

PROPOSED 1987 EXPLORATION PROGRAM

FOR THE

GORDON LAKE GOLD PROPERTY

MACKENZIE MINING DISTRICT, N.W.T., CANADA

for GIANT BAY RESOURCES LTD.

N.T.S.: 85I-14

LATITUDE: 62 58'N

LONGITUDE: 113 19'W

CAELLES GEOLOGICAL CONSULTANTS LTD.  
2105 West 57th. Avenue  
Vancouver, B.C. V6P 1V5  
(604) 261-3842

March 1987

TABLE OF CONTENTS

	<u>PAGE</u>
1. SUMMARY .....	1
2. PROPERTY AND OWNERSHIP .....	2
3. HISTORY OF EXPLORATION .....	2
4. PROPERTY GEOLOGY .....	3
5. MINERALIZATION .....	3
6. NO.1 ZONE: GEOLOGICAL RESERVES .....	5
7. PROPOSED 1987 EXPLORATION PROGRAM .....	5
REFERENCES .....	6
APPENDIX 1 .....	9
APPENDIX 2 .....	10
LIST OF PLATES .....	ii

LIST OF PLATES

Plate 1: Location map

Plate 2: Property map with known gold-bearing quartz zones

Plate 3: Location map of 1986 underground workings in the No. 1 Zone

Plate 4: Location map of diamond drill holes in the No. 1 Zone

*missing*, Plate 5: Geological map of the -200-ft level with high-grade, hanging wall zone, and proposed 1987 drift

Plate 6: Longitudinal section of the high-grade, hanging wall zone with proposed 1987 drift and raises

## 1. SUMMARY

Very extensive exploration work has been completed at the Gordon Lake gold property in the last four years leading to the discovery of several gold-bearing quartz zones. The work comprised grid cutting, geophysical surveys, geological mapping and prospecting, surface diamond and percussion drilling, underground drilling, driving a decline, drifting and raising.

The bulk of the work was carried out in the No. 1 Zone, the most promising mineralized zone to date. The No. 1 Zone is a very wide, low-grade, mineralized zone containing narrow, high-grade intervals within it. A mineral inventory evaluation of this zone, which is still open at depth and at one end, is as follows with assays cut to 3.0 oz/tn gold:

drill-proven reserves (above -300 ft level): 63,000 tons @ .388 oz/tn Au  
drill-probable reserves (between -300- and -600-ft level): 47,000 tons @  
.660 oz/tn Au

Part of those reserves are contained in an drill-indicated continuous zone along the hanging wall contact that enhances the economic viability of putting the property into production. That zone can be mined by visually following the sharp hanging wall contact, and, therefore, reducing considerably the dilution that would inevitably ensue if the mining would have to be done following assay boundaries.

The objective of the proposed 1987 exploration program is to upgrade part of the above-mentioned reserves from the drill-indicated to the proven category, and to test further the continuity to the northwest of the No. 1 Zone, the VIV 15, and the T-11/2 Zones.

The proposed underground program will test the lateral and vertical continuity of the hanging wall zone by means of a 300-ft long, 8' x 5' drift off the -200-ft level, and three 5' x 7' raise totalling about 600 ft in length, in conjunction with 1,000 ft, of diamond drilling to delineate better the southeastern end of the zone. This work will be carefully monitored and directed by sampling and assaying at the property, and could be expanded or cut short according to results. The bulk sample extracted will be stockpiled on surface for later winter trucking to Yellowknife for milling and recovery

tests.

The surface drilling proposed comprise 2,000 ft of drilling, of which about half will be located in the No. 1 Zone to test its lateral and vertical continuity toward the northwest, where it is still open along strike and at depth.

The estimated cost of the program, shown in detail in Appendixes 1 and 2 are:

Underground exploration program	\$ 1,226,000
Surface and underground diamond drilling	<u>220,000</u>
<b>TOTAL .....</b>	<b>\$ 1,446.000</b>

## 2. PROPERTY AND OWNERSHIP

The Gordon Lake gold property is located on the southwestern shore of Gordon Lake, approximately 50 airmiles north-northeast of Yellowknife, Northwest Territories, Canada (Plate 1).

The property is accessible during the winter months by truck via a winter road (130 Km), and during the summer by float-equipped airplanes or helicopters, both types of aircraft available in Yellowknife.

The property covers 7,149 acres (Plate 2) and it is owned outright by Giant Bay Resources subject to a royalty of 1% of production from beginning of commercial production.

## 3. HISTORY OF EXPLORATION

The Gordon Lake gold property has had a long history of exploration since its discovery by prospectors in 1937.

Relevant work to this proposal was carried out in 1983, 1984, 1985, and 1986. During those years a grid was cut over 2/3 of the property, a magnetic geophysical survey completed over the whole grid and a VLF geophysical survey over half of it, the property was mapped and prospected in detail, old trenches were sampled and evaluated, 35,250 ft of surface and 2,680 ft of underground

diamond drilling and 1,630 ft of percussion drilling were completed, 1,600 ft of 9' x 13' decline, 540 ft of 9' x 13' drift at the -200-ft level, and 540 ft in two raises of 5' x 7' were completed.

The above mentioned work led to the discovery of 12 gold-bearing zones, where varying amounts of work were done (Plate 2). The bulk of the work, though, was carried out in the most economically-significant zone at present: the No. 1 Zone. In that zone the following modern work has been carried out:

- \* 23,066 ft of surface diamond drilling;
- \* 2,680 ft of underground diamond drilling;
- \* 1,630 ft of surface percussion drilling;
- \* 1,600 ft of 9' x 13' decline;
- \* 540 ft of 9' x 13' drift at the -200-ft level;
- \* two 5' x 7' raises of 270 ft each;
- \* muck and wall samples of the mineralized zone were taken and assayed.

#### 4. PROPERTY GEOLOGY

The Gordon Lake gold property is located in the Slave Province of the Canadian Shield. It is underlain by the Archean Yellowknife Supergroup, which is locally made up of a turbidite sequence composed predominantly of greywackes, subordinate siltstones, and minor argillites. Several diabase dykes cut the sedimentary sequence.

Three periods of folding and two different cleavages have been recognized in the property. The main structures are isoclinal folds characterized by bedding and axial-plane cleavage dipping vertically to very steeply. The sediments have been regionally metamorphosed to the upper greenschist facies.

#### 5. MINERALIZATION

Gold mineralization in the property is spatially associated with quartz "bodies", which, due to the multiphase deformation history of the area, presently occur in several shapes and display various relationships to the preserved structural elements.

The quartz "bodies" occur as tabular veins, as equidimensional "blow-outs", and as strata-bound and sometimes stratiform, up to 100-ft wide in the No. 1 Zone, siliceous zones.

All the above-mentioned "quartz-bodies" are known to contain gold. The more economically-significant ones, however, are the veins and especially the wide siliceous zones.

To date gold-bearing quartz "bodies" have been found in twelve different zones, namely: **No. 1, No. 2, No. 3, No. 4, Bulge, VIV 8, VIV 15, T-11/2, T-15, T-32, Woofarine, and Chane** (Plate 2). The No. 1 Zone appears at present to have the most economical potential, it is the more intensively tested, and, consequently, the best known geologically (Plates 3 and 4). Further testing of this zone is the proposed 1987 exploration program.

The No 1 zone outcrops only in a narrow fringe for 100 ft of its known 1,000-ft strike length, delineated by diamond drilling. The gold-bearing zone is open at depth and towards the northwest along strike; the deepest diamond drill intersection is about 800-ft below surface. It tapers out or is faulted off to the southeast. The zone dips vertically to very steeply and its thickness varies both with depth and along strike between 20 ft and in excess of 100 ft, averaging about 30 ft.

The predominant wall rocks of the No. 1 Zone are massive greywackes, with subordinate siltstones. The gold-bearing zone is made up of carbonaceous, black siltstones, minor argillites, and lesser amounts of greywackes, and contains between 10 and 90% quartz and 1 to 15% sulphides, averaging about 30% quartz and 2% sulphides. The mineralized zone exhibits biotite, chlorite, plagioclase, and epidote alteration. Visible gold, commonly present as up to 1-mm specks and less often as up to 3- to 4-mm blebs, was observed in a large number of drill holes and in the wall in one place in the -200-ft-level drift.

The gold content within the No. 1 Zone does not follow any distribution pattern, with the exception of a fairly continuous zone, about 500 ft long, immediately adjacent, or in close proximity, to the structural hanging wall, which was confirmed by the 1986 underground diamond drilling program. Core or drift/raise intervals from the mineralized zone with economic-gold content cannot be visually differentiated from those that yielded low-gold values,

except when visible gold is present.

The main objective of the 1986 underground program was to have access to the No. 1 Zone to take a bulk sample and test the possibility of a large-tonnage, low-grade orebody amenable to open pit mining. The assays of the muck and wall samples were negative. The underground diamond drilling confirmed the presence of narrow, high-grade gold zones within the wider mineralized zone. They could not be followed underground, and consequently bulk sampled, because they were confirmed by underground diamond drilling after finishing the drift.

#### 6. No. 1 ZONE: DRILL-INDICATED GEOLOGICAL RESERVES

A mineral reserve calculation, evaluating all the available information at the end of 1986, was undertaken using the following parameters:

cut-off grade: 0.20 oz/tn gold  
 minimum mining width: 4.0 ft  
 specific gravity: 2.8  
 assay values: uncut, cut to three oz/tn and cut to one oz/tn gold

Ore reserves for the No. 1 Zone, still being open at depth and at one end, were calculated as follows (Burson and Caelles, 1986):

<u>Drill-proven reserves*</u> (above -300-ft level)	<u>Drill-probable reserves*</u> (between -300- and -600-ft level)
63,000 tons @ .388 oz/tn Au	47,000 tons @ .660 oz/tn Au

\*Assays cut to 3.0 oz/tn Au.

#### 7. PROPOSED 1987 EXPLORATION PROGRAM

The drill-indicated presence of the hanging wall high-grade zone is of great economic importance. It would permit its mining visually following the mineralized zone/wall rock contact, what would lessen dilution considerably. Testing the lateral and vertical continuity, and confirming the grade of this zone is the objective of the 1987 exploration program. The extracted material will be stockpiled on surface for later transportation to Yellowknife for



milling testing.

It is proposed to follow that contact on the -200-ft level with access from the existing -200-ft drift with an 8' x 5' drift for approximately 300 ft with strict assay control, which would dictate where to take slashes off the walls. From this drift, which will be parallel and in places braking into the existing one, a minimum of three raises approximately 170 ft long each will be driven to test vertical continuity and grade (Plates 5 and 6). A 1,000 ft of underground diamond drilling are proposed to delineate better the mineralized zone on the southwestern end of the previous underground drilling. Assaying will determine whether this program should be extended and in which direction, or whether it should be cut short.

On surface, a 2,000 ft drilling program is proposed to test at depth and further along strike toward the northwest the No. 1 Zone, still open in that direction, and test further the VIV 15 and T-11/2 Zones, where good, but so far erratic intersections have been recovered.

Appendix 1 and 2 show in detail the detailed estimated cost of the programs, which in summary are:

Underground exploration program	\$ 1,226,000
Underground and surface drilling	<u>220,000</u>
<b>TOTAL .....</b>	<b>\$ 1,446,000</b>



by: Juan C. Caelles, Ph.D., M.G.A.C.,  
Consulting Geologist

REFERENCES

- Burson, M.J. and Caelles, J.C. (1986) 1986 Underground program and ore reserves for the No. 1 Zone of the Gordon Lake gold deposit, Mackenzie Mining District (N.W.T.), Canada. *(incl. Read's petrography)*
- Caelles, J.C. (1984) Geological report on the 1984 drill exploration program on the Giant Bay Resources Ltd. MAHE, AD, POL, AR, BEAR, and LYNK claims group.
- Caelles, J.C. (1985) Geological report on the 1985 drill exploration program on the Giant Bay Resources Ltd. property at Gordon Lake, N.W.T.
- Fiset, N.K. (1985) Report on ground geophysical surveys conducted in the Gordon Lake area of Northwest Territories.
- Fyson, W.K. (1975) Fabrics and deformation of Archean metasedimentary rocks, Ross Lake-Gordon Lake area, Slave Province, Northwest Territories. Can. Jour. Earth Sci., 12: 765-776.
- Fisher, A.T. (1985) A prefeasibility study of the Gordon Lake property of Giant Bay Resources Ltd.
- Goad, B. (1985) 1985 Property Report, Gordon Lake property, N.T.S. 85 I/14.
- Harris, J.F. (1984) Thin section report. *(back of Caelles, 1984)*
- Humphries, W.J. (1983) MAHE property, Gordon Lake, MacKenzie Mining District, N.W.T. Report on 1983 mineral exploration.
- Humphries, W.J. (1984) Report on magnetometer survey - MAHE claims, Gordon Lake area.
- Knutsen, W.G. (1984a) Report on the Giant Bay Resources Ltd. MAHE, AD, POL, AR, BEAR, and LYNK claim group - Gordon Lake area, Mackenzie Mining District, Canada.
- Knutsen, W.G. (1984b) Summary report and ore reserve studies Giant Bay Resources Ltd. gold property, Gordon Lake, N.W.T.
- Love, B. (1984) Report on the geological mapping and prospecting work conducted on the Giant Bay Resources Ltd. Gordon Lake claim group. N.W.T.
- Mehner, D. (1986) Geological report of the 1986 surface exploration program on Giant Bay Resources Ltd.
- Padgham, W.A. (1983) Gold deposits of the Northwest Territories: classes, styles, genesis, exploration methods and success probabilities. 11th Annual Geoscience Forum, Yellowknife, Dec. 8-9/1983, 9 pages.

Read , P.B. (1986) Petrography of drill core samples, Gordon Lake Mine,  
Northwest Territories. *(appendix to Barson & Caelles, 1984)*

→ Stokes, T.R. (1986) Field structural report on Zones 1, 2, 3, and 4 of the  
Gordon Lake property (to accompany maps A, B, and C).

Thompson, R. (1938) Sentinel Mines Ltd., N.W.T.

GORDON LAKE GOLD PROPERTY  
 PROPOSED 1987 UNDERGROUND EXPLORATION PROGRAM  
 ESTIMATED EXPENDITURES

WORK COSTS	FIXED COSTS	VARIABLE COSTS (DAILY)	350 FT DRIFT 600 FT RAISES	SUBTOTAL	TOTAL
Number of days			40		
Tonnage mined			3,500		
<b>MINING</b>					
Fixed costs:					
Site preparation	59,500.00				
Mobilization	40,000.00				
Demobilization	30,000.00				
Scooptram rental	16,800.00		146,300.00	146,300.00	
Variable costs:					
Support		3,800.00	152,000.00		
Drift			67,200.00		
Raise			150,000.00		
Sample crushing		1,700.00	68,000.00	437,200.00	583,500.00
<b>SUPPORT</b>					
Mgmt & supervision		300.00	15,000.00		
Geologist		215.00	10,750.00		
Surveyor		190.00	9,500.00		
Handyman		145.00	7,250.00		
Cook and bullcook		275.00	13,750.00		
Assayer & helper		350.00	17,500.00		
Assaying materials			10,000.00		
Groceries		500.00	25,000.00		
Transportation			6,000.00		
Power plant	12,000.00		12,000.00		
Fuel		150.00	7,500.00		
Equi. rentals	4,000.00		4,000.00		
Mob & Demob	10,000.00		10,000.00		
Expediting	1,500.00		1,500.00		
Communications	1,200.00		1,200.00		
Report writing	4,500.00		4,500.00		
Drafting	1,500.00		1,500.00		
Bookkeeping	1,500.00		1,500.00		158,450.00
<b>TRANSPORT &amp; PROCESSING</b>					
Transp (\$61 ton + road)			215,500.00		
Processing (\$45 per ton)			157,500.00	373,000.00	373,000.00
<b>ESTIMATED FIELD TOTAL</b>					
	182,500.00				1,114,950.00
10% Contingency	18,250.00				111,495.00
<b>TOTAL FIELD COST</b>					
	\$200,750.00				\$1,226,445.00

APPENDIX 1: Estimated detailed expenditures for the proposed 1987 underground exploration program at the Gordon Lake Gold property

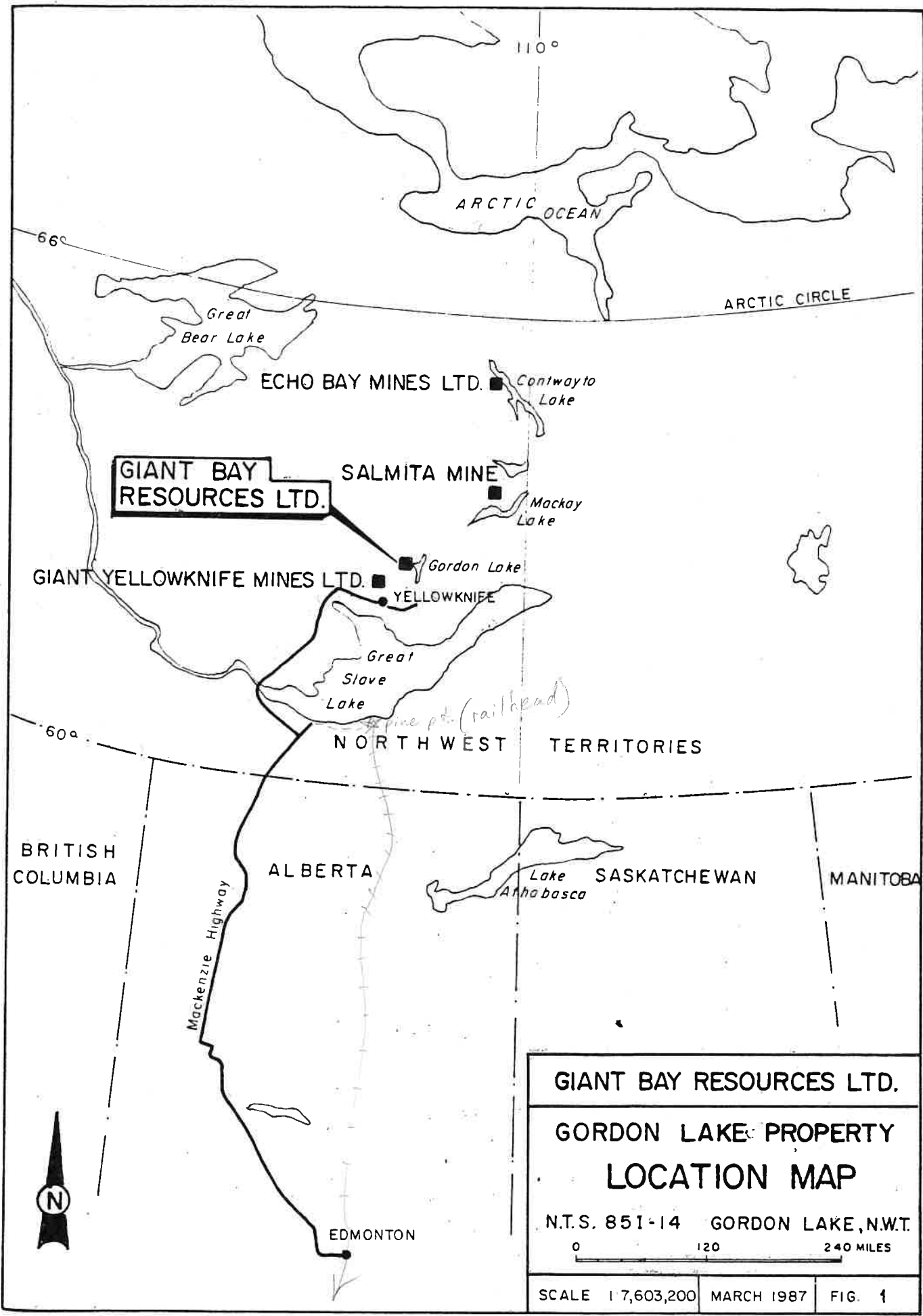
GORDON LAKE GOLD PROPERTY  
 PROPOSED 1987 UNDERGROUND AND SURFACE DIAMOND DRILLING EXPLORATION PROGRAM  
 ESTIMATED EXPENDITURES

WORK COSTS	DAILY COST	UNDERGROUND DRILLING (1000 FT)	SURFACE DRILLING (2000 FEET)	SUBTOTAL	TOTAL
Number of days		20	25		45
<b>UNDERGROUND</b>					
Drilling		20,000.00			
Fuel		4,000.00			
Board	100	2,000.00			
Assaying		3,500.00			
Mob & Demob		12,000.00		41,500.00	
<b>SURFACE</b>					
Drilling			40,000.00		
Fuel			8,000.00		
Board	125		3,125.00		
Mob & Demob			12,000.00		
Helicopter			35,000.00	98,125.00	
<b>SUPPORT</b>					
Mgmt & supervision	300		6,000.00		
Geologist	215		9,675.00		
Geological asstn	135		6,075.00		
Handyman	145		2,900.00		
Cook and bullcook	275		6,875.00		
Assayer & helper	350		5,250.00		
Assaying materials			4,000.00		
Groceries	175		4,375.00		
Transportation			2,500.00		
Fuel	150		3,750.00		
Equi. rentals			2,000.00		
Mob & Demob			2,200.00		
Expediting			800.00		
Communications			500.00		
Report writing			3,000.00		
Drafting			1,000.00		
Bookkeeping			300.00	61,200.00	200,825.00

ESTIMATED FIELD TOTAL	200,825.00
10% Contingency	20,082.50

TOTAL FIELD COST \$220,907.50

APPENDIX 2: Estimated detailed expenditures for the proposed 1987 underground and surface diamond drilling exploration program at the Gordon Lake gold property



**GIANT BAY RESOURCES LTD.**  
**GORDON LAKE PROPERTY**  
**LOCATION MAP**  
 N.T.S. 851-14 GORDON LAKE, N.W.T.  
 0 120 240 MILES  
 SCALE 1:7,603,200 MARCH 1987 FIG. 1