.....	.....	.....
1892–1909[4]	2,509,492	.....	.....	.....	.....	.....	.....
1910–1919.	58,822,292	$54,074,696	.....	$2,977,462	.....	.....	.....
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	10.5	.....	.....
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	$22,988	0.07
1930.....	35,886,558	17,758,842	49.6	17,172,770	47.9	461,730	1.3
1931.....	43,117,615	19,891,521	46.2	21,734,729	50.4	1,007,756	2.3
1932.....	47,284,621	21,422,117	45.2	23,782,313	50.3	1,607,831	3.4
1933.....	44,558,514	21,624,617	48.5	20,817,277	46.7	1,352,017	3
1934.....	43,521,249	19,634,097	45	20,424,716	46.9	2,214,385	5
1935.....	45,898,372	20,021,622	43.6	19,597,809	42.7	4,851,950	10.5
1936.....	49,168,253	21,154,555	43	19,951,731	40.5	6,545,127	13.3
1937.....	53,479,981	23,163,296	43.3	20,660,377	38.6	8,096,616	15.1
1938.....	59,875,211	26,019,011	43.4	21,309,165	35.5	10,888,589	18.1
1939.....	63,791,979	27,135,740	42.5	20,390,529	31.9	14,662,724	22.9
1940.....	67,424,803	29,472,002	43.7	21,170,061	31.3	14,836,008	22
1941.....	66,051,188	29,746,821	45	19,625,691	29.7	15,054,073	22.7
1942.....	57,133,095	27,050,171	47.3	15,635,909	27.4	12,999,494	22.7
1943.....	43,766,691	21,105,460	48.2	13,134,718	30	8,371,385	19.1
1944.....	35,800,299	18,047,819	50.4	10,299,980	28.8	6,309,232	17.6
Total.	$1,071,992,592	$590,640,044	55.1	$348,083,291	32.5	.....	.....

[1]Includes Larder Lake area.

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

[3]Estimated. [4]Maximum yearly output was $424,568 in 1899.

Labour Statistics

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

AVERAGE YEARLY WAGE, GOLD-MINING INDUSTRY, 1943 AND 1944

Area or district	1943			1944		
	No. of wage-earners	Wages paid	Average wage per annum	No. of wage-earners	Wages paid	Average wage per annum
Porcupine belt.....	6,137	$12,524,499	$2,041	5,597	$11,618,938	$2,076
Kirkland Lake area...	2,272	4,517,908	1,989	2,064	4,173,499	2,022
Larder Lake area.....	663	1,297,544	1,957	564	1,153,567	2,045
Matachewan area....	320	511,245	1,598	218	448,024	2,055
Sudbury district.....	104	245,893	2,364	.....	.....	.....
Algoma district.....	14	12,242	874	.....	.....	.....
Thunder Bay district..	832	1,711,084	2,057	616	1,314,536	2,134
Patricia portion.....	1,150	2,223,335	977	937	2,027,462	2,164
Kenora and Rainy River districts.....	19	18,911	995	.....	.....	.....
Southeastern Ontario.	.....	.....	.....	.....	.....	.....
Operating but non-producing.....	9	7,246	805	125	194,195	1,554
Total.....	11,520	$23,069,907	$2,003	10,121	$20,930,221	$2,068

Gold-Milling Plants

The rated daily capacity of gold-milling plants in Ontario was estimated at 31,848 tons in 1944. The daily operating average reported to the Statistics Branch of the Department totalled 18,812 tons, and the capacity of idle plants was 5,240 tons.

TONNAGE OF GOLD-MILLING PLANTS IN ONTARIO, 1944

Area and mine	Rated daily capacity	Daily operating average	Plants under construction	Idle plants	Plants proposed
SOUTHEASTERN ONTARIO:					
Old Diamond (Mayboro)	.....	.....	.....	20	.....
LARDER LAKE AREA:					
Chesterville	700	417	.....	.....	.....
Kerr-Addison	2,000	1,324	.....	.....	.....
Omega	500	316	.....	.....	.....
Yama	.....	.....	.....	50	
KIRKLAND LAKE BELT:					
Bidgood	150	133	.....	.....	.....
Golden Gate	.....	.....	.....	125	.....
Golden Summit	.....	.....	.....	15	.....
Kirkland Lake Gold	400	212	.....	.....	.....
Lake Shore	2,500	706	.....	.....	.....
Macassa	400	228	.....	.....	.....
Sylvanite	600	378	.....	.....	.....
Teck-Hughes	1,000	281	.....	.....	.....
Toburn	195	109	.....	.....	.....
Upper Canada	225	214	.....	.....	.....
Wright-Hargreaves	1,200	504	.....	.....	.....
PORCUPINE BELT:					
Aunor	450	376	.....	.....	.....
Broulan	350	275	.....	.....	.....
Buffalo Ankerite (two mills)	1,300	643	.....	.....	.....
Canusa	.....	.....	.....	50	.....
Coniaurum	600	271	.....	.....	.....
Delnite	500	254	.....	.....	.....
De Santis	.....	.....	.....	160	.....
Dome	1,700	1,424	.....	.....	.....
Faymar	.....	.....	.....	250	.....
Hallnor	370	281	.....	.....	.....
Hollinger	5,000	2,632	.....	.....	.....
Hoyle	.....	.....	.....	500	.....
McIntyre Porcupine	2,500	1,612	.....	.....	.....
McLaren-Porcupine	.....	.....	.....	15	.....
Moneta	.....	.....	.....	175	.....
Naybob	.....	.....	.....	150	.....
Pamour	1,500	1,286	.....	.....	.....
Paymaster Consolidated	600	361	.....	.....	.....
Porcupine Lake	.....	.....	.....	25	.....
Preston East Dome	1,000	683	.....	.....	.....
Ross (Hollinger)	300	217	.....	.....	.....
Vimy	.....	.....	.....	50	.....
MATACHEWAN AND WEST SHININGTREE AREAS:					
Churchill	.....	.....	.....	10	.....
Matachewan Consolidated	1,000	491	.....	.....	.....
Tyranite	.....	.....	.....	200	.....
Young-Davidson	1,000	677	.....	.....	.....

TONNAGE OF GOLD-MILLING PLANTS IN ONTARIO, 1944—*Continued*

Area and mine	Rated daily capacity	Daily operating average	Plants under construction	Idle plants	Plants proposed
SUDBURY DISTRICT:					
Fox Lake	.....	.....	.....	25	.....
Gomak	.....	.....	.....	35	.....
Halcrow-Swayze	.....	.....	.....	25	.....
Jerome	.....	.....	.....	500	.....
Smith-Thorne (Tionaga)	.....	.....	.....	50	.....
ALGOMA DISTRICT:					
Alden-Goudreau (Regnery Metals)	.....	.....	.....	25	.....
Algold	.....	.....	.....	50	.....
Algoma Summit (Magino)	.....	.....	.....	500	.....
Darwin	.....	.....	.....	50	.....
Edwards	.....	.....	.....	75	.....
Hiawatha	.....	.....	.....	25	.....
Ranson	.....	.....	.....	25	.....
Shenango	.....	.....	.....	50	.....
Stanley	.....	.....	.....	35	.....
THUNDER BAY DISTRICT:					
Bankfield	.....	.....	.....	130	.....
Hard Rock	350	249	.....	.....	.....
Leitch	85	60	.....	.....	.....
Little Long Lac	375	185	.....	.....	.....
MacLeod-Cockshutt	650	342	.....	.....	.....
Magnet	.....	.....	.....	175	.....
Sand River	.....	.....	.....	75	.....
Sturgeon River	.....	.....	.....	75	.....
Tombill	.....	.....	.....	125	.....
KENORA DISTRICT:					
Big Master (Kenwest)	.....	.....	.....	125	.....
Kenopo	.....	.....	.....	25	.....
Straw Lake Beach	.....	.....	.....	60	.....
Wendigo	.....	.....	.....	80	.....
PATRICIA PORTION:					
Bathurst (Car Lake)	.....	.....	.....	5	.....
Berens River	225	111	.....	.....	.....
Central Patricia	400	250	.....	.....	.....
Cochenour Willans	250	123	.....	.....	.....
Gold Eagle	.....	.....	.....	125	.....
Hasaga	353	323	.....	.....	.....
Jason	.....	.....	.....	125	.....
J-M Consolidated	.....	.....	.....	100	.....
McKenzie Red Lake	240	214	.....	.....	.....
McMarmac	80	111	.....	.....	.....
Madsen Red Lake	400	365	.....	.....	.....
Pickle Crow	400	174	.....	.....	.....
Uchi	.....	.....	.....	750	.....
Total	31,848	18,812	.....	5,240	.....

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:—

RECEIPTS OF CRUDE GOLD BULLION FROM ONTARIO MINES AT THE ROYAL CANADIAN MINT, OTTAWA, 1940-1944

Year	Quantity	Precious metals		Total value (standard)	Buying rate in Canada for New York funds[1]
		Gold	Silver		
	crude ounces	fine ounces	fine ounces		cents
1940	4,005,077	3,202,649	425,219	$66,362,598	110
1941	3,976,329	3,165,509	432,039	65,597,357	110
1942	3,385,022	2,702,485	359,677	56,555,420	110
1943	2,613,308	2,110,420	275,272	43,732,517	110
1944	2,135,843	1,724,976	225,047	36,745,281	110

[1]The 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.

World Output

The figures for the output by the leading gold-producing countries from 1940 to 1944, inclusive, in the following table are those published in the Year Book of the American Bureau of Metal Statistics, 1944.

OUTPUT BY THE LEADING GOLD-PRODUCING COUNTRIES, 1940-1944

(One dollar = 0.048375 ounces)

	[1]1940	[1]1941	[1]1942	[1]1943	[1]1944
NORTH AMERICA:	fine ounces	fine ounces	fine ounces	fine ounces	fine ounces
United States[2]	5,919,928	5,980,746	3,618,503	1,365,223	1,001,865
Canada	5,311,145	5,345,179	4,841,306	3,651,301	2,913,716
Mexico	883,096	799,956	799,107	634,752	650,000
Newfoundland	22,000	21,194	15,750	18,735	18,500
Total North America	12,136,169	12,147,075	9,274,666	5,670,011	4,584,081
CENTRAL AMERICA AND WEST INDIES.	287,296	330,000	333,000	302,300	295,000
SOUTH AMERICA:					
Brazil	264,311	260,000	260,000	260,000	270,000
Chile	342,822	263,360	187,332	173,745	200,000
Colombia	631,926	656,019	596,618	565,501	553,530
Ecuador	85,000	70,264	102,416	90,691	120,000
Peru	281,248	285,171	257,649	196,868	*200,000
Guiana—British	33,000	32,200	29,267	17,554	*18,000
—Dutch	12,000	15,000	7,883	5,369	5,000
—French	40,000	*35,000	*30,000	*20,000	*20,000
Venezuela	146,800	130,403	116,000	82,632	77,716
Other South America	30,000	36,000	42,000	30,000	25,000
Total South America	1,867,107	1,783,417	1,629,165	1,442,360	1,489,246
EUROPE:					
Czechoslovakia	9,067	.....	.....	.....	.....
France	.....	.....	.....	.....	.....
Jugoslavia	*75,000	.....	.....	.....	.....
Rumania	130,760	105,000	83,815	86,615	.....
Russia and Siberia	*4,000,000	.....	.....	.....	.....
Sweden	197,995	.....	.....	145,000	.....
Other Europe	.....	.....	.....	.....	.....
Total Europe	*4,600,000	*4,500,000	*4,500,000	*4,500,000	*4,500,000

[1]The compilations contain some preliminary data, and conjectural figures (*) have been inserted where necessary.

[2]Production of the Philippine Islands is included with the United States.

OUTPUT BY THE LEADING GOLD-PRODUCING COUNTRIES, 1940-1944—*Continued*

(One dollar = 0.048375 ounces)

	1940	1941	1942	1943	1944
OCEANIA:	fine ounces	fine ounces	fine ounces	fine ounces	fine ounces
New South Wales	100,255	88,091	77,249	63,779	62,610
Queensland	154,011	150,000	*120,000	*100,000	*90,000
Victoria	180,567	149,769	101,497	56,511	52,000
Western Australia	1,191,481	1,109,313	848,180	546,470	466,261
Tasmania	21,390	*20,000	*20,000	*20,000	*20,000
New Guinea	294,795	235,000	.....	.....	.....
New Zealand	185,665	174,656	165,986	149,150	150,000
Fiji	111,300	118,681	90,973	64,420	*60,000
Other Oceania	53,700	*50,000	*40,000	*40,000	*40,000
Total Oceania	2,293,164	2,095,510	1,463,885	1,040,330	940,871
ASIA:					
British India	289,357	285,945	256,399	252,353	187,200
China (including Manchuria)	377,000	.....	.....	.....	.....
Chosen (Korea)	1,025,000	.....	.....	.....	.....
Netherland India	89,956	.....	.....	.....	.....
Formosa	*50,000	.....	.....	.....	.....
Japan	*900,000	.....	.....	.....	.....
Other Asia	115,000	*110,000	.....	.....	.....
Total Asia	2,846,313	*2,760,000	*1,700,000	*1,600,000	*1,500,000
AFRICA:					
Belgian Congo	548,000	559,185	499,944	453,300	.....
French West Africa	135,000	*130,000	.....	.....	.....
Kenya	77,243	70,000	.....	.....	.....
Madagascar	14,000	15,000	.....	.....	.....
Rhodesia	832,000	795,000	761,164	657,387	595,000
British West Africa[1]	939,223	930,000	800,000	600,000	566,000
Tanganyika	142,074	144,312	130,000	110,000	100,000
Transvaal, Cape Colony, and Natal	14,037,741	14,386,361	14,120,617	12,800,021	12,277,228
Other Africa	170,000	170,000	.....	.....	.....
Total Africa	16,895,281	17,199,858	16,681,725	14,985,700	13,800,000
TOTAL FOR WORLD	40,925,330	40,815,860	35,582,441	29,540,701	27,109,198

[1]Comprising Gold Coast, Sierra Leone, and Nigeria.

Maximum Canadian production	5,345,179 ounces in 1941.
Maximum Russian production	6,500,000 ounces in 1936.
Maximum U.S. production	5,980,746 ounces in 1941.
Maximum Transvaal, Cape Colony, and Natal production	14,386,361 ounces in 1941.
Maximum World production	40,925,330 ounces in 1940.

Nickel-Copper and Platinum Metals

All former records of ore shipments by the nickel-copper mines of the Sudbury area were surpassed in 1944. Eight mines, including two small operations, shipped 12,954,346 tons of ore, as against 12,925,590 tons in 1943, which was the previous high record. The aggregate output value of all primary products of the industry amounted to $113,580,317 in 1944 and $120,489,177 in 1943.

The nickel production for 1944 from all sources totalled 274,598,629 pounds, valued at $69,204,152. A very small output comes from sources outside the nickel-copper industry of Sudbury. International Nickel mines were by far the largest producers of ore and metals in this particular industry.

The copper output from all sources amounted to 285,307,278 pounds, worth $33,845,632, which is an increase in value of 5.12 per cent. over 1943. Ontario is the largest producer of copper in Canada.

During the year under review, the nickel-copper industry milled 11,092,145 tons of ore and smelted 1,874,534 tons, from which 3,335,428 tons of concentrates and 296,236 tons of matte were produced. The production of selenium aggregated 65,000 pounds, valued at $177,000, and that of tellurium 9,900 pounds, worth $17,325.

NICKEL-COPPER MINING AND SMELTING, 1940–1944

Item	1940	1941	1942	1943	1944
	tons	tons	tons	tons	tons
1. Ore shipped	8,361,532	9,974,272	12,078,145	12,913,346	12,954,346
2 Ore treated	8,342,323	9,974,409	12,078,722	12,912,332	12,966,679
3. Copper in blister produced in Ontario	167,908	158,788	146,362	130,906	133,849
4. Nickel produced in Ontario	83,739	97,033	102,478	106,070	103,287
5. Matte exported[1]	58,398	67,904	61,226	56,833	48,287
6. Nickel content of matte exported	38,867	43,955	40,112	37,911	32,618
7. Copper content of matte exported	5,835	7,735	7,583	7,532	6,517

[1]All 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. Every year since 1934 and including that year, some thousands of tons were brought back to Canada for treatment. These have been deducted.

Production of Precious Metals

The nickel-copper industry of Sudbury is recognized as the largest source of metals of the platinum group. Russia comes in second place, although no production statistics are available from that country.

In 1944, the industry produced 157,523 ounces of platinum, valued at $6,064,635; 33,950 ounces of palladium, valued at $896,279; 646 ounces of iridium, valued at $99,484; 6,500 ounces of rhodium, valued at $893,750; and 1,833 ounces of ruthenium, valued at $70,571.

Considerable quantities of gold and silver are also produced. The silver output is the most important in Ontario, including the mines of the Cobalt area. In 1944, production of gold by the nickel-copper industry amounted to 55,286 ounces, worth $2,128,511. The silver output of 1,828,978 ounces was valued at $786,460.

PRECIOUS METALS RECOVERED, 1940–1944

	1940	1941	1942	1943	1944
	ounces	ounces	ounces	ounces	ounces
Platinum metals:					
Platinum	108,464	124,257	285,188	219,706	157,523
Palladium	79,344	85,406	197,642	105,736	33,950
Rhodium, ruthenium, osmium, and iridium	12,178	12,026	24,931	20,268	8,979
Total ounces	199,986	221,689	507,761	345,710	200,452
Value	$7,760,157	$8,144,164	$19,176,254	$13,691,749	$8,024,719
Gold ounces	90,863	77,960	70,861	55,776	55,286
Silver ounces	2,803,052	2,633,815	2,238,177	1,648,888	1,828,978

STATISTICAL SYNOPSIS OF THE NICKEL-COPPER INDUSTRY IN ONTARIO, 1942, 1943, AND 1944

Year	No. of producing companies	No. of plants in Ontario	Dividends paid	Salaried employees		Wage-earners		Selling value of products	
				No.	Salaries	No.	Wages	Kind	Value
1942	2	6 mines[1]	$31,590,863	368	$1,124,038	6,796	$14,241,169	Nickel in matte	$14,440,278
		3 smelters		497	1,436,163	4,133	7,152,026	Metallic nickel	51,305,427
		2 refineries		233	624,047	2,063	3,778,698	Nickel oxide and salts	4,252,722
								Copper in matte	1,061,476
								Converter copper	29,524,236
								Gold (standard)	1,464,827
								Exchange	1,263,322
								Silver	943,747
								Platinum metals	19,176,254
								Selenium and tellurium	161,120
Total			$31,590,863	1,098	$3,184,248	12,992	$25,171,893		$123,593,409
1943	2	10 mines[2]	$31,590,864	445	$1,273,291	6,805	$14,590,355	Nickel in matte	$13,648,063
		3 smelters		540	1,506,368	4,508	8,250,256	Metallic nickel	56,302,738
		2 refineries		245	634,898	2,087	3,940,804	Nickel oxide and salts	1,713,578
								Copper in matte	1,318,033
								Converter copper	30,762,902
								Gold (standard)	1,152,992
								Exchange	994,384
								Silver	746,188
								Platinum metals	13,691,749
								Selenium and tellurium	158,550
Total			$31,590,864	1,230	$3,414,557	13,400	$26,781,415		$120,489,177
1944	2	8 mines[3]	$25,759,606	492	$1,428,118	7,153	$14,209,689	Nickel in matte	$11,742,375
		3 smelters		542	1,570,600	4,824	8,171,793	Metallic nickel	56,807,789
		2 refineries		245	659,709	2,184	4,136,648	Nickel oxide and salts	652,263
								Copper in matte	1,172,986
								Converter copper	32,130,889
								Gold (standard)	1,142,863
								Exchange	985,648
								Silver	786,460
								Platinum metals	8,024,719
								Selenium and tellurium	134,325
Total			$25,759,606	1,279	$3,658,427	14,161	$26,518,130		$113,580,317

[1]Includes Nickel Offsets, Limited, and Ontario Nickel Corporation, Limited, which were active but non-producing.
[2]Includes Harlin Nickel Mines, Limited, Nickel Offsets, Limited, Ontario Nickel Mines, Limited, and Dominion Nickel Mining Corporation, Limited, which were active, but non-producing.
[3]Includes Harlin Nickel Mines, Limited, and Nickel Offsets, Limited, which were active, but non-producing.

Dividends

Two operating companies, the International Nickel Company of Canada, Limited, and Falconbridge Nickel Mines, Limited, paid dividends amounting to $25,759,606 in 1944, as against $31,590,864 in 1943. Total dividends paid by nickel-copper companies to the end of 1944 aggregate $447,559,448.

DIVIDENDS PAID BY NICKEL COMPANIES TO END OF 1944

Company	Period	To end of 1943	1944
Canadian Copper Company	1894–1901	$1,975,000.00	.....
International Nickel Company[1] preferred	1906–1928	12,299,273.00	.....
International Nickel Company[1] common	1909–1928	65,811,694.00	.....
International Nickel Company of Canada, Limited[2] preferred	1929–1943	28,787,799.05	$1,933,898.75
International Nickel Company of Canada, Limited[2] common	1929–1943	277,998,352.76	23,325,070.40
Falconbridge Nickel Mines, Limited	1933–1943	8,636,597.30	500,636.64
Total	.....	$395,508,716.11	$25,759,605.79
Mond Nickel Company[3] deferred	1906–1914	£264,043	.....
Mond Nickel Company[3] preferred	1904–1929	2,556,359	.....
Mond Nickel Company[3] ordinary	1905–1929	2,581,984	.....
Total	.....	£5,402,386 or $26,291,126	.....
GRAND TOTAL	.....	$421,799,842.11	$25,759,605.79

[1]Successors 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.

[2]Dividends 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 $2.00 a share in 1940.

[3]Upon 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. Dividends are paid in United States funds.

Operations at the Mines

International Nickel Company of Canada, Limited.—Production at the Frood mine was obtained from the stopes on the 1,600-, 1,800-, and 2,000-foot levels. The Frood and Stobie open pits were again the source of at least half the total tonnage mined by the company. The No. 7 shaft at the Stobie mine was completed at a depth of 3,105 feet, and the 1,600-foot level station and loading pocket were excavated. A connection was made with the 2,400-foot level of the Frood mine. At the Creighton mine production was obtained from footwall recovery work or stopes on all levels between and including the 4th and 54th levels. At the Levack mine, production was obtained from stopes on all levels between and including the 9th and 14th levels, with the 9th level supplying about half the tonnage. At the Garson mine, production was obtained from all stopes on all levels between and including the 4th and 14th levels. At the Murray

mine, development work was continued on the levels opened up in 1943, though this work was considerably reduced during the last five months of the year. The Lawson quarry again produced a large tonnage of quartzite for smelter flux. The Copper Cliff concentrator, smelter, and copper refinery were operated at near capacity, but the Coniston smelter was operated at only about half capacity.

Canadian Industries, Limited.—The sulphuric acid plant at Copper Cliff was operated at capacity.

Falconbridge Nickel Mines, Limited.—Production was obtained from stopes on the 500-, 825-, 1,000-, 1,400-, 1,575-, and 1,925-foot levels. The No. 1 shaft was deepened from 2,127 feet to 2,691 feet, and sinking was still in progress at the end of the year. Stations were cut for the 2,275-, 2,450-, and 2,625-foot levels.

Nickel Offsets, Limited.—This company shipped ore to the International Nickel Company plants in 1944. The ore was obtained from stopes on the 350-foot level between January 1 and February 10, when production ceased. Some development work was then done on the 350- and 650-foot levels. No. 2 shaft, situated about 3,000 feet east of the No. 1 shaft, was sunk from surface to a depth of 188 feet. A level was established at 156 feet to correspond with the 200-foot level from the No. 1 shaft. All work was suspended at the end of October.

Silver-Cobalt

The value of shipments and sales by the silver-cobalt industry of Ontario in 1944 amounted to $358,767, as against $301,175 in 1943. These figures do not include production from foreign ores or concentrates by the Deloro Smelting and Refining Company, Limited, at Deloro. The output value of Ontario cobalt dropped from $191,407 in 1943 to $34,106 in 1944, or the equivalent of 82.18 per cent.

The total production of the silver-cobalt mines of the Cobalt area of Northern Ontario was 1,629,560 pounds of ore containing 374,508 ounces of silver, 176,813 pounds of cobalt, 43,424 pounds of nickel, and 16,678 pounds of copper. Of the above, 1,394,777 pounds of ore containing 78,880 ounces of silver, 159,491 pounds of cobalt, 42,170 pounds of nickel, and 16,586 pounds of copper were shipped to the government stock-pile at Deloro.

Shipments outside Ontario, amounting to 288,043 pounds, included 177,222 ounces of silver, 25,951 pounds of cobalt, 6,006 pounds of nickel, and 710 pounds of copper.

Silver production, most of which came from the nickel-copper industry, totalled 3,143,275 ounces, valued at $1,342,275, in 1944. This constitutes an increase in value of 12.57 per cent. over the previous year.

SHIPMENTS FROM SILVER MINES, SMELTERS, AND REFINERIES

Material	1904–1943		1944		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
Bismuth.....tons	99	$207,019	.....	.....	99	$207,019
Copper.....tons	980	296,626	.....	$64	980	296,690
Lead.....tons	370	32,619	.....	.....	370	32,619
Nickel.....tons	6,763	1,777,017	5	1,726	6,768	1,778,743
Cobalt.....tons	17,582	32,266,248	18	34,106	17,600	32,300,354
Arsenic.....tons	77,535	6,314,496	179	26,922	77,714	6,341,418
Silver.....ounces	436,456,167	260,889,957	688,255	295,949	437,141,422	261,185,906
Total.....	.....	$301,783,982	.....	$358,767	.....	$302,142,749

SILVER PRODUCTION, 1943 AND 1944

Source	1943		1944	
	Fine ounces	Value	Fine ounces	Value
Sales of bullion by the reduction companies, smelters, and mines; Contained in silver-cobalt concentrates and residues exported from Canada[1]; Estimated as recovered from concentrates treated in other provinces	161,072	$74,367	694,283	$298,541
In crude gold bullion	859,701	371,102	620,014	257,274
Recovered by nickel-copper refineries	1,650,547	746,939	1,828,978	786,460
Total	2,671,320	$1,192,408	3,143,275	$1,342,275

[1]Also silver in silver-lead-zinc concentrates.

The following table shows the dividends and bonuses paid by silver-mining companies to the end of 1944:—

DIVIDENDS AND BONUSES PAID BY SILVER-MINING COMPANIES[1]

	To Dec. 31, 1943	1944	Total
Coniagas Mines, Ltd.	$12,760,000.00	.....	$12,760,000.00
Nipissing Mining Co., Ltd.	33,662,297.25	$70,000	33,732,297.25
All other companies	55,132,488.91	.....	55,132,488.91
Total	$101,454,786.16	$70,000	$101,624,786.16

[1]Up to 1929, dividends were attributable to silver-cobalt production. The Nipissing Mining Company, Limited, and Coniagas Mines, Limited, are holding companies and dividends result from investments in other fields.

The mines of the Cobalt area and the Deloro Smelting and Refining Company employed 357 wage-earners and salaried employees, who received $560,107 for their work. Fuel and electricity purchases amounted to $165,689, and process supplies, to $303,869. Returns were received from 11 producers.

In July, 1942, the United States Government, through a subsidiary purchasing agency (Metals Reserve Company) completed a contract with the Canadian Government through a similar Canadian purchasing agency (War Supplies, Limited) for the purchase of cobalt ores for stock-piling purposes. The first shipment of cobalt ore left Cobalt on this contract in July, 1942. The contract was in operation in 1943 and was terminated on February 22, 1944. By that date every available pound of cobalt ore had been shipped from the area.

The uncertainty as to the intentions of the United States Government regarding the stock-pile of accumulated cobalt ore unsettled the market to such an extent that a number of operators closed their mines until more favourable conditions prevailed. This is reflected in the fact that only one car of cobalt ore was shipped from Cobalt during the remainder of the year.

Iron Ore, Pig Iron, and Steel

Two iron mines, the Helen, owned by Algoma Ore Properties, Limited, and the Steep Rock, shipped 294,841 short tons of iron ore, valued at $1,036,773, in 1944. The Steep Rock shipments were the first commercial ore sales by that company since the beginning of operations in 1939.

Operations were also reported from two other iron properties, the Josephine, of Michipicoten Iron Mines, Limited, and the property of Rebair Gold Mines, Limited, but no ore was shipped.

According to the Dominion Bureau of Statistics, Ontario iron and steel works used 244,176 tons of Ontario ore in 1944. Total foreign ore smelted was reported at 2,712,206 tons. Production of pig iron was valued at $35,484,407, and that of steel at $106,251,631.

The following table gives the iron and steel statistics for the period 1940–1944.

IRON AND STEEL STATISTICS, 1940–1944[1]

Year	Domestic ore smelted	Foreign ore smelted	Limestone for flux	Pig iron produced		Steel made	
				Quantity	Value	Quantity	Value
	long tons	long tons	short tons	long tons		long tons	
1940....	136,475	1,359,564	339,909	808,025	$18,608,640	1,337,744	$53,509,760
1941....	166,263	1,683,180	396,776	988,178	23,723,249	1,673,974	69,185,345
1942....	229,253	2,717,257	555,137	1,507,064	36,130,452	2,218,469	103,336,286
1943....	198,244	2,604,163	548,107	1,409,667	34,320,400	2,182,995	102,600,765
1944....	244,176	2,712,206	512,346	1,456,194	35,484,407	2,260,673	106,251,631

[1]Figures supplied by the Dominion Bureau of Statistics.

At the four mining operations mentioned above, 86 salaried employees were paid $208,053 and 558 wage-earners received $1,184,338 for their year's work. Consumption of electricity amounted to $378,790; fuel, $624,007; and process supplies, $198,569.

PIG IRON, STEEL, AND FERRO-ALLOY PRODUCERS, 1944

Company	Location
Algoma Steel Corporation, Ltd.[1 2]	Sault Ste. Marie.
Atlas Steels, Ltd[2]	Welland.
Burlington Steel Co., Ltd.[2]	Hamilton.
Canadian Carborundum Co., Ltd.[3 4]	Niagara Falls.
Canada Electric Castings, Ltd.[2]	Orillia.
Canadian Furnace, Ltd.[1 4]	Port Colborne.
Chromium Mining and Smelting Corporation, Ltd.[4]	Sault Ste. Marie.
Dominion Foundries and Steel, Ltd.[2]	Hamilton.
Electro-Metallurgical Co. of Canada, Ltd.[4]	Welland.
Exolon Company, Ltd.[3 4]	Thorold.
Fahralloy Canada, Ltd.[2]	Orillia.
Federal Foundaries, Ltd.[2]	London.
Ford Motor Co.[2]	Windsor.
Lionite Abrasives, Ltd.[3 4]	Niagara Falls.
Norton Company[3 4]	Chippawa.
Steel Company of Canada, Ltd.[1 2]	Hamilton.
Welland Electric Steel Foundry[2]	Welland.
Wm. Kennedy and Sons, Ltd[2]	Owen Sound.

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

Furnaces were operated in 1944 by the Algoma Steel Corporation at Sault Ste. Marie, the Steel Company of Canada at Hamilton, and Canadian Furnace at Port Colborne. These had a combined daily capacity of 4,778 long tons per day.

IRON BLAST FURNACES IN OPERATION, 1944

Company	Stacks operating	Furnaces		Location
		No. of stacks	Daily capacity	
			long tons	
Algoma Steel Corporation, Ltd.....	3	3	2,240	Sault Ste. Marie.
Canadian Furnace, Ltd.....	1	1	466	Port Colborne.
Steel Company of Canada, Ltd.....	3	3	2,072	Hamilton.

Lead and Zinc

Two properties, the Lake Geneva Mining Company, Limited, in the Sudbury basin, and Berens River Mines, Limited, in northwestern Ontario, produced all of Ontario's lead and zinc in 1944. The lead production, 1,065,741 pounds, valued at $47,958, and the zinc output, 2,429,176 pounds, worth $104,455, were down 43.81 per cent. and 20.86 per cent., respectively, in value.

Magnesium

Ontario boasts the only producer of magnesium metal in Canada. In 1944, the output of Dominion Magnesium, Limited, amounted to $2,575,695, which is an increase of 24.15 per cent. over the previous year. In the course of the year, this company produced metal and alloys with a total magnesium content of 10,579,778 pounds. Fifty-one salaried employees were paid $122,199 and 304 wage-earners received $557,477 for their year's work. Fuel consumed was valued at $123,231, and process supplies at $1,797,649.

Molybdenum

Ontario molybdenum concentrates were shipped by the Wartime Metals Corporation from the concentrator at Val D'Or. These were produced from ores shipped to the Quebec mill from the old Zenith mine and by Crichton and Rivers, owners of a property in Eastern Ontario. The shipment contained 2,815 pounds of concentrates valued at $1,082.

Tungsten

All of Ontario's tungsten production came from the special concentrator operated by Hollinger Consolidated Gold Mines, Limited, at Timmins. The concentrates produced amounted to 63,152 pounds, worth $5,212. This is a drop of 98.53 per cent. from the previous year, when Ontario producers supplied concentrates valued at $356,478.

NON-METALLICS

The aggregate output value of minerals of the non-metallic group dropped 11.41 per cent. in 1944. The value in 1943 was $12,502,624, as against $11,075,707, in 1944. Natural gas, the most important item in point of value, recorded a serious drop in output, and this, no doubt, adversely affected the total. The following reviews and tables cover the more important points relating to the minerals and fuels grouped under this heading.

Corundum

The treatment of old tailings from the Craigmont mine, Raglan township, in Renfrew county, yielded 173 tons of corundum, valued at $17,111. The ship-

ment was made to the American Abrasives Company of Westfield, Mass. The operation was under the direction of the Wartime Metals Corporation.

Feldspar

Production of feldspar was reported by 10 companies in 1944. A total of 3,097 tons was mined, and 5,667 tons were shipped for a total value of $50,361. This constitutes a decrease of 18.17 per cent. from the previous year. The industry paid out $40,721 to 42 wage-earners and consumed $9,481 in fuel and electricity and $1,039 worth of process supplies.

Fluorspar

Production of fluorspar in the Madoc area of eastern Ontario, dropped by 28 per cent. in value in 1944. Output value amounted to $217,031, as compared to $301,424 in 1943. The 7 producing companies mined 7,447 tons and shipped 6,906 tons. The salaries to 6 employees amounted to $10,787, and 72 wage-earners were paid $66,308. Fuel valued at $13,493 and process supplies worth $8,505 were consumed by the mines in 1944.

Garnet

One shipment of 3 tons of garnets, valued at $90, was made in 1944 to a firm in Niagara Falls, N.Y., by O. Martinson from a property located at River Valley. A total of 240 tons of ore was mined during the year. Four men were employed at this work.

Graphite

The output value of graphite produced in 1944 was down 30.3 per cent. from the record of the previous year. One company, Black Donald Graphite, Limited, which is controlled by the Frobisher Exploration Company, Limited, reported production. It was reported that 53.8 per cent. of production was shipped to the United States and most of the rest was purchased by Canadian firms.

Gypsum

The value of the production of the gypsum industry in 1944 improved to the extent of 3.94 per cent. over the previous year. All products sold in 1944 were valued at $348,873, as against $335,637 in 1943. The following table contains a statistical review of production and labour, as well as purchases of electricity, fuels, and process supplies.

GYPSUM SALES, 1940-1944

Grade	1940	1941	1942	1943	1944
	tons	tons	tons	tons	tons
Crushed	10,295	11,365	10,090	13,667	6,841
Fine-ground	381	76	109	201	1,200
Calcined, sold	197	4,977	11,614	7,986	149
Calcined, used in products	64,398	74,181	60,982	70,594	82,098
Total sold or used	75,271	90,599	82,795	92,448	90,288
Total value	$313,512	$276,459	$304,170	$335,637	$348,873
No. of workers	249	[1]182	168	185	[2]55
Wages paid	$293,921	$242,553	$236,768	$290,282	$100,403

[1]Includes all wage-earners.
[2]Exclusive of wage-earners employed in the manufacturing division of the Caledonia plant.

Mica

The mica-mining industry of Ontario recorded an advance of 118.32 per cent. in the value of its products in 1944. The value of white mica surpassed that of amber mica. Production of the latter variety by 16 producers and shippers totalled 3,212,369 pounds, valued at $68,984. The output of white mica was very much less, at 273,843 pounds, but its value amounted to $577,761. The amber-mica producers paid out wages amounting to $29,588 to 36 men and purchased fuel valued at $1,848 and process supplies worth $521. The white-mica producers had 233 men on their pay-rolls, who received $175,578. These companies reported purchasing fuel worth $6,300 and process supplies valued at $11,589.

The following table gives a breakdown of production of amber mica, by grades, for the years 1942, 1943, and 1944.

SHIPMENTS OF AMBER MICA, 1942, 1943, AND 1944

Grade	1942		1943		1944	
	Quantity	Value	Quantity	Value	Quantity	Value
	pounds		pounds		pounds	
Ground and rough	29,485	$1,690	351,000	$24,285	233,100	$17,642
Thumb-trimmed	61,171	17,127	.....	.....	.....	.....
Splittings and knife-trimmed	52,022	25,641	957,827	18,645	214,309	33,142
Scrap	2,623,060	15,245	2,435,130	15,332	2,764,960	18,200
Total	2,765,738	$57,703	3,707,957	$58,262	3,212,369	$68,984

Details of the shipments of white mica, or muscovite, for the last three years are given in the following table:—

SHIPMENTS OF WHITE MICA, 1942, 1943, AND 1944

Grade	1942		1943		1944	
	Quantity	Value	Quantity	Value	Quantity	Value
	pounds		pounds		pounds	
Ground and rough	391	$195	2,000	$500	13,106	$1,390
Thumb-trimmed	370	370	.....	.....	.....	.....
Splittings and knife-trimmed	12,563	29,681	122,277	233,652	223,327	576,091
Scrap	21,565	1,294	421,785	3,775	37,410	280
Total	34,889	$31,540	546,062	$237,927	273,843	$577,761

Natural Gas

The output of the most important product of the non-metallic group of minerals, natural gas, again receded from the previous year. The production value of gas sold dropped from $6,354,045 in 1943 to $4,694,097 in 1944. This is equivalent to a recession of 26.12 per cent. The reason for the decline is the continued depletion of available supplies and the failure to find new sources of the fuel. Production of natural gas by fields in 1944 is given in the following table:—

NATURAL GAS PRODUCTION BY FIELDS, 1944

County	Field	Quantity
		M cu. ft.
Essex	Kingsville	52,949
Kent	Tilbury East	1,944,936
	Romney	
	Raleigh	163,537
	Raleigh (Declute)	362,310
	Dover	181,211
	Chatham (Camden gore)	336,852
	Zone	277,920
Lambton	Dawn	685,845
	Oil Springs	
Oxford	Dereham (Brownsville)	27,108
	South Norwich	1,065
Elgin	Bayham (Brownsville)	10,283
	Bayham	22,374
	Malahide	39,652
Norfolk	Norfolk	242,806
Lincoln	Lincoln	71,267
Haldimand	Haldimand	2,169,976
Wentworth	Wentworth	25,832
Welland	Welland	311,417
Brant	Brantford	1,425
	Onondaga	13,528
	Tuscarora	66,216
Wells in surface drift	Harwich	14,000
	Howard	
Private wells	Haldimand	60,000
	Norfolk	
	Welland	
Total produced		7,082,509
Retail value		$4,694,096.97
Gas distributed other than natural gas:		M cu. ft.
Mixed still gas		2,175,959
Coke oven gas		340,972
Imported mixed gas		266,030
Oil gas		229,601
Propane gas		129,759
Total of other gases		3,142,321
Total of all gases distributed		10,224,830

Nepheline Syenite

Only one producer of nepheline syenite reported production in 1944. Output by the American Nepheline Corporation, of Rochester, N.Y., rose by 758.83 per cent. in value over the previous year. This company mined 57,913 tons and milled 10,602 tons. Total sales valued at $217,989 were reported during the year, and the destinations of shipments were Rochester, N.Y.; Montreal, Que.; Hamilton, Ont; and Redcliff, Alta. The company paid out $93,766 to 76 employees and wage-earners.

Peat

Four producers of peat moss, 2 producers of humus, and 1 producer of peat fuel reported production for the year 1944. The output of peat moss rose in value from $136,595 to $144,820. Total shipments of peat humus amounting to 1,878,000 pounds were reported for the year under review. Total shipments of

moss and humus were reported at 24,981,760 pounds, valued at $144,820. Eleven salaried employees received $18,432, and 211 wage-earners were paid $140,713 for their year's work. The industry used fuel valued at $6,745 and process supplies worth $10,300.

The output of peat fuel, 200 tons valued at $1,800, was down from the year 1943. Five men were employed during the work season and they were paid $700 in wages. This branch of the industry used fuel and process supplies valued at $250.

Petroleum

The value of Ontario's petroleum production dropped by 4.79 per cent. in 1944. This industry produced a total of 125,067 barrels of oil, valued at $296,420. The average price per barrel was the highest recorded in recent years. The following table shows a general statistical picture of the oil wells and their production by fields:—

OIL WELLS AND THEIR PRODUCTION, 1944

Field	No. of wells				No. wells drilled		Production[1]		Gain or loss in 1944[2]	
	Operating	Not Operating	Abandoned	Reopened	Producing	Dry			Gain	Loss
							bbls.	gals.	bbls.	bbls.
Petrolia and Enniskillen	522	681	20	.....	.....	1	41,433	3	.....	3,875
Oil Springs	738	267	8	1	.....	.....	28,537	8	1,267	.....
Moore tp.	12	71	3	1	1	1	132	28	.....	199
Sarnia tp.	19	67	7	4	.....	.....	267	23	.....	37
Plympton tp.	2	26	1	.....	.....	.....	26	28	1	.....
Bothwell and Thamesville	192	153	3	1	3	4	24,966	6	.....	942
Dover, Raleigh, and Romney tps.	12	4	.....	1	.....	1	7,641	21	.....	1,536
Onondaga tp.	.....	47	.....	.....	.....	1	7	20	.....	4
Mosa tp.	136	38	1	.....	.....	.....	15,585	13	.....	741
Euphemia and Dawn tps.	15	116	.....	.....	.....	1	257	5	.....	182
Dunwich tp.	20	70	.....	.....	.....	.....	1,728	6	306	.....
Brooke tp.	1	4	.....	.....	.....	1	.....	.....	.....	.....
Chatham tp.	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Warwick tp.	10	28	3	1	.....	2				
Metcalfe tp.	5	17	.....	.....	.....	1	4,483	25	.....	1,483
Adelaide tp.	6	1	1	1	2	3				
Other fields	.....	[3]8	.....	.....	.....	[4]2	.....	.....	.....	.....
Total	1,690	1,599	47	10	6	18	125,067	11	1,574	8,999

[1]Information from Imperial Oil Refineries, Limited. [2]Net loss, 7,425 barrels.
[3]4 in Assiginack township and 1 in each of Bosanquet, Hullett, Sarawak, and Sheguiandah townships. [4]1 in Caradoc township and 1 in Gordon township.

A comparison of the oil production by fields for the years 1937 to 1944 is given in the following table:—

OIL PRODUCTION BY FIELDS, 1937-1944

Field	1937	1938	1939	1940	1941	1942	1943	1944
	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.
Petrolia and Enniskillen	57,960	58,270	56,951	55,589	54,583	51,917	45,308	41,433
Oil Springs	33,853	32,299	32,422	31,392	29,783	27,369	27,270	28,537
Moore tp.	2,253	1,398	1,527	1,307	1,333	806	332	133
Sarnia tp.	445	595	397	370	213	237	305	268
Plympton tp.	237	191	156	89	93	24	26	27
Bothwell	40,426	40,430	39,616	36,685	33,053	28,033	25,908	24,966
Tilbury East tp.	2,471	206	.....	.....	.....	.....	.....	.....
Dover tp.	10,498	8,801	15,037	11,856	9,574	8,575	9,177	7,642
Raleigh and Romney tps.	.....	.....	27	76	245	[1]	[1]	[1]
Onondaga tp.	728	886	219	957	300	120	11	7
Mosa tp.	8,686	13,527	12,857	17,288	19,075	19,209	16,327	15,585
Thamesville	683	1,990	1,293	[2]	[2]	[2]	[2]	[2]
Euphemia tp.	425	406	385	[3]	[3]	[3]	114	58
Dunwich tp.	303	195	210	337	420	358	1,422	1,728
Brooke tp.	773	101	52	51	113	77	.....	.....
Dawn tp.	5,464	5,010	3,573	2,294	834	596	325	199
Warwick, Metcalfe, and Adelaide tps.	.....	8,310	41,478	29,353	9,748	6,524	5,967	4,484
Chatham tp.	.....	27	159	.....	27	.....	.....	.....
Other fields	.....	.....	.....	.....	[4]44	.....	.....	.....
Total	165,205	172,642	206,379	187,644	159,438	143,845	132,492	125,067
Value	$356,558	$359,268	$401,429	$397,078	$337,760	$306,242	$311,356	$296,420
Average price	$2.15	$2.08	$1.95	$2.11	$2.12	$2.13	$2.35	$2.37

[1]Included in Dover township.
[2]Included in the Bothwell field.
[3]Included in Dawn township.
[4]In Assiginack township, district of Manitoulin.

Quartz, Quartzite, and Silica Brick

Nine firms reported production of quartz, quartzite, and fluxing sand in 1944, and the output value of these products rose from $852,176 in 1943 to $868,389 on 1944, or the equivalent of 1.9 per cent. The reporting companies employed 17 salaried employees, who were paid $38,146 for their work, and 140 wage-earners, who received $196,924. Fuel and electricity worth $51,562 and process supplies valued at $195,201 were used during the year.

One firm produced silica brick during the year, and the production for 1944, valued at $135,089, was 7.45 per cent. above the figure for 1943.

QUARTZ, QUARTZITE, AND SILICA BRICK, 1940-1944

Year	Rock sold or used		Silica brick sold or used		Total value
	Quantity	Value	Quantity	Value	
	tons		M		
1940	1,581,367	$810,285	629	$62,661	$872,946
1941	1,745,244	899,687	1,283	118,922	1,018,609
1942	1,367,733	914,256	1,183	120,495	1,034,751
1943	1,350,640	852,196	1,052	125,722	977,918
1944	1,326,288	868,389	1,066	135,089	1,003,478

Salt

The salt-producing industry, which is all located in southwestern Ontario, is second in importance only to the natural gas industry from the point of view

of value in the non-metallic group of minerals. In 1944, production was reported by 6 firms, and the total value, at $2,906,117, was up 0.46 per cent. over the previous year. This industry employed 110 salaried employees, who were paid $326,003, and 351 wage-earners, who received $577,380 for their work. Fuel and electricity appraised at $452,453 and process supplies worth $69,053 were used during the year.

SALT SOLD OR USED, 1940–1944

Schedule	1940	1941	1942	1943	1944
	tons	tons	tons	tons	tons
Table and dairy	68,873	57,157	56,347	65,585	62,916
Fine	94,601	127,564	139,494	157,743	150,533
Coarse	17,521	27,681	29,735	22,260	16,960
Highway	6,689	5,416	582	2,999	3,100
Land	708	4,254	4,701	157	98
Other grades	.....	.....	.....	.....	.....
Total	188,392	218,459	230,859	248,744	233,607
Brine (salt equivalent)	224,009	258,711	327,548	346,145	370,199
Total sold or used	412,401	477,170	558,407	594,889	603,806
Value	$2,371,780	$2,512,166	$2,793,328	$2,892,839	$2,906,117
Wage-earners.....No.	304	344	340	357	351
Wages	$386,206	$440,319	$518,840	$596,109	$577,380

Talc

One firm only, Canada Talc, Limited, which operated the Conley and the Henderson mines in Huntingdon township, Hastings county, made production returns to the Department for the year 1944. The output of grade No. 1 talc amounted to 13,584 tons, valued at $153,121. Sixty per cent. of the shipments was purchased in Canada, and the remainder was sold in the United States.

TALC STATISTICS, 1940–1944

Year	Sales		Wage-earners, mine and mill	Wages paid
	Quantity	Value		
	tons		No.	
1940	15,166	$154,734	34	$31,102
1941	18,171	204,884	55	45,224
1942	15,499	174,295	39	42,962
1943	11,959	131,216	20	24,376
1944	13,584	153,122	22	24,348

STRUCTURAL MATERIALS

Building Permits

In 58 Canadian cities, building permits in 1944 were valued at $96,303,973, as against $61,537,956 in 1943. Of this total, 28 Ontario cities accounted for $31,449,289, as noted in the following table abstracted from the *Annual Review of Building Permits in Canada in 1944*, issued by the Dominion Bureau of Statistics, Department of Trade and Commerce, Ottawa:—

BUILDING PERMITS, 1940-1944

Year	Ontario cities		Wholesale prices index[1]	Toronto metropolitan area,[2] value	Wages index[3]
	No.	Value			
1940	28	$35,928,049	95.6	$13,202,666	105.7
1941	28	45,937,844	107.3	13,921,751	111.7
1942	28	35,939,104	115.2	11,758,559	118.4
1943	28	25,600,973	121.2	9,304,014	131.9
1944	28	31,449,289	127.3	10,753,199	133.9

[1]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.
[2]Includes York and East York municipalities.
[3]Average index numbers of wages in Canadian building trades as compiled by the Federal Department of Labour on the basis of 1935-39=100.

Construction Contracts

The value of Canadian construction contracts awarded in 1944, as reported by *MacLean Building Review*, was $291,961,800, as compared with $206,103,900 in 1943. Ontario contracts in 1944 amounted to $111,741,800, or 38 per cent. of the total.

VALUE OF CONSTRUCTION CONTRACTS, 1940-1944

Classification	1940	1941	1942	1943	1944
Residential	$32,985,200	$44,299,900	$40,080,400	$33,583,900	$43,657,000
Business	34,188,500	30,273,300	28,657,000	16,413,000	21,346,600
Industrial	55,055,500	47,694,800	32,120,200	13,752,700	32,430,900
Engineering	24,576,900	23,330,600	7,821,900	19,275,700	14,307,300
Total	$146,806,100	$145,598,600	$108,679,500	$83,025,300	$111,741,800

Cement

The value of Portland cement sales by Ontario producers in 1944 was the lowest recorded since 1939. Two companies, the Canada Cement Company and the St. Mary's Cement Company, reported the sale of 1,863,210 barrels, valued at $2,730,381. Other cement statistics show that the operating firms paid out $86,492 to 37 salaried employees and $600,181 to 335 wage-earners. Fuel consumption amounted in value to $835,654, and process supplies worth $244,779 were used during the year.

PORTLAND CEMENT STATISTICS, 1940-1944

Year	Operating plants	Sales		
		Quantity	Value	Average price per barrel
	No.	bbls.[1]		
1940	3	2,355,352	$3,518,247	$1.49
1941	3	2,748,854	4,019,656	1.46
1942	3	2,784,782	3,998,294	1.44
1943	3	1,972,009	2,872,732	1.46
1944	3	1,863,210	2,730,381	1.47

[1]350 pounds.

Lime

Hydrated and quicklime produced in Ontario in 1944 aggregated 429,285 tons, valued at $3,311,177. The improvement in value over 1943 is equal to 6.29 per cent.

Operations during 1944 were carried on by 12 firms.

The following table gives the production of hydrated lime and quicklime, fuel costs, number of wage-earners, and wages paid over a 5-year period:—

LIME STATISTICS, 1940-1944

Year	Lime marketed or used						Fuel costs	Wage-earners	Wages
	Hydrated			Quicklime					
	Quantity	Total value	Value per ton	Quantity	Total value	Value per ton			
	tons			tons				No.	
1940....	38,163	$412,181	$10.80	334,470	$2,340,605	6.99	$621,565	239	$275,067
1941....	57,197	597,344	10.44	373,927	2,649,303	7.08	777,902	294	385,082
1942....	33,031	363,931	11.02	382,668	2,761,643	7.22	817,552	252	378,696
1943....	28,971	321,123	11.08	382,950	2,794,071	7.30	843,231	233	404,678
1944....	37,607	424,399	11.29	391,678	2,886,778	7.37	819,898	199	382,467

Distribution of the quicklime and hydrated lime sold in 1944, as reported by the producing companies, was as follows:—

Industrial consumption	Quicklime		Hydrated lime	
	Quantity	Value	Quantity	Value
	tons		tons	
Building trades: finishing and masons	11,537	$103,308	26,704	$313,945
Sand-lime brick	3,319	25,543	.....	.....
Agriculture	85,578	641,840	2,523	26,705
Chemical and metallurgical industries:				
Smelters	4,079	28,268	60	573
Iron and steel	26,589	191,936	74	768
Gold-milling	46,425	347,626	115	2,308
Pulp and paper	8,756	65,049	4,356	42,924
Glass	14,709	122,838	91	860
Sugar	3,566	40,811	823	8,667
Tanneries	3,294	23,157	19	150
Fertilizers and insecticides	1,969	9,405	690	5,707
Dealers and others	817	7,109	414	4,424
Other chemicals[1]	181,040	1,279,887	1,638	17,368
Total	391,678	$2,886,778	37,607	$424,399

[1]Uses 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

Statistics for sand and gravel, which are given in detail in the following table, indicate an improvement in both quantity and value for the year 1944 when compared with the figures for the preceding year.

OUTPUT OF SAND AND GRAVEL, 1943 AND 1944

Source	1943		1944	
	Quantity	Value	Quantity	Value
	tons		tons	
Private pit operators	2,097,317	$873,173	2,462,858	$1,122,086
Dredged from Great Lakes and rivers	682,486	420,626	522,768	441,717
Department of Highways	1,744,274	890,228	1,570,000	805,000
Miscellaneous counties and townships	2,473,421	1,236,710	3,689,047	1,844,523
Estimate for other producers[1]	1,287,811	200,115	1,285,130	204,101
Total	8,285,309	$3,620,852	9,529,803	$4,417,427

[1]Railway ballast.

Sand-Lime Products

Two plants in Ontario manufactured sand-lime building brick and blocks during 1944. The value of the products manufactured in 1944 amounted to $22,512, as compared with $141,135 in 1943 and $223,250 in 1942.

Stone

The production of stone in Ontario in 1944 by 43 producers was valued at $2,909,980 and was 1.63 per cent. below the figure for 1943. The following table gives a break-down of the varieties of stone sold by the producers for 1942, 1943, and 1944.

OUTPUT OF STONE, 1942, 1943, AND 1944

Variety	1942		1943		1944	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons		tons		tons	
Limestone	2,993,322	$2,636,431	3,114,460	$2,704,205	2,852,241	$2,549,402
Marble	4,295	27,675	4,167	24,852	5,215	32,650
Trap, Granite	90,530	288,827	79,582	212,136	125,604	307,497
Sandstone	18,835	33,004	7,818	17,190	5,223	20,431
Total	3,106,982	$2,985,937	3,206,027	$2,958,383	2,988,283	$2,909,980

CLAY PRODUCTS

Returns from producers of clay products were received from 52 firms. The production in 1944, valued at $2,347,396, is lower by 4.33 per cent. than that of the previous year. This important branch of the mining industry employed 777 wage-earners and salaried employees, who received $1,125,485. The industry also consumed fuel and electricity valued at $630,718 and process supplies worth $39,890.

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

HEAVY CLAY PRODUCTS MARKETED, 1944

Kind		Quantity	Value
Brick:			
Soft-mud process	face, No.	7,488,972	$166,738
	common, No.	3,862,350	67,166
Stiff-mud (wire cut) process	face, No.	29,929,644	743,375
	common, No.	2,999,273	48,256
Dry-press	face, No.	8,181,652	204,747
	common, No.	3,930,247	88,112
Fancy or ornamental brick (including special shapes, embossed and enamelled brick), No.		28,403	866
Sewer, No.		233,100	4,391
Paving brick, No.		321,408	18,793
Tile:			
Structural (hollow blocks, including fireproofing and load-bearing tile), tons		28,344	271,977
Roofing tile		.....	.....
Floor tile (quarries), sq. ft.		212,805	43,817
Drain, No.		10,784,916	309,245
Sewer pipe (including copings, flue linings, etc.)		.....	312,081
Pottery (flower pots), from domestic clay		.....	60,000
Haydite and other products		.....	6,047
Blue clay and fire clay, tons		486	1,785
Total value		.....	$2,347,396

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

VALUE OF CLAY PRODUCTS SOLD OR USED, 1913, 1922, AND 1940–44

Product	1913	1922	1940	1941	1942	1943	1944
Brick:							
Common and sewer	$3,283,894	$2,614,120	$461,266	$535,683	$408,707	$314,837	$207,925
Pressed, fancy, building tile, etc.	1,162,860	2,899,205	1,381,101	1,792,463	1,408,521	1,436,790	1,450,313
Pottery	52,875	88,889	55,198	46,670	25,000	63,600	60,000
Drain tile	292,767	368,180	173,079	225,334	234,971	279,806	309,245
Sewer pipe	600,297	973,824	399,212	480,036	409,660	348,641	312,081
Haydite and other products; clay	.....	.....	44,028	7,430	62,628	10,155	7,832
Total	$5,392,693	$6,944,218	$2,513,884	$3,087,616	$2,549,487	$2,453,829	$2,347,396

MISCELLANEOUS STATISTICS

Mining Company Incorporations

A summary of mining companies incorporated and licensed in Ontario from 1940 to 1944, inclusive, follows:—

MINING COMPANIES INCORPORATED AND LICENSED, 1940–1944

Year	Incorporated				Extra-provincial and mortmain companies licensed	
	No.	Nominal capital	"No par" companies		No.	Capital for use in Ontario
			No.	Shares		
1940	66	$89,490,000	8	4,444,000	.....	.....
1941	55	77,970,000	14	11,390,400	.....	.....
1942	47	44,370,000	19	14,181,000	.....	.....
1943	108	176,710,000	17	31,685,000	2	$80,000
1944	320	885,570,000	38	82,788,000	.....	.....

Of the 357 companies incorporated in 1944, 319 had specified capital only, 37 were companies having shares without nominal or par value, and 1 had both specified capital and shares without par value.

MINING COMPANIES WITH SPECIFIED CAPITAL INCORPORATED IN ONTARIO IN 1944

Name of company	Head office	Date of incorporation	Capital
Abenakis Mines, Limited	Toronto	Sept. 23	$3,000,000
Acara Rouyn Mines, Limited	Toronto	Oct. 5	3,000,000
Ace Yellowknife Mines, Limited	Toronto	June 23	3,500,000
Acme Diamond Drilling, Limited	Toronto	Aug. 25	40,000
Adian Gold Mines, Limited	Toronto	July 24	3,000,000
Anabie Gold Mines, Limited	Toronto	May 12	3,000,000
Andar Gold Mines, Limited	Toronto	Oct. 5	3,000,000
Andman Porcupine Gold Mines, Limited	Tisdale	July 12	3,000,000
Anglo Swift Gold Mining Syndicate, Limited	Kirkland Lake	Aug. 4	35,000
Ansley Gold Mines, Limited	Toronto	May 2	3,000,000
Argonaut Yellowknife Mines, Limited	Toronto	May 12	3,500,000
Arken Gold Mines, Limited	Toronto	Feb. 22	3,000,000
Armada Porcupine Mines, Limited	Toronto	Nov. 3	3,000,000
Arrowood Mining Syndicate, Limited	Toronto	Aug. 15	35,000
Auband Mines, Limited	Toronto	July 6	3,000,000
Aubelle Mines, Limited	Toronto	May 9	3,000,000
Auburn Mines, Limited	Toronto	Aug. 18	3,000,000
Audley Gold Mines, Limited	Toronto	Aug. 10	3,000,000
Audora Porcupine Mines, Limited	Toronto	June 8	3,000,000
Augener Mines, Limited	Toronto	Mar. 2	1,000,000
Aukeko Gold Mines, Limited	Toronto	Aug. 28	3,000,000
Aumo Porcupine Mines, Limited	Toronto	Jan. 22	4,000,000
Aurora Yellowknife Mines, Limited	Toronto	Apr. 6	3,500,000
Ausic Mining and Reduction Company, Limited	Cobalt	Apr. 21	1,000,000
Auterra Mines, Limited	Toronto	June 13	3,000,000
Auvillebon Gold Mines, Limited	Toronto	Aug. 9	3,000,000
Bancroft Mica and Stone Products Mining Syndicate, Limited	Bancroft	Feb. 5	35,000
Bayview Red Lake Gold Mines, Limited	Toronto	Sept. 28	4,000,000
Beau Pete Gold Mines, Limited	Toronto	Aug. 4	3,000,000
Belgold Mines, Limited	Toronto	Mar. 11	3,000,000
Bell River Mines, Limited	Toronto	Feb. 15	3,000,000
Belle-Bry Yellowknife Mines, Limited	Toronto	Apr. 26	3,500,000
Bellegrand Mines, Limited	Toronto	Aug. 10	3,000,000
Bellemac Mud Lake Mines, Limited	Toronto	Apr. 17	3,000,000
Bellezone Mines, Limited	Toronto	Aug. 9	3,000,000
Belross Mines, Limited	Toronto	Jan. 4	3,000,000
Bertec Gold Mines, Limited	Ottawa	Dec. 11	40,000
Beulah Yellowknife Mines, Limited	Toronto	July 27	3,500,000
Big-Bell Mines, Limited	Toronto	June 8	3,000,000
Big Game Mines, Limited	Toronto	Mar. 27	1,000,000
Bluegrass Raymond Mines, Limited	Toronto	Mar. 29	3,000,000
Bluenose Pershing Mines, Limited	Toronto	Apr. 29	3,000,000
Bonsecour Mines, Limited	Toronto	July 27	3,000,000
Bontera Mining Corporation, Limited	Toronto	Apr. 20	3,500,000
Border Malartic Gold Mines, Limited	Toronto	Oct. 12	4,000,000
Boxada Mines, Limited	Toronto	June 30	100,000
Bradnor Gold Mines, Limited	Toronto	Mar. 4	3,000,000
Bradstreet-Larder Lake Mining Syndicate, Limited	McVittie Tp	June 6	35,000
Bravo Yellowknife Mines, Limited	Toronto	June 29	3,000,000
Bright Red Lake Mines, Limited	Toronto	Jan. 14	4,000,000
Bruin Products, Limited	Oshawa	Sept. 5	40,000
Burgess Kirkland Mines, Limited	Toronto	Mar. 27	3,000,000
Burma Dip Gold Mines, Limited	Toronto	Aug. 14	3,500,000
Burscott Gold Mines, Limited	Toronto	Dec. 7	3,000,000
Cadilartic Mines, Limited	Toronto	Aug. 11	3,000,000
Caen Yellowknife Mines, Limited	Toronto	Aug. 8	3,000,000
Camdeck Gold Mines, Limited	Kirkland Lake	Oct. 20	3,000,000

MINING COMPANIES WITH SPECIFIED CAPITAL INCORPORATED IN ONTARIO IN 1944—*Continued*

Name of company	Head office	Date of incorporation	Capital
Campbell Red Lake Mines, Limited	Toronto	July 18	$3,500,000
Can-American Nickel Mining Corporation, Limited	Toronto	Oct. 14	3,000,000
Canspar Mines, Limited	Toronto	June 19	100,000
Captain Mining Syndicate, Limited	Toronto	May 17	35,000
Cardinal Yellowknife Mines, Limited	Toronto	June 16	3,000,000
Caron Malartic Gold Mines, Limited	Toronto	Sept. 12	3,000,000
Chellew Gold Mines, Limited	Toronto	May 19	3,000,000
Cherbourg Gold Mines, Limited	Toronto	June 20	3,000,000
Chica Exploration and Development Company, Limited	Toronto	Dec. 27	40,000
Chieftain Pershing Gold Mines, Limited	Toronto	July 14	3,000,000
Chimney Creek–Fraser Placer Mines, Limited	Toronto	Jan. 22	100,000
Cipway Gold Mines, Limited	Toronto	Mar. 18	3,000,000
Clarendon Gold Mines, Limited	Toronto	Feb. 17	1,000,000
Clarry Gold Mines, Limited	Toronto	Mar. 30	4,000,000
Cluny Gold Mines, Limited	Toronto	Sept. 13	3,000,000
Conrad Hanson Mines, Limited	Toronto	Feb. 23	200,000
Courageous Gold Mines, Limited	Toronto	July 14	3,000,000
Coventry Gold Mines, Limited	Toronto	Dec. 6	3,500,000
Craibbe-Fletcher Gold Mines, Limited	Toronto	Jan. 21	3,000,000
Crowshore Patricia Gold Mines, Limited	Toronto	May 17	3,000,000
Cuspana Mining Syndicate, Limited	Toronto	Apr. 6	35,000
Davidor Mines, Limited	Timmins	Oct. 12	3,000,000
Delcore Porcupine Mines, Limited	Toronto	Mar. 7	3,500,000
Dercon Mines, Limited	Sudbury	Sept. 7	3,000,000
Detrocana Gold Mines, Limited	Toronto	July 14	3,500,000
Deva-Lac Mines, Limited	Toronto	Dec. 13	3,000,000
Dexter Red Lake Gold Mines, Limited	Toronto	Oct. 6	3,000,000
Diaterre Gold Mines, Limited	Toronto	Nov. 7	3,000,000
Dickenson Red Lake Mines, Limited	Toronto	Nov. 27	3,500,000
Dobos Gold Mines, Limited	Toronto	Sept. 14	950,000
Dolphin Yellowknife Mines, Limited	Toronto	Dec. 22	3,000,000
Donabelle Mines, Limited	Toronto	Sept. 19	3,000,000
Donrand Mines, Limited	Toronto	Jan. 27	4,000,000
Dorbaska Gold Mines, Limited	Toronto	June 8	3,500,000
Dorcana Gold Mines, Limited	Toronto	June 28	3,000,000
Dortera Mines, Limited	Toronto	Sept. 20	3,500,000
Dovercliff Gold Mines, Limited	Toronto	July 7	4,000,000
Duomalartic Gold Mines, Limited	Toronto	Aug. 17	3,500,000
Duvay Gold Mines, Limited	Toronto	Nov. 21	3,500,000
Earl Gold Mines, Limited	Toronto	May 9	3,000,000
Eastwebb Mines, Limited	Toronto	Mar. 29	3,000,000
Edgewater Porcupine Gold Mines, Limited	Toronto	Nov. 16	3,500,000
Edmor Mines, Limited	Toronto	Dec. 11	3,500,000
Edwaska Gold Mines, Limited	Toronto	May 22	3,000,000
Elder Gold Mines, Limited	Toronto	Jan. 21	4,000,000
Eldona Gold Mines, Limited	Toronto	Jan. 19	3,000,000
Ellburn Porcupine Gold Mines, Limited	Toronto	July 26	3,000,000
Emerald Yellowknife Mines, Limited	Toronto	Oct. 17	3,000,000
Erin Kirkland Mines, Limited	Toronto	Mar. 1	3,000,000
Ester Porcupine Gold Mines, Limited	Timmins	Sept. 16	3,000,000
Fabis Larder Mining Syndicate, Limited	Larder Lake	Apr. 14	35,000
Figuery Gold Mines, Limited	Toronto	Aug. 2	3,000,000
Fleetwood Yellowknife Mines, Limited	Toronto	June 22	3,000,000
Fluoroc Mines, Limited	Trenton	Mar. 25	1,000,000
Fortuna Mining and Exploration Syndicate, Limited	Windsor	May 6	35,000
Foxright Mines, Limited	Toronto	June 12	250,000
Garden Mines, Limited	Toronto	May 4	3,000,000
Garrymac Gold Mines, Limited	Toronto	Nov. 9	3,000,000
Geometal Mines, Limited	Toronto	Aug. 10	3,000,000
Gilbert Gold Mines, Limited	Toronto	Sept. 12	3,000,000
Gilt Mica Mining Company, Limited	Toronto	Aug. 23	1,000,000
Girard Lake Mines, Limited	Toronto	Apr. 22	3,000,000
Glenrock Gold Mines, Limited	Toronto	Aug. 3	3,000,000

MINING COMPANIES WITH SPECIFIED CAPITAL INCORPORATED IN ONTARIO IN 1944—*Continued*

Name of company	Head office	Date of incorporation	Capital
Goldbec Mines, Limited	Toronto	June 17	$3,000,000
Golden Valley Mines, Limited	Toronto	May 10	3,000,000
Goldora Mines, Limited	Toronto	Apr. 22	4,000,000
Goldrich-Yellowknife Mines, Limited	Toronto	June 24	3,000,000
Goldvue Mines, Limited	Toronto	Sept. 7	3,000,000
Gotham Yellowknife Mines, Limited	Toronto	Sept. 7	3,000,000
Governor Gold Mines, Limited	Toronto	May 26	3,000,000
Grango Pershing Mines, Limited	Toronto	Oct. 4	3,500,000
Halden Red Lake Mines, Limited	Toronto	Jan. 5	3,000,000
Harwell Mining and Exploration Company, Limited	Toronto	Sept. 16	1,500,000
Headway Red Lake Gold Mines, Limited	Toronto	Sept. 7	3,500,000
Heath Gold Mines, Limited	Toronto	June 13	3,000,000
Hermes Mines, Limited	Toronto	Nov. 30	3,000,000
Hiskerr Gold Mines, Limited	Toronto	Mar. 15	5,000,000
Hislop Mines, Limited	Toronto	Aug. 22	4,000,000
Homekirk Mining Syndicate, Limited	Toronto	Jan. 8	35,000
Homer Yellowknife Mines, Limited	Toronto	May 11	3,000,000
Hosco Gold Mines, Limited	Toronto	Jan. 21	3,000,000
Hudson-Rand Gold Mines, Limited	New Liskeard	July 31	3,000,000
Huhill Yellowknife Mines, Limited	Toronto	Nov. 30	3,000,000
Hunch Mines, Limited	Kirkland Lake	Mar. 25	3,000,000
Independent Mining Corporation, Limited	Toronto	Nov. 30	3,000,000
Ingraham Yellowknife Mines, Limited	Toronto	Sept. 12	3,500,000
Invaday Mining and Exploration, Limited	Windsor	July 6	3,500,000
Jacaranda Gold Mining Syndicate, Limited	Toronto	Dec. 20	35,000
Jensen Yellowknife Gold Mines, Limited	Toronto	May 26	3,000,000
Jeroco Gold Mines, Limited	Toronto	July 12	3,000,000
Kaymac Gold Mines, Limited	Toronto	Feb. 2	3,000,000
Kega Mines, Limited	Toronto	May 4	3,000,000
Kencour Gold Mines, Limited	Toronto	Nov. 27	3,000,000
Kenikonda Mining Corporation, Limited	Toronto	Oct. 28	3,000,000
Kentlake Gold Mines, Limited	Kirkland Lake	Aug. 10	3,000,000
Kenwest Mines, Limited	Toronto	Nov. 24	3,000,000
Keymor Gold Mines, Limited	Toronto	May 31	3,000,000
Kimball Porcupine Gold Mines, Limited	Toronto	Aug. 14	3,000,000
Kimberley Yellowknife Gold Mines, Limited	Toronto	July 4	3,000,000
Kinojevis River Mines, Limited	Toronto	Aug. 11	3,500,000
Korby Gold Mines, Limited	Toronto	June 13	4,000,000
Laclothian Mines, Limited	Toronto	Sept. 12	3,000,000
Lady Rouyn Mines, Limited	Toronto	Mar. 27	3,000,000
La France Gold Mines, Limited	Toronto	Oct. 31	3,000,000
Lake Bearskin Mining Syndicate, Limited	Port Arthur	May 16	10,000
Lapalartic Mines, Limited	Toronto	Mar. 31	3,000,000
Lapaska Mines, Limited	Toronto	Apr. 20	3,000,000
Lapaskead Mining Syndicate, Limited	Toronto	Aug. 25	33,000
Larbel Gold Mines, Limited	Toronto	Aug. 2	3,000,000
Larder Road Mines, Limited	Toronto	June 13	3,000,000
Lardon Gold Mines, Limited	Toronto	Oct. 5	3,000,000
Largold Mining Company, Limited	Toronto	June 13	4,000,000
La Salle Yellowknife Gold Mines, Limited	Toronto	July 20	3,000,000
Leon Malartic Mines, Limited	Toronto	Aug. 18	3,000,000
Linlothian Mines, Limited	Toronto	Nov. 30	3,000,000
Lobanor Gold Mines, Limited	Toronto	Apr. 24	3,000,000
Lochland Pershing Mines, Limited	Toronto	June 23	3,000,000
Loki Mines, Limited	Toronto	Oct. 30	3,000,000
Louvore Gold Mines, Limited	Toronto	May 22	3,000,000
MacDean Mines, Limited	Sudbury	Mar. 28	3,000,000
McFinley Red Lake Gold Mines, Limited	Toronto	May 6	4,000,000
MacFort Gold Mines, Limited	Toronto	June 23	3,000,000
McVittie-Graham Mining Company, Limited	Toronto	July 6	500,000
Main Malartic Gold Mines, Limited	Toronto	Feb. 2	3,500,000
Malartic River Mines, Limited	Toronto	Feb. 2	100,000
Malga Porcupine Gold Mines, Limited	Toronto	Mar. 30	3,500,000
Mallen Red Lake Gold Mines, Limited	Toronto	Oct. 19	5,000,000

MINING COMPANIES WITH SPECIFIED CAPITAL INCORPORATED IN ONTARIO IN 1944—*Continued*

Name of company	Head office	Date of incorporation	Capital
Manterre Gold Mines, Limited	Toronto	Aug. 10	$3,000,000
Marcus Gold Mines, Limited	Toronto	Oct. 20	3,500,000
Markwell Gold Mines, Limited	Toronto	Aug. 16	3,000,000
Marlon Rouyn Gold Mines, Limited	Toronto	Mar. 14	3,500,000
Marygold Mines, Limited	Toronto	Oct. 4	3,000,000
Matador Gold Mining Syndicate, Limited	Toronto	May 12	35,000
Mate Yellowknife Gold Mines, Limited	Toronto	Aug. 2	3,000,000
Meewood Yellowknife Mines, Limited	Toronto	Aug. 2	3,000,000
Merit Gold Mines, Limited	Toronto	Apr. 26	3,500,000
Metro Gold Mines, Limited	Toronto	Feb. 17	3,000,000
Micastor Mining Syndicate, Limited	East Ferris Tp.	Nov. 17	35,000
Mid-Canada Magnesium Mines, Limited	Toronto	June 27	4,000,000
Millothia Gold Mines, Limited	Toronto	Oct. 21	3,000,000
Mintrock Mines, Limited	Toronto	Aug. 22	4,000,000
Miracle Yellowknife Mines, Limited	Toronto	Oct. 3	5,000,000
Misema Mines, Limited	Kitchener	Apr. 25	3,000,000
Mitchell-Hearst Gold Mines, Limited	Toronto	Feb. 11	3,000,000
Modern Mining and Development Company, Limited	Kirkland Lake	Dec. 13	40,000
Molijevis Gold Mines, Limited	Toronto	Oct. 16	3,500,000
Montoy Mining and Development Company, Limited	Toronto	June 7	500,000
Mordey Copper Mines, Limited	Toronto	Oct. 19	1,000,000
Morie Yellowknife Gold Mines, Limited	Toronto	July 6	3,000,000
Murbell Gold Mines, Limited	Toronto	July 14	3,000,000
Nash Yellowknife Gold Mines, Limited	Toronto	July 26	3,000,000
Nautilus Exploration Company, Limited	Toronto	June 16	40,000
New Bidlamaque Gold Mines, Limited	Toronto	Mar. 20	3,000,000
New Electra Porcupine Gold Mines, Limited	Toronto	Nov. 28	3,500,000
New Telluride Gold Mines of Canada, Limited	Timiskaming	Mar. 21	3,000,000
Newport Gold Mines, Limited	Toronto	Sept. 12	3,000,000
Newroy Mines, Limited	Toronto	Sept. 21	3,000,000
Nib Yellowknife Mines, Limited	Toronto	May 26	3,000,000
Noreloy Larder Lake Mining Syndicate, Limited	Toronto	June 16	35,000
Norford Pershing Mines, Limited	Toronto	Nov. 27	3,000,000
Normar Gold Mines, Limited	Toronto	Aug. 24	4,000,000
North Channel Mining and Development Company, Limited	Toronto	Jan. 18	3,000,000
Northbreak Gold Mines, Limited	Toronto	Aug. 2	3,500,000
Nortyne Gold Mines, Limited	Toronto	June 1	3,000,000
Omar Gold Mines, Limited	Toronto	Jan. 13	3,000,000
Oneonta Pershing Mines, Limited	Toronto	May 26	3,000,000
Oracle Yellowknife Mines, Limited	Toronto	Oct. 3	3,500,000
Ordala Mines, Limited	Toronto	May 6	3,000,000
Orevita Gold Mines, Limited	Toronto	June 2	3,000,000
Orlac Red Lake Mines, Limited	Toronto	Feb. 17	3,500,000
Oromaque Mines, Limited	Toronto	July 25	3,000,000
Ortona Gold Mines, Limited	Toronto	Jan. 12	3,500,000
Orvalley Gold Mines, Limited	Toronto	May 16	3,500,000
Page-Harley Mines, Limited	Toronto	Dec. 21	3,000,000
Paramaque Mines, Limited	Toronto	Nov. 14	3,000,000
Parbex Malartic Gold Mines, Limited	Toronto	June 23	3,000,000
Parent Lake Mines, Limited	Toronto	June 24	3,000,000
Parterre Gold Mines, Limited	Toronto	Oct. 19	3,000,000
Peg Tantalum Mines, Limited	Toronto	Dec. 2	1,000,000
Penko Gold Mines, Limited	Toronto	Aug. 11	3,000,000
Pen-Rey Gold Mines, Limited	Toronto	Feb. 15	3,500,000
Pensive Yellowknife Mines, Limited	Toronto	July 13	3,500,000
Peribec Gold Mines, Limited	Toronto	June 10	3,000,000
Phelps Gold Mines, Limited	Toronto	Dec. 21	3,000,000
Pipestone Narrows Gold Mines, Limited	Toronto	June 24	3,000,000
Porcupine Southgate Mines, Limited	Toronto	Apr. 1	3,500,000
Port Radium Mines, Limited	Toronto	July 7	3,000,000
Poulmaque Gold Mines, Limited	Toronto	July 13	3,000,000
Prescott Porcupine Gold Mines, Limited	Toronto	June 5	3,000,000
Quartz-Crystals Mining Corporation of Canada, Limited	Toronto	Feb. 9	1,500,000

MINING COMPANIES WITH SPECIFIED CAPITAL INCORPORATED IN ONTARIO IN 1944—*Continued*

Name of company	Head office	Date of incorporation	Capital
Rambull Gold Mines, Limited	Toronto	Aug. 1	$3,000,000
Ranney Gold Mines, Limited	Toronto	July 28	3,000,000
Rayon D'Or Mines, Limited	Toronto	Mar. 2	3,000,000
Red Area Gold Mines, Limited	Toronto	Mar. 28	4,000,000
Redaurum Red Lake Gold Mines, Limited	Toronto	Mar. 22	3,500,000
Redruth Gold Mines, Limited	Toronto	Dec. 19	5,000,000
Redstone Porcupine Gold Mines, Limited	Toronto	July 14	3,500,000
Regina Yellowknife Gold Mines, Limited	Toronto	June 23	3,000,000
Renfort Gold Mines, Limited	Toronto	Apr. 12	4,000,000
Revelartic Mines, Limited	Toronto	Feb. 17	3,000,000
Ribago Rouyn Mines, Limited	Toronto	Feb. 16	3,000,000
Riczone Mining Syndicate, Limited	Toronto	Aug. 18	35,000
Rocamsa Mines, Limited	Toronto	Jan. 4	3,000,000
Rogard Red Lake Mines, Limited	Toronto	Feb. 11	3,000,000
Sables Gold Mines, Limited	Toronto	June 9	3,000,000
St. Maurice Gold Mines, Limited	Toronto	Dec. 27	3,000,000
San Pedro Mining Corporation, Limited	Toronto	June 13	3,000,000
Sand Lake Gold Mines, Limited	Toronto	Nov. 27	3,000,000
Sandenise Gold Mines, Limited	Port Arthur	Sept. 5	3,000,000
Sandra Gold Mines, Limited	Toronto	Feb. 7	3,000,000
Sanita Gold Mines, Limited	Toronto	Mar. 4	3,000,000
Sava Yellowknife Gold Mines, Limited	Toronto	July 6	3,000,000
Scout Pershing Mines, Limited	Toronto	Apr. 26	3,500,000
Shunda Oils, Limited	Windsor	Mar. 3	1,500,000
Shunsby Gold Mines, Limited	Toronto	Feb. 10	3,000,000
Silvag Mining Syndicate, Limited	Toronto	Mar. 20	35,000
Slate Bay Gold Mines, Limited	Toronto	Sept. 23	3,000,000
Snow Lake Gold Mines, Limited	Toronto	Nov. 25	3,000,000
Squaw Creek Iron Mines, Limited	Ottawa	May 9	100,000
Starlight Mines, Limited	Toronto	May 12	3,000,000
Steeber Malartic Mines, Limited	Toronto	July 18	3,500,000
Talmora Longlac Gold Mines, Limited	Toronto	Nov. 4	1,000,000
Tasmaque Gold Mines, Limited	Toronto	June 20	3,500,000
Temple Gold Mines, Limited	Toronto	Oct. 2	4,000,000
Templor Gold Mines, Limited	Toronto	Mar. 1	3,500,000
Terrebonne Mines, Limited	Toronto	Sept. 13	3,000,000
Tiffany Yellowknife Gold Mines, Limited	Toronto	June 10	3,000,000
Torbec Mines, Limited	Toronto	Apr. 19	3,000,000
Toronto Refiners and Smelters, Limited	Toronto	Dec. 1	40,000
Trans-American Mining Corporation, Limited[1]	Toronto	Mar. 4	1,250,000
Trans-Canada Mines, Limited	Toronto	Nov. 29	4,000,000
Trivio-Bell River Mines, Limited	Toronto	May 10	3,000,000
Tyon Gold Mines, Limited	Toronto	Sept. 15	3,500,000
Undersill Gold Mining Company, Limited	Toronto	Nov. 1	1,000,000
Valdina Gold Mines, Limited	Toronto	Aug. 4	3,000,000
Vanda Mines, Limited	Hamilton	Sept. 9	3,000,000
Vaumont Mines, Limited	Toronto	Sept. 16	3,000,000
Vauze Dufault Mines, Limited	Toronto	Dec. 15	3,000,000
Verlac Gold Mines, Limited	Toronto	Oct. 17	3,000,000
Vermilion-Peace River Oil Fields, Limited	Toronto	Jan. 19	3,000,000
Vianor Malartic Mines, Limited	Toronto	May 27	3,000,000
Vine Pershing Mines, Limited	Toronto	Nov. 27	3,000,000
Vinray Malartic Mines, Limited	Toronto	Dec. 19	3,000,000
Virginia Red Lake Mines, Limited	Toronto	Dec. 8	3,000,000
Wadasa Gold Mines, Limited	Toronto	Nov. 24	3,500,000
Wakeko Mines, Limited	Toronto	May 30	3,000,000
Wakemac Denton Gold Mines, Limited	Toronto	Nov. 15	3,500,000
Walcoro Porcupine Mines, Limited	Toronto	Apr. 29	3,000,000
Waldag Mining Company, Limited	Toronto	June 21	1,000,000
Walhart Gold Mines, Limited	Toronto	Nov. 29	4,000,000
Walterra Gold Mines, Limited	Toronto	Dec. 19	3,000,000
Wassanor Gold Mines, Limited	Toronto	May 29	3,000,000
Wavo Gold Mines, Limited	Toronto	July 31	3,000,000

[1]The capital of this company also includes 500,000 shares of no par value.

MINING COMPANIES WITH SPECIFIED CAPITAL INCORPORATED IN ONTARIO IN 1944—*Continued*

Name of company	Head office	Date of incorporation	Capital
Wedgewood Mining Syndicate, Limited	Toronto	May 19	$35,000
Wesreserve Oil Company, Limited	Toronto	May 27	4,000,000
West-Bay Yellowknife Mines, Limited	Toronto	June 16	3,500,000
Whitco Porcupine Mining Syndicate, Limited	Toronto	May 23	35,000
Wilcarr Mines, Limited	Toronto	May 25	5,000,000
Winabie Gold Mines, Limited	Toronto	Apr. 15	3,000,000
Windsor Yellowknife Gold Mines, Limited	Toronto	June 20	3,000,000
Wingait Gold Mines, Limited	Toronto	May 16	3,000,000
Winru Gold Mines, Limited	Toronto	May 20	3,000,000
Yellohill Gold Mines, Limited	Toronto	June 24	3,000,000
Total (320 companies)			$885,570,000

MINING COMPANIES INCORPORATED IN ONTARIO IN 1944 HAVING SHARES WITHOUT NOMINAL OR PAR VALUE

Name of company	Head office	Date of incorporation	No. of shares
Amber Oils and Minerals, Limited	Toronto	July 10	4,000,000
Balboa Explorations, Limited	Toronto	Aug. 4	4,000,000
Biroco Kirkland Mines, Limited	Toronto	Feb. 11	3,000,000
Chief Sioux Mining Company, Limited	Toronto	Dec. 1	8,000
Drake Yellowknife Gold Mines, Limited	Toronto	May 11	3,000,000
Dulama Gold Mines, Limited	Toronto	Dec. 2	3,000,000
Elroy Gold Mines, Limited	Toronto	May 11	3,000,000
Enrich Gold Mines, Limited	Toronto	July 28	40,000
Goldhawk Porcupine Mines, Limited	Toronto	Sept. 5	4,000,000
Goldwin Exploration Company, Limited	Toronto	Mar. 30	1,000,000
Hoyle Mining Company, Limited	Toronto	July 24	5,000,000
Index Drilling and Exploration Company, Limited	Toronto	Oct. 11	300,000
Jacknife Gold Mines, Limited	Toronto	Dec. 19	3,300,000
Jeph Yellowknife Gold Mines, Limited	Toronto	May 17	3,000,000
Lakes Strategic Metals, Limited	Windsor	May 12	300,000
Laroma Midlothian Mines, Limited	Toronto	Aug. 28	4,000,000
Lesjack Exploration Company, Limited	Toronto	Jan. 25	40,000
Lynx Yellowknife Gold Mines, Limited	Toronto	May 12	4,000,000
Malcave Mining and Development Company, Limited	Toronto	Aug. 4	40,000
Manitoulin Quartzite Company, Limited	Windsor	Feb. 25	40,000
Marwayne Oils, Limited	Toronto	Nov. 14	4,000,000
Masco Yellowknife Mines, Limited	Toronto	July 5	50,000
Mills Red Lake Mines, Limited	Toronto	Feb. 18	3,000,000
Ontario Phosphate Industries, Limited	Toronto	June 26	1,000,000
Pacalta Oils Company, Limited	Toronto	Mar. 28	3,000,000
Placer Testing, Limited	Toronto	June 27	75,000
Randona Quebec Gold Mines, Limited	Toronto	Feb. 2	3,000,000
Sedalia Mining Company, Limited	Toronto	Oct. 12	40,000
Seigneur Mines and Management, Limited	Toronto	Apr. 26	40,000
Structure Drilling Corporation, Limited	Toronto	Nov. 30	1,000,000
Sydenham Mining Company, Limited	Kingston	Aug. 14	15,000
Trans-American Mining Corporation, Limited[1]	Toronto	Mar. 4	500,000
Trojan Gold Mines, Limited	Toronto	Nov. 14	3,000,000
Twin River Oil and Gas, Limited	Toronto	June 16	4,000,000
Universal Petroleum, Limited	Toronto	Mar. 6	3,000,000
Vankath Mines, Limited	Toronto	Sept. 16	3,500,000
Vesta Yellowknife Mines, Limited	Toronto	June 28	3,500,000
Vincent Mining Corporation, Limited	Toronto	Sept. 13	5,000,000
Total (38 companies)			82,788,000

[1]This company also has specified capital of $1,250,000.

INCORPORATED COMPANIES WHOSE NAMES WERE CHANGED DURING 1944

New name	Old name
Aldrich Mining and Milling Company, Limited	Continental Tin Mines, Limited.
Belteco Kirkland Mines, Limited	Elroy Gold Mines, Limited.
Bi-Ore Mines, Limited	Algoma Copper Mines, Limited.
Bradnor Malartic Mines, Limited	Bradnor Gold Mines, Limited.
Burgess-Yellowknife-Kirkland Mines, Limited	Burgess Kirkland Mines, Limited.
Connetricia Mines and Exploration, Limited	Connetricia Gold Mines, Limited.
Culver Gold Mines, Limited	Plaunt Mining Company, Limited, The
Farmers Phosphate Mines, Limited	Fetiva Iron Mines, Limited.
McCoy Gold Mines, Limited	McCoy Molybdenite, Limited.
Mylake Mines, Limited	Alschbach Kirkland Gold Mines, Limited.
Porcupine Goldtop Mines, Limited	Porcupine Goldor Mines, Limited.
Red Colley Gold Mines, Limited	Moberly Yellowknife Gold Mines, Limited.
St. Anthony Mines, Limited	St. Anthony Gold Mines, Limited.
Val d'Bell Mines, Limited	Ottawa Valley Molybdenite Mines, Limited.

Mining Revenue and Expenditures

The revenue of the Department of Mines for the fiscal year ending March 31, 1945, was $1,821,394.37, as compared with $2,192,739.88 in the previous year. Expenditures were $456,688.13. The following table gives details of the revenue for the year:—

REVENUE, DEPARTMENT OF MINES, APRIL 1, 1944, TO MARCH 31, 1945

ORDINARY:		
Licenses:		
Sand and gravel	$1,370.00	
The Unwrought Metal Sales Act	94.00	
Refinery	54.00	
Miners	44,666.05	
Gas	6,031.18	
		$52,215.23
Mining claims:		
Recording fees	$102,656.85	
Abstracts and miscellaneous	5,368.92	
		108,025.77
Rentals:		
Gas leases	$14,395.00	
Mining leases	15,165.12	
Licenses of occupation	15,715.55	
		45,275.67
Royalty:		
Sand and gravel		42,868.82
Taxes:		
Acreage	$44,653.07	
Profit	1,420,410.75	
Gas	37,765.69	
		1,502,829.51
Laboratories:		
Cable-testing	$9,071.91	
Chemical and assay	1,446.67	
Sampling and assaying	6,660.76	
		17,179.34
Services:		
Blue-printing	$3,506.10	
Record books, etc	382.50	
Miscellaneous	3,213.38	
		7,101.98
		$1,775,496.32
CAPITAL:		
Mining recorders—mining land sales		45,898.05
Total revenue		$1,821,394.37

STATEMENT OF MONIES RECEIVED FROM MINING RECORDERS FOR THE FISCAL YEAR ENDING MARCH 31, 1945

Mining division	Purchase price	Licenses of occupation	Mining leases	Blue-prints	Miscel-laneous fees	Miner's licenses	Recording fees	Total
Fort Frances	$195.63	.....	$14.38	$78.50	$113.25	$569.00	$923.00	$1,893.76
Kowkash	298.76	.....	.....	1.55	21.75	.....	322.00	644.06
Montreal River	.....	.....	474.50	156.75	329.15	1,035.00	8,196.00	10,191.40
Porcupine	7,570.95	$8.20	.....	344.75	948.30	3,689.00	16,946.50	29,507.70
Larder Lake	11,709.54	−[1]85.10	208.60	602.40	830.79	4,155.00	21,070.00	38,491.23
Red Lake	6,270.05	1,226.17	.....	197.50	958.96	2,583.00	17,078.00	28,313.68
Sudbury	7,306.13	347.81	75.97	276.15	471.60	2,559.50	12,371.00	23,408.16
Timiskaming	1,903.90	.....	571.38	61.45	130.66	956.00	2,815.00	6,438.39
Port Arthur	7,749.08	53.76	1,536.24	267.25	445.86	2,542.00	7,711.00	20,305.19
Sault Ste. Marie	616.40	.....	.....	83.00	434.82	897.00	3,567.00	5,598.22
Kenora	1,194.03	8.33	.....	205.30	219.75	1,537.00	5,212.35	8,376.76
Head office	1,083.58	5,297.40	100.00	1,231.50	464.03	24,143.55	6,445.00	38,765.06
Total	$45,898.05	$6,856.57	$2,981.07	$3,506.10	$5,368.92	$44,666.05	$102,656.85	$211,933.61

[1]Amounts received in previous years and credited to licenses of occupation were later transferred to the credit of mining leases, resulting in a net debit of $85.10 in the former account.

MINING CLAIMS RECORDED IN THE SEVERAL MINING DIVISIONS, 1907 AND 1925–1944

Mining division	1907	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
Coleman[1]	291	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Frances	.....	.....	.....	.....	.....	70	75	175	98	137	313	237	198	292	342	258	166	145	265	130	124
Gowganda[2]	.....	220	96	24	40	34	244	377	114	122	207	205	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kenora	.....	229	935	140	520	348	194	109	203	329	933	874	1,773	1,161	252	347	234	114	55	213	884
Kowkash	.....	150	28	250	368	319	12	56	40	84	231	84	153	143	70	55	37	19	29	27	17
Larder Lake	3,813	890	1,532	3,141	1,781	891	424	628	790	1,730	2,611	1,258	1,982	3,567	1,562	1,209	609	639	489	1,291	3,036
Montreal River	866	471	290	126	156	48	661	1,127	156	444	627	276	380	292	204	242	206	106	167	275	1,266
Parry Sound[3]	102	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Porcupine	.....	620	1,297	3,127	611	650	135	307	387	613	785	729	2,443	1,720	1,216	731	539	529	439	477	1,739
Port Arthur	317	494	1,278	982	1,269	691	338	609	475	900	6,842	1,815	3,420	1,983	1,319	648	965	491	482	496	999
Red Lake	.....	.....	5,827	2,018	1,100	973	305	298	185	343	1,036	754	2,045	1,600	826	710	225	586	61	281	2,044
Sault Ste. Marie	291	451	395	735	702	487	318	276	92	450	532	429	1,076	1,023	698	280	260	345	381	677	424
Sudbury	456	546	1,367	3,351	6,424	2,164	807	1,597	1,986	2,362	1,549	2,013	1,540	1,814	1,840	1,508	702	667	676	893	1,592
Timiskaming	7,860	634	438	875	499	346	202	78	63	256	688	290	745	512	379	227	155	141	260	254	327
At Toronto	.....	226	203	795	1,576	1,186	171	142	356	307	534	476	1,540	1,185	339	557	569	472	289	218	75
Total	13,996	4,751	13,496	15,564	15,046	8,207	3,886	5,779	4,945	8,077	16,888	9,440	17,295	15,292	9,047	6,772	4,667	4,254	3,593	5,232	12,527

[1]Joined with Timiskaming since 1911.
[2]Joined with Montreal River in 1936.
[3]The office at Parry Sound was closed in 1921, and records are now kept at the Department of Mines, Toronto.

SUMMARY OF BUSINESS TRANSACTED IN THE SEVERAL MINING DIVISIONS DURING 1944

Schedule item	Fort Frances	Sudbury	Porcupine	Larder Lake	Saulte Ste. Marie	Port Arthur	Kowkash	Timiskaming	Montreal River	Kenora	Red Lake	Total
1. Letters received	798	4,544	3,918	4,313	2,158	1,950	86	1,008	996	2,377	3,355	25,503
2. Letters written	899	3,744	3,514	4,245	2,060	1,859	73	736	1,109	2,881	3,239	24,359
3. Miner's Licenses issued[1]	27	246	328	380	75	199	.....	66	134	189	290	1,934
4. Miner's Licenses renewed[1]	62	258	330	486	117	286	.....	124	89	113	184	2,049
5. Mining claims recorded[2]	124	1,592	1,739	3,036	424	999	17	327	1,266	884	2,044	12,452
6. Mining claims cancelled	76	634	269	193	120	491	20	121	174	29	93	2,220
7. Agreements, transfers, etc., recorded	128	939	1,353	1,706	470	565	9	396	589	434	1,163	7,752
8. Receipts for Miner's Licenses, Permits, Recording Fees, etc.	$1,744.52	$15,480.40	$18,313.47	$30,069.19	$5,576.47	$11,898.19	$132.05	$3,885.66	$10,259.74	$8,182.20	$19,214.99	$124,756.88
9. Receipts as Purchase Money or Rental	$227.28	$6,323.42	$6,137.66	$12,694.35	$285.25	$7,565.99	$343.56	$3,495.98	$474.50	$1,309.49	$6,422.65	$45,280.13
10. Total remitted to Department	$1,971.80	$21,803.82	$24,451.13	$42,763.54	$5,861.72	$19,464.18	$475.61	$7,381.64	$10,734.24	$9,491.69	$25,637.64	$170,037.01
11. Claims of which surveyors' plans were filed	7	32	27	195	69	54	8	8	19	28	48	495
12. Disputes entered	.....	.....	7	3	2	29	.....	.....	.....	.....	8	49
13. Disputed cases decided by Recorders	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	4
14. Appeals to Mining Court	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	4	6
15. Extensions of time granted	203	2,683	1,988	1,029	521	1,723	26	721	843	993	541	11,271
16. Certificates of Record granted	3	48	82	150	2	93	5	31	16	12	44	486
17. Certificates of Performance of Work granted	3	65	68	140	4	93	5	36	11	12	32	469
18. Claims for which papers were forwarded to the Department for issue of title	3	56	58	86	2	93	5	37	11	12	38	401
19. Substitute Miner's Licenses issued	1	4	2	4	.....	1	.....	1	3	2	1	19
20. Abstracts issued	426	2,178	2,700	4,277	1,350	2,129	70	505	1,288	943	3,111	18,977
21. Blue-prints sold	163	1,008	1,267	2,182	398	886	2	216	612	464	561	7,759

[1]Miner's licenses issued and renewed at the Department in Toronto were 1,624, making a total of 5,607 for the Province, as compared with 3,414 in 1943; 4,402 in 1942; 4,234 in 1941; and 5,470 in 1940.

[2]In addition, the claims recorded at the Department in Toronto were 75, making a total of 12,527 for the Province, as compared with 5,232 in 1943; 3,593 in 1942; 4,254 in 1941; and 4,667 in 1940.

The following statement, prepared by the Accounts Branch of the Department gives details of the profit tax collected under the supervision of A. R. Crozier, Mine Assessor, for the fiscal year ending March 31, 1945:—

DETAILS OF PROFIT TAX

GOLD:		
Aunor Gold Mines, Limited	$17,789.43	
Bidgood Kirkland Gold Mines, Limited	999.64	
Broulan Porcupine Mines, Limited	4,485.05	
Central Patricia Gold Mines, Limited	11,429.05	
Cochenour Willans Gold Mines, Limited	11,453.02	
Coniaurum Mines, Limited	1,228.24	
Delnite Mines, Limited	591.25	
Dome Mines, Limited	58,307.11	
Hallnor Mines, Limited	4,521.63	
Hasaga Gold Mines, Limited	823.42	
Hollinger Consolidated Gold Mines, Limited	60,340.72	
Jerome Gold Mines, Limited	1,810.07	
Kerr-Addison Gold Mines, Limited	64,899.74	
Kirkland Lake Gold Mining Company, Limited	1,928.80	
Lake Shore Mines, Limited	43,234.91	
Leitch Gold Mines, Limited	7,717.22	
Macassa Mines, Limited	6,369.15	
McIntyre Porcupine Mines, Limited	50,568.84	
McKenzie Red Lake Gold Mines, Limited	6,776.99	
MacLeod-Cockshutt Gold Mines, Limited	5,570.21	
Madsen Red Lake Gold Mines, Limited	13,242.02	
Magnet Consolidated Mines, Limited	473.99	
Pamour Porcupine Mines, Limited	5,471.42	
Paymaster Consolidated Mines, Limited	304.92	
Pickle Crow Gold Mines, Limited	3,331.68	
Preston East Dome Mines, Limited	4,948.21	
Sylvanite Gold Mines, Limited	9,977.35	
Teck-Hughes Gold Mines, Limited	5,699.65	
Toburn Gold Mines, Limited	735.87	
Upper Canada Mines, Limited	5,213.55	
Wright-Hargreaves Mines, Limited	40,125.60	
		$450,368.75
NICKEL-COPPER:		
Falconbridge Nickel Mines, Limited	$16,505.73	
International Nickel Company of Canada, Limited	953,089.25	
		969,594.98
SILVER-COBALT:		
Cobalt Products, Limited	$44.99	
Cross Lake Lease	1,326.30	
		1,371.29
MICA:		
Purdy Mica Mines, Limited		962.51
Total		$1,422,297.53

The amount of profit tax shown in the revenue statement on page 50 is $1,420,410.75, which is $1,886.78 less than the amount shown above. The difference is caused by a refund on account of an adjustment from a previous year's assessment.

The totals in the statement of monies received from mining recorders on page 51 agree with corresponding items in the previous revenue statement with the exception of the amounts shown for licenses of occupation and mining leases. The differences are $8,858.98 and $12,184.05, respectively, which amounts were collected by the Accounts Branch of the Department on account of annual rentals on lands licensed and leased in previous years.

The following is a comparative statement of mining licenses and renewals issued, claims recorded, profit tax, and total revenue during the past five years:—

PROSPECTING ACTIVITY, PROFIT TAX, AND TOTAL REVENUE, 1940-1944

Year	Calendar year					Fiscal year
	New miner's licenses issued	Miner's licenses renewed	Total licenses and renewals	Mining claims recorded	Profit tax	Total mining revenue
1940	1,000	4,470	5,470	4,667	$2,002,908.48	$2,392,961.42
1941	1,009	3,225	4,234	4,254	2,392,285.97	2,772,302.07
1942	1,178	3,224	4,402	3,593	2,263,698.72	2,596,649.19
1943	1,341	2,073	3,414	5,232	1,850,628.30	2,192,739.88
1944	2,734	2,873	5,607	12,527	1,422,297.53	1,821,394.37

Provincial Assay Office

As an aid in the development of the mineral resources of Ontario, the Government established a Provincial Assay Office in Belleville in 1898. This was for the purpose of making assays of the various ores found in the Province and to assist the prospector in the development of claims. This office is now established in the East Block of the Parliament Buildings, Toronto.

The Provincial Assayer and Chemist, D. A. Moddle, reports as follows:—

ASSAY RETURNS FOR 1944

	Free assays under Mining Act	General custom work	Departmental work	Total
Gold	1,517	641	56	2,214
Silver	162	51	4	217
Copper	101	27	8	136
Lead	9	4	1	14
Zinc	13	2	1	16
Nickel	41	28	11	80
Iron	82	20	4	106
Cobalt	21	.....	.....	21
Molybdenum	10	5	1	16
Platinum	7	2	3	12
Tungsten	3	6	.....	9
Silica	3	9	1	13
Sulphur	7	6	2	15
Titanium	8	4	.....	12
Arsenic	4	.....	11	15
Antimony	.....	.....	11	11
Miscellaneous	14	38	11	63
Total	2,002	843	125	2,970

In addition, during the year 174 samples for identification were received and reports issued. Numerous samples were brought directly to the laboratory for identification, and of these no record was kept.

One complete rock analysis was made.

Included in the assays for gold are determinations made on 118 samples of gold bullion for Goldsmith Brothers Smelting and Refining Company, Limited, Toronto. This work was done by special arrangement, and the fees charged were $2.00 per assay.

The fees received for the custom work done in 1944 amounted to $1,590.35.

A comparative statement of the work done during the years 1943 and 1944 follows:—

	1943	1944
Free coupon samples	1,218	2,002
Identifications	196	174
Custom work samples	1,063	843
Departmental samples	231	125
Total	2,708	3,144

There was a marked increase in the number of assays for gold and silver made during the year, while the number of assays for other minerals has decreased. The decrease in revenue from last year is due in part to the falling off of the search for the more strategic war minerals and the large increase in the number of free assay coupons used.

Free assays may be obtained as provided by the Mining Act of Ontario, R.S.O. 1937, Chapter 47, section 67, as amended in 1943, as follows:—

> Every licensee who stakes out and records a mining claim shall be given by the recorder two free assay coupons on recording it and two additional free assay coupons on recording each forty days' work thereafter, and on forwarding or delivering, charges prepaid, samples from the mining claim to the Provincial Assayer, Toronto, together with the required number of coupons, he shall be entitled to have such samples assayed without charge.

Some assays require one coupon in payment, and some require two or more, as indicated on the coupons now being distributed. The number of coupons received during 1944 was 2,147, an increase of 599 from the total of 1943.

Minerals and rocks not requiring analysis are identified free of charge, and tests for radioactivity are also free. All other determinations require a fee, as found in the Schedule of Fees for this branch of the Department.

LIST OF QUARRIES AND WORKS FOR STRUCTURAL MATERIALS AND CLAY PRODUCTS, 1944

STRUCTURAL MATERIALS

Company	Location	Manager	Address
CEMENT			
Canada Cement Co., Ltd.	Humberstone tp., Welland co.		Box 290, Station B, Montreal, Que.
	Thurlow tp., Hastings co.		
St. Mary's Cement Co., Ltd.	St. Marys		357 Bay St., Toronto.
LIME			
Bell, Cecil	Lot 23, con. XII, Sullivan tp., Grey co.		R.R. 4, Chesley.
Brunner Mond, Canada, Ltd.	Anderdon tp., Essex co.		Bank of Commerce Bldg., Toronto.
Canada and Dominion Sugar Co., Ltd.	Wallaceburg		Chatham.
Canadian Gypsum Co., Ltd.	Guelph tp., Wellington co.		Windsor, N.S.
Carleton Lime Products, Ltd.	Carleton Place		Box 26, Carleton Place.
Chalmers Lime Products, Ltd.	Owen Sound	O. W. Shanfett	689 7th Ave. W., Owen Sound.
Chemical Lime Co., Ltd.	Con. III, Oxford tp., Oxford co.		Beachville.
Gypsum, Lime and Alabastine, Canada, Ltd.	Beachville		Paris.
	Lots 3 and 4, cons. VI and VII, Nassagaweya tp., Halton co.		
	Glen Christie		
Jamieson Lime Co.	Renfrew	J. A. Jamieson	Renfrew.
North American Cyanamid, Ltd.	Niagara Falls	A. O. Williams	Niagara Falls.
Rockwood Lime Co.	Con. V, Eramosa tp., Wellington co.		Box 46, Rockwood.
Shane Lime and Charcoal Co., Ltd.	Grattan tp., Renfrew co.		Eganville.
SAND AND GRAVEL (Licensed Dredging Operators)			
Beach, Norman	Beach operation, Lake Erie		Sherkston.
Beckett, Morden	Beach operation, Lake Ontario		Winona.

Cameron and Phinn	Beach operation, Lake Ontario		Welland.
Dobie, Mrs. Draper	Beach operation, Lake Erie		Box 300, Port Colborne.
Elliott, Jack	Drag-line operation, O'Brien tp., Cochrane dist.		Kapuskasing.
Galbraith, Frank	Drag-line operation, Lake Erie		Rodney.
Hill, Walter E.	Lake Erie		Box 243, Merlin.
McDonald, A. D.	Beach operation, Lake Ontario		Bronte.
McGovern, C. L.	Beach operation, Lake Erie		513 W. Sullivan St., Olean, N.Y.
McLean, A. B., and Son	Lake Superior		Brock St., Sault Ste. Marie.
McNamara Construction Co., Ltd.	Drag-line operation, Nansen tp., Cochrane dist.		42 Industrial St., Leaside.
Morris, P. R.	Lake Ontario		Fruitland.
Morrison, Russell	Drag-line operation, Lake Huron		Wardsville.
Mosey, Mylie	Lake Erie		R.R. 3, Merlin.
National Sand and Material Co., Ltd.	Lakes Ontario, Erie, and Huron		402 Harbour Bldg., Toronto.
Nicholson Transit Co., Ltd.	St. Clair river		9690 W. Jefferson Ave., Detroit, Mich.
Richardson, J. E.	Drag-line operation, Thames river		Thamesville.
Scott, Thos. J.	Lake Superior		489 Bay St., Sault Ste. Marie.
Tees Transit Co.	Niagara bar		58 Whitton Road, Hamilton.
United Towing and Salvage Co., Ltd.	Lake Superior		635 Common St., Montreal, Que.
White, Bertha M.	Beach operation, Lake Huron		209 N. Vidal St., Sarnia.

SAND AND GRAVEL[1] (PIT OPERATIONS)

A. E. Jupp Construction Co., Ltd.	Medonte tp., Simcoe co.		56 Blake St., Toronto.
C. Smyth, Ltd.	Mount Dennis		Box 8, Station D, Toronto.
City of Brantford Corporation	Brantford	City Engineer	City Hall, Brantford.
Coleman, Gordon T.	Moulinette		235 Sidney St., Cornwall.
Conlin, Herbert L., Estate of	Lots 9 and 10, con. II, Scarborough tp., York co.		c/o Royal Trust Co., 66 King St. W., Toronto.
Consolidated Sand and Gravel, Ltd.	Waterford		402 Harbour Commission Bldg., Toronto.
	Fuller		
	Paris		
Cooper, Alfred, and Co.	Thunder Bay dist.		212 N. May St., Fort William.
Curran and Briggs, Ltd.	Bancroft		61 Haverson Blvd., Toronto.
Dibblee Construction Co., Ltd.	Williamstown, Haley Station, and Vernon		248 Albert St., Ottawa.
Ellins Brothers	Toronto		304 Scarlett Rd., Toronto.

Company	Location	Manager	Address
SAND AND GRAVEL (Pit Operations)—*Continued*			
Fewster, Stanley	Lot 29, con. VIII, E. Nissouri tp., Oxford co.		R.R. 4, St. Marys.
Forwell Sand and Gravel, Ltd	Waterloo		31 Whitney Place, Kitchener.
Foster, R. R	Britannia Heights		86 Spadina Ave., Ottawa.
Foy, Geo. C	Lot 13, range III, Mosa tp., Middlesex co.		Wardsville.
Gauthier, John T	Whitney tp., Cochrane dist		Porcupine.
Goudreau, Charles E., Estate of	Harwich tp., Kent co		R.R. 3, Northwood.
Grandmaitre, Donat	Rockcliffe		71 Montreal Rd., Eastview.
Hall, Thomas G	Lot 19, con. XII, Blenheim tp., Oxford co.		Plattsville.
Hayward, Gordon	Lot 6, con. III, W. Zorra tp., Oxford co		Embro.
Hollinger Consol. Gold Mines, Ltd	Tisdale tp., Cochrane dist		Timmins.
Howard Sand and Gravel Co., Ltd	Lot 7, con. I, E. Flamborough tp., Wentworth co.		Aldershot.
Kingston Sand and Gravel, Ltd	Frontenac co		235 Wellington St., Kingston.
McAuley, P. L	Trenton		R.R. 4, Trenton.
Morris, P. R	Saltfleet tp., Wentworth co		26 John St. N., Hamilton.
Quigley's Foundry Sands	Waterdown		Bartonville.
Rayner Construction, Ltd	Hogarth tp., Thunder Bay dist		29 Commercial St., Leaside.
Scott, Thos	Lot 20, con. III, McKillop tp., Huron co		R.R. 1, Seaforth.
Spratt, G. H	Gloucester tp., Carleton co		Billing's Bridge.
Towland Construction Co., Ltd	Lot 34, con. I, Bentinck tp., Grey co		294 Dundas St., London.
Wm. R. Barnes Co., Ltd	Waterdown		243 Cumberland Ave., Hamilton.
Woollatt Fuel and Supply Co., Ltd	Essex co		2171 Ottawa St., Walkerville.

[1]Only owners producing 5,000 tons or over are listed.

SAND-LIME BRICK

Toronto Brick Co., Ltd	Toronto Swansea		897 Bay St., Toronto.

STONE (GRANITE AND TRAP)

Building Products, Ltd.	Havelock (crushing plant)	H. Michaelson	Box 6063, Montreal, Que.
	Madoc	A. G. de Wolfe	
City of Fort William Corporation	Fort William	City Engineer	City Hall, Fort William.
Curran and Briggs, Ltd.	Kohler tp., Cochrane dist.		61 Haverson Blvd., Toronto.
Hewitson Construction Co., Ltd.	McIntyre tp., Thunder Bay dist.		509 Public Utilities Bldg., Port Arthur.
Ontario Rock Co., Ltd.	Lots 6 and 7, con. VI, Belmont tp., Peterborough co.	H. L. Scott	2 College St., Toronto.

STONE (LIMESTONE AND MARBLE)

Bonter, W. F.	Malone		Malone.
Bonter Marble and Calcium Co., Ltd.	Lot 9, con. X, Marmora tp., Hastings co.	J. W. Bonter	Box 61, Marmora.
Brunner Mond, Canada, Ltd.	Anderdon tp., Essex co.	R. G. Zimmer	Bank of Commerce Bldg., Toronto.
Canada and Dominion Sugar Co., Ltd.	Brockville		Chatham.
Canada Cement Co., Ltd.	Thurlow tp., Hastings co.	J. H. Legate	Box 290, Station B, Montreal, Que.
Canada Crushed Stone, Ltd.	Hagersville	G. R. Gilbertson	Sun Life Bldg., Hamilton.
	Dundas	R. W. Cunningham	
Carleton Lime Products Co.	Ramsay tp., Lanark co.		Box 26, Carleton Place.
Chemical Lime Co., Ltd.	Beachville		Beachville.
Chem-Ore Mines, Ltd.	Bobcaygeon	O. N. Spiers	156 Yonge St., Toronto.
Cook, J. S.	Lot 7, con XXIV, Amabel tp., Bruce co.		Wiarton.
Gypsum, Lime and Alabastine, Canada, Ltd.	Lots 3 and 4, cons. VI and VII, Nassagaweya tp., Halton co.	R. S. Adams	Paris.
	Glen Christie	J. J. Power	
	Beachville	T. F. Robinson	
Hagersville Quarries, Ltd.	Hagersville	J. S. Beck	Hagersville.
Haldimand Quarries and Construction, Ltd.	Hagersville	C. F. Anderson	137 Wellington St. W., Toronto.
Jamieson Lime Co.	Renfrew	J. A. Jamieson	Renfrew.
Johnson Bros. Co., Ltd.	Lot 7, con. III, Walpole tp., Haldimand co.		37 Market St., Brantford.
Kingston Penitentiary	Portsmouth	C. Foley	Box 22, Kingston.
Kirkfield Crushed Stone, Ltd.	Kirkfield	J. Barker	2700 Dufferin St., Toronto.
Lapierre, M. C.	Owen Sound		1949 8th Ave., Owen Sound.
Limestone Products, Ltd.	Orillia tp., Simcoe co.	F. Latondresse	1109 Millwood Rd., Toronto.

Company	Location	Manager	Address
STONE (Limestone and Marble)—*Continued*			
McDonald, A. G.	Bronte		Bronte.
McGinnis and O'Connor	Pittsburgh tp., Frontenac co.	T. A. McGinnis	394 King St. E., Kingston.
Marlhill Mines, Ltd.	Marlbank	W. H. Hubbard	Allenburg Rd., Thorold.
Noranda Mines, Ltd.	Haileybury		Royal Bank Bldg., Toronto.
North American Cyanamid, Ltd.	Ingersoll		Niagara Falls.
Queenston Quarries, Ltd.	near St. David's	A. Michie	Sun Life Bldg., Hamilton.
R. E. Law Crushed Stone, Ltd.	Port Colborne	R. E. Law	Port Colborne.
Stockloser, K., Marble Quarries	Eldorado and Madoc		Madoc.
Town of Pembroke	Pembroke	Town Engineer	Pembroke.
Verona Rock Products, Ltd.	Verona	C. H. Dann	330 Bay St., Toronto.
Walker Brothers	Stamford tp., Welland co.	J. G. Walker	Box 586, Thorold.
Welland Canals, Department of Transport	Welland canal		St. Catharines.
Welland Crushed Stone and Building Co., Ltd.	Stamford tp., Welland co.	A. Kovacs	R.R. 2, Niagara Falls.
White Star Mines	Haliburton	P. H. Bolender	Haliburton.
STONE (Sandstone)			
Campbell Sandstone Quarries, Ltd.	Bell's Corners	A. Campbell	Box C19, Westboro.
Corner, Austin	Inglewood		Inglewood.
Martin, E.	Glen Williams		Glen Williams.
Norton, A. W.	Limehouse		Limehouse.
Sinfield, E. W.	Terra Cotta		Terra Cotta.
Sykes Quarries	Georgetown	Thos. Sykes	Georgetown.

CLAY PRODUCTS

COMPANY	LOCATION	MANAGER	ADDRESS
Broadwell Sons, B.	Lot 7, con. IV, Gosfield S. tp., Essex co.		Kingsville.
Canadian Pressed Brick Co., Ltd.	Hamilton		Kenilworth Ave. S., Hamilton.
Central Tile Brick Corp., Ltd.	No. 2 Highway, Kent co.		Tilbury.
Construction Materials, Ltd.	Etobicoke		Drawer 70, New Toronto.
Cooksville Co., Ltd.	Cooksville		46 Bloor St. W., Toronto.
Coultis, Geo., and Son	Lot 23, con. III, Bosanquet tp., Lambton co.		Thedford.
Curtin, F., Estate of	Lot 15, con. V, Ops tp., Victoria co.		R.R. 4, Lindsay.
Curtis Bros.	Lot 32, con XII, Otonabee tp., Peterborough co.		Box 809, Peterborough.
Deller, Albert, and Son	Dereham tp., Oxford co.	E. Deller	Brownsville.
Dochart Brick, Tile and Terra Cotta Works	Arnprior		Arnprior.
Donaldson, Thomas G.	Culross tp., Bruce co.		R.R. 1, Greenock.
Douglas, John R.	Lot 14, con. XII, Sombra tp., Lambton co.		Wilkesport.
E. and E. Seegmiller, Ltd.	Kitchener		525 Wendell Ave., Kitchener.
Elliott, James, Jr.	Korah tp., Algoma dist.		519 Wellington St. W., Sault Ste. Marie.
Elliott, Wm. J.	Lot 11, con. XII, Culross tp., Bruce co.		Glenannan.
Fletcher Brick and Tile	Lot 1, con. VIII, Tilbury E. tp., Kent co.	T. H. Armstrong	Fletcher.
Foster Pottery Co.	Hamilton	G. Reeves	Main St. W., Hamilton.
Fred. W. Howlett and Sons, Ltd.	Lambton co.		Main St., Petrolia.
Frid Bros., Ltd.	Hamilton		790 Main St. W., Hamilton.
Gammage, C. R.	Lot 8, con. IV, Camden tp., Kent co.		R.R. 2, Dresden.
Hamilton Pressed Brick Co., Ltd.	Wentworth co.		211 Kensington Ave. S., Hamilton.
Hill, A. W., and Sons	Coatsworth		Coatsworth.
Huntsville Brick Works	Lot 8, con. I, Chaffey tp., Muskoka dist.		Box 308, Huntsville.
Interprovincial Brick Co., Ltd.	Cheltenham		46 Bloor St. W., Toronto.
	Milton		
James Cornhill Sons, Ltd.	Chatham		Box 36, Chatham.
Janes, D. A.	No. 2 Highway, Middlesex co.		Mount Brydges.
Jasperson Brick and Tile Co.	Coatsworth		Kingsville.
Koebel Bros.	Lot 2, con. VII, Wellesley tp., Waterloo co.		St. Clements.
Lindsay, Earl, and Sons	Lot 24, con. II, Chatham gore, Kent co.	Geo. C. Lindsay	R.R. 2, Wallaceburg.
McFarlane, W. J.	Forest		Forest.
McFarren, F. B.	Streetsville		120 Wellington St. W., Toronto.
Martin, Amos C.	Lot 21, con. I, Peel tp., Wellington co.		R.R. 3, Wallenstein.
Milton Brick Co., Ltd.	Lot 1, cons. I and II, Esquesing tp., Halton co.		170 Bloor St. W., Toronto.

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Napanee Brick and Tile Works	Napanee	R. L. Chapman	R.R. 3, Napanee.
National Fire Proofing Co. of Canada, Ltd	Lot 10, con. I, E. Flamborough tp., Wentworth co.		57 Bloor St. W., Toronto.
National Sewer Pipe Co., Ltd	Lots 2 and 4, con. II, E. Flamborough tp., Wentworth co.		Aldershot.
	Hamilton		
	Swansea		
Norwich Brick and Tile Works	Lot 11, con. III, N. Norwich tp., Oxford co.		R.R. 2, Norwich.
Ontario Reformatory, Mimico	Etobicoke tp., York co.	Thos. Gourlay	Department of Provincial Secretary, Parliament Bldgs., Toronto.
Ottawa Brick and Terra Cotta Co., Ltd	Billing's Bridge		Billing's Bridge.
Owen Sound Brick Co., Ltd	Owen Sound		928 Second Ave. E., Owen Sound.
Paxton, Fred R	St. Catharines		70 Herrick Ave., St. Catharines.
Phinn Brick Co	London tp., Middlesex co.		1042 Adelaide St., London.
Phippen and Son	East York		390 Dawes Road, East York.
Snelgrove, A., Estate of	Con. V, Thorah tp., Ontario co.	C. H. Snelgrove	Beaverton.
Splaine, Mrs. R	Pembroke		211 Mary St., Pembroke.
Sproat and Sproat	Seaforth	Wm. M. Sproat	R.R. 4, Seaforth.
Standard Brick Co., Ltd	Toronto		500 Greenwood Ave., Toronto.
Superior Brick and Tile Co., Ltd	Lots 11 and 12, con. I, Paipoonge tp., Thunder Bay dist.		426 Victoria Ave., Fort William.
Thomson, Ralph	Lot 34, con. VIII, Grey tp., Huron co.		R.R. 4, Atwood.
Toronto Brick Co., Ltd	Toronto		897 Bay St., Toronto.
	Lots 13 and 14, con. II, York tp., York co.		
Wallace, R., and Son	Widdifield tp., Nipissing dist.	R. K. Wallace	92 First Ave. E., North Bay.
Wright, F. M.	Lot 7, Tilbury W. tp., Essex co.		Comber.

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Area	Ore raised	Material discarded (sorted)	Ore milled	Bullion produced				Total value of bullion, Canadian funds
				Gold content		Silver content		
				Quantity	Value, Canadian funds	Quantity	Value	
	tons	tons	tons	ounces		ounces		
PORCUPINE BELT								
Aunor	137,321	.....	137,321	50,154.383	$1,930,946	4,195	$1,618	$1,932,564
Bonetal	28,877	2,870	26,081	3,912.500	150,631	380	147	150,778
Broulan	112,808	12,327	100,481	20,000.629	770,025	2,029	785	770,810
Buffalo Ankerite	237,183	2,842	235,442	41,066.264	1,581,053	3,959	1,528	1,582,581
Coniaurum	98,540	.....	98,540	26,905.000	1,035,862	4,700	1,814	1,037,676
Delnite	92,894	.....	93,112	14,798.686	569,750	1,289	497	570,247
Dome	519,800	.....	519,800	134,230.056	5,167,862	24,960	9,633	5,177,495
Hallnor	102,742	.....	102,742	41,145.245	1,584,094	3,040	1,173	1,585,267
Hollinger[1]	954,611	.....	955,447	226,446.529	8,717,776	41,214	17,530	8,735,306
Hoyle	.....	.....	.....	1,100.892	42,384	51	22	42,406
McIntyre Porcupine	591,210	.....	589,940	170,636.060	6,569,255	46,212	19,498	6,588,753
Nakhodas (clean-up)	.....	.....	.....	45.120	1,737	8	3	1,740
Pamour	470,532	.....	470,532	41,908.242	1,613,469	5,267	2,033	1,615,502
Paymaster Consolidated	117,933	.....	132,063	28,754.365	1,107,044	8,730	3,370	1,110,414
Porcupine Lake (clean-up)	.....	.....	.....	101.991	3,927	17	7	3,934
Preston East Dome	248,970	.....	249,268	57,561.185	2,216,108	6,849	2,643	2,218,751
Ross (Hollinger)	77,486	.....	77,544	14,246.533	548,455	10,725	4,400	552,855
Miscellaneous[2]	.....	.....	.....	49.562	1,908	9	4	1,912
Total	3,790,907	18,039	3,788,313	873,063.242	$33,612,286	163,634	$66,705	$33,678,991
KIRKLAND LAKE AREA								
Bidgood	48,609	.....	48,594	8,965.790	$345,183	4,978	$1,922	$347,105
Golden Gate (clean-up)	.....	.....	.....	12.506	481	.....	.....	481
Kirkland Lake Gold	77,457	.....	77,457	27,325.954	1,052,050	2,864	1,106	1,053,156
Lake Shore[3]	258,544	.....	258,544	109,468.692	4,214,548	23,709	9,183	4,223,731
Macassa	83,392	.....	83,392	36,241.000	1,395,294	7,122	2,717	1,398,011
Sylvanite	137,498	.....	137,822	44,662.388	1,719,503	8,339	3,219	1,722,722
Teck-Hughes	102,920	.....	102,920	25,660.344	987,925	2,797	1,079	989,004
Toburn	40,864	924	39,940	12,780.023	492,032	3,210	1,238	493,270
Upper Canada	78,036	.....	78,036	27,460.782	1,057,245	12,884	4,969	1,062,214
Wright-Hargreaves[4]	184,520	.....	184,520	90,613.501	3,488,623	16,291	6,335	3,494,958
Miscellaneous[5]	.....	.....	.....	46.984	1,809	7	3	1,812
Total	1,011,840	924	1,011,225	383,237.964	$14,754,693	82,201	$31,771	$14,786,464
LARDER LAKE AREA								
Argonaut (Beaverhouse Lake, clean-up)	.....	.....	.....	4.394	$169	.....	.....	$169
Barry-Hollinger (clean-up)	.....	.....	.....	160.301	6,172	21	$9	6,181
Chesterville	152,696	.....	152,696	18,590.376	715,730	1,151	444	716,174
Kerr-Addison	484,844	.....	484,583	80,722.230	3,107,809	4,635	1,797	3,109,606
Omega	115,675	.....	115,675	15,526.162	597,758	2,087	806	598,564
Yama (Cathroy Larder)	.....	.....	.....	18.440	710	2	1	711
Total	753,215	.....	752,954	115,021.903	$4,428,348	7,896	$3,057	$4,431,405
MATACHEWAN AREA								
Matachewan Consolidated	179,586	.....	179,586	14,067.914	$541,685	6,226	$2,421	$544,106
Young-Davidson	162,999	.....	161,773	14,567.018	560,611	3,007	1,160	561,771
Total	342,585	.....	341,359	28,634.932	$1,102,296	9,233	$3,581	$1,105,877
SUDBURY DISTRICT								
Ensign (Shakespeare, clean-up)	.....	.....	.....	.600	$23	.....	.....	$23
New Golden Rose (clean-up)	.....	.....	.....	49.192	1,894	3	$1	1,895
Total	.....	.....	.....	49.792	$1,917	3	$1	$1,918
ALGOMA DISTRICT								
Darwin (clean-up)	.....	.....	.....	12.506	$481	.....	.....	$481
Minto (clean-up)	.....	.....	.....	12.506	481	.....	.....	481
Parkhill (clean-up)	.....	.....	.....	12.506	481	.....	.....	481
Total	.....	.....	.....	37.518	$1,443	.....	.....	$1,443
THUNDER BAY DISTRICT								
Bankfield (clean-up)	.....	.....	.....	160.302	$6,172	22	$9	$6,181
Hard Rock	109,932	18,885	91,047	21,775.607	838,362	330	127	838,489
Leitch	25,673	4,436	21,727	16,209.317	624,060	579	223	624,283
Little Long Lac	83,313	15,775	67,538	22,782.134	877,113	2,043	789	877,902
MacLeod-Cockshutt	180,222	32,021	124,964	39,900.193	1,536,152	598	231	1,536,383
Total	399,140	71,117	305,276	100,827.553	$3,881,859	3,572	$1,379	$3,883,238
PATRICIA PORTION								
Berens River[6]	40,436	.....	40,436	10,048.000	$386,848	325,923	$140,147	$526,995
Central Patricia	91,512	.....	91,512	29,569.419	1,138,424	2,726	1,052	1,139,476
Cochenour Willans	44,928	.....	44,928	19,932.810	767,413	612	236	767,649
Hasaga	142,344	24,000	118,249	16,789.382	646,388	6,482	2,502	648,890
McKenzie Red Lake	93,588	15,309	78,279	19,012.881	731,996	4,966	1,917	733,913
McMarmac	31,890	.....	31,890	5,060.494	194,830	196	75	194,905
Madsen Red Lake	132,759	.....	132,759	37,547.282	1,445,572	7,673	2,961	1,448,533
Pickle Crow	69,368	6,130	63,388	37,699.223	1,451,422	4,897	1,890	1,453,312
Total	646,825	45,439	601,441	175,659.491	$6,762,893	353,475	$150,780	$6,913,673
Total for gold mines	6,944,512	135,519	6,800,568	1,676,532.395	$64,545,735	620,014	$257,274	$64,803,009
Nickel-copper refining	.....	.....	.....	55,286.000	$2,128,511	.....	.....	.....
Silver-lead-zinc concentrates	.....	.....	.....	19.587	754	.....	.....	.....
Total gold output, 1944	.....	.....	.....	1,731,837.982	$66,675,000	.....	.....	.....
CALENDAR YEAR 1943								
Porcupine Belt	4,318,602	21,692	4,297,973	1,020,976.262	$39,312,437	181,166	$74,675	$39,387,112
Kirkland Lake Area	1,117,747	2,269	1,114,818	466,099.260	17,944,837	99,587	38,619	17,983,456
Larder Lake Area	981,020	.....	981,020	169,292.664	6,517,775	10,360	4,006	6,521,781
Matachewan Area	442,880	.....	442,506	38,721.911	1,491,095	12,268	4,789	1,495,884
Sudbury District	107,608	.....	107,608	18,646.190	717,879	4,921	1,899	719,778
Algoma District	1,782	.....	1,782	427.182	16,455	130	59	16,514
Thunder Bay District	579,788	128,910	438,522	141,665.544	5,454,011	5,631	2,175	5,456,186
Kenora and Rainy River Districts	3,428	8	3,420	1,546.457	59,538	326	129	59,667
Patricia Portion	735,947	54,139	681,714	203,963.686	7,852,616	545,305	244,748	8,097,364
Miscellaneous	.....	.....	.....	39.680	1,528	6	3	1,531
Total for gold mines, 1943	8,288,802	207,018	8,069,363	2,061,378.836	$79,368,171	859,700	$371,102	$79,739,273
Nickel-copper refining and silver-lead-zinc and copper-gold-silver concentrates	.....	.....	.....	55,839.657	2,149,827	.....	.....	.....
Total gold output, 1943	.....	.....	.....	2,117,218.493	$81,517,998	.....	.....	.....

[1]Concentrates also contained tungsten.
[2]Consists of a button that was made from Night Hawk Peninsular ore, containing 2.579 ounces gold and 2 ounces silver, and high-grade.
[3]Concentrates shipped also contained 5,261 pounds copper.
[4]Concentrates shipped also contained 2,037 pounds copper.
[5]Consists of clean-up material by H. A. Thielman of 6.888 ounces gold, and high-grade.
[6]Concentrates shipped also contained 705,067 pounds lead and 1,021,685 pounds zinc.

Table I

LARDER LAKE GOLD AREA

ANNUAL PRODUCTION STATISTICS BY MINES, 1911–1946

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

Year	Omega[1]		Argonaut[2]		Kerr-Addison		Barry-Hollinger		Raven River		Chesterville		Yama[3]		Miscellaneous		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1918	.....	[4]10,000	[5]480	9,209	[6]125	314	.....	.....	.....	.....	.....	.....	.....	.....	[7]100	1,100	705	20,623
1918	.....	.....	.....	.....	.....	.....	[8]1,502	10,051	.....	.....	.....	.....	.....	.....	.....	[9]1,283	1,502	11,334
1919	.....	.....	735	2,631	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	735	2,631
1920	.....	.....	4,637	29,888	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,637	29,888
1921	.....	.....	.....	549	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	549
1922	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1923	.....	.....	4,818	73,262	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,818	73,262
1924	.....	.....	24,178	152,072	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24,178	152,072
1925	.....	.....	28,515	214,183	.....	.....	8,136	56,978	.....	.....	.....	.....	.....	.....	.....	.....	36,651	271,161
1926	.....	.....	35,081	143,387	.....	.....	13,680	86,263	.....	.....	.....	.....	.....	.....	.....	.....	48,761	229,650
1927	11,966	34,595	27,873	127,448	.....	.....	25,714	175,692	.....	.....	.....	.....	.....	.....	[10]39	865	65,592	338,600
1928	10,619	17,700	5,219	32,430	.....	.....	23,060	111,767	.....	.....	.....	.....	.....	.....	[10]4,377	12,784	43,275	174,681
1929	.....	.....	.....	9,959	.....	.....	22,343	151,758	.....	.....	.....	.....	.....	.....	.....	.....	22,343	161,717
1930	.....	.....	13	1,891	.....	.....	31,725	217,835	.....	.....	.....	.....	.....	.....	.....	.....	31,738	219,726
1931	.....	.....	.....	.....	.....	.....	31,958	234,512	.....	.....	.....	.....	.....	.....	[11]80	835	32,038	235,347
1932	.....	.....	.....	.....	.....	.....	34,977	181,585	.....	.....	.....	.....	.....	.....	[11]24	468	35,001	182,053
1933	.....	.....	.....	.....	.....	.....	5,459	71,766	.....	.....	.....	.....	.....	.....	.....	.....	5,459	71,766
1934	.....	.....	12	1,872	.....	.....	33,445	152,076	.....	.....	.....	.....	.....	.....	.....	.....	33,457	153,948
1935	.....	.....	24	978	.....	.....	35,172	143,698	.....	.....	.....	.....	.....	.....	[9]31	3,590	35,227	148,266
1936	113,897	461,934	.....	.....	.....	.....	570	8,311	.....	.....	.....	.....	.....	.....	[9]5	262	114,472	470,507
1937	160,272	740,555	.....	.....	.....	.....	.....	.....	2,425	12,731	.....	.....	.....	.....	[12]43	740	162,740	754,026
1938	176,852	865,968	.....	.....	148,642	980,713	.....	.....	23,964	200,302	.....	.....	.....	.....	.....	.....	349,458	2,064,938
1939	176,796	881,064	.....	.....	268,409	1,983,783	.....	.....	14,125	53,408	97,060	493,559	.....	.....	.....	.....	556,390	3,411,814
1940	172,595	878,208	.....	.....	445,864	3,554,460	.....	.....	.....	.....	220,816	1,282,840	.....	.....	.....	[11]619	839,275	5,706,127
1941	173,688	873,721	.....	3,521	694,894	5,626,389	.....	.....	.....	.....	252,056	1,403,441	3,583	22,636	.....	.....	1,124,221	7,929,708
1942	149,274	805,805	.....	4,198	756,453	6,232,794	.....	.....	.....	.....	241,815	1,155,167	18,667	79,152	.....	.....	1,166,209	8,277,116
1943	109,846	595,417	.....	433	674,487	5,015,128	.....	.....	.....	.....	196,687	896,148	.....	14,655	.....	.....	981,020	6,521,781
1944	115,675	598,564	.....	169	484,583	3,109,606	.....	6,181	.....	.....	152,696	716,174	.....	711	.....	.....	752,954	4,431,405
1945	104,724	448,258	.....	.....	430,065	3,107,715	.....	5,383	.....	.....	153,416	651,563	.....	.....	.....	.....	688,205	4,212,919
1946	104,925	436,084	.....	.....	531,695	3,855,258	.....	8,262	.....	.....	225,458	1,029,230	.....	.....	.....	.....	862,078	5,328,834
Total	1,581,129	7,647,873	131,585	808,080	4,435,217	33,456,160	267,741	1,622,118	40,514	266,441	1,540,004	7,628,122	22,250	117,154	4,699	22,546	8,023,139	51,568,494

[1]Canadian Associated Goldfields (production of which is shown in the figures for 1927 and 1928) went into bankruptcy in 1928 and the property was acquired by Proprietary Mines, Limited, in 1930. In 1934, Canadian Reserve Mines, Limited, acquired the 3 Costello claims and the Raven Falls power plant from Proprietary and transferred them to Omega Gold Mines, Limited.

[2]Acquired by Beaverhouse Lake Gold Mines, Limited, in 1935. [3]Acquired by Cathroy Larder Mines, Limited, in 1943.

[4]Production for 1913 by Associated Goldfields, which was acquired by Canadian Associated Goldfields in 1921.

[5]Production for 1913 and 1914 from La Mine D'Or Huronia, which has been known as the Argonaut since 1919. The values shown are exclusive of copper.

[6]Reddick mine, which was bought by Associated Goldfields in 1914 and acquired from Proprietary Mines, Ltd., by Kerr-Addison Gold Mines, Limited, in 1936.

[7]American Eagle, 50 tons, $900; Detroit Syndicate, 50 tons, $200.

[8]Patricia mine, afterwards called Barry-Hollinger. [9]Miller Independence. [10]Gold Hill. [11]Telluride.

[12]Britcana, 21 tons, $702; Telluride (which was acquired on a 99-year lease by Minaura Mines, Limited, from Smelters Corporation of Canada, Limited, in November, 1935), 22 tons. $38.

Table II

KIRKLAND LAKE GOLD BELT

ANNUAL PRODUCTION STATISTICS BY MINES, 1910–1946

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

Year	Toburn (Tough-Oakes Burnside[1])		Golden Gate (Lucky Cross[2])		Wright-Hargreaves		Teck-Hughes		Lake Shore		Kirkland Lake Gold		Sylvanite		Macassa		Bidgood		Morris Kirkland		Upper Canada		Miscellaneous[3]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
1910																							30	286	30	286
1911																							675	4,650	675	4,650
1912																										
1913	2,220	66,632	2,500	14,006	3	1,127																	1,660	7,171	6,383	88,936
1914	3,734	117,644																							3,734	117,644
1915	26,196	555,539																							26,196	555,539
1916	39,865	711,626																							39,865	711,626
1917	38,695	342,830					11,257	66,722																	49,952	409,552
1918	22,000	139,683					14,774	80,570	16,749	416,414													3	1,113	53,526	637,780
1919							18,387	169,590	11,081	263,354	11,324	56,263													40,792	489,207
1920							30,646	277,878	19,779	545,311	40,812	322,533													91,237	1,145,722
1921					36,053	481,892	34,693	359,844	21,817	540,450	43,966	268,566													136,529	1,650,752
1922	16,108	107,617			66,181	767,445	41,194	604,006	24,279	476,461	37,489	226,527											6,496	10,082	191,747	2,192,138
1923	1,803	12,174			79,242	762,761	38,314	1,137,523	23,203	557,186	45,449	223,990													188,011	2,693,634
1924	8,438	47,548			84,487	1,094,462	44,209	1,035,338	56,168	1,104,550	8,091	46,513													201,393	3,328,411
1925	34,152	263,064			147,939	1,913,468	55,220	996,645	109,273	1,958,720														1,526	346,584	5,133,423
1926	43,871	309,709			153,392	2,150,844	87,074	1,600,613	171,197	2,775,000	10,829	126,999													466,363	6,963,165
1927	38,999	153,215			209,164	2,151,916	153,881	2,781,962	236,818	3,375,053	52,648	473,673	40,479	429,424											731,989	9,365,243
1928	14,396	82,316			256,331	1,838,510	317,213	4,951,707	279,661	4,073,965	57,883	414,596	69,791	738,146										32,805	995,275	12,132,045
1929					188,238	1,734,728	330,340	5,081,078	430,170	6,126,688	53,595	353,915	74,523	689,465									11	12,328	1,076,877	13,998,202
1930					220,430	2,432,888	338,555	5,403,030	550,501	7,847,508	52,106	534,154	81,213	794,459											1,242,805	17,012,039
1931					266,352	3,078,754	444,410	6,286,668	816,580	11,650,281	52,628	615,882	91,621	921,216									1	1,662	1,671,592	22,554,463
1932	14,689	227,956			295,525	3,984,125	475,700	6,631,755	818,698	14,317,113	56,492	592,451	96,891	930,305											1,757,995	26,683,705
1933	36,913	666,894	35	865	285,465	4,955,960	474,700	6,166,619	808,917	14,377,716	49,487	400,622	96,937	1,072,977	8,101	110,172								5,546	1,760,555	27,757,371
1934	36,230	708,119			354,418	7,572,292	442,745	5,801,691	836,023	16,305,819	64,952	703,300	111,767	1,740,384	66,557	1,111,098	2,433	6,804					8,476	100,221	1,923,601	34,049,728
1935	35,360	714,261	1	10	361,149	7,528,563	417,917	4,901,862	836,322	16,259,720	71,920	777,430	152,281	1,917,606	68,627	1,067,196	11,148	43,870					7,912	79,498	1,962,637	33,290,016
1936	34,440	723,295	25	1,499	400,310	7,588,550	403,712	4,747,833	887,571	15,882,078	84,679	746,189	162,185	2,099,128	70,878	1,260,414	26,518	362,318	3,130	18,044			749	3,112	2,074,197	33,432,460
1937	37,465	920,351	225	5,144	436,500	7,855,856	412,430	4,381,676	900,321	15,546,656	84,886	1,249,724	174,566	2,222,815	90,617	1,464,561	44,732	431,847	35,970	202,687			90	20,747	2,217,802	34,302,064
1938	52,434	1,112,385	11,090	167,759	434,650	7,800,875	380,215	3,625,284	921,837	15,149,635	92,665	1,483,769	190,714	2,419,734	110,718	1,769,951	52,636	617,581	22,929	113,770	6,270	53,547	1,263	7,506	2,277,421	34,321,796
1939	55,272	1,225,340	23,753	267,335	438,710	8,219,961	379,175	3,444,668	856,586	13,318,622	99,401	1,729,237	201,331	2,486,848	148,085	2,317,985	53,191	483,520			47,014	685,755			2,302,518	34,179,271
1940	59,524	1,296,428	25,481	261,861	442,920	8,688,806	317,560	3,577,194	647,426	10,930,962	137,986	2,051,790	212,519	2,658,723	150,674	2,680,188	50,437	404,546	39,579	164,995	66,656	1,079,453			2,150,762	33,794,946
1941	60,715	1,095,779	23,781	214,347	411,760	8,061,343	258,100	2,534,139	530,368	7,925,692	136,613	1,879,727	197,293	2,589,635	142,332	2,521,389	40,460	467,890	25,645	121,601	73,414	1,259,730		18,926	1,900,481	28,690,198
1942	43,635	730,350	8,324	73,489	283,580	5,669,063	93,335	1,365,513	347,951	5,560,188	100,854	1,458,823	175,745	2,021,506	120,400	2,144,501	47,960	507,219		447	86,523	1,359,021		5,730	1,308,307	20,895,850
1943	40,905	609,517		1,859	225,710	4,372,734	100,705	1,251,047	293,398	5,166,738	83,987	1,189,478	148,190	2,025,005	103,259	1,652,643	49,835	556,537			68,829	1,154,438		3,460	1,114,818	17,983,456
1944	39,940	493,270		481	184,520	3,494,958	102,920	989,004	258,544	4,223,731	77,457	1,053,156	137,822	1,722,722	83,392	1,398,011	48,594	347,105			78,036	1,062,214		1,812	1,011,225	14,786,464
1945	41,655	488,624			156,320	3,069,368	106,006	1,098,532	291,854	4,524,101	85,358	1,086,212	114,227	1,452,360	71,988	1,086,302	32,608	419,016			83,708	1,038,950		11,570	983,724	14,275,035
1946	40,753	483,496			174,314	3,147,009	91,302	1,093,701	310,968	4,744,166	91,443	1,094,837	154,562	1,693,581	87,383	1,325,491	27,634	274,214			99,431	1,054,925		5,550	1,077,790	14,916,970
Total	920,407	14,405,662	95,215	1,008,655	6,593,663	110,418,258	6,416,689	82,443,692	12,314,060	205,943,878	1,785,000	21,160,356	2,684,657	32,626,039	1,323,011	21,909,902	488,186	4,922,467	127,253	621,544	609,881	8,748,033	27,366	335,301	33,385,388	504,543,787

[1]Acquired by Toburn Gold Mines, Limited, in 1931.
[2]Acquired by Golden Gate Mining Company, Limited, from Kirkland Gateway Gold Mines, Limited.
[3]See table of "Miscellaneous Production" to the right.

MISCELLANEOUS PRODUCTION, KIRKLAND LAKE GOLD BELT

Mine	Year	Quantity	Value
		tons	$
Gold Pyramid	1911	175	650
Golden Summit	1936, 1937, 1945	737	3,738
Baldwin Kirkland[1]	1929, 1938	81	1,247
Mesabi (Bourkes[2])	1918, 1936-1938	1,298	8,935
Moffatt-Hall	1934, 1935	16,388	166,569
Ontario-Kirkland	1922	6,496	10,082
Swastika	1910, 1911, 1913	2,190	11,457
Trout Creek	1931	1	1,662
Miscellaneous[3]	1925, 1928, 1929, 1933, 1934, 1937, 1938, 1941-1946	.....	130,961
Total		27,366	335,301

[1]Under lease by Lucky Kirkland Gold Mines, Limited, in 1938.
[2]The property of the Bourkes Syndicate was acquired by Mesabi Gold Mines Limited, in 1937.
[3]This includes gold recovered from scrapped machinery, origin unknown, and high-grade.

Table III

PORCUPINE GOLD BELT
Annual Production Statistics by Mines, 1910–1946
(Value includes gold and silver, and exchange premium and equalization have been added since 1920)

Year	Hollinger tons	Hollinger $	Dome tons	Dome $	Vipond[1] tons	Vipond[1] $	McIntyre-Porcupine tons	McIntyre-Porcupine $	Porcupine Crown (Northcrown[2]) tons	Porcupine Crown (Northcrown[2]) $
1910		31,194		4,355						
1911		6,000		4,277	432	5,160				
1912	45,195	909,181	75,088	737,499	5,168	16,259	14,500	77,657		
1913	138,291	2,488,022	131,149	1,242,625			29,669	236,299	19,715	326,803
1914	208,936	2,719,355	221,390	1,059,238	9,700	73,628	62,284	549,166	40,857	685,135
1915	334,750	4,206,015	317,740	1,530,287	35,899	246,053	101,955	750,812	46,419	602,436
1916	601,854	5,073,401	440,900	2,153,820	43,041	176,686	136,489	1,218,073	51,273	578,322
1917	514,301	4,261,938	359,570	1,480,174	34,971	209,738	175,893	1,710,204	39,111	377,904
1918	578,755	5,752,371		82,127	15,134	82,868	176,976	1,578,444	10,907	124,474
1919	711,882	6,722,266	187,580	1,290,301			185,018	1,978,014		
1920	650,205	6,939,629	295,220	2,243,926			191,032	2,515,861	17,898	190,713
1921	1,072,493	10,015,712	335,680	2,386,357			172,287	2,005,443		7,943
1922	1,491,381	12,436,393	368,400	4,178,936			217,208	2,042,931		
1923	1,366,352	10,622,262	399,800	4,405,199	2,623	24,532	291,428	2,583,336		
1924	1,659,776	13,574,776	493,400	4,307,624	52,427	603,234	390,459	3,625,493		
1925	1,929,528	15,746,668	530,200	4,365,923	61,203	565,213	419,640	3,721,499		
1926	1,932,559	14,829,655	555,700	3,940,053	79,717	631,636	498,653	3,862,074		
1927	2,178,329	14,539,538	543,300	4,031,575	90,863	667,724	522,880	3,965,210		
1928	1,778,470	10,706,235	548,000	3,915,051	88,896	694,426	524,695	4,201,808		
1929	1,549,157	9,519,092	452,900	3,590,537	107,984	824,726	550,100	4,314,803		
1930	1,625,868	10,276,546	67,600	774,943	114,667	910,581	565,510	4,700,726		
1931	1,640,705	10,532,380	542,600	3,636,806	100,223	586,304	617,425	4,962,211		
1932	1,754,863	11,685,512	536,450	4,581,131	107,197	513,504	723,285	6,155,757		
1933	1,727,102	13,831,174	546,500	6,103,340	107,562	700,354	754,360	7,589,845		
1934	1,900,490	15,108,883	547,600	7,177,087	101,806	539,243	851,345	8,289,262		
1935	1,837,153	14,700,511	549,100	7,286,606	106,393	418,962	869,100	8,653,496		
1936	1,755,768	14,530,414	553,900	7,315,168	105,487	463,391	869,000	8,105,612		
1937	1,719,199	14,877,898	576,300	7,485,321	94,240	406,668	870,160	8,176,793		
1938	1,734,647	15,496,804	601,700	7,293,289	62,070	229,272	872,740	8,288,669		
1939	1,700,355	15,484,394	615,000	7,462,379	37,515	187,218	877,830	8,406,958		
1940	1,780,377	16,844,035	621,600	7,934,391			885,930	9,561,581		
1941	1,756,923	16,416,119	627,700	7,769,368		50,068	865,670	9,187,814		
1942	1,530,712	14,296,498	559,700	6,579,536			798,260	8,642,322		
1943	1,078,946	10,897,411	525,900	5,772,521			668,700	7,439,863		
1944	955,447	8,735,306	519,800	5,177,495			589,940	6,588,753		
1945	933,748	8,458,687	527,100	4,887,263			565,320	6,214,418		
1946	1,048,646	9,224,462	573,400	5,448,935			613,200	6,110,561		
Total	45,223,163	372,496,737	15,347,967	149,635,463	1,565,218	9,827,448	17,518,941	168,011,768	226,180	2,893,730

Year	Coniaurum (Newray[3]) tons	Coniaurum (Newray[3]) $	Dome Lake and West Dome Lake[4] tons	Dome Lake and West Dome Lake[4] $	Munro Croesus tons	Munro Croesus $	Schumacher[5] tons	Schumacher[5] $	Porcupine Peninsular (Night Hawk Peninsular[7]) tons	Porcupine Peninsular (Night Hawk Peninsular[7]) $
1910										
1911										
1912										
1913	2,456	18,858								
1914	11,607	125,255								
1915		36,925	11,727	102,880	100	73,215	9,240	48,236		
1916			6,542	16,814	477	51,722	46,463	225,301		
1917	340	1,447	16,388	44,434	1,541	60,046	37,323	198,605		
1918	401	1,516	12,229	103,745	692	64,780	19,098	92,842		
1919			4,433	23,910						
1920			4,707	52,531						
1921										
1922										
1923					518	27,375				
1924			8,114	60,765					38,326	268,518
1925			35,278	235,091					39,758	196,947
1926			36,946	220,758					21,604	111,154
1927			16,982	87,919						166
1928	52,005	220,534								
1929	103,293	635,485	35,142	155,797						
1930	122,972	738,941		15,662						
1931	130,585	783,096			550	4,171				
1932	144,654	977,007				6,520				
1933	145,657	945,765								
1934	138,114	979,156			205	10,467				
1935	151,055	1,134,596			1,237	25,513				
1936	168,715	1,390,261			13	2,904				
1937	166,980	1,462,212								
1938	188,975	1,675,230								
1939	187,405	1,753,902								
1940	185,455	1,870,570								3,577
1941	186,885	1,873,891								
1942	162,390	1,664,496								
1943	111,455	1,189,629								
1944	98,540	1,037,676								100
1945	98,210	1,013,678								
1946	114,385	1,040,181								
Total	2,672,534	22,386,306	188,488	1,120,306	5,333	326,713	112,124	564,984	99,688	580,462

Year	Buffalo Ankerite[8] tons	Buffalo Ankerite[8] $	Marbuan (March[9]) tons	Marbuan (March[9]) $	De Santis tons	De Santis $	Gillies Lake–Porcupine (Rochester[10]) tons	Gillies Lake–Porcupine (Rochester[10]) $	Naybob (Hayden[11]) tons	Naybob (Hayden[11]) $	Paymaster Consolidated[12] tons	Paymaster Consolidated[12] $
1910												
1911												
1912												
1913												
1914												
1915												
1916												
1917												
1918												
1919												
1920												
1921												
1922												2,800
1923												
1924												
1925												
1926	23,060	140,588	4,655	11,055		146					28,049	63,551
1927	69,863	359,005	4,566	19,839							62,129	135,025
1928	66,606	289,960	32,627	133,879							94,050	183,271
1929	12,912	71,684	48,484	256,303			4,848	44,285				
1930		878	53,953	306,262			7,815	56,913				
1931			58,462	228,507			1,396	5,439				
1932	55,267	247,536	26,812	89,566					2,580	1,497		
1933	111,402	650,591	2,800	5,288	5,630	18,386			1,593	3,188		
1934	131,720	712,898	26,030	113,422							13,824	69,522
1935	159,383	1,035,987	59,380	290,542			5,122	56,933	10,681	23,666	79,845	567,076
1936	271,736	1,888,829					18,410	166,531			140,962	976,605
1937	343,093	2,832,513					16,911	132,381		16,615	169,658	1,266,639
1938	362,838	2,971,464							10,339	41,584	190,107	1,402,304
1939	360,014	2,625,952			35,539	247,888			44,271	266,356	201,775	1,545,431
1940	378,337	2,508,556			56,444	433,341			53,524	560,351	207,168	1,742,283
1941	448,621	2,760,980			60,405	410,605			53,807	531,152	215,113	1,811,579
1942	358,419	2,444,285			38,910	256,341			58,870	345,891	207,566	1,707,484
1943	260,271	1,894,052								33,938	138,531	1,139,290
1944	235,442	1,582,581									132,063	1,110,414
1945	197,691	1,253,829									130,793	1,055,259
1946	234,379	1,388,974									140,015	1,152,103
Total	4,081,054	27,661,142	317,769	1,454,663	196,928	1,366,707	54,502	462,482	235,665	1,824,238	2,151,648	15,930,636

Year	Pamour tons	Pamour $	Ross[13] tons	Ross[13] $	Delnite tons	Delnite $	Hallnor tons	Hallnor $	Moneta tons	Moneta $	Preston East Dome tons	Preston East Dome $
1910–1935												
1936	138,187	809,933	27,540	225,775								
1937	276,168	2,044,049	31,336	351,746	38,750	228,437						
1938	515,193	3,313,830	44,399	467,767	85,816	662,870	60,979	1,373,141	54,577	1,016,153		138,564
1939	585,399	2,561,086	55,727	521,201	111,395	825,045	122,868	2,600,181	63,206	1,076,340	118,853	2,116,708
1940	575,728	2,729,365	94,522	836,412	127,741	853,551	140,529	2,649,275	64,439	1,141,751	175,773	2,341,387
1941	559,528	2,577,574	100,787	949,733	166,596	1,183,053	132,267	2,527,328	61,416	1,169,846	194,817	2,399,270
1942	574,653	2,342,426	101,409	816,683	172,727	1,220,663	128,973	2,308,711	57,103	956,746	306,687	2,791,973
1943	525,557	2,084,530	85,221	581,837	125,887	819,672	105,544	1,460,953	14,088	228,520	247,026	2,282,318
1944	470,532	1,615,502	77,544	552,855	93,112	570,247	102,742	1,585,267			249,268	2,218,751
1945	417,914	1,465,107	73,538	458,676	66,120	363,063	95,436	1,724,505			222,359	2,171,301
1946	386,686	1,318,202	70,309	509,992	92,731	629,375	112,357	1,935,928			230,899	1,513,129
Total	5,025,545	22,861,604	762,332	6,272,677	1,080,875	7,355,976	1,001,695	18,165,289	314,829	5,589,356	1,745,682	17,973,401

Year	Broulan tons	Broulan $	Aunor tons	Aunor $	Faymar tons	Faymar $	Nakhodas tons	Nakhodas $	Bonetal tons	Bonetal $	Hoyle tons	Hoyle $	Miscellaneous[14] tons	Miscellaneous[14] $	Total tons	Total $
1910																35,549
1911															432	15,437
1912															139,951	1,740,596
1913													25	4,200	321,305	4,316,807
1914														20,212	554,774	5,231,989
1915													139	9,134	857,969	7,605,993
1916															1,327,039	9,494,139
1917													31	877	1,179,469	8,345,367
1918													2,562	16,214	816,754	7,899,381
1919													3,831	27,088	1,092,744	10,041,579
1920													3,003	11,247	1,162,065	11,953,907
1921															1,580,460	14,415,455
1922														1,664	2,076,989	18,662,724
1923														11,845	2,060,721	17,674,549
1924														5,270	2,642,502	22,445,680
1925														3,452	3,015,607	24,834,793
1926														634	3,180,943	23,811,304
1927													60	223,243	3,488,972	24,029,244
1928													255	39,740	3,185,604	20,384,904
1929														47,701	2,864,820	19,460,413
1930														61,940	2,558,385	17,843,392
1931														33,587	3,091,946	20,772,501
1932													155	31,944	3,351,263	24,289,974
1933													26	80,918	3,402,632	29,928,849
1934													580	2,830	3,711,714	33,002,770
1935													830	9,062	3,829,279	34,202,950
1936													68	45,522	4,049,786	35,920,945
1937													252	23,888	4,303,047	39,305,160
1938													4,714	27,698	4,789,094	44,398,639
1939	14,911	105,820											1,123	4,800	5,133,186	47,791,659
1940	110,637	1,190,489	127,111	1,373,285	50,666	381,944	3,968	25,091					7,265	19,719	5,647,214	55,000,954
1941	138,888	1,067,657	159,341	1,658,955	55,626	333,551	23,782	142,299	6,805	40,580	159,470	644,765			5,974,447	55,506,187
1942	137,701	1,038,593	173,369	1,848,229	12,889	137,797	16,278	83,662	40,318	234,147	187,620	766,813		5,730	5,624,554	50,489,026
1943	118,007	1,102,514	159,436	1,915,846					27,798	165,657	105,606	375,101		3,460	4,297,973	39,387,112
1944	100,481	770,810	137,321	1,932,564				1,740	26,081	150,778		42,406		5,746	3,788,313	33,678,991
1945	89,392	653,929	143,390	2,163,291					23,992	168,826				9,520	3,585,003	32,061,352
1946	75,791	578,553	167,705	2,079,300					26,698	172,419	65,639	194,604		6,607	3,952,840	33,303,325
Total	785,808	6,508,365	1,067,673	12,971,470	119,181	853,292	44,028	252,792	151,692	932,407	518,335	2,023,689	24,919	795,492	102,639,796	879,283,596

[1]Acquired by Anglo-Huronian, Limited, in 1933 and by Mace Gold Mines, Limited, in 1937, together with properties of Inspiration Gold Mines, Limited.
[2]The Porcupine Crown was acquired by Northcrown Porcupine Mines, Limited, on May 15, 1920, and by Vipond Consolidated Mines, Limited (now Mace Gold Mines, Limited), in 1926.
[3]The Rea mine (production of which is shown in the figures for 1913, 1914, and 1915) was operated by Newray Mines, Limited, in 1917 and 1918. In 1924 the Newray was taken over by Coniaurum Mines, Limited.
[4]From 1915 to 1920, the production shown was from the Dome Lake mine, except 300 tons with a value of $2,462 from the West Dome Lake in 1918. In 1922 the properties were amalgamated as Consolidated West Dome Lake Mines, Limited, and in 1930 acquired by Paymaster Consolidated Mines, Limited.
[5]Purchased by the Hollinger in 1922.
[6]Now owned by Paymaster Consolidated Mines, Limited.
[7]Acquired by Porcupine Peninsular Gold Mines, Limited, in 1933.
[8]The production shown from 1926 to 1930 is from the Ankerite mine before it was acquired by Buffalo Ankerite Gold Mines, Limited, in 1932. The Marbuan was acquired in 1936, and the figures from 1936 on include production from both mines.
[9]The March was taken over by Marbuan Gold Mines, Limited, in 1933; the Buffalo Ankerite operated the Marbuan mill in 1933, treating 2,800 tons from the dump of New York Porcupine Gold Mines, Limited. The Marbuan was taken over by Buffalo Ankerite Gold Mines, Limited, in 1936; its production since that date is shown under Buffalo Ankerite.
[10]The Rochester mine and other property was acquired from Porcupine United Gold Mines, Limited, in 1933.
[11]The Hayden mine was acquired by Naybob Gold Mines, Limited, in 1934 and by Naybob Mines, Limited, in 1943.
[12]Paymaster Consolidated Mines, Limited, incorporated in 1930, is a merger of West Dome Lake Gold Mines, Limited, and United Mineral Lands Corporation (which owned the Paymaster mine). Practically all the production has come from the old Dome Lake and West Dome Lake shafts.
[13]The Ross mine in Hislop township is owned by Hollinger Consolidated Gold Mines, Limited.
[14]See table of "Miscellaneous Production" to the right.

Miscellaneous Production, Porcupine Gold Belt

Mine	Year	Quantity	Value
		tons	$
Amca	1937		1,298
Blue Quartz (Amal. Goldfields)	1923, 1926, 1928		1,303
	1934	500	663
Canusa (Scottish-Ontario)	1927, 1928	315	12,688
	1933, 1935		2,152
Clifton Porcupine (Preston[1])	1913, 1914		15,212
	1922-1924		15,363
Concordia (Jones-Porter)	1935	230	580
Coulson (Devon)	1940	2,333	1,632
Davidson Consolidated	1918-1920	9,371	53,914
Gold Reef	1915, 1917	128	2,135
Hermiston, N. A.	1946		1,056
Hill Gold (Beatty tp.)	1918	25	635
J. Huddlestone and P. Clyne	1923, 1925		3,257
Hughes	1926		30
McLaren-Porcupine	[2]1933, 1934, 1935, 1937	876	6,819
Northern Turnbull	1934	30	172
Porcupine Lake	1937-1940, 1944	10,821	50,100
Porcupine Pet	1914, 1915		10,551
Porphyry Hill	1913, 1915	46	6,236
J. Spence (Triple Lake)	1932	155	2,738
Tommy Burns	1917	21	289
Miscellaneous[3]	1925, 1927-1938, 1942-1946	68	606,669
Total		24,919	795,492

[1]The Preston claim in Deloro township was acquired in 1919 by Clifton Porcupine Mines, Limited, from Preston East Dome Mines, Limited.
[2]J. M. McLaren shipped to Noranda 26 tons, $326.
[3]*This is high-grading and recoveries from scrapped machinery.*

Table IV

ALGOMA DISTRICT

ANNUAL PRODUCTION STATISTICS OF GOLD MINES, 1893–1946

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

Year	Darwin (Grace[1])		Algold (New Goudreau[2])		Minto, Jubilee, and Cooper[3]		Parkhill[4]		Algoma Summit[5] (McCarthy-Webb)		Alden-Goudreau		Cline Lake		Miscellaneous[6]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1910..	10,297	69,922	.....	.....	.....	.....	[7]9	347	.....	.....	.....	.....	.....	.....	2,512	8,874	12,818	79,143
1910....	60	2,020	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,600	5,070	1,660	7,090
1911....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	627	.....	627
1923....	.....	153	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	153
1925....	.....	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41
1926....	.....	.....	415	1,847	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	415	1,847
1929....	.....	.....	.....	.....	.....	6,184	33	2,057	.....	.....	.....	.....	.....	.....	.....	14	33	8,255
1930....	750	588	.....	.....	1,074	2,559	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,824	3,147
1931....	.....	.....	.....	.....	9,448	80,269	9,082	75,543	.....	.....	.....	.....	.....	.....	.....	.....	18,530	155,812
1932....	.....	.....	117	474	18,765	185,171	16,822	166,009	.....	.....	.....	.....	.....	.....	.....	.....	35,704	351,654
1933....	.....	.....	.....	.....	23,671	182,376	11,565	246,580	.....	.....	.....	.....	.....	.....	106	752	35,342	429,708
1934....	.....	.....	.....	.....	22,189	169,301	19,431	310,647	421	4,926	.....	.....	.....	.....	.....	.....	42,041	484,874
1935....	2,103	17,750	.....	.....	34,890	196,252	20,871	338,388	205	3,008	.....	.....	.....	.....	7,946	49,027	66,015	604,425
1936....	17,598	231,401	3,073	14,948	39,385	150,596	22,441	330,886	2,711	8,516	.....	.....	.....	.....	5,660	64,786	90,868	801,133
1937....	14,720	214,707	11,064	41,613	15,577	35,325	25,209	200,048	44,869	68,130	.....	988	.....	.....	1,951	25,322	113,390	586,133
1938....	.....	.....	8,542	24,862	7,831	74,519	315	7,149	66,670	204,875	.....	.....	32,344	259,781	.....	445	115,702	571,631
1939....	.....	.....	.....	.....	11,770	55,099	.....	.....	1,751	8,009	.....	.....	86,085	812,620	11,314	29,438	110,920	905,166
1940....	.....	7,614	.....	[8]832	.....	.....	.....	9,299	.....	.....	[9]1,582	26,361	81,981	594,895	.....	5,195	83,563	644,196
1941....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[9]4,109	32,034	85,313	413,831	.....	210	89,422	446,075
1942....	.....	.....	.....	.....	.....	2,325	.....	1,540	.....	1,289	[9]6,006	53,885	46,119	284,584	.....	.....	52,125	343,623
1943....	.....	2,175	.....	.....	.....	.....	.....	2,821	.....	.....	[9]1,782	10,932	.....	.....	.....	586	1,782	16,514
1944....	.....	481	.....	.....	.....	481	.....	481	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,443
1945....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[9]153	.....	.....	.....	1,383	.....	1,536
1946....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.	45,528	546,852	23,211	84,576	184,600	1,140,457	125,778	1,691,795	116,627	298,753	13,479	124,353	331,842	2,365,711	31,089	191,729	872,154	6,444,226

[1]Acquired by Darwin Gold Mines, Limited, in 1934 and by New Darwin Gold Mines, Limited, in 1938. Operated by the Algoma Commercial Company in 1902 and 1903, who produced 6,097 tons, $48,708; and by Le Page Gold Mining Company from 1907 to 1910, who produced 4,260 tons, $23,235.

[2]Acquired by Algold Mines, Limited, in 1934 and by Amherst Gold Mines, Limited, in 1939.

[3]Minto Gold Mines, Limited, owns three adjoining mines in Algoma district. Production shown from 1930 to 1933 was from the Minto; in 1934, 11,946 tons came from the Jubilee; from 1935 to 1937 the whole production was from the Jubilee; in 1938 the production came from the Jubilee and the Cooper; in 1939 from the Jubilee.

[4]Acquired by Ward Lake Gold Mines, Limited, in 1938.

[5]Acquired by Magino Gold Mines, Limited, in September, 1939.

[6]See table of "Miscellaneous Production" to the right.

[7]Production for 1904 from the Mariposa mine, which was acquired by Parkhill Gold Mines, Limited, in 1929.

[8]Under option to Norgold Mines, Limited.

[9]Under option to Regnery Metals.

MISCELLANEOUS PRODUCTION, ALGOMA DISTRICT

Mine	Year	Quantity	Value
		tons	$
Centennial (Agawa)	1939, 1940	8,612	22,397
Deep Lake	1936–1938, 1943	2,790	57,180
P. Edward	1929, 1933, 1941	46	694
Edwards (mine)	1937	1,573	16,977
Golden Reed	1908	3	125
Havilah (Ophir)[1]	1893, 1910, 1911	3,289	13,034
Hiawatha (Louittit)	1937, 1939, 1940	1,931	6,826
Kremzar	1940	.....	96
Norwalk (Manxman)	1904, 1910	820	1,412
Ranson	1939	774	5,938
Shenango	1936, 1937, 1945	.....	2,457
S. B. Smith (Van Sickle)	1935, 1936	9,228	60,251
Soo Mg. and Prosp. Synd.	1933	60	282
Stanley	1936	1,963	2,936
G. L. White	1936	.....	1,124
Total		31,089	191,729

[1]Galbraith township.

Table V

THUNDER BAY DISTRICT

ANNUAL PRODUCTION STATISTICS OF GOLD MINES, 1905–1946

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

Year	St. Anthony[1]		North Shores (McKellar-Longworth[2])		Tashota[3]		Ardeen (Moss[4])		Northern Empire		Little Long Lac		Sturgeon River		Leitch		Bankfield		Sand River		MacLeod-Cockshutt		Hard Rock		Tombill		Magnet		Jellicoe		Miscellaneous[5]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1910	13,100	58,304																													1,100	2,378	14,200	60,682
1911	540	4,318																															540	4,318
1912	11,500	61,327																															11,500	61,327
1913	6,432	20,408																															6,432	20,408
1917		1,967																																1,967
1918	3,603	18,340																															3,603	18,340
1920		8,771																													1	63	1	8,834
1921	320	5,069																													30	1,122	350	6,191
1923				1,707																														1,707
1924																																114		114
1929	678	2,388		226																											1	71	679	2,685
1930	8	458																															8	458
1931					34	315																											34	315
1932			179	15,480			25,363	196,473																							32	1,474	25,574	213,427
1933			11	288			34,789	270,077																									34,800	270,365
1934	21,618	123,198					38,143	216,094	22,507	195,647	5,485	85,480																			230	37,638	87,983	658,057
1935	44,550	303,152	1,404	29,358	12,827	76,627	5,884	32,531	45,736	645,296	62,073	1,108,269																			3,346	51,820	175,820	2,247,053
1936	28,408	160,394	2,214	26,212	23,590	224,183	39,545	234,134	64,645	1,002,521	83,555	1,500,792	1,290	20,711																	27	2,019	243,274	3,173,014
1937	17,896	156,225		202	14,454	122,960			65,026	706,179	104,931	1,638,545	17,978	310,102	23,058	449,260	26,437	390,212	2,537	11,932											183	6,147	272,500	3,791,764
1938	28,945	220,001			329	16,137			59,332	804,044	97,320	1,544,990	28,157	509,011	30,584	709,799	47,500	648,074	35,670	459,466	126,291	900,582	76,074	648,075	26,486	387,554	2,946	61,640			190	544	559,824	6,909,917
1939	23,792	293,502							67,914	928,616	106,775	1,698,766	26,282	441,309	31,206	784,784	47,566	593,636	36,518	437,450	208,095	1,649,469	107,086	803,607	38,704	613,789	17,493	457,247	3,015	45,748			714,446	8,747,923
1940	59,039	423,563				51			61,691	672,427	113,065	1,761,820	27,790	513,306	31,118	874,122	42,699	428,783	34,726	403,027	238,780	2,108,966	119,255	1,197,693	45,228	645,882	41,485	1,103,149	10,116	150,810	20	500	825,012	10,284,099
1941	70,640	303,907		243		1,371			39,015	419,719	118,332	1,634,811	25,869	458,589	30,493	894,926	39,175	238,408	31,824	383,124	237,076	2,324,324	135,337	1,174,510	46,956	513,263	45,609	976,859	1,591	19,930		4,646	821,917	9,348,630
1942								13,017			115,790	1,517,548	17,757	475,877	30,076	973,111	27,632	109,419	16,595	168,841	233,036	2,619,030	134,122	1,238,828	33,248	429,496	50,613	865,161			3,947	42,017	662,816	8,452,345
1943											88,890	1,008,830			27,438	842,680					181,761	2,103,641	97,373	926,544			43,060	573,408				1,083	438,522	5,456,186
1944											67,538	877,902			21,727	624,283		6,181			124,964	1,536,383	91,047	838,489									305,276	3,883,238
1945											72,117	815,183			20,089	683,452		731			30,000	367,785	6,337	51,565								832	128,543	1,919,548
1946											67,850	728,518			28,692	894,563		8,262			158,434	1,194,689	102,766	717,557			26,018	340,757			761	20,917	384,521	3,905,263
Total	331,069	2,165,292	3,808	73,716	51,234	441,644	143,724	962,326	425,866	5,374,449	1,103,721	15,921,454	145,123	2,728,905	274,481	7,733,028	231,009	2,423,706	157,870	1,863,840	1,538,437	14,804,869	869,397	7,596,868	190,622	2,589,984	227,224	4,378,221	14,722	216,488	9,868	173,385	5,718 ,175	69,448,175

[1]Records are incomplete; operations were reported from 1905 to 1907. This property was formerly owned by Northern Gold Reef, Limited.
[2]Acquired from Schreiber Gold Mines, Limited, by North Shores Gold Mines, Limited, in 1933, which was succeeded in 1936 by North Shores Mines (1936), Limited.
[3]In addition to gold values shown, this mine produced large quantities of copper (see detailed gold table in previous reports).
[4]Originally known as the Huronian; this mine produced in the seventies, but no records are available; acquired by Ardeen Gold Mines, Limited, in 1933, and by Kerry Gold Mines, Limited, in 1937.
[5]See table of "Miscellaneous Production" to the right.
[6]Surface ore.

MISCELLANEOUS PRODUCTION, THUNDER BAY DISTRICT

Mine	Year	Quantity	Value
		tons	$
Anderson, R.	1943		116
Brengold	1941		3,551
Caouette claims	[1]1935, [2]1938, [2]1941, [2]1943, [2]1945	224	3,220
Cook Lake[3]	1937	32	918
Mary J. Coveney	1924		114
Dilkdirk[4]	1934, 1935	3,525	86,756
Elmos	1942	3,947	39,168
Empress[5]	1897	1,100	2,378
Gold Range	1941		668
Harkness-Hays	[6]1920, 1929, 1932, 1935, 1936	78	5,879
Maloney Sturgeon	1937	1	2,549
Maylac	1946	761	20,917
A. Pilon & M. Richards	1921	30	1,122
Schreiber Pyramid	1937	150	2,680
M. C. Williams	1940	20	500
Miscellaneous	[7]1942		2,849
Total		9,868	173,385

[1]Afton.
[2]Theresa.
[3]Milled by Little Long Lac.
[4]Owned by J. Bruce McMartin.
[5]No statistics available; data taken from report of J. H. Chewett April 22, 1897
[6]W. S. Jackson claims; acquired by Harkness-Hays in 1925.
[7]Mint sundries.

Table VI

PATRICIA PORTION OF KENORA DISTRICT

ANNUAL PRODUCTION STATISTICS OF GOLD MINES, 1911–1946

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

Year	Howey		Central Patricia		J-M Consolidated (Jackson Manion)		Jason (Argosy[1])		Pickle Crow		McKenzie Red Lake		Red Lake Gold Shore		Gold Eagle		Sachigo River		Madsen Red Lake		Hasaga		Uchi		Berens River		Cochenour Willans		McMarmac		Miscellaneous[2]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
1911	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	57	30	57
1923	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	124	.....	124
1924	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	126	.....	126
1929	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,617	.....	14,617
1930	110,438	460,857	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	110,438	460,857
1931	211,552	914,291	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	211,552	914,291
1932	284,664	1,268,780	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	284,664	1,268,780
1933	344,135	1,161,436	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	175	4,205	344,310	1,165,641
1934	481,757	1,594,223	11,536	219,562	3,443	35,389	4,094	30,673	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	130	2,551	500,960	1,882,398
1935	484,966	1,332,950	35,192	777,570	1,381	12,851	.....	.....	37,277	878,745	36,117	533,223	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	293	6,097	595,226	3,541,436
1936	528,528	1,251,588	58,466	1,144,154	12,160	119,603	9,872	130,027	63,758	1,612,451	52,465	747,795	14,918	138,706	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,986	69,370	749,153	5,213,694
1937	447,344	1,095,508	77,119	1,392,840	31,225	334,475	31,741	353,981	98,063	2,270,113	58,001	860,214	47,557	451,147	6,599	73,005	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,000	10,232	800,649	6,841,515
1938	448,115	1,210,032	101,376	1,607,140	17,005	141,532	1,636	35,370	115,915	2,769,291	63,321	892,404	23,858	157,724	43,811	363,516	6,084	376,993	44,663	327,827	3,206	24,993	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	868,990	7,906,822
1939	449,488	1,138,713	108,091	1,764,651	35,549	277,100	.....	.....	126,959	2,902,154	70,445	1,111,339	.....	.....	45,374	351,730	10,599	536,626	136,929	954,302	58,184	457,724	103,122	686,942	19,217	277,114	9,070	127,430	.....	.....	.....	.....	1,173,127	10,585,825
1940	454,183	968,486	118,803	1,888,637	4,594	50,733	23,964	394,681	141,992	2,879,222	76,572	1,012,548	.....	.....	46,116	420,628	13,030	482,200	141,625	1,129,725	88,077	637,445	227,294	1,299,788	82,346	1,279,928	53,921	817,269	4,561	67,305	.....	.....	1,477,078	13,328,595
1941	385,609	849,642	142,516	1,950,549	.....	.....	48,362	768,826	146,375	2,736,169	84,146	1,000,436	.....	.....	38,195	287,965	16,603	545,153	145,995	1,203,311	134,816	1,000,684	249,417	1,424,370	86,373	1,528,840	61,415	945,444	29,794	586,300	.....	.....	1,569,616	14,827,689
1942	.....	.....	138,790	1,720,634	.....	.....	32,992	538,416	107,951	1,976,684	85,547	1,039,210	.....	.....	.....	.....	.....	16,112	146,226	1,473,029	133,885	891,610	162,627	858,385	86,850	1,517,709	60,240	1,244,546	32,589	424,458	.....	.....	987,697	11,700,793
1943	.....	.....	104,451	1,425,771	.....	.....	.....	.....	70,575	1,328,548	85,973	952,247	.....	.....	.....	.....	.....	.....	144,792	1,321,889	120,318	709,572	14,614	122,248	53,255	854,202	55,663	1,105,078	32,073	277,809	.....	.....	681,714	8,097,364
1944	.....	.....	91,512	1,139,476	.....	.....	.....	.....	63,388	1,453,312	78,279	733,913	.....	.....	.....	.....	.....	.....	132,759	1,448,533	118,249	648,890	.....	.....	40,436	526,995	44,928	767,649	31,890	194,905	.....	.....	601,441	6,913,673
1945	.....	2,590	89,301	1,071,246	.....	.....	.....	.....	60,227	1,291,181	63,460	492,583	.....	.....	.....	.....	.....	.....	101,663	1,001,661	105,068	453,731	.....	.....	72,880	1,007,036	31,445	351,992	.....	.....	.....	.....	524,044	5,672,020
1946	.....	.....	97,808	1,205,651	.....	.....	9,956	77,931	73,209	1,390,576	69,201	595,398	.....	.....	.....	.....	.....	.....	121,649	1,088,533	82,427	299,101	.....	.....	41,925	784,098	59,570	802,750	.....	.....	.....	.....	555,745	6,244,038
Total	4,630,779	13,249,096	1,174,961	17,307,881	105,357	971,683	162,617	2,329,905	1,105,689	23,488,446	823,527	9,971,310	86,333	747,577	180,095	1,496,844	46,416	1,957,084	1,116,301	9,948,810	844,230	5,123,750	757,074	4,391,733	483,282	7,775,922	376,252	6,162,158	130,907	1,550,777	12,614	107,379	12,036,434	106,580,355

[1]The Casey Summit mine was acquired by Argosy Gold Mines, Limited, in 1935 and by Jason Mines, Limited, in November, 1938.
[2]See table of "Miscellaneous Production" to the right.

MISCELLANEOUS PRODUCTION, PATRICIA PORTION OF KENORA DISTRICT

Mine	Year	Quantity	Value
		tons	$
Bathurst	[1]1929, [2]1936	307	5,809
Bobjo	[1]1929	.....	11,510
W. D. Cooper and P. A. Barry[3]	1935, 1936	.....	5,591
Hudson-Patricia	1936, 1937	11,238	65,166
N. McDonald	1924	.....	126
R. McDonald	1923	.....	124
Red Crest (Rowan Discovery)	1935, 1936	591	9,721
Geo. A. Rowan	1933	.....	368
Geo. Singleton	1933	.....	137
Sol D'Or[4]	1933–1936	458	8,770
J. Tingley	1911	30	57
Total		12,614	107,379

[1]High-grade.
[2]Under option to Car Lake Syndicate.
[3]Produced from the McIntyre Birch Lake property in 1934, reported in 1936.
[4]This 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.

Table VII

ONTARIO'S GOLD MINING INDUSTRY

ANNUAL PRODUCTION STATISTICS AREAS, 1885–1946

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

Year	Southeastern Ontario		Larder Lake area		Kirkland Lake belt		Porcupine belt		Matachewan area		Sudbury district		Algoma district		Thunder Bay district		Rainy River district		Kenora district		Patricia portion of Kenora district		Miscellaneous[1]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1910	[2]124,569	587,843	.....	.....	.....	.....	.....	.....	.....	.....	[3]9,320	55,982	[4]12,818	79,143	[5]14,200	60,682	[6]35,944	281,108	[7]214,040	1,354,760	.....	.....	[8]909	29,793	411,800	2,449,311
1910	500	3,349	.....	.....	30	286	.....	35,549	.....	.....	3,294	18,553	1,660	7,090	.....	.....	.....	.....	.....	3,791	.....	.....	.....	.....	5,484	68,618
1911	.....	.....	225	1,414	675	4,650	432	15,437	.....	.....	1,750	9,828	.....	627	540	4,318	.....	.....	500	6,981	30	57	.....	.....	4,152	43,312
1912	4,221	13,963	.....	.....	.....	.....	139,951	1,740,596	.....	.....	.....	.....	.....	.....	11,500	61,327	50	400	400	2,101	.....	.....	.....	.....	156,072	1,817,987
1913	9,950	24,088	480	14,005	6,383	88,936	321,305	4,316,807	.....	.....	20,646	114,833	.....	.....	6,432	20,408	.....	.....	.....	.....	.....	.....	.....	.....	365,246	4,579,477
1914	424	2,793	.....	5,204	3,734	117,644	554,774	5,231,989	.....	.....	45,458	217,103	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	604,390	5,574,733
1915	1,036	4,043	.....	.....	26,196	555,539	857,969	7,605,993	.....	.....	44,271	282,123	.....	.....	.....	.....	.....	.....	450	562	.....	.....	.....	.....	929,922	8,448,260
1916	.....	.....	.....	.....	39,865	711,626	1,327,039	9,494,139	.....	.....	26,846	187,103	.....	.....	.....	.....	.....	.....	1	130	.....	.....	.....	.....	1,393,751	10,392,998
1917	860	593	.....	.....	49,952	409,552	1,179,469	8,345,367	.....	.....	.....	.....	.....	.....	.....	1,967	.....	.....	40	279	.....	.....	.....	.....	1,230,321	8,757,758
1918	.....	.....	1,502	11,334	53,526	637,780	816,754	7,899,381	.....	.....	.....	.....	.....	.....	3,603	18,340	.....	.....	208	216	.....	.....	.....	.....	875,593	8,567,051
1919	.....	300	735	2,631	40,792	489,207	1,092,744	10,041,579	.....	.....	.....	.....	.....	.....	.....	.....	.....	211	.....	.....	.....	.....	.....	.....	1,134,271	10,533,928
1920	.....	.....	4,637	29,888	91,237	1,145,722	1,162,065	11,953,907	.....	.....	.....	.....	.....	.....	1	8,334	2	108	291	2,367	.....	.....	.....	.....	1,258,233	13,140,826
1921	.....	.....	.....	549	136,529	1,650,752	1,580,460	14,415,455	.....	.....	.....	.....	.....	.....	350	6,191	.....	.....	.....	.....	.....	.....	.....	.....	1,717,339	16,072,947
1922	.....	1,064	.....	.....	191,747	2,192,138	2,076,989	18,662,724	.....	987	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,268,736	20,856,913
1923	.....	.....	4,818	73,262	188,011	2,693,634	2,060,721	17,674,549	.....	.....	.....	.....	.....	153	.....	1,707	.....	.....	915	3,012	.....	124	.....	136	2,254,465	20,446,577
1924	.....	.....	24,178	152,072	201,393	3,328,411	2,642,502	22,445,680	.....	.....	.....	.....	.....	.....	.....	114	.....	.....	.....	.....	.....	126	.....	.....	2,868,073	25,926,403
1925	.....	.....	36,651	271,161	346,584	5,133,423	3,015,607	24,834,793	.....	.....	.....	.....	.....	41	.....	.....	.....	.....	131	2,147	.....	.....	.....	.....	3,398,973	30,241,565
1926	.....	.....	48,761	229,650	466,363	6,963,165	3,180,943	23,811,304	.....	.....	.....	.....	415	1,847	.....	.....	.....	.....	.....	73	.....	.....	.....	2,468	3,696,482	31,008,507
1927	.....	.....	65,592	338,600	731,989	9,365,243	3,488,972	24,029,244	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,286,553	33,733,087
1928	.....	.....	43,275	174,681	995,275	12,132,045	3,185,604	20,384,904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,224,154	32,691,630
1929	.....	.....	22,343	161,717	1,076,877	13,998,202	2,864,820	19,460,413	.....	.....	.....	.....	33	8,255	679	2,685	19	245	334	908	.....	14,617	.....	.....	3,965,105	33,647,042
1930	.....	.....	31,738	219,726	1,242,805	17,012,039	2,558,385	17,843,392	.....	.....	.....	.....	1,824	3,147	8	458	.....	.....	25	326	110,438	460,857	.....	.....	3,945,223	35,539,945
1931	.....	.....	32,038	235,347	1,671,592	22,554,463	3,091,946	20,772,501	.....	.....	.....	.....	18,530	155,812	34	315	.....	.....	33	3,855	211,552	914,291	.....	.....	5,025,725	44,636,584
1932	.....	.....	35,001	182,053	1,757,995	26,683,705	3,351,263	24,289,974	6,805	70,142	32	3,718	35,704	351,654	25,574	213,427	.....	.....	48	3,888	284,664	1,268,780	.....	.....	5,497,086	53,067,341
1933	.....	.....	5,459	71,766	1,760,555	27,757,371	3,402,632	29,928,849	38,004	495,984	.....	.....	35,342	429,708	34,800	270,365	415	4,677	.....	.....	344,310	1,165,641	.....	.....	5,621,517	60,124,361
1934	.....	.....	33,457	153,948	1,923,601	34,049,728	3,711,714	33,002,770	100,054	614,909	12,320	68,600	42,041	484,874	87,983	658,057	855	12,270	25	2,242	500,960	1,882,398	.....	.....	6,413,010	70,929,796
1935	.....	.....	35,227	148,266	1,962,637	33,290,016	3,829,279	34,202,950	325,521	1,510,729	40,474	274,980	66,015	604,425	175,820	2,247,053	.....	671	3,675	98,973	595,226	3,541,436	.....	2,245	7,033,874	75,921,744
1936	.....	.....	114,472	470,507	2,074,197	33,432,460	4,049,786	35,920,945	378,918	1,476,505	10,555	80,615	90,868	801,133	243,274	3,173,014	.....	105	36,144	380,339	749,153	5,213,694	46	2,637	7,747,413	80,951,954
1937	.....	238	162,740	754,026	2,217,802	34,302,064	4,303,047	39,305,160	470,310	1,836,854	56,067	401,747	113,390	586,133	272,500	3,791,764	330	1,737	30,063	272,981	800,649	6,841,515	.....	891	8,426,898	88,095,110
1938	.....	.....	349,458	2,046,983	2,277,421	34,321,796	4,789,094	44,398,639	513,675	2,071,929	76,910	741,452	115,702	571,631	559,824	6,909,917	.....	822	32,516	377,306	868,990	7,906,822	.....	4,196	9,583,590	99,351,493
1939	6,908	14,596	556,390	3,411,814	2,302,518	34,179,271	5,133,186	47,791,659	591,847	2,600,838	61,188	661,343	110,920	905,166	714,446	8,747,923	.....	.....	72,599	697,402	1,173,127	10,585,825	.....	9,976	10,723,129	109,605,813
1940	26,526	119,505	839,275	5,706,127	2,150,762	33,794,946	5,647,214	55,000,954	630,155	2,719,471	38,575	443,045	83,563	644,196	825,012	10,284,099	1,072	6,523	49,041	570,585	1,477,078	13,328,595	.....	7,936	11,768,273	122,625,982
1941	300	2,310	1,124,221	7,929,708	1,900,481	28,690,198	5,974,447	55,506,187	620,477	2,695,319	71,319	470,730	89,422	446,075	821,917	9,348,630	1,880	12,739	51,154	688,673	1,569,616	14,827,689	.....	7,489	12,225,234	120,625,747
1942	.....	.....	1,166,209	8,277,116	1,308,307	20,895,850	5,624,554	50,489,026	643,365	2,432,574	168,628	1,138,027	52,125	343,623	662,816	8,452,345	.....	26,300	36,449	457,761	987,697	11,700,793	.....	16,190	10,650,150	104,229,605
1943	.....	.....	981,020	6,521,781	1,114,818	17,983,456	4,297,973	39,387,112	442,506	1,495,884	107,608	719,778	1,782	16,514	438,522	5,456,186	.....	.....	3,420	59,667	681,714	8,097,364	.....	1,531	8,069,363	79,739,273
1944	.....	.....	752,954	4,431,405	1,011,225	14,786,464	3,788,313	33,678,991	341,359	1,105,877	.....	1,918	.....	1,443	305,276	3,883,238	.....	.....	.....	.....	601,441	6,913,673	.....	.....	6,800,568	64,803,009
1945	.....	.....	688,205	4,212,919	983,724	14,275,035	3,585,003	32,061,352	367,917	1,355,175	.....	414	.....	1,536	128,543	1,919,548	.....	.....	.....	970	524,044	5,672,020	.....	.....	6,277,436	59,498,969
1946	.....	.....	862,078	5,328,834	1,077,790	14,916,970	3,952,840	33,303,325	431,509	1,564,349	.....	.....	.....	.....	384,521	3,905,263	.....	.....	.....	.....	555,745	6,244,038	.....	.....	7,264,483	65,262,779
Total	175,294	774,685	8,023,139	51,568,494	33,385,388	504,543,787	102,639,796	879,283,596	5,902,422	24,047,526	795,261	5,891,892	872,154	6,444,226	5,718,175	[9]6,448,175	40,567	347,916	532,502	4,992,295	12,036,434	106,580,355	955	85,488	170,122,087	1,654,008,435

[1]Origin unknown.
[2]1891–1909.
[3]1897, 1898, 1905–1908.
[4]1893, 1902–1904, 1907–1910.
[5]1897, 1905–1907.
[6]1895–1901.
[7]1885, 1886, 1893–1909.
[8]1899–1902.

PROVINCE OF ONTARIO

DEPARTMENT OF MINES

HON. LESLIE M. FROST, *Minister of Mines* H. C. RICKABY, *Deputy Minister*

FIFTY-FOURTH ANNUAL REPORT

OF THE

ONTARIO DEPARTMENT OF MINES

BEING

VOL. LIV, PART II, 1945

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MINES OF ONTARIO IN 1944

By

Chief Inspector of Mines, W. O. Tower, Toronto; Inspectors, R. L. Smith, Kenora; W. E. Bawden, Port Arthur; D. F. Cooper, Sudbury; J. B. Taylor, E. S. Little, Kirkland Lake; E. B. Weir, Timmins; D. P. Douglass, Toronto.

APATITE

Ontario Phosphate Industries, Limited

During the early part of 1944 the Ontario Phosphate Company, Limited, continued operations on the McLaren phosphate property on lots 27 and 28 and the east half of lot 31, concession X, and lot 25, concession IX, Bedford township, Frontenac county. Some diamond-drilling was done.

In June, a new company known as Ontario Phosphate Industries, Limited, was formed with an authorized capitalization of 1,000,000 shares of no par value, of which 460,000 have been issued. The officers and directors are: J. D. Cameron, president; Henry Armstrong, vice-president and managing director; J. H. King, secretary-treasurer; A. L. Ainsworth and Ian Armour, directors. The head office is at 62 Richmond Street West, Toronto. The mine address is Box 220, Westport.

The new company started operations in June and continued for the rest of the year. A 3-compartment headframe, 50 feet high, a hoist-house, and a power-house were built, and the cookery and bunk-house were enlarged.

The sinking of a vertical, 3-compartment shaft on lot 28, concession X, began on August 29. The shaft was sunk to a depth of 190 feet, and 164 feet of crosscutting was done on a level established at 150 feet.

J. W. Storer was engineer-in-charge for the company. The sinking operation was carried out by the Inspiration Mining and Development Company, Limited, mining contractors, who also supplied the mining plant under contract. Nineteen men were employed at the property while sinking was in progress.

ASBESTOS

L. M. Carswell

L. M. Carswell, Renfrew, investigated a showing of asbestos on lot 22, concession IV, Blithfield township, Renfrew county, in 1944. The showing consists of patches or lenses of asbestos-like material occurring in crystalline limestone. A cut some 30 feet long and 8 feet wide was made in the side of the limestone ridge.

Seven tons of the material was reported to have been sold to one of the asbestos companies.

One new camp building is on the lot, and a portable compressor is used for power.

An average of 5 men was employed during the period of operation.

BARITE

Woodhall Mines, Limited

Woodhall Mines, Limited, was incorporated in December, 1943, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 1,179,055 have been issued. The officers and directors are: H. R. Hall, president; W. J. Cawood, vice-president; W. E. Jarrett, secretary-treasurer; A. Arnold and M. A. Powell, directors.

The company leased 7 claims, approximately 256 acres, in the southern part of Langmuir township, Night Hawk Lake area, district of Timiskaming. Former operators sank two shafts on the property some years ago. One shaft is 130 feet deep with a small amount of drifting at a depth of 60 feet. The other shaft is 30 feet deep. Woodhall Mines, Limited, carried on operations from September 15 to December 31, 1944. No underground work was done, and the shafts were not dewatered. Approximately 150 tons of material was mined from an open cut and stock-piled.

Six men were employed during the period of operation. W. F. Steedman is manager.

COPPER AND ZINC

Kam-Kotia Porcupine Mines, Limited

Kam-Kotia Porcupine Mines, Limited, a subsidiary of Hollinger Consolidated Gold Mines, Limited, has an authorized capitalization of 40,000 shares of $1 par value, all of which have been issued. The officers and directors are: J. R. Timmins, president; P. C. Finlay, secretary; S. M. Hutchinson, treasurer; B. E. Lawless and E. B. Weeks, directors. The head office is at 2 King Street East, Toronto. The mine address is Timmins.

The property, which was originally known as the Jamieson, consists of 8 claims, approximately 400 acres, in Robb township, district of Cochrane, 14 miles northwest of Timmins.

Hollinger Consolidated Gold Mines, Limited, which operated the property from 1926 to 1928, sank a 2-compartment vertical shaft on claim P. 12,339 to a depth of 162 feet and did 600 feet of drifting and 250 feet of crosscutting on a level at 150 feet.

The operations carried on in 1942 and 1943 by Hollinger Consolidated Gold Mines, Limited, under the general supervision of the Wartime Metals Corporation, were continued until December 12, 1944. Work was then stopped, and cleaning-up operations were completed by the end of the year.

No underground work has been done in the present operation. The ore was taken from an open pit, which was about 300 feet long, 170 feet across at the widest place, and 36 feet below surface at the deepest point when work ceased.

There were 189,064 tons of ore mined by electric shovel and treated in the concentrator in 1944. The concentrates were taken by truck to Timmins and shipped to Noranda for further treatment.

An average force of 72 men was employed, of whom 30 were in the pit, 15 in the treatment plant, and 27 on general surface work. John Knox was general manager, and John Knox, Jr., was mine manager.

CORUNDUM

Craigmont Corundum Project

In May, 1944, the Wartime Metals Corporation began the erection of a concentrating mill of 200 tons daily capacity to treat the tailings stacked at the old Craigmont mine on lots 4 and 5, concession XVIII, Raglan township, Renfrew county. The mill commenced operation on October 22 and continued to the end of the year. The equipment includes the following: a 4- by 8-foot Allis-Chalmers rod mill, a 4- by 6-foot Dillon screen, a 5-foot Dorr desliming classifier, a Fahrenwald sizer, 16 Wilfley concentrating tables, and a Dings magnetic separator. Power is supplied by a 250 b.h.p. Atlas Polar Diesel engine and a

240 b.h.p. Fairbanks-Morse Diesel engine driving electric generators. The feed from the dump to the mill is handled by an electric slusher.

A total of 10,421 tons of tailings were treated.

Other buildings erected during the year were a power-house, an office, and several small dwellings.

A. G. Roach was manager, employing 30 men. The mine address is Craigmont.

FELDSPAR

Bathurst Feldspar Mines, Limited

Bathurst Feldspar Mines, Limited, was incorporated in April, 1927, with an authorized capitalization of 40,000 preferred shares of $5 par value, of which 26,525 have been issued, and 40,000 common shares of no par value, all of which have been issued. The officers are: B. Day, president; B. S. Hyde, secretary-treasurer and general manager. The head office is at 21 King Street East, Toronto. The mine address is Perth.

The company owns the Bathurst feldspar property on the south half of lot 16 and the north half of lot 15, concession VIII, Bathurst township, Lanark county.

Operations continued throughout 1944. The south section of the pit was deepened to 60 feet, leaving a cross-pillar 30 feet in thickness between this section and the old pit to the north.

A total of 2,250 tons of ore was hoisted and shipped.

Robert McVeigh was in charge of the work, employing 15 men.

Canspar Mines, Limited

Canspar Mines, Limited, was incorporated in June, 1944, with an authorized capitalization of 100,000 shares of $1 par value. The officers and directors are: Denison Denny, president; James G. Pierdon, vice-president and manager; M. B. Smith, secretary-treasurer; A. B. Mortimer and J. D. Smith, directors. The head office is at 100 Adelaide Street West, Toronto. The mine address, when operations are in progress, is Madawaska.

The company acquired the south half of lot 22, concession VIII, Murchison township, district of Nipissing, a property formerly operated by Garry Colautti for Keystone Contractors, Limited. An account of the latter's operations in the first part of 1944 appears below.

Canspar Mines, Limited, began operations on May 15, 1944, and continued until December 1. The open cut operated by Keystone Contractors was lengthened and deepened and at the end of the year was 200 feet long, from 10 to 25 feet deep, and 12 feet wide.

A total of 1,263 tons of feldspar was mined and shipped.

An average force of 8 men was employed.

Keystone Contractors, Limited

Garry Colautti, of Barry's Bay, acting for Keystone Contractors, Limited, of Windsor, carried on operations on a feldspar deposit on lot 22, concession VIII, Murchison township, district of Nipissing, from January 1 to May 15, 1944.

Operations in the open cut were continued, and a total of 971 tons of feldspar was mined and shipped.

An average of 6 men was employed.

The property was taken over on May 15 by Canspar Mines, Limited. An account of the latter company's operations appears on page 3 of this report.

D. L. Ross and Company

D. L. Ross and Company, 275 St. James Street West, Montreal, Que., continued operations from January 1 to November 30, 1944, on lots 14 and 15, concession IV, Murchison township, district of Nipissing. The property is also known as the Madawaska Feldspar.

About 825 tons of feldspar and 5,089 tons of silica were mined. The material was taken from an open cut about 700 feet long, from 20 to 40 feet wide, and about 25 feet deep.

B. A. Gordon was in charge, employing 11 men. The mine address is Madawaska.

FLUORSPAR

Bassett Fluorspar Mining Syndicate, Limited

The Bassett Fluorspar Mining Syndicate, Limited, was incorporated in September, 1942, with an authorized capitalization of 35,000 shares of $1 par value, 22,000 of which have been issued. The officers are: M. Abraham, president and manager; Charles Beilby, vice-president; J. L. Lennon, secretary-treasurer. The head office is at 36 Toronto Street, Toronto. The mine address is Madoc.

Operations were continued from January 1 to November 1, 1944, on the George Lee property on lot 2, concession III, Madoc township, Hastings county.

At the No. 1 vein, near Bancor lake, the No. 1 shaft was deepened to 50 feet and the ore stoped out for about 40 feet on the east side of the shaft. Work was then discontinued in this section.

On the east side of the lot, on the vein in the flat-lying limestone, the No. 3 shaft was deepened to 47 feet, and a drift was driven from the shaft bottom for 15 feet on the vein.

Near the centre of the lot, an old shaft about 40 feet deep was cleaned out and retimbered and about 30 feet of drifting was done on a fluorspar vein at the bottom.

A total of 315 tons of fluorspar was mined and shipped.

Six men were employed.

Detomac Mines, Limited

Detomac Mines, Limited, was incorporated in June, 1943, with an authorized capitalization of 2,000,000 shares of $1 par value, of which 780,000 have been issued. The officers are: Frank S. Tobin, president; A. H. Robertson, vice-president; F. A. Tobin, secretary; E. A. Vale, treasurer. The head office is at 330 Bay Street, Toronto. The mine address is Madoc.

During 1944 the company carried on operations on two fluorspar properties, known as the McIlroy and the Kilpatrick, in Hastings county. C. C. Fischer was in charge, employing 7 men.

Kilpatrick Property

The operations on this property, on the east half of lot 9, concession XIV, Huntingdon township, were carried on from August 7 to September 30. A

2-compartment shaft was sunk to a depth of 27 feet. More water was encountered than the plant was capable of handling, and the operation stopped.

Twelve tons of fluorspar were taken from a vein intersected by the shaft.

McIlroy Property

The old 2-compartment shaft on the McIlroy property, on lot 2, concession IV, Madoc township, was deepened from 80 to 112 feet, and 46 feet of drifting and some stoping were done on the vein at the 110-foot level.

About 140 tons of fluorspar was mined.

The operation was carried on from May 9 to August 26.

Fluoroc Mines, Limited

Fluoroc Mines, Limited, was incorporated in May, 1944, with an authorized capitalization of 1,000,000 shares of $1 par value, of which 230,000 have been issued. The officers are: H. R. Cory, president and manager; H. J. Smith, vice-president; T. B. Ericson, secretary-treasurer. The head office is at Trenton. The mine address is Madoc. Six men were employed.

Hill Property

Operations were carried on from May to September, 1944, on the Hill, or Howard, property on the east half of lot 14, concession XI, Huntingdon township, Hastings county.

It was reported that the 2-compartment No. 1 shaft was deepened to 60 feet and that 30 feet of drifting was done at that depth.

Johnson Property

Operations were conducted at the Johnson property on the west half of lot 14, concession XI, Huntingdon township, Hastings county, from September to November, 1944.

The 3-compartment No. 1 shaft is said to be 62 feet deep, with a level at 55 feet. In 1944, about 12 feet of drifting and 40 feet of crosscutting were done on this level, making a total of 38 feet of drifting and 40 feet of crosscutting.

Millwood Fluorspar Mines, Limited

Millwood Fluorspar Mines, Limited, was incorporated in August, 1943, with an authorized capitalization of 100,000 shares of $1 par value, of which 40,003 have been issued. The officers and directors are: E. L. O'Reilly, president; D. C. R. Miller, secretary-treasurer; S. D. Miller, director. John G. Harris was manager in 1944. The head office is at 19 Melinda Street, Toronto. The mine address is Madoc.

Bailey Property

Operations were started on August 15 at the Bailey property, on lot 1, concession IV, Madoc township, Hastings county, and continued until November 25. Trenching disclosed a fluorspar vein about 15 feet in width. The vein was open cut for a length of 80 feet and, during the season, was mined to a depth of 44 feet.

An ore bin, a conveyer and sorting building, and a power-house were built.

Some 1,800 tons of fluorspar was mined.

Nineteen men and 6 women were employed.

Keen Property

Operations at the Keen property, on the west half of lot 9, concession XIV, Huntingdon township, Hastings county, were carried on from May 1 to July 31, 1944. The shaft on this property is 91 feet deep. In 1944, about 87 feet of drifting was done on the north end of the 57-foot level. The following table shows the total amount of underground development work when the operation ceased:—

Level	Drifts		Raises
	North	South	
	feet	feet	feet
57-foot	342	135	30
87-foot	310	130	25

Six hundred tons of fluorspar was mined and shipped.

Twenty-one men were employed.

Reliance Fluorspar Mining Syndicate, Limited

The Reliance Fluorspar Mining Syndicate, Limited, was incorporated in December, 1940, with an authorized capitalization of 35,000 shares of $1 par value, of which 20,005 have been issued. The syndicate's charter was renewed for a further three years in December, 1944. The officers are: W. J. Symon, president and manager; Frank Dafoe, vice-president; Mrs. W. J. Symon, secretary-treasurer. The head office and mine office are at Madoc.

The syndicate continued operations at the Rogers fluorspar mine on lot 10, concession XIV, Huntingdon township, Hastings county, from January 1 to December 23, 1944.

The No. 1 shaft, located 50 feet to the northeast of the vein on surface, was deepened from 56 to 123 feet, and a level was established at 120 feet. At this elevation a crosscut was driven 63 feet, and 75 feet of drifting was done on the vein northwest of the crosscut. No stoping was done on this level.

Production from the mine was through No. 2 shaft, which follows an underhand stope on the upper section of the vein and was 87 feet deep at the end of the year.

A total of 4,700 tons of fluorspar was mined, crushed, and sorted.

A change-house, a blacksmith shop, and a sorting-building were erected during the year.

An average force of 16 men was employed.

Charles A. Stoklosar

Charles A. Stoklosar, of Madoc, carried on operations in January and February and from July to November, 1944, at the Blakely fluorspar mine on the east half of lot 10, concession XII, Huntingdon township, Hastings county.

The vertical, 2-compartment No. 1 shaft, sunk by former operators, is said to be 95 feet deep. The workings have only been dewatered to the 45-feet level in the present operation. In 1944, about 35 feet of drifting, making a total of 255 feet, was done on this level. Fifty feet of raising was also completed.

There were 539 tons of fluorspar mined and shipped.

An average of 10 men was employed.

Tops Mining Syndicate, Limited

The Tops Mining Syndicate, Limited, was incorporated in September, 1943, with an authorized capitalization of 35,000 shares of $1 par value, of which 26,460 have been issued. The officers and directors are: Wm. E. Clark, president and manager; D. A. McLeod, vice-president; Chas. W. McCreary, secretary-treasurer; James M. Graham and John L. Champness, directors. The head office and mine office address is Harcourt.

The syndicate carried on operations on the north part of lot 13, concession XXII, Cardiff township, Haliburton county, throughout 1944.

An 8- by 8-foot adit was driven for a distance of 126 feet into a hill to intersect a fluorspar vein previously located by trenching higher on the hillside. At the intersection of the vein a shaft was raised 30 feet to surface.

Four men were employed.

GOLD

Aunor Gold Mines, Limited

Aunor Gold Mines, Limited, was incorporated in May, 1939, with an authorized capitalization of 2,000,000 shares of $1 par value, all of which have been issued. The officers and directors are: Jas. Y. Murdoch, president; W. S. Mitchell, vice-president; J. R. Bradfield, secretary; R. G. Rudolf, treasurer; Harold Pinnock, assistant treasurer; A. L. Ellsworth and N. C. Urquhart, directors. The head office is at 1600 Royal Bank Building, Toronto. The mine address is Box 420, Timmins.

The property consists of 11 claims, containing approximately 360 acres, in Deloro township, Porcupine area, district of Cochrane. Of these, 8 are owned by the company, 1 is under option, and 2 are leased.

Mining and milling operations continued throughout 1944. The sinking of the vertical, 3-compartment shaft on claim H.S. 850 was continued for a further 88 feet to a total depth of 2,159 feet from surface. A new level was established at 2,125 feet. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
250-foot	.....	.....	38	384	.....	.....
500-foot	.....	.....	.....	110	.....	.....
625-foot	.....	1,821	.....	838	.....	865
750-foot	.....	3,259	.....	694	.....	778
875-foot	131	3,727	.....	1,018	.....	1,118
1,000-foot	99	7,124	381	1,249	163	3,727
1,125-foot	192	3,695	134	752	.....	1,888
1,250-foot	494	4,659	.....	969	299	1,432
1,375-foot	386	2,740	117	705	367	875
1,500-foot	.....	3,075	.....	842	39	390
1,625-foot	81	81	1,164	1,164	.....	.....
1,750-foot (station only)	.....	.....	.....	.....	.....	.....
1,875-foot (station only)	.....	.....	.....	.....	.....	.....
2,000-foot (station only)	.....	.....	.....	.....	.....	.....
2,125-foot	.....	.....	114	114	.....	.....

Diamond-drilling consisted of 158 holes, totalling 17,542 feet, from underground.

The following is taken from the manager's report for the year ending December 31, 1944:—

During the year, stoping operations were carried on between the 750- and 1,375-foot levels. Because of a shortage of labour, tonnage for the year decreased. However, an increase in ore grade more than compensated for this.

Development work consisted of drifting out the ends of ore shoots, crosscutting of the 1,625- and 2,125-foot levels, shaft-sinking and station-cutting. On the 1,625-foot level, the present face is within 80 feet of the main ore zone, where diamond-drill holes have indicated commercial ore. On the 2,125-foot level the work consisted of crosscutting to make provision for sumps and charging-stations. . . . Because of bad ground it was found necessary to concrete the shaft from just below the 1,500-foot level to just above the 2,125-foot level.

ORE DEVELOPED BY DRIFTING

Level	Length	Width	Reduced grade	Tons per vertical foot
	feet	feet	ounces	
875-foot	131	3.8	0.175	41.5
1,250-foot	331	4.1	.243	113.1
1,375-foot	185	5.5	.454	84.8

Some 647 feet of ore, averaging 0.310 ounces gold per ton, reduced, across an average width of 4.5 feet was developed during the year.

At the end of the year, ore reserves in the developed portion of the mine were estimated as follows:—

ORE RESERVES

	Tons	Per cent.	Grade
			ounces
Broken	11,950	2.1	0.342
Proved	467,300	82.2	.357
Probable	89,500	15.7	.321
Total	568,750	100	0.351

Ore reserves were maintained chiefly because of increased vein widths in the stopes.

MILLING STATISTICS

Dry tons milled		137,321
Average tons per 24 hours		375.19
Head assay (ball mill)	ounces	0.358
Calculated head (mine bullion assay)	ounces	0.377
Tailings loss	ounces	0.0101
Total recovery	per cent.	97.29

SOURCES OF ORE MILLED

	Tons	Per cent.
Development	6,573	4.79
Drawn above 1,000-foot level	8,207	5.97
Drawn above 1,125-foot level	41,960	30.56
Drawn above 1,250-foot level	48,910	35.62
Drawn above 1,275-foot level	31,671	23.06
Total	137,321	100

Stanley S. Saxton was manager, employing an average force of 294 men, of whom 203 were in the mine, 23 in the mill, and 68 on general surface work.

Berens River Mines, Limited

Berens River Mines, Limited, which was incorporated in July, 1936, has an authorized capitalization of 2,000,000 shares of $1 par value, all of which have

been issued. The company is a subsidiary of the Newmont Mining Corporation. The officers and directors are: John Drybrough, president; Philip Kraft, vice-president; H. E. Dodge, secretary-treasurer; F. M. Connell, A. W. Burt, Gus Mrkvicka, and Carroll Searls, directors. The head office and mine office are at Favourable Lake. The secretary's office is at 14 Wall Street, New York.

The company's main property consists of 39 claims, approximately 1,550 acres, situated some 3½ miles east of South Trout lake, which is 8 miles east of Favourable Lake, in the Patricia portion of Kenora district. Thirty-six claims immediately adjoining the main property on the south were staked in 1944.

Operations were continued throughout 1944. The property has been developed from a 3-compartment, vertical shaft, 1,898 feet deep, on claim Pa. 116. In the latter part of 1944, a 3-compartment, vertical winze was collared at the 1,700-foot level and sunk for a distance of 475 feet to a depth of 2,175 feet from surface. New levels were cut at 2,000 and 2,150 feet. An ore and waste pocket was cut below the 1,700-foot level in the shaft. The following table shows the development work done in 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
125-foot	.....	1,175	.....	266	.....	588
250-foot	.....	1,650	.....	362	.....	690
375-foot	47	2,271	.....	674	.....	654
500-foot	.....	1,411	.....	358	.....	580
650-foot	.....	879	.....	245	.....	625
800-foot	.....	1,311	.....	426	.....	855
950-foot	.....	1,459	.....	338	42	890
1,100-foot	.....	989	.....	503	56	249
1,250-foot	44	881	52	664	.....	208
1,400-foot	.....	294	.....	714	178	455
1,550-foot	706	1,109	866	2,468	186	186
1,700-foot	795	795	1,122	1,205	496	496
1,850-foot	684	684	1,326	1,326	125	125
WINZE						
2,000-foot (station only)	.....	.....	.....	.....	.....	.....
2,150-foot (station only)	.....	.....	.....	.....	.....	.....

Diamond-drilling during 1944 consisted of 181 holes, totalling 23,090 feet, all from underground.

The following is taken from the manager's report for the year ending December 31, 1944:—

During 1944 emphasis was placed on a development programme with a view to rehabilitating the ore reserves. Development footage in the sixth year of the mine's operation constituted 23.5 per cent. of the total underground development to date and 22 per cent. of the total diamond-drill footage, including the original surface drilling. This work was done under the handicap of a serious labour shortage.

To counteract the effect of labour shortage, several steps were taken, viz: (1) Wherever possible motor haulage was substituted for hand-tramming. (2) An additional shovel loader was purchased. (3) Two small air-operated double-drum slusher hoists are used for sublevel mucking. (4) Diamond-drill blast-hole methods were successfully used in benching ore widths as narrow as 6 feet.

On the 1,550-foot level, crosscutting to the No. 3 zone was completed but only a very limited amount of drifting was done. The vein zone where cut is up to 20 feet in width, carrying spotty values, but below ore grade. Development muck was sent to the mill.

The No. 1 zone was opened up on two levels, the 1,700- and the 1,850-foot. The 1,750-foot level shows a grade of 0.25 ounces gold and 10.0 ounces silver over an ore area almost equal to that of the 250-foot level, which has been the best in the mine to date. The 1,850-foot, however, was disappointing in that the ore zone diminished in size against a vertical strike fault. Exploration is continuing to the east on both levels.

Ore Reserves

At December 31, 1943, ore reserves were 53,030 tons at 0.31 ounces gold and 10.65 ounces silver. This tonnage consisted of small blocks throughout the mine with no block exceeding 4,000 tons. As of the present date, ore reserves are calculated at 112,500 tons at 0.25 ounces gold and 10.0 ounces silver. Of this total 80,000 tons are in one block between the 1,400- and 1,850-foot levels, with stope development practically completed.

Mill Operation

During the year, 40,436 tons were milled for an average of 110 tons per day. Mill heads averaged 0.25 ounces gold and 8.43 ounces silver per ton. Of the total tonnage, 10,000 tons were from development and stope development, much of it very low grade. Metal recoveries improved as shown below:—

	1943	1944
	per cent.	per cent.
Gold	97.32	98.28
Silver	88.51	91.18

Production

Net recoverable metals produced during the year were as follows:—

	Quantity	Value
Gold ounces	10,031	$385,244.29
Silver ounces	316,600	155,847.40
Lead pounds	506,231	25,058.29
Zinc pounds	460,610	17,028.80
Total		$583,178.78

Net recovery per ton milled averaged $12.96 per ton from cyanide precipitate and $1.46 per ton from flotation concentrates, for a total of $14.42.

Costs

Operating costs were $15.93 per ton, as compared to $12.59 for the previous year and $9.05 for 1942. Due to the low tonnage milled, costs were completely out of proportion.

Operating Costs per Ton Milled

	1942	1943	1944
Development	$0.96	$1.46	$5.72
Mining	5.16	7.19	6.36
Milling	1.96	2.66	2.89
Mine operating costs	$8.08	$11.31	$14.97
Transportation and refining charges	.97	1.28	.96
Total	$9.05	$12.59	$15.93

An average force of 164 persons was employed during the year. Of these, 87 men were employed underground and 16 in the mill; 60 persons were employed in general surface work. C. W. MacDonald is manager.

Bidgood Kirkland Gold Mines, Limited

Bidgood Kirkland Gold Mines, Limited, was incorporated in March, 1933, with a capitalization of 2,000,000 shares of $1 par value, which was increased to 4,000,000 shares in 1935. All the shares have been issued. The officers and directors are: W. J. Lawson, president; O. L. Knutson, vice-president; J. M. Macintosh, secretary-treasurer; W. Harrison, assistant secretary; A. E. Belcher

and S. K. Learie, directors. The head office and mine office are at Kirkland Lake. The executive office is at 357 Bay Street, Toronto.

The property consists of 23 claims, approximately 753 acres, in Lebel township, Kirkland Lake area, district of Timiskaming.

The property is in two sections, known as Nos. 1 and 2 workings. The shafts are about 4,275 feet apart. The No. 1 section has not been operated since June, 1940.[1]

Operations at the main or No. 2 working continued throughout 1944. The vertical, 3-compartment No. 2 shaft on claim L. 9,882 was sunk a further 11 feet to a total depth of 1,572 feet. There are three winzes in this section. No. 1 winze, collared at the 500-foot level, 410 feet southeast of the shaft, is 292 feet deep. No. 2 winze, collared at the 775-foot level, 738 feet southeast of the shaft, is 1,278 feet deep. No. 712 winze, also collared at the 775-foot level, about 500 feet southwest of the shaft, runs at an angle of 65 degrees to a depth of 900 feet from surface.

The following table shows the development work done in the No. 2 section during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
125-foot (No. 2 shaft)	.....	1,521	.....	900	.....	.....
250-foot (No. 2 shaft)	216	2,681	.....	1,149	183	547
375-foot (No. 2 shaft)	.....	265	.....	332	.....	178
375-foot sublevel (No. 2 shaft)[2]	451	1,867	183	529	91	631
500-foot[3]	.....	4,644	.....	2,111	19	726
602-foot sublevel (No. 1 winze)	.....	105	.....	.....	.....	.....
650-foot (No. 1 winze)	.....	2,361	.....	816	.....	363
706-foot sublevel (No. 2 shaft)	.....	513	.....	146	.....	62
775-foot[4]	.....	1,676	.....	1,310	.....	396
900-foot (No. 2 winze)	.....	911	.....	264	.....	205
900-foot sublevel (No. 712 winze)	.....	440	.....	314	.....	.....
1,025-foot[5]	.....	2,836	.....	1,200	.....	156
1,150-foot (No. 2 shaft)	157	825	21	270	.....	275
1,150-foot (No. 2 winze)	.....	1,104	.....	748	.....	80
1,275-foot (No. 2 shaft)	.....	1,204	.....	169	.....	273
1,275-foot (No. 2 winze)	.....	743	.....	106	.....	73
1,400-foot (No. 2 shaft)	1,268	1,390	649	674	428	428
1,400-foot (No. 2 winze)	.....	1,172	.....	217	.....	.....
1,525-foot[5]	450	1,912	412	1,419	352	374
1,650-foot (No. 2 winze)	.....	.....	.....	24	.....	.....
1,775-foot (No. 2 winze)	.....	.....	.....	60	.....	.....
1,900-foot (No. 2 winze)	.....	359	.....	94	.....	.....
2,025-foot (No. 2 winze)	.....	766	.....	275	.....	213

Diamond-drilling consisted of 91 holes, totalling 24,275 feet, from underground.

The following is taken from the report of the manager for the twelve months ending December 31, 1944:—

During the year, 48,594 tons of ore were milled, from which were recovered 8,965.79 fine ounces of gold worth $345,183.24 and 4,978.38 fine ounces of silver worth $1,921.65. Total bullion production amounted to $347,104.89, to which was added miscellaneous income of $1,541.88, making a total gross revenue of $348,646.77, or $7.17 per ton milled.

[1]For an account of the work done to that date, see Ont. Dept. Mines, Vol. L, 1941, pt. 1, p. 10.
[2]Connected to the 500-foot level by a raise.
[3]Workings connected between No. 2 shaft and the collar of No. 1 winze.
[4]Workings connected between No. 2 shaft and Nos. 1, 2, and 712 winzes.
[5]Workings connected between No. 2 shaft and No. 2 winze.

Exploration and Development

250-FOOT AND 375-FOOT LEVELS

No. 16 Vein.—Approximately 1,000 feet of drifting and crosscutting was done on these two levels to explore diamond-drill intersections which indicated ore shoots in this vein system. The drifting, however, showed the values to be very erratic, and only one short shoot of medium-grade ore was developed on each level.

1,400-FOOT LEVEL

No. 12 and No. 14 Veins.—These veins came together on dip about midway between the 1,275- and 1,400-foot levels. The vein fracture continued through to the 1,400-foot level fairly strong, but at this horizon it contained very little mineralization and practically no values. A raise was driven up on the vein fracture to the junction of the two veins, and from this point branch raises were driven up on each of the veins to the 1,275-foot level. Results from these raises showed that in the No. 12 vein the ore only continued for a depth of 40 feet below the 1,275-foot level and in the No. 14 vein for a depth of 20 feet below the level.

No. 10 Vein.—This vein was drifted on for a distance of 400 feet and produced one shoot of good grade ore having a length of 110 feet. Both ends of the vein broke up into thin stringers, which were difficult to follow and which carried no values.

No. 21 Vein.—This is an entirely new vein, which was located by diamond-drilling. It has a normal strike of approximately N.40°E. and dips to the north at an angle of 50 degrees. It was first reached by a crosscut at a point 600 feet north and 200 feet east of the main shaft. Just west of this crosscut it is cut off by a strong north-south fault, and no attempt had been made at the end of the year to locate it on the west side of the fault. To the east of the fault it was drifted on for a distance of 219 feet and gave an average cut grade of $14.00 per ton from the muck sampling.

The vein consists of a black and rather cherty looking quartz in a sheared zone about 3 feet wide. The main quartz streak, which is practically continuous, has an average width of about 0.8 feet. It contains considerable molybdenite and is sparsely mineralized with fine pyrite but carries most of its values in the form of very fine visible gold. The shearing is quite strong on both sides of the main quartz streak, but this also is only sparsely mineralized with fine pyrite and carries values of from $3.00 to $5.00 in gold per ton.

1,525-FOOT LEVEL

A total of 863 feet of drifting and crosscutting was done here, but it failed to find any veins of interest. The No. 10, No. 12, and No. 14 vein fractures apparently do not continue through to this horizon.

In November, when the No. 21 vein was found on the 1,400-foot level, a drive was started to try and locate its downward extension.

General

Our only important development during the year was the finding of the No. 21 vein. This is located in the large diorite mass which lies to the north and east of the main shaft and which has not been explored on any of the other levels of the mine. It, therefore, opens up new possibilities both above and below the 1,400-foot level. The vein is strong and carries good values, and the structural condition in which it occurs is very favourable to the deposition of ore in this particular locality.

The drop in grade of approximately $4.00 per ton in mill feed during the year was due mainly to our failure to find the No. 12 and No. 14 veins on the new levels. These veins had a combined length of slightly over 500 feet of good grade ore on the 1,275-foot level, and for the past two years had been one of our main sources of ore supply.

Owing to the fact that our development work for the past three years has been curtailed to a level far below our requirements, it is impossible to give any estimate of ore reserves. We have sufficient to carry on for the next few months, and by that time we hope to be able to obtain some tonnage from the No. 21 vein.

Summary of Ore Hoisted

Grade was taken from car sample as the ore was dumped into the loading pockets:—

	Tons	Grade	Per cent.
Hoisted from development	5,611	$6.17	8.6
Hoisted from stopes	42,998	9.32	91.4
Total	48,609	$9.02	100

Analysis of Operating Costs

	Total	Per ton milled (48,594 tons)
REVENUE:		
Gross bullion production	$347,104.89	$7.14
Miscellaneous income	1,541.88	.03
Total	$348,646.77	$7.17
EXPENDITURE:		
Development	$132,663.04	$2.73
Stoping	159,547.83	3.28
Milling	78,027.35	1.60
General charges (including Mint charges)	43,221.75	.89
Total	$413,459.97	$8.50
Mine operating loss	$64,813.20	$1.33

Milling Statement

Ore milled	tons	48,594
Average tons per day		133.1
Per cent. running time		97.1
Average heads, gold (bullion plus tails)		$7.90
Gross value (gold)	$384,145.47	
Tailings loss	38,962.23	
Gold recovered in bullion		$345,183.24
Average tailings per ton		$0.80
Recovery per ton		$7.10
Extraction	per cent.	89.9

MILL SUPPLIES AND REAGENTS PER TON MILLED

Grinding balls	lbs.	3.61
Lime	lbs.	4.84
Cyanide	lbs.	1.04
Litharge	lbs.	.74
Zinc (per ton solution precipitated)	ounces	.39

An average force of 109 men was employed, of whom 64 were in the mine and 10 in the mill. F. L. Smith is mine manager.

Bonetal Gold Mines, Limited

Bonetal Gold Mines, Limited, was incorporated in November, 1936, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,839,173 have been issued. The mine is operated under the direction of Broulan Porcupine Mines, Limited. The officers and directors are: B. W. Lang, president; W. F. James, vice-president; T. C. Newman, secretary-treasurer; F. G. Lawson and F. J. Bowley, directors. The head office is at 372 Bay Street, Toronto. The mine address is Pamour.

The property consists of 8 claims, adjoining the Hallnor and Broulan mines on the west, in Whitney township, Porcupine area, district of Cochrane. Seven of the claims are owned by the company and one is held under option.

Operations continued throughout 1944. The vertical, 3-compartment shaft on claim P. 18,523 is 571 feet deep, with levels at 175, 275, 400, and 512 feet. The following table shows the development work on these levels during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
175-foot	.....	787	.....	407	.....	159
275-foot	.....	1,333	.....	458	.....	202
400-foot	.....	1,496	.....	629	.....	743
512-foot	65	1,076	.....	407	.....	105

Some work has also been done from the Hallnor property on extensions from the latter's 321- and 521-foot levels.

The following is taken from the mine manager's report for the year ending December 31, 1944:—

Production and Treatment

During the year, 28,878 tons of ore were mined and hoisted, of which 2,795 tons (9.7 per cent.) were removed on the sorting belt and the remaining 26,083 tons were milled in the cyanide plant of Broulan Porcupine Mines, Limited.

Production totalled $150,778.50, representing 3,912.51 troy ounces of fine gold and 379.95 ounces of silver. Average recovery was $5.22 per ton hoisted, or $5.78 per ton cyanided. Over-all recovery, including sorting, was 94.11 per cent., and recovery in the cyanide plant was 94.49 per cent.

Mining

Of the 28,878 tons treated during the year, 518 tons were obtained from development work, the balance from stoping operations. Approximately 2,932 tons of rock from sorting and development work and 14,547 cubic yards of sand were used as backfill.

Summary of Development and Exploration Completed to December 31, 1944

	To December 31, 1943	1944	To December 31, 1944
	feet	feet	feet
Shaft-sinking	571	.....	571
Crosscutting	2,146	.....	2,146
Drifting	4,787	65	4,852
Raising	1,220	.....	1,220
Box-holes	180	78	258
Diamond-drilling:			
Surface	23,156	2,386	25,542
Development underground	25,752	5,934	31,686
Stope information	1,400	336	1,736
Stations cut	4	.....	4

During the year, three diamond-drill holes were drilled from surface. The aggregate footage of these holes was 2,386 feet. These holes were approximately 2,600 feet southwest of the shaft. No ore was encountered in them.

Underground, 6,270 feet of diamond-drilling explored areas adjacent to the present workings at various horizons down to the 512-foot level. These areas have now been exhaustively explored. No ore was encountered in this drilling.

Arrangements have been completed with the Hallnor mine to extend their workings on the 2,160-foot level into the Bonetal property. These workings will be used as a base for further exploration. This work will be started during the month of February, 1945.

General

The ore in the No. 1 or sedimentary zone has been almost mined out from the first level down to the fourth or bottom level. Stoping in this zone above the first level has been started. A small tonnage of ore between the second and third levels remains to be mined in the greenstones. If the grade of the remaining ore is as high or higher than that being mined at present, it may be possible to maintain operations throughout 1945.

Operating Costs

Total operating costs for the year, including head office administration and general expense, amounted to $5.48 per ton of ore mined and hoisted, or $6.07 per ton milled.

An average force of 30 men was employed, of whom 26 were underground. Walter F. Brown was mine manager.

Broulan Porcupine Mines, Limited

Broulan Porcupine Mines, Limited, was incorporated in March, 1936, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,694,005 have been issued. The officers and directors are: B. W. Lang, president; W. F. James, vice-president; D. R. Michener, secretary-treasurer; J. B. Streit and F. G. Lawson, directors. The head office is at 372 Bay Street, Toronto. The mine address is Pamour.

The property consists of 10 claims, 415 acres, in Whitney township, Porcupine area, district of Cochrane.

The mine and mill continued to operate throughout 1944. The vertical, 3-compartment shaft on claim No. 14,909 was sunk a further 64 feet to a total depth of 675 feet, and a new level was established at 650 feet. The following table shows the development work done in 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
173-foot	58	2,461	.....	916	.....	1,369
273-foot	283	2,997	72	794	.....	1,383
398-foot	79	1,551	.....	918	.....	1,685
523-foot	548	7,720	.....	482	50	1,050
650-foot	242	242	330	330	.....	.....

Diamond-drilling during the year consisted of one hole, 180 feet deep, from surface and 123 holes, totalling 17,654 feet, from underground. Of the underground drilling, 15,566 feet was for development work and 2,088 feet was for stope information.

The following is taken from the report of the mine manager for the year ending December 31, 1944:—

Production and Treatment

During the year, 112,808 tons of ore were mined and hoisted. Of this tonnage, 12,327 tons (10.9 per cent.) were removed on the sorting belt and the balance of 100,481 tons was milled in the cyanide plant.

Production totalled $769,151.73, representing 19,957.72 troy ounces of fine gold and 2,018.22 ounces of silver. Average recovery was $6.82 per ton hoisted, or $7.66 per ton cyanided. Over-all recovery, including sorting, was 95.7 per cent., and recovery in the cyanide plant was 95.8 per cent.

During the year, 26,083 dry tons of ore were crushed and milled for Bonetal Gold Mines, Limited.

Mining

Of the 112,808 tons of ore hoisted during the year, 3,875 tons were obtained from development work, the balance from stoping operations. All stoping is done by cut-and-fill methods. In addition to the waste rock obtained from sorting and development work, 42,003 cubic yards of sand were obtained for backfill.

Crosscutting and drifting on the new level, under the 4th level ore areas, did not encounter any ore. Diamond-drilling to locate the bottom of the 4th level ore areas was just started at the end of the year.

On the northeast claim, 86 diamond-drill holes with a total footage of 13,637 feet have been drilled to explore on, above, and below the 4th level drifts. The holes on and above the level did not locate any important sections of ore. The holes below the level indicated discontinuous bodies of vein material occurring both in volcanics and sediments near their contact. Averages of high- and low-grade sections indicate a mining grade of between $3.00 and $4.00 per ton. It is considered unlikely that tonnages and grade in the east claim below the 4th level are sufficient for profitable operation.

Ore Reserves

Ore reserves as at December 31, 1944, are estimated to be 345,000 tons, having an average grade of 0.18 ounces of gold per ton. This figure includes a block of approximately 50,000 tons above the 1st level in which sufficient work has not been done to establish definitely tonnage and grade.

Operating Costs

Total operating costs for the year, including head office administration and general expense, amounted to $4.60 per ton of ore mined and hoisted, or $5.17 per ton cyanided.

About 109 men were employed, of whom 90 were underground, 11 in the mill, and 8 on the crusher. Walter F. Brown was mine manager.

Buffalo Ankerite Gold Mines, Limited

Buffalo Ankerite Gold Mines, Limited, which was incorporated in October, 1932, has an authorized capitalization of 1,000,000 shares of $1 par value, of which 701,679 have been issued. The officers and directors are: E. G. Kinkel, president and managing director; Jacob Betz, vice-president; George R. Feine, secretary; Clarence H. Leo, assistant secretary; Henry Kobler, treasurer; R. P. Kinkel, assistant treasurer and mine manager; A. J. Baldeck, Everett Bristol, Harry J. Carmichael, Henry J. Tiedt, and H. C. Loesch, directors. The head office and mine office are at South Porcupine. A business office is maintained at 2100 Rand Building, Buffalo, N.Y.

The company holds 1,171 acres in Deloro township, Porcupine area, district of Cochrane.

The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
170-foot South	.....	2,540	.....	570	.....	180
200-foot South / 250-foot North	.....	4,600	.....	1,256	.....	288
300-foot South	.....	2,197	.....	924	.....	346
365-foot North	.....	3,909	.....	1,529	.....	975
425-foot South	1,302	4,186	.....	910	.....	638
475-foot North	.....	4,002	.....	3,880	.....	1,256
550-foot South	.....	1,348	.....	125	.....	230
600-foot North	.....	4,019	.....	2,730	10	765
675-foot South	.....	1,685	.....	725	13	1,251
725-foot North	.....	2,712	.....	657	.....	1,610
800-foot South	164	4,691	.....	765	197	991
875-foot North	.....	3,026	.....	754	38	876
925-foot South	.....	2,233	.....	696	.....	.....
1,000-foot North	.....	450	.....	200	.....	150
1,050-foot North and South	.....	8,624	.....	6,145	28	1,741
1,250-foot North and South	297	4,682	.....	1,282	109	3,498
1,400-foot North and South	312	5,674	.....	911	98	3,001
1,550-foot North and South	375	4,869	169	1,210	498	2,659
1,700-foot North and South	171	3,306	115	1,090	519	2,360
1,850-foot North and South	151	2,401	104	456	22	975
2,000-foot North and South	.....	2,076	351	3,736	67	1,244
2,200-foot North	.....	.....	.....	51	.....	.....
2,350-foot North	.....	357	14	3,389	.....	41
2,500-foot North (station only)	.....	.....	.....	.....	.....	.....
2,650-foot North	.....	.....	232	232	.....	.....
2,800-foot North	.....	26	348	450	.....	.....
2,950-foot North	674	860	218	672	340	340
3,100-foot North	101	1,096	.....	618	661	766
3,250-foot North	98	896	2,054	3,408	163	341
3,400-foot North (loading pocket)	.....	.....	.....	.....	.....	278
3,450-foot North	.....	.....	.....	30	.....	.....

Mining and milling continued throughout 1944. The workings are in two sections, known as the North and South. The old Nos. 1, 2, and 3 shafts and No. 7 winze are no longer used. Operations are carried on through the vertical, 5-compartment No. 5 shaft, which is 3,474 feet deep, in the North section. In the South section the 2-compartment No. 4 winze runs from the 425-foot level to the 1,050-foot level, and the 2-compartment No. 6 winze, collared at the 1,050-foot level, goes to a depth of 2,020 feet from surface. No. 6 winze is connected with No. 5 shaft by crosscuts on the 1,050- and 2,000-foot levels.

Diamond-drilling during 1944 consisted of 11 holes, totalling 6,832 feet, from surface and 207 holes, totalling 31,323 feet, from underground.

The following is taken from the manager's report for the year ending December 31, 1944:—

Production

The mill treated 235,442 dry tons of ore with an average of 643.3 tons per day. This was a decrease of 9.54 per cent. over 1943 and 34.31 per cent. over 1942. The bullion recovery was $1,582,580.78. This was a decrease of approximately 16.44 per cent. over 1943 and 35.25 per cent. over 1942. The amount yielded was 41,066.264 ounces of gold. The average recovery was $6.722 per ton milled, as compared with $7.277 for 1943 and $6.82 for 1942.

The mine operating cost was $6.023 per ton, an increase of $0.344 per ton over 1943. This increase again was due primarily to decreased tonnage, which increased fixed and distributed costs. The increase in the cost of supplies and additional benefits to our employees also increased operating costs. The decrease in miners during the year was approximately 9 per cent.

Milling

With the decrease in tonnage of 9.54 per cent. during the year, the milling costs only increased $0.058 per ton, or 7.6 per cent. The small increase in milling costs with the reduced tonnage under existing conditions required continued economies with a high standard of maintenance.

The following is a summary giving the average data of milling during the year:—

Tons milled		235,442
Tons milled daily		643
Heads (gold, $20.67)		$3.796
Tails (gold, $20.67)		$0.184
Recovery per ton	$3.612	
Premium per ton	$3.110	
Total recovery per ton		$6.722
Gold ounces per ton		0.1744
Recovery (gold, $20.67)		$850,443.20
Recovery (present value)		$1,582,580.78
Average ounces per month		3,422.189

Mining, Development, and Exploration

Production hoist from below the 2,000-foot level increased to 15 per cent. of the total. The remainder came from stopes above the 2,000-foot horizon. The development and exploration was mostly adjacent to the present workings. The exceptions were, as follows: No. 405 west drift was advanced to the west boundary and developed 2,500 square feet of average grade ore; the development of Nos. 2,923, 2,928, and 2,930 ore lenses added 3,750 square feet of better than average grade ore to the ore area at this horizon.

The No. 3,225 west crosscut was advanced west 2,054 feet in the period. The face is now 3,254 feet west of No. 5 shaft and has been in our claim H.R. 1,138 for the last 887 feet.

	Tons
Ore broken in production	188,659
Ore broken in development	37,731
Total ore broken	226,390

The ore and waste broken in production was 190,055 tons, and the cost was $2.445 per ton.

	Feet	Cost per foot
Diamond-drilling	38,155	$1.133
Drifts (linear advance plus slashing)	7,774.5	15.62
Major and other crosscuts (linear advance plus slashing)	4,024	15.67
Raises	2,815.5	16.14

ORE AND WASTE BROKEN AND ORE TRANSFERRED FOR YEAR 1944

Level	Production		Development		Ore transferred	Box assay (gold at $20.67)
	Ore	Waste	Ore	Waste		
	tons	tons	tons	tons	tons	
475-ft. N. and 425-ft. S.	1,181	.....	4,274	2,279	5,048	$2.30
600-ft. N. and 550-ft. S.	1,058	.....	30	.....	2,024	3.12
725-ft. N. and 675-ft. S.	6,644	80	39	.....	8,474	4.63
875-ft. N. and 800-ft. S.	11,029	.....	2,267	249	16,800	3.68
1,050-ft. N. and S.	4,991	.....	2,382	339	5,993	3.69
1,250-ft. N. and S.	33,748	776	1,579	940	36,898	5.38
1,400-ft. N. and S.	28,086	.....	2,058	414	33,359	3.50
1,550-ft. N. and S.	48,114	35	5,449	2,263	52,130	3.98
1,700-ft. N. and S.	14,038	.....	3,891	827	20,106	3.15
1,850-ft. N. and S.	14,973	.....	1,218	783	16,293	3.53
2,000-ft. N. and S.	1,981	.....	2,119	2,555	3,723	3.16
2,350-ft. N.	.....	.....	.....	67	.....	.....
2,650-ft. N.	.....	.....	.....	1,660	.....	.....
2,800-ft. N.	.....	.....	539	1,484	539	2.35
2,950-ft. N.	4,204	.....	5,916	2,098	9,072	3.51
3,100-ft. N.	12,488	.....	3,992	1,117	18,456	3.70
3,250-ft. N.	6,124	505	1,978	13,514	8,421	3.83
Total	188,659	1,396	37,731	30,589	237,336	$3.92

ORE RESERVES, JANUARY 1, 1945

	Tons	Gold at $20.67		Gold at $38.50	
		Assay	Value	Assay	Value
Positive	274,252	$4.016	$1,101,350.86	$7.480	$2,051,378.31
Broken	18,918	3.999	73,561.36	7.242	137,015.54
Total positive	293,170	$4.008	$1,174,912.22	$7.464	$2,188,393.85

The decrease in ore reserves was due largely to the lack of sufficient labour to enable the company to continue its development and exploration as planned. The decrease, however, was only 10 per cent. under 1943.

Mine Operating Costs

The total mine operating costs are as follows:—

	Total cost	Cost per ton milled
Exploration	$43,795.79	$0.186
Development	228,890.67	.972
Mining	785,790.60	3.338
Milling	193,395.76	.821
General expense, mine (including cost-of-living war bonus)	166,234.59	.706
Total	$1,418,107.41	$6.023

Construction and General Improvements

The total capital expenditures for the year was $27,751. War-time machine shop work for the Government amounted to a gross of $31,690.85.

The only new equipment purchased was a larger mucking-shovel. The principal other expenditures were locomotive batteries and rails. Total mine expenditure was $17,442.71.

Work was continued on the preparation of the increase of milling capacity at the North mill. The foundation and steel frame were completed and two large filters installed. Tonnage at the North mill can be increased within a short time and when more ore is available.

The employees who qualified received a 6-day holiday with pay for the first time in 1944. The family medical plan completed its first full year with success.

An average force of 468 men was employed, of whom 308 were in the mine and 33 in the mill. E. C. Keeley is mine superintendent.

Central Patricia Gold Mines, Limited

Central Patricia Gold Mines, Limited, was incorporated in 1931 with an authorized capitalization of 2,500,000 shares of $1 par value, all of which have been issued. The officers and directors are: F. M. Connell, president; W. H. Connell, vice-president; Alan Cockeram, secretary; C. R. Elliott, treasurer; A. B. Mortimer, G. B. Webster, and L. Cohen, directors. The head office and mine office are at Central Patricia, and the administrative office is at 85 Richmond Street West, Toronto.

The main property, which includes the Central Patricia or No. 1 mine and the Springer or No. 2 operation consists of about 5,208 acres in Connell and Ponsford townships, Pickle-Crow area, Patricia portion of Kenora district. No work has been done at the No. 2 operation since June, 1940.

Operations at the No. 1 mine continued throughout 1944. The mine is served by a vertical, 3-compartment shaft, 2,226 feet deep, on claim Pa. 78, and a vertical, 4-compartment winze, which is collared at the 2,050-foot level, about 1,400 feet northeast of the shaft, and runs to a depth of 2,667 feet below surface. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
MAIN SHAFT:						
125-foot	.....	1,130	.....	166	.....	829
250-foot	.....	885	.....	267	.....	548
375-foot	.....	2,995	.....	504	.....	457
500-foot	.....	1,627	.....	289	.....	785
625-foot	.....	3,619	.....	529	.....	1,216
750-foot	297	2,545	.....	357	225	1,561
875-foot	147	2,846	.....	723	139	1,563
1,000-foot	118	2,504	.....	514	238	1,808
1,150-foot	256	1,579	.....	471	165	1,464
1,300-foot	78	3,266	.....	609	308	1,438
1,450-foot	146	2,226	.....	948	.....	1,364
1,600-foot	.....	2,332	.....	602	415	1,748
1,750-foot	.....	1,301	26	580	148	961
1,900-foot	.....	1,921	.....	668	169	1,139
2,050-foot	23	2,764	.....	1,542	.....	738
2,160-foot (waste pocket)	.....	.....	.....	.....	.....	.....
2,200-foot (station only)	.....	.....	.....	.....	.....	.....
WINZE:						
2,200-foot	.....	620	.....	302	.....	368
2,350-foot	.....	845	.....	238	.....	341
2,500-foot	.....	667	.....	240	.....	271
2,650-foot	.....	1,471	.....	190	.....	322

Diamond-drilling consisted of 3 holes, totalling 1,059 feet, from surface and 115 holes, totalling 4,112 feet; from underground.

A total of 91,462 tons of ore and 5,699 tons of waste was hoisted during the year.

In co-operation with Pickle Crow Gold Mines, Limited, and Canadian Pacific Air Lines, Limited, a 3,000-foot emergency landing strip was constructed. Air travel can now be maintained during break-up and freeze-up periods by the use of wheel-equipped aircraft flying from the Government field at Sioux Lookout.

The following is taken from the manager's report for the year ending December 31, 1944:—

Production

The mill treated 91,512 tons of ore, from which was recovered 29,569.419 ounces of gold and 2,726.41 ounces of silver, valued at $1,139,476.03, an average recovery of 0.323 ounces of gold, or $12.34 per ton, representing 95.08 per cent. of calculated mill heads.

The average milling rate for the year was 250 tons per day, compared with 286 tons per day during the previous year. This reduction was solely due to the labour shortage. Although the labour situation was improved somewhat at year end due to temporary employment of farm help, no real improvement can be expected until after the war. Operating efficiency has been well maintained and in spite of extreme curtailment of development work, the ore position continues to be favourable.

Exploration and Development

Development work, because of the man-power shortage, was limited to the opening up of ore occurrences in the upper levels. No work was done below the 2,050-foot level during the year.

Ore Reserves

Ore reserves were well maintained at 441,912 tons, compared with 445,269 tons grading 0.36 ounces per ton at the end of 1943.

Ore estimate as of December 31, 1944, was as follows:—

	Tons	Ounces per ton
Developed ore	386,195	0.36
Probable ore	25,349	.29
Pillar ore	13,453	.50
Broken ore	16,915	.28
Total	441,912	0.36

Costs

A comparison of costs on the basis of tons hoisted follows:—

	1944	1943	1942	1941
Surface exploration	$0.02	$0.01	$0.08	$0.18
Development and exploration	.70	1.21	1.45	1.24
Mining	3.22	2.79	3.15	3.04
Milling	1.32	1.25	1.17	1.28
Bullion expense	.15	.17	.15	.17
General expense at mine	1.06	.93	.71	.63
Administration expense	.36	.33	.22	.23
	$6.85	$6.69	$6.93	$6.77
Allowance for Dominion and Provincial taxes	1.32	1.73	1.27	1.74
Depreciation	1.07	1.06	.90	.97
Total	$9.22	$9.48	$9.10	$9.48

An average force of 171 persons was employed, of whom 77 were in the mine, 9 in the mill, and 82 on general surface work. R. E. Barrett is manager.

Chesterville Larder Lake Gold Mining Company, Limited

The Chesterville Larder Lake Gold Mining Company, Limited, which was incorporated in March, 1907, has an authorized capitalization of 2,000,000 shares of $1 par value. Of the 1,735,559 shares issued, 13,000 are held in trust for the company. The officers and directors are: L. J. Kearns, president and general manager; J. B. Streit, vice-president; E. V. Oag, secretary-treasurer; V. Sutton, assistant secretary-treasurer; W. F. James, H. W. Knight, H. J. Kearns, and

W. E. Young, directors. The head office is at 330 Bay Street, Toronto. The mine address is Kearns.

The property consists of 753 acres adjoining the Kerr-Addison mine on the east in McGarry township, Larder Lake area, district of Timiskaming.

Mining and milling continued throughout 1944. The vertical, 3-compartment main shaft on claim H.F. 404 was sunk a further 285 feet to a total depth of 1,988 feet, and a new level was established at 1,785 feet. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
1st	.....	2,015	.....	1,587	.....	1,266
2nd	.....	3,797	.....	1,412	.....	2,220
3rd	.....	1,703	.....	1,370	.....	1,923
4th	187	1,464	56	1,133	.....	1,217
5th	.....	1,009	.....	969	.....	755
6th	.....	776	.....	992	.....	687
7th	.....	578	78	1,033	120	622
8th	304	717	247	988	102	527
9th	409	522	93	892	172	426
10th	142	308	6	807	359	359
11th	350	350	460	884	212	212
12th	250	250	1,670	2,355	196	201

Diamond-drilling during 1944 consisted of 142 holes, totalling 28,291 feet, all from underground.

Two skip-loading pockets were constructed at the 9th level. Two electric furnaces were installed in the assay office.

The following is taken from the manager's report for the twelve months ending December 31, 1944:—

The results of this year's operation are summarized in the following table:—

Total tons milled	152,696
Average tons milled per day	417
Total gold recovered	$715,730.13
Total silver recovered	444.27
Mill heads per ton	5.04
Tailings loss per ton	.35
Recovery per ton	4.69
Operating cost per ton	4.21
Operating profit per ton	.48

Development

The main crosscuts were extended on all levels below the 7th, and drifts were driven in "D" and "21" ore zones. These lower levels were investigated by systematic diamond-drilling, and "D" ore zone was drilled in detail.

The crosscut on the 12th level was extended to the northeast corner of claim No. 404 and 1,075 feet into the Rose gold claim to explore the northeast portion of the property which contains the extension of the ore zone. No ore was found by drilling across the zone at 100-foot intervals.

During the shaft-sinking operation, soft rock having little mechanical strength was encountered below the 1,785-foot level. This condition made it necessary to line the shaft with concrete as sinking progressed, and the operation was therefore very slow and expensive.

Mining

The ore in the "A" zone has been almost entirely mined, and most of the mill feed is now coming from the "C" ore bodies. A large stope was started in the "D" ore body at the 7th level, and a small one in the "21" ore body at the 10th level.

The following table shows the sources of ore milled during the year:—

Zone	Tons	Per cent. of total
A	49,482	32.4
B	1,728	1.1
C	75,184	49.3
D	22,177	14.5
21	4,125	2.7
Total	152,696	100

Ore Reserves

As of the end of the year the ore reserves, including 108,000 tons of broken ore, are estimated as follows:—

Zone	Tons	Grade
A	26,800	$5.97
B	26,200	5.85
C	223,800	4.47
D	107,900	5.54
F	8,800	5.20
21	64,300	6.55
Total	457,800	$5.20

Approximately a million tons of probable ore are contained in the green carbonate material of the "D" zone below the 7th level. This zone is mainly explored by widely spaced diamond-drilling. The amount of drilling completed to date is not considered adequate to assess fully the gold content because of the very erratic and patchy distribution of the gold.

An average force of 174 men was employed, of whom 110 were in the mine and 19 in the mill. L. T. Postle is manager.

Cochenour Willans Gold Mines, Limited

Cochenour Willans Gold Mines, Limited, was incorporated in April, 1936, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,961,655 have been issued. The officers and directors are: W. M. Cochenour, president; A. Mackenzie, vice-president; G. M. Huycke, secretary-treasurer; E. C. Cochenour and J. M. Macintosh, directors. The head office is at 801 Dominion Bank Building, Toronto. The mine address is McKenzie Island.

The company's property consists of 25 claims, totalling approximately 706 acres, in Dome township, Red Lake area, Patricia portion of Kenora district. It includes eight claims purchased from Kelson Red Lake Gold Mines, Limited, in 1943.

Mining and milling operations continued throughout 1944. The sinking of the new 3-compartment, vertical No. 2 shaft on claim K.R.L. 462 on the Kelson ground, 1,900 feet northeast of No. 1 shaft, was begun in the spring. The shaft was sunk to a depth of 446 feet, and levels were established at 110, 210, 310, and 410 feet from surface. The vertical, 3-compartment No. 1 or main shaft on claim K.R.L. 322 was deepened from 423 to 688 feet, and new levels were established at 475, 575, and 675 feet. The two shafts were connected on the 375-foot level from No. 1 shaft and on the 310-foot level from No. 2 shaft. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 1 SHAFT:						
150-foot level	29	4,987	136	2,749	58	1,384
275-foot level	431	3,388	152	1,972	192	1,192
375-foot level	744	5,096	351	2,419	283	1,304
475-foot level	.....	.....	8	8	.....	.....
575-foot level	.....	.....	7	7	.....	.....
675-foot level	.....	.....	134	134	.....	.....
No. 2 SHAFT:						
110-foot level	.....	.....	558	558	.....	.....
210-foot level	739	739	152	152	.....	.....
310-foot level	.....	.....	359	359	.....	.....
410-foot level	643	643	376	376	.....	.....

Diamond-drilling during the year consisted of 11 holes, totalling 3,666 feet, from surface and 216 holes, totalling 27,430 feet, from underground.

A headframe, 43 feet high, made of local spruce timber, and a 30- by 36-foot hoist-house were built at No. 2 shaft. A double-drum Canadian Ingersoll-Rand electric hoist and 75 h.p. motor, purchased from Wendigo Gold Mines, Limited; a 1,100-cubic-foot Belliss and Morcom compressor driven by a 225 h.p. motor, bought from Gold Eagle Gold Mines, Limited; and an air receiver were installed.

The following is taken from the manager's report for the 12-month period ending May 31, 1945:—

Mining

With the exception of 1,200 tons, all ore milled was drawn from the three upper levels, and below is a tabulation showing source and grade of ore for the past two years:—

Level	Year ending May 31, 1945		Year ending May 31, 1944	
	Tons	Grade	Tons	Grade
150-foot	4,550	$10.78	4,280	$14.22
275-foot	14,896	16.52	22,050	17.75
375-foot	18,097	26.20	18,656	25.80
Others	1,201	5.80	.....	.....
Total	38,744	$18.22	53,886	$19.92

It will be noted that there was a drop in grade of $1.70 per ton. This can be accounted for by a very much higher percentage of development ore being milled, as compared to previous years.

Production[1] and Costs

During the year a total of 38,766 tons of ore was milled for a daily average of 108.8 tons. This was a still further reduction of tonnage from the previous year, when we milled 53,886 tons for a daily average of 147 tons.

Period	Production	Tons	Recovery per ton	Total costs per ton	Tails	Heads
Year ending May, 1945	$671,563.95	38,766	$17.32	$19.03	$0.92	$18.25
Year ending May, 1944	1,031,589.70	53,886	19.14	14.66	.78	19.92
Year ending May, 1943	1,188,096.60	57,619	20.62	12.83	1.27	21.89
Year ending May, 1942	1,134,362.21	62,330	18.19	11.55	.94	19.13

[1]The following values are calculated on gold at $38.50 per ounce.

All-time production amounts to $5,364,495.83 from 300,859 tons. Average mill head was 0.497 ounces, or $19.14 per ton milled.

The following table gives comparative cost per ton and cost per ounce figures covering the two past fiscal years:—

	Cost per ton		Cost per ounce	
	Year ending May 31, 1945	Year ending May 31, 1944	Year ending May 31, 1945	Year ending May 31, 1944
Development	$4.205	$1.260	$9.345	$2.533
Slashing	.358	.127	.795	.256
Stope preparation	.038	.056	.084	.112
Diamond-drilling, underground	.717	.542	1.594	1.088
Diamond-drilling, surface	.....	.458	.....	.922
Surface exploration	.....	.050	.....	.099
Mining	3.897	3.332	8.660	6.700
Crushing and conveying	.226	.194	.503	.390
Milling	2.116	1.466	4.703	2.949
Flotation	.483	.342	1.073	.689
General expense	1.086	.729	2.413	1.465
Total operating, mine	$13.126	$8.556	$29.170	$17.203
Marketing and shipping concentrates	1.967	1.532	4.370	3.082
Deferred development	1.318	.797	2.928	1.602
Depreciation	2.030	1.368	4.511	2.751
Head office	.589	.450	1.311	.907
Taxes	.....	1.956	.....	3.936
Total	$19.030	$14.659	$42.290	$29.481

Capital Expenditures

Expenditures on this account were heavy and amounted to $74,186.94. Of this total, $59,357.85 was accounted for by the deepening of No. 1 shaft and stations at both No. 1 and No. 2 shafts.

Summary and Conclusion

As shown by the balance sheet, the mine operated at a net loss during the year but did make a profit before write-offs.

The acute labour situation of the war years reached a peak during the past year and still continues to be so at the date of this report. For the first eight or nine months of the year under review, sufficient ore was kept going to the mill to cover all costs, including write-offs, and this despite a very expanded development programme.

The emphasis placed on development during the previous year was continued and enlarged considerably during the past year, and as a result, the ore developed has more than compensated for the sacrifice of profits. With regard to ore reserve, at no time in the history of the company has the mine looked as good.

In the No. 1 shaft area, development was confined to line drives on the three new levels. Two possible ore sections were located, one on the 475-foot level and the second one cut while driving an ore pass from the 675-foot level, this intersection occurring just above the 675-foot level.

Diamond-drilling was continued on the three upper levels, and a large number of intersections were obtained that warrant future development. Some of these holes indicated entirely new potential ore bodies, others were the extension of older stopes, but they all indicate an expanding ore picture.

In addition to the ore pass from the 675-foot level to 475-foot level, the haulageway connection to the No. 2 shaft on the 475-foot level was completed, and plans are under way to electrify this with a trolley locomotive.

The No. 2 shaft area was continuously developed and diamond-drilled, and as a result, three and possibly four large ore bodies have been located and are now under development. In addition, diamond-drilling has indicated other sections which will have to be explored later, the most important one being a possible ore body lying between the 475- and 575-foot horizon. This hole gave 0.74 ounces across 14 feet, and its importance other than width and value is that it occurs some 200 feet north of any known ore and well out under the lake to the north, a previously unexplored area.

In the report of last year, some stress was placed on a new ore body or ore bodies, we did not know at that time which, known as No. 325-327. Subsequent development located a third section, which was known as No. 329. On the level we had over 90 feet of ore width indicated, and stoping was started, assuming that we had three zones closely spaced. However, after mining for three or four months, it developed that it was in reality one zone and made up of a series of folds. A

slot was cut across the zone for approximately 140 feet and mined out vertically to within 20 feet of the 275-foot level. At this point silling out and sublevelling is being carried out, and we are now making preparations to mine this ore body by means of diamond-drill blast-hole drilling over a possible width of 120 to 140 feet. To date 10,062 tons of ore have been taken from this zone in the process of developing it, and it has graded 0.46 ounces, or $17.70 per ton, which conveys in a manner the possible magnitude of it. This includes all development ore and ore from stoping as well as the slot.

We have what may be the upward extension of this ore body on the second or 275-foot level, and we are driving toward it on the 150-foot level and also on the 475-foot level. There are three other ore bodies of this same type now under development: one, the No. 227 stope in the No. 1 shaft area; and the others, the No. 2,102 and No. 2,203 in the No. 2 shaft section. The true widths and grade of the above are as yet not fully determined, but preliminary work indicates the possibility of widths greater than 50 feet with the No. 227 and 2,203 stopes grading slightly below average grade, and No. 2,102 being above average grade. No. 227 stope has produced 11,488 tons with an average grade of 0.32 ounce ($12.30) and No. 2,203 has only been crosscut on, but the drill-holes indicate a grade of 0.27 ounce ($10.35) across 45 feet.

Two raises driven on the No. 2,102 zone were both in high-grade ore, with the face samples running very high and the car samples returning a value of approximately $20.00.

An average force of 105 persons was employed, of whom 47 were in the mine, 12 in the mill, and 47 on surface work. W. P. Mackle is manager.

Coniaurum Mines, Limited

Coniaurum Mines, Limited, which was incorporated in July, 1929, has an authorized capitalization of 3,000,000 shares of no par value, of which 2,766,743 have been issued. The officers and directors are: H. Lindsley, president; A. L. Bishop, vice-president; H. Whittingham, secretary-treasurer; Thayer Lindsley, T. H. Rea, Fraser D. Reid, and D. M. Hogarth, directors. The head office is at 25 King Street West, Toronto. The mine address is Schumacher.

The company is the second of the name. The first company, which was incorporated in 1924 and went into receivership in 1929, had an issued capital of 1,200,000 shares of $5 par value and $800,000 in 7 per cent. bonds. The shares were exchanged on a basis of one new share for two old shares held. Bondholders in the old company were given the option of exchanging the $80 bonds for 120 shares of the new stock or redeeming them at par plus accrued interest.

The main property consists of 19 claims, approximately 760 acres, adjoining the McIntyre-Porcupine mine, in Tisdale township, Porcupine area, district of Cochrane. It includes the former Goldale, Newray, Armstrong-Booth, and Strong Bow properties. The company also holds three additional claims in the same township.

Operations were continuous throughout 1944. The mine is operated through a system of vertical shafts and winzes, as shown in the following table:—

Shaft or winze	No. of compartments	Total depth from surface
		feet
Bishop shaft	3 to 2,000 feet. 4 to 3,666 feet.	3,666
Bishop subshaft (below 3,250-foot level)	2 and 3 to 3,500 feet. 4 below 3,500 feet.	5,641
Goldale shaft	2 to 400 feet. 3 to 1,000 feet.	1,020
No. 1 winze (below 2,000-foot level)	2	2,533
No. 2 winze (below 3,000-foot level)	2 to 3,500 feet. 3 to 5,000 feet.	5,028
No. 3 winze (below 2,000-foot level)	2	2,755

The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
100-foot	.....	90	.....	71	.....	19
150-foot	.....	732	.....	414	.....	.....
200-foot	.....	171	.....	.....	.....	490
250-foot	.....	484	.....	.....	.....	167
400-foot	.....	3,831	.....	7,168	.....	907
500-foot	.....	548	.....	94	.....	207
700-foot	.....	3,082	.....	3,390	.....	1,834
770-foot	.....	.....	.....	5	.....	.....
850-foot	.....	1,189	.....	497	.....	209
900-foot	22	1,430	.....	174	142	1,156
950-foot	.....	168	.....	.....	.....	.....
1,000-foot	.....	6,308	.....	8,243	.....	5,280
1,100-foot	.....	141	.....	43	.....	61
1,125-foot	.....	529	.....	229	.....	.....
1,250-foot	.....	3,660	.....	4,881	.....	2,716
1,300-foot	.....	42	.....	71	.....	121
1,375-foot	.....	247	.....	.....	.....	.....
1,500-foot	.....	4,967	.....	7,225	.....	2,007
1,625-foot	.....	469	.....	.....	.....	8
1,750-foot	.....	2,385	.....	2,161	.....	818
2,000-foot	.....	4,002	.....	5,138	.....	2,318
2,125-foot	.....	340	.....	.....	.....	.....
2,250-foot	.....	1,112	.....	335	.....	519
2,300-foot	.....	490	.....	476	.....	88
2,450-foot	.....	777	82	699	337	1,841
2,500-foot	.....	1,278	.....	689	.....	173
2,525-foot	.....	172	.....	.....	9	21
2,600-foot	.....	966	.....	626	.....	1,464
2,750-foot	72	2,048	.....	2,339	103	3,126
2,825-foot	.....	147	.....	.....	.....	18
2,875-foot	.....	101	.....	224	73	510
2,950-foot	14	82	.....	.....	128	169
3,000-foot	38	2,509	.....	6,258	24	4,642
3,225-foot	34	157	.....	.....	33	33
3,250-foot	46	2,453	.....	3,072	60	2,604
3,300-foot	.....	156	.....	.....	.....	.....
3,375-foot	51	143	.....	.....	.....	.....
3,500-foot	31	2,642	.....	10,022	.....	3,110
3,750-foot	.....	2,244	.....	2,175	32	3,162
3,800-foot	.....	188	.....	.....	.....	112
4,000-foot	78	3,756	.....	1,428	151	3,891
4,100-foot	.....	153	.....	.....	.....	.....
4,150-foot	78	1,402	.....	250	46	.....
4,250-foot	48	2,190	.....	2,318	.....	2,228
4,400-foot	6	731	.....	.....	71	271
4,500-foot	24	1,169	.....	4,108	59	2,288
4,750-foot	197	488	233	.....	6	2,706
5,000-foot	20	1,613	.....	9,294	.....	1,276
5,250-foot	949	2,185	163	4,279	1,164	1,502
5,500-foot	261	644	1,972	3,769	154	1,371
5,500-foot (loading pocket)	.....	.....	.....	.....	.....	308

Diamond-drilling during 1944 consisted of 74 holes, totalling 22,247 feet, all from underground.

The following is taken from the general manager's report for the year ending December 31, 1944:—

Development and Exploration

Development has been carried on in many places throughout the mine from the 900-foot level to the 5,500-foot level. This work consisted of stope drifting and stope raising as well as the usual drifting and raising development from the main levels.

On the 5,250-foot level, Nos. 46, 59, and 52 veins were developed during the year with favourable results. These will supply considerable mill feed. These ore shoots are not fully developed to date.

On the 5,500-foot level, work has been confined mainly to exploration, driving M.1 main drive to the east to explore the downward extension of veins Nos. 51, 59, and 46. To date No. 46 vein has been driven on for a distance of 141 feet in ore. M.1 is being continued east in favourable ground. In the near future this drive will be diamond-drilled to further prospect north and south of these workings.

On the 5,500-foot level, M.2 main drive is being extended westward to explore the downward extension of No. 52 vein, already indicated in diamond-drill hole No. 1,765. M.2 is also being continued further west to explore the downward extension of the vein that was indicated in diamond-drill hole No. 1,742, which was drilled from the 5,250-foot level and is under the north porphyry. This face has to be continued about 800 feet further west to reach the objective.

In the porphyry on the 5,500-foot level a number of short holes were drilled about 450 feet west of the No. 10 crosscut. They indicated a number of quartz stringers carrying fair gold values. These, when developed, it is considered, can be mined for over a length of 80 feet. The width of this zone will be determined by exploration, and it is expected to supply a tonnage of mill feed.

Operations

During the year we have been forced to reduce the mill tonnage to an average of 269 tons per day. This has necessitated some slight changes in the mill flow-sheet. This year mine development has not quite been in step with ore mined. Raising and stoping preparations have suffered the most. There are a number of ore shoots opened awaiting further development on the lower levels.

Labour Conditions

Labour conditions have not improved over those of last year. We are urgently in need of experienced miners. At present no improvement is in sight.

Summary of Development

	Feet
Crosscutting	2,450
Drifting	1,969
Raising	2,952
Diamond-drilling	22,247

Footage driven in ore was 945 feet, with an average assay value of 5.4 pennyweights per ton over a width of 3.8 feet. Raising in ore was 1,234 feet over a width of 3.5 feet with an assay value of 7 pennyweights per ton.

Broken Ore Reserves

At the end of the year the broken ore reserves stand at 82,998 tons, with an estimated value of 6.2 pennyweights per ton. These are slightly larger than in the previous year. This is accounted for by the shrinkage stopes above the 3,000-foot level.

Milling

During the year the mill treated 98,540 tons of ore with an average recovery of $10.53 per ton, extracting 97.2 per cent. of the gold content and operating 364.4 days, or 99.6 per cent. of possible running time.

The average number of men employed was 205, divided as follows: mine, 126; mill, 22; general surface work, 57. John Redington is general manager.

Continental Kirkland Mines, Limited

Continental Kirkland Mines, Limited, was incorporated in December, 1927, with an authorized capitalization of 5,000,000 shares of $1 par value. The officers and directors are: H. A. Guess, president; G. A. Brockington, secretary; J. C. Emison, treasurer; C. W. Bell, A. W. Holmested, and R. F. Goodwin, directors. The head office is at Kirkland Lake.

The property consists of 27 claims in Lebel township, Kirkland Lake area, district of Timiskaming.

No underground development work has been done by the company since 1938. In 1939 an agreement was entered into with Toburn Gold Mines, Limited, under the terms of which Toburn carried out a diamond-drilling campaign, made a geophysical survey, and is running a drift on its 2,475-foot level towards Continental Kirkland's west boundary. The drift was advanced a further 618 feet

in 1944. A further reference to the work appears on page 92 of this report under Toburn Gold Mines, Limited.

Delnite Mines, Limited

Delnite Mines, Limited, which was incorporated in October, 1934, has an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,978,767 have been issued. The officers and directors are: E. L. Koons, president; W. V. Moot, vice-president and managing director; C. L. Ingham, treasurer; W. S. Walton, secretary; Lewis R. Gulick, Harry Yates, Jas. Savage, Alfred H. Sharpe, and K. C. Gray, directors. The company is controlled by Sylvanite Gold Mines, Limited. The head office and mine office are at Timmins. The Toronto office is at 603 Royal Bank Building.

The main property consists of 8 claims, containing approximately 306 acres, in Deloro township, Porcupine area, district of Cochrane, three miles southeast of the town of Timmins. It includes the former La Roche mine, the former Rendix or Martin claims, and a claim known as the Jarvis. In 1944 three additional claims were bought in Deloro township, and three in Ogden township.

Mining and milling operations continued throughout 1944. There are two vertical shafts on the property, both on claim T.R.S. 825. The 2-compartment No. 1 shaft is 391 feet deep and is connected to No. 2 main shaft on the 250- and 375-foot levels. The first level, developed entirely from No. 1 shaft at a depth of 125 feet, is not directly connected with No. 2 shaft. It is planned to continue the 3-compartment No. 2 shaft to a depth of 3,000 feet. During 1944 it was deepened from 2,266 feet to 2,638 feet. New levels were established at 2,375 and 2,500 feet. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
125-foot	.....	1,938	.....	1,163	.....	372
250-foot	.....	2,746	.....	1,705	.....	423
375-foot	.....	1,976	.....	1,119	.....	1,045
500-foot	512	4,338	.....	1,374	.....	698
625-foot	.....	3,286	331	1,105	144	540
750-foot	402	4,415	334	2,415	.....	722
875-foot	.....	2,748	.....	453	.....	506
1,000-foot	988	3,006	78	923	.....	348
1,125-foot	.....	1,635	.....	131	.....	370
1,375-foot	.....	1,385	.....	226	.....	326
1,500-foot	.....	1,537	.....	317	.....	331
1,560-foot (pocket)	.....	.....	.....	.....	.....	.....
1,625-foot	.....	962	.....	529	.....	194
1,875-foot (station only)	.....	.....	.....	.....	.....	.....
2,000-foot (station only)	.....	.....	.....	.....	.....	.....
2,150-foot (station only)	.....	.....	.....	.....	.....	.....
2,250-foot (station only)	.....	.....	.....	.....	.....	.....
2,375-foot (station only)	.....	.....	.....	.....	.....	.....
2,500-foot	.....	.....	20	20	20	20

Diamond-drilling during 1944 consisted of 32 holes, totalling 11,195 feet, from underground.

The following is taken from the manager's report for the twelve months ending December 31, 1944:—

Production

Ore treated	tons	93,112
Gross value		$612,086.19
Bullion recovered:		
Gold (14,798.686 ounces at $38.5000344)	$569,749.92	
Silver (1,288.86 ounces at $0.386)	497.51	
Total value		$570,247.43
Value per ton		$6.574
Recovery per ton		$6.124
Recovery per cent		93.16

PRODUCTION SINCE MILLING COMMENCED JUNE 1, 1937

Fiscal year ending	Tons milled	Value per ton milled	Gross value	Recovery per ton	Recovery value	Average price per ounce
Mar. 31, 1938[1]	57,689	$7.01	$404,484.39	$6.41	$369,678.75	$35.17
Mar. 31, 1939	91,749	8.56	785,063.52	7.81	716,520.84	35.21
Mar. 31, 1940	114,922	7.78	894,640.71	7.12	818,312.96	37.04
Dec. 31, 1940[2]	99,342	7.22	716,875.50	6.70	665,391.28	38.50
Dec. 31, 1941	166,596	7.65	1,274,895.04	7.10	1,183,052.95	38.50
Dec. 31, 1942	172,727	7.53	1,299,700.68	7.07	1,220,662.79	38.50
Dec. 31, 1943	125,887	7.15	900,064.69	6.51	819,671.83	38.50
Dec. 31, 1944	93,112	6.57	612,086.19	6.12	570,247.43	38.50

[1]Ten months.
[2]Nine months.

SUMMARY OF ORE AND WASTE HOISTED AND BACKFILL PLACED

	Development	Stopes	Total	Backfill placed	
				Waste	Gravel
	tons	tons	tons	tons	tons
Ore	5,599	87,295	92,894	.....	.....
Waste	7,397	.....	7,397	14,458	26,920

Broken Ore Reserves

Broken ore reserves are estimated at 37,377 tons at a grade of 2.96 pennyweights per ton, or $5.70 at $38.50 per ounce of gold.

Costs

	Total costs	Cost per ton milled		Cost per fine ounce gold produced, 1944
		1944	1943	
OPERATING COSTS:				
Development and exploration	$104,339.55	$1.120	$0.617	$7.051
Mining	251,474.05	2.701	2.097	16.993
Milling	133,326.80	1.432	1.233	9.009
General mine charges after deducting sundry revenue	55,554.35	.597	.425	3.754
Administrative expense (partly mine)	24,274.15	.261	.195	1.640
Bullion marketing expense, including Mint handling and refining charges	6,374.58	.068	.073	.431
Shaft-sinking (written off)	.....	.....	.069	.....
Total	$575,343.48	$6.179	$4.709	$38.878
OTHER COSTS:				
Provision for depreciation	$69,569.32	$0.747	$0.544	$4.701
Preliminary development (written off)	46,556.00	.500	.500	3.146
Provision for taxes	.....	.....	.204	.....
Total	$116,125.32	$1.247	$1.248	$7.847
Total costs	$691,468.80	$7.426	$5.957	$46.725

Summary

The number of men available for underground work again decreased, and it was necessary to reduce the tonnage of ore milled to an average of 254·4 tons per day.

Three factors increased the operating costs during the year, namely: lower tonnage milled, increased gravel backfill, and increased development work. Gravel backfill to the amount of 32,348 tons was purchased and placed partly in empty stopes and partly in the mine storage system. The amount placed in storage together with current waste rock is sufficient for mine requirements up to the summer of 1945.

Lateral development work was confined to the south ore zone on the 500-, 750-, and 1,000-foot levels. Drifting was 21.2 per cent. in ore and gave a length of 403 feet, which averaged 4.30 pennyweights over a width of 3.58 feet. Development of the main ore zone from the new levels will be commenced when the surface hoist can service the shaft to the 2,625-foot level. Diamond-drill holes indicate that several reasonably strong veins occur about 700 feet north of the shaft at the 2,250-foot horizon.

An average force of 150 men was employed, of whom 95 were in the mine, 16 in the mill, and 39 on general surface work. John Beattie was manager.

Dome Mines, Limited

Dome Mines, Limited, was incorporated under Dominion charter in 1923 to succeed the Dome Mines Company, Limited. The authorized capitalization is 2,000,000 shares of no par value, all of which have been issued. Of these, 53,332 shares had been held by the trustees of the Employees Pension Fund. The pension fund being actuarially sound, these shares are now held in trust for the company and the dividends thereon are immediately returnable to the company.

Jules S. Bache, chairman of the board, and Alex. Fasken, who had been vice-president and secretary of the company for many years, both died during 1944. The officers and directors at the end of the year were: C. W. Michel, president and treasurer; J. H. Stovel, vice-president; C. C. Calvin, secretary; E. P. Goetz, assistant secretary and assistant treasurer; John B. Robinson and H. H. Butterman, assistant secretaries; Morton F. Stern, Simon N. Stein, A. D. McRae, F. Warren Pershing, Byron C. Foy, and F. H. Marsh, directors. The president's office is at 36 Wall Street, New York. The secretary's office is at 36 Toronto Street, Toronto. The mine office is at South Porcupine.

The company owns 53 claims and the beds of Porcupine and Simpson lakes in Tisdale and Whitney townships and 5 claims in Shaw township, Porcupine area, district of Cochrane, containing in all 2,857 acres.

The mine has been developed from the vertical shafts and winzes shown in the following table:—

Shaft or winze	No. of compartments	Total depth from surface
		feet
No. 1 shaft	3	105
No. 2 shaft	3	805
No. 3 or main shaft	5	2,456
No. 4 internal shaft (below 13th level)[1]	2	2,052
No. 5 internal shaft (below 16th level)[1 2]	3	3,137
No. 6 internal shaft (below 16th level)[2]	5	4,061
No. 1,802 winze (below 18th level)[1]	2	2,870
No. 2,309 winze (below 23rd level)[1 3]	3	3,775

[1]Not being used for hoisting.
[2]Also connected with the main shaft on the 18th level.
[3]This winze was originally 722 feet deep below the collar, but has been partially stoped out.

The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
Unsegregated, from very old records	.....	3,385	.....	2,076	.....	892
1st	.....	1,580	.....	2,394	.....	2,329
2nd	.....	49	.....	144	.....	26
3rd	250	6,939	47	5,643	150	5,636
4th	.....	904	.....	867	.....	584
5th	348	9,040	87	6,874	70	6,249
6th	38	9,887	.....	6,203	111	5,853
7th	89	11,291	146	5,938	250	6,464
8th	447	10,952	87	6,227	35	8,019
9th	29	10,733	40	5,311	78	5,319
10th	281	15,747	31	7,115	451	8,859
11th	294	18,033	138	6,738	1,040	10,252
12th	926	17,826	107	7,055	345	9,024
13th	776	16,208	15	6,104	359	5,745
14th	489	13,470	38	7,308	121	4,858
15th	647	9,145	155	3,999	184	2,768
16th	478	12,597	447	5,105	221	4,733
17th	.....	6,610	.....	1,381	.....	1,850
18th	.....	8,346	.....	2,457	.....	3,141
19th	.....	1,798	.....	249	.....	427
20th	.....	3,685	.....	24	.....	359
21st	.....	842	.....	.....	.....	310
22nd	.....	447	.....	8	.....	310
23rd	.....	6,219	.....	2,186	.....	1,324
24th	.....	4,064	.....	1,364	.....	1,686
25th	.....	3,291	.....	1,102	.....	1,284
26th	.....	2,237	.....	452	.....	967
27th	.....	1,873	.....	735	.....	825
28th	.....	1,020	.....	23	.....	371
29th	.....	723	.....	8	.....	470

The following is taken from the general manager's report for the year ending December 31, 1944:—

During the year 519,800 tons of ore was treated in the mill. In the course of mining operations 33,800 tons of waste rock was excavated, all of which was used as fill underground. The 519,800 tons of ore milled yielded 134,230 ounces of gold, the yield being 0.2582 ounces, or 5.164 pennyweights per ton.

All values of ore, etc., will be expressed in pennyweights (dwts.) throughout this report. One pennyweight equals one-twentieth of an ounce, troy weight. At $38.50 per ounce of gold, one pennyweight is equal to $1.92½ in Canadian funds.

OPERATING STATEMENT

for the year ended December 31, 1944

EARNINGS:		
Bullion production		$5,177,494.82
OPERATING AND MAINTENANCE EXPENDITURE:		
Development and exploration	$291,168.65	
Mining, including hoisting	981,960.34	
Crushing and conveying	101,396.34	
Milling	443,630.74	
Refining and marketing	59,030.51	
Fire protection	10,462.25	
Warehouse expense	20,058.43	
Auditing expense	3,915.48	
Administrative expense:		
Mine office	154,901.33	
Executive office	73,120.97	
Registrar and transfer fees and expenses	16,463.55	
Insurance	13,982.87	
Taxes other than income	21,284.04	
Current contributions to pension fund	34,165.19	
		2,225,540.69
NET OPERATING PROFIT (before depreciation, income taxes, and outside exploration written off)		$2,951,954.13

Mining

The following table shows the source and grade of the ore milled, and this includes 42,700 tons of development ore of an average grade of 3.66 pennyweights per ton.

Source	Tons	Dwts. per ton
5th level to surface, including approximately 6,500 tons of ankerite ore	30,222	3.94
Ankerite veins below the 5th level	124,055	4.83
23rd level and below	Nil	Nil
Remainder of mine, including approximately 92,200 tons from the Schumacher area	365,523	5.72
Total	519,800	5.41

The total broken ore reserves at the end of the year were 599,500 tons, a decrease of 115,100 tons during 1944. This decrease would have been much more had not some of our old large stopes supplied a greater tonnage of ore than they were credited with still having on January 1, 1944. The explanation of this fact is that when these stopes were worked, the price of gold was $20.67 per ounce and only what was pay ore then was mined. Much submarginal ore was left on the sides, and with the passage of time a great deal of this eventually caved into the stopes. Due to the increased price of gold and because of the fact that it is cheaply mined, this caved material has become pay ore even if it is low grade. Full advantage was taken of this in the past years, and in 1944, 113,700 tons was pulled from stopes which, on our old records, showed as having been pulled empty.

The report for 1943 dealt very fully with the factors that were influencing production and the grade of the ore. Lack of labour lies at the root of all these troubles. There has been no improvement in general operating conditions, so that what was said last year holds equally good this year and no hope can be held for immediate improvement. One remarkable and encouraging fact is the way ore reserves have held up despite the fact that no major development work has been possible for a long time. The drop in ore reserves has only been approximately 200,000 tons since 1939, and they still stand at 2,353,000 tons.

SUMMARY OF DEVELOPMENT BY LEVELS FOR THE YEAR 1944

Level	Drifts	Cross-cuts	Drift and crosscut slab	Raises	Box-holes	Raise, winze, and box-hole slab	Total	Diamond-drilling (exploration and direction of mining)	Diamond-drilling blast-holes
	feet	feet	feet	feet	feet	feet	feet	feet	feet
3rd	250	47	58	150	472	357	1,334	1,553	.....
5th	348	87	118	70	40	26	689	1,045	.....
6th	38	.....	97	111	69	163	478	21	554
7th	89	146	55	250	111	105	756	548	.....
8th	447	87	83	35	426	295	1,373	76	.....
9th	29	40	1	78	.....	.....	148	.....	.....
10th	281	31	84	451	80	93	1,020	465	.....
11th	294	138	81	1,040	55	77	1,685	872	16,520
12th	926	107	104	345	219	225	1,926	1,014.5	2,144
13th	776	15	157	359	43	65	1,415	1,717.5	.....
14th	489	38	61	121	550	293	1,552	1,141	1,417
15th	647	155	182	184	127	127	1,422	2,064.5	1,600
16th	478	447	70	221	683	452	2,351	1,213.5	11,902
Total	5,092	1,338	1,151	3,415	2,875	2,278	16,149	11,731	34,137

Development

A total of 16,149 feet of development work was done during the year, and the details of this work are set forth in the preceding table. Practically all of this work was done in connection with the known ore bodies. No major development work of any kind was carried on.

Diamond-drilling was also restricted to short holes to give direction to our stoping work and to the drilling of blast-holes for the actual mining of ore. In the former class 11,731 feet and in the latter class 34,137 feet were drilled.

Ore Production

During the year the mine produced 519,800 tons of ore, which averaged 5.41 pennyweights per ton. Of this, 477,100 tons, averaging 5.56 pennyweights per ton, came from the stopes and 42,700 tons, averaging 3.66 pennyweights per ton, came from development work.

Ore Reserves

The ore reserves are estimated at 2,353,000 tons, a decrease of only 73,000 tons from the tonnage shown last year. The ore reserves are classed as follows:—

	Per cent.
Ankerite veins	22.6
23rd level and below	20.8
Remainder of mine	56.6

Mill

The following are the milling results:—

Ore treated	tons	519,800
Average grade treated	dwts. per ton	5.41
Recovery	per cent.	96.76

Costs

The expenditure on mining was $981,960.34, or $1.89 per ton, as compared with $1.70 per ton milled in 1943. The expenditure on development was $291,168.65, or $0.56 per ton, compared with $0.64 per ton milled in 1943. The total operating charges for the year were $4.28 per ton, as compared with $4.13 per ton milled in 1943.

Capital Expenditure

The details of changes in capital assets for 1944 are as follows:—

	Increase	Decrease
Shop Buildings, Machinery, and Equipment:		
Shop for repairing mucking-machines	$2,491.85	.....
Camp and General Buildings and Equipment:		
Blue-print machine	555.47	.....
Miscellaneous equipment written off	.....	$161.65
Blue-print machine, written off	.....	287.00
Total	$3,047.32	$448.65

Additions	$3,047.32
Written off	448.65
Net increase	$2,598.67

Outside Exploration

The claims mentioned last year in the area just east of the Ontario-Manitoba boundary line had a considerable amount of shallow diamond-drilling done on them during the year. No ore body of economic value was indicated, and this work was abandoned early in the fall of the year. We also had men in the field prospecting for gold, but no discoveries were made.

Direct expenditures by your company on exploration work totalled $20,337.11, and a further sum of $34,403.10 was expended by Dome Exploration Company (Quebec), Limited. This made a total expenditure on this work of $54,740.21.

War Work

This war contract work, which is carried on in co-operation with the other mines of the district, was continued on throughout 1944 although on a somewhat lesser scale than in 1943. It appears now as if this effort would be discontinued shortly for lack of further contracts.

General

The operating experience in the year 1944 was very similar to that in the preceding year. There was a slight falling off of men available for mine labour during the year. By excessive pulling of broken ore reserves the company was able to maintain the tonnage milled. The general grade of the ore, for reasons previously explained, was lower; and in October the dividend rate was cut after having held the old dividend rate steady for two and a half years.

The company employed an average of 546 men during the year, of whom 247 were in the mine, 55 in the mill, and 244 on surface. J. H. Stovel was general manager, and Robt. E. Dye, assistant general manager.

Hallnor Mines, Limited

Hallnor Mines, Limited, was incorporated in April, 1936, with an authorized capitalization of 2,000,000 shares of $1 par value, all of which have been issued. The officers and directors are: Jas. Y. Murdoch, president; J. R. Bradfield, secretary; R. G. Rudolf, treasurer; H. Pinnock, assistant treasurer; F. M. Connell, A. L. Ellsworth, Leo H. Timmins, and J. E. Perrault, directors. The head office and mine office are at Pamour. The executive office is at 1600 Royal Bank Building, Toronto.

The property consists of 160 acres in the north half of lot 7, concession V, Whitney township, Porcupine area, district of Cochrane, adjoining the west boundary of the property of Pamour Porcupine Mines, Limited.

The mine and mill continued to operate throughout 1944. The mine has been developed from a vertical, 3-compartment shaft, 2,244 feet deep. Owing to the prevailing shortage of underground labour the only development work done during the year was 318 feet of drifting on the 760-foot level. The following table shows the total development work on the property at the end of 1944:—

Level	Drifts	Crosscuts	Raises
	feet	feet	feet
210-foot	1,650	1,224	317
360-foot	3,323	1,507	1,297
560-foot	4,316	1,615	1,867
760-foot	2,567	353	1,048
960-foot	3,177	571	1,376
1,110-foot	2,382	381	740
1,260-foot	2,713	622	405
1,410-foot	1,500	188	306
1,560-foot	2,603	208	95
1,860-foot (station only)	.....	.....	.....
2,010-foot (station only)	.....	.....	.....
2,160-foot	2,586	150	137

Diamond-drilling during the year amounted to 100 holes, totalling 6,248 feet, from underground.

The following is taken from the manager's report for the year ending December 31, 1944:—

Mining

The work underground consisted of drifting, fill, raising, diamond-drilling, and stoping. The only drifting and raising done, due to shortage of labour underground, was that necessary to get backfill into the producing stopes.

Diamond-drilling, all done underground, was mainly short test-holes in walls of stopes and drifts. No new ore was put in sight by any of this drilling.

Stoping was carried on on the 2nd, 3rd, 4th, 5th, and 6th levels with the major portion of the ore coming from the 5th and 6th levels. Two years ago a start was made changing our mining method from open square sets to cut-and-fill stoping. This change has been completed, and all ore now produced is coming from cut-and-fill stopes.

	Tons
Ore broken in stopes	100,618
Ore drawn off	102,342
Broken reserve	8,642
Backfill placed in stopes	65,987

Ore Reserves

The ore reserves are somewhat below that shown at the end of 1943 and now stand at 550,372 tons with an average cut grade of 0.35 ounces per ton, compared with 607,376 tons and an average grade of 0.37 ounces per ton at the end of 1943.

Mill

The mill has been in continuous operation throughout the year. The 8- by 8-foot ball mill operated 8,756.7 hours, or 99.7 per cent. of possible running time. The tonnage milled varied from a high of 325 to a low of 250 tons per day, due entirely to shortage of labour underground. The mill treated 102,742 dry tons of ore, or an average of 280.7 tons per day.

Bullion produced for the year had a value of $1,585,266.61 from 102,742 tons of ore for an average recovery of $15.43 per ton, compared with $13.84 per ton in 1943.

General

Surface labour has been normal and fairly steady throughout the year, but underground labour has been scarce during the entire period and especially so for the last 4 months of the year. Absenteeism still plays a considerable part in keeping down production, with surface running 7.14 per cent. and underground 12.93 per cent.

The machine shop has been working fairly steadily but at a reduced rate on war work of different kinds. The last, and what looks like the final order, was completed in November.

An average of 137 men was employed during 1944, of whom 81 were in the mine, 20 in the mill, and 36 on general surface work. A. L. Sharp is manager.

Hard Rock Gold Mines, Limited

Hard Rock Gold Mines, Limited, which was incorporated in January, 1934, has an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,990,074 have been issued. The officers and directors are: T. H. Rea, president; G. W. Rayner, vice-president; W. S. Walton, secretary-treasurer; A. B. Gordon, H. R. Aird, and Wm. W. Smith, directors. The head office and mine office are at Geraldton. The secretary's office is at 603 Royal Bank Building, Toronto.

The main property consists of 845 acres in Ashmore township, Little Long Lac area, district of Thunder Bay. It is accessible by automobile road from Geraldton, 4½ miles north of the property on the Longlac–Port Arthur branch of the Canadian National Railways. During 1944 the company acquired the major interest in 13 claims in Midlothian township, Matachewan area, district of Timiskaming.

Work in the No. 2 shaft area of the main property was continued throughout 1944. The No. 1 shaft workings have not been operated since 1939. The vertical, 3-compartment No. 2 shaft on claim T.B. 9,991 is 1,410 feet deep. The vertical, 3-compartment No. 2 winze, which is collared at the 475-foot level about 1,300 feet northwest of the shaft, runs to a depth of 800 feet from surface. The following table shows the development work done during 1944 and the total in the No. 2 shaft section:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 2 Shaft:						
150-foot level	.....	3,984	.....	1,911	.....	1,029
250-foot level	.....	4,457	.....	2,343	.....	833
360 foot level	.....	1,594	.....	382	.....	584
475-foot level	.....	4,692	.....	2,372	.....	1,223
625-foot level	217	730	.....	227	49	49
775-foot level	297	883	.....	81	.....	.....
925-foot level (station only)	.....	.....	.....	.....	.....	.....
1,025-foot level (station only)	.....	.....	.....	.....	.....	.....
1,225-foot level (station only)	.....	.....	.....	.....	.....	.....
1,375-foot level	1,833	3,586	736	1,010	109	109
No. 2 Winze:						
625-foot level	.....	1,032	.....	219	.....	.....
775-foot level	.....	1,723	.....	63	.....	.....

Diamond-drilling in 1944 consisted of 66 holes, totalling 16,555 feet, from underground.

The following is taken from the general manager's report for the twelve months ending December 31, 1944:—

Mining and Development[1]

The increasing shortage of labour during the year, particularly in the underground department, made the accomplishment of normal operations impossible. During the first six months an average of 351 feet of development work was completed each month, but during the last six months the average was only 189 feet per month. In spite of the reduced development work during the latter period, mining also had to be curtailed for lack of miners, and the broken ore reserve was decreased from 110,000 tons to 72,000 tons during the year.

During the summer months approximately 18,000 cubic yards of overburden was excavated above two stope pillars in the North ore body in preparation for blast-hole drilling and subsequent extraction of the ore in these pillars. Several more stope pillars were diamond-drilled ready for blasting.

Development on the fifth level (625-foot level) on the erratic ore structure reported last year has indicated an ore reserve in this area estimated to be 15,000 tons of an average value of $8.00 per ton. Drifting on a similar structure on the sixth level (775-foot level) west of No. 2 shaft has indicated the possibility of an extension of such ore, but work on this level is not sufficiently advanced to warrant any estimate of ore.

The main drift east on the tenth level (1,375-foot level) was advanced 1,400 feet and at the year end was 3,100 feet east of No. 2 shaft. No definite ore bodies were encountered in the diamond-drilling which was done at regular intervals from this drift. One crosscut was driven north to investigate values obtained in iron formation in five successive diamond-drill holes, but in subsequent drifting it was found that the values were confined to narrow widths which could not be profitably mined. One crosscut was driven south to investigate values obtained in a zone of small quartz veins intersected in two diamond-drill holes approximately 400 feet apart. The values obtained in 150 feet of drifting in this area were erratic and generally below ore grade. Drifting from the south crosscut was temporarily discontinued in October due to the shortage of labour before the exploration was completed and before reaching the best drill intersections.

Comparative Development Data[2]

	1943	1944
	feet	feet
Drifting	2,851.5	2,348
Crosscutting	515.5	736
Raising	.....	158
Diamond-drilling[3]	23,126	16,555
	cu. ft.	cu. ft.
Slashing	26,116	60,429

Ore Treatment

Of a total of 109,932 tons of ore hoisted, 18,885 tons were sorted and discarded as waste and 91,047 tons milled, averaging $9.04 per ton.

The mill operated 78 per cent. of the possible running time at a rate substantially below capacity. The monthly milling average (not including stored concentrates) for the past three years was: 1942, 11,176 tons; 1943, 8,114 tons; 1944, 7,587 tons.

From late May to the end of October, 9,282 tons of previously stored concentrates were roasted and cyanided. The average value of the concentrates treated was $17.70 per ton. During this period the milling of sulphide ore was reduced and the roaster was used almost exclusively for the roasting of these concentrates. By treating these concentrates and hence not hoisting ore from the mine, it was possible to use the limited number of miners to the best advantage and maintain an available broken ore reserve which enabled production to be continued until the end of the year.

The total proceeds from bullion amounted to $838,489.16, including $131,717.85 recovered from stored concentrates treated.

The source and average value of ores treated was as follows:—

	Tons hoisted		Tons treated	Average value per ton treated
	from development	from stoping		
Sulphide ore	575	93,747	75,437	$9.56
Quartz ore[4]	7,297	8,313	15,610	6.51
Concentrates	.....	.....	9,282	17.70

[1]All values per ton noted in this report are based on a gold value of $38.50 per ounce.

[2]Does not include lineal footage of stope preparation, i.e. draw-holes, stope service raises, scram drifts, stope sublevels, grizzly raises, etc.

[3]Does not include blast-hole drilling.

[4]No sorting was done on this ore.

During the greater part of the year the mill operated below daily capacity; it was, therefore, not economical to continue thoroughly sorting the waste out of the hoisted ore and for that reason the average value of the sulphide ore treated was less than last year.

Ore Reserves

The total sulphide ore reserve in the North vein system is estimated to be 205,000 tons of an average value of $7.46 per ton, of which 72,000 tons is broken and in reserve in the stopes. According to previous experience after sorting, this is estimated to be equivalent to 142,000 tons of an average value of $10.42 per ton.

The total quartz ore reserve in the No. 2 shaft area is estimated to be 20,000 tons of an average value of $8.00 per ton. Experience has indicated that this type of ore cannot be beneficially sorted.

Exploration work during the year did not disclose any important amount of new ore. Stoping operations have confirmed recent estimates of the sulphide ore reserve. The tonnage of quartz ore in reserve was estimated as closely as possible from limited known factors, and subsequent stoping may result in the production of a greater tonnage.

Statement of Operations

The following is a statement of operations for the year ending December 31, 1944:—

	Total	Per ton milled (91,047 tons)	Per ton milled and sorted (109,932 tons)
INCOME:			
Proceeds from bullion[1] (ore milled, $706,771.31; stored concentrates treated, 9,282 tons, $131,717.85)	$838,489.16	$9.2094	$7.6273
Interest on investments and bank balances	7,052.15	.0775	.0642
Total	$845,541.31	$9.2869	$7.6915
EXPENSES:			
Development	$105,833.42	$1.1624	$0.9627
Write-off of winze- and shaft-sinking expense, deferred	34,908.48	.3834	.3175
Mining	245,182.08	2.6929	2.2303
Milling	214,114.31	2.3517	1.9477
Applicable directly to stored concentrates treated (original cost up to storing, $72,891.54; subsequent treatment, $41,877.47)	114,769.01	1.2505	1.0440
Marketing bullion	9,371.97	.1029	.0853
General and administrative after deducting sundry revenue	62,673.16	.6884	.5701
Expenses for stock transfers and audit, legal, and administration	17,244.13	.1894	.1569
Total	$804,096.56	$8.8316	$7.3145
OPERATING PROFIT FOR YEAR (before providing for depreciation and development write-off)	$41,444.75	$0.4553	$0.3770
OTHER COSTS:			
Provision for depreciation	$54,787.71	$0.6018	$0.4984
Development charges written off	45,523.50	.5000	.4141
Total	$100,311.21	$1.1018	$0.9125
Loss for year	$58,866.46	$0.6465	$0.5355

[1]Gold, 21,775.607 fine ounces; silver, 330.470 fine ounces.

The company had on hand at December 31, 1944, concentrates having an estimated recoverable value of $26,755.67.

The total costs per ton as shown in the "Statement of Operations" under the headings "Per ton milled" and "Per ton milled and sorted" are distorted for the following reasons: The tonnages under these headings do not include the tonnage of stored concentrates treated, whereas the total costs include the cost of handling and treatment and write-off of charges applicable to these concentrates.

As a result of the reduction of milling rate, the total costs per ton are increased due to the fact that general overhead charges, including labour other than underground, could not be reduced in the same proportion.

Plant and Equipment

A total of $1,219.65 was expended for additional equipment during the year, including aluminum dust-blowers designed and supplied by McIntyre Research, Limited, for the prevention of silicosis. No additions were made to plant buildings.

An average force of 137 persons was employed during the year, of whom 59 were underground, 26 in the mill, and 52 on general surface work. R. G. McKelvey is general manager.

Hasaga Gold Mines, Limited

Hasaga Gold Mines, Limited, was incorporated in October, 1938, with an authorized capitalization of 5,000,000 shares of $1 par value, of which 2,875,006 have been issued. The officers and directors are: J. E. Hammell, president; C. S. Hamilton, vice-president; G. M. Huycke, secretary-treasurer; John Bland, assistant secretary-treasurer; A. G. Hattie, director of mining; Eola Hammell, director. The head office and mine office are at Red Lake. The executive office is at 25 King Street West, Toronto.

The company owns 49 claims,[1] approximately 2,407 acres, in the Red Lake area, Patricia portion of Kenora district. The holdings consist of the former J. E. Hammell property, now known as the No. 1 operation, and the former Red Lake Gold Shore mine, in Dome and Heyson townships, and the Starratt-Olsen property in Baird township, called the No. 2 operation. The No. 2 operation has been idle since March 31, 1940. No development work has been done on the Red Lake Gold Shore mine since the company was formed, but the mill is used to treat the ore from the No. 1 operation.

There are two shafts on the No. 1 property: No. 2 shaft on claim K.R.L. 1,380[1] and No. 1 shaft some 2,500 feet to the east on claim K.R.L. 1,374. No. 2 shaft, which is 235 feet deep, is vertical and has three compartments. There is a level at 200 feet on which 376 feet of drifting and 785 feet of crosscutting were done prior to 1939. No underground work has been done in this section since January, 1939.

Operations in the No. 1 shaft area continued throughout 1944. The vertical shaft, which is 1,080 feet deep, has three compartments from surface to 500 feet and four compartments below that point. The vertical, 3-compartment winze, known as No. 3 internal shaft, which had been collared at the 850-foot level, 220 feet northwest of No. 1 shaft, was raised in 1944 to a point approximately 745 feet from surface. The bottom of the winze is at a depth of 1,673 feet from surface. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
125-foot	.....	711	.....	405	.....	345
250-foot	.....	936	.....	639	.....	567
375-foot	267	991	.....	419	15	640
500-foot	398	2,954	243	938	.....	568
560-foot sublevel	.....	.....	.....	.....	.....	50
650-foot	.....	1,542	33	387	.....	545
850-foot	991	1,576	24	404	.....	1,253
900-foot sublevel	.....	197	.....	30	.....	191
1,050-foot	.....	889	.....	268	.....	589
1,250-foot	144	898	45	328	349	745
1,415-foot sublevel	21	363	41	224	.....	.....
1,450-foot	.....	459	.....	447	237	760
1,600-foot	489	1,043	499	835	18	197
1,660-foot sublevel	.....	.....	.....	.....	.....	72

[1]The number given in Vol. LIII, pt. 1, page 103, has been changed in accordance with more recent information received from the company.

During the year a 28- by 32-foot frame building was purchased, moved on to the property, and fitted as a carpenter shop. An addition to the warehouse was built, the waste bin at the picking belt was enlarged, and a truck ramp 125 feet long was built at the mill. A Canadian Allis-Chalmers 7-inch Newhouse cone crusher was added to the mill equipment.

The following is taken from the report of the manager for the year ending December 31, 1944:—

Development

Although seriously hampered by lack of sufficient labour, a moderate amount of exploration and development work was carried out during the year. This was accomplished in part by reduction in mine production and of broken ore reserves. The work done consisted of drifting out of sections in the main ore zone where possibilities for additional ore existed, as well as extensions of some levels beyond previous limits for exploration purposes. A considerable footage of this work was carried out to provide underground diamond-drill locations for exploratory diamond-drilling in previously unexplored sections of the mine.

Surface Exploration

A small crew was employed at Hasaga No. 2 on surface exploration. This work consisted of cleaning out old trenches for examination, with extensions of some of these for additional geological information.

Diamond-drilling

During the year an extensive programme of diamond-drilling was undertaken; this consisted of 13,163 feet of underground drilling at Hasaga No. 1, with 152 holes completed. Surface-drilling at Hasaga No. 2 totalled 13,023 feet of drilling in 21 holes.

The underground diamond-drilling consisted of routine exploration coincident with the development programme as well as some long hole probing away from the main workings. At the year end this work had produced almost negative results, although there still remains a considerable unfinished portion of the programme to be carried out from the drill locations referred to above. Most of these locations are completed and ready for the diamond-drill crews when same are available.

The surface diamond-drilling programme at Hasaga No. 2 was moderately successful in locating indications of an ore zone similar to the productive zones at the adjoining Madsen Red Lake Gold Mines. At the year end eight holes on the "Starratt zone," spaced over a length of 700 feet and at depths varying from 300 to 750 feet vertically, gave results as tabulated below:—

Hole No.	Location southwest of shaft	True width of intersection	Average grade	Vertical depth
	feet	feet		feet
57	650	12	$3.47	750
62	840	22	6.20	310
82	940	9.5	8.58	290
83	1,040	22	9.35	300
84	1,140	7	2.45	340
63	1,240	7	13.17	360
85	1,340	7	2.46	340
95	1,290	Nil	.....	550

Any estimate of grade or tonnage of ore indicated by the diamond-drill results noted above is premature until additional drilling now under way has been completed.

Mining

There was 77,843 tons of ore broken in stopes and 142,344 tons of ore was hoisted; this included 4,471 tons from development work. There was also 9,540 tons of waste hoisted from development work.

A summary of the source and grade of ore hoisted follows hereunder:—

Level	Stope	Tons	Grade	Production
250-foot	220	3,290	$3.92	$12,850
375-foot	330	15,089	3.09	46,600
500-foot	515	1,769	2.47	4,360
	540	2,497	1.43	3,580
850-foot	815	8,590	1.88	16,090
1,050-foot	1,010	22,636	3.95	89,050
1,250-foot	1,210	66,355	5.62	372,500
1,450-foot	1,410	17,570	3.12	54,900
Ore passes		77	3.87	298
Total from stopes		137,873	$4.35	$600,228
Development		4,471	2.21	9,855
Total		142,344	$4.28	$610,083

Ore Reserves

Ore reserves as of January 1, 1945, totalled 282,726 tons valued at $1,459,840, based on $35 per ounce for gold.

The summary and make-up of the ore reserve tonnage is as follows:—

	Tons	Average grade
Broken ore in stopes	59,337	$4.37
Ore in place in stopes	50,835	4.85
Ore in place in pillars	172,554	5.53
Total	282,726	$5.16

Ore reserves declined during the year as may be noted from the above tabulation. This may be somewhat offset by the favourable indications in the results at the No. 2 property.

Milling

	Tons
Waste sorted	23,900
Ore crushed	118,205
Ore milled	142,105
Average tonnage ground	323
Average tonnage milled	387
Ounces recovered	16,789.382
Recovery percentage	96.3

SUPPLIES USED IN MILLING

	Total	Per ton milled
	lbs.	lbs.
Steel balls	329,500	2.318
Lime	147,350	1.036
Cyanide	77,742	.547
Zinc dust	7,354	.0517
Lead acetate	60	.....
Muriatic acid	5,752	.0404
Hyflo-supercel	1,100	.0077

PRODUCTION[1]

	Per ton milled		Total	
	ounces	value	ounces	value
Heads assay	0.1097	$3.84	15,602.87	$546,100.68
Heads calculated	.1225	4.29	17,430.93	610,082.62
Tailings	.00451	.158	641.55	22,454.25
Silver as per Mint	.....	.....	6,481.71	.....

[1]Gold at $35 per ton.

Summary of Costs

	Total cost	Cost per ton	Cost per ounce
Development, including diamond-drilling	$106,116.86	$0.747	$6.321
Mining	214,027.37	1.506	12.75
Ore transportation (118,205 tons)	22,560.92	.159	1.344
Milling	146,278.01	1.029	8.713
Camp maintenance	22,201.84	.156	1.322
Shipping and marketing	8,243.97	.058	.490
Administration	29,666.09	.21	1.76
	$549,095.06	$3.86	$32.70
Write-offs:			
Depreciation (building, $16,206.34; equipment, $41,157.27)	57,363.61	.403	3.409
Pre-production development	33,772.42	.238	2.011
Total	$640,231.09	$4.50	$38.12

Supplies	$138,141.48
Hydro power	43,115.00
Salaries, wages, and bonuses	275,154.15

General

Operating costs showed an increase over the previous year due almost entirely to the increased expenditures on exploration and development, which was $0.747 per ton, as against $0.19 per ton in 1943.

An average force of 128 men was employed, of whom 71 were in the mine and 21 in the mill. A. E. Pugsley was manager.

Hollinger Consolidated Gold Mines, Limited

Hollinger Consolidated Gold Mines, Limited, has an authorized capitalization of 5,000,000 shares of $5 par value, of which 4,920,000 have been issued. The officers of the company are: Jules R. Timmins, president; John B. Holden, vice-president and treasurer; P. C. Finlay, secretary. The directors are: Leo H. Timmins, Wilson Bell, Jas. Y. Murdoch, Allen A. McMartin, John I. Rankin, and N. A. Timmins. E. L. Longmore is manager of the Hollinger mine. A. H. Wohlrab is assistant manager. The mine office and head office are at Timmins. The general office is at 602 Royal Bank Building, Toronto.

The main property operated by the company is located in Tisdale township, Porcupine area, district of Cochrane, and includes part of the ground underlying the town of Timmins. The company has numerous other holdings and interests. It owns and operates the Ross mine in Hislop township, district of Cochrane, and controls and operates Young-Davidson Mines, Limited,[1] in Powell township, Matachewan area, district of Timiskaming. It controls the Kam-Kotia Porcupine Mines, Limited,[2] and operates that company's copper-zinc property in Robb township, district of Cochrane, under the direction of the Wartime Metals Corporation.

Mining and milling operations at the Hollinger mine continued throughout 1944. A total of 20,344 feet of drifting and 5,329 feet of crosscutting was added to the development work. Diamond-drilling amounted to 1,548 holes, totalling 176,474 feet, from underground.

The following is taken from the general manager's report for the year ending December 31, 1944:—

[1]See account on page 98 of this report.
[2]See account on page 2 of this report.

BULLION STATEMENT

INVENTORY, JANUARY 1, 1944:		
Gold in process ($20.67)	$221,639.40	
Premium on gold in process	179,703.44	
Silver bullion on hand	6,002.73	
		$407,345.57
GROSS VALUES PRODUCED IN 1944:		
Ore milled	$9,626,446.45	
Tailings loss	338,765.61	
		9,287,680.84
		$9,695,026.41
INVENTORY, DECEMBER 31, 1944:		
Gold in process ($20.67)	$291,999.00	
Premium on gold in process	239,924.51	
Silver bullion on hand	4,332.02	
		$536,255.53
BULLION SHIPPED DURING 1944		9,158,770.88
		$9,695,026.41

YEARLY AVERAGE COSTS

Account	Sundries	Labour	Stores	Total	Per ton ore milled
General miscellaneous charges and administration	.....	$267,161.60	$113,928.01	$381,089.61	$0.3689
Surface services	.....	58,024.22	25,398.46	83,422.68	.0808
Insurance, fire	$37,667.34	.....	.....	37,667.34	.0365
Insurance—group, sickness and accident, medical, and unemployment	.....	223,019.06	.....	223,019.06	.2158
Marketing bullion	91,820.49	.....	.....	91,820.49	.0889
Workmen's compensation	.....	107,817.29	.....	107,817.29	.1044
Silicosis assessment	.....	54,574.74	.....	54,574.74	.0528
Milling charges	.....	394,689.11	458,530.16	853,219.27	.8260
Mining charges	.....	3,234,121.26	1,101,847.35	4,335,968.61	4.1975
Total charges	$129,487.83	$4,339,407.28	$1,699,703.98	$6,168,599.09	$5.9716
Annual vacation[1]	.....	.....	.....	$50,709.22	$0.0491

[1]Distributed among the first and last two items above.

Employees

The average number of men employed during the year has been 1,849, distributed as follows:—

MINERS:		MECHANICS:		GENERAL:	
Exploration	29	Operation	86	Mill and refinery	137
Development	201	Maintenance	154	Technical	83
Production	927			Clerical	47
				Miscellaneous	114
				Ross mine	71
Total	1,157	Total	240	Total	452

The Mill

The milling results were as follows:—

Ore milled	tons	1,032,991
Average value per ton		$9.32
Gross value	$9,626,446.45	
Deduct loss in tailings	338,765.61	
Net value recovered		$9,287,680.84

Average tons per day	2,846
Per cent. of possible time run	79.2
Tons per 100 per cent. running time	3,595
Solution precipitated per ton ore....tons	1.24
Value per ton tailings	$0.33
Cyanide consumed per ton of ore....lbs.	0.897
Zinc consumed per ton of ore....lbs.	0.049
Zinc consumed per ton of solution....lbs.	0.040
Lime consumed per ton of ore....lbs.	2.342
Lead acetate per ton of ore....lbs.	0.009
Average value of pregnant solution	$7.23
Average value received per ounce of gold sold	$38.50

Ore Reserves

The ore reserves on December 31, 1944, consisted of 7,507,976 tons of a total value of $51,245,515, having an average value of 0.330 ounces, or $6.82 per ton. The ore reserves on December 31, 1943, consisted of 7,735,904 tons of a total value of $52,862,333, having an average value of 0.331 ounces, or $6.83 per ton.

In the calculations dealing with ore reserves, the price of gold at $20.67 per ounce has been taken as the basis of value, and the same minimum ore grade, namely, $4.00, as used in former years, continued. Taking the price of gold at $35.00 per ounce as the basis of value, the combined ore reserves had a total value of $86,772,749 at the end of the year.

Hollinger Mine

Increased shortage of labour made necessary the continuance of the policy of confining development chiefly to the more accessible and productive areas. The rate of labour turnover, increased number of absentees due to holidays, as well as the decrease in the number of miners, forced a further reduction in the milling rate, from the 3,216 tons per day average during 1943, to 2,632 tons per day average for 1944. Without improvement in the labour situation, no increase in the present 2,500 tons daily rate can be hoped for.

Ore from above the 800-foot level accounted for 38.8 per cent. of the tonnage milled, compared to 38.2 per cent. for 1943. The estimated ore reserves at the Hollinger mine are 196,879 tons less than reported last year, which decreases the gross value of our ore reserves by $1,464,909. Taking the price of gold at $35 per ounce as the basis of value, the combined ore reserves at the Hollinger and Ross mines had a total value of $86,772,749 at the end of the year, compared with $89,510,480 at the end of the year 1943.

Installation of equipment at No. 27 shaft is progressing slowly due to labour shortage.

Scheelite

With the co-operation of the Metals Controller, it was found possible to dispose of the balance of low-grade concentrate on hand at December 31, 1943. The production of scheelite has ceased.

Young-Davidson Mine

Winter conditions forced suspension of production during the first four months of the year. There were 161,773 tons milled, being an average of 677 tons per day for the 239 days the mill was operated, with a recovery of $3.47 per ton.[1] Broken ore in the stopes on December 31 amounted to 1,125,456 tons.

Ross Mine

The Ross mine consists of approximately 374 acres, owned by the company, on the north half of lot 1, concession II, and part of the south half of lot 1, concession III, Hislop township, district of Cochrane. Several blocks of claims around the Ross mine in lots 2 and 3 of concession III are held under option.

Operations continued throughout 1944. The mine is served by a vertical, 3-compartment shaft, 979 feet deep, known as No. 1, on the north half of lot 1, concession II. There is also a vertical, 2-compartment winze, collared at the 300-foot level, about 120 feet east of the shaft, which runs to a depth of 929 feet from surface. It is not at present being used as a hoistway. The following table shows the development work done during the year and the total:—

[1]Gold at $35.00 an ounce.

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
150-foot	.....	2,294	.....	1,091	.....	786
300-foot	16	2,831	.....	1,233	.....	1,090
450-foot	.....	4,170	.....	3,160	.....	1,657
600-foot	32	1,888	.....	1,731	.....	1,102
750-foot	319	652	.....	1,673	.....	448
900-foot	.....	635	.....	1,834	.....	579

Diamond-drilling consisted of 9 holes, totalling 1,038 feet, from surface and 19 holes, totalling 1,729 feet, from underground.

There were 77,486 tons of ore hoisted. The mill treated 77,544 tons, operating at an average daily rate of 212 tons.

The following is taken from the general manager's report for the year ending December 31, 1944:—

The ore reserves as of December 31, 1944, were 648,010 tons of a total value of $3,080,442, having an average content of 0.230 ounces per ton. These figures compare with 679,059 tons of a total value of $3,232,351, having an average content of 0.230 ounces per ton, at the end of 1943. If we take the price of gold at $35 per ounce as a basis of value, the total value was $5,216,037 at the end of the year, a decrease of 31,049 tons and $257,222.

J. J. Caty is resident manager. The mine address is Ramore.

Hoyle Mining Company, Limited

Hoyle Mining Company, Limited, was incorporated in July, 1944, to take over the assets of Hoyle Gold Mines, Limited. The authorized capitalization is 3,500,000 common shares of no par value and 1,500,000 non-voting 5 per cent. preference shares of no par value. For 5,000,000 outstanding shares of Hoyle Gold Mines, Limited, shareholders of that company received $1,000,000 worth of notes, redeemable on a basis of one common share for each $2 in notes or one non-voting 5 per cent. preference share for each $1 note. The officers and directors are: J. M. C. Dunlop, president and mine manager; A. G. Fulton, secretary-treasurer; F. C. Sullivan, assistant secretary-treasurer; Thayer Lindsley, W. S. Morlock, and W. C. Martin, directors. The head office is at Haileybury. The mine address is Pamour.

The company's main holding consists of 36 claims, approximately 1,440 acres, in Whitney and Cody townships, Porcupine area, district of Cochrane.

There was no underground development work done during 1944. Operations had ceased at the end of July, 1943, following the destruction of the mill by fire. Pumping and maintenance operations only were carried on. At the end of 1944 preparations were being made to resume underground operations. A new mill will be built as soon as materials and equipment are available.

An average force of 9 men was employed under the direction of G. H. Mustard, assistant mine manager.

Jerome Gold Mines, Limited

Jerome Gold Mines, Limited, was incorporated in February, 1939, with an authorized capitalization of 3,000,000 shares of $1 par value, all of which have been issued. The officers and directors are: J. H. C. Waite, president; Jules R. Timmins, vice-president; G. C. Ames, secretary-treasurer; R. W. Hart, P. C. Finlay, Chas. McCrea, J. A. H. Paterson, and Leo H. Timmins, directors. The head office is at 350 Bay Street, Toronto. The mine address is Jerome.

The company holds 62 claims, approximately 2,900 acres, south of Opeepeesway lake in Osway and Huffman townships, district of Sudbury.

Mining operations continued throughout 1944. The mill did not operate

during the year. The shaft-deepening programme begun in 1943 was continued, and the 3-compartment, vertical shaft on claim S. 32,071 was sunk a further 122 feet to a total depth of 1,138 feet. The sinking was completed in February. A seventh level was established at 1,100 feet from surface. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
200-foot	.....	3,539	.....	658	.....	744
350-foot	355	4,049	.....	906	.....	995
500-foot	628	3,816	.....	447	.....	876
650-foot	1,021	3,150	.....	214	.....	544
725-foot (loading pocket)	.....	.....	.....	.....	.....	205
800-foot	566	1,558	.....	193	.....	.....
950-foot (station only)	.....	.....	.....	.....	.....	.....
1,100-foot	2,018	2,018	647	647	.....	.....

Diamond-drilling consisted of 7 holes, totalling 1,495 feet, from surface and 143 holes, totalling 10,400 feet, from underground.

The following is taken from the directors' report for the year ending December 31, 1944:—

Ore developments are considered favourable with new shoots of ore developed on all levels down to the 800-foot. Good widths and lengths have been exposed of better than previous average grade. Ore reserves were increased to 295,373 tons, averaging 0.199 ounces gold after making allowance for 10 per cent. dilution.

An average force of 60 persons was employed, of whom 30 men were in the mine. L. H. Foran was mine superintendent.

Kerr-Addison Gold Mines, Limited

Kerr-Addison Gold Mines, Limited, was incorporated in April, 1936, with an authorized capitalization of 5,000,000 shares of $1 par value, 4,730,301 of which have been issued. The officers and directors are: Jas. Y. Murdoch, president; André Dorfman, vice-president and managing director; G. A. Cavin, secretary-treasurer; Oliver Hall, L. K. Fletcher, J. H. C. Waite, and J. H. Rattray, directors. The head office is at 80 King Street West, Toronto. The mine address is Virginiatown.

The property, which is in McGarry township, Larder Lake area, district of Timiskaming, includes the Reddick and Kerr-Addison claims taken over from Proprietary Mines, Limited, on incorporation and several claims acquired later. It consists of 32 patented and 2 unpatented claims, totalling 1,104 acres. One unpatented claim was dropped during 1944.

The following table shows the shafts on the property:—

Shaft	Claim No.	No. of compartments	Depth
			feet
Reddick (No. 2)[1]	H.J.B. 29	2	76
Kerr-Addison (No. 1)[2]	H.S. 166	3	716
Main (No. 3)	H.J.B. 30	5	2,806

[1]The Reddick shaft was sunk by former operators, who did 1,035 feet of crosscutting and 1,130 feet of drifting on a level at the bottom of the shaft. It is not connected with the other workings and is not now used.

[2]The Kerr-Addison shaft was sunk to a depth of 300 feet by the former operators and deepened to 716 feet by the present company. It has an adit level at 60 feet and is connected with the Main (No. 3) shaft on the 175-, 300-, 500-, and 700-foot levels. It is now used only as a ventilation shaft and manway.

Mining and milling operations continued throughout 1944. The following table shows the development work done during the year and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
60-foot (adit)	.....	283	.....	1,248	.....	.....
175-foot	.....	7,471	.....	872	.....	2,253
300-foot	.....	8,784	.....	1,967	.....	4,309
500-foot	.....	8,494	.....	1,876	.....	4,113
700-foot	267	10,439	7	1,794	649	5,415
850-foot	.....	6,483	.....	1,826	45	1,289
1,000-foot	.....	12,553	.....	2,819	49	1,624
1,150-foot	3,113	7,323	82	948	.....	518
1,300-foot	.....	8,315	.....	1,447	.....	607
1,450-foot	44	3,268	56	1,154	.....	764
1,600 foot	.....	.....	291	291	.....	.....
1,750-foot (station only)	.....	.....	.....	.....	.....	.....
1,900-foot	.....	.....	648	648	.....	.....
2,050-foot (station only)	.....	.....	.....	.....	.....	.....
2,200-foot	.....	.....	444	444	.....	.....
2,350-foot (station only)	.....	.....	.....	.....	.....	.....
2,500-foot	2,207	3,431	15	1,008	236	236
2,650-foot	.....	191	.....	574	161	218
2,650-foot (loading pocket)	.....	.....	15	15	.....	159
2,800-foot (station only)	.....	.....	.....	.....	.....	.....

Diamond-drilling during the year consisted of 289 holes, totalling 63,991 feet, from underground.

During the year there were 484,844 tons of ore mined and hoisted. The mill operated at an average daily rate of 1,324 tons.

The following is taken from the report of the manager for the year ending December 31, 1944:—

Our development and diamond-drilling programmes, due to lack of men, were still further curtailed during 1944. As a result new ore blocked out above the 1,450-foot level and now included in reserves was only slightly greater than the tonnage milled.

Most of the ore added in the upper levels was made through discovery of substantial tonnages of ore lying beyond the estimated outlines of known ore bodies. Close diamond-drilling around the upper edges of No. 21 ore body above the 700-foot level proved two ore extensions containing 43,000 tons averaging better than mine grade.

Ore Reserves

Ore reserves, all above the 1,450-foot level, total 8,300,918 tons, having a grade of 0.2004 ounces per ton after allowing for dilution. Broken ore reserves, all above the 1,000-foot level, amounting to 519,815 tons, are included in the above figure. There are still substantial tonnages of ore above the 1,450-foot level which are not yet completely developed and therefore not included in reserves.

Lower Development

During the year shaft stations were excavated on the 1,600-, 1,900-, and 2,200-foot levels, and the main crosscuts were driven from them. At the 2,650-foot level the sump and pumping station were completed and put into service.

On the 2,500-foot level the driving of both east and west drifts and the programme of diamond-drilling from them was continued. This work has extended the four known ore bodies, and they now have a combined length of 2,087 feet, an average width of 59.5 feet, and, after allowing for dilution of 10 per cent., an average grade of 0.2440 ounces per ton ($8.54 at $35.00 per ounce). Four other zones are known to carry ore values, but neither their importance nor their effect upon tonnage and average grade can be determined until they have been explored by drifting and additional diamond-drilling.

Production

Starting April 1, daily tonnage was reduced from an average of 1,679 tons for the first quarter to an average of 1,212 tons for the last three-quarters. Hence both tonnage treated and production were lower than for 1943.

SUMMARY OF PRODUCTION[1]

Tons milled	484,583
Total gold recovered ..... ounces	80,722.23
Total silver recovered ..... ounces	4,634.90
Average gold recovery per ton (0.1666 ounce)	$6.417
Average tailings loss per ton (0.0039 ounce)	$0.151
Average mill head value per ton (bullion plus tails, 0.1705 ounce)	$6.568
Total realized value of bullion (Canadian funds)	$3,109,597.78
Total realized value of bullion per ton (Canadian funds)	$6.417

COST SUMMARY

	Total	Per ton
Mine development	$266,015.87	$0.549
Stope development	35,302.82	.073
Mining	491,514.44	1.014
Crushing and conveying	64,680.05	.133
Milling	262,709.03	.542
General expense	131,936.72	.272
Bullion marketing	37,505.10	.077
Total operating costs at mine	$1,289,664.03	$2.660

The net operating profit at the mine, before provision for depreciation, amortization of deferred development, and taxes was $1,819,933.75, or $3.756 per ton.

An average force of 287 men was employed, of whom 161 were underground, 26 in the mill, and 100 on general surface work. W. S. Row is manager.

Kirkland Lake Gold Mining Company, Limited

The Kirkland Lake Gold Mining Company, Limited, was incorporated in November, 1915, with an authorized capitalization of 5,500,000 shares of $1 par value, of which 5,326,699 have been issued. The officers and directors are: J. B. Tyrrell, president; R. V. Le Sueur, vice-president; H. F. Cassidy, secretary-treasurer; V. H. Emery, managing director; A. C. Matthews, J. A. Dalton, and W. S. Walton, directors. The executive office is at 44 Victoria Street, Toronto. The head office and mine office are at Chaput Hughes.

The property consists of 11 claims, 334 acres, in Teck township, Kirkland Lake area, district of Timiskaming.

The depths of the shafts and winzes at the mine are given in the following table:—

Shaft or winze	No. of compartments	Total depth from surface
		feet
No. 1 shaft	2	894
No. 2 or main shaft	3	2,666
No. 1 winze (below 2,475-foot level)	4 to 2,975-foot 3 to 4,900-foot	4,914
No. 2 winze (below 4,900-foot level)	3	5,897
No. 3 winze (below 3,600-foot level)	3	[2]4,487
1,000 winze (below 1,000-foot level)	2	[2]1,134
No. 4 winze (below 4,750-foot[2] level)	3	4,765

[1]Gold at $38.50 an ounce.

[2]The figure given in Volume LIII, 1944, part 1, page 114, has been altered in accordance with more recent information received from the company.

Mining and milling operations continued throughout 1944. The following table shows the underground development work done during 1944 and the total amount since 1922:—

UNDERGROUND DEVELOPMENT WORK

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 2 (MAIN) SHAFT:						
100-foot	.....	.....	.....	.....	.....	171
200-foot	.....	.....	.....	.....	.....	96
300-foot	.....	.....	.....	.....	.....	179
400-foot	.....	213	.....	172	.....	108
500-foot	.....	445	.....	345	.....	58
600-foot	.....	911	.....	206	.....	.....
700-foot	.....	251	.....	107	.....	.....
800-foot	.....	1,918	.....	470	.....	287
900-foot	.....	754	.....	391	.....	185
1,000-foot	.....	1,990	.....	387	.....	365
1,100-foot sublevel	.....	552	.....	236	.....	173
1,200-foot	.....	1,698	.....	379	.....	196
1,300-foot	.....	1,484	.....	648	.....	321
1,400-foot	.....	.....	.....	17	.....	.....
1,500-foot	.....	.....	.....	19	.....	284
1,600-foot	.....	2,614	.....	1,892	.....	.....
1,725-foot	.....	.....	.....	27	.....	168
1,850-foot	.....	738	.....	256	.....	157
1,975-foot	.....	1,186	.....	499	.....	230
2,100-foot	.....	1,019	.....	238	.....	171
2,225-foot	.....	774	.....	464	.....	59
2,350-foot	.....	941	.....	248	.....	135
2,475-foot	.....	1,183	.....	486	.....	163
2,475-foot (in Macassa ground)	.....	2,538	.....	279	.....	.....
No. 1 WINZE:						
2,600-foot	.....	961	.....	405	.....	176
2,725-foot	.....	1,693	.....	259	.....	341
2,850-foot	72	2,196	.....	310	.....	91
2,975-foot	.....	1,550	.....	282	.....	365
3,100-foot	.....	1,396	.....	195	.....	153
3,225-foot	.....	536	.....	275	.....	150
3,375-foot	.....	1,007	.....	84	.....	166
3,475-foot	.....	1,587	.....	677	.....	265
3,600-foot	.....	2,461	.....	3,401	.....	239
3,750-foot	.....	3,337	.....	796	.....	259
3,875-foot	136	3,382	211	1,728	.....	340
4,000-foot	.....	1,369	.....	821	.....	.....
4,150-foot	.....	2,332	.....	929	.....	228
4,300-foot	125	4,058	19	1,333	.....	396
4,450-foot	268	7,548	.....	2,293	.....	567
4,600-foot	211	2,577	.....	1,336	163	163
4,750-foot	12	2,792	67	2,135	388	1,101
4,900-foot	33	4,333	.....	1,398	.....	609
No. 2 WINZE:						
5,050-foot	.....	1,108	.....	516	.....	245
5,200-foot	.....	197	.....	320	.....	96
5,325-foot	.....	723	.....	210	.....	383
5,450-foot	.....	3,746	.....	1,108	.....	208
5,600-foot	.....	1,027	.....	70	.....	310
5,725-foot	.....	51	.....	7	.....	.....
5,850-foot	.....	418	.....	97	.....	.....
No. 3 WINZE:						
3,725-foot	.....	296	.....	321	.....	165
3,850-foot	.....	360	.....	192	.....	165
3,975-foot	.....	668	.....	214	.....	165
4,100-foot	.....	903	.....	152	.....	207
4,225-foot	.....	834	.....	181	.....	142
4,350-foot	.....	1,136	.....	254	.....	220

The following is taken from the report of the managing director for the year ending December 31, 1944:—

ANALYSIS OF OPERATING COST

	Total cost	Cost per ton milled
Development and exploration	$100,800.19	$1.30
Stoping	181,313.12	2.34
Timbering	85,216.32	1.10
Transporting ore, hoisting, etc.	134,692.56	1.74
Milling	130,224.68	1.68
Marketing bullion	11,533.58	.15
General and undistributed charges (maintenance mine buildings, administration and management, insurance, workmen's compensation, assaying, and miscellaneous)	138,105.32	1.78
Total	$781,885.77	$10.09

Gold produced	ounces	27,325.954
Cost per ounce		$28.61

Taxes charged against operations (not included above) totalled $66,051.96, or at the rate of 85 cents per ton milled and $2.42 per ounce of gold produced.

SUMMARY OF WORK DONE IN MINE

Ore broken	tons	78,753
Drifting	feet	856
Crosscutting	feet	297
Raising	feet	551
Slashing	cu. ft.	23,345
Diamond-drilling	feet	6,752

All ore for the year was drawn from levels between the 2,400-foot and the 4,900-foot, and all development work was also done between these levels.

SUMMARY OF NEW ORE DEVELOPED DURING THE YEAR

Level	Length	Average width	Average cut grade (at $35.00 per ounce)
	feet	feet	
28th	72	3.7	$11.00
38th	117	3.6	19.50
44th	73	2.7	13.04
46th	205	2.8	14.66
49th	32	2	8.15
Total	499	3.1	$14.85

MILLING STATISTICS

Ore milled	tons	77,457
Average value per ton		$14.24
Gross value		$1,102,728.08
Loss in tailings		$49,572.48
New value recovered		$1,053,155.60
Average tons milled per day		212
Value in tailings per ton		$0.64
Extraction	per cent.	95.5

PRODUCTION

	Tons milled	Bullion value	Recovery per ton
1st quarter	19,732	$264,447.85	$13.40
2nd quarter	19,019	245,169.17	12.89
3rd quarter	18,933	272,802.85	14.41
4th quarter	19,773	270,735.73	13.66

Ore Reserves

The proven ore reserves in the mine at the end of 1944 amounted to 352,968 tons, having a gross value of $4,879,910, calculated on gold at $35 per ounce.

An average force of 202 men was employed, of whom 138 were in the mine and 11 in the mill. P. J. Harris is general superintendent.

Lake Shore Mines, Limited

Lake Shore Mines, Limited, was incorporated in February, 1914, with an authorized capitalization of 2,000,000 shares of $1 par value, all of which have been issued. The officers and directors are: Albert Wende, president; W. H. Wright, vice-president and treasurer; A. L. Blomfield, managing director and superintendent; Walter Foskett and C. M. Hilton, directors. Kirkland Securities, Limited, is secretary. The head office and mine office are at Kirkland Lake.

The property consists of 8 claims and 4 fractions, approximately 287 acres, in Teck township, Kirkland Lake area, district of Timiskaming. The company also owns 11 claims in Teck township and 18 claims in Lebel township in the same area, which are used as a disposal basin for slimes.

Mining and milling operations continued throughout 1944. The depths of the shafts serving the mine are set out in the following table:—

Shaft	No. of compartments	Sinking in 1944	Total depth from surface
		feet	feet
No. 1	3	.....	2,250
No. 1 shaft extension (below 2,000-foot level, not in use at present)	3	.....	4,500
No. 2 (inclined, used only for supplies and timber)	1	.....	200
No. 3 (abandoned)	5	.....	4,000
No. 4 (below 4,325-foot level)	3	436	6,860
No. 5	5	.....	4,000
No. 6 (below 3,575-foot level)	3 to 3,825-foot level 5 to bottom	.....	6,098

Levels were established in 1944 at depths of 6,450, 6,575, 6,700, and 6,825 feet from No. 4 shaft.

The following table shows the development work done during 1944 and the total:—

UNDERGROUND DEVELOPMENT WORK

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
100-foot	.....	582	.....	14	.....	.....
200-foot	.....	5,346	.....	1,900	.....	823
300-foot	.....	851	.....	181	.....	91
400-foot	348	7,814	.....	2,727	168	8,716
600-foot	568	8,705	.....	2,648	65	7,911
800-foot	54	8,782	.....	2,318	287	10,881
1,000-foot	199	9,219	99	2,588	682	14,749
1,200-foot	321	8,391	.....	1,414	80	8,077
1,400-foot	.....	5,360	.....	1,735	.....	8,637
1,600-foot	.....	6,948	.....	2,003	.....	5,900
1,800-foot	.....	5,872	.....	2,050	173	5,779
2,000-foot	.....	6,776	.....	3,540	.....	4,728
2,200-foot	.....	7,217	.....	1,970	.....	6,542
2,325-foot	.....	6,814	.....	1,845	.....	3,724
2,450-foot	.....	6,647	.....	1,557	.....	3,049
2,575-foot	.....	7,035	.....	2,331	.....	3,645

UNDERGROUND DEVELOPMENT WORK—*Continued*

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
2,700-foot	.....	7,118	.....	2,576	.....	3,628
2,825-foot	.....	7,602	.....	1,597	.....	2,042
2,950-foot	.....	7,278	.....	1,590	.....	2,058
3,075-foot	.....	8,704	.....	2,954	.....	2,287
3,200-foot	.....	7,801	.....	1,240	.....	2,334
3,325-foot	.....	5,575	.....	1,524	.....	1,582
3,450-foot	.....	5,832	.....	1,273	.....	1,216
3,575-foot	.....	4,575	.....	1,492	.....	905
3,700-foot	.....	4,755	3	1,381	.....	1,071
3,825-foot	.....	4,047	.....	2,070	.....	1,142
3,950-foot	127	4,667	301	2,359	.....	1,155
4,075-foot	360	4,221	70	1,325	.....	824
4,200-foot	.....	3,455	.....	1,314	25	895
4,325-foot	.....	4,332	.....	816	.....	533
4,450-foot	.....	4,777	.....	1,031	37	1,089
4,575-foot	.....	3,571	.....	794	.....	568
4,700-foot	.....	3,308	.....	738	.....	559
4,825-foot	.....	3,988	.....	731	.....	573
4,950-foot	10	3,782	.....	748	.....	450
5,075-foot	.....	4,213	.....	782	31	600
5,200-foot	43	3,362	.....	1,257	.....	227
5,325-foot	1,126	2,250	388	1,351	219	340
5,450-foot	259	1,914	549	1,647	119	379
5,575-foot	1,080	1,859	307	944	20	142
5,700-foot	690	2,054	.....	762	119	237
5,825-foot	.....	859	.....	615	2	255
5,950-foot	.....	1,359	.....	870	.....	114
6,075-foot	.....	39	.....	571	.....	.....

Diamond-drilling during the calendar year consisted of 145 holes, totalling 18,265 feet, all from underground.

The following is taken from the report of the managing director for the twelve months ending June 30, 1945:—

In the year 110,828 ounces of gold and 23,498 ounces of silver, having a gross value of $4,276,226.30, were recovered from 261,583 dry tons of ore treated.

STATEMENT OF COSTS FOR THE YEAR

	Cost per ton
Development	$1.182
Mining	5.225
Milling and refining	1.614
Marketing bullion	.179
General and administrative expense	.486
Operating cost	$8.686
Depreciation	.451
	$9.137
Provision for taxes	2.043
Total cost	$11.180
Retreatment of other tailings	.219

PRODUCTION RECORD

Period	Months	Tons milled	Gross value of bullion[1]	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.....	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	5,519,138.86	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
July 1, 1936, to June 30, 1937.....	12	879,559	15,692,652.85	12,000,000
July 1, 1937, to June 30, 1938.....	12	928,036	15,030,273.43	10,000,000
July 1, 1938, to June 30, 1939.....	12	898,894	14,608,714.60	8,000,000
July 1, 1939, to June 30, 1940.....	12	755,661	12,281,332.25	5,500,000
July 1, 1940, to June 30, 1941.....	12	612,906	9,404,780.99	3,700,000
July 1, 1941, to June 30, 1942.....	12	388,738	6,191,672.38	2,200,000
July 1, 1942, to June 30, 1943.....	12	338,810	5,540,163.03	1,600,000
July 1, 1943, to June 30, 1944.....	12	267,698	4,498,529.77	1,600,000
July 1, 1944, to June 30, 1945.....	12	261,583	4,276,226.30	1,600,000
Total.....	.....	11,843,749	$198,596,484.59	$93,220,000

[1]Includes exchange premium.

Development

In the year a total of 4,847 feet of development drifting was done. Of this footage 1,767 feet, or 36.5 per cent., was ore having an average gold content of 0.519 ounce per ton across an average width in the drifts, before slashing, of 64.8 inches. This year 31 per cent. of the development drifting was done in the No. 1 or south vein zone, 61 per cent. in the No. 2 or north vein zone, and 8 per cent. on subsidiary veins.

Vein zone	Advance	Ore	Width	Grade, ounces per ton	Drifting in ore
	feet	feet	inches		per cent.
No. 1.....	1,529	761	69.2	0.634	49.8
No. 2.....	2,944	966	62	.378	33
Subsidiary veins.....	374	40	70	1.166	10.7
Total.....	4,847	1,767	64.8	0.519	36.5

The acute shortage of miners continued during the year, with the result that the total footage driven in development drifts was maintained with difficulty at a figure barely in excess of that for the preceding year's low total. This was so in spite of the fact that every effort was made to favour development rather than to stress immediate production.

When development crews are available again in sufficient numbers thought must be given to the further exploration of the zone of fracturing situated near the north boundary of the property. Drifting carried out on this zone, before the war, at the 3,075- and 3,200-foot horizons was successful in opening up a moderate tonnage of one-third ounce ore and larger tonnages of lower-grade material. Under more favourable operating conditions the occurrence could be a potential source of important amounts of medium- to low-grade ore.

NEW ORE EXPOSED DURING THE YEAR

Level	Advance	Ore	Width	Grade, ounces per ton
	feet	feet	inches	
600-foot	332	.....	.....	.....
800-foot	11	20	66.7	0.301
1,000-foot	63	63	60.4	.798
1,200-foot	11	.....	.....	.....
2,825-foot	31	40	70	1.166
3,950-foot	127	88	70.7	.686
4,075-foot	501	205	61.5	.264
4,825-foot	4	.....	.....	.....
4,950-foot	203	187	60	.220
5,075-foot	43	43	60	.378
5,200-foot	536	88	60.4	.305
5,325-foot	1,015	384	65.3	.633
5,450-foot	610	237	73.7	.665
5,575-foot	842	288	63.8	.447
5,700-foot	235	.....	.....	.....
5,825-foot	283	124	61.4	.562
Total	4,847	1,767	64.8	0.519

SUMMARY OF DEVELOPMENT WORK PERFORMED SINCE THE BEGINNING OF OPERATIONS

	Feet
Drifting	223,086
Crosscutting	69,080
Raising	125,519
Subdrifting	40,049
Ore and waste passes	20,503
Shaft-sinking	10,740
Shaft-raising	7,117
Shaft-slashing	6,309
Winze-sinking	1,290
Diamond-drilling	370,713
	cu. ft.
Box-holing	375,069
Station-cutting	1,583,561
Sumps	71,060

SUMMARY OF ORE TRAMMED

Level	Development	Stoping	Total
	tons	tons	tons
400-foot	1,408	4,003	5,411
600-foot	2,212	3,665	5,877
800-foot	2,318	3,573	5,891
1,000-foot	5,893	5,433	11,326
1,200-foot	1,274	1,646	2,920
1,600-foot	248	9,113	9,361
1,800-foot	590	9,582	10,172
2,000-foot	.....	20,717	20,717
2,200-foot	.....	5,200	5,200
2,575-foot	.....	1,626	1,626
2,825-foot	368	237	605
2,950-foot	259	2,306	2,565
3,075-foot	.....	1,028	1,028
3,200-foot	.....	338	338
3,325-foot	.....	3,239	3,239
3,575-foot	.....	2,219	2,219
3,700-foot	106	494	600
3,825-foot	.....	6,242	6,242

SUMMARY OF ORE TRAMMED—*Continued*

Level	Development	Stoping	Total
	tons	tons	tons
3,950-foot	515	2,069	2,584
4,075-foot	2,487	7,207	9,694
4,200-foot	123	5,626	5,749
4,325-foot	124	6,053	6,177
4,450-foot	424	15,321	15,745
4,575-foot	188	16,262	16,450
4,700-foot	.....	15,148	15,148
4,825-foot	209	18,451	18,660
4,950-foot	1,290	19,538	20,828
5,075-foot	1,414	29,858	31,272
5,200-foot	2,360	9,636	11,996
5,325-foot	4,211	.....	4,211
5,450-foot	3,282	.....	3,282
5,575-foot	4,073	.....	4,073
5,700-foot	1,254	.....	1,254
5,825-foot	1,237	.....	1,237
6,825-foot	429	.....	429
Total	38,296	225,830	264,126

Mining

Due to the shortage of labour the tonnage of ore treated in the year shows a drop of 6,115 tons from the figure for the preceding period. The sources of the ore milled, by levels, are given in the summary of ore trammed. The total was made up of 25 per cent. from the No. 1 or south vein zone, 62 per cent. from the No. 2 or north vein zone, and 13 per cent. from subsidiary veins.

The total length of ore exposed in drifts and available for stoping was increased slightly in the year. At the end of the period the total amounted to 17,363 feet, having an exposed average width before slashing of 58 inches and an average grade of 0.556 ounce per ton. Comparable figures for the last eleven years are given below:—

Year ended June 30	Length	Width before slashing	Grade, ounces per ton
	feet	inches	
1935	16,540	61	0.665
1936	15,934	61	.674
1937	18,162	58	.610
1938	17,226	55	.600
1939	16,803	54	.601
1940	13,290	54	.585
1941	17,103	54	.624
1942	17,236	56	.606
1943	16,925	57	.575
1944	17,122	58	.575
1945	17,363	58	.556

Stoping was not started on any new lower levels in the period. Current stoping extends from the 400-foot level to the 5,200-foot horizon, the greatest depth at which stoping operations have so far been carried out. Ore is continuous from surface to the present bottom limit of stoping and has been encountered in drifts and crosscuts on all deeper levels at which workings have been extended to the vein system, down to and including the 6,825-foot horizon. From the levels below the 5,200-foot horizon and down to the 5,950-foot level a number of raises have been driven on the veins. The raises, which improve ventilation while the levels are under first development, are so located as to serve as stope development raises when a working force, sufficient to permit the extension of stoping, becomes available.

The decreasing incidence of bursting, evident over the last five years, continued during the period. No heavy bursts occurred in the mine, and the majority of those that did take place occurred at blasting time when the workmen are away from the working places. For the most part they caused little damage.

Supplies and Equipment Purchased

	Mar. 1, 1918, to June 30, 1944	July 1, 1944, to June 30, 1945	Total to date
Explosives	$2,650,201	$51,332	$2,701,533
Lumber and timber	4,087,731	108,685	4,196,416
Rock drills and parts	923,699	6,467	930,166
Pipe and fittings, plumbing supplies	900,021	14,870	914,891
Electrical supplies	1,524,524	11,121	1,535,645
Mill supplies	4,811,823	109,800	4,921,623
Machinery and parts	5,254,982	64,781	5,319,763
Building material	1,018,826	23,399	1,042,225
Fuel	655,868	28,947	684,815
Steel products	2,727,328	79,802	2,807,130
Oil and lubricants	297,973	4,210	302,183
General supplies	607,590	.....	607,590
Trucks, cars, and parts	92,379	1,771	94,150
Miscellaneous	2,553,007	59,401	2,612,408
Backfill	982,600	36,341	1,018,941
Powder	5,962,793	215,338	6,178,131
Total	$35,051,345	$816,265	$35,867,610
Freight and express included in value of above materials	$2,620,757	$53,093	$2,673,850

An average force of 546 men was employed during the calendar year, of whom 320 were in the mine, 46 in the mill, and 180 on general surface work.

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, of which 2,905,005 have been issued. The officers and directors are: K. J. Springer, president; W. E. Segsworth, vice-president; W. W. McBrien, secretary-treasurer; Russell Cryderman, Dr. J. H. C. McClelland, and S. H. Robinson, directors. The head office and mine office are at Beardmore. The executive office is at 67 Yonge Street, Toronto.

The company's main property consists of 433 acres in Eva and Summers townships, district of Thunder Bay, about 5 miles from Beardmore on the Port Arthur–Longlac branch of the Canadian National Railways. It is reached from Beardmore by an automobile road.

Mining and milling operations continued throughout 1944. The vertical, 3-compartment No. 1 shaft on claim H.F. 1 is 1,685 feet deep. No further sinking was done on this shaft during 1944. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
125-foot	.....	2,239	.....	696	.....	271
225-foot	.....	2,500	.....	625	.....	335
325-foot	.....	2,432	.....	389	.....	1,024
425-foot	.....	2,671	.....	115	.....	834
525-foot	.....	4,879	.....	238	.....	797
650-foot	.....	2,514	.....	350	.....	992
782-foot	.....	2,772	.....	318	.....	987
900-foot	.....	3,787	.....	1,417	128	1,119
1,025-foot	.....	2,703	.....	627	59	1,242
1,150-foot	.....	2,230	.....	601	437	773
1,275-foot	.....	2,479	.....	507	178	211
1,400-foot	.....	1,616	.....	613	152	152
1,525-foot	.....	1,555	.....	593	142	142
1,650-foot	.....	1,868	.....	1,011	.....	.....

No diamond-drilling operations were carried out during the year.

The following is taken from the manager's report for the twelve months ending December 31, 1944:—

Exploration and Development

Underground lateral development, which had been discontinued in May, 1943, was not resumed during the year 1944, due to shortage of man power. Thus, no new ore was developed.

Ore Reserves

Ore reserves amount to 186,226 tons, averaging 0.858 ounces per ton, for a total of 159,675.72 ounces, or $5,588,650.20 at $35.00 per ounce, or $6,147,515.22 including premium. This is a decrease of 16,971.10 ounces, or $593,988.50 at $35.00 per ounce, or $653,387.35 including premium.

Hoisting

Some 25,673 tons of ore were hoisted, of which 1,284 tons, or 5 per cent., was from raising and 24,389 tons, or 95 per cent., was from stoping; 3,218 tons of waste were hoisted.

Milling

Some 21,727 tons, an average of 59.5 tons per day, were milled after sorting 4,436 tons of waste. Production for the year was 16,209.317 fine ounces of gold, or $624,058.70 including premium. Average recovery was 0.746 ounces, or $28.72 per ton milled, including premium. Extraction for the year was 96.1 per cent.

Costs

		Per ton milled
Exploration and development:		
Underground diamond-drilling	$0.45	
Raising	.74	
		$1.19
Mining		9.43
Milling		3.12
Total operating costs at the mine		$13.74

The above total operating cost at the mine compares with a cost of $12.70 per ton milled in 1943, an increase of $1.04. The cost for 1943 included $0.04 per ton for surface exploration and drilling and $0.44 per ton for crosscutting and drifting, which costs are not included in this year's total as none of this work was done. Mining costs increased $0.85 per ton due mainly to decreased tonnage, while milling costs increased $0.39 per ton for the same reason, in spite of the economies pertaining from the elimination of the amalgamation.

General

Operations during the year were curtailed and hampered by the continued man-power shortage. The surface construction was particularly affected and delayed. Besides the decreased number of men on the pay-roll, absenteeism is cutting further into the productive shifts worked.

G. A. McKay was manager, employing an average force of 81 men during the year, of whom 38 were in the mine and 12 in the mill.

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, of which 1,841,000 have been issued. The officers and directors are: D. M. Hogarth, president; Mrs. Clela Ellis, vice-president; J. A. MacFadyen, secretary-treasurer; W. H. Englebright, A. B. Gordon, and D. M. Morin, directors. The head office is at 25 King Street West, Toronto. The mine address is Geraldton.

The property consists of 35 claims, approximately 1,400 acres, in the townships of Errington and Ashmore, Little Long Lac area, district of Thunder Bay. The mine is 2 miles south of Geraldton on the Port Arthur–Longlac branch of the Canadian National Railways. There is an automobile road from Geraldton to the property.

Mining and milling operations continued throughout 1944. The mine is

being developed from a vertical, 3-compartment shaft, 2,322 feet deep, on claim T.B. 10,560. A vertical, 3-compartment winze, which is collared at the 16th level about 1,680 feet southwest of the shaft, was sunk a further 214 feet during 1944 and now runs to a depth of 3,218 feet from surface. Two new levels, the 21st and 22nd, were established at 809 and 955 feet, respectively. The following table shows the development work done during 1944 and the total:—

Level and depth from surface	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 1 SHAFT:						
1st (126 feet)	.....	112	.....	57	.....	50
2nd (204 feet)	.....	1,695	.....	1,239	.....	1,219
3rd (324 feet)	.....	1,219	.....	393	.....	575
4th (445 feet)	.....	2,558	.....	1,027	.....	500
5th (570 feet)	.....	1,186	.....	126	.....	223
6th (694 feet)	.....	973	.....	288	.....	788
7th (847 feet)	.....	1,098	.....	30	.....	616
8th (998 feet)	.....	2,035	.....	1,539	.....	763
9th (1,152 feet)	.....	1,145	.....	24	.....	629
10th (1,299 feet)	.....	1,450	.....	266	.....	490
11th (1,451 feet)	.....	1,604	.....	89	.....	590
12th (1,603 feet)	5	1,791	.....	290	.....	998
13th (1,758 feet)	115	1,978	.....	161	.....	573
14th (1,910 feet)	128	2,168	.....	184	.....	540
15th (2,062 feet)	1,651	3,994	.....	308	90	454
16th (2,214 feet)	204	3,999	93	921	.....	857
WINZE:						
17th (2,405 feet)	286	1,701	.....	411	348	967
18th (2,558 feet)	249	1,689	.....	431	63	684
19th (2,711 feet)	126	1,703	.....	417	134	778
20th (2,864 feet)	.....	1,756	.....	418	225	864
21st (3,013 feet)	1,078	1,078	193	193	.....	.....
22nd (3,159 feet)	.....	.....	208	208	.....	.....

Diamond-drilling during the year consisted of 21 holes, totalling 4,867 feet, all from underground.

The following is taken from the report of the general manager for the year ending December 31, 1944:—

Production

Ore hoisted	tons	83,313
Waste sorted	tons	15,775
Ore milled	tons	67,538
Bullion recovered, gold	ounces	22,782.134
Bullion recovered, silver	ounces	2,043.270
Total gold in residues	ounces	833.950
Calculated mill head assay	ounces per ton	.350
Calculated mill residues assay	ounces per ton	.012
Recovery	per cent.	96.57

The mill operated 328.87 days, or 89.86 per cent. of the full time. The average daily tonnage milled was 184.52 tons, against 263.21 tons in 1943 and 324.89 tons in 1942.

Production for the past five years is listed below:—

Year	Tons milled	Gross production	Value per ton
1940	113,065	$1,761,708.15	$15.581
1941	118,332	1,634,811.26	13.815
1942	115,790	1,516,057.19	13.093
1943	88,890	1,024,321.24	11.524
1944	67,538	877,901.64	13.000

In the ten years the property has been in production, a total of 955,775 tons of ore have been milled for a gross production of $14,383,819.61, or an average of $15.049 per ton milled.

Development

Development for the year consisted of: (1) deepening the internal shaft to establish two new levels (the 21st and 22nd) at 3,013 feet and 3,159 feet below the surface, respectively; (2) drifting on the south part of the main vein on the 21st level for a distance of approximately 1,040 feet in ore averaging 0.340 ounces over a width of 35 inches; (3) crosscutting to the south part of the main vein on the 22nd level; the vein was reached just at the year end; (4) opening up the fold section of the vein (described in the annual report for 1943) on all levels from the 12th to 20th, inclusive, showing 81,500 tons of ore, grading 0.311 ounces per ton; this development accounts for the appreciable increase in ore reserves given below; (5) the exploration drift to the west on the 15th level was driven 1,267 feet during the year, and still had a considerable distance to go before entering the area of favourable geological structure.

Ore Reserves

Ore reserves over the full vein to the 20th level and the south part of the vein to the 21st level, as of December 31, 1944, are:—

	Tons	Grade	
		Ounces	Value
Ore in pillars	101,622	0.448	$17.25
Available ore	397,827	.324	12.47
Total reserves	499,449	0.349	$13.44

Operating Costs

	Total cost	Cost per ton
Exploration	$32,569.50	$0.4822
Development	139,292.50	2.0625
Mining	279,864.20	4.1439
Milling	158,628.28	2.3487
Mine office and supervision	36,685.57	.5432
General expense	56,835.32	.8415
Administrative (Toronto)	24,216.37	.3585
Total	$728,091.74	$10.7805

A comparison of operating costs by years follows:—

Year	Development and exploration	Mining	Milling	Mine office and supervision	General expense	Administrative expense	Total cost	Tons milled	Cost per ton
1940	$201,191.83	$329,685.59	$174,236.42	$38,974.75	$58,648.21	$32,565.14	$835,301.94	113,065	$7.39
1941	221,480.19	357,793.01	182,762.15	38,433.75	60,909.49	28,515.76	889,894.35	118,332	7.52
1942	137,644.31	438,316.34	190,848.24	37,176.23	65,730.68	26,868.82	896,584.62	115,790	7.74
1943	134,910.18	324,093.49	192,561.19	37,152.29	69,525.75	27,147.65	785,390.55	88,890	8.84
1944	171,862.00	279,864.20	158,628.28	36,685.57	56,835.32	24,216.37	728,091.74	67,538	10.78

The above table shows that even though there is an increase of $36,951.82 in the 1944 cost of development and exploration as compared with 1943, there is a reduction in the over-all cost of operating of $57,298.81. However, when the total operating cost is applied to the reduced tonnage of ore milled, an increase of $1.94 in the cost per ton milled is noted.

An average force of 192 men was employed, of whom 124 were in the mine and 23 in the mill. W. Samuel is general manager, and A. E. Cave is mine manager.

Macassa Mines, Limited

Macassa Mines, Limited, was incorporated in April, 1926, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,678,068 have been

issued. The officers and directors are: Robert A. Bryce, president; L. Soliague, secretary-treasurer; C. R. Leonard, J. D. Perrin, A. G. Slaght, H. M. Porteous, and J. W. Flanagan, directors. The head office is at 85 Richmond Street West, Toronto. The mine address is Kirkland Lake.

The property consists of 11 claims, approximately 372 acres, in Teck township, Kirkland Lake area, district of Timiskaming.

The following table shows the various shafts on the property, their location, number of compartments, and depth:—

Shaft	Claim No.	No. of compartments	Depth from surface
			feet
Elliott[1]	L. 1,617	2	523
Main No. 1	L. 2,837	3	3,043
No. 1 winze[2] (below the 3,000-foot level)		3	4,571
No. 2[3]	L. 4,186	3	4,070

[1]No work has been done for several years in the Elliott shaft area.
[2]About 360 feet southeast of No. 1 shaft.
[3]About 1,000 feet southwest of No. 1 shaft.

The following table shows the development accomplished in the workings from the Nos. 1 and 2 shafts during 1944 and the total:—

Level[1]	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
1,300-foot		581		47		933
1,400-foot		1,101		138		169
1,500-foot		2,803		447		267
1,525-foot sublevel		113				50
1,550-foot sublevel		63				
1,625-foot		861		24		395
1,725-foot		245		39		88
1,850-foot		758				371
2,000-foot		1,810		573		356
2,175-foot		1,030				297
2,325-foot	326	1,526	213	312		529
2,475-foot[2]	53	2,335		1,417		768
2,525-foot		457				
2,575-foot		2,179		543		260
2,675-foot		3,970		1,535		262
2,800-foot		5,677		1,388		542
3,000-foot		[3]7,488	25	[4]6,597		1,367
3,100-foot		4,879		570		664
3,225-foot	42	5,401		1,108		627
3,350-foot	147	4,979		1,062		586
3,475-foot	152	3,952		587		429
3,600-foot[2]		4,126		843		638
3,725-foot		3,225		1,415		857
3,875-foot		2,673		744		299
4,000-foot		2,146		437		430
4,125-foot		2,905	41	1,742	163	767
4,250-foot	1,876	3,800		803	278	293

[1]At the levels above 1,300 feet, stations only have been cut.
[2]Connected with Kirkland Lake Gold mine workings.
[3]Includes 273 feet of drifting in Casakirk property.
[4]Includes 721 feet of crosscutting in Casakirk property; the 1,173-foot crosscut driven in Macassa ground to reach the Casakirk boundary; and 2,003 feet of crosscutting done in Macassa ground to reach the Amalgamated Kirkland boundary.

Diamond-drilling during the year consisted of 63 holes, totalling 9,751 feet, all from underground.

The following is taken from the mine manager's report for the year ending December 31, 1944:—

Production

During the year, 83,392 tons of ore was hoisted and milled. From this, a net recovered value in bullion of $1,402,042.05, or $16.81 per ton, was obtained, as compared with 103,259 tons having a recovered value of $1,657,950.35, or $16.05 per ton, which was produced in 1943. A total to date of 1,163,639 tons of ore has been milled since milling started in October, 1933, from which $19,490,-946.94, or $16.75 per ton milled, has been recovered.

The company was again forced to reduce tonnage milled per day from a high of 261 for February to an average of 210 for the last four months of the year. This is directly due to insufficient help, the number of underground employees now being less than half the number it was in 1939. Of the 83,392 tons milled, 79,303 tons came from stopes and 4,089 tons from development headings.

Exploration and Development

A comparison of development work accomplished during the past six years, in lineal feet, is as follows:—

	1944	1943	1942	1941	1940	1939	Total to date
	feet	feet	feet	feet	feet	feet	feet
Drifting	2,804.5	4,067.5	2,925	9,563.5	9,587.5	12,426.5	85,269
Crosscutting	421	999	2,227.5	1,546.5	3,672.5	2,988	21,323
Raising	442	205.5	777.5	1,724.5	1,894	1,767.5	13,210.5
Shaft-sinking	.....	.....	.....	.....	1,195	2,362	7,141
Winze-sinking (below 3,000-foot level)	255	.....	.....	.....	450	.....	1,367
Station-cutting	24	.....	.....	.....	207	94	846
Total	3,946.5	5,272	5,930	12,834.5	17,006	19,638	129,156.5
Diamond-drilling	9,751	10,590	13,558	44,816	25,936	32,772	189,756.5

Perhaps the most important development work done during the year was the deepening of the winze to a point 4,572 feet from the surface and cutting a station at the 4,500-foot horizon. It is planned to continue sinking to 4,800 feet at this time so that development of a block of three new levels can be undertaken when the opportunity comes. To do this necessitated the curtailment to some extent of the lateral development planned for several of the present levels.

Further diamond-drilling during the year has located new hanging-wall veins and proven the extension of known ones, so that a programme involving some 3,500 feet of crosscutting and drifting has been laid out and will be carried out, most of it following a return to more normal times.

During the year, a total of 456 lineal feet of new ore was drifted on, which averaged 0.45 ounces over an average width of 4.5 feet. Of this total, 224 feet is on a branch vein on the 2,325-foot level and the remainder on branch veins, one on the 3,225-foot and one on the present bottom or 4,250-foot level.

Ore Reserves

Curtailed lateral development resulted in a lowering of the developed ore reserve of a grade similar to that shown in the past.

As at the end of 1944, the following is an estimate of positive ore of 0.452 ounces per ton:—

	Tons	Ounces per ton	Value per ton at $38.50
Unbroken ore	430,000	0.457	$17.59
Broken ore	32,800	.372	14.32
Total	462,800	0.452	$17.40

In addition to the above, there are several blocks of material which can be profitably mined. While this might be termed marginal ore under present cost conditions, most of it may contain areas of higher grade. These blocks contain a total of 29,700 tons of an indicated average grade of 0.26 ounces, or $10.01 per ton at the present gold price.

Of this total reserve, 44 per cent. is in bodies along the main break and 56 per cent. in branch or subsidiary hanging-wall veins.

Milling

The average tons milled per day throughout the year was 229.1, as compared with 282.9 for the previous year. The re-treatment of the mill tailings by Lake Shore Mines, Limited, throughout the year resulted in a profit of $4,030.95. The average extraction throughout the year was 95 per cent.

Operating Costs

The total operating costs per ton milled before provision for taxes and depreciation are as follows, along with comparable figures for the years 1943 and 1942.

	1944	1943	1942
Development and exploration	$1.41	$0.93	$0.87
Mining (stoping, tramming, pumping, etc.)	4.00	3.84	3.64
Milling	1.54	1.33	1.25
Administration and general charges (including head office, Mint charges, and bullion handling charges)	1.59	1.19	1.17
Total	$8.54	$7.29	$6.93

A comparison of the main items of expenditures during the year with the previous two years is as follows:—

	1944	1943	1942
Wages	$392,386.40	$435,996.39	$471,245.23
Supplies and services	185,721.49	162,338.25	207,144.08
Power	68,936.43	73,812.06	76,774.65
Provision for taxes	169,476.67	242,029.44	358,708.21

Capital Expenditures

An increase of $2,539 was made to this item during the year, a small addition to the mine dry having been necessary.

Mines Wartime Machine Shop Work

The Wartime Machine Shop work on primary and subcontract work for certain divisions of the Department of Munitions and Supply, which was referred to in the 1943 report, was continuous throughout the year. This work involved a total of 13,627 man-hours during the year. The shop has been operated on an efficient basis, and the standard of work turned out has been of a high quality.

An average force of 184 men was employed during the year, of whom 110 were in the mine and 15 in the mill. G. A. Howes is mine manager.

McIntyre Porcupine Mines, Limited

McIntyre Porcupine Mines, Limited, incorporated in March, 1911, has an authorized capitalization of 800,000 shares of $5 par value, of which 798,000 have been issued. The officers and directors are: J. P. Bickell, president; Bernard E. Smith, vice-president; Balmer Neilly, executive vice-president; R. J. Ennis, vice-president and general manager; E. D. Fox, secretary; D. H. McDougall and R. S. McLaughlin, directors. The executive office is at 15 King Street West, Toronto. The head office and mine office are at Schumacher.

The company has numerous holdings in Canada, chief of which is the McIntyre mine in Tisdale township, Porcupine area, district of Cochrane.

Operations at the main property continued throughout 1944. An average force of 1,138 men was employed, of whom 734 were in the mine and 81 in the mill.

The following is taken from the report of the general manager for the fiscal year ending March 31, 1945:—

Production

Ore treated	tons	572,620
Value per ton (0.3049 ounces)		$11.739
Gross value		$6,722,230.78
Bullion produced:		
Gold (167,191.022 ounces at $38.50),	$6,436,860.01	
Silver (32,233.93 ounces at $0.4188)	13,499.59	
Total value		$6,450,359.60
Recovered per ton (0.2924 ounces)		$11.26

PRODUCTION SINCE THE BEGINNING OF MILLING OPERATIONS IN 1912

Period	Months	Tons milled	Value per ton	Gross value	Recovery per ton	Total value	Price receive per ounce for gold
1912	12	14,500	$7.00	$101,555.16	$5.25	$76,166.38	
1913	12	31,979	7.85	251,314.45	7.05	225,752.25	
Jan. 1, '14, to Mar. 31, '15	15	85,654	8.87	760,232.16	8.39	718,331.71	
Apr. 1, '15, to Mar. 31, '16	12	105,758	7.71	815,345.49	7.38	779,990.94	
Apr. 1, '16, to June 30, '17	15	195,307	10.00	1,954,793.28	9.55	1,864,914.28	
July 1, '17, to June 30, '18	12	178,327	10.05	1,793,197.55	9.61	1,714,258.00	
July 1, '18, to June 30, '19	12	179,874	9.78	1,759,627.40	9.29	1,671,646.03	
July 1, '19, to June 30, '20	12	188,835	11.52	2,175,891.31	11.02	2,080,178.44	
July 1, '20, to June 30, '21	12	171,916	11.67	2,005,672.00	11.08	1,904,326.36	
July 1, '21, to June 30, '22	12	193,971	10.69	2,074,088.40	9.99	1,937,105.07	$20.67
July 1, '22, to June 30, '23	12	240,615	9.96	2,397,303.00	9.35	2,249,741.63	
July 1, '23, to June 30, '24	12	360,140	9.69	3,488,863.00	9.14	3,291,178.22	
July 1, '24, to June 30, '25	12	400,259	9.43	3,774,068.00	8.86	3,546,637.52	
July 1, '25, to June 30, '26	12	460,909	8.72	4,020,326.00	8.25	3,804,774.90	
July 1, '26, to Mar. 31, '27	9	385,409	8.08	3,113,500.07	7.67	2,957,060.97	
Apr. 1, '27, to Mar. 31, '28	12	520,460	8.09	4,207,553.00	7.66	3,987,634.94	
Apr. 1, '28, to Mar. 31, '29	12	538,165	8.24	4,433,378.00	7.83	4,212,624.82	
Apr. 1, '29, to Mar. 31, '30	12	550,495	8.46	4,657,188.00	8.05	4,433,626.45	
Apr. 1, '30, to Mar. 31, '31	12	558,115	8.84	4,934,122.00	8.30	4,633,140.73	
Apr. 1, '31, to Mar. 31, '32	12	655,030	8.47	5,548,278.10	8.10	5,305,475.29	21.95
Apr. 1, '32, to Mar. 31, '33	12	736,300	8.45	6,224,493.40	8.12	5,981,714.69	22.79
Apr. 1, '33, to Mar. 31, '34	12	776,845	10.68	8,296,704.60	10.24	7,957,252.54	31.50
Apr. 1, '34, to Mar. 31, '35	12	862,100	10.23	8,819,660.27	9.78	8,430,670.26	34.67
Apr. 1, '35, to Mar. 31, '36	12	873,000	9.88	8,621,410.67	9.38	8,190,639.14	35.17
Apr. 1, '36, to Mar. 31, '37	12	864,500	10.00	8,641,205.24	9.49	8,201,416.94	34.99
Apr. 1, '37, to Mar. 31, '38	12	871,200	9.75	8,495,286.60	9.25	8,061,906.45	34.996
Apr. 1, '38, to Mar. 31, '39	12	871,900	10.10	8,809,415.12	9.61	8,375,335.71	35.23
Apr. 1, '39, to Mar. 31, '40	12	883,780	10.50	9,280,648.46	9.95	8,793,575.06	37.06
Apr. 1, '40, to Mar. 31, '41	12	884,000	11.23	9,923,064.15	10.69	9,452,490.59	
Apr. 1, '41, to Mar. 31, '42	12	862,500	11.12	9,588,848.00	10.58	9,123,886.73	
Apr. 1, '42, to Mar. 31, '43	12	757,210	11.34	8,589,076.53	10.85	8,212,402.73	38.50
Apr. 1, '43, to Mar. 31, '44	12	654,930	11.61	7,601,880.07	11.16	7,305,804.75	
Apr. 1, '44, to Mar. 31, '45	12	572,620	11.74	6,722,230.78	11.26	6,450,359.60	
Total	.....	16,486,603	$9.94	$163,880,220.26	$9.46	$155,932,020.12	.....

Operating Costs

	Total cost	Cost per ton ore milled
MINING:		
Exploration	$94,586.64	$0.1652
Development	277,777.20	.4851
Breaking and stoping	2,599,342.25	4.5394
	$2,971,706.09	$5.1897
Milling	620,464.95	1.0836
Administration and general expense	103,783.92	.1812
Total	$3,695,954.96	$6.4545

ANALYSIS OF MINING COSTS

	Labour and employees' insurance	Explosives	Other supplies	Shop repairs and maintenance	Power and air	Indirect charges	Total	Cost per ton
Drifts	$64,482.11	$17,646.36	$5,602.51	.....	$9,058.43	$20,333.49	$117,122.90	$0.2045
Crosscuts	36,670.45	10,750.63	2,154.19	.....	4,085.31	9,740.27	63,400.85	.1107
Raises	5,082.12	536.31	673.20	.....	1,519.12	3,069.30	10,880.05	.0190
Diamond-drilling	29,078.75	.....	13,508.49	$1,714.23	4,319.00	7,284.36	55,904.83	.0976
Exploration	22,050.82	.....	9,409.59	3,892.57	.....	3,328.83	38,681.81	.0676
Mining	1,074,832.42	59,332.67	99,784.50	70,881.96	97,031.49	206,641.93	1,608,504.97	2.8090
Timbering	214,443.54	.....	171,749.16	12,628.55	2,400.47	22,268.82	423,490.54	.7396
Backfilling	98,454.73	.....	54,693.80	8,745.30	1,791.42	4,116.93	167,802.18	.2930
Tramming:								
Development	46,136.00	.....	8,724.50	6,306.50	2,477.00	1,169.00	64,813.00	.1132
Mining	96,679.64	.....	19,013.40	13,584.35	5,333.58	17,005.14	151,616.11	.2648
Hoisting:								
Development	12,892.50	.....	618.60	3,526.80	4,149.00	373.50	21,560.40	.0377
Mining	136,116.27	.....	6,799.59	38,686.00	44,778.38	21,548.21	247,928.45	.4330
Total	$1,836,919.35	$88,265.97	$392,731.53	$159,966.26	$176,943.20	$316,879.78	$2,971,706.09	$5.1897
Cost per ton milled	$3.2079	$0.1541	$0.6859	$0.2794	$0.3090	$0.5534	$5.1897	.....

Mining

	Tons
Ore broken in stopes	522,893
Ore from development	47,293
Total	570,186
Ore hoisted	573,491

SUMMARY OF DEVELOPMENT AND EXPLORATION, 1944–45

Period	Drifts	Cross-cuts	Raises	Winzes	Shafts	Stations	Sumps	Excavations	Total footage	Total excavation	Diamond-drilling
	feet	feet	feet	feet	feet	cu. ft.	cu. ft.	cu. ft.	feet	cu. ft.	feet
1	901	116	87	.....	.....	.....	.....	.....	1,104	.....	4,391
2	869	161	90	.....	.....	.....	.....	.....	1,120	.....	4,389
3	680	226	95	.....	.....	.....	.....	.....	1,001	.....	4,363
4	465	385	.....	.....	.....	.....	.....	6,160	850	6,160	3,744
5	504	403	.....	.....	.....	.....	.....	1,320	907	1,320	3,527
6	447	436	7	.....	.....	.....	.....	.....	890	.....	4,186
7	227	544	188	.....	.....	.....	.....	.....	959	.....	4,399
8	546	517	100	.....	.....	.....	.....	.....	1,163	.....	4,047
9	485	509	.....	.....	.....	.....	.....	.....	994	.....	4,134
10	793	250	.....	.....	.....	.....	.....	5,592	1,043	5,592	3,970
11	606	480	.....	.....	.....	.....	.....	5,798	1,086	5,798	4,324
12	644	477	75	.....	.....	.....	.....	3,264	1,196	3,264	4,800
Total	7,167	4,504	642	.....	.....	.....	.....	22,134	12,313	22,134	50,274
Previous to date	396,030	179,125	34,262	613	14,759	1,013,582	55,039	246,797	624,789	1,315,418	957,649
Total to date	403,197	183,629	34,904	613	14,759	1,013,582	55,039	268,931	637,102	1,337,552	1,007,923

ORE RESERVES

	Tons	Fine ounces gold	Value at $35.00
Estimated in place	4,309,570	1,360,620	$47,621,707
Broken ore	134,547	32,066.2	1,122,317
Total	4,444,117	1,392,686.2	$48,744,024
Average per ton	.....	0.3132	$10.95

General

The number of men available for underground work continued to decrease during the year, causing a further reduction of 12 per cent. in tonnage milled and reducing current operations to 65 per cent. of normal capacity.

The ore reserve position has been maintained by a limited amount of development work in producing areas. Projected mine exploration and development has been more or less suspended for the past three years. With the termination of the war in Europe it is hoped that this most important work can soon be resumed.

McKenzie Red Lake Gold Mines, Limited

McKenzie Red Lake Gold Mines, Limited, was incorporated in February, 1933, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,935,000 have been issued. The officers and directors are: F. D. Reid, president; A. H. Seguin, vice-president; H. M. Anderson, secretary-treasurer; A. B. Stodart, J. W. Shaw, and W. F. James, directors. The head office is at 19 Richmond Street West, Toronto. The mine address is McKenzie Island.

The property consists of 12 claims, approximately 475 acres, at the north end of Mackenzie island, Dome township, Patricia portion of Kenora district.

Mining and milling operations continued throughout 1944. The mine is being developed from a vertical, 3-compartment shaft, 456 feet deep, on claim K.R.L. 87 and a 3-compartment winze, which is collared at the 250-foot level about 250 feet southwest of the shaft and runs at an angle of 36 degrees to a vertical depth of 1,275 feet from surface. The vertical shaft is known as No. 1 and the winze as No. 2 shaft. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
150-foot	.....	1,828	.....	384	.....	475
250-foot	.....	3,689	.....	1,184	.....	1,285
350-foot	.....	3,336	.....	616	.....	1,735
450-foot	.....	6,669	.....	1,040	.....	1,968
550-foot	.....	4,937	.....	899	.....	1,380
650-foot	650	6,156	126	1,130	.....	1,520
750-foot	.....	3,902	.....	747	73	550
850-foot	.....	8,831	.....	1,432	267	1,646
950-foot	128	2,837	91	886	.....	209
1,050-foot	431	6,385	89	1,786	.....	427
1,150-foot	.....	.....	.....	186	.....	.....
1,250-foot	1,199	5,859	35	1,220	209	218

Diamond-drilling consisted of 4 holes, totalling 2,272 feet, from surface and 89 holes, totalling 16,360 feet from underground.

A new domestic supply pump house and a new dock at the lake was built and an addition made to the electrical shop during the year.

The following is taken from the resident manager's report for the year ending December 31, 1944:—

A comparison of operating statistics with those of the previous year show: (a) tonnage milled, 78,279 as against 85,973; (b) average value per ton milled, 0.249 ounces ($9.59 at $38.50) compared with 0.292 ounces ($11.24 at $38.50); (c) value of bullion recovered, $733,913.43 against $952,246.90; (d) total development footage, 3,298 feet against 2,417 feet.

Operating costs of $7.05 per ton milled compare with $6.20 for the previous year. While this is due in part to higher mill maintenance costs and the lower tonnage milled this year, it is due mainly to increase in development expense.

GENERAL SUMMARY OF MINING AND MILLING OPERATIONS

	1944	1943	Total to date
	tons	tons	tons
Ore broken in stopes and stope development, slashing included	86,564	98,039	747,830
Ore broken in development	7,024	5,410	89,785
Total ore hoisted (milled and sorted, dry)	93,588	103,449	837,615
Tonnage milled	78,279	85,973	690,866
Tonnage discarded by sorting	15,309	17,476	146,749
	ounces	ounces	ounces
Average value per ton milled	0.249	0.292	0.3555
Average recovery per ton milled	.2435	.2877	.347
Percentage of extraction	97.7	98.4	97.63
Total value of bullion produced and marketed	$733,913.43	$952,246.90	$8,879,456.19
Total operating cost	$551,573.07	$533,211.46	$4,618,009.26

ANALYSIS OF OPERATING COSTS

	Total cost	Cost per ton milled and sorted (93,588 tons)	Cost per ton milled (78,279 tons)
DEVELOPMENT AND EXPLORATION:			
Diamond-drilling	$13,173.68	$0.14	$0.168
Current development	60,898.64	.65	.779
Total	$74,072.32	$0.79	$0.947
EXTRACTION:			
Slashing	$15,658.85	$0.167	$0.20
Stoping	249,475.05	2.665	3.19
Total	$265,133.90	$2.832	$3.39
MILL OPERATIONS:			
Crushing and conveying	$15,613.02	$0.168	$0.200
Sorting	8,238.56	.088	.105
Milling	86,533.74	.924	1.105
Total	$110,385.32	$1.18	$1.41
GENERAL EXPENSE: Maintenance of buildings, water supply, salaries, and office, engineering, insurance, heating, hospital, and telegraphs	$78,256.70	$0.835	$1.00
HEAD OFFICE EXPENSE: Salaries and expenses, stock registration, transfer fees, etc	$23,724.83	$0.253	$0.303
Total	$551,573.07	$5.89	$7.05

General Development

The labour shortage, which became more serious during the year, restricted every phase of the operation so that in order to maintain the condition of the mine, development work was carried on at the expense of extraction. This is indicated by the reduction in ore milled this year, compared to the previous year, and by the increase in total footage of development completed.

Total drifting this year amounted to 2,408 feet. Of this, 744 feet included in the 1,199 feet of drifting on the 1,250-foot level followed no structure but was required to reach the productive ore zones and prepare for the sinking operations now under way. Drifting along productive

structures indicated 300 feet in the south end of the northeast zone on the 650-foot level, 228 feet in the northeast zone on the 1,250-foot level, and 380 feet on a hanging-wall structure in the south mine, making a total of 908 lineal feet of new ore for the year.

Half of the ore milled during the year was mined from the northeast zone. Stoping widths averaged 6 feet.

Ore Reserves

While the new ore footage developed during the year was insufficient to maintain the ore position as at the start of the year, the ore reserve has been reduced only to the extent of one-half year, according to estimates based on remaining ore lengths. The relatively small amount of ore developed during the year is due to the lesser amount of development work completed during the past year as compared to pre-war years.

Conclusion

The daily tonnage milled and sorted during the year averaged 256, and tonnage milled 214. The grade of ore mined has been lower due to the continued shortage of labour, which has necessitated the taking of easily available ore and precluded the possibility of maintaining grade by our normal methods of selective mining.

McMarmac Red Lake Gold Mines, Limited

McKenzie severed its connection with the above company in February 1944.

An average force of 122 men was employed, of whom 70 were in the mine and 13 in the mill. J. L. Ramsell is resident manager.

MacLeod-Cockshutt Gold Mines, Limited

MacLeod-Cockshutt Gold Mines, Limited, which was incorporated in September, 1933, has an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,862,490 have been issued. The officers and directors are: F. G. MacLeod, president; Arthur Cockshutt, vice-president; J. M. Macintosh, secretary-treasurer; D. M. Hogarth, W. H. Marsh, Arthur Notman, and A. L. Cochrane, directors. The head office is at 357 Bay Street, Toronto. The mine address is Geraldton.

The property consists of 23 claims, 1,163 acres, about 3 miles from Geraldton on the Port Arthur–Longlac branch of the Canadian National Railways in Ashmore and Errington townships, Little Long Lac area, district of Thunder Bay.

This property operated continuously throughout the year. A great deal of development work was done underground in search of new ore bodies. The north ore body at the mine has been practically mined out except for some sills. Mining was continued in the west ore body, which was the main source of mill feed during the year. This ore body has been an excellent source of ore both in size and grade.

During the year approximately 9,000 feet of drifting and crosscutting was done in search of new ore bodies. This effort has met with success, and a certain amount of new ore has been opened up on several of the levels. The following table shows the development work done in 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
1st	.....	5,652	.....	1,904	.....	1,563
2nd	.....	6,336	.....	2,134	.....	1,720
3rd	635	10,906	167	3,755	.....	2,800
4th	622	4,056	.....	1,393	.....	2,123
5th	1,341	4,752	.....	2,007	.....	2,146
6th	450	2,970	543	2,054	162	1,453
7th	112	2,730	19	1,404	310	1,445
8th	797	810	461	610	.....	562
9th	569	569	541	578	197	197
10th	.....	.....	465	478	176	176
11th	1,662	1,662	727	740	165	165

Diamond-drilling consisted of 4 holes, totalling 1,911 feet, from surface and 319 holes, totalling 36,115 feet, from underground.

New buildings erected during the year included a gate-house, chlorinator house, No. 1 hoist-house, and No. 1 headframe and shaft-house.

The following is taken from the general manager's report for the twelve months ending September 30, 1944.

General

During the past year tonnage hoisted decreased 42.3 per cent., and tonnage milled decreased 40.3 per cent. This was due to the shortage of underground labour. The percentage decrease in shifts worked was 33.5 per cent. underground, 16.9 per cent. on surface, and an over-all decrease of 24.5 per cent.

The result of this shortage of labour and curtailment in production shows a drop in total production of 32.6 per cent. Our increase in operating costs per ton milled was 33.99 per cent., and costs per ton hoisted was 38.72 per cent.

Mining

Ore mined, hoisted, and conveyed to the crusher plant amounted to 184,851 tons with an average value of $9.32 per ton. After hand-sorting and magnetic separation of waste rock, amounting to 60,496 tons, ore sent to the mill was 124,355 tons with an average value of $12.54 per ton, an increase of $3.22 per ton. This ore produced $1,586,311.14. The sources from which the ore was obtained are listed below:—

SUMMARY OF ORE DELIVERED TO ORE-PASS SYSTEM
October, 1943, to September, 1944

	Ore hoisted	Tonnage	Average recovery		Total ounces
			Ounces	Value	
	tons	per cent.			
South zone, development	220	0.1	0.135	$5.20	29.66
North zone:					
Stopes	95,145	50.9	.202	7.78	19,226.29
Development	5,047	2.7	.201	7.74	1,015.83
West zone:					
Stopes	77,593	41.6	.299	11.51	23,167.73
Development	8,746	4.7	.193	7.43	1,687.75
Total	186,751	100	0.242	$9.32	45,127.26

OPERATING COSTS

	Total cost		Cost per ton milled		Cost per ton hoisted	
	1943	1944	1943 (208,218 tons)	1944 (124,355 tons)	1943 (320,512 tons)	1944 (184,851 tons)
Mine development	$156,951.22	$210,146.52	$0.754	$1.690	$0.490	$1.137
Mining	643,600.98	428,564.06	3.091	3.446	2.008	2.318
Milling	343,506.81	289,335.88	1.649	2.327	1.072	1.565
Mine general and head office administration	205,270.27	185,922.73	.986	1.495	.640	1.005
Cost of living bonus	67,842.59	20,179.95	.326	.162	.212	.109
Total	$1,417,171.87	$1,134,149.14	$6.806	$9.120	$4.421	$6.135

Milling

During the fiscal year 1943–44, the daily tonnage milled was reduced from the 1942–43 average of 592.30 tons per operating day to an average of 350.60 tons per operating day. The total tonnage milled in 1943–44 was 124,355 tons against the 1942–43 total of 208,218 tons. Operating time was slightly better in 1943–44 for a possible running time of 96.91 per cent., compared with 96.31 per cent. in 1942–43.

As a result of curtailment of tonnage, the fourth roaster unit was shut down in October, 1943, to allow sufficient feed for the other three furnaces. This was necessary in order to maintain a self-roasting condition in the operating units.

During the summer of 1944, the recovery of the impounded cyanided concentrates was resumed, and 5,880 tons were recovered from May to the end of the fiscal year 1943-44. This was pumped to the roaster, where it was roasted with the current mill production of concentrates.

Development and Ore Reserves

A summary of the ore reserves which can be classed as proven ore with location and average value is listed below. For comparison there is added a summary of the total ore mined from these same locations from the time the mill started operating to the present.

SUMMARY OF ORE RESERVES AND ORE MINED

	Ore reserves			Ore mined		
	Tons	Ounces per ton	Total ounces	Tons	Ounces per ton	Total ounces
North zone	263,991	0.210	55,402.64	1,297,999	0.228	296,077.85
West zone	262,661	.246	64,496.82	283,972	.243	68,865.19
South zone	60,000	.220	13,200.00	245,789	.225	55,309.71
Total	586,652	0.227	133,099.46	1,827,760	0.230	420,252.75

An average force of 263 men was employed, of whom 125 were in the mine and 28 in the mill. J. M. Kilpatrick is general manager.

McMarmac Red Lake Gold Mines, Limited

McMarmac Red Lake Gold Mines, Limited, was incorporated in July, 1939, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 2,050,005 have been issued. The officers and directors are: A. C. McLean, president; C. A. Gentles, vice-president; Geo. Scott, secretary-treasurer; A. Kelso Roberts and J. E. Boyle, directors. The head office is at 66 King Street West, Toronto. The mine address is McKenzie Island.

The company acquired 5 claims from Margaret Red Lake Mines, Limited, and one claim and a fraction from Richmac Gold Mines (1936), Limited, approximately 243 acres in all. The property is in Dome township, Red Lake area, Patricia portion of the district of Kenora.

There are two vertical, 3-compartment shafts on the property. No. 2 shaft, on claim K.R.L. 1,023, through which the present operations are conducted, is 777 feet deep, with levels at intervals of 150 feet. No. 1 shaft, also known as the Margaret, on claim K.R.L. 1,022 about 925 feet southwest of No. 2 shaft, is 300 feet deep. The former operators did 50 feet of drifting on the 80-foot level and 300 feet of drifting and crosscutting on the 175-foot level. No lateral work from this shaft was done by the present company.

Operations on the No. 2 shaft area continued throughout 1944. The following table shows the development work done in 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
150-foot	647	2,797	.....	282	182	820
300-foot	.....	2,518	.....	248	267	765
450-foot	.....	870	.....	423	.....	406
600-foot	.....	912	.....	458	.....	451
750-foot	.....	1,147	.....	984	.....	.....

Diamond-drilling consisted of 12 holes, totalling 5,674 feet, from surface and 59 holes, totalling 7,311 feet, from underground. About 3,800 feet of surface-trenching 2½ feet deep was cut.

There were 21,177 tons of ore mined and milled. The mill operated at an average daily rate of 73 tons. The mine and mill operated until October, 1944.

An average force of 36 persons was employed. W. W. Mills is mine manager.

This company also obtained during 1944 a working option on the property of Kaymac Gold Mines, Limited, which adjoins their property to the northeast.

Madsen Red Lake Gold Mines, Limited

Madsen Red Lake Gold Mines, Limited, was incorporated in March, 1935, with an authorized capitalization of 5,000,000 shares of $1 par value. On June 6, 1940, the capitalization was reduced to $3,500,000 by the cancellation of 1,500,000 unissued shares. The number of shares issued at the end of 1944 was 3,499,528. The officers and directors are: Jos. McDonough, president; F. R. Marshall, vice-president; M. Masterson, secretary-treasurer; Wm. R. Askwith, managing director; Marius Madsen, D. M. Hogarth, Hugh Mackay, and F. M. Connell, directors. The head office is at 67 Yonge Street, Toronto. The mine address is Madsen.

The property consists of 46 claims, 2,179 acres, in Baird and Heyson townships, Red Lake area, Patricia portion of Kenora district. It is about 7½ miles southwest of the Howey mine and may be reached by road from Red Lake. During the year the company staked an additional 15 claims.

No development has been done since September, 1936,[1] on the original workings from No. 1 shaft on claim K.R.L. 11,505.

Operations in the No. 2 shaft area continued throughout 1944. The 3-compartment, vertical shaft on claim K.R.L. 12,528 is 1,959 feet deep. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
200-foot	.....	1,908	.....	271	.....	769
350-foot	.....	5,460	.....	730	.....	2,885
500-foot	.....	2,068	.....	226	.....	1,256
650-foot	.....	3,175	.....	302	.....	1,632
800-foot	.....	2,085	.....	407	.....	1,182
950-foot	677	2,249	.....	416	.....	1,126
1,100-foot	91	1,881	.....	685	176	1,266
1,250-foot	.....	.....	.....	46	.....	.....
1,400-foot	.....	.....	21	21	.....	.....
1,550-foot	.....	.....	10	10	.....	.....
1,700-foot	.....	.....	19	19	.....	.....
1,900-foot	.....	.....	35	35	.....	.....

A crusher station was cut at the 1,760-foot horizon and a loading pocket excavated at the 1,830-foot mark.

Diamond-drilling consisted of 31 holes, totalling 13,137 feet, from surface and 66 holes, totalling 7,790 feet, from underground.

A Canadian Blower and Forge Company 54-inch full axial flow fan was installed for the purpose of ventilating the underground workings.

[1] A table showing the amount of work done from this shaft appears on page 168 of the annual report of the Ontario Department of Mines for 1938, Volume XLVII, part 1.

The following is taken from the report of the manager for the twelve months ending February 28, 1945:--

During the operating period, 127,870 tons of ore and 20,080 tons of waste rock were hoisted. The bullion produced, from the treatment of the 127,870 tons of ore yielded 36,824.536 fine ounces of gold and 7,494.740 fine ounces of silver, worth a total of $1,420,638.88. The average recovery was $11.110 per ton milled.

ANALYSIS OF OPERATING COSTS

	Total cost	Cost per ton milled
Development and exploration	$49,636.90	$0.388
Stope preparation	63,083.98	.493
Stoping	68,809.28	.538
Mucking, tramming, and hoisting	141,115.89	1.104
Crushing and conveying	33,212.47	.260
Milling	106,495.69	.833
Mine general expenses	108,431.10	.848
Head office expenses	27,425.96	.214
Marketing charges	18,169.13	.142
Total operating costs	$616,380.40	$4.820

Mining

The removal of the pillar between the 3-2 and 2-A stopes was practically completed. The 3-5 stope was drawn empty.

The upper section of the 5-8 ore body was mined up to the 4th level, but the box-hole pillars above the 4th level were not removed. The ore in the 5-10 zone was mined and the stope left full of broken ore. Further stope preparation work was done in the 5-14 ore body.

The west end of the 6-8 ore body was silled out, and a slot is presently being cut on this end of the ore body in preparation for diamond-drill blast-hole mining. The east portion of the 7-8 ore body was silled out above the grizzly level, and the mining of this section started. The east end of the 7-10 ore body was mined by shrinkage methods up to within a few feet of the 6th level. A good part of the remainder of this ore body will be mined by diamond-drill methods. The 7-16 ore body was partially prepared for mining.

Ore Reserve

The calculated ore reserve at the end of the year is as follows:—

	At Feb. 29, 1944	At Feb. 28, 1945
	tons	tons
Block between 2nd level and surface	19,510	19,510
Block between 3rd level and 2nd level	37,000	32,000
Block between 4th level and 3rd level	27,900	27,790
Block between 5th level and 4th level	64,590	20,440
Block between 6th level and 5th level	280,000	273,190
Block between 7th level and 6th level	218,370	154,890
Broken reserve	78,695	100,725
Total reserve	726,065	628,545
	ounces	ounces
Grade of reserve	0.201	0.199

In calculating the grade and tonnage of the reserve, allowance has been made for 20 per cent. dilution. No allowance has been made for any ore below the 7th level.

Milling

The mill was operated at full capacity up until the first week of October, after which time it was run on a rate of 300 tons per day. The details of the mill operation are shown in the following summary. For purposes of comparison, the details of the operation for the two previous years are also shown.

	Year ending Feb. 28, 1943	Year ending Feb. 29, 1944	Year ending Feb. 28, 1945
Dry tons treated	146,346	144,179	127,870
Per cent. operating time	96.62	96.01	87.19
Tons treated per mill day	403.2	396.1	360.2
Average gold assay of heads.....ounces	0.2860	0.2507	0.3046
Average gold assay of tails.....ounces	0.0182	0.0167	0.0166
Recovery.....per cent.	93.6	93.3	94.5

General

The operating costs were increased by $0.501 per ton milled, a good part of this increased cost per ton being due to operating at below capacity tonnage.

An average force of 137 persons was employed. Of these, 50 were in the mine and 18 in the mill. E. G. Crayston is resident manager.

Matachewan Consolidated Mines, Limited

Matachewan Consolidated Mines, Limited, was incorporated in July, 1933. The authorized capitalization is 4,000,000 shares of no par value, of which 3,430,000 have been issued. The officers and directors are: Thayer Lindsley, president; H. H. Sutherland, vice-president; H. Whittingham, secretary-treasurer; George McKeown and E. V. Neelands, directors. The head office is at 25 King Street West, Toronto. The mine address is Matachewan.

The property consists of approximately 886 acres in Powell and Cairo townships, Matachewan area, district of Timiskaming.

Mining and milling continued throughout 1944. Operations were continued from the 3-compartment, vertical shaft, known as No. 3, which was sunk a further 220 feet to a depth of 1,861 feet, and the cutting of a 12th and 13th level at depths of 1,676 feet and 1,800 feet, respectively, was also undertaken. The following table shows the development work done during 1944 and the total:—

Level and depth from surface	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
1st (167 feet)	.....	4,667	.....	2,035	.....	1,323
2nd (267 feet)	.....	5,404	.....	1,610	.....	2,643
3rd (367 feet)	.....	2,675	.....	618	.....	837
4th (500 feet)	.....	4,035	.....	1,748	.....	2,573
5th (650 feet)	.....	1,971	.....	376	.....	942
6th (783 feet)	11	2,419	.....	176	.....	949
7th (916 feet)	.....	5	.....	.....	.....	233
8th (1,050 feet)	6	4,097	6	988	.....	2,515
9th (1,200 feet) (loading pocket)	.....	.....	.....	.....	.....	212
10th (1,300 feet)	24	2,641	.....	70	736	799
11th (1,550 feet)	13	13	.....	.....	.....	.....
12th (1,675 feet) (loading pocket)	.....	.....	.....	.....	.....	.....
13th (1,800 feet) (station partly cut)	.....	.....	.....	.....	.....	.....

The following is taken from the manager's report for the twelve months ending December 31, 1944:—

General

The fifth year of the war with the accompanying man-power shortage has made operating conditions at the mine extremely difficult.

Daily mill tonnage was maintained at approximately half capacity but only at the expense of broken ore reserves and by curtailing underground development work.

Mine Development

Stope development work was carried on in the lower west boundary porphyry zone to open up three new stopes on the 10th level. This makes a total of 5 stopes in the porphyry ore body on the 10th level which are now ready for production.

Diamond-drilling

The footage drilled for exploration during the year was 4,840 feet. All of this drilling was done from the 10th level; 314 feet of drilling was in the west boundary porphyry zone and the balance, 4,526 feet, was in the central section of the mine exploring the downward extension of a favourable ore zone on the upper levels.

In addition to the above exploration drilling, 2,543 feet of blast-hole drilling was done as follows: 2nd level pillars, 1,917 feet; 8th level pillars, 626 feet.

Ore Reserves

The estimated probable ore reserves, including broken ore, have been figured from surface to the 1,300-foot elevation, the 10th level. A dilution factor of 20 per cent. for the greenstone and 10 per cent. for the porphyry ore bodies has been used in figuring both tonnages and grade on ore yet to be mined.

Probable ore reserves as at December 31, 1944, including broken ore, are as follows:—

	Tons
Ore reserves December 31, 1943	1,150,200
Loss due to dilution	55,719
Total	1,094,481
Less hoisted during 1944	179,586
Reserves as at December 31, 1944 (average estimated grade, 0.109 ounces)	914,895

In addition to the above, diamond-drilling in the lower west boundary porphyry zone between the 1,300- and 1,550-foot levels indicates a possible 383,000 tons of 0.114 ounces porphyry ore.

Diamond-drilling below the 1,550-foot elevation indicates that the porphyry extends downward, but estimates on tonnages and grade of this possible ore will have to be postponed until sufficient development work can be done on the lower levels.

Mining

A summary of mining operations for the year 1944 is given below:—

ORE BROKEN

	Tons
Broken during 1944	143,170
Hoisted during 1944	179,586
Ore drawn from broken reserve	36,416
Carried forward from 1943 (adjusted)	250,822
Broken ore reserves, December 31, 1944 (estimated grade, 0.088 ounces per ton)	214,406

ORE HOISTED

	Tons
From stopes	175,105
From development	4,481
Total	179,586

Of the ore hoisted, 28.8 per cent. came from the upper west boundary porphyry zone, 68.9 per cent. came from the lower west boundary porphyry zone, and 2.3 per cent. came from the greenstone zone.

During the year two 8th level stopes and one 6th level stope were mined to completion.

Milling

The mill performance for the year was as follows:—

Tons milled		179,586
Average daily milling rate	tons	491
Average value of heads	ounces per ton	0.0863
Average value of tails	ounces per ton	0.0080
Average value of recovery	ounces per ton	0.0783

The acute labour shortage underground with the resultant drop in tonnage available for mill feed necessitated intermittent milling operations. In spite of this handicap very satisfactory recovery and costs were obtained.

Production

The metal recovery for 1944 was: gold, 14,067.914 ounces; silver, 6,225.91 ounces.

STATEMENT OF PRODUCTION, BY YEAR, SINCE COMMENCEMENT OF OPERATIONS

Year	Tons milled	Net value metals recovered	Value per ton	Operating costs	Cost per ton	Operating profit	Profit per ton	Price gold per ounce
1935...	48,362	$351,769.40	$7.27	$272,942.24	$5.64	$78,827.16	$1.63	$35.17
1936...	54,764	419,178.19	7.65	359,383.13	6.56	59,795.06	1.09	35.04
1937...	132,764	698,976.61	5.26	594,969.29	4.49	104,007.32	.77	34.98
1938...	154,409	820,823.00	5.31	639,672.64	4.14	181,150.36	1.17	35.19
1939...	155,238	855,310.76	5.51	600,204.73	3.87	255,106.03	1.64	36.32
1940...	182,033	817,916.52	4.49	642,135.16	3.53	175,781.36	.96	38.50
1941...	196,962	879,187.86	4.46	709,249.55	3.60	169,938.31	.86	38.50
1942...	315,040	962,620.23	3.06	764,369.80	2.43	198,250.43	.63	38.50
1943...	249,779	714,763.40	2.86	593,776.16	2.38	120,987.24	.48	38.50
1944...	179,586	536,662.68	2.99	469,563.24	2.62	67,099.44	.37	38.50

An average force of 118 men was employed, of whom 48 were in the mine and 15 in the mill. H. S. McGowan is manager.

Misema Mines, Limited

Misema Mines, Limited, was incorporated in April, 1944, with an authorized capitalization of 3,000,000 shares of $1 par value. There have been 1,207,000 shares issued. The officers and directors are: A. J. Forwell, president; J. S. Lackie, secretary-treasurer; J. H. Schofield, Oscar Lauber, and E. W. Lippert, directors. The head office is at Kitchener. The mine address is Kirkland Lake.

The property consists of 9 claims containing 441 acres in Katrine township, Kirkland Lake area, district of Timiskaming.

Underground operations were carried on during the year, and a 2-compartment shaft was sunk to a depth of 36 feet on claim L. 40,697. No lateral work was done.

A new cookery, bunk-house, office, dry-house, compressor house and blacksmith shop, headframe, hoist-house, and stable were erected during the year.

Diamond-drilling in 1944 consisted of 4 holes, totalling 2,000 feet, from surface.

An average force of 7 men was employed during the year. E. Anderson was mine foreman.

Omega Gold Mines, Limited

Omega Gold Mines, Limited, was incorporated in May, 1935, with an authorized capitalization of 5,000,000 shares of $1 par value, all of which have been issued. The officers and directors are: Jas. Y. Murdoch, president; J. Ingram, secretary-treasurer; Dr. A. F. Demary, André Dorfman, and Oliver Hall, directors. The head office and mine office are at Larder Lake, and the executive office is at 80 King Street West, Toronto.

During the period under review the company acquired 2 more claims, which brings the total to 28 claims, approximately 926 acres, in McVittie township, Larder Lake area, district of Timiskaming.

Mining and milling operations continued throughout 1944. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 1 SHAFT:						
170-foot	.....	1,783	.....	304	84	454
300-foot	.....	5,232	.....	1,178	.....	1,586
425-foot	.....	4,397	.....	1,611	65	2,094
550-foot	.....	3,256	.....	855	.....	1,547
675-foot	.....	1,971	.....	576	22	940
800-foot	.....	2,045	.....	838	57	847
925-foot	77	2,202	.....	944	61	1,571
1,050-foot	88	2,415	.....	2,037	.....	1,055
1,175-foot	.....	5,044	.....	2,193	194	1,683
1,300-foot	.....	1,056	.....	804	.....	599
1,425-foot	.....	1,051	.....	1,060	.....	162
1,550-foot	.....	748	.....	2,303	.....	522
No. 3 INTERNAL SHAFT:						
1,675-foot (station only)	.....	.....	.....	.....	.....	.....
1,800-foot	11	839	.....	212	.....	226
1,975-foot	11	892	.....	75	.....	10
No. 2 SHAFT:						
110-foot	.....	15	.....	90	.....	.....
235-foot	.....	1,040	.....	386	.....	.....
360-foot	.....	800	.....	335	.....	.....
500-foot	.....	1,435	.....	1,020	.....	.....
625-foot (station only)	.....	.....	.....	.....	.....	.....
750-foot	.....	840	.....	765	.....	.....
1,000-foot	.....	1,210	.....	1,425	.....	.....

Diamond-drilling during 1944 consisted of 12 holes, totalling 5,018 feet, from surface and 29 holes, totalling 9,188 feet, from underground.

The following is taken from the manager's report for the twelve months ending March 31, 1945.

Production

Ore treated ..... tons	115,573	
Value per ton (0.148 ounces)	$5.708	
Gross value	$659,782.35	
Bullion recovered:		
Gold (14,285.573 ounces at $38.50)		$549,994.64
Silver (1,997.507 ounces)		771.01
Total value		$550,765.65
Recovered per ton (0.124 ounces)	$4.766	
Bullion melting, refining, and handling charges		6,209.19
Net value of bullion		$544,556.46

PRODUCTION SINCE THE BEGINNING OF MILLING OPERATIONS IN 1936

Period	Months	Tons milled	Value per ton	Gross value	Recovery per ton	Total value
Feb. 1, 1936, to Mar. 31, 1936..	2	17,352	$4.286	$74,369.00	$3.557	$61,726.28
Apr. 1, 1936, to Mar. 31, 1937..	12	132,642	5.00	663,010.70	4.324	573,504.29
Apr. 1, 1937, to Mar. 31, 1938..	12	167,051	5.36	895,393.36	4.668	779,766.65
Apr. 1, 1938, to Mar. 31, 1939..	12	177,388	5.572	988,405.94	4.885	866,503.30
Apr. 1, 1939, to Mar. 31, 1940..	12	174,449	5.816	1,014,717.00	5.104	890,341.82
Apr. 1, 1940, to Mar. 31, 1941..	12	176,300	5.752	1,104,206.00	5.033	887,354.69
Apr. 1, 1941, to Mar. 31, 1942..	12	171,916	5.822	1,000,835.00	5.158	886,737.68
Apr. 1, 1942, to Mar. 31, 1943..	12	136,228	6.073	827,292.00	5.399	735,552.17
Apr. 1, 1943, to Mar. 31, 1944..	12	109,396	6.103	667,697.00	5.408	591,580.22
Apr. 1, 1944, to Mar. 31, 1945..	12	115,573	5.708	659,782.35	4.766	550,765.65
Total	.....	1,378,295	$5.663	$7,805,708.35	$4.954	$6,823,832.75

Mining

There were fewer men employed during the year than in the previous year. Under the circumstances, practically no development other than exploratory diamond-drilling could be undertaken. Mining was confined to the larger, more accessible stoping sections. By mechanizing stoping operations as far as possible, by curtailing development, and by use of some 3,600 feet of blast-hole diamond-drilling, it was possible to increase tonnage milled by 5 per cent. over the previous year.

The ore milled during the year was obtained from the following sources: development, 484 tons; stoping, 115,089 tons; a total of 115,573 tons.

The grade of the ore milled was 0.148, the same as the previous ore reserve estimate. Up to the last quarter, mill heads were maintained at a higher average, but a drop in grade in the larger stopes reduced the average for the year.

Development

Other than exploratory diamond-drilling, the only development undertaken during the year was in connection with operating stopes. Exploratory diamond-drilling underground was carried on for a limited amount and over 5,000 feet of surface diamond-drilling was completed.

Through raising and sublevel development of present ore bodies, approximately 35,000 tons of ore were added. Most of this addition was above the 170-foot level on the No. 1 vein, both through a widening of the stoping areas and by extension of the eastern end of the ore body.

No new ore was uncovered by diamond-drilling, but some of our present ore bodies were further explored and extended. Some interesting results were returned in drilling through the lavas and dolomite to the south of No. 1 vein, and these may warrant further work when lateral development can be resumed.

A campaign of surface drilling on our claims was completed in the summer of 1944. These holes were drilled across the main fault zone and extended from our west workings to the west boundary. In addition, holes were drilled to the east of our workings. No ore values were returned in this drilling.

Ore Reserves

Production for the year was equal to the reserve estimate. The ore reserves are now estimated at approximately 308,000 tons with an average grade of 0.147 ounces per ton. This figure includes some pillars which would not be withdrawn until mining is completed. By eliminating the lower-grade sections and restricting mining to selected areas, the grade can be raised to 0.156 ounces per ton for 131,000 tons.

Operating Costs

Total operating costs for the year were down, and the unit cost showed a reduction of 58 cents per ton. Most of this reduction was through curtailing of development; additionally, mining and milling were each down 3 cents per ton in spite of increases in labour costs. The operating costs were:—

	Total	Cost per ton milled
Development	$21,361.99	$0.185
Mining	325,374.03	2.815
	$346,736.02	$3.000
Milling	170,359.45	1.474
	$517,095.47	$4.474
Administration and municipal taxes	5,833.98	.050
Total	$522,929.45	$4.524

General

Only a very modest profit, approximating that of last year, resulted from the year's operation.

An average force of 131 men was employed, of whom 79 were in the mine and 18 in the mill. F. J. O'Connell was manager.

Pamour Porcupine Mines, Limited

Pamour Porcupine Mines, Limited, incorporated in March, 1934, has an authorized capitalization of 5,000,000 shares of no par value, all of which have been issued. The officers and directors are: Jas. Y. Murdoch, president; G. H. Rainville, vice-president; J. R. Bradfield, secretary; R. G. Rudolf, treasurer;

Jules R. Timmins, Leo H. Timmins, M. Kendall, J. E. Perrault, and Oliver Hall, directors. The head office is at 1600 Royal Bank Building, Toronto. The mine address is Pamour.

The company's main property consists of 1,160 acres in concessions V and VI, Whitney township, Porcupine area, district of Cochrane, and includes the former La Palme Porcupine, Three Nations, and Porcupine Grande properties. Three claims at the south end of Three Nations lake in the same area are also held.

The mine and mill operated throughout 1944. The No. 3 or main operating shaft on claim No. 13,783 is 2,132 feet deep and has five compartments. There is a connection with the Hallnor workings on the 400-foot level, which is used for ventilation purposes. There are two other shafts on the property, sunk by former operators. No. 1 shaft, 110 feet deep, on claim No. 13,793 is not connected with the other mine workings and is not used. No. 2 shaft, also on claim No. 13,793 about 1,100 feet west of No. 3 shaft, is 220 feet deep, with levels at 100 and 200 feet. It is connected to the No. 3 shaft workings on the 200-foot level and serves as an emergency exit.

The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
100-foot	.....	1,018	.....	713	.....	140
200-foot	.....	9,342	.....	4,807	.....	3,359
300-foot	.....	32	.....	116	.....	.....
400-foot	.....	18,729	.....	3,163	.....	10,910
500-foot	.....	264	.....	88	.....	263
600-foot	.....	10,950	7	1,361	21	8,813
700-foot	.....	35	.....	.....	.....	79
800-foot	.....	6,991	13	1,153	43	2,536
900-foot	.....	27	.....	.....	.....	.....
1,000-foot	.....	5,410	8	1,133	185	4,238
1,100-foot	.....	72	.....	.....	.....	56
1,200-foot	.....	6,598	.....	1,053	593	6,739
1,300-foot	.....	29	.....	.....	.....	.....
1,400-foot	.....	12,204	.....	1,331	163	2,003
1,600-foot	.....	3,832	20	852	6	911
1,700-foot	.....	213	.....	.....	.....	276
1,800-foot	.....	90	.....	54	.....	.....
1,900-foot	.....	41	.....	.....	.....	737
2,000-foot	.....	154	.....	.....	.....	73
2,100-foot	.....	48	.....	.....	.....	.....

Diamond-drilling consisted of 69 holes, totalling 17,682 feet, from underground.

The following is taken from the manager's report for the twelve months ending December 31, 1944:—

Underground work consisted of crosscutting, raising, stope development, stoping, and diamond-drilling.

MINE PRODUCTION

Level	Tons	Ounces per ton
600-foot	198,896	0.0939
800-foot	101,625	.0995
1,000-foot	46,337	.1138
1,200-foot	89,044	.0857
1,400-foot	34,630	.1044
Total milled	470,532	0.0963

ORE RESERVES

	Tons	Ounces per ton
Broken ore	459,000	0.096
Drilled off	18,000	.122
Floor pillars	40,000	.144
In place	800,000	.119
Total	1,317,000	0.110

Average daily tonnage for the year was 1,289.1 dry tons, making a total of 470,532 tons at 0.0963 ounces per ton and a recovery of 92.51 per cent.

Period	Tons milled	Milled head assay	Gold recovered	Recovery
		ounces per ton	ounces per ton	per cent.
1st quarter	116,747	0.0966	0.0897	92.823
2nd quarter	115,460	.0990	.0920	92.958
3rd quarter	118,697	.0935	.0864	92.398
4th quarter	119,628	.0959	.0881	91.873
Total	470,532	0.0963	0.0891	92.512

An average force of 269 men was employed, of which 148 were in the mine and 31 in the mill. C. E. Anderson is manager.

Paymaster Consolidated Mines, Limited

Paymaster Consolidated Mines, Limited, incorporated in February, 1930, has an authorized capitalization of 9,000,000 shares of $1 par value, of which 8,629,090 have been issued. The officers and directors are: E. H. Walker, president and managing director; A. S. Fuller, vice-president; E. L. O'Reilly, secretary; A. W. Hodgetts, assistant secretary-treasurer; Chas. E. Cook, H. M. Pryale, and H. D. Rothwell, directors. The head office and mine office are at South Porcupine. The executive office is at 19 Melinda Street, Toronto.

The main property, in Deloro and Tisdale townships, Porcupine area, district of Cochrane, contains approximately 748 acres and consists of the amalgamated holdings of the following former operating companies: West Dome Mines, Limited; Dome Lake Mining and Milling Company, Limited; Standard Gold Mines, Limited; McLean Gold Mines, Limited; Consolidated West Dome Lake Mines, Limited; Premier Paymaster Mines Company; Bison Gold Mines, Limited; West Dome Lake Gold Mines, Limited; and United Mineral Lands Corporation. The company also owns another 160 acres in Tisdale township, 920 acres in Cody township, and 80 acres in Whitney township, all in the district of Cochrane, and holds under lease 500 acres in Leonard and Tyrrell townships, Matachewan area, district of Timiskaming.

The mine and mill operated continuously throughout 1944. Diamond-drilling in the calendar year consisted of 557 holes, totalling 26,924 feet, from underground. A total of 117,933 tons of ore was hoisted, and 132,063 tons was milled, the mill operating at an average daily rate of 361 tons.

There are nine shafts on the main property, four of which have been used by the company for hoisting purposes. The others are used for ventilation purposes or not at all. There are also several winzes. The depths of the various

shafts and winzes are included in the table below, which is arranged to show the amount of development work done during 1944, the section of the mine in which it was done, and the total:—

UNDERGROUND DEVELOPMENT WORK

Shaft and level	1944				Total			
	Drifting	Crosscutting	Raising	Sinking	Drifting	Crosscutting	Raising	Sinking
	feet	feet	feet	feet	feet	feet	feet	feet
No. 1 SHAFT[1]								80
No. 2 SHAFT[1]								814
No. 3 SHAFT[1]								400
"Tunnel"					144	130		
38-foot					76	27		
100-foot					921	1,156		
200-foot					769	395	70	
300-foot			103		4,543	2,336	602	
400-foot					2,422	3,500	577	
600-foot					1,521	902	991	
800-foot					892	839		
475-foot[2]						1,537		
No. 4 SHAFT[3]								253
100-foot					450	312		
200-foot					467	240		
No. 5 SHAFT[4]								2,685
No. 7 SHAFT[4]								75
No. 8 SHAFT[4]								185
No. 9 SHAFT[4]								185
No. 5-1050-1 WINZE[4]								162
No. 5-1050-2 WINZE[4]								582
No. 5-1050-3 WINZE[4]								1,065
No. 5-2075-1 WINZE[4]								2,156
60- and 75-foot					988	393		
120-foot					1,171	303		
180-foot					2,769	713	5	
300-foot					2,543	887		
400-foot					3,430	1,493	186	
500-foot					1,406	927	67	
600-foot					2,095	244	53	
750-foot					1,591	131		
900-foot					2,217	238	252	
1,050-foot	210	127	168		7,282	4,549	888	
1,200-foot	38				4,667	1,273	110	
1,325-foot					2,810	356	379	
1,450-foot					4,690	1,495	520	
1,575-foot	129		23		6,597	2,053	454	
1,740-foot	212	31			2,971	443	17	
1,825-foot (station only)								
1,910-foot	375		953		2,509	405	1,152	
1,950-foot (station only)								
2,075-foot	29		207		4,021	3,762	1,529	
2,200-foot	305	24			1,828	385		
2,325-foot	511	42	125		1,901	341	125	
2,450-foot	186		79		1,885	252	79	
2,575-foot		116	254		4,008	12,006	361	
2,700-foot	524	232			524	289		
2,825-foot (station only)	156	187			156	187		
2,950-foot (station only)	43	184			43	184		
3,075-foot	38	210			38	373		
3,200-foot (station only)								
3,325-foot (station only)								
3,450-foot (station only)								

[1]On former Premier Paymaster property.
[2]Work done from the 475-foot level of the Ankerite mine.
[3]On former United Mineral Lands property.
[4]On former Dome Lake property.

UNDERGROUND DEVELOPMENT WORK—*Continued*

Shaft and level	1944				Total			
	Drifting	Crosscutting	Raising	Sinking	Drifting	Crosscutting	Raising	Sinking
	feet	feet	feet	feet	feet	feet	feet	feet
No. 5-2075-1 WINZE—*Cont'd*								
3,575-foot	.....	.....	.....	.....	.....	72	.....	.....
3,700-foot (station only)	.....	.....	.....	.....	.....	.....	.....	.....
3,825-foot (station only)	.....	.....	.....	.....	.....	.....	.....	.....
3,950-foot (station only)	.....	.....	.....	.....	.....	.....	.....	.....
4,075-foot (station only)	.....	.....	.....	.....	.....	.....	.....	.....
No. 6 SHAFT[1] (inclined)	.....	.....	.....	.....	.....	.....	.....	482
No. 6-400-1 WINZE[1]	.....	.....	.....	.....	.....	.....	.....	614
100-foot	.....	.....	.....	.....	266	908	.....	.....
200-foot	.....	.....	.....	.....	2,804	317	138	.....
300-foot	.....	.....	.....	.....	5,678	1,864	427	.....
400-foot	.....	.....	.....	.....	3,876	782	361	.....
525-foot	.....	.....	.....	.....	3,173	747	595	.....
675-foot	.....	.....	.....	.....	3,500	709	857	.....
800-foot	.....	.....	.....	.....	1,357	512	148	.....
1,000-foot	.....	.....	.....	.....	1,045	255	163	.....

[1]On former West Dome property.

The following is taken from the report of the general manager for the twelve months ending June 30, 1945:—

Mining

The mine development programme consisted of the following:—

No. 5 Shaft.—Drifting is under way on the 2,575-foot level on the Nos. 17 and 27 veins. On the 1,050- and 1,200-foot levels, No. 14 vein was drifted out. On the 1,575-foot level, a small amount of lateral development was done on the No. 8 vein. Some lateral development was started on the Nos. 23 and 24 veins on the 1,740- and 1,910-foot levels, but this work has been suspended temporarily. Most of the ore mined and drawn has been from stopes between the 1,050- and 2,575-foot levels.

In the No. 5-2075-1 winze, development of the Nos. 8, 23, and 24 veins is being continued on the 2,200-, 2,325-, and 2,450-foot levels. On the 2,700- and 2,825-foot levels, some drifting has been done on the Nos. 8, 18, and 24 veins. On the 3,075-foot level, crosscutting has intersected the Nos. 8 and 31 vein intersections, and some drifting has been done on these veins. The lower levels of this winze are being dewatered in preparation for development work at the lower horizons.

No. 6 Shaft.—Work at this shaft has been confined to mining between the 800- and 1,050-foot levels. This work has been carried on from No. 5 shaft.

No. 2 Shaft.—Mining work was suspended at this shaft early in the year. Pumping operations are being continued to maintain this section of the mine in readiness for further mining.

Ore Reserves

	Tons	Ounces per ton
Probable ore	126,139	0.225
Positive ore	332,550	.219
Broken ore	116,730	.227
Total	575,419	0.222

Milling

During the fiscal year, there were milled 126,414.6 tons of ore. The average daily milling rate was 346 tons, as against 386 tons for the previous year.

Costs

The mining cost per ton of ore broken at Nos. 5 and 6 shafts was $3.74. Nos. 2 and 3 shafts were kept pumped out. Following is an analysis of operating costs:—

	Total cost	Cost per ton milled
Diamond-drilling	$18,924.97	$0.15
Outside exploration	1,125.63	.01
Development, Nos. 5 and 6 shafts	92,724.21	.73
Station-cutting	311.03	.....
Mining, Nos. 2 and 3 shafts	1,298.90	.01
Mining, Nos. 5 and 6 shafts	425,151.14	3.36
Backfilling, Nos. 5 and 6 shafts	1,392.55	.01
Ore transportation	11,291.86	.09
Crushing and conveying	19,718.01	.16
Milling	158,540.26	1.25
General expense	90,424.74	.72
Total	$820,903.30	$6.49

General

The total production for the fiscal year was $1,049,851.24.

An average force of 223 men was employed, of whom 139 were in the mine and 32 in the mill. Charles E. Cook is general manager.

Pickle Crow Gold Mines, Limited

Pickle Crow Gold Mines, Limited, was incorporated in January, 1934, with an authorized capitalization of 3,000,000 shares of $1 par value, all of which have been issued. The officers and directors are: J. E. Hammell, president; C. S. Hamilton, vice-president; G. M. Huycke, secretary-treasurer; John Bland, assistant secretary-treasurer; A. G. Hattie, director of mining; Eola Hammell, director. The head office and mine office are at Pickle Crow. The executive office is at 25 King Street West, Toronto.

The property, which is in the Pickle Crow area, Patricia portion of Kenora district, consists of 79 claims containing 3,160 acres.

Operations continued throughout 1944. The vertical No. 1 main shaft, in the Howell vein system, on claim Pa. 747, is 2,545 feet deep and has three compartments from surface to the 1,200-foot level and four compartments from that point to the bottom. The 3-compartment, vertical winze, known as No. 2 shaft, is collared at the 750-foot level about a mile northeast of the No. 1 shaft in the Cohen-McArthur section and runs to a depth of 1,516 feet from surface. An 80-foot steel headframe was erected on surface for the new 3-compartment vertical shaft known as No. 3, which was begun on claim Pa. 2,062. It is collared on surface about 5,000 feet northeast of No. 1 shaft and is about 1,400 feet south of No. 2 shaft (winze), which is collared on the 750-foot level. At the end of the year this shaft was 227 feet deep, and stations had been cut for levels at 150 and 250 feet. The following table shows the development work done in 1944 and the total:—

UNDERGROUND DEVELOPMENT WORK

Shaft and level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 1 SHAFT:						
125-foot	.....	1,790	.....	126	.....	134
250-foot	.....	1,216	.....	222	.....	177
375-foot	.....	1,529	.....	379	.....	114
500-foot	.....	1,561	.....	291	.....	293
625-foot	.....	1,311	.....	232	.....	277

UNDERGROUND DEVELOPMENT WORK—*Continued*

Shaft and level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 1 SHAFT—*Cont'd:*						
750-foot	.....	3,449	.....	6,863	.....	370
900-foot	.....	1,417	12	229	26	632
1,050-foot	.....	1,415	.....	384	.....	530
1,200-foot	.....	1,750	.....	354	.....	571
1,350-foot	.....	1,211	471	1,130	.....	705
1,500-foot	.....	1,315	.....	668	.....	559
1,650-foot	.....	1,030	.....	623	.....	513
1,800-foot	.....	912	.....	940	.....	531
1,950-foot	.....	814	.....	706	.....	628
2,200-foot	.....	749	.....	799	.....	260
2,450-foot	.....	780	.....	865	.....	253
No. 2 SHAFT (winze):						
750-foot	.....	.....	484	484	.....	388
850-foot	280	842	.....	589	.....	136
975-foot	1,123	1,903	.....	433	.....	146
1,100-foot	622	1,074	46	312	154	178
1,225-foot	540	752	75	314	16	16
1,350-foot	.....	.....	.....	123	.....	.....

Diamond-drilling in 1944 consisted of 10 holes, totalling 5,805 feet, from surface and 104 holes, totalling 16,779 feet, from underground.

The following is taken from the manager's report for the year ending December 31, 1944:—

The following table shows the new ore opened up by the development work during 1944. All values in this report are based on gold at $35.00 per ounce.

Vein	Level	Drift	Length	Width	Assay	
					Ounces	Value
			feet	inches		
No. 2	975-foot	2-91 E.	287	50	0.53	$18.55
		2-91 S.E.	160	75	.31	10.85
		2-91 W.	58	22	.53	18.55
		2-92 E.	375	57	.37	12.95
	1,100-foot	2-112E.	355	49	.30	10.50
	1,225-foot	2-122E.	297	34	.37	12.95

During the year, a total of 56,389 tons of ore was taken from stopes. The stopes on No. 2 vein supplied 13,064 tons of this total, the remainder coming from the Howell vein.

A total of 69,368 tons of ore was hoisted during the year, of which 12,979 tons came from development headings.

Ore Reserves

At the year end the estimated ore left in the Howell vein from the surface to the 2,450-foot level was 447,545 tons of an average grade of $11.90.

On No. 2 vein, a block of ore 550 feet deep, that is from a point 75 feet above the 750-foot level to the 1,225-foot level, has now been developed, and the estimated ore for this block is 204,320 tons of an average grade of $15.40.

The mine has now a total estimated ore reserve of 651,865 tons of an average grade of $13.10. Based on a normal milling rate of 480 tons per day (which was the average daily tonnage during 1941), this is sufficient to operate for 3.7 years.

Milling

Due to shortage of labour, the mill operated at reduced capacity throughout the year, and a summary of operations follows:—

	Tons
Waste picked	6,130
Ore ground	63,388
Total milled	69,518

Gold produced per ton milled	ounces 0.5507
Gold produced per ton ground	ounces 0.6038

	Gold		Silver	
	Troy ounces	Per cent.	Troy ounces	Per cent.
By amalgamation	19,833.673	51.808	2,428.14	49.585
By cyanidation	17,865.550	46.667	2,468.83	50.415
Total recovery	37,699.223	98.475	4,896.97	100
Gold in tailings	583.950	1.525	.....	.....
Total gold in ore	38,283.173	100	.....	.....

SUPPLIES USED IN MILLING

	Per ton milled	Per ton ground
Balls, lbs.	2.189	2.401
Lime, lbs.	2.296	2.518
Cyanide, lbs.	.5927	.6500
Zinc, lbs.	.1418	.1555
Litharge, lbs.	.1330	.1459
Lead acetate, ounces	.0872	.0957

Operating Costs

	Total cost	Cost per ton of ore milled (69,518 tons)	Cost per ounce of gold produced (37,699 ounces)
Development	$154,386.13	$2.22	$4.09
Mining	323,007.82	4.65	8.57
Milling	102,790.49	1.48	2.73
Shipping and marketing	17,610.04	.25	.47
General mine expenditures	98,260.46	1.41	2.60
Total before depreciation	$696,054.94	$10.01	$18.46
Depreciation	93,732.09	1.35	2.49
Total	$789,787.03	$11.36	$20.95

Supplies and Equipment Purchased

Power	$65,129.37
General supplies	70,439.24
Wood fuel	9,127.66
Explosives	25,406.65
Lumber and timber	29,835.70
Commissary and retail store supplies	156,922.78
Total	$356,861.40

Labour

Wages and salaries paid during 1944 amounted to $428,345.06.

An average force of 166 men was employed during the year, of whom 97 were in the mine and 14 in the mill. A. G. Hattie was manager.

Preston East Dome Mines, Limited

Preston East Dome Mines, Limited, was incorporated in 1911 and reorganized by supplementary letters patent in 1936. The shareholders received one new share for five of the old. The authorized capitalization is 3,000,000 shares of $1 par value, all of which have been issued. The officers and directors are: W. H. Bouck, president; S. N. Graham, vice-president; L. I. Hall, secretary; H. Preston Coursen, J. B. Allen, J. W. Ecclestone, J. W. Hubbard, and C. L. Hershman, directors. The executive office is at 10 Adelaide Street East, Toronto. The head office and mine office are at South Porcupine.

The property consists of 7 claims, 280 acres, in Tisdale township, Porcupine area, district of Cochrane. It is adjacent to and lies south and east of the Dome mine.

The mine and mill continued operations throughout 1944. The 5-compartment, vertical No. 2 shaft on claim No. 13,151, through which operations are conducted, is now 1,782 feet deep, an additional 134 feet having been sunk during the year. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
90-foot	.....	1,135	.....	696	90	90
200-foot	136	5,040	11	1,813	.....	1,366
300-foot	108	5,393	113	1,701	.....	1,199
425-foot	21	4,717	.....	972	86	1,548
550-foot	544	4,922	108	1,293	120	1,355
675-foot	371	3,720	78	862	.....	912
800-foot	268	3,975	.....	581	.....	925
906-foot	215	3,537	.....	789	277	1,132
1,050-foot	423	3,839	292	6,288	261	1,048
1,175-foot	780	2,068	258	1,325	178	921
1,300-foot	417	760	.....	841	.....	528
1,425-foot	476	2,280	1,150	5,755	237	1,073
1,550-foot	877	1,055	1,309	2,402	89	94

Diamond-drilling during 1944 consisted of 262 holes, totalling 55,123 feet, from underground.

The following is taken from the report of the manager for the year ending December 31, 1944:—

Production

The average daily milling rate was 681.06 tons in 1944, as compared with 676.7 tons in 1943. The daily tonnage milled was maintained at around 700 tons per day until the latter part of the year, when it showed a slight decrease. This decrease was occasioned by taking men from production and putting them at shaft-sinking. Production results for the year ending December 31, 1944, are shown below:—

Ore hoisted	tons	248,970
Total dry tons milled		249,268
Dry tons milled, average per day		681.06
Average mill heads	ounces gold per ton	0.238
Average net recovery	ounces per ton milled	0.231
Average gold in tailings	ounces per ton	0.007
Average recovery	per cent.	97.01
Gold produced	fine ounces	57,561.185
Silver produced	fine ounces	6,848.70

Tonnage of ore hoisted was practically the same as in 1943. The average grade of mill feed showed a slight decrease from that of the previous year, with a corresponding slight decrease in bullion production. The extraction during the year showed an improvement.

The sorting plant did not operate during the year. The spare mill capacity made available by labour shortages made the sorting practice uneconomical.

Costs

	Cost per ton hoisted (248,970 tons)	Cost per ton milled (249,268 tons)
Development and diamond-drilling	$1.307	$1.305
Mining	3.529	3.525
Milling	.809	.809
Total per ton	$5.645	$5.639

The above is the total mine operating cost exclusive of bullion marketing, administration, taxes, and write-offs. The operating cost per ounce of gold produced was $24.42. The costs per ton milled showed an increase of $0.22 from those of the previous year.

Mining

During the year, 2.2 per cent. of the ore mined was taken from shrinkage stopes, 51.6 per cent. was taken from cut-and-fill stopes, 32.8 per cent. of the ore was taken from stull stopes, and 13.5 per cent. came from square-set stopes.

No attempt was made during the year to selectively mine the higher-grade sections, and the mill feed for the year represents an average cross-section of the ore reserve. Mill heads for the year averaged very close to ore reserve grade.

The following table shows the ore sources by levels for the year 1944:—

Level	Ore trammed	Percentage of total	Cut grade by sampling
	tons		ounces
Surface	291	0.1	.....
2nd	26,110	10.5	0.19
3rd	61,964	25	.23
4th	39,876	16.1	.26
5th	10,051	4	.17
6th	1,549	.6	.22
7th	1,723	.7	.16
8th	19,961	8.1	.21
9th	26,941	10.9	.26
10th	20,630	8.3	.22
11th	7,829	3.2	.19
12th	10,430	4.2	.26
Development	20,500	8.3	.15
Total	247,855	100	0.22

During the year, 124,442 tons of backfill were used, including 33,771 tons of our own development waste. This backfill was obtained at a cost of $53,731.20, which is the equivalent to $0.43 per ton of backfill purchased, or $0.21 per ton of ore milled.

Ore Reserves

Ore reserves as of December 31, 1944, are estimated at 675,490 tons, with a grade of 0.225 ounces per ton after allowance for dilution has been made. This includes all ore sufficiently exposed for measurements down to and including the 13th level. Details of the ore reserve estimate are as follows:—

	Tons	Ounces per ton	
		Uncut	Cut
Ore in place	652,627	0.28	0.22
Broken ore in stopes	20,963	.31	.22
Broken ore in bins	1,900	.25	.22

The above total of ore reserves as of December 31, 1944, shows a decrease from those of the previous year of 145,330 tons. When lateral development on the lower horizons reaches the favourable zones, this decrease could easily be made up.

General

One frame building, 16 by 24 feet and covered with mine siding, was erected during the year and is rented to the diamond-drill contractor.

The only plant equipment added during 1944 was 580 feet of 3-conductor 2/0 V.C.L.C.S.T.A. 3,300-volt mine shaft cable.

War work on pump and engine parts was continued in our machine shops during the year under subcontract.

An average force of 366 men was employed during the year, of whom 286 were in the mine and 24 in the mill. G. G. Campbell was manager.

Sylvanite Gold Mines, Limited

Sylvanite Gold Mines, Limited, was incorporated in June, 1913, with an authorized capitalization of 3,300,000 shares of $1 par value, of which 3,299,500 have been issued. The officers and directors are: Edward L. Koons, president; Welles V. Moot, vice-president and managing director; William S. Walton, secretary; Clark L. Ingham, treasurer; Alfred H. Sharpe, Harry Yates, and Lewis R. Gulick, directors. The executive office is at Erie County Bank Building, Buffalo, N.Y. The secretary's office is at 603 Royal Bank Building, Toronto. The head office and mine office are at Kirkland Lake.

The main property consists of 5 claims and a fraction, approximately 230 acres, in Teck township, Kirkland Lake area, district of Timiskaming.

Operations continued throughout 1944. The table below shows the number of shafts on the property and their depths at the end of 1944. Nos. 2 and 4 are the main operating shafts from surface. No. 5 internal shaft, which is collared at the 3,150-foot level, was carried to a total depth of 5,409 feet from surface in 1944, and levels were cut at 4,950, 5,100, 5,250, and 5,400 feet. The workings at 3,600 feet are connected between the internal shaft and No. 2 shaft.

Shaft	Claim No.	No. of compartments	Depth from surface
			feet
No. 1	L. 2,226	2	125
No. 2	L. 2,100	3	3,642
No. 3	L. 2,227	2	118
No. 4	L. 2,101	2	1,762
No. 5 (internal)	L. 2,227	4	5,409

The following table shows the development work done during 1944 and the total:—

UNDERGROUND DEVELOPMENT WORK

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
125-foot	124	580	.....	257	.....	79
250-foot	127	7,228	19	1,912	132	546
375-foot	207	10,327	27	2,778	196	1,865
500-foot	.....	11,701	.....	3,813	12	1,152
625-foot	438	10,195	.....	2,231	128	1,233
750-foot	135	13,151	.....	3,339	130	1,999
875-foot	193	15,016	57	4,626	117	2,633
1,000-foot	115	14,758	.....	5,042	.....	4,294
1,125-foot	105	8,897	.....	2,661	52	2,304
1,250-foot	38	6,671	.....	2,713	24	1,840
1,375-foot	151	5,861	.....	2,382	26	1,445
1,500-foot	628	5,111	.....	2,064	.....	1,303
1,625-foot	31	3,295	.....	1,430	.....	650
1,750-foot	434	6,287	112	2,545	.....	1,154

UNDERGROUND DEVELOPMENT WORK—*Continued*

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
1,875-foot	572	5,932	66	1,660	164	888
2,000-foot	935	5,443	121	2,035	72	980
2,125-foot	.....	76	.....	.....	51	51
2,250-foot	62	4,220	.....	1,676	.....	1,143
2,375-foot	102	3,940	.....	2,099	.....	357
2,500-foot	.....	5,654	.....	1,844	.....	1,444
2,625-foot	25	2,814	.....	1,416	45	880
2,750-foot	202	3,215	22	1,849	.....	1,047
2,875-foot	515	2,366	252	915	.....	285
3,000-foot	.....	3,593	.....	1,544	.....	927
3,150-foot	.....	2,833	.....	1,204	.....	857
3,300-foot	.....	.....	.....	.....	.....	355
3,450-foot (station only)	.....	.....	.....	.....	.....	.....
3,600-foot	.....	2,199	.....	1,043	.....	178
3,750-foot	.....	.....	.....	.....	.....	3

Diamond-drilling in 1944 consisted of 1 hole, totalling 28 feet, from surface and 179 holes, totalling 12,537 feet, from underground.

The following is taken from the general manager's report for the twelve months ending December 31, 1944:—

Production

During the year, 137,822 tons were milled, producing 44,649.882 troy ounces of gold and 8,338.81 troy ounces of silver, with a value of $1,722,240.78. The mill averaged 377 tons per day, which is approximately 29 tons less per day than in the previous year. The following is a summary of production for the last five fiscal years:—

Period	Tons milled	Fine ounces gold produced	Average price per ounce gold	Total gold and silver production	Average gold recovery, troy ounces per ton
Apr. 1 to Dec. 31, 1940	160,721	52,037.99	$38.50	$2,006,973.10	0.32
1941	197,293	67,159.788	38.50	2,589,635.12	.34
1942	175,745	52,418.009	38.50	2,021,506.35	.30
1943	148,190	52,514.752	38.50	2,025,005.29	.35
1944	137,822	44,649.882	38.50	1,722,240.78	.32

The following is a summary of ore and waste broken and hoisted:—

Period	Ore broken			Waste broken			Total ore and waste broken
	In stopes	From development and backs	Total	Hoisted to surface	Used for backfill	Total	
	tons	tons	tons	tons	tons	tons	tons
Apr. 1 to Dec. 31, 1940	121,376	46,114	167,490	22,959	18,603	41,562	209,052
1941	148,637	40,821	189,458	25,434	13,772	39,206	228,664
1942	133,724	32,733	166,497	11,686	13,788	25,474	191,971
1943	113,866	34,276	148,142	12,700	9,915	22,615	170,757
1944	94,065	29,739	123,804	13,320	10,507	23,827	147,631

Broken Ore Reserves

Broken ore reserves were 57,021 tons at the end of the period. This is 13,994 tons less than a year ago. Labour shortage made it impossible to maintain the broken ore reserves at the previous level.

Development

During the year a total of 6,734.5 feet of drifting and subdrifting was done. No development of an exploratory nature was done, and drifting was confined to the more accessible areas of the mine.

In a total drifting advance of 5,144 feet, there was developed 1,328.5 feet of ore. The more important ore lengths opened up by drifting were as follows: On the 2,000-foot level, 440 feet of

ore was developed on the incline vein system in the southeast section of the mine. On the 1,875-foot level, 217 feet of ore was developed on the same incline vein system.

In an advance of 1,590.5 feet of subdrifting, 642.5 feet of new ore was developed. In addition, 348 feet of the subdrifting was in ore previously estimated as existing.

Work was completed of connecting up existing mine workings to make a mine ventilation airway for conducting 40,000 cubic feet air per minute from surface to the lower levels of the mine.

No. 5 internal shaft was advanced 556.5 feet to 5,409.5 feet below surface.

Operating Costs

Operating costs were higher at $7.157. The operating costs of the two previous periods are given for comparison:—

	Total cost	Cost per ton ore milled	Cost per fine ounce gold produced
1942:			
Development and exploration[1]	$249,368.29	$1.419	$4.757
Mining	473,386.71	2.694	9.031
Milling (including tailings disposal expense)	205,195.82	1.168	3.915
General charges, including employees' group life, accident and sickness insurance, unemployment insurance, medical aid and pension plan expense, and after deducting sundry revenue	103,659.28	.590	1.978
Administration expense	67,288.82	.383	1.284
Bullion selling expense:			
Insurance, shipping, and Mint refining charges	3,591.19	.020	.068
Mint handling charges	18,346.32	.104	.350
Total	$1,120,836.43	$6.378	$21.383
1943:			
Development and exploration[2]	$258,332.42	$1.743	$4.919
Mining	380,114.37	2.565	7.238
Milling (including tailings disposal expense)	178,972.02	1.208	3.408
General charges, including employees' group life, accident and sickness insurance, unemployment insurance, medical aid and pension plan expense, and after deducting sundry revenue	89,675.79	.605	1.708
Administration expense	69,788.13	.471	1.329
Bullion selling expense:			
Insurance, shipping, and Mint refining charges	3,282.42	.022	.063
Mint handling charges	18,380.17	.124	.350
Total	$998,545.32	$6.738	$19.015
1944:			
Development and exploration[3]	$258,403.99	$1.875	$5.787
Mining	356,107.07	2.584	7.976
Milling (including tailings disposal expense)	195,787.50	1.420	4.385
General charges, including employees' group life, accident and sickness insurance, unemployment insurance, medical aid and pension plan expense, and after deducting sundry revenue	84,738.23	.615	1.898
Administration expense	72,733.64	.528	1.629
Bullion selling expense:			
Insurance, shipping, and Mint refining charges	3,018.27	.022	.067
Mint handling charges	15,627.48	.113	.350
Total	$986,416.18	$7.157	$22.092

[1]Including the sum of $58,887.32, or 33.5 cents per ton, for direct charges for work on the internal shaft, covering shaft-sinking and station-cutting.

[2]Including the sum of $66,492.53, or 44.87 cents per ton milled, for direct charges for work on internal shaft, covering shaft-sinking and station-cutting.

[3]Including the sum of $73,628.45, or 53.42 cents per ton milled, for direct charges for work on internal shaft, covering shaft-sinking and station-cutting.

The main charges to operations in the fiscal year were:—

Wages and mine salaries	$549,054.52
Supplies, including water	222,037.07
Power	82,922.22
Provision for taxes on mining income	189,079.36

Capital Expenditures

For additional buildings and equipment, $11,224.74 was spent on capital account during the year. Power, lighting, and telephone lines in the No. 5 shaft accounted for over half this amount. One main transformer was rebuilt; and other than a few small building additions and miscellaneous items, most of the remainder was for pipe lines and pumps for No. 5 shaft.

General Summary

During the year under review it was again necessary to reduce our mill tonnage. This reduction was entirely due to labour shortage and averaged 29 tons per day below the previous year. The mill was running at 350 tons at the year end.

An average force of 273 men was employed during the year, of whom 183 were in the mine and 21 in the mill. K. C. Gray is general manager.

Teck-Hughes Gold Mines, Limited

Teck-Hughes Gold Mines, Limited, was incorporated in March, 1923, with an authorized capitalization of 5,000,000 shares of $1 par value, of which 4,807,144 have been issued. The officers and directors are: Albert W. Johnston, chairman of the board; D. L. H. Forbes, president and general manager; H. C. McCloskey, vice-president; C. G. Williams, secretary; K. P. Emmons, treasurer; John F. Lash and Gilbert A. La Bine, directors. The head office is at Woodstock; the executive office is at 25 King Street West, Toronto; and the mine office is at Kirkland Lake.

The main property, which is a consolidation of the original Hughes claims, located by Sandy McIntyre, and the claims of Orr Gold Mines, Limited, is in Teck township, Kirkland Lake area, district of Timiskaming. It contains 446 acres. The company also holds six undeveloped claims about 2 miles to the south-west. The holdings total 618 acres.

The mine has been developed from three shafts[1] and six winzes. The following table shows the depth, inclination, and number of compartments in the various shafts and winzes:—

Shaft	Inclination	No. of compartments	Depth below surface
	degrees		feet
No. 1 shaft	90	2	520
Central shaft[2]	90	4	3,014
South shaft	90	4	3,692
Central shaft extension (below 25th level)	90	3	3,619
South shaft extension (below 30th level)	90	4	5,546
No. 1 winze (below 5th level)	90	2	1,129
10th level winze (below 10th level)	90	3	1,994
No. 2 winze (below 30th level)	60	3	4,912
No. 3 winze (below 40th level)	60	3	6,182

Mining and milling continued throughout 1944. The following table shows the development work done during the year and the total:—

[1]Does not include the original Orr shaft, 400 feet deep, not now used.
[2]Blocked between the 16th and 18th levels.

Level and depth	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
1st (99 feet)	.....	1,477	.....	827	.....	252
2nd (179 feet)	.....	2,227	.....	872	.....	453
3rd (279 feet)	.....	1,081	.....	462	.....	335
4th (378 feet)	.....	2,682	.....	2,170	14	1,760
5th (478 feet)	.....	4,366	.....	2,239	28	1,296
6th (608 feet)	.....	5,425	.....	1,304	.....	2,194
7th (733 feet)	.....	3,465	10	853	192	1,853
8th (858 feet)	.....	3,272	.....	1,470	84	2,271
9th (984 feet)	679	3,041	133	549	6	1,584
10th (1,104 feet)	.....	3,322	36	1,987	10	1,534
11th (1,229 feet)	48	2,616	9	436	.....	539
12th (1,354 feet)	279	2,657	.....	450	104	697
13th (1,479 feet)	.....	2,655	.....	1,033	.....	958
14th (1,605 feet)	.....	2,291	.....	584	.....	1,129
15th (1,729 feet)	216	2,318	28	378	95	875
16th (1,854 feet)	.....	2,156	.....	423	.....	948
17th (1,980 feet)	.....	2,613	.....	837	17	691
18th (2,105 feet)	.....	1,117	.....	182	.....	711
19th (2,229 feet)	.....	1,595	.....	487	.....	705
20th (2,371 feet)	.....	1,353	.....	419	.....	1,130
21st (2,479 feet)	.....	1,656	.....	509	.....	812
22nd (2,604 feet)	.....	2,054	.....	363	.....	1,862
23rd (2,729 feet)	.....	2,133	.....	470	.....	2,130
24th (2,854 feet)	.....	2,034	.....	475	.....	1,680
25th (2,979 feet)	41	3,530	.....	1,272	.....	1,797
26th (3,104 feet)	.....	3,785	.....	952	.....	2,233
27th (3,229 feet)	.....	3,287	.....	633	.....	1,897
28th (3,354 feet)	.....	1,694	.....	844	.....	885
29th (3,479 feet)	.....	2,067	.....	629	.....	948
30th (3,604 feet)	158	4,874	.....	3,189	.....	1,958
31st (3,767 feet)	.....	2,572	.....	565	.....	1,838
32nd (3,892 feet)	.....	1,573	.....	229	.....	1,142
33rd (4,017 feet)	.....	1,993	.....	598	.....	1,317
34th (4,142 feet)	.....	2,196	.....	645	.....	995
35th (4,267 feet)	.....	2,486	.....	853	.....	807
36th (4,392 feet)	.....	1,777	.....	539	.....	699
37th (4,516 feet)	.....	2,614	.....	460	.....	1,198
38th (4,641 feet)	.....	3,294	.....	729	.....	1,487
39th (4,766 feet)	.....	1,950	.....	410	.....	1,513
40th (4,890 feet)	.....	3,153	.....	1,799	.....	1,343
41st (5,017 feet)	.....	1,926	.....	273	.....	914
42nd (5,142 feet)	.....	1,532	.....	189	.....	761
43rd (5,267 feet)	.....	1,913	.....	501	.....	400
44th (5,392 feet)	.....	2,425	.....	696	.....	1,402
45th (5,514 feet)	.....	3,444	.....	1,461	.....	2,313
46th (5,642 feet)	.....	2,644	.....	990	.....	1,575
47th (5,767 feet)	.....	1,815	.....	422	.....	1,648
48th (5,892 feet)	.....	1,313	.....	270	.....	475
49th (6,071 feet)	.....	1,498	.....	333	.....	298
50th (6,162 feet)	.....	1,477	.....	947	.....	567

The following is taken from the report of the general superintendent for the year ending December 31, 1944:—

During the year, 102,920 tons of ore from the mine were milled. The total recovery of bullion was the equivalent of 25,688.41 troy ounces of fine gold. The realized value of bullion production was $989,003.95, or $9.61 per ton, while operating costs amounted to $669,351.87, or $6.50 per ton, leaving an operating profit of $319,652.08, or $3.11 per ton.

Income on general investments and dividends on shares of Lamaque Gold Mines, Limited, amounted to $569,656.60. After charging the expenditure on examination and exploration of outside properties of $1,543.14 and providing $94,750.52 for taxes, net surplus for the fiscal year was $793,015.02.

An analysis of operating costs follows:—

	Total cost	Cost per ton of ore treated	Cost per ounce of gold produced
Mining and development	$391,481.90	$3.80	$15.240
Milling	129,819.42	1.26	5.054
General expense	148,050.55	1.44	5.763
Total	$669,351.87	$6.50	$26.057

Development footage for the year was as follows:—

	Feet
Drifting	1,422.5
Crosscutting	531.5
Subdrifts and subcrosscuts	549
Raising	591
Total development	3,094

Diamond-drill exploration amounted to 3,205.7 feet. Ore production from drifting and crosscutting totalled 3,785 tons. New ore found totalled 262 feet, or 18.4 per cent. of all drifting.

During the year, 12.4 per cent. of the total tonnage and 13.3 per cent. of the gold production came from "E" and "F" branch veins.

The technical estimate of "positive ore" at December 31, is as follows:—

	Tons	Gold content in troy ounces	Average grade in pennyweights per ton
Broken ore	102,436	23,561.8	4.60
Blocked ore	183,042	75,218.3	8.22
Total	285,478	98,780.1	6.92

Operations were continued at a reduced rate throughout the year, due to adverse war-time conditions. The entire production was obtained from the upper 12 levels and the 15th level, efforts being made to complete the mining and removal of all ore in certain sections to be abandoned. In the course of this work some small but profitable ore bodies in or adjacent to the main break have been discovered and developed. In order to further prospect the "F" branch vein, a new 9th level was opened up from South shaft, and after crosscutting to the vein, the latter was followed for 476 feet, of which 178 feet was ore. This compares with 105 feet of ore on the 8th level. Results were thought sufficiently encouraging to justify crosscutting on the 10th level, and accordingly station-cutting was started in December.

Pumping, maintenance, and repair of the intermediate and lower levels of the South shaft workings was continued, $22,969.34 being spent on this work, mostly for replacement of untreated timbers which have failed or become weakened by decay and pressure.

An average force of 183 men was employed during 1944, of whom 101 were in the mine and 21 in the mill. G. G. Gilchrist is general superintendent.

Toburn Gold Mines, Limited

Toburn Gold Mines, Limited, was incorporated in January, 1931, with an authorized capitalization of 2,000,000 shares of $1 par value, of which 1,850,000 have been issued. The officers and directors are: H. A. Guess, president; R. F. Goodwin, vice-president; G. A. Brockington, secretary; J. C. Emison, treasurer; E. C. Corson, comptroller; A. W. Holmested and S. C. Guess, directors. The head office is at 1809 Royal Bank Building, Toronto, and the executive office is at 120 Broadway, New York, N.Y. The mine address is Kirkland Lake.

The property, formerly called the Tough-Oakes Burnside, consists of 10 claims, 343 acres, in Teck and Lebel townships, Kirkland Lake area, district of Timiskaming.

The main operations are carried on from the No. 3 shaft and No. 3 subshaft, both on claim L. 1,823. No. 3 shaft is 1,105 feet deep and has two compartments

to a depth of 400 feet and three compartments from that point to the bottom. The 3-compartment subshaft, which is collared at the 1,090-foot level about 300 feet south of the shaft, runs to a depth of 2,498 feet from surface. Both shaft and winze are vertical. No. A inclined shaft, on claim L. 2,375 about 675 feet northeast of No. 3 shaft, has a vertical depth of 400 feet, with levels at 85, 171, 247, and 319 feet. There are connections between the two lowest levels and the 200- and 400-foot levels from No. 3 shaft. No. A shaft is used as a ventilation and escapement shaft and for the transportation of supplies. There are a number of other shallow shafts sunk by former operators, some of which are now used as manways and ore passes.

Mining and milling operations continued throughout 1944. The following table shows the development work done during the year and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
A SHAFT (inclined):						
85-foot (A-100)	.....	383	.....	.....	.....	133
171-foot (A-200)	8	2,237	7	234	.....	773
247-foot (A-300)	310	887	.....	232	.....	275
319-foot (A-400)	.....	4,767	.....	573	.....	796
B SHAFT:						
100-foot	.....	175	.....	.....	.....	128
No. 3 SHAFT:						
200-foot	.....	443	.....	77	.....	6
400-foot	.....	1,136	.....	1,185	.....	316
542-foot	.....	4,875	.....	1,260	.....	2,780
667-foot	83	5,025	14	1,405	109	1,475
792-foot	99	5,032	.....	1,494	141	1,448
893-foot	126	6,174	170	2,493	131	1,198
1,018-foot	.....	3,617	.....	1,489	.....	1,278
1,090-foot	.....	3,325	.....	3,093	.....	603
SUBSHAFT (below 1,090-foot level):						
1,210-foot	.....	1,062	.....	1,372	82	268
1,325-foot	32	1,034	68	718	116	533
1,430-foot	.....	453	.....	389	.....	122
1,550-foot	.....	416	.....	755	.....	165
1,710-foot[1]	.....	165	.....	208	107	107
1,850-foot	.....	819	.....	1,473	.....	.....
1,975-foot	.....	.....	.....	102	.....	.....
2,100-foot	83	700	147	519	.....	35
2,225-foot	.....	152	.....	194	.....	230
2,350-foot	.....	.....	.....	57	.....	.....
2,475-foot	614	2,541	427	1,036	.....	11

[1]This level not included in previous reports.

The following is taken from the president's report to the shareholders for the year ending December 31, 1944:—

During the year 1944, a total of 2,811 lineal feet of underground development was completed, compared with 4,965 feet in 1943, showing a decrease of 2,154 feet for the year under review. Of this total development, 575 feet or 20.46 per cent. was on ore yielding approximately 2,000 tons.

During the year 1944, 20 underground diamond-drill holes plus 4 holes deepened, aggregating 4,683 feet, were drilled, in comparison with 33 diamond-drill holes plus 4 deepened in 1943, aggregating 6,944 feet.

Production figures for 1944, as compared with 1943, are:—

	1943	1944
Tons milled	40,905	39,940
Average ounces gold per ton	0.402	0.333
Ounces fine gold produced	15,799	12,780
Percentage mill recovery	96.16	96.07

Estimated ore reserves, broken and unbroken, at December 31, 1944, were 77,600 tons averaging 0.51 ounces gold per ton, as compared with 83,200 tons averaging 0.55 ounces gold

per ton at December 31, 1943. Due to dilution in actual mining and scaling when shrinkage stopes are drawn, this tonnage may be somewhat increased with a corresponding decrease in grade. It is apparent, therefore, that 34,340 tons of new ore were found and opened up in 1944 as compared with 30,705 tons in 1943.

Throughout the year, the continued shortage of underground labour necessitated operating the mill at a reduced tonnage to permit as much development work to be carried out as possible with the available man-power.

Earnings for the year 1944, after deducting administrative and legal expenses and taxes, but before deduction of $23,620.90 depreciation and depletion, were $53,227.48.

Continental Kirkland Mines, Limited[1]

All mining operations remained suspended during the year 1944, with the usual shut-down expenses.

On the 2,475-foot horizon of Toburn Gold Mines, Limited, eastward development in the 2,511 drift fracture zone was continued toward Continental Kirkland's west boundary for 618 feet, making an aggregate of 1,446 feet to date. Depending upon the results obtained from future eastward development, a decision will be made as to the advisability of drifting into Continental Kirkland's property in the hope of locating commercial ore.

As of December 31, 1944, your company owned a total of 425,000 shares of Continental Kirkland Mines, Limited, acquired at a total cost of $82,673.25.

An average force of 116 men was employed, of whom 61 were in the mine and 7 in the mill. M. W. Hotchkin is manager.

Upper Canada Mines, Limited

Upper Canada Mines, Limited, was incorporated on April 4, 1929, with an authorized capitalization of 2,500,000 shares of $1 par value. On April 27, 1938, the capitalization was increased to 3,500,000 shares of $1 par value. On July 16, 1940, it was decreased to 3,000,000 shares by the cancellation of 500,000 unissued shares. The number of shares issued at December 31, 1944, was 2,963,009. The officers and directors are: R. R. Brown, president; W. H. Despard, vice-president; G. F. Summers, secretary-treasurer; T. J. Day and J. A. W. Brown, directors. The head office is at 85 Richmond Street West, Toronto. The mine address is Dobie.

The property consists of 16 claims, approximately 597 acres, in Gauthier township, Kirkland Lake area, district of Timiskaming.

Operations continued throughout 1944. The vertical, 3-compartment No. 1 shaft in the northwest corner of claim L. 6,314 was sunk a further 366 feet to a total depth of 1,810 feet, and new levels were established at 1,500, 1,625, and 1,750 feet. No. 2 vertical, 3-compartment shaft, in the northeast corner of claim L. 6,321 about 2,900 feet west of No. 1 shaft, is 796 feet deep. No further work was done on this shaft during 1944. The two shafts are connected on the 375-foot level. The following table shows the development done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
125-foot	46	2,826	.....	837	.....	237
250-foot	.....	4,053	.....	839	118	753
375-foot	153	5,202	247	2,588	.....	502
500-foot	909	5,381	90	1,390	131	351
625-foot	756	4,252	.....	613	.....	669
750-foot	1,117	3,127	.....	366	.....	393
875-foot	.....	1,928	.....	1,160	.....	527
1,000-foot	.....	7,579	.....	583	48	780
1,125-foot	.....	969	.....	339	.....	106
1,250-foot	110	2,185	.....	419	195	208
1,375-foot	530	530	234	285	.....	.....
1,500-foot	591	591	373	373	.....	.....
1,625-foot	700	700	380	380	.....	.....
1,750-foot	636	636	264	264	21	21

[1]Further information on Continental Kirkland Mines, Limited, appears on page 27 of this report.

Diamond-drilling during the year consisted of 1 hole, totalling 261 feet, from surface and 370 holes, totalling 22,343 feet, from underground.

The following is taken from the manager's report for the twelve months ending April 30, 1945:—

In the No. 1 shaft area, the shaft was completed to the 1,750-foot level, and a limited amount of lateral development was carried on throughout the year on four new levels. Results, as listed below, were disappointing.

In the No. 2 shaft area, further drifting on the 500-, 625-, and 750-foot levels met with satisfactory returns in ore disclosed. Deepening of this shaft from the 750- to the 1,250-foot level began January 20, 1945.

The tonnage of ore in reserve was reduced somewhat and at present is located mainly in the No. 2 shaft area.

ORE DEVELOPED,[1] MAY 1, 1944, TO APRIL 30, 1945

Level	Vein or zone	Length zone exposed	Ore developed			Ore milled from lateral development		
			Length	Width	Estimated stoping grade	Tons	Grade	Value
		feet	feet	feet				
125-foot	L	60	.....	.....	.....	71	$3.14	$223
375-foot	G	150	.....	.....	.....	115	1.93	222
500-foot	L	585	51	5.8	$7.50	1,626	5.94	9,671
	M	90	.....	.....	.....	229	3.67	841
625-foot	L	307	120	7.8	8.95	1,506	5.44	8,881
750-foot	L	493	206	5.9	6.97	2,384	5.46	13,025
1,000-foot	L	.....	.....	.....	.....	337	2.55	858
	H	523	.....	.....	.....	21	.70	15
1,250-foot	H	.....	.....	.....	.....	91	6.03	547
1,375-foot	H	597	117	3.9	16.05	1,062	5.26	5,595
1,500-foot	H	528	40	3.5	8.60	440	4.50	1,978
1,625-foot	H	756	.....	.....	.....	164	6.92	1,128
1,750-foot	H	341	.....	.....	.....	24	1.20	40
	M	843	.....	.....	.....	95	2.57	244
Total	.....	5,273	534	5.7	$9.06	8,165	$5.30	$43,268

Of all ore sent to the mill, 10.1 per cent. came from lateral development; 10.1 per cent. of all ore zone explored developed ore bodies of stoping grade; 5.7 per cent. of all H zone explored was of stoping grade; 26.1 per cent. of all L zone explored was of stoping grade.

MINE PRODUCTION

Shaft	Tons	Value[1]	
		Per ton	Total
No. 1	32,280	$16.55	$534,806
No. 2	48,451	9.06	438,694
Total	80,731	$12.06	$973,500

Operating costs were reduced 70 cents to $7.68 per ton milled. Cost per ounce of gold produced was $23.73 before depreciation, write-offs, and taxes.

Tonnage milled increased from 186 in the last fiscal year to an average per day of 221 for this year. Running time of the mill was 96.9 per cent., and recovery of the gold content in the ore, 93.92 per cent.

The method of transporting ore from the No. 2 shaft to the mill was changed last August from underground haulage by battery locomotive to surface trucking. This change enabled an increase in the amount of ore coming from No. 2 shaft to be effected and lent flexibility to the whole system.

While our labour force has been maintained in numbers, workmen and technicians of all skills remain in shorter supply than at any other time. This has prevented any increase in development and diamond-drilling above the present rate.

An average force of 164 men was employed, of which 107 were in the mine and 10 in the mill. R. J. Henry is manager.

[1]Gold at $35.00 an ounce.

Van Houten Gold Mines, Limited

Van Houten Gold Mines, Limited, was incorporated in February, 1940, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 1,900,000 have been issued. The company succeeded the Van Houten Gold Syndicate. The officers and directors are: E. L. Stasse, president; E. I. Adams, vice-president and managing director; Wm. B. McPherson, secretary; R. L. Dick, treasurer; H. F. Reid, L. C. Lemieux, and Wm. A. Wachenfeld, directors. The head office is at 171 Yonge Street, Toronto. The mine address is Dyment.

The company's holdings consist of 28 claims, approximately 1,120 acres, near Moose lake, off Wabigoon lake, about 10 miles south of Wabigoon. During the year the company took over the former Sakoose gold property, which consists of 5 claims, totalling 200 acres, located south of Dyment. All these claims are in the district of Kenora.

No further work was done of any of the claims during 1944. The mill equipment that was on the former Van Houten property was installed at the Sakoose property, and test runs were made on ore taken from a 6,000-ton dump that had been left by the former operators.

A mill building, crusher- and conveyer-house, tank-house, machine shop, boiler-house, and dwelling were erected during the year.

An average of 21 employees worked at the property during the period of operation.

Wright-Hargreaves Mines, Limited

Wright-Hargreaves Mines, Limited, was incorporated in June, 1916, with an authorized capitalization of 5,500,000 shares of no par value, all of which have been issued. The officers and directors are: E. L. Miller, president; W. H. Wright, vice-president; P. H. Gerhard, secretary; Gerard F. Miller, treasurer; M. W. Summerhayes, managing director; Oliver G. Donaldson and Jas. Y. Murdoch, directors. The head office is at Fort Erie North. The executive office is at the Liberty Bank Building, Buffalo, N.Y. The mine address is Kirkland Lake.

The main property consists of 4 claims, approximately 153 acres, in Teck township, Kirkland Lake area, district of Timiskaming. The company also has five claims, totalling 243 acres, in Morrisette township, from which sand for backfilling is obtained. Eleven claims in Teck and Lebel townships are used for slimes disposal.

The following table shows the depth of the shafts and winzes that serve the mine:—

	No. of compartments	Depth from surface at December 31, 1944
		feet
No. 1 shaft[1]	2 to 2,000 feet 3 to bottom	2,277
No. 2 shaft[2]	2	317
No. 3 shaft	3 to 1,200 feet 4 to bottom	4,089
No. 4 shaft	4	4,000
No. 5 winze (below 3,600-foot level)	3 to 3,800 feet 4 to bottom	6,404

[1]Now used for ventilation.
[2]Now used as a sand pass.

All the shafts are at the west end of claim L. 1,829, except No. 2 shaft, which is at the west end of claim L. 1,830.

Mining and milling operations continued throughout 1944.

The following table shows the development work done during 1944 by levels, the total since January 1, 1930, by levels, the total footage prior to January 1, 1930, and the total footage at December 31, 1944:—

Level	Drifts		Crosscuts		Raises	
	1944	Jan. 1, 1930, to Dec. 31, 1944	1944	Jan. 1, 1930, to Dec. 31, 1944	1944	Jan. 1, 1930, to Dec. 31, 1944
	feet	feet	feet	feet	feet	feet
100-foot	.....	500	.....	27	.....	58
200-foot	.....	3,453	.....	868	.....	16
300-foot	.....	2,534	.....	824	.....	465
400-foot	37	3,433	31	1,520	.....	782
550-foot	.....	5,780	.....	1,184	.....	1,157
700-foot	.....	3,911	39	1,027	.....	713
850-foot	.....	5,758	.....	2,029	.....	546
1,000-foot	171	4,650	.....	1,826	.....	1,101
1,125-foot	.....	6,564	.....	2,210	.....	657
1,250-foot	.....	3,645	.....	1,323	.....	200
1,375-foot	13	7,494	147	2,529	90	951
1,500-foot	65	6,182	12	1,428	.....	434
1,625-foot	37	8,289	34	3,265	.....	793
1,750-foot	.....	6,208	.....	1,397	.....	808
1,875-foot	.....	9,396	30	2,608	.....	860
2,000-foot	.....	6,708	.....	2,496	.....	893
2,125-foot	.....	9,996	.....	2,496	133	1,075
2,250-foot	76	11,705	20	3,413	.....	1,430
2,400-foot	233	9,658	72	2,825	.....	987
2,550-foot	138	6,479	.....	2,738	.....	843
2,700-foot	332	8,465	.....	2,598	.....	1,099
2,850-foot	.....	2,675	.....	2,626	.....	1,452
3,000-foot	.....	3,312	.....	2,731	.....	784
3,150-foot	330	6,536	45	1,879	.....	1,344
3,300-foot	201	6,340	.....	1,563	.....	887
3,450-foot	52	5,672	12	1,641	.....	1,031
3,600-foot	.....	2,892	.....	1,499	.....	693
3,750-foot	.....	3,659	.....	1,483	58	618
3,900-foot	.....	3,762	.....	1,104	.....	576
4,050-foot	38	4,722	.....	1,242	.....	707
4,200-foot	.....	4,810	.....	1,304	.....	1,223
4,350-foot	265	5,356	18	1,594	.....	1,381
4,500-foot	.....	5,546	.....	1,989	.....	845
4,650-foot	107	5,734	30	1,374	.....	1,013
4,800-foot	220	3,629	50	1,109	.....	769
4,950-foot	.....	2,952	22	1,982	.....	610
5,100-foot	265	4,685	38	1,234	.....	1,645
5,250-foot	.....	1,920	.....	944	.....	451
5,400-foot	.....	1,360	.....	674	.....	159
5,550-foot	.....	2,203	.....	381	.....	152
5,700-foot	.....	536	.....	266	.....	147
5,850-foot	.....	2,279	.....	542	.....	142
6,000-foot	.....	446	.....	369	.....	233
6,150-foot	.....	3,258	.....	846	.....	146
6,300-foot	.....	711	.....	664	.....	.....
Total	2,580	215,807	600	71,676	281	32,876
Total footage prior to Jan. 1, 1930	.....	61,459	.....	12,301	.....	942
Total footage to Dec. 31, 1944	.....	277,266	.....	83,977	.....	33,818

Diamond-drilling during 1944 consisted of 20 holes, totalling 6,020 feet, from surface and 143 holes, totalling 21,564 feet, from underground.

The following is taken from the report of the general manager for the fiscal year ending August 31, 1944:—

During the period, 196,600 tons of dry ore were treated in the mill, from which were recovered 96,475 ounces fine gold and 18,366 ounces fine silver. There was realized from marketing this bullion, $3,710,866.16.

The average grade of ore milled was 0.506 ounces, or $19.45 per ton, with a recovery of 0.491 ounces, or $18.88 per ton, an extraction of 97.06 per cent.

Operating conditions during the year became progressively more difficult with the continued loss of men. This caused further reductions in the tonnage of ore broken and treated, the amount of gold produced, and the footage of underground development and exploration accomplished.

ANALYSIS OF OPERATING COSTS

	Total cost	Cost per ton milled
Development, exploration, and pumping	$151,412.50	$0.770
Stoping	630,409.69	3.207
Transporting ore (hoisting, etc.)	211,506.71	1.076
Milling charges	314,632.13	1.600
General surface, storehouse and miscellaneous mine buildings charges	97,051.60	.494
Stock transfer, dividend, excise stamps, annual report expense, property taxes, and fire protection	51,983.08	.264
Unemployment and employees' group life insurance, silicosis, workmen's compensation and hospitalization	79,779.94	.406
General and miscellaneous undistributed charges	51,976.60	.264
Financial and corporate expense	14,738.23	.075
Marketing bullion	7,692.74	.039
	$1,611,183.22	$8.195
Provision for taxes	605,000.00	3.518
Royal Mint special bullion handling tax	33,833.93	
Depreciation buildings and equipment	52,787.58	
Total	$2,302,804.73	$11.713

MILLING STATISTICS

September 1, 1943, to August 31, 1944

Ore milled	tons	196,600
Average grade per ton		$19.447
Gross value	$3,823,324.98	
Loss in tailings	112,458.82	
Net value recovered		$3,710,866.16
Average tons milled per day		537.16
Per cent. of possible running time		44.8
Tons 100 per cent. running time		1,200
Solution precipitated	tons	894,810
Solution precipitated per ton of ore	tons	4.55
Value per ton in tailings		$0.572
Yield per ton of ore		$18.875
Per cent. recovery		97.06
Cyanide consumed per ton of ore (K.C.N.)	pounds	0.785
Zinc consumed per ton of ore	ounces	1.742
Zinc consumed per ton of solution	ounces	0.383
Lime consumed per ton of ore	pounds	3.975
Steel consumed per ton of ore, ball mills	pounds	2.956
Steel consumed per ton of ore, tube mills	pounds	3.411
Cost of flotation reagents consumed per ton of ore		$0.046
Average value of pregnant solution per ton		$4.17
Average h.p. load (crushing and milling)		1,700
Average h.p. load per ton milled per day (crushing and milling)		3.17
Power cost per h.p. year		$36.00

PRODUCTION RECORD, 1921–1944

Year	Tons milled	Value per ton	Gross value	Recovery per ton	Bullion produced
1921 (8 mos.)	36,081	$13.96	$503,302	$13.00	$468,665
1922[1]	66,181	12.49	827,447	11.52	762,752
1923	79,242	10.48	830,992	9.52	754,978
1924	84,487	14.16	1,194,217	12.89	1,088,725
1925	147,939	14.49	2,148,554	12.93	1,913,401
1926	153,392	15.66	2,400,795	14.02	2,150,844
1927	209,164	11.77	2,455,460	10.51	2,151,916
1928	256,331	8.36	2,144,002	7.20	1,845,923
1929	188,238	10.29	1,938,552	9.25	1,741,872
1930	220,430	12.20	2,687,828	11.03	2,431,896
1931[2]	266,352	12.20	3,248,496	11.37	3,027,848
1932	295,525	14.52	4,292,194	13.57	4,011,554
1933 (8 mos.)[3]	193,441	17.85	3,452,207	16.62	3,215,730
1934[4]	330,741	22.44	7,423,229	21.44	7,089,884
1935	350,196	21.76	7,619,834	21.06	7,374,158
1936	387,464	20.30	7,866,397	19.60	7,595,231
1937	429,120	18.70	8,022,580	17.98	7,714,486
1938	437,130	18.90	8,261,852	18.15	7,933,104
1939	436,250	18.59	8,108,961	17.95	7,828,494
1940	443,930	20.40	9,054,032	19.66	8,729,477
1941	438,210	20.31	8,898,772	19.57	8,576,063
1942	316,210	20.49	6,477,943	19.80	6,259,433
1943	245,130	20.57	5,040,980	19.93	4,886,358
1944	196,600	19.45	3,823,325	18.88	3,710,866
Total	6,207,784	$17.51	$108,721,951	$16.63	$103,263,658

[1]Period 1922 to 1932, inclusive, calendar years.
[2]Years 1931 to 1944, inclusive, reflect increase in value of gold.
[3]In 1933, fiscal year closing changed to August 31.
[4]12 months ending fiscal year August 31, 1934.

ORE RESERVES ESTIMATE

	Tons	Ounces	Grade	Value at $38.50 per ounce
On hand August 31, 1943	1,150,521	0.50	$19.17	$22,058,886
Developed in fiscal year	106,914	.41	15.63	1,670,738
	1,257,435	0.49	$18.87	$23,729,624
Milled in fiscal year	196,600	.51	19.45	3,823,325
Ore reserves, August 31, 1944	1,060,835	0.49	$18.76	$19,906,299

Development

Because of the acute shortage of labour and the necessity of keeping all available men possible on stoping and timbering, underground development was greatly curtailed. The percentage of drifting in ore was high due to confining the work to favourable and partially developed areas; however, a total of 3,581 feet of drifts, crosscuts, and raises and 22,834 feet of diamond-drilling was accomplished. Of the 2,427 feet of drifting that was done during the year, 1,567 feet was ore footage, or 64.57 per cent., the average grade of which was 0.549 ounces, or $21.14 per ton. Diamond-drilling, which was reduced by one-third as compared with last year, consisted largely of short holes to test the grade of projected structures.

Detailed mapping and study of the south vein zone was completed, with no new geological features of importance being discovered.

Milling

The mill treated 196,600 tons of ore, an average of 537.16 tons per day. The average grade was 0.506 ounces or $19.45 per ton, with tailings loss of 0.015 ounces or $0.572 per ton, giving an extraction of 97.06 per cent., as compared with 96.93 per cent. for the previous year. The improved extraction is due to the smaller tonnage milled. The treatment of our mill tailings by Lake Shore continued throughout the year.

General

Outside exploration, consisting entirely of field work, was resumed in April of this year with three prospecting parties and two engineer-scouts engaged in this work. Several groups of claims were staked. Some 45 properties in Ontario, Quebec, and Manitoba were examined and studied.

We are participating with a group of six other mining companies in the prospecting of a sizable area believed to be on the eastward extension of the greenstone-sediment contact into Beattie township in Quebec and within which area important faulting and possible ore structures may be expected. Geophysical prospecting and mapping and diamond-drilling, directed by skilled engineers and geologists, are under way.

Work was resumed in June on a gold property in Ontario held under option since 1941. This consisted of additional diamond-drilling, which is still being continued.

The collective bargaining agreement entered into with our employees through the Employees' Council in November, 1942, was renewed for another year, or until 1944.

Legal proceedings before the Ontario Labour Court, involving the Employees' Council, the company, and an international labour union and instituted by the latter, were heard with no action being ordered by the Court. Subsequently, under a new Dominion Act a vote of the employees, ordered by the Regional Labour Relations Board, was conducted to determine the collective bargaining agency. The resulting vote was questioned and requires a decision by the Board.

War-time machine shop work on various mechanical units used on cargo vessels made for the Government was completed. This was a creditable contribution to the war effort by the local mines and their shop employees and staff.

An average force of 436 men was employed during the year, of whom 270 were in the mine and 23 in the mill. R. L. Healy is general manager.

Young-Davidson Mines, Limited

Young-Davidson Mines, Limited, was incorporated in April, 1926, with an authorized capitalization of 3,000,000 shares of $1 par value, of which 1,584,108 have been issued. The officers and directors are: A. R. McKay, president; W. T. Davidson, vice-president; Geoffrey W. Adams, secretary-treasurer; A. C. Ross and Jacob A. Davidson, directors. The head office is at 320 Bay Street, Toronto. The mine address is Matachewan.

The property, which is in Powell township, Matachewan area, district of Timiskaming, is operated under agreement by Hollinger Consolidated Gold Mines, Limited. A reference to the operation appears on page 43 of this report.

Mining operations continued throughout 1944. The mill operated from May 1 to December 31. The mine is served by a vertical, 3-compartment shaft, 1,082 feet deep, called the No. 1, on claim M.R. 5,372, and a vertical, 2-compartment winze, which is collared at the 463-foot level about 250 feet west of and slightly to the north of the shaft. In 1944 the winze was sunk an additional 200 feet to a total depth of 1,502 feet from surface, and a seventh level was established at 1,463 feet from surface. Apart from the shaft-sinking the only development work done during the year was 55 feet of drifting on the second level. The following table shows the total amount of development work at December 31, 1944:—

Level	Drifts	Crosscuts	Raises
	feet	feet	feet
1st (263 feet)	2,290	1,055	1,271
2nd (463 feet)	2,969	883	2,001
3rd (663 feet)	1,501	714	1,796
4th (863 feet)	1,080	784	1,313
5th (1,063 feet)	788	575	890
6th (1,263 feet)	201	302	.....

There were 162,999 tons of ore hoisted. The mill treated 161,773 tons.

An average force of 101 men was employed, of whom 52 were in the mine, 17 in the mill, and 32 on general surface work. H. North is manager.

GRAPHITE

Black Donald Graphite, Limited

Black Donald Graphite, Limited, was organized in October, 1942, to acquire the mine, mill, and other assets of the Black Donald Graphite Company, Limited. The latter company retained its charter. The authorized capitalization of the new company is 200,000 shares of no par value, of which 137,505 have been issued. The officers and directors are: Thayer Lindsley, president; W. B. Malone, secretary-treasurer; G. R. Burge, A. K. Muir, and E. V. Neelands, directors. The executive office is at 25 King Street West, Toronto. The mine address is Calabogie.

The property consists of 300 acres in Brougham township, Renfrew county.

Mining and milling operations were continued throughout 1944. In the early part of the year production was from the vicinity of the No. 1 or "F" shaft. Later, the hoist was transferred to the No. 2 or Patno shaft, which had been reconditioned to a depth of 75 feet, and stoping operations were carried on at this depth. A third shaft, known as the McConnell, 125 feet deep, was reconditioned to a depth of 65 feet, where pumping operations were maintained.

Only about a third of the mill feed is obtained from underground operations, and the remainder is from old tailings pumped from Whitefish lake. The total ore hoisted amounted to 1,890 tons. The mill treated 6,486 tons, of which 4,596 tons was tailings.

A boiler-house and a residence were built during the year. A No. 2 Mitchell jaw crusher was added to the mill equipment.

B. G. Edward was manager, employing an average force of 40 men.

GYPSUM

Canadian Gypsum Company, Limited

The Canadian Gypsum Company, Limited, was incorporated in September, 1907. It has a capitalization of 3,000 shares of $100 par value, of which 2,710 have been issued. The officers and directors are: W. L. Keady, president; M. H. Basquin, vice-president; C. H. Shaver, secretary-treasurer; S. L. Avery, F. B. Gibbs, O. M. Knode, J. E. MacLeish, and Otis Wack, directors. The head office is at Windsor, N.S., and the business office is at 170 Bloor Street West, Toronto.

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 and wall board and block manufacturing buildings. During 1944 some 56,714 tons of gypsum were mined, 2,040 tons were crushed and shipped, and 54,886 tons were milled. The amount milled included 213 tons taken from the surface stock.

An average of 29 men was employed in the mine and crushing-plant. W. E. Allen is superintendent. The mine address is Hagersville.

The company also operates a quarry and lime plant at Guelph and a rock wool plant at Weston. Through a wholly owned subsidiary, Toronto Asphalt Roofing Manufacturing Company, Limited, the company operates an asphalt roofing plant at Mount Dennis.

Cayuga Gypsum Company, Limited

The Cayuga Gypsum Company, Limited, was incorporated in October, 1940, with an authorized capitalization of 150,000 shares of no par value, of which 88,932 have been issued. The officers and directors are: James Rose, president and general manager; J. F. O'Leary, vice-president; J. A. Withrow, secretary-treasurer; Dr. J. H. Leeds, Hugh Rose, and D. H. Bertram, directors. The head office is at Caledonia. The mine address is Cayuga.

The property consists of 1,500 acres in concession I, North Cayuga township, Haldimand county.

Underground operations in 1944 consisted of pumping out the shaft and driving a heading some 12 feet on the 85-foot level.

A headframe 35 feet high was erected.

J. M. Howland was resident engineer.

Gypsum, Lime and Alabastine, Canada, Limited

Gypsum, Lime and Alabastine, Canada, Limited, has a capitalization of 500,000 shares of no par value, of which 440,043 have been issued. The officers and directors are: George A. Dobbie, president; J. E. McConnell and C. G. Cockshutt, vice-presidents; S. H. J. Reid, secretary; F. Andrews, comptroller and treasurer; P. P. Tyler, managing director; S. G. Dixon, director. The head office is at Paris, Ont.

The mine and mill at Caledonia, Seneca township, Haldimand county, was operated throughout 1944. L. V. Robinson was superintendent, employing an average of 20 persons in the mine and crushing plant.

A total of 51,571 tons of gypsum was mined. Some 5,876 tons were crushed and fine-ground. About 35,898 tons were calcined. Of this, 149 tons were shipped and 35,749 tons were used in the manufacture of gypsum products.

In addition to the Caledonia mine the company operated lime plants at Beachville, Hespeler, and Milton. The alabastine plant is at Paris.

IRON

Algoma Ore Properties, Limited

Algoma Ore Properties, Limited, was incorporated in February, 1936, with an authorized capitalization of 50,000 shares of no par value, all of which have been issued. The officers and directors are: Sir James Dunn, president; William Jeffrey, secretary; E. W. Shell, treasurer; E. Carey, comptroller; W. C. Franz, J. A. McPhail, E. G. McMillan, and S. V. McLeod, directors. Geo. W. MacLeod is general manager. The head office is at Sault Ste. Marie, Ont. The mine address is Helen Mine.

The company is a wholly owned subsidiary of the Algoma Steel Corporation, Limited, from which various iron properties in Algoma district were acquired, including the Helen mine in township 29, range 24. This property consists of 52 claims, containing approximately 1,754 acres.

The open-pit operations continued throughout 1944, with production coming from the 1,450-foot and 1,500-foot benches. A total of 262 churn-drill holes, with a length of 15,914 feet, was drilled. Ten diamond-drill holes, totalling 5,105 feet, were drilled from surface.

Additions were built to the service garage, portable pit shack, portable transformer, warehouse, and hoist-house at the sinter plant.

A total of 788,728 short tons of ore was mined. The sintering plant operated from April 9 to November 28 and produced 539,933 short tons of sinter.

S. J. Kidder was manager, employing an average force of 186 persons. Of these 50 men were in the pit and 43 men and 12 women were at the sintering plant.

Michipicoten Iron Mines, Limited

Michipicoten Iron Mines, Limited, was incorporated in October, 1941, with an authorized capitalization of 3,000,000 shares of no par value. In 1943 the capitalization was increased to 4,000,000 shares of no par value, of which 1,810,269 have been issued. The company is controlled by Sherritt Gordon Mines, Limited, and the Frobisher Exploration Company, Limited. The two companies share equally in the cost of operations, which are under the direction of Sherritt Gordon Mines, Limited. The officers and directors are: H. Whittingham, president; E. L. Brown, vice-president and general manager; A. G. Fulton, secretary-treasurer; Halstead Lindsley, Thayer Lindsley, G. R. Burge, and E. V. Neelands, directors. The head office is at 25 King Street West, Toronto. The mine address is Josephine.

The property consists of 70 claims, totalling 2,887 acres, in townships 28 and 29, range 24, and township 28, range 25, Algoma district. It includes the Josephine mine, the Ruth group of claims about 1½ miles away, and the Lucy claims, which adjoin the Ruth. The mining plant is about one mile north of the Josephine stop on the Algoma Central railway, 6 miles west of Hawk Junction.

Operations at the Josephine mine continued throughout 1944. No further sinking was done during the year on the 3-compartment, vertical shaft on the south side of Parks lake on claim Y. 452 (A.C.R. 4,263), which is now down to a total depth of 1,226 feet. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
265-foot	93	93	.....	414	.....	.....
415-foot	14	14	208	247	.....	.....
565-foot	12	12	.....	243	.....	.....
715-foot	1,297	1,946	7	400	.....	.....
865-foot	587	1,780	79	655	107	582
No. 4,140 sublevel	41	41	.....	.....	.....	.....
1,015-foot	1,264	2,800	1,822	2,385	510	1,097
1,145-foot (loading pocket)	.....	.....	.....	.....	918	1,543
1,190-foot	.....	.....	.....	55	.....	.....

Diamond-drilling during 1944 consisted of 97 holes, totalling 16,135 feet, from underground.

The following is taken from the report of Sherritt Gordon Mines, Limited, for the year ending December 31, 1944:—

Josephine Mine

The bulk of the lateral development work was done on the 4th and 6th levels, the balance being done on the 5th level. A number of raises were driven between the 6th, 5th, and 4th levels. By the end of the year the block of ore between the 6th and 4th levels was fairly well developed for mining.

This underground development work resulted in the addition of some 1,174,000 gross tons of ore to the ore reserve. The following is a summary of the calculated ore reserve as at December 31, 1944. The calculations are based upon the data obtained from drifting, crosscutting, and raising, supplemented by underground diamond-drilling.

Calculated Ore Reserve (3,840,000 Gross Tons)

	Per cent.
Fe	51.99
SiO_2	14.99
S	2.119
P	.041
Mn	.43
As	.031
CaO	1.36
MgO	1.81
Al_2O_3	1.79
Ignition loss	4.95

Ruth Mine

No work was done on the Ruth mine during the year, so that the indicated ore reserve to an average depth of 800 feet is unchanged, as follows:—

	Gross tons	Fe	SiO_2	S
		per cent.	per cent.	per cent.
Low-silica siderite	16,840,000	34.54	6.81	6.258
High-silica siderite	11,760,000	26.57	21.46	3.546
Total	28,600,000	31.26	13.15	5.143

W. D. Mackenzie was superintendent. An average force of 85 persons was employed. Of these, 38 men were in the mine.

Steep Rock Iron Mines, Limited

Steep Rock Iron Mines, Limited, was incorporated in February, 1939, with an authorized capitalization of 5,000,000 shares of no par value. In February, 1943, the capitalization was increased to 6,000,000 shares of no par value, and in August, 1943, the par value of the shares was changed to $1 each. The officers and directors are: C. S. Eaton, chairman of the board; D. M. Hogarth, president; M. S. Fotheringham, vice-president and general manager; N. Edmonstone, secretary-treasurer; G. E. Allen, J. G. Cross, W. E. Phillips, D. H. McDougall, John Stewart, Bethune L. Smith, W. R. Van Slyke, W. H. Englebright, and W. R. Daley, directors. The head office is at 25 King Street West, Toronto. The mine address is Atikokan.

The company holds 161 claims and has a half interest in 19 claims in Freeborn and Schwenger townships, district of Rainy River.

In the early part of 1944 the main operation was the dewatering of Steeprock lake. Fourteen pumps operated almost continuously and averaged 450 million gallons in twenty-four hours. At this rate the lake was lowered 0.65 feet per day.

Diversion operations were completed on the excavation of the two remaining pieces of the Seine river. The Marmion lake plug was blown June 26, and the one at the Esker cut at the foot of Finlayson lake was cut later in the year. As soon as the water was lowered sufficiently, a roadway was built across the lake at the end of Mosher point. This roadway is to carry the haulage from the "B" ore body.

A contract was let in the spring by the Canadian National Railways to the C. A. Pitts Construction Company for the construction of a spur line from Atikokan to the crushing plant on the south shore of Steeprock lake.

Late in June, 1944, the bottom of the lake over the "B" ore body became exposed at its highest point, next to Mosher point. A dredge scow was constructed at the property and dredge equipment assembled. The dredge was

placed on the west side of Mosher point over the "B" ore body and discharged through a pipe line into Falls bay. As the lake bottom became clear, power shovels were set to work cleaning the bottom after the dredging.

On August 1, the first solid ore was encountered. The new crusher for the crushing-plant was brought in over the new railway spur also on this date.

The new crushing-station built of steel and concrete consists of an Allis-Chalmers 48- by 72-inch crusher and storage bins of some 400 tons capacity.

Benches were quickly established in the pit in order to obtain ore for shipment during the open season. In October a shipment of some 16,000 tons was made.

At Port Arthur, the Canadian National Railways also proceeded with the construction of a new ore dock with a capacity of some 30,000 tons. These ore docks should be sufficiently advanced by the spring of 1945 to handle ore from Steep Rock.

An average force of 359 persons was employed during the year.

LEAD AND ZINC

Lake Geneva Mining Company, Limited

The Lake Geneva Mining Company, Limited, was incorporated in April, 1928. The authorized capitalization is 1,500,000 shares of $1 par value, having been increased from 1,000,000 shares in 1937. At the end of 1944 there were 1,250,000 shares issued. The company is controlled by the Towagmac Exploration Company, Limited. The officers and directors are: C. D. H. MacAlpine, president; A. A. MacKay, vice-president; P. C. Finlay, secretary-treasurer; J. C. Norton, assistant secretary-treasurer; Leo Timmins and F. J. Bailes, directors. The head office is at 1010 St. Catherine Street West, Montreal, Que. The mine address is Benny.

The property consists of 22 patented claims, 880 acres, in Hess township, district of Sudbury.

The mine and concentrator operated from January 1 to May 25, 1944.

No further sinking operations were done on the vertical, 2-compartment No. 1 shaft, on claim S. 6,304, which is now 400 feet deep. The following table shows the underground development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 204 sublevel	.....	143	.....	31	.....	59
235-foot	.....	656	.....	118	.....	691
315-foot	.....	290	.....	37	.....	133
375-foot	.....	103	.....	47	.....	189
525-foot	88	381	.....	82	.....	.....
615-foot	151	151	54	78	15	15

Diamond-drilling during 1944 consisted of 3 holes, totalling 3,000 feet, from surface and 1 hole, totalling 47 feet, from underground.

A total of 11,499 tons of ore was mined, and 10,031 tons was treated in the concentrator, which operated at an average daily rate of 66 tons.

J. E. Jerome was general superintendent, employing an average force of 30 men.

LIGNITE

Department of Mines

The operation at the Onakawana lignite deposit located in the district of Cochrane on the Abitibi river 126 miles north of Cochrane, was transferred from the Department of Lands and Forests to the Department of Mines on April 1, 1944. During the year the erection of a pilot processing plant was continued and the installation of preliminary processing equipment and storage bins practically completed. In the main, this equipment comprises a Link-Belt pan conveyer delivering run-of-mine material to a McNally-Pittsburgh double-toothed roll crusher, a Link-Belt bucket elevator, 2 double-deck and 1 triple-deck Dillon vibrating screens, a picking-belt and various conveyer belts, Wabi Iron Works transfer and charge cars, and 2 autoclaves constructed by Foster-Wheeler, Limited, for operation at 400 p.s.i.

Pit excavation was conducted almost continuously from about the middle of June to the middle of December, during which period the preliminary "through cut" was advanced some 750 feet. An additional 300 feet in advance of the cut was cleared of timber, and the muskeg was removed. In all, approximately 111,650 cubic yards of stripping was done.

Approximately 3,000 tons of lignite was mined and transferred to a stock-pile near the plant for boiler-feed purposes.

William Gerrie remained as superintendent of the operation until November, when he was succeeded by R. E. Sullivan. Twenty men were employed. The address is Onakawana, via Cochrane.

MAGNESIUM

Dominion Magnesium, Limited

Dominion Magnesium, Limited, is a private company formed to develop and operate the Pidgeon process for making magnesium. The capitalization is 150,000 shares of no par value, all of which have been issued. The officers and directors are: R. J. Jowsey, president; W. E. Segsworth, vice-president; M. M. Crabtree, secretary; H. B. Clearihue, treasurer; C. C. Calvin and Thayer Lindsley, directors. The head office is at 67 Yonge Street, Toronto. The plant address is Haley.

Operations continued throughout 1944 at the company's quarry and plant about three miles from Haley in concession V, Ross township, Renfrew county. The operation is under the direction of the Wartime Metals Corporation. There were 69,549 tons of dolomite treated in the plant.

J. D. Barrington was general manager, and H. B. Megill was resident manager. An average force of 354 persons was employed. Of these, 9 men were in the quarry, 219 persons in the treatment plant, and 126 persons on general surface work.

MICA

Algonquin Mica Mining Syndicate, Limited

The Algonquin Mica Mining Syndicate, Limited, was incorporated in October, 1943, with an authorized capitalization of 35,000 shares of $1 par value, of which 19,553 have been issued. The officers are: H. V. O'Reilly, president; N. A. Roberts, vice-president; Arthur V. Seymour, secretary-treasurer and manager. The head office is at 45 Richmond Street West, Toronto. The mine address is Barry's Bay.

The property, formerly known as the Low, consists of lots 9, 10, and the south half of lot 11, concession XIII, Dickens township, district of Nipissing.

Commencing in March, 1944, work was done on a vein of feldspar, containing both muscovite and biotite mica, on the south half of lot 10. When work was discontinued in October, the pit was 20 feet in length and 10 feet deep.

About 50 tons of feldspar was stock-piled.

Wm. Gillies was in charge. Four men were employed.

Kingston Mica Mining Company, Limited

The Kingston Mica Mining Company, Limited, was incorporated in April, 1939, with an authorized capitalization of 15,000 shares of $1 par value, of which 7,500 have been issued. The officers are: Charles Keller, president; Stuart H. Richardson, vice-president and treasurer; Wm. C. Richardson, secretary. The head office and mine office are at Godfrey.

The property consists of the south half of lot 5, concession II, Bedford township, Frontenac county, and contains 100 acres. It was formerly known as the Thirty Island Lake mine.

Mining operations continued throughout 1944. The winze was deepened a further 40 feet to a total depth of 233 feet as underhand stull-stoping on the north lens progressed.

A new shaft, known as No. 2, was started about 200 feet northwest of No. 1 shaft and sunk to a depth of 25 feet.

About 115 tons of mine-run amber mica was mined and shipped.

A compressor-house was built and a 300-cubic-foot Diesel compressor was installed.

The trimming shop at Godfrey was operated throughout the year, employing 2 girls.

J. E. Sullivan was manager at the mine, employing 13 men.

Marston Minerals, Limited

Marston Minerals, Limited, was incorporated in August, 1943, with an authorized capitalization of 150,000 shares of $1 par value. The officers are: F. E. Martin, president; Ray H. Binch, vice-president and general manager; H. B. Setterington, secretary; H. S. Parker, treasurer. The head office is at 15 Toronto Street, Toronto. The mine address, while operations were in progress, was Madoc.

The property, which contains 300 acres, is on lots 8 and 9, concession VI, and the south halves of lots 8 and 9, concession VII, Effingham township, Lennox and Addington county. It is located about two miles west of the north end of Mazinaw lake.

Previous operators had done some shallow open-cut work on a vein containing both feldspar and muscovite mica.

Marston Minerals, Limited, began work early in 1944. A shaft was sunk on the vein to a depth of 67 feet. A level was established at 50 feet, and a total of 55 feet of drifting was done.

Construction work consisted of the building of an office and a headframe. A small, air-driven mine hoist and a 300-cubic-foot Canadian Ingersoll-Rand compressor were installed.

Operations stopped in the latter part of May.

There were 7,806 pounds of mine-run muscovite mica, 3,346 pounds of trimmed mica, and 18 tons of scrap produced.

Ten men were employed at the property. Thirty girls were employed in the trimming shop at Tweed.

Micaspar Industries, Limited

Micaspar Industries, Limited, was incorporated in October, 1943, with an authorized capitalization of 1,000,000 shares of no par value, of which 426,252 have been issued. The officers and directors are: Boris Monsaroff, president; Robert Mitchell, secretary-treasurer; Dr. J. H. Leeds, E. E. Ott, and L. A. Young, directors. The head office is at 16 James Street South, Hamilton.

The company continued its lease on the Richardson property on lot 13 and the west half of lot 14, concession VIII, Loughborough township, Frontenac county, in 1944.

The construction of the grinding-mill and the installation of the necessary machinery for the grinding of mica was completed. From May 1 to July 29 the mill was operated grinding scrap mica, which had been accumulated from the previous year's mining operations, together with mica purchased from nearby properties. Shipments consisting of 1,774 pounds of various grades of mica were made.

Robert Stoness was in charge, employing 5 men. The mine address is R.R. 1, Sydenham.

Purdy Mica Mines, Limited

Purdy Mica Mines, Limited, was incorporated on October 30, 1942, with an authorized capitalization of 2,000,000 shares of $1 par value, all of which have been issued. The officers and directors are: M. A. Thomson, president; J. P. Norrie, vice-president and general manager; F. D. Lamont, secretary-treasurer; A. J. Davis, P. A. Thomson, and R. I. Ferguson, directors. The head office is at 355 St. James Street West, Montreal, Que. The mine office address is Oak Street, North Bay.

The property consists of 37 claims, approximately 1,480 acres, three miles north of Eauclaire in Mattawan township, district of Nipissing.

Operations continued throughout 1944. The mica was mined from six open cuts or pits. A total of 642 tons of muscovite mica was obtained from the operation. The rough mica is shipped to the company's plants at Mattawa and North Bay for splitting and trimming. About 1,030 feet of exploratory surface trenching, 3½ feet deep, was done.

Two used Canadian Ingersoll-Rand single-drum air hoists were installed, an 8- by 6-inch at the No. 1 pit and a 7- by 10-inch at the No. 3 pit.

An average force of 50 men was employed at the property. J. R. Norrie was manager.

Sydenham Mining Company, Limited

The Sydenham Mining Company, Limited, was incorporated in August, 1944, with an authorized capitalization of 15,000 shares of no par value. The officers are: James J. Egan, president, and Charles D. Keller, treasurer. The head office is at 128 Barrie Street, Kingston. The mine address is Sydenham.

The company carried on operations at the Lacey mine, on the west half of lot 11, concession VII, Loughborough township, Frontenac county, from June 15 to December 31, 1944. The water in the old pit was lowered about 60 feet. Mica was mined from the walls and benches. The old shaft, which is collared inside the mine buildings, was reconditioned to a depth of 60 feet. A new Mead-

Morrison 8- by 10-inch mine hoist, a 300-cubic-foot portable compressor, and a small electric generator, with sufficient capacity to drive a pump, were installed.

There were 26½ tons of mine-run amber mica produced.

Six men were employed.

NEPHELINE SYENITE

American Nepheline Corporation

The American Nepheline Corporation was incorporated in the State of New York, U.S.A., in March, 1937. On May 10, 1940, the corporation was granted an extra-provincial license permitting it to hold land and carry on business in the Province of Ontario. The authorized capitalization is 1,500,000 shares of fifty cents a share par value, of which 1,123,540 have been issued. The officers and directors are: H. R. Deeth, president; R. G. Kilbon, vice-president and manager; A. Kelso Roberts, secretary-treasurer; Wm. G. Hubler and Thayer Lindsley, directors. The head office is at 361 Boxart Street, Rochester, N.Y. The secretary-treasurer's address is 320 Bay Street, Toronto. The mine address is Lakefield.

The property consists of 43 claims, approximately 2,000 acres, in concession IX, Methuen township, Peterborough county. The quarry from which the nepheline syenite is taken is on lot 14. The company has a mill at Lakefield and another at Rochester, N.Y.

Operations were carried on throughout 1944. About 57,913 tons of nepheline syenite were mined and crushed at the quarry. The product is taken in trucks to the head of Stony lake, a distance of about 3 miles, and then transported by barge to Lakefield, where some of it is ground. The rest is shipped to Rochester.

Twenty-five men were employed at the quarry.

NICKEL AND COPPER

Falconbridge Nickel Mines, Limited

Falconbridge Nickel Mines, Limited, was incorporated in August, 1928, with an authorized capitalization of 5,000,000 shares of no par value, of which 3,337,507 have been issued. The officers and directors are: J. Gordon Hardy, president; Thayer Lindsley, H. Whittingham, and L. K. Brindley, vice-presidents; A. G. Fulton, secretary; J. C. Rix, treasurer; Halstead Lindsley, W. G. Malcolm, and W. S. Morlock, directors. The head office is at 304 Bay Street, Toronto. The mine address is Falconbridge.

The company operates a nickel-copper mine, concentrator, and smelter in the Sudbury district. The refinery in Norway, which has been in German hands since the occupation of that country, has been reported to be intact.

Operations in the Sudbury district were continued throughout 1944. The arrangement with the International Nickel Company of Canada, Limited, for the refining of the Falconbridge ore, was continued. The following is taken from the manager's report for the year ending December 31, 1944:—

In spite of many unfavourable circumstances which develop as war-time conditions continue, a slight gain is shown in tonnage of ore hoisted over that recorded for last year.

Benefit of the additions to treatment plants completed in 1943 is shown by higher metal production through improved metallurgical efficiency despite a lowering in grade of ore treated.

Mine Development

The chief items of underground development are listed as follows:—

	Feet
Drifting and crosscutting (including slashing)	10,199
Stope raising (including box-holes)	5,512
Fill-pass raising	364
Ore-pass raising	160
Ventilation raise	156
Shaft-sinking (No. 1)	566
Diamond test-drilling	7,730
	cu. ft.
Station-cutting	56,116

The greater part of the ore zone development consisted of easterly advances on the 325-, 1,000-, 1,400-, 1,575-, 1,925-, and 2,100-foot levels and was carried out for the purpose of defining the limits of a low-grade eastern ore shoot which the previous year's development had disclosed.

A short westerly advance on the 1,925-foot level served to indicate the limits of commercial ore in this direction.

Ore zone development was commenced on the 2,625- and 2,800-foot levels and disclosed considerably better than mine average grade ore at these horizons. On both levels, drifts were driven easterly and westerly on the ore zone from its intersection with the crosscut from No. 5 shaft. The total advance on the 2,625-foot level was 389 feet and on the 2,800-foot level, 802 feet.

On the 1,750-foot level, the westerly advance was continued as conditions permitted with nothing of interest being disclosed. The easterly drive on this level was continued to within a short distance of the eastern property boundary, an advance of 1,034 feet. Two ore shoots, which at this horizon are about equal to mine average in width and grade and which totalled 800 feet in length, were indicated.

While reserve tonnage shows a small gain, the intensive development of the eastern low-grade body produces a slight lowering of grade.

New stoping sections totalling 3,474 feet in length were prepared for production during the year.

After preparations had been completed in February, sinking was started in No. 1 shaft below the 2,100-foot level. At the year end, the shaft had reached a point 2,691 feet below the collar and stations had been cut at the 2,275-, 2,450-, and 2,625-foot levels.

Arrangements to augment the fill supply to No. 5 fill-pass system, which were mentioned in last year's report, were completed by driving some 600 feet northeasterly at the 325-foot level, installing a belt conveyer and feeder and raising to tap the overburden at rock surface. Fill was being drawn from this new source in December.

Construction was started on a series of concrete bulkheads designed to seal off No. 1 shaft from the stoped-out area adjacent to that shaft. Excavation for a crusher station on the 2,800-foot level was partially completed and supports installed. The ore pass connecting the 2,975-foot level loading-pocket with this crusher station was driven. The underground ventilation system was further extended by the completion of a connection between the 1,200- and 100-foot levels.

Ore Production

	Tons
Broken ore in stopes as of December 31, 1943	47,763
Ore broken in stopes, 1944	747,899
Total	795,662
Ore from stopes, 1944	738,419
Broken ore balance, December 31, 1944	57,243

With the inclusion of development ore, the tonnage of ore hoisted tabulates as shown below:—

	Tons
Ore from stopes, 1944	738,419
Ore from development, 1944	90,973
Total ore hoisted, 1944	829,392

Ore Reserves

A limited amount of diamond-drilling, confined mainly to testing a number of geophysical indications on holdings in the district, failed to produce any change in the ore reserves. The over-all picture, therefore, develops as shown below, with little change from last year.

	Tons	Ni	Cu
		per cent.	per cent.
Falconbridge mine, December 31, 1943	7,615,000	1.66	0.83
Less: drawn, 1944	829,392	1.59	.89
	6,785,608	1.67	0.82
Falconbridge mine, new ore, 1944	1,209,892	1.41	.89
Falconbridge mine total, December 31, 1944	7,995,500	1.63	0.83
Add: outside holdings, 1944[1]	4,674,000	1.88	1.10
Total, December 31, 1944	12,669,500	1.72	.93

[1]No change from 1943.

A dilution factor, developed from mining experience over a period of years, has been applied to the calculation of Falconbridge mine ore reserves. Outside properties ore reserves are calculated from diamond-drilling results.

Ore Treatment

The greater flexibility afforded by ample installed smelting capacity permitted operation of the treatment plants in a manner which met all conditions that developed. Though a favourable situation as regards ore production which prevailed early in the year deteriorated rapidly after the first quarter, a high metallurgical recovery, while obtained at some cost, served to accomplish the satisfactory metal production results as presented for the period under review.

While there were no interruptions to cause a break in the continuous operation of the treatment plants, routine repairs and a major overhaul of one blast furnace accounted for brief slowdown periods. The treatment plant performance, taking into account adjustment in above-ground storage, develops as tabulated below:—

	Tons
Total ore treated (made up of milling ore, 475,974 tons, 57.3 per cent.; smelting ore, 354,280 tons, 42.7 per cent.)	830,254
Matte produced	22,904.5
Nickel in matte produced	12,048.5
Copper in matte produced	6,382.6
	pounds
NICKEL:	
Metals recovered per ton treated	29.02
Metallurgical loss per ton treated	2.90
Total	31.92
	per cent.
Indicated grade of ore hoisted	1.59
Sampled grade of ore hoisted	1.57
	pounds
COPPER:	
Metals recovered per ton treated	15.38
Metallurgical loss per ton treated	2.49
Total	17.87
	per cent.
Indicated grade of ore hoisted	0.89
Sampled grade of ore hoisted	.88

Construction and Capital Expenditure

The change-house at the concentrator, for which foundations had been poured previously, was completed during the year. The hoist installation at No. 1 shaft was finished and in operation early in the year. The No. 5 backfill conveyer has been mentioned under "Mine Development."

Several items of equipment added in the mining department included three storage-battery locomotives, a mechanical loader, and a number of mine cars. The crusher and some accessory equipment for the 2,800-foot level crusher station has been received, but this project has not reached the installation stage.

Considerable additional lightning protection was applied to the electrical system to correct the conditions experienced the previous summer. A section of trackage serving the plant was taken over from the railway company, and some surfacing was done on plant and townsite roads.

General

It will be noted from the foregoing report that production has been maintained and a large amount of necessary development work carried out in spite of a persistent shortage of labour. A wholehearted effort by members of the staff, burdened as they are by additional duties, must be acknowledged.

Ernest Craig is manager of the Sudbury district operations; J. R. Gill is assistant manager; John Metz is mine superintendent; and R. C. Mott is superintendent of the concentrator and smelter.

An average force of 1,121 persons was employed in 1944. Of these, 437 men were in the mine, 330 men in the concentrator and smelter, and 354 persons on other surface work.

Harlin Nickel Mines, Limited

Harlin Nickel Mines, Limited, was incorporated in October, 1942, with an authorized capitalization of 40,000 shares of $1 par value, all of which have been issued. The company is a wholly owned subsidiary of Clifton Consolidated Mines, Limited. The officers are: Henry J. Martin, president, and S. C. McLaughlin, secretary-treasurer. The head office is at 357 Bay Street, Toronto. The mine address, when operations were in progress, was Porquis Junction.

The company has an option on the Alexo mining property in Clergue and Dundonald townships, district of Cochrane. The mine lies half a mile south of the branch line of the T. and N. O. railway and the highway from Porquis Junction to Timmins and is about 28 miles northeast of Timmins.

The shaft on the northeast quarter of the south half of lot 1, concession III, Dundonald township, is reported to be 310 feet deep. The levels are at 40, 75, 120, and 265 feet.

Mining operations continued from January 1 to September 1, 1944. Underground development during the year consisted of 100 feet of drifting on the 40-foot level and 266 feet of drifting on the 120-foot level.

At the cessation of operations the company reported the following as the total development work on the property:—

Level	Drifts	Raises
	feet	feet
40-foot	252	25
75-foot	575	.....
120-foot	746	.....
265-foot	135	110

Twenty-six diamond-drill holes, totalling 1,248 feet, were drilled from underground in 1944.

There were 2,769 tons of nickel-copper ore mined and shipped to the International Nickel Company of Canada, Limited, for treatment.

F. L. James was resident engineer, employing an average force of 11 men.

International Nickel Company of Canada, Limited

The authorized capitalization 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: Robert C. Stanley, chairman of the board and president; John F. Thompson, executive vice-president; Paul D. Merica, R. L. Beattie, and D. Owen Evans, vice-presidents; Henry S. Wingate, secretary; Wm. J. Hutchinson, treasurer.

The directors whose term expires in 1945 are: James L. Ashley, R. L. Beattie, John F. Dulles, Reg. Halladay, H. R. MacMillan, R. S. McLaughlin, H. C. F. Mockridge, W. Spinney, Robt. C. Stanley, Andrew V. Stout, John F. Thompson, and Rt. Hon. Viscount Weir of Eastwood.

The directors whose term expires in 1946 are: J. P. Bickell, Wm. N. Cromwell, D. Owen Evans, Wm. J. Hutchinson, Rt. Hon. Lord McGowan, R. H. McMaster, Rt. Hon. Lord Melchett, Paul D. Merica, Thos. Morrison, Grant B. Shipley, J. C. Traphagen, and Henry S. Wingate.

The executive office is at 67 Wall Street, New York, N.Y., and the general offices are at Copper Cliff. The Toronto office is at 25 King Street West.

This company and subsidiary companies operate hydro-electric plants at High Falls, Big Eddy, Wabageshik, and Nairn Falls, Ont.; nickel-copper mines in the 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, Huntingdon, W.Va., and Glasgow, Scotland; a colliery at Pontardawe, Wales; and a foundry at Bayonne, N.J. The company also owns a nickel deposit at Kolosjoki, Finland, which was being developed prior to November, 1939.

The following information is extracted from the annual report of the company covering the year ending December 31, 1944:—

Throughout the year 1944, our chief objective continued to be the production of sufficient strategic metals to meet the full war demands of the United Nations. This was attained notwithstanding that the output of nickel was lower than in 1943 due to the continued labour shortage and to the use of inexperienced labour. These unfavourable factors also had the effect of increasing the production costs. With sufficient man-power, our plants are equipped for record production.

Sales of nickel in all forms, derived from our own mine production, amounted to 250,212,561 pounds, a decrease of 15,176,762 pounds from 1943. Our sales, together with the volume refined for others, totalled 285,238,333 pounds.

Sales of copper in all forms, derived from our own mine production, amounted to 269,006,131 pounds, comparable with 265,487,525 in 1943. Our sales, together with the volume refined for others, totalled 314,684,817 pounds.

Government policy precludes a report on the sales of platinum metals. Sales of gold and silver were 61,838 ounces and 1,784,633 ounces, respectively, and of selenium and tellurium 85,519 pounds and 7,087 pounds, respectively.

Sales of mill and foundry products amounted to 80,549,514 pounds, comparable with 84,913,688 pounds in 1943.

The capital expenditures in 1944 amounted to $4,652,127, comparable with $5,445,248 in 1943, and it is estimated that a further $6,000,000 will be required in 1945.

Net profit for the year after all charges and provisions, as set forth in the financial statements, was $26,927,652. From this profit there were disbursed $1,933,899 for preferred dividends and $23,325,070 for common dividends at the rate of $1.60 per share, as compared with $2.00 in 1943, a total of $25,258,969.

R. L. Beattie was general manager; I. J. Simcox, technical assistant to the vice-president; J. R. Gordon, assistant to the vice-president; E. A. Collins, assistant to the general manager; R. D. Parker, general superintendent; F. Benard, assistant to the general superintendent; H. J. Mutz, superintendent of mines; A. E. O'Brien, superintendent of the Frood mine; C. H. Stewart, superintendent of the Frood-Stobie open pit; T. M. Gaetz, superintendent of the Creighton mine; Chas. Lively, superintendent of the Levack mine; L. Ennis, superintendent of the Garson mine; F. F. Todd, superintendent of the Murray mine; J. B. Fyfe, superintendent of the Stobie mine; J. C. Parlee, superintendent of the Copper Cliff concentrator; R. M. Coleman, superintendent of the Copper Cliff smelter; E. T. Austin, superintendent of the Coniston smelter; and R. H. Waddington, superintendent of the Copper Cliff refinery.

During 1944 an average of 3,503 persons was employed at the Copper Cliff concentrator and smelter; 664 at the Copper Cliff refinery; 410 at the Coniston smelter; 1,292 at the Creighton mine; 1,698 at the Frood mine; 680 at the Garson mine; 659 at the Levack mine; 101 at the Murray mine; 91 at the Stobie mine; 888 at the Frood-Stobie open pit; and 34 at the Lawson quarry.

Nickel Offsets, Limited

Nickel Offsets, Limited, was incorporated in April, 1938, with an authorized capitalization of 3,000,000 shares of no par value, of which 1,873,872 have been issued. The company acquired the assets of Sudbury Offsets, Limited, on a basis of one share of the new company for five of the old. The officers and directors are: D. W. Lang, president; Albert Wende, vice-president and managing director; D. R. Michener, secretary-treasurer; Ralph Hochstetter, S. H. Knox, and H. W. Wende, directors. The head office is at 372 Bay Street, Toronto. The mine address is Chelmsford.

The company holds 57 claims, 2,140 acres, in Foy and Bowell townships, district of Sudbury.

Operations were carried on from January 1 to October 28, 1944, and the plant operated from January 1 to February 9, 1944. No further sinking was done during the year on the No. 1 3-compartment, vertical shaft, which is now down to a depth of 1,130 feet. A No. 2 3-compartment vertical shaft, about 3,000 feet east of No. 1 shaft, was sunk from surface to a depth of 188 feet. A level was established at 155 feet. The following table shows the development work done during the year and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
No. 1 SHAFT:						
200-foot	.....	454	.....	186	.....	138
350-foot	76	1,029	.....	165	.....	160
500-foot	.....	.....	.....	266	.....	143
650-foot	314	314	190	190	.....	.....
800-foot (station only)	.....	.....	.....	.....	.....	.....
950-foot (station only)	.....	.....	.....	.....	.....	.....
1,100-foot (station only)	.....	.....	.....	.....	.....	.....
No. 2 SHAFT:						
155-foot	.....	.....	214	214	.....	.....

Ten diamond-drill holes, totalling 1,730 feet, were drilled from underground. A hoist-house and miners' change-house were erected during the year.

A total of 4,412 tons of nickel-copper ore was mined. Some 4,721 tons were screened, and 4,557 tons were shipped to the International Nickel Company of Canada, Limited, for treatment.

Walter Riddell was superintendent, employing an average force of 30 men, of whom 13 were underground.

SILVER AND COBALT

Ankarlo and Bell

George Ankarlo and Frank A. Bell continued work, under lease, on the Silver Bar mine on lot 5, concession IV, Coleman township, Cobalt area, district of Timiskaming, from January to March. The workings were then allowed to fill.

Five men were employed for three months.

Augener Mines, Limited

Augener Mines, Limited, was incorporated in March, 1944, with an authorized capitalization of 1,000,000 shares of $1 par value. The officers and

directors are: C. H. Mathews, president and treasurer; A. B. Pilliner, vice-president and manager; M. C. Halstead, secretary; T. W. Friend, Sr., L. B. Cuddy, Henry Oliver, Jr., P. G. Reik, and O. J. Groene, directors. The head office is at Cobalt. The mine address is Cobalt.

The company acquired the Nerlip property, consisting of two claims containing 40 acres, in lots 2 and 3, concession VI, Coleman township, Cobalt area, district of Timiskaming, and carried on operations from April 30 to December 31, 1944.

The vertical, 2-compartment main shaft on claim P. 647 is 760 feet deep, with six levels, the lowest of which is at a depth of 745 feet. A vertical, 2-compartment winze, collared at the 745-foot level about 900 feet northwest of the shaft, is 145 feet deep, with levels at 820, 860, and 895 feet from surface. The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
SHAFT:						
117-foot	.....	.....	.....	50	.....	.....
175-foot	.....	80	.....	50	.....	.....
275-foot	.....	350	.....	200	.....	.....
410-foot	.....	120	.....	130	.....	.....
610-foot	.....	1,200	.....	210	.....	20
745-foot	.....	2,702	.....	1,014	.....	335
WINZE:						
820-foot	.....	29	.....	73	.....	12
860-foot	25	120	55	55	30	60
895-foot	83	173	.....	135	.....	47

There were four diamond-drill holes, totalling 490 feet, drilled from underground in 1944.

A total of 175 tons of ore was mined and hoisted.

An average force of 12 men was employed.

Ausic Mining and Reduction Company, Limited

The Ausic Mining and Reduction Company, Limited, was incorporated in April, 1944, with an authorized capitalization of 1,000,000 shares of $1 par value, of which 900,000 have been issued. The officers and directors are: C. H. Mathews, president and treasurer; A. B. Pilliner, vice-president and manager; M. C. Halstead, secretary; T. W. Friend, Sr., L. B. Cuddy, Henry Oliver, Jr., P. G. Reik, and O. J. Groene, directors. The head office and mine office are at Cobalt.

The company acquired the Silver Cliff mine and mill, in Coleman township, and the Genesee property, in Bucke township, Cobalt area, district of Timiskaming.

An average force of 35 men was employed in 1944, of whom 13 were underground and 13 on construction work; 17 men were in the mill after October 1.

Genesee Mine

The vertical, 2-compartment main shaft is 500 feet deep. Development work in 1944 consisted of 169 feet of drifting and 100 feet of raising on the 350-foot level and 118 feet of crosscutting and 50 feet of raising on a level at 50 feet from surface. Some stoping was done above the 350-foot level.

There were 12 diamond-drill holes, totalling 1,106 feet, drilled from underground.

A new headframe and ore bin were built at the mine.

A total of 1,882 tons of ore was mined and treated in the Silver Cliff mill.

Silver Cliff Property

The mill was rebuilt and operated from November 1 to the end of the year.

In December the 60-foot winze level below the adit level was dewatered and sampled.

S. W. Barber

S. W. Barber, operating under a lease, dewatered and sampled the workings of the Adanac mine, in Coleman township, Cobalt area, district of Timiskaming, in the summer of 1944. A small amount of diamond-drilling was done from underground.

Three men were employed for three months. The mine address was Cobalt.

Bond and Douglas

Foster Mine

In September, 1944, S. B. Bond and R. D. Douglas dewatered the Foster mine in Coleman township, Cobalt area, district of Timiskaming, and mined a 65-ton bulk sample of ore.

Six men were employed for a month.

University Mine

S. B. Bond and R. D. Douglas continued to operate the University mine on claim J.B. 8 in Coleman township, Cobalt area, district of Timiskaming, under lease from January 1 to October 17.

On the 215-foot level from No. 1 shaft, 425 feet of drifting, 30 feet of crosscutting, and 110 feet of raising were done.

A total of 2,224 tons of milling ore was produced.

An average force of 6 men was employed under the direction of S. B. Bond. The mine address is Cobalt.

Cross Lake Lease

The partnership known as the Cross Lake Lease operates the O'Brien mine in Coleman township, Cobalt area, and the Miller Lake O'Brien mine, in Nicol and Haultain townships, Gowganda area, district of Timiskaming. The properties are held under lease from M. J. O'Brien, Limited. The partners are: C. J. Donegan, D. M. McLeod, T. Jackson, and Lorne Umphrey, all of Cobalt.

Miller Lake O'Brien Mine

The Miller Lake O'Brien mine was operated throughout 1944. No development work was done. Nine diamond-drill holes, totalling 570 feet, were drilled from underground. About 71 tons of high-grade silver ore were shipped to Deloro.

An average force of 15 men was employed. C. M. Davis was superintendent. The mine address is O'Brien.

O'Brien Mine

Operations at the O'Brien mine were continued throughout 1944. No development work was done. Six diamond-drill holes, totalling 550 feet, were

drilled from surface and 17 holes, totalling 1,106 feet, from underground. About 219 tons of high-grade silver-cobalt ore were shipped to Deloro.

T. Jackson was superintendent, employing 17 men. The mine address is Box 390, Cobalt.

Norman B. Davis

Norman B. Davis, 512 Victoria Building, Ottawa, continued operations from January 1 to 28, 1944, at the cobalt property at Werner lake, in the Red Lake mining division, Patricia portion of Kenora. The workings are on claim K.R.L. 9,383.

The sinking of the 2-compartment, vertical shaft was completed to a total depth of 40 feet below the adit level. About 500 feet of surface-trenching, 2 feet deep, was done.

No ore was hoisted. The mill operated from January 2 to January 20, treating 150 tons of ore from the stock-pile.

K. R. North was superintendent, employing 11 men during January.

J. D. Grant

Under a lease agreement, J. D. Grant, of Cobalt, carried on pumping operations from June 1 to July 15, 1944, at the Silver Bar mine on lot 5, concession IV, Coleman township, district of Timiskaming.

Raoul Mercier

Raoul Mercier, of Cobalt, continued his operations at the Foster mine in Coleman township, Cobalt area, district of Timiskaming, under lease from January 1 to June 16.

About 30 tons of ore were mined from stopes, and 5 tons were obtained from surface dumps.

An average of 6 men was employed.

Albert Presse

Albert Presse, of Cobalt, had a lease on claim R.L. 404 of the Nipissing property, Coleman township, Cobalt area, district of Timiskaming, in 1944 and operated open cuts from May 1 to July 31.

Silanco Mining and Smelting Corporation, Limited

The Silanco Mining and Smelting Corporation, Limited, was incorporated in August, 1943, with an authorized capitalization of 1,000,000 shares of $1 par value, of which 600,000 have been issued. The officers and directors are: S. A. Morse, president; Wm. E. Mitchell, vice-president; Geo. E. Buchanan, secretary-treasurer; Samuel Ciglen, assistant secretary-treasurer; V. B. Rumley and H. T. Leslie, directors. Louis Cadesky is general manager. The head office is at 45 Richmond Street West, Toronto. The mine address is Cobalt.

The company operated its Agaunico and Ruethel properties in Bucke township; the Temiskaming, Beaver, and Savage mines in Coleman township; and the Provincial mine in the Gillies limit, Cobalt area, district of Timiskaming in 1944. The mill on the Colonial property in Coleman township was operated throughout the year treating ores from the company's properties as well as customs ores. An average force of 8 men was employed in the mill.

Agaunico and Ruethel Mines

Operations on the Agaunico and Ruethel mines were carried on throughout the year. There is no shaft on the Ruethel property. The work was done from the No. 1 shaft on the Agaunico property, which is 400 feet deep, with six levels. The development in 1944 consisted of 675 feet of drifting, 544 feet of crosscutting, and 120 feet of raising on the fourth level.

A total of 18,192 tons of ore was mined and milled.

An average force of 20 men was employed.

Beaver Mine

The Beaver mine was operated from February 15 to October 15. The workings were dewatered, and the following development work was done: 170 feet of drifting and 20 feet of raising on the 200-foot level and 70 feet of drifting and 60 feet of raising on the 400-foot level.

A total of 2,894 tons of ore was mined and milled.

An average force of 12 men was employed.

Provincial and Savage Mines

The Provincial mine in the Gillies limit and the Savage mine adjoining it to the east in Coleman township were operated from January 1 to February 15, 1944. The operations were carried on through the Provincial No. 2 shaft, which is about 43 feet from the boundary line between the two properties. No development work was done. A total of 885 tons of ore was mined and milled.

An average of 7 men was employed for six weeks.

Temiskaming Mine

Operations at the Temiskaming mine were carried on from September 1 to December 31. The workings were dewatered and the shaft, headframe, and ore bin were repaired. No development work was done. About 2,700 tons of ore were mined and milled.

An average force of 10 men was employed for three months.

Silco Mines, Limited

Silco Mines, Limited, was incorporated in December, 1943, with an authorized capitalization of 1,000,000 shares of $1 par value, of which 667,249 have been issued. The officers and directors are: J. P. Michaud, president; E. E. Ott, secretary-treasurer; J. M. Carmichael, director. The head office is at 67 Yonge Street, Toronto. The mine address is Box 692, Cobalt.

The company acquired 10 claims, approximately 200 acres, in the Gillies limit, Cobalt area, district of Timiskaming. The following claims are included in the holdings: A. 23, 26, 39, 53, 56, 57, 88, 89, 91, and 92.

Operations began on July 22, 1944, and continued for the rest of the year. The 2-compartment, vertical shaft, on claim A. 53, was dewatered. The shaft is 104 feet deep, with levels at 60 and 100 feet. About 219 feet of drifting, 121 feet of crosscutting, and 63 feet of raising were done on the 100-foot level in 1944.

A diamond-drill hole 329 feet long was drilled from surface.

A headframe and hoist-room were built, and an 8- by 12-inch Jenckes hoist was installed.

Six men were employed for seven months under the direction of J. G. Pollard, superintendent.

Sutherland and MacArthur

J. H. Sutherland and R. J. MacArthur continued to operate the Lawson mine in Coleman township, Cobalt area, district of Timiskaming, under lease from January 1 to September 30, 1944.

About 68 tons of high-grade silver and cobalt ores were shipped to Deloro.

Five men were employed. The mine address was Cobalt.

Waldag Mining Company, Limited

The Waldag Mining Company, Limited, was incorporated in June, 1944, with an authorized capitalization of 1,000,000 shares of $1 par value, of which 400,000 have been issued. The officers and directors are: L. P. Monahan, president; A. J. Gravelle, secretary-treasurer; T. M. Rozelle, G. D. Medland, T. E. Forbear, and E. B. E. de Camps, directors. The head office is at 21 King Street East, Toronto. The mine address is Cobalt.

The company succeeded the Waldag Mining Syndicate, which had begun dewatering the No. 1 shaft on the Waldman property in the Gillies limit, Cobalt area, district of Timiskaming, in December, 1943. Operations continued until December 15, 1944.

The shaft is 80 feet deep, with a level at the bottom, on which some development work was done in 1944.

W. D. Taylor was in charge of the work, employing an average of 10 men.

Windsor-Cobalt Silvers, Limited

Windsor-Cobalt Silvers, Limited, was incorporated in September, 1927, with an authorized capitalization of 2,000,000 shares of $1 par value, of which 1,640,000 have been issued. The officers and directors are: A. D. McArthur, president and general manager; J. A. McArthur, vice-president; A. M. Robertson, secretary; A. D. McIntosh, treasurer; D. C. Walmsley and F. Harrington, directors. The head office is at 9 Toronto Street, Toronto. The mine address is North Cobalt.

The company operated the Cobnor mine on lot 14, concession I, Bucke township, Cobalt area, district of Timiskaming, intermittently during 1944. Development work consisted of 50 feet of drifting, 10 feet of crosscutting, and 40 feet of raising on the 200-foot level. About 600 tons of ore were mined, and 400 tons were milled.

Geo. A. Ellis was superintendent. From 2 to 5 men were employed.

TALC

Canada Talc, Limited

Canada Talc, Limited, has an authorized capitalization of $250,000, divided into 2,500 shares of $100 par value, all of which have been issued. The officers and directors are: E. S. James, president; Roy Taylor, vice-president, secretary-treasurer, and general manager; A. R. Cameron, director. The head office and mine office are at Madoc.

The company owns the Conley (or Connolly) and Henderson mines in Huntingdon township and a claim in Elzevir township, Hastings county. The combined holdings consist of 4 claims and total 750 acres.

Operations at the Conley and Henderson mines continued throughout 1944. The following table shows the depths of the shafts on the two properties:—

Shaft or winze	No. of compartments	Depth
		feet
CONLEY MINE:		
No. 1 shaft	2	431
7th level winze	2	31
No. 2 shaft (escapement way)	1	185
No. 3 shaft	2	383
HENDERSON MINE:		
No. 4 shaft	2	456

The above shafts are all vertical.

The two mines are connected by a drift 748 feet long from the 4th level of the Conley mine. A raise 21 feet high runs from the 5th level of the Henderson mine to the end of this drift.

The following table shows the development work done during 1944 and the total:—

Level	Drifts		Crosscuts		Raises	
	1944	Total	1944	Total	1944	Total
	feet	feet	feet	feet	feet	feet
CONLEY MINE						
No. 1 SHAFT:						
1st[1]	.....	310	.....	.....	.....	.....
2nd[1]	.....	345	.....	.....	.....	180
3rd[1]	.....	1,040	.....	420	.....	150
4th[2] (255 feet)	.....	650	.....	80	.....	90
5th[3] (300 feet)	.....	625	.....	90	.....	130
6th[3] (360 feet)	.....	275	.....	75	.....	180
7th[3] (420 feet)	.....	250	.....	90	.....	190
7th LEVEL WINZE:						
8th[3] (451 feet)	.....	225	.....	.....	.....	160
No. 3 SHAFT:						
1st[2] (270 feet)	85	2,248	.....	277	.....	440
2nd (370 feet)	.....	50	.....	.....	.....	.....
HENDERSON MINE						
No. 4 SHAFT:						
1st[1]	.....	455	.....	110	.....	180
2nd[1]	.....	485	.....	130	.....	220
3rd[1]	.....	575	.....	90	.....	245
4th[1]	.....	625	.....	185	.....	265
5th[1]	.....	690	.....	210	.....	330
6th (372 feet)	.....	670	.....	275	.....	485
7th (264 feet)	70	334	.....	49	.....	.....

[1]The figures given represent the original development footages. The ore has been mined out and the workings caved.

[2]The 4th level from No. 1 shaft and the 1st level from No. 3 shaft are the same level.

[3]These levels are flooded, and the depths given are approximate.

A new mill adjoining the collar of No. 3 shaft was partly completed in 1944. The No. 3 shaft is being reconditioned to allow for the installation of cages and skips for handling men and ore. Alterations are also being made to the headframe.

The old mill continued to operate throughout 1944. A total of 14,821 tons of ore was mined, and 13,621 tons was milled.

Twenty men were employed.

METALLURGICAL WORKS

Algoma Steel Corporation, Limited

The Algoma Steel Corporation, Limited, has an authorized capitalization of 27,000 shares of preferred stock of $100 par value and 1,000,000 shares of common

stock of no par value. At December 31, 1944, the number of preferred shares outstanding was 19,350 and the number of common shares 412,700. The officers and directors are: Sir James H. Dunn, president and chairman; William Jeffrey, secretary; E. W. Shell, treasurer; W. C. Franz, John A. McPhail, E. G. McMillan, John W. Hobbs, Thomas Arnold, Joseph A. Simard, Allan A. Aitken, and Leo H. Timmins, directors. S. V. McLeod is general manager. The head office and blast furnaces are at Sault Ste. Marie, Ont.

Nos. 1 and 2 furnaces did not operate during 1944. Nos. 3 and 5 were in blast throughout the year, and No. 4 from January 1 to August 5. A total of 359,877 gross tons of iron was produced.

J. A. Murphy is blast furnace superintendent. An average force of 405 persons was employed.

Canadian Furnace, Limited

Canadian Furnace, Limited, has an authorized capitalization of 500 shares of $100 each, all of which have been issued. The officers are: Richard C. Yates, president and manager; Henry L. Caulkins, secretary; Perry G. Harrison, treasurer. The three officers are also directors. The head office and the plant are at Port Colborne.

No. 1 furnace operated for 314 days in 1944 and produced 128,133 tons of pig iron, 4,935 tons of ferro-silicon, and 4,474 tons of spiegeleisen.

An average force of 162 men was employed. D. J. Higgon was superintendent.

Canadian Industries, Limited

During 1944 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 at capacity throughout the year. These units manufacture the acid from converter gases produced at the smelter of the International Nickel Company. The oleum unit was also operated at full capacity. The nitre-cake unit was not operated.

An average force of 48 persons was employed. E. H. Jordan is works manager.

Deloro Smelting and Refining Company, Limited

The Deloro Smelting and Refining Company, Limited, was incorporated under Dominion charter in July, 1916. In November, 1936, it was converted into a private company by Supplementary Letters Patent. The officers and directors are: J. A. O'Brien, president and managing director; Alan Scott, vice-president; A. V. Yates, general manager and secretary-treasurer; H. A. Green, M. J. O'Brien, Jr., and G. E. Bell, directors.

The blast furnace at the company's plant at Deloro operated for a short time during 1944. Refined silver and arsenic were produced. Cobalt products were refined from African raw material.

An average force of 250 men was employed. The head office and plant address is Deloro.

International Nickel Company of Canada, Limited

The nickel refinery of the International Nickel Company of Canada, Limited, at Port Colborne, was operated continuously throughout 1944. An average force of 1,550 persons was employed. H. W. Walter is general superintendent.

Steel Company of Canada, Limited

The Steel Company of Canada, Limited, was incorporated in June, 1910. It has an authorized capitalization of 400,000 seven per cent. cumulative preference shares of $25 par value, of which 259,852 have been issued, and 600,000 common shares of no par value, of which 360,000 have been issued. The officers and directors are: R. H. McMaster, president; H. G. Hilton, vice-president; H. S. Alexander, secretary; G. B. Elwin, treasurer; H. H. Champ, G. W. Spinney, G. H. Duggan, H. M. Jaquays, S. C. Mewburn, F. G. Osler, Glyn Osler, Sir Thomas White, and Hon. C. A. Dunning, directors. The address is Hamilton.

"A" furnace operated for 342 days, "B" furnace for 365 days, and "C" furnace for 363 days in 1944, producing a total of 629,961 tons of pig iron.

R. A. Gillies is works manager. An average force of 194 men was employed.

LIST OF MINES, QUARRIES, AND WORKS OPERATING IN 1944[1]

METALLICS

Company	Mine	Manager	Mine Address	Head Office Address
COPPER AND ZINC				
*†Kam-Kotia Porcupine Mines, Ltd. (under supervision of Wartime Metals Corporation).	Kam-Kotia or Jamieson	John Knox, Jr.	Timmins	2 King St. E., Toronto.
GOLD				
*Aunor Gold Mines, Ltd.	Aunor	Stanley S. Saxton	Box 420, Timmins	1600 Royal Bank Bldg., Toronto.
*Berens River Mines, Ltd.	Berens River	C. W. MacDonald	Favourable Lake	Favourable Lake.
*Bidgood Kirkland Gold Mines, Ltd.	Bidgood	F. L. Smith	Kirkland Lake	Kirkland Lake.
*Bonetal Gold Mines, Ltd. (under direction of Broulan Porcupine Mines, Ltd.).	Bonetal	Walter F. Brown	Pamour	372 Bay St., Toronto.
*Broulan Porcupine Mines, Ltd.[2]	Broulan	Walter F. Brown	Pamour	372 Bay St., Toronto.
*Buffalo Ankerite Gold Mines, Ltd.	Buffalo Ankerite	R. P. Kinkel	South Porcupine	South Porcupine.
*Central Patricia Gold Mines, Ltd.	Central Patricia	R. E. Barrett	Central Patricia	Central Patricia.
*Chesterville Larder Lake Gold Mining Co., Ltd.	Chesterville	L. T. Postle	Kearns	330 Bay St., Toronto.
*Cochenour Willans Gold Mines, Ltd.	Cochenour Willans	W. P. Mackle	McKenzie Island	801 Dominion Bank Bldg., Toronto.
*Coniaurum Mines, Ltd.	Coniaurum	John Redington	Schumacher	25 King St. W., Toronto.
†Continental Kirkland Mines, Ltd. (under agreement with Toburn Gold Mines, Ltd.).	Continental Kirkland			Kirkland Lake.
*Delnite Mines, Ltd. (under control of Sylvanite Gold Mines, Ltd.).	Delnite	John Beattie	Timmins	Timmins.
*Dome Mines, Ltd.	Dome	J. H. Stovel	South Porcupine	36 Toronto St., Toronto.
*Hallnor Mines, Ltd.	Hallnor	A. L. Sharp	Pamour	Pamour.
*Hard Rock Gold Mines, Ltd.	Hard Rock	R. G. McKelvey	Geraldton	Geraldton.
*Hasaga Gold Mines, Ltd.	Hasaga	A. E. Pugsley	Box 320, Red Lake	Red Lake.
*Hollinger Consolidated Gold Mines, Ltd.[3]	Hollinger	E. L. Longmore	Timmins	Timmins.
	Ross	J. J. Caty	Ramore	
Hoyle Mining Co., Ltd.	Hoyle	J. M. C. Dunlop	Pamour	Haileybury.
Jerome Gold Mines, Ltd.	Jerome	L. H. Foran	Jerome	350 Bay St., Toronto.
*Kerr-Addison Gold Mines, Ltd.	Kerr-Addison	W. S. Row	Virginiatown	80 King St. W., Toronto.

[1]This list does not cover prospects on which only exploration work has been done. Companies whose mines produced in 1944 are marked with an asterisk (*); those at whose mines operations had been suspended at the end of 1944 are marked with a dagger (†).

[2]See also Bonetal Gold Mines, Ltd.

[3]See also Young-Davidson Mines, Ltd.

Company	Mine	Manager	Mine Address	Head Office Address
		GOLD—*Continued*		
*Kirkland Lake Gold Mining Co., Ltd.	Kirkland Lake Gold	P. J. Harris	Chaput Hughes	Chaput Hughes.
*Lake Shore Mines, Ltd.	Lake Shore	A. L. Blomfield	Kirkland Lake	Kirkland Lake.
*Leitch Gold Mines, Ltd.	Leitch	G. A. McKay	Beardmore	Beardmore.
*Little Long Lac Gold Mines, Ltd.	Little Long Lac	A. E. Cave	Geraldton	25 King St. W., Toronto.
*Macassa Mines, Ltd.	Macassa	G. A. Howes	Kirkland Lake	85 Richmond St. W., Toronto.
*McIntyre Porcupine Mines, Ltd.	McIntyre Porcupine	R. J. Ennis	Schumacher	Schumacher.
*McKenzie Red Lake Gold Mines, Ltd.	McKenzie Red Lake	J. L. Ramsell	McKenzie Island	19 Richmond St. W., Toronto.
*MacLeod-Cockshutt Gold Mines, Ltd.	MacLeod-Cockshutt	J. M. Kilpatrick	Geraldton	357 Bay St., Toronto.
*†McMarmac Red Lake Gold Mines, Ltd.	McMarmac	W. W. Mills	McKenzie Island	66 King St. W., Toronto.
*Madsen Red Lake Gold Mines, Ltd.	Madsen Red Lake	E. G. Crayston	Madsen	67 Yonge St., Toronto.
*Matachewan Consolidated Mines, Ltd.	Matachewan Consolidated	H. S. McGowan	Matachewan	25 King St. W., Toronto.
Misema Mines, Ltd.	Misema	E. Anderson	Kirkland Lake	Kitchener.
*Omega Gold Mines, Ltd.	Omega	F. J. O'Connell	Larder Lake	Larder Lake.
*Pamour Porcupine Mines, Ltd.	Pamour	C. E. Anderson	Pamour	1600 Royal Bank Bldg., Toronto.
*Paymaster Consolidated Mines, Ltd.	Paymaster Consolidated	Chas. E. Cook	South Porcupine	South Porcupine.
*Pickle Crow Gold Mines, Ltd.	Pickle Crow	A. G. Hattie	Pickle Crow	Pickle Crow.
*Preston East Dome Mines, Ltd.	Preston East Dome	G. G. Campbell	South Porcupine	South Porcupine.
*Sylvanite Gold Mines, Ltd.[1]	Sylvanite	K. C. Gray	Kirkland Lake	Kirkland Lake.
*Teck-Hughes Gold Mines, Ltd.	Teck-Hughes	G. G. Gilchrist	Kirkland Lake	Woodstock.
*Toburn Gold Mines, Ltd.[2]	Toburn	M. W. Hotchkin	Kirkland Lake	1809 Royal Bank Bldg., Toronto.
*Upper Canada Mines, Ltd.	Upper Canada	R. J. Henry	Dobie	85 Richmond St. W., Toronto.
Van Houten Gold Mines, Ltd.	Van Houten	E. I. Adams	Dyment	171 Yonge St., Toronto.
*Wright-Hargreaves Mines, Ltd.	Wright-Hargreaves	R. L. Healy	Kirkland Lake	Fort Erie North.
*Young-Davidson Mines, Ltd. (under agreement with Hollinger Consol. Gold Mines, Ltd.).	Young-Davidson	H. North	Matachewan	320 Bay St., Toronto.
		IRON		
*Algoma Ore Properties, Ltd.	Helen	S. J. Kidder	Helen Mine	Sault Ste. Marie, Ont.
*Michipicoten Iron Mines, Ltd. (under control of Sherritt Gordon Mines, Ltd., and Frobisher Exploration Co., Ltd.).	Josephine	W. D. Mackenzie	Josephine	25 King St. W., Toronto.
*Steep Rock Iron Mines, Ltd.	Steep Rock	M. S. Fothering-ham.	Atikokan	25 King St. W., Toronto.

[1]See also Delnite Mines, Ltd.
[2]See also Continental Kirkland Mines, Ltd.

LEAD AND ZINC

*†Lake Geneva Mining Company, Ltd.	Lake Geneva	J. E. Jerome	Benny	1010 St. Catherine St. W., Montreal, Que.

MAGNESIUM

*Dominion Magnesium, Ltd. (under supervision of Wartime Metals Corporation)	Dominion Magnesium	J. D. Barrington	Haley	67 Yonge St., Toronto.

NICKEL AND COPPER

*Falconbridge Nickel Mines, Ltd.	Falconbridge	Ernest Craig	Falconbridge	304 Bay St., Toronto.
*†Harlin Nickel Mines, Ltd. (under option)	Alexo	F. L. James	Porquis Junction	357 Bay St., Toronto.
*International Nickel Co. of Can., Ltd.	*Creighton	T. M. Gaetz	Creighton	25 King St. W., Toronto.
	*Frood	A. E. O'Brien	Frood	
	*Frood-Stobie open pit	C. H. Stewart	Frood	
	*Garson	L. Ennis	Garson	
	*Levack	Charles Lively	Levack	
	*Murray	F. F. Todd	Murray Mine	
	*Stobie	J. B. Fyfe	Frood	
*†Nickel Offsets, Ltd.	Nickel Offsets	Walter Riddell	Chelmsford	372 Bay St., Toronto.

SILVER AND COBALT

*†Ankarlo, George, and Bell, Frank A. (under lease)	Silver Bar		Cobalt.	
*Augener Mines, Ltd. (under lease)	Nerlip	A. B. Pilliner	Cobalt	Cobalt.
*Ausic Mining and Reduction Co., Ltd.	Genesee	A. B. Pilliner	Cobalt	Cobalt.
	Silver Cliff			
*Barber, S. W. (under lease)	Adanac	S. W. Barber	Cobalt.	
*Bond and Douglas (under lease)	Foster	S. B. Bond	Cobalt.	
	University			
*Cross Lake Lease (under lease)	Miller Lake O'Brien	C. M. Davis	O'Brien.	
	O'Brien	T. Jackson	Cobalt.	

Company	Mine	Manager	Mine Address	Head Office Address
	SILVER AND COBALT—*Continued*			
*Davis, Norman B. (under option)	Werner Lake	K. R. North	c/o Canadian Pacific Air Lines, Kenora.	c/o Norman B. Davis, 512 Victoria Bldg., Ottawa.
*Grant, J. D. (under lease)	Silver Bar	J. D. Grant	Cobalt.	
*Mercier, Raoul (under lease)	Foster	Raoul Mercier	Cobalt.	
*Presse, Albert (under lease)	Claim R.L. 404, Nipissing mine.	Albert Presse	Cobalt.	
*Silanco Mining and Smelting Corp., Ltd.	Agaunico and Ruethel Beaver Provincial and Savage Temiskaming	Louis Cadesky	Cobalt	45 Richmond St. W., Toronto.
*Silco Mines, Ltd.	Gillies limit	J. G. Pollard	Cobalt	67 Yonge St., Toronto.
*Sutherland, J. H., and MacArthur, R. J. (under lease).	Lawson	J. H. Sutherland R. J. MacArthur	Cobalt.	
*†Waldag Mining Co., Ltd.	Waldman	W. D. Taylor	Cobalt	21 King St. E., Toronto.
*Windsor-Cobalt Silvers, Ltd.	Cobnor	Geo. A. Ellis	North Cobalt	9 Toronto St., Toronto.

METALLURGICAL WORKS

Operator	Works	Manager	Address
*Algoma Steel Corporation, Ltd.	Iron blast furnace	J. A. Murphy	Sault Ste. Marie, Ont.
*Canadian Furnace, Ltd.	Iron blast furnace	D. J. Higgon	Port Colborne.
*Canadian Industries, Ltd.	Acid and chemical plant	E. H. Jordan	Copper Cliff.
*Deloro Smelting and Refining Co., Ltd.	Silver-cobalt refinery	S. B. Wright	Deloro.
*Falconbridge Nickel Mines, Ltd.	Nickel-copper smelter	R. C. Mott	Falconbridge.
*International Nickel Co. of Can., Ltd.	Nickel-copper smelter	R. M. Coleman	Copper Cliff.
	Nickel-copper smelter	E. T. Austin	Coniston.
	Nickel refinery	H. W. Walter	Port Colborne.
	Electrolytic copper refinery	R. H. Waddington	Copper Cliff.
*Steel Co. of Canada, Ltd.	Iron blast furnace	R. A. Gillies	Hamilton.

NON-METALLICS

Operator	Location	Manager	Address
APATITE			
*Ontario Phosphate Industries, Ltd.	McLaren property, Bedford tp., Frontenac co.	J. W. Storer	Box 220, Westport.
ASBESTOS			
*Carswell, L. M.	Lot 22, con. IV, Blithfield tp., Renfrew co.	L. M. Carswell	Renfrew.
BARITE			
*†Woodhall Mines, Ltd.	Southern part of Langmuir tp., Night Hawk Lake area, district of Timiskaming.	W. F. Steedman	South Porcupine.
CORUNDUM			
*Craigmont Corundum Project (under supervision of Wartime Metals Corporation).	Craigmont mine, lots 4 and 5, con. XVIII, Raglan tp., Renfrew co.	A. G. Roach	Craigmont.
FELDSPAR			
*Bathurst Feldspar Mines, Ltd.	Bathurst property, Bathurst tp., Lanark co.	Robert McVeigh	Perth.
*Canspar Mines, Ltd.	S. ½ lot 22, con. VIII, Murchison tp., Nipissing dist.	Jas. G. Pierdon	Madawaska.
*†Keystone Contractors, Ltd.	Lot 22, con. VIII, Murchison tp., Nipissing dist.	Garry Colautti	Barry's Bay.
*Ross, D. L., and Co.	Madawaska property, lots 14 and 15, con. IV, Murchison tp., Nipissing dist.	B. A. Gordon	Madawaska.

Operator	Location	Manager	Address
	FLUORSPAR		
*Bassett Fluorspar Mining Syndicate, Ltd....	George Lee property, lot 2, con. III, Madoc tp., Hastings co.	M. Abraham.....	Madoc.
*†Detomac Mines, Ltd.....	Kilpatrick property, E. ½ lot 9, con. XIV, Huntingdon tp., Hastings co.....	C. C. Fischer.....	Madoc.
	McIlroy property, lot 2, con. IV, Madoc tp., Hastings co.....		
Fluoroc Mines, Ltd.....	Hill property, E. ½ lot 14, con. XI, Huntingdon tp., Hastings co.....	H. R. Cory.....	Madoc.
	Johnston property, W. ½ lot 14, con. XI, Huntingdon tp., Hastings co.....		
*†Millwood Fluorspar Mines, Ltd.....	Bailey property, lot 1, con. IV, Madoc tp., Hastings co.....	John G. Harris.....	Madoc.
	Keen property, W. ½ lot 9, con. XIV, Huntingdon tp., Hastings co.....		
*Reliance Fluorspar Mining Syndicate, Ltd...	Rogers mine, lot 10, con. XIV, Huntingdon tp., Hastings co.	W. J. Symon.....	Madoc.
*Stoklosar, Charles A.....	Blakely mine, E. ½ lot 10, con. XII, Huntingdon tp., Hastings co.	Chas. A. Stoklosar...	Madoc.
*Tops Mining Syndicate, Ltd.....	N. pt. lot 13, con. XXII, Cardiff tp., Haliburton co.	Wm. E. Clark.....	Harcourt.
	GRAPHITE		
*Black Donald Graphite, Ltd. (under control of Frobisher Exploration Co., Ltd.).	Black Donald mine, Brougham tp., Renfrew co.	B. G. Edward.....	Calabogie.
	GYPSUM		
*Canadian Gypsum Co., Ltd.....	Canadian Gypsum mine, Oneida tp., Haldimand co.	W. E. Allen.....	Hagersville.
*Cayuga Gypsum Co., Ltd.....	Cayuga Gypsum property, con. I, N. Cayuga tp., Haldimand co.	Jas. Rose.....	Cayuga.
*Gypsum, Lime and Alabastine, Canada, Ltd..	Caledonia mine, Seneca tp., Haldimand co...	L. V. Robinson.....	Caledonia.

LIGNITE

Department of Mines	Onakawana, near Abitibi river	William Gerrie	Onakawana, via Cochrane.

MICA

*†Algonquin Mica Mining Syndicate, Ltd.	Low property, lots 9 and 10, S. ½ lot 11, con. XIII, Dickens tp., Nipissing dist.	Wm. Gillies	Barry's Bay.
*Kingston Mica Mining Co., Ltd.	Thirty Island Lake mine, S. ½ lot 5, con. II, Bedford tp., Frontenac co.	J. E. Sullivan	Godfrey.
*†Marston Minerals, Ltd.	Lots 8 and 9, con. VI, S. ½ lot 8 and S. ½ lot 9, con. VII, Effingham tp., Lennox and Addington co.	Ray H. Binch	Madoc.
*Micaspar Industries, Ltd.	Richardson mica mine, lot 13 and W. ½ lot 14, con. VIII, Loughborough tp., Frontenac co.	Robert Stoness	R.R. 1, Sydenham.
*Purdy Mica Mines, Ltd.	Mattawan tp., Nipissing dist.	J. R. Norrie	Oak St., North Bay.
Sydenham Mining Co., Ltd.	Lacey mine, W. ½ lot 11, con. VII, Loughborough tp., Frontenac co.	Jas. J. Egan	Sydenham.

NEPHELINE SYENITE

*American Nepheline Corporation	Lot 14, con. IX, Methuen tp., Peterborough co.	R. G. Kilbon	Lakefield.

TALC

*Canada Talc, Ltd.	*Conley *Henderson	Roy Taylor	Madoc.

MINING ACCIDENTS IN 1944

By

Chief Inspector of Mines, W. O. Tower, Toronto; Inspectors, R. L. Smith, Kenora; W. E. Bawden, Port Arthur; D. F. Cooper, Sudbury; J. B. Taylor, E. S. Little, Kirkland Lake; E. B. Weir, Timmins; D. P. Douglass, Toronto.

Accidents during 1944

During the year 1944 at the mines, metallurgical works, quarries, and clay, sand, and gravel pits regulated by the Mining Act there were 2,270 accidents to employees reported to the Department of Mines up to January 16, 1944. Of these, 32 were fatal accidents and 2,238 were non-fatal accidents. A survey of the industry shows that an average number of 28,476 persons was employed throughout the year.

The returns represent an increase of 133 (6.2 per cent.) in the total number of accidents reported and a decrease of 4 in the number of fatalities recorded over the preceding year. The number of accidents involving fatalities is 31, which is 3 less than the preceding year. There were 30 accidents in which one man was killed, and one accident in which 2 men were killed.

The report shows a fatality rate of 1.12 persons killed per thousand persons employed, which is a decrease of 0.10 per thousand over the preceding year and is 0.87 per thousand lower than the average for the last 25 years.

There were 79 non-fatal accidents per thousand persons employed, which is an increase of 8 (11 per cent.) from the rate of 1943 and is 17 per thousand lower than the average of the last 25 years.

The percentage of non-fatal accidents followed by infection is 4.1, the same as for 1943.

The total employment figures show a decrease from 1943. This is due chiefly to decreased employment in producing mines.

Fatal Accidents

A comparison of fatal accidents for the past five years is given below:—

Distribution	1940	1941	1942	1943	1944
Mines, underground	35	50	27	21	22
Mines, surface	1	2	5	5	4
Metallurgical works	2	6	5	5	3
Quarries	3	.....	5	1	1
Clay, sand, and gravel pits	1	3	3	2	1
Contract diamond-drilling	.....	1	.....	.....	.....
Total	42	62	45	34	31

ANALYSIS OF FATALITIES AT MINES, 1940-1944

Cause	1940	1941	1942	1943	1944
	per cent.	per cent.	per cent.	per cent.	per cent.
Fall of ground	34	27	43	41	33
Rock burst	5	6	8	.....	4
Run of ore or rock	20	11	14	7	8
Shaft accidents	8	13	8	4	.....
Explosives	3	13	.....	15	14
Miscellaneous, underground	27	25	13	15	26
Surface	3	5	14	18	15

By months the fatal accidents occurred as follows:—

Month	No. accidents	No. men killed
January	3	3
February	1	1
March	1	1
April	1	1
May	1	2
June	3	3
July	1	1
August	3	3
September	3	3
October	6	6
November	4	4
December	4	4
Total	31	32

Classifying the fatalities according to industries gives the following:—

Gold mines	20
Nickel mines	3
Iron mines	3
Fluorspar mines	1
Metallurgical works	3
Quarries	1
Clay, sand, and gravel pits	1
Total	32

The comparative fatality rate per thousand persons employed at mines, metallurgical works, quarries, and clay, sand, and gravel pits is as follows:—

	Persons employed[1]			No. killed			Rate per thousand
	Men	Women	Total	Men	Women	Total	
Mines[2]	18,516	314	18,830	27	.....	27	1.43
Metallurgical works	7,495	769	8,264	3	.....	3	.36
Quarries	883	11	894	1	.....	1	1.12
Clay, sand, and gravel pits	488	.....	488	1	.....	1	2.06
Total	27,382	1,094	28,476	32	.....	32	1.12

[1]Average number for year.
[2]Includes contract diamond-drilling at mines.

The ages of the persons killed were as follows:—

17–20	21–25	26–30	31–35	36–40	41–45	46–50	Over 50	Total
2	3	2	4	4	5	7	5	32

The occupations of the persons killed at mines, metallurgical works, quarries, and clay, sand, and gravel pits are set out in the following table:—

Occupation	Men	Women	Total
Assayer's helper	1	.....	1
Bulldozer operator	1	.....	1
Chief electrician	1	.....	1
Churn-drill helper	1	.....	1
Crusherman	2	.....	2
Driller	12	.....	12
Foreman	2	.....	2
Labourer	2	.....	2
Mechanical-loader operator	1	.....	1
Mechanic	1	.....	1
Mechanic's helper	1	.....	1
Motorman	1	.....	1
Pumpman	1	.....	1
Scraper-hoist operator's helper	1	.....	1
Switchman	1	.....	1
Timberman	2	.....	2
Trammer	1	.....	1
Total	32	.....	32

Summary of Fatal and Non-fatal Accidents

The following table is a summary for the past twenty-five years of the number of persons injured per thousand employed at mining operations in Ontario:—

TABLE OF ACCIDENTS TO EMPLOYEES IN MINES, METALLURGICAL WORKS, QUARRIES, AND CLAY, SAND, AND GRAVEL PITS, 1920–1944

Year	Persons injured			Persons employed at all operations			Persons injured per 1,000 employed	
	Fatally	Non-fatally	Total	Producing operations	Non-producing operations	Total	Fatally	Non-fatally
1920	29	1,497	1,526	10,486	1,000	11,486	2.61	130
1921	24	1,262	1,286	8,436	1,000	9,436	2.54	140
1922	30	1,398	1,428	9,500	1,500	11,000	2.72	127
1923	30	2,120	2,150	10,500	1,500	12,000	2.5	177
1924	40	2,130	2,170	11,000	1,500	12,500	3.2	170
1925	42	2,224	2,266	11,500	1,500	13,000	3.23	171
1926	32	2,220	2,252	11,500	1,500	13,000	2.46	171
1927	33	2,244	2,277	13,311	2,000	15,311	2.1	147
1928	85	2,516	2,601	15,787	2,000	17,787	4.76	142
1929	55	2,389	2,444	17,145	1,849	18,994	2.89	126
1930	56	2,167	2,223	18,217	317	18,534	3.02	117
1931	37	1,813	1,850	17,820	447	18,267	2.03	99
1932	25	1,452	1,477	14,378	431	14,809	1.69	98
1933	25	1,514	1,539	15,080	804	15,884	1.57	95
1934	34	1,913	1,947	19,302	1,254	20,556	1.65	93
1935	36	2,048	2,084	21,444	1,528	22,972	1.57	89
1936	65	2,359	2,424	25,725	2,547	28,272	2.30	83
1937	52	2,721	2,773	28,938	3,220	32,158	1.62	85
1938	62	2,147	2,209	29,434	1,421	30,855	2.01	70
1939	47	2,246	2,293	32,444	897	33,341	1.41	67
1940	42	2,128	2,170	35,137	438	35,575	1.18	60
1941	64	2,240	2,304	35,317	618	35,935	1.78	62
1942	50	2,167	2,217	33,336	431	33,767	1.48	64
1943	36	2,101	2,137	29,083	394	29,477	1.22	71
1944	32	2,238	2,270	28,032	444	28,476	1.12	79
Average..	42.5	2,050	2,093	20,114	1,222	21,336	1.99	96

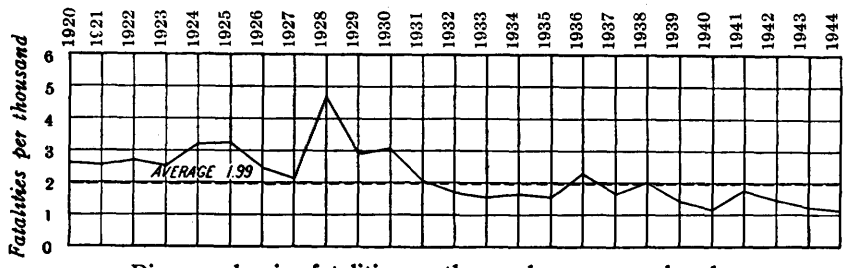

Diagram showing fatalities per thousand persons employed between the years 1920 and 1944.

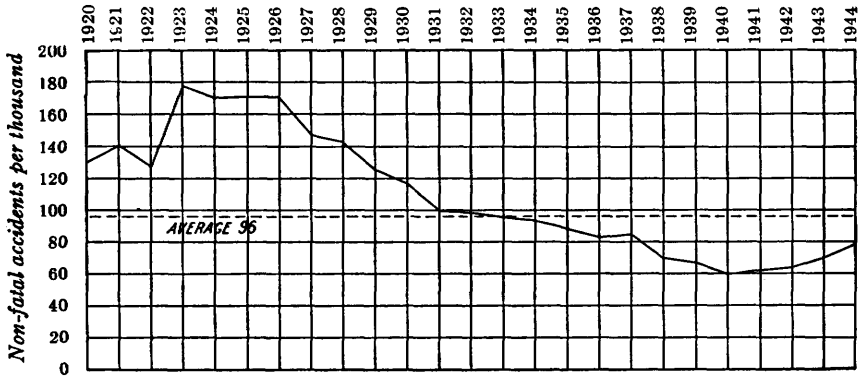

Diagram showing non-fatal accidents per thousand persons employed between the years 1920 and 1944.

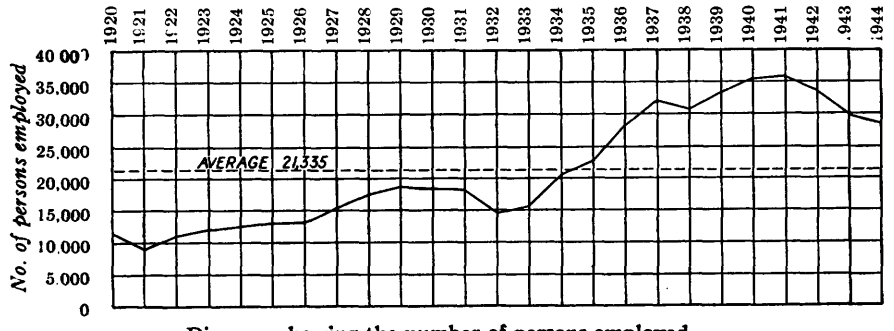

Diagram showing the number of persons employed between the years 1920 and 1944.

Non-fatal Accidents

The causes of non-fatal accidents at mines are shown in the following table:—

Cause	Surface			Underground	Total
	Men	Women	Total		
Fall of persons	85	.....	85	179	264
Crushed between two objects	42	.....	42	169	211
Strain while lifting	33	1	34	131	165
Falling objects	37	.....	37	92	129
Rock or ore at chute	1	.....	1	113	114
Handling ore or rock	6	.....	6	95	101
Flying objects, sledging, etc.	26	.....	26	61	87
Fall of rock or ore, drilling, scaling, etc.	.....	.....	.....	83	83
Hand tools	24	.....	24	44	68
Fall of rock or ore at face	.....	.....	.....	67	67
Drilling machines	5	.....	5	51	56
Running into or striking objects	20	1	21	24	45
Nails or splinters	15	.....	15	26	41
Machinery	19	.....	19	16	35
Tramming	2	.....	2	26	28
Transportation	1	.....	1	18	19
Burns	8	.....	8	1	9
Falls down shaft, winze, or stope	.....	.....	.....	9	9
Explosives	.....	.....	.....	7	7
Rock burst	.....	.....	.....	6	6
Cage, skip, or bucket	.....	.....	.....	5	5
Electricity	2	.....	2	.....	2
Unclassified	2	.....	2	.....	2
Total	328	2	330	1,223	1,553

The causes of non-fatal accidents at metallurgical works were:—

Cause	Men	Women	Total
Fall of persons	70	9	79
Handling material	64	2	66
Strain while lifting	54	9	63
Falling objects	57	2	59
Crushed between two objects	54	2	56
Flying objects, sledging, etc.	30	.....	30
Running into or striking objects	24	5	29
Burned by slag, matte, or scrap	21	.....	21
Burns	19	1	20
Hand tools	19	.....	19
Machinery	9	.....	9
Transportation	2	2	4
Nails or splinters	1	.....	1
Gas	1	.....	1
Total	425	32	457

The causes of non-fatal accidents at quarries were:—

Fall of persons	26	Hand tools	3
Handling material	17	Nails or splinters	2
Falling objects	11	Burns	2
Strain while lifting	10	Transportation	1
Crushed between two objects	9	Poison ivy	1
Flying objects, sledging, etc.	9		
Machinery	5	Total	99
Fall of rock	3		

The causes of non-fatal accidents at clay, sand, and gravel pits were:—

Machinery	8	Flying objects, sledging, etc.	1
Fall of persons	7	Hand tools	1
Crushed between two objects	4	Burns	1
Fall of material	2	Unclassified	1
Nails or splinters	2		
Strain while lifting	1	Total	28

The causes of non-fatal accidents in contract diamond-drilling were:—

Crushed between two objects	22	Fall of persons	5
Hand tools	16	Flying objects	4
Nails or splinters	13	Falling objects	4
Running into or striking objects	11	Caught in feed screw	1
Burns	10	Bitten by black-flies	1
Caught in moving parts	8		
Strain while lifting	6	Total	101

Infection

Records show that infection followed in 92 cases out of a total of 2,238 accidents.

Location	No. accidents	Accidents followed by infection	Per cent. infection
Mines, underground	1,223	37	3
Mines, surface	330	16	4.8
Metallurgical works	457	20	4.4
Quarries	99	3	3
Clay, sand, and gravel pits	28	1	3.6
Diamond-drilling	101	15	14.9
Total	2,238	92	4.1

Accidents from Explosives

Cause	Non-fatal		Fatal		Total	
	No. accidents	Men injured	No. accidents	Men injured	No. accidents	Men injured
Drilled into dynamite and struck by the blast[1]	1	1	1	1	1	2
Delayed too long at blast	1	1	.....	.....	1	1
Did not take sufficient cover	1	1	.....	.....	1	1
Fumes from blasting	1	1	1	2	2	3
Dynamite exploded in coat pocket	.....	.....	1	1	1	1
Returned too soon to scene of blast	2	2	.....	.....	2	2
Dynamite in missed hole exploded when rock was being split	1	1	.....	.....	1	1
Total	7	7	3	4	9	11

[1]Under this classification there was only one accident. Two men were injured; one fatally, the other non-fatally.

Electric Accidents

The following table shows the fatal accidents due to the use of electricity at mines, metallurgical works, quarries, and clay, sand, and gravel pits during the last ten years:—

1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	Total
.....	.....	.....	.....	1	1	.....	.....	.....	1	3

The following table shows the total number of non-fatal electric accidents during the last ten years:—

1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	Total
6	4	2	8	7	3	5	6	5	2	48

Classification of Non-fatal Accident Rates at Producing Mines

In the following table the producing mines employing more than 50 men are arranged in order, according to their rate of non-fatal accidents per thousand persons employed:—

0–50	Frood-Stobie open pit (International Nickel) Creighton (International Nickel) Omega Hollinger Levack (International Nickel) Garson (International Nickel) McIntyre Porcupine Berens River Lake Shore Wright-Hargreaves Frood mine (International Nickel)
51–100	Chesterville Delnite Ross (Hollinger) Helen (mine, Algoma Ore Properties) Coniaurum Preston East Dome Young-Davidson (Hollinger) Kerr-Addison Matachewan Consolidated Teck-Hughes **Average—83.1 accidents per 1,000 persons** Bidgood
101–150	Pickle Crow Sylvanite Kam-Kotia Upper Canada Central Patricia Toburn Hallnor Dome Buffalo Ankerite Pamour Macassa Paymaster Consolidated Kirkland Lake Gold Cochenour Willans

151–200	MacLeod-Cockshutt Ausic Aunor Steep Rock Little Long Lac Hard Rock
201–250	Broulan and Bonetal McKenzie Red Lake Purdy (mica mine) Madsen Hasaga Leitch Falconbridge (mine and mill) Silanco

High Voltage Underground

At the Creighton mine of the International Nickel Company of Canada, Limited, a 6,600-volt circuit was taken underground for the first time in Ontario. This installation went into service on December 15, 1941, to supply power for two underground hoists at No. 6 shaft on the 52nd level (3,827 feet).

The circuit is supplied with power from a bank of three oil-insulated, self-cooled, 1,665 k.v.a. transformers, 30,000-volt primary and 6,600-volt secondary, located at the substation at No. 5 shaft. The installation is protected by three auto-valve lightning arrestors at surface on the 30,000-volt side, with three Type S auto-valve arrestors and a 3-phase 0.5 m.f. capacitor in the hoist-control room on the 3,827-foot level.

A set of 400-ampere disconnecting switches is installed ahead of a Type BK, 400-ampere, oil circuit-breaker in the hoist-room on surface at No. 5 shaft.

The underground cable is insulated for a working pressure of 10,000 volts. It is a 3-conductor cable, 350,000 c.m., varnished cambric insulated, lead-covered, tinned copper wire armoured in the shaft and steel wire armoured on the level. The total length of cable is 5,835 feet, made up of 8 lengths, the longest of which is 850 feet. The tinned-copper-wire armour was selected to withstand acid mine water in the shaft. Steel-wire armoured cable was taken through the tunnel from the hoist-room basement to about 84 feet below the collar of No. 5 shaft. This first length of cable was sealed against moisture at surface by means of a BU type pot-head at the circuit-breaker. The cable was secured in the manway by heavy iron clamps spaced every seven feet.

The cable was spliced at five points in the shaft in an approved splice box. It is constructed of half-inch steel plate. The flange on the cover is machined and the cover and rubber gasket is bolted into place by 20 hexagon half-inch cap screws. The box contains three 10,000-volt insulators to support the conductors. The cable enters the bottom of the splice box, with the armour being crimped back on the inside; the lead sheath extends past the armour and is belled out. A butt splice was made by means of a sleeve and securely fastened to the insulator. The openings for the incoming and outgoing cables were sealed by filling the compartments around them to a height of 8 inches with high-voltage compound.

The two splices made on the 52nd level were made in Type S primary boxes. A Type NT pot-head was used at the end of the cable in the hoist-control room. On test, the insulation of each conductor measured infinity after the installation was completed.

The control equipment for the cage hoist consists of a set of Type HH, 400-ampere disconnecting switches, three Type BK, 15,000-volt, 400-ampere, oil circuit-breakers, with an auto transformer for starting the set.

The cage hoist is operated by a synchronous motor-generator set and direct-current motor with Ward Leonard control.

EQUIPMENT

One 1,200 h.p., 6,600-volt, 3-phase, 25-cycle, 80 per cent. PF synchronous motor.
One 900 k.w., 600-volt, shunt-wound, direct-current generator.
One 20 k.w., 250-volt, direct-drive exciter.
One 1,100 h.p., 600-volt, 400 r.p.m., shunt-wound, direct-current motor.

The skip-hoist equipment to be installed will consist of a 2-unit, 3-bearing, synchronous motor-generator set as follows:—

One 2,400 h.p., 6,600-volt, 3-phase, 25-cycle, 80 per cent. PF synchronous motor.
One 900 k.w., 600-volt, shunt-wound, direct-current generator. (Another is to be added when the set is at full capacity.)
One 30 k.w., 250-volt, direct-connected exciter.
Two 1,100 h.p., 600-volt, 400 r.p.m., shunt-wound, direct-current motors.

This installation has given excellent service. With increased loads at depth in mines, this voltage has advantages over 2,200 volts. It insures a more economical installation for large blocks of power at this depth.

Fires

Canada Talc, Limited

On May 2, a fire of unknown origin completely destroyed the hoist-house at the Henderson shaft of Canada Talc, Limited, Madoc.

The contents of the building, including the hoist, air compressor, and other equipment, were completely destroyed. No damage was done to the headframe or shaft.

International Nickel Company of Canada, Limited

A fire occurred at No. 11.3 chute on the 9th level at the Levack mine on January 20. This chute is located in No. 1 west drift and was being stripped of hardware. An acetylene torch was used by D. Runions until 3.30 P.M., with a pail of water for fire protection. There were no signs of fire when he left the job.

The odour of burning wood was noticed at 5.30 P.M., and an investigation revealed that the north side of the chute, a section of gob fence, and adjacent gangway timber were on fire.

The fire was quickly put out with portable extinguishers and water hoses. It is thought that a hot bolt, burned off by Runions, dropped down against the gob fence and eventually ignited the timber.

A small electrical fire occurred on the 2,400-foot level of the Frood mine about 3.15 P.M. on March 8.

A short-circuit took place in the lighting wires in the main north drift, opposite the charging-station, and the insulation on the wires was set on fire. It was noticed immediately by N. Anderson, assistant underground superintendent, and put out by the use of a Pyrene extinguisher before material damage resulted.

A small electrical fire occurred on the 2,000-foot level of the Frood mine about 10.45 P.M. on June 22.

A short-circuit took place in the power cable of a battery locomotive standing in No. 19 crosscut, causing some insulation to be burned. It was noticed by A. Benoit, switchman, and put out at once with a Pyrene extinguisher.

A small electrical fire occurred on the 1,800-foot level of the Frood mine about 5 P.M. on June 27.

A short-circuit took place in the power cable of a battery locomotive standing in No. 4 drift, setting fire to the cable insulation. It was noticed by Level Boss D. Inglis, who put it out with a Pyrene extinguisher. The short-circuit was apparently caused by the brake arm rubbing on the cable.

A small electrical fire occurred at the battery-charging station on the 1,400-foot level of the Garson mine about noon on July 28.

Peter Humeniuk had pulled the main switch as the first step in disconnecting a charged locomotive battery. He turned to pull the switch on the battery and noticed sparks coming from a splice in the rubber-covered cable connecting the main switch to the battery. He immediately pulled the battery switch and used a Pyrene extinguisher on the cable before serious damage resulted.

A small fire occurred in No. 2 ore-pass drift on the 2,000-foot level of the Frood mine about 9.25 P.M. on September 28.

During chute-pulling operations, a baffle log struck the trolley-wire box, bending the wire bracket and causing a short-circuit. The bracket was fused and the box set on fire. The power was shut off and the fire extinguished before serious damage resulted.

A fire was made by Raymond Richer, a diamond-driller employed by the Smith and Travers Company, Limited, in No. 3 main west drift on the 400-foot level of the Garson mine about 8 P.M. on November 3.

The smell of smoke was noticeable in No. 2 shaft about 8.30 P.M., when H. Bruce and E. Mills, mine foremen, and R. Lockhart, shift boss, were being hoisted to surface from lower levels. It was particularly noticeable at the 400-foot level station; and Bruce instructed Lockhart to make an investigation on that level while he investigated on surface in the vicinity of the ventilation fan.

Lockhart found a considerable amount of smoke on the 400-foot level and traced it to a diamond-drill set-up about 700 feet from the shaft. He found the extinguished remains of a fire about six feet from the drill, which was being operated by R. Richer and L. Lachance.

Richer admitted making the fire and claimed that he had made it from a powder box and oil-soaked hemp to thaw out his machine. He had worked underground for the past two years.

Little Long Lac Gold Mines, Limited

A small fire occurred in the pipe tunnel under the shaft-house floor near the back legs of the headframe of the main shaft of the Little Long Lac mine on January 24 about 10 A.M.

The pipe tunnel contains an air-line water line, an insulated steam line, and a fuel-oil feed line to the stand-by Diesel engine.

About 10 A.M. two mechanics were repairing a mucking-machine and were cutting off some rusted bolts, using an acetylene torch. In some way hot metal from the cutting operation must have gone through the cover of the pipe box and ignited the cotton cover of the insulation on the steam line. The cotton

cover of the insulation on the steam line was burnt for a length of from 6 to 8 feet, and the inside of the pipe box and cover was scorched.

The fire was discovered almost immediately and put out in a few minutes with a fire extinguisher and water hose.

Little damage was done. In future no torch work will be done in the head-frame unless absolutely necessary.

McIntyre Porcupine Mines, Limited

A fire broke out in the surface change-room of the McIntyre Porcupine mine at 5.45 P.M., May 25.

The fire was discovered by the watchman in working clothes on the hangers and was put out by fire extinguishers within a few minutes. No damage was done to the building, but some damage occurred to workmen's clothes. The cause of the fire has not been determined.

The change-room is a fireproof structure of steel and concrete. No pipes were found in any of the remnants of clothes burned on fifteen or sixteen hangers. As the fire occurred on a pay-day, it is suggested that in the usual rush at the end of this shift some one may have put away an unextinguished, half-smoked cigarette in their clothes.

On Saturday, October 21, at about 1 P.M., while a hanging rod in the shaft timber of No. 11 shaft of the McIntyre Porcupine mine was being cut, the flame from the cutting-torch ignited the top of a post in the shaft timber, which smouldered for two hours before starting a small fire. A fire-extinguisher was used to put it out. The post was part of the timber that was being replaced and was more or less "punky."

Queenston Gold Mines, Limited

A fire broke out in or near the change-house building at the Queenston mine at 5 A.M., August 10, and completely destroyed the building. The mine was not in operation. The only work going on at the property consisted of surface diamond-drilling.

Evidence indicates that the fire was started by some unknown person who had no right to be there.

Prosecutions

Rex *vs.* L. J. Currie

A charge was laid against L. J. Currie, a bulldozer operator at the Stobie open pit of the International Nickel Company of Canada, Limited, as follows:—

That L. J. Currie, in the township of Blezard, on or about the 30th day of May, 1944, while carrying intoxicating liquor, did enter a mine, to wit, the Stobie mine of the International Nickel Company, contrary to Section 160, subsection 343, of the Mining Act of Ontario.

Currie pleaded guilty before Magistrate J. S. McKessock at Sudbury on June 5. A fine of $10.00 and costs or 15 days was imposed. The fine and costs, amounting to $13.00, were paid.

Rex *vs.* Leo Desjardin

On June 13 the following charge was laid against Leo Desjardin, a miner employed by Messrs. R. J. MacArthur and J. H. Sutherland, lessees of the Lawson mine, Cobalt:—

That Leo Desjardin at the Lawson mine in the township of Coleman, in the district of Timiskaming, on the 7th day of June, 1944, did unlawfully allow himself to be hoisted in a shaft by means of a skip not provided with a hood, dogs, or other safety appliance approved by the mining inspector, contrary to the provisions of subsection 146(b) of Section 160 of Part VIII of the Mining Act of Ontario.

Desjardin pleaded guilty before Magistrate S. Atkinson on June 16 at Haileybury and was fined $10.00 and costs. The fine and costs, amounting in all to $19.00, were paid.

Rex *vs.* H. C. Lloyd

A charge was laid against H. C. Lloyd, a crane operator at the Copper Cliff smelter of the International Nickel Company of Canada, Limited, as follows:—

That H. C. Lloyd, at the town of Copper Cliff, on or about the 2nd day of February, 1944, while carrying intoxicating liquor, did enter a mine, to wit, the Copper Cliff smelter of the International Nickel Company, contrary to Section 160, subsection 343, of the Mining Act of Ontario.

Lloyd pleaded guilty before Magistrate J. S. McKessock at Sudbury on February 7. A fine of $10.00 and costs or 15 days was imposed. The fine and costs, amounting to $16.25, were paid.

Rex *vs.* William Nestrow

A charge was laid against William Nestrow, driller, employed by Hasaga Gold Mines, Limited, as follows:—

William Nestrow of the hamlet of Red Lake in the district of Kenora (Patricia portion) on or about the 18th day of June, A.D. 1944, at the property of Hasaga Gold Mines, Limited, in the said district of Kenora (Patricia portion), did unlawfully, being a workman underground in the 1,410 stope of Hasaga Gold Mines, Limited, fail to satisfy himself before blasting that all persons had left the working-place except those required to assist him in blasting, contrary to the provisions of Section 160(74) of the Mining Act of Ontario.

The case was heard before Justice of the Peace J. L. Ramsell and Justice of the Peace M. M. Fromson at Red Lake on July 5. Nestrow pleaded guilty, and a fine of $10.00 and $4.00 costs were imposed. The fine and costs were paid.

Rex *vs.* Raymond Richer

A charge was laid against Raymond Richer, a diamond-driller, employed by the Smith and Travers Company, Limited, as follows:—

That Raymond Richer at the Garson mine of the International Nickel Company, Limited, on or about the 3rd day of November, 1944, did set or maintain a fire underground in the said mine, namely on the 400 level of the said mine, without the proper authority or instructions for so doing, contrary to Section 160 of the Mining Act of Ontario and amendments thereto.

Richer pleaded guilty before Magistrate J. S. McKessock at Sudbury on November 10, and a fine of $10.00 and $3.50 costs were imposed. The fine and costs were paid.

Rex *vs.* Patrick Rioux

A charge was laid against Patrick Rioux, a nipper at the Levack mine of the International Nickel Company of Canada, Limited, as follows:—

That Patrick Rioux at the town of Levack on or about the 10th day of May, 1944, while carrying intoxicating liquor, did enter a mine, to wit, the Levack mine of the International Nickel Company, contrary to Section 160, subsection 343, of the Mining Act of Ontario.

Rioux pleaded guilty before Magistrate J. S. McKessock at Sudbury on May 11. A fine of $15.00 and costs or 30 days was imposed. The fine and costs, amounting to $23.00, were paid.

Mine Rescue Stations

In September, training in mine rescue and recovery operations and first aid was extended to the mining districts of Northwestern Ontario. The establishment of three rescue stations was authorized, one to be located at Geraldton, one at Red Lake, and one at Central Patricia. Owing to the difficulty of obtaining labour, supplies, and equipment, it was impossible to start immediately with the construction of permanent stations or to inaugurate complete regular training courses. Temporary quarters were secured and modified courses of training were started.

In Northeastern Ontario at the old established rescue stations at Sudbury, Kirkland Lake, and Timmins, normal activities were carried out. In spite of the handicap imposed by the scarcity of labour and the rapidly changing mine personnel, a number of trained teams has been maintained.

Summary of Rope Tests, 1944

The following is a summary of the tests made in the Wire Rope Testing Laboratories of the Department of Mines during 1944:—

Tests for Ontario mines under Act	512
Special informative tests	93
Tests for wire-rope manufacturers	39
Tests for mines outside Ontario	84
Other tests	1
Total	**729**

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PROVINCE OF ONTARIO

DEPARTMENT OF MINES

HON. LESLIE M. FROST, *Minister of Mines* H. C. RICKABY, *Deputy Minister*

FIFTY-FOURTH ANNUAL REPORT

OF THE

ONTARIO DEPARTMENT OF MINES

BEING

VOL. LIV, PART III, 1945

Natural Gas in 1944, by R. B. Harkness - - - - - - - - - 1-73

Petroleum in 1944, by R. B. Harkness - - - - - - - - - - 74-79

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NATURAL GAS IN 1944

By R. B. Harkness

General

Natural gas produced in the year 1944 was 7,082,509 M cubic feet, which is 831,899 M cubic feet less than in 1943 and the lowest since 1909. Gases of various kinds, amounting to 3,142,321 M cubic feet, were added to this, making a total of 10,224,830 M cubic feet; in several places, the supply fell short of the demand. The Woodstock-Brantford-Galt area felt the shortage most. This area is farthest from the gas fields and in the winter months is wholly dependent on a supply of propane hauled by rail in tank cars from United States refineries. The unprecedented storms and low temperatures in January, 1945, very nearly caused a total failure in deliveries through snowbound railways, particularly in New York state. Steps are now being taken to provide against a recurrence of this shortage.

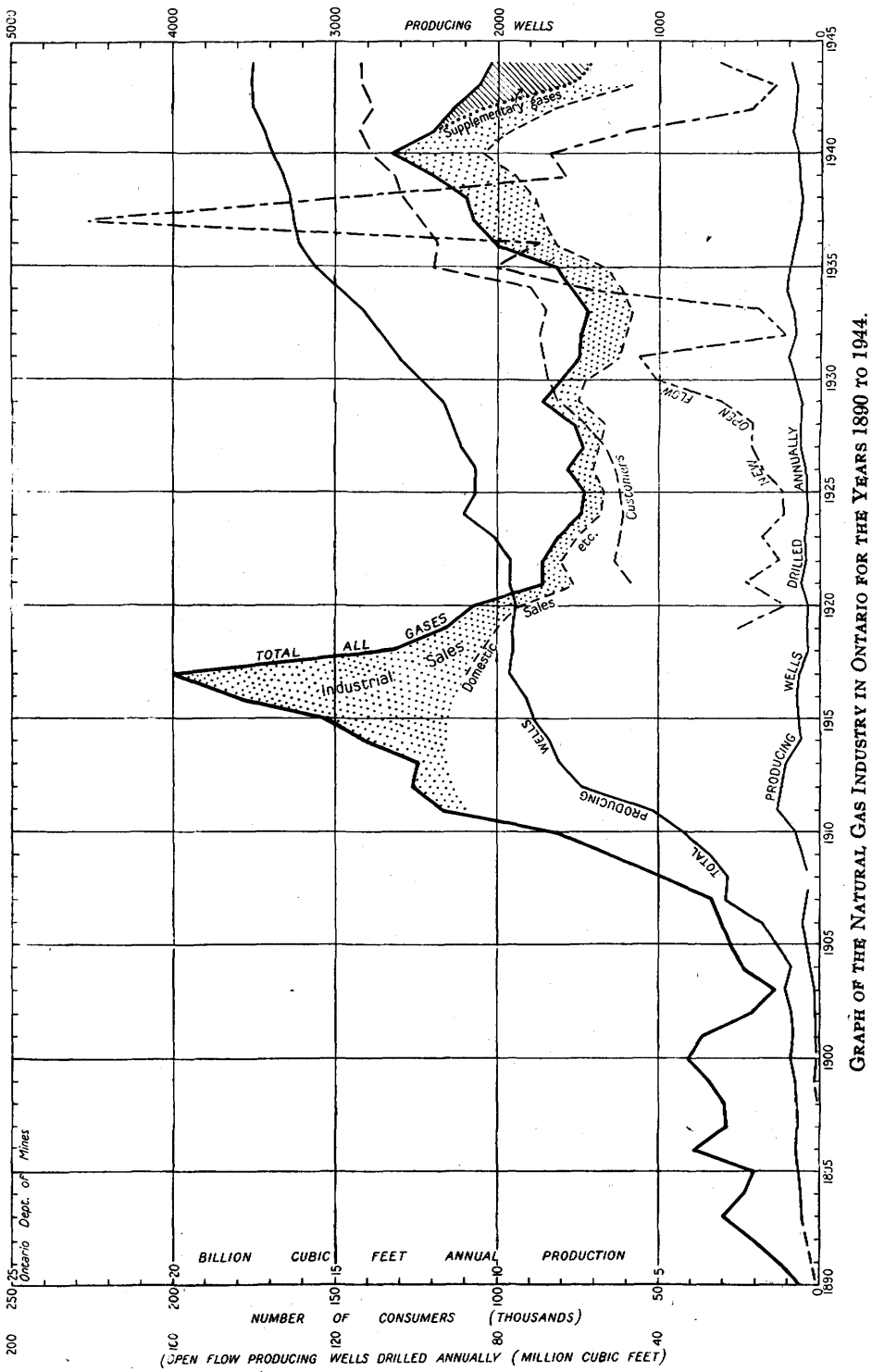
The producing companies put forward a great effort to increase their supply of natural gas. Every available drilling rig in Ontario was kept in operation during the year. Drilling produced 24,720 M cubic feet in open flow from 186 producing wells. Since every year drains the fields and lowers the rock pressure, the delivery capacity of the old wells is reduced. Even if the open flow of the gas field is maintained, the peak deliveries will be reduced.

The number of natural gas consumers, instead of decreasing with the diminishing supply, shows an increase over last year and is the highest on record. This is due to new construction within the municipalities, war-time housing, and the conversion of large houses into apartments. Extensions to gas mains have been discouraged for several years.

Although the supply of natural gas was below normal, there was enough for the needs of the consumers for cooking and water-heating. If there had been another two or more billion cubic feet available, it would have been used for heating. As it was, and as it will be until a new source of supply has been found, substitute fuels (mainly coal and oil) must be used for heating.

When the "weather man" predicted a cold night, the gas company's local superintendent, who feared that his supply of gas would not meet the demand, had warnings sent out on the radio, asking the consumers to use substitute fuels for heating so that all would have enough gas for cooking and water-heating. It is unpleasant to record that this did not bring the anticipated results. Cooking, washing, etc., were done in anticipation of a shortage, and many cook stoves were left burning continuously to supplement the coal furnace, thereby increasing, rather than decreasing, the demand. In spite of all of this, there was no complete failure.

When it is considered how much those who produce and distribute natural gas to the public have been hampered by the conversion of men, material, and gas to the war and to war industries, these men are entitled to a large share of recognition and great praise for the splendid way in which they have met emergencies, the ingenious methods they have used, and the long hours of work and worry they have put in. Very few of the gas-consuming public are aware of how these emergencies were met and were unaware of any change in the gas



GRAPH OF THE NATURAL GAS INDUSTRY IN ONTARIO FOR THE YEARS 1890 TO 1944.

TABLE I—SUMMARY OF NATURAL GAS DISTRIBUTION, 1940–1944

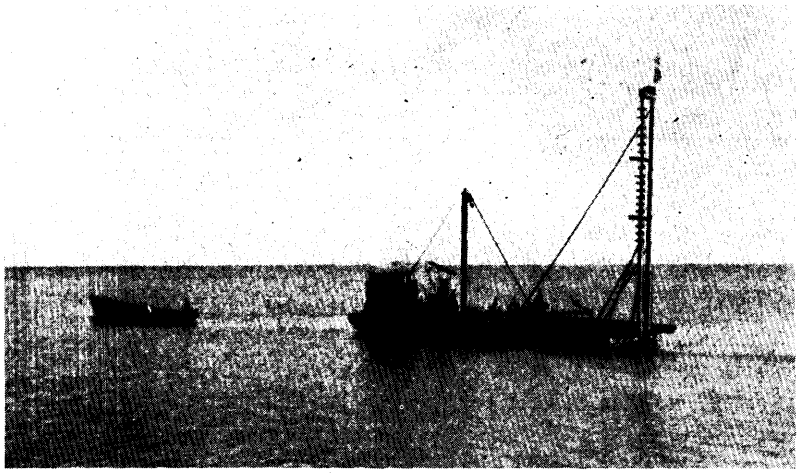
	1940	1941	[1]1942	[2]1943	[3]1944
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.
Total distribution to customers	12,629,776	11,343,255	10,624,148	9,519,186	9,355,852
Used by companies for all purposes	74,791	85,992	163,239	276,993	282,330
Used by private well-owners	74,000	74,000	74,000	74,336	39,253
Leakage in transmission lines	116,218	226,230	277,680	218,763	272,006
Leakage in distribution plants	234,029	281,361	209,470	436,729	253,650
Leakage in rural lines	17,129	17,016	17,798	22,012	21,739
Unmeasured leakage in field	37,394	.....	.....	.....	.....
Total amount distributed	13,183,337	12,027,854	11,366,335	10,548,019	10,224,830

[1]889,565 M cu. ft. of manufactured and other gas is included in these figures.
[2]2,633,611 M cu. ft. of manufactured and other gas is included in these figures.
[3]3,142,321 M cu. ft. of manufactured and other gas is included in these figures.

TABLE II—NATURAL GAS PRODUCTION BY FIELDS, 1944

County	Field	Quantity
		M cu. ft.
Essex	Kingsville	52,949
Kent	Tilbury East	1,944,936
	Romney	
	Raleigh	163,537
	Raleigh (Declute)	362,310
	Dover	181,211
	Chatham (Camden gore)	336,852
	Zone	277,920
Lambton	Dawn	685,845
	Oil Springs	
Oxford	Dereham (Brownsville)	27,108
	South Norwich	1,065
	Bayham (Brownsville)	10,283
Elgin	Bayham	22,374
	Malahide	39,652
Norfolk	Norfolk	242,806
Lincoln	Lincoln	71,267
Haldimand	Haldimand	2,169,976
Wentworth	Wentworth	25,832
Welland	Welland	311,417
Brant	Brantford	1,425
	Onondaga	13,528
	Tuscarora	66,216
Wells in surface drift	Harwich	14,000
	Howard	
Private wells	Haldimand	60,000
	Norfolk	
	Welland	
Total produced		7,082,509
Retail value		$4,694,096.97
Gas distributed other than natural gas:		M cu. ft.
Mixed still gas		2,175,959
Coke oven gas		340,972
Imported mixed gas		266,030
Oil gas		229,601
Propane gas		129,759
Total of other gases		3,142,321
Total of all gases distributed		10,224,830

supplied to them. For instance, on occasions in Windsor the natural gas supply was increased by adding oil gas, reformed still gas, and propane. In the portion of Hamilton ordinarily supplied with natural gas, the consumers were supplied with a mixture of coke oven gas and propane, and the Brantford-Woodstock consumers were supplied with many mixtures and combinations of propane, coke oven gas, and natural gas. All these mixtures were maintained at approximately 1,000 B.t.u. per cubic foot and a specific gravity that allowed of its use in the normal natural gas burner supplied to cookstoves, etc. Only a few pilot lights and some finely adjusted appliances in industries gave any serious trouble. The consumer who delved into the unknown of a water heater, cookstove, or furnace for a pilot light that had gone out and put the appliance in action without calling in the overburdened emergency men of the gas company, deserves a word of praise.



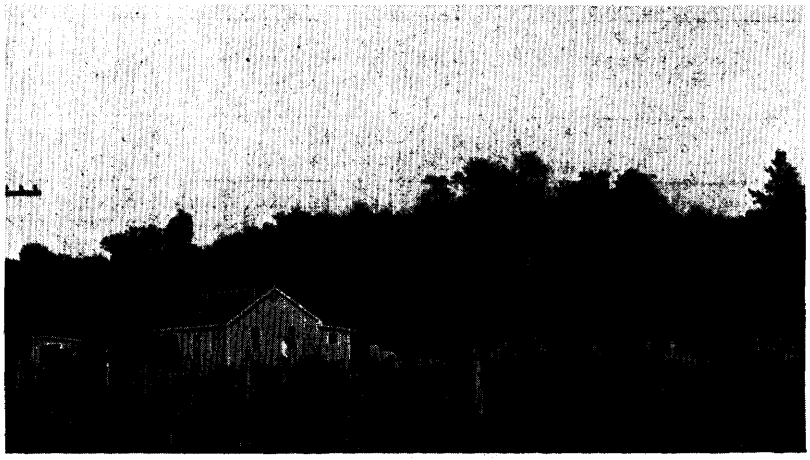
Scow and pile-driver preparing the crib for a well in Lake Erie.

Leakage from gas lines, although approximately one hundred million cubic feet less than in 1943, is still too high. The measured leakage in 1944 was 626,677 M cubic feet. The normal repair programme of the gas companies has been interfered with by the shortage of labour in war-time, but new methods of finding leaks and short cuts in repairs should result in a steady improvement in the total leakage.

Drilling activities are discussed elsewhere. There were 62 drilling rigs manned by 141 men, who were paid $217,453. The total footage drilled was 300,083; dry holes numbered 129 with a footage of 133,288, and producing wells numbered 186 with a footage of 166,795.

Natural Gas Consumption and Rates

Table III shows the history of the natural gas industry in Ontario from the time that the present legislation and regulations were put into effect about twenty-four years ago. The quantity of gas that each consumer used has been cut in half, and the number of consumers served has increased 145 per cent. The capital invested in wells and transmission and distribution lines has been increased 230 per cent., and retail rates have increased by 26 per cent. The industry presents a very excellent record of achievement.



The gas-measuring station and cleaner at Paynes Mills.

TABLE III—DOMESTIC CONSUMPTION OF NATURAL GAS, CAPITAL INVESTED AND WAGES PAID, 1921–1944

Year	Retail rate, cents per M cu. ft.	No. of pay consumers	Total quantity used	Quantity used per consumer	Capital invested in all natural gas operations	No. of men employed	Wages paid
			M cu. ft.	M cu. ft.			
1921.....	47	58,609	5,937,316	101.3	$17,328,757	632	$592,606
1922.....	47	63,229	6,028,947	95	17,769,664	692	539,072
1923.....	50	62,352	6,210,459	99.6	25,570,972	603	633,365
1924.....	55	61,100	5,933,595	97.1	24,781,723	727	639,167
1925.....	56	62,338	5,300,424	85.6	26,111,387	692	625,826
1926.....	57	63,695	5,595,521	87.8	30,500,874	860	842,305
1927.....	60	66,818	5,210,315	78	31,987,879	1,123	1,148,339
1928.....	60	70,259	5,699,553	71.2	36,601,828	1,209	1,497,999
1929.....	58	80,991	6,336,873	78.2	35,162,736	1,323	1,529,367
1930.....	64	84,135	6,332,519	75.2	36,162,268	1,328	1,545,648
1931.....	62	86,050	5,607,744	65.1	42,921,142	1,241	1,383,286
1932.....	63	86,631	5,409,154	62.2	45,982,719	893	1,059,643
1933.....	63	84,933	5,102,340	60	51,766,592	958	958,336
1934.....	62	89,990	5,262,631	58.5	41,934,395	931	1,010,979
1935.....	60	118,719	5,553,902	46.8–52	42,975,846	1,273	1,219,520
1936.....	60	118,117	6,956,453	59.3	45,197,240	1,336	1,354,611
1937.....	60	123,527	7,767,359	62.8	49,059,740	1,501	1,668,188
1938.....	60	127,861	7,912,220	61.8	51,189,094	1,439	1,631,677
1939.....	60	131,598	8,673,200	65.9	53,300,113	1,633	1,883,252
1940.....	60	136,698	9,671,008	70.7	56,938,282	1,736	2,071,031
1941.....	60	141,520	8,885,751	62.7	56,389,701	1,738	2,205,723
1942.....	65	134,562	8,256,439	61.3	56,929,352	1,485	2,056,051
1943.....	65	141,253	7,351,438	52	56,565,582	1,010	1,965,366
1944.....	65	142,015	7,384,715	52	.....	1,115	1,835,301

Tables IV and V give the distribution of gas in Ontario, which in some areas is all natural gas and in others a mixture of still gas, oil gas, manufactured gas, propane, and natural gas. Whatever the mixture, the heating value (British thermal units) is maintained at approximately 1,000 B.t.u.

These tables have been published each year since 1921, and they will be found of value to anyone who wishes to study the actual quantity of gas that consumers will use at different rates. The information is also presented to the public for criticism of the fairness of this distribution to consumers and industries.

NATURAL GAS RATES, 1944

Classification letter	Season, company, or locality	Classification according to amounts of gas used	Net rate[1] and seasonal discount
A		Up to 10 M cu. ft.	85c. per M cu. ft.
		Over 10 M cu. ft.	60c. per M cu. ft.
B	October to April	Up to 10 M cu. ft.	55c. per M cu. ft.
		From 10 M to 20 M cu. ft.	60c. per M cu. ft.
		Over 20 M cu. ft.	70c. per M cu. ft.
	May to September		80c. per M cu. ft.
C	October to April	Up to 10 M cu. ft.	50c. per M cu. ft.
		From 10 M to 20 M cu. ft.	55c. per M cu. ft.
		Over 20 M cu. ft.	65c. per M cu. ft.
	May to September		75c. per M cu. ft.
D	October to April	Up to 10 M cu. ft.	40c. per M cu. ft.
		From 10 M to 20 M cu. ft.	45c. per M cu. ft.
		Over 20 M cu. ft.	55c. per M cu. ft.
	May to September		70c. per M cu. ft.
E	October to April	Up to 10 M cu. ft.	60c. per M cu. ft.
		From 10 M to 20 M cu. ft.	65c. per M cu. ft.
		Over 20 M cu. ft.	75c. per M cu. ft.
	May to September		85c. per M cu. ft.
F		Less than 1 M cu. ft.	$1.25 per M cu. ft., less discount of 25c.
		1 M cu. ft. and over	$1.05 per M cu. ft., less discount of 25c.
	Where imported mixed gas is used		Plus pro rata share of duty.
	Summer consumers	Less than 1 M cu. ft.	$1.75 per M cu. ft., less discount of 25c.
		1 M cu. ft. and over	$1.35 per M cu. ft., less discount of 5c.
G		Minimum bill	80c.
		Up to 10 M cu. ft.	80c. per M cu. ft.
		From 10 M to 25 M cu. ft.	65c. per M cu. ft.
		Over 25 M cu. ft.	55c. per M cu. ft.
H		Up to 5 M cu. ft.	$1.00 per M cu. ft.
		From 5 M to 10 M cu. ft.	90c. per M cu. ft.
		Over 10 M cu. ft.	60c. per M cu. ft.
I		Up to 5 M cu. ft.	$1.00 per M cu. ft.
		From 5 M to 10 M cu. ft.	90c. per M cu. ft.
		From 10 M to 15 M cu. ft.	80c. per M cu. ft.
		From 15 M to 25 M cu. ft.	70c. per M cu. ft.
		Over 25 M cu. ft.	60c. per M cu. ft.
J		Up to 200 cu. ft.	40c. per hundred cu. ft.
		From 200 cu. ft. to 5 M cu. ft.	70c. per M cu. ft.
		From 5 M to 10 M cu. ft.	60c. per M cu. ft.
		Over 10 M cu. ft.	45c. per M cu. ft.
	October to April, discount	On bills under $5.00	15 per cent.
		On bills between $5.00 and $10.00	10 per cent.
	May to September, discount	On bills under $5.00	10 per cent.
K		Up to 200 cu. ft.	40c. per hundred cu. ft.
		From 200 cu. ft. to 5 M cu. ft.	75c. per M cu. ft.
		From 5 M to 10 M cu. ft.	65c. per M cu. ft.
		Over 10 M cu. ft.	50c. per M cu. ft.
	October to April, discount[2]	On bills under $5.00	15 per cent.
		On bills between $5.00 and $10.00	10 per cent.
	May to Sept., discount[2]	On bills under $5.00	10 per cent.

[1]All gas distributed by the Dominion Natural Gas Company, Limited, except on the Port Rowan system, is subject to a surcharge of 5 cents per M cubic feet.

[2]Discounts apply only to bills of the Dominion Natural Gas Company, Limited.

NATURAL GAS RATES, 1944—*Continued*

Classification letter	Season, company, or locality	Classification according to amounts of gas used	Net rate and seasonal discount
L	Fonthill-Ridgeville Gas Co.	First 100 cu. ft., minimum charge	85c.
		Over 100 cu. ft.	75c. per M cu. ft.
	Dominion Natural Gas Co.		75c. per M cu. ft.
M		Minimum bill	75c.
		Up to 15 M cu. ft.	75c. per M cu. ft.
		Over 15 M cu. ft.	55c. per M cu. ft.
N		1 M cu. ft. or less	85c.
		From 1 M to 10 M cu. ft.	80c. per M cu. ft.
		From 10 M to 25 M cu. ft.	65c. per M cu. ft.
		Over 25 M cu. ft.	55c. per M cu. ft.
O	Port Colborne	Minimum bill	$1.00
		Up to 5 M cu. ft.	80c. per M cu. ft.
		From 5 M to 10 M cu. ft.	70c. per M cu. ft.
		Over 10 M cu. ft.	55c. per M cu. ft.
	Summer residents	Minimum charge	$2.00 per M cu. ft.
P		200 cu. ft. or less	$1.00
		Over 200 cu. ft.	60c. per M cu. ft.
Q	Grimsby and Grimsby Beach	Minimum bill	$1.00
		Up to 5 M cu. ft.	85c. per M cu. ft.
		From 5 M to 10 M cu. ft.	75c. per M cu. ft.
		Over 10 M cu. ft.	60c. per M cu. ft.
	Smithville	Minimum bill	90c.
		Up to 5 M cu. ft.	75c. per M cu. ft.
		From 5 M to 10 M cu. ft.	70c. per M cu. ft.
		Over 10 M cu. ft.	60c. per M cu. ft.
R	November to April	Up to 10 M cu. ft.	65c. per M cu. ft.
		Over 10 M cu. ft.	55c. per M cu. ft.
	May to October	Up to 10 M cu. ft.	70c. per M cu. ft.
		Over 10 M cu. ft.	55c. per M cu. ft.
S		Up to 5 M cu. ft.	$1.00 per M cu. ft.
		From 5 M to 10 M cu. ft.	90c. per M cu. ft.
		Over 10 M cu. ft.	60c. per M cu. ft.
T	Central Pipe Line Co.	Minimum bill	$1.90
		First 200 cu. ft.	55c. per hundred cu. ft.
		Next 800 cu. ft.	10c. per hundred cu. ft.
		Next 1,000 cu. ft.	60c. per M cu. ft.
		Next 4,000 cu. ft.	$1.00 per M cu. ft.
		Over 6,000 cu. ft.	$2.00 per M cu. ft.
U		1 M cu. ft. or less	95c. per M cu. ft.
		From 1 M to 10 M cu. ft.	60c. per M cu. ft.
		From 10 M to 15 M cu. ft.	55c. per M cu. ft.
		Over 15 M cu. ft.	50c. per M cu. ft.
V		1 M cu. ft. or less	80c. per M cu. ft.
		From 1 M to 5 M cu. ft.	60c. per M cu. ft.
		Over 5 M cu. ft.	50c. per M cu. ft.
W	October to April	Up to 10 M cu. ft.	40c. per M cu. ft.
		From 10 M to 20 M cu. ft.	45c. per M cu. ft.
		Over 20 M cu. ft.	55c. per M cu. ft.
	May to September		65c. per M cu. ft.
Y		Up to 200 cu. ft.	40c. per 100 cu. ft.
		From 200 cu. ft. to 5 M cu. ft.	70c. per M cu. ft.
		From 5 M to 10 M cu. ft.	60c. per M cu. ft.
		Over 10 M cu. ft.	45c. per M cu. ft.

TABLE IV—GAS CONSUMPTION IN TOWNS AND CITIES, 1944

Town or city	Population	No. of consumers		Quantity consumed			Net rate per M cu. ft.
		Pay	Free	Pay	Free	Industrial	
				M cu. ft.	M cu. ft.	M cu. ft.	
Alvinston	620	233	....	13,599	.....	.....	K
Ancaster	566	202	....	10,834	.....	.....	[1]70c. (M.B.[2] $1.00)
Appin	125	46	....	2,244	.....	.....	K
Attercliffe	47	35	....	1,837	.....	494	50c.–60c.
Aylmer	2,474	835	....	29,428	.....	.....	T
Beachville	426	54	....	2,614	.....	.....	65c. (M.B. $1.00)
Belle River	845	245	....	18,624	.....	473	B (M.R.[3] 20c.)
Belmont	500	110	....	3,590	.....	585	$1.00
Binbrook	195	6	....	421	200	.....	[1]60c.
Blenheim	1,873	666	....	58,753	127	1,304	C (M.R. 20c.)
Bothwell	605	191	....	14,881	.....	.....	Y
Brantford	34,372	6,257	....	236,979	.....	33,609	[1]G
Brigden	386	170	....	12,148	.....	770	B (M.R. 10c.)
Burlington	4,311	679	....	24,850	.....	856	H
Byron	200	96	....	4,942	.....	372	K
Cainsville	600	33	....	1,023	.....	.....	[1]G
Caledonia	1,395	550	3	39,077	83	2,240	60c.
Canfield	130	60	....	3,202	.....	.....	50c.–60c.
Cayuga	652	219	....	16,078	.....	536	[1]60c. (M.R. 15c.)
Chatham	17,807	5,062	....	437,727	.....	31,127	J
Chippawa	1,266	337	3	7,784	573	.....	F
Clandrasil	116	30	3	1,485	486	.....	60c.
Comber	484	153	....	15,761	.....	932	C (M.R. 20c.)
Cottam	385	92	....	7,071	245	751	[1]60c. (M.B. 50c.)
Courtland	341	59	....	4,825	.....	.....	[1]60c. (M.B. 50c.)
Courtright	357	142	....	10,417	.....	.....	B (M.R. 20c.)
Delhi	2,093	654	....	48,832	416	.....	60c. (M.B.60c., M.R. 10c.)
Dorchester	456	146	....	6,773	.....	543	[1]E (M.B. 50c., M.R. 10c.)
Dresden and Tupperville	1,762	602	....	50,898	.....	2,428	C (M.R. 20c.)
Dundas	5,588	1,375	....	58,865	.....	10,279	70c. (M.B. $1.00)
Dunnville	4,305	1,176	1	102,265	111	6,873	[1]60c. (M.R. 15c.)
Dutton	791	253	....	17,756	213	847	[1]V
Echo Place	735	245	....	7,742	.....	.....	[1]G (M.B. 70c., M.R. 10c.)
Eden	153	35	....	2,849	.....	406	[1]60c. (M.B. 50c., M.R. 10c.)
Essex	1,986	562	....	50,146	.....	3,782	B (M.R. 20c.)
Fenwick	404	148	....	6,692	.....	360	[1]75c. (M.R. 25c.)
Fingal and Shedden	161	142	....	8,241	48	274	[1]B (M.B. 50c.)
Fisherville	171	39	....	3,012	.....	.....	50c.–55c.
Florence	137	70	....	5,979	.....	547	Y
Fonthill	1,009	326	....	11,930	.....	180	L
Fort Erie	7,069	1,914	4	85,580	1,895	2,933	F
Galt	14,693	2,679	....	91,201	.....	32,030	[1]G (M.B. 80c., M.R. 10c.)
Glencoe	752	247	....	21,741	.....	561	K
Grimsby	1,993	477	....	14,121	.....	3,140	Q
Grimsby Beach	400	111	....	6,068	.....	.....	Q
Hagersville	1,588	491	....	36,461	.....	106	[1]60c. (M.B. 35c., M.R. 15c.)
Hamilton	174,222	12,687	....	384,345	.....	192,740	M
Hespeler	3,021	581	....	21,358	.....	2,793	[1]N
Highgate	301	109	....	8,237	30	.....	[1]C (M.R. 20c.)
Humberstone	3,287	771	....	35,074	.....	263	[1]O

[1]Plus a surcharge of 5 cents per M cubic foot for all gas distributed by the Dominion Natural Gas Company, Limited, except on the Port Rowan system.

[2]M.B.—Minimum monthly bill.

[3]M.R.—Meter rental.

TABLE IV—GAS CONSUMPTION IN TOWNS AND CITIES, 1944—*Continued*

Town or city	Population	No. of consumers		Quantity consumed			Net rate per M cu. ft.
		Pay	Free	Pay	Free	Industrial	
				M cu. ft.	M cu. ft.	M cu. ft.	
Ingersoll	5,823	1,268	....	63,021	.....	10,752	[1]G
Inwood	175	90	....	5,109	.....	.....	A
Jarvis	557	247	....	21,586	.....	.....	[1]60c. (M.R. 10c.)
Kingsville	2,335	676	....	55,202	.....	1,646	[1]U
Lambeth	475	155	....	10,343	.....	494	[1]K
Leamington	5,456	1,870	....	172,540	.....	3,560	[1]60c.
London	81,158	16,748	....	739,329	.....	123,075	K
Lynedoch	151	75	....	5,533	833	.....	[1]60c.
Merlin	219	159	....	16,096	567	219	D
Merritton	3,450	642	....	23,825	.....	10,522	[1]75c. (M.R. 25c.)
Morpeth	.....	.....	....	.....	143	.....	.....
Mount Brydges	462	124	....	7,231	.....	.....	K
Niagara Falls	19,138	4,327	4	142,718	768	46,017	F
Norwich	1,199	128	....	5,981	.....	.....	65c. (M.B. $1.00)
Oil Springs	426	151	....	9,353	.....	.....	R
Otterville	481	110	....	5,928	.....	.....	65c. (M.B. $1.00)
Paris	4,524	1,045	....	37,481	.....	2,142	[1]G
Petrolia	2,684	832	....	64,341	.....	3,557	T
Port Burwell	513	219	1	7,239	172	.....	T
Port Colborne	7,187	1,720	....	81,487	200	394	[1]O
Port Dover	2,001	668	....	58,521	.....	.....	[1]60c.
Port Rowan	584	252	....	18,628	504	.....	60c.
Port Ryerse	.....	4	....	2,169	1,380	.....	[1]60c.
Preston	6,707	1,183	....	41,864	.....	18,087	[1]G
Putnam	.....	61	....	3,062	.....	1,969	E
Ridgetown	1,911	702	....	65,419	261	1,843	C
Rodney	718	232	....	17,294	404	.....	[1]V
Ruscomb	.....	.....	....	.....	298	.....	.....
St. Anns	185	32	....	1,255	.....	.....	60c.-$1.35
St. Catharines	34,541	6,702	....	265,131	.....	130,412	[1]75c. (M.R. 25c.)
St. George	486	150	....	5,374	.....	608	[1]80c.
St. Thomas	17,773	3,161	....	121,008	.....	1,283	[1]K
St. Williams	166	117	....	6,531	.....	253	60c.
Sarnia	20,082	6,003	....	342,753	.....	56,123	B (M.R. 10c.)
Selkirk	167	136	....	9,328	.....	.....	[1]60c.
Simcoe	6,047	2,469	....	210,552	166	38,459	[1]60c.
Smithville	529	202	....	8,305	.....	.....	Q
Sombra and Port Lambton	688	175	....	12,439	.....	.....	B (M.R. 20c.)
Springfield	401	107	....	4,043	.....	.....	T
Springford	188	28	....	2,059	.....	.....	65c. (M.B. $1.00)
Stoney Creek	1,051	242	....	10,305	.....	.....	M (M.B. 75c.)
Straffordville	267	118	....	4,198	.....	.....	T
Thamesville	777	275	....	21,371	.....	1,296	Y
Thorold	5,517	1,228	....	45,825	.....	3,360	[1]75c. (M.R. 25c.)
Tilbury	1,995	657	....	60,943	341	481	C (M.R. 20c.)
Tillsonburg	4,081	1,376	....	98,866	.....	2,396	[1]63c.
Vienna	206	86	4	2,771	648	.....	T
Vittoria	257	99	....	6,054	.....	.....	[1]60c.
Wallaceburg	5,088	1,588	....	132,933	.....	253,594	C (M.R. 20c.)
Wallacetown	175	51	....	3,551	.....	.....	[1]V
Waterdown	916	68	....	2,127	.....	.....	I
Waterford	1,352	314	....	20,087	.....	.....	[1]P
Welland	15,780	4,210	6	131,961	541	15,760	F
Wellandport	.....	8	3	192	196	.....	60c.
West Lorne	791	193	....	13,712	37	418	[1]V
Wheatley	716	244	....	21,370	.....	.....	[1]60c.
Windsor	117,031	22,555	....	1,255,304	.....	720,723	K
Woodstock	12,916	2,562	....	107,840	.....	2,292	[1]G
Wyoming	480	181	....	9,990	.....	797	A
Total	.....	131,427	32	6,685,838	11,886	1,787,666	.....

TABLE V—GAS CONSUMPTION IN TOWNSHIPS, 1944

County and township	Population	No. of consumers		Quantity consumed			Net rate per M cu. ft.
		Pay	Free	Pay	Free	Industrial	
				M cu. ft.	M cu. ft.	M cu. ft.	
ESSEX:							
Gosfield North	2,186	121	.....	6,841	154	.....	[1]60c.
Gosfield South	2,711	625	.....	48,925	.....	15,651	[1]60c.
Maidstone	2,965	87	.....	11,244	1,161	.....	B
Mersea	5,147	153	.....	13,281	364	8,250	[1]60c.
Rochester	2,302	241	.....	18,129	254	1,510	B
Sandwich East	9,808	55	.....	2,057	.....	.....	B
Sandwich South	2,396	159	.....	11,122	.....	3,131	B
Tilbury North	1,767	47	.....	2,946	100	19,496	C
Tilbury West	2,929	30	.....	2,381	102	.....	C
LAMBTON:							
Brooke	1,944	33	.....	1,192	.....	135	A
Dawn	2,136	107	.....	7,960	669	1,888	D
Enniskillen	2,385	141	.....	6,359	.....	1,066	B
Euphemia	1,183	10	.....	405	.....	.....	Y
Moore	3,328	440	.....	29,643	30	554	B
Plympton	2,360	6	.....	255	.....	.....	A
Sombra	2,630	86	.....	5,546	.....	.....	B
KENT:							
Camden	1,791	16	.....	317	.....	1,388	C
Chatham	6,388	117	.....	8,606	.....	945	C
Dover	4,272	427	1	44,535	145	2,281	D
Harwich	4,651	519	.....	42,297	907	348	C
Howard	2,441	146	.....	11,744	.....	1,228	C
Orford	1,432	46	.....	3,940	200	.....	C
Raleigh	4,350	669	.....	57,877	4,388	2,398	D and [1]W
Romney	1,282	103	.....	8,581	8,704	718	D and [1]W
Tilbury East	2,929	251	.....	22,411	16,433	2,568	D and [1]W
Zone	770	27	.....	1,078	.....	2,835	A
ELGIN:							
Aldborough	2,448	17	.....	943	.....	1,045	[1]V
Bayham	2,929	8	.....	502	.....	.....	T and [1]60c.
Dunwich	1,994	51	.....	3,788	.....	.....	[1]V
Malahide	2,661	281	6	11,511	419	540	T
Southwold	2,790	124	.....	7,326	.....	55	B
Yarmouth	5,338	77	.....	2,735	.....	.....	A
MIDDLESEX:							
Caradoc	2,644	12	.....	1,458	.....	1,656	K
Delaware	1,200	3	.....	125	.....	.....	K
Ekfrid	1,770	19	.....	1,052	.....	.....	K
Lobo	1,874	1	.....	21	.....	2,582	K
Mosa	1,345	2	.....	41	.....	135	K
North Dorchester	2,634	17	.....	781	.....	607	E
Westminster	8,798	127	.....	8,007	.....	270	K
NORFOLK:							
Middleton	2,323	74	.....	4,715	.....	.....	[1]60c.
North Walsingham	2,092	1	.....	69	173	.....	[1]60c.
BRANT:							
Brantford	8,724	49	.....	2,480	.....	.....	[1]G
Burford	3,523	8	.....	336	.....	.....	[1]G
Onondaga	1,097	50	1	2,870	453	.....	[1]70c.
South Dumfries	2,371	2	.....	44	.....	.....	[1]80c.
Tuscarora	2,654	20	.....	1,926	.....	.....	25c.

[1]Plus a surcharge of 5 cents per M cubic feet for all gas distributed by the Dominion Natural Gas Company, Limited, except on the Port Rowan system.

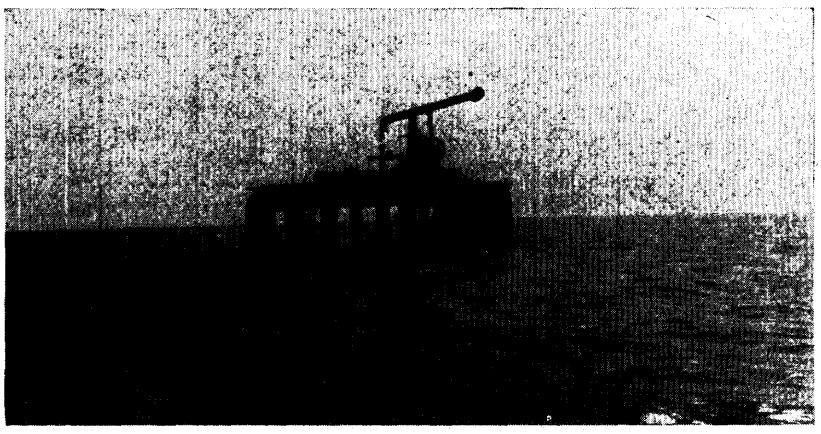
TABLE V—GAS CONSUMPTION IN TOWNSHIPS, 1944—*Continued*

County and township	Population	No. of consumers		Quantity consumed			Net rate per M cu. ft.
		Pay	Free	Pay	Free	Industrial	
				M cu. ft.	M cu. ft.	M cu. ft.	
OXFORD:							
Dereham	3,145	238	.....	16,587	.....	.....	65c. (M.B.[2] $1.00)
East Oxford	1,850	12	.....	612	.....	.....	[1]G
West Oxford	1,982	13	.....	391	.....	.....	[1]G
HALDIMAND:							
Canborough	813	93	.....	6,229	4,039	471	[1]60c. (M.R.[3] 15c.)
Dunn	629	64	.....	3,817	109	254	[1]60c. (M.R. 15c.)
Moulton	1,552	170	.....	10,711	1,289	41	[1]60c. (M.R. 25c.)
North Cayuga	1,161	53	.....	2,661	1,291	1,708	[1]60c.
Oneida	1,056	81	.....	7,126	1,153	.....	[1]60c.
Rainham	1,528	204	.....	13,101	3,998	2,710	[1]60c.
Seneca	1,340	139	5	9,336	3,954	299	[1]60c.
Sherbrooke	262	93	1	6,336	827	.....	[1]60c. (M.R. 15c.)
South Cayuga	525	60	.....	3,698	1,976	2,121	[1]60c. (M.R. 15c.)
Walpole	3,180	306	3	18,302	7,089	300	[1]60c. (M.R. 15c.)
LINCOLN:							
Caistor	1,100	46	.....	2,418	.....	73	50c. (M.B. 65c.)
Gainsborough	1,921	43	18	2,344	2,120	.....	60c.
Grantham	5,684	20	.....	890	.....	.....	[1]75c. (M.R. 25c.)
Louth	3,365	15	.....	668	.....	.....	[1]75c.
WELLAND:							
Bertie	4,050	1,023	43	62,535	6,464	40	F
Crowland	7,717	39	8	1,576	1,194	.....	F
Humberstone	2,957	460	20	25,603	3,794	.....	F
Pelham	2,695	83	.....	3,693	475	.....	L
Wainfleet	2,831	172	2	7,359	1,969	2,497	[1]75c.
Willoughby	842	20	17	1,200	2,516	.....	F
WENTWORTH:							
Ancaster	4,279	203	.....	14,833	.....	1,043	[1]70c. (M.B. $1.00)
Barton	3,302	450	.....	14,188	.....	3,996	[1]60c.
Binbrook	1,192	104	.....	7,161	2,803	50	[1]60c.
East Flamborough	3,848	189	.....	9,890	.....	.....	S (M.R. 50c.)
Glanford	1,442	146	.....	10,800	409	577	[1]60c.
Saltfleet	7,250	322	.....	10,517	.....	.....	M
West Flamborough	2,719	8	.....	179	.....	.....	S (M.R. 50c.)
HALTON:							
Nelson	4,022	17	.....	1,370	.....	.....	S (M.R. 50c.)
WATERLOO:							
North Dumfries	2,917	91	.....	2,020	.....	.....	[1]80c.
Waterloo	8,647	6	.....	324	.....	.....	[1]G
Total	.....	10,588	125	698,877	82,125	89,460	.....

Gas Wells and Their Production

The total number of producing wells in Ontario has been slowly growing until in 1944 the number had reached 3,500, which is 11 less than 1943. There were 314 wells drilled, of which 129 were dry and 186 producing, with an open flow of 24,720 M cubic feet. The wells abandoned totalled 197, which reduced the gross total of wells. Fifteen of these are in Prince Edward county and had been idle for some years and 44 are in the now abandoned fields of Elgin county.

The Haldimand field had the most wells drilled, and these were in the old field and adjacent areas. Some expansion can be claimed in Oneida township, but the wells in other fields were interspaced between old wells. Considering this, the ratio of dry to producing wells (61:100) is high. The average open flow of new wells is pitifully low at 34 M cubic feet; and, as the rock pressure and the area drained by each well is declining each year, it is necessary to space wells



No. 14 well of the Dominion Natural Gas Company, Lake Erie in front of Romney township.

closer in order to recover all the gas underground. Only careful study and experimentation will determine the economic limit in well-spacing.

The production from the Welland county field shows a steady increase owing to new wells and improvements in field collecting and transmission lines.

The Norfolk field can claim a considerable extension in Townsend township where 18 producing wells averaged 130 M cubic feet in open flow, but 14 dry holes indicate very uneven porosity. A very large well in Middleton township, with an open flow of 4,100 M cubic feet, was found at shallow depth. The rock pressure was 55 pounds. This well was successfully used as a storage area and proved to be a most valuable reserve for Tillsonburg. It carried that town over several serious peaks in the months of January and February.

Elgin county was given some attention; 5 exploratory wells proved failures. The Bayham and Malahide fields are exhausted and are in the process of being abandoned. This applies also to the Brownsville field in Oxford township.

In Kent county a new and valuable pool was discovered in the village of Bothwell, Zone township. This well proved a most necessary reserve to supply Chatham and London. Further drilling in Chatham and Zone townships gave average results.

TABLE VI—GAS WELLS AND THEIR PRODUCTION, 1944

County	Township	No. of wells producing	No. of wells abandoned	Wells drilled			Production	Rock pressure, lbs. per sq. in.	Acres under lease	Rental paid
				No. dry	No. producing	Open flow				
						M cu. ft.	M cu. ft.			
Essex	Gosfield South	27					28,949	170	583	$869
	Malden		1	2						
	Mersea	5					24,000	282	1,481	50
	Tilbury North								925	
	Tilbury West								4,500	
Kent	Camden								11,665	
	Camden gore	3		3	1	438	42,272	690	12,520	
	Chatham	25		3	4	777	294,580	572	22,412	
	Chatham gore								1,940	
	Dover	20	1				181,211	190	2,378	817
	Harwich			1					627	
	Howard								74	
	Raleigh (Declute)	39	2				362,310	300	3,501	1,350
	Raleigh	21	3	1			163,537		2,178	700
	Romney	142	3				1,053,220	150	8,078	1,320
	Tilbury East	124	6				891,716		11,183	1,178
	Zone	18		7	14	10,134	277,920	669	16,523	
Lambton	Brooke								577	
	Dawn	32	4	2	1	79	676,292	378	21,039	
	Enniskillen	3	1				9,553		105	75
	Euphemia								5,414	
	Sombra								7,773	
Simcoe	Nottawasaga		1	2					500	250
Middlesex	Delaware								2,324	
	London								200	
	Lobo								605	
	Mosa		1	1					12,835	
	North Dorchester								7,232	
	Westminster			2					6,892	

TABLE VI—GAS WELLS AND THEIR PRODUCTION, 1944—*Continued*

County	Township	No. of wells producing	No. of wells abandoned	Wells drilled			Production	Rock pressure, lbs. per sq. in.	Acres under lease	Rental paid
				No. dry	No. producing	Open flow				
						M cu. ft.	M cu. ft.			
Oxford	Dereham (Brownsville)	16	4				27,108		700	$564
	South Norwich	2			1	37	1,065		3,092	400
Elgin	Aldborough			1					7,976	
	Bayham (Brownsville)	5	3				10,283		275	200
	Bayham	30	14				22,374	(1)	16,709	1,979
	Malahide	22	30	4			39,652	345	13,730	609
	Yarmouth								160	
Brant	Brantford	2					1,425		150	53
	Onondaga	24	3				13,528	90	4,156	930
	Tuscarora	70	1	4			66,216	86	35,230	2,182
Norfolk	Charlotteville	15		1			1,800	192	5,672	
	Houghton	4					21,600	(1)	2,226	199
	Middleton	38	12	3	1	4,100	18,648	185	6,609	930
	North Walsingham	8					960	232	909	
	South Walsingham	19					21,604	370	1,713	150
	Townsend	38		14	18	2,347	47,680	345	15,296	262
	Windham	24	1	3	1	6	17,650	240	6,245	250
	Woodhouse	95		4	5	319	112,864	220	17,690	2,594
Haldimand	Canborough	146	7		1	24	189,329	77	9,456	1,830
	Dunn	48	1		5	511	41,245	175	5,431	640
	Moulton	104	6	2	4	70	117,730	120	5,947	1,443
	North Cayuga	207	12	9	17	610	218,427	140	19,116	3,679
	Oneida	124	4	18	[2]12	499	142,340	170	19,668	1,805
	Rainham	324	13	6	10	359	409,940	160	18,164	5,359
	Seneca	153	13	3			169,637	75	14,368	2,376
	Sherbrooke	17	4	1	2	41	28,840	180	620	75
	South Cayuga	89	1	12	21	1,279	94,344	130	8,238	263
	Walpole	530	3	7	28	1,995	758,144	190	39,852	12,663

Wentworth	Beverly	1			1	27				
	Binbrook	44	10				5,516	56	3,523	
	Glanford	10	2				20,316	45	744	
Lincoln	Caistor	77	4		7	293	65,520	85	6,186	$1,669
	Gainsborough	11	1				5,747	70	868	237
Welland	Bertie	164	1	1	8	129	122,547	90	14,633	4,831
	Crowland	27	1		1	8	14,589	109	1,937	295
	Humberstone	81	2	1	3	53	47,796	50	6,994	1,722
	Wainfleet	39	5	8	9	307	83,086	100	10,718	1,875
	Willoughby	53	1				43,399	120	4,926	1,448
Cochrane	Hobson			1						
Prince Edward	Hallowell		15							
Surface wells	Harwich, Howard	69					[3]14,000			
Private wells	Haldimand, Lincoln, Norfolk, Welland	[4]311		[5]1	[6]11	278	[7]60,000			
Union Gas Co. (not detailed)	Various fields									165,995
Dom.Nat.GasCo. (not detailed)	Various fields									115,603
Total		3,500	197	129	186	24,720	7,082,509		495,991	$341,719

[1]Wells are constantly in use and no rock pressure could be taken.
[2]1 well reopened and added to producers.
[3]This gas is not metered and therefore must be estimated. The wells are owned privately, and the gas is used for domestic purposes.
[4]Estimated.
[5]South Cayuga township, Haldimand county.
[6]4 in Caistor township, Lincoln county; 3 in North Cayuga township and 1 in each of Moulton and Sherbrooke townships, Haldimand county; and 1 in each of Wainfleet and Thorold townships, Welland county.
[7]Estimated

Leakage

Tables VII, VIII, and IX show the leakage in distribution plants and on transmission lines in Ontario. A glance at the summary and comparison in Table I shows that the leakage is on the increase while production is decreasing. Leakage is a function of pressure and not of production. Both the pressure and production are decreasing. It would seem, therefore, that there must be a greater number of leaks in the pipe lines.

The over-all reduction of employees during the last three years shown in Table III indicates that the demand of war industries has removed many from the repair gangs, and this condition has been reflected in the increased leakage; but new and better methods of finding leaks should partly offset this. The Heath Tree Service are using their knowledge of the growth, colour, and texture of trees, grass, and shrubs to locate gas leaks. This has outmoded the old pressure surveys where the gas mains are along the boulevards or fence lines; but where the gas lines are under pavements, it is still necessary to use the pressure method followed by test holes and leak meter.

The time has come when the leakage problem must be taken very seriously. The measured leakage in 1944 is 564,677 M cubic feet—one year's supply for Chatham and Dunnville. This is not all preventable waste, but much of it is. The standards set are easily attainable by good management, as can be seen in many places under the allowable leakage. Leakage is too great in Leamington and Dunnville with 4½ times the allowable leakage; Port Dover, 3½; Hagersville, Highgate, and St. Catharines, 3; Tillsonburg, 2½; and Belmont, Fenwick, Ingersoll, Jarvis, Kingsville, Paris, Thorold, Waterford, and Woodburn, 2.

TABLE VII—LEAKAGE IN DISTRIBUTION PLANTS, 1944

Town or city	Company	Equivalent miles of 3-inch pipe in distribution plants	Leakage for year		Average No. of consumers	Leakage per consumer	Pressure, ozs. per sq. in.
			Actual	Allowable			
			M cu. ft.	M cu. ft.		cu. ft.	
Alvinston	Union Gas Co.	6.2	127	1,240	233	541	6
Ancaster	Dom. Nat. Gas Co.	1.4	(1)	280	202	.....	4
Appin	Union Gas Co.	.98	27	196	46	587	5
Beachville	Beachville Gas Synd.	5.84	135	1,168	33	409	4
Belle River	Union Gas Co.	4.48	33	897	245	135	5
Belmont	Belmont Gas Co.	8	3,245	1,600	110	29,500	6
Blenheim	Union Gas Co.	13.37	143	2,674	666	215	5
Bothwell	Union Gas Co.	5.54	(1)	1,108	191	.....	5
Brantford	Dom. Nat. Gas Co.	94.25	9,515	18,850	6,257	1,520	4
Brigden	Union Gas Co.	3.90	1,214	780	170	7,141	6
Byron	Union Gas Co.	3.03	(1)	606	96	.....	6
Cainsville	Dom. Nat. Gas Co.	5.57	194	1,114	33	5,878	4
Cayuga	Dom. Nat. Gas Co.	5.86	587	1,172	219	2,680	4
Chatham	Union Gas Co.	85.42	.....	17,084	5,062	.....	6
Comber	Union Gas Co.	3.86	(1)	773	153	.....	6
Corunna	Union Gas Co.	3.23	629	646	251	2,506	6
Courtright	Union Gas Co.	4.42	(1)	884	142	.....	6
Delhi	Dom. Nat. Gas Co.	7.08	417	1,416	654	638	4
Dorchester	Dom. Nat. Gas Co.	2.86	688	572	146	4,712	4
Dresden	Union Gas Co.	13.05	998	2,610	602	1,658	5
Dunnville	Dom. Nat. Gas Co.	13.87	12,691	2,774	1,177	10,800	4
Dutton	Dom. Nat. Gas Co.	8.16	4,527	1,632	253	17,900	4
Essex	Union Gas Co.	11.71	(1)	2,342	562	.....	5
Fenwick	Dom. Nat. Gas Co.	1.51	613	302	148	4,150	4
Florence	Union Gas Co.	1.87	73	374	70	1,042	5
Fonthill	Fonthill Gas Co.	6.54	2,275	1,308	326	6,960	6

[1]These distribution plants show a total gain of 14,845 M cubic feet.

TABLE VII—LEAKAGE IN DISTRIBUTION PLANTS, 1944—*Continued*

Town or city	Company	Equivalent miles of 3-inch pipe in distribution plants	Leakage for year		Average No. of consumers	Leakage per consumer	Pressure, ozs. per sq. in.
			Actual	Allowable			
			M cu. ft.	M cu. ft.		cu. ft.	
Glencoe	Union Gas Co.	7.85	(1)	1,570	247	.....	5
Hagersville	Dom. Nat. Gas Co.	7.38	4,217	1,476	491	8,570	4
Hamilton	United Gas and Fuel Co.	117.29	(1)	23,458	12,687	.....	5
Hespeler	Dom. Nat. Gas Co.	8.97	1,133	1,794	581	1,950	4
Highgate	Dom. Nat. Gas Co.	2	1,245	400	109	11,400	4
Ingersoll	Dom. Nat. Gas Co.	20.82	7,863	4,164	1,268	6,220	4
Inwood	Union Gas Co.	2.11	(1)	422	90	.....	5
Jarvis	Dom. Nat. Gas Co.	4.05	1,647	810	247	6,660	4
Kingsville	Dom. Nat. Gas Co.	13.49	4,956	2,698	676	7,340	4
Lambeth	Dom. Nat. Gas Co.	3.84	726	768	155	4,680	4
Leamington	Leamington, Town of	25.47	22,663	5,094	1,870	12,130	6
London	City Gas Co.	322	29,904	64,400	16,748	1,785	5
Merlin	Union Gas Co.	2.68	292	536	159	1,838	6
Merritton	Dom. Nat. Gas Co.	4.52	1,067	904	642	1,660	4
Mount Brydges	Union Gas Co.	3.63	(1)	727	124	.....	5
North Pelham	Dom. Nat. Gas Co.	.72	106	144	16	6,630	4
Paris	Dom. Nat. Gas Co.	14.92	5,973	2,984	1,045	5,725	4
Petrolia	Union Gas Co.	17.63	3,052	3,526	832	3,670	6
Port Colborne	Dom. Nat. Gas Co.	30.4	6,732	6,080	1,720	3,910	4
Port Dover	Dom. Nat. Gas Co.	7.94	5,800	1,588	668	8,690	4
Port Lambton	Union Gas Co.	2.07	42	415	100	420	5
Preston	Dom. Nat. Gas Co.	20.96	1,755	4,192	1,183	1,482	4
Ridgetown	Union Gas Co.	17.90	54	3,580	702	48	5
Rodney	Dom. Nat. Gas Co.	5.39	1,072	1,078	232	4,630	4
St. Catharines	Dom. Nat. Gas Co.	68.8	42,684	1,376	6,702	6,370	4
St. George	Dom. Nat. Gas Co.	2.11	377	422	150	2,510	4
St. Thomas	Dom. Nat. Gas Co.	55.85	13,415	11,170	3,161	4,240	4
Sarnia	Union Gas Co.	98.44	(1)	19,688	6,003	.....	5
Shedden and Fingal	Dom. Nat. Gas Co.	6.11	2,652	1,222	142	18,690	4
Simcoe	Dom. Nat. Gas Co.	29.69	(1)	5,938	2,469	.....	4
Sombra	Union Gas Co.	2.64	437	528	75	5,830	5
South London	Dom. Nat. Gas Co.	8.87	143	1,774	347	412	4
Thamesville	Union Gas Co.	6.89	(1)	1,378	275	.....	5
Thorold	Dom. Nat. Gas Co.	13.19	5,107	2,638	1,228	4,160	4
Tilbury	Union Gas Co.	9.52	716	1,905	657	1,090	5
Tillsonburg	Dom. Nat. Gas Co.	23.49	11,857	4,698	1,376	8,610	4
Wallaceburg	Union Gas Co.	25.11	3,868	5,022	1,588	2,440	6
Waterford	Dom. Nat. Gas Co.	5.88	(1)	1,176	314	.....	4
West Lorne	Dom. Nat. Gas Co.	3.89	880	778	193	4,560	4
Wheatley	Dom. Nat. Gas Co.	3.46	696	692	244	2,860	4
Windsor	Union Gas Co.	518.75	33,687	103,750	22,555	1,500	5
Woodburn	Dom. Nat. Gas Co.	2.03	820	406	47	17,470	4
Woodstock	Dom. Nat. Gas Co.	48.45	12,016	9,690	2,562	4,690	4
Wyoming	Union Gas Co.	5.18	710	1,036	181	3,920	6
Total	.....	1,924.38	268,495	367,656	110,908	.....	.....

	M cu. ft.
Actual leakage	268,495
Gain[1]	14,845
Net loss	253,650

TABLE VIII—LEAKAGE ON RURAL LINES, 1944

Division	Equivalent feet of 3-inch pipe in all rural lines	Leakage for year		Average No. of consumers	Leakage per consumer	Average pressure on pipe lines	
		Actual	Allowable			Low pressure	High pressure
		M cu. ft.	M cu. ft.		cu. ft.	ozs.	lbs.
Windsor system...	122,643	5,605	4,650	552	10,154	5	.....
Sarnia system....	316,196	6,458	11,880	178	36,271	5	.....
London system...	14,481	255	548	50	5,100	5	.....
Ridgetown system.	128,662	4,704	4,869	517	9,098	.....	5
Raleigh standard line (Blake system).....	32,314	4,517	1,300	82	55,085	4	.....
Enniskillen to Oil Springs.....	26,400	200	1,000	50	4,000	5	.....
Total.....	640,696	21,739	24,247	1,429	.....	.....	.....

TABLE IX—LEAKAGE IN TRANSMISSION LINES, 1944

	Equivalent miles of 3 inch pipe	Volume received	Volume delivered	Actual leakage	Average pressure on pipe lines
		M cu. ft.	M cu. ft.	M cu. ft.	lbs. per sq. in.
Gas field to Sarnia and Petrolia.....	385.61	3,053,916	2,973,800	80,116	40–80
Glenwood to Hamilton...	710.05	1,661,493	1,603,382	58,111	60–75
Glenwood to Leamington.	54.65	409,263	387,057	22,206	65
Gas field to Ridgetown...	78.98	288,966	215,967	72,999	25–80
Gas field to Bothwell.....	32.93	44,936	46,955	(1)	30–50
Dunnville to St. Catharines	57.01	580,758	555,791	24,967	40–60
Gas field to Windsor.....	356.73	2,046,777	2,004,798	41,979	30–80
Galt line (to Hespeler)....	14.45	212,096	212,474	(1)	25
Hamilton line.....	70.52	175,563	172,912	2,651	15–50
Tilbury East field line....	3.74	7,759	7,336	423	100
Dawn field to London....	322.76	957,841	936,560	21,281	40–80
Leamington West.....	20	150,638	138,928	11,710	65
Total.....	2,107.43	9,590,006	9,255,960	336,443	.....

[1]These transmission lines show a gain of 2,397 M cubic feet.

	M. cu. ft.
Actual leakage.....	336,443
Gain[1].....	2,397
Net loss.....	334,046

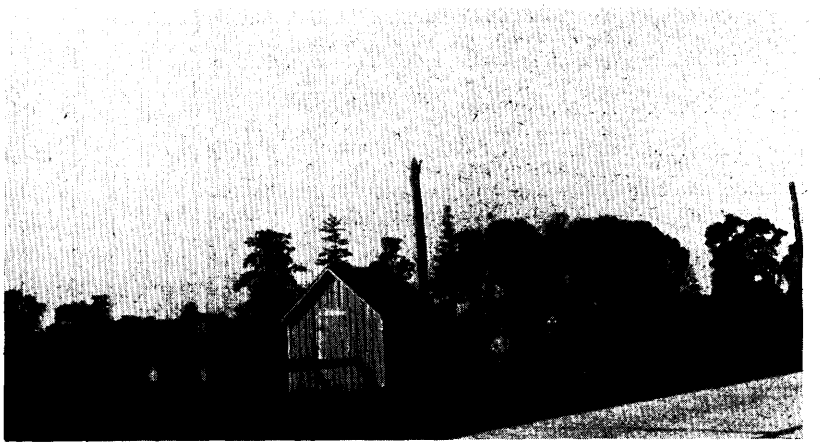
Propane as a Supplement to Natural Gas

The gases used to supplement the supply of natural gas, and the plants where these are produced, were fully described in the report[1] for 1941. These plants have operated during the winter season of each year since they were built and, so far as operation is concerned, have proved to be satisfactory. In the case of the Hamilton, Brantford, and Windsor plants, propane or butane is delivered from various oil refineries and converted into gas, as described in the 1941 report. The capacity of each plant is approximately 5,000 M cubic feet daily. During the past two years so many new uses have been found for propane

[1]Ont. Dept. Mines, Vol. LI, 1942, pt. 5, pp. 3-6.

and butane for domestic and industrial heating that the demand in winter months now exceeds the supply.

On January 3, 1945, the peak day output of the propane plant at Brantford was 2,792 M cubic feet of gas, and for the week following the production was more than 2,000 M cubic feet each day. Owing to a breakdown in deliveries of cars over the snowbound railways, the supply of propane was deficient, and by a special arrangement, through the Power Controller, oil was made available to a large war industry supplied by the Union Gas Company. This enabled the Union Gas Company to supply the Dominion Natural Gas Company with sufficient natural gas to relieve the shortage in the Brantford area[1] during January and February. The day of peak demand was on January 7, when slightly more than 4,000 M cubic feet of propane and natural gas was sent out to augment the supplies in this area. The propane plant, having a capacity of 5,000 M cubic feet, could have met this demand had the propane been available.



Gas purification plant of the Dominion Natural Gas Company in the Declute field.

With the above experience in mind, a most careful study of the supply of gas to this area was immediately made. In March and April, 1945, it was evident that the war in Europe was drawing to a close, but there was no intention of slackening the output of war industries since the war effort was turned toward the Japanese. Although no great quantity of natural gas is used by war industries in this area, it is most essential where it is required. With regard to house-heating, all convertible burners have been removed, and it would not be wisdom to expect that the heating load would be reduced by reason of milder weather in the coming winter. Preparations, therefore, were made to enlarge the propane storage capacity from 200,000 to 400,000 gallons. This is a 10-day supply based on the daily peak of the winter of 1944–45, or a two weeks' supply based on the weekly peak. If the snow conditions in 1945–46 should be as severe as the preceding winter, even the enlarged storage capacity may not meet the demand, because a continuous delivery of 5 cars daily is required to maintain a full supply.

[1]The Brantford area refers to the Dominion Natural Gas Company's lines between London and Hamilton.

The best calculations are of little avail against adverse weather and the priority demand of war industry in Canada or in the United States, where at least half the supply originates. Overcrowded railway traffic causes most delay; on more than one occasion it is reported that a car of propane shipped from Oklahoma to Brantford arrived one day earlier than a car shipped from Montreal on the same day. Limited loading and unloading facilities is another cause of delay, and quite often a surplus of empty cars accumulates at the refinery or full cars at the unloading point. These are some of the factors that may cause a temporary shortage of propane in the Brantford plant, which is wholly dependent on propane for its supply of gas in extreme weather. In Hamilton and Windsor, propane is only a supplementary supply, and a serious shortage of fuel is not likely.

The peak days' demand in the Brantford area over the last four years is as follows:—

	January peak		April peak	
	Peak day	Peak delivery	Peak day	Peak delivery
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.
1942	19,858	15,200	15,200	13,400
1943	[1]15,850	15,400	13,800	13,300
1944	15,185	13,600	14,000	11,800
1945	16,100	13,900	.....	.....

[1]On three days, two in January and one in February.

The above table shows the peak demand of gas for all purposes in the Brantford area and the ability of the gas fields to supply the demand. It is worth noting that the deliverable capacity of the wells was lower in April than in January, following the heavy demand during the winter.

Work of the Department

The demand of more and more men for war has hit the Ontario Civil Service as well as the natural gas industry; and changes in personnel have interfered with continuity of work. Accurate maps of gas fields are of greatest importance, especially at this time, when a great endeavour is being made to find room for more wells in the old fields, particularly the Haldimand field. It is quite clear that the locations of wells were rarely measured in the early days of the field, and too many are estimated at the present time. The habit of naming a road allowance a "concession" is the source of many errors in the field maps that reach the Department. As a result, maps and logs published by the Department reflect these errors. Along with this, the half lot lines cause errors. Very few surveys in Southwestern Ontario are based on the cardinal points of the compass, and where the lot lines run at 45 degrees from the quadrant, they prove to be a great stumbling block to operators who are not familiar with maps and directions. For these and other reasons, the Department is undertaking a complete revision of their maps. It is hoped that a preliminary check by the Department's inspector in the field, followed by a second check in the office of the Natural Gas Commissioner, will find errors in well locations before they are placed on the maps.

Plugging wells has become a serious problem. In 1944 there were 197 gas wells abandoned, and they must be properly plugged. As it may take as long as three days to plug a well, one inspector cannot possibly be present and inspect the plugging of 197 wells in one year. It is the responsibility of well owners to plug a well as laid down in the regulations, and it is in the interest of all operators who have producing wells to so plug abandoned and dead wells that their own and the wells of others will not be damaged. To meet this situation, the Inspector has left the large operators with the responsibility and has endeavoured to arrange his many duties so that he can be present when small and inexperienced operators are plugging their wells.

Licenses Issued in 1944

The Natural Gas Conservation Act, R.S.O., 1937, The Well Drillers' Act, R.S.O., 1937, and the Regulations made under these Acts require that the several operations carried out shall be done under license. Tables X to XIV show a list of those to whom licenses were issued during 1944. The licenses required under the above Acts and the cost of each are as follows:—

To Lease and Prospect for Natural Gas	$5.00
To Drill or Bore for Natural Gas or Oil	5.00
To Produce Natural Gas	10.00
To Distribute Natural Gas	10.00
To Operate Natural Gas Pipe-Lines	10.00

TABLE X—OPERATORS LICENSED TO LEASE AND PROSPECT FOR NATURAL GAS, 1944

License No.	Name	Address
6027	Allied Gas Syndicate	Cayuga, Ont.
6095	Back, Morris	Toronto, Ont.
6042	Baldwin, George J.	Cayuga, Ont.
6039	Barnhart, Chas.	Chatham, Ont.
6051	Beattie, J. A.	Glencoe, Ont.
6053	Bell, Brian M.	Simcoe, Ont.
6086	Benner, K. W.	Fisherville, Ont.
6084	Blackwell, G. A.	Port Colborne, Ont.
6088	Brown, J. George	Amherstburg, Ont.
6063	Brown, Newton	Cayuga, Ont.
6064	Burton, J. T.	Toronto, Ont.
6071	Canadian Penn-Grade Producers	Brantford, Ont.
6030	Chalton, Wm. E.	Ingersoll, Ont.
6146	Coates, Wm. A.	Tillsonburg, Ont.
6054	Collard, A. P.	Dunnville, Ont.
6061	Coste, Eugene, and Co.	Toronto, Ont.
6034	Coste, L. A.	Chatham, Ont.
6065	Dolphin, Ronald	Strathroy, Ont.
6070	Drake, E. A.	Walkerville, Ont.
6043	Dykes, Wm.	Toronto, Ont.
6058	Forrest, W. L.	Goderich, Ont.
6093	Freer, Clifford	Kerrwood, Ont.
6031	Gillis, Arthur	Selkirk, Ont.
6077	Goff, Ernest A., Jr	Saginaw, Mich.
6083	Hartley, A.	Toronto, Ont.
6075	Hoover, A. E.	Selkirk, Ont.
6094	Hope, Wm. J.	Leamington, Ont.
6068	House, Chas. C.	Stevensville, Ont.
6055	Hunter and Mahler	Charing Cross, Ont.
6033	Jamieson, A. H.	Tillsonburg, Ont.

TABLE X—OPERATORS LICENSED TO LEASE AND PROSPECT FOR NATURAL GAS, 1944—*Continued*

License No.	Name	Address
6044	Jasperson, Bon	Kingsville, Ont.
6062	Jenkins, Stanley S.	Buffalo, N.Y.
6098	Jones, J. P.	Toronto, Ont.
6135	Kidd, L. W.	Listowel, Ont.
6047	Kiff, Harry	Leamington, Ont.
6049	Kiff, Wm.	Leamington, Ont.
6099	Liley, A. E.	Detroit, Mich.
6048	Lymburner Bros. and Webber	Dunnville, Ont.
6080	McGill, Jos.	Bothwell, Ont.
6076	McGuire, R. L.	Saginaw, Mich.
6050	McKillop, Wm.	Hamilton, Ont.
6096	McLean, Malcolm	Collingwood, Ont.
6057	Morningstar, Roy	Stevensville, Ont.
6056	Morris, E. R.	St. Louis, Mich.
6097	Neff, Raymond L.	Sherkston, Ont.
6090	Nie, Wm. E.	Ridgeway, Ont.
6029	Oag, E. V.	Toronto, Ont.
6085	Okiok Enterprises	Toronto, Ont.
6082	Rahn, C. H.	Grimsby, Ont.
6036	Reaume, H.	Chatham, Ont.
6045	Reicheld, F. W.	Jarvis, Ont.
6040	Reichheld, O. E.	Chatham, Ont.
6035	Sadlier, L.	Chatham, Ont.
6038	Scullard, Fred B.	Chatham, Ont.
6079	Sherk, Perry M.	Sherkston, Ont.
6060	Sider, Andrew	Stevensville, Ont.
6032	Smiley, Thomas	Blackheath, Ont.
6089	Smith, Robt. H.	Lowbanks, Ont.
6078	Stanley, W. E.	Bothwell, Ont.
6037	Stevens, Wm.	Chatham, Ont.
6081	Stewart, Elgin	Jarvis, Ont.
6073	Stover, R. Martin	Highgate, Ont.
6041	Thompson, J.	Chatham, Ont.
6046	Thompson, Verne	Ruthven, Ont.
6074	Tidy, Chas. P.	Toronto, Ont.
6072	Treleaven, A.	London, Ont.
6059	Walker, C. R.	Windsor, Ont.
6087	Walsh, Jos. F.	Buffalo, N.Y.
6052	Walter, H. A.	Simcoe, Ont.
6069	Welland County Gas Syndicate	Stevensville, Ont.
6091	Whiteside, F. B.	Gore Bay, Ont.
6067	Whittal, Frank	Amherstburg, Ont.
6092	Williams, D. R.	Gore Bay, Ont.
6066	Wood, Alton J.	Strathroy, Ont.

TABLE XI—OPERATORS LICENSED TO DRILL OR BORE FOR NATURAL GAS OR OIL, 1944

License No.	Name	Address
1380	Ashton, J. L.	Chatham, Ont.
1381	Ashton, J. L.	Chatham, Ont.
1315	Central Ontario Gas and Oil Well Drilling Co.	Toronto, Ont.
1316	Central Ontario Gas and Oil Well Drilling Co.	Toronto, Ont.
1363	Culver, Marvin	Selkirk, Ont.
1360	Demaray, Clarence	Kerwood, Ont.
1356	Dennis, Gordon A.	Selkirk, Ont.
1369	Dolphin, Neil Peter	Strathroy, Ont.
1366	Earl, Sydney B.	Kerwood, Ont.

TABLE XI—OPERATORS LICENSED TO DRILL OR BORE FOR NATURAL GAS OR OIL, 1944—*Continued*

License No.	Name	Address
1329	Elk Development Syndicate	Dunnville, Ont.
1387	Emerson, Lloyd W	Wainfleet, Ont.
1353	Evans, H. L	Tillsonburg, Ont.
1354	Evans, H. L	Tillsonburg, Ont.
1386	Gilmour Bros	Dunnville, Ont.
1368	Holmes, E. B	Bothwell, Ont.
1372	Hoover, A. E	Selkirk, Ont.
1371	Hoover and Donald	Selkirk, Ont.
1365	House, Chas. C	Stevensville, Ont.
1379	Hussey, W. J	Petrolia, Ont.
1389	Ivy Drilling Co., Ltd	St. Catharines, Ont.
1331	Jackson, P. L., and Co	Dunnville, Ont.
1332	Jackson, P. L., and Co	Dunnville, Ont.
1333	Jackson, P. L., and Co	Dunnville, Ont.
1334	Jackson, P. L., and Co	Dunnville, Ont.
1318	Jasperson, Bon	Kingsville, Ont.
1324	Kiser Bros	Chatham, Ont.
1325	Kiser Bros	Chatham, Ont.
1326	Kiser Bros	Chatham, Ont.
1327	Kiser Bros	Chatham, Ont.
1352	Lather, Donald	Thamesville, Ont.
1335	Lauer, D. G	Tillsonburg, Ont.
1336	Lauer, D. G	Tillsonburg, Ont.
1322	Lymburner Bros. and Webber	Dunnville, Ont.
1439	McCutcheon, Thos. J	Dunnville, Ont.
1440	McCutcheon, Thos. J	Dunnville, Ont.
1341	McKechnie, S	Dunnville, Ont.
1342	McKechnie, S	Dunnville, Ont.
1343	McKechnie, S	Dunnville, Ont.
1344	McKechnie, S	Dunnville, Ont.
1345	McKechnie, S	Dunnville, Ont.
1346	McKechnie, S	Dunnville, Ont.
1347	McKechnie, S	Dunnville, Ont.
1348	McKechnie, S	Dunnville, Ont.
1349	McKechnie, S	Dunnville, Ont.
1350	McKechnie, S	Dunnville, Ont.
1328	McKillop, Wm	Hamilton, Ont.
1362	McLister, J. J	Dunnville, Ont.
1377	McMullen, Richard	Manitowaning, Ont.
1340	Morris, E. R	St. Louis, Mich.
1385	Mott, G. L	Lynden, Ont.
1319	Nagel, Elmer	Stevensville, Ont.
1355	Patterson and Culver	Dunnville, Ont.
1374	Patterson, Culver, and Patterson	Dunnville, Ont.
1323	Perkins, J. E	Dunnville, Ont.
1378	Port Colborne-Welland Gas and Oil Co., Ltd	Port Colborne, Ont.
1358	Rawlings, Frank S	Chatham, Ont.
1384	Rawlings, George H	Chatham, Ont.
1361	Ricker, Arthur	Canboro', Ont.
1351	Roth, F. and H	Dunnville, Ont.
1364	Shank, Ernest	Selkirk, Ont.
1376	Shank, Ernest	Selkirk, Ont.
1391	Shaw, S. D	Chatham, Ont.
1339	Smith and Ehde	Lowbanks, Ont.
1367	Stanley and McCrie	Bothwell, Ont.
1375	Stewart, Elgin	Jarvis, Ont.
1320	Stubble, H. H	Chatham, Ont.
1337	Swayze and Nauman	Simcoe, Ont.
1359	Swent, Wm. N	Selkirk Ont.
1317	Union Gas Co. of Canada, Ltd	Chatham, Ont.
1330	Walter Gas Syndicate, Ltd	Simcoe, Ont.
1370	W. C. Patterson Gas Co., Ltd	Jamestown, N.Y.
1390	Willits, G. E	Bothwell, Ont.
1388	Wilson-Sullivan Development Co., Ltd	Sarnia, Ont.
1392	Windover, Wm	Sarnia, Ont.

TABLE XII—OPERATORS LICENSED TO PRODUCE NATURAL GAS, 1944

License No.	Name	Address
1662	Achilles Oil and Gas Synd. and P. L. Jackson	Toronto, Ont.
1682	Ajax Oil and Gas Co., Ltd.	Toronto, Ont.
1775	Aloka Oil and Gas Co., Ltd.	Toronto, Ont.
1694	Barnhart, Mrs. E.	Stevensville, Ont.
1779	Bates, G. J. and N.	Humberstone, Ont.
1802	Beacon Natural Gas Syndicate	Kitchener, Ont.
1663	Beaver Oil and Gas Synd. and P. L. Jackson	Toronto, Ont.
1794	Bertie Township Gas and Oil Syndicate	Fisherville, Ont.
1739	Bliss, D. E.	Tillsonburg, Ont.
1778	Brindley and Harper	Dunnville, Ont.
1767	Broadway Gas Syndicate	Cayuga, Ont.
1713	Buck, C. S.	Port Rowan, Ont.
1693	Burchell Natural Gas and Oil Syndicate	Listowel, Ont.
1698	Canadian Natural Gas Syndicate	Simcoe, Ont.
1719	Canfield Gas Syndicate	Windsor, Ont.
1678	Canfield Natural Gas Co., Ltd.	Dunnville, Ont.
1714	Cartwright, S. E.	Detroit, Mich.
1752	Central Pipe Line Co., Ltd.	Chatham, Ont.
1927	Central Seneca Gas Syndicate	Cayuga, Ont.
1680	Columbia Natural Gas and Oil Co., Ltd.	Hamilton, Ont.
1721	Connor and McKechnie	Dunnville, Ont.
1688	Coronation Gas Syndicate	Stevensville, Ont.
1724	Dain City Gas Syndicate	Welland, Ont.
1715	Dawson, Ralph	Merlin, Ont.
1770	Delhi Gas Syndicate	Cayuga, Ont.
1749	Dereham Gas and Oil Co., Ltd.	Toronto, Ont.
1743	Domestic Gas and Oil Co., Ltd.	Blyth, Ont.
1660	Dominion Natural Gas Co., Ltd.	Buffalo, N.Y.
1664	Dorset Oil and Gas Synd. and P. L. Jackson	Toronto, Ont.
1738	Dunn Natural Gas Co., Ltd.	St. Catharines, Ont.
1718	Dunnville-Detroit Gas Syndicate	Detroit, Mich.
1706	Economy Natural Gas Syndicate	Stratford, Ont.
1783	Elgin Prospecting Syndicate	Sherkston, Ont.
1672	Elk Development Syndicate	South Cayuga, Ont.
1750	Emerald Gas Syndicate	Toronto, Ont.
1801	Emerson, Harry L.	Dunnville, Ont.
1704	Featherstone, Roy	Caledonia, Ont.
1723	Fisherville Gas Co.	Fisherville, Ont.
1755	Fleet Aircraft, Ltd.	Fort Erie North, Ont.
1883	Fletcher, Mrs. Eva	Glanford Station, Ont.
1720	Gas Producers Syndicate	Detroit, Mich.
1754	Gifford, A., and Son	Cayuga, Ont.
1689	Glenney, Elizabeth A.	Dunnville, Ont.
1685	Grand River Gas and Oil Syndicate	Canfield, Ont.
1758	Grimsby Natural Gas Co., Ltd.	Grimsby, Ont.
1768	Haldimand Gas Syndicate	Cayuga, Ont.
1772	Haldimand Natural Gas Syndicate	Stevensville, Ont.
1717	Hiawatha Gas and Oil Co.	Hamilton, Ont.
1753	Highbank Oil, Ltd.	Chatham, Ont.
1784	Hill, A. W., and Sons	Coatsworth, Ont.
1727	Houk Syndicate	Dunnville, Ont.
1696	House, C. C.	Stevensville, Ont.
1730	Ideal Gas Syndicate	Fisherville, Ont.
1674	Jackson, P. L.	Dunnville, Ont.
1675	Jackson and Graff Syndicate	Dunnville, Ont.
1666	Jasperson, Bon	Kingsville, Ont.
1690	Jenkins, Stanley S.	Buffalo, N.Y.
1728	Kelly Gas and Oil Syndicate	Toronto, Ont.
1799	Kent Gas Syndicate and W. E. Stanley	Toronto, Ont.
1729	Lake Erie Gas Co.	Toronto, Ont.
1684	Lakeshore Gas and Oil Syndicate	Stevensville, Ont.
1764	Lincoln Natural Gas, Ltd.	Fort Erie North, Ont.
1737	Little, R. W.	Toronto, Ont.
1736	Locators Oils, Ltd.	Toronto, Ont.
1795	Lomac Gas and Oil Co., Ltd.	Port Stanley, Ont.
1671	Lymburner Bros. and Webber	Dunnville, Ont.

TABLE XII—OPERATORS LICENSED TO PRODUCE NATURAL GAS, 1944—*Continued*

License No.	Name	Address
1691	McDougall, S. A.	Toronto, Ont.
1707	McKechnie, S.	Dunnville, Ont.
1769	Mehlenbacher, L. B.	Cayuga, Ont.
1781	Midfield Gas Corp., Ltd.	Toronto, Ont.
1733	Minor, C. I., and Luck, J.	Cheltenham, Ont.
1705	Mohawk Gas and Oil Syndicate	Hamilton, Ont.
1787	Monarch Gas and Oil Syndicate	Fisherville, Ont.
1725	New Tillsonburg Oil and Gas Co., Ltd.	Toronto, Ont.
1793	Niagara Gas Syndicate	Fisherville, Ont.
1776	Niece, Elmond	Lowbanks, Ont.
1669	North Cayuga Gas Syndicate	Cayuga, Ont.
1667	North Shore Gas Co.	Selkirk, Ont.
1803	Patterson and Culver	Dunnville, Ont.
1791	Peacock Point Gas and Oil Syndicate	Fisherville, Ont.
1745	Petrol Oil and Gas Co., Ltd.	Toronto, Ont.
1800	Pine Ridge Gas Co., Ltd.	Port Stanley, Ont.
1777	Port Colborne-Welland Gas and Oil Co., Ltd.	Port Colborne, Ont.
1702	Povec Gas Syndicate	Tillsonburg, Ont.
1709	Prairie Gas and Oil Co., Ltd.	Toronto, Ont.
1726	Provincial Gas Company, Ltd.	Fort Erie North, Ont.
1771	Rainham Gas Syndicate	Cayuga, Ont.
1668	Reicheld, F. W.	Jarvis, Ont.
1785	Ricker, Arthur	Canboro', Ont.
1780	Riley, J. V.	Simcoe, Ont.
1760	Romney Oil and Gas Co., Ltd.	Toronto, Ont.
1692	Rossmore Exploration, Ltd.	Toronto, Ont.
1679	Roth, F. and H.	Dunnville, Ont.
1735	Rowe, E. P., Estate	Toronto, Ont.
1670	Royal Gas Syndicate	Stevensville, Ont.
1686	Salina Gas Co., Ltd.	Chatham, Ont.
1789	Sandusk Gas Syndicate	Fisherville, Ont.
1748	Sarnia Oil and Gas Co., Ltd.	Toronto, Ont.
1747	Sherk, Perry M.	Sherkston, Ont.
1746	Sherk and Carruthers	Sherkston, Ont.
1762	Sherk and Nagel	Stevensville, Ont.
1910	Sherk and Learn	Sherkston, Ont.
1774	Shurr and Shank	Jarvis, Ont.
1687	Sider, Andrew and Jesse	Stevensville, Ont.
1797	Sider, Norman	Sherkston, Ont.
1676	Smith and Ehde	Lowbanks, Ont.
1681	South Norwich Gas and Oil Syndicate	Norwich, Ont.
1665	Sparton Oil and Gas Synd. and P. L. Jackson	Toronto, Ont.
1867	Springvale Gas and Oil Co., Ltd.	Hagersville, Ont.
1788	Standard Gas and Oil Syndicate	Fisherville, Ont.
1798	Stanley Gas Synd. and P. L. Jackson	Toronto, Ont.
1683	Star Gas Syndicate	Ridgeway, Ont.
1677	Sterling Gas Co., Ltd.	Guelph, Ont.
1697	Stevensville Natural Gas and Fuel Co.	Stevensville, Ont.
1757	Stewart and Stewart	Jarvis, Ont.
1773	Stover, F. H., and Associates	Chatham, Ont.
1761	Stromwell Gas Company	Tillsonburg, Ont.
1716	Sundy Gas Wells	Dunnville, Ont.
1731	Superior Gas Syndicate	Fisherville, Ont.
1712	Tanner, F. O.	Detroit, Mich.
1732	Till Gas Syndicate	Tillsonburg, Ont.
1661	Union Gas Co. of Canada, Ltd.	Chatham, Ont.
1710	Victoria Gas Co.	Dunnville, Ont.
1759	Victory Oil and Gas Co.	London, Ont.
1700	Wainfleet Gas Co., Ltd.	Jamestown, N.Y.
1766	Walpole Gas Syndicate No. 1	Cayuga, Ont.
1765	Walpole Gas Syndicate No. 2	Cayuga, Ont.
1673	Walter Gas Syndicate, Ltd.	Simcoe, Ont.
1699	W. C. Patterson Gas Co., Ltd.	Jamestown, N.Y.
1695	Welland County Gas Syndicate	Stevensville, Ont.
1740	Western Ontario Natural Gas Co., Ltd.	St. Catharines, Ont.
1804	Willoughby Gas Syndicate	Chippawa, Ont.

TABLE XIII—OPERATORS LICENSED TO DISTRIBUTE NATURAL GAS, 1944

License No.	Name	Address
665	Beaver Utilities, Ltd.	Toronto, Ont.
678	Belmont Gas Co.	Windsor, Ont.
658	Canfield Natural Gas Co., Ltd.	Dunnville, Ont.
673	Central Pipe Line Co., Ltd.	Chatham, Ont.
656	City Gas Co. of London	London, Ont.
653	Dominion Natural Gas Co., Ltd.	Buffalo, N.Y.
672	Dunn Natural Gas Co., Ltd.	St. Catharines, Ont.
680	Emerson, H. L.	Dunnville, Ont.
668	Fisherville Gas Co	Fisherville, Ont.
666	Fonthill-Ridgeville Gas Co., Ltd.	Fonthill, Ont.
675	Grimsby Natural Gas Co., Ltd.	Grimsby, Ont.
670	Houk Syndicate	Dunnville, Ont.
664	Jackson, P. L.	Dunnville, Ont.
657	Jasperson, Bon	Kingsville, Ont.
674	Leamington, Town of	Leamington, Ont.
677	Midfield Gas Corp., Ltd.	Toronto, Ont.
660	Norotto Gas Co., Ltd.	Norwich, Ont.
663	Oil Springs Oil and Gas Co., Ltd.	Oil Springs, Ont.
662	Oxford Pipe Line Co., Ltd.	Toronto, Ont.
676	Port Colborne-Welland Gas and Oil Co., Ltd.	Port Colborne, Ont.
669	Provincial Gas Co., Ltd.	Fort Erie North, Ont.
667	Sundy Gas Wells	Dunnville, Ont.
654	Union Gas Co. of Canada, Ltd.	Chatham, Ont.
652	United Gas and Fuel Co. of Hamilton, Ltd.	Hamilton, Ont.
661	W. C. Patterson Gas Co., Ltd,	Jamestown, N.Y.
651	Wentworth Gas Co., Ltd.	Hamilton, Ont.
655	Windsor Gas Co., Ltd.	Windsor, Ont.

TABLE XIV—OPERATORS LICENSED TO OPERATE PIPE LINES, 1944

License No.	Name	Address
139	Central Pipe Line Co., Ltd.	Chatham, Ont.
137	Dominion Natural Gas Co., Ltd.	Buffalo, N.Y.
140	Oxford Pipe Line Co., Ltd.	Toronto, Ont.
138	Union Gas Co. of Canada, Ltd.	Chatham, Ont.
136	Wentworth Gas Co., Ltd.	Hamilton, Ont.

Logs of Wells

Logs as submitted by the drillers for the 338 gas and oil wells completed during 1944 are included in the following pages. An accurate location of these wells may be obtained from the Natural Gas Commissioner's office upon request. All information regarding water horizons and gas and oil horizons is given, but on the request of companies doing exploratory drilling, the open flow of the wells is not shown. Under regulations of The Well Drillers' Act, R.S.O. 1937, Chapter 50, samples of rock cuttings have been taken at representative wells and, as time permits, will be examined and placed on record for future reference. Information has come from the geological departments of more than one company that great delay and expense is necessary before the logs as published in previous departmental reports can be converted into usable form. In line with their requests, instead of showing the thickness of a formation, the depth to the bottom of the formation is shown.

ABBREVIATIONS

B.F.	Broken front.
Con.	Concession.
Ft.	Feet.
G.R.	Grand river.
L.E.	Lake Erie.
N.T.R.	North of Talbot Road.
R.R.	River range.
S.D.R.	South of Dover Road.
S.E.R.	South of Egremont Road.
S.S.C.R.	South of Stoney Creek Road.
S.T.R.	South of Talbot Road.
Tp.	Township
W.	West.
W.T.C.R.	West of Townsend-Caledonia Road.

Brant County

CANADIAN PENN-GRADE PRODUCERS

Hartley Sisters No. 9, lot 15, W. of Mohawk Mission lot, Onondaga tp.

Completed October 10, 1944.
Dry hole.

Formation	Depth, ft.
Surface	107
Lime	394
Shale	447
Clinton	469
Red Medina	496
Shale	559
White Medina	572
Red shale	576

Fresh water at 112 and 310 feet; salt water at 564 feet.

PETROL OIL AND GAS CO., LTD.

H. Green No. 1, lot 61, B.F., Tuscarora tp.

Completed July 20, 1944.
Dry hole.

Formation	Depth, ft.
Surface	60
Salina	185
Niagara	465
Shale	515
Clinton	545
Red Medina	560
Cabot Head	620
White Medina	639
Queenston	640

Show of gas at 533 feet.
Fresh water at 80 feet; sulphur water at 115 feet.

PETROL OIL AND GAS CO., LTD.

L. Jamieson No. 1, lot 24, con. I, Tuscarora tp.

Completed August 16, 1944.
Dry hole.

Formation	Depth, ft.
Surface	60
Salina	320
Niagara	422
Rochester	572
Clinton	602
Red Medina	617
Cabot Head	672
White Medina	692
Queenston	695

Show of gas at 675 feet.
Fresh water at 67 feet.

PETROL OIL AND GAS CO., LTD.

A. Moses No. 1, lot 2, con. III, Tuscarora tp.

Completed October 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	57
Salina	260
Niagara	502
Shale	552
Clinton	582
Red Medina	595
Shale	655
White Medina	675
Red shale	676

Show of gas at 557 feet.
Fresh water at 60 feet.

PETROL OIL AND GAS CO., LTD.

G. Smith No. 1, lot 31, con. I, Tuscarora tp.

Completed September 16, 1944.
Dry hole.

Formation	Depth, ft.
Surface	70
Salina	225
Niagara	535
Shale	588
Clinton	620
Red Medina	635
Shale	695
White Medina	711
Queenston	713

Show of gas at 590 feet.
Fresh water at 80 feet; sulphur water at 130 feet.

Cochrane District

MACDYKE OIL AND MINING INDUSTRIES, LTD.

Crown Lease No. 1, mileage 113½ W. of T. and N.O. railway, Hobson tp.

Completed April 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	95
Shale	207
Lime	212
Shale	234
Lime	347
Clay	445
Lime	520
No sample	525
White lime	550
No sample	560
Light-grey lime	575
No sample	603

Fresh water at 85, 135, 520, and 575 feet; sulphur water at 250 feet.

Elgin County

J. T. Burton

Tinney Bros. No. 1, lot B, con. V, Aldborough tp.
Completed February 15, 1944.
Dry hole.

Formation	Depth, ft.
Surface	202
Lime and shale	220
Lime	225
Soap and shale	401
Lime	406
Soap	432
Lime	436
Soap	437
Lime	540
Flint	555
Lime	600
Sand	615

Fresh water at 205 to 220 feet; salt water at 610 feet.

Dominion Natural Gas Co., Ltd.

C. Pfeifer No. 1, lot 19, con. XI, Aldborough tp.
Completed October 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	358
Lime	400
Brown lime	640
Brown and grey lime	740
Grey and brown sharp sand	840
Grey sharp sand	915
Grey lime	945
Brown lime	1,030
Brown and blue lime	1,070
Blue lime and gypsum	1,185
Brown and blue lime	1,390
Brown lime and salt	1,440
Brown lime	1,500
Brown and grey lime	1,600
Brown lime	1,820
Grey lime	1,838
Grey shale	1,885
Clinton	1,894
Red shale	1,915
Blue shale	1,945
Red and blue shale	1,965
Blue shale	1,995

Fresh water at 317 and 362 feet; black water at 525 and 590 feet; salt water at 915, 1,600, and 1,830 feet.

Union Gas Co. of Canada, Ltd.

E. L. and L. F. Carter No. 1, lot 31, con. VII, Malahide tp.
Completed March 13, 1944.
Dry hole.

Formation	Depth, ft.
Surface	252
Grey lime	340
Brown lime	422
Grey lime	478
Sharp sand	595
Brown lime	646
Shale and gypsum	720
Shale	750
Brown lime	878
Brown lime and shale	964
Brown lime	1,021
Grey lime	1,038
Brown lime	1,048
Grey lime	1,103

Fresh water at 95, 150, and 257 feet; sulphur water at 345 and 398 feet; salt water at 1,100 feet.

Union Gas Co. of Canada, Ltd.

L. L. McEown No. 1, lot 15, gore con. VII, Malahide tp.
Completed January 14, 1944.
Dry hole.

Formation	Depth, ft.
Surface	232
Grey and brown lime	260
Brown lime	400
Brown shale	435
Brown lime	455
Sharp sand	525
Brown shale	560
Grey lime	600
Shale and gypsum	615
Brown lime	625
Shale and gypsum	725
Brown lime	730
Shale and gypsum	740
Brown lime	830
Shale and gypsum	930
Brown lime	945
Shale and gypsum	960
Grey lime	985
Brown lime	1,020
Grey lime	1,035

Show of gas and oil at 260 feet.
Fresh water at 80, 105, 155, 220, and 232 feet; sulphur water at 280 feet; salt water at 1,030 to 1,035 feet.

Union Gas Co. of Canada, Ltd.

L. R. Stokes No. 1, lot 14, con. VIII, Malahide tp.
Completed February 21, 1944.
Dry hole.

Formation	Depth, ft.
Surface	253
Brown lime	315
Grey lime	380
Brown lime	415
Grey lime	500
Sharp sand	580
Grey lime	625
Brown lime and shale	645
Shale and gypsum	775
Brown lime	785
Shale and gypsum	790
Brown lime	815
Shale, lime, and gypsum	820
Brown lime and shale	830
Brown lime	865
Shale and gypsum	930
Grey lime	940
Brown lime	1,035
Grey lime	1,047

Show of oil at 280 to 290 feet.
Show of gas at 1,030 feet.
Fresh water at 90, 115, 165 to 170, 205, and 254 to 260 feet; sulphur water at 380 to 390 feet; salt water at 1,042 to 1,047 feet.

Union Gas Co. of Canada, Ltd.

H. Turrill No. 1, lot 16, con. VII, Malahide tp.
Completed January 31, 1944.
Dry hole.

Formation	Depth, ft.
Surface	241
Grey lime	255
Brown lime	410
Grey lime	480
Sharp sand	575
Brown lime	634
Shale	644
Shale and gypsum	764
Brown lime	821
Brown and grey lime	881
Blue shale	955
Brown lime	965
Grey lime	1,079

Show of oil at 254 feet.
Fresh water at 135 and 254 feet; sulphur water at 495 and 690 feet.

Essex County

DRAKE AND WALKER

J. Gibb No. 1, Knapp island, 1,800 ft. S. of No. 18 highway, Malden tp.

Completed March 15, 1944.
Dry hole.

Formation	Depth, ft.
Surface	42
Grey and brown lime	81
Sand and grey lime	160
Grey and brown lime	325
Brown and grey lime	440
Shale, lime, and gypsum	529
Brown and buff lime	550
Grey shale and lime	650
Grey and buff lime	725
Grey shale and lime	810
Grey and brown lime, shale, and gypsum	840
Grey and brown lime	860
Brown lime	900
Brown and grey lime and gypsum	950
Brown and buff lime	970
Lime and gypsum	988

Show of gas at 862 and 952 feet.
Salt water at 862 feet.

DRAKE AND WALKER

G. Wood No. 1, lot 35, con. IV, Malden tp.

Completed August 20, 1944.
Dry hole.

Formation	Depth, ft.
Surface	43
Grey lime	74
White sand	131
Grey lime	328
Brown lime	359
Grey lime	451
Grey lime, shale, and gypsum	576
Grey and brown lime	656
Grey and brown lime and shale	802
Brown and grey lime	880
Brown lime	911
Grey and brown lime	967
Brown lime and gypsum	987

Show of gas at 866 and 903 feet.
Fresh water at 74 and 350 feet; salt water at 927 feet

Haldimand County

RAYMOND GLENNY

F. O'Keefe, lot 4, con. III, Canborough tp.

Completed February 18, 1944.
Producing gas well.
Rock pressure: 130 lbs.

Formation	Depth, ft.
Surface	58
Lime and shale	241
Niagara	472
Shale	521
Clinton	550
Red Medina	591
Grey shale	651
White Medina	661
Red shale	711

Gas at 565 and 656 feet.
Fresh water at 59 feet; sulphur water at 65 feet.

DOMINION NATURAL GAS CO., LTD.

W. Bate No. 2, lot 2, con. IV, S.D.R., Dunn tp.

Completed October 19, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	30
Flint	43
Lime and shale	430
Niagara	645
Shale	709
Clinton	739
Red Medina	779
Grey shale	834
White Medina	855
Red shale	883

Gas at 734 to 738, 742 to 746, and 752 to 754 feet.
Fresh water at 33 and 100 feet.

DOMINION NATURAL GAS CO., LTD.

N. Bowden No. 1, lot 2, con. I, S.D.R., Dunn tp.

Completed November 23, 1944.
Producing gas well.
Rock pressure: 270 lbs.

Formation	Depth, ft.
Surface	31
Flint	45
Lime	125
Lime and shale	420
Niagara	645
Shale	709
Clinton	739
Red Medina	779
Grey shale	834
White Medina	849
Red shale	850

Gas at 743 to 745 feet.
Fresh water at 45 feet.

DOMINION NATURAL GAS CO., LTD.

R. and C. Schwanz No. 1, lot 1, con. IV, S.D.R., Dunn tp.

Completed May 22, 1944.
Producing gas well.
Rock pressure: 325 lbs.

Formation	Depth, ft.
Surface	28
Flint	45
Lime and shale	415
Niagara	630
Shale	710
Clinton	740
Red Medina	780
Grey shale	835
White Medina	853
Red shale	855

Gas at 711, 722 to 725, 728 to 730 feet.
Fresh water at 40 feet.

MONARCH GAS AND OIL SYNDICATE

W. J. Link No. 1, lot 1, con. I, S.D.R., Dunn tp.

Completed June 24, 1944.
Producing gas well.
Rock pressure: 330 lbs.

Formation	Depth, ft.
Surface	17
Flint	52
Lime and shale	425
Niagara	640
Shale	706
Clinton	736
Red Medina	780
Grey shale	835
White Medina	853
Red shale	882

Gas at 701, 736, and 850 feet.
Fresh water at 80 feet.

MONARCH GAS AND OIL SYNDICATE

W. J. Link No. 2, lot 1, con. I, S.D.R., Dunn tp.
Completed July 26, 1944.
Producing gas well.
Rock pressure: 290 lbs.

Formation	Depth, ft.
Surface	32
Flint	49
Lime and shale	425
Niagara	632
Shale	704
Clinton	731
Red Medina	779
Grey shale	832
White Medina	850
Red shale	854

Gas at 731 feet.
Fresh water at 80 feet.

J. S. BROOKS

J. S. Brooks No. 2, lot 5, range I, G.R., Moulton tp.
Completed April 5, 1944.
Producing gas well.
Rock pressure: 120 lbs.

Formation	Depth, ft.
Surface	81
Lime and shale	355
Niagara	549
Shale	613
Clinton	643
Red Medina	683
Shale	741
White Medina	752
Red shale	803

Gas at 610, 667, and 747 feet.
Fresh water at 82 feet; sulphur water at 260 and 390 feet.

DIAMOND GAS SYNDICATE

G. Anderson No. 2, lot 17, range II, G.R., Moulton tp.
Completed March 25, 1944.
Dry hole.

Formation	Depth, ft.
Surface	100
Lime and shale	340
Niagara	580
Shale	615
Clinton	645
Red Medina	691
Shale	741
White Medina	756
Red shale	760

Fresh water at 100 feet.

DIAMOND GAS SYNDICATE

A. Paisley No. 1, lot 16, range II, G.R., Moulton tp.
Completed February 1, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	103
Lime and shale	342
Niagara	582
Shale	605
Clinton	639
Red Medina	679
Shale	722
White Medina	749

Gas at 610 feet.
Fresh water at 106 feet.

SMITH AND EHDE

W. E. Num No. 1, lot 6, gore B, Moulton tp.
Completed November 3, 1944.
Producing gas well.
Rock pressure: 250 lbs.

Formation	Depth, ft.
Surface	104
Lime and shale	310
Niagara	516
Guelph	528
Shale	591
Clinton	621
Red Medina	666
Grey shale	720
White Medina	733
Red shale	800

Gas at 597, 616, 648, and 726 feet.
Fresh water at 104 feet; sulphur water at 190 feet.

SMITH AND EHDE

G. Wallace No. 1, lot 5, gore B, Moulton tp.
Completed July 19, 1944.
Producing gas well.
Rock pressure: 250 lbs.

Formation	Depth, ft.
Surface	111
Lime and shale	315
Niagara	521
Guelph	536
Clinton	567
Red Medina	614
Grey shale	667
White Medina	675
Red shale	685

Gas at 551 and 594 feet.
Fresh water at 116 feet; sulphur water at 304 feet.

SMITH AND EHDE

G. Wallace No. 2, lot 5, gore B, Moulton tp.
Completed September 21, 1944.
Producing gas well.
Rock pressure: 250 lbs.

Formation	Depth, ft,
Surface	110
Lime and shale	312
Niagara	517
Lime	532
Shale	597
Clinton	625
Red Medina	672
Grey shale	726
White Medina	738
Red shale	813

Gas at 685 and 802 feet.
Fresh water at 111 feet; sulphur water at 288 feet.

SMITH AND EHDE

G. Wallace No. 3, lot 5, gore B, Moulton tp.
Completed December 4, 1944.
Dry hole.

Formation	Depth, ft.
Surface	107
Lime and shale	315
Niagara	520
Guelph	531
Shale	590
Clinton	627
Red Medina	666
Grey shale	720
White Medina	732
Red shale	734

Fresh water at 100 and 150 feet.

ALLIED GAS SYNDICATE

G. Hall No. 1, town of Cayuga, North Cayuga tp.

Completed June 14, 1944.
Producing gas well.
Rock pressure: 250 lbs.

Formation	Depth, ft.
Surface	52
Shale	302
Niagara	502
Shale	557
Clinton	587
Red Medina	627
Shale	680
White Medina	695
Red shale	720

Gas at 610 and 696 feet.
Fresh water at 55 feet.

BROADWAY GAS SYNDICATE

L. Williamson No. 1, lot 37, con. I, S.T.R., North Cayuga tp.

Completed June 6, 1944.
Dry hole.

Formation	Depth, ft.
Surface	8
Lime and shale	370
Niagara	600
Blue shale	660
Clinton	681
Red Medina	716
Grey shale	768
White Medina	778
Red shale	780

Show of gas at 665 and 701 feet.
Fresh water at 18 feet; sulphur water at 80 feet.

N. BROWN AND W. BALDWIN

N. Brown and W. Baldwin No. 1, town of Cayuga, North Cayuga tp.

Completed April 5, 1944.
Producing gas well.
Rock pressure: 250 lbs.

Formation	Depth, ft.
Surface	52
Shale	290
Niagara	507
Shale	552
Clinton	578
Red Medina	618
Grey shale	678
White Medina	687

Gas at 570, 585, and 615 feet.
Fresh water at 45 feet; black water at 110 feet.

DOMINION NATURAL GAS CO., LTD.

H. Foster No. 3, lot 41, con. I, N.T.R., North Cayuga tp.

Completed June 23, 1944.
Dry hole.

Formation	Depth, ft.
Surface	11
Flint	54
Lime shell	73
Lime and shale	397
Niagara	621
Shale	670
Clinton	700
Red Medina	739
Grey shale	789
White Medina	799
Red shale	804

Fresh water at 30 and 81 feet.

DOMINION NATURAL GAS CO., LTD.

H. Gifford No. 2, lot 14, con. II, North Cayuga tp.

Completed November 25, 1944.
Producing gas well.
Rock pressure: 215 lbs.

Formation	Depth, ft.
Surface	62
Lime and shale	311
Niagara	540
Shale	589
Clinton	624
Red Medina	662
Grey shale	717
White Medina	735
Red shale	738

Show of gas at 595 and 734 feet; gas at 620 to 623 feet.
Fresh water at 72 feet.

DOMINION NATURAL GAS CO., LTD.

R. and M. Kindree No. 1, lot 48, con. I, S.T.R., North Cayuga tp.

Completed March 30, 1944
Dry hole.

Formation	Depth, ft.
Surface	19
Flint	40
Lime and shale	425
Niagara	618
Shale	634
Guelph	655
Shale	717
Clinton	742
Red Medina	787
Shale	839
White Medina	851
Red shale	854

Fresh water at 35 feet; sulphur water at 90 feet.

DOMINION NATURAL GAS CO., LTD.

H. McNiece No. 1, lot 41, con. I, S.T.R., North Cayuga tp.

Completed August 17, 1944.
Dry hole.

Formation	Depth, ft.
Surface	13
Flint	60
Lime shell	92
Lime and shale	405
Niagara	624
Shale	676
Clinton	705
Red Medina	745
Grey shale	795
White Medina	807
Red shale	808

Show of gas at 705 and 720 feet.
Fresh water at 25 and 64 feet.

GRAND RIVER GAS AND OIL SYNDICATE

J. M. Conway No. 1, lot 9, con. II, North Cayuga tp.

Completed October 23, 1944.
Producing gas well.
Rock pressure: 160 lbs.

Formation	Depth, ft.
Surface	62
Lime and shale	280
Niagara	480
White lime	530
Shale	563
Clinton	589
Red Medina	625
Blue shale	690
White Medina	700
Red shale	725

Gas at 623 and 698 feet.
Fresh water at 65 feet; sulphur water at 105 feet.

GRAND RIVER GAS AND OIL SYNDICATE

M. J. Houser No. 1, lot 7, con. III, North Cayuga tp.
Completed June 19, 1944.
Producing gas well.
Rock pressure: 280 lbs.

Formation	Depth, ft.
Surface	70
Lime and shale	290
Niagara	490
White lime	540
Shale	565
Clinton	590
Red Medina	625
Blue shale	690
White Medina	700
Red shale	730

Gas at 590, 610, and 698 feet.
Fresh water at 75 feet.

GRAND RIVER GAS AND OIL SYNDICATE

F. Murphy No. 1, lot 8, con. III, North Cayuga tp.
Completed May 2, 1944.
Producing gas well.
Rock pressure: 325 lbs.

Formation	Depth, ft.
Surface	77
Lime and shale	307
Niagara	507
White lime	557
Shale	577
Clinton	603
Red Medina	638
Blue shale	703
White Medina	713
Red shale	723

Gas at 582, 587, and 711 feet.
Fresh water at 80 feet.

GRAND RIVER GAS AND OIL SYNDICATE

C. Stevens No. 2, lot 9, con. II, North Cayuga tp.
Completed December 6, 1944.
Producing gas well.
Rock pressure: 285 lbs.

Formation	Depth, ft.
Surface	65
Lime and shale	286
Niagara	486
White lime	536
Shale	571
Clinton	601
Red Medina	636
Blue shale	701
White Medina	711
Red shale	717

Gas at 599 feet.
Fresh water at 60 and 70 feet; sulphur water at 115 feet.

GRAND RIVER GAS AND OIL SYNDICATE

E. Weaver No. 1, lot 8, con. II, North Cayuga tp.
Completed September 16, 1944.
Producing gas well.
Rock pressure: 275 lbs.

Formation	Depth, ft.
Surface	69
Lime and shale	297
Niagara	497
White lime	547
Shale	574
Clinton	599
Red Medina	629
Blue shale	694
White Medina	704
Red shale	709

Gas at 613 feet.
Fresh water at 65 and 80 feet; sulphur water at 200 feet.

L. B. MEHLENBACHER

P. Bacher No. 4, lot 40, con. III, North Cayuga tp.
Completed January 19, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	12
Flint	72
Lime and shale	410
Niagara	614
Blue shale	622
Guelph	657
Shale	717
Clinton	744
Red Medina	789
Grey shale	849
White Medina	861
Red shale	863

Gas at 722 and 759 feet.
Fresh water at 46 feet.

L. B. MEHLENBACHER

A. Kindree No. 1, lot 43, con. II, North Cayuga tp.
Completed December 11, 1944.
Producing gas well.
Rock pressure: 350 lbs.

Formation	Depth, ft.
Surface	12
Flint	62
Lime and shale	435
Niagara	635
Shale	645
Guelph	668
Shale	728
Clinton	755
Red Medina	795
Grey shale	849
White Medina	864
Red shale	902

Gas at 730 and 862 feet.
Sulphur water at 70 feet.

L. B. MEHLENBACHER

J. Lint No. 1, lot 40, con. II, North Cayuga tp.
Completed April 26, 1944.
Dry hole.

Formation	Depth, ft.
Surface	12
Flint	72
Lime and shale	440
Niagara	630
Blue shale	635
Guelph	660
Shale	722
Clinton	750
Red Medina	790
Grey shale	846
White Medina	858
Red shale	860

Show of gas at 724 and 756 feet.
Fresh water at 24 feet; sulphur water at 180 feet.

L. B. MEHLENBACHER

B. Little No. 1, lot 42, con. II, North Cayuga tp.
Completed August 8, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	12
Flint	72
Lime and shale	430
Niagara	635
Shale	655
Guelph	673
Shale	738
Clinton	766
Red Medina	806
Grey shale	863
White Medina	871
Red shale	873

Gas at 750, 758, and 771 feet.
Sulphur water at 68 feet.

L. B. Mehlenbacher

B. Little No. 2, lot 42, con. II, North Cayuga tp.
Completed September 21, 1944.
Producing gas well.
Rock pressure: 265 lbs.

Formation	Depth, ft.
Surface	10
Flint	70
Lime and shale	465
Niagara	655
Shale	663
Guelph	684
Shale	736
Clinton	761
Red Medina	796
Grey shale	810

Show of gas at 738 feet; gas at 748 feet.
Sulphur water at 60 feet.

Port Colborne-Welland Gas and Oil Co., Ltd.

C. Bunn No. 1, lot 20, con. I, N.T.R., North Cayuga tp.
Completed January 26, 1944.
Dry hole.

Formation	Depth, ft.
Surface	61
Lime and shale	258
Niagara	477
Shale	538
Clinton	566
Red Medina	605
Grey shale	658
White Medina	671
Red shale	672

Fresh water at 66 feet; black water at 332 feet.

Port Colborne-Welland Gas and Oil Co., Ltd.

B. Giles No. 1, lot 21, con. I, N.T.R., North Cayuga tp.
Completed November 7, 1944.
Producing gas well.
Rock pressure: 230 lbs.

Formation	Depth, ft.
Surface	58
Lime and shale	265
Niagara	485
Shale	545
Clinton	565
Red Medina	605
Grey shale	665
White Medina	679
Red shale	680

Gas at 547 and 565 feet.
Fresh water at 55, 65, and 100 feet.

J. Shippel

J. Shippel No. 1, town of Cayuga, North Cayuga tp.
Completed December 2, 1944
Producing gas well.
Rock pressure: 250 lbs.

Formation	Depth, ft.
Surface	47
Lime and shale	282
Niagara	502
Shale	554
Clinton	583
Red Medina	624
Shale	674
White Medina	686
Red shale	728

Gas at 569 to 571, 588, and 679 feet.
Fresh water at 55 feet; black water at 94 feet.

Sparton Oil and Gas Syndicate

J. Pree No. 1, lot 36, con. I, N.T.R., North Cayuga tp.
Completed May 31, 1944.
Dry hole.

Formation	Depth, ft.
Surface	39
Lime and shale	305
Niagara	555
Shale	610
Clinton	640
Red Medina	672
Shale	737
White Medina	747
Red shale	752

Show of gas at 620 feet.
Fresh water at 105 feet.

Union Gas Co. of Canada, Ltd.

L. E. and S. Schaeffer No. 1, lot 27, Jones tract, North Cayuga tp.
Completed February 12, 1944.
Dry hole.

Formation	Depth, ft.
Surface	11
Flint	58
Lime	70
Lime and shale	434
Niagara	662
Shale	720
Clinton	745
Red Medina	792
Shale	852
White Medina	860
Red shale	863

Show of gas at 722 and 778 feet.
Fresh water at 60 and 83 feet; sulphur water at 140 feet.

Union Gas Co. of Canada, Ltd.

C. O. Schweyer No. 2, lot 26, Jones tract, North Cayuga tp.
Completed January 7, 1944.
Producing gas well.
Rock pressure: 360 lbs.

Formation	Depth, ft.
Surface	9
Flint	64
Lime	100
Lime and shale	440
Niagara	660
Shale	720
Clinton	745
Red Medina	790
Grey shale	850
White Medina	864
Red shale	895

Gas at 722, 763, and 854 feet.
Fresh water at 38 and 65 feet; sulphur water at 92 feet.

Union Gas Co. of Canada, Ltd.

A. Winger No. 1, lot 46, con. II, North Cayuga tp.
Completed November 3, 1944.
Producing gas well.
Rock pressure: 400 lbs.

Formation	Depth, ft.
Surface	10
Flint	67
Grey lime	112
Lime and shale	440
Niagara	675
Shale	727
Clinton	752
Red Medina	795
Grey shale	850
White Medina	864
Red shale	866

Gas at 749 and 753 feet.
Fresh water at 43 feet; sulphur water at 114 feet.

WALPOLE GAS SYNDICATE No. 1
P. Courish No. 1, lot 33, con. I, N.T.R., North Cayuga tp.

Completed November 30, 1944.
Dry hole.

Formation	Depth, ft.
Surface	25
Lime and shale	250
Niagara	480
Shale	528
Clinton	575
Red Medina	620
Grey shale	678
White Medina	688
Red shale	690

Show of gas at 559 feet.
Fresh water at 30 feet.

WALPOLE GAS SYNDICATE No. 1
Mrs. F. Goodwillie, lot 32, con. I, N.T.R., North Cayuga tp.

Completed August 16, 1944.
Producing gas well.
Rock pressure: 225 lbs.

Formation	Depth, ft.
Surface	48
Lime	285
Niagara	506
Shale	552
Clinton	582
Red Medina	627
Grey shale	685
White Medina	697
Red shale	700

Gas at 572 and 590 feet.
Fresh water at 80 feet.

WALPOLE GAS SYNDICATE No. 1
R. Kohler No. 1, lot 31, con. I, N.T.R., North Cayuga tp.

Completed May 16, 1944.
Producing gas well.
Rock pressure: 260 lbs.

Formation	Depth, ft.
Surface	59
Lime and shale	304
Niagara	516
Shale	569
Clinton	590
Red Medina	640
Grey shale	695
White Medina	707
Red shale	712

Gas at 574 feet.
Black water at 135 feet.

WALPOLE GAS SYNDICATE No. 1
R. Kohler No. 2, lot 31, con. I, N.T.R., North Cayuga tp.

Completed June 26, 1944.
Producing gas well.
Rock pressure: 260 lbs.

Formation	Depth, ft.
Surface	48
Lime and shale	280
Niagara	500
Grey shale	556
Clinton	583
Red Medina	628
Grey shale	682
White Medina	697
Red shale	700

Gas at 601 feet.
Fresh water at 180 feet.

WALPOLE GAS SYNDICATE No. 1
S. P. McGovern No. 1, lot 32, con. I, N.T.R., North Cayuga tp.

Completed October 3, 1944.
Producing gas well.
Rock pressure: 225 lbs.

Formation	Depth, ft.
Surface	48
Lime and shale	296
Niagara	518
Shale	566
Clinton	596
Red Medina	641
Grey shale	661

Gas at 518 and 596 feet.
Fresh water at 150 feet.

DOMINION NATURAL GAS CO., LTD.
H. L. Clarke No. 1, lot 14, con. V, Oneida tp.

Completed June 29, 1944.
Dry hole.

Formation	Depth, ft.
Surface	42
Lime and shale	262
Niagara	480
Shale	540
Clinton	565
Red Medina	606
Grey shale	658
White Medina	668
Red shale	671

Fresh water at 45 and 68 feet; black water at 225 feet.

DOMINION NATURAL GAS CO., LTD.
H. L. Clarke No. 2, lot 44, con. V, Oneida tp.

Completed July 26, 1944.
Dry hole.

Formation	Depth, ft.
Surface	46
Lime and shale	260
Niagara	479
Shale	538
Clinton	563
Red Medina	605
Grey shale	665
White Medina	675
Red shale	677

Fresh water at 67 and 89 feet.

DOMINION NATURAL GAS CO., LTD.
. W. Clarke No. 2, lot 23, con. IV, Oneida tp.

Completed February 29, 1944.
Dry hole.

Formation	Depth, ft.
Surface	43
Lime and shale	281
Niagara	501
Shale	557
Clinton	580
Red Medina	620
Grey shale	678
White Medina	688
Red shale	689

Fresh water at 42 and 46 feet; sulphur water at 119 feet.

DOMINION NATURAL GAS CO., LTD.
N. Fleming No. 2, lot 16, con. I, Oneida tp.
Completed March 29, 1944.
Producing gas well.
Rock pressure: 340 lbs.

Formation	Depth, ft.
Surface	3
Flint	38
Lime and shale	408
Niagara	638
Shale	688
Clinton	720
Red Medina	750
Shale	810
White Medina	825
Shale	828

Gas at 694 feet.
Fresh water at 63 and 165 feet.

DOMINION NATURAL GAS CO., LTD.
N. Fleming No. 3, lot 16, con. I, Oneida tp.
Completed October 11, 1944.
Dry hole.

Formation	Depth, ft.
Surface	3
Flint	45
Lime	81
Lime and shale	413
Niagara	642
Shale	694
Clinton	738
Red Medina	764
Grey shale	812
White Medina	822
Red shale	825

Fresh water at 57 feet; sulphur water at 185 feet.

DOMINION NATURAL GAS CO., LTD.
R. Ford No. 1, lot 21, con. IV, Oneida tp.
Completed April 6, 1944.
Producing gas well.
Rock pressure: 275 lbs.

Formation	Depth, ft.
Surface	41
Lime and shale	261
Niagara	471
Shale	535
Clinton	561
Red Medina	600
Grey shale	649
White Medina	664
Red shale	665

Gas at 549 to 553 feet.
Fresh water at 58 feet; sulphur water at 119 feet.

DOMINION NATURAL GAS CO., LTD.
R. Ford No. 2, lot 21, con. IV, Oneida tp.
Completed August 23, 1944.
Dry hole.

Formation	Depth, ft.
Surface	46
Lime and shale	247
Niagara	473
Shale	529
Clinton	555
Red Medina	591
Shale	651
White Medina	661
Red shale	662

Show of gas at 550 feet.
Fresh water at 40 feet; black water at 97 feet.

DOMINION NATURAL GAS CO., LTD.
E. Herod No. 1, lot 23, con. IV, Oneida tp.
Completed January 25, 1944.
Producing gas well.
Rock pressure: 240 lbs.

Formation	Depth, ft.
Surface	53
Lime and shale	294
Niagara	525
Shale	569
Clinton	596
Red Medina	636
Grey shale	691
White Medina	705
Red shale	780

Gas at 697 feet.
Fresh water at 56 feet; black water at 170 feet.

DOMINION NATURAL GAS CO., LTD.
M. Holstein No. 1, lot 20, con. IV, Oneida tp.
Completed May 30, 1944.
Dry hole.

Formation	Depth, ft.
Surface	37
Lime and shale	249
Niagara	463
Shale	522
Clinton	548
Red Medina	592
Grey shale	652
White Medina	662
Red shale	664

Fresh water at 47 feet; sulphur water at 85 feet.

DOMINION NATURAL GAS CO., LTD.
A. J. Hunter No. 1, lot 13, con. II, Oneida tp.
Completed July 20, 1944.
Dry hole.

Formation	Depth, ft.
Surface	8
Lime and shale	375
Niagara	605
Shale	657
Clinton	681
Red Medina	720
Shale	771
White Medina	787
Red shale	791

Fresh water at 62 and 76 feet.

DOMINION NATURAL GAS CO., LTD.
T. Hutton No. 1, lot 4, W.T.C.R., Oneida tp.
Completed July 1, 1944.
Dry hole.

Formation	Depth, ft.
Surface	51
Lime and shale	182
Niagara	413
Shale	464
Clinton	489
Red Medina	518
Grey shale	572
White Medina	580
Red shale	583

Show of gas at 498 to 501 feet.
Fresh water at 75 feet; black water at 160 feet.

DOMINION NATURAL GAS CO., LTD.
T. Hutton No. 2, lot 4, W.T.C.R., Oneida tp.
Completed August 1, 1944.
Dry hole.

Formation	Depth, ft.
Surface	42
Lime and shale	162
Niagara	393
Shale	437
Clinton	462
Red Medina	495
Grey shale	552
White Medina	562
Red shale	565

Show of gas at 440 and 454 feet.
Fresh water at 60 feet.

DOMINION NATURAL GAS CO., LTD.
R. A. Jepson No. 4, lot 52, con. I, Oneida tp.
Completed February 8, 1944.
Producing gas well.
Rock pressure: 275 lbs.

Formation	Depth, ft.
Surface	5
Flint	32
Lime and shale	402
Niagara	602
Blue shale	616
White lime and shale	652
Clinton and shale	701
Clinton	723
Red Medina	759
Grey shale	809
White Medina	824
Red shale	826

Gas at 713 and 741 feet.
Fresh water at 15 feet; black water at 97 feet.

DOMINION NATURAL GAS CO., LTD.
R. A. Jepson No. 5, lot 52, con. I, Oneida tp.
Completed May 9, 1944.
Producing gas well.
Rock pressure: 350 lbs.

Formation	Depth, ft.
Surface	2
Flint	38
Lime and shale	406
Niagara	619
Shale	692
Clinton	720
Red Medina	760
Grey shale	816
White Medina	826
Red shale	829

Gas at 730 and 737 feet.
Fresh water at 17, 95, and 99 feet.

DOMINION NATURAL GAS CO., LTD.
L. E. and M. S. Kett No. 1, lot 22, con. II, Oneida tp.
Completed June 21, 1944.
Dry hole.

Formation	Depth, ft.
Surface	10
Flint	30
Lime and shale	395
Niagara	625
Shale	680
Clinton	712
Red Medina	745
Grey shale	805
White Medina	819
Red shale	821

Fresh water at 30 feet

DOMINION NATURAL GAS CO., LTD.
M. and T. McDonald No. 1, lot 50, con. I, Oneida tp.
Completed October 21, 1944.
Dry hole.

Formation	Depth, ft.
Surface	5
Flint	14
Lime and shale	386
Niagara	620
Shale	680
Clinton	704
Red Medina	745
Grey shale	798
White Medina	812
Red shale	814

Fresh water at 16 feet; black water at 252 feet.

DOMINION NATURAL GAS CO., LTD.
C. O. Peart No. 2B, lot 17, con. II, Oneida tp.
Completed January 27, 1944.
Producing gas well.
Rock pressure: 360 lbs.

Formation	Depth, ft.
Surface	2
Lime and shale	395
Niagara	624
Shale	675
Clinton	700
Red Medina	741
Shale	792
White Medina	807
Red shale	811

Gas at 678 feet.
Fresh water at 90 and 200 feet.

DOMINION NATURAL GAS CO., LTD.
J. S. Reid No. 1, lot 51, con. I, Oneida tp.
Completed July 7, 1944.
Producing gas well.
Rock pressure: 325 lbs.

Formation	Depth, ft.
Surface	6
Flint	40
Lime and shale	411
Niagara	618
Shale	697
Clinton	725
Red Medina	762
Grey shale	812
White Medina	825
Red shale	827

Gas at 712 and 740 feet.
Fresh water at 20, 80, and 118 feet.

DOMINION NATURAL GAS CO., LTD.
J. S. Reid No. 2, lot 51, con. I, Oneida tp.
Completed August 19, 1944.
Dry hole.

Formation	Depth, ft.
Surface	13
Flint	32
Lime and shale	410
Niagara	600
Guelph	630
Shale	692
Clinton	716
Red Medina	760
Grey shale	810
White Medina	821
Red shale	824

Show of gas at 709, 723, and 729 feet.
Fresh water at 23 feet; black water at 205 feet.

DOMINION NATURAL GAS CO., LTD.

J. R. Rolson No. 1, lot 19, con. II, Oneida tp.

Completed May 9, 1944.
Dry hole.

Formation	Depth, ft.
Surface	4
Flint	19
Lime and shale	398
Niagara	631
Shale	681
Clinton	709
Red Medina	741
Shale	801
White Medina	816
Red shale	819

Show of gas at 703 feet.
Fresh water at 95 and 120 feet; sulphur water at 175 feet; salt water at 687 feet.

DOMINION NATURAL GAS CO., LTD.

A. Smith No. 1, lot 15, con. II, Oneida tp.

Completed February 10, 1944.
Producing gas well.
Rock pressure: 360 lbs.

Formation	Depth, ft.
Surface	10
Flint	25
Lime and shale	395
Niagara	625
Shale	675
Clinton	718
Red Medina	735
Grey shale	792
White Medina	807
Red shale	810

Gas at 682 and 698 feet.
Fresh water at 106 feet; sulphur water at 145 feet.

DOMINION NATURAL GAS CO., LTD.

A. Smith No. 2, lot 14, con. II, Oneida tp.

Completed March 2, 1944.
Dry hole.

Formation	Depth, ft.
Surface	17
Lime and shale	372
Niagara	600
Shale	652
Clinton	681
Red Medina	716
Grey shale	768
White Medina	783
Red shale	787

Fresh water at 60 and 90 feet; sulphur water at 140 feet.

DOMINION NATURAL GAS CO., LTD.

A. Smith No. 3, lot 15, con. II, Oneida tp.

Completed April 5, 1944.
Producing gas well.
Rock pressure: 310 lbs.

Formation	Depth, ft.
Surface	3
Lime and shale	375
Niagara	602
Shale	657
Clinton	685
Red Medina	721
Shale	769
White Medina	784
Red shale	785

Gas at 668 to 673 feet.
Fresh water at 76 and 90 feet; black water at 197 feet.

DOMINION NATURAL GAS CO., LTD.

A. Smith No. 4, lot 15, con. II, Oneida tp.

Completed May 12, 1944.
Dry hole.

Formation	Depth, ft.
Surface	75
Lime and shale	348
Niagara	578
Shale	627
Clinton	654
Red Medina	689
Shale	743
White Medina	758
Red shale	762

Show of gas at 633 and 665 feet.
Fresh water at 60, 90, and 115 feet.

DOMINION NATURAL GAS CO., LTD.

A. Smith No. 5, lot 15, con. II, Oneida tp.

Completed August 24, 1944.
Producing gas well.
Rock pressure: 325 lbs.

Formation	Depth, ft.
Surface	40
Lime and shale	345
Niagara	577
Shale	624
Clinton	650
Red Medina	686
Shale	739
White Medina	757
Red shale	759

Gas at 636 to 640 feet.
Fresh water at 116 feet; black water at 364 feet.

DOMINION NATURAL GAS CO., LTD.

D. Smith No. 1, lot 16, con. II, Oneida tp.

Completed June 17, 1944.
Dry hole.

Formation	Depth, ft.
Surface	2
Lime and shale	385
Niagara	615
Shale	666
Clinton	688
Red Medina	732
Grey shale	780
White Medina	796
Red shale	800

Fresh water at 80 and 130 feet; black water at 173 feet.

DOMINION NATURAL GAS CO., LTD.

D. Smith No. 2, lot 16, con. II, Oneida tp.

Completed December 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	45
Lime and shale	347
Niagara	576
Shale	626
Clinton	655
Red Medina	689
Grey shale	745
White Medina	759
Red shale	762

Show of gas at 628 and 642 feet.
Sulphur water at 105 and 370 feet; salt water at 628 feet.

ROY FEATHERSTONE

M. Gailling No. 4, lot 21, con. III, Oneida tp.

Completed December 1, 1944.
Producing gas well.
Rock pressure: 225 lbs.

Formation	Depth, ft.
Surface	30
Broken rock	50
Lime and shale	330
Niagara	555
Shale	610
Clinton	633
Red Medina	658
Shale	718
White Medina	742
Red shale	745

Show of gas at 612 to 613 feet; gas at 623 to 625 feet.
Fresh water at 74 feet; sulphur water at 120 feet.

LAKE ERIE DRILLING COMPANY

W. Ridley No. 1, Andross block, Oneida tp.

Completed February 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	42
Lime and shale	51
Lime, shale, and gypsum	180
Niagara	412
Shale	460
Clinton	487
Red shale	495
Clinton	500
Red Medina and shale	516
Grey shale	535
Red and grey shale	540
Grey shale	575
White Medina	585
Red shale	600

Show of gas at 472 feet.
Fresh water at 34 feet; sulphur water at 125 feet.

DOMINION NATURAL GAS CO., LTD.

W. Foreman No. 1, lot 20, con. II, Rainham tp.

Completed November 27, 1944.
Producing gas well.
Rock pressure: 325 lbs.

Formation	Depth, ft.
Surface	8
Flint	53
Lime and shale	418
Niagara	658
Shale	705
Clinton	731
Red Medina	771
Grey shale	829
White Medina	839
Red shale	844

Gas at 710 to 715, 723 to 726, and 756 to 766 feet.
Fresh water at 45 and 95 feet.

LAKE ERIE GAS SYNDICATE

P. and S. Penrose No. 1, lot 23, con. I, Rainham tp.

Completed March 30, 1944.
Producing gas well.
Rock pressure: 275 lbs.

Formation	Depth, ft.
Surface	19
Flint	51
Niagara	435
Lime and shale	625
Shale	710
Clinton	737
Red Medina	777
Grey shale	832
White Medina	852
Red shale	855

Gas at 732 and 744 feet.
Fresh water at 52 feet.

LAKE ERIE GAS SYNDICATE

R. Ullman No. 1, lot 22, con. I, Rainham tp.

Completed February 26, 1944.
Producing gas well.
Rock pressure: 225 lbs.

Formation	Depth, ft.
Surface	5
Flint	50
Lime and shale	435
Niagara	630
Shale and lime	675
Shale	715
Clinton	743
Red Medina	783
Grey shale	833
White Medina	851
Red shale	878

Gas at 715 to 743 feet.
Fresh water at 53 feet.

LAKE ERIE GAS SYNDICATE

S. Wardell No. 1, lot 22, con. I, Rainham tp.

Completed January 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	17
Flint	61
Lime and shale	430
Niagara	635
Lime	702
Shale	727
Clinton	752
Red Medina	793
Grey shale	851
White Medina	866
Red shale	869

Fresh water at 31 and 90 feet.

UNION GAS CO. OF CANADA, LTD.

P. Bacher No. 2, lot 2, con. VI, Rainham tp.

Completed June 7, 1944.
Producing gas well.
Rock pressure: 320 lbs.

Formation	Depth, ft.
Surface	11
Flint	95
Brown lime	145
Lime and shale	460
Niagara	701
Grey shale	758
Clinton	786
Red Medina	828
Grey shale	883
White Medina	896
Red shale	898

Gas at 775 to 778 feet and 801 to 804 feet.
Fresh water at 25 and 54 feet; sulphur water at 100 feet.

UNION GAS CO. OF CANADA, LTD.

H. Ebert No. 1, lot 5, con. VII, Rainham tp.

Completed October 3, 1944.
Dry hole.

Formation	Depth, ft.
Surface	20
Flint	62
Grey lime	108
Lime and shale	435
Niagara	671
Shale	726
Clinton	751
Red Medina	794
Grey shale	849
White Medina	863
Red shale	866

Show of gas at 732, 742, and 760 feet.
Fresh water at 34, 55, and 87 feet; sulphur water at 207 feet.

UNION GAS CO. OF CANADA, LTD.

G. Featherstone No. 1, lot 13, con. IV, Rainham tp.

Completed February 12, 1944.
Dry hole.

Formation	Depth, ft.
Surface	7
Flint	65
Lime and shale	465
Niagara	704
Shale	749
Clinton	779
Red Medina	824
Grey shale	882
White Medina	892
Red shale	897

Fresh water at 50 feet.

UNION GAS CO. OF CANADA, LTD.

C. Rauch No. 1, lot 6, con. VI, Rainham tp.

Completed April 4, 1944.
Producing gas well.
Rock pressure: 265 lbs.

Formation	Depth ft.
Surface	7
Flint	75
Lime and shale	440
Niagara	691
Shale	731
Clinton	761
Red Medina	801
Grey shale	863
White Medina	873
Red shale	878

Gas at 759 feet.
Fresh water at 47 feet.

UNION GAS CO. OF CANADA, LTD.

L. and C. Reichheld No. 2, lot 6, con. VI, Rainham tp.

Completed June 5, 1944.
Producing gas well.
Rock pressure: 385 lbs.

Formation	Depth, ft.
Surface	12
Flint	84
Lime and shale	450
Niagara	692
Shale	741
Clinton	765
Red Medina	813
Grey shale	867
White Medina	879
Red shale	881

Gas at 761, 776, and 792 feet.
Fresh water at 62 and 88 feet; sulphur water at 108 feet.

UNION GAS CO. OF CANADA, LTD.

C. Rider No. 1, lot 6, con. VII, Rainham tp.

Completed August 11, 1944.
Producing gas well.
Rock pressure: 340 lbs.

Formation	Depth, ft.
Surface	6
Flint	75
Grey lime	110
Lime and shale	443
Niagara	640
Shale	662
Guelph	677
Shale	735
Clinton	760
Red Medina	800
Grey shale	856
White Medina	870
Red shale	874

Gas at 740, 755, and 776 feet.
Sulphur water at 61, 84, and 514 feet.

UNION GAS CO. OF CANADA, LTD.

E. Schier No. 5, lot 6, con. V, Rainham tp.

Completed July 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	14
Flint	70
Lime and shale	447
Niagara	685
Shale	740
Clinton	767
Red Medina	807
Grey shale	870
White Medina	880
Red shale	892

Show of gas at 744, 766, 774, and 787 feet.
Fresh water at 70 feet; sulphur water at 155 feet.

UNION GAS CO. OF CANADA, LTD.

C. Schumacher No. 2, lot 4, con. V, Rainham tp.

Completed July 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	12
Flint	98
Grey lime	132
Lime and shale	458
Niagara	643
Shale	665
Guelph	689
Shale	749
Clinton	779
Red Medina	818
Grey shale	876
White Medina	890
Red shale	906

Show of gas at 779 to 780, 798 to 799, and 886 feet.
Fresh water at 37 and 58 feet; sulphur water at 87 feet.

UNION GAS CO. OF CANADA, LTD.

J. Smelser No. 2, lot 12, con. V, Rainham tp.

Completed November 1, 1944.
Producing gas well.
Rock pressure: 340 lbs.

Formation	Depth, ft.
Surface	11
Flint	72
Lime and shale	444
Niagara	672
Shale	730
Clinton	758
Red Medina	799
Grey shale	859
White Medina	867
Red shale	870

Gas at 766 feet.
Sulphur water at 155 feet.

UNION GAS CO. OF CANADA, LTD.

E. W. Smith No. 3, lot 9, con. VI, Rainham tp.

Completed September 28, 1944.
Producing gas well.
Rock pressure: 325 lbs.

Formation	Depth, ft.
Surface	11
Flint	66
Lime and shale	439
Niagara	672
Shale	722
Clinton	752
Red Medina	793
Grey shale	847
White Medina	859
Red shale	861

Gas at 742 and 770 feet.
Sulphur water at 51 feet; fresh water at 62 feet; sulphur water at 80 feet.

UNION GAS CO. OF CANADA, LTD.

C. A. Spies No. 1, lot 8, con. V, Rainham tp.

Completed March 16, 1944.
Producing gas well.
Rock pressure: 240 lbs.

Formation	Depth, ft.
Surface	14
Flint	85
Lime and shale	450
Niagara	681
Shale	738
Clinton	767
Red Medina	812
Shale	867
White Medina	879
Red shale	881

Gas at 764 feet.
Fresh water at 46 and 72 feet; sulphur water at 120 feet.

UNION GAS CO. OF CANADA, LTD.

C. A. Spies No. 2, lot 9, con. V, Rainham tp.

Completed August 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	17
Flint	79
Lime and shale	445
Niagara	669
Shale	729
Clinton	753
Red Medina	798
Grey shale	852
White Medina	866
Red shale	870

Show of gas at 741 and 771 feet.
Fresh water at 26, 44, and 52 feet; sulphur water at 180 feet.

PORT COLBORNE-WELLAND GAS AND OIL CO., LTD.

Thompson Estate No. 1, lot 23, con. I, S.S.C.R., Seneca tp.

Completed April 28, 1944.
Dry hole.

Formation	Depth, ft.
Surface	75
Lime and shale	230
Niagara	455
Shale	527
Clinton	556
Red Medina	596
Grey shale	653
White Medina	668
Red shale	669

Fresh water at 89 feet; black water at 210 feet.

PORT COLBORNE-WELLAND GAS AND OIL CO., LTD.

Thompson Estate No. 2, lot 22, con. I, S.S.C.R., Seneca tp.

Completed July 21, 1944.
Dry hole.

Formation	Depth, ft.
Surface	80
Lime and shale	250
Niagara	477
Shale	532
Clinton	552
Red Medina	587
Grey shale	647
White Medina	659
Red shale	662

Fresh water at 80 feet; sulphur water at 195 feet.

PORT COLBORNE-WELLAND GAS AND OIL CO., LTD.

Thompson Estate No. 3, lot 22, con. I, S.S.C.R., Seneca tp.

Completed September 16, 1944.
Dry hole.

Formation	Depth, ft.
Surface	68
Lime and shale	260
Niagara	480
Rochester	540
Clinton	565
Red Medina	600
Grey shale	660
White Medina	675
Red shale	678

Fresh water at 70, 90, and 185 feet.

IVAN DICKOUT

I. Dickout No. 1, lot 13 con. II. Sherbrooke tp.

Completed April 20, 1944.
Producing gas well.
Rock pressure: 290 lbs.

Formation	Depth, ft.
Surface	44
Lime and shale	442
Niagara	659
Shale	721
Clinton	754
Red Medina	798
Grey shale	846
White Medina	860
Red shale	892

Gas at 741, 784 and 850 feet.
Fresh water at 60 feet; sulphur water at 150 feet.

ELMOND NIECE

E. Niece No. 2, lot 12, con. II, Sherbrooke tp.

Completed January 26, 1944.
Dry hole.

Formation	Depth, ft.
Surface	52
Lime and shale	430
Niagara	657
Shale	716
Clinton	750
Red Medina	794
Grey shale	845
White Medina	857
Red shale	860

Show of gas at 745 and 851 feet.
Fresh water at 78 feet; sulphur water at 270 feet.

ELMOND NIECE

E. Niece No. 3, lot 12, con. II, Sherbrooke tp.

Completed March 27, 1944.
Producing gas well.
Rock pressure: 290 lbs.

Formation	Depth, ft.
Surface	54
Lime and shale	442
Niagara	663
Shale	720
Clinton	753
Red Medina	797
Grey shale	847
White Medina	861
Red shale	891

Gas at 750 and 849 feet.
Fresh water at 70 feet; sulphur water at 230 feet.

ELMOND NIECE

E. Niece No. 4, lot 12, con. II, Sherbrooke tp.

Completed March 25, 1944.
Producing gas well.
Rock pressure: 290 lbs.

Formation	Depth, ft.
Surface	64
Lime and shale	442
Niagara	668
Shale	732
Clinton	766
Red Medina	810
Grey shale	857
White Medina	866
Red shale	901

Gas at 734, 776, and 869 feet.
Fresh water at 87 feet; sulphur water at 248 feet.

DOMINION NATURAL GAS CO., LTD.

A. and L. Caughell No. 1, lot 14, con. IV, South Cayuga tp.

Completed April 15, 1944.
Producing gas well.
Rock pressure: 195 lbs.

Formation	Depth, ft.
Surface	96
Lime and shale	335
Niagara	565
Shale	635
Clinton	665
Red Medina	705
Grey shale	760
White Medina	777
Red shale	779

Gas at 652 to 655 feet.
Fresh water at 96 feet; black water at 462 feet.

DOMINION NATURAL GAS CO., LTD.

A. and L. Caughell No. 1, lot 15, con. IV, South Cayuga tp.

Completed March 10, 1944.
Producing gas well.
Rock pressure: 230 lbs.

Formation	Depth, ft.
Surface	111
Lime and shale	335
Niagara	550
Shale	620
Clinton	650
Red Medina	690
Grey shale	745
White Medina	765
Red shale	815

Gas at 648 to 650 and 757 to 760 feet.
Fresh water at 108 feet; black water at 450 feet.

DOMINION NATURAL GAS CO., LTD.

T. and E. Cutts No. 2, lot 15, con. IV, South Cayuga tp.

Completed July 4, 1944.
Dry hole.

Formation	Depth, ft.
Surface	63
Lime and shale	310
Niagara	530
Shale	600
Clinton	624
Red Medina	664
Grey shale	719
White Medina	734
Red shale	735

Fresh water at 54 and 135 feet.

DOMINION NATURAL GAS CO., LTD.

W. Foreman No. 1, lot 26, con. V, South Cayuga tp.

Completed July 4, 1944.
Producing gas well.
Rock pressure: 390 lbs.

Formation	Depth, ft.
Surface	20
Flint	50
Lime and shale	427
Niagara	627
Guelph	659
Shale	702
Clinton	730
Red Medina	770
Grey shale	830
White Medina	841
Red shale	842

Gas at 705 and 745 to 770 feet.
Fresh water at 28 feet; black water at 110 feet.

DOMINION NATURAL GAS CO., LTD.

W. Foreman No. 2, lot 26, con. V, South Cayuga tp.

Completed September 25, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	18
Flint	78
Lime and shale	400
Niagara	640
Shale	702
Clinton	731
Red Medina	771
Grey shale	829
White Medina	839
Red shale	844

Gas at 707, 722 to 731, and 749 to 760 feet.
Fresh water at 95 feet.

DOMINION NATURAL GAS CO., LTD.

J. and E. Gifford No. 1, lot 26, con. V, South Cayuga tp.

Completed January 25, 1944.
Dry hole.

Formation	Depth, ft.
Surface	19
Lime	30
Flint	57
Brown lime	97
Shale	217
Lime and shale	430
Niagara	660
Shale	714
Clinton	741
Red Medina	782
Grey shale	837
White Medina	852
Red shale	855

Show of gas at 715 to 719 and 766 feet.
Fresh water at 37 feet; black water at 215 feet.

DOMINION NATURAL GAS CO., LTD.

J. and E. Gifford No. 2, lot 26, con. V, South Cayuga tp.

Completed April 11, 1944.
Producing gas well.
Rock pressure: 340 lbs.

Formation	Depth, ft.
Surface	8
Flint	43
Lime and shale	424
Niagara	629
Guelph	666
Shale	694
Clinton	724
Red Medina	764
Grey shale	824
White Medina	836
Red shale	839

Gas at 699 and 741 to 749 feet.
Fresh water at 20 feet; black water at 75 feet.

DOMINION NATURAL GAS CO., LTD.

G. Hoffman No. 1, lot 24, con. V, South Cayuga tp.

Completed November 27 1944.
Producing gas well.
Rock pressure: 315 lbs.

Formation	Depth, ft.
Surface	19
Flint	45
Lime	85
Lime and shale	417
Niagara	647
Shale	703
Clinton	730
Red Medina	770
Grey shale	825
White Medina	842
Red shale	845

Gas at 730 to 732 and 760 to 762 feet.
Fresh water at 54 and 85 feet; black water at 120 feet.

DOMINION NATURAL GAS CO., LTD.

G. M. Kriter No. 1, lot 13, con. IV, South Cayuga tp.

Completed May 31, 1944.
Dry hole.

Formation	Depth, ft.
Surface	35
Lime shell	49
Lime and shale	365
Niagara	590
Shale	660
Clinton	690
Red Medina	730
Grey shale	785
White Medina	801
Red shale	803

Fresh water at 65 feet; black water at 545 feet.

DOMINION NATURAL GAS CO., LTD.

E. Link No. 2, lot 26, con. III, South Cayuga tp.

Completed January 20, 1944.
Producing gas well.
Rock pressure: 270 lbs.

Formation	Depth, ft.
Surface	20
Lime and shale	370
Niagara	580
Shale	654
Clinton	681
Red Medina	719
Grey shale	779
White Medina	789
Red shale	794

Gas at 690 to 701 feet.
Fresh water at 22 and 100 feet; black water at 210 feet.

DOMINION NATURAL GAS CO., LTD.

E. Link No. 3, lot 26, con. III, South Cayuga tp.

Completed March 16, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	73
Lime and shale	325
Niagara	530
Shale	601
Clinton	628
Red Medina	668
Grey shale	729
White Medina	739
Red shale	776

Gas at 629 to 634 and 734 to 735 feet.
Fresh water at 60 feet; black water at 100 feet.

DOMINION NATURAL GAS CO., LTD.

O. W. McLaughlin No. 1, lot 28, con. V, South Cayuga tp.

Completed February 17, 1944.
Producing gas well.
Rock pressure: 400 lbs.

Formation	Depth ft.
Surface	25
Flint	70
Lime and shale	440
Niagara	647
Guelph	687
Shale	719
Clinton	747
Red Medina	787
Grey shale	852
White Medina	862
Red shale	915

Show of gas at 721 feet; gas at 769 to 772 and 857 to 862 feet.
Fresh water at 26 feet; black water at 125 feet.

DOMINION NATURAL GAS CO., LTD.

V. Nie No. 1, lot 26, con. V, South Cayuga tp.

Completed July 29, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	8
Flint	38
Lime and shale	418
Niagara	623
Guelph	669
Shale	703
Clinton	730
Red Medina	770
Grey shale	830
White Medina	842
Red shale	844

Gas at 707, 739 to 744, and 749 to 754 feet.
Fresh water at 27 feet; black water at 80 feet.

DOMINION NATURAL GAS CO., LTD.

V. Nie No. 2, lot 25, con. V, South Cayuga tp.

Completed September 16, 1944.
Producing gas well.
Rock pressure: 340 lbs.

Formation	Depth, ft.
Surface	18
Flint	45
Lime	59
Shale	70
Lime	80
Lime and shale	418
Niagara	643
Shale	703
Clinton	730
Red Medina	773
Grey shale	827
White Medina	842
Red shale	844

Show of gas at 705 to 706 feet; gas at 735 to 736 and 745 to 749 feet.
Fresh water at 47 and 70 feet.

DOMINION NATURAL GAS CO., LTD.

C. Penrose No. 1, lot 32, con. IV, South Cayuga tp.

Completed May 5, 1944.
Dry hole.

Formation	Depth, ft.
Lime	10
Flint	80
Lime and shale	460
Niagara	680
Shale	741
Clinton	769
Red Medina	809
Grey shale	867
White Medina	877
Red shale	880

Show of gas at 790 to 795 feet.
Fresh water at 40 and 105 feet.

DOMINION NATURAL GAS CO., LTD.

J. Pridmore No. 1, lot 16, con. V, South Cayuga tp.

Completed February 5, 1944.
Producing gas well.
Rock pressure: 225 lbs.

Formation	Depth, ft.
Flint	40
Lime and shale	420
Niagara	645
Shale	710
Clinton	740
Red Medina	780
Grey shale	835
White Medina	849
Red shale	851

Show of gas at 727 feet; gas at 761 to 764 feet.
Fresh water at 60 and 110 feet; black water at 210 feet.

DOMINION NATURAL GAS CO., LTD

J. and G. Pridmore No. 2, lot 16, con. IV, South Cayuga tp.

Completed September 5, 1944.
Dry hole.

Formation	Depth, ft.
Surface	93
Lime shell	97
Lime and shale	340
Niagara	560
Shale	630
Clinton	658
Red Medina	698
Grey shale	753
White Medina	767
Red shale	768

Show of gas at 681 feet.
Fresh water at 100 feet.

DOMINION NATURAL GAS CO., LTD.

C. Reicheld No. 1, lot 24, con. V, South Cayuga tp.

Completed August 2, 1944.
Dry hole.

Formation	Depth, ft.
Surface	17
Flint	37
Lime	77
Lime and shale	414
Niagara	639
Shale	698
Clinton	726
Red Medina	770
Grey shale	826
White Medina	842
Red shale	846

Show of gas at 703 and 744 to 750 feet.
Fresh water at 38 and 80 feet.

DOMINION NATURAL GAS CO., LTD.

I. Reicheld No. 1, lot 25, con. VI, South Cayuga tp.

Completed October 23, 1944.
Producing gas well.
Rock pressure: 335 lbs.

Formation	Depth, ft.
Surface	10
Flint	50
Lime	95
Lime and shale	118
Gypsum	123
Lime and shale	428
Niagara	653
Shale	708
Clinton	736
Red Medina	776
Grey shale	831
White Medina	848
Red shale	851

Gas at 733 to 736 and 743 to 750 feet.
Fresh water at 27 and 40 feet; black water at 120 feet.

DOMINION NATURAL GAS CO., LTD.

O. Remnant No. 2, lot 29, con. V, South Cayuga tp.

Completed May 4, 1944.
Producing gas well.
Rock pressure: 360 lbs.

Formation	Depth, ft.
Surface	22
Flint	82
Lime and shale	445
Niagara	667
Shale	717
Clinton	740
Red Medina	780
Grey shale	860
White Medina	867
Red shale	869

Show of gas at 720 feet; gas at 735 to 740 feet.
Fresh water at 23 and 32 feet; black water at 103 feet.

DOMINION NATURAL GAS CO., LTD.

A. and M. High and E. M. Sitter No. 1, lot 26, con. IV, South Cayuga tp.

Completed March 3, 1944.
Producing gas well.
Rock pressure: 295 lbs.

Formation	Depth, ft.
Surface	25
Flint	37
Lime	100
Lime and shale	185
Brown lime	260
Lime and shale	425
Niagara	650
Shale	703
Clinton	730
Red Medina	770
Grey shale	827
White Medina	842
Red shale	847

Show of gas at 706 feet; gas at 730 to 733 feet.
Fresh water at 37 and 100 feet; black water at 500 feet.

DOMINION NATURAL GAS CO., LTD.

E. Shank No. 1, lot 27, con. V, South Cayuga tp.

Completed June 6, 1944.
Producing gas well.
Rock pressure: 250 lbs.

Formation	Depth, ft.
Surface	4
Flint	44
Lime and shale	427
Niagara	627
Guelph	661
Shale	696
Clinton	726
Red Medina	766
Grey shale	826
White Medina	836
Red shale	840

Gas at 701 to 703, 706 to 710, 736 to 741 and 746 to 751 feet.
Fresh water at 15 and 25 feet; black water at 125 feet.

DOMINION NATURAL GAS CO., LTD.

M. Sherk No. 1, lot 27, con. V, South Cayuga tp.

Completed January 18, 1944.
Producing gas well.
Rock pressure: 390 lbs.

Formation	Depth, ft.
Surface	12
Flint	50
Lime and shale	440
Niagara	645
Guelph lime	681
Shale	715
Clinton	745
Red Medina	785
Grey shale	846
White Medina	856
Red shale	857

Gas at 717 to 720, 727 to 735, 750 to 755, and 765 to 770 feet.
Fresh water at 38 feet; black water at 205 feet.

DOMINION NATURAL GAS CO., LTD.

M. Sherk No. 2, lot 27, con. V, South Cayuga tp.

Completed March 16, 1944.
Producing gas well.
Rock pressure: 420 lbs.

Formation	Depth, ft.
Surface	9
Flint	49
Lime and shale	434
Niagara	639
Guelph	675
Shale	706
Clinton	736
Red Medina	776
Grey shale	836
White Medina	846
Red shale	850

Gas at 723 to 730 feet.
Fresh water at 41 and 49 feet; black water at 90 feet.

DOMINION NATURAL GAS CO., LTD.

W. E. Sitter No. 1B, lot 26, con. IV, South Cayuga tp.

Completed March 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	17
Flint	80
Lime and shale	430
Niagara	620
Shale	696
Clinton	726
Red Medina	766
Grey shale	828
White Medina	843
Red shale	845

Fresh water at 25 and 40 feet; black water at 110 feet.

DOMINION NATURAL GAS CO., LTD.

C. and C. Stadelmeir No. 1, lot 25, con. IV, South Cayuga tp.

Completed April 11, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	24
Flint	50
Lime	90
Lime and shale	225
Brown lime	290
Lime and shale	415
Niagara	643
Shale	698
Clinton	725
Red Medina	768
Grey shale	826
White Medina	841
Red shale	844

Gas at 705 and 750 to 754 feet.
Fresh water at 60 feet.

DOMINION NATURAL GAS CO., LTD.

L. A. Sutor No. 1, lot 25, con. IV, South Cayuga tp.

Completed May 23, 1944.
Producing gas well.
Rock pressure: 340 lbs.

Formation	Depth, ft.
Surface	22
Flint	45
Brown lime	80
Lime and shale	185
Brown lime	225
Lime and shale	418
Niagara	643
Shale	700
Clinton	727
Red Medina	769
Grey shale	827
White Medina	843
Red shale	846

Show of gas at 707 feet; gas at 734 and 740 to 745 feet.
Fresh water at 63 feet; black water at 75 and 85 feet.

DOMINION NATURAL GAS CO., LTD.

L. Sutor No. 2, lot 24, con. IV, South Cayuga tp.

Completed June 28, 1944.
Dry hole.

Formation	Depth, ft.
Surface	15
Flint	38
Lime	75
Lime and shale	406
Niagara	637
Shale	694
Clinton	721
Red Medina	761
Grey shale	815
White Medina	829
Red shale	832

Fresh water at 34 feet; black water at 120 feet.

DOMINION NATURAL GAS CO., LTD.

M. J. Zimmerman No. 1, lot 30, con. V, South Cayuga tp.

Completed July 10, 1944.
Dry hole.

Formation	Depth, ft.
Surface	16
Flint	76
Lime and shale	439
Niagara	664
Lime and shale	679
Shale	719
Clinton	745
Red Medina	787
Grey shale	852
White Medina	864
Red shale	867

Show of gas at 765 and 770 feet.
Fresh water at 26 feet.

DORSET GAS AND OIL SYNDICATE

R. Smith No. 3, lot 15, con. VII, South Cayuga tp.

Completed May 18, 1944.
Dry hole.

Formation	Depth, ft.
Surface	10
Flint	70
Lime and shale	420
Niagara	660
Shale	710
Clinton	740
Red Medina	780
Shale	850
White Medina	857
Red shale	866

Show of gas at 760 feet.
Fresh water at 22 feet; black water at 90 feet,

MONARCH GAS AND OIL SYNDICATE

E. Rittenhouse No. 2, lot 9, con. VI, South Cayuga tp.

Completed August 23, 1944.
Producing gas well.
Rock pressure: 290 lbs.

Formation	Depth, ft.
Surface	23
Flint	50
Lime and shale	425
Niagara	640
Shale	718
Clinton	748
Red Medina	790
Grey shale	840
White Medina	858
Red shale	860

Gas at 744 to 747 feet.
Fresh water at 95 feet.

MONARCH GAS AND OIL SYNDICATE

E. Rittenhouse No. 3, lot 9, con. VI, South Cayuga tp.

Completed September 30, 1944.
Dry hole.

Formation	Depth, ft.
Surface	22
Flint	52
Shale	425
Niagara	635
Shale	712
Clinton	742
Red Medina	782
Grey shale	835
White Medina	854
Red shale	856

Fresh water at 100 feet.

SPARTON OIL AND GAS SYNDICATE

J. Wilson No. 1, lot 28, con. III, South Cayuga tp.

Completed February 20, 1944.
Dry hole.

Formation	Depth, ft.
Flint	60
Lime and shale	410
Niagara	610
Shale	680
Clinton	708
Red Medina	748
Shale	821
White Medina	831
Red shale	841

Show of gas at 692 and 728 feet.
Sulphur water at 80 feet; black water at 520 feet.

D. YARMEY

D. Yarmey No. 1, lot 19, con. VII, South Cayuga tp.

Completed April 22, 1944.
Dry hole.

Formation	Depth, ft.
Surface	8
Flint	50
Lime and shale	430
Niagara	630
Lime and shale	713
Clinton	744
Red Medina	779
Grey shale	837
White Medina	855
Red shale	858

Fresh water at 38 feet.

DOMINION NATURAL GAS CO., LTD.

W. H. Awde No. 3, lot 20, con. X, Walpole tp.

Completed January 12, 1944.
Producing gas well.
Rock pressure: 370 lbs.

Formation	Depth, ft.
Surface	7
Flint	53
Lime and shale	431
Niagara	686
Shale	740
Clinton	775
Red Medina	805
Shale	859
White Medina	867
Red shale	869

Gas at 744 and 775 feet.
Fresh water at 37 feet; sulphur water at 502 feet.

DOMINION NATURAL GAS CO., LTD.

C. Campbell No. 1, lot 22, con. IX, Walpole tp.

Completed June 14, 1944.
Producing gas well.
Rock pressure: 422 lbs.

Formation	Depth, ft.
Surface	12
Flint	58
Lime and shale	434
Niagara	696
Shale	743
Clinton	771
Red Medina	808
Shale	864
White Medina	875
Red shale	880

Gas at 748, 766, and 780 feet.
Fresh water at 38 feet; black water at 523 feet.

DOMINION NATURAL GAS CO., LTD.

T. Catherwood No. 4, lot 12, con. XI, Walpole tp.

Completed September 23, 1944.
Producing gas well.
Rock pressure: 423 lbs.

Formation	Depth, ft.
Surface	4
Flint	62
Lime and shale	441
Niagara	697
Shale	754
Clinton	796
Red Medina	834
Shale	876
White Medina	882
Red shale	884

Gas at 767 and 794 to 796 feet.
Fresh water at 22 feet; black water at 185 feet.

DOMINION NATURAL GAS CO., LTD.

W. C. Edsall No. 2, lot 16, con. I, Walpole tp.

Completed September 25, 1944.
Producing gas well.
Rock pressure: 378 lbs.

Formation	Depth, ft.
Surface	34
Flint	158
Lime and shale	546
Niagara	793
Shale	841
Clinton	870
Red Medina	912
Shale	972
White Medina	992
Red shale	1,001

Gas at 843, 855 to 860, and 890 to 895 feet.
Sulphur water at 120 feet.

DOMINION NATURAL GAS CO., LTD.
S. Fearman No. 1, lot 13, con. XI, Walpole tp.

Completed October 25, 1944.
Producing gas well.
Rock pressure: 405 lbs.

Formation	Depth, ft.
Surface	6
Flint	63
Lime and shale	443
Niagara	704
Shale	754
Clinton	781
Red Medina	831
Shale	872
White Medina	884
Red shale	887

Gas at 770 feet.
Fresh water at 38 feet; black water at 170 feet.

DOMINION NATURAL GAS CO., LTD.
H. and M. Harrop No. 1, lot 11, con. XI, Walpole tp.

Completed July 6, 1944.
Producing gas well.
Rock pressure: 423 lbs.

Formation	Depth, ft.
Surface	3
Flint	67
Lime and shale	430
Niagara	699
Shale	752
Clinton	791
Red Medina	831
Shale	873
White Medina	879
Red shale	882

Gas at 756, 772 to 782, and 791 feet.
Fresh water at 30 feet; black water at 240 feet.

DOMINION NATURAL GAS CO., LTD.
H. and M. Harrop No. 2, lot 11, con. XI, Walpole tp.

Completed August 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	17
Flint	79
Lime and shale	445
Niagara	702
Shale	760
Clinton	802
Red Medina	841
Shale	887
White Medina	896
Red shale	901

Fresh water at 32 feet; sulphur water at 165 feet.

DOMINION NATURAL GAS CO., LTD.
F. Helka No. 1, lot 14, con. XII, Walpole tp.

Completed November 29, 1944.
Dry hole.

Formation	Depth, ft.
Surface	6
Flint	60
Lime and shale	440
Niagara	695
Shale	750
Clinton	778
Red Medina	823
Shale	868
White Medina	877
Red shale	881

Show of gas at 758 feet.
Fresh water at 27 feet; black water at 115 feet.

DOMINION NATURAL GAS CO., LTD.
I. Hewitt No. 1, lot 18, con. XII, Walpole tp.

Completed August 5, 1944.
Producing gas well.
Rock pressure: 412 lbs.

Formation	Depth, ft.
Surface	13
Flint	51
Lime and shale	422
Niagara	677
Shale	721
Clinton	762
Red Medina	790
Shale	836
White Medina	845
Red shale	849

Gas at 730 and 762 feet.
Fresh water at 47 and 110 feet; sulphur water at 492 feet.

DOMINION NATURAL GAS CO., LTD.
I. Hewitt No. 2, lot 18, con. XII, Walpole tp.

Completed October 3, 1944.
Producing gas well.
Rock pressure: 414 lbs.

Formation	Depth, ft.
Surface	2
Flint	43
Lime and shale	428
Niagara	663
Shale	714
Clinton	751
Red Medina	791
Shale	841
White Medina	852
Red shale	854

Gas at 717, 738, and 749 feet.
Fresh water at 38 feet; sulphur water at 125 feet.

DOMINION NATURAL GAS CO., LTD.
I. Hewitt No. 3, lot 18, con. XII, Walpole tp.

Completed October 28, 1944.
Dry hole.

Formation	Depth, ft.
Surface	9
Flint	35
Lime and shale	415
Niagara	650
Shale	706
Clinton	746
Red Medina	781
Shale	831
White Medina	841
Red shale	843

Show of gas at 709 feet.
Fresh water at 19 and 85 feet; black water at 126 feet.

DOMINION NATURAL GAS CO., LTD.
H. E. Hind No. 1, lot 17, con. XII, Walpole tp.

Completed September 30, 1944.
Producing gas well.
Rock pressure: 441 lbs.

Formation	Depth, ft.
Surface	12
Flint	43
Lime and shale	422
Niagara	665
Shale	716
Clinton	753
Red Medina	784
Shale	834
White Medina	844
Red shale	847

Gas at 720 and 749 to 752 feet.
Fresh water at 44 and 65 feet; sulphur water at 438 feet.

DOMINION NATURAL GAS CO., LTD.

H. E. Hind No. 2, lot 16, con. XII, Walpole tp.

Completed September 27, 1944.
Producing gas well.
Rock pressure: 452 lbs.

Formation	Depth, ft.
Surface	8
Flint	46
Lime and shale	423
Niagara	674
Shale	727
Clinton	762
Red Medina	795
Shale	847
White Medina	855
Red shale	857

Gas at 729, 749, and 762 feet.
Fresh water at 15 and 98 feet; black water at 512 feet.

DOMINION NATURAL GAS CO., LTD.

H. E. Hind No. 3, lot 16, con. XII, Walpole tp.

Completed October 30, 1944.
Producing gas well.
Rock pressure: 403 lbs.

Formation	Depth, ft.
Surface	10
Flint	58
Lime and shale	426
Niagara	681
Shale	731
Clinton	762
Red Medina	794
Shale	848
White Medina	857
Red shale	859

Gas at 754 feet.
Fresh water at 58 feet; black water at 497 feet.

DOMINION NATURAL GAS CO., LTD.

C. Hoover No. 2, lot 16, con. I, Walpole tp.

Completed November 27, 1944.
Producing gas well.
Rock pressure: 397 lbs.

Formation	Depth, ft.
Surface	30
Flint	163
Lime and shale	545
Niagara	805
Shale	860
Clinton	885
Red Medina	927
Shale	978
White Medina	998
Red shale	1,004

Gas at 863, 885, and 912 feet.
Fresh water at 70 feet.

DOMINION NATURAL GAS CO., LTD.

W. D. Lindsay No. 1, lot 14, con. XI, Walpole tp.

Completed November 23, 1944.
Producing gas well.
Rock pressure: 352 lbs.

Formation	Depth, ft.
Surface	10
Flint	75
Lime and shale	438
Niagara	693
Shale	733
Clinton	770
Red Medina	795
Shale	851
White Medina	864
Red shale	871

Gas at 763 feet.
Fresh water at 45 feet.

DOMINION NATURAL GAS CO., LTD.

L. A. McConachie No. 3, lot 21, con. X, Walpole tp.

Completed February 10, 1944.
Producing gas well.
Rock pressure: 326 lbs.

Formation	Depth, ft.
Surface	7
Flint	51
Lime and shale	427
Niagara	683
Shale	739
Clinton	768
Red Medina	805
Shale	858
White Medina	867
Shale	871

Gas at 753, 772, and 789 feet.
Fresh water at 34 feet; sulphur water at 507 feet.

DOMINION NATURAL GAS CO., LTD.

J. A. Monroe No. 1, lot 22, con. X, Walpole tp.

Completed March 31, 1944.
Producing gas well.
Rock pressure: 406 lbs.

Formation	Depth, ft.
Surface	7
Flint	53
Lime and shale	429
Niagara	684
Shale	732
Clinton	773
Red Medina	800
Shale	857
White Medina	864
Red shale	866

Gas at 758 and 770 feet.
Fresh water at 61 feet; black water at 497 feet.

DOMINION NATURAL GAS CO., LTD.

R. E. and H. A. Nichol No. 1, lot 14, con. X, Walpole tp.

Completed October 28, 1944.
Dry hole.

Formation	Depth, ft.
Surface	10
Flint	75
Lime and shale	455
Niagara	710
Shale	766
Clinton	788
Red Medina	828
Shale	895
White Medina	905
Red shale	910

Show of gas at 779 feet.
Fresh water at 57 feet.

DOMINION NATURAL GAS CO., LTD.

W. J. Rowntree No. 2, lot 22, con. IX, Walpole tp.

Completed March 9, 1944.
Producing gas well.
Rock pressure: 427 lbs.

Formation	Depth, ft.
Surface	13
Flint	63
Lime and shale	439
Niagara	674
Shale	728
Clinton	756
Red Medina	793
Shale	850
White Medina	858
Red shale	860

Gas at 731, 749, and 756 to 764 feet.
Fresh water at 31 and 140 feet; black water at 511 feet.

DOMINION NATURAL GAS CO., LTD.

I. Schweyer No. 1, lot 18, con. XI, Walpole tp.

Completed July 8, 1944.
Producing gas well.
Rock pressure: 391 lbs.

Formation	Depth, ft.
Surface	5
Flint	56
Lime and shale	422
Niagara	675
Shale	719
Clinton	763
Red Medina	796
Shale	843
White Medina	850
Red shale	853

Gas at 727 feet.
Fresh water at 53 feet; black water at 487 feet.

DOMINION NATURAL GAS CO., LTD.

I. Schweyer No. 2, lot 18, con. XI, Walpole tp.

Completed September 2, 1944.
Producing gas well.
Rock pressure: 430 lbs.

Formation	Depth, ft.
Surface	7
Flint	56
Lime and shale	420
Niagara	674
Shale	727
Clinton	766
Red Medina	796
Shale	843
White Medina	854
Red shale	856

Gas at 739 feet.
Fresh water at 52 feet; black water at 476 feet.

DOMINION NATURAL GAS CO., LTD.

H. Smith No. 1, lot 17, con. XII, Walpole tp.

Completed November 2, 1944.
Producing gas well.
Rock pressure: 398 lbs.

Formation	Depth, ft.
Surface	5
Flint	32
Lime and shale	416
Niagara	660
Shale	713
Clinton	747
Red Medina	785
Shale	831
White Medina	843
Red shale	848

Gas at 719, 728, and 746 feet.
Fresh water at 48 and 85 feet; black water at 436 feet.

DOMINION NATURAL GAS CO., LTD.

C. A. Snell No. 1, lot 19, con. XI, Walpole tp.

Completed April 25, 1944.
Producing gas well.
Rock pressure: 377 lbs.

Formation	Depth, ft.
Surface	5
Flint	52
Lime and shale	419
Niagara	674
Shale	718
Clinton	755
Red Medina	788
Shale	837
White Medina	845
Red shale	849

Gas at 721 to 724 and 751 feet.
Fresh water at 38 and 92 feet; black water at 517 feet.

DOMINION NATURAL GAS CO., LTD.

C. A. Snell No. 2, lot 19, con. XI, Walpole tp.

Completed September 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	12
Flint	55
Lime and shale	420
Niagara	683
Shale	728
Clinton	754
Red Medina	792
Shale	846
White Medina	856
Red shale	859

Show of gas at 729 and 850 feet.
Fresh water at 40 and 90 feet; black water at 527 feet.

DOMINION NATURAL GAS CO., LTD.

A. Stewart No. 1, lot 19, con. XII, Walpole tp.

Completed May 20, 1944.
Producing gas well.
Rock pressure: 424 lbs.

Formation	Depth, ft.
Surface	3
Flint	48
Lime and shale	417
Niagara	669
Shale	717
Clinton	759
Red Medina	790
Grey shale	834
White Medina	845
Red shale	847

Gas at 762 and 786 feet.
Fresh water at 13 and 98 feet; black water at 547 feet

DOMINION NATURAL GAS CO., LTD.

F. Swing No. 1, lot 9, con. VII, Walpole tp.

Completed May 22, 1944.
Dry hole.

Formation	Depth, ft.
Surface	3
Flint	93
Lime and shale	462
Niagara	743
Shale	793
Clinton	817
Red Medina	861
Shale	909
White Medina	923
Red shale	925

Show of gas at 796 and 820 feet.
Fresh water at 58 feet; black water at 93 feet; sulphur water at 522 feet.

DOMINION NATURAL GAS CO., LTD.

W. and H. R. Thomas No. 1, lot 15, con. XII, Walpole tp.

Completed November 28, 1944.
Producing gas well.
Rock pressure: 369 lbs.

Formation	Depth, ft.
Surface	7
Flint	45
Lime and shale	435
Niagara	672
Shale	725
Clinton	762
Red Medina	799
Shale	847
White Medina	857
Red shale	859

Gas at 748 and 760 to 767 feet.
Fresh water at 130 feet; black water at 170 feet.

PEACOCK POINT GAS AND OIL SYNDICATE
W. Secord No. 6, lot 14, con. I, Walpole tp.
Completed July 7, 1944.
Dry hole.

Formation	Depth, ft.
Surface	48
Flint	153
Lime and shale	515
Niagara	770
Shale	831
Clinton	856
Red Medina	898
Grey shale	962
White Medina	980
Red shale	984

Sulphur water at 67 feet.

STANDARD GAS AND OIL SYNDICATE
C. Bagley No. 2, lot 15, con. I, Walpole tp.
Completed February 17, 1944.
Producing gas well.
Rock pressure: 330 lbs.

Formation	Depth, ft.
Surface	43
Flint	168
Lime and shale	540
Niagara	810
Shale	863
Clinton	889
Red Medina	929
Grey shale	984
White Medina	1,004
Red shale	1,010

Gas at 873 feet.
Sulphur water at 59 feet.

WALPOLE GAS SYNDICATE NO. 2
W. J. Hewitt No. 2, lot 18, con. XI, Walpole tp.
Completed November 20, 1944.
Producing gas well.
Rock pressure: 400 lbs.

Formation	Depth, ft.
Surface	19
Flint	58
Lime and shale	430
Niagara	635
Shale	725
Clinton	773
Red Medina	808
Grey shale	848
White Medina	862
Red shale	864

Gas at 750 and 753 feet.
Fresh water at 28 feet.

WALPOLE GAS SYNDICATE NO. 2
E. Waldbrook No. 1, lot 17, con. XI, Walpole tp.
Completed January 14, 1944.
Producing gas well.
Rock pressure: 380 lbs.

Formation	Depth, ft.
Surface	10
Flint	75
Lime and shale	410
Niagara	696
Rochester shale	743
Clinton	786
Red Medina	811
Grey shale	860
White Medina	872
Red shale	874

Gas at 761 and 776 feet.
Mineral water at 60 feet.

WALPOLE GAS SYNDICATE NO. 2
E. Waldbrook No. 2, lot 17, con. XI, Walpole tp.
Completed February 12, 1944.
Producing gas well.
Rock pressure: 380 lbs.

Formation	Depth, ft.
Surface	10
Flint	80
Lime and shale	430
Niagara	695
Shale	739
Clinton	785
Red Medina	810
Grey shale	859
White Medina	870
Red shale	872

Gas at 770 feet.

WALPOLE GAS SYNDICATE NO. 2
E. Waldbrook No. 3, lot 17, con. XI, Walpole tp.
Completed March 29, 1944.
Producing gas well.
Rock pressure: 380 lbs.

Formation	Depth, ft.
Surface	7
Flint	77
Lime and shale	435
Niagara	696
Shale	745
Clinton	792
Red Medina	820
Grey shale	869
White Medina	881
Red shale	883

Gas at 760 feet.
Mineral water at 60 feet.

WALPOLE GAS SYNDICATE NO. 2
E. Waldbrook No. 4, lot 17, con. XI, Walpole tp.
Completed November 18, 1944.
Producing gas well.
Rock pressure: 450 lbs.

Formation	Depth, ft.
Surface	9
Flint	68
Lime and shale	433
Niagara	684
Shale	735
Clinton	774
Red Medina	805
Grey shale	849
White Medina	857
Red shale	895

Gas at 747 and 809 feet.
Fresh water at 68 feet.

Kent County

UNION GAS CO. OF CANADA, LTD.

R. and B. Adkin No. 1, lot 6, con. IX, Camden gore, Camden tp.

Completed August 1, 1944.
Dry hole.

Formation	Depth, ft.
Surface	18
Black shale	115
Soap	136
Black shale	183
Grey lime	238
Soap	344
Grey lime	378
Brown lime	427
Brown and grey lime	472
Water sand	496
Brown lime	720
Flint	915
Brown and grey lime	1,035
Lime, shale, and gypsum	1,045
Brown lime	1,076
Shale	1,082
Lime, shale, and gypsum	1,120
Blue shale and gypsum	1,160
Lime, shale, and gypsum	1,199
Brown lime	1,227
Lime and gypsum	1,242
Brown and grey lime	1,292
Lime, shale, and gypsum	1,459
Brown and grey lime	1,495
Grey lime and shale	1,537
Lime and gypsum	1,552
Brown lime	1,572
Brown lime and gypsum	1,578
Lime and shale	1,614
Grey lime	1,630

Show of gas at 1,435 to 1,441 and 1,448 to 1,454 feet.
Sulphur water at 496 and 980 feet.

UNION GAS CO. OF CANADA, LTD.

A. Hopper No. 1, lot 6, con. XI, Camden gore, Camden tp.

Completed June 18, 1944.
Dry hole.

Formation	Depth, ft.
Surface	58
Brown shale	110
Soap and shale	130
Soap	318
Middle lime	332
Lower soap	358
Lime and slate	365
Brown lime	500
Sharp sand	535
Brown lime	857
Sharp sand	930
Grey lime	972
Sharp sand	1,055
Grey lime	1,108
Sharp sand	1,134
Brown lime	1,415
Blue lime	1,491
Blue and brown lime	1,503
Brown lime	1,558
Blue and brown lime	1,573
Brown lime	1,590
Grey and brown lime	1,635
Grey and blue lime	1,697
Grey and brown lime	1,751
Brown and grey lime	1,821

Sulphur water at 376 feet.

UNION GAS CO. OF CANADA, LTD.

S. E. and M. C. Snider No. 1, lot 5, con. X, Camden gore, Camden tp.

Completed September 18, 1944
Dry hole.

Formation	Depth, ft.
Surface	39
Black shale	118
Soap	150
Black shale	181
Soap	200
Shale and lime	216
Soap	347
Grey lime	359
Soap	377
Brown lime	395
Grey and brown lime	449
Brown lime	474
Sharp grey and brown lime	514
Brown and grey lime	733
Flint	894
Brown and grey lime	949
Sharp brown lime	1,046
Shale, lime, and gypsum	1,064
Lime and shale	1,071
Lime, shale, and gypsum	1,127
Shale and gypsum	1,212
Lime and shale	1,226
Brown and grey lime	1,333
Blue shale	1,372
Lime and shale	1,544
Brown, blue, and grey lime	1,609
Blue lime	1,633
Brown and grey lime	1,692
Grey lime	1,765

Show of gas at 1,438 to 1,446 and 1,584 feet.
Sulphur water at 486 and 640 feet.

UNION GAS CO. OF CANADA, LTD.

A. Tiffin No. 1, lot 6, con. X, Camden gore, Camden tp.

Completed April 21, 1944.
Producing gas well.
Rock pressure: 725 lbs.

Formation	Depth, ft.
Surface	22
Black shale	110
Soap	135
Grey shale	205
Soap	335
Middle lime	351
Soap	372
Brown lime	745
Sharp sand	915
Brown lime	1,055
Brown lime and gypsum	1,090
Blue shale and gypsum	1,100
Blue shale	1,210
Brown lime	1,243
Grey lime and blue shale	1,261
Brown and grey lime	1,324
Blue shale and brown lime	1,344
Blue shale	1,390
Grey and brown lime	1,440
Brown lime	1,485
Grey lime and shale	1,556
Grey and brown lime	1,612
Brown and grey lime	1,664
Brown lime	1,690

Gas at 1,440 to 1,448, 1,561 to 1,562, and 1,577 to 1,582 feet.
Fresh water at 22 feet; sulphur water at 476, 625, and 980 feet.

UNION GAS CO. OF CANADA, LTD.

J. N. Burnett No. 1, lot 9, con. XII, Chatham tp.

Completed December 16, 1944.
Producing gas well.
Rock pressure: 605 lbs.

Formation	Depth, ft.
Surface	60
Black shale	181
Soap	190
Black shale	218
Black shale and grey lime	230
Soap	240
Lime	262
Soap	372
Lime	384
Soap	411
Brown lime	484
Water sand	494
Brown and grey lime	528
Water sand	538
Brown lime	780
Flint	817
Water sand	860
Brown lime	1,040
Lime and gypsum	1,052
Brown lime	1,075
Lime, shale, and gypsum	1,184
Brown lime	1,246
Brown lime and shale	1,293
Grey and brown lime	1,400
Brown and grey lime	1,445
Brown lime	1,481
Brown and grey lime	1,545
Grey lime and shale	1,570
Lime and gypsum	1,578
Grey and brown lime	1,611

Gas at 1,440 to 1,445, 1,455 to 1,457, 1,463 to 1,465, and 1,481 to 1,489 feet.
Sulphur water at 484 and 817 feet; salt water at 1,470 feet.

UNION GAS CO. OF CANADA, LTD.

R. Ewing No. 1, lot 8, con. XII, Chatham tp.

Completed August 1, 1944.
Producing gas well.
Rock pressure: 605 lbs.

Formation	Depth, ft.
Surface	60
Black shale	95
Brown shale	235
Soap	385
Middle lime	400
Soap	425
Grey lime	459
Brown lime	502
Sharp brown and grey lime	514
Brown lime	795
Sharp brown and grey lime	869
Brown lime	999
Blue and brown lime	1,030
Grey and brown lime	1,049
Brown lime	1,079
Brown and grey lime	1,097
Blue and grey lime	1,181
Brown, grey, and blue lime	1,199
Brown lime	1,235
Brown, blue, and grey lime	1,319
Blue lime	1,379
Blue and brown lime	1,433
Brown lime	1,479
Brown and grey lime	1,569
Brown lime	1,624

Show of gas at 1,439 to 1,445 feet; gas at 1,455 to 1,467 feet.
Salt water at 1,467 to 1,473 and 1,575 to 1,581 feet.

UNION GAS CO. OF CANADA, LTD.

A. Cockrane No. 1, lot 8, con. XIII, Chatham tp.

Completed January 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	70
Brown shale	275
Top rock	312
Soap	410
Lime	428
Soap	452
Brown lime	532
Sharp brown and grey lime	561
Brown lime	747
Sharp brown and grey lime	953
Brown lime	1,051
Brown and blue lime	1,068
Lime and gypsum	1,074
Brown lime	1,098
Brown and grey lime	1,118
Brown and blue lime	1,236
Brown lime	1,254
Brown and blue lime	1,291
Brown and grey lime	1,343
Brown and blue lime	1,401
Lime and gypsum	1,407
Brown and blue lime	1,449
Brown lime	1,515

Show of gas at 1,462 to 1,474 feet.
Fresh water at 65, 85, and 115 feet; sulphur water at 535 and 580 feet; salt water at 1,480 to 1,491 feet.

UNION GAS CO. OF CANADA, LTD.

E. Harper No. 1, lot 2, con. XIV, Chatham tp.

Completed May 17, 1944.
Dry hole.

Formation	Depth, ft.
Surface	70
Brown shale	265
Soap	275
Top rock	309
Soap and lime shell	413
Middle lime	425
Soap	454
Grey lime	477
Brown lime	725
Sharp brown and grey lime	935
Brown lime	1,060
Brown and blue lime	1,126
Blue and grey lime and gypsum	1,205
Brown and grey lime	1,259
Blue and brown lime	1,280
Brown and grey lime	1,350
Brown, blue, and grey lime	1,603
Brown lime	1,719
Brown and grey lime	1,735
Brown lime	1,817
Grey lime	1,875
Grey shale	1,900
Clinton	1,911
Red Medina	1,931
Grey shale	2,031
White Medina	2,070
Red shale	2,190
Red and grey shale	2,335
Grey shale	2,665
Brown shale	2,767
Trenton	3,694
Sand and granite	3,700

Show of oil at 1,610 and 1,745 to 1,751 feet.
Show of gas at 3,207 to 3,225 feet.
Fresh water at 70 feet; salt water at 1,471 to 1,478, 1,610, 1,745 to 1,751, and 1,852 to 1,858 feet.

UNION GAS CO. OF CANADA, LTD.

W. R., R. F., and L. Irwin No. 1, lot 11, con. XI, Chatham tp.

Completed October 28, 1944.
Producing gas well.
Rock pressure: 685 lbs.

Formation	Depth, ft.
Surface	58
Black shale	155
Soap	160
Black shale	170
Soap	180
Black shale	226
Soap and lime shell	235
Soap	370
Grey lime	382
Soap	406
Brown lime	519
Water sand	528
Brown lime	770
Flint	820
Water sand	830
Flint	847
Brown and grey lime	1,038
Lime, shale, and gypsum	1,169
Lime and shale	1,210
Brown and grey lime	1,246
Lime, shale, and gypsum	1,262
Brown lime and shale	1,295
Brown and grey lime	1,346
Grey lime and shale	1,392
Brown and grey lime	1,488
Grey lime and shale	1,547
Brown lime	1,582

Show of gas at 1,438; gas at 1,442 and 1,565 to 1,571 feet.
Sulphur water at 429, 519, and 820 feet; salt water at 1,460 feet.

UNION GAS CO. OF CANADA, LTD.

J. Moore No. 1, lot 7, con. XIII, Chatham tp.

Completed February 25, 1944.
Dry hole.

Formation	Depth, ft.
Surface	67
Brown shale	265
Top rock	301
Soap and lime shell	405
Middle lime	420
Soap	445
Brown lime	674
Brown lime and gypsum	686
Brown lime	770
Sharp brown and grey lime	936
Brown lime	1,049
Brown and blue lime	1,072
Grey and brown lime	1,094
Lime and gypsum	1,118
Blue lime	1,198
Brown and blue lime	1,315
Brown and grey lime	1,339
Brown and blue lime	1,447
Brown lime	1,559
Brown and grey lime	1,599
Brown lime	1,737

Show of gas at 1,464 to 1,472 feet.
Show of oil at 1,716 to 1,721 feet.
Sulphur water at 555 feet; salt water at 1,483 to 1,495 and 1,731 to 1,737 feet.

UNION GAS CO. OF CANADA, LTD.

M. Morrison No. 1, lot 8, con. XIII, Chatham tp.

Completed June 22, 1944.
Producing gas well.
Rock pressure: 615 lbs.

Formation	Depth, ft.
Surface	73
Brown shale	255
Top rock	297
Soap	395
Middle lime	409
Soap	441
Brown lime	753
Sharp sand	921
Brown lime	1,079
Lime and gypsum	1,085
Blue and grey lime	1,192
Brown lime	1,228
Blue and grey lime	1,263
Brown lime	1,300
Brown and blue lime	1,324
Blue and grey lime	1,354
Blue and brown lime	1,416
Blue and grey lime	1,434
Brown lime	1,481

Gas at 1,446 to 1,458 and 1,463 to 1,469 feet.
Sulphur water at 510 feet; salt water at 1,469 to 1,481 feet.

UNION GAS CO. OF CANADA, LTD.

K. Watson No. 1, lot 22, con. I, L.E., Harwich tp.

Completed February 17, 1944.
Dry hole.

Formation	Depth, ft.
Surface	120
Black shale	146
Brown shale	208
Soap	435
Brown lime	710
Sharp sand	986
Brown lime	1,040
Water sand	1,043
Brown lime	1,050
Grey lime and gypsum	1,090
Grey lime	1,130
Blue lime	1,207
Blue and grey lime	1,229
Brown lime	1,352
Blue shale	1,441
Brown lime	1,452
Salt	1,615
Brown lime	1,677
Grey lime	1,699
Brown lime	1,755
Water sand	1,765
Brown lime	1,992
Grey lime	2,020
Shale	2,024

Show of gas at 1,692 feet.
Fresh water at 144 feet; sulphur water at 530 and 650 feet; salt water at 1,030 and 1,755 feet.

F. S. RAWLINGS

R. McCaughran No. 1, lot 17, con. XVI, Orford tp.

Completed September 2, 1944.
Dry hole.

Formation	Depth, ft.
Surface	134
Upper soap	198
Middle lime	213
Lower soap	253
Big lime	273

Fresh water at 130 feet; salt water at 273 feet.

DOMINION NATURAL GAS CO., LTD.

O. Williams No. 1, lot 7, con. III, Raleigh tp.

Completed March 3, 1944.
Dry hole.

Formation	Depth, ft.
Surface	65
Lime and shale	98
Soap	180
Lime and shale	186
Soap	210
Lime	227
Soap	257
Grey lime	340
Sharp grey lime	425
Brown lime	605
Sharp grey lime	800
Brown lime	885
Grey and blue lime	955
Lime and gypsum	1,080
Brown and grey lime	1,165
Blue lime and shale	1,270
Brown lime	1,295
Brown lime and salt	1,425
Brown lime	1,475
Grey lime	1,612
Brown lime	1,820
Lime and shale	1,880
Clinton	1,890
Red and blue shale	2,000
White Medina (dolomite?)	2,050
Red shale	2,285
Grey shale	2,690
Brown shale	2,815
Trenton	3,273

Fresh water at 61 feet; black water at 420, 435, 665, and 1,605 feet.

HUNTER AND MAHLER

G. Hunter No. 1, lot 8, con. XI, Raleigh tp.

Completed February 16, 1944.
Dry hole.

Formation	Depth ft.
Surface	135
Black shale	153
Soap	300
Grey lime	310
Soap	334
Brown shale	355
Soap	385
Grey lime	390

Fresh water at 125 feet.

F. RAWLINGS AND ASSOCIATES

J. McWilliams No. 1, lot 9, R.R., Zone tp.

Completed March 18, 1944.
Producing oil well.

Formation	Depth, ft.
Surface	154
Upper soap	219
Middle lime	228
Lower soap	253
Dark streak	258
Soap	259
Big lime	380

Oil at 308 to 312, 316 to 320, and 336 to 340 feet.
Fresh water at 12, 102, and 154 feet.

F. RAWLINGS AND ASSOCIATES

J. McWilliams No. 2, lot 9, R.R., Zone tp.

Completed May 15, 1944.
Dry hole.

Formation	Depth, ft.
Surface	183
Upper soap	241
Middle lime	251
Lower soap	272
Dark streak	280
Soap	282
Big lime	475
Sand	490

Show of gas at 282 feet.
Fresh water at 14 and 182 feet; salt water at 285 feet; black water at 475 feet.

UNION GAS CO. OF CANADA, LTD.

F. S. Bodkin No. 1, lot 12, con. V, Zone tp.

Completed August 15, 1944.
Producing gas well.
Rock pressure: 650 lbs.

Formation	Depth, ft.
Surface	64
Brown shale	157
Brown and grey lime	163
Top rock	200
Soap and lime shell	338
Middle lime	350
Soap	370
Lime shell	373
Grey lime	459
Grey and brown lime	546
Grey lime	645
Brown lime	695
Sharp brown and grey lime	941
Grey and brown lime	961
Brown lime	1,062
Blue lime	1,068
Brown and blue lime	1,086
Brown lime	1,124
Blue lime	1,215
Brown and blue lime	1,279
Brown lime	1,357
Blue lime	1,407
Brown lime	1,425
Blue lime	1,431
Brown lime	1,636

Gas at 1,443 to 1,455 feet.
Sulphur water at 495 feet; salt water at 1,468 to 1,474 feet.

UNION GAS CO. OF CANADA, LTD.

D. L. and N. I. Buchanan No. 1, lot 11, con. VI Zone tp.

Completed September 18, 1944.
Producing gas well.
Rock pressure: 685 lbs.

Formation	Depth, ft.
Surface	81
Top rock	105
Soap and lime shell	300
Brown lime	428
Sharp brown and grey lime	458
Brown lime	663
Sharp brown and grey lime	892
Brown lime	1,001
Lime and gypsum	1,020
Brown and grey lime	1,046
Brown and blue lime	1,070
Blue and grey lime	1,166
Brown lime	1,196
Brown and blue lime	1,383
Brown lime	1,431
Brown and grey lime	1,500
Lime and gypsum	1,506
Brown and grey lime	1,555

Oil at 311 to 318 and 344 to 362 feet; show of oil at 1,451 to 1,457 feet.
Gas at 1,395 to 1,407 and 1,413 to 1,425 feet.
Sulphur water at 442 feet; salt water at 1,464 to 1,470 feet.

UNION GAS CO. OF CANADA, LTD.

D. L. and N. I. Buchanan No. 2, lot 11, con. VI, Zone tp.

Completed September 13, 1944.
Producing oil well.

Formation	Depth, ft.
Surface	74
Top rock	110
Upper soap	249
Middle lime	267
Lower soap	297
Grey lime	375

Show of gas at 66 feet.
Show of oil at 312 to 318 feet; oil at 330 feet.

UNION GAS CO. OF CANADA, LTD.

D. L. and N. I. Buchanan No. 3, lot 11, con. VI, Zone tp.

Completed October 20, 1944.
Producing oil well.

Formation	Depth, ft.
Surface	81
Top rock	110
Soap	195
Soap and lime shell	251
Middle lime	263
Soap	288
Grey lime	364

Oil at 310 to 314 and 350 to 355 feet.
Show of gas at 66 feet.
Fresh water at 70 feet.

UNION GAS CO. OF CANADA, LTD.

W. Buchanan No. 1, lot 10, con. III, Zone tp.

Completed January 22, 1944.
Dry hole.

Formation	Depth, ft.
Surface	85
Soap	94
Brown shale	145
Top rock	215
Upper soap	350
Middle lime	373
Soap	397
Grey lime	548
Brown and grey lime	728
Sharp brown and grey lime	936
Brown lime	1,050
Lime and gypsum	1,067
Blue and brown lime	1,120
Blue, brown, and grey lime	1,202
Brown lime	1,254
Brown and blue lime	1,334
Grey and brown lime	1,380
Blue and brown lime	1,410
Brown and grey lime	1,563
Brown lime	1,608
Brown and grey lime	1,639
Brown lime	1,697

Show of gas at 1,458 to 1,470 and 1,589 to 1,604 feet.
Fresh water at 65 feet; sulphur water at 517 to 523 feet; salt water at 1,452 to 1,458, 1,481 to 1,487, and 1,662 to 1,668 feet.

UNION GAS CO. OF CANADA, LTD.

W. R. Buchanan No. 1, lot 11, con. II, Zone tp.

Completed March 4, 1944.
Dry hole.

Formation	Depth, ft.
Surface	43
Brown shale	130
Top rock	180
Soap and lime shell	310
Middle lime	330
Soap	350
Grey lime	454
Brown and grey lime	522
Brown lime	665
Sharp grey and brown lime	856
Brown lime	974
Blue lime and gypsum	980
Brown lime	1,005
Blue lime and gypsum	1,011
Brown and blue lime	1,337
Salt	1,444
Brown lime	1,562
Brown and grey lime	1,635

Sulphur water at 465 feet; salt water at 1,600 feet.

UNION GAS CO. OF CANADA, LTD.

M. Collins No. 1, lot 12, con. VI, Zone tp.

Completed February 25, 1944.
Producing gas well.
Rock pressure: 705 lbs.

Formation	Depth, ft.
Surface	79
Black shale	105
Top rock	155
Soap	255
Lime shell	265
Soap	308
Middle lime	320
Soap	355
Brown lime	480
Sharp grey lime	504
Brown lime	717
Sharp grey lime	890
Brown lime	1,006
Lime and gypsum	1,026
Brown lime	1,045
Blue lime and gypsum	1,050
Brown and grey lime	1,065
Blue and grey lime	1,165
Brown lime	1,206
Blue and grey lime	1,234
Brown lime	1,282
Brown and blue lime	1,300
Blue and grey lime	1,352
Brown and blue lime	1,401
Brown and grey lime	1,549
Black lime	1,572
Brown and grey lime	1,596
Brown lime	1,628

Gas at 1,389 to 1,401, 1,406 to 1,417, and 1,536 to 1,548 feet.
Show of oil at 1,513 to 1,519 and 1,596 to 1,608 feet.
Fresh water at 74 feet; sulphur water at 480 feet; salt water at 1,463 to 1,469 feet.

UNION GAS CO. OF CANADA, LTD.

P. and A. Gyetvai No. 1, lot 12, con. V, Zone tp.

Completed July 7, 1944.
Dry hole.

Formation	Depth, ft.
Surface	75
Soap and shale	85
Brown shale	125
Top rock	173
Soap and lime shell	310
Middle lime	326
Soap	351
Grey lime	515
Brown and grey lime	710
Sharp grey lime	950
Brown lime	1,072
Lime and gypsum	1,085
Brown and blue lime	1,169
Blue lime	1,219
Brown and blue lime	1,252
Brown lime	1,282
Brown and blue lime	1,303
Brown lime	1,348
Brown and blue lime	1,366
Blue lime	1,427
Brown lime	1,499
Brown and blue lime	1,572
Grey and brown lime	1,600

Show of oil at 1,590 to 1,596 feet.
Fresh water at 75 feet; sulphur water at 485 feet; salt water at 1,590 to 1,596 feet.

UNION GAS CO. OF CANADA, LTD.

A. Humphrey No. 1, lot 10, con. VI, Zone tp.

Completed December 4, 1944.
Producing gas well.
Rock pressure: 665 lbs.

Formation	Depth, ft.
Surface	74
Brown shale	100
Top rock	140
Soap and lime shell	278
Middle lime	290
Soap	320
Grey lime	340
Brown lime	448
Sharp brown and grey lime	478
Brown lime	644
Sharp brown and grey lime	880
Brown lime	1,021
Lime and gypsum	1,039
Brown and blue lime	1,405
Brown lime	1,455
Brown and grey lime	1,558

Gas at 1,420 to 1,429 feet.
Show of oil at 1,441 to 1,447 feet.
Fresh water at 70 feet; sulphur water at 448 to 454 feet; salt water at 1,470 to 1,476 feet.

UNION GAS CO. OF CANADA, LTD.

P. Lidster No. 1, lot 10, con. VI, Zone tp.

Completed December 4, 1944.
Dry hole.

Formation	Depth, ft.
Surface	77
Top rock	110
Upper soap	256
Middle lime	266
Lower soap	290
Grey lime	311
Brown lime	437
Grey sand	439

Fresh water at 10 and 75 feet; sulphur water at 437 feet.

UNION GAS CO. OF CANADA, LTD.

P. Lidster No. 1, lot 11, con. VI, Zone tp.

Completed April 13, 1944.
Producing gas well.
Rock pressure: 695 lbs.

Formation	Depth, ft.
Surface	75
Brown shale	105
Top rock	155
Soap and lime shell	313
Middle lime	325
Soap	352
Brown lime	688
Sharp brown and grey lime	895
Brown lime	1,013
Lime and gypsum	1,025
Brown and blue lime	1,088
Lime and gypsum	1,153
Brown and blue lime	1,240
Brown and grey lime	1,281
Blue and brown lime	1,395
Brown lime	1,437
Brown and grey lime	1,499
Lime and gypsum	1,510
Brown and grey lime	1,667

Show of gas at 75 feet; gas at 1,400 to 1,411 and 1,416 to 1,424 feet.
Show of oil at 382 to 388 feet.
Fresh water at 10 and 75 feet; sulphur water at 382 to 388 and 483 feet; salt water at 1,499 to 1,504 and 1,630 to 1,636 feet.

UNION GAS CO. OF CANADA, LTD.

M. M. McBrayne No. 1, lot 12, con. VII, Zone tp.

Completed August 15, 1944.
Dry hole.

Formation	Depth, ft.
Surface	80
Brown shale	110
Top rock	160
Soap and lime shell	307
Middle lime	319
Soap and lime	348
Brown lime	476
Sharp brown and grey lime	512
Brown lime	687
Sharp brown and grey lime	926
Brown lime	1,027
Lime and gypsum	1,045
Brown and grey lime	1,065
Brown and blue lime	1,095
Blue lime	1,155
Brown and blue lime	1,198
Brown lime	1,218
Brown and blue lime	1,248
Brown lime	1,297
Lime and gypsum	1,303
Brown and grey lime	1,327
Blue lime	1,351
Lime and gypsum	1,357
Brown and blue lime	1,404
Brown lime	1,452
Grey lime	1,513
Brown lime	1,579

Show of oil at 366 and 1,426 to 1,432 feet.
Show of gas at 1,416 to 1,422 feet.
Fresh water at 70 feet; sulphur water at 366 and 385 feet.

UNION GAS CO. OF CANADA, LTD.

W. A. McBrayne No. 1, lot 13, con. VII, Zone tp.

Completed December 5, 1944.
Dry hole.

Formation	Depth, ft.
Surface	82
Black shale	97
Top rock	132
Soap and lime shell	305
Brown and grey lime	630
Sharp brown and grey lime	811
Brown and grey lime	945
Lime and gypsum	957
Blue and grey lime	1,044
Brown and grey lime	1,186
Blue and brown lime	1,270
Salt and lime shell	1,323
Salt	1,410
Brown lime	1,471
Dark-grey lime	1,519
Brown and grey lime	1,596

Show of gas at 1,522 to 1,525 feet.
Fresh water at 80 feet; sulphur water at 434 feet.

UNION GAS CO. OF CANADA, LTD.

F. McRitchie No. 1, lot 14, con. VI, Zone tp.

Completed April 10, 1944.
Dry hole.

Formation	Depth, ft.
Surface	70
Black sand	75
Soap	152
Lime and soap	212
Middle lime	230
Soap	255
Grey lime	520
Grey and brown lime	574
Sharp grey lime	795
Brown lime	892
Brown lime and gypsum	902
Brown and blue lime	1,263
Salt and lime	1,407
Brown lime	1,581

Fresh water at 70 feet; sulphur water at 385 feet; salt water at 1,570 feet.

UNION GAS CO. OF CANADA, LTD.

W. Nickels No. 1, lot 12, con. VI, Zone tp.

Completed August 17, 1944.
Producing gas well.
Rock pressure: 695 lbs.

Formation	Depth, ft.
Surface	90
Shale	130
Top rock	190
Soap and lime shell	370
Grey lime	479
Brown lime	491
Grey lime	590
Brown and grey lime	684
Sharp grey lime	880
Brown lime	952
Grey and brown lime	982
Lime and gypsum	994
Blue lime	1,000
Grey and brown lime	1,022
Blue, grey, and brown lime	1,040
Lime and gypsum	1,052
Blue lime	1,139
Grey lime	1,169
Brown and grey lime	1,278
Grey lime	1,296
Blue lime	1,351
Grey and blue lime	1,390
Brown lime	1,423

Gas at 1,390 to 1,398 and 1,408 to 1,414 feet.
Fresh water at 25 and 80 feet; sulphur water at 495 feet.

UNION GAS CO. OF CANADA, LTD.

A. Palmer No. 1, lot 12, con. VI, Zone tp.

Completed June 5, 1944.
Producing gas well.
Rock pressure: 695 lbs.

Formation	Depth, ft.
Surface	72
Shale	100
Top rock	156
Soap	295
Middle lime	317
Soap	350
Grey lime	512
Brown and grey lime	700
Sharp brown and grey lime	905
Brown lime	1,011
Lime and gypsum	1,035
Blue lime	1,047
Brown lime	1,103
Blue lime	1,181
Brown and blue lime	1,270
Brown lime	1,327
Blue lime	1,375
Brown lime	1,506
Black lime	1,524
Brown and grey lime	1,551
Grey lime	1,575
Blue and brown lime	1,600
Grey lime	1,626

Gas at 1,419 to 1,431 feet.
Show of oil at 1,450 to 1,452 feet.
Sulphur water at 480 feet.

UNION GAS CO. OF CANADA, LTD.

W. Nickels No. 2, lot 12, con. VI, Zone tp.

Completed September 18, 1944.
Producing gas well.
Rock pressure: 765 lbs.

Formation	Depth, ft.
Surface	80
Black shale	115
Top rock	178
Soap and lime shell	352
Grey lime	428
Brown and grey lime	670
Sharp grey lime	855
Grey and brown lime	965
Blue lime and gypsum	977
Grey and brown lime	1,001
Blue lime	1,013
Grey lime	1,025
Blue lime	1,114
Brown and grey lime	1,243
Grey and blue lime	1,261
Blue lime	1,313
Brown and grey lime	1,349
Brown lime and salt	1,405
Brown and grey lime	1,456
Dark-grey lime	1,513
Brown lime	1,560
Dark-grey lime	1,575

Show of gas at 1,405 to 1,411 feet; gas at 1,513 to 1,525 and 1,543 feet.
Show of oil at 1,434 feet.
Fresh water at 78 feet; sulphur water at 480 feet.

UNION GAS CO. OF CANADA, LTD.

J. Puddicombe Estate No. 1, lot 12, con. VIII, Zone tp.

Completed May 30, 1944.
Producing gas well.
Rock pressure: 795 lbs.

Formation	Depth, ft.
Surface	105
Brown shale	125
Top rock	165
Soap and lime shell	305
Middle lime	323
Soap	345
Grey lime	350
Brown lime	665
Sharp brown and grey lime	933
Brown lime	1,032
Brown and blue lime	1,038
Lime and gypsum	1,053
Brown and grey lime	1,078
Blue lime and gypsum	1,090
Brown and blue lime	1,108
Blue lime	1,164
Brown and blue lime	1,422
Brown and grey lime	1,561

Show of gas at 1,452 feet; gas at 1,532 to 1,543 feet.
Show of oil at 1,537 to 1,543 feet.
Fresh water at 95 feet; sulphur water at 490 and 650 feet.

UNION GAS CO. OF CANADA, LTD.

J. Puddicombe Estate No. 2, lot 12, con. VIII, Zone tp.

Completed September 26, 1944.
Producing gas well.
Rock pressure: 780 lbs.

Formation	Depth, ft.
Surface	120
Top rock	160
Soap and lime shell	308
Middle lime	320
Soap and lime shell	343
Grey lime	485
Sharp grey lime	503
Grey lime	610
Brown and grey lime	662
Sharp brown and grey lime	926
Brown lime	1,038
Blue lime	1,044
Brown lime	1,098
Blue lime	1,166
Brown and blue lime	1,248
Brown and grey lime	1,326
Blue lime	1,365
Brown and blue lime	1,424
Brown lime	1,472
Blue and brown lime	1,521
Grey and brown lime	1,539
Brown lime	1,618

Gas at 1,424 to 1,430 feet; show of gas at 1,527 to 1,539 feet; gas at 1,533 to 1,545 feet.
Fresh water at 115 feet; sulphur water at 485 and 600 feet.

UNION GAS CO. OF CANADA, LTD.

E. Relich No. 1, lot 11, con. IV, Zone tp.

Completed January 14, 1944.
Dry hole.

Formation	Depth, ft.
Surface	62
Black shale	144
Top rock	190
Soap and lime shell	328
Middle lime	340
Soap and lime shell	373
Brown lime	485
Brown and grey lime	515
Brown lime	727
Sharp brown and grey lime	927
Brown and grey lime	969
Brown lime	1,048
Brown and blue lime and gypsum	1,054
Brown and grey lime	1,083
Blue and grey lime	1,200
Brown and blue lime	1,275
Brown and grey lime	1,293
Brown lime	1,329
Grey, blue, and brown lime	1,429
Brown lime	1,495

Show of gas at 158, 1,447 and 1,460 to 1,466 feet.
Fresh water at 64 feet; salt water at 1,460 to 1,466 feet.

UNION GAS CO. OF CANADA, LTD.

J. Puddicombe Estate No. 3, lot 12, con. VIII, Zone tp.

Completed November 9, 1944.
Producing gas well.
Rock pressure: 725 lbs.

Formation	Depth, ft.
Surface	108
Brown shale	120
Top rock	163
Soap	310
Middle lime	322
Soap	339
Lime shell	345
Grey lime	560
Grey and brown lime	670
Sharp brown and grey lime	925
Grey lime	938
Brown lime	1,043
Lime and gypsum	1,049
Blue lime	1,055
Brown lime	1,118
Blue lime	1,194
Brown lime	1,339
Blue lime	1,381
Brown lime	1,560

Show of gas at 154 and 1,430 to 1,431 feet; gas at 1,431 to 1,437 and 1,532 to 1,536 feet.
Fresh water at 83 and 145 feet; sulphur water at 478 and 530 feet.

UNION GAS CO. OF CANADA, LTD.

C. C. and P. Sharpe No. 1, lot 11, con. VI, Zone tp.

Completed October 30, 1944.
Producing gas well.
Rock pressure: 665 lbs.

Formation	Depth, ft.
Surface	74
Top rock	120
Soap	185
Soap and lime shell	260
Middle lime	278
Soap	310
Grey lime	340
Brown lime	428
Sharp brown and grey lime	458
Brown lime	637
Sharp brown and grey lime	900
Brown lime	1,018
Lime and gypsum	1,036
Brown lime	1,068
Brown and grey lime	1,098
Brown and blue lime	1,420
Brown and grey lime	1,515
Lime and gypsum	1,526
Brown and grey lime	1,565

Gas at 1,408 to 1,420 and 1,425 to 1,431 feet.
Show of oil at 1,431 to 1,437 feet.
Shows of gas and oil at 1,554 to 1,560 feet.
Fresh water at 70 feet; sulphur water at 438 feet; salt water at 1,554 to 1,560 feet.

UNION GAS CO. OF CANADA, LTD.

M. Stedul No. 1, lot 12, con. VII, Zone tp.

Completed July 5, 1944.
Producing gas well.
Rock pressure: 700 lbs.

Formation	Depth, ft.
Surface	78
Brown shale	100
Top rock	150
Soap and lime shell	308
Middle lime	320
Soap	344
Brown lime	497
Sharp grey lime	528
Brown lime	700
Sharp brown and grey lime	913
Brown lime	1,020
Lime and gypsum	1,038
Brown and grey lime	1,060
Brown lime and gypsum	1,106
Blue lime and gypsum	1,162
Brown and blue lime	1,254
Brown and grey lime	1,297
Brown and blue lime	1,315
Blue lime and gypsum	1,345
Brown, blue, and grey lime	1,394
Brown lime	1,453

Gas at 1,407 to 1,417 and 1,423 to 1,429 feet.
Show of oil 1,423 to 1,429 feet.
Fresh water at 70 feet; sulphur water at 497 feet.

UNION GAS CO. OF CANADA, LTD.

M. Stedul No. 2, lot 12, con. VII, Zone tp.

Completed October 21, 1944.
Producing gas well.
Rock pressure: 775 lbs.

Formation	Depth, ft.
Surface	84
Black shale	115
Top rock	176
Soap	362
Grey lime	444
Grey and brown lime	554
Grey lime	678
Sharp grey lime	858
Brown and grey lime	977
Lime and gypsum	989
Brown and grey lime	1,046
Blue and grey lime	1,131
Brown lime	1,180
Brown and grey lime	1,222
Brown lime	1,258
Blue lime	1,322
Grey lime	1,342
Grey lime and salt	1,359
Salt and lime shell	1,407
Brown and grey lime	1,457
Dark-grey lime	1,521
Brown and grey lime	1,550

Shows of gas and oil at 1,418 to 1,422 feet.
Gas at 1,515 to 1,521 feet.
Sulphur water at 504 feet.

Lambton County

W. GRIFFITH

W. Griffith No. 1, lot 3, con. XI, Brooke tp.

Completed October 2, 1944.
Dry hole.

Formation	Depth, ft.
Surface	48
Black shale	173
Top soap	308
Middle lime	328
Lower soap	400
Lower lime	506
Shale	706

Fresh water at 48 feet; salt water at 512 feet.

UNION GAS CO. OF CANADA, LTD.

R. Alderman No. 1, lot 6, con. II, Brooke tp.

Completed February 9, 1944.
Dry hole.

Formation	Depth, ft.
Surface	52
Shale	54
Grey lime	62
Top rock	104
Soap and lime shell	277
Soap	304
Grey lime	352
Brown lime	652
Sharp brown and grey lime	870
Brown lime	933
Brown and grey lime	963
Blue lime and gypsum	974
Brown and grey lime	1,004
Brown and blue lime	1,023
Blue and grey lime	1,114
Brown lime	1,156
Brown and grey lime	1,264
Blue lime	1,335
Salt	1,574
Brown lime	1,638
Dark-grey lime	1,705
Salt and lime shell	1,723
Grey lime	1,741
Brown lime	1,822
Grey lime	1,878
Brown lime	1,890
Grey lime	1,962

Fresh water at 52 feet, sulphur water at 510 to 515 and 525 feet; salt water at 1,890 to 1,896 feet.

MUD ISLAND OIL SYNDICATE

W. J. Loosemore No. 1, lot 29, con. VII, Dawn tp.

Completed June 15, 1944.
Dry hole.

Formation	Depth, ft.
Surface	60
Black shale	180
Lime and shale	301
Upper soap	459
Middle lime	480
Lower soap	513
Lime and shale	520
Grey lime	760
Lime and gypsum	780
Grey and brown lime	1,175

Fresh water at 60 feet; sulphur water at 560 feet.

UNION GAS CO. OF CANADA, LTD.

L. Bradley No. 1, lot 29, con. III, Dawn tp.

Completed April 10, 1944.
Dry hole.

Formation	Depth, ft.
Surface	62
Black shale	164
Top rock	230
Soap and lime shell	390
Grey lime	536
Brown and grey lime	692
Brown lime	776
Sharp grey lime	921
Brown and grey lime	1,009
Lime and gypsum	1,038
Brown, blue, and grey lime	1,112
Blue lime	1,166
Grey and brown lime	1,184
Brown lime	1,238
Grey and brown lime	1,333
Blue lime	1,369
Blue and brown lime	1,395
Salt and grey lime	1,508
Salt	1,608
Brown lime	1,613
Salt	1,625
Brown lime	1,703
Dark-grey lime	1,742
Grey and blue lime	1,788
Salt	1,830
Grey and brown lime	1,844
Dark-grey lime	1,952
Brown and grey lime	1,990

Show of oil at 1,978 to 1,990 feet.
Fresh water at 59 feet; sulphur water at 530 and 550 feet; salt water at 1,983 to 1,990 feet.

UNION GAS CO. OF CANADA, LTD.

J. R. Ellis No. 3, lot 19, con. I, Dawn tp.

Completed November 13, 1944.
Producing gas well.
Rock pressure: 175 lbs.

Formation	Depth, ft.
Surface	72
Brown shale	257
Top rock	317
Soap	427
Middle lime	442
Soap and lime shell	480
Brown lime	642
Brown lime and gypsum	690
Brown lime	846
Sharp brown and grey lime	1,066
Brown and grey lime	1,152
Lime and gypsum	1,158
Brown and grey lime	1,188
Brown, blue, and grey lime and gypsum	1,296
Brown lime	1,309
Lime and gypsum	1,315
Brown and grey lime	1,369
Brown and blue lime	1,387
Brown lime	1,417
Brown and blue lime	1,429
Blue lime	1,479
Brown, blue, and grey lime	1,513
Brown lime	1,561
Brown, blue, and grey lime	1,602
Brown lime	1,810

Show of gas at 490, 520, and 1,524 to 1,530 feet; gas at 1,640, 1,659, 1,667, 1,675, 1,681, 1,687, 1,724, 1,730, 1,736, 1,742 to 1,760, 1,771 to 1,782, 1,795, and 1,800 to 1,804 feet.
Fresh water at 72 feet; sulphur water at 610 feet.

UNION GAS CO OF CANADA, LTD.

S. Johnston No. 2, lot 25, con. VIII, Dawn tp.

Completed June 20, 1944.
Producing gas well.
Rock pressure: 190 lbs.

Formation	Depth, ft.
Surface	66
Black shale	212
Top rock	266
Soap	395
Lime	425
Soap	451
Grey lime	560
Brown lime	620
Brown and grey lime	668
Grey lime	782
Grey and brown lime	862
Sharp grey lime	1,060
Grey and brown lime	1,158
Lime and gypsum	1,188
Grey and brown lime	1,215
Grey and blue lime	1,285
Blue lime	1,315
Brown lime	1,371
Brown and grey lime	1,469
Blue lime	1,528
Grey and brown lime	1,624
Grey lime	1,712
Salt	1,730
Grey lime	1,801
Brown and grey lime	1,848
Light-grey lime	1,901

Gas at 1,572 to 1,578 and 1,600 to 1,606 feet.
Fresh water at 59 feet; sulphur water at 565 feet; salt water at 1,873 to 1,879 feet.

E. R. WILSON AND ASSOCIATES

L. Hall No. 1, lot 3, con. II, Enniskillen tp.

Completed November 23, 1944.
Dry hole.

Formation	Depth, ft.
Surface	60
Black shale	130
Top rock	200
Upper soap	330
Middle lime	348
Lower soap	398
Big lime	513

Show of oil at 400 feet.
Fresh water at 65 feet.

E. R. WILSON AND ASSOCIATES

G. Irwin No. 1, lot 5, con. X, Moore tp.

Completed June 1, 1944.
Small producing oil well.

Formation	Depth, ft.
Surface	145
Top rock	200
Top soap	315
Middle lime	333
Lower soap	388
Lower lime	500

Oil at 470 feet.
Fresh water at 150 feet.

E. R. WILSON AND ASSOCIATES

G. Manley No. 1, lot 7, con. XI, Moore tp.

Completed January 5, 1944.
Dry hole.

Formation	Depth, ft.
Surface	145
Top rock	200
Top soap	360
Middle lime	378
Lower soap	418
Lime	560

Fresh water at 157 and 170 feet.

WILSON-SULLIVAN DEVELOPMENT CO.
G. Cran No. 3, lot 29, con. VI, S.E.R., Warwick tp.

Completed February 17, 1944.
Dry hole.

Formation	Depth, ft.
Surface	89
Top rock	128
Upper soap	267
Middle lime	288
Lower soap	315
Big lime	426

Show of oil at 323 feet.

WILSON-SULLIVAN DEVELOPMENT CO.
C. Manders No. 1, lot 15, con. V, S.E.R., Warwick tp.

Completed April 30, 1944.
Dry hole.

Formation	Depth, ft.
Surface	80
Brown shale	104
Lime	166
Upper soap	315
Middle lime	333
Lower soap	365
Big lime	490

Show of oil at 445 feet.
Black water at 487 feet.

Lincoln County

M. BUSH
M. Bush No. 1, lot 15, con. VI, Caistor tp.

Completed November 26, 1944.
Producing gas well.
Rock pressure: 145 lbs.

Formation	Depth, ft.
Surface	38
Lime	54
Niagara	230
Shale	273
Clinton	298
Red Medina	328
Grey shale	387
White Medina	397

Gas at 305, 324, and 328 feet.
Fresh water at 40 feet; black water at 201 feet.

GRIMSBY NATURAL GAS CO., LTD.
F. Smith No. 2, lot 8, con. IV, Caistor tp.

Completed January 15, 1944.
Producing gas well.
Rock pressure: 175 lbs.

Formation	Depth, ft.
Surface	63
Shale	81
Niagara	268
Shale	318
Clinton	348
Red Medina	388
Grey shale	453
White Medina	465
Red Medina	480

Gas at 358 and 379 feet.
Fresh water at 70 feet.

GRIMSBY NATURAL GAS CO., LTD.
F. Smith No. 3, lot 8, con. IV, Caistor tp.

Completed February 20, 1944.
Producing gas well.
Rock pressure: 175 lbs.

Formation	Depth, ft.
Surface	69
Shale	84
Niagara	276
Shale	321
Clinton	351
Red Medina	391
Shale	451
White Medina	464
Red shale	504

Gas at 345 to 360 and 453 feet.
Black water at 82 feet.

GRIMSBY NATURAL GAS CO., LTD.
H. Smith No. 1, lot 9, con. IV, Caistor tp.

Completed July 17, 1944.
Producing gas well.
Rock pressure: 158 lbs.

Formation	Depth, ft.
Surface	64
Shale	82
Niagara	252
Shale	302
Clinton	332
Red Medina	377
Grey shale	437
White Medina	449
Red shale	459

Gas at 340 to 360 feet.
Fresh water at 50 feet; black water at 120 feet.

GRIMSBY NATURAL GAS CO., LTD.
H. Smith No. 2, lot 9, con. IV, Caistor tp.

Completed August 22, 1944.
Producing gas well.
Rock pressure: 172 lbs.

Formation	Depth, ft.
Surface	54
Shale	69
Niagara	262
Shale	313
Clinton	343
Red Medina	388
Grey shale	453
White Medina	466
Red shale	486

Gas at 356 feet.
Fresh water at 51 feet; black water at 78 feet.

GRIMSBY NATURAL GAS CO., LTD.
H. Smith No. 3, lot 9, con. IV, Caistor tp.

Completed September 16, 1944.
Producing gas well.
Rock pressure: 168 lbs.

Formation	Depth, ft.
Surface	52
Shale	64
Niagara	254
Shale	307
Clinton	337
Red Medina	377
Grey shale	442
White Medina	454
Red shale	481

Gas at 355 feet; show of gas at 446 feet.
Fresh water at 48 feet; black water at 67 feet.

GRIMSBY NATURAL GAS CO., LTD.

H. Smith No. 4, lot 9, con. IV, Caistor tp.

Completed October 21, 1944.
Producing gas well.
Rock pressure: 169 lbs.

Formation	Depth, ft.
Surface	53
Shale	73
Niagara	268
Shale	318
Clinton	343
Red Medina	383
Grey shale	448
White Medina	460
Red shale	480

Gas at 360 feet; show of gas at 452 feet.
Fresh water at 49 feet; black water at 100 feet.

GRIMSBY NATURAL GAS CO., LTD.

H. Smith No. 5, lot 9, con. IV, Caistor tp.

Completed November 21, 1944.
Producing gas well.
Rock pressure: 169 lbs.

Formation	Depth, ft.
Surface	64
Shale	83
Niagara	272
Shale	325
Clinton	357
Red Medina	401
Grey shale	461
White Medina	473
Red shale	493

Gas at 356 and 377 feet.
Fresh water at 60 feet.

E. B. MERRITT

E. B. Merritt No. 1, lot 18, con. VII, Caistor tp.

Completed September 5, 1944.
Producing gas well.
Rock pressure: 70 lbs.

Formation	Depth, ft.
Surface	25
Shale	39
Niagara	179
Shale	229
Clinton	249
Red Medina	279
Grey shale	344
White Medina	355

Gas at 249 feet.
Fresh water at 24 feet; black water at 220 feet; salt water at 354 feet.

GEO. W. PACKHAM

G. W. Packham No. 1, lot 16, con. VII, Caistor tp.

Completed July 1, 1944.
Producing gas well.
Rock pressure: 85 lbs.

Formation	Depth, ft.
Surface	18
Lime and shale	30
Niagara	198
Shale	230
Clinton	249
Red Medina	279
Grey shale	339
White Medina	346
Red shale	371

Gas at 240 and 270 feet; show of gas at 339 feet.
Fresh water at 19 and 70 feet; black water at 170 feet.

FREMON SERVOS

F. Servos No. 1, lot 12, con. III, Caistor tp.

Completed April 20, 1944.
Producing gas well.
Rock pressure: 122 lbs.

Formation	Depth, ft.
Surface	60
Lime and shale	85
Niagara	280
Shale	332
Clinton	360
Red Medina	395
Grey shale	460
White Medina	473

Gas at 360 and 395 feet.
Fresh water at 60 feet; black water at 90 feet.

Manitoulin District

D. R. WILLIAMS

G. W. Wright No. 1, lot 11, Range East, Gordon tp.

Completed August 23 1944.
Dry hole.

Formation	Depth, ft.
Surface	5
Lime	201
Grey shale	394
Brown shale	464
Black shale	476
Trenton lime	545

Sulphur water at 52 to 54 feet; salt water at 248 feet.

Middlesex County

W. E. STANLEY

J. Eastabrook No. 5, lot 1, con. V, S.E.R., Adelaide tp.

Completed August 4, 1944.
Small producing oil well.

Formation	Depth, ft.
Surface	110
Top rock	135
Soap	275
Middle lime	292
Lower soap	320
Black streak	324
Lower soap	329
Big lime	400

Oil at 390 to 397 feet.
Fresh water at 110 feet.

WILSON-SULLIVAN DEVELOPMENT CO.

N. A. Alderson No. 1, lot 3, con. II, S.E.R., Adelaide tp.

Completed July 7, 1944.
Dry hole.

Formation	Depth, ft.
Surface	97
Top rock	150
Top soap	300
Middle lime	320
Lower soap	350
Lower lime	460

Fresh water at 85 and 100 feet.

WILSON-SULLIVAN DEVELOPMENT CO.

J. W. Maher No. 1, lot 6, con. V, S.E.R., Adelaide tp.

Completed September 18, 1944.
Small producing oil well.

Formation	Depth, ft.
Surface	130
Upper soap	268
Middle lime	287
Lower soap	316
Big lime	410

Oil at 355 and 401 feet.
Fresh water at 130 feet.

WILSON-SULLIVAN DEVELOPMENT CO.

J. W. Maher No. 2, lot 6, con. V, S.E.R., Adelaide tp.

Completed October 20, 1944.
Dry hole.

Formation	Depth, ft.
Surface	129
Top rock	130
Upper soap	271
Middle lime	291
Lower soap	317
Big lime	440

WILSON-SULLIVAN DEVELOPMENT CO.

G. Newton No. 1, lot 7, con. V, S.E.R., Adelaide tp.

Completed November 30, 1944.
Dry hole.

Formation	Depth, ft.
Surface	128
Top rock	129
Upper soap	270
Middle lime	290
Lower soap	317
Big lime	460

Salt water at 385 feet.

R. DOLPHIN

M. McGugan No. 1, lot 21, con. VII, Caradoc tp.

Completed July 1, 1944.
Dry hole.

Formation	Depth, ft.
Surface	204
Upper soap	227
Middle lime	247
Lower soap	270
Black streak	276
Big lime	445

Fresh water at 45 feet; black water at 242 feet.

C. J. BESSEY

J. Harrington No. 2, lot 1, con. XIII, Metcalfe tp.

Completed April 29, 1944.
Dry hole.

Formation	Depth, ft.
Surface	140
Upper soap	217
Middle lime	237
Lower soap	263
Black streak	270
Lime	370

Black water at 370 feet.

UNION GAS CO. OF CANADA, LTD.

G. H. Hewitt No. 1, lot 27, con. I, Mosa tp.

Completed November 23, 1944.
Dry hole.

Formation	Depth, ft.
Surface	115
Brown shale	162
Top rock	210
Soap and lime shell	354
Middle lime	366
Soap	390
Brown lime	505
Grey and brown lime	690
Sharp brown and grey lime	910
Brown and grey lime	1,070
Lime and gypsum	1,076
Brown lime	1,098
Lime and gypsum	1,122
Blue and grey lime	1,206
Brown lime	1,218
Brown and blue lime	1,278
Brown lime	1,354
Blue lime	1,408
Brown and grey lime	1,446
Brown lime	1,498
Brown and blue lime	1,540
Brown and grey lime	1,747

Fresh water at 105 feet; sulphur water at 438 feet.

UNION GAS CO. OF CANADA, LTD.

G. Lind No. 1, lot 21, con. II, Westminster tp.

Completed March 6, 1944.
Dry hole.

Formation	Depth, ft.
Surface	218
Brown lime	262
Brown and grey lime	376
No cuttings	382
Brown lime	412
No cuttings	424
Brown and grey lime	517
Sharp sand	643
Brown and grey lime	686
Brown lime	768
Brown lime, shale, and gypsum	894
Brown lime	921
Brown lime and blue shale	1,065
Brown lime	1,198
Grey lime	1,228
Brown lime	1,300

Show of gas at 1,216 and 1,222 feet.
Fresh water at 194 feet; sulphur water at 252 and 388 feet; salt water at 1,300 feet.

UNION GAS CO. OF CANADA, LTD.

J. T. Vanhie No. 1, lot 10, con. I, Westminster tp.

Completed January 25, 1944.
Dry hole.

Formation	Depth, ft.
Surface	210
Black shale and lime	224
Brown lime	378
Brown and grey lime	546
Sharp sand	686
Light-brown lime	710
Lime and shale	716
Grey and brown lime	752
Lime, shale, and gypsum	883
Brown and grey lime	923
Lime, shale, and gypsum	1,032
Brown lime and blue shale	1,092
Dark-grey lime	1,128
Brown and grey lime	1,170
Grey lime	1,187
Brown lime	1,300

Fresh water at 70 feet; sulphur water at 205, 295, and 1,300 feet.

Norfolk County

DOMINION NATURAL GAS CO., LTD.

J. E. Gundry No. 1, lot 23, con. I, Charlotteville tp.

Completed September 21, 1944.
Dry hole.

Formation	Depth, ft.
Surface	143
Lime	245
Flint	340
Sharp sand	405
Grey lime	445
Shale	550
Brown lime and shale	820
Niagara	1,032
Shale	1,095
Clinton	1,118
Red Medina	1,136
Shale	1,214
White Medina	1,229
Red shale	1,233

Fresh water at 120 feet; black water at 840 feet.

DOMINION NATURAL GAS CO., LTD.

E. Babanes No. 2, lot 30, con. III, S.T.R., Middleton tp.

Completed April 1, 1944.
Dry hole.

Formation	Depth, ft.
Surface	255
Lime	385
Flint	507
Lime	570
Lime and shale	895
Niagara	1,152
Shale	1,206
Clinton	1,226
Red Medina	1,228

Fresh water at 258, 280, and 470 feet; sulphur water at 565 feet; salt water at 980 feet.

DOMINION NATURAL GAS CO., LTD.

Y. Duwyn No. 3, lot 34, con. III, S.T.R., Middleton tp.

Completed February 3, 1944.
Dry hole.

Formation	Depth, ft.
Surface	245
Lime	370
Flint	487
Lime	535
Lime and shale	887
Niagara	1,132
Shale	1,186
Clinton	1,208
Red Medina	1,212

Fresh water at 246 and 257 feet; sulphur water at 535 feet; salt water at 930 feet.

DOMINION NATURAL GAS CO., LTD.

W. Kohl No. 1, lot 35, con. II, S.T.R., Middleton tp.

Completed May 11, 1944.
Producing gas well.
Rock pressure: 55 lbs.

Formation	Depth, ft.
Surface	198
Lime	206

Gas at 200 feet.

DOMINION NATURAL GAS CO., LTD.

F. W. Langohr No. 1, lot 35, con. III, S.T.R., Middleton tp.

Completed January 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	217
Grey lime	369
Flint	478
Brown lime	518
Shale and gypsum	605
Lime and shale	861
Niagara	1,096
Shale	1,150
Clinton	1,174
Red Medina	1,182

Sulphur water at 231 and 290 feet; black water at 888 feet.

DOMINION NATURAL GAS CO., LTD.

W. L. Andrews No. 3, lot 12, con. XIII, Townsend tp.

Completed January 21, 1944.
Producing gas well.
Rock pressure: 466 lbs.

Formation	Depth, ft.
Surface	73
Flint	150
Lime and shale	525
Niagara	830
Shale	879
Clinton	917
Red Medina	952
Grey shale	957

Gas at 904 and 914 to 916 feet.
Fresh water at 78 feet; sulphur water at 195 feet.

DOMINION NATURAL GAS CO., LTD.

R. and B. Bowyer No. 1, lot 15, con. XII, Townsend tp.

Completed May 27, 1944.
Producing gas well.
Rock pressure: 435 lbs.

Formation	Depth, ft.
Surface	49
Flint	138
Brown lime	194
Shale	266
Lime and shale	502
Niagara	797
Shale	842
Clinton	868
Red Medina	892
Shale	915

Gas at 858 feet.
Fresh water at 55 and 78 feet; sulphur water at 144 feet; black water at 557 feet.

DOMINION NATURAL GAS CO., LTD.

R. and B. Bowyer No. 2, lot 15, con. XII, Townsend tp.

Completed July 11, 1944.
Dry hole.

Formation	Depth, ft.
Surface	60
Flint	136
Brown lime	197
Shale and gypsum	268
Lime and shale	506
Niagara	808
Shale	852
Clinton	891
Red Medina	925
Shale	970
White Medina	976
Red shale	980

Show of gas at 868 feet.
Fresh water at 62 and 69 feet; sulphur water at 106 and 485 feet.

DOMINION NATURAL GAS CO., LTD.

M. E. Burtcn No. 1, lot 10, con. XIV, Townsend tp.

Completed July 27, 1944.
Producing gas well.
Rock pressure: 477 lbs.

Formation	Depth, ft.
Surface	109
Flint	182
Lime	244
Shale and gypsum	308
Lime and shale	559
Niagara	870
Shale	912
Clinton	952
Red Medina	992

Gas at 926, 930, and 946 feet.
Fresh water at 122 and 155 feet; sulphur water at 240 feet; black water at 820 feet.

DOMINION NATURAL GAS CO., LTD.

M. E. Burtch No. 2, lot 10, con. XIV, Townsend tp.

Completed September 25, 1944.
Producing gas well.
Rock pressure: 461 lbs.

Formation	Depth, ft.
Surface	104
Flint	170
Lime	215
Shale and gypsum	290
Lime and shale	540
Niagara	852
Shale	895
Clinton	935
Red Medina	975

Gas at 907 feet.
Fresh water at 106 and 118 feet; black water at 150 and 195 feet.

DOMINION NATURAL GAS CO., LTD.

A. T. Cleaver No. 1, lot 6, con. XIV, Townsend tp.

Completed August 28, 1944.
Producing gas well.
Rock pressure: 510 lbs.

Formation	Depth, ft.
Surface	176
Flint	255
Lime and shale	628
Niagara	945
Shale	984
Clinton	1,004
Red Medina	1,044

Gas at 998 and 1,003 feet.
Fresh water at 188 feet; black water at 255 feet.

DOMINION NATURAL GAS CO., LTD.

S. and L. Culver No. 2, lot 8, con. XIV, Townsend tp.

Completed September 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	122
Flint	202
Lime and shale	567
Niagara	871
Lime and shale	911
Grey shale	931
Clinton	961
Red Medina	1,001

Fresh water at 123 feet; black water at 257 feet.

DOMINION NATURAL GAS CO., LTD.

E. Farr No. 1, lot 8, con. XII, Townsend tp.

Completed May 3, 1944.
Dry hole.

Formation	Depth, ft.
Surface	167
Flint	240
Lime	300
Shale and gypsum	380
Lime and shale	615
Niagara	910
Shale	960
Clinton	994
Red Medina	996

Fresh water at 174 feet; black water at 190 feet.

DOMINION NATURAL GAS CO., LTD.

C. Kellar No. 1, lot 16, con. XII, Townsend tp.

Completed September 21, 1944.
Dry hole.

Formation	Depth, ft.
Surface	43
Flint	115
Brown lime	179
Shale and gypsum	256
Lime and shale	494
Niagara	792
Shale	841
Clinton	879
Red Medina	913
Shale	956
White Medina	962
Red shale	966

Fresh water at 45 and 56 feet; sulphur water at 128 feet.

DOMINION NATURAL GAS CO., LTD.

A. G. and G. H. McMahon No. 1, lot 13, con. XIII, Townsend tp.

Completed March 24, 1944.
Producing gas well.
Rock pressure: 487 lbs.

Formation	Depth, ft.
Surface	84
Flint	161
Lime and shale	520
Niagara	835
Shale	882
Clinton	917
Red Medina	952
Shale	967

Gas at 895, 897, and 909 feet.
Fresh water at 88 and 112 feet; sulphur water at 183 feet.

DOMINION NATURAL GAS CO., LTD.

D. Martin No. 1, lot 7, con. XIV, Townsend tp.

Completed August 14, 1944.
Dry hole.

Formation	Depth, ft.
Surface	110
Grey lime	130
Flint and sharp sand	228
Lime and shale	581
Niagara	860
Lime and shale	915
Blue shale	953
Clinton	980
Red Medina	984

DOMINION NATURAL GAS CO., LTD.

H. E. Misner No. 2, lot 12, con. XIII, Townsend tp.

Completed November 4, 1944.
Producing gas well.
Rock pressure: 422 lbs.

Formation	Depth, ft.
Surface	65
Flint	159
Lime and shale	525
Niagara	838
Shale	885
Clinton	922
Red Medina	962

Gas at 887 and 921 feet.
Fresh water at 72 feet; black water at 145 feet.

DOMINION NATURAL GAS CO., LTD.

S. R. Misner No. 1, lot 12, con. XII, Townsend tp.

Completed May 15, 1944.
Producing gas well.
Rock pressure: 436 lbs.

Formation	Depth, ft.
Surface	67
Flint	152
Lime and shale	520
Niagara	823
Shale	872
Clinton	911
Red Medina	946
Grey shale	951

Gas at 892 feet.
Fresh water at 73 and 88 feet; sulphur water at 180 feet.

DOMINION NATURAL GAS CO., LTD.

Norfolk County Farm No. 2, lot 8, con. XII, Townsend tp.

Completed January 26, 1944.
Dry hole.

Formation	Depth, ft.
Surface	142
Flint	215
Lime	290
Shale and gypsum	365
Lime and shale	605
Niagara	905
Shale	944
Clinton	978
Red Medina	1,000

Fresh water at 144 feet; black water at 220 feet

DOMINION NATURAL GAS CO., LTD.

D. Novinka No. 1, lot 13, con. XIII, Townsend tp.

Completed September 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	83
Flint	163
Lime and shale	525
Niagara	829
Shale	882
Clinton	907
Red Medina	910

Fresh water at 88 and 120 feet; black water at 176 feet.

DOMINION NATURAL GAS CO., LTD.

H. O'Mahony No. 1, lot 17, con. XIII, Townsend tp.

Completed March 19, 1944.
Dry hole.

Formation	Depth, ft.
Surface	42
Flint	120
Grey lime	155
Brown lime	175
Shale	230
Lime, shale, and gypsum	500
Niagara	800
Shale	841
Clinton	869
Red Medina	884
Grey shale	959
White Medina	971
Red shale	975

Fresh water at 57 and 105 feet.

DOMINION NATURAL GAS CO., LTD.

H. and E. Pokonzo No. 1, lot 15, con. XII, Townsend tp.

Completed November 7, 1944.
Producing gas well.
Rock pressure: 365 lbs.

Formation	Depth, ft.
Surface	42
Flint	118
Brown lime	173
Shale and gypsum	247
Lime and shale	501
Niagara	794
Shale	837
Clinton	875
Red Medina	908
Shale	915

Gas at 854 feet.
Fresh water at 44, 56, and 86 feet; sulphur water at 136 feet.

DOMINION NATURAL GAS CO., LTD.

F. Smith No. 1, lot 6, con. XIII, Townsend tp.

Completed October 24, 1944.
Producing gas well.
Rock pressure: 475 lbs.

Formation	Depth, ft.
Surface	157
Flint	242
Lime and shale	630
Niagara	947
Shale	979
Clinton	1,009
Red Medina	1,050

Gas at 992 feet.
Fresh water at 160 feet; black water at 350 feet.

DOMINION NATURAL GAS CO., LTD.

F. Smith No. 2, lot 6, con. XIII, Townsend tp.

Completed December 2, 1944.
Dry hole.

Formation	Depth, ft.
Surface	170
Flint	255
Lime and shale	620
Niagara	954
Shale	977
Clinton	1,009
Red Medina	1,012

Fresh water at 179 and 184 feet; black water at 395 feet.

DOMINION NATURAL GAS CO., LTD.

R. and A. Sonnenberg No. 1, lot 12, con. XI, Townsend tp.

Completed July 7, 1944.
Dry hole.

Formation	Depth, ft.
Surface	60
Flint	145
Lime and shale	508
Niagara	793
Shale	850
Clinton	886
Red Medina	888

Fresh water at 40 and 62 feet; sulphur water at 146 feet.

DOMINION NATURAL GAS CO., LTD.

A. T. Stewart No. 1, lot 8, con. XII, Townsend tp.

Completed March 9, 1944.
Producing gas well.
Rock pressure: 377 lbs.

Formation	Depth, ft.
Surface	177
Flint	250
Lime	300
Shale and gypsum	375
Lime and shale	624
Niagara	923
Shale	970
Clinton	1,002
Red Medina	1,022
Shale	1,042

Gas at 982 and 985 to 996 feet.
Fresh water at 184 feet; black water at 225 feet.

DOMINION NATURAL GAS CO., LTD.

A. T. Stewart No. 2, lot 8, con. XII, Townsend tp.

Completed December 29, 1944.
Dry hole.

Formation	Depth, ft.
Surface	169
Flint	270
Lime	320
Shale	390
Lime and shale	624
Niagara	935
Shale	976
Clinton	1,005
Red Medina	1,007

Fresh water at 174 and 200 feet; black water at 260 feet.

DOMINION NATURAL GAS CO., LTD.

D. S. Stewart No. 1, lot 11, con. XIII, Townsend tp.

Completed February 15, 1944.
Dry hole.

Formation	Depth, ft.
Surface	85
Flint	160
Lime and shale	533
Niagara	842
Shale	890
Clinton	924
Red Medina	958
Shale	1,006
White Medina	1,015
Red shale	1,018

Fresh water at 85 and 180 feet; black water at 660 feet.

DOMINION NATURAL GAS CO., LTD.

H. and D. C. Stewart No. 1, lot 10, con. XIII, Townsend tp.

Completed November 8, 1944.
Dry hole.

Formation	Depth, ft.
Surface	86
Flint	164
Lime	225
Shale and gypsum	300
Lime and shale	535
Niagara	850
Shale	891
Clinton	931
Red Medina	958
Shale	1,008
White Medina	1,020
Red shale	1,024

Fresh water at 87 feet; sulphur water at 120 feet; black water at 142 feet.

DOMINION NATURAL GAS CO., LTD.

S. Woolley No. 1, lot 7, con. XIII, Townsend tp.

Completed April 19, 1944.
Producing gas well.
Rock pressure: 475 lbs.

Formation	Depth, ft.
Surface	161
Flint	250
Lime and shale	627
Niagara	932
Shale	981
Clinton	1,015
Red Medina	1,055

Gas at 993 and 1,004 feet.
Fresh water at 170 feet; sulphur water at 242 feet; black water at 295 feet.

DOMINION NATURAL GAS CO., LTD.

S. Woolley No. 2, lot 6, con. XIII, Townsend tp.

Completed June 14, 1944.
Producing gas well
Rock pressure: 483 lbs.

Formation	Depth, ft.
Surface	159
Flint	248
Lime and shale	624
Niagara	942
Shale	977
Clinton	1,005
Red Medina	1,045

Gas at 979 and 1,002 feet.
Fresh water at 160 and 235 feet; black water at 590 feet.

DOMINION NATURAL GAS CO., LTD.

S. Woolley No. 3, lot 6, con. XIII, Townsend tp.

Completed October 25, 1944.
Dry hole.

Formation	Depth, ft.
Surface	156
Flint	241
Lime and shale	613
Niagara	926
Shale	970
Clinton	1,004
Red Medina	1,036
Shale	1,084
White Medina	1,094
Red shale	1,097

Fresh water at 160 and 241 feet; black water at 760 feet.

WALTER GAS SYNDICATE, LTD.

H. McClaine No. 1, lot 9, con. XIV, Townsend tp.
Completed February 28, 1944.
Producing gas well.
Rock pressure: 550 lbs.

Formation	Depth, ft.
Surface	116
Brown lime	131
Flint	196
Lime and shale	585
Niagara	868
Shale	925
Clinton	961
Red Medina	976
Blue shale	1,039
Grey sandstone	1,054

Gas at 929 and 939 feet.
Fresh water at 114 feet; sulphur water at 142 feet.

WALTER GAS SYNDICATE, LTD.

H. McClaine No. 2, lot 9, con. XIV, Townsend tp.
Completed April 30, 1944.
Producing gas well.
Rock pressure: 475 lbs.

Formation	Depth, ft.
Surface	103
Brown lime	118
Flint	183
Lime and shale	560
Niagara	860
Brown shale	865
Grey shale	916
Clinton	954
Red Medina	969
Blue shale	1,039
White Medina	1,045
Red shale	1,066

Gas at 922, 930, and 952 feet.
Fresh water at 109 and 125 feet.

WALTER GAS SYNDICATE, LTD.

R. McEown No. 1, lot 10, con. XIV, Townsend tp.
Completed July 15, 1944.
Producing gas well.
Rock pressure: 440 lbs.

Formation	Depth, ft.
Surface	103
Brown lime	123
Flint	187
Lime and shale	560
Niagara	866
Shale	909
Clinton	947
Red Medina	959
Blue shale	1,035
Grey sand	1,041

Gas at 927, 933, and 944 feet.
Fresh water at 108, 128, and 185 feet.

WALTER GAS SYNDICATE, LTD.

R. McEown No. 2, lot 11, con. XIV, Townsend tp.
Completed October 30, 1944.
Producing gas well.
Rock pressure: 450 lbs.

Formation	Depth, ft.
Surface	98
Brown lime	113
Flint	180
Lime and shale	555
Niagara	870
Grey shale	900
Clinton	935
Red Medina	955
Blue shale	1,025
White Medina	1,035
Red shale	1,065

Gas at 906, 912, and 1,033 feet.
Fresh water at 100 and 125 feet.

RAY WOOD

C. R. Bollert No. 1, lot 10, con. XIV, Townsend tp.
Completed January 1, 1944.
Producing gas well.
Rock pressure: 475 lbs.

Formation	Depth, ft.
Surface	93
Flint	175
Lime and shale	550
Niagara	860
Shale	904
Clinton	940
Red Medina	971

Show of gas at 910 and 920 feet; gas at 925 and 931 feet.
Fresh water at 94, 140, and 195 feet; sulphur water at 210 feet.

VICTORY OIL AND GAS CO., LTD.

W. Mason No. 1, lot 11, con. XIII, Windham tp.
Completed June 27, 1944.
Dry hole.

Formation	Depth, ft.
Surface	159
White lime	239
Flint	281
Brown lime	343
Shale	433
Brown lime and shale	535
Shale	550
Brown lime	605
Brown lime and shale	620
Brown and grey lime	652
Guelph	666
Niagara	986
Shale	1,043
Clinton	1,068
Red Medina	1,095
Shale	1,155
White Medina	1,162
Red shale	1,168

Fresh water at 165 feet.

WINDHAM PLANTATIONS

Windham Plantations No. 1, lot 11, con. III, Windham tp.
Completed April 17, 1944.
Producing gas well.
Rock pressure: 425 lbs.

Formation	Depth, ft.
Surface	109
Flint	186
Brown and grey lime	240
Blue shale, gypsum and brown lime	544
Brown lime	583
Niagara	832
Blue shale	881
Clinton	899
Blue shale	901
Red shale	930
Grey shale	950
Blue shale	974
White Medina	994
Red shale	1,000

Show of gas at 885 feet; gas at 894 to 899 feet.
Fresh water at 106 feet; sulphur water at 120 feet.

WINDHAM PLANTATIONS

Windham Plantations No. 1, lot 14, con. III, Windham tp.

Completed June 5, 1944.
Dry hole.

Formation	Depth, ft.
Surface	110
Flint	183
Grey lime	213
Brown lime	243
Gypsum, brown lime, and blue shale	600
Niagara	854
Blue shale	901
Clinton	919
Red shale	945
Blue shale	988
White Medina	1,015
Red shale	1,021

Fresh water at 95 feet; sulphur water at 117 feet.

WINDHAM PLANTATIONS

Windham Plantations No. 1, lot 18, con. VII, Windham tp.

Completed July 20, 1944.
Dry hole.

Formation	Depth, ft.
Surface	104
Brown lime	185
Flint	310
Grey lime	330
Lime and shale	374
Shale	444
Lime and shale	485
Brown lime	535
Brown lime and shale	676
Niagara	930
Shale	994
Clinton	1,012
Red shale	1,042
Blue shale	1,080
White Medina	1,100
Red shale	1,108

Show of gas at 1,003 feet.
Black water at 185 feet.

DOMINION NATURAL GAS CO., LTD.

J. W. Dunn No. 2, lot 18, con. V, Woodhouse tp.

Completed March 16, 1944.
Dry hole.

Formation	Depth, ft.
Surface	53
Flint	156
Brown lime	212
Shale and gypsum	286
Lime and shale	513
Niagara	838
Shale	880
Clinton	916
Red Medina	955
Shale	1,003
White Medina	1,012
Red shale	1,015

Fresh water at 55 feet; sulphur water at 122 feet; black water at 533 feet.

DOMINION NATURAL GAS CO., LTD.

R. W. Ireland No. 1, lot 4, con. VI, Woodhouse tp.

Completed November 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	164
Grey lime	178
Flint	300
Lime and shale	639
Niagara	949
Lime and shale	960
Shale	1,019
Clinton	1,064
Red Medina	1,094
Grey shale	1,144
White Medina	1,150
Red shale	1,151

Fresh water at 168 feet; black water at 402 feet.

DOMINION NATURAL GAS CO., LTD.

A. McInally No. 1, lot 7, con. VI, Woodhouse tp.

Completed February 16, 1944.
Dry hole.

Formation	Depth, ft.
Surface	123
Grey lime	130
Flint and sharp sand	210
Lime and shale	572
Niagara	875
Lime and shale	908
Shale	952
Clinton	973
Red Medina	1,018
Grey shale	1,061
White Medina	1,072
Red shale	1,076

Fresh water at 95, 105, and 134 feet; black water at 195 feet.

DOMINION NATURAL GAS CO., LTD.

L. V. Schuyler No. 1, lot 7, con. VI, Woodhouse tp.

Completed June 27, 1944.
Dry hole.

Formation	Depth, ft.
Surface	118
Grey lime	130
Flint and sharp sand	222
Lime and shale	575
Niagara	875
Lime and shale	900
Blue shale	949
Clinton	979
Red Medina	1,023
Grey shale	1,069
White Medina	1,077
Red shale	1,082

Fresh water at 122, 131, and 137 feet; black water at 240 feet.

DOMINION NATURAL GAS CO., LTD.

J. Seifert No. 1, lot 8, con. VI, Woodhouse tp.

Completed January 6, 1944.
Producing gas well.
Rock pressure: 455 lbs.

Formation	Depth, ft.
Surface	87
Grey lime	105
Flint and sharp sand	205
Lime and shale	567
Niagara	880
Brown lime	890
Lime and shale	900
Blue shale	943
Clinton	982
Red Medina	1,013
Grey shale	1,066
White Medina	1,073
Red shale	1,079

Gas at 943 to 982 feet.
Fresh water at 89 and 155 feet; sulphur water at 173 feet.

DOMINION NATURAL GAS CO., LTD.

J. Seifert No. 2, lot 8, con. VI, Woodhouse tp.

Completed April 6, 1944.
Producing gas well.
Rock pressure: 516 lbs.

Formation	Depth, ft.
Surface	91
Grey lime	115
Flint and sharp sand	200
Lime and shale	564
Niagara	868
Shale	885
Lime	895
Shale	936
Clinton	977
Red Medina	1,005
Grey shale	1,017

Gas at 951 feet.
Fresh water at 89 and 96 feet; black water at 177 feet.

WALTER GAS SYNDICATE, LTD.

F. H. Andrews and C. E. Patterson No. 1, lot 11, con. VI, Woodhouse tp.

Completed November 28, 1944.
Producing gas well.
Rock pressure: 460 lbs.

Formation	Depth, ft.
Surface	81
Brown lime	105
Flint	190
Lime and shale	550
Niagara	850
Shale	908
Clinton	945
Red Medina	980
Grey shale	1,030
White Medina	1,042
Red shale	1,047

Gas at 921 and 940 feet.
Fresh water at 103 feet; black water at 200 feet.

WALTER GAS SYNDICATE, LTD.

H. Andrews No. 1, lot 7, con. V, Woodhouse tp.

Completed August 10, 1944.
Producing gas well.
Rock pressure: 540 lbs.

Formation	Depth, ft.
Surface	122
Brown lime	145
Flint	212
Brown lime	270
Shale	345
Lime, shale, and gypsum	575
Niagara	875
Shale	948
Clinton	986
Red Medina	1,016
Shale	1,071
White Medina	1,081
Red shale	1,110

Gas at 962, 986, and 1,071 feet.
Fresh water at 122 feet; black water at 210 feet.

WALTER GAS SYNDICATE, LTD.

H. A. Swart Estate No. 1, lot 6, con. V, Woodhouse tp.

Completed June 14, 1944.
Producing gas well.
Rock pressure: 450 lbs.

Formation	Depth, ft.
Surface	137
Lime	148
Flint	208
Lime	258
Shale	335
Brown lime and shale	363
Niagara	858
Shale	941
Clinton	980
Red Medina	983
Blue shale	999

Show of gas at 965 feet; gas at 978 feet.
Fresh water at 138 and 149 feet; sulphur water at 178 feet.

Oxford County

ROCKS MILLS OIL AND GAS SYNDICATE

W. Rock No. 1, lot 21, con. XI, South Norwich tp.

Completed December 6, 1944.
Producing gas well.
Rock pressure: 570 lbs.

Formation	Depth, ft.
Surface	21
Brown lime	150
Lime and shale	155
Brown lime	185
Flint	302
Brown lime	370
Shale and gypsum	448
Lime and shale	645
Brown and grey lime	665
Grey lime	726
Guelph	739
Niagara	958
Shale	1,011
Clinton	1,033
Red Medina	1,056
Shale	1,123
Red shale	1,124

Gas at 1,017 to 1,019 feet.
Fresh water at 24 feet; sulphur water at 38, 58, 70, 270, 318, and 354 feet.

Simcoe County

A. E. DAVIS

J. Brethet No. 1, lot 21, con. VII, Nottawasaga tp.

Completed July 24, 1944.
Dry hole.

Formation	Depth, ft.
Surface	228
Grey shale	323
Black shale	324
Trenton	964

Show of gas at 643 feet.
Show of oil at 927 feet.
Fresh water at 20 and 80 feet; salt water at 932 feet.

MCMASTER AND BOILEAU

E. Morrison No. 2, lot 15, con. VII, Nottawasaga tp.

Completed July 22, 1944.
Dry hole.

Formation	Depth, ft.
Surface	312
Grey shale	467
Trenton	1,060
Granite	1,071

Show of gas at 578 feet.
Fresh water at 260, 295, 310, and 320 feet.

Welland County

CORONATION GAS SYNDICATE

H. J. Fretz No. 2, lot 9, con. XV, Bertie tp.

Completed April 18, 1944.
Producing gas well.
Rock pressure: 180 lbs.

Formation	Depth, ft.
Surface	75
Salina	342
Guelph and Niagara	570
Rochester	613
Clinton	643
Red Medina	706
Manitoulin	747
White Medina	757
Queenston	784

Gas at 623, 659, and 669 feet.
Fresh water at 80 feet.

CORONATION GAS SYNDICATE

G. F. House No. 1, lot 8, con. XV, Bertie tp.

Completed November 28, 1944.
Producing gas well.
Rock pressure: 180 lbs.

Formation	Depth, ft.
Surface	64
Salina	343
Guelph and Niagara	551
Rochester	611
Clinton	642
Red Medina	712
Shale	742
White Medina	752
Queenston	802

Gas at 651, 681, and 746 feet.
Fresh water at 65 feet.

DAIN CITY GAS SYNDICATE

A. Bush Estate No. 2, lot 14, con. XIV, Bertie tp.

Completed July 7, 1944.
Producing gas well.
Rock pressure: 62 lbs.

Formation	Depth, ft.
Surface	47
Lime and shale	260
Niagara	480
Shale	540
Clinton	573
Red Medina	640
Shale	660
White Medina	685
Red shale	760

Gas at 585 and 675 feet.
Fresh water at 48 feet; black water at 325 feet.

DAIN CITY GAS SYNDICATE

A. Bush Estate No. 3, lot 14, con. XIV, Bertie tp.

Completed August 24, 1944.
Producing gas well.
Rock pressure: 40 lbs.

Formation	Depth, ft.
Surface	50
Lime and shale	262
Niagara	483
Shale	543
Clinton	576
Red Medina	644
Shale	664
White Medina	689
Red shale	759

Gas at 685 feet.
Fresh water at 55 feet; black water at 327 feet.

HALDIMAND GAS SYNDICATE

W. Robb Estate No. 2, lot 3, con. XII, Bertie tp.

Completed October 9, 1944.
Producing gas well.
Rock pressure: 180 lbs.

Formation	Depth, ft.
Surface	67
Lime and shale	365
Niagara	575
Grey shale	633
Clinton	662
Red Medina	732
Shale	752
White Medina	778
Red shale	840

Gas at 690 and 771 feet.
Fresh water at 90 feet.

HALDIMAND GAS SYNDICATE

W. Robb Estate No. 3, lot 3, con. XII, Bertie tp.

Completed December 7, 1944.
Dry hole.

Formation	Depth, ft.
Surface	79
Lime and shale	355
Niagara	555
Grey shale	622
Clinton	652
Red Medina	727
Shale	744
White Medina	766
Red shale	774

Fresh water at 84 feet; black water at 380 feet.

STANLEY S. JENKINS

J. Stauth No. 2, lot 2, con. XV, Bertie tp.

Completed November 16, 1944.
Producing gas well.
Rock pressure: 160 lbs.

Formation	Depth, ft.
Surface	4
Lime and shale	417
Niagara	653
Shale	695
Clinton	726
Red Medina	793
Grey shale	819
White Medina	834
Red shale	838

Gas at 740 feet.
Fresh water at 35 feet; black water at 200 feet.

SIDER AND SIDER

W. Carver No. 3, lot 12, con. XVI, Bertie tp.

Completed January 27, 1944.
Producing gas well.
Rock pressure: 190 lbs.

Formation	Depth, ft.
Surface	62
Lime and shale	312
Niagara	512
Grey shale	577
Clinton	609
Red Medina	669
Grey shale	704
White Medina	714
Red shale	722

Gas at 639 feet.
Fresh water at 65 feet.

SIDER AND SIDER

C. Nigh No. 1, lot 13, con. XVI, Bertie tp.

Completed March 22, 1944.
Producing gas well.
Rock pressure; 300 lbs.

Formation	Depth, ft.
Surface	62
Lime and shale	302
Niagara	502
Grey shale	573
Clinton	605
Red Medina	670
Grey shale	700
White Medina	720
Red shale	730

Gas at 630 feet.
Fresh water at 60 feet.

MAPLE LEAF GAS SYNDICATE

E. Sauer No. 1, lot 16, con. VII, Crowland tp.

Completed February 29, 1944.
Producing gas well.
Rock pressure: 28 lbs.

Formation	Depth, ft.
Surface	79
Lime	241
Guelph and Niagara	486
Grey shale	538
Clinton	575
Red Medina	630
Grey shale	659
White Medina	679
Red shale	740

Gas at 546 and 666 feet.
Fresh water at 116 and 125 feet; black water at 275 feet.

L. W. EMERSON

E. White No. 1, lot 14, con. III, Humberstone tp.

Completed November 21, 1944.
Producing gas well.
Rock pressure: 70 lbs.

Formation	Depth, ft.
Surface	19
Lime and shale	350
Niagara	610
Shale	637
Clinton	669
Red Medina	728
Shale	763
White Medina	778
Red shale	880

Gas at 771 feet.
Fresh water at 22 feet.

FERGUSON AND PERCIFER

G. R. Percifer No. 1, lot 1, con. V, Humberstone tp.

Completed August 16, 1944.
Producing gas well.
Rock pressure: 195 lbs.

Formation	Depth, ft.
Surface	75
Lime and shale	320
Niagara	520
Grey shale	585
Clinton	617
Red Medina	680
Grey shale	710
White Medina	730
Red shale	780

Gas at 725 feet.
Sulphur water at 75 feet.

FERGUSON AND PERCIFER

G. R. Percifer No. 2, lot 2, con. V, Humberstone tp.

Completed September 26, 1944.
Producing gas well.
Rock pressure: 195 lbs.

Formation	Depth, ft.
Surface	70
Lime and shale	320
Niagara	520
Grey shale	590
Clinton	622
Red Medina	682
Grey shale	712
White Medina	732
Red shale	782

Gas at 652 and 720 feet.
Sulphur water at 70 feet.

MAPLE LEAF GAS SYNDICATE

P. Kish No. 1, lot 15, con. V, Humberstone tp.

Completed April 14, 1944.
Dry hole.

Formation	Depth, ft.
Surface	87
Lime and shale	260
Niagara	490
Shale	546
Clinton	575
Red Medina	638
Shale	665
White Medina	683
Red shale	686

Fresh water at 90 feet; black water at 320 feet.

E. S. FOX

E. S. Fox No. 1, City of Welland, Thorold tp.

Completed October 6, 1944.
Producing gas well.
Rock pressure: 270 lbs.

Formation	Depth, ft.
Surface	98
Lime and shale	198
Niagara	392
Shale	439
Clinton	475
Red Medina	520
Shale	553
White Medina	573
Red shale	629

Gas at 449, 500, and 568 feet.

H. L. EMERSON

O. Robins No. 1, lot 57, con. VII, Wainfleet tp.

Completed May 2, 1944.
Producing gas well.
Rock pressure: 165 lbs.

Formation	Depth, ft.
Surface	81
Shale	201
Niagara	376
Shale	431
Clinton	464
Red Medina	509
Grey shale	564
White Medina	576
Red shale	616

Gas at 490 and 576 feet.

L. W. EMERSON

L. W. Emerson No. 2, lot 22, con. IV, Wainfleet tp.

Completed July 10, 1944.
Producing gas well.
Rock pressure: 300 lbs.

Formation	Depth, ft.
Surface	134
Lime and shale	270
Niagara	477
Shale	525
Clinton	561
Red Medina	618
Shale	648
White Medina	670
Red shale	694

Gas at 600 feet.
Sulphur water at 136 feet.

LINCOLN GAS CO., LTD.

O. Robins No. 1, lot 57, con. VII, Wainfleet tp.

Completed August 15, 1944.
Producing gas well.
Rock pressure: 165 lbs.

Formation	Depth, ft.
Surface	70
Lime and shale	160
Niagara	370
Shale	446
Clinton	481
Red Medina	521
Shale	586
White Medina	601
Red shale	616

Gas at 464, 493, and 506 feet.
Fresh water at 70 and 95 feet; black water at 125 feet.

R. S. MISNER

R. S. Misner No. 1, lot 22, con. V, Wainfleet tp.

Completed September 1, 1944.
Producing gas well.
Rock pressure: 200 lbs.

Formation	Depth, ft.
Surface	138
Lime and shale	271
Niagara	480
Shale	527
Clinton	560
Red Medina	611
Shale	646
White Medina	667
Red shale	717

Gas at 662 feet.
Sulphur water at 140 feet.

W. C. PATTERSON GAS CO., LTD.

O. Gobolas No. 1, lot 27, con. III, Wainfleet tp.

Completed August 3, 1944.
Dry hole.

Formation	Depth, ft.
Surface	133
Lime and shale	312
Niagara	536
Shale	596
Clinton	628
Red Medina	673
Grey shale	723
White Medina	743
Red shale	745

Show of gas at 724 and 741 feet.
Fresh water at 128 feet; sulphur water at 190 feet.

WAINFLEET GAS CO., LTD.

R. P. Barrick No. 1, lot 16, con. II, Wainfleet tp.

Completed January 19, 1944.
Producing gas well.
Rock pressure: 245 lbs.

Formation	Depth, ft.
Surface	116
Lime and shale	340
Niagara	560
Shale	620
Clinton	652
Red Medina	702
Shale	742
White Medina	762
Red shale	815

Gas at 760 feet.
Fresh water at 114 feet; sulphur water at 165 feet.

WAINFLEET GAS CO., LTD.

L. L. Davis No. 1, lot 14, con. I, Wainfleet tp.

Completed July 14, 1944.
Dry hole.

Formation	Depth, ft.
Surface	37
Lime and shale	387
Niagara	620
Shale	680
Clinton	715
Red Medina	765
Grey shale	810
White Medina	828
Red shale	831

Show of sulphur gas at 495 feet; show of gas at 740 feet.
Fresh water at 74 feet; sulphur water at 160 feet.

WAINFLEET GAS CO., LTD.

J. Deyme No. 1, lot 20, con. III, Wainfleet tp.

Completed February 9, 1944.
Producing gas well.
Rock pressure: 280 lbs.

Formation	Depth, ft.
Surface	143
Lime and shale	333
Niagara	553
Shale	613
Clinton	649
Red Medina	699
Shale	739
White Medina	759
Red shale	809

Gas at 754 and 757 feet.
Fresh water at 140 feet; sulphur water at 190 feet.

WAINFLEET GAS CO., LTD.

J. Deyme No. 2, lot 19, con. III, Wainfleet tp.

Completed March 4, 1944.
Producing gas well.
Rock pressure: 280 lbs.

Formation	Depth, ft.
Surface	149
Lime and shale	334
Niagara	544
Shale	604
Clinton	639
Red Medina	689
Shale	729
White Medina	749
Red shale	799

Gas at 733 and 745 feet.
Fresh water at 144 feet; sulphur water at 190 feet.

WAINFLEET GAS CO., LTD.

J. Deyme No. 3, lot 19, con. III, Wainfleet tp.

Completed March 23, 1944.
Dry hole.

Formation	Depth, ft.
Surface	152
Lime and shale	330
Niagara	540
Shale	600
Clinton	635
Red Medina	685
Shale	725
White Medina	741
Red shale	743

Fresh water at 149 feet; sulphur water at 194 feet.

WAINFLEET GAS CO., LTD.

J. Deyme No. 4, lot 20, con. III, Wainfleet tp.

Completed April 19, 1944.
Dry hole.

Formation	Depth, ft.
Surface	150
Lime and shale	332
Niagara	555
Shale	615
Clinton	647
Red Medina	697
Shale	737
White Medina	754
Red shale	794

Show of gas at 645 and 751 feet.
Fresh water at 150 feet; sulphur water at 185 feet.

WAINFLEET GAS CO., LTD.

R. E. Ellsworth No. 1, lot 12, con. I, Wainfleet tp.

Completed June 17, 1944.
Dry hole.

Formation	Depth, ft.
Surface	23
Lime and shale	360
Niagara	576
Shale	636
Clinton	671
Red Medina	721
Shale	766
White Medina	785
Red shale	789

Fresh water at 22 feet; sulphur water at 123 feet.

WAINFLEET GAS CO., LTD.

E. Marr No. 1, lot 24, con. III, Wainfleet tp.

Completed September 21, 1944.
Producing gas well.
Rock pressure: 275 lbs.

Formation	Depth, ft.
Surface	148
Lime and shale	312
Niagara	536
Shale	596
Clinton	631
Red Medina	676
Grey shale	723
White Medina	743
Red shale	768

Gas at 716 and 721 feet.
Fresh water at 146 feet; sulphur water at 185 feet.

WAINFLEET GAS CO., LTD.

E. Marr No. 2, lot 23, con. III, Wainfleet tp.

Completed October 7, 1944.
Dry hole.

Formation	Depth, ft.
Surface	147
Shale	308
Niagara	538
Shale	598
Clinton	633
Red Medina	678
Shale	716
White Medina	735
Red shale	738

Fresh water at 145 feet; sulphur water at 190 feet.

WAINFLEET GAS CO., LTD.

S. Ondrusek No. 1, lot 24, con. III, Wainfleet tp.

Completed August 23, 1944.
Dry hole.

Formation	Depth, ft.
Surface	138
Lime and shale	310
Niagara	534
Shale	592
Clinton	624
Red Medina	674
Grey shale	719
White Medina	739
Red shale	744

Show of gas at 594, 724, and 730 feet.
Fresh water at 136 feet; sulphur water at 196 feet.

WAINFLEET GAS CO., LTD.

S. Ondrusek No. 2, lot 24, con. III, Wainfleet tp.

Completed November 23, 1944.
Producing gas well.
Rock pressure: 275 lbs.

Formation	Depth, ft.
Surface	145
Lime and shale	415
Niagara	635
Shale	690
Clinton	725
Red Medina	770
Grey shale	810
White Medina	825
Red shale	870

Gas at 714 feet.
Fresh water at 143 feet; sulphur water at 190 feet.

WAINFLEET GAS CO., LTD.

S. Ondrusek No. 3, lot 25, con. III, Wainfleet tp.

Completed November 23, 1944.
Dry hole.

Formation	Depth, ft.
Surface	126
Shale	310
Niagara	538
Shale	598
Clinton	636
Red Medina	681
Shale	719
White Medina	736
Red shale	740

Fresh water at 132 feet; sulphur water at 170 feet.

WAINFLEET GAS CO., LTD.

G. Pauco No. 1, lot 20, con. III, Wainfleet tp.

Completed May 20, 1944.
Producing gas well.
Rock pressure: 270 lbs.

Formation	Depth, ft.
Surface	138
Lime and shale	325
Niagara	545
Shale	605
Clinton	640
Red Medina	687
Shale	727
White Medina	745
Red shale	795

Gas at 739 and 742 feet.
Fresh water at 134 feet; sulphur water at 195 feet.

Wentworth County

G. L. MOTT AND ASSOCIATES

E. Patton No. 2, lot 30, con. IV, Beverly tp.

Completed November 11, 1944.
Producing gas well.
Rock pressure: 30 lbs.

Formation	Depth, ft.
Surface	5
Grey lime	24
White lime	45
Brown lime	88
Lime and shale	90
Black lime	105
Grey lime	120
White lime	212
Grey shale	217
Grey lime	228
Red shale	255
Grey shale	285
Lime and shale	300
Sharp lime	322
Grey shale	325
Red shale	362

Gas at 310, 315, and 318 feet.
Fresh water at 12 and 24 feet; sulphur water at 60 feet; salt water at 318 feet.

PETROLEUM IN 1944

By R. B. Harkness

General

It has always been the custom to discuss the production of petroleum in Ontario first, giving the refining operations second place; but as a result of the part that Canada has taken in the war, especially the war in the air, refining operations have so outshone the production of petroleum that they should be given first place.

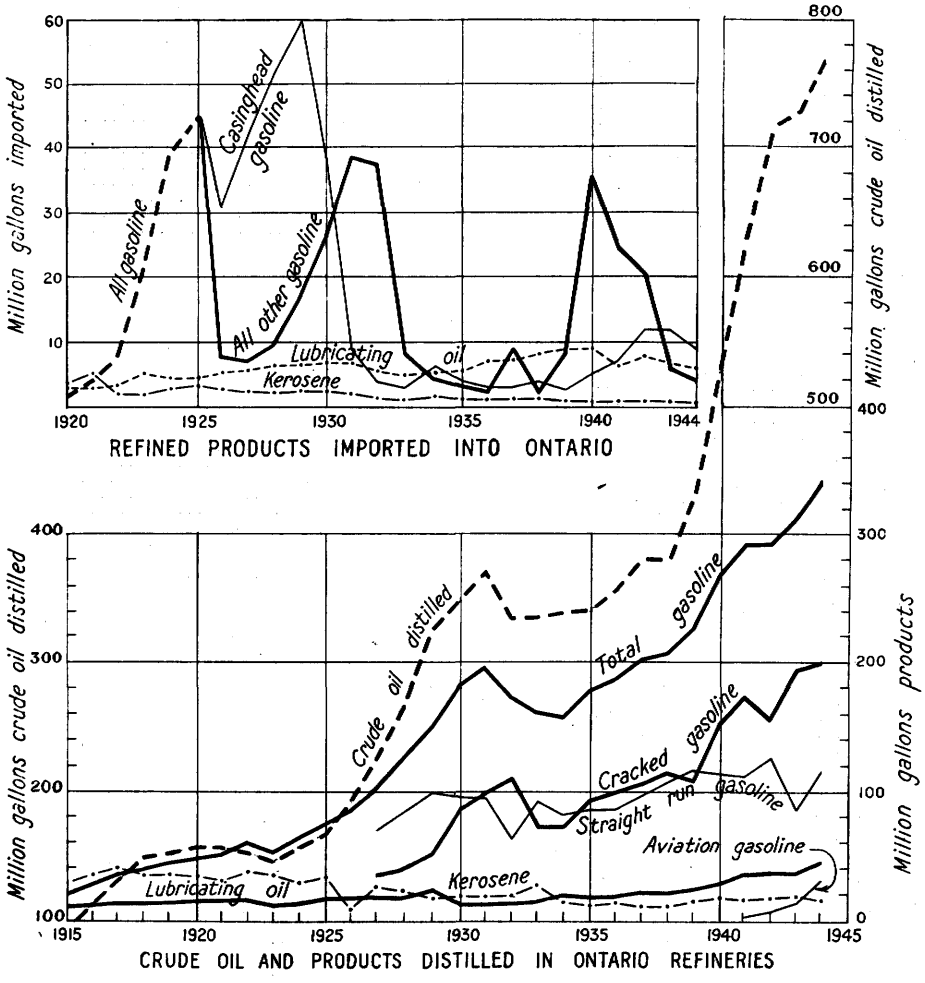
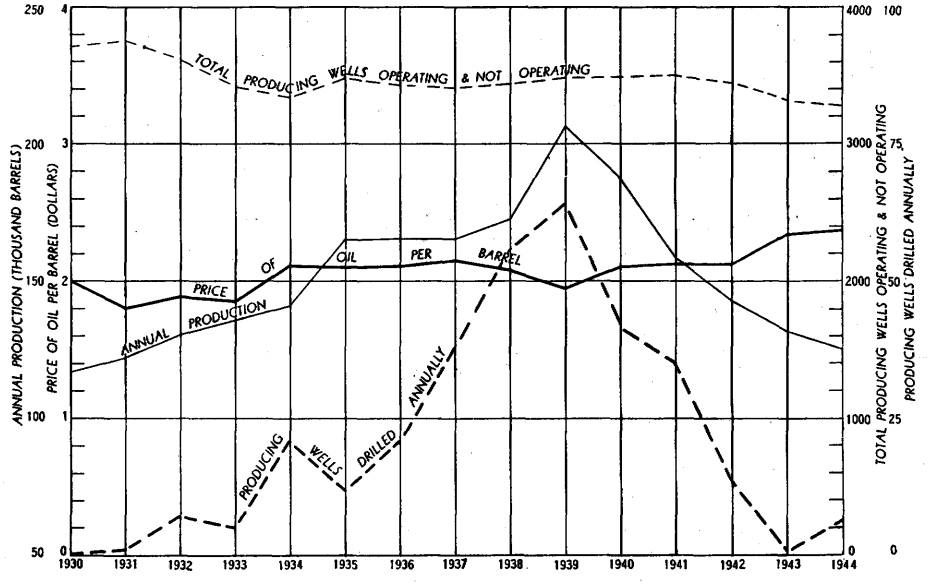


Table III shows the growth of the industry since 1939. If the figures for 1938 could be included in this table, it would be seen that the quantity of crude oil distilled has more than doubled since that time. The amount of straight run gasoline has increased by 15 per cent., and that of cracked gasoline has nearly doubled; and the quantity of aviation grade distilled totals as much as all the

gasoline, naptha, and benzine distilled in the year 1916. All these products show a steady annual increase, as indicated in the graph on page 74. If it were possible to deal in this report with the progress made in petroleum refining in Ontario, it would be seen that our refiners are well advanced in refining methods and have produced aviation gasoline of 100 octane and over to meet the war-time demands. The only material imported that enters into the finished product is tetraethyl lead. In addition to supplying aviation gasoline, Canadian refineries are materially assisting in the production of synthetic rubber. It is not possible at this time to publish figures to show the part played by the refineries in this new venture. This will be dealt with in a future report.

A study of the graph below will show that Ontario's petroleum production is still declining, but not at such a rate as the past five years have shown.

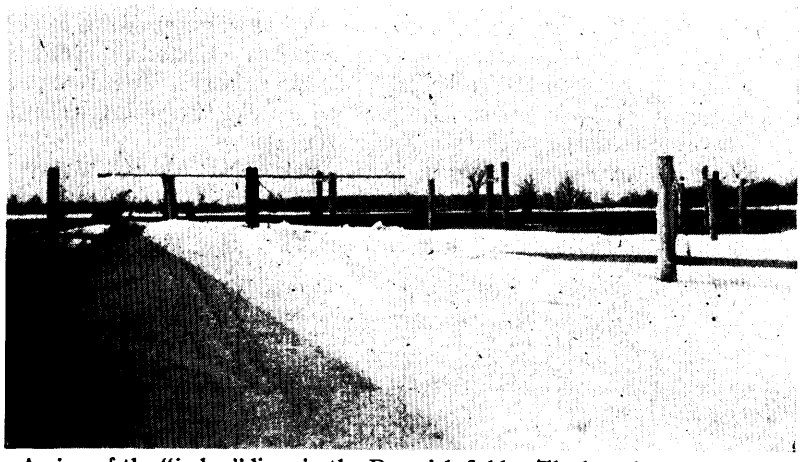


Graph of the petroleum industry in Ontario for the years 1930 to 1944.

The Bothwell, Dover, Mosa, and Warwick fields, which played such an important part in increasing production, have passed their peak production and are following the normal rate of decline for oil fields. The production for the year 1944 is 125,067 barrels, which is a decline of 7,425 barrels for the year. The value of the oil produced was $296,420, and the price paid per barrel averaged $2.37, an increase of 2 cents over the previous year. Although this decline is normal for fully developed oil fields, the first part of the winter of 1944 was severe, and the heavy snow in December practically closed down operations for the month. The deep snow blocked all country roads and covered the "jerker" lines under several feet of snow.

Operators still complain that, on account of the low price of oil, they are unable to hire men in competition with the war plants, and equipment has rapidly deteriorated. They claim that they will not be able to restore their properties until they can find men who are willing to accept the normal wages paid in the oil fields. It may be understood from this that the decline in oil production will be checked within the next year or two, when many wells that are now idle can be restored to production.

The number of men employed for the year 1944 was 170, and the wages paid amounted to $123,824. These figures were not given in the 1943 report and are as follows: men employed, 1943, 162; wages paid, 1943, $126,465.



A view of the "jerker" lines in the Dunwich field. The board on top of the posts indicates the level of the snow in December, 1944.

TABLE I—OIL WELLS AND THEIR PRODUCTION, 1944

Field	No. of wells				No. wells drilled		Production[1]		Gain or loss in 1944[2]	
	Operating	Not Operating	Abandoned	Reopened	Producing	Dry			Gain	Loss
							bbls.	gals.	bbls.	bbls.
Petrolia and Enniskillen	522	681	20	.....	.....	1	41,433	3	.....	3,875
Oil Springs	738	267	8	1	.....	.....	28,537	8	1,267	.....
Moore tp.	12	71	3	1	1	1	132	28	.....	199
Sarnia tp.	19	67	7	4	.....	.....	267	23	.....	37
Plympton tp.	2	26	1	.....	.....	.....	26	28	1	.....
Bothwell and Thamesville	192	153	3	1	3	4	24,966	6	.....	942
Dover, Raleigh, and Romney tps.	12	4	.....	1	.....	1	7,641	21	.....	1,536
Onondaga tp.	....	47	.....	.....	.....	1	7	20	.....	4
Mosa tp.	136	38	1	.....	.....	.....	15,585	13	.....	741
Euphemia and Dawn tps.	15	116	.....	.....	.....	1	257	5	.....	182
Dunwich tp.	20	70	.....	.....	.....	.....	1,728	6	306	.....
Brooke tp.	1	4	.....	.....	.....	1	.....	.....	.....	.....
Chatham tp.	....	1	.....	.....	.....	.....	.....	.....	.....	.....
Warwick tp.	10	28	3	1	.....	2	.....	.....	.....	.....
Metcalfe tp.	5	17	.....	.....	.....	1	4,483	25	.....	1,483
Adelaide tp.	6	1	1	1	2	3	.....	.....	.....	.....
Other fields	....	[3]8	.....	.....	.....	[4]2	.....	.....	.....	.....
Total	1,690	1,599	47	10	6	18	125,067	11	1,574	8,999

[1]Information from Imperial Oil Refineries, Limited. [2]Net loss, 7,425 barrels.
[3]4 in Assiginack township and 1 in each of Bosanquet, Hullett, Sarawak, and Sheguiandah townships. [4]1 in Caradoc township and 1 in Gordon township.

Production by Fields

Oil production by fields is shown for the past five years in Table II. The remarks in the opening paragraphs of this report explain the annual decline, which is normal for all fields. Only two fields show a gain: Oil Springs and Dunwich township. The gain in Oil Springs is purely incidental and may be due to interference in winter deliveries, which would cause a hold-over into the following year. The gain in Dunwich township is due to experiments in operation, which have definitely increased production. As stated in the previous report, a new company has taken over this old field and is carrying out experiments which, it is hoped, will lead to improvements in oil-field production.

TABLE II—OIL PRODUCTION BY FIELDS, 1937–1944

Field	1937	1938	1939	1940	1941	1942	1943	1944
	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.	bbls.
Petrolia and Enniskillen	57,960	58,270	56,951	55,589	54,583	51,917	45,308	41,433
Oil Springs	33,853	32,299	32,422	31,392	29,783	27,369	27,270	28,537
Moore tp.	2,253	1,398	1,527	1,307	1,333	806	332	133
Sarnia tp.	445	595	397	370	213	237	305	268
Plympton tp.	237	191	156	89	93	24	26	27
Bothwell	40,426	40,430	39,616	36,685	33,053	28,033	25,908	24,966
Tilbury East tp.	2,471	206	.....	.....	.....	.....	.....	.....
Dover tp.	10,498	8,801	15,037	11,856	9,574	8,575	9,177	7,642
Raleigh and Romney tps.	.....	.....	27	76	245	(1)	(1)	(1)
Onondaga tp.	728	886	219	957	300	120	11	7
Mosa tp.	8,686	13,527	12,857	17,288	19,075	19,209	16,327	15,585
Thamesville	683	1,990	1,293	(2)	(2)	(2)	(2)	(2)
Euphemia tp.	425	406	385	(3)	(3)	(3)	114	58
Dunwich tp.	303	195	210	337	420	358	1,422	1,728
Brooke tp.	773	101	52	51	113	77	.....	.....
Dawn tp.	5,464	5,010	3,573	2,294	834	596	325	199
Warwick, Metcalfe, and Adelaide tps.	.....	8,310	41,478	29,353	9,748	6,524	5,967	4,484
Chatham tp.	.....	27	159	.....	27	.....	.....	.....
Other fields	.....	.....	.....	.....	[4]44	.....	.....	.....
Total	165,205	172,642	206,379	187,644	159,438	143,845	132,492	125,067
Value	$356,558	$359,268	$401,429	$397,078	$337,760	$306,242	$311,356	$296,420
Average price	$2.15	$2.08	$1.95	$2.11	$2.12	$2.13	$2.35	$2.37

[1]Included in Dover township.
[2]Included in the Bothwell field.
[3]Included in Dawn township.
[4]In Assiginack township, district of Manitoulin.

Petroleum Refining Operations

There are six petroleum refineries operating in Ontario. They are listed below, and the capacity is 76,450 barrels of petroleum per day.

Company	Location of refinery	Head office address
British American Oil Co., Ltd.	Foot of Cherry St., Toronto	Royal Bank Bldg., Toronto.
British American Oil Co., Ltd.	Clarkson	Royal Bank Bldg., Toronto.
Canadian Oil Companies, Ltd.	Petrolia	Terminal Bldg., Toronto.
Goodrich Refining Co., Ltd.	Port Credit	Port Credit.
Imperial Oil Refineries, Ltd.	Sarnia	56 Church St., Toronto.
McColl-Frontenac Oil Co., Ltd.	Foot of Cherry St., Toronto	360 St. James St. W., Montreal.

The general remarks in the opening paragraphs of this report cover the operations for the year very thoroughly. These are well illustrated in the graph on page 74.

TABLE III—PETROLEUM REFINING OPERATIONS, 1939–1944[1]

Schedule	Unit of measure	1939	1940	1941	1942	1943	1944
Imported crude distilled.	Gallons[2]	421,963,188	530,689,694	625,139,679	709,696,414	722,694,659	762,620,029
	Value	$19,291,314	$25,947,253	$36,283,935	$42,489,364	$43,949,034	$46,644,200
Canadian crude distilled.	Gallons	7,158,013	6,147,532	5,409,555	5,540,214	4,196,249	4,825,919
	Value	$428,993	$388,284	$345,008	$354,662	$295,948	$344,067
Percentage of total		1.67	1.15	0.86	0.77	0.58	0.63
Total value of crude		$19,720,307	$26,335,537	$36,628,943	$42,844,026	$44,244,982	$46,988,267
PRODUCTS							
Gasoline: Aviation grade	Gallons		2,804,578	7,156,388	12,628,412	30,191,674	22,510,723
	Selling value		$412,553	$1,011,198	$2,266,158	$5,731,539	$4,083,471
Straight run	Gallons	114,865,691	112,957,625	112,227,465	124,104,737	84,678,920	116,624,179
	Selling value	$9,066,887	$9,435,705	$11,009,503	$13,652,049	$9,786,920	$13,579,236
By cracking process	Gallons	110,306,863	152,833,301	172,127,202	153,415,156	194,852,097	200,079,398
	Selling value	$8,272,011	$12,404,718	$16,628,002	$17,100,527	$21,726,517	$23,642,700
Kerosene	Gallons	13,411,293	17,616,688	15,797,650	15,667,767	17,736,883	16,506,157
	Selling value	$1,068,934	$1,490,140	$1,431,278	$1,663,152	$1,799,542	$1,821,081
Lubricating oil	Gallons	22,451,664	27,005,059	35,111,329	36,771,635	36,533,042	45,000,007
	Selling value	$4,054,402	$5,288,559	$6,848,637	$7,171,038	$7,753,833	$10,488,812
Engine distillate	Gallons	8,115,874	1,920,608	1,970,619	2,443,455	5,335,353	5,630,061
	Selling value	$551,156	$161,348	$165,567	$242,109	$523,295	$568,569
Solvent naphtha	Gallons	4,207,855	5,061,421	6,673,599	10,005,177	9,720,856	12,800,154
	Selling value	$314,486	$444,565	$632,305	$1,117,596	$1,086,770	$1,493,992
Light fuel oils	Gallons	51,374,546	76,410,367	84,999,312	110,178,828	101,343,584	77,984,929
	Selling value	$2,378,241	$3,834,082	$4,677,398	$6,541,085	$5,839,394	$4,555,842
Residual fuel oils	Gallons	62,638,894	85,908,699	132,882,829	192,937,096	158,421,953	162,103,161
	Selling value	$2,147,336	$3,444,962	$6,312,172	$9,970,457	$7,975,690	$8,032,245
Tar	Gallons	170,730		655,515	2,947,525	3,350,305	2,863,350
	Selling value	$6,829		$20,977	$94,321	$107,290	$91,627
Grease	Pounds	12,112,159	9,451,282	15,576,181	20,862,365	21,404,757	19,839,358
	Selling value	$605,626	$550,009	$862,318	$1,169,088	$1,216,160	$868,763
Paraffin wax and candles	Pounds	6,725,811	6,449,816	5,356,240	14,686,238	15,704,971	16,941,572
	Selling value	$313,580	$346,799	$282,282	$800,374	$836,027	$1,218,161
Petroleum coke	Short tons	58,762	61,935	65,208	71,486	82,411	67,364
	Value	$362,965	$414,671	$464,682	$517,386	$598,726	$485,400
Still gas	M cu. ft.	2,631,760	3,611,386	4,223,521	3,847,644	4,455,518	5,647,642
	Value	$494,217	$830,500	$1,355,995	$1,622,870	$1,630,370	$2,267,723
Asphalt	Gallons	10,820,997	13,629,274	15,822,927	15,031,311	9,324,170	18,187,096
	Selling value	$898,142	$1,253,893	$1,465,203	$1,412,943	$848,499	$1,641,836
Miscellaneous	Value	$6,8?8	$199,390	$212,597	$170,915	$174,324	$4,242,401
Total value of refined products		$30,541,620	$40,511,894	$53,380,114	$65,512,068	$67,634,896	$79,081,860
Employees	Average No.	1,964	2,193	2,287	2,536	2,718	3,115
	Wages paid	$3,291,375	$3,781,440	$4,432,949	$4,977,800	$5,828,163	$6,666,917
Capital invested		$18,621,442	$24,781,081	$28,814,379	$27,228,930	$37,594,23	

[1]Information furnished by the Dominion Bureau of Statistics, Ottawa.
[2]Gallons refer to Imperial gallons.

Refined Products Imported into Ontario

Table IV and the graph on page 74 well illustrate the position that Ontario has taken in refining operations. It is worthy of note that while the total demand for petroleum products has increased, the Ontario refineries have kept abreast of the demand and the imported products have actually decreased. The highly volatile "casing-head" gasoline that was imported in quantity in the 20's and 30's to add "pep" to gasoline has been replaced by products produced in our own refineries.

TABLE IV—PETROLEUM AND REFINED PRODUCTS IMPORTED IN 1943 AND 1944[1]

Import	1943		1944	
	Imperial gallons	Value	Imperial gallons	Value
CRUDE PETROLEUM FOR REFINING:				
Petroleum, 0.8155 (A.P.I.) specific gravity or heavier, for refining	775,514,000	$32,524,742	774,217,000	$32,416,982
REFINED PETROLEUM:				
For use in concentrating ores	33,123	$22,190	40,459	$30,554
Gasoline lighter than 0.669 specific gravity (casing-head)	11,348,982	780,711	9,428,598	718,053
Gasoline lighter than 0.8235 specific gravity	6,058,989	916,211	3,491,421	689,686
Crude petroleum, n.o.p.	840	157	.....	.....
Kerosene and illuminating oils	16,942	1,646	35,633	4,257
Products of petroleum, n.o.p., 0.8235 specific gravity and heavier	732,830	139,462	843,622	177,590
Engine distillate heavier than 0.8017 specific gravity	552	168	1,201	403
Lubricating oils, consisting wholly or in part of petroleum, costing less than 25 cents a gallon	3,172,099	549,060	2,240,105	371,810
Lubricating oils, all other	2,917,442	2,068,990	3,451,293	2,039,197
All other oils	275,404	367,991	775,829	584,818
Total	24,557,203	$4,846,586	20,308,161	$4,616,368
PETROLEUM PRODUCTS:				
Petroleum grease and lubricating grease, n.o.p. lbs.	4,396,537	$285,635	4,322,304	$286,306
Vaseline, toilet and medicinal petroleum	.....	337,895	.....	320,339
Paraffin wax lbs.	12,001,479	789,251	9,059,849	615,676
Paraffin wax candles lbs.	75,643	16,132	92,754	21,640
Other petroleum products lighter than 0.8235 specific gravity gals.	561,531	82,765	659,108	72,283
Total	.....	$1,511,678	.....	$1,316,243
Total value	.....	$38,883,006	.....	$38,349,593
Total net value of petroleum and refined products imported[1]	$38,883,006		$38,349,593	
Duty paid on the above, calculated on the existing tariff schedule	875,865		781,988	
Sales tax at 8 per cent	3,180,710		3,130,526	
Total value delivered in Ontario[2]	$42,939,581		$42,262,107	

[1]These statistics are compiled from information furnished through the courtesy of the Department of Customs and Excise.

[2]Freight charges are not included.

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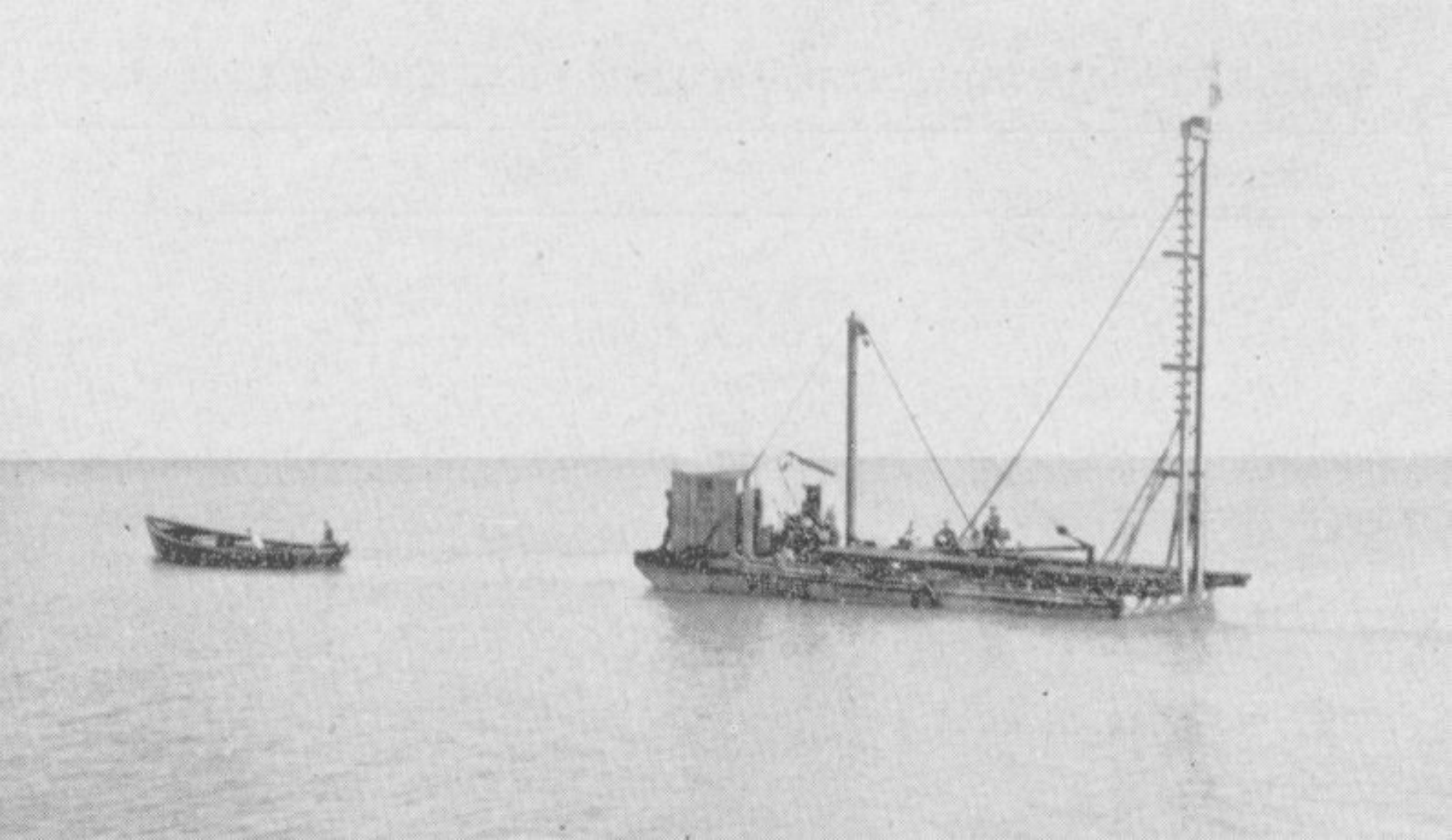

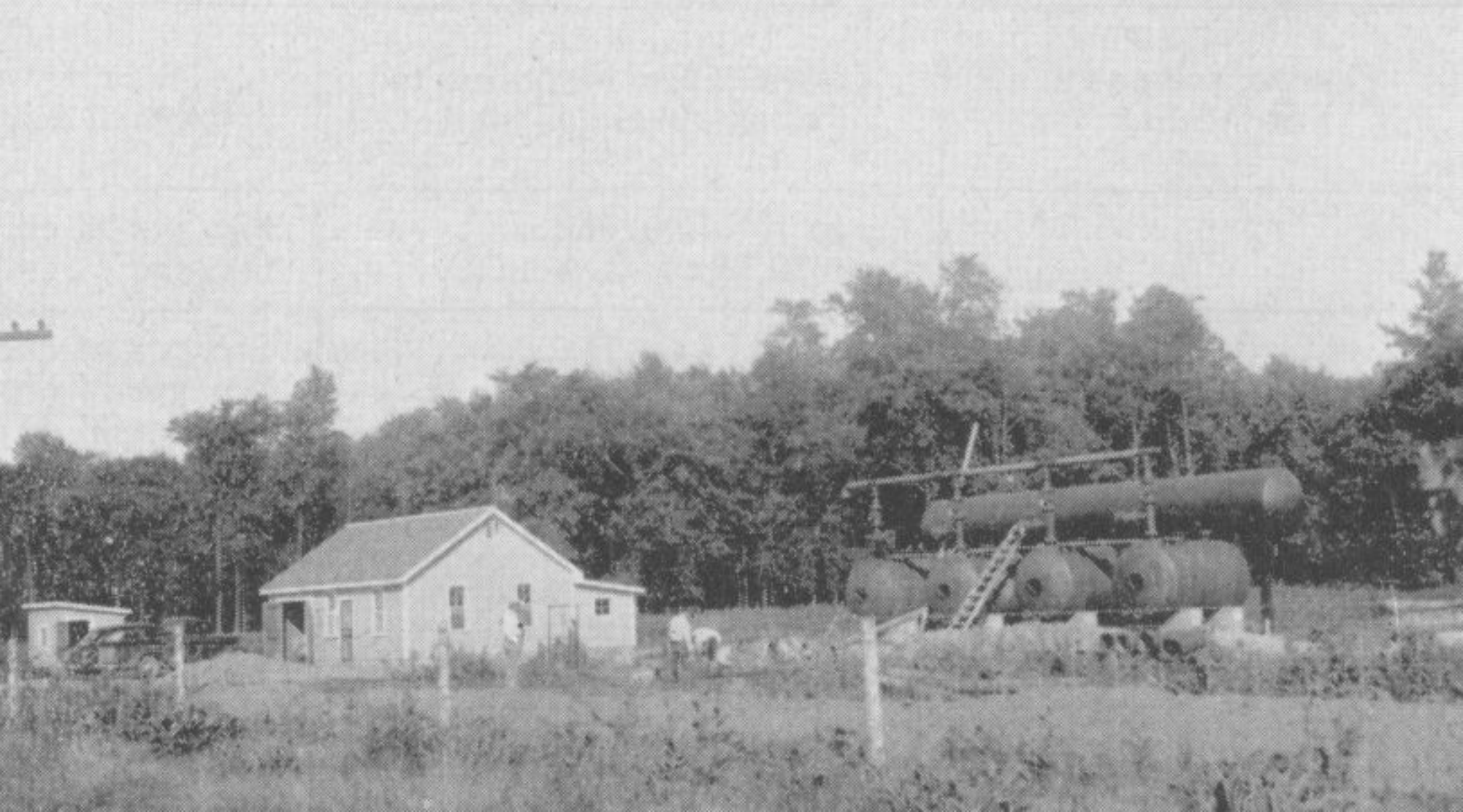

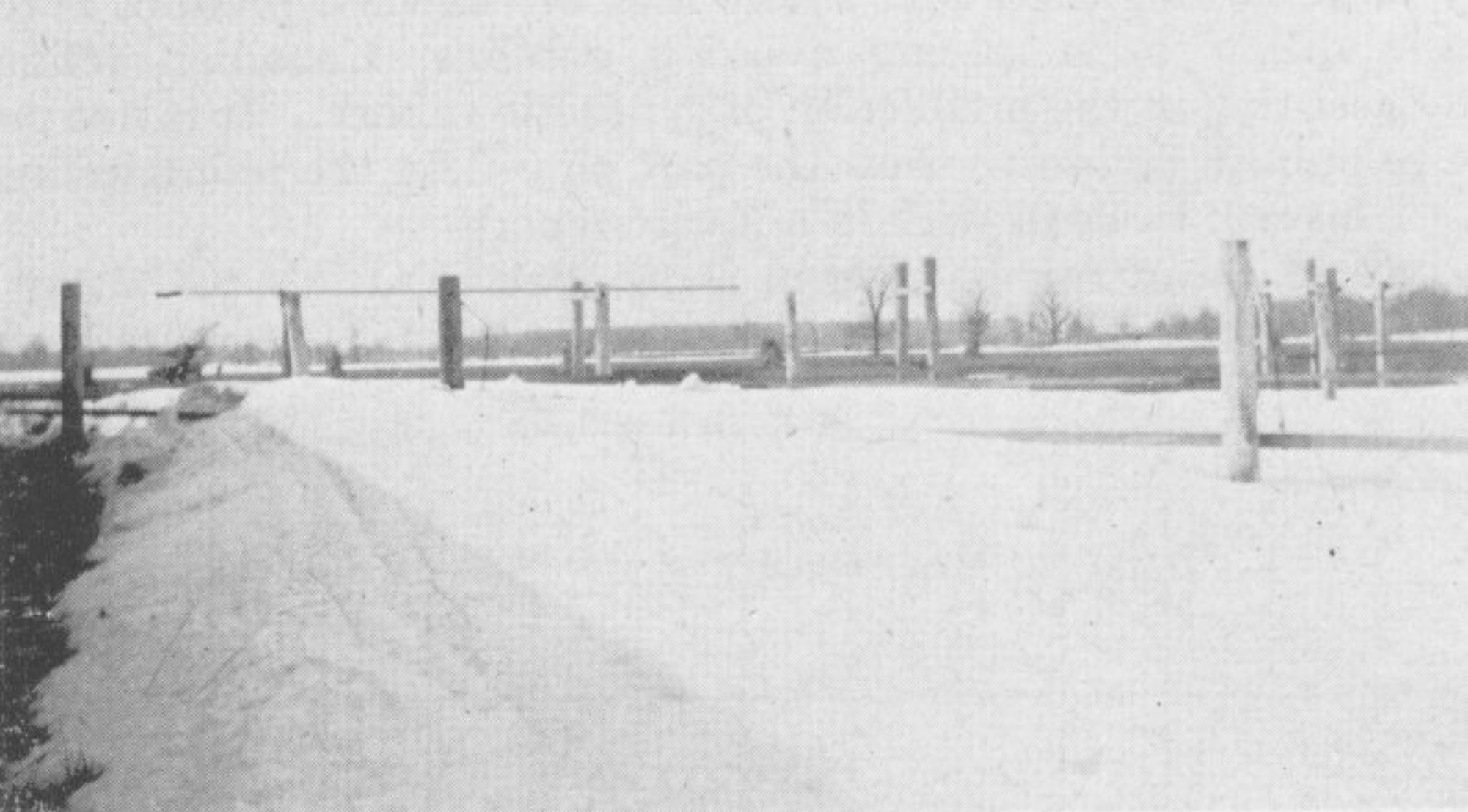

PROVINCE OF ONTARIO
DEPARTMENT OF MINES

HON. LESLIE M. FROST, *Minister of Mines* H. C. RICKABY, *Deputy Minister*

FIFTY-FOURTH ANNUAL REPORT

OF THE

ONTARIO DEPARTMENT OF MINES

BEING

VOL. LIV, PART IV, 1945

Geology of Township 47, Missinaibi Area

By

E. L. BRUCE

PRINTED BY ORDER OF
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COLOURED GEOLOGICAL MAP

(In pocket at back of report)

Map No. 1946-2—Township 47, District of Algoma, Ontario. Scale, 1 inch to ½ mile.

Geology of Township 47, Missinaibi Area

By E. L. Bruce

INTRODUCTION

Township 47 is in the area referred to in a general way as the Goudreau-Lochalsh-Missinaibi area in the district of Algoma.

In 1896, gold was found north of Emily bay, in the southern part of township 47, a year before the discoveries near Wawa lake in the Michipicoten area. The latter deposits were more easily accessible, and this fact, together with the dis-

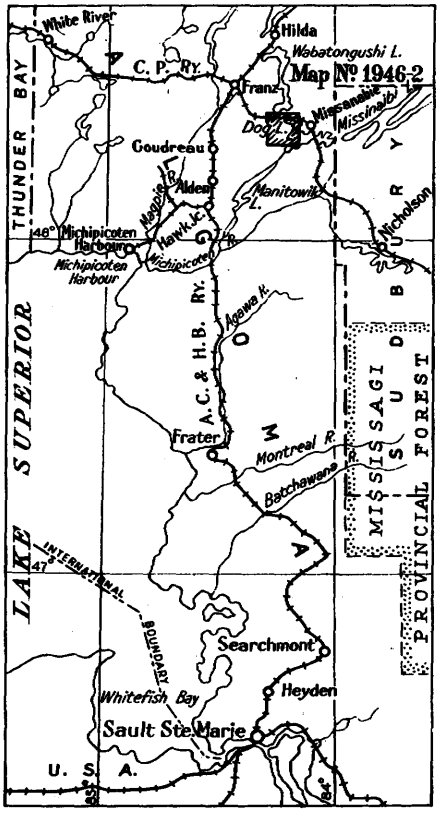


Fig. 1—Key map showing the location of township 47, district of Algoma. Scale, 40 miles to the inch.

covery of iron ores in the Michipicoten area, diverted interest from the original discovery, explorations on which had not been very encouraging, although a small amount was produced. Prospecting activity was centred in the Goudreau area between 1915 and 1918 by the mining of pyrite and from 1918 to the middle twenties by the discovery of gold and the opening of several properties, including the Algold mine 6 miles west of Goudreau, the Algoma Summit mine east of Goudreau, and the Cline mine in township 48. Some work was done at this time on groups of claims west of Albert lake in township 47. Results, however, were not encouraging, and interest waned.

In 1931, when veins of fair size with good values were found at the Renabie mine in Leeson township to the west, prospecting activity was diverted to that area, but as these veins are in granitic rocks, little attention was given to the area of greenstone in the western part of township 47. In 1942, several occurrences of gold were discovered in basic lavas in Stover township. This turned attention once more to the area of similar lavas along Dog lake west of Missanabie, and in the summer of 1943, several groups of claims were staked and some surface work and diamond-drilling done. The results obtained seemed to warrant the expectation that the area would be intensively prospected. Restrictions on operations of new gold mines kept the Renabie mine dormant, and as results of work done on the new discoveries during the winter were not as good as expected, little work of importance was carried out during the summer of 1944. Exploration is still being carried on, however, and it seems entirely possible that some deposit of commercial value may yet be found.

Location and Means of Access

Lochalsh on the Canadian Pacific railway is in the northwest corner of the township, and Missanabie is 3 miles east of its east boundary. Between these two stations the railway crosses the township in an east-west direction about a mile south of its north boundary. The western part of Dog lake occupies a considerable portion of the eastern part of the township and furnishes easy access to it from Missanabie station. Emily bay, a narrow southwestward-trending arm of the lake, extends across the south boundary of the township at a point nearly half way from its east boundary; and Lochalsh bay, the northwest bay of Dog lake, reaches to a point on the railway only 1¾ miles from Lochalsh.

A short canoe route from Gutelius by way of the Loch Alsh river through Loch Lomond leads to Wabatongushi lake, the south end of which is only a quarter of a mile north of Lochalsh station. Canoe routes are lacking in the western part of the township, but a number of trails lead westward from the shores of Dog lake. One of these leaves the northwest shore of Emily bay a short distance south of the township boundary, runs northwestward around the south end of Albert lake, crosses Little Brothers creek, and continues westward to Old Cabin lake and on to the Cline gold mine in the centre of township 48. An old bush road from Brothers creek joins the old Godin road from Lochalsh to Godin lake; it is connected to the trail from Emily bay to township 48 by a trail that branches off at the cabins of Lochgold Mines on the east bank of Little Brothers creek. A bush road leads from Lochalsh southeastward to Burns lake. Trails run from the Smith cabin on the north side of the bay immediately north of Emily bay westward to Brothers creek. An east-west trail from the west end of Emily bay to Cawdron lake in township 26, range XXVI, is only a short distance south of the south boundary of township 47.

Acknowledgements

Thanks are due to many persons for assistance during the field season of 1944. Officials of the various mining companies with claims in the township kindly furnished information concerning the results of exploration and maps of trenches and locations of diamond-drill holes. In this connection the writer wishes to express appreciation of the co-operation of George Radissic, of Toburn Gold Mines, Limited; Chas. Huston and Robert Campbell, of Macassa Mines, Limited; H. Charlebois, of Bankfield Consolidated Mines, Limited; and George Gilbert, of Algoma Ore Properties, Limited. Mr. and Mrs. David Stuart, of

Missanabie, Mr. and Mrs. George Watson, and Mr. and Mrs. Charlebois made the field work less tedious by their friendly interest in it and in the welfare of the party. From P. Laughlin and D. Rassicot, old-time prospectors in this area, a great deal of very useful information was obtained. To Mr. Foster, chief fire ranger of the district, thanks are due for the care of equipment.

A. P. Ginn acted most efficiently as chief assistant, and considerable parts of the accompanying map should be credited to his independent work. Nelson Gadd and Reginald Barlow were satisfactory junior assistants.

Early History and Previous Geological Work

Dog lake formed one of the links in the old travel route from Lake Superior to Hudson bay; and as the portage across the height-of-land between Dog lake on the Michipicoten River system and Crooked lake, the headwaters of the Missinaibi river, is one of the shortest and best of the height-of-land portages, this route was one of those most frequently used. Thus for many years Missanabie was a rather important trading post of the Hudson's Bay Company. After the construction of the Canadian Pacific railway, travel routes to Lake Superior led from Dalton and Missanabie by way of Dog lake and Manitowik lake, on both of which steamers were used.

Bell[1] in 1875 crossed the area en route from James Bay to Lake Superior, but his report gives little geological information about this region. The first report containing detailed information about the geology of township 47 is that by Ellis Thomson[2] published in 1926 and accompanied by a map showing the distribution of the chief rock units. In the following year a report by T. L. Gledhill[3] described certain gold deposits of the township, including that at Emily bay.

On the map accompanying Gledhill's report (No. 36b), Thomson's map is given as one of the sources of information; the portion of the map covering township 47 seems to have been taken almost entirely from this map. Burwash[4] examined and mapped part of the Missinaibi area, including township 47, in 1934. During the latter part of the summer of 1943, Horwood[5] made an examination of new discoveries in the township.

Natural Resources

The climate of this region is rigorous with long winters and short but hot summers. Rainfall is fairly high. In spite of the shortness of the frost-free period, excellent gardens are possible. The success of George Watson in growing many kinds of vegetables of the highest quality shows that, with proper cultivation, considerable quantities of food-stuffs can be raised. Areas of good soil, however, are so small and so scattered that agriculture can never be an important industry. In early days the fur trade was the chief industry of this whole region. It has decreased in importance as other activities have increased. Now a large area north of the railway has been declared a game reserve in which hunting and trapping are prohibited. This regulation has had a beneficial effect in increasing the numbers of animals, especially beavers, on the reserve. A fairly large number

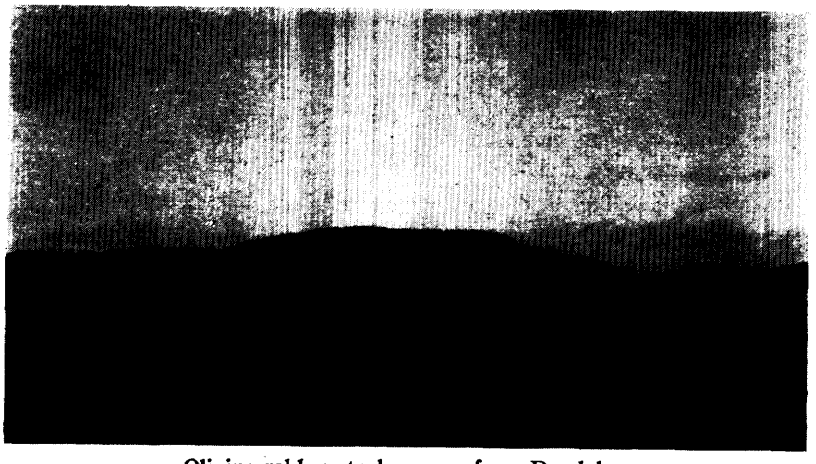
[1]Robt. Bell, Geol. Surv. Can., Rept. of Progress, 1875-76, pp. 294-342.
[2]Ellis Thomson, "Missinaibi Map-Area," Geol. Surv. Can., Mem. 147, pt. II, 1926.
[3]T. L. Gledhill, "Goudreau-Lochalsh Gold Area," Ont. Dept. Mines, Vol. XXXVI, 1927, pt. 2, pp. 51-86.
[4]E. M. Burwash, "Geology of the Lochalsh-Missinaibi Area," Ont. Dept. Mines, Vol. XLIV, 1935, pt. 8, pp. 27-38.
[5]H. C. Horwood, "Preliminary Report on Recent Developments in the Missinaibi Area," Ont. Dept. Mines, Sept., 1943.

of hunters come to Missanabie for the moose-hunting season owing to the fact that the open area to the south of the railway is easily accessible and guides and facilities for outfitting are available. Fish are plentiful, particularly lake trout, pickerel, and pike. A few black bass of good size have been taken in parts of Dog lake. Speckled trout are found in some of the smaller lakes and streams.

No stands of merchantable timber are found in the township. There are small areas of spruce of good size, but most of the trees are second growth. The extensive sand plains in the central part of the township have a scattered growth of small jackpine only.

Topography

This area is part of the upland that extends northward from Lake Superior to the height-of-land. In this plateau, Dog lake occupies a T-shaped depression, west of which hills rise steeply to a fairly level area, which extends westward to



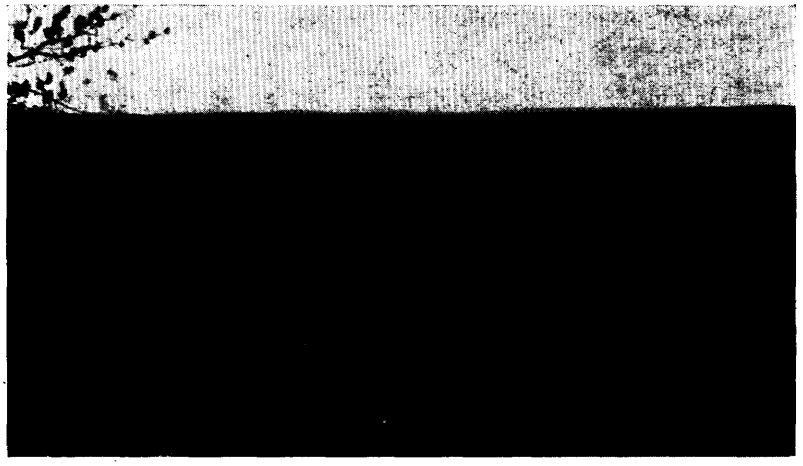
Olivine gabbro stock as seen from Dog lake.

the great trench along the fault zone at Goudreau. Prominent east-west to northeast-southwest valleys traverse the upland west of Dog lake, and two hills somewhat higher than the plateau stand out prominently above the general level. The south hill consists of a mass of greenstone, elliptical in plan, lying south of Brothers lake. The other is the steep-sided stock of olivine gabbro lying immediately west of Lochalsh bay; it rises to an elevation of 425 feet above the lake level and is by far the highest elevation in the region. Rabbit island has steep shores and is the highest part of a ridge, the rest of which is submerged. The prominent ridge across which the river from Loch Lomond breaks to enter Dog lake extends from the south end of Wabatongushi lake at Lochalsh eastward along the north side of Lochalsh bay to Dog Lake river at the northwest corner of township 46.

Emily bay occupies the most prominent of the valleys. Hills rise steeply on both sides of it to a hundred feet or more, and the west end lies in an amphitheatre of hills, which marks the end of the valley as well as the bay. A second steep-sided valley extends westward from the bay north of Brothers creek. As its floor rises gradually to the plateau level, the valley fades out west of Brothers lake.

The greater part of the area has the irregular hummocky topography com-

mon to areas of Precambrian rocks, but the northwest corner is occupied by a large sand plain, which extends from a point about a mile east of Godin lake northeastward to Wabatongushi lake and southward from that lake into township 48. Brothers lake lies in this plain, and the steep hills along the south shore



Area northwest of the olivine gabbro stock as seen from the summit.

of Lochalsh bay are composed of sand. South of the village of Lochalsh, between the road to Burns lake and the railway, are a number of kettle lakes lying in the thick deposits of glacial sand. Albert lake occupies a shallow depression in the upland surface south of the sand plain.

View looking south over Burns lake from the olivine gabbro stock.

GENERAL GEOLOGY

The consolidated rocks of the area are all of Precambrian age. Upon them there is a rather widespread mantle of sand and gravel, which in places reaches a considerable thickness.

The Precambrian rocks consist of ancient volcanics, which were intruded first by dikes and stocks of diorite, granodiorite, quartz porphyry, and quartz feldspar porphyry; later by numerous diabase dikes; and lastly by a stock of olivine gabbro, which apparently interrupts the diabase dikes. The succession is summarized in the following table:—

Table of Formations

CENOZOIC	
PLEISTOCENE:	Gravel and sand.
PRECAMBRIAN	
KEWEENAWAN(?):	Olivine gabbro (Lochalsh stock). *Intrusive contact* Diabase dikes.
	Intrusive contact
ALGOMAN(?):	Granite. Granodiorite. Quartz porphyry. *Intrusive contact* Diorite.
	Intrusive contact
DORÉ SERIES:	Conglomerate, greywacke, etc.
	Unconformity
KEEWATIN:	Iron formation. Acid tuffs. Basic lavas.

Keewatin

The rocks classed as Keewatin in age consist of basic lavas, which make up by far the greater part; schists formed from them; hornblende schists, which may be tuffaceous in origin; rhyolite tuffs; and a very minor amount of iron formation.

The lavas are dark-grey or dark-green in colour. In places they exhibit typical ellipsoidal structures, but, on the whole, these are less well developed than they are in many areas of basic lavas of comparable size. Only in a few places are the forms sufficiently well developed to permit accurate determinations of the attitude of the flows. Most of the lavas are fine-grained, massive greenstones, or chlorite schists. Under the microscope the massive varieties are seen to be made up of felts of tiny foils of chlorite with some larger, rather ragged blades of green amphibole. Feldspars are recognizable in some specimens, but usually their former presence is indicated only by areas of sericite and epidote.

The rocks mapped as Keewatin north of the railway differ from the normal, fine-grained lavas that make up the greater part of the Keewatin rocks elsewhere in the township. They have a more or less pronounced east-west foliation, which is even more striking under the microscope than it is in the hand specimen. In places, fragments are recognizable, but nowhere can any definite, regular bedding be identified. In many places the rocks appear quite massive. Under the microscope they show a well-marked gneissic structure with alternate layers made up chiefly of quartz and of bright-green amphibole. These rocks resemble those lying immediately south of the Doré sediments in the western part of township 48, which were found difficult to separate from the true sedimentaries. It may be that they are tuffs.

Rhyolite tuffs, several outcrops of which occur around the hill of olivine gabbro west of Lochalsh bay, may form a band across the northern part of the township. Owing to the extensive glacial deposits in that part of the map area, however, it is not possible to trace it in either direction from the few scattered

outcrops shown on the map. The tuff is a fine-grained, granular, massive to finely laminated rock, which is grey on fresh fractures and brown where weathered. Under the microscope the fragmental character is clearly seen. Angular to subangular fragments of plagioclase and quartz lie in a matrix of smaller fragments, around which are wrapped thin wisps of biotite outlining the foliation of the rock. The feldspars are remarkably fresh; most of them are oligoclase, but some orthoclase is present. There is considerable similarity between these tuffs and those that occur in the southwestern part of Rennie township and extend southeastward to Baltimore lake in Stover township.[1]

It was found difficult to determine with certainty whether some of the green chloritic rocks should be placed with the Keewatin lavas or classed as dioritic intrusives. In some places there seems clear evidence of recrystallization of the lavas to produce rock types quite similar to others the intrusive character of which is clear. Even under the microscope no conclusive criteria for distinguishing recrystallized lavas from altered diorite were found. Hence, where no indisputable field evidence is available, it is possible that some intrusives have been mapped as lavas and that some of the coarser lavas may have been classed as diorite.

A surprising feature of the geology of this area is the almost complete absence of iron formation. At Goudreau, only 12 miles west of the west boundary of township 47, the iron formations are thick. The band immediately south of the town of Goudreau can be traced eastward for 2 or 3 miles. Farther north, the Dreany iron range, although thinner than that at Goudreau, is traceable for more than half the width of township 49 and in places has a thickness of as much as 50 feet. In township 47, the only iron formation seen is a very thin and discontinuous band made up of magnetite and silica, which outcrops on a point of land projecting from the west shore of Dog lake north of the mouth of Brothers creek.

Doré Series

Rocks of the Doré series occupy the northwestern corner of the township. These rocks have been discussed in some detail in a previous report,[2] and nothing needs to be added to that description.

The Doré sediments northwest of Wabatongushi lake are mainly slaty, with only local lenses of conglomerate. They have undergone considerable metamorphism by the granite, by which they have been rather intimately intruded.

Post-Doré Intrusives

ALGOMAN(?)

Intrusives of considerable variety and of several ages intrude the Keewatin rocks; they are also believed to be younger than the Doré sediments, but except for the granite and diabase, none of them is in contact with the sediments. The intrusives consist of dikes and small stocks of diorite, granodiorite, and quartz porphyry; stocks of granite within the greenstone; and large batholiths, the edges of which occupy the northwest and southeast corners of the map area; dikes of diabase, none of which are more than a hundred feet in width but which

[1]E. L. Bruce, "Geology of the Rennie-Leeson Area," Ont. Dept. Mines, Vol. LI, 1942, pt. 8, pp. 6-7.
H. C. Horwood, "Geology and Mineralization in the Northern Part of Stover Township," Ont. Dept. Mines, Vol. LI, 1942, pt. 8, p. 31.

[2]E. L. Bruce, "Geology of the Goudreau-Lochalsh Area," Ont. Dept. Mines, Vol. XLIX, 1940, pt. 3, pp. 19-22.

are remarkably persistent; and a composite boss of peridotite (olivine gabbro), which forms a prominent hill west of Lochalsh bay.

Diorite

Dark-grey to green rocks with coarse textures are believed to be diorites, intrusive into the lavas. North of Emily bay, a dike of such rock cuts basic lava and is in turn cut by a large diabase dike. Ordinarily relations between rocks considered to be diorites and others are not clear, and it may be that some of the rocks mapped as diorite may actually be parts of thick flows.

The largest area of diorite recognized in township 47 lies along the southeast side of Little Brothers creek on the claims known as Lochgold Mines. At the cabins on those claims the rock is coarse-grained and weathers dark-green with a somewhat rough, nodular surface. Under the microscope the rock is seen to be holocrystalline but with the original constituents highly altered. Feldspar of intermediate composition is still recognizable, but the original ferromagnesian minerals, apparently hornblende in blocky crystals, are completely altered to feathery and frayed-out secondary amphibole, the identity of which was not determined.

A ridge of diorite extends from a point on the trail about three-quarters of a mile west of Albert lake northeastward to a small lake. This rock also has a holocrystalline texture. Much of the feldspar in it is untwinned and contains many needles of amphibole. There are also blocky crystals of hornblende. A mineral that shows a grid structure with alternate opaque and non-opaque bands is similar to a constituent of the diorite from the Goudreau area[1] and was probably originally an intergrowth of magnetite and ilmenite, in which the latter has altered to leucoxene. Quartz is present; part of it may be secondary.

Quartz Porphyry, Quartz Feldspar Porphyry, and Felsite

Light-coloured porphyries and felsites occupy an area in the lower part of the valley of Brothers creek, extend eastward to the peninsula covered by the claims of Bankfield Consolidated Mines, Limited, and occur beneath the swampy valley north of the old shaft of the Emily Bay mine as a small stock and elsewhere as dikes.

The unusual feature of the larger areas is the uniformly fine grain of the rock. It may be that there is actually no large body of these rocks but that the limited exposures indicate only a plexus of rather small dikes.

The porphyries have phenocrysts of quartz, blocky well-formed feldspars, some of which have the composition Ab_{92} An_8, or both. The groundmass is without exception a fine-grained aggregate of quartz and feldspar with small quantities of biotite and considerable quantities of secondary minerals: sericite, chlorite, carbonates, epidote, and zoisite. The composition is estimated to be approximately as follows:—

	Per cent.
Albite	36
Quartz	25
Epidote	20
Sericite	15
Chlorite	2
Carbonates	1
Others	1
Total	100

The non-porphyritic varieties differ from the porphyritic types only in texture.

[1]E. L. Bruce, Ont. Dept. Mines, Vol. XLIX, 1940, pt. 3, pp. 22-23.

In places shearing has produced sericite schists from both felsites and porphyries.

Granodiorite

Granodiorite is the surface consolidated rock of four areas in the western part of the township, none of which is large. One lies around Albert lake, extending half a mile west of the lake; a second lies a half mile east of the north end of Albert lake; the third extends across Emily bay just north of the south boundary of the township; and it forms the face of the steep hill rising from the north shore of the bay but does not extend far beyond the crest of the ridge. The fourth is a large dike striking nearly north-south and extending across the peninsula that separates Emily bay from the main part of the lake.

The granodiorite ranges from a grey-weathering rock, which is granitic in texture with speckled green and white fresh surfaces, to one that weathers dark-grey and is dark-grey to pink on fresh surfaces and fine-grained and granular in texture. Under the microscope, the coarser-grained types are found to contain plagioclase, quartz, hornblende, ilmenite, a little biotite and muscovite, and the secondary minerals that would be expected from such an assemblage, sericite, chlorite, perovskite, etc. Some of the crystals of plagioclase (oligoclase) consist of a core made up almost entirely of secondary minerals surrounded by a shell that is quite pellucid and contains only small amounts of alteration products. The feldspar crystals in a specimen from the area east of Albert lake show marked zoning; other plagioclase crystals in the same section are unzoned. The feldspar (Ab_{95}) is much more sodic than that of other areas of granodiorite. In many specimens from the east side of this body, the feldspars are relatively small and have blocky forms which are very similar to the forms shown by the feldspar crystals of the granodiorite of the Cline mine in township 48. The granodiorite contains a pale biotite, some of the foils of which are surrounded and apparently partly replaced by actinolite. Plagioclase from granodiorite on the northwest shore of Emily bay is in rather well formed, equidimensional crystals, which lie in areas of quartz with mosaic texture. As areas of quartz mosaic are joined by stringers of mosaic which pass through single crystals of plagioclase, following twinning planes, some of the quartz has undoubtedly been introduced.

Granite and Granite Porphyry

The great area of granite that lies northwest of township 47 extends into the corner of the map area. A narrow tongue of the batholith is exposed along the south shore of Wabatongushi lake and in the railway cut west of Lochalsh station. The southeastern corner of the township is occupied by granite belonging to another great batholith, which extends eastward across the adjoining townships. A stock of granite in which there are patches of granite porphyry lies west of Lochalsh bay. It is exposed in railway cuts immediately west of the bay, at places along the west side of the bay, and on the slopes of the hill of olivine gabbro southwest of the bay.

No detailed study of the northwest and southeast batholiths was made, and only a few thin sections of the rock of the stock were examined. The granite porphyry is a deep-pink rock, in which blocky phenocrysts of feldspar are set in a groundmass of normal granite. Under the microscope the rock appears fresh. Most of the phenocrysts are microcline, but some may be untwinned plagioclase. There are also a few phenocrysts of quartz. The groundmass consists of quartz, orthoclase, albite (Ab_{95}), and a few accessory wedge-shaped grains of titanite.

Age Relations of the Granodiorite, Felsite, and Associated Porphyries and Granite

No two of these intrusive rocks have been found in contact with each other. Hence their relative age is a matter of uncertainty. The granite of the northwest batholith intrudes the rocks of the Doré series. The southeast batholith cuts the basic lavas, as does the granite and granite porphyry stock west of Lochalsh bay and the various stocks and dikes of felsites, porphyries, and granodiorite. Dikes of diabase cut all of them. The compositions of the granodiorite and the porphyries and felsites are very similar (as shown in the following table), and it is believed that they are genetically related, differing mainly in texture. That is the relation of similar rocks at Gutcher lake, township 28, range XXVI, where an area of granodiorite is surrounded by a broad zone of quartz porphyry.[1] The somewhat less altered character of the granite and granite porphyry may indicate that they are younger than the granodiorite and its associates.

	Quartz porphyry	Granodiorite	Granite west of Lochalsh bay
	per cent.	per cent.	per cent.
Na_2O	4.16	5.34	7.52
K_2O	1.97	1.51	3.29
	6.13	6.85	10.81

KEWEENAWAN(?)

Diabase

Diabase dikes of two kinds are described by Thomson.[2] The older one is a quartz diabase in which the feldspars are considerably altered; the younger one is much fresher. In some of the younger dikes the rock contains quartz, but in others it is lacking. Commonly the later dikes are called olivine diabase, but according to Collins[3] few of them contain olivine.

All of the diabase dikes shown on the map[4] accompanying Memoir 147 are classed as younger diabase. Many others were found during the progress of the present investigation. Some of them are quartz diabases, but none contains olivine. Whatever their composition, they commonly weather in relief with smoothly rounded surfaces only thinly soil covered.

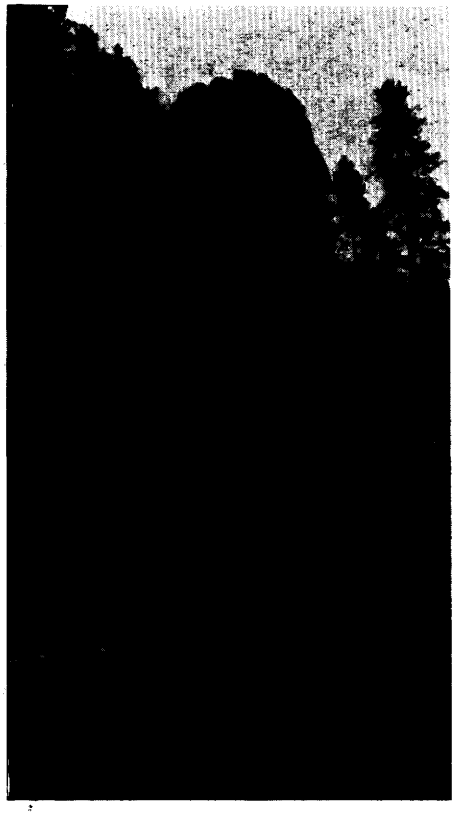
The diabase dikes are vertical; most of them strike a few degrees west of north, but a few strike east-west. Most of them are less than 100 feet wide, but widths range from a fraction of an inch to as much as 200 feet. Most of the dikes are remarkably straight and persistent. Only one, that at the White mine at the southwest corner of Lochalsh bay, has undergone any deformation. It is bent, and transverse fractures occur at the point of flexure.

The diabase is dark-grey on freshly broken surfaces; it weathers to rusty brown. Some of the dikes are porphyritic with phenocrysts of greenish, altered feldspar set in a groundmass of typical diabase. As some dikes are porphyritic at one place and equigranular at others, the porphyritic character is apparently due to some local condition during crystallization. Some dikes are porphyritic throughout, whereas neighbouring ones, apparently of the same age, are not.

[1] E. S. Moore, "Goudreau and Michipicoten Gold Areas, "Ont. Dept. Mines, Vol. XL, 1931, pt. 4, p. 10.
E. L. Bruce, Ont. Dept. Mines, Vol. XLIX, 1940, pt. 3, pp. 25-27.
[2] Ellis Thomson, "The Missinaibi Map-Area," Geol. Surv. Can., Mem. 147, pt. 2, 1926, pp. 151-152.
[3] W. H. Collins, Geol. Surv. Can., Mem. 147, 1926, p. 37.
[4] No. 2050, "Missinaibi Area."

Nor is the porphyritic texture related to size; both large and small dikes show such textures.

Under the microscope the diabase is found to be very fresh. Lath-shaped crystals of glassy labradorite are embedded in irregular crystals of augite. The ratio of width to length of the feldspar laths varies rather widely. In some dikes graphic intergrowths of quartz and feldspar are interstitial both to feldspar laths and to the less well formed augite. Opaque grains of metallic lustre are probably magnetite or ilmenite. The margins of the dikes have thin chilled selvages, in which tiny needles of feldspar can be seen.



Weathered joint columns at the edge of the stock of olivine gabbro.

As some of the larger dikes are cut by smaller ones of similar lithological character, the period of intrusion of the diabase was of considerable duration.

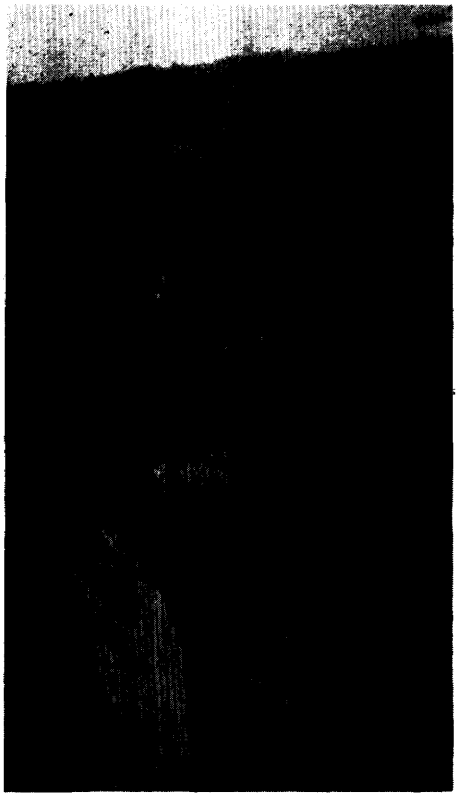
Olivine Gabbro[1]

Olivine gabbro forms a prominent hill rising steeply from the southwest corner of Lochalsh bay to an elevation of 385 feet above the lake. A northeast-southwest valley, the amphitheatre-shaped south end of which is occupied by Joan lake at an elevation of 250 feet above Dog lake, separates the east end of the hill from the west end 425 feet above Dog lake. From the top of the western

[1]The greater part of the detailed examination of this stock, both in the field and in the laboratory, was done by A. P. Ginn, chief assistant.

knob the hill slopes rather steeply to the level of the great sand plain that occupies much of the northwestern corner of the township.

The gabbro has one horizontal and two vertical joint directions. The vertical jointing breaks the cliff faces along the east and southeast sides of the hill into columnar masses, some of which are as much as 150 feet in height (see photograph on page 11). Further weathering along the horizontal jointing reduces these columns to piles of spheroidal boulders (see photograph below), which finally tumble down and form great talus slopes at the bottoms of the cliffs.



Spheroidal weathering of columns of olivine gabbro.

Of the two types of rock forming the hill, Frohberg[1] writes:—

> According to the amount of feldspar present, the intrusive ranges in composition from a mela-olivine gabbro to a rock approaching wehrlite. . . . The change from the mela-gabbro core to the gabbro-wehrlite border is gradational though in places the transition appears in less than 50 ft.

The central part of the hill is elliptical in plan, 2,200 by 1,300 feet, and includes the highest part of the western knob. The rocks of the central area are dark greenish-grey in colour, medium-grained, and equigranular, with rather conspicuous feldspar grains. The weathered surface is brown. These rocks are remarkably uniform except for some irregular darker patches thought to be inclusions, which range from half an inch to a foot or more in diameter, and some

[1]M. H. Frohberg, "Occurrence of Gabbro-Wehrlite near Lochalsh, Ontario," Amer. Miner., Vol. 29, 1944, p. 299.

closely spaced lighter-coloured streaks, which seem to be vertical schlieren layers roughly parallel to the margin of the central ellipse. The central area is surrounded by a marginal zone, in which the rock is greenish-black, in contrast to the somewhat lighter-coloured rocks of the central area.

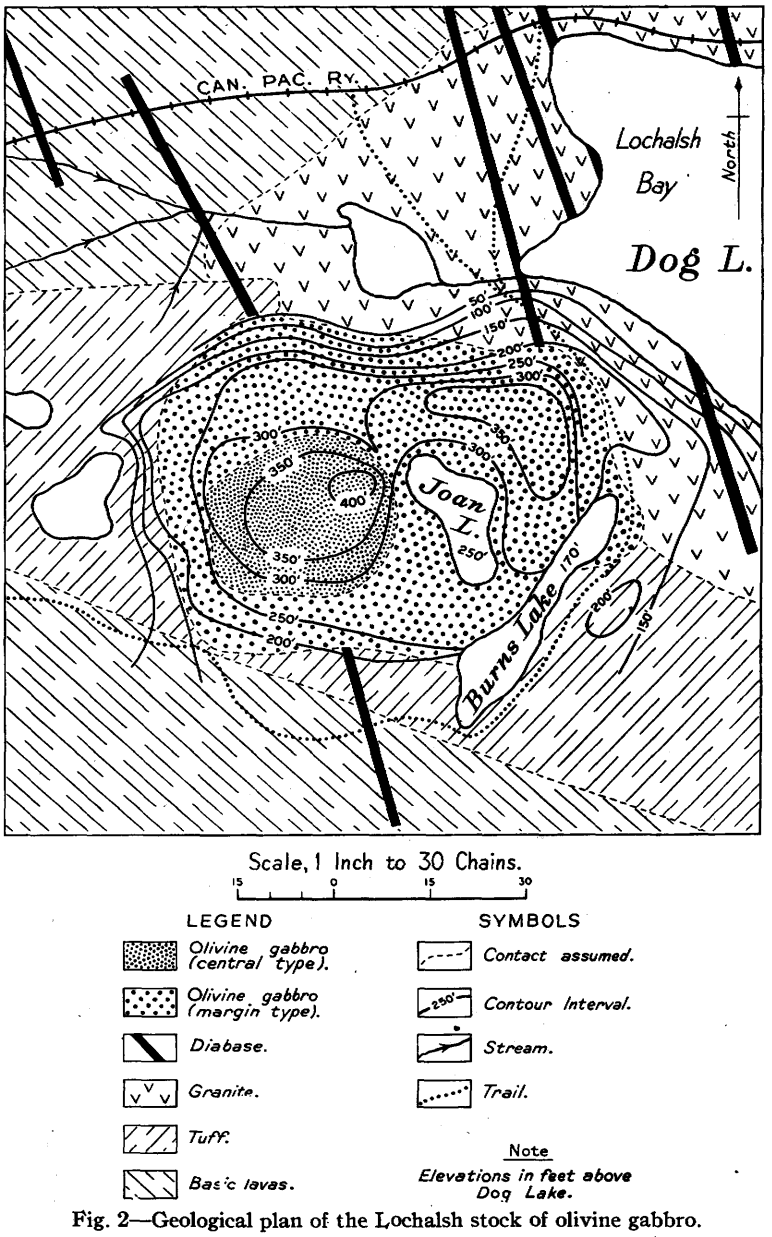
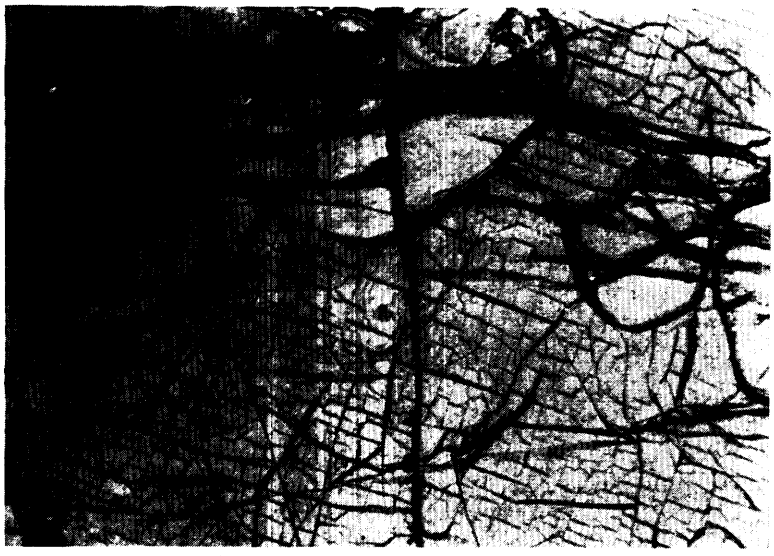


Fig. 2—Geological plan of the Lochalsh stock of olivine gabbro.

Under the microscope the central rocks are found to consist mainly of olivine, plagioclase, and pyroxene as essential primary constituents, apatite and magnetite or chromite as accessory minerals, and serpentine, amphibole, biotite, and magnetite as secondary products. The feldspar (Ab_{30} An_{70}) is in well-formed,

lath-shaped crystals, which range in length from 1.2 to 0.8 millimetres and in width from 0.2 to 0.4 millimetres and are arranged in clusters as much as 3 millimetres in diameter. All the crystals are brecciated, distorted, and corroded



Photomicrograph of olivine gabbro from the core of the stock, showing the olivine with irregular cracks enclosed in pyroxene exhibiting typical cleavage. (Crossed nicols, × 80.)

(see photomicrograph above). Some of the crystals of olivine still show prisms with terminations at both ends, but others are so severely corroded that only irregular grains remain. The less corroded crystals range from 1.2 to 2.5 milli-

CHEMICAL ANALYSES OF SAMPLES OF THE OLIVINE GABBRO STOCK

	No. 1	No. 2	No. 3	No. 4
SiO_2	41.38	42.59	42.00	40.20
Al_2O_3	6.00	7.00	6.25	7.90
Fe_2O_3	2.16	2.14	2.57	1.80
FeO	10.23	9.96	10.29	10.91
MgO	31.89	27.73	29.07	22.22
CaO	4.13	5.04	5.28	11.65
Na_2O	.76	.56	.71	.81
K_2O	.08	.29	.15	.08
H_2O	2.29	2.80	2.33	3.12
CO_2	.40	.30	.60	1.15
TiO_2	.28	.47	.....	.....
P_2O_5	.04	.08	.....	.....
Cr_2O_3	.40	.44	.54	.35
Total	100.22	100.38	99.79	100.19
Specific gravity	3.144	3.089	3.10	3.07

Sample No. 1—Margin northwest side. Analyst, Ellestad and Smith.[1]
Sample No. 2—Margin northeast side. Analyst, W. F. Green.[2]
Sample No. 3—Margin south side. Analyst, A. P. Ginn.
Sample No. 4—Core. Analyst, A. P. Ginn.

[1]Amer. Miner., Vol. 29, 1944, p. 304.
[2]Ont. Dept. Mines, Vol. LI, 1942, pt. 8, p. 26.

metres in diameter.. The mineral has a large axial angle, and the index No. is 1.685 or −000. Hence the composition is approximately fosterite, 92; fayalite, 8.

CHEMICAL ANALYSES RECAST TO MODES

	No. 1	No. 2	No. 3	No. 4
Albite	6.3	7.9	7.3	5.0
Anorthite	7.8–14.1	9.2–17.1	8.6–15.9	5.9–10.9
Olivine	50.0	32.6	41.4	21.9
Pyroxene	13.0	22.5	19.2	42.4
Biotite	.6	2.5	.9	.6
Calcite	.9	.7	1.4	2.6
Magnetite	3.2	2.8	3.7	2.8
Chromite	.6	.6	.8	.6
Ilmenite	.6	.8	.....	.....
Serpentine	16.7	20.0	16.0	20.2
Apatite	.1	.4	.....	.....
Total	99.6	100	99.7	102

Photomicrograph of olivine gabbro from the core of the stock, showing brecciation and corrosion of feldspar laths. (Crossed nicols, × 80.)

Pyroxene is in anhedral grains, some of which are as much as 7 millimetres in diameter. It is faintly pleochroic and, optically, resembles clinoenstatite, but the recast of the analysis of sample No. 4 shows that it must be aluminous. Grains of pyroxene contain inclusions of both feldspar and olivine or are moulded around grains of these minerals (see photomicrograph above). Thus the order of crystalization of the major primary constituents was olivine first, followed in order by feldspar and pyroxene. Some biotite may be primary, but most of it is secondary. Pale-green amphibole forms borders around some of the augite grains. Serpentine is by far the most abundant secondary mineral. It fills fractures in and surrounds the olivine individuals and occurs sparingly in pyroxene. Near the olivine the serpentine is green and pleochroic. Farther from

it the colour fades out, and the index of refraction is lower. Serpentine is more abundant between grains of olivine and feldspar than it is between those of olivine and pyroxene, possibly because the feldspar was fractured whereas the pyroxene was not. The composition of one specimen from the central area is shown in the table (sample No. 4), but this specimen appears not to be typical because the recast of the analysis gives less than 11 per cent. feldspar, whereas the average content of the mineral, as obtained by several Rosiwal analyses, is 22 per cent.

The schlieren layers contain 85 to 95 per cent. feldspar with olivine and augite, in about equal proportions, forming the remainder. The feldspar is in small brecciated laths (see photomicrograph below), most of which have their

Photomicrograph of schlieren layers in the core of the stock. Feldspar laths are subparallel, and some of them are brecciated and corroded. (Crossed nicols, × 80.)

long directions roughly parallel to the strike of the schlieren layer. Laths not so oriented show a greater degree of brecciation than the others. Near the margins of the layers, more of the feldspar laths are in random arrangement. The layers grade sharply into the enclosing rock.

The rocks of the margin are similar in most respects to those of the central area. They contain the same primary minerals, and the three major constituents have the same compositions and crystallized in the same order. They are, however, in different proportions. Feldspar and pyroxene are more abundant, feldspar less so. The texture is decidedly poikilitic, and the individuals are larger than those of the central facies. The most striking difference is the unbrecciated character of the feldspars.

No contact of the central rock facies with the rocks of the margin was found, but in many places the approximate position of it is marked by a cliff, the central rocks standing above those of the margin. The profile of dip-needle readings along traverses across the hill shows a break at the assumed position of the contact. The contact is believed to be vertical, because that is the attitude of the schlieren layers. Thus the body of gabbro consists of a vertical cylindrical core, around which the marginal rocks form a shell.

The contact of the gabbro with the rocks that surround it is concealed by talus and thick glacial deposits. The ultrabasic mass seems, however, to interrupt diabase dikes. One can be traced from the railway cut at the northwestern corner of Lochalsh bay to the edge of the hill. No continuation of it was found in the gabbro. Similarly two dikes that cut greenstone south of the hill, the strike of which should carry them through it if they were younger than the gabbro, could not be found even though gabbro is exposed in almost unbroken cliffs at the places where the dikes should be (Fig. 2).

Three dikes of olivine gabbro were found cutting the basic lavas, and one 40 feet in width cuts the rock of the outer shell.[1]

The rock of the core, the shell, and olivine gabbro dikes are so much alike that it seems certain that they are genetically related. If the core is vertical, the two facies of the gabbro cannot be the result either of the sinking of early formed heavy crystals or of the floating of early formed feldspars. Either process would give a horizontal stratification with the more feldspathic core rocks lying above the heavier rocks of the margin. The attitude of the schlieren, however, is taken as evidence that the core is vertical. Moreover, the dark rocks of the marginal facies form the whole of the eastern knob, the top of which is higher than the light-coloured core rocks on the flanks of the western knob (Fig. 2). It also seems unlikely that either facies resulted from the squeezing out or draining away of the residual portion of a magma after crystallization had proceeded far enough to make a marked difference between crystals and liquid. No rocks have been found in the area that could represent such a liquid.

Hess[2] suggests that a magma of ultrabasic composition can exist provided that it contains sufficient water. He explains the lack of severe alteration of rocks surrounding ultrabasic bodies as due to the exhaustion of the water that the assumed magma contains in the formation of serpentine. No such explanation can be offered to explain either the existence of an ultrabasic magma, from which the Lochalsh gabbro crystallized, or the absence of a zone of contact metamorphism in the rocks around it. The olivine gabbro of this occurrence still contains a large proportion of unserpentinized olivine, and the pyroxene has undergone only very slight uralitization. Yet the occurrence of dikes of olivine gabbro and the apparent interruption of the dikes of diabase seem rather conclusive evidence that the Lochalsh body is a stock of normal intrusive origin and the youngest rock of the area.

The schlieren layers in the core and the brecciation of the feldspar in the rocks of which it is composed show that movements occurred after it was partly crystallized. Thus the sequence of events is believed to be as follows: (1) intrusion of a stock of ultrabasic character represented by the rocks of the outer shell; and (2) formation of the core by a surge of the magma after crystallization of the feldspars had occurred but before pyroxene had begun to form.

Structures of this kind in volcanic necks have been described, and there seems no reason why they should not develop in any conduit through which a crystallizing magma is moving.

ECONOMIC GEOLOGY

Gold is the only mineral of possible economic importance in the township.

In some sections of the area, the greenstones and porphyries have undergone considerable shearing; some of these zones are marked by east-west trending valleys. Lenses of quartz occurring in these shear zones commonly contain con-

[1]M. H. Frohberg, op. cit., p. 304.
[2]H. H. Hess, "A Primary Peridotite Magma," Amer. Jour. Sci., Vol. 38, 5th ser., pp. 326-327.

siderable quantities of gold, but all those found so far are narrow and short. Even highly sheared rock, whether basic lava or porphyry, impregnated with considerable amounts of pyrite contains little gold except where there is quartz. It should be pointed out, however, that the shear zones so far examined lie along the sides of the valleys, where consolidated rocks are exposed or the overburden is thin enough that the rock can be exposed by trenching. The deep soil and usually swampy nature of the valleys have made it impossible to reach the rock floor in the centre of them. It is quite possible that in some such place shear zones with more quartz may be found. In such a case, however, it would be expected that they would have furnished boulders. None has been reported.

The high magnesia content of the olivine gabbro may make the Lochalsh stock of commercial importance should the processes for extraction of magnesium from silicates prove to be commercial. The stock is near the railway, presents excellent faces for quarrying, and lies close to electric power lines.

DESCRIPTION OF PROPERTIES

Emily Bay Mine

The following information concerning the Emily Bay mine is taken largely from old government reports and from an article by G. W. MacLeod.[1]

The old Emily Bay mine is situated just north of the south boundary of township 47, between Emily bay and Albert lake. It comprises four claims, S.S.M. 1,087, 1,088, 1,114, and 1,149. The identity of the discoverer of the veins is not known with certainty. Government reports record discoveries of gold in the vicinity of Dog lake by John Halliday and Peter McVeigh,[2] but it is generally agreed by those interested in mineral occurrence in the area that the Emily Bay deposits were found and the claims staked by Telford Godin in 1900.

During the years 1901 and 1902, the Algoma Steel Corporation sank a shaft to a depth of 56 feet and put down 3 diamond-drill holes. Work was suspended in 1903.[3] A mill test of 4¼ tons of ore, probably from the original discovery, gave a recovery of $30.16 per ton (gold $20.67 an ounce), and $18.00 per ton was left in a concentrate and in the tailings. Thus the ore contained $48.16 a ton or 2⅓ ounces of gold per ton. Samples taken in 1918 by MacLeod,[4] across a width of 3 feet gave $44.00 per ton.

One or more veins were located on the south edge of a swampy valley. What seems to have been the main one is on claim S.S.M. 1,114. This vein strikes east-west and has a low dip to the north. When visited during the summer of 1944, the old pits were full of water and little of the vein material could be seen. The material on the dump is quartz, rather rusty from oxidation of the pyrite that it contains. It seems probable that the veins found in some of the trenches are independent ones. Old reports also state that the vein lies in iron formation.[5] The wall rock is certainly not typical iron formation and is probably greenstone, the rusty weathering of which makes it resemble some of the Goudreau iron formation. Immediately to the north, beneath the swamp, the rock is a light-coloured porphyry; as no other rock occurs in the material on the old dump, apparently the vertical shaft mentioned above was entirely in porphyry.

During the summer of 1944 the Emily Bay property was acquired by Algoma Ore Properties, and a programme of exploration was carried out during the late

[1]G. W. MacLeod, "The Goudreau Gold Area," Can. Min. Jour., Vol. 44, 1923, pp. 295-297.
[2]Ont. Bur. Mines, Vol. VII, 1898, pp. 61, 196.
[3]G. W. MacLeod, op. cit., p. 297.
[4]Ibid.
[5]A. P. Coleman, Ont. Bur. Mines, Vol. XV, 1906, pt. 1, p. 187.

autumn of 1944 and part of the winter of 1945. The results of this work are not yet available.

Smith Claims (Missanaibi Gold Shore)

A rather extensive series of shear zones occurs on a group of claims on the west side of the bay immediately north of Emily bay. These claims were examined by engineers of Toburn Gold Mines, Limited, and thanks are due to officials of that company for information concerning the results obtained. The shear zones strike northwest-southeast in rusty-weathering andesite. At many places the andesite has been severely sheared and the sheared rock replaced by pyrite. In a few places, fairly high assays for gold were obtained, but no body of ore was located.

As the porphyry dikes that cut the pyritized zone contain no pyrite, it is evident that the metallic minerals were introduced here at an earlier time than in any other occurrence in the area.

Camex Prospecting Trust

The following information on the Camex Prospecting Trust is taken from a report by Horwood[1] on an examination of the property made during the latter part of the summer of 1943.

The discovery of gold-bearing quartz was made on claim S. S. M. 12,594 of the Camex No. 4 group, on the west side of Dog lake in township 47. This group comprises 10 claims, S.S.M. 12,585 to 12,594, inclusive. A picket line S.76.5°E. has been cut close to and along the showings from a point near the shore at the foot of the deep bay north of Brothers creek [see Fig. 3].

The showings are veins and lenses of white quartz located in a sheared zone in andesitic lavas close to dikes of a fine-grained, light-coloured granodioritic rock. The writer believes that the sheared zone may have been localized by the disposition of the dikes. The zone occurs along or close to the north edge of a large hill of rather massive andesitic lava. Moss and a light mantle of soil cover much of the hill. As work to date has been of a preliminary nature the zone has been exposed in only a few places along a distance of approximately 800 feet. Detailed stripping and trenching must be carried out to ascertain the continuity of the quartz lenses, average widths, and average grades. The dip is to the north at an angle of 75 to 80 degrees.

The veins and lenses are made up of quartz, which ranges from sugary or sandy in texture to coarsely crystalline. This quartz has been fractured in variable degree and contains small stringers of later quartz, which is smoky to dull-grey in colour and from half an inch to one one-hundredth of an inch in width, and small amounts of pyrite, a little chalcopyrite, and gold. The gold is in very small particles, as it could be seen with a glass in only two places. Good assays were obtained where the vein quartz was well fractured and mineralized. Massive quartz, such as the 15-foot width at station 4+00, assayed only 0.01 ounces per ton.

No.	Gold	Width	No.	Gold	Width
	ounces	inches		ounces	inches
L1	0.13	18	L9	8.48	8
L2	2.08	8	B5	4.08	8
L3	2.09	12	M5	1.88	16
L4	24.00	60	B6	3.24	8
L5	1.24	36	B7	.60	8
M1	.05	44	L10	1.36	8
L6	.76	24	M6	.01	30
B1	.375	12	L11	.16	12
M2	.03	18	B8	.02	20
M3	.005	68	B9	.05	24
B2	.54	12	B10	.05	60
B3	.01	180	L12	.41	20
M4	1.92	24	L13	.20	20
L7	.69	.....	L14	.40	24
B4	.025	12	L15	3.81	36
L8	1.16	10			

[1]H. C. Horwood, "Preliminary Report on Recent Developments in the Missinaibi Area," Ont. Dept. Mines, September, 1943.

The sheared andesite in the vicinity of the quartz lenses weathers a rusty colour and appears to be somewhat carbonatized. Sample No. M5, which was also cut across sheared and altered wall rock, yielded 1.88 ounces over 16 inches. This sample, however, is believed to contain some quartz. Inclusions of highly altered country rock in the large stripping at station 1+50 contain a little brown-weathering carbonate.

Gold appears to be quite erratically distributed in the lenses and veins, as assays varied from 0.01 ounces to as high as 24.00 ounces. The high assay, however, was from a sample that contained visible gold. Any accurate estimate of grade as well as data on lengths and widths of the lenses and veins must await further development work.

The accompanying geological plan [Fig. 3] was prepared by the writer on September 13. On it are marked the numbers of the assays listed above [page 19]. These assays were cut by E. and R. Lundmark, N. S. Beaton, and Scotty McLeod and were furnished to the writer for this report by V. H. Emery and Karl J. Springer.

Bankfield Consolidated Mines, Limited

The following information on the Eastern and Emily Bay groups of Bankfield Consolidated Mines is taken from Horwood's report[1] on an examination of the property made during the latter part of the summer of 1943.

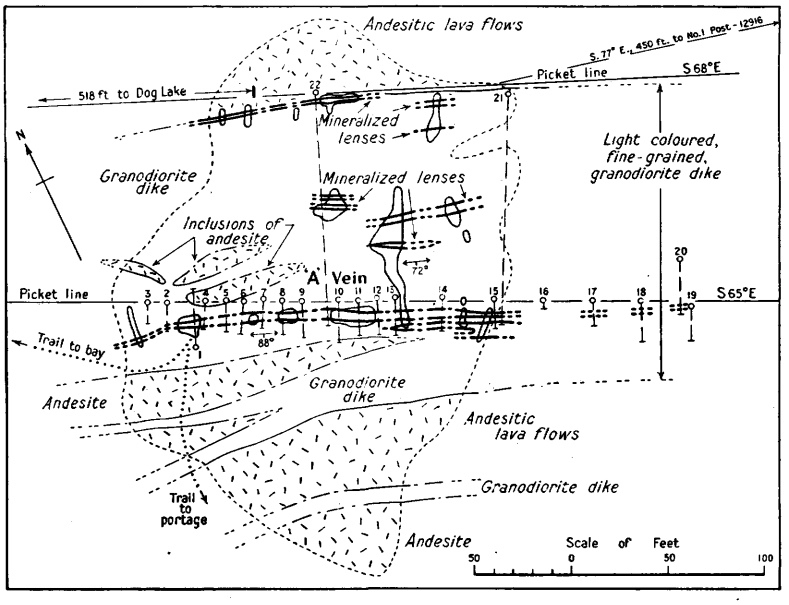


Fig. 4—Geological plan of the workings on the Eastern group of Bankfield Consolidated Mines. (From preliminary report by H. C. Horwood, 1943.)

Eastern Group

Bankfield Consolidated Mines, Limited, control a group of 15 claims[2] in the east central part of township 47 and 2 adjoining claims in township 46. Mineralized shear zones in a large, fine-grained, light-coloured, granodioritic dike have been exposed and tested in a series of shallow diamond-drill holes in the northeast corner of claim S.S.M. 12,916. The group comprises claims S.S.M. 12,915 to 12,918, 12,955 to 12,959, and 12,989 to 12,996.[3] The discovery was made by H. Charlebois, who is on the prospecting staff of the company. The writer made a detailed examination of the showings on September 14, 1943 [see Fig. 4].

The granodiorite dike containing the mineralized zones has a strike of about S. 70° E. and a width of from 125 to 155 feet. It is intrusive into the common andesitic lava flows of probable Keewatin age, which are widespread in the area. The dike itself is quite unusual in that it is made up of two ages of intrusive rock. The earlier type is quite fine grained and in places has

[1] H. C. Horwood, op. cit.

[2] The claims as originally staked numbered 15, but as some of these were much more than 40 acres in area, they were later subdivided to make the total number 25.

[3] The following claims should be added to those given: 12,916A, 12,916B, 12,917A, 12,918A, 12,918B, 12,958A, 12,989A, 12,989B, 12,989C, 12,993A.

been sheared to give the appearance of an acid tuff. The later type, which occurs as small lenses and dikes intruding the earlier type, is massive and has a medium-grained texture. In places it has been fractured and veined by small quartz stringers. These two ages of dike rock were not mapped in detail as a light mantle of moss and soil covers most of the outcrop.

Sheared zones occur at intervals across the dike. The best mineralized one occurs close to the south side. It strikes S. 65° E., practically parallel to the south side of the dike, and has a dip of 85° to 90° S. A series of strippings and 22 diamond-drill holes totalling 750 feet have proved that the zone has a maximum width of about 5 feet and is at least 285 feet long. At the west end it pinches to 12 inches in the last trench. Its continuation to the east beyond drill-hole No. 20 has not been traced. The management reports vein material 700 feet to the east along the strike. The following statement prepared by C. D. H. MacAlpine for the writer affords the most recent data on this mineralization:—

"At the annual meeting of the company it was stated that to the east of No. 2 lens the vein enters a gulley and that about 700 feet to the east of the most easterly drill-hole there is another ridge, on which a showing had then been recently found and which panned gold. This new showing is directly on the strike of the vein and that it was believed to represent an extension. On account of general restrictions, no further work has been done on the property, but this new showing has now been sampled and it assays 3.15 ounces across 14 inches."

The mineralized zone contains veins and lenses of sugary quartz as much as 24 inches in width. Between the lenses there is sheared and mineralized dike rock. The zone weathers quite rusty as it contains irregular seams and stringers of finely crystalline pyrite. Some sphalerite also occurs in places. This mineral was noted by J. W. MacKenzie in drill-core intersections from which good assays were obtained. Visible gold was seen in one place.

The diamond-drilling was done largely to provide samples for assay. These assays varied from nil to as high as 2.72 ounces of gold. Data on the drill intersections was kindly supplied by J. W. MacKenzie and are listed below:—

No. of drill-hole	Width	Gold	No. of drill-hole	Width	Gold
	inches	ounces		inches	ounces
3	Too short to intersect vein		12	37	0.02
2	12	1.40	13	30	.156
1	24	.48	14	40	.22
4	22	.36	15	21	.45
5	19	.71	16	Abandoned	
6	16	.06	17	12	.40
7	12	2.72	18	19	.44
8	37	.125	19	No intersection	
9	86	.025	20	vein	nil
10	30	.107	21	vein	nil
11	55	.07	22	45	.80

Other sheared and mineralized zones outlined on the accompanying plan [Fig. 4] are narrow and discontinuous. A sheared zone approximately 500 feet to the north has been opened up in several trenches and is reported to pan gold.

The writer is indebted to C. D. H. MacAlpine, J. W. MacKenzie, and H. Charlebois for information on the location of the showings and for all data on diamond-drill results.

During the summer overburden was stripped from considerable areas on these claims where the cover was thin, but no new veins of any importance were found.

Emily Bay Group

Two discoveries of mineralization were made by H. Charlebois on the northwest side of Emily bay during the summer and a group of 6 claims has been staked. This group comprises claims S.S.M. 13,279 to 13,284.

In the southwest corner of claim No. 13,279 a small quartz vein between 9 and 10 inches in width has been opened up in one trench. The vein strikes S. 40° E., dips 80° S., and appears to be located along the contact of an 18-foot basic dike and an andesite formation. A specimen submitted for assay by H. Charlebois is reported to have assayed 4.85 ounces. Three pieces of quartz, which are believed to be representative, were taken by the writer. They assayed 0.94 ounces of gold.

As the vein is only exposed in one trench for a distance of 6 feet, it was impossible to secure any data on its length. The fact that it appears to occur along the contact of a basic dike is most interesting from a geological and prospecting point of view, as the dike in question bears striking similarities to the Keweenawan diabase dikes so common in the region. If the dike is Keweenawan, a point that may be proved when more work has been done, then there has been post-Keweenawan mineralization.

To the west of the 10-inch vein in the central southeastern part of claim No. 13,280 a trench and a small pit have exposed irregular lenses of white quartz and rusty-weathering carbonate in a sheared zone in andesite. The pit is 80 feet to the northeast of the trench. An outcrop 105 feet southwest has small quartz stringers up to 2 inches wide in an outcrop of andesite. In the trench, which is 12 feet long, there are irregular lenses of quartz and sheared and altered andesite across the 12 feet. The quartz is fractured and veined with streaks of fine-grained tourmaline. Later fractures contain small stringers of quartz about 0.05 inches wide. Some pyrite occurs, and gold is reported to have been recovered by panning. A specimen of quartz secured by the writer assayed 0.07 ounces of gold per ton. Data on widths, continuity, and grade, which will determine the importance of the showing, must await stripping and trenching operations.

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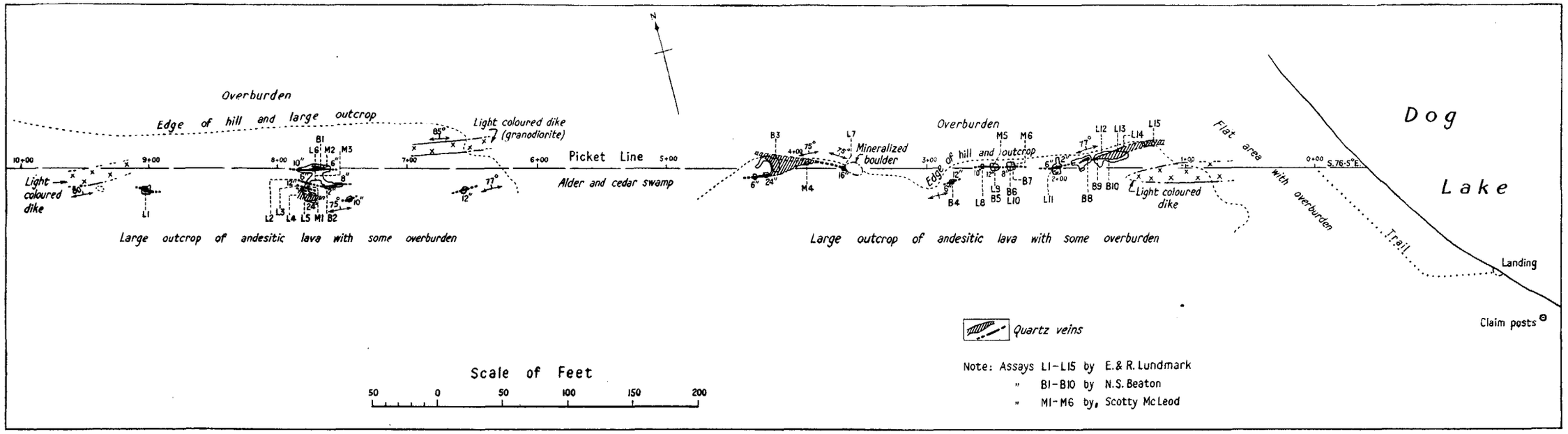

FIG. 3—PLAN OF THE CAMEX WORKINGS.
(From preliminary report by H. C. Horwood, 1943.)

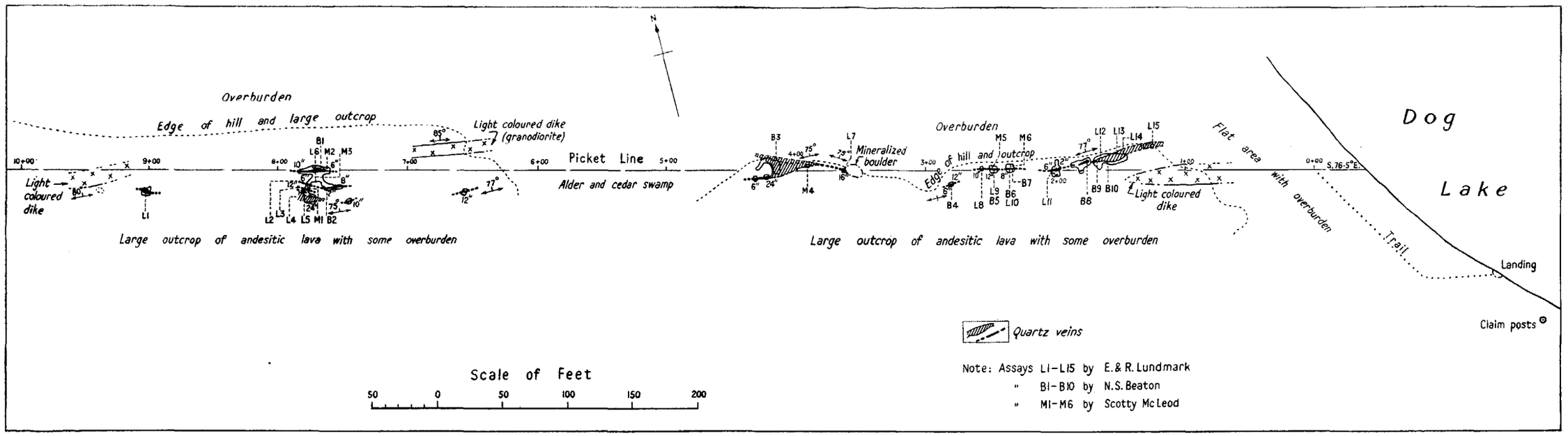

FIG. 3—PLAN OF THE CAMEX WORKINGS.
(From preliminary report by H. C. Horwood, 1943.)

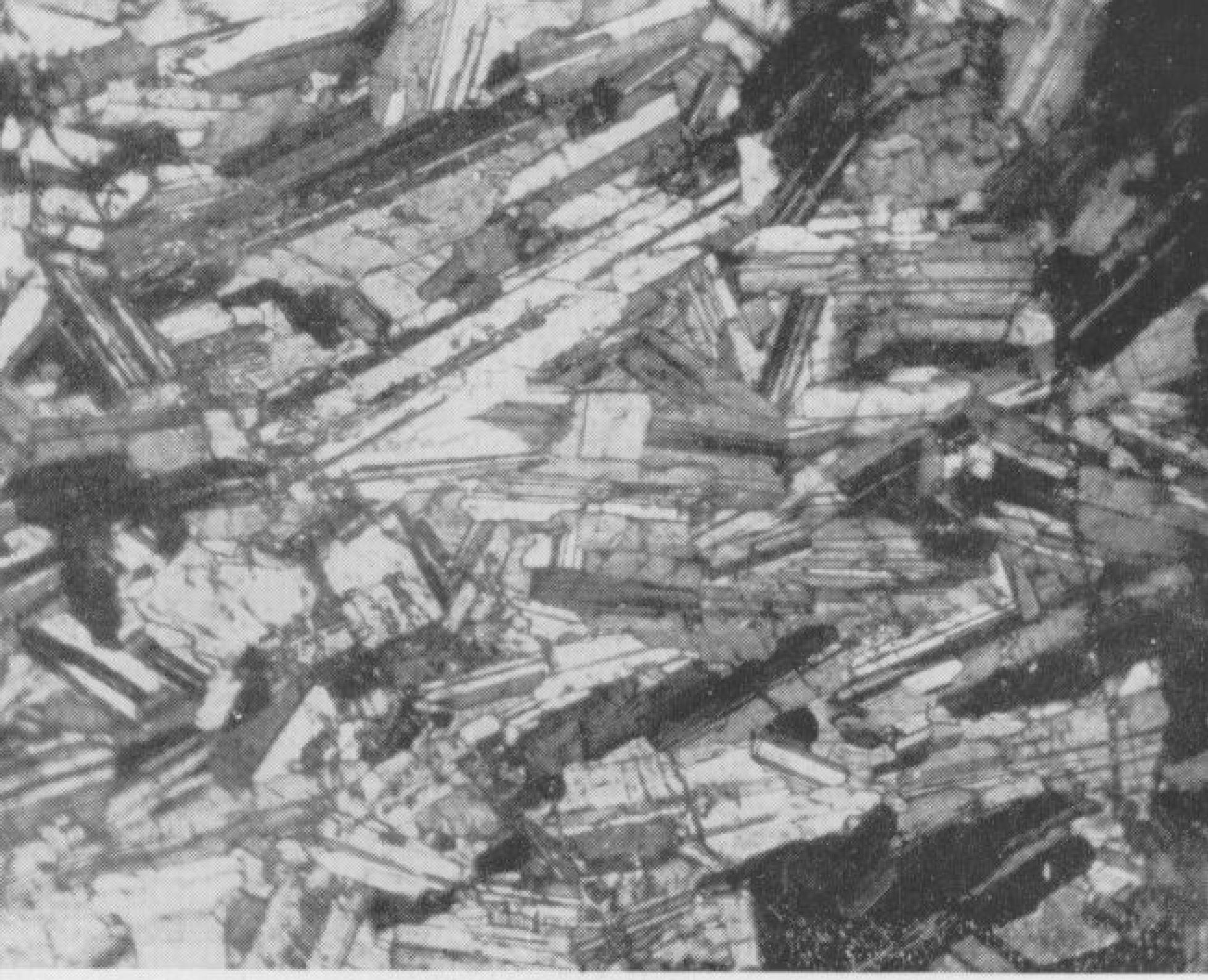

Table I

LARDER LAKE GOLD AREA

ANNUAL PRODUCTION STATISTICS BY MINES, 1911–1944

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

Year	Omega[1]		Argonaut[2]		Kerr-Addison		Barry-Hollinger		Raven River		Chesterville		Yama		Miscellaneous		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1918		[3]10,000	[4]480	9,209	[5]125	314									[6]100	1,100	705	20,623
1918							[7]1,502	10,051								[8]1,283	1,502	11,334
1919			735	2,631													735	2,631
1920			4,637	29,888													4,637	29,888
1921				549														549
1922																		
1923			4,818	73,262													4,818	73,262
1924			24,178	152,072													24,178	152,072
1925			28,515	214,183			8,136	56,978									36,651	271,161
1926			35,081	143,387			13,680	86,263									48,761	229,650
1927	11,966	34,595	27,873	127,448			25,714	175,692							[9]39	865	65,592	338,600
1928	10,619	17,700	5,219	32,430			23,060	111,767							[8]4,377	12,784	43,275	174,681
1929				9,959			22,343	151,758									22,343	161,717
1930			13	1,891			31,725	217,835									31,738	219,726
1931							31,958	234,512							[10]80	835	32,038	235,347
1932							34,977	181,585							[10]24	468	35,001	182,053
1933							5,459	71,766									5,459	71,766
1934			12	1,872			33,445	152,076									33,457	153,948
1935			24	978			35,172	143,698							[8]31	3,590	35,227	148,266
1936	113,897	461,934					570	8,311							[8]5	262	114,472	470,507
1937	160,272	740,555							2,425	12,731					[11]43	740	162,740	754,026
1938	176,852	865,968			148,642	980,713			23,964	200,302							349,458	2,064,938
1939	176,796	881,064			268,409	1,983,783			14,125	53,408	97,060	493,559					556,390	3,411,814
1940	172,595	878,208			445,864	3,554,460					220,816	1,282,840				[10]619	839,275	5,706,127
1941	173,688	873,721		3,521	694,894	5,626,389					252,056	1,403,441	3,583	22,636			1,124,221	7,929,708
1942	149,274	805,805		4,198	756,453	6,232,794					241,815	1,155,167	18,667	79,152			1,166,209	8,277,116
1943	109,846	595,417		433	674,487	5,015,128					196,687	896,148		14,655			981,020	6,521,781
1944	115,675	598,564		169	484,583	3,109,606		6,181			152,696	716,174		711			752,954	4,431,405
Total	1,371,480	6,763,531	131,585	808,080	3,473,457	26,493,187	267,741	1,608,473	40,514	266,441	1,161,130	5,947,329	22,250	117,154	4,699	22,546	6,472,856	42,026,741

[1]Canadian Associated Goldfields (production of which is shown in the figures for 1927 and 1928) went into bankruptcy in 1928 and the property was acquired by Proprietary Mines, Limited, in 1930. In 1934, Canadian Reserve Mines, Limited, acquired the 3 Costello claims and the Raven Falls power plant from Proprietary and transferred them to Omega Gold Mines, Limited.

[2]Acquired by Beaverhouse Lake Gold Mines, Limited, in 1935.

[3]Production for 1913 by Associated Goldfields, which was acquired by Canadian Associated Goldfields in 1921.

[4]Production for 1913 and 1914 from La Mine D'Or Huronia, which has been known as the Argonaut since 1919. The values shown are exclusive of copper.

[5]Reddick mine, which was bought by Associated Goldfields in 1914 and acquired from Proprietary Mines, Ltd., by Kerr-Addison Gold Mines, Limited, in 1936.

[6]American Eagle. 50 tons, $900; Detroit Syndicate. 50 tons, $200.

[7]Patricia mine, afterwards called Barry-Hollinger. [8]Miller Independence. [9]Gold Hill. [10]Telluride.

[11]Britcana, 21 tons, $702; Telluride (which was acquired on a 99-year lease by Minaura Mines, Limited, from Smelters Corporation of Canada, Limited, in November, 1935), 22 tons. $38.

Table II

KIRKLAND LAKE GOLD BELT

ANNUAL PRODUCTION STATISTICS BY MINES, 1910–1944

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

Year	Toburn (Tough-Oakes Burnside[1])		Golden Gate (Lucky Cross[2])		Wright-Hargreaves		Teck-Hughes		Lake Shore		Kirkland Lake Gold		Sylvanite		Macassa		Bidgood		Morris Kirkland		Upper Canada		Miscellaneous[3]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
1910																							30	286	30	286
1911																							675	4,650	675	4,650
1912																										
1913	2,220	66,632	2,500	14,006	3	1,127																	1,660	7,171	6,383	88,936
1914	3,734	117,644																							3,734	117,644
1915	26,196	555,539																							26,196	555,539
1916	39,865	711,626					11,257	66,722																	39,865	711,626
1917	38,695	342,830					14,774	80,570	16,749	416,414															49,952	409,552
1918	22,000	139,683					18,387	169,590	11,081	263,354	11,324	56,263											3	1,113	53,526	637,780
1919							30,646	277,878	19,779	545,311	40,812	322,533													40,792	489,207
1920							34,693	359,844	21,817	540,450	43,966	268,566													91,237	1,145,722
1921					36,053	481,892	41,194	604,006	24,279	476,461	37,489	226,527													136,529	1,650,752
1922	16,108	107,617			66,181	767,445	38,314	1,137,523	23,203	557,186	45,449	223,990											6,496	10,082	191,747	2,192,138
1923	1,803	12,174			79,242	762,761	44,209	1,035,338	56,168	1,104,550	8,091	46,513													188,011	2,693,634
1924	8,438	47,548			84,487	1094,462	55,220	996,645	109,273	1,958,720															201,393	3,328,411
1925	34,152	263,064			147,939	1913,468	87,074	1,600,613	171,197	2,775,000	10,829	126,999												1,526	346,584	5,133,423
1926	43,871	309,709			153,392	2150,844	153,881	2,781,962	236,818	3,375,053	52,648	473,673	40,479	429,424											466,363	6,963,165
1927	38,999	153,215			209,164	2151,916	153,881	2,781,962	236,818	3,375,053	52,648	473,673	40,479	429,424											731,989	9,365,243
1928	14,396	82,316			256,331	1838,510	317,213	4,951,707	279,661	4,073,965	57,883	414,596	69,791	738,146										32,805	995,275	12,132,045
1929					188,238	1734,728	330,340	5,081,078	430,170	6,126,688	53,595	353,915	74,523	689,465									11	12,328	1,076,877	13,998,202
1930					220,430	2432,888	338,555	5,403,030	550,501	7,847,508	52,106	534,154	81,213	794,459											1,242,805	17,012,039
1931					266,352	3078,754	444,410	6,286,668	816,580	11,650,281	52,628	615,882	91,621	921,216									1	1,662	1,671,592	22,554,463
1932	14,689	227,956			295,525	3984,125	475,700	6,631,755	818,698	14,317,113	56,492	592,451	96,891	930,305											1,757,995	26,683,705
1933	36,913	666,894	35	865	285,465	4955,960	474,700	6,166,619	808,917	14,377,716	49,487	400,622	96,937	1,072,977	8,101	110,172								5,546	1,760,555	27,757,371
1934	36,230	708,119			354,418	7572,292	442,745	5,801,691	836,023	16,305,819	64,952	703,300	111,767	1,740,384	66,557	1,111,098	2,433	6,804					8,476	100,221	1,923,601	34,049,728
1935	35,360	714,261	1	10	361,149	7528,563	417,917	4,901,862	836,322	16,259,720	71,920	777,430	152,281	1,917,606	68,627	1,067,196	11,148	43,870					7,912	79,498	1,962,637	33,290,016
1936	34,440	723,295	25	1,499	400,310	7588,550	403,712	4,747,833	887,571	15,882,078	84,679	746,189	162,185	2,099,128	70,878	1,260,414	26,518	362,318	3,130	18,044			749	3,112	2,074,197	33,432,460
1937	37,465	920,351	225	5,144	436,500	7855,856	412,430	4,381,676	900,321	15,546,656	84,886	1,249,724	174,566	2,222,815	90,617	1,464,561	44,732	431,847	35,970	202,687			90	20,747	2,217,802	34,302,064
1938	52,434	1,112,385	11,090	167,759	434,650	7800,875	380,215	3,625,284	921,837	15,149,635	92,665	1,483,769	190,714	2,419,734	110,718	1,769,951	52,636	617,581	22,929	113,770	6,270	53,547	1,263	7,506	2,277,421	34,321,796
1939	55,272	1,225,340	23,753	267,335	438,710	8219,961	379,175	3,444,668	856,586	13,318,622	99,401	1,729,237	201,331	2,486,848	148,085	2,317,985	53,191	483,520			47,014	685,755			2,302,518	34,179,271
1940	59,524	1,296,428	25,481	261,861	442,920	8688,806	317,560	3,577,194	647,426	10,930,962	137,986	2,051,790	212,519	2,658,723	150,674	2,680,188	50,437	404,546	39,579	164,995	66,656	1,079,453		619	2,150,762	33,795,565
1941	60,715	1,095,779	23,781	214,347	411,760	8061,343	258,100	2,534,139	530,368	7,925,692	136,613	1,879,727	197,293	2,589,635	142,332	2,521,389	40,460	467,890	25,645	121,601	73,414	1,259,730		18,926	1,900,481	28,690,198
1942	43,635	730,350	8,324	73,489	283,580	5669,063	93,335	1,365,513	347,951	5,560,188	100,854	1,458,823	175,745	2,021,506	120,400	2,144,501	47,960	507,219		447	86,523	1,359,021		5,730	1,308,307	20,895,850
1943	40,905	609,517		1,859	225,710	4372,734	100,705	1,251,047	293,398	5,166,738	83,987	1,189,478	148,190	2,025,005	103,259	1,652,643	49,835	556,537			68,829	1,154,438		3,460	1,114,818	17,983,456
1944	39,940	493,270		481	184,520	3494,958	102,920	989,004	258,544	4,223,731	77,457	1,053,156	137,822	1,722,722	83,392	1,398,011	48,594	347,105			78,036	1,062,214		1,812	1,011,225	14,786,464
Total	837,999	13,433,542	95,215	1,008,655	6,263,029	104201,881	6,219,381	80,251,459	11,711,238	196,675,611	1,608,199	18,979,307	2,415,868	29,480,098	1,163,640	19,498,109	427,944	4,229,237	127,253	621,544	426,742	6,654,158	27,366	318,810	31,323,874	475,352,401

[1] Acquired by Toburn Gold Mines, Limited, in 1931.
[2] Acquired by Golden Gate Mining Company, Limited, from Kirkland Gateway Gold Mines, Limited.
[3] See table of "Miscellaneous Production" to the right.

MISCELLANEOUS PRODUCTION, KIRKLAND LAKE GOLD BELT

Mine	Year	Quantity	Value
		tons	$
Fleming, P.M.	1940		619
Gold Pyramid	1911	175	650
Golden Summit	1936, 1937	737	1,688
Baldwin Kirkland	1929, 1938	81	1,247
Mesabi (Bourkes)	1918, 1936-1938	1,298	8,935
Moffatt-Hall	1934, 1935	16,388	166,569
Ontario-Kirkland	1922	6,496	10,082
Swastika	1910, 1911, 1913	2,190	11,457
Trout Creek	1931	1	1,662
Miscellaneous	1925, 1928, 1929, 1933, 1934, 1937, 1938, 1941-1944		115,891
Total		27,366	318,810

Table III

PORCUPINE GOLD BELT

ANNUAL PRODUCTION STATISTICS BY MINES, 1910–1944

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

Year	Hollinger tons	Hollinger $	Dome tons	Dome $	Vipond[1] tons	Vipond[1] $	McIntyre-Porcupine tons	McIntyre-Porcupine $
1910	...	31,194	...	4,355	...	...	...	...
1911	...	6,000	...	4,277	432	5,160	...	...
1912	45,195	909,181	75,088	737,499	5,168	16,259	14,500	77,657
1913	138,291	2,488,022	131,149	1,242,625	...	...	29,669	236,299
1914	208,936	2,719,355	221,390	1,059,238	9,700	73,628	62,284	549,166
1915	334,750	4,206,015	317,740	1,530,287	35,899	246,053	101,955	750,812
1916	601,854	5,073,401	440,900	2,153,820	43,041	176,686	136,489	1,218,073
1917	514,301	4,261,938	359,570	1,480,174	34,971	209,738	175,893	1,710,204
1918	578,755	5,752,371	...	82,127	15,134	82,868	176,976	1,578,444
1919	711,882	6,722,266	187,580	1,290,301	...	...	185,018	1,978,014
1920	650,205	6,939,629	295,220	2,243,926	...	...	191,032	2,515,861
1921	1,072,493	10,015,712	335,680	2,386,357	...	...	172,287	2,005,443
1922	1,491,381	12,436,393	368,400	4,178,936	...	...	217,208	2,042,931
1923	1,366,352	10,622,262	399,800	4,405,199	2,623	24,532	291,428	2,583,336
1924	1,659,776	13,574,776	493,400	4,307,624	52,427	603,234	390,459	3,625,493
1925	1,929,528	15,746,668	530,200	4,365,923	61,203	565,213	419,640	3,721,499
1926	1,932,559	14,829,655	555,700	3,940,053	79,717	631,636	498,653	3,862,074
1927	2,178,329	14,539,538	543,300	4,031,575	90,863	667,724	522,880	3,965,210
1928	1,778,470	10,706,235	548,000	3,915,051	88,896	694,426	524,695	4,201,808
1929	1,549,157	9,519,092	452,900	3,590,537	107,984	824,726	550,100	4,314,803
1930	1,625,868	10,276,546	67,600	774,943	114,667	910,581	565,510	4,700,726
1931	1,640,705	10,532,380	542,600	3,636,806	100,223	586,304	617,425	4,962,211
1932	1,754,863	11,685,512	536,450	4,581,131	107,197	513,504	723,285	6,155,757
1933	1,727,102	13,831,174	546,500	6,103,340	107,562	700,354	754,360	7,589,845
1934	1,900,490	15,108,883	547,600	7,177,087	101,806	539,243	851,345	8,289,262
1935	1,837,153	14,700,511	549,100	7,286,606	106,393	418,962	869,100	8,653,496
1936	1,755,768	14,530,414	553,900	7,315,168	105,487	463,391	869,000	8,105,612
1937	1,719,199	14,877,898	576,300	7,485,321	94,240	406,668	870,160	8,176,793
1938	1,734,647	15,496,804	601,700	7,293,289	62,070	229,272	872,740	8,288,669
1939	1,700,355	15,484,394	615,000	7,462,379	37,515	187,218	877,830	8,406,958
1940	1,780,377	16,844,035	621,600	7,934,391	...	...	885,930	9,561,581
1941	1,756,923	16,416,119	627,700	7,769,368	...	50,068	865,670	9,187,814
1942	1,530,712	14,296,498	559,700	6,579,536	...	...	798,260	8,642,322
1943	1,078,946	10,897,411	525,900	5,772,521	...	...	668,700	7,439,863
1944	955,447	8,735,306	519,800	5,177,495	...	...	589,940	6,588,753
Total	43,240,769	354,813,588	14,247,467	139,299,265	1,565,218	9,827,448	16,340,421	155,686,789

Year	Porcupine Crown (Northcrown[2]) tons	Porcupine Crown (Northcrown[2]) $	Coniaurum (Newray[3]) tons	Coniaurum (Newray[3]) $	Dome Lake and West Dome Lake[4] tons	Dome Lake and West Dome Lake[4] $	Munro Croesus tons	Munro Croesus $	Schumacher[5] tons	Schumacher[5] $	Paymaster[6] tons	Paymaster[6] $
1910	...	...	...	...	...	...	...	...	...	...	...	...
1911	...	...	...	...	...	...	...	...	...	...	...	...
1912	...	...	...	...	...	...	...	...	...	...	...	...
1913	19,715	326,803	2,456	18,858	...	...	...	...	...	...	...	...
1914	40,857	685,135	11,607	125,255	...	...	...	...	...	...	...	...
1915	46,419	602,436	...	36,925	11,727	102,880	100	73,215	9,240	48,236	...	...
1916	51,273	578,322	...	...	6,542	16,814	477	51,722	46,463	225,301	...	...
1917	39,111	377,904	340	1,447	16,388	44,434	1,541	60,046	37,323	198,605	...	...
1918	10,907	124,474	401	1,516	12,229	103,745	692	64,780	19,098	92,842	...	...
1919	...	...	...	...	4,433	23,910	...	...	...	...	...	...
1920	17,898	190,713	...	...	4,707	52,531	...	...	...	...	...	...
1921	...	7,943	...	...	...	...	...	...	...	...	...	...
1922	...	...	...	...	...	...	...	...	...	...	...	2,800
1923	...	...	...	...	...	...	518	27,375	...	...	...	...
1924	...	...	...	...	8,114	60,765	...	...	...	...	...	...
1925	...	...	...	...	35,278	235,091	...	...	...	...	...	...
1926	...	...	...	...	36,946	220,758	...	...	...	...	28,049	63,551
1927	...	...	...	...	16,982	87,919	...	...	...	...	62,129	135,025
1928	...	...	52,005	220,534	...	...	...	...	...	...	94,050	183,271
1929	...	...	103,293	635,485	35,142	155,797	...	...	...	...	...	...
1930	...	...	122,972	738,941	...	15,662	...	...	...	...	...	...
1931	...	...	130,585	783,096	...	...	550	4,171	...	...	...	...
1932	...	...	144,654	977,007	...	...	...	6,520	...	...	...	...
1933	...	...	145,657	945,765	...	...	...	...	...	...	...	...
1934	...	...	138,114	979,156	...	...	205	10,467	...	...	...	...
1935	...	...	151,055	1,134,596	...	...	1,237	25,513	...	...	...	...
1936	...	...	168,715	1,390,261	...	...	13	2,904	...	...	...	...
1937	...	...	166,980	1,462,212	...	...	...	...	...	...	...	...
1938	...	...	188,975	1,675,230	...	...	...	...	...	...	...	...
1939	...	...	187,405	1,753,902	...	...	...	...	...	...	...	...
1940	...	...	185,455	1,870,570	...	...	...	...	...	...	...	...
1941	...	...	186,885	1,873,891	...	...	...	...	...	...	...	...
1942	...	...	162,390	1,664,496	...	...	...	...	...	...	...	...
1943	...	...	111,455	1,189,629	...	...	...	...	...	...	...	...
1944	...	...	98,540	1,037,676	...	...	...	...	...	...	...	...
Total	226,180	2,893,730	2,459,939	20,516,448	188,488	1,120,306	5,333	326,713	112,124	564,984	184,228	384,647

Year	Porcupine Peninsular (Night Hawk Peninsular[7]) tons	Porcupine Peninsular (Night Hawk Peninsular[7]) $	Buffalo Ankerite[8] tons	Buffalo Ankerite[8] $	Marbuan (March[9]) tons	Marbuan (March[9]) $	De Santis tons	De Santis $	Gillies Lake–Porcupine (Rochester[10]) tons	Gillies Lake–Porcupine (Rochester[10]) $	Naybob (Hayden[11]) tons	Naybob (Hayden[11]) $
1910	...	...	...	...	...	...	...	...	...	...	...	...
1911	...	...	...	...	...	...	...	...	...	...	...	...
1912	...	...	...	...	...	...	...	...	...	...	...	...
1913	...	...	...	...	...	...	...	...	...	...	...	...
1914	...	...	...	...	...	...	...	...	...	...	...	...
1915	...	...	...	...	...	...	...	...	...	...	...	...
1916	...	...	...	...	...	...	...	...	...	...	...	...
1917	...	...	...	...	...	...	...	...	...	...	...	...
1918	...	...	...	...	...	...	...	...	...	...	...	...
1919	...	...	...	...	...	...	...	...	...	...	...	...
1920	...	...	...	...	...	...	...	...	...	...	...	...
1921	...	...	...	...	...	...	...	...	...	...	...	...
1922	...	...	...	...	...	...	...	...	...	...	...	...
1923	...	...	...	...	...	...	...	...	...	...	...	...
1924	38,326	268,518	...	...	...	...	...	...	...	...	...	...
1925	39,758	196,947	...	...	...	...	...	...	...	...	...	...
1926	21,604	111,154	23,060	140,588	4,655	11,055	...	146	...	...	...	...
1927	...	166	69,863	359,005	4,566	19,839	...	...	...	...	...	...
1928	...	...	66,606	289,960	32,627	133,879	...	...	...	...	...	...
1929	...	...	12,912	71,684	48,484	256,303	...	...	4,848	44,285	...	...
1930	...	...	...	878	53,953	306,262	...	...	7,815	56,913	...	...
1931	...	...	...	...	58,462	228,507	...	...	1,396	5,439	...	...
1932	...	...	55,267	247,536	26,812	89,566	...	...	...	...	2,580	1,497
1933	...	...	111,402	650,591	2,800	5,288	5,630	18,386	...	...	1,593	3,188
1934	...	...	131,720	712,898	26,030	113,422	...	...	...	...	...	...
1935	...	...	159,383	1,035,987	59,380	290,542	...	...	5,122	56,933	10,681	23,666
1936	...	...	271,736	1,888,829	...	...	...	...	18,410	166,531	...	...
1937	...	...	343,093	2,832,513	...	...	...	...	16,911	132,381	...	16,615
1938	...	...	362,838	2,971,464	...	...	...	...	...	...	10,339	41,584
1939	...	...	360,014	2,625,952	...	...	35,539	247,888	...	...	44,271	266,356
1940	...	3,577	378,337	2,508,556	...	...	56,444	433,341	...	...	53,524	560,351
1941	...	...	448,621	2,760,980	...	...	60,405	410,605	...	...	53,807	531,152
1942	...	...	358,419	2,444,285	...	...	38,910	256,341	...	...	58,870	345,891
1943	...	...	260,271	1,894,052	...	...	...	...	...	...	...	33,938
1944	...	100	235,442	1,582,581	...	...	...	...	...	...	...	...
Total	99,688	580,462	3,648,984	25,018,339	317,769	1,454,663	196,928	1,366,707	54,502	462,482	235,665	1,824,238

Year	Paymaster Consolidated[12] tons	Paymaster Consolidated[12] $	Pamour tons	Pamour $	Ross[13] tons	Ross[13] $	Delnite tons	Delnite $	Hallnor tons	Hallnor $	Moneta tons	Moneta $
1910	...	...	...	...	...	...	...	...	...	...	...	...
1911	...	...	...	...	...	...	...	...	...	...	...	...
1912	...	...	...	...	...	...	...	...	...	...	...	...
1913	...	...	...	...	...	...	...	...	...	...	...	...
1914	...	...	...	...	...	...	...	...	...	...	...	...
1915	...	...	...	...	...	...	...	...	...	...	...	...
1916	...	...	...	...	...	...	...	...	...	...	...	...
1917	...	...	...	...	...	...	...	...	...	...	...	...
1918	...	...	...	...	...	...	...	...	...	...	...	...
1919	...	...	...	...	...	...	...	...	...	...	...	...
1920	...	...	...	...	...	...	...	...	...	...	...	...
1921	...	...	...	...	...	...	...	...	...	...	...	...
1922	...	...	...	...	...	...	...	...	...	...	...	...
1923	...	...	...	...	...	...	...	...	...	...	...	...
1924	...	...	...	...	...	...	...	...	...	...	...	...
1925	...	...	...	...	...	...	...	...	...	...	...	...
1926	...	...	...	...	...	...	...	...	...	...	...	...
1927	...	...	...	...	...	...	...	...	...	...	...	...
1928	...	...	...	...	...	...	...	...	...	...	...	...
1929	...	...	...	...	...	...	...	...	...	...	...	...
1930	...	...	...	...	...	...	...	...	...	...	...	...
1931	...	...	...	...	...	...	...	...	...	...	...	...
1932	...	...	...	...	...	...	...	...	...	...	...	...
1933	...	...	...	...	...	...	...	...	...	...	...	...
1934	13,824	69,522	...	...	...	...	...	...	...	...	...	...
1935	79,845	567,076	...	...	...	...	...	...	...	...	...	...
1936	140,962	976,605	138,187	809,933	27,540	225,775	...	...	...	...	...	...
1937	169,658	1,266,639	276,168	2,044,049	31,336	351,746	38,750	228,437	...	...	...	...
1938	190,107	1,402,304	515,193	3,313,830	44,399	467,767	85,816	662,870	60,979	1,373,141	54,577	1,016,153
1939	201,775	1,545,431	585,399	2,561,086	55,727	521,201	111,395	825,045	122,868	2,600,181	63,206	1,076,340
1940	207,168	1,742,283	575,728	2,729,365	94,522	836,412	127,741	853,551	140,529	2,649,275	64,439	1,141,751
1941	215,113	1,811,579	559,528	2,577,574	100,787	949,733	166,596	1,183,053	132,267	2,527,328	61,416	1,169,846
1942	207,566	1,707,484	574,653	2,342,426	101,409	816,683	172,727	1,220,663	128,973	2,308,711	57,103	956,746
1943	138,531	1,139,290	525,557	2,084,530	85,221	581,837	125,887	819,672	105,544	1,460,953	14,088	228,520
1944	132,063	1,110,414	470,532	1,615,502	77,544	552,855	93,112	570,247	102,742	1,585,267	...	...
Total	1,696,612	13,338,627	4,220,945	20,078,295	618,485	5,304,009	922,024	6,363,538	793,902	14,504,856	314,829	5,589,356

Year	Preston East Dome tons	Preston East Dome $	Broulan tons	Broulan $	Aunor tons	Aunor $	Faymar tons	Faymar $	Nakhodas tons	Nakhodas $	Bonetal tons	Bonetal $
1910	...	...	...	...	...	...	...	...	...	...	...	...
1911	...	...	...	...	...	...	...	...	...	...	...	...
1912	...	...	...	...	...	...	...	...	...	...	...	...
1913	...	...	...	...	...	...	...	...	...	...	...	...
1914	...	...	...	...	...	...	...	...	...	...	...	...
1915	...	...	...	...	...	...	...	...	...	...	...	...
1916	...	...	...	...	...	...	...	...	...	...	...	...
1917	...	...	...	...	...	...	...	...	...	...	...	...
1918	...	...	...	...	...	...	...	...	...	...	...	...
1919	...	...	...	...	...	...	...	...	...	...	...	...
1920	...	...	...	...	...	...	...	...	...	...	...	...
1921	...	...	...	...	...	...	...	...	...	...	...	...
1922	...	...	...	...	...	...	...	...	...	...	...	...
1923	...	...	...	...	...	...	...	...	...	...	...	...
1924	...	...	...	...	...	...	...	...	...	...	...	...
1925	...	...	...	...	...	...	...	...	...	...	...	...
1926	...	...	...	...	...	...	...	...	...	...	...	...
1927	...	...	...	...	...	...	...	...	...	...	...	...
1928	...	...	...	...	...	...	...	...	...	...	...	...
1929	...	...	...	...	...	...	...	...	...	...	...	...
1930	...	...	...	...	...	...	...	...	...	...	...	...
1931	...	...	...	...	...	...	...	...	...	...	...	...
1932	...	...	...	...	...	...	...	...	...	...	...	...
1933	...	...	...	...	...	...	...	...	...	...	...	...
1934	...	...	...	...	...	...	...	...	...	...	...	...
1935	...	...	...	...	...	...	...	...	...	...	...	...
1936	...	...	...	...	...	...	...	...	...	...	...	...
1937	...	...	...	...	...	...	...	...	...	...	...	...
1938	...	138,564	...	...	...	...	...	...	...	...	...	...
1939	118,853	2,116,708	14,911	105,820	...	...	...	...	...	...	...	...
1940	175,773	2,341,387	110,637	1,190,489	127,111	1,373,285	50,666	381,944	3,968	25,091	...	...
1941	194,817	2,399,270	138,888	1,067,657	159,341	1,658,955	55,626	333,551	23,782	142,299	6,805	40,580
1942	306,687	2,791,973	137,701	1,038,593	173,369	1,848,229	12,889	137,797	16,278	83,662	40,318	234,147
1943	247,026	2,282,318	118,007	1,102,514	159,436	1,915,846	...	...	...	...	27,798	165,657
1944	249,268	2,218,751	100,481	770,810	137,321	1,932,564	...	...	...	1,740	26,081	150,778
Total	1,292,424	14,288,971	620,625	5,275,883	756,578	8,728,879	119,181	853,292	44,028	252,792	101,002	591,162

Year	Hoyle tons	Hoyle $	Miscellaneous[14] tons	Miscellaneous[14] $	Total tons	Total $
1910	...	...	...	...	...	35,549
1911	...	...	...	...	432	15,437
1912	...	...	...	...	139,951	1,740,596
1913	...	...	25	4,200	321,305	4,316,807
1914	...	...	...	20,212	554,774	5,231,989
1915	...	...	139	9,134	857,969	7,605,993
1916	...	...	...	...	1,327,039	9,494,139
1917	...	...	31	877	1,179,469	8,345,367
1918	...	...	2,562	16,214	816,754	7,899,381
1919	...	...	3,831	27,088	1,092,744	10,041,579
1920	...	...	3,003	11,247	1,162,065	11,953,907
1921	...	...	...	...	1,580,460	14,415,455
1922	...	...	...	1,664	2,076,989	18,662,724
1923	...	...	...	11,845	2,060,721	17,674,549
1924	...	...	...	5,270	2,642,502	22,445,680
1925	...	...	...	3,452	3,015,607	24,834,793
1926	...	...	...	634	3,180,943	23,811,304
1927	...	...	60	223,243	3,488,972	24,029,244
1928	...	...	255	39,740	3,185,604	20,384,904
1929	...	...	...	47,701	2,864,820	19,460,413
1930	...	...	...	61,940	2,558,385	17,843,392
1931	...	...	...	33,587	3,091,946	20,772,501
1932	...	...	155	31,944	3,351,263	24,289,974
1933	...	...	26	80,918	3,402,632	29,928,849
1934	...	...	580	2,830	3,711,714	33,002,770
1935	...	...	830	9,062	3,829,279	34,202,950
1936	...	...	68	45,522	4,049,786	35,920,945
1937	...	...	252	23,888	4,303,047	39,305,160
1938	...	...	4,714	27,698	4,789,094	44,398,639
1939	...	...	1,123	4,800	5,133,186	47,791,659
1940	...	...	7,265	19,719	5,647,214	55,000,954
1941	159,470	644,765	...	...	5,974,447	55,506,187
1942	187,620	766,813	...	5,730	5,624,554	50,489,026
1943	105,606	375,101	...	3,460	4,297,973	39,387,112
1944	...	42,406	...	5,746	3,788,313	33,678,991
Total	452,696	1,829,085	24,919	779,365	95,101,953	813,918,919

[1]Acquired by Anglo-Huronian, Limited, in 1933 and by Mace Gdd Mines, Limited, in 1937, together with properties of Inspiration Gold Mines, Limited.

[2]The Porcupine Crown was acquired by Northcrown Porcupine Mines, Limited, on May 15, 1920, and by Vipond Consolidated Mines, Limited (now Mace Gold Mines, Limited), in 1926.

[3]The Rea mine (production of which is shown in the figures for 1913, 1914, and 1915) was operated by Newray Mines, Limited, in 1917 and 1918. In 1924 the Newray was taken over by Coniaurum Mines, Limited.

[4]From 1915 to 1920, the production shown was from the Dome Lake mine, except 300 tons with a value of $2,462 from the West Dome Lake in 1918. In 1922 the properties were amalgamated as Consolidated West Dome Lake Mines, Limited, and in 1930 acquired by Paymaster Consolidated Mines, Limited.

[5]Purchased by the Hollinger in 1922.

[6]Now owned by Paymaster Consolidated Mines, Limited.

[7]Acquired by Porcupine Peninsular Gold Mines, Limited, in 1933.

[8]The production shown from 1926 to 1930 is from the Ankerite mine before it was acquired by Buffalo Ankerite Gold Mines, Limited, in 1932. The Marbuan was acquired in 1936, and the figures from 1936 on include production from both mines.

[9]The March was taken over by Marbuan Gold Mines, Limited, in 1933; the Buffalo Ankerite operated the Marbuan mill in 1933, treating 2,800 tons from the dump of New York Porcupine Gold Mines, Limited. The Marbuan was taken over by Buffalo Ankerite Gold Mines, Limited, in 1936; its production since that date is shown under Buffalo Ankerite.

[10]The Rochester mine and other property was acquired from Porcupine United Gold Mines, Limited, in 1933.

[11]The Hayden mine was acquired by Naybob Gold Mines, Limited, in 1934 and by Naybob Mines, Limited, in 1943.

[12]Paymaster Consolidated Mines, Limited, incorporated in 1934, is a merger of West Dome Lake Gold Mines, Limited, and United Mineral Lands Corporation (which owned the Paymaster mine). Practically all the production from 1934 to 1937, inclusive, came from the old Dome Lake and West Dome Lake shafts.

[13]The Ross mine in Hislop township is owned by Hollinger Consolidated Gold Mines, Limited.

[14]See table of "Miscellaneous Production" to the right.

MISCELLANEOUS PRODUCTION, PORCUPINE GOLD BELT

Mine	Year	Quantity (tons)	Value ($)
Amca	1937	...	1,298
Blue Quartz (Amal. Goldfields)	1923, 1926, 1928	...	1,303
	1934	500	663
Canusa (Scottish-Ontario)	1927, 1928	315	12,688
	1933, 1935	...	2,152
Clifton Porcupine (Preston[1])	1913, 1914	...	15,212
	1922-1924	...	15,363
Concordia (Jones-Porter)	1935	230	580
Coulson (Devon)	1940	2,333	1,632
Davidson Consolidated	1918-1920	9,371	53,914
Gold Reef	1915, 1917	128	2,135
Hill Gold (Beatty tp.)	1918	25	635
J. Huddlestone and P. Clyne	1923, 1925	...	3,257
Hughes	1926	...	30
McLaren-Porcupine	[2]1933, 1934, 1935, 1937	876	6,819
Northern Turnbull	1934	30	172
Porcupine Lake	1937-1940, 1944	10,821	50,100
Porcupine Pet	1914, 1915	...	10,551
Porphyry Hill	1913, 1915	46	6,236
J. Spence (Triple Lake)	1932	155	2,738
Tommy Burns	1917	21	289
Miscellaneous[3]	1925, 1927-1938, 1942-1944	68	591,598
Total	...	24,919	779,365

[1]The Preston claim in Deloro township was acquired in 1919 by Clifton Porcupine Mines, Limited, from Preston East Dome Mines, Limited.

[2]J. M. McLaren shipped to Noranda 26 tons, $326.

[3]This is high-grading and recoveries from scrapped machinery.

Table IV

ALGOMA DISTRICT

ANNUAL PRODUCTION STATISTICS OF GOLD MINES, 1893–1944

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

Year	Darwin (Grace[1])		Algold (New Goudreau[2])		Minto, Jubilee, and Cooper[3]		Parkhill		Algoma Summit[4] (McCarthy-Webb)		Alden-Goudreau		Cline Lake		Miscellaneous[5]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1910	10,297	69,922	.....	.....	.....	.....	[6]9	347	.....	.....	.....	.....	.....	.....	2,512	8,874	12,818	79,143
1910	60	2,020	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,600	5,070	1,660	7,090
1911	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	627	.....	627
1923	.....	153	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	153
1925	.....	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41
1926	.....	.....	415	1,847	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	415	1,847
1929	.....	.....	.....	.....	.....	6,184	33	2,057	.....	.....	.....	.....	.....	.....	.....	14	33	8,255
1930	750	588	.....	.....	1,074	2,559	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,824	3,147
1931	.....	.....	.....	.....	9,448	80,269	9,082	75,543	.....	.....	.....	.....	.....	.....	.....	.....	18,530	155,812
1932	.....	.....	117	474	18,765	185,171	16,822	166,009	.....	.....	.....	.....	.....	.....	.....	.....	35,704	351,654
1933	.....	.....	.....	.....	23,671	182,376	11,565	246,580	.....	.....	.....	.....	.....	.....	60	282	35,296	429,238
1934	.....	.....	.....	.....	22,189	169,301	19,431	310,647	421	4,926	.....	.....	.....	.....	.....	.....	42,041	484,874
1935	2,103	17,750	.....	.....	34,890	196,252	20,871	338,388	205	3,008	.....	.....	.....	.....	7,946	49,027	66,015	604,425
1936	17,598	231,401	3,073	14,948	39,385	150,596	22,441	330,886	2,711	8,516	.....	.....	.....	.....	5,660	64,786	90,868	801,133
1937	14,720	214,707	11,064	41,613	15,577	35,325	25,209	200,048	44,869	68,130	.....	988	.....	.....	1,951	25,322	113,390	586,133
1938	.....	.....	8,542	24,862	7,831	74,519	315	7,149	66,670	204,875	.....	.....	32,344	259,781	.....	445	115,702	571,631
1939	.....	.....	.....	.....	11,770	55,099	.....	.....	1,751	8,009	.....	.....	86,085	812,620	11,314	29,438	110,920	905,166
1940	.....	7,614	.....	[7]832	.....	.....	.....	9,299	.....	.....	[8]1,582	26,361	81,981	594,895	.....	5,195	83,563	644,196
1941	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[8]4,109	32,034	85,313	413,831	.....	210	89,422	446,075
1942	.....	.....	.....	.....	.....	2,325	.....	1,540	.....	1,289	[8]6,006	53,885	46,119	284,584	.....	.....	52,125	343,623
1943	.....	2,175	.....	.....	.....	.....	.....	2,821	.....	.....	[8]1,782	10,932	.....	.....	.....	586	1,782	16,514
1944	.....	481	.....	.....	.....	481	.....	481	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,443
Total	45,528	546,852	23,211	84,576	184,600	1,140,457	125,778	1,691,795	116,627	298,753	13,479	124,200	331,842	2,365,711	31,043	189,876	872,108	6,442,220

[1]Acquired by Darwin Gold Mines, Limited, in 1934. Operated by the Algoma Commercial Company in 1902 and 1903, who produced 6,097 tons, $48,708; and by Le Page Gold Mining Company from 1907 to 1910, who produced 4,260 tons, $23,235.

[2]Acquired by Algold Mines, Limited, in 1934 and by Amherst Gold Mines, Limited, in 1939.

[3]Minto Gold Mines, Limited, owns three adjoining mines in Algoma district. Production shown from 1930 to 1933 was from the Minto; in 1934, 11,946 tons came from the Jubilee; from 1935 to 1937 the whole production was from the Jubilee; in 1938 the production came from the Jubilee and the Cooper; in 1939 from the Jubilee.

[4]Acquired by Magino Gold Mines, Limited, in September, 1939.

[5]See table of "Miscellaneous Production" to the right.

[6]Production for 1904 from the Mariposa mine, which was acquired by Parkhill Gold Mines, Limited, in 1929.

[7]Under option to Norgold Mines, Limited.

[8]Under option to Regnery Metals.

MISCELLANEOUS PRODUCTION, ALGOMA DISTRICT

Mine	Year	Quantity	Value
		tons	$
Centennial (Agawa)	1939, 1940	8,612	22,397
Deep Lake	1936–1938, 1943	2,790	57,180
P. Edward	1929, 1941	.....	224
Edwards (mine)	1937	1,573	16,977
Golden Reed	1908	3	125
Havilah (Ophir)[1]	1893, 1910, 1911	3,289	13,034
Hiawatha (Louittit)	1937, 1939, 1940	1,931	6,826
Kremzar	1940	.....	96
Norwalk (Manxman)	1904, 1910	820	1,412
Ranson	1939	774	5,938
Shenango	1936, 1937	.....	1,074
S. B. Smith (Van Sickle)	1935, 1936	9,228	60,251
Soo Mg. and Prosp. Synd.	1933	60	282
Stanley	1936, 1943	1,963	3,522
G. L. White	1936	.....	1,124
Total	.....	31,043	189,876

[1]Galbraith township.

Table V

THUNDER BAY DISTRICT

ANNUAL PRODUCTION STATISTICS OF GOLD MINES, 1905–1944

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

Year	St. Anthony[1]		North Shores (McKellar-Longworth[2])		Tashota[3]		Ardeen (Moss[4])		Northern Empire		Little Long Lac		Sturgeon River		Leitch		Bankfield		Sand River		MacLeod-Cockshutt		Hard Rock		Tombill		Magnet		Jellicoe		Miscellaneous[5]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1910	13,100	58,304																													1,100	2,378	14,200	60,682
1911	540	4,318																															540	4,318
1912	11,500	61,327																															11,500	61,327
1913	6,432	20,408																															6,432	20,408
1917		1,967																																1,967
1918	3,603	18,340																															3,603	18,340
1920		8,771																													1	63	1	8,834
1921	320	5,069																													30	1,122	350	6,191
1923				1,707																														1,707
1924																																		114
1929	678	2,388		226																											1	71	679	2,685
1930	8	458																															8	458
1931					34	315																											34	315
1932			179	15,480			25,363	196,473																							32	1,474	25,574	213,427
1933			11	288			34,789	270,077																									34,800	270,365
1934	21,618	123,198					38,143	216,094	22,507	195,647	5,485	85,480																			230	37,638	87,983	658,057
1935	44,550	303,152	1,404	29,358	12,827	76,627	5,884	32,531	45,736	645,296	62,073	1,108,269																			3,346	51,820	175,820	2,247,053
1936	28,408	160,394	2,214	26,212	23,590	224,183	39,545	234,134	64,645	1,002,521	83,555	1,500,792	1,290	20,711		[2]2,048															27	2,019	243,274	3,173,014
1937	17,896	156,225		202	14,454	122,960			65,026	706,179	104,931	1,638,545	17,978	310,102	23,058	449,260	26,437	390,212	2,537	11,932											183	6,147	272,500	3,791,764
1938	28,945	220,001			329	16,137			59,332	804,044	97,320	1,544,990	28,157	509,011	30,584	709,799	47,590	648,074	35,670	459,466	126,291	900,582	76,074	648,075	26,486	387,554	2,946	61,640			190	544	559,824	6,909,917
1939	23,792	293,502							67,914	928,616	106,775	1,698,766	26,282	441,309	31,206	784,784	47,566	593,636	36,518	437,450	208,095	1,649,469	107,086	803,607	38,704	613,789	17,493	457,247	3,015	45,748			714,446	8,747,923
1940	59,039	423,563				51			61,691	672,427	113,065	1,761,820	27,790	513,306	31,118	874,122	42,699	428,783	34,726	403,027	238,780	2,108,966	119,255	1,197,693	45,228	645,882	41,485	1,103,149	10,116	150,810	20	500	825,012	10,284,099
1941	70,640	303,907		243		1,371			39,015	419,719	118,332	1,634,811	25,869	458,589	30,493	894,926	39,175	238,408	31,824	383,124	237,076	2,324,324	135,337	1,174,510[6]	46,956	513,263	45,609	976,859	1,591	19,930		4,646	821,917	9,348,630
1942								13,017			115,790	1,517,548	17,757	475,877	30,076	973,111	27,642	109,419	16,595	168,841	233,036	2,619,030	134,122	1,238,828[6]	33,248	429,496	50,613	865,161			3,947	42,017	662,816	8,452,345
1943											88,890	1,008,830			27,438	842,680					181,761	2,103,641	97,373	926,544			43,060	573,408				1,083	438,522	5,456,186
1944											67,538	877,902			21,727	624,283		6,181			124,964	1,536,383	91,047	838,489									305,276	3,883,238
Total	331,069	2,165,292	3,808	73,716	51,234	441,644	143,724	962,326	425,866	5,374,449	963,754	14,377,753	145,123	2,728,905	225,700	6,155,013	231,099	2,414,713	157,870	1,863,840	1,350,003	13,242,395	760,294	6,827,746	190,622	2,589,984	201,206	4,037,464	14,722	216,488	9,107	151,636	5,205,111	63,623,364

[1]Records are incomplete; operations were reported from 1905 to 1907. This property was formerly owned by Northern Gold Reef, Limited.
[2]Acquired from Schreiber Gold Mines, Limited, by North Shores Gold Mines, Limited, in 1933, which was succeeded in 1936 by North Shores Mines (1936), Limited.
[3]In addition to gold values shown, this mine produced large quantities of copper (see detailed gold table in previous reports).
[4]Originally known as the Huronian; this mine produced in the seventies, but no records are available; acquired by Ardeen Gold Mines, Limited, in 1933, and by Kerry Gold Mines, Limited, in 1937.
[5]See table of "Miscellaneous Production" to the right.
[6]Surface ore.

MISCELLANEOUS PRODUCTION, THUNDER BAY DISTRICT

Mine	Year	Quantity	Value
		tons	$
Anderson, R.	[1]1943		116
Brengold	1941		3,551
Caouette claims	[1]1935, [2]1938, [2]1941, [2]1943	224	2,388
Cook Lakes	1937	32	918
Mary J. Coveney	1924		114
Dikdik[4]	1934, 1935	3,525	86,756
Elmos	1942	3,947	39,168
Empress[5]	1897	1,100	2,378
Gold Range	1941		668
Harkness-Hays	[3]1920, 1929, 1932, 1935, 1936	78	5,879
Maloney Sturgeon	1937	1	2,549
A. Pilon & M. Richards	1921	30	1,122
Schreiber Pyramid	1937	150	2,680
M. C. Williams	1940	20	500
Miscellaneous	[7]1942		2,849
Total		9,107	151,636

[1]Afton.
[2]Thereza.
[3]Milled by Little Long Lac.
[4]Owned by J. Bruce McMartin.
[5]No statistics available; data taken from report of J. H. Chewett April 22, 1897
[6]W. S. Jackson claims; acquired by Harkness-Hays in 1925.
[7]Mint sundries.

Table VI

PATRICIA PORTION OF KENORA DISTRICT

ANNUAL PRODUCTION STATISTICS OF GOLD MINES, 1911–1944

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

Year	Howey		Central Patricia		J-M Consolidated (Jackson Manion)		Jason (Argosy[1])		Pickle Crow		McKenzie Red Lake		Red Lake Gold Shore		Gold Eagle		Sachigo River		Madsen Red Lake		Hasaga		Uchi		Berens River		Cochenour Willans		McMarmac		Miscellaneous[2]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
1911																													30	57	30	57
1923																														124		124
1924																														126		126
1929																														14,617		14,617
1930	110,438	460,857																													110,438	460,857
1931	211,552	914,291																													211,552	914,291
1932	284,664	1,268,780																													284,664	1,268,780
1933	344,135	1,161,436																											175	4,205	344,310	1,165,641
1934	481,757	1,594,223	11,536	219,562	3,443	35,389	4,094	30,673																					130	2,551	500,960	1,882,398
1935	484,966	1,332,950	35,192	777,570	1,381	12,851			37,277	878,745	36,117	533,223																	293	6,097	595,226	3,541,436
1936	528,528	1,251,588	58,466	1,144,154	12,160	119,603	9,872	130,027	63,758	1,612,451	52,465	747,795	14,918	138,706															8,986	69,370	749,153	5,213,694
1937	447,344	1,095,508	77,119	1,392,840	31,225	334,475	31,741	353,981	98,063	2,270,113	58,001	860,214	47,557	451,147	6,599	73,005													3,000	10,232	800,649	6,841,515
1938	448,115	1,210,032	101,376	1,607,140	17,005	141,532	1,636	35,370	115,915	2,769,291	63,321	892,404	23,858	157,724	43,811	363,516	6,084	376,993	44,663	327,827	3,206	24,993									868,990	7,906,822
1939	449,488	1,138,713	108,091	1,764,651	35,549	277,100			126,959	2,902,154	70,445	1,111,339			45,374	351,730	10,699	536,626	136,929	954,302	58,184	457,724	103,122	686,942	19,217	277,114	9,070	127,430			1,173,127	10,585,825
1940	454,183	968,486	118,803	1,888,637	4,594	50,733	23,964	394,681	141,992	2,879,222	76,572	1,012,548			46,116	420,628	13,030	482,200	141,625	1,129,725	88,077	637,445	227,294	1,299,788	82,346	1,279,928	53,921	817,269	4,561	67,305	1,477,078	13,328,595
1941	385,609	849,642	142,516	1,950,549			48,362	768,826	146,375	2,736,169	84,146	1,000,436			38,195	287,965	16,603	545,153	145,995	1,203,311	134,816	1,000,684	249,417	1,424,370	86,373	1,528,840	61,415	945,444	29,794	586,300	1,569,616	14,827,689
1942			138,790	1,720,634			32,992	538,416	107,951	1,976,684	85,547	1,039,210						16,112	146,226	1,473,029	133,885	891,610	162,627	858,385	86,850	1,517,709	60,240	1,244,546	32,589	424,458	987,697	11,700,793
1943			104,451	1,425,771					70,575	1,328,548	85,973	952,247							144,792	1,321,889	120,318	709,572	14,614	122,248	53,255	854,202	55,663	1,105,078	32,073	277,809	681,714	8,097,364
1944			91,512	1,139,476					63,388	1,453,312	78,279	733,913							132,759	1,448,533	118,249	648,890			40,436	526,995	44,928	767,649	31,890	194,905	601,441	6,913,673
Total	4,630,779	13,246,506	987,852	15,030,984	105,357	971,683	152,661	2,251,974	972,253	20,806,689	690,866	8,883,329	86,333	747,577	180,095	1,496,844	46,416	1,957,084	892,989	7,858,616	656,735	4,370,918	757,074	4,391,733	368,477	5,984,788	285,237	5,007,416	130,907	1,550,777	12,614	107,379	10,956,645	94,664,297

[1]The Casey Summit mine was acquired by Argosy Gold Mines, Limited, in 1935 and by Jason Mines, Limited, in November, 1938.
[2]See table of "Miscellaneous Production" to the right.

MISCELLANEOUS PRODUCTION, PATRICIA PORTION OF KENORA DISTRICT

Mine	Year	Quantity	Value
		tons	$
Bathurst	[1]1929, [2]1936	307	5,809
Bobjo	[1]1929		11,510
W. D. Cooper and P. A. Barry[3]	1935, 1936		5,591
Hudson-Patricia	1936, 1937	11,228	65,166
N. McDonald	1924		126
R. McDonald	1923		124
Red Crest (Rowan Discovery)	1935, 1936	591	9,721
Geo. A. Rowan	1933		368
Geo. Singleton	1933		137
Sol D'Or[4]	1933–1936	458	8,770
J. Tingley	1911	30	57
Total		12,614	107,379

[1]High-grade.
[2]Under option to Car Lake Syndicate.
[3]Produced from the McIntyre Birch Lake property in 1934, reported in 1936.
[4]This property was operated in 1933 by the Highgrade Syndicate and in 1934 J. Hendrick, when it was acquired by Sol D'Or Gold Mines, Limited.

Table VII

ONTARIO'S GOLD MINING INDUSTRY

ANNUAL PRODUCTION STATISTICS BY AREAS, 1885–1944

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

Year	Southeastern Ontario		Larder Lake area		Kirkland Lake belt		Porcupine belt		Matachewan area		Sudbury district		Algoma district		Thunder Bay district		Rainy River district		Kenora district		Patricia portion of Kenora district		Miscellaneous[1]		Total	
	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$	tons	$
Prior to 1910	[2]124,569	587,843									[3]9,320	55,982	[4]12,818	79,143	[5]14,200	60,682	[6]35,944	281,108	[7]214,040	1,354,760			[8]909	29,793	411,800	2,449,311
1910	500	3,349			30	286		35,549			3,294	18,553	1,660	7,090						3,791					5,484	68,618
1911			225	1,414	675	4,650	432	15,437			1,750	9,828		627	540	4,318			500	6,981	30	57			4,152	43,312
1912	4,221	13,963					139,951	1,740,596							11,500	61,327	50	400	400	2,101					156,072	1,817,987
1913	9,950	24,088	480	14,005	6,383	88,936	321,305	4,316,807			20,646	114,833			6,432	20,408									365,246	4,579,477
1914	424	2,793		5,204	3,734	117,644	554,774	5,231,989			45,458	217,103													604,390	5,574,733
1915	1,036	4,043			26,196	555,539	857,969	7,605,993			44,271	282,123							450	562					929,922	8,448,260
1916					39,865	711,626	1,327,039	9,494,139			26,846	187,103							1	130					1,393,751	10,392,998
1917	860	593			49,952	409,552	1,179,469	8,345,367								1,967			40	279					1,230,321	8,757,758
1918			1,502	11,334	53,526	637,780	816,754	7,899,381							3,603	18,340			208	216					875,593	8,567,051
1919		300	735	2,631	40,792	489,207	1,092,744	10,041,579										211							1,134,271	10,533,928
1920			4,637	29,888	91,237	1,145,722	1,162,065	11,953,907							1	8,834	2	108	291	2,367					1,258,233	13,140,826
1921				549	136,529	1,650,752	1,580,460	14,415,455							350	6,191									1,717,339	16,072,947
1922		1,064			191,747	2,192,138	2,076,989	18,662,724		987															2,268,736	20,856,913
1923			4,818	73,262	188,011	2,693,634	2,060,721	17,674,549						153		1,707			915	3,012		124		136	2,254,465	20,446,577
1924			24,178	152,072	201,393	3,328,411	2,642,502	22,445,680								114						126			2,868,073	25,926,403
1925			36,651	271,161	346,584	5,133,423	3,015,607	24,834,793						41											3,398,842	30,239,418
1926			48,761	229,650	466,363	6,963,165	3,180,943	23,811,304					415	1,847										2,468	3,696,482	31,008,434
1927			65,592	338,600	731,989	9,365,243	3,488,972	24,029,244																	4,286,553	33,733,087
1928			43,275	174,681	995,275	12,132,045	3,185,604	20,384,904																	4,224,154	32,691,630
1929			22,343	161,717	1,076,877	13,998,202	2,864,820	19,460,413					33	8,255	679	2,685	19	245	334	908		14,617			3,965,105	33,647,042
1930			31,738	219,726	1,242,805	17,012,039	2,558,385	17,843,392					1,824	3,147	8	458			25	326	110,438	460,857			3,945,223	35,539,945
1931			32,038	235,347	1,671,592	22,554,463	3,091,946	20,772,501					8,530	155,812	34	315			33	3,855	211,552	914,291			5,025,725	44,636,584
1932			35,001	182,053	1,757,995	26,683,705	3,351,263	24,289,974	6,805	70,142	32	3,718	35,704	351,654	25,574	213,427			48	3,888	284,664	1,268,780			5,497,086	53,067,341
1933			5,459	71,766	1,760,555	27,757,371	3,402,632	29,928,849	38,004	495,984			35,296	429,238	34,800	270,365	415	4,677			344,310	1,165,641			5,621,471	60,123,891
1934			33,457	153,948	1,923,601	34,049,728	3,711,714	33,002,770	100,054	614,909	12,320	68,600	42,041	484,874	87,983	658,057	855	12,270	25	2,242	500,960	1,882,398			6,413,010	70,929,796
1935			35,227	148,266	1,962,637	33,290,016	3,829,279	34,202,950	325,521	1,510,729	40,474	274,980	66,015	604,425	175,820	2,247,053		671	3,675	98,973	595,226	3,541,436		2,245	7,033,874	75,921,744
1936			114,472	470,507	2,074,197	33,432,460	4,049,786	35,920,945	378,918	1,476,505	10,555	80,615	90,868	801,133	243,274	3,173,014		105	36,144	380,339	749,153	5,213,694	46	2,637	7,747,413	80,951,954
1937		238	162,740	754,026	2,217,802	34,302,064	4,303,047	39,305,160	470,310	1,836,854	56,067	401,747	113,390	586,133	272,500	3,791,764	330	1,737	30,063	272,981	800,649	6,841,515		891	8,426,898	88,095,110
1938			349,458	2,046,983	2,277,421	34,321,796	4,789,094	44,398,639	513,675	2,071,929	76,910	741,452	115,702	571,631	559,824	6,909,917		822	32,516	377,306	868,990	7,906,822		4,196	9,583,590	99,351,493
1939	6,908	14,596	556,390	3,411,814	2,302,518	34,179,271	5,133,186	47,791,659	591,847	2,600,838	61,188	661,343	110,920	905,166	714,446	8,747,923			72,599	697,402	1,173,127	10,585,825		9,976	10,723,129	109,605,813
1940	26,526	119,505	839,275	5,706,127	2,150,762	33,795,565	5,647,214	55,000,954	630,155	2,719,471	38,575	443,045	83,563	644,196	825,012	10,284,099	1,072	6,523	49,041	570,585	1,477,078	13,328,595		7,936	11,768,273	122,626,601
1941	300	2,310	1,124,221	7,929,708	1,900,481	28,690,198	5,974,447	55,506,187	620,477	2,695,319	71,319	470,730	89,422	446,075	821,917	9,348,630	1,880	12,739	51,154	688,673	1,569,616	14,827,689		7,489	12,225,234	120,625,747
1942			1,166,209	8,277,116	1,308,307	20,895,850	5,624,554	50,489,026	643,365	2,432,574	168,628	1,138,027	82,125	343,623	662,816	8,452,345		26,300	36,449	457,761	987,697	11,700,793		16,190	10,650,150	104,229,605
1943			981,020	6,521,781	1,114,818	17,983,456	4,297,973	39,387,112	442,506	1,495,884	107,608	719,778	1,782	16,514	438,522	5,456,186			3,420	59,667	681,714	8,097,364		1,531	8,069,363	79,739,273
1944			752,954	4,431,405	1,011,225	14,786,464	3,788,313	33,678,991	341,359	1,105,877		1,918		1,443	305,276	3,883,238					601,441	6,913,673			6,800,568	64,803,009
Total	175,294	774,685	6,472,856	42,026,741	31,323,874	475,352,401	95,101,953	813,918,919	5,102,996	21,128,002	795,261	5,891,478	872,108	6,442,220	5,205,111	63,623,364	40,567	347,916	532,371	4,989,105	10,956,645	94,664,297	955	85,488	156,579,991	1,529,244,616

[1]Origin unknown.
[2]1891–1909.
[3]1897, 1898, 1905–1908.
[4]1893, 1902–1904, 1907–1910.
[5]1897, 1905–1907.
[6]1895–1901.
[7]1885, 1886, 1893–1909.
[8]1899–1902.