

019281

**GOLDWEDGE PROPERTY**

**PROSPECTUS**

**CATEAR RESOURCES LTD.**

Prepared by:

**Nordic Environmental Services**

November 1988

~~CONFIDENTIAL~~  
PROPERTY FILE

# TABLE OF CONTENTS

Page

## 1.0 INTRODUCTION

1.1 Preamble.....	1
1.2 Project Location and Setting.....	1
1.3 Project History.....	2

## 2.0 EXISTING LAND USE AND ENVIRONMENT

2.1 Land Use Overview.....	7
2.2 Biophysical Environment.....	7

## 3.0 GEOLOGY AND RESERVES

3.1 Regional Geology.....	10
3.2 Local Geology.....	12
3.3 Mineralization.....	13
3.4 Reserves.....	15

## 4.0 PROPOSED MINING PLAN

4.1 Production Rate and Mine Life.....	17
4.2 Mining Method.....	17

## 5.0 PROPOSED RECOVERY PROCESS

5.1 Milling.....	20
5.2 Tailings Disposal.....	20

## 6.0 INFRASTRUCTURE

6.1 Access.....	23
6.2 Power.....	23
6.3 Water Supply and Sewage.....	23

## 7.0 PRELIMINARY DEVELOPMENT SCHEDULE..... 24

## 8.0 ENVIRONMENTAL AND SOCIO-ECONOMIC CONSIDERATIONS

8.1 Environmental Program.....	26
8.2 Workforce Requirements and Economic Factors.....	27

## 9.0 LICENSING AND PERMITTING

9.1 Future Permits and Approvals.....	28
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## LIST OF FIGURES

	<u>Page</u>
1-1 Location Map.....	3
1-2 Mineral Zones Map.....	5
2-1 Goldwedge Hydrometric Surveys and Water Quality Sampling Locations.....	9
3-1 Regional Geology -- Sulphurets Area, Stewart, B.C. ....	11
4-1 Goldwedge Site Plan -- Survey Data and Drill Location Map.....	18
4-2 Goldwedge Project Underground Plan -- Stage 1.....	19
5-1 Mill Process Flowsheet.....	21
7-1 Preliminary Development Schedule.....	25

# **PROSPECTUS**

## **1.0 INTRODUCTION**

### **1.1 Preamble**

Catear Resources Ltd. is a Calgary-based exploration and mining company, with mining interests in British Columbia, Manitoba, Quebec and the Yukon. The company was founded in 1982 in Alberta and incorporated in British Columbia in 1984. The Company's principal activity is the exploration for and development of precious metals. The Goldwedge Property is owned 100 percent by Catear.

Recent exploration on the Goldwedge property has outlined a high-grade gold-silver deposit with potential for a successful mine and milling operation. Catear is operating a 10,000 tonne pilot operation in 1988 and is concurrently carrying out a Stage 1 study program. The company is proceeding with further exploration, feasibility and preliminary environmental assessment at the present time. It is anticipated that the metallurgical and economic data provided by the pilot operation will confirm the feasibility for full scale production in 1989.

Submission of this Prospectus to the Mine Development Steering Committee of the Ministry of Energy, Mines and Petroleum Resources represents fulfillment of the first step in the Mine Development Review Process. If required, the Stage 1 report will be submitted in early 1989 following completion of the pilot test, further exploration drilling and the environmental study program.

### **1.2 Project Location and Setting**

The Goldwedge Property is located about 2 km north-northwest of Brucejack Lake approximately 72 km north-northwest of Stewart, in northwestern B.C.

(Figure 1-1). The claim block is centered at latitude  $56^{\circ} 28'$  and longitude  $130^{\circ} 11'$  on NTS map sheet 104B/8.

Access to the property at the present time is by helicopter from Stewart. Access for mobilization is best done by helicopter from the Tide Lake Airstrip, which is accessible by gravel road and is located about 40 km north of Stewart. The travel time from the airstrip to the Goldwedge Property is approximately 20 minutes.

The property area lies within a wide mountain pass separating the Unuk and Bowser River drainage systems. The area consists of relatively gentle rolling alpine meadows bound by rugged mountains to the north and south with Sulphurets glacier to the west and Knipple glacier to the east. The elevations on the property vary from 1400 meters at the south end of Goldwedge 3 to 1600 meters at the north end of Goldwedge 2.

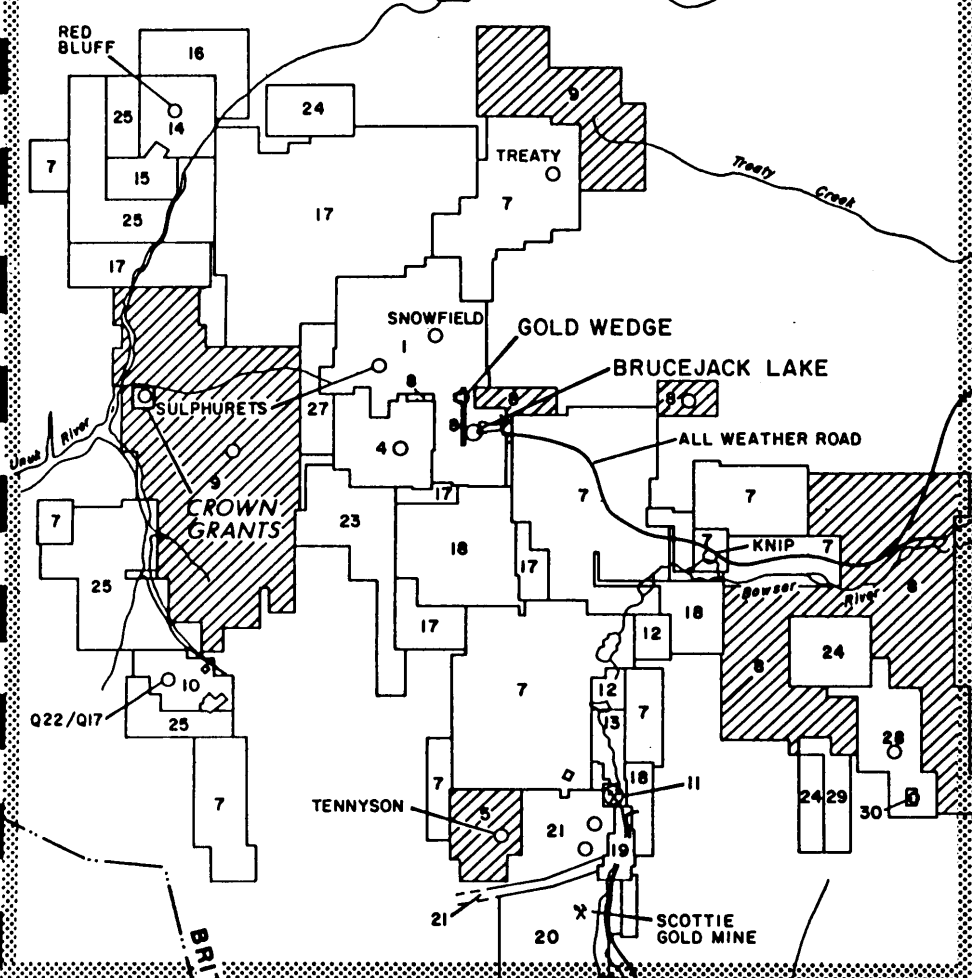
Small lakes, ponds and steams are numerous in the area with permanent snow occupying depressions and gullies. Outcrop forms up to 50 percent of the land surface with a thin veneer of mechanically and chemically weathered rock materials. Large boulders and glacial material cover the rest of the land surface. Most of the ground vegetation in the claim areas is of the tundra variety consisting of mosses, heather, grasses and lichens. A few krummholzed evergreens and dwarf willow trees are also present.

### 1.3 Project History

The first exploration work in the area was mainly to the west of the Brucejack Lake claims. Placer gold attracted miners to the canyons and gravel bars of Sulphurets Creek in the late 1890's. In 1935 huge areas of gossans in upper Sulphurets Creek were prospected for gold by Bruce and Jack Johnson of Burroughs Bay, Alaska and claims were staked. During this period, barite veins were located at Brucejack Lake.

In 1959, Barclay, a prospector employed by Granduc Mines, Limited, found gold and silver mineralization between Brucejack Lake and Sulphurets Glacier. In 1961, geologists employed by Granduc Mines, Limited found electrum with iron sulphides near the "Hanging Glacier", an area about 4 km north of the Goldwedge claim and 7 km north of the Barclay discovery. A specimen without obvious electrum assayed 373.2 gpt gold and 10,356.3 gpt silver. In August 1964, high silver assays were obtained from grab samples taken by Granduc Mines, Limited from the vicinity of the "Hanging Glacier". A flurry of claim staking by Granduc and Silver Ridge Mining Company followed.

**SULPHURETS GOLD CAMP**



**LEGEND**

- 1. Granduc Mines - Newhawk Gold
- 2. British Silbak - Westmin Resources
- 3. Tournigan Mining - Westmin Resources
- 4. Western Canadian - Sulphurets Gold
- 5. Teuton Resources - Catear Resources
- 6. Teuton Resources - Territorial Petroleum Ventures
- 7. Teuton Resources
- 8. Catear Resources
- 9. Catear Resources - Elan - Bighorn
- 10. Silver Princess Resources - Magna Ventures
- 11. Staked (East Gold Mine) - Catear Resources
- 12. Westlake Resources
- 13. Allure Resources
- 14. Cons. Silkin Silver - Kerrisdale Resources
- 15. Consolidated Silver Butte
- 16. West - Mar
- 17. Cove Energy - Hi-Ash Ventures
- 18. Tenajon Silver
- 19. Esso Minerals - Scottie Gold - Tenajon Silver
- 20. Scottie Gold
- 21. Tenajon Silver - Newhawk Gold - Northair Mines
- 22. Granduc Mines
- 23. Norm Tribe
- 24. Hans Foerster
- 25. Staked
- 26. Pacific Cassiar - Teck
- 27. Staked
- 28. Noranda Exploration
- 29. Square Gold Exploration
- 30. John Woodrock

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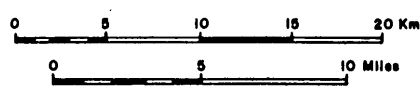
**FORMER PRODUCING GOLD-SILVER MINES**

**GOLD-SILVER ZONES CURRENTLY UNDER ACTIVE EXPLORATION**

**LOCATION MAP**

Figure 1-1

**STEWART GOLD MINING DISTRICT**



Feb., 1988

CLAIM LOCATIONS AND OWNERSHIP NOT GUARANTEED, COPYRIGHT CATEAR RESOURCES

In 1974, a large-scale rock geochemistry program was initiated in the Sulphurets Creek area by Granduc Mines, Limited. Grab samples from a newly-discovered lens of massive arsenopyrite, located northwest of the present Goldwedge claim and southwest of the "Hanging Glacier", assayed several ounces per ton in both gold and silver. However, trenching of the arsenopyrite lens in 1975 failed to demonstrate any substantial dimensions. An expanded rock geochemistry grid indicated high values in precious metals south of the "Hanging Glacier" and along the so-called Brucejack Fault zone. Claims were staked.

Granduc Mines, Limited expanded its rock geochemistry survey grid in 1976 south of Brucejack Lake. The Red River mineral claim (14 units) was staked to cover the Brucejack Fault zone and adjacent area. Native gold was found in two places: one was a bedrock site, the other may have been a "float" piece. Three years later in 1979, Granduc Mines Limited transferred responsibility for the Sulphurets Creek area properties to Esso Minerals Canada Ltd.

The Goldwedge claim was staked in 1980 on open ground between Tedray 12 and Red River claims. In 1982, small scale mining on the Goldwedge claims produced 1708 grams of gold from 27.2 tonnes of rock.

From 1980 to 1985, Esso Minerals and Granduc Mines sampled and drilled their claims with good results, eventually outlining a substantial deposit on the west Brucejack zone. In 1985, Esso terminated the option agreement with Granduc and the Newcana Joint Venture (Lacana-Newhawk) optioned the property. Newhawk Gold Mines Ltd. have recently announced indicated and inferred tonnages in the Brucejack area of 1.9 million tonnes of 14.3 gpt gold and 667.7 gpt silver.

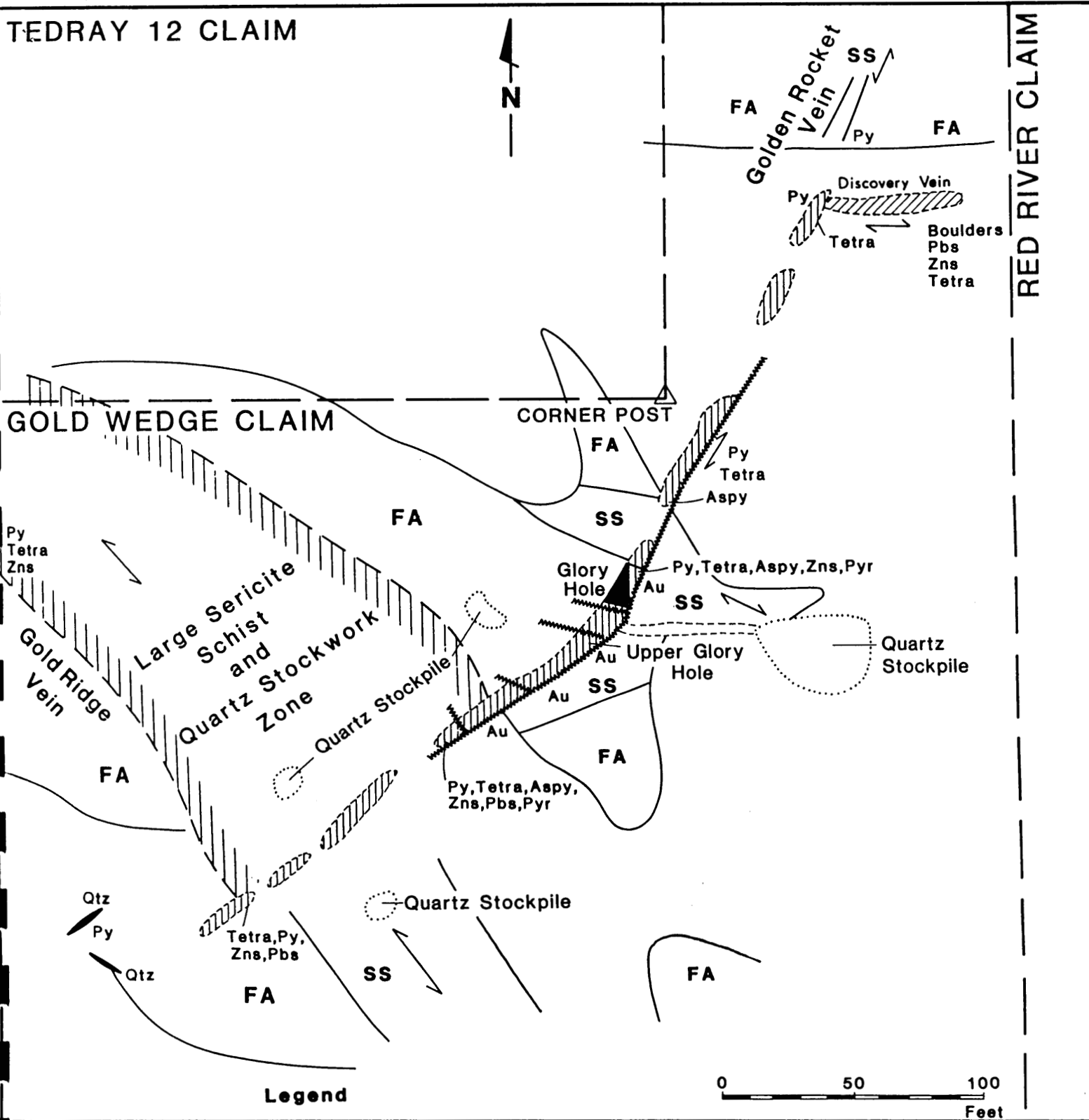
Small-scale mining using hand methods produced over 5600 g of gold from 271.5 tonnes of rock on the Goldwedge claim in 1985. A 36 tonne quartz stockpile averaged 35.5 gpt gold and 510 gpt silver. In 1986, diamond drilling on the Goldwedge fractional claim group yielded 792.5 m of drill core. The drilling outlined a mineralized vein system of 64080 tonnes over a 6.1 m width. The average grade obtained from diamond drilling and trenching was 16.5 gpt gold and 125.6 gpt silver.

In 1987, a total of 3881 meters of drilling was completed based on drill results obtained from the 1986 drill program. The program was designed to test for strike length and vertical extension of the Golden Rocket and Goldridge vein systems (Figure 1-2). The Golden Rocket Vein was tested

TEDRAY 12 CLAIM

RED RIVER CLAIM

GOLD WEDGE CLAIM



Legend

	Claim Boundary	<b>FA</b>	Fragmental Andesite
	Outcrop	<b>SS</b>	Sericite Schist
	Dump	Au	Native Gold Occurrences
	Trench or Pit	Py	Pyrite
	Quartz Stockwork	Pbs	Galena
	Claim Post	Zns	Sphalerite
	Shaft	Tetra	Tetrahedrite
	Foliation	Aspy	Arsenopyrite
	Fault	Pyr	Ruby Silver

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MINERAL ZONES :  
LOCAL GEOLOGY SHOWING  
GOLDEN ROCKET AND  
GOLD RIDGE DISCOVERIES

To accompany report by E.R. Kruchkowski

Scale:	N.T.S. 1048/8
Date: Jan., 1987	Figure 1-2



along a strike length of 100 meters and to a depth of 163 meters. The average width of the Golden Rocket Vein is 444.5 meters with an average (uncut) value of 26.1 gpt gold and 79.1 gpt silver. The recommendation at the end of the 1987 program was for further exploration and development along strike and down dip on the Goldwedge Zone, the Golden Rocket Vein and the Discovery Vein utilizing both diamond drilling and underground work.

Early in 1988, Catear began major development work on the property. The work completed included 2880 m of underground drilling, 297 m of decline, a 100 m drift, and a 4000 tonne stope. Several sumps, powder magazines and a 3.5 m x 3.5 m x 4.0 m drill station were also completed. As well, camp buildings were completed and further modified for winter conditions and extensive modifications were made to the crusher and mill.

Plans for the remainder of 1988 include completion of the mill buildings, driving a further 288 m of decline, driving 60 - 90 m of drift, construction of 2 more buildings in camp and continuation of metallurgy and recovery studies associated with the 10,000 tonne pilot test. Catear also plans 2880 - 4300 m of surface exploration drilling.

## **2.0 EXISTING LAND USE AND ENVIRONMENT**

### **2.1 Land Use Overview**

The region surrounding the Goldwedge property is characterized by glaciers and permafrost and is both remote and relatively inaccessible. There are few if any recreational activities conducted in the area due to the severe topographic and weather conditions. The combination of these factors results in an extremely limited use of the area by humans.

Virtually all of the region of northwestern B.C. falls within the territory encompassed in the comprehensive land claim of the Association of the United Tahltans. However, there is no native population resident in the property area, nor is there any evidence of traditional use or occupation by native peoples. The only other land uses reported in the area involve small scale gold prospecting and panning, and some hunting and trapping in the Unuk River Valley. Neither of these activities would be disrupted by development at the Goldwedge property.

### **2.2 Biophysical Environment**

The Goldwedge property is drained mainly by Catear Creek into Brucejack Lake, which in turn drains westward into Brucejack Creek. Brucejack Creek disappears under Sulphurets Glacier, emerges as Sulphurets Creek and flows west to the Unuk River, eventually reaching the Pacific Ocean north of Ketchikan, Alaska.

A wildlife survey done in 1987 for Newhawk's Sulphurets Project, located just south of the Goldwedge property, concluded that the area does not represent good quality terrain for any important species. There is low and very low capabilities to support mountain goat, the assigned wildlife species, based on the fact that the habitat is dominated by bedrock, permanent ice and snow and high annual snowfall. No evidence of furbearers near the exploration area is available; local trapping is conducted at much lower elevations.

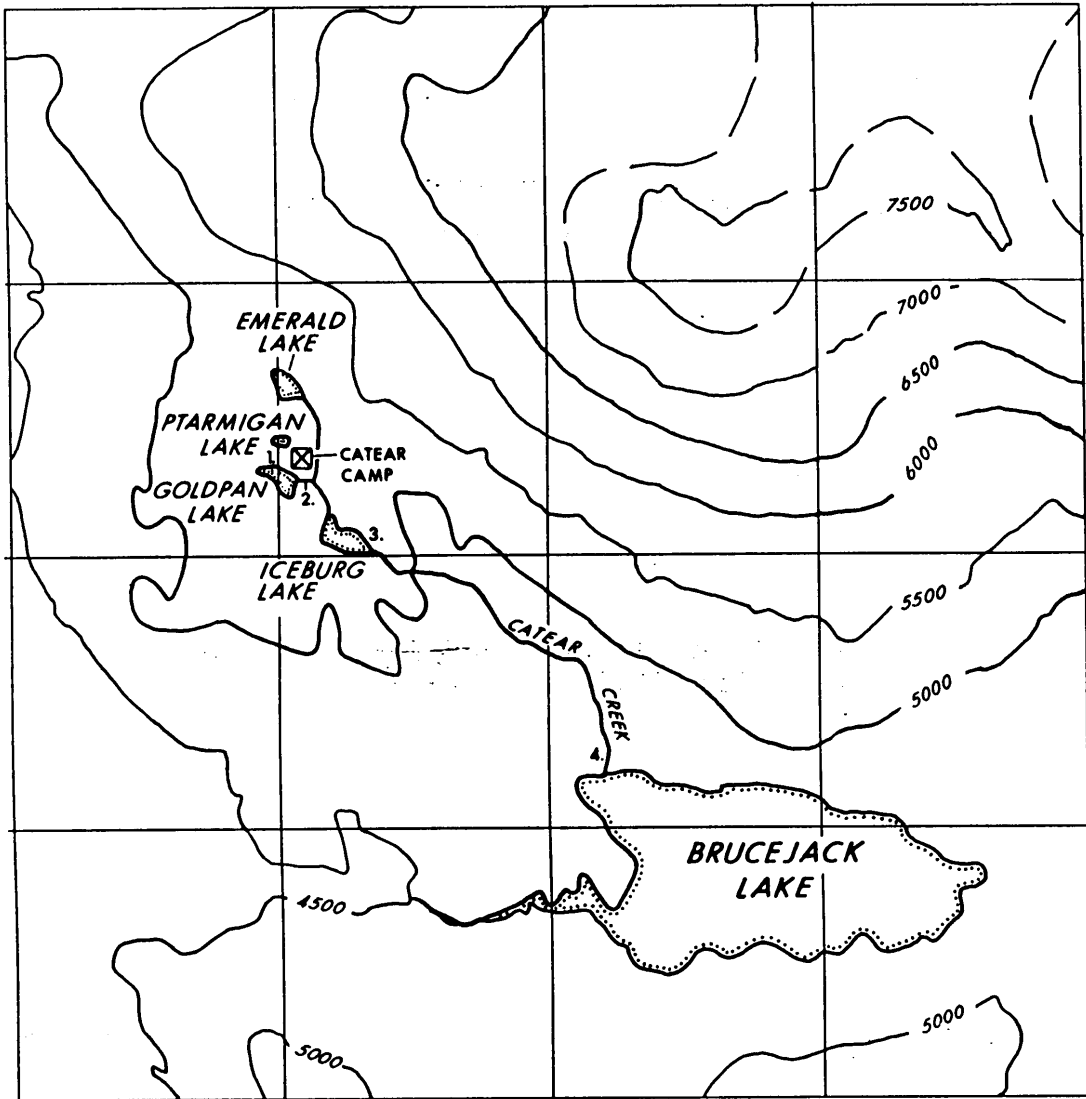
A fisheries survey carried out in 1987 for the Newhawk project concluded that Brucejack Lake is devoid of fish. No fish were found in Sulphurets Creek above the falls 1 km from the mouth; only juvenile dolly varden were captured below the falls. Coho were present in the Unuk River below the Sulphurets Creek confluence; only dolly varden were found in the Unuk above Sulphurets.

The lakes in the area of Catear's project are small and frozen to an unknown depth for much of the year. It has been established that Brucejack Lake is devoid of fish and thus no fish could migrate upstream from Brucejack into the small lakes in the Goldwedge property area. The hostile climate, rugged topography and lack of fish habitat are strong evidence that these small lakes are devoid of fish.

Two sets of water samples were taken from six sites in May and August of 1987. In general, no elevated parameters were shown in the analyses; the water quality in the area appears to be good. However, more frequent sampling was necessary to identify the pre-development baseline water quality of the streams in the project area. To satisfy this need, a regular monthly water quality monitoring program began in May 1988, including the following sites (Figure 2-1):

1. Discharge water at the mine portal
2. Goldpan Lake at the outlet
3. Iceberg Lake at the outlet
4. Catear Creek 100 m upstream of Brucejack Lake

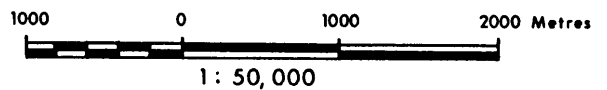
Parameters analyzed in the regular water quality monitoring program include pH, TSS, acidity, alkalinity, dissolved  $\text{SO}_4$ , total and dissolved Al, As, Cu, Fe, Mn, Pb, and Zn. The monitoring program will continue into 1989 in order to fully characterize the pre-development surface water quality.



**LEGEND**

1, 2, 3, & 4. Water sample locations

C.I. = 500'



**NIELSEN - NORDIC**  
**GOLDWEDGE PROPERTY**  
**HYDROMETRIC SURVEYS**  
**& WATER QUALITY**  
**SAMPLING LOCATIONS**

### **3.0 GEOLOGY AND RESERVES**

#### **3.1 Regional Geology**

The Goldwedge claims lie in the Stewart area east of the Coast Crystalline Complex and within the western boundary of the Bowser Basin (Figure 3-1). Rocks in the area belong to the Mesozoic Hazelton Group and have been intruded by plugs of both Cenozoic and Mesozoic age.

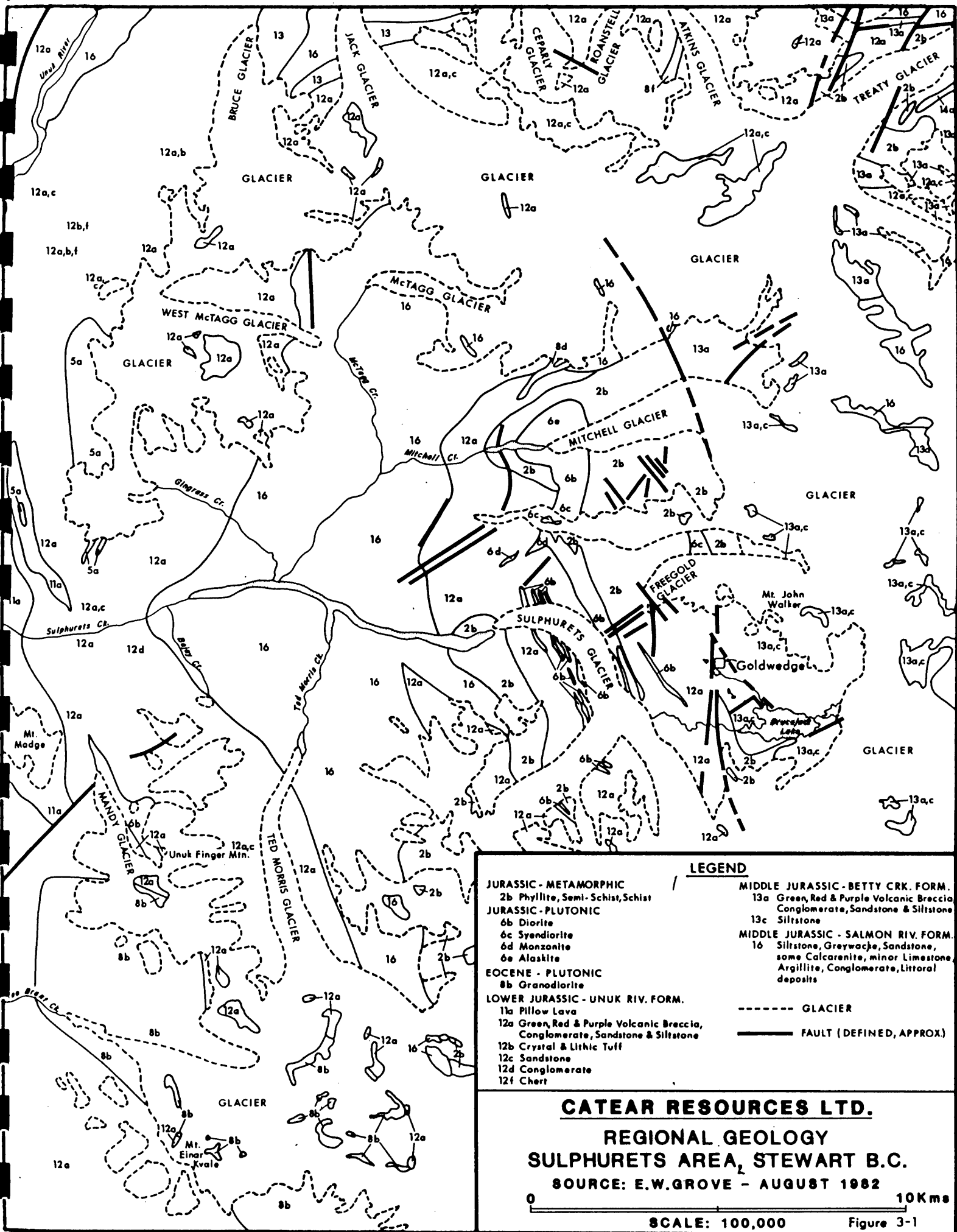
At the base of the Hazelton Group is the Lower Jurassic marine (submergent) and non-marine (emergent) volcanoclastic Unuk River Formation. This is overlain at steep discordant angles by a second, lithologically very similar, Middle Jurassic volcanic cycle (the Betty Creek Formation), in turn overlain by Middle and Upper Jurassic non-marine sediments (with minor volcanics) of the Salmon River and Nass Formations.

The oldest rocks in the area belong to the Lower Jurassic Unuk River Formation which forms a north-northwesterly trending belt extending from Alice Arm to the Iskut River. It consists of green, red and purple volcanic breccia, volcanic conglomerate, sandstone and siltstone with minor crystal and lithic tuff, limestone, chert and coal. Also included in the sequence are pillow lavas and volcanic flows.

In the property area the Unuk River Formation is unconformably overlain by Lower Middle and Middle Jurassic rocks from the Betty Creek and Salmon River Formations, respectively. The Betty Creek Formation is another cycle of trough-filling submarine pillow lavas, broken pillow breccias, andesitic and basaltic flows, green, red, purple and black volcanic breccia, with self erosional conglomerate, sandstone and siltstone, and minor crystal and lithic tuffs, chert, limestone and lava. The overlying Salmon River Formations is a late to post volcanic episode of banded, predominantly dark colored, siltstone, greywacke, sandstone, intercalated calcarenite, minor limestone, argillite, conglomerate, littoral deposits, volcanic sediments and minor flows.

It is believed that the majority of the rocks from the Hazelton Group were derived from the erosion of andesitic volcanoes subsequently deposited as overlapping lenticular beds varying laterally in grain size from breccia to siltstone.

There are various intrusives in the area. The granodiorites of the Coast Plutonic Complex largely engulf the Mesozoic volcanic terrain to the west. East of these (in the property area), smaller intrusive plugs range from quartz monzonite to granite to highly felsic; some are, likely related late



**LEGEND**

- |  |  |   |
|--|--|---|
| <b>JURASSIC - METAMORPHIC</b>  |  | <b>MIDDLE JURASSIC - BETTY CRK. FORM.</b>   |
| 2b Phyllite, Semi-Schist, Schist   |  | 13a Green, Red & Purple Volcanic Breccia<br>Conglomerate, Sandstone & Siltstone   |
| <b>JURASSIC - PLUTONIC</b>   |  | 13c Siltstone   |
| 6b Diorite   |  | <b>MIDDLE JURASSIC - SALMON RIV. FORM.</b>  |
| 6c Syendiorite   |  | 16 Siltstone, Greywacke, Sandstone,<br>some Calcareneite, minor Limestone,<br>Argillite, Conglomerate, Littoral<br>deposits |
| 6d Monzonite   |  |   |
| 6e Alaskite  |  |   |
| <b>EOCENE - PLUTONIC</b>   |  |   |
| 8b Granodiorite  |  |   |
| <b>LOWER JURASSIC - UNUK RIV. FORM.</b>  |  | ----- GLACIER   |
| 11a Pillow Lava  |  | ———— FAULT (DEFINED, APPROX.)   |
| 12a Green, Red & Purple Volcanic Breccia,<br>Conglomerate, Sandstone & Siltstone |  |   |
| 12b Crystal & Lithic Tuff  |  |   |
| 12c Sandstone  |  |   |
| 12d Conglomerate   |  |   |
| 12f Chert  |  |   |

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**REGIONAL GEOLOGY  
SULPHURETS AREA, STEWART B.C.**

SOURCE: E.W.GROVE - AUGUST 1982

0 10Kms

SCALE: 100,000

Figure 3-1

phase offshoots of the Coast plutonism, others are synvolcanic and Tertiary. Double plunging, north-westerly-trending synclinal folds of the Salmon River and underlying Betty Creek Formations dominate the structural setting of the area. These folds are locally disrupted by small east-overthrusts (Tippy Lake, Knipple Lake) on strikes parallel to the major fold axis, cross-axis steep wrench faults which locally turn beds, selective tectonization of tuff units, and major northwest faults which turn beds.

### 3.2 Local Geology

The area of the Goldwedge claim is underlain by approximately 50 percent outcrop exposure. Within the property boundary, two main rock types have been noted; fragmental andesite and sericite schist plus or minus quartz stockworks (Figure 1-2).

The fragmental andesite consists of a highly foliated rock, usually weathering into thin platy fragments. On glaciated and polished outcrop surfaces, andesite clasts range from coarse, dioritic material, almost intrusive in appearance to fine-grained, green, porphyritic, andesitic material. Clasts form up to 60-70 percent of the rock with a fine-grained ground mass forming the rest. Pyrite occurs as fine cubes and fracture fillings up to amounts of 5 percent.

The sericite schist is a dark grey highly foliated unit carrying varying amounts of quartz occurring as stockworks. Within the schist, various sections up to 7-9.5 cm in width are almost entirely composed of talc. Pyrite occurs as coarse cubes and seams conformable to schistosity in amounts up to 25-30 percent.

The alteration minerals noted within the property area consisted primarily of chlorite, sericite and talc. Chlorite is common within the foliated andesitic rocks while sericite and talc are found within the sericite schist zones. The contact between the andesitic rocks and sericite zones are gradational rather than sharp. The ground mass of the fragmental andesite appears to be the first to be altered to sericite with the fragments last.

Mariposite occurring as bright green blebs and flakes was noted throughout the sericite schist zones. It is most commonly seen within thin talcose zones forming part of the sericite zones.

The Goldwedge claim is underlain by several small faults likely related to several major faults in the property area. The first major system is in a

northwest trending direction and appears to displace altered rocks to the south from unaltered Betty Creek Formation rocks to the north. The Goldridge zone would appear to follow a northwest-trending fracture pattern cut by a later north-trending system.

The Golden Rocket vein system is along a fracture zone at 030 degrees which is probably a splay off the Brucejack Fault zone. The Brucejack Fault is a major north-south fault zone with up to 900 meters of vertical displacement north and east of the property area. The Golden Rocket zone appears to displace the Goldridge zone with the west side up and the east side down. Another vein system, the Discovery vein system, is located to the east of the Golden Rocket zone and trends east-west and appears to dip vertically.

Within the Golden Rocket zone, post mineralization faulting has occurred. Two different sets of displacement have been noted with the first occurring along the vein system. This fault is marked by 2-5 cm of gouge and granulated quartz and forms a sharp wall to the east in the trenching program. Occasionally the granulated quartz contains fine specks of electrum and gold.

The second set of fractures occurs at right angles to the vein system and varies from flat to high angle faults generally always dipping south. These fractures are very numerous forming individual mineralized blocks 1.15-5.76 m in length. Displacement on these appears minimal with the fault traces marked by narrow barren, vuggy and rusty quartz veinlets and fault gouge.

The major faulting patterns have determined the foliation patterns on the project area. Foliation has been noted within the andesitic and sericitic rocks. These directions correspond to the major NW and north trending faults in the area.

### **3.3 Mineralization**

The mineralization in the property area is of the epithermal gold vein type and appears to be structurally controlled. The Golden Rocket vein consists of quartz and carbonate with up to 10 percent sulphides. The vein ranges from simple quartz veinlets less than 0.6 cm in width to complex vein zones and stockworks. Individual veins may be up to 30 cm in width and it appears that the greater the thickness the less the sulphide and gold content. Pyrite, tetrahedrite, arsenopyrite, sphalerite, galena, pyrargyrite, electrum, gold,



manganese oxides, azurite, malachite and barite have been noted in the stockwork zone.

Pyrite occurs both in the quartz veins and wall rocks; forming up to 15 percent of the sericite schist but less than five percent in the quartz vein. It generally occurs as fine disseminations and fracture fillings and rarely as coarse massive seams conformable to schistosity.

Tetrahedrite occurs as disseminated fine black specks and occasionally as massive seams less than 2.5 cm in thickness in the quartz. Where the tetrahedrite becomes massive, electrum seams are intimately associated with it. As well, higher silver values are associated with the massive tetrahedrite.

Arsenopyrite always occurs as silver grey, rectangular crystals usually less than 0.3 cm in length. It occurs as fine disseminations in sericite schist along the contact zones with quartz. Coarse massive seams generally with fine blebs of electrum are common, particularly in areas of shearing.

Sphalerite is found throughout the whole stockwork zone and occurs as coarse seams and blebs. It is also found in the quartz as fine blebs. In the schist the color is generally pale yellow and in the quartz it is a pale brown to amber.

Galena occurs throughout the vein system as fine crystals, generally near sphalerite occurrences.

Pyrargyrite occurs both as the black mineral and the ruby silver variety. It is noted in small amounts in association with abundant tetrahedrite along greenish colored chalcedonic quartz.

The electrum and gold occurs as fine fracture fillings, near massive seams and specks within the white quartz. They also occur as narrow sheets and seams within the sericite schists, generally where the quartz veinlets have pinched out. Coarse sheets of hold are also present within the fault gouge and along slippage surfaces.

The electrum has an average gold silver ratio of 65:35 and can be pale yellow to red in color.

Manganese oxides occur as fine fracture fillings along oxidized surfaces. They form dendritic patterns which tend to obscure underlying gold and electrum.

Barite has been noted only in two locations and appears pale grey to clear in appearance.

The calcite in the quartz stockwork is clear and exhibits strong rhombohedral cleavage. It forms up to 20 percent of the quartz calcite stringers

Malachite and azurite, common along fractures in the zone of surface oxidation, are weathering products of tetrahedrite.

### **3.4 Reserves**

Three prospective zones have been outlined on the Goldwedge property: a northeast trending zone termed the GOLDEN ROCKET VEIN, approximately 6.0 m in width; a northwest trending zone termed the GOLDRIDGE ZONE, up to 60 m in width; and an east-west trending zone termed the DISCOVERY ZONE, up to 6.0 m wide (Figure 1.2). Trenching on the Golden Rocket vein has indicated an exposed strike length of 135 m while work to date indicates a strike length of 120 m for the Goldridge zone and 30 m for the Discovery zone.

Proven developed and undeveloped reserves in the Golden Rocket Vein currently stand at 35,439 tonnes assaying 28.35 gpt Au and 57.88 gpt Ag. Initial estimates of drill-indicated material have defined a tabular, steeply-dipping, structurally-controlled body of some additional 253,391 tonnes assaying 27.25 gpt gold and 35.62 gpt silver (uncut). The proven developed and undeveloped, drill indicated and inferred reserves of the Golden Rocket Vein were calculated utilizing parameters of a strike length of 105 m and a dip length of 210 m.

The Goldridge zone was tested with only one drillhole. Based on this hole, the drill indicated reserves on the Goldridge zone are 14,566 tonnes at 3.56 gpt Au and 2.05 gpt Ag. Alteration features and lower grade gold mineralization are documented over a width of 60 m. The Discovery Zone appears to be a complimentary structure to the Golden Rocket Zone and offers potential for further tonnage opportunities.

A total of 17 drill holes have tested the Discovery Vein and reserves are calculated as 34,372 tonnes at 21.57 gpt Au and 36.99 gpt Ag.

To date, exploration has only been to a depth of 170 m. However, based on Newhawk's results to the south, it is expected that ore reserves will extend

to at least 300 m. The company expects to increase reserves to the 500,000 - 750,000 tonne range in its next phase of exploration.

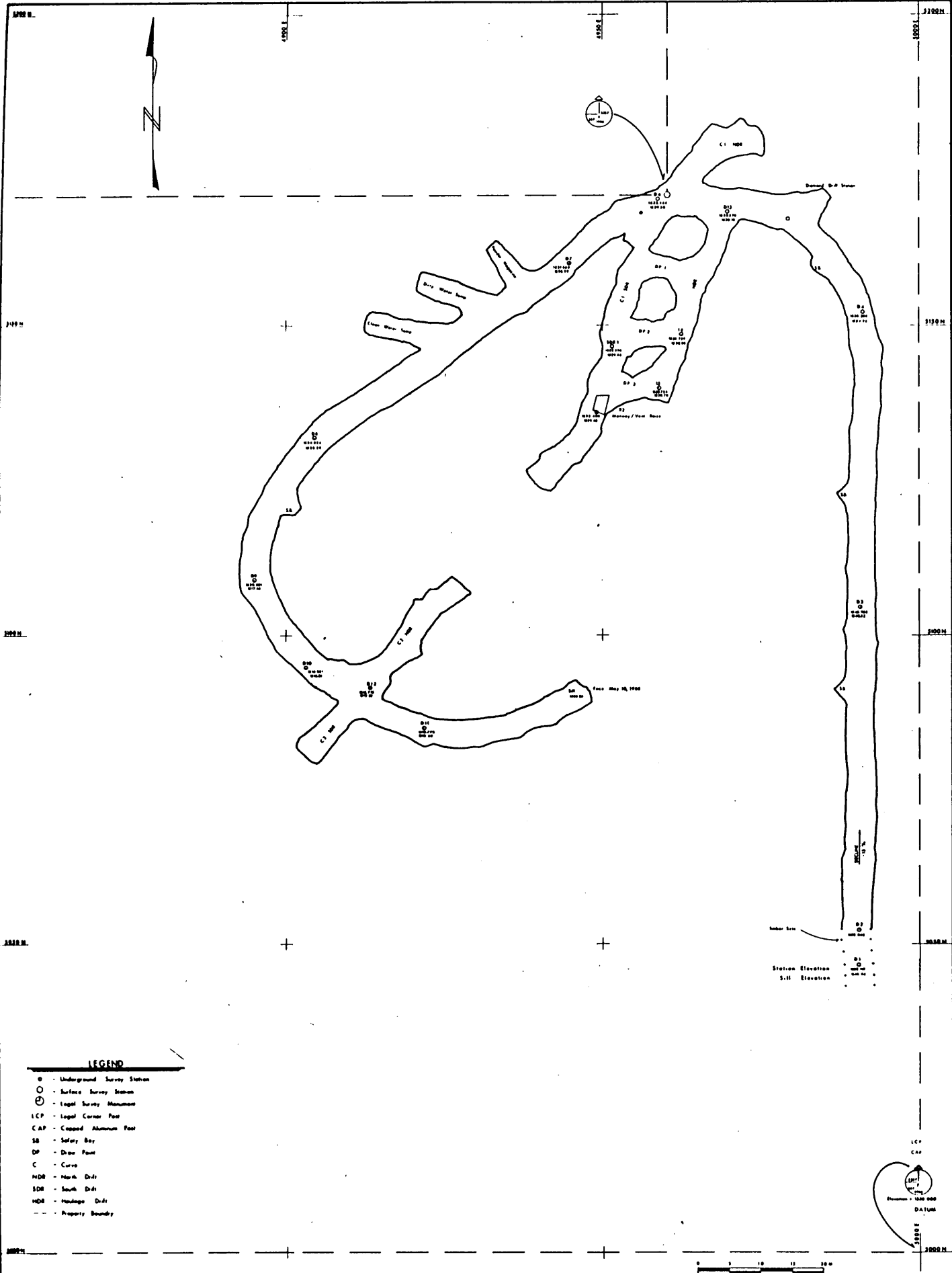
## **4.0 PROPOSED MINING PLAN**

### **4.1 Production Rate and Mine Life**

The planned mine production rate is 181 tonnes per day (200 tons per day) or 54,300 tonnes per year (60,000 tons per year). This production rate would give a mine life of 5.9 years based on 300 operating days per year and the current reserves of the Goldwedge and Discovery zones.

### **4.2 Mining Method**

The mining method will consist of a 3.0 m x 3.0 m x 4.2 m decline with stopes extending from drifts along the various veins. The decline will be used as the main haulage way (Figures 4.1 and 4.2). The rock will be extracted from the stopes along a haulage way parallel to and connected to the drift. The stopes will be mined through shrinkage methods.



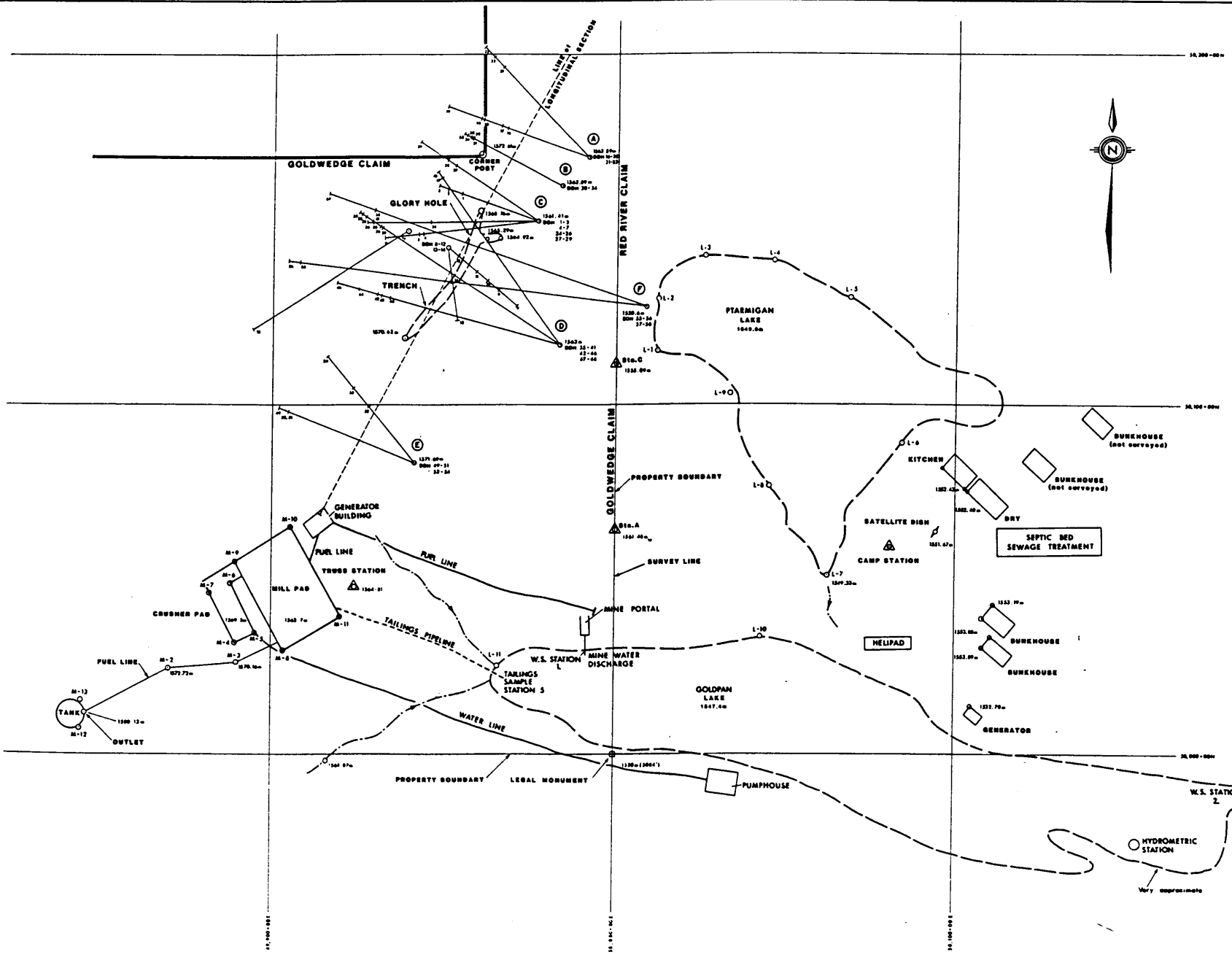
**LEGEND**

- - Underground Survey Station
- - Surface Survey Station
- ⊙ - Legal Survey Monument
- LCP - Legal Corner Post
- CAP - Capped Aluminum Post
- SB - Safety Bay
- DP - Draw Point
- C - Curve
- NDR - North Drift
- SDR - South Drift
- HDR - Handlogs Drift
- - - Property Boundary

Station Elevation  
 Sill Elevation

**CATEAR RESOURCES LTD.**  
**GOLDWEDGE PROJECT**  
**UNDERGROUND STAGE 1**  
**DECLINE & MINE PLAN**

Scale: 1:250    Date: July 1, 1988    Drafted: M.H.    Figure: 4-2



**SURVEY POINTS**

NAME	N	E	ELEVATION
ICP	36,000.00	30,000.00	1230.00(1)
STATION A			1501.00
STATION C	36,111.71	30,000.00	1242.00
CAMP STATION	36,000.75	30,000.36	
TRUSS STATION	36,024.00	29,722.27	1264.00

**DRILL COLLAR LOCATIONS**

NAME	N	E	ELEVATION
A	36,170.48	29,991.27	1263.20
B	36,162.63	29,924.27	1262.80
C	36,123.71	29,977.30	1261.60
D	36,119.27	29,963.79	
E	36,062.96	29,941.29	1271.60
F	36,128.38	30,000.43	

**TRENCH / GLORY HOLE**

E END	N	E	ELEVATION
ENTRANCE	36,123.33	29,949.12	1263.70
ENTRANCE	36,119.17	29,924.27	1262.80
ENTRANCE	36,147.83	29,946.33	1264.92

L-1	N	E	ELEVATION
L-2	36,130.47	30,012.97	
L-3	36,127.16	30,073.93	
L-4	36,141.17	29,963.79	
L-5	36,130.34	30,049.24	
L-6	36,089.19	30,044.16	
L-7	36,021.43	30,042.32	
L-8	36,077.67	30,045.30	
L-9	36,102.31	30,033.80	
L-10	36,022.63	30,042.82	
L-11	36,023.04	29,944.92	

M-1	N	E	ELEVATION
M-2	36,024.31	29,869.92	1272.70
M-3	36,036.56	29,892.17	1270.10
M-4	36,024.77	29,852.14	
M-5	36,049.60	29,876.26	
M-6	36,029.70	29,903.17	
M-7	36,031.53	29,886.46	
M-8	36,028.16	29,883.17	
M-9	36,028.16	29,880.30	
M-10	36,048.56	29,923.77	
M-11	36,048.56	29,926.96	
M-12	36,089.96	29,842.32	
M-13	36,078.67	29,844.74	



**CATEAR RESOURCES LTD.**

GOLDWEDGE PROPERTY  
 SURVEY DATA AND  
 DRILL LOCATION MAP  
 SITE PLAN

Scale: NTS 1:648/8  
 Date: February 1988, Figure 4-1

## **5.0 PROPOSED RECOVERY PROCESS**

### **5.1 Milling**

The proposed recovery process involves a simple crushing and flotation procedure, with a planned ore throughput of 181 tonnes per day. The process flowsheet is presented in Figure 5-1.

Ore from the mine will be fed to a two stage crushing circuit. Primary crushing will be by a jaw crusher with the screen oversize directed to the secondary cone crusher. The fine ore will be ground in a ball mill, with the product discharged to a jig. The jig underflow will be upgraded on deisiter tables, and the table concentrate will be smelted in a bullion furnace to produce dore bars. Tails from the tables will be discharged to the tailings pond.

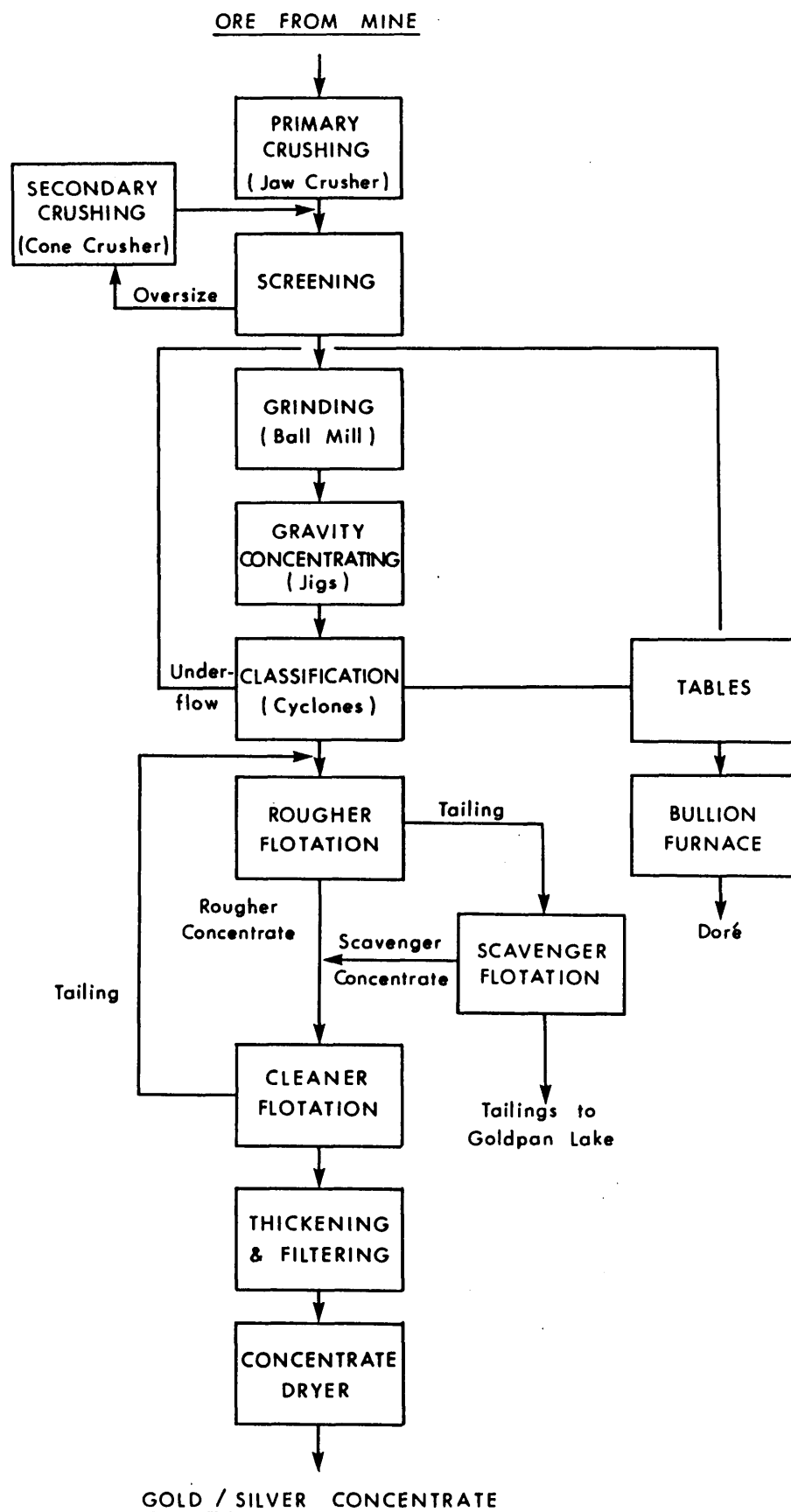
The jig overflow will be pumped to a cyclone separator. The cyclone underflow will be returned to the grinding circuit and the overflow fed into the flotation circuit. The flotation concentrate will be a pyrite concentrate. Reagents used in the flotation process will be xanthate (collector) and MIBC (frother). The concentrate will be dewatered and dried before loading for transport to a smelter.

Process water for milling will be taken from Goldpan Lake.

### **5.2 Tailings Disposal**

Conventional land impoundment of tailings is not the favoured option at Goldridge due to the steep terrain, shortage of dam construction material, and severe climate. Lake disposal appears to be the most practical alternative and should have no detrimental environmental impacts. The proposed flotation process which utilizes only low toxicity reagents combined with the absence of a fishery in any of the affected lakes and/or immediate downstream waters, support the suitability of this concept. It is appreciated that the proposal will likely require approval of the federal authorities, in accordance with the Metal Mining Guidelines of the Canada Fisheries Act.

The general plan for tailings disposal is to develop Goldpan and Iceberg lakes as a receiving basin. With modifications to the shorelines of both Goldpan and Iceberg lakes and to the outlet of Iceberg Lake, we believe that sufficient volume will be available to dispose production tailings. Pending





the further analysis of the results of bathymetric studies, volume of rock to be processed and the data being collected on the hydrological regime of these two lakes, a final detailed plan for tailings impoundment will be developed. In the event of insufficient tailings disposal area, the company plans to backfill some of the stopes with tailings material.

## **6.0 INFRASTRUCTURE**

### **6.1 Access**

Due to the severe constraints of steep terrain, high annual snowfall and distance to existing roads, Catear plans to continue to access the Goldwedge property by helicopter.

### **6.2 Power**

Hydro power development is not feasible in this area. There is no flowing water for many months of the year and the surrounding terrain makes transmission over any distance prohibitively costly. Power will most likely be supplied by diesel generators. An estimated 450 - 600 KVa of power will be needed to supply mill and domestic requirements.

### **6.3 Water Supply and Sewage**

Production process water will be taken from Goldpan Lake. Potable water will be obtained from Emerald Creek. A ground disposal field or seepage pit for domestic sewage already on site will be upgraded to ensure adequate facilities for production staff levels.

## 7.0 PRELIMINARY DEVELOPMENT SCHEDULE

The exploration work has been ongoing throughout 1988 and will be evaluated to prepare the final phase, pre-production exploration program. Pre-production exploration will continue through to August 1989.

Feasibility studies were completed in October 1988.

Environmental studies related to water quality, bathymetry, acid generation potential, tailings disposal and preparation of the Prospectus began in May 1987. Assessment work and data analysis will continue through to the start of mine production.

Permit approvals for a 10,000 tonne pilot test were obtained on July 28, 1988. This test will allow Catear to conduct metallurgy and recovery studies during late 1988 and early 1989. As well, much valuable information is being gathered related to water requirements and tailings disposal.

Much of the camp, mill and shop facilities were completed in 1988. Further work is planned to increase the capacity of these structures to meet mine production requirements.

Permit applications required for the mine will be submitted by late Spring of 1989. Approval-in-principle will be required by April or June 1989 to allow the company to initiate mine production and ore processing.

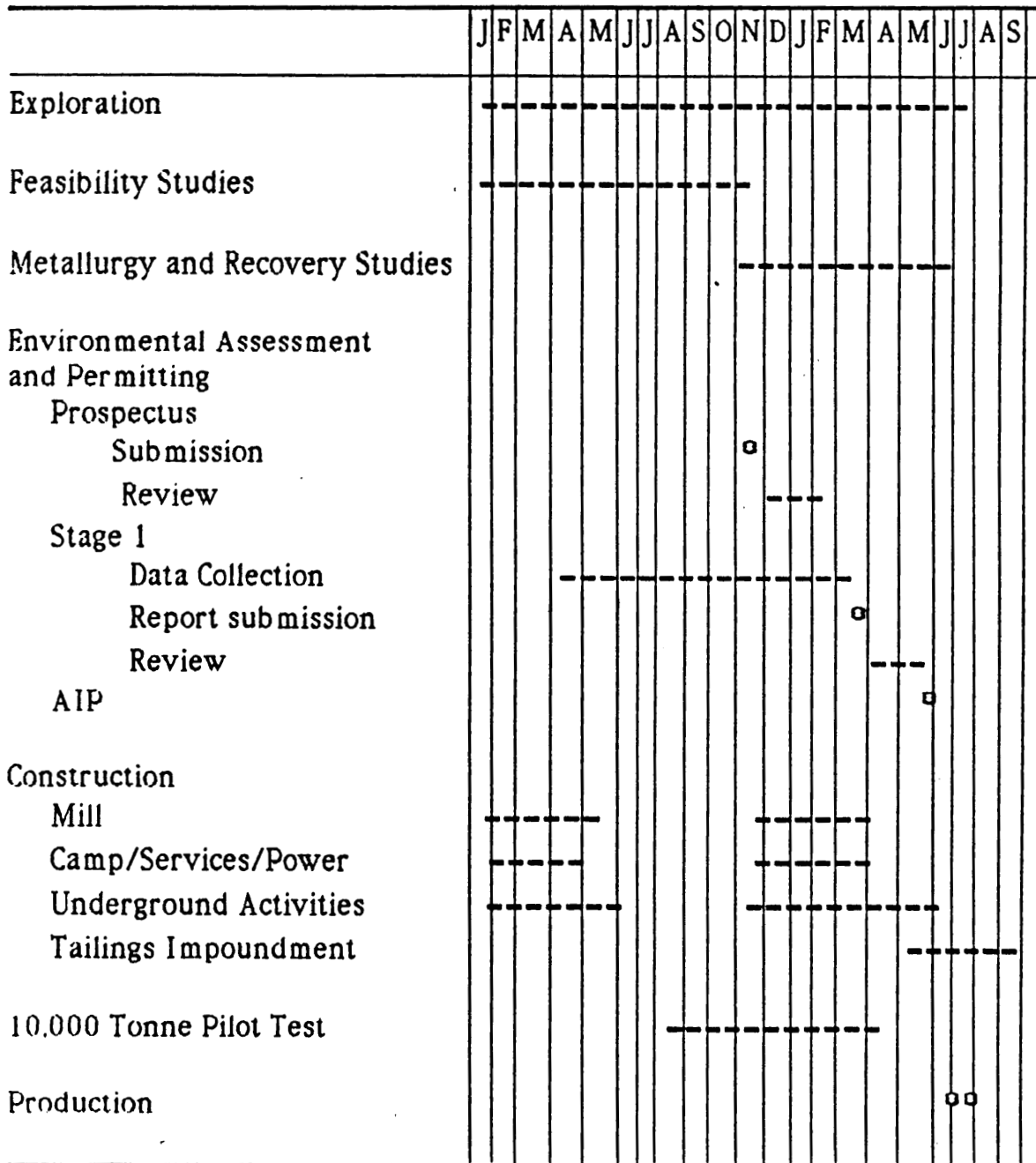
The development schedule is depicted in Figure 7-1.

FIGURE 7.1

# GOLDRIDGE PROJECT

## PRELIMINARY DEVELOPMENT SCHEDULE

JANUARY 1988 -- SEPTEMBER 1989



## **8.0 ENVIRONMENTAL AND SOCIO-ECONOMIC CONSIDERATIONS**

### **8.1 Environmental Program**

Several aspects of the potential environmental impact of mining operations have been assessed during the 1987-88 exploration phase. In general these include, the acid generating potential of mining materials, water quality analysis, hydrology and bathymetry.

Preliminary acid generation testwork has shown that the waste rock is strongly acid consuming (pH 8.1-8.4). Preliminary tests on tailings solids have shown similar results (pH 8.1). Further testwork is being conducted to substantiate these results.

Baseline water quality sampling and analysis began in May of 1987 at the onset of major exploration activities. In May 1988, a regular monthly water quality monitoring program was established. Results are being filed with MOE and Parks, Waste Management Branch, Smithers, on a monthly basis (see 2.2).

During August and September 1988, two hydrometric stations were installed to monitor lake levels and to allow discharge measurement curves to be constructed for Goldpan and Iceberg lakes. Wading stream measurements were conducted during the same period. As well, bathymetric surveys were conducted on Goldpan, Iceberg and Emerald lakes (Figure 1-2).

The results of these ongoing surveys will be used to construct our water management plan, locate suitable waste rock dumps and design an environmentally safe tailings impoundment.

## **8.2 Workforce Requirements and Economic Factors**

Current plans for production indicate that the operations workforce will consist of approximately 30 persons. The operation will result in monies being spent annually by the company for supplies, fuel, equipment repairs, contractor services, consultants, helicopter services, etc. It is expected that a substantial portion of this expenditure will go to supplier companies located in the region.

Stewart is a community that has historically had its economic base dominated by the mining industry. Population levels in the town have been unstable over the past decade due to fluctuations in production work force levels at the Granduc and 'Scottie Mines. With Granduc and Scottie Gold operations shut down, there is ample community infrastructure available in Stewart as well as some experienced labour resources. Additional residents as a result of the Goldwedge property development and production should not present difficulties but be a positive force on economic development in the Stewart area.

The workforce will be drawn mainly from a large pool of experienced mine workers already living in the region. Local laborers will also be recruited for many of the unskilled positions. On-the-job training will provide opportunities for the previously unskilled to develop new skills and thereby improve the experience of the local human resource base.

Single accommodation camp facilities will be maintained at the mine.

## **9.0 LICENSING AND PERMITTING**

### **9.1 Future Permits and Approvals**

Catear Resources is in a rather unique position with respect to the need to go through a complete stage one approval process. Work has begun on the Goldwedge property. By the time the prospectus review has been completed, a 10,000 tonne pilot test will have been completed and the critical environmental and technical review agencies will have received much data on the project through regular monitoring program reporting. We respectfully request therefore, that some type of a streamlined stage one approvals process be described for the Goldwedge project. Perhaps a document designed to deal with any outstanding project concerns such as tailings pond designs, reclamation plans, waste rock dumps, etc. would be appropriate.

Perhaps we could discuss this option with individual agencies once they have had a chance to review this Prospectus more fully.