

# **G** IANT YELLOWKNIFE GOLD MINES LIMITED

(NO PERSONAL LIABILITY)

*Annual Report*

*For Year Ended May 31,*

**1950**

GIANT YELLOWKNIFE GOLD MINES LIMITED  
(NO PERSONAL LIABILITY)

25 KING STREET WEST

TORONTO 1  
CANADA

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ALLAN KENNETH MUIR

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*At the Annual Meeting of Shareholders held on September 17th, 1951, Mr. Thayer Lindsley, President, before attending to the business of the Meeting paid the following tribute to the late Allan Kenneth Muir, General Manager, who passed away suddenly on September 9th, 1951.*

"We meet today on a very sad occasion. Our friend and close associate has been suddenly stricken. From the start of the work, Giant Yellowknife has been a creation of Ken Muir. He threw every ounce of strength he had into building it up to the very fine position it has attained today and we, the shareholders, owe a great debt of gratitude to one of Canada's great men.

"I am sure all of us here will wish to tender to his wife and family our very deep and heartfelt sympathy in the great loss they have sustained, and I would like to call on the meeting to rise and stand for a moment as a mark of respect to a great spirit who has been called so suddenly to a wider field."

GIANT YELLOWKNIFE GOLD MINES LIMITED  
(NO PERSONAL LIABILITY)

25 KING STREET WEST  
TORONTO 1  
CANADA

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September 25, 1951.

To the Shareholders,

GIANT YELLOWKNIFE GOLD MINES LIMITED.

At the Annual Meeting of your Company held on September 17th, 1951, your Consulting Geologist, Dr. A. S. Dadson, addressed the Meeting.

Your Directors feel that his remarks are of considerable interest to you and therefore have pleasure in reproducing them for your information.

On behalf of the Board,

A. C. CALLOW, *Secretary*.

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*Dr. A. S. Dadson, Consulting Geologist:*

In order to bring you up to date on the current and proposed development program, I have attempted to summarize some of the more important features in the following notes.

**B SHAFT**

Work at B Shaft is practically confined to routine mining operations and the stopes continue to produce their characteristic high-grade ore. Some lateral work and raising is being done for the fill distribution system, and from time to time primary development is being carried out on the 100 foot level in the area to the south of the shaft. This is a sort of spare working place. There is ore here but it will be some time before we can decide on what tonnage and grade is involved.

**C SHAFT**

As noted in Mr. Muir's Report, drilling from the north haulage way indicated some 1,300 feet of apparently continuous ore in the ASD Zone. This is now being opened up by drifting with an advance to date of some 800 feet. The more recent figures have not yet been received from the mine, but muck samples have averaged something better than  $\frac{1}{2}$  ounce per ton. We should be able to establish the 150,000 tons of .53 ounces per ton between the 750 and 575 levels, that was estimated from drill intersections.

A series of drill holes on the downward extension of this ore, to a depth of about 50 feet below the 750 level, has shown the mineralization to be strong down the dip — some very good intersections having been obtained. You may recall that a hole drilled from the bottom of B Shaft intersected 9 feet of .45 ounces per ton at about the 1,200 foot horizon. This appears to represent the extension of the mineralization on a northerly rake.

A drift on the footwall side of the zone is being driven north of the shaft on the 575 level, with cross sectional diamond drilling following behind the face. Work has not yet advanced sufficiently to block out ore above the 575, but some good intersections have been obtained. The upper levels will be opened up as soon as possible. I think I can hazard a guess that the ore which will be developed north of C Shaft above the 575 level, will be at least comparable to that estimated between the 575 and 750 levels.

It should be mentioned that, because of the northerly rake, the length of the ore zone immediately north of C Shaft becomes progressively shorter towards surface — of the order of 900 feet on the 425 level and 400 feet on the 250 level.

The south haulage way on the 750 level has, by now, advanced over 1,600 feet from the C Shaft section. You will note on the map, at the back of the Annual Report, that the ore zone had been offset into the drift at the face, then about 850 feet from the shaft section. The continuation of the drift exposed a short section of ore, with horizontal drill holes indicating a shoot about 100 feet in length. However, from 1,040 to 1,350 feet from the shaft the drift exposed very good ore, the 310 feet averaging better than  $\frac{1}{2}$  ounce per ton in muck samples. Horizontal drill holes have indicated widths up to 85 feet on the level, with the average probably approaching 50 feet. South again the ore zone is offset to the west of the drift, but drill holes have traced ore for another 150 feet, the shoot apparently ending somewhere between 1,500 and 1,600 feet south of the shaft.

The drift is now well past the line on the map which marks the limit of information from surface drilling in the ASD Zone. The northerly rake of the mineralization is not yet evident at this end.

At a point 2,250 feet south of C Shaft section, an inclined drill hole, put down this past summer, intersected 46 feet averaging .40 ounces per ton — at about the 400 foot horizon and close to the line of strike of the ASD Zone. We don't know whether this actually represents the ASD Zone or not, but in any event we now plan to continue the south haulage way on line, well past the turn shown on the map, before turning off to A Shaft. Our original haulage way layout had provided for this alternative.

I might here digress and enlarge on some of the terminology used in the description of the ASD Zone. First, there is the so-called shear zone which is the host rock for the gold-bearing mineralization. Second, there is the mineralized zone within the shear zone. I think of this as the ore zone. In places gold values are negligible but generally it can be recognized. Third, there are the ore shoots which make up part of the ore zone. I have brought in this digression to emphasize the length of the ore zone now partially explored on the 750 level. With very few breaks it has now been traced for some 2,800 feet.

With the exception of the ore shoot discovered last month, drill hole results from the south haulage way have not been nearly as consistent as those to the north of C Shaft. It will take much closer drilling to outline the concentrations of the better grade material.

As noted in Mr. Muir's Report the haulage connection between C and B Shafts was made early in June. Work on the service openings and the ore and waste passes is well advanced. Installation of chutes and the trolley-way should be completed in about a month's time, after which all ore will be hoisted through C Shaft.

I would like to review our present development plans. Not necessarily in the order of completion, these are:

- (a) Continuation of the north haulage way and development and preparation for mining of the 409 and "Lower" orebodies above the 750 level, to make available the estimated 676,000 tons averaging 0.62 ounces per ton.
- (b) Development and preparation for mining of that portion of the ASD Zone immediately north of C Shaft, above the 750 level, to make available, say, 300,000 tons of 0.5 ounces per ton, for the sake of argument.
- (c) Deepening of A Shaft to the 750 level and continuation of the south haulage way to connect with it.
- (d) Development and preparation for mining of the East and West Zones to make available an estimated 670,000 tons of 0.45 ounces per ton.

Our present objective, then, is to make available over  $1\frac{1}{2}$  million tons of ore averaging over  $\frac{1}{2}$  ounce per ton, in addition to the now developed reserves above the 575 level in the B Shaft workings. This will give a good backlog of ore, such that further projects — development of known ore zones and search for new ore — can be carried out in a progressive manner, without continual pressure to feed the mill. Naturally some of these projects may be started before the present program is completed. At the north end we hope to obtain more information on the possible continuation of the high grade B Shaft structure.

There may be a certain amount of confusion in reconciling the above tonnage figures with the overall estimates of ore indicated on the property, which have appeared in past reports. Now that we are



at last underway with a major development program I feel that these earlier estimates have served their purpose and should lie dormant in the records.

In the A Shaft area our present development program will place us in position to attack the South Zones — including the immediate southerly continuation of the East Zone — the North Extension of the East Zone, and the Creek Zone. These make up the remainder of the 1,000,000 tons above the 325 level in this area, which is given in Mr. Muir's report, beyond the 670,000 tons which I have used for the East and West Zones. I might remind you that there is a good diamond drill hole intersection in this area at a depth of 500 feet.

Earlier reports have given an estimate of some six hundred thousand odd tons of .28 grade to a maximum depth of 550 feet, from surface drilling in the ASD Zone. It was also stated that the distribution of the intersections showed that there were concentrations of material of higher grade than the average, which could be mined selectively. Work on the 750 level has confirmed this latter, and has indicated at least two very good selections.

For the ASD Zone immediately north of C Shaft I have given a tentative figure of 300,000 tons of  $\frac{1}{2}$  ounce ore between the 750 level and surface. I do not, as yet, feel up to guessing at a figure for that portion of the zone to the south of the shaft. The question is how much of the ore zone will make ore. In contrast to the B Shaft structure, where ore and waste are generally sharply defined, the ASD Ore Zone appears to "fade and make," both on strike and dip. We have here a nice problem of selective mining versus larger scale mining, and of balancing grade against mining costs. A lot of close drilling will be needed to settle this problem, which will be particularly important if anything is done about an upward revision in the price of gold. There should be no rush about making millfeed from the ASD Zone to the south of C Shaft. Whatever the answer may be, there will be considerable ore about the 750.

I think you will agree that our recent work on the 750 level, to the north and south of C Shaft, has indicated a most promising ore potential at depth in the ASD Zone.

This concludes my remarks. If I have made things still more confusing I will attempt to answer any questions you may have.

A. S. DADSON.

# Eighth Annual Report

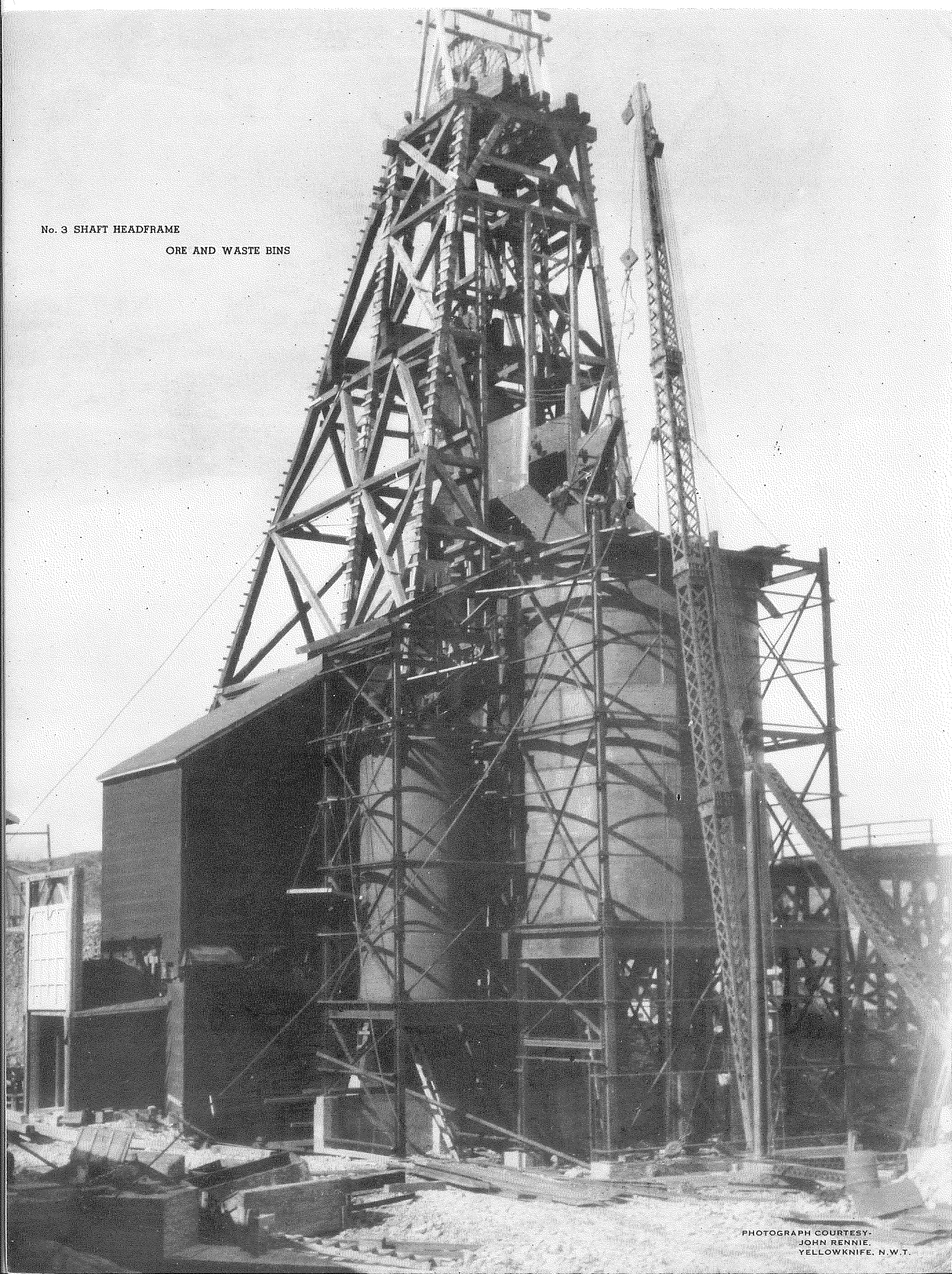
## *Annual Meeting of Shareholders*

Friday, September 29, 1950, at 11 a.m. (Toronto Time)  
at the offices of the Company,  
27th floor, Canadian Bank of Commerce Building,  
25 King Street West, Toronto, Ontario.



No. 3 SHAFT HEADFRAME

ORE AND WASTE BINS



PHOTOGRAPH COURTESY-  
JOHN RENNIE,  
YELLOWKNIFE, N.W.T.

# Giant Yellowknife Gold Mines Limited

(No Personal Liability)

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## HEAD OFFICE:

25 King Street West, Toronto, Ontario

## MINE OFFICE:

Yellowknife, N.W.T.

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## OFFICERS:

T. LINDSLEY  
President

A. J. ANDERSON  
Vice-President

J. C. RIX  
Treasurer

A. C. CALLOW  
Secretary

•

## DIRECTORS:

T. LINDSLEY

A. K. ROBERTS, K.C.

R. PIELSTICKER

E. V. JAEGER

A. J. ANDERSON

J. BRADLEY STREIT

W. F. JAMES

•

A. K. MUIR  
General Manager

A. S. DADSON  
Consulting Geologist

E. V. NEELANDS  
Consulting Engineer

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## TRANSFER AGENTS AND REGISTRARS:

THE STERLING TRUSTS CORPORATION  
372 Bay Street, Toronto 1

REGISTRAR AND TRANSFER COMPANY  
2 Rector Street, New York 6, N.Y., U.S.A.  
15 Exchange Place, Jersey City 2, N.J.

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## AUDITORS:

GUNN, ROBERTS AND CO.  
Toronto

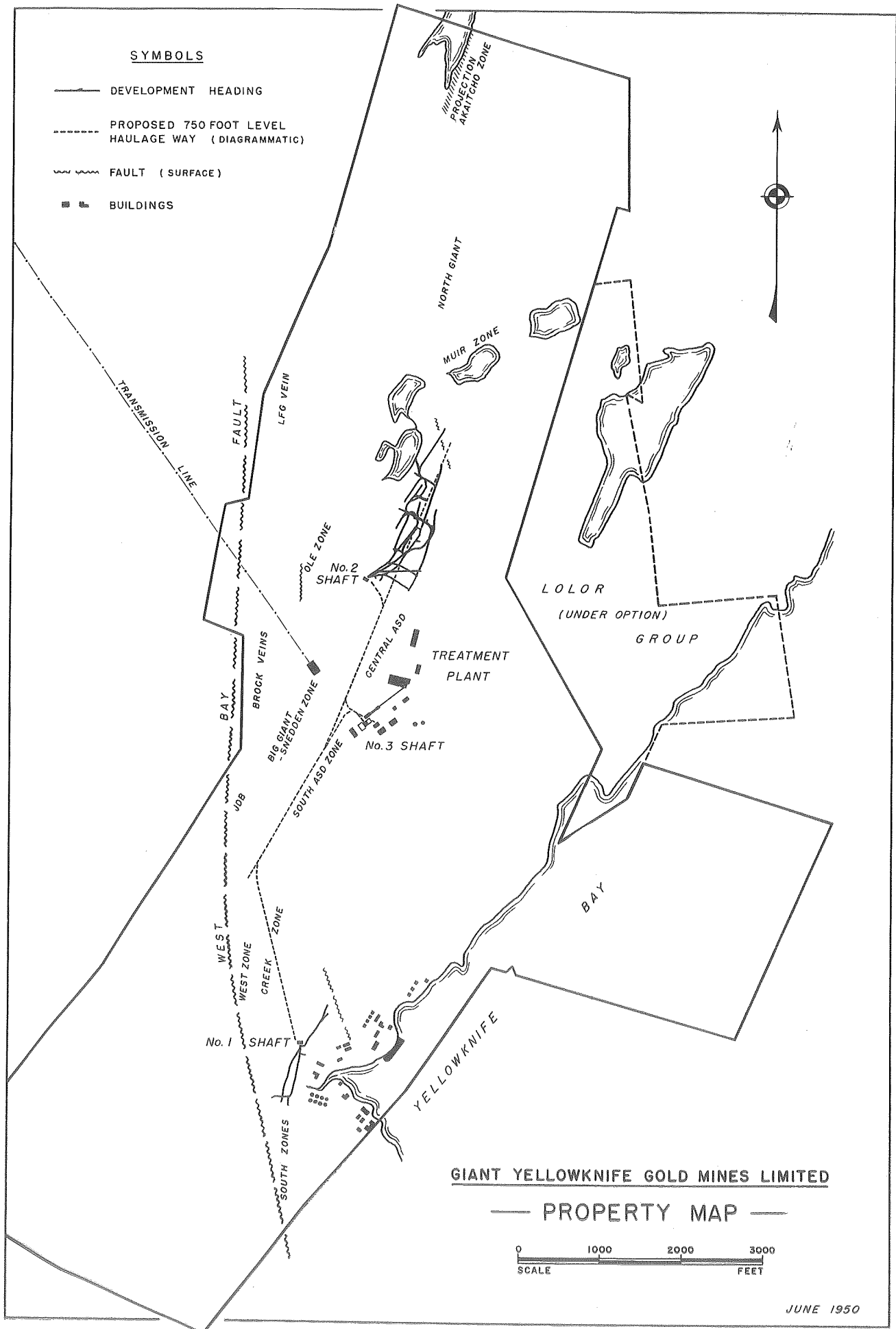
## SOLICITORS:

ROBERTS, ARCHIBALD, SEAGRAM  
& COLE  
Toronto



# SYMBOLS

- DEVELOPMENT HEADING
- - - PROPOSED 750 FOOT LEVEL  
HAULAGE WAY (DIAGRAMMATIC)
- ~ FAULT (SURFACE)
- BUILDINGS



GIANT YELLOWKNIFE GOLD MINES LIMITED

— PROPERTY MAP —

0 1000 2000 3000  
SCALE FEET

JUNE 1950

# Giant Yellowknife Gold Mines Limited

(No Personal Liability)

## REPORT OF THE PRESIDENT

Toronto, Ontario,

August 25th, 1950.

To the Shareholders,  
Giant Yellowknife Gold Mines Limited.

Your Directors respectfully submit for your consideration the Annual Report of your Company for the year ended May 31, 1950. A report by the General Manager, and a Balance Sheet with Statement of Operations are included.

This second full year of production has been even more encouraging than the first and your Company is progressing towards the objective of making the Giant Mine one of the major gold producers on the continent.

The results of development and exploration from the 4th level at No. 2 Shaft have been most pleasing and indicate new ore of a tonnage and grade comparable to that developed on upper levels. Recent surface drilling has confirmed that conditions in the area between No. 2 Shaft and the north boundary are very favourable for the occurrence of orebodies.

No. 3 Shaft has been sunk to its initial depth of 1,025' and lateral development will start as soon as the necessary preparatory work is completed.

Last June your Directors approved mill expansion to a capacity of 700 tons per day and they look forward to further increases from time to time dependent, of course, on world conditions.

An option agreement to acquire the Lolor group of claims from the Conwest Company was recently concluded by your Directors. This ground adjoins the Giant claims on the East. Besides providing certain rights for tailings disposal, it gives added protection to your Company on the depth extension of some of the easterly dipping ore zones.

You will note from the Balance Sheet that bank and other loans as of May 31st have been fully paid off. It is anticipated that, if the plans for expansion outlined above are proceeded with, interim bank finances will be needed this season to cover necessary outlays required for capital expenditures and working supplies during the next 12 months.

Your Directors would like once more to express their appreciation of the Act of Parliament which rendered assistance to the gold industry. This aid came to the help of the Giant operation at just the right time and assisted your Company in establishing itself on a sound foundation.

Your Directors take pleasure in expressing their sincere appreciation to your General Manager, Mr. A. K. Muir, and his loyal staff for their excellent and successful management of the affairs of your Company.

On Behalf of the Board,

T. LINDSLEY,  
President.

# Giant Yellowknife Gold Mines Limited

(No Personal Liability)

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## STATEMENT OF EARNED SURPLUS

For the year ended May 31, 1950

Balance at June 1, 1949 .....		\$167,552.17
Net Profit for the year ended May 31, 1950 .....		500,681.02
		<hr/>
		\$668,233.19
Deduct amounts written off:		
Organization expenses .....	\$ 2,090.00	
Commission on sale of shares .....	15,000.00	
Sundry investments .....	26,497.26	43,587.26
	<hr/>	<hr/>
Balance at May 31, 1950 .....		\$624,645.93
		<hr/>



# Giant Yellowknife Gold Mines Limited

(No Personal Liability)

## STATEMENT OF OPERATIONS

For the year ended May 31, 1950

### Metal Sales:

Gold 93,883.428 ozs. ....	\$ 3,516,496.62	
Silver 37,500.03 ozs. ....	29,100.22	\$ 3,545,596.84

### Deduct:

Concentrates on hand at May 31, 1949 .....	\$ 525,000.00	
Marketing expenses .....	34,139.70	559,139.70
		<u>\$ 2,986,457.14</u>

### Add:

Estimated assistance under The Emergency Gold Mining Assistance Act .....		354,325.88
		<u>\$ 3,340,783.02</u>

### Operating Expenses:

Surface exploration .....	\$ 18,016.33	
Current mine development .....	185,047.75	
Stope preparation .....	227,498.57	
Stoping .....	384,349.69	
Milling and roasting .....	557,536.82	
Primary power contracted for but not used .....	59,522.00	
Engineering, geological, warehousing supervision and mine office expenses .....	130,250.85	
General expenses at the property .....	149,656.46	
Administrative and corporate expenses .....	60,322.16	
Interest on loans .....	32,322.69	1,804,523.32
		<u>\$ 1,536,259.70</u>
Amortization of preproduction expenses .....	\$ 324,258.98	
Amortization of shaft sinking expenses .....	55,291.99	
Depreciation of buildings, machinery and equipment .....	635,252.06	
Loss on disposals of buildings, machinery and equipment .....	4,083.14	1,018,886.17
		<u>\$ 517,373.53</u>

### Deduct:

Provision for royalty to Government of Canada .....	21,929.73
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### Miscellaneous income

\$ 495,443.80
<u>5,237.22</u>

### Net Profit

<u>\$ 500,681.02</u>
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Note: The Company is exempt from income taxes of Canada for the year ended May 31, 1950, under Section 74 of The Income Tax Act.

# GIANT YELLOWKNIFE GOLD MINES LTD.

(NO PERSONAL)

(Incorporated under the Laws of the Province of Ontario)

## Balance Sheet - May 31, 1950

### ASSETS

#### Current Assets:

Cash on hand and in bank .....	\$ 184,846.20	
Bullion on hand and in transit .....	205,531.14	
Government bonds on deposit with Northwest Territories Power Commission at cost (market value \$50,300.00) .....	49,875.00	
Accounts and accrued interest receivable .....	14,842.57	
Estimated amount receivable under The Emergency Gold Mining Assistance Act .....	120,000.00	\$ 575,094.91

#### Construction Supplies and Mines Stores at Cost:

On hand .....	663,172.52	
In transit .....	344,782.67	1,007,955.19

#### Fixed Assets:

Mining claims acquired for 1,200,000 shares issued at par and \$500.00 cash .....	\$ 1,200,500.00	
Buildings, machinery and equipment .....	\$ 4,212,762.80	
Less depreciation provided to date .....	1,147,363.55	3,065,399.25
		4,265,899.25

#### Option to Purchase Mining Claims Contiguous to Company's Properties

25,000.00

#### Other Assets:

Advances on machinery orders .....	\$ 16,745.00	
Advances to contractors .....	34,658.97	
Prepaid expenses .....	39,278.62	
Deposits and other assets .....	6,429.00	97,111.59

#### Expenditures Deferred to Future Operations:

Preproduction expenses .....	\$ 2,161,726.50	
Less amortized to date .....	648,517.96	1,513,208.54
Deferred shaft sinking expenditures .....	\$ 368,613.29	
Less amortized to date .....	63,580.59	305,032.70
Sundry deferred charges .....	4,608.41	1,822,849.65
		<u>\$ 7,793,910.59</u>

### AUDITORS' REPORT TO THE SHAREHOLDERS

We have made an examination of the books and records of Giant Yellowknife Gold Mines Ltd. and all the information and explanations we have required.

In our opinion the above balance sheet and related statements of operations and earned dividends for the year ended May 31, 1950, and the results of its operations for the year then ended, according to the books of the company.

Toronto, August 10, 1950.

# GOLD MINES LIMITED

(No Personal Liability)

(In accordance with the laws of the Province of Ontario)

— May 31, 1950

## LIABILITIES

### Current Liabilities:

Payrolls payable .....	\$	46,568.98	
Accounts payable and accrued liabilities .....		485,419.58	\$ 531,988.56

### Capital and Surplus:

#### Capital Stock:

Authorized—4,000,000 shares of \$1.00 each

#### Issued:

3,982,550 shares at June 1, 1949 .....	\$ 3,982,550.00	
17,450 shares for cash during year ended May 31, 1950 .....	17,450.00	\$ 4,000,000.00
4,000,000		

#### Premium less discount—

On shares issued at June 1, 1949 .....	\$ 2,567,476.10	
On shares issued during year ended May 31, 1950 .....	69,800.00	2,637,276.10

Earned surplus as per statement .....	6,637,276.10	
	624,645.93	7,261,922.03

\$ 7,793,910.59

## TO THE SHAREHOLDERS

Gold Mines Limited (No Personal Liability) for the year ended May 31, 1950, and have obtained

and earned surplus are properly drawn up so as to exhibit a true and correct view of the company's  
ing to the best of our information and the explanations given to us, and as shown by the books of

GUNN, ROBERTS and CO.,  
Chartered Accountants



# Giant Yellowknife Gold Mines Limited

(No Personal Liability)

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## REPORT OF THE GENERAL MANAGER

The President and Directors,  
Giant Yellowknife Gold Mines Limited.

August 8th, 1950.

Dear Sirs:

The following report on the operations of the Company for the fiscal year ended May 31st, 1950, is submitted for your consideration.

Substantial progress was made during the year in all phases of the operation. Important results were obtained in exploration from surface and in underground development. No. 2 Shaft workings continued to supply all the mill feed and reserves of developed ore were increased to a position commensurate with the milling rate which was expanded by 70% during the year. Diamond drilling below the bottom (575) level at this shaft disclosed very substantial tonnages of new ore and there is now assurance that the 750 level, which will be driven to this area from No. 3 Shaft, will be highly productive.

The long range development program, outlined in the last Annual Report, was commenced in November with the sinking of No. 3 Shaft. At the end of the fiscal year, this opening was approaching its initial objective of 1,025 feet in depth.

With completion of concentrate stockpile reclaiming, the milling rate was progressively increased, from the previous average of 235 tons per day to an average of 400 tons per day during the last seven months of the fiscal year. Operating experience has shown that the roasting plant is now close to its effective capacity with the entire mill feed being obtained from No. 2 Shaft. However, some increase is anticipated when additional feed is drawn from orebodies with expected higher ratios of concentration in the area adjacent to No. 3 Shaft. Recoveries have shown considerable improvement and many of the problems arising from the treatment of the complex ores are being overcome by continued research. In association with officials of the Departments concerned of the Dominion Government, careful study has been given to the problem of arsenic collection and disposal and orders have been placed for an electrical precipitation (Cottrell) plant.

In the No. 3 Shaft-Treatment Plant area, a well-integrated mining plant was under construction, including warehouse, assay office and shops. Living conditions were greatly improved by the construction of a cafeteria, staff house, bunkhouses and residences in the No. 1 Camp area.

Labour turnover continued to be high, but operating costs were reduced and overall efficiency was improved through the increase in the milling rate.

### TREATMENT PLANT—Recoveries and Operating Data

During the first four months of the fiscal year, feed to the roaster-cyanide circuit was made up of flotation concentrates from current tonnage supplemented by reclaimed concentrates which had been produced and stockpiled prior to commencement of roasting

operations. On completion of reclaiming operations in September, the current milling rate was increased to 370 tons per day in October, from the previous average of 235 tons, followed by further increases to an average of approximately 400 tons per day during the remainder of the fiscal year.

The improvement in recoveries for the first two months of the fiscal year, noted in the last Annual Report, was maintained and overall extraction averaged 86.4% for the year. As mentioned previously, ore testing and research are being continued and further improvement in recoveries is anticipated.

Dry Tons Milled: Year .....	126,214	
Average per day .....	346	
Calculated Mill Heads, per ton .....	0.708 oz.	\$ 26.83

#### Recoveries

##### (1) From Current Tonnage

(a) by Amalgamation .....	14,427.95 ozs.	
Extraction .....	16.1%	
(b) in Flotation Concentrates		
Tons Concentrates produced .....	12,029.2	
Average Grade, per ton .....	5.714 oz.	\$216.56
Ratio of Concentration .....	10.5 to 1	
Flotation Tailings, per ton .....	0.055 oz.	\$ 2.08
Combined Extraction by Amalgamation and in Flotation Concentrates .....	93.0%	
(c) by Roasting and Cyanidation:		
Tons treated .....	12,029.2	
Gold recovered .....	63,226.44 ozs.	

##### (2) From Reclaimed Concentrates

by Roasting and Cyanidation:		
Tons treated .....	2,821.0	
Gold recovered .....	16,229.04 ozs.	
Cyanide Residues, per ton of Calcine .....	0.620 ozs.	\$ 23.50
Extraction by Cyanidation .....	91.4%	
Indicated Overall Extraction .....	86.4%	

#### Summary of Recoveries

	Ounces	Gold Gross Value	Ounces	Silver Gross Value
From Current Production .....	77,654.39	\$ 2,943,002.84	30,279.39	\$23,874.08
From Stock Concentrates .....	16,229.04	573,493.78	7,220.64	5,226.14
Total Recoveries .....	93,883.43	\$ 3,516,496.62	37,500.03	\$29,100.22
Gross Value of Production .....		\$3,545,596.84		

#### UNDERGROUND OPERATIONS

##### NO. 3 SHAFT

Sinking of this shaft, which has five compartments and is 12' 2" by 17' 10" outside the timbers, was started in November. At the end of May it had reached a depth of 850 feet, with initial station cutting carried out at the 100, 250, 425, 575 and 750 levels, and at the 800 ft. horizon for a future crusher station.

Total advance during the fiscal year amounted to 1,036 feet, consisting of 813 feet of sinking and 52,254 cubic feet of station cutting, the latter being equivalent to 223 feet of sinking advance. This represents an average of 5.4 feet per working day or 160 feet per calendar month. The operation is being carried out on a bonus basis by Company personnel and progress has been very satisfactory.

## NO. 2 SHAFT

The following is a summary of development and stope preparation accomplished at this shaft to the end of the fiscal year.

	During Year Ended May 31, 1950	Total to May 31, 1950
Shaft Sinking ..... (ft.)	-----	780
Station Cutting ..... (cu. ft.)	-----	43,902
Loading Pocket ..... (cu. ft.)	-----	13,260
Sumps ..... (cu. ft.)	1,236	27,192
Drifting and Crosscutting ..... (ft.)	4,076	13,227
Raising—Development ..... (ft.)	197	2,469
Stope ..... (ft.)	531	859
Fill ..... (ft.)	26	26
Box Holes—X-Cutting and Raising ..... (ft.)	4,380	8,233
Slashing ..... (cu. ft.)	30,930	147,170
Underground Diamond Drilling ..... (ft.)	43,150	91,203

## Development

Most of the primary lateral development was carried out on the 575 level. No. 1 Ore Shoot was opened up on this horizon and its continuity with the level above established by diamond drilling. Two small blocks of medium grade ore were outlined in the North ASD Zone by diamond drilling between the 425 and 575 levels, in a section where the initial drifting results were disappointing.

Of particular importance is the new 409 Orebody, which was located in the course of systematic exploratory diamond drilling. This orebody lies to the northeast of No. 1 Shoot in a previously unexplored area to the north of the original surface drilling. Drifting for a length of 374 feet on the 575 level averaged 1.01 oz/ton in face sampling and 0.80 oz/ton in car sampling. While definition drilling has shown the ore to be irregular in outline, horizontal widths up to 80 feet were intersected. The major portion of the known ore lies between the 575 and 750 levels and although the mineable ore above the former level is limited in extent, the bottom limits have not been established. Within the limits explored to date by diamond drilling, preliminary estimates indicate a block of about 235,000 tons with a gold content of over 200,000 ounces, accessible from the 750 level.

The "Lower Orebody", which was first indicated by the deeper intersections in the original surface drilling in this area, was partially outlined by underground drilling below the 575 level. This orebody was traced for a length of 600 feet and is open to the north. It appears to have the shape of a broad, open anticline plunging to the north, with easterly and westerly dipping limbs.

The accompanying plan and vertical cross-sections are intended primarily to illustrate the 409 and Lower orebodies. It will be evident from the results shown for these orebodies that the 750 level, to be driven to this area from No. 3 Shaft, will be highly productive. A



number of other drill hole intersections are also shown on the plan and, while it is not yet possible to correlate these, they add considerably to the length of potential ground below the 575 level.

#### **Production**

During the year, 126,214 tons of ore were milled, of which 117,182 tons were obtained from No. 2 Shaft workings and 9,032 tons from final clean-up of No. 2 Ore Dump.

Mine production was obtained from twelve active stopes and from development. At the end of the year, five new stopes were in course of preparation. With the exception of the South Low-angle orebody, all the known ore shoots above the 425 level have now been opened up by stopes, either active or in course of preparation. Actual mining had been completed in four of these working places at the year end.

#### **Ore Position (No. 2 Shaft)**

Developed ore reserves at No. 2 Shaft at the end of the fiscal year were estimated at 712,000 tons averaging 0.69 oz/ton, with dilution allowance, and including pillars. Broken ore reserves, which are included in this total, were doubled during the year to 87,000 tons averaging 0.71 oz/ton.

Preliminary estimates from diamond drilling only in the 409 and Lower orebodies indicate approximately 580,000 tons averaging 0.63 oz/ton above the 750 level. Downward extensions below the 750 level, indicated by intersections below this horizon, have not been included in this estimate.

#### **DEVELOPMENT PROGRAM AND RESUMÉ OF ORE POSITION**

As noted in the last Annual Report, sinking of No. 3 Shaft is the initial stage in the long range development program, with this opening planned as the main production shaft for the future. On completion of sinking to the initial depth of 1,025 feet, lateral work will be commenced on several levels. The primary objective will be connection on the 750 level to the No. 2 Shaft workings, both for ore haulage and for access on that level to the 409 and Lower orebodies. Development of the South and Central ASD Zones is planned for all levels, and it is now expected that the connection to No. 1 Shaft will be made on the 750 level.

As the program outlined above will be commenced during the current fiscal year, it is appropriate now to review the known ore zones which will be made accessible by this development. Attention is directed to the Property Map accompanying this report on which the locations of Nos. 1, 2 and 3 Shafts, and the known ore zones are shown. It should be emphasized that an important feature of this large scale development from No. 3 Shaft is the opportunity that will be afforded for exploration for new orebodies, both laterally and to depth.

#### **No. 2 Shaft Area**

As noted previously, developed ore reserves in these workings are estimated at 712,000 tons above the 575 level, and preliminary estimates from diamond drilling in the 409 and Lower orebodies indicate approximately 580,000 tons above the 750 level within the limits explored to date.

#### **South and Central ASD Zones**

These Zones are immediately accessible from No. 3 Shaft. As stated in previous Annual Reports, 690,000 tons averaging 0.28 oz/ton (with 20% dilution allowance) were

estimated in the South ASD Zone to a maximum depth of 550 feet. The 575 and 750 levels will be exploring practically new ground in this area. In the Central ASD Zone, two intersections, of ore grade were obtained at depth by surface drilling, but their relationship to the South ASD ore will be determined only by underground work. The possibility for selective mining of ore shoots of better than average grade will be investigated by this development.

### Southern Area

This area includes the Creek Zone, the West Zone, the East Zone and its North Extension, and the South Zones. When developed, ore from these structures will be delivered to No. 3 Shaft through the main haulage level, with No. 1 Shaft being maintained as a service opening. Estimates from surface diamond drilling and preliminary development indicate that some 1,000,000 tons of 0.38 oz/ton ore (with 20% dilution allowance) can be expected from these zones above the 325 level horizon, with a large proportion of this tonnage having an average of over 0.40 oz/ton.

As noted in the next section of this Report, surface diamond drilling on the West Zone during the summer of 1949 indicated a substantially higher overall grade than that estimated from the original drilling. In addition, direct evidence of important ore-bearing conditions at deeper horizons, and well located with respect to the proposed development from No. 3 Shaft, was obtained in the last hole drilled in the 1949 program.

With respect to dilution, stoping experience to date at No. 2 Shaft has shown dilution averaging about 12½% and this factor was used in the current estimates for No. 2 Shaft area. The original arbitrary factor of 20%, which has been retained in all other estimates, is subject to adjustment as experience is gained.

### EXPLORATION FROM SURFACE

During the summer of 1949 surface diamond drilling was carried out in the southern portion of the property, chiefly to obtain needed information on the attitude of the West Zone orebody. Results were very encouraging and indicated a substantially higher grade than could be estimated from the original surface drilling. Within a length of 400 feet in the southern portion of the zone an easily accessible block of approximately 385,000 tons averaging 0.48 oz/ton, without dilution allowance, can now be estimated above the 200 foot horizon. The mineralization was traced for another 400 feet to the north though most of the intersections were low grade. About 160,000 tons averaging 0.20 oz/ton have been estimated for this section.

The last hole in the 1949 program, drilled between the West and East Zones, intersected good grade material at a depth of 500 feet, indicating important ore-bearing conditions at deeper horizons in this area.

Surface drilling to explore the northern portion of the property between the No. 2 Shaft workings and the north boundary was started during the latter part of May. To date, encouraging intersections have been obtained in several of these holes.

### CONSTRUCTION

The major construction work was carried out in the No. 3 Shaft area and at No. 1 Camp. At the former, a headframe of B.C. fir, 105 feet in height to the sheaves, was erected and a temporary waste bin built for the sinking operation. This bin will be removed when the

permanent ore and waste bins, of steel construction, are erected this summer. Metal sheathed, steel-frame buildings were erected for the No. 3 Shaft Dry, the Hoist and Compressor house, and the Assay Office. At No. 1 Camp, a modern Cafeteria and a new Staff house were built. The Cafeteria is capable of handling the working force which would be required for an operation of at least double the present tonnage.

At the Treatment Plant a second fine ore bin, with necessary conveyors, was erected in an addition on the north side of the mill. Other additions to mill equipment included a tray in the flotation feed dewatering thickener, a screw conveyor to return oversize to the primary ball mill from the secondary classifier, and a second precipitation press. A testing laboratory was built in the mill and ore testing and research are now in progress.

No. 2 Shaft headframe was raised 25 feet to a height of 80 feet and a larger ore bin of laminated timber construction was erected.

During April and May, 1950, a start was made on the current construction program of which the major project is the Cottrell plant. Other units will include the main warehouse at No. 3 Shaft and a firehall and bunkhouses at No. 1 Camp. The installation of a sprinkler system in the plant buildings in the No. 3 Shaft-Treatment Plant area will also be carried out this summer.

#### GENERAL

Operating costs at the mine were reduced by approximately \$2.00 per ton milled from the previous fiscal year. Interest on bank loans declined to 26 cents per ton, as compared with 81 cents per ton last year. These decreases, together with a substantial reduction in administrative and corporate expenses, resulted in an overall reduction of \$3.00 per ton in total operating costs for the fiscal year.

As noted in the previous Annual Report, the Company's contract with the Northwest Territories Power Commission stipulated that the minimum contract quantity of primary power be increased to 2,500 horsepower years during the fiscal year under review. As a result of this increase in the minimum contract, primary power expense for the fiscal year amounted to \$229,709.48, equivalent to \$1.82 per ton milled.

The working force averaged 300 for the year, including 42 men directly on construction. No noticeable improvement occurred in labour turnover during the period. Careful study was made of the cost of living for married employees, with particular reference to heating costs during the severe winter months, as compared with that of other mining communities. As a result, the Company now furnishes a substantial portion of the winter heating oil requirements for married employees resident in the district. As a further step, a cost-of-living bonus for these employees was established in the revised Collective Bargaining Agreement which became effective on April 1st of this year.

The support of the President and Directors, and the co-operation of the Staff and General Roll employees, are gratefully acknowledged.

Yours very truly,

A. K. MUIR,  
General Manager.

Yellowknife,  
Northwest Territories.





PHOTOGRAPH COURTESY  
JOHN RENNIE, YELLOWKNIFE, N.W.T.

No. 3 SHAFT TREATMENT PLANT AREA.

No. 2 SHAFT IN BACKGROUND.

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# EXPLANATION

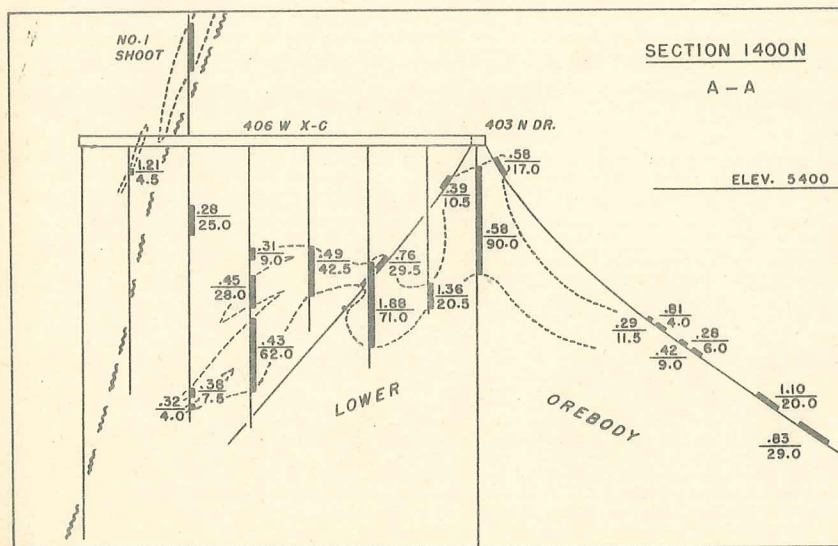
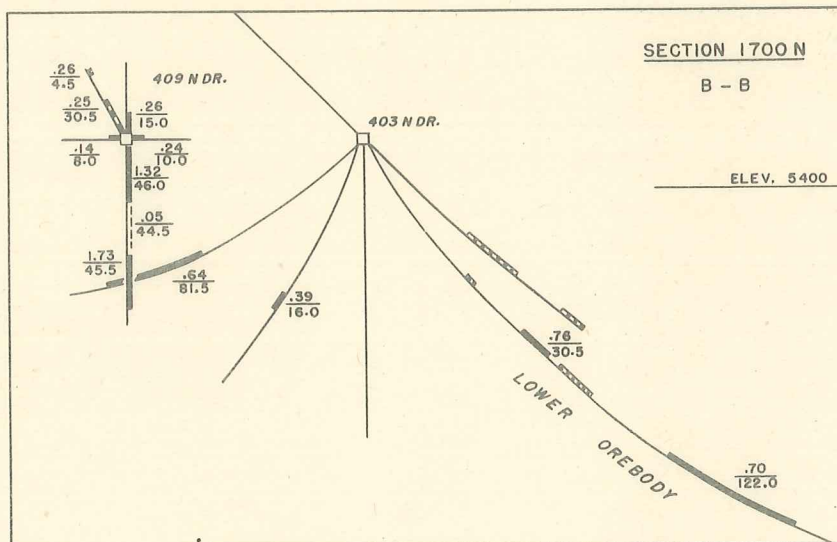
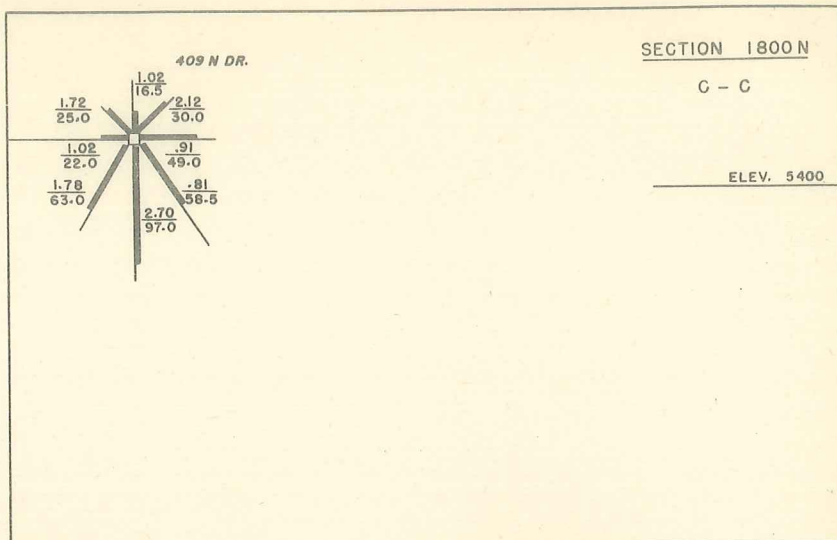
ORIENTATION OF SECTIONS  
N 60°W — S 60°E

DIAMOND DRILL HOLE INTERSECTION

OZ. PER TON GOLD  
CORE LENGTH IN FEET

DIABASE DIKE

FAULT



VERTICAL CROSS-SECTIONS  
TO ILLUSTRATE  
409 AND LOWER OREBODIES

0 40 100 200  
SCALE FEET

JUNE 1950

