

A  
PRELIMINARY EVALUATION  
OF THE  
GORDON LAKE PROPERTY  
OF  
GIANT BAY RESOURCES LTD.

Arthur T. Fisher & Associates Limited  
3383 Marine Drive  
West Vancouver, British Columbia

November 25, 1985

# *Arthur T. Fisher & Associates Limited*

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## CERTIFICATE

I, Arthur T. Fisher, P. Eng., Mining Consultant of

3383 Marine Drive  
West Vancouver, B.C.  
V7N 1N1

do hereby certify that:

- 1) I am a B.Sc. (Mining) graduate from the University of Edinburgh, Scotland (1963).
- 2) I hold a Diploma in Business Administration from the University of Edinburgh (1968).
- 3) I am a registered member of the Association of Professional Engineers in the Province of Ontario, Alberta and British Columbia.
- 4) I am registered as a Chartered Engineer, London, England.
- 5) I have practiced as a Consulting Mining Engineer in Canada continuously since 1975.
- 6) I have experience in the management of small gold mines in Canada. During the period 1980 - 1985 I was Vice President, Mining, Erickson Gold Mines, Vancouver.
- 7) My report is based on my personal review of the geological, engineering and sampling data provided by Giant Bay Resources Ltd., but no on-site examination of the property or drill core has been made.
- 8) I have no interest, nor do I expect to receive any interest either directly or indirectly, in Giant Bay Resources Ltd.
- 8) I herewith grant my permission for Giant Bay Resources Ltd. to use this report for whatever they deem necessary.

Dated in Vancouver, B.C. on this 28th day November 1985.



A.T. Fisher, P.Eng.

ATF/th

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### SUMMARY

The Gordon Lake property was acquired by Giant Bay Resources Ltd. of Vancouver in 1983. It is located about 50 miles north of Yellowknife, Northwest Territories, and can be reached by road in winter or by float plane in summer.

The property has been explored during the summers of 1983, 1984 and throughout 1985, with total exploration expenditures in this period amounting to about \$2.5 million. Approximately 30,000 feet of diamond drilling have been completed identifying gold mineralization in several zones. In one of these zones a steeply dipping vein structure calculated by Giant Bay to amount to 324,000 tons at an in-situ grade of 0.24 ounces of gold per ton has been identified. Within this zone, higher-grade lenses of ore have been delineated and have been calculated to contain drill indicated reserves of about 157,000 tons of ore at a fully diluted mineable grade of 0.35 ounces of gold per ton.

Metallurgical testing of the ore indicates that flotation treatment of the ore will give a gold recovery of 94% and that the resulting concentrate will be treated on site in a cyanide circuit to give an overall recovery of 89.5%.

It is recommended that exploration of the mineralized zones be continued in 1986 and that this exploration include underground development of the ore zone. This development will include driving a ramp to a level about 200 feet below surface and then driving two raises through the mineralized zone such that detailed sampling of the ore can be completed and a bulk sample of the ore obtained. Estimated expenditure involved in such an exploration programme is about \$1.5 million.

Provided the exploration programme confirms the size and quality of the gold mineralization above the 200 level, it is concluded that the drill-indicated

reserves in the No. 1 Zone are sufficient to support a viable operation at the current gold price of U.S. \$325 per ounce.

It is estimated that the capital cost required to bring the project to production at the recommended scale of operation (i.e. 300 tons milled per day) will be about \$10.3 million as shown below.

Mine Development	\$ 1,650,000
Mine Equipment	900,000
Mill	4,100,000
Infrastructure	<u>1,000,000</u>
Total Capital Expenditure	\$ 7,650,000
Contingency Allowance 15%	1,147,000
Working Capital (2 months)	<u>1,486,000</u>
Total Preproduction Expenditure	\$10,283,000

At the recommended scale of production, it is estimated that the total cash cost of operation of the complex, including Head Office costs, will be about \$83 per ton.

Under the above conditions and at a gold price of U.S. \$325 per ounce, the revenue per ton of ore processed will be about \$135 to yield an operating margin of \$52 per ton milled or \$8.2 million from the current reserve in the No. 1 Zone.

The present value of the reserve defined to date is about \$0.4 million and the after tax rate of return on the initial investment of \$10.3 million is 13.3%.

It is also recommended that exploration of four other gold-bearing vein structures which have been discovered on the Gordon Lake Property be continued during 1986 and that a total of about \$1.0 million be provided for such exploration.

The present value of the property is shown to increase from \$0.4 million to \$3.5 million if the ore reserve can be expanded from 157,000 tons to 250,00 tons



**TABLE I**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**PRESENT VALUE OF PROJECT UNDER VARIOUS OPERATING CONDITIONS**

Scale of Operation T.P.D.	Ore Reserve - 157,000 Tons			Ore Reserve - 250,000 Tons			Ore Reserve - 500,000 Tons			
	Capital Cost \$ Millions	Operating Cost \$/Ton	Present Value \$ Millions	After Tax Return on Investment	Operating Cost \$/Ton	Present Value \$ Millions	After Tax Return on Investment	Operating Cost \$/Ton	Present Value \$ Millions	After Tax Return on Investment
200	\$ 9.59	\$ 104.79	(\$2.5)	-	\$ 104.79	(\$0.6)	7.1%	\$ 104.79	\$ 2.4	17.5%
300	\$ 10.28	\$ 82.57	\$ 0.4	13.3%	\$ 82.57	\$ 3.5	33.3%	\$ 82.57	\$ 9.6	48.0%
400	\$ 11.30	\$ 71.45	\$ 1.3	21.5%	\$ 71.45	\$ 5.3	49.6%	\$ 71.45	\$ 13.2	69.9%

NOTES 1) Gold Price - U.S. \$325/oz.  
2) Cdn. \$/U.S. \$ Exchange Rate - Cdn. \$1.00 - U.S. \$0.73  
3) Discount Rate - 10%  
4) Constant Cdn. \$ of late 1985 value

of similar grade material, or to \$9.6 million if the total reserve can be expanded to 500,000 tons of similar grade ore.

The increase in the present value of the project is indicative of the sensitivity of the evaluation to increasing reserves and of the desirability of continuing an active exploration programme at the property during 1986.

Valuations of the No. 1 Zone of the Gordon Lake project under various scales of operation and at the above ore reserve levels are shown in Table I.

## INTRODUCTION

Arthur T. Fisher & Associates Limited received a request in mid-September 1985 from Mr. Ross O. Glanville, President of Giant Bay Resources Ltd. (Giant Bay) to review and evaluate the results of exploration programmes completed during 1983, 1984 and 1985 at the Gordon Lake property, Northwest Territories. The principal discovery of interest at the property is a series of quartz veins that have been shown to host extensive gold mineralization.

This evaluation of the mineralized zones delineated by these programmes is based on data supplied by the Giant Bay exploration crew and, in particular, on information provided by Dr. Juan Caelles who directed the exploration activities in 1985 and also on site during the 1984 exploration season. Dr. Caelles also calculated the ore reserves.

Principal sources of information used in this study comprise various plans and sections of the mineralized zones together with drill logs, assays of the mineralization and estimates of the specific gravity of the mineralized material. The assays were undertaken by Loring Laboratories of Calgary in 1984 with some check assays being performed by Chemex Laboratories of Vancouver. Chemex performed all assays in 1985. Specific gravity measurements were performed by Giant Bay staff during 1985.

In addition, certain metallurgical studies of the mineralized material prepared by Coastech Research Inc. of North Vancouver were reviewed during the course of this study.

The co-operation of the staff of Giant Bay Resources Ltd. in the preparation of this report is gratefully acknowledged.

## THE PROPERTY

### LOCATION AND ACCESS

The Gordon Lake property is located on the west side of Gordon Lake which is 50 air miles north-northeast of Yellowknife, the capital city of the Northwest Territories, as is shown in Figure 1.

The property is accessible in summer, when the lakes are free of ice, from late May to mid-October by float-equipped aircraft ranging in size from a Cessna 185 with an 800 lb. payload to a Twin Otter with a 4,000 lb. payload.

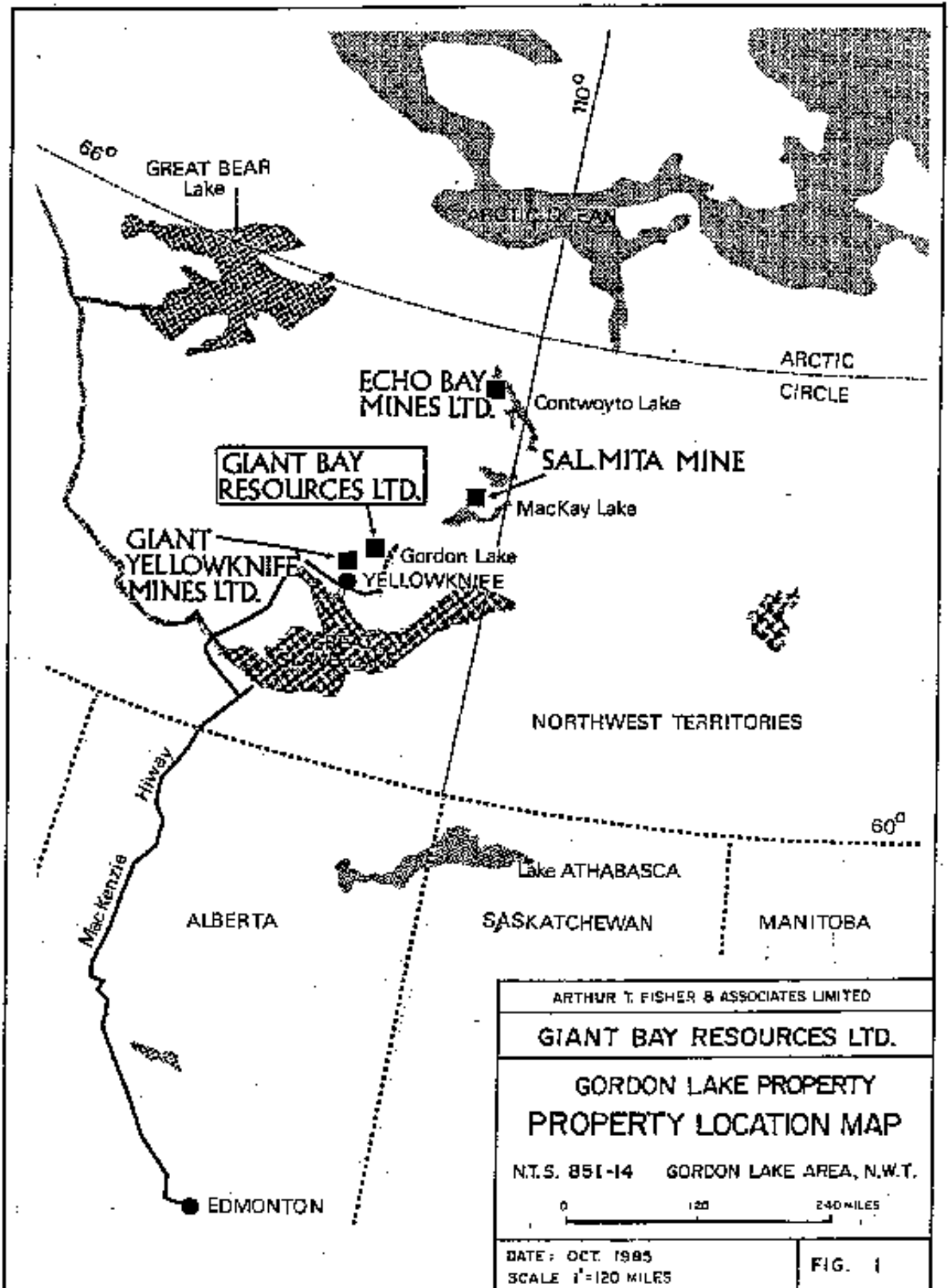
The property is accessible in winter by ski-equipped aircraft and by trucks operating on winter roads built on the frozen lakes and tundra. The ski-equipped aircraft range in size from a Cessna 185 up to a D.C.-3 with a 7,000 lb. payload. Trucks with 20 ton payloads use the winter road from January to March when the ice thickness is adequate.

The winter truck route to the Salmite Mine and the Lupin Mine, both in the barren lands north of Yellowknife, passes east from the city for 50 miles on an all-weather gravel highway called the Ingraham Trail, then turns north on the frozen lakes and tundra and along the centre of Gordon Lake, passing within two miles of the Gordon Lake property.

The Gordon Lake property is located about 85 road miles from Yellowknife. Freight can be moved to the property from Yellowknife at a cost of about \$50 per ton and ore could be trucked from the property to a mill in Yellowknife at a cost of about \$30 per ton.

### CLIMATE

The climate of the Gordon Lake area is severe with temperatures ranging from about +30°C in summer to below -40°C for short periods during the winter.



Very low temperatures can be encountered between November and March. Annual rainfall in the area is about 1.0 metre.

### CONTROL OF PROPERTY

The Gordon Lake property consists of 12 contiguous mineral claims containing 4,433 acres which are legally described in Table II, with the claim lapse date and size being shown beside the legal description.

The LYNK 1 to 4 claims are contained in a Crown Lease No. 2450 and they are legally described as Lot 229, Group 1015, shown on Survey Plan 57031. No further assessment work is necessary or can be recorded on these claims.

The claims are either owned outright by Giant Bay Resources Ltd. or have been purchased by virtue of an agreement with over-riding conditions.

Although the records for the claims were not examined during the course of this study, the claims are all reported by the company to be in good standing as shown above.

The claims are shown in Figures 2 and 3.

### PROPERTY HISTORY

Exploration of the Gordon Lake property was first recorded in 1938 when the Borealis Syndicate carried out extensive trenching, stripping and sampling of the gold-bearing quartz veins together with some minor drilling of the zones.

In 1944 Lynk Yellowknife Gold Mines drilled 2,600 feet in 18 drill holes.

In 1983 the property was staked by the Irly Bird Gold Syndicate and was subsequently acquired by Giant Bay. In that year 2,795 feet of diamond drilling were completed. Gold mineralization of economic grade was intersected in three separate zones. Exploration expenditure on the Gordon Lake property by Giant Bay in 1983 amounted to about \$180,000.

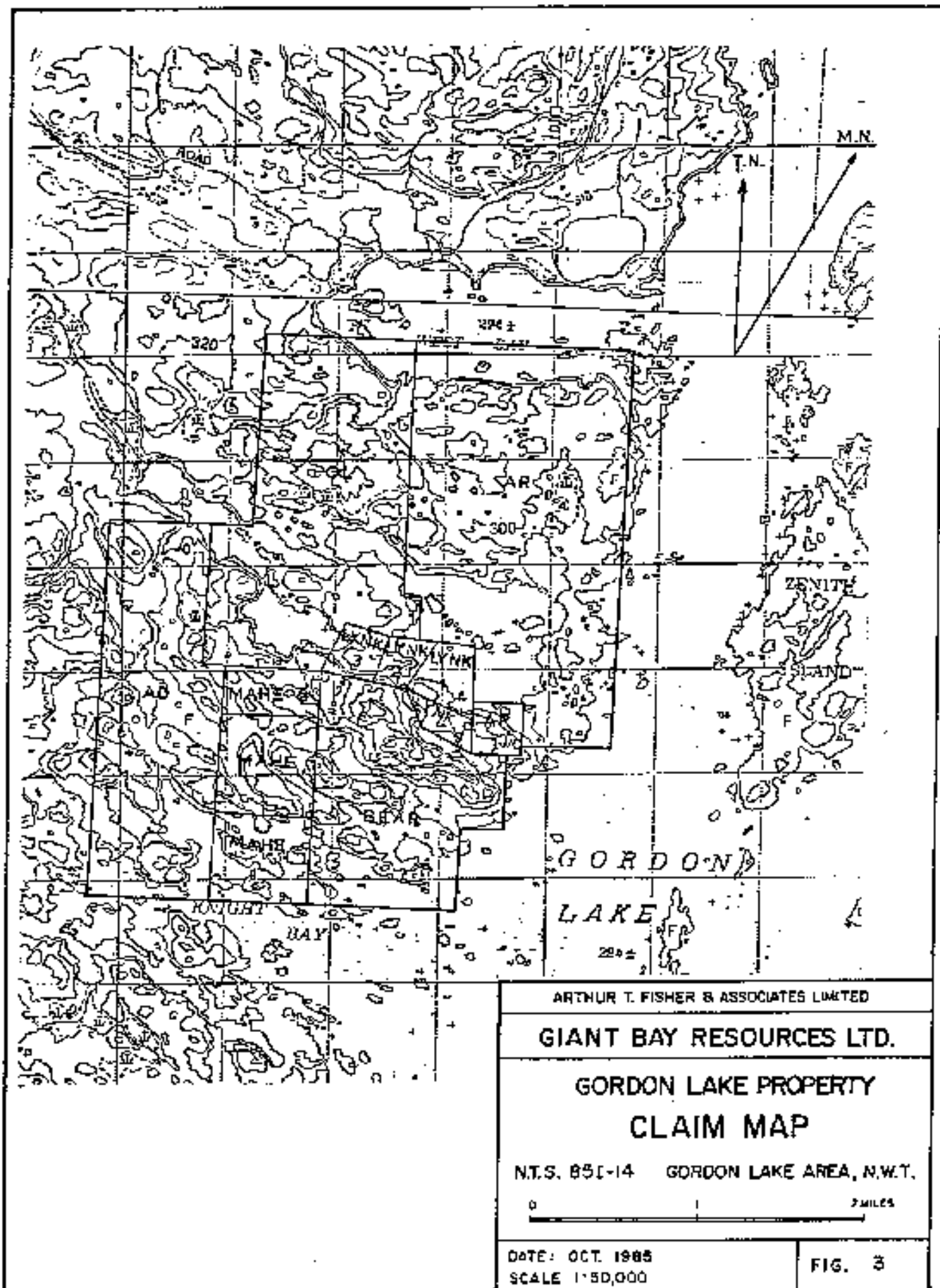
TABLE II

**GIANT BAY RESOURCES LIMITED  
LANDS COMPRISING  
THE GORDON LAKE PROPERTY**

<u>Claim Name</u>	<u>Tag Number</u>	<u>Acreage</u>	<u>Lapse Date</u>
Ar	F09131	723.1	26/01/87
Bea	F09132	816.0	26/01/88
Make	N89416	206.6	01/03/88
Make #1	F11763	206.6	06/06/88
Make #2	F09443	103.3	06/06/88
Ad	F10304	953.7	06/06/88
Ar #1	F11766	51.6	06/06/88
POL	F10302	1,187.9	06/06/88
LYNK 1	46293 )		12/08/92
LYNK 2	46294 )		12/08/92
LYNK 3	46295 )	182.2	12/08/92
<u>LYNK 4</u>	46296 )		12/08/92
12 Claims		<u>4,443 Acres</u>	







During the spring and summer of 1984 Giant Bay conducted more extensive exploration of the property. The 1984 programme included grid cutting, magnetometer survey, mapping, sampling of old surface workings, diamond drilling of 20,537 feet in 64 holes and percussion drilling of 1,630 feet in 30 holes. Exploration expenditure in 1984 amounted to about \$1.5 million.

In 1985 the exploration programme extended the 1984 cut grid, and completed magnetometer and other geophysical surveys over the 1985 grid together with mapping and prospecting of the new grid in detail. In addition, the remainder of the property was prospected on a reconnaissance scale.

After the discovery of various vein structures in 1985, trenches were dug across the new showings while 6,333 feet of diamond drilling were completed in 30 holes. Exploration expenditures in 1985 are expected to total about \$700,000.

## GEOLOGY

### REGIONAL GEOLOGY

All consolidated rocks in the Gordon Lake area are early Precambrian sediments of the Yellowknife Group. They include beds of greywackes and slate with lesser beds of quartzite, arkose and chert. In most cases bedding is conspicuous but, in a few localities, it is obscured to the extent that individual beds are difficult to recognize. The most typical stratum in the assemblage consists of an arenaceous base grading to a silty or muddy top and it is this gradation of grain size that permits the determination of stratigraphic tops and therefore the recognition of folds in the rocks. The beds all dip steeply with many being overturned; the prevailing trend is northeast in the eastern part of the area and northwest in the western part.

The rocks have been affected by two stages of deformation. The first stage produced isoclinal folds with relatively closely-spaced axial planes while the second stage refolded the rocks into a series of complex, open, steeply-plunging folds. This second period of deformation warped both the limbs and the axial planes of the earlier isoclinal folds and resulted in a complex pattern which is frequently difficult to interpret.

Quartz veins showing a variety of structural controls were introduced along the flanks and axial zones of the folds. These quartz structures contain gold values which can be in excess of one ounce of gold per ton and several feet thick in places.

### GEOLOGY OF THE GORDON LAKE PROPERTY

The property is underlain by the Archean Yellowknife Supergroup which is locally made up of a turbidite sequence composed predominantly of greywackes with intercalations of subordinate siltstones and less abundantly argillites.

The greywackes occur as light to dark grey, medium to fine-grained beds which vary in thickness from a few inches to more than three feet.

The intercalated siltstones and argillites are grey to dark grey, thinly bedded and often show contorted bedding, a product of slumping or drag folding.

Black siltstones which are partly argillic are a very minor component of the sedimentary sequence and occur in very restricted areas. The occurrences are usually associated with 15% to 30% quartz, 2% to 15% sulphides (pyrite, pyrrhotite and arsenopyrite) and contain gold. These zones commonly exhibit brecciation which is believed to have occurred as a result of forceful injection of remobilized quartz.

Several diabase dykes striking northwesterly and up to 100 feet wide have been mapped on the property. These dykes crosscut all the structural features indicating their post-tectonic emplacement.

Highly-irregular quartz veining is very common within the property. Two types of quartz are recognizable macroscopically: grey quartz and white quartz. Grey quartz varies in colour from light grey to bluish grey and is, at least locally, cut and injected by white quartz veins. In most places white quartz has a more erratic distribution than the grey variety and often shows evidence of emplacement by forceful injection. The white quartz commonly occurs as isolated blow-outs in low pressure zones and in tension gashes without any discernible access conduit, strongly suggesting local remobilization and emplacement during folding.

Gold mineralization on the property is associated with quartz and, in places, with black, carbonaceous, fine-grained siltstones in zones up to 110 feet wide. The gold is mostly coarse grained with common occurrences of visible gold. The gold-bearing zones are located in areas of structural complexity where drag folding is often present.

### ORE RESERVES

The method of mineral inventory estimation which has been used to calculate the reserve delineated by the exploration programmes is to estimate the mineralized volume by plotting all available geological and drill hole information on a series of sections such that a three dimensional interpretation of the deposit is developed. From this model the value and tonnage of the mineralized zone can be calculated.

### SPECIFIC GRAVITY

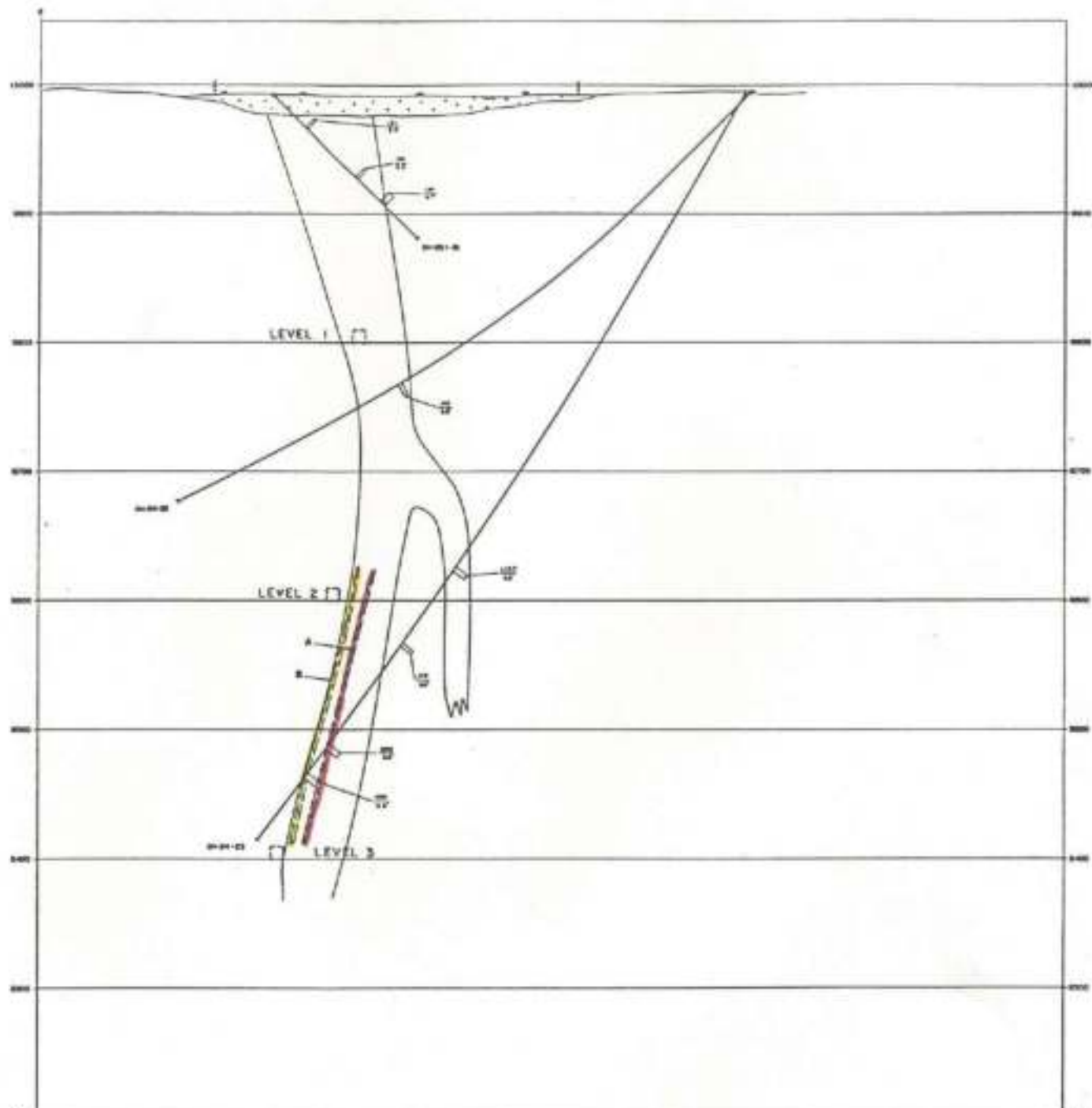
Various measurements of the specific gravity of the ore material have been made by the exploration group. It is apparent from these studies that the specific gravity of the ore is about 2.8 (i.e. one cubic meter of ore weights 2.8 tonnes). This factor has been used in the calculation of the tonnage of the reserve.

### GRADE DETERMINATION

Determination of the average grade of the ore on each section has been made by the weighted average of the drill intercept values for the section. Determination of the average grade in the total mineralized zone identified to date has then been made by weighted average of each section according to the tonnage in that section.

The determination of the tonnage and grade of the deposit has been made principally on the cross sections of the mineralized zone and this has been checked against a similar computation based on the longitudinal section of the ore body.

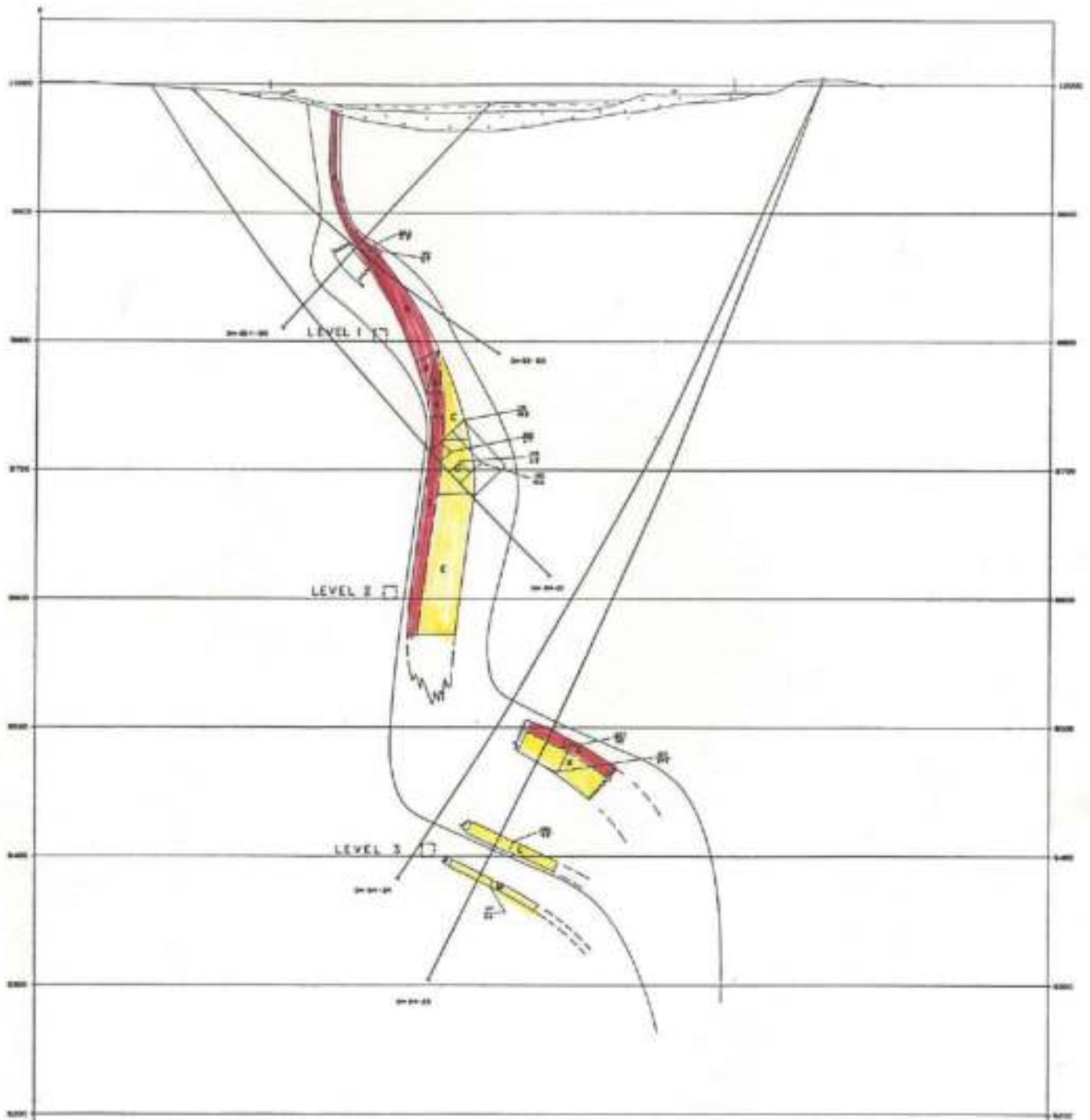
Cross sections of the ore body can be seen in Figure 4 through Figure 12, while a longitudinal section of the ore body is shown in Figure 13.



ORE RESERVE		
TONE	GOLD GRADE (oz/ton)	RESERVE
8927	609	5437oz

GIANT BAY RESOURCES LTD.  
 GORDON LAKE, N.W.T.  
 GEOLOGICAL SECTION  
 SECTION A

0 100 200 300 400 500 600 700 800 900 1000  
 FIG. 4  
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Ore reserve block, 10.2 oz Au/ton  
 Mineral inventory block, 10.2 oz Au/ton

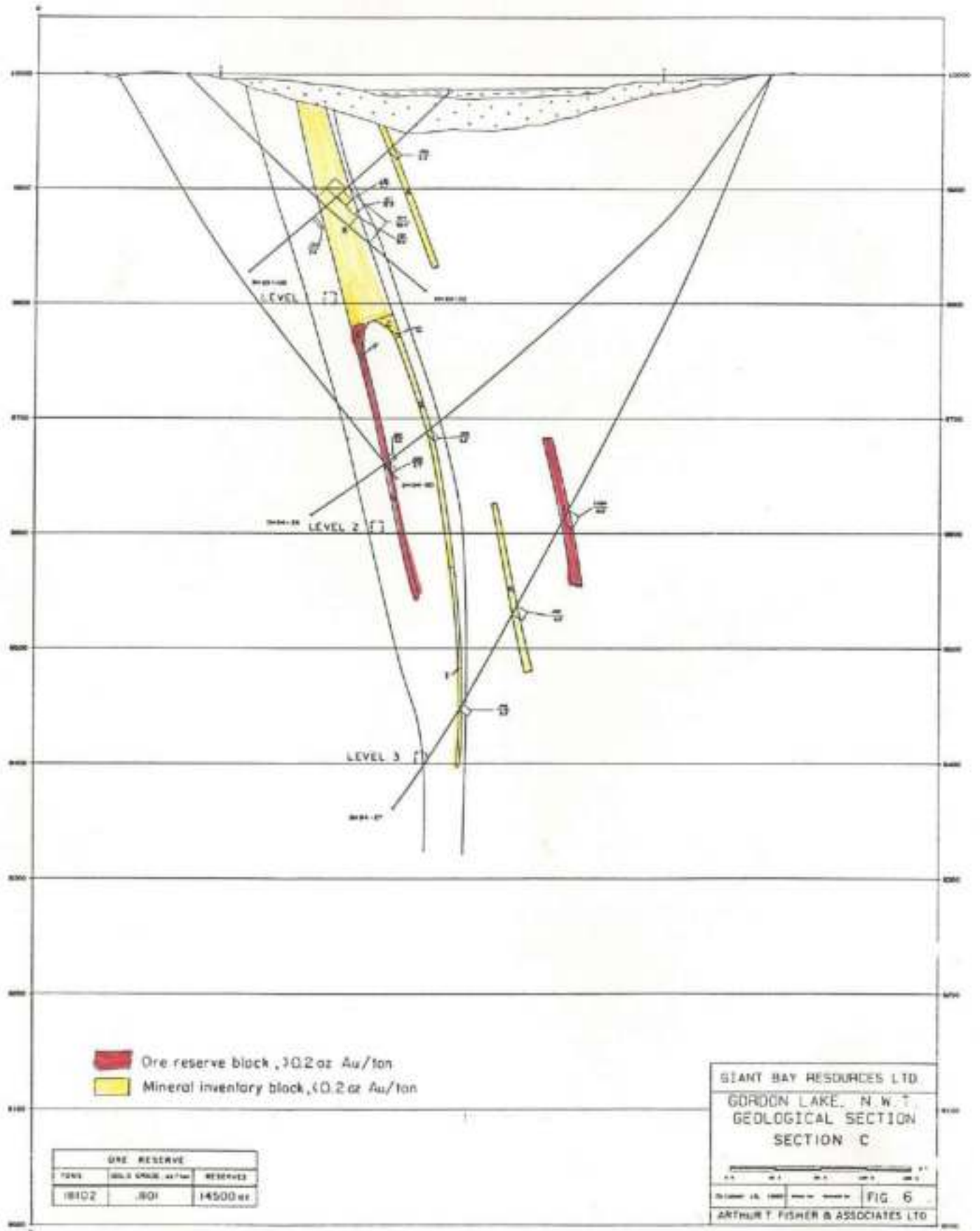
ORE RESERVE		
TONS	W.G. GRADE, oz/ton	RESERVE
35002	30.4	10641 oz

GIANT BAY RESOURCES LTD.  
 GORDON LAKE, N.W.T.  
 GEOLOGICAL SECTION  
 SECTION B

0 10 20 30 40 50 60 70 80 90 100 FT

October 18, 1980  
 ARTHUR T. FISHER & ASSOCIATES LTD.





■ Ore reserve block, 30.2 oz Au/ton  
■ Mineral inventory block, 10.2 oz Au/ton

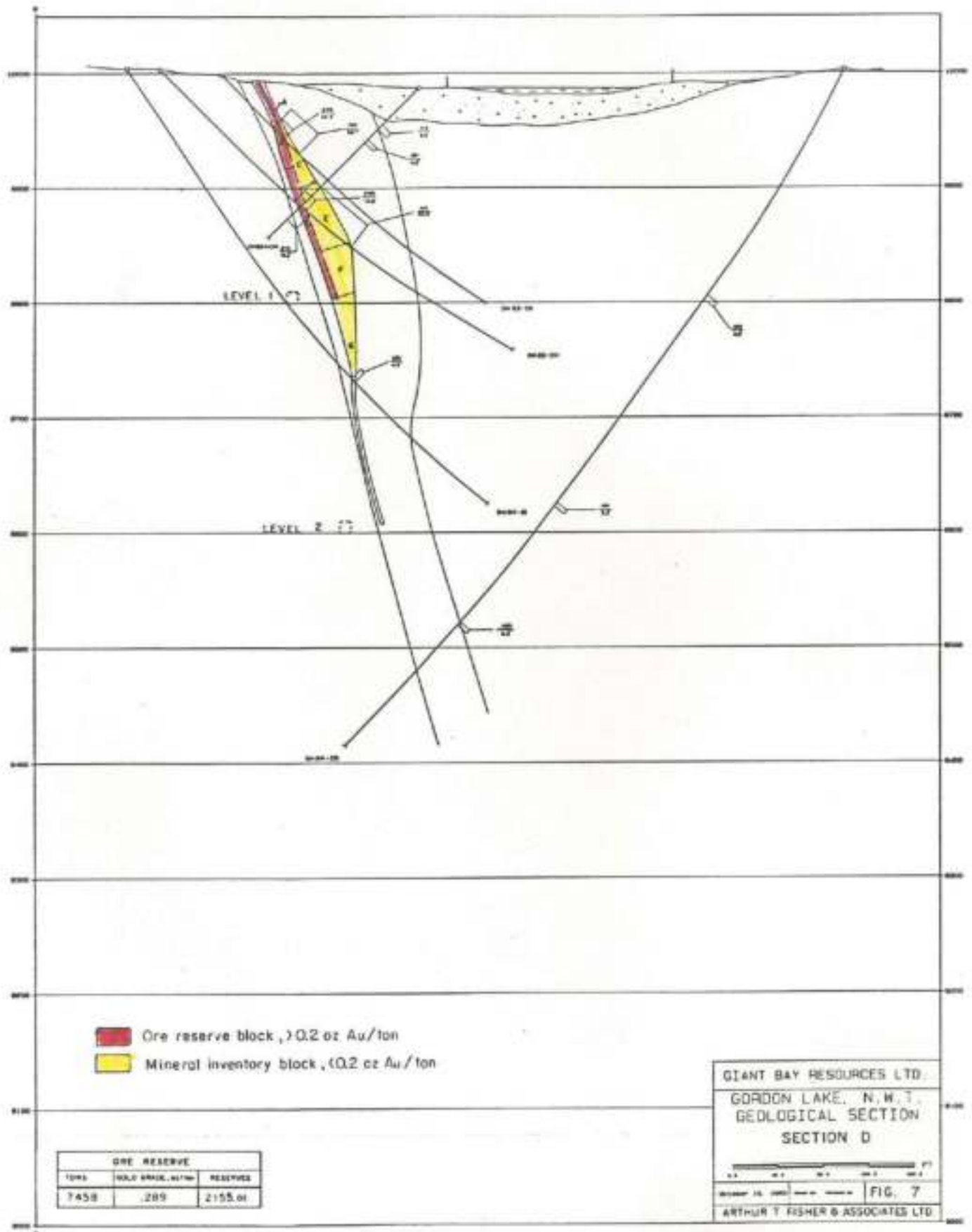
ORE RESERVE		
TONS	GOLD GRADE, oz/ton	RESERVES
18102	.801	14500 oz

GIANT BAY RESOURCES LTD.  
 GORDON LAKE, N.W.T.  
 GEOLOGICAL SECTION  
 SECTION C

0' 10' 20' 30' 40' 50'

25 JANUARY 1988      FIG. 6

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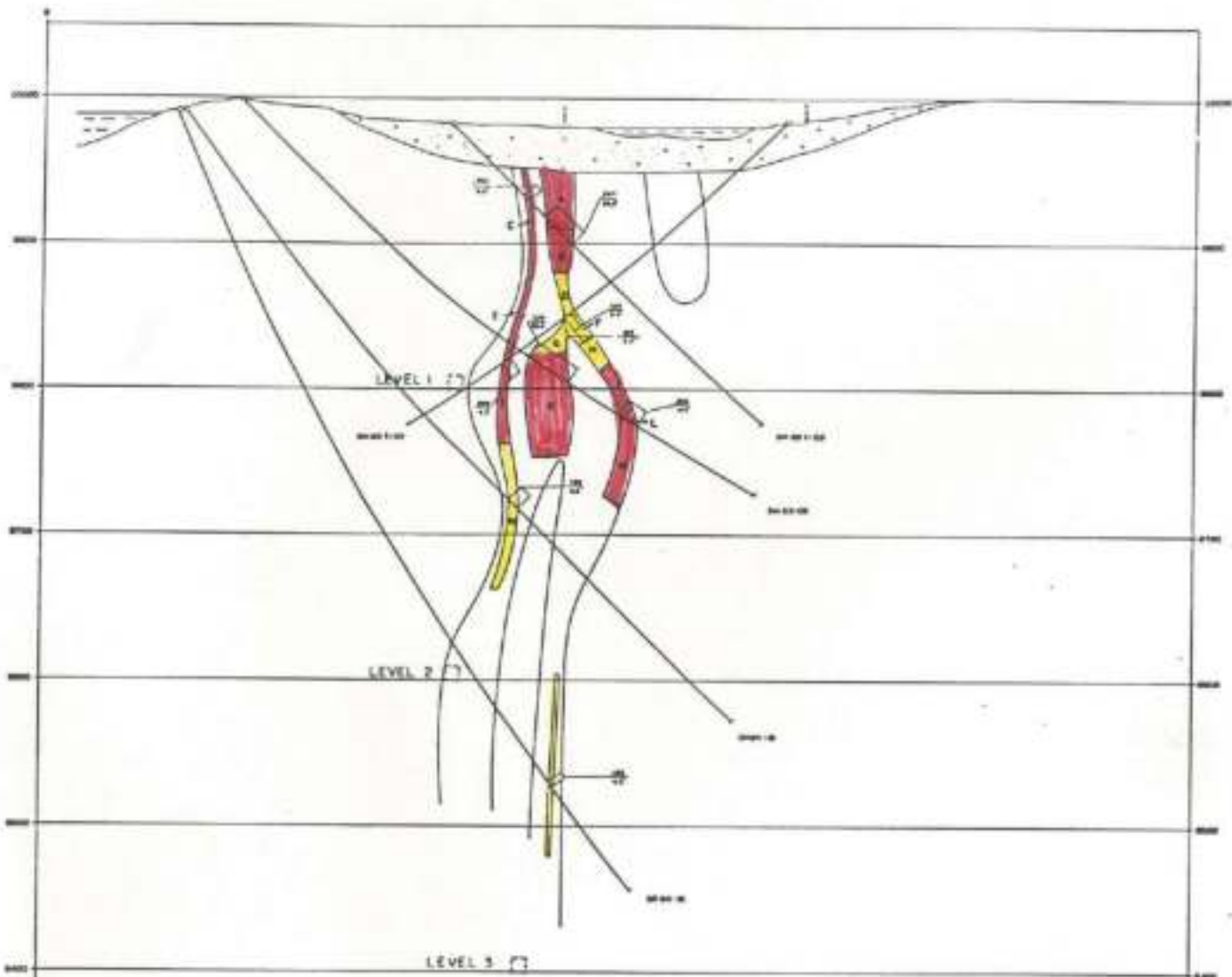
- Ore reserve block, >0.2 oz Au/ton
- Mineral inventory block, <0.2 oz Au/ton

ORE RESERVE		
TONS	GOLD GRAIN/TON	RESERVE
7458	.289	2155.0t

GIANT BAY RESOURCES LTD.  
 GORDON LAKE, N.W.T.  
 GEOLOGICAL SECTION  
 SECTION D

FIG. 7

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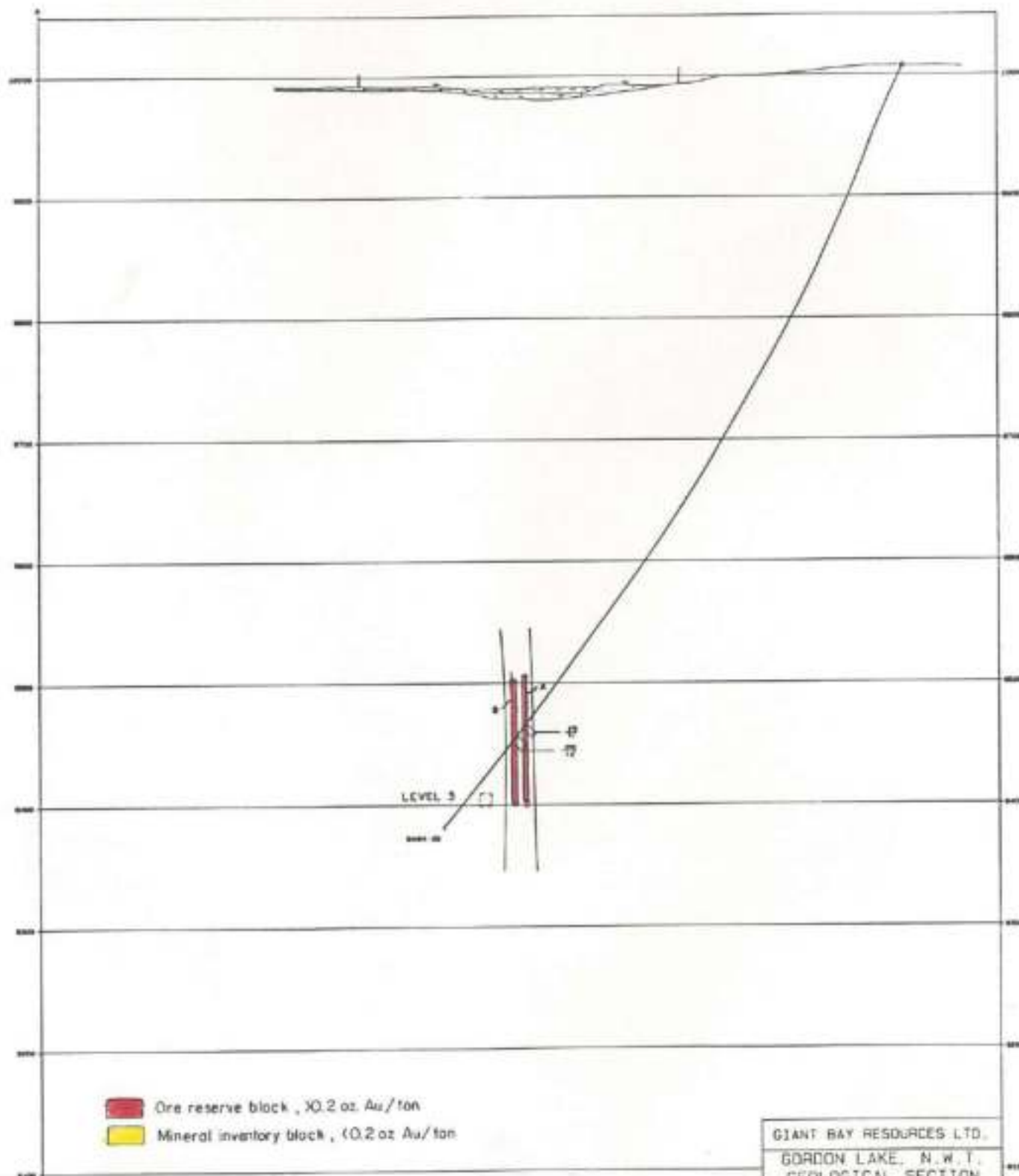
Ore reserve block, >0.2oz Au/ton  
 Mineral inventory block, <0.2oz Au/ton

ORE RESERVE		
TONNE	GRADE, Au/ton	RESERVE
24155	.318	7681 oz

GIANT BAY RESOURCES LTD.  
 GORDON LAKE, N.W.T.  
 GEOLOGICAL SECTION  
 SECTION E

0 100 200 300 400 500 FT

DECEMBER 19, 1995  
 FIG 8  
 ARTHUR T. FISHER & ASSOCIATES LTD



- Ore reserve block,  $>0.2$  oz Au/ton
- Mineral inventory block,  $<0.2$  oz Au/ton

ORE RESERVE		
TONS	AU/GRADE, oz/ton	RESERVE
2491	.328	812 oz

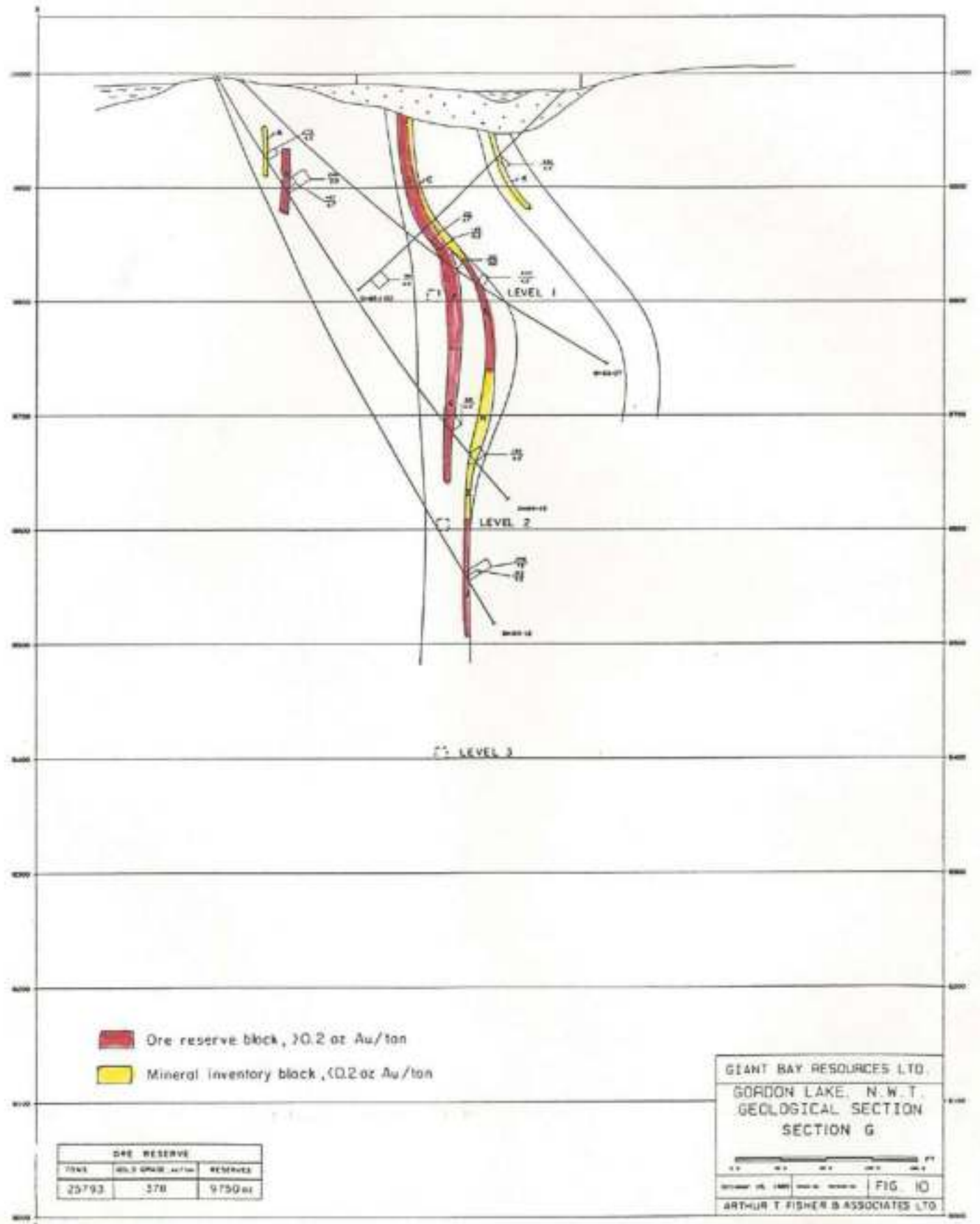
GIANT BAY RESOURCES LTD.  
GORDON LAKE, N.W.T.  
GEOLOGICAL SECTION  
SECTION F

————— 10' —————

SCALE IN FEET

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FIG. 9



- Ore reserve block, >0.2 oz Au/ton
- Mineral inventory block, <0.2 oz Au/ton

ORE RESERVE		
TONS	GOLD GRAIN	RESERVES
25793	378	9750oz

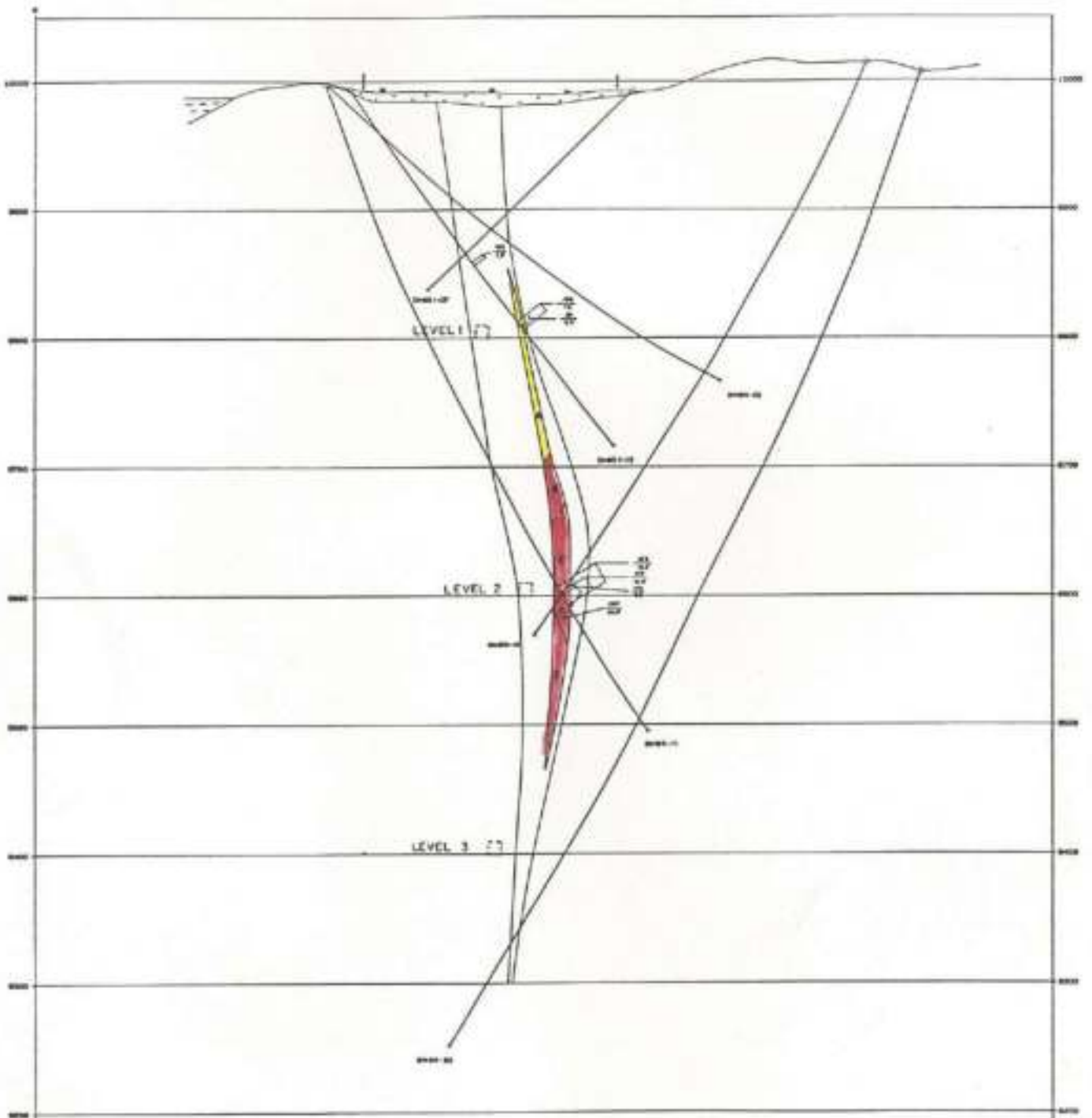
GIANT BAY RESOURCES LTD.  
 GORDON LAKE, N.W.T.  
 GEOLOGICAL SECTION  
 SECTION G

0 10 20 30 40 50 60 FT

OCTOBER 26, 1989

ARTHUR T. FISHER & ASSOCIATES LTD.

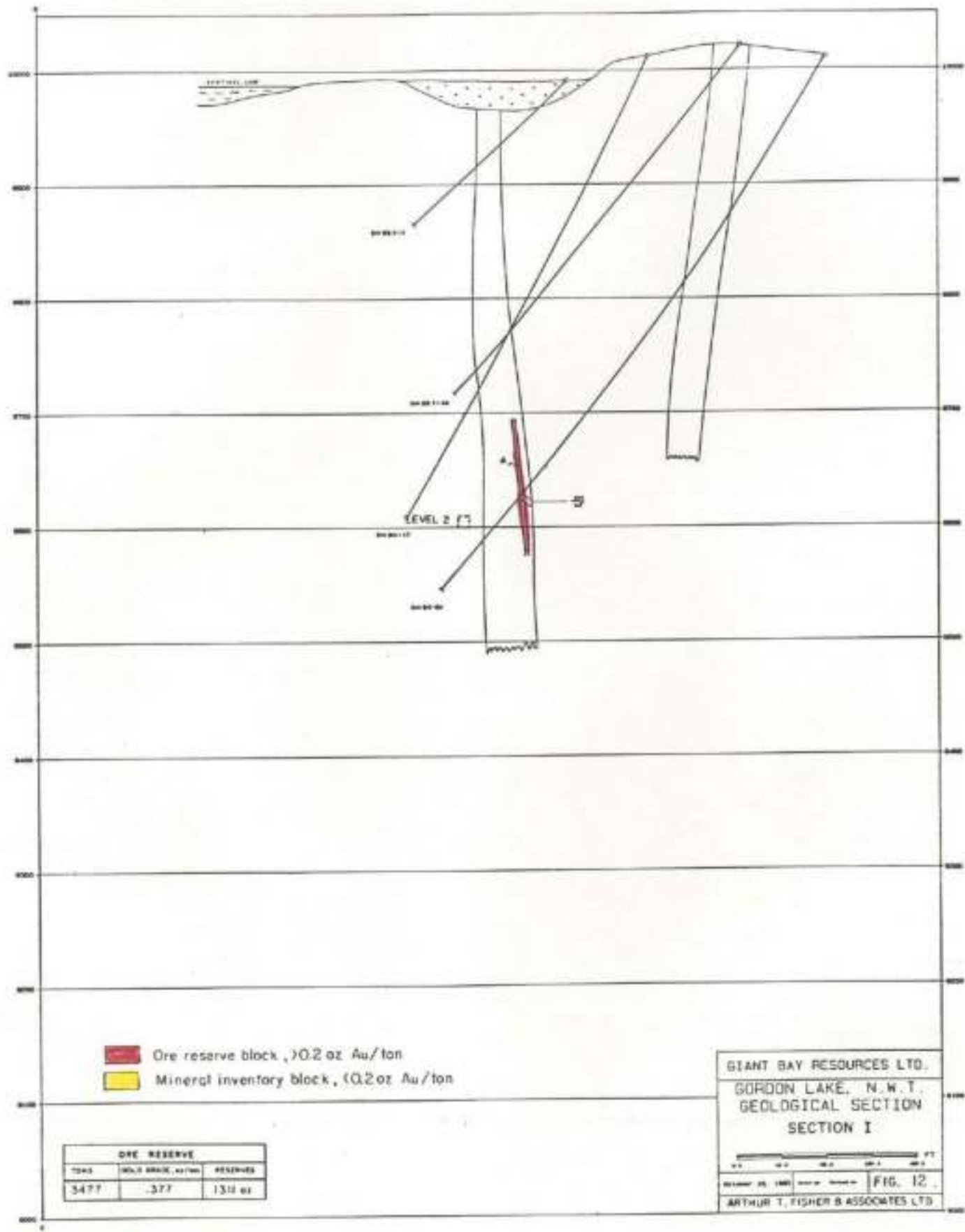
FIG. 10



Ore reserve block, >0.2 oz Au/ton  
 Mineral inventory block, <0.2 oz Au/ton

ORE RESERVE		
TONS	AU & SILVER, oz/ton	RESERVES
-	-	-

GIANT BAY RESOURCES LTD  
 GORDON LAKE, N.W.T.  
 GEOLOGICAL SECTION  
 SECTION H  
 October 16, 1988  
 FIG 11  
 ARTHUR T. FISHER & ASSOCIATES LTD



- Ore reserve block, 0.2 oz Au/ton
- Mineral inventory block, 0.2 oz Au/ton

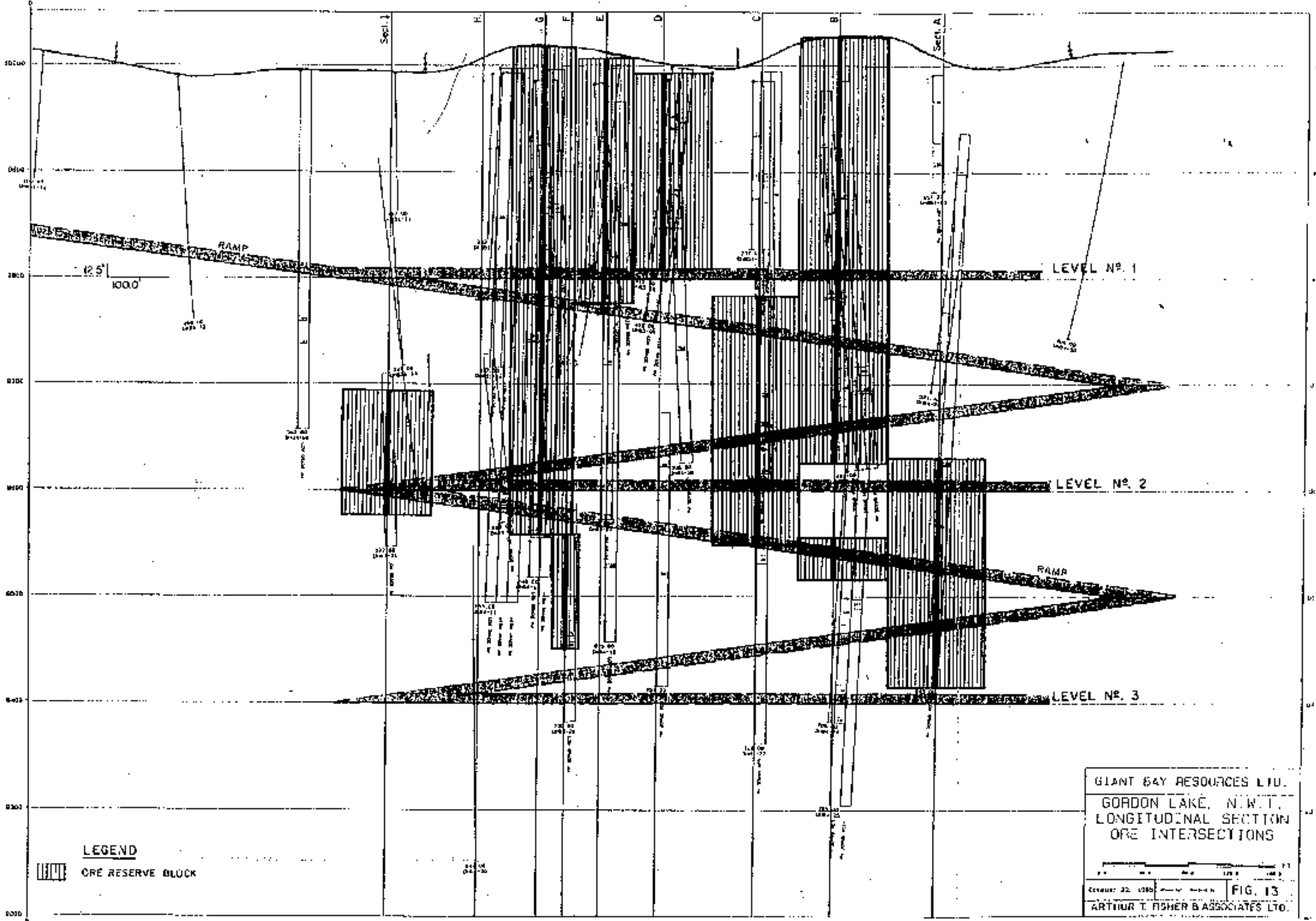
ORE RESERVE		
TONS	GRAV. GRADE, g/t	RESERVES
5477	0.377	1310 oz

GIANT BAY RESOURCES LTD.  
GORDON LAKE, N.W.T.  
GEOLOGICAL SECTION  
SECTION I

0 10 20 30 40 FT

FIG. 12

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**TABLE III**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**NUMBER ONE ZONE**  
**DRILL INDICATED ORE RESERVES - BY SECTION**

<u>Section</u>	<u>Tons</u>	<u>Grade Oz./Ton</u>	<u>Total Oz.</u>	<u>Dilution Tons</u>	<u>Dilution Oz.</u>	<u>Total Tons</u>	<u>Grade Oz./Ton</u>	<u>Total Oz.</u>
A	8,927	.609	5,437	2,231	223	11,158	.507	5,660
B	35,002	.304	10,641	8,750	875	43,752	.263	11,516
C	18,102	.801	14,500	4,525	452	22,627	.661	14,952
D	7,458	.289	2,155	1,864	186	9,322	.251	2,341
E	24,155	.318	7,681	6,038	603	30,193	.274	8,284
F	2,491	.326	812	622	62	3,303	.265	874
G	25,793	.378	9,750	6,448	644	32,241	.322	10,394
H	-	-	-	-	-	-	-	-
I	<u>3,477</u>	<u>.377</u>	<u>1,311</u>	<u>869</u>	<u>86</u>	<u>4,346</u>	<u>.321</u>	<u>1,397</u>
Total	125,405	.417	52,286	31,347	3,043	156,942	.344	54,021

- Notes: 1) Cut-off grade - 0.1 oz./ton.  
2) Minimum mining width - 4 feet.  
3) Dilution - 25% at 0.1 oz./ton.

Mining Reserve = 156,942 tons at a diluted grade of 0.344 oz./ton.

**TABLE IV**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**NUMBER ONE ZONE**  
**DRILL INDICATED MINERAL INVENTORY - BY SECTION**

<u>Section</u>	<u>Tons</u>	<u>Grade Oz./Ton</u>	<u>Total Oz.</u>
A	17,385	.366	6,363
B	93,866	.179	16,802
C	85,687	.273	23,393
D	31,717	.143	4,536
E	31,379	.274	8,598
F	2,491	.326	812
G	27,444	.341	9,358
H	31,033	.200	6,207
I	<u>3,477</u>	<u>.377</u>	<u>1,311</u>
Total	324,479	.238	77,379

- Notes: 1) Cut-off grade - 0.1 oz./ton.  
2) Minimum mining width - 4 feet.  
3) Mineral inventory - 324,479 tons at in-situ grade of 0.238 oz./ton.

### CUT-OFF GRADE

For the purpose of this study the mineralized reserve has been calculated at a cut-off grade of 0.1 ounces gold per ton over a minimum width of four feet. No allowance has been made for the silver content of the ore since not only is the silver grade low, but the price of silver is also low such that silver will make no meaningful contribution to the cash flow resulting from processing of the ore. Review of the mineral reserve in association with the estimated cost of mining and processing the ore indicates that under current gold price, mineralized blocks with a grade of less than 0.2 oz. gold per ton cannot be mined economically. Hence, the mineralized reserve has been divided into "low grade blocks" and "high grade blocks".

### Low Grade Blocks

Based on a gold price of Canadian \$450 per ounce (U.S. \$325) and a recovery of 80% at a head grade of 0.1 ounce per ton, the revenue per ton at a cut-off limit of 0.1 ounce per ton is as shown below.

$$\begin{aligned}\text{Revenue} &= \$450 \times 0.1 \times 0.80 \\ &= \$36.00 \text{ per ton}\end{aligned}$$

From the operating cost section of this report, it can be seen that mining and processing of ore at a cut-off grade of 0.1 ounces gold per ton will be uneconomic at a gold price of \$450 per ounce. Hence, at the present price of gold, these blocks can be considered to be part of the "mineral inventory" of the deposit delineated to date, although not part of the true "ore reserves".

### High Grade Blocks

Based on a gold price of Canadian \$450 per ounce and a recovery of 90% at a head grade of 0.2 ounces per ton, the revenue per ton at a cut-off limit of 0.2 ounces per ton is as shown below.

$$\begin{aligned}\text{Revenue} &= \$450 \times 0.2 \times 0.90 \\ &= \$81.00 \text{ per ton}\end{aligned}$$

From the operating cost section of this report, it can be seen that at a scale of operation of about 300 tons milled per day or greater, mining and processing of ore at a grade of 0.2 ounces gold per ton will become economic at a gold price of U.S. \$325 per ounce, hence these blocks have been included in the current ore reserves.

### DILUTION

Examination of the drill data and discussion with the exploration staff indicates that both the ore and the country rock are competent and will not dilute the broken ore excessively by scaling during mining activity. However, the ore will have to be mined to an assay cut-off limit which is determined by the resident geologist after assaying of chip samples. At the present time no visual method is known whereby "ore" can be differentiated from "waste" or low-grade material.

To allow for inevitable mining of low grade material during the extraction process, it has been concluded that about 25% dilution will occur and that the grade of the diluting material will be 0.1 ounce gold per ton.

### CUTTING PROCEDURES

It is frequently normal practice in the gold mining industry for anomalously-high sample values to be reduced before being included in the ore reserve calculation. The methods used to cut values vary from gold property to gold property and have normally been devised as an empirical method of reconciling gold recovery to sampled values. The rationale behind such techniques is generally accepted as seeking to discount the nugget effect of large grain sizes of gold being recorded in samples and hence distorting the gold grade indications.

The method in use in the Con Mine in Yellowknife is to reduce any individual sample value over three ounces per ton to three ounces per ton. This method is found to reconcile the sampled values and the mill feed grade. This procedure has been used in the computation of the Gordon Lake reserve.

### ORE RESERVE CALCULATIONS

The drill-indicated ore reserve tonnage calculated by Giant Bay for each section of the No. 1 Zone and the associated gold grades are shown in Table III.

The mineral inventory tonnage calculated for each section of the No. 1 Zone and the associated gold grades are shown in Table IV.

### EXPLORATION POTENTIAL

The drill-indicated reserves delineated to date are all within the No. 1 Ore Zone as shown in Figure 14; however, three other zones have been discovered by prospecting of the claims to date. Some initial exploration of these zones has been undertaken as discussed below although, as yet, insufficient trenching or drilling has been completed to define an ore reserve in any of the zones.

#### THE LYNK AREA

Four gold bearing zones have been discovered in the Lynk Area: T32, T11, T15, and Wooferine. These zones were discovered by trenching and were subsequently diamond drilled. They are apparently aligned with the structural trend, although there is no evidence at present that they form parts of a single zone. Resampling of the old trenches gave encouraging gold values over widths of about eight feet and this led to drilling of the zone.

During the summer of 1985, a total of six diamond drill holes was drilled beneath the ore grade trench showings but, as yet, this has not demonstrated continuity of the mineralization to depth. Further drilling of the zone is still justified and it is recommended that this proceeds in 1986.

A portion of the Lynk Zone, known as the Wooferine Showing as shown in Figures 14 and 15, demonstrated mineralization over a zone width of about 77 feet. Sampling of this trench was sufficiently encouraging for three diamond drill holes to be completed on the zone. Two of these holes encountered good grade mineralization, i.e. 4.4' of 1.69 ounces per ton in one hole; while in the second zone, two mineralized zones were intersected, 2.3' at 0.154 ounces per ton and 7.2' at 0.203 ounces per ton. Further exploratory drilling of the Wooferine Showing is recommended for the 1986 exploration season.

Drill results from T32, T11 and T15 areas also gave encouraging results as shown in Figures 16, 17 and 18. These areas also merit further exploration in 1986.

#### THE NO. 2 ZONE

As in the Lynk Area, the No. 2 Zone appears to contain ore grade mineralization in lenses located near to surface although, as yet, insufficient exploration has been completed to permit a mineral inventory to be calculated for the zone.

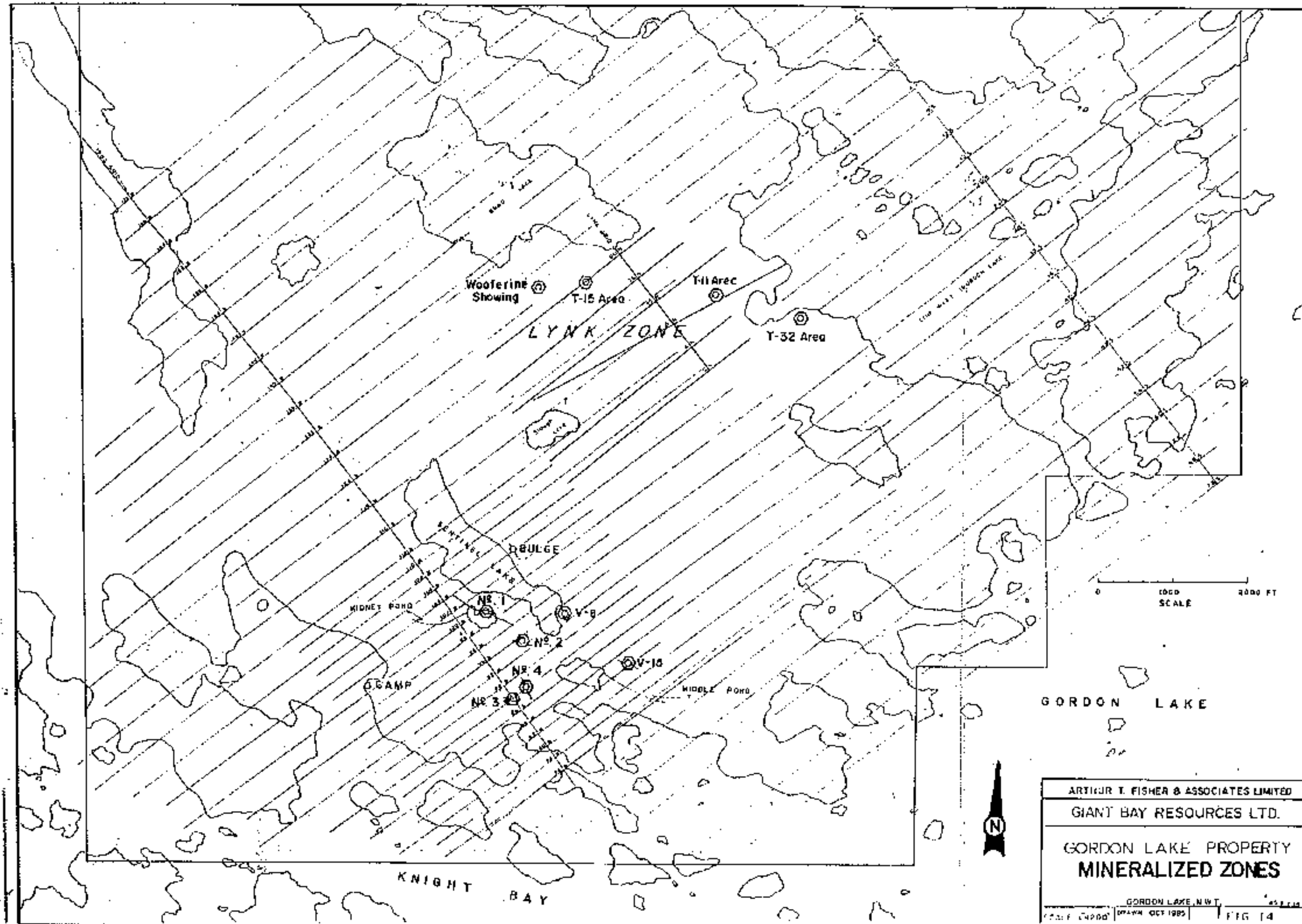
A total of eight diamond drill holes has been completed in the No. 2 Zone. Two holes have intersected substantial mineralization comprising 18.9 feet of mineralized zone at a grade of 0.81 ounces gold per ton and 7.4 feet of 0.49 ounces gold per ton in the second hole.

This remains a primary exploration target for the 1986 season. The potential of the zone appears, at present, to be for small high grade lenses of ore located near surface and perhaps suited to open pit mining. However, it is noted that the potential of the No. 2 Zone at depth has not yet been tested.

#### THE NO. 4 ZONE

This zone has had a total of seven diamond drill holes completed to date. Total drilled footage for the zone is 1,511 feet. The recorded drill intersections for the zone were 7.1 feet of mineralized zone at a gold grade of 0.24 ounces per ton and 24.2 feet at a gold grade of 0.10 ounces per ton. The zone remains open to depth and in one direction.

It is a significant exploration target for the 1986 season.

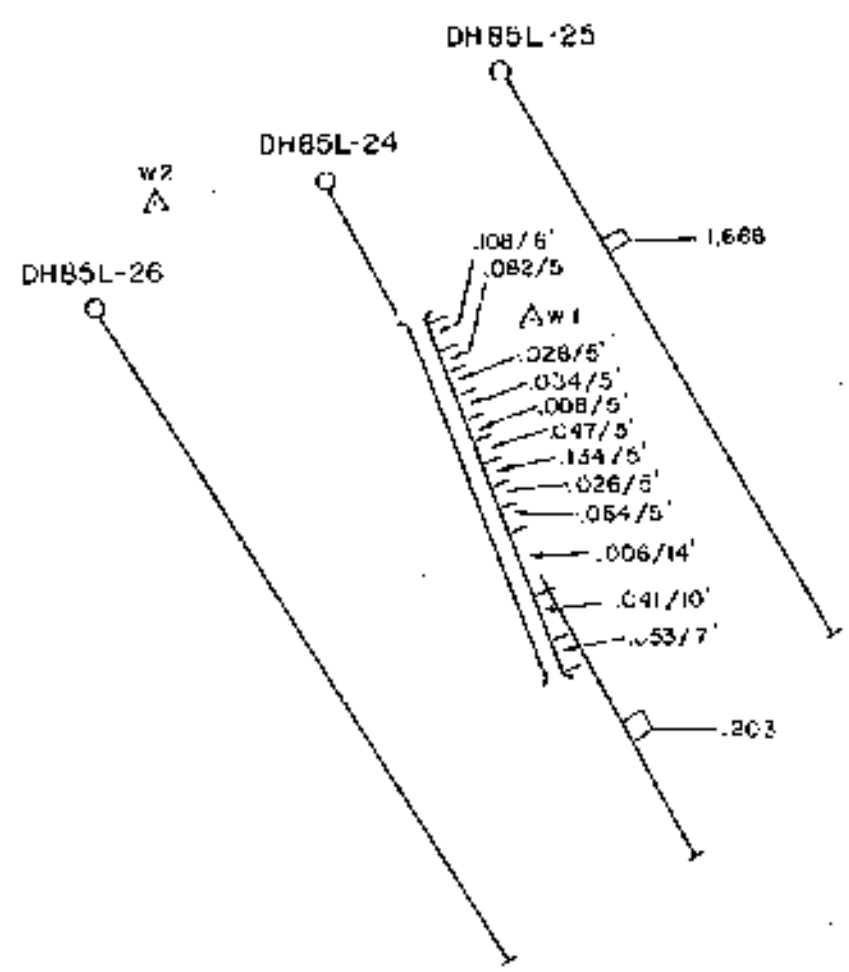


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SCALE










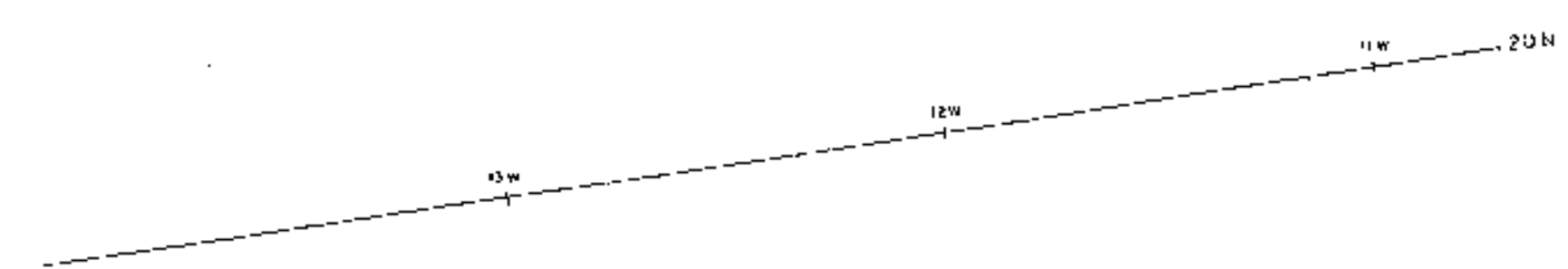
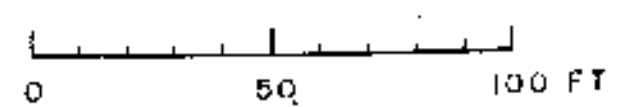
ARTHUR T. FISHER & ASSOCIATES LIMITED  
 GIANT BAY RESOURCES LTD.  
 GORDON LAKE PROPERTY  
 MINERALIZED ZONES  
 GORDON LAKE, N.W.T.  
 DRAWN OCT 1985  
 FIG 14



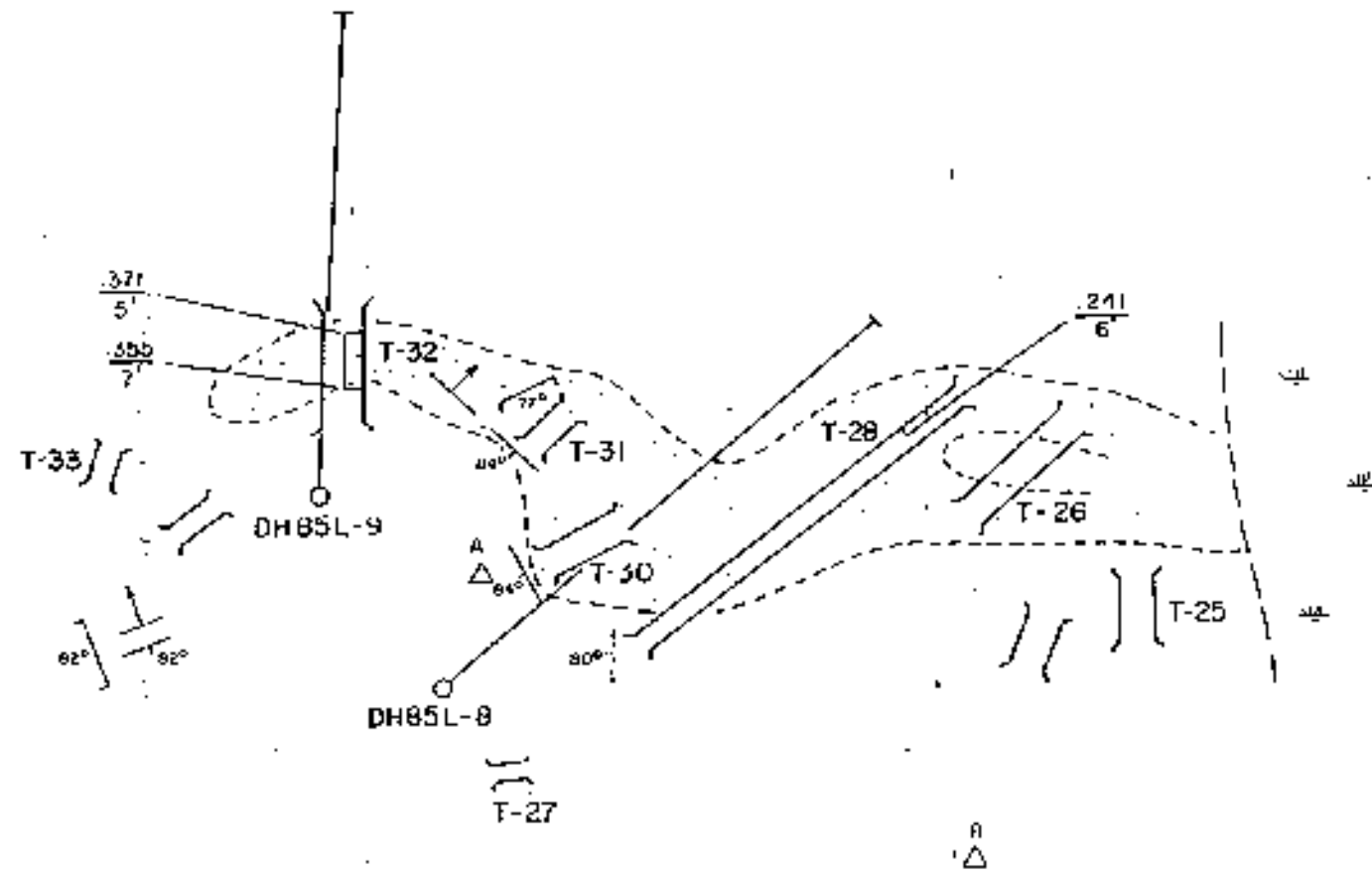


**LEGEND**









-  GOLD-BEARING, QUARTZ-RICH ZONE
-  METASEDIMENTS, MAINLY GREYWACKES
-  DRILL HOLE
-  TRENCH
-  BEDDING
-  FOLIATION
-  SURVEY STATION

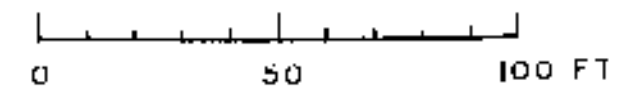


ARTHUR T. FISHER & ASSOCIATES LTD.			
GIANT BAY RESOURCES LTD.			
DRILL HOLE LOCATIONS WOOFERINE ZONE			
GORDON LAKE, N.W.T.			
SCALE 1" = 40'	DRAWN: REV'D.	DATE OCT. 85	FIG. 15



**LEGEND**

-  GOLD-BEARING, QUARTZ-RICH ZONE
-  METASEDIMENTS, MAINLY GREYWACKES
-  DRILL HOLE
-  TRENCH
-  BEDDING
-  FOLIATION
-  SURVEY STATION
-  STRATIGRAPHIC TOP



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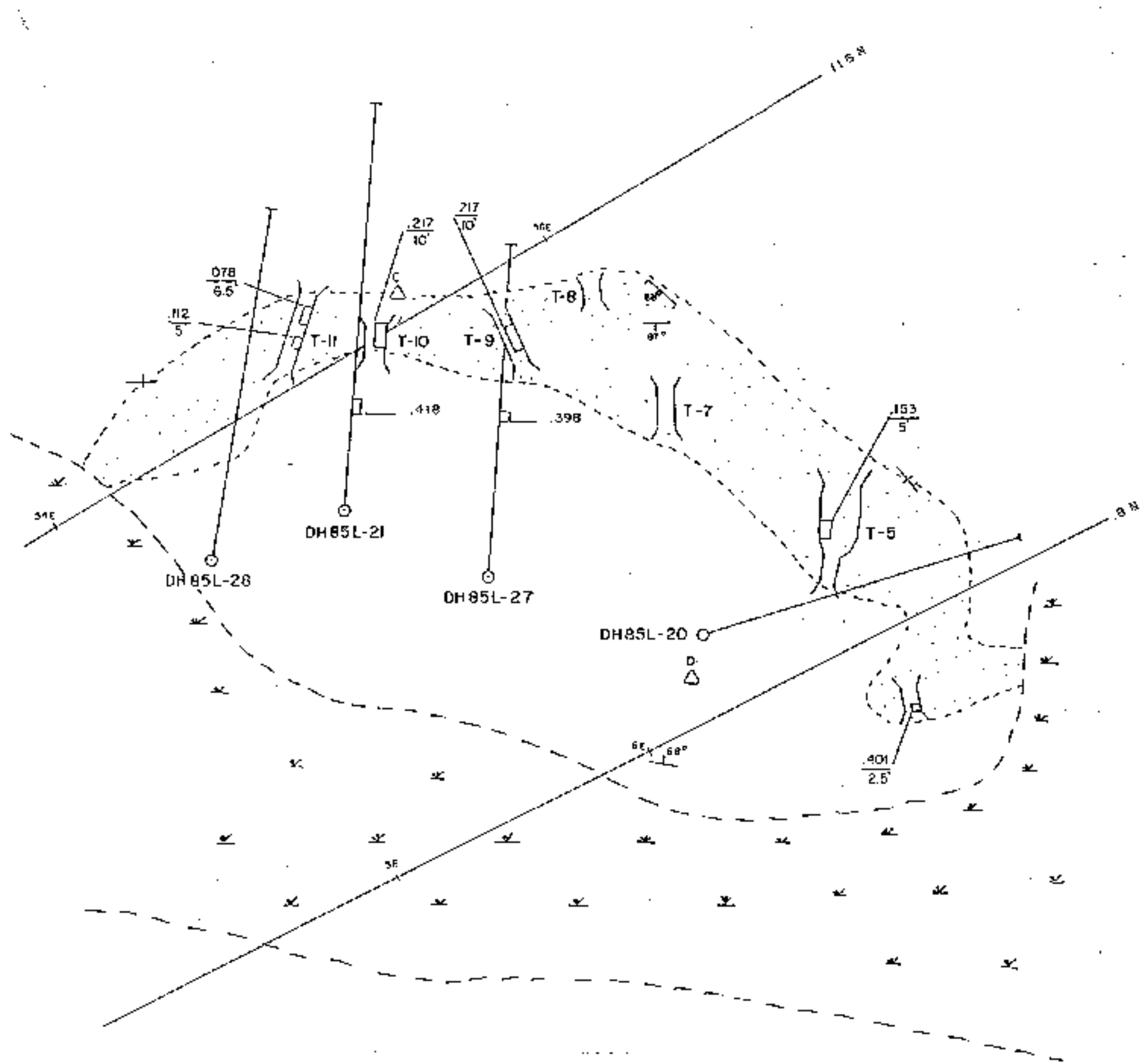
GIANT BAY RESOURCES LTD.

DRILL HOLE LOCATIONS

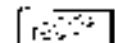

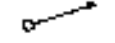
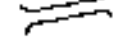
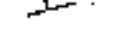


T-32 AREA

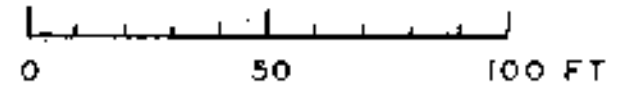
GORDON LAKE, N.W.T.

SCALE 1" = 40'	DRAWN:	DATE	FIG. 18
	REV'D.	OCT. 85	

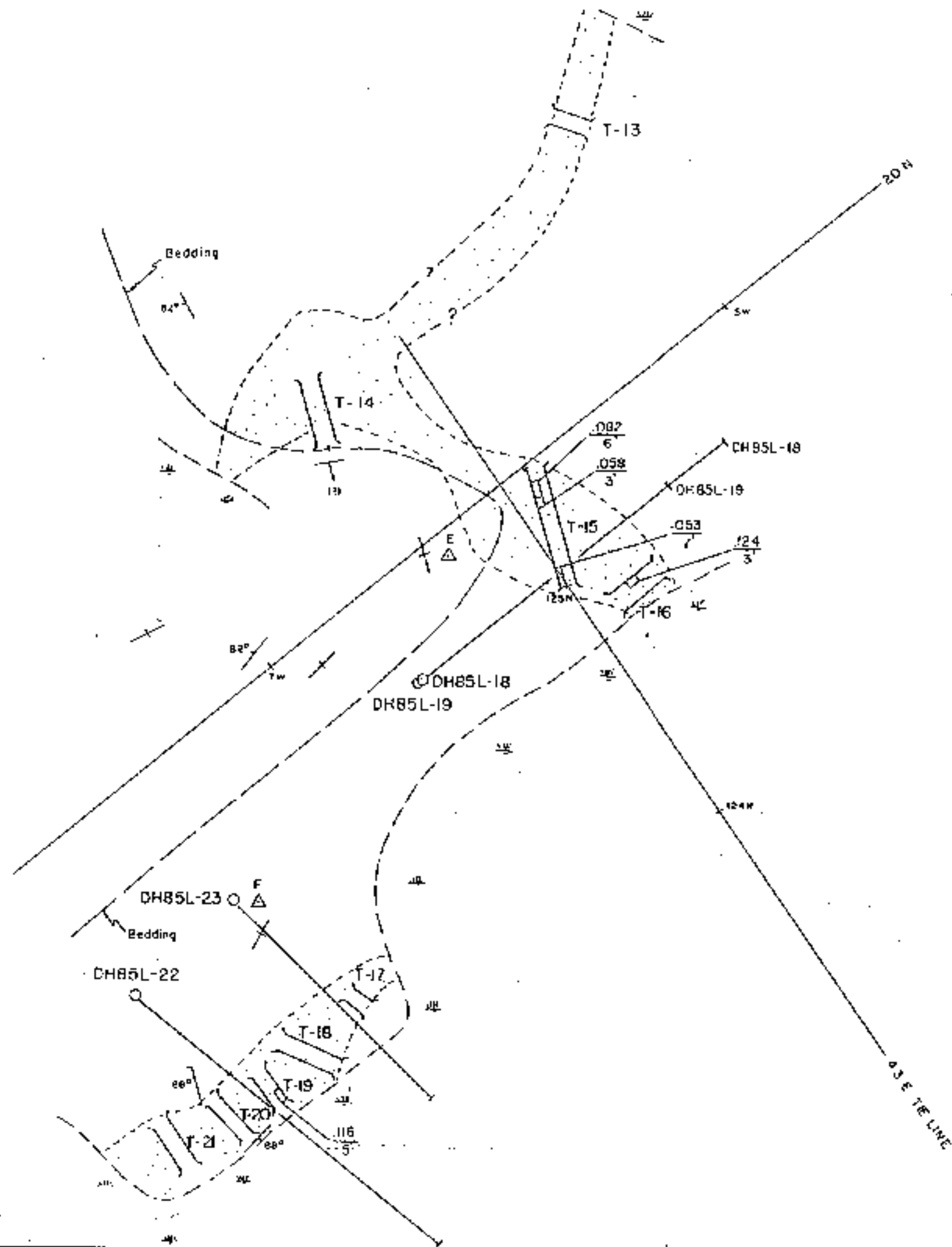


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






-  GOLD-BEARING, QUARTZ-RICH ZONE
-  METASEDIMENTS, MAINLY GREYWACKES
-  DRILL HOLE
-  TRENCH
-  BEDDING
-  FOLIATION
-  SURVEY STATION

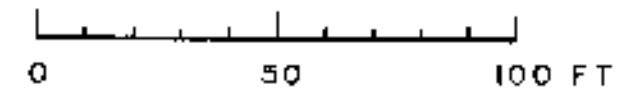


ARTHUR T. FISHER & ASSOCIATES LTD.			
GIANT BAY RESOURCES LTD.			
DRILL HOLE LOCATIONS			
T-11 AREA			
GORDON LAKE, N.W.T.			
SCALE 1" = 40'	DRAWN: REV'D:	DATE OCT. 85	FIG. 17



**LEGEND**

-  GOLD-BEARING, QUARTZ-RICH ZONE
-  METASEDIMENTS, MAINLY GREYWACKES
-  DRILL HOLE
-  TRENCH
-  BEDDING
-  FOLIATION
-  SURVEY STATION
-  STRATIGRAPHIC TOP



ARTHUR T. FISHER & ASSOCIATES LTD.			
GIANT BAY RESOURCES LTD.			
<b>DRILL HOLE LOCATIONS</b>			
<b>TRENCH-15 AREA</b>			
GORDON LAKE, N.W.T.			
SCALE 1"=40'	DRAWN: REV'D:	DATE OCT. 85	FIG. 18

SUMMARY OF EXPLORATION POTENTIAL

The Gordon Lake property has demonstrated gold values on the No. 1 Zone over a strike length of about 600 feet and to a depth of 500 feet. The thickness of the zone and the grade of the gold mineralization at 500 feet appear as strong as at surface, hence potential for further delineation of ore on this system appears good.

Four mineralized zones of similar character to the main zone have been explored by both surface workings and diamond drilling. Each of the zones has been demonstrated to have substantial width and each has been demonstrated to have ore grade value.

At the present stage of exploration of the project, the "exploration potential" of the claims is estimated to be about 500,000 tons at a mill feed grade similar to that established on the No. 1 Zone (i.e. about 0.344 ounces gold per ton).

## THE MINE

The ore reserves in the No. 1 Zone of the Gordon Lake property have been identified in a quartz-rich zone which has been delineated over a strike length of about 600 feet and which have been drilled off to a depth of about 500 feet.

Exploration of the mineral reserve to obtain a bulk sample will require development of a ramp from surface to open up two levels - the upper level about 200 feet below surface and the lower level at about 400 feet below surface.

### MAJOR DEVELOPMENT

#### Access Ramp

It is proposed that the main access ramp will be driven down at an inclination of about 12.5%. Hence, to reach the level 200 feet below surface, it will be necessary to drive a total distance of 1,600 feet. It is proposed that the ramp have a cross section of about 10' x 11' and that it be developed conventionally using jack leg drills and a two cubic yard scooptram to muck out the broken rock.

#### First Production Level

At a level of about 200 feet below surface, it is proposed to develop a horizontal drift about 50 feet in the footwall of the ore zone. This level will be about 10' x 10' in cross section. From this level it is proposed to develop a series of draw points about 40 feet apart from each other into the ore zone. The draw points will then be linked together in the ore zone and then the vertical ore will be mined in a conventional shrinkage stope. Study of the ore reserve sections indicates that the mineralized material is best suited to extraction by conventional shrinkage mining where relatively small blasts can be taken using hand-held rockdrills. Mining in this way will enable selective extraction to be

practiced since it appears that intense grade control and mining to assay boundaries will be necessary because to date no visual difference has been noted between high and low-grade material.

#### Mine Equipment

It is proposed that the ramp will be equipped with a rubber-tired diesel dump truck with a 10 ton capacity. This vehicle will draw ore from a storage bin immediately below the 200 level and will transport it to the coarse ore bin of the mill.

It is proposed that the 200 level initially, and subsequently the 400 level, will be equipped with a rail-mounted mine locomotive and five-ton capacity Granby-type mine cars. This system will be used to transfer ore from the draw points of the shrinkage stope to the storage bin beside the ramp. Two locomotives and eight mine cars will be required to maintain the ore feed at a rate of 300 tons milled per day.

Compressed air supply to the mine will be provided by a portable 1200 CFM diesel compressor installed near to the portal. This unit will be backed up by a 600 CFM compressor. These units can be leased at a monthly cost of about \$10,000. Mine drainage will be provided by immersible pumps which can be leased at about \$5,000 per month.

Ore will be transferred from the draw points to the mine cars by pneumatic powered rail-mounted muckers of the Atlas Copco L.H. 56 type.

All of the above equipment is readily available on the secondhand market with the exception of the 10 ton diesel dump truck which will probably have to be purchased new from a supplier such as Wajax Industries.

### Exploration and Access Raises

It is proposed that two exploration raises will be driven up at about 50° from the 200 level to surface through the ore zone. These raises will enable a representative bulk sample of the ore to be recovered for detailed metallurgical studies and will also raise the status of the ore reserve from "drill indicated" to "proven".

On the assumption that the raises do indeed prove the quality of the reserve, it is then proposed that two or three sublevels be developed within the ore zone to delineate the horizontal extent of the ore.

When the sublevels are complete, it will be necessary to develop one or more raises in the country rock as permanent access ways to the shrinkage stopes which will be set up in the ore zone.

### UNDERGROUND ORE STORAGE

Very little ore storage, other than a short ore pass below the 200 level, will be necessary initially since the shrinkage stopes in themselves will serve as ore storage bins.

The capacity of the ore bin below the 200 level should be about 200 tons or about 18 hours capacity when the mill is operating at a scale of 300 tons milled per day.

### THE SHRINKAGE METHOD

It is proposed that several small shrinkage stopes be set up on the high grade lenses of the ore body. These stopes will be developed from the sublevels using hand-held rockdrills such that good grade control can be exercised. The fact that the ore cannot readily be differentiated from waste will require frequent



geological control and constant sampling to ensure that mining is confined to the ore zone.

#### LIFE OF MINE PLAN

The diluted ore reserve of about 157,000 tons will be sufficient to support production at a rate of 300 tons milled per day for about 18 months. During this period it will be necessary to develop both the 400 and 600 levels.

It is probable that, during this period, ongoing exploration will reveal extensions to the existing reserve. Typically in small gold mines of this nature, the ore reserve is sufficient to support production for about two years, but ongoing exploration maintains the reserve at this level for many years.

It is expected that the Gordon Lake project will conform to this model.

## METALLURGY

At the present stage of development of the Gordon Lake property, no detailed studies of representative ore have been completed and so the optimum process for the recovery of gold has not been defined.

In spite of the lack of extensive metallurgical testing of the ore, two flotation tests on a total of about 20 lbs. of representative ore have been undertaken by Coastech Research Inc. of North Vancouver on behalf of Giant Bay.

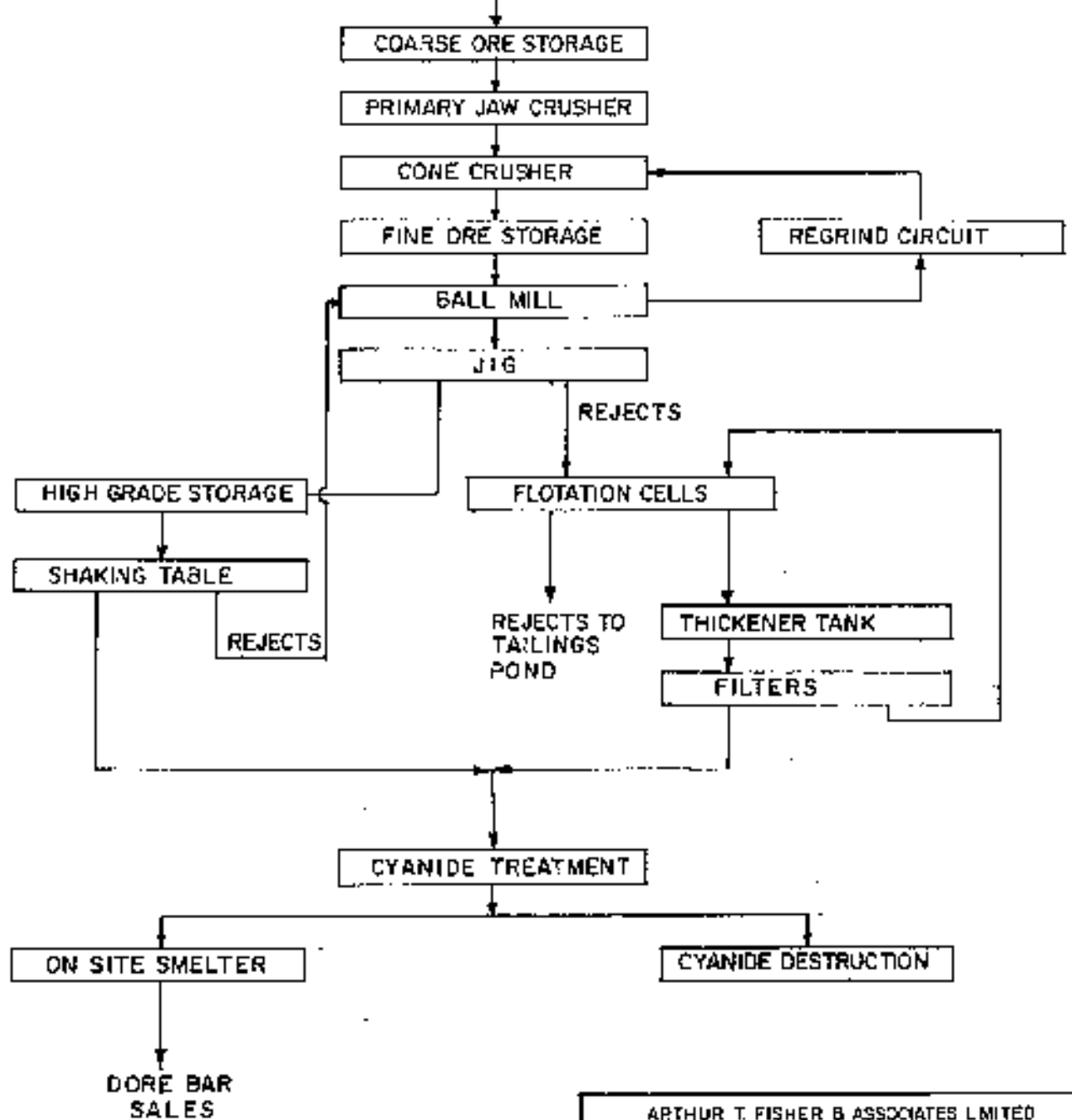
The sample was found to have a gold content of 0.195 ounces per ton and a silver content of 0.08 ounces per ton. Preliminary flotation testing of the ore demonstrated that about 90% of the contained gold could be recovered in a flotation concentrate which had a grade of about 4.5 ounces gold per ton. As discussed later in this report, forecast recovery of gold from run of mine ore to a flotation concentrate is expected to be 94%. Because of the difficulty in transporting large quantities of flotation concentrate to smelters, it is proposed that the float concentrate will be treated with cyanide solution on site and that a dore bar will be the final product sold from the mine. Recovery of gold from the float concentrate to the dore bar is expected to be about 95% to give an overall recovery of 89.5%.

## PROPOSED FLOW SHEET

The proposed flow sheet for the treatment of the Gordon Lake ore will be as shown diagrammatically in Figure 19.

Run of mine ore will be fed to the coarse ore bin which will have a capacity of about 300 tons. From the bin ore will be fed through a jaw crusher and then through a cone crusher to the fine ore bin, again with a storage capacity of about 300 tons.

**RUN OF MINE ORE**



ARTHUR T. FISHER & ASSOCIATES LIMITED  
GIANT BAY RESOURCES LTD.  
GORDON LAKE PROPERTY  
PROPOSED FLOW SHEET  
N.T.S. B51-14 GORDON LAKE AREA, N.W.T.  
DATE: OCT. 1985  
FIG. 19

The grinding circuit will comprise a ball mill of approximately 12' x 8' diameter. From the ball mill it is proposed that the mill feed will be run over a jig which may recover up to 25% of the contained gold. This will be recovered on a shaking table. The mill feed will then pass through the flotation cells with the gold being recovered with the sulphides in the float material. This material will be recovered on filters and dried to about 5% moisture content before shipping to the smelter.

#### RECOVERY - FLOTATION CIRCUIT

From review of the testwork completed to date, it is apparent that a flotation process can recover gold efficiently from the ore. It is also apparent that the tails from the process contain about 0.02 ounces of gold per ton. Such a constant tailings loss is fairly typical for gold ore of this nature and, for the purpose of this evaluation, it has been concluded that the recovery achieved by the metallurgical process will be based on this assumption.

Hence, at periods when the mill feed grade is, say, 0.40 ounces gold per ton, recovery for the mill will be 95%; recovery will drop to 92.5% when the head grade is 0.30 ounces gold per ton; when the head grade is 0.20 ounces gold per ton, recovery will be 90%.

It is possible that cyanide leaching of the ore will enhance recovery above the level which can be achieved by flotation techniques; however, until testing of the metallurgical qualities of the ore with cyanide has been carried out, no assumptions can be made on the merits of this process.

It is also possible that bio-leaching of the ore will be a possible recovery process. Such a process has been found to be inexpensive on other ores of apparently similar metallurgy; however, no tests have yet been undertaken with

the bio-leaching process and so no assumption of its use at Gordon Lake has been made in this study.

#### RECOVERY - CYANIDE CIRCUIT

As discussed earlier in this report, it is proposed that the flotation concentrate will be treated with cyanide and that a dore bar will be produced as the final product.

No testing has yet been completed with representative flotation product and so definitive information is not yet available as to the amenability of the Gordon Lake material to cyanidation or of the actual recovery of gold which can be achieved.

Typically, cyanide leaching of flotation concentrates can achieve about 95% recovery of gold from a concentrate containing 5.0 oz. gold/ton. For the purpose of this study, such recovery, i.e. 95%, has been assumed.

#### RECOVERY - TOTAL CIRCUIT

Because of the two stage nature of the proposed circuit, the overall recovery will be as shown below:

$$\text{overall recovery} = 94\% \times 95\% = 89.5\%.$$

Hence, the overall recovery predicted for the Gordon Lake mill will be 89.5%.

## INFRASTRUCTURE

The infrastructure required to support the Gordon Lake project will include provision of the following:

- residential camp;
- power generation;
- water supply;
- sewage disposal;
- recreational facilities; and
- road maintenance.

## LABOUR POLICY

It is proposed that the Gordon Lake project will be manned on a single status basis with employees being recruited in Yellowknife. It is proposed that the work force will be employed as salaried workers either in supervisory or non-supervisory status (i.e. the project will not be restricted to conditions imposed by a union since salaried workers are assumed to be non-union employees).

Salaries for supervisory personnel will be at a rate comparable to other mining operations in the area, while salaries for non-supervisory personnel will be calculated on the basis of an hourly rate adjusted to a two-week salaried equivalent.

It is proposed that the work force will spend ten days on site followed by four days at home in Yellowknife.

To man the project, it is estimated that the positions shown in the Table V Manning Schedule will require to be filled.

## RESIDENTIAL CAMP

Since it will be necessary to house about 50 employees at the property, it will be necessary to provide about 60 single-status bunkhouse rooms with a cookhouse of similar size. Several such good quality secondhand units are available in the Northwest Territories or in Northern Alberta at a cost of about

TABLE V

GORDON LAKE PROJECT OF  
GLANT BAY RESOURCES LTD.  
MANNING REQUIREMENT  
300 TONS MILLED PER DAY  
10 DAYS ON - 4 DAYS OFF ROTATION

	<u>Positions</u>
Manager	1
Mine Engineer	1
Geologist	1
Mine Superintendent	1
Shift Boss	2
Miners	10
Mine Mechanics	2
Timberman	1
Mine Labourers	2
Mill Superintendent	1
Crusher Operators	3
Flotation Operators	3
Cyanide Operators	2
Mill Labourers	3
Assayer	1
Surface Superintendent	1
Mechanics	1
Machinists	1
Welders	1
Secretary	1
Surveyors	2
Warehousemen	1
Cook	2
Buff Cooks	2
Kitchen Helpers	<u>4</u>
Total Employees	<u>54</u>

\$300,000 installed; alternatively a camp this size can be leased at a monthly cost of about \$10,000 during the expected life of the project.

#### POWER GENERATION

To supply sufficient power to operate the production complex at a rate of 300 tons milled per day and to operate a flotation mill together with the mine and residential complex, it is estimated that the average power demand will be about 1,200 K.W. Distribution of power will be about 500 K.W. to the mill; 500 K.W. to the mine, principally for generation of compressed air and pumping of water from the mine; with the remaining 200 K.W. being used for miscellaneous purposes in the residential camp and mine maintenance workshops.

The estimated cost of such skid-mounted power units are about \$0.5 million installed on site, however, these units may be leased from Finning Tractor of Vancouver at an estimated lease cost of \$20,000 per month.

Power will be provided by 2 x Caterpillar 3508 units, or equivalent, equipped to allow the waste heat to be captured and used to heat the mine workshop area.

#### WATER SUPPLY

It is proposed that both domestic and industrial water supply will be obtained from one of the local lakes. Estimated cost of water supply including pumps, heated pipes, etc. is about \$150,000.

#### SEWAGE DISPOSAL

Sewage disposal will be in septic tanks adjacent to the residential buildings. An allowance of \$200,000 has been made for installation of such a system.

#### RECREATIONAL FACILITIES

It is proposed that initially the recreational facilities at the Gordon Lake property will be kept to a minimum, however, the least that will be expected by



the work force is a satellite television receiving system. Cost of such a system is estimated to be about \$100,000.

#### COMMUNICATIONS SYSTEM

It is considered essential to install an efficient telephone system during the early stages of the development of the Gordon Lake Project. Such installation will cost about \$20,000 with an ongoing monthly cost of about \$5,000.

#### WINTER ROAD MAINTENANCE

An allowance of \$250,000 for upgrading and maintenance of the winter road through the preproduction period has been provided. It is proposed that during the summer transportation to and from the mine site will be by air.

### OPERATING COSTS

Operating costs for the Gordon Lake Project have been developed on the basis that the project will be brought into production as an underground-mine. Access will be gained from a ramp initially driven down to a level about 200 feet below surface during the preproduction phase and then driven to the 400 foot level and 600 foot level during the life of the mine.

### MINING COST

Operating cost estimates for the mine have been prepared for a scale of 300 tons mined per day from shrinkage stopes which will be developed above the 200 level. To enable ore to be drawn from the stopes at this rate, it will be necessary to mine ore at an initial rate of about 1,000 tons per day. However, since the ore will be drawn from several small stopes, a uniform rate of mining at about 500 tons broken per day will be achieved early in the life of the operation.

Although some ore could be drawn from the surface expression of the vein system, no allowance has been made for this.

It has been estimated that the first level, 200 feet below surface, together with the initial raises through the ore zones will be developed as part of the preproduction capital expenditure. Deepening of the ramp to the 400 level and subsequently to the 600 level together with all relative ore development will be charged to the operating cost. It is estimated that the total labour cost for the mine will amount to about \$134,000 per month, while the total cost for the mine area will amount to about \$270,000 per month or \$30 per ton at a scale of 300 tons milled per day as can be seen in Table VI.

**TABLE VI**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**ESTIMATED OPERATING COST**  
**AT SCALE OF 300 TONS MILLED PER DAY**

**MINE AREA**

<u>Cost Area</u>	<u>Monthly Cost</u>	<u>Cost/ Ton Milled</u>
Labour - Supervision	\$ 14,400	\$ 1.60
Direct Labour	34,000	6.00
Bonus	40,500	4.50
Fringe Benefits	23,200	2.80
Consumables - Explosives	13,500	1.50
Explosive Accessories	9,900	1.10
Diesel	13,500	1.50
Electric Power	45,000	5.00
Steel and Bits	6,750	.75
Rails	6,750	.75
Miscellaneous Mine Supplies	27,000	3.00
Mechanical Maintenance	<u>13,500</u>	<u>1.50</u>
	<u>\$270,000</u>	<u>\$30.00</u>

### MILLING COST

Operating costs for the Gordon Lake Mill have been developed on the basis of a 300 ton milled per day operation. As shown in the Manning Schedule, it is estimated that in addition to the mill superintendent, it will be necessary to fill an additional 13 positions (i.e. three crushermen, three flotation operators, two flotation operators, three mill labourers, one mill mechanic and one assayer). In addition, the mill will require the part-time assistance of a welder and electrician. Operation costs under the above operating conditions are shown in Table VII.

### LOCAL OVERHEAD COST

Costs incurred by the mine office as local overhead costs will include the cost of a mine office, together with its associated engineering and secretarial costs. It is estimated that the mine office costs will amount to about \$60,000 per month.

Maintenance costs are estimated to amount to about \$45,000 per month as shown in Table VIII.

Marketing costs are estimated to amount to \$35,000 per month. This will comprise about \$10,000 for freight and insurance of the concentrates, about \$20,000 for refining fees and about \$5,000 for miscellaneous marketing costs.

Because of the limited ore reserve presently delineated, it is proposed that several items which would normally be purchased will be leased. These units will include the residential camp (\$10,000 per month), the electric generators (\$20,000 per month), mine compressors (\$10,000 per month) and mine pumps (\$5,000 per month). Total forecast lease cost per month is thus \$45,000.

TABLE VII

GORDON LAKE PROJECT OF  
GIANT BAY RESOURCES LTD.  
ESTIMATED OPERATING COST  
AT SCALE OF 300 TONS MILLED PER DAY

MILL AREA

<u>Cost Area</u>	<u>Monthly Cost</u>	<u>Cost/ Ton Milled</u>
Labour - Supervisor	\$ 9,000	\$ 1.00
Direct Labour	24,000	2.67
Overtime	9,000	1.00
Fringe Benefits	9,000	1.00
Consumables - Lime & Cyanide	15,300	1.70
Frothers, Collectors	13,500	1.50
Grinding Balls	9,000	1.00
Liners	9,000	1.00
Electric Power	27,000	3.00
Miscellaneous	<u>20,700</u>	<u>2.30</u>
	<u>\$145,500</u>	<u>\$16.27</u>

**TABLE VIII**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**ESTIMATED OPERATING COST**  
**AT SCALE OF 300 TONS MILLED PER DAY**

**LOCAL OVERHEAD**

<u>Cost Area</u>	<u>Monthly Cost</u>	<u>Cost/ Ton Milled</u>
<b>Mine Offices:</b>		
Manager and Office Salaries	\$11,250	\$1.25
Engineering and Sampling	18,000	2.00
Assaying	9,000	1.00
Telephone	5,000	0.55
Safety and Hygiene	5,000	0.55
Property Taxes	6,000	0.66
Mine Office Supplies	<u>5,850</u>	<u>0.65</u>
Subtotal - Mine Office	\$60,100	\$6.66
<b>Surface: (Maintenance, etc.)</b>		
Supervision	\$ 7,200	\$0.80
Mobile Equipment - Labour	4,500	0.50
Parts	2,500	0.28
Fuel	13,500	1.50
Insurance	900	0.10
Small Tools	1,000	0.11
Freight	450	0.05
Welding	1,800	0.20
Powerhouse	6,000	0.67
Warehouse	4,500	0.50
Miscellaneous	<u>2,650</u>	<u>0.29</u>
Subtotal - Surface	\$45,000	\$5.00
<b>Marketing:</b>		
Freight	\$ 8,000	\$0.88
Insurance	2,000	0.22
Refining	20,000	2.22
Miscellaneous	<u>5,000</u>	<u>0.55</u>
Subtotal - Marketing	\$35,000	\$3.87

TABLE IX

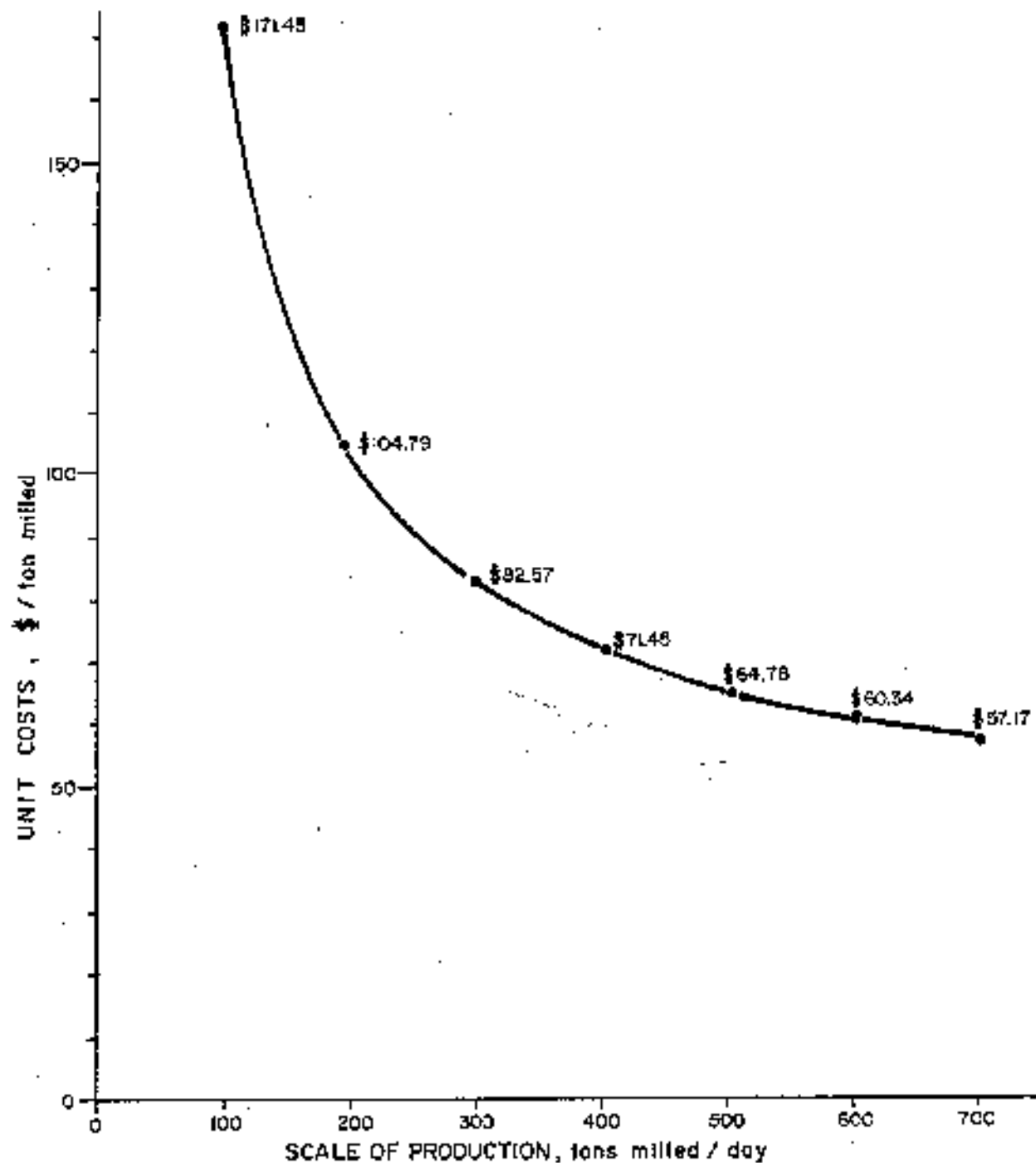
**GORDON LAKE PROJECT OF  
GIANT BAY RESOURCES LTD.  
ESTIMATED OPERATING COST  
AT SCALE OF 300 TONS MILLED PER DAY**

<u>Cost Area</u>	<u>Monthly Cost</u>	<u>Cost/ Ton Milled</u>
Mine	\$270,000	\$30.00
Mill	145,500	16.27
Mine Office	60,000	6.66
Surface (Maintenance)	30,000	3.33
Marketing	35,000	3.87
Lease Costs	<u>45,000</u>	<u>5.00</u>
Subtotal - On-site Costs	\$585,500	\$65.13
Head Office Allowance	<u>60,000</u>	<u>6.67</u>
Subtotal - Direct Cost	\$645,500	\$71.80
Contingency Allowance 15%	<u>96,825</u>	<u>10.77</u>
Total Cost of Operation	<u>\$742,325</u>	<u>\$82.57</u>

**TABLE X**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**ESTIMATED OPERATING COSTS AT**  
**VARIOUS SCALES OF PRODUCTION**

Scale of Production Tons Milled/Day	Monthly Cost of Operation				
	Fixed Cost \$	Variable Cost \$/Ton Milled	Variable Cost \$	Total Cost \$	Total Cost \$/Ton Milled
100	\$400,000	\$38.12	\$114,360	\$ 514,360	\$171.45
200	\$400,000	\$38.12	\$228,750	\$ 628,750	\$104.79
300	\$400,000	\$38.12	\$343,130	\$ 743,130	\$ 82.57
400	\$400,000	\$38.12	\$457,440	\$ 857,440	\$ 71.45
500	\$400,000	\$38.12	\$571,800	\$ 971,800	\$ 64.78
600	\$400,000	\$38.12	\$686,160	\$1,086,160	\$ 60.34
700	\$400,000	\$38.12	\$800,520	\$1,200,520	\$ 57.17





\* FIXED COST - \$400,000  
 VARIABLE COST - \$35.55/ton.

ARTHUR J. FISHER & ASSOCIATES LIMITED

GIANT BAY RESOURCES LTD.

GORDON LAKE PROPERTY  
 ESTIMATED UNIT OPERATING  
 COSTS\* AT VARIOUS  
 SCALES OF PRODUCTION.

DATE: OCT. 1985

FIG. 20

#### HEAD OFFICE COST

An allowance of about 10% of the total on-site cost has been allowed for head office expenditures. This amounts to about \$60,000 per month as is shown on Table IX.

#### TOTAL DIRECT COST OF OPERATION

The total direct cost of operation of the complex at a scale of 300 tons milled per day is estimated to be about \$743,130 per month or \$82.57 per ton milled as shown in Table IX.

#### OPERATING COST AT VARIOUS SCALES OF PRODUCTION

In view of the early stage of development of the Gordon Lake project, estimates of the cost of operation of the project at various scales of production from 100 tons milled per day to 500 tons milled per day have been prepared. These estimates are shown in Table X and plotted graphically in Figure 20.

## CAPITAL COSTS

It is estimated that the preproduction capital expenditure required to bring the Gordon Lake project to production at a scale of operation will be about \$8.8 million as is shown in Table XI, while details of the expenditures required in the mine, mill and infrastructure are shown in Tables XII - XIV.

Of the total expenditures of \$8.8 million, it is estimated that preproduction development of the mine will require expenditure of about \$1.25 million, while expenditure on mine equipment will amount to about \$1.0 million.

Total expenditure on the mill facility is estimated to amount to about \$3.0 million. Such expenditure will provide a flotation circuit and all associated crushing and grinding facilities together with a cyanide circuit designed to treat the flotation concentrates and to produce a dore bar, however, most of the equipment used in the mill will be secondhand. At the time of preparation of this report, the supply of secondhand plant and equipment is good both in Canada and the United States and use of such equipment will not delay start-up of the mill. In addition, because of the relatively short life of the project, it is proposed that some equipment will be leased rather than purchased.

It is estimated that the infrastructure required to support operation of a 300 ton per day mill will require provision of a 60 man camp; again, such units are readily available on the secondhand market. Provision of a diesel-powered electric generating unit of about 1200 K.W. capacity will best be provided by three Cat 3508 type units. For the purpose of this evaluation, it is assumed that new units will be purchased for this purpose and an allowance of \$0.5 million for the units has been made in the capital cost estimate.

**TABLE XI**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**ESTIMATED PREPRODUCTION CAPITAL COST**

**MINE AREA**

<b>Developments:</b>	
Access Ramp 1,600 ft. at \$500/ft.	\$ 800,000
1st Level 500 ft. at \$500/ft.	250,000
Ore Raises 1,000 ft. at \$300/ft.	300,000
Waste Raises 1,000 ft. at \$300/ft.	300,000
Sumps, etc.	<u>100,000</u>
Subtotal	\$1,650,000
<b>Mine Equipments:</b>	
3 Mine Cars - 5 Cu. Yd. Rubber Tired	\$ 450,000
3 Rubber Tired Muckers	150,000
Mine Fans and Pumps	<u>100,000</u>
Subtotal	\$ 700,000
<b>Mine Surface Equipments:</b>	
Miscellaneous Small Equipment	\$ 100,000
Mine Dry	50,000
Mine Shifters Office	<u>50,000</u>
Subtotal	\$ 200,000
<b>Total - Mine Area</b>	<b><u>\$2,550,000</u></b>

**TABLE XII**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**ESTIMATED PREPRODUCTION CAPITAL COST**

**MILL AREA**

Mill Equipment	\$2,000,000
Mill Installation	700,000
Cyanide Circuit and Cyanide Destruction Circuit	250,000
Transportation	300,000
Engineering	200,000
Metallurgical and Environmental Testwork	50,000
Tailings Dam	250,000
Spare Parts	50,000
Project Management/Administration	200,000
Permitting and Compliance With Regulations	<u>100,000</u>
Total - Mill Area	<u>\$4,100,000</u>

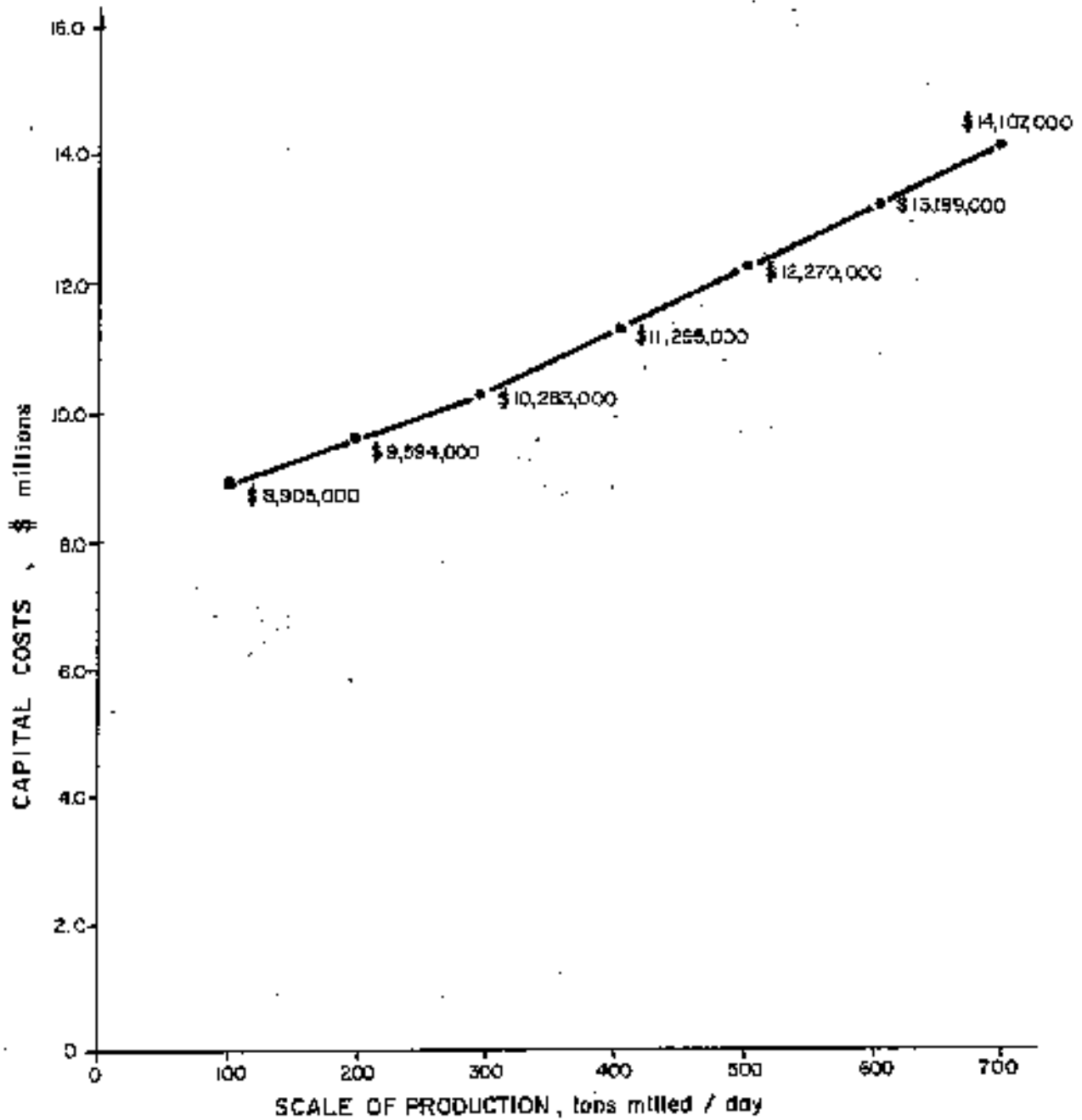
**TABLE XIII**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**ESTIMATED PREPRODUCTION CAPITAL COST**

**INFRASTRUCTURE**

Residential Camp - Leased from Atco Leased from Finning	\$
Power Supply	
Site Preparation	280,000
Water Supply	150,000
Sewage Disposal	200,000
Recreation Facilities	100,000
Road Upgrading	250,000
Telephone System	<u>20,000</u>
Total - Infrastructure	<u><u>\$1,000,000</u></u>

**TABLE XIV**  
**GORDON LAKE PROJECT OF**  
**GIANT BAY RESOURCES LTD.**  
**ESTIMATED PREPRODUCTION CAPITAL COST**

<b>Mines:</b>	
Preproduction Development	\$ 1,650,000
Mine Equipment	700,000
Surface Equipment	200,000
Subtotal - Mine	<u>\$ 2,550,000</u>
<b>Mill:</b>	
Mill Equipment	\$ 2,000,000
Mill Installation	700,000
Cyanide Circuit	250,000
Transportation	300,000
Engineering, Project Management, etc.	600,000
Tailings Pond	250,000
Subtotal - Mill	<u>\$ 4,100,000</u>
<b>Infrastructure:</b>	
Site Preparation	\$ 280,000
Winter Road	250,000
Miscellaneous	470,000
Subtotal - Infrastructure	<u>\$ 1,000,000</u>
Subtotal - Preproduction Cost	\$ 7,650,000
Contingency Allowance	<u>1,147,000</u>
Total Capital Cost	\$ 8,797,000
Working Capital Allowance	<u>1,486,000</u>
Total Preproduction Cash Requirement	<u><u>\$10,283,000</u></u>



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GIANT BAY RESOURCES LTD.

GORDON LAKE PROPERTY

ESTIMATED CAPITAL COSTS  
AT VARIOUS SCALES OF  
PRODUCTION

DATE: OCT. 1985

FIG. 21



### WORKING CAPITAL

A working capital allowance of two months operating cost has been provided in this evaluation. At a scale of operation of 300 tons milled per day and at an estimated cost of \$82.57 per ton milled (\$743,130 per month), this amounts to a total of \$1,486,000.

Payment for flotation concentrates is normally not completely realized until about four months after delivery of the concentrate to the smelter, however, smelters normally make advance payments for about 90% of the contained gold within one month of delivery. Hence, it is apparent that provision of two months operating cost will be sufficient to meet the initial working requirements of the Gordon Lake production complex.

### ESTIMATE OF CAPITAL COSTS AT VARIOUS SCALES OF PRODUCTION

In view of early stages of development of the Gordon Lake project, estimates of the capital cost of bringing the project to production at various scales of operation from 100 tons per day to 700 tons milled per day have been prepared. These are shown in Table XV and plotted graphically in Figure 21.

#### Variation of Scale of Operation

The evaluation has been completed at a scale of operation of 200 tons milled per day, 300 tons milled per day and 400 tons milled per day.

In the case of a 200 ton per day operation, the appropriate operating cost has been taken at \$104.79 per ton while the capital cost has been computed to be \$9.59 million.

In the case of a 300 ton per day operation, the appropriate operating cost has been taken at \$82.57 per ton while the capital cost has been computed to be \$10.28 million.

**TABLE XV**

**ESTIMATED PREPRODUCTION CAPITAL COST AT  
VARIOUS SCALES OF PRODUCTION**

Scale of Production Tons Milled Per Day	Estimated Capital Cost - \$000's						
	Mine	Mill	Infrastructure	Subtotal	Contingency Allowance	Working Capital	Total Capital Cost
100	\$2,550	\$3,300	\$1,000	\$ 6,850	\$1,027	\$ 1,028	\$ 8,905
200	\$2,550	\$3,700	\$1,000	\$ 7,250	\$1,087	\$ 1,257	\$ 9,594
300	\$2,550	\$4,100	\$1,000	\$ 7,650	\$1,147	\$ 1,486	\$10,283
400	\$2,750	\$4,300	\$1,280	\$ 8,330	\$1,250	\$ 1,715	\$11,295
500	\$3,000	\$4,450	\$1,530	\$ 8,980	\$1,347	\$ 1,943	\$12,270
600	\$3,250	\$4,600	\$1,730	\$ 9,580	\$1,437	\$ 2,172	\$13,189
700	\$3,500	\$4,750	\$1,930	\$10,180	\$1,527	\$ 2,400	\$14,107

In the case of a 400 ton per day operation, the operating cost has been taken to be \$71.45 per ton while the capital cost has been computed to be \$11.30 million.

#### SALVAGE VALUE

Because of the relatively small ore reserve delineated to date and the consequent short life of the project, it is proposed that the major capital assets be purchased and installed as far as possible as portable units. In this way, should the ore reserve be exhausted at the end of 18 months operating life, then the capital assets can be sold on the secondhand market.

It is estimated that about \$2.0 million will be realised by such a sale and that this will be realised immediately after completion of mining of the ore reserve.

### CASH FLOW EVALUATION

To determine the present value of the Gordon Lake property to Giant Bay under the scheme of operation discussed in this study, a cash flow evaluation of the project has been completed as is shown in Table XVI.

Factors used in the evaluation are listed below.

Ore Reserve	- 157,000 Tons
Head Grade	- 6.344 oz./ton
Tails Grade	- 0.020 oz./ton
Flotation Recovery	- 94.2%
Cyanide Recovery	- 95%
Overall Recovery	- 89.5%
Scale of Operation	- 300 T.P.D.
Days/Year	- 350
Months of Operation	- 18
Operating Cost	- \$82.57
Capital Cost	- \$8,797
Working Capital	- \$1,486
Opening Tax Balance	- (\$2.00 million)
Salvage Value of Plant and Equipment	- \$2.00 million
Discount Rate	- 10%
Dollars	- Constant Canadian dollars of late 1985 value.
Gold Price	- U.S. \$325/oz. = Candian \$445.20
Present Value of Project	-

### SENSITIVITY ANALYSIS

Since the project is still in the exploratory phase, some additional evaluations of the present value have also been calculated under various conditions as discussed below.

TABLE XVI

GIANT BAY RESOURCES LTD.  
GORDON LAKE PROPERTY

CASH FLOW EVALUATION

MCLOST FINANCIAL SYSTEM GORDON LAKE- 300 TPD, .157MM Y, AU @ US\$325 85/11/25

CASH FLOW SUMMARY (\$CDN MLN)

	1986	1987	1988	1989	ACCUM
261 ORE MILLED (000 S TONS)	0	105	52	0	157
69 HEAD GRADE (OZ/TON)	0.000	0.344	0.344	0.344	0.000
114 MILL RECOVERY (%)	0.00	89.50	89.50	89.50	268.50
63 GOLD PRODUCED (000'S OZS)	0.00	32.33	16.01	0.00	48.34
64 PRICE OF GOLD (US\$ / OZ)	325.0	325.0	325.0	325.0	1300.0
165 REVENUE (U.S.\$)	0.000	10,506	5,203	0.000	15,710
59 EXCHANGE RATE (U.S.\$/CDNS)	0.730	0.730	0.730	0.730	2,420
257 REVENUE (CDNS)	0.000	16,392	7,128	0.000	23,520
124 -OPERATING COSTS	0.000	8,670	4,294	0.000	12,964
50 PRE-TAX OPERATING PROFIT	0.000	5,722	2,834	0.000	8,556
99 -FEDERAL INCOME TAX PAID	-0.133	0.000	0.000	0.000	-0.133
118 -M.W.T. INCOME TAX PAID	0.000	0.000	0.000	0.000	0.000
132 -M.W.T. ROYALTY PAID	0.000	0.000	0.000	0.000	0.000
228 TOTAL TAXES PAID	-0.133	0.000	0.000	0.000	-0.133
29 CASH FLOW BEFORE CAPITAL COSTS	0.138	5,722	2,834	0.000	8,694
74 -PROCESSING FACILITIES	4,715	0.000	0.000	0.000	4,715
76 -HEATING & POWER	1,033	0.000	0.000	0.000	1,033
106 -INFRASTRUCTURE	1,150	0.000	0.000	0.000	1,150
14 -PRE-PRODUCTION DEVELOPMENT	1,897	0.000	0.000	0.000	1,897
50 -WORKING CAPITAL REQUIRED	0.000	1,486	0.000	0.000	1,486
11 -CAPITALIZED INTEREST	0.000	0.000	0.000	0.000	0.000
252 +WORKING CAPITAL RECOVERY	0.000	0.000	1,486	0.000	1,486
18 +SALVAGE	0.000	0.000	2.000	0.000	2.000
82 TOTAL CAPITAL COSTS	9,797	1,486	-3,486	0.000	6,797
15 +PRIMARY BANK LOAN	0.000	0.000	0.000	0.000	0.000
135 -OPTICAL LOAN REPAYMENTS	0.000	0.000	0.000	0.000	0.000
31 -(INTEREST EXPENSE	0.000	0.000	0.000	0.000	0.000
149 NET EQUITY CASH AVAILABLE	-8,659	4,236	6,320	0.000	1,897
244 ACCUMULATIVE TOTAL	-8,659	-4,423	1,897	1,897	0.000
247 DISCOUNTED NCF (8%)	-8,332	3,775	5,214	0.000	0,656
34 DISCOUNTED NCF (10%)	-8,256	3,672	4,980	0.000	0,394
38 DISCOUNTED NCF (12%)	-8,182	3,574	4,761	0.000	0,153
42 DISCOUNTED NCF (14%)	-8,110	3,481	4,555	0.000	-0,075
49 DISCOUNTED NCF (16%)	-8,040	3,391	4,361	0.000	-0,288
240 RATE OF RETURN PRE-TAX (%)	12.19	0.00	0.00	0.00	12.19
133 RATE OF RETURN AFT TAX (%)	13.33	0.00	0.00	0.00	13.33

### Variation of Gold Price

To allow for the volatility of the price of gold, the evaluation has been completed at three prices of gold - namely, U.S. \$300 per ounce, U.S. \$325 per ounce and U.S. \$375 per ounce. In each case the Canadian dollar/U.S. dollar, exchange ratio has been taken at 1.0:0.73.

### Variation in Ore Reserve Tonnage

Since the potential for discovery of additional ore on the Gordon Lake property is considered to be excellent, the effect on the present value of the project of discovery of additional reserves of the same grade has been calculated.

For the purpose of this evaluation, it has been assumed that the cost of discovery of additional ore will be \$15 per ton or approximately \$50 per ounce. This is in line with the average cost of exploration for Western Canadian properties of this nature.

### Present Value of the Property under Various Conditions

The present value of the property under various conditions discussed above is shown in Table 1.

TABLE 1

**GORDON LAKE PROJECT OF  
GIANT BAY RESOURCES LTD.  
PRESENT VALUE OF PROJECT UNDER VARIOUS OPERATING CONDITIONS**

Scale of Operation T.P.D.	Ore Reserve - 157,000 Tons			Ore Reserve - 250,000 Tons			Ore Reserve - 500,000 Tons			
	Capital Cost \$ Millions	Operating Cost \$/Ton	Present Value \$ Millions	After Tax Return on Investment	Operating Cost \$/Ton	Present Value \$ Millions	After Tax Return on Investment	Operating Cost \$/Ton	Present Value \$ Millions	After Tax Return on Investment
200	\$ 9.59	\$104.79	(\$2.5)	-	\$104.79	(\$0.6)	7.1%	\$104.79	\$ 2.4	17.5%
300	\$10.28	\$ 82.57	\$0.4	13.3%	\$ 82.57	\$3.5	33.3%	\$ 82.57	\$ 9.6	48.0%
400	\$11.30	\$ 71.45	\$1.3	21.5%	\$ 71.45	\$5.3	49.6%	\$ 71.45	\$13.2	69.9%

- NOTES 1) Gold Price - U.S. \$325/oz.  
2) Cdn. \$/U.S. \$ Exchange Rate - Cdn. \$1.00 = U.S. \$0.73  
3) Discount Rate - 10%  
4) Constant Cdn. \$ of late 1985 value

**APPENDIX I**

**PROFORMA CASH FLOW EVALUATIONS**

**OF**

**GORDON LAKE PROJECT**

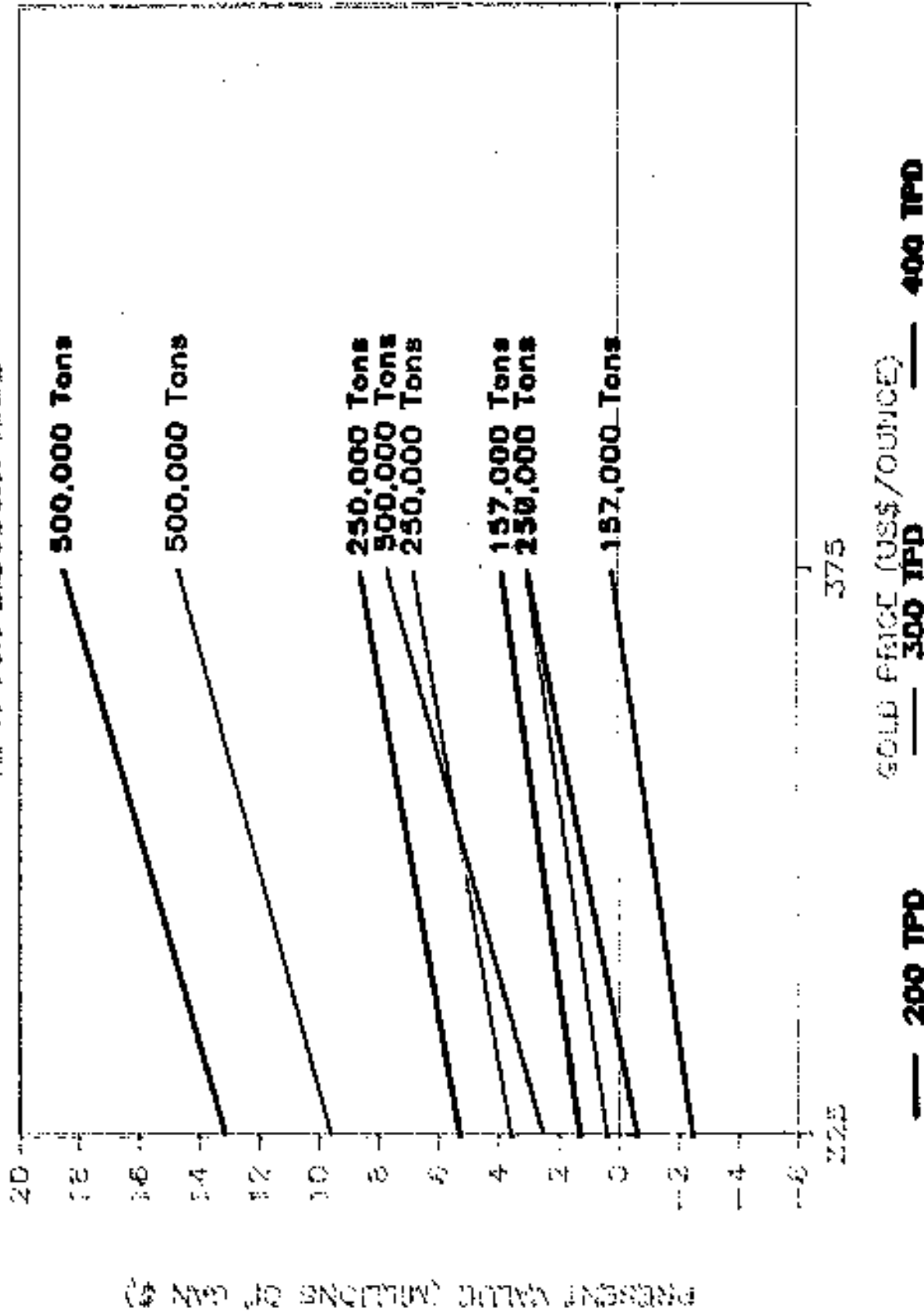
**UNDER**

**VARIOUS OPERATING CONDITIONS**



# NPV vs RESERVES & THROUGHPUT & PRICE

AT A 10% DISCOUNT RATE



GORDON LAKE

	<u>NVP @ 10%</u>	
	<u>\$325</u>	<u>\$375</u>
157,000		
200 TPD	(2.5)	0.3
300 TPD	0.4	3.1
400 TPD	1.3	3.9
250,000		
200 TPD	(0.6)	3.0
300 TPD	3.5	6.8
400 TPD	5.3	8.6
500,000		
200 TPD	2.4	7.7
300 TPD	9.6	14.7
400 TPD	13.2	18.5

CASHFLOW SUMMARY (\$CDN MLN)

	1986	1987	1988	1989	1990	ACCU
39						
241	0	70	70	17	0	157
69	0.000	0.344	0.344	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	89.50	358.00
63	0.00	21.55	21.55	5.23	0.00	48.34
64	325.0	325.0	325.0	325.0	325.0	1625.0
124	0.000	7.004	7.004	1.701	0.000	15.710
59	0.730	0.730	0.730	0.730	0.730	3.650
257	0.000	7.595	9.595	2.330	0.000	21.520
124	0.000	7.335	7.335	1.781	0.000	16.452
30	0.000	2.260	2.260	0.549	0.000	3.049
99	-0.129	0.000	0.000	0.000	0.000	-0.129
112	0.000	0.000	0.000	0.000	0.000	0.000
132	0.000	0.000	0.000	0.000	0.000	0.000
228	-0.129	0.000	0.000	0.000	0.000	-0.129
28	0.129	2.260	2.260	0.549	0.000	5.197
71	4.255	0.000	0.000	0.000	0.000	4.255
74	1.035	0.000	0.000	0.000	0.000	1.035
104	1.150	0.000	0.000	0.000	0.000	1.150
14	1.897	0.000	0.000	0.000	0.000	1.897
10	0.000	1.257	0.000	0.000	0.000	1.257
11	0.000	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	0.000	1.257	0.000	1.257
16	0.000	0.000	0.000	2.000	0.000	2.000
82	8.337	1.257	0.000	-3.257	0.000	6.337
13	0.000	0.000	0.000	0.000	0.000	0.000
133	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000
149	-8.208	1.003	2.260	3.806	0.000	-1.140
244	-8.208	+7.206	-4.946	-1.140	-1.140	0.000
247	-7.898	0.893	1.844	2.907	0.000	-2.234
34	-7.824	0.869	1.781	2.726	0.000	-2.450
38	-7.754	0.844	1.702	2.560	0.000	-2.648
42	-7.688	0.824	1.628	2.406	0.000	-2.830
49	-7.621	0.802	1.559	2.254	0.000	-2.996
15	+PRIMARY BANK LOAN					
133	-OPTIONAL LOAN REPAYMENTS					
31	-INTEREST EXPENSE					
149	NET EQUITY CASH AVAILABLE					
244	ACCUMULATIVE TOTAL					
247	DISCOUNTED NCF (8%)					
34	DISCOUNTED NCF (10%)					
38	DISCOUNTED NCF (12%)					
42	DISCOUNTED NCF (14%)					
49	DISCOUNTED NCF (16%)					

CASHFLOW SUMMARY (ECOM PLAN)

	1986	1987	1988	1989	1990	ACCU
39						
241	0	70	70	17	0	157
69	0.000	0.344	0.344	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	89.50	358.00
63	0.00	21.85	21.85	5.23	0.00	48.34
64	375.0	375.0	375.0	375.0	375.0	1875.0
165	0.000	6.082	6.082	1.963	0.000	18.126
59	0.730	0.730	0.730	0.730	0.730	3.650
257	0.000	11.071	11.071	2.689	0.000	24.831
124	0.000	7.335	7.335	1.781	0.000	16.452
30	0.000	3.736	3.736	0.907	0.000	6.379
99	-0.129	0.000	0.000	0.000	0.000	-0.129
318	0.000	0.000	0.000	0.000	0.000	0.000
132	0.000	0.000	0.000	0.000	0.000	0.000
228	-0.129	0.000	0.000	0.000	0.000	-0.129
28	0.129	3.736	3.736	0.907	0.000	8.507
71	4.253	0.000	0.000	0.000	0.000	4.253
76	1.033	0.000	0.000	0.000	0.000	1.033
106	1.150	0.000	0.000	0.000	0.000	1.150
14	1.997	0.000	0.000	0.000	0.000	1.997
10	0.000	1.257	0.000	0.000	0.000	1.257
11	0.000	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	0.000	1.257	0.000	1.257
18	0.000	0.000	0.000	2.000	0.000	2.000
86	8.337	1.257	0.000	-3.257	0.000	6.337
15	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000
149	-8.208	2.479	3.736	4.164	0.000	2.170
244	-8.208	-5.729	-1.994	2.170	2.170	0.000
247	-7.898	2.208	3.082	3.181	0.000	0.373
34	-7.826	2.149	2.944	2.983	0.000	0.249
38	-7.756	2.091	2.814	2.801	0.000	-0.050
42	-7.688	2.036	2.692	2.635	0.000	-0.327
49	-7.621	1.984	2.578	2.477	0.000	-0.582
240	10.83	0.00	0.00	0.00	0.00	10.83
133	11.65	0.00	0.00	0.00	0.00	11.65

CASHFLOW SUMMARY (C\$DN MLN)

	1986	1987	1988	1989	ACCU
291 ORE MILED (000'S TONS)	0	105	52	0	157
29 HEAD GRADE (02170N)	0.000	0.344	0.344	0.344	0.000
116 MILL RECOVERY (%)	0.00	89.50	89.50	89.50	268.50
63 GOLD PRODUCED (000'S OZS)	0.00	32.33	16.01	0.00	68.34
64 PRICE OF GOLD (US\$ / OZ)	325.00	325.00	325.00	325.00	1300.00
155 REVENUE (U.S.\$)	0.000	10.504	5.203	0.000	15.710
59 EXCHANGE RATE (U.S.\$/C\$DN)	0.730	0.730	0.730	0.730	2.920
257 REVENUE (C\$DN)	0.000	14.392	7.128	0.000	21.520
124 -OPERATING COSTS	0.000	8.670	4.294	0.000	12.963
30 PRE-TAX OPERATING PROFIT	0.000	5.722	2.834	0.000	8.554
99 -FEDERAL INCOME TAX PAID	-0.138	0.000	0.000	0.000	-0.138
118 -N.M.T. INCOME TAX PAID	0.000	0.000	0.000	0.000	0.000
132 -N.M.T. REVENUE PAID	0.000	0.000	0.000	0.000	0.000
226 TOTAL TAXES PAID	-0.138	0.000	0.000	0.000	-0.138
28 CASH FLOW BEFORE CAPITAL COSTS	0.138	5.722	2.834	0.000	8.416
75 -PROCESSING FACILITIES	4.715	0.000	0.000	0.000	6.715
76 -MINING + POWER	1.035	0.000	0.000	0.000	1.035
106 -INFRASTRUCTURE	1.150	0.000	0.000	0.000	1.150
14 -PRE-PRODUCTION DEVELOPMENT	1.897	0.000	0.000	0.000	1.897
10 -WORKING CAPITAL REQUIRED	0.000	1.484	0.000	0.000	1.484
11 -CAPITALIZED INTEREST	0.000	0.000	0.000	0.000	0.000
252 -WORKING CAPITAL RECOVERY	0.000	0.000	1.484	0.000	1.484
18 +SALVAGE	0.000	0.000	2.000	0.000	2.000
86 TOTAL CAPITAL COSTS	6.797	1.484	-3.484	0.000	6.797
15 +PRIMARY BANK LOAN	0.000	0.000	0.000	0.000	0.000
135 -OPTIMAL LOAN REPAYMENTS	0.000	0.000	0.000	0.000	0.000
31 -INTEREST EXPENSE	0.000	0.000	0.000	0.000	0.000
149 NET EQUITY CASH AVAILABLE	-9.659	4.238	6.320	0.000	1.897
244 ACCUMULATIVE TOTAL	-8.659	-4.423	1.897	1.897	0.000
247 DISCOUNTED NCF (8%)	-8.332	3.775	5.214	0.000	0.656
34 DISCOUNTED NCF (10%)	-8.256	3.672	4.980	0.000	0.396
38 DISCOUNTED NCF (12%)	-8.182	3.574	4.741	0.000	0.153
42 DISCOUNTED NCF (14%)	-8.110	3.481	4.555	0.000	-0.075
49 DISCOUNTED NCF (16%)	-8.040	3.391	4.351	0.000	-0.288
240 RATE OF RETURNX PRE-TAX (%)	12.19	0.00	0.00	0.00	12.19
133 RATE OF RETURNX AFT TAX (%)	13.33	0.00	0.00	0.00	13.33

CASHFLOW SUMMARY (CCDM MLM)

	1986	1987	1988	1989	ACCUM
39					
261	0	105	52	0	157
69	0.000	0.344	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	268.50
63	0.00	32.33	16.01	0.00	48.34
64	375.0	375.0	375.0	375.0	1500.0
165	0.000	12.123	6.004	0.000	18.126
59	0.730	0.730	0.730	0.730	2.920
257	0.000	16.607	6.224	0.000	24.831
124	0.000	6.670	4.294	0.000	12.963
30	0.000	7.937	3.931	0.000	11.867
99	-0.138	0.000	0.000	0.000	-0.138
118	0.000	0.000	0.134	0.000	0.134
132	0.000	0.000	0.000	0.000	0.000
220	-0.138	0.000	0.134	0.000	-0.004
28	0.138	7.937	3.797	0.000	11.872
71	4.715	0.000	0.000	0.000	4.715
76	1.035	0.000	0.000	0.000	1.035
106	1.150	0.000	0.000	0.000	1.150
14	1.897	0.000	0.000	0.000	1.897
10	0.000	1.486	0.000	0.000	1.486
11	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	1.486	0.000	1.486
18	0.000	0.000	2.000	0.000	2.000
86	6.797	1.486	-3.486	0.000	6.797
15	0.000	0.000	0.000	0.000	0.000
139	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000
149	-8.659	6.451	7.283	0.000	5.075
244	-8.659	-2.208	9.075	5.075	0.000
267	-8.332	5.747	6.008	0.000	3.424
54	-8.256	5.591	5.739	0.000	3.074
38	-8.162	5.442	5.486	0.000	2.746
42	-8.110	5.300	5.249	0.000	2.439
49	-8.040	5.163	5.025	0.000	2.149
240	35.53	0.00	0.00	0.00	35.53
133	36.23	0.00	0.00	0.00	36.23

CASH FLOW BEFORE CAPITAL COSTS

- PROCESSING FACILITIES
- MINING + POWER
- INFRASTRUCTURE
- PRE-PRODUCTION DEVELOPMENT
- WORKING CAPITAL REQUIRED
- CAPITALIZED INTEREST
- +WORKING CAPITAL RECOVERY
- +SALVAGE

TOTAL CAPITAL COSTS

- +PRIMARY BANK LOAN
- OPTIONAL LDRN REPAYMENTS
- INTEREST EXPENSE

NET EQUITY CASH AVAILABLE

ACCUMULATIVE TOTAL

DISCOUNTED NCF (0%)

DISCOUNTED MCF (10%)

DISCOUNTED MCF (12%)

DISCOUNTED MCF (14%)

DISCOUNTED MCF (16%)

RATE OF RETURN% PRE-TAX (X)

RATE OF RETURN% AFT TAX (X)



CASHFLOW SUMMARY (\$CDN MLN)

	1986	1987	1988	1989	ACCUM
39					
261	0	140	17	0	157
68	0.000	0.344	0.344	0.544	0.000
116	0.00	89.50	89.50	89.50	268.50
63	0.00	43.10	5.23	0.00	48.34
64	375.0	375.0	375.0	375.0	1500.0
165	0.000	16.144	1.963	0.000	18.126
59	0.730	0.730	0.730	0.730	2.920
257	0.000	22.142	2.639	0.000	24.831
126	0.000	10.003	1.215	0.000	11.218
30	0.000	12.139	1.474	0.000	13.613
99	-0.154	0.000	0.095	0.000	-0.059
118	0.000	0.000	0.197	0.000	0.197
132	0.000	0.000	0.000	0.000	0.000
228	-0.134	0.000	0.292	0.000	0.138
28	0.154	12.139	1.182	0.000	13.475
71	4.945	0.000	0.000	0.000	4.945
76	1.265	0.000	0.000	0.000	1.265
106	1.473	0.000	0.000	0.000	1.473
14	1.897	0.000	0.000	0.000	1.897
10	0.000	1.715	0.000	0.000	1.715
11	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	1.715	0.000	1.715
18	0.000	0.000	2.000	0.000	2.000
86	9.530	1.715	-3.715	0.000	7.530
15	0.000	0.000	0.000	0.000	0.000
135	0.900	0.000	0.000	0.000	0.900
31	0.500	0.000	0.000	0.000	0.500
149	-9.426	10.424	4.897	0.000	5.895
244	-9.426	0.998	5.895	5.895	0.000
267	-9.070	9.288	4.040	0.000	4.257
34	-8.988	9.035	3.859	0.000	3.907
38	-8.907	5.794	3.689	0.000	3.577
42	-8.829	8.564	3.529	0.000	3.265
49	-8.752	8.364	3.379	0.000	2.971
240	45.93	0.00	0.00	0.00	45.93
133	46.14	0.00	0.00	0.00	46.14



CASHFLOW SUMMARY (SCDM MLN)

	1986	1987	1988	1989	1990	1991	ACCUM
39							
261	0	70	70	70	40	0	350
69	0.000	0.344	0.344	0.344	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	89.50	89.50	447.50
63	0.00	21.55	21.55	21.55	12.32	0.00	76.97
64	325.0	325.0	325.0	325.0	325.0	325.0	1950.0
165	0.000	7.004	7.004	7.004	4.002	0.000	25.015
59	0.750	0.730	0.730	0.730	0.730	0.730	4.380
257	0.000	9.595	9.595	9.595	5.483	0.000	34.267
124	0.000	7.335	7.335	7.335	4.192	0.000	26.197
30	0.000	2.260	2.260	2.260	1.291	0.000	8.070
99	-0.129	0.000	0.000	0.000	0.000	0.000	-0.129
118	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132	0.000	0.000	0.000	0.000	0.000	0.000	0.000
228	-0.129	0.000	0.000	0.000	0.000	0.000	-0.129
28	0.129	2.260	2.260	2.260	1.291	0.000	8.199
71	4.255	0.000	0.000	0.000	0.000	0.000	4.255
76	1.035	0.000	0.000	0.000	0.000	0.000	1.035
106	1.150	0.000	0.000	0.000	0.000	0.000	1.150
14	1.897	0.000	0.000	0.000	0.000	0.000	1.897
10	0.000	1.257	0.000	0.000	0.000	0.000	1.257
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	0.000	0.000	1.257	0.000	1.257
16	0.000	0.000	0.000	0.000	2.000	0.000	2.000
86	9.337	1.257	0.000	0.000	-3.257	0.000	6.337
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000
149	-5.208	1.003	2.260	2.260	6.548	0.000	1.862
244	-8.209	-7.206	-4.946	-2.684	1.862	1.862	0.000
247	-7.898	0.893	1.864	1.726	3.217	0.000	-0.190
34	-7.824	0.869	1.781	1.619	2.942	0.000	-0.594
36	-7.756	0.846	1.702	1.520	2.731	0.000	-0.957
42	-7.688	0.824	1.628	1.428	2.522	0.000	-1.285
49	-7.621	0.802	1.559	1.344	2.332	0.000	-1.583
240	6.51	0.00	0.00	0.00	0.00	0.00	6.51
133	7.07	0.00	0.00	0.00	0.00	0.00	7.07
15							
135							
31							
149							
244							
247							
34							
36							
42							
49							
240							
133							

CASH FLOW BEFORE CAPITAL COSTS  
 -PROCESSING FACILITIES  
 -TIMING + POWER  
 -INFRASTRUCTURE  
 -PRE-PRODUCTION DEVELOPMENT  
 -WORKING CAPITAL REQUIRED  
 -CAPITALIZED INTEREST  
 +WORKING CAPITAL RECOVERY  
 +SALVAGE  
 TOTAL CAPITAL COSTS  
 +PRIMARY BANK LOAN  
 -OPTIONAL LOAN REPAYMENTS  
 -INTEREST EXPENSE  
 NET EQUITY CASH AVAILABLE  
 ACCUMULATIVE TOTAL  
 DISCOUNTED NCF (8%)  
 DISCOUNTED NCF (10%)  
 DISCOUNTED NCF (12%)  
 DISCOUNTED NCF (14%)  
 DISCOUNTED NCF (16%)  
 RATE OF RETURN% PRE-TAX (X)  
 RATE OF RETURN% AFT TAX (X)

CASHFLOW SUMMARY (\$CDN MLN)

30	1986	1987	1988	1989	1990	1991	ACCUM
261	0	70	70	70	40	0	250
69	0.000	0.344	0.344	0.344	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	89.50	89.50	447.50
63	0.00	21.55	21.55	21.55	12.32	0.00	76.97
64	375.0	375.0	375.0	375.0	375.0	375.0	2250.0
165	0.000	8.082	8.082	8.082	4.618	0.000	28.864
59	0.730	0.730	0.730	0.730	0.730	0.730	4.380
257	0.000	11.071	11.071	11.071	4.326	0.000	39.539
124	0.000	7.335	7.335	7.335	4.192	0.000	26.197
30	0.000	3.736	3.736	3.736	2.135	0.000	13.342
99	-0.129	0.000	0.000	0.000	0.366	0.000	0.237
118	0.000	0.000	0.000	0.000	0.245	0.000	0.245
132	0.000	0.000	0.000	0.000	0.016	0.000	0.016
228	-0.729	0.000	0.000	0.000	0.626	0.000	0.698
28	0.129	3.736	3.736	3.736	1.508	0.000	12.844
71	4.255	0.000	0.000	0.000	0.000	0.000	4.255
76	1.035	0.000	0.000	0.000	0.000	0.000	1.035
104	1.150	0.000	0.000	0.000	0.000	0.000	1.150
14	1.897	0.000	0.000	0.000	0.000	0.000	1.897
10	0.000	1.257	0.000	0.000	0.000	0.000	1.257
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	0.000	0.000	1.257	0.000	1.257
18	0.000	0.000	0.000	0.000	2.000	0.000	2.000
86	6.337	1.257	0.000	0.000	-3.257	0.000	6.337
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000
149	-8.208	2.479	3.736	3.736	4.765	0.000	6.507
264	-8.208	-3.729	-1.994	1.742	6.507	6.507	0.000
247	-7.898	2.208	3.042	2.654	3.370	0.000	3.616
34	-7.826	2.149	2.944	2.676	3.103	0.000	3.043
38	-7.756	2.091	2.814	2.513	2.823	0.000	2.523
42	-7.688	2.036	2.672	2.362	2.643	0.000	2.045
49	-7.621	1.984	2.578	2.222	2.444	0.000	1.606
240	25.94	0.00	0.00	0.00	0.00	0.00	25.94
133	25.18	0.00	0.00	0.00	0.00	0.00	25.18

CASH FLOW BEFORE CAPITAL COSTS  
 -PROCESSING FACILITIES  
 -MINING + POWER  
 -INFRASTRUCTURE  
 -PRE-PRODUCTION DEVELOPMENT  
 -WORKING CAPITAL REQUIRED  
 -CAPITALIZED INTEREST  
 +WORKING CAPITAL RECOVERY  
 +SALVAGE

TOTAL CAPITAL COSTS

+PRIMARY BANK LOAN  
 -OPTIONAL LOAN REPAYMENTS  
 -INTEREST EXPENSE

NET EQUITY CASH AVAILABLE  
 ACCUMULATIVE TOTAL

DISCOUNTED NCF (8%)  
 DISCOUNTED NCF (10%)  
 DISCOUNTED NCF (12%)  
 DISCOUNTED NCF (14%)  
 DISCOUNTED NCF (16%)  
 RATE OF RETURN PRE-TAX (%)  
 RATE OF RETURN AFT TAX (%)

CASHFLOW SUMMARY (SECON MLN)

	1986	1987	1988	1989	1990	ACCUM
39						
261	0	105	105	60	0	250
69	0.000	0.344	0.344	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	89.50	358.00
63	0.00	32.33	32.33	12.32	0.00	76.97
64	325.0	325.0	325.0	325.0	325.0	1625.0
165	0.000	10.506	10.506	4.002	0.000	25.015
59	0.730	0.730	0.730	0.730	0.730	3.650
257	0.000	14.392	14.392	5.483	0.000	34.267
124	0.000	8.670	8.670	3.303	0.000	20.642
30	0.000	5.722	5.722	2.180	0.000	13.625
99	-0.118	0.000	0.000	0.102	0.000	0.164
118	0.000	0.000	0.000	0.237	0.000	0.237
132	0.000	0.000	0.000	0.000	0.000	0.000
226	-0.118	0.000	0.000	0.540	0.000	0.402
28	0.138	5.722	5.722	1.640	0.000	13.223
71	4.715	0.000	0.000	0.000	0.000	4.715
76	1.035	0.000	0.000	0.000	0.000	1.035
106	1.150	0.000	0.000	0.000	0.000	1.150
14	1.897	0.000	0.000	0.000	0.000	1.897
10	0.000	1.486	0.000	0.000	0.000	1.486
11	0.000	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	0.000	1.486	0.000	1.486
18	0.000	0.000	0.000	2.000	0.000	2.000
86	8.797	1.484	0.000	-3.484	0.000	6.797
15	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000
149	-8.659	4.236	5.722	5.126	0.000	6.426
244	-8.659	-4.423	1.300	6.426	6.426	0.000
247	-8.332	3.775	4.721	3.916	0.000	4.079
34	-8.256	3.672	4.509	3.672	0.000	3.598
38	-8.182	3.574	4.311	3.448	0.000	3.151
42	-8.110	3.481	4.124	3.241	0.000	2.735
49	-8.040	3.391	3.949	3.049	0.000	2.349
240	33.25	0.00	0.00	0.00	0.00	33.25
135	32.51	0.00	0.00	0.00	0.00	32.51
28	CASH FLOW BEFORE CAPITAL COSTS					
71	-PROCESSING FACILITIES					
76	-MINING & POWER					
106	-INFRASTRUCTURE					
14	-PRE-PRODUCTION DEVELOPMENT					
10	-WORKING CAPITAL REQUIRED					
11	-CAPITALIZED INTEREST					
252	+WORKING CAPITAL RECOVERY					
18	+SALVAGE					
86	TOTAL CAPITAL COSTS					
15	+PRIMARY BANK LOAN					
135	-OPTIONAL LOAN REPAYMENTS					
31	-INTEREST EXPENSE					
149	NET EQUITY CASH AVAILABLE					
244	ACCUMULATIVE TOTAL					
247	DISCOUNTED NCF (8X)					
34	DISCOUNTED NCF (10X)					
38	DISCOUNTED NCF (12X)					
42	DISCOUNTED NCF (14X)					
49	DISCOUNTED NCF (16X)					
240	RATE OF RETURN% PRE-TAX (X)					
135	RATE OF RETURN% NET TAX (X)					

CASHFLOW SUMMARY (\$CDN MLN)

	1986	1987	1988	1989	1990	ACCUM
59						
261	0	105	103	40	0	250
69	0.000	0.344	0.344	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	89.50	358.00
43	0.00	32.33	32.33	12.32	0.00	76.97
64	375.0	375.0	375.0	375.0	375.0	1875.0
105	0.000	12.123	12.123	4.618	0.000	28.864
59	0.730	0.730	0.730	0.730	0.730	3.650
237	0.000	16.607	16.607	6.326	0.000	39.539
124	0.000	8.670	8.670	3.303	0.000	20.642
30	0.000	7.937	7.937	3.023	0.000	18.897
99	-0.138	0.000	0.353	1.017	0.000	1.232
118	0.000	0.000	0.251	0.283	0.000	0.534
132	0.000	0.000	0.000	0.000	0.000	0.000
228	-0.138	0.000	0.604	1.300	0.000	1.766
20	0.138	7.937	7.333	1.724	0.000	17.131
71	4.715	0.000	0.000	0.000	0.000	4.715
76	1.035	0.000	0.000	0.000	0.000	1.035
106	1.150	0.000	0.000	0.000	0.000	1.150
14	1.897	0.000	0.000	0.000	0.000	1.897
10	0.000	1.486	0.000	0.000	0.000	1.486
11	0.000	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	0.000	1.486	0.000	1.486
18	0.000	0.000	0.000	2.000	0.000	2.000
86	8.797	1.486	0.000	-3.486	0.000	6.797
15	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000
149	-8.659	6.451	7.333	5.210	0.000	10.334
244	-8.659	-2.208	5.124	10.334	10.334	0.000
247	-8.332	5.747	6.049	3.979	0.000	7.444
34	-8.256	5.591	5.778	3.732	0.000	6.845
38	-8.182	5.442	5.524	3.504	0.000	6.248
42	-8.110	5.300	5.285	3.293	0.000	5.788
49	-8.040	5.163	5.060	3.099	0.000	5.282
240	59.20	0.00	0.00	0.00	0.00	59.20
133	94.51	0.00	0.00	0.00	0.00	94.51

CASHFLOW SUMMARY (\$CDM MLN)

39		1986	1987	1988	1989	ACCUM
201	ORE MILLED (000 S TONS)	0	140	110	0	250
69	HEAD GRADE (OZ/TON)	0.000	0.344	0.344	0.344	0.000
116	MILL RECOVERY (%)	0.00	89.50	89.50	89.50	268.50
63	GOLD PRODUCED (000'S OZB)	0.00	43.10	33.87	0.00	76.97
64	PRICE OF GOLD (US\$ / OZ)	325.0	325.0	325.0	325.0	1300.0
165	REVENUE (U.S.\$)	0.000	14.009	11.007	0.000	25.015
59	EXCHANGE RATE (U.S.\$/CDN\$)	0.730	0.730	0.730	0.730	2.920
257	REVENUE (CDN\$)	0.000	19.190	15.078	0.000	34.267
124	-OPERATING COSTS	0.000	10.003	7.859	0.000	17.862
30	PRE-TAX OPERATING PROFIT	0.000	9.187	7.218	0.000	16.405
99	-FEDERAL INCOME TAX PAID	-0.154	0.000	0.660	0.000	0.506
118	-N.M.T. INCOME TAX PAID	0.000	0.000	0.354	0.000	0.354
132	-N.M.T. ROYALTY PAID	0.000	0.000	0.000	0.000	0.000
228	TOTAL TAXES PAID	-0.154	0.000	1.014	0.000	0.860
28	CASH FLOW BEFORE CAPITAL COSTS	0.154	9.187	6.204	0.000	15.545
71	-PROCESSING FACILITIES	4.945	0.000	0.000	0.000	4.945
76	-MINING + POWER	1.265	0.000	0.000	0.000	1.265
106	-INFRASTRUCTURE	1.673	0.000	0.000	0.000	1.673
14	-PRE-PRODUCTION DEVELOPMENT	1.897	0.000	0.000	0.000	1.897
10	-WORKING CAPITAL REQUIRED	0.000	1.715	0.000	0.000	1.715
11	-CAPITALIZED INTEREST	0.000	0.000	0.000	0.000	0.000
252	+WORKING CAPITAL RECOVERY	0.000	0.000	1.715	0.000	1.715
18	+SALVAGE	0.000	0.000	2.000	0.000	2.000
66	TOTAL CAPITAL COSTS	9.580	1.715	-3.715	0.000	7.580
15	+PRIMARY BANK LOAN	0.000	0.000	0.000	0.000	0.000
135	-OPTIONAL LOAN REPAYMENTS	0.000	0.000	0.000	0.000	0.000
31	-INTEREST EXPENSE	0.000	0.000	0.000	0.000	0.000
149	NET EQUITY CASH AVAILABLE	-9.426	7.472	9.919	0.000	7.965
244	ACCUMULATIVE TOTAL	-9.426	-1.955	7.965	7.965	0.000
247	DISCOUNTED NCF (8%)	-9.070	6.657	6.183	0.000	5.770
34	DISCOUNTED NCF (10%)	-8.988	6.476	5.816	0.000	5.308
38	DISCOUNTED NCF (12%)	-8.907	6.304	5.472	0.000	4.869
42	DISCOUNTED NCF (14%)	-8.829	6.139	5.148	0.000	4.458
49	DISCOUNTED NCF (16%)	-8.752	5.980	4.844	0.000	4.073
240	RATE OF RETURNX PRE-TAX (%)	52.72	0.00	0.00	0.00	52.72
133	RATE OF RETURNX AFT TAX (%)	49.60	0.00	0.00	0.00	49.60

CASHFLOW SUMMARY (\$COM MLN)

	1986	1987	1988	1989	ACCUR
39					
261	0	140	110	0	250
69	0.000	0.364	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	268.50
63	0.00	43.10	33.87	0.00	76.97
64	375.0	375.0	375.0	375.0	1500.0
165	0.000	16.124	12.700	0.000	28.824
59	0.750	0.750	0.750	0.750	2.920
257	0.000	22.142	17.397	0.000	39.539
124	0.000	10.003	7.859	0.000	17.862
30	0.000	12.139	9.538	0.000	21.677
99	-0.154	0.000	1.728	0.000	1.574
118	0.000	0.000	0.451	0.000	0.451
132	0.000	0.000	0.000	0.000	0.000
228	-0.154	0.000	2.373	0.000	2.224
28	0.154	12.139	7.160	0.000	19.452
71	4.945	0.000	0.000	0.000	4.945
76	1.265	0.000	0.000	0.000	1.265
106	1.473	0.000	0.000	0.000	1.473
14	1.897	0.000	0.000	0.000	1.897
10	0.000	1.715	0.000	0.000	1.715
11	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	1.715	0.000	1.715
18	0.000	0.000	2.000	0.000	2.000
86	9.580	1.715	-3.715	0.000	7.580
15	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000
149	-9.426	10.424	10.875	0.000	11.872
244	-9.426	0.998	11.872	11.872	0.000
247	-9.070	9.288	8.971	0.000	9.188
34	-8.988	9.035	8.569	0.000	8.617
38	-8.907	8.794	8.192	0.000	8.079
42	-8.829	8.564	7.837	0.000	7.573
49	-8.752	8.344	7.504	0.000	7.095
240	84.00	0.00	0.00	0.00	84.00
133	76.10	0.00	0.00	0.00	76.10
28	CASH FLOW BEFORE CAPITAL COSTS				
71	-PROCESSING FACILITIES				
76	-MINING + POWER				
106	-INFRASTRUCTURE				
14	-PRE-PRODUCTION DEVELOPMENT				
10	-WORKING CAPITAL REQUIRED				
11	-CAPITALIZED INTEREST				
252	+WORKING CAPITAL RECOVERY				
18	+SALVAGE				
86	TOTAL CAPITAL COSTS				
15	+PRIMARY BANK LOAN				
135	-OPTIONAL LOAN REPAYMENTS				
31	-INTEREST EXPENSE				
149	NET EQUITY CASH AVAILABLE				
244	ACCUMULATIVE TOTAL				
247	DISCOUNTED NCF (\$)				
34	DISCOUNTED NCF (10%)				
38	DISCOUNTED NCF (12%)				
42	DISCOUNTED NCF (14%)				
49	DISCOUNTED NCF (16%)				
240	RATE OF RETURNS PRE-TAX (%)				
133	RATE OF RETURNS AFT TAX (%)				



CASHFLOW SUMMARY (USDN MLN)

	ACCUM
39	
261 ORE MILLED (000 S TONS)	500
69 HEAD GRADE (OZ/TON)	0.000
116 MILL RECOVERY (%)	805.50
63 GOLD PRODUCED (000'S OZS)	153.94
64 PRICE OF GOLD (US\$ / OZ)	3250.0
165 REVENUE (U.S.\$)	50.030
59 EXCHANGE RATE (U.S.\$/CONS)	7.300
257 REVENUE (CONS)	68.535
124 -OPERATING COSTS	52.395
30 PRE-TAX OPERATING PROFIT	16.140
99 -FEDERAL INCOME TAX PAID	0.803
118 -M.W.T. INCOME TAX PAID	0.402
132 -M.W.T. ROYALTY PAID	0.079
228 TOTAL TAXES PAID	1.285
28 CASH FLOW BEFORE CAPITAL COSTS	14.855
71 -PROCESSING FACILITIES	4.253
76 -MINING + POWER	1.035
106 -INFRASTRUCTURE	1.150
14 -PRE-PRODUCTION DEVELOPMENT	1.897
10 -WORKING CAPITAL REQUIRED	1.257
11 -CAPITALIZED INTEREST	0.000
252 +WORKING CAPITAL RECOVERY	1.257
18 +SALVAGE	2.000
86 TOTAL CAPITAL COSTS	6.337
15 +PRIMARY BANK LOAN	0.000
135 -OPTIONAL LOAN REPAYMENTS	0.000
31 -INTEREST EXPENSE	0.000
149 NET EQUITY CASH AVAILABLE	8.518
244 ACCUMULATIVE TOTAL	0.000
247 DISCOUNTED NCF (RM)	2.382
34 DISCOUNTED NCF (10%)	2.487
38 DISCOUNTED NCF (12%)	1.703
42 DISCOUNTED NCF (14%)	1.014
49 DISCOUNTED NCF (16%)	0.409
240 RATE OF RETURNX PRE-TAX (%)	18.55
133 RATE OF RETURNX AFT TAX (%)	17.50





CASHFLOW SUMMARY (SCON MLN)

	ACCUM
59	
261 ORE MILLED (000 S TONS)	500
89 HEAD GRADE (OZ/TON)	0.000
116 MILL RECOVERY (%)	805.50
63 GOLD PRODUCED (000'S OZS)	153.94
64 PRICE OF GOLD (US\$ / OZ)	3750.0
165 REVENUE (U.S.\$)	57.727
59 EXCHANGE RATE (U.S.\$/CDNS)	7.300
257 REVENUE (CDNS)	79.079
124 -OPERATING COSTS	52.395
30 PRE-TAX OPERATING PROFIT	26.684
99 -FEDERAL INCOME TAX PAID	2.952
118 -N.M.T. INCOME TAX PAID	0.999
132 -N.M.T. ROYALTY PAID	0.348
228 TOTAL TAXES PAID	4.299
28 CASH FLOW BEFORE CAPITAL COSTS	22.385
71 -PROCESSING FACILITIES	4.255
76 -MINING + POWER	1.035
106 -INFRASTRUCTURE	1.150
14 -PRE-PRODUCTION DEVELOPMENT	1.897
10 -WORKING CAPITAL REQUIRED	1.257
11 -CAPITALIZED INTEREST	0.000
252 +WORKING CAPITAL RECOVERY	1.257
78 +SALVAGE	2.000
86 TOTAL CAPITAL COSTS	6.337
15 +PRIMARY BANK LOAN	0.000
135 -OPTIONAL LOAN REPAYMENTS	0.000
31 -INTEREST EXPENSE	0.000
149 NET EQUITY CASH AVAILABLE	16.048
244 ACCUMULATIVE TOTAL	0.000
247 DISCOUNTED MCF (8%)	8.977
34 DISCOUNTED MCF (10%)	7.718
38 DISCOUNTED MCF (12%)	6.607
42 DISCOUNTED MCF (14%)	5.621
49 DISCOUNTED MCF (16%)	4.746
240 RATE OF RETURNX PRE-TAX (%)	37.16
133 RATE OF RETURNX AFT TAX (%)	33.89



GORDON LAKE- 300 TPD, -500MM T, AU B US\$375

CASHFLOW SUMMARY (\$CDN MLN)

39	1986	1987	1988	1989	1990	1991	1992	ACCUM
261	0	105	105	105	105	80	0	500
69	0.000	0.344	0.344	0.344	0.344	0.344	0.344	0.000
116	0.00	89.50	89.50	89.50	89.50	89.50	89.50	537.00
63	0.00	32.33	32.33	32.33	32.33	24.63	0.00	153.74
64	375.0	375.0	375.0	375.0	375.0	375.0	375.0	2625.0
165	0.000	12.123	12.123	12.123	12.123	9.236	0.000	57.727
59	0.730	0.730	0.730	0.730	0.730	0.730	0.730	5.110
257	0.000	16.607	16.607	16.607	16.607	12.653	0.000	79.079
124	0.000	8.670	8.670	8.670	8.670	6.606	0.000	41.285
30	0.000	7.937	7.937	7.937	7.937	6.047	0.000	37.794
99	-0.138	0.000	0.353	1.607	1.743	2.173	0.000	5.739
118	0.000	0.000	0.251	0.446	0.465	0.604	0.000	1.786
132	0.000	0.000	0.000	0.000	0.304	0.197	0.000	0.501
228	-0.138	0.000	0.604	2.054	2.533	2.973	0.000	8.026
28	0.138	7.937	7.333	5.883	5.403	3.074	0.000	29.767
77	4.715	0.000	0.000	0.000	0.000	0.000	0.000	4.715
76	1.035	0.000	0.000	0.000	0.000	0.000	0.000	1.035
106	1.150	0.000	0.000	0.000	0.000	0.000	0.000	1.150
14	1.697	0.000	0.000	0.000	0.000	0.000	0.000	1.697
10	0.000	1.486	0.000	0.000	0.000	0.000	0.000	1.486
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
252	0.000	0.000	0.000	0.000	0.000	1.486	0.000	1.486
18	0.000	0.000	0.000	0.000	0.000	2.000	0.000	2.000
86	5.797	1.486	0.000	0.000	0.000	-3.486	0.000	6.797
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
149	-8.659	6.451	7.333	5.883	5.603	6.560	0.000	22.970
244	-8.659	-2.806	5.124	11.007	16.511	22.970	22.970	0.000
247	-8.332	5.747	6.049	4.494	3.822	4.294	0.000	16.076
34	-9.256	5.591	5.778	4.214	3.519	3.883	0.000	14.730
38	-8.182	3.957	5.245	3.957	3.245	3.517	0.000	13.502
42	-8.110	3.300	5.285	3.719	2.996	3.191	0.000	12.381
60	-8.040	5.163	5.060	3.499	2.771	2.900	0.000	11.353
240	78.61	0.00	0.00	0.00	0.00	0.00	0.00	78.61
133	69.80	0.00	0.00	0.00	0.00	0.00	0.00	69.80

CASH FLOW BEFORE CAPITAL COSTS

TOTAL CAPITAL COSTS

PRIMARY BANK LOAN

OPTIONAL LOAN REPAYMENTS

INTEREST EXPENSE

NET EQUITY CASH AVAILABLE

ACCUMULATIVE TOTAL

DISCOUNTED NCF (8%)

DISCOUNTED NCF (10%)

DISCOUNTED NCF (12%)

DISCOUNTED NCF (14%)

DISCOUNTED NCF (16%)

RATE OF RETURN PRE-TAX (%)

RATE OF RETURN AFT TAX (%)



