

PROSPECTUS FOR THE  
NICKEL PLATE PROPERTY  
OSOYOOS MINING DIVISION  
BRITISH COLUMBIA

92H/8E  
49° 22' N, 120° 02' W

Submitted by

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to

The Government of British Columbia  
Ministry of Energy, Mines and Petroleum Resources

March 21, 1985

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	- Summary of Property Holdings (December 31, 1984)
	- Schedule of Property Holdings and Water Licenses as at December 31, 1984

**SECTION 1 - SUMMARY**

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This prospectus describes an open pit and underground mining operation which is proposed for the Nickel Plate Property located about 35 kilometers (21.7 miles) south-south west of Penticton.

The property is to be developed by Mascot Gold Mines Limited ("Mascot"), a British Columbia company with offices in Vancouver.

Since 1979, Mascot has conducted almost continuous exploration on the property and has outlined an open pit reserve of approximately 3.0 million tonnes grading 5.15 grams of gold per tonne (3.3 million tons @ 0.15 troy ounces gold per ton). Additional exploration is planned in 1985 to further delineate the reserves that are known to exist at depth and near surface.

Detailed metallurgical investigations are to be undertaken as part of the feasibility study, however based on past operations it is known that the gold extraction is possible by flotation, gravity and cyanidation or by a combination of these methods.

The operation is expected to employ around 100 people on a three shifts per day basis. The majority of personnel required for of the operation which includes exploration, drilling, blasting, loading, trucking, crushing, concentrating, maintenance, tailings disposal, reclamation and supervision will

be local residents. The initial plans are for a plant through-put of 1000 tonnes (1100 tons) per day which will result in an annual operating budget of over \$10,000,000. The majority of these expenditures will go into wages for employees resident in the surrounding area.

There will be a minimum of new surface disturbance as past mining and exploration work has already outlined the area to be affected. However, the locations for the mill and tailings disposal have yet to be finalized. Because of the location of the ore body on the eastern slope of Nickel Plate Mountain, there will be few visible signs of the operation from nearby highways.

This prospectus also reviews the socioeconomic and environmental impacts that the operation will have on the region. Because of its long history in the area, Mascot is probably more aware of the local environment and its sensitive nature than any other group or organization. Over the past number of years Mascot has taken great care in ensuring that damage to the environment has been minimized, and the Company will continue to act in a prudent manner in this regard. Environmental consultants will be retained to help plan the entire operation.

Also included in this submission is a historical review of the property and a summary of the work and studies planned for 1985.

## SECTION 2 - INTRODUCTION

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### 2.1 General

The Prospectus (or Letter of Intent) for the Nickel Plate Project has been prepared by the Mascot staff as a first step in obtaining approval for the development of a mining operation on Nickel Plate Mountain. Mascot has conducted exploration programs at the property since 1979, and has delineated sufficient reserves to prepare a detailed study of the opening of a mine on Nickel Plate Mountain.

### 2.2 History

Gold was first discovered in 1860 in Hedley Creek, and the existence of heavily mineralized outcrops on Nickel Plate Mountain, then known as "Striped Mountain" because of its iron stained cliffs, was known even prior to that. However, development of a mine on the mountain was not started until 1899. The owners of four claims, including the Nickel Plate claim, succeeded in interesting M.K. Rodger, a representative of Marcus Daly, the Butte, Montana copper baron, in the claims. The Daly group purchased the claims from the original owners, Messers. Arundel and Wollaston, after carrying out a major program of development which proved the potential of the claims.

On May 4, 1904 the first stamp mill plant which had been constructed in the valley below the mountain at Hedley was put into operation. Except for closures in 1917-1918 and 1934-1939, the Nickel Plate Mine was operated by various companies until 1955, when it was closed and all of the mine buildings and equipment were removed from the site.

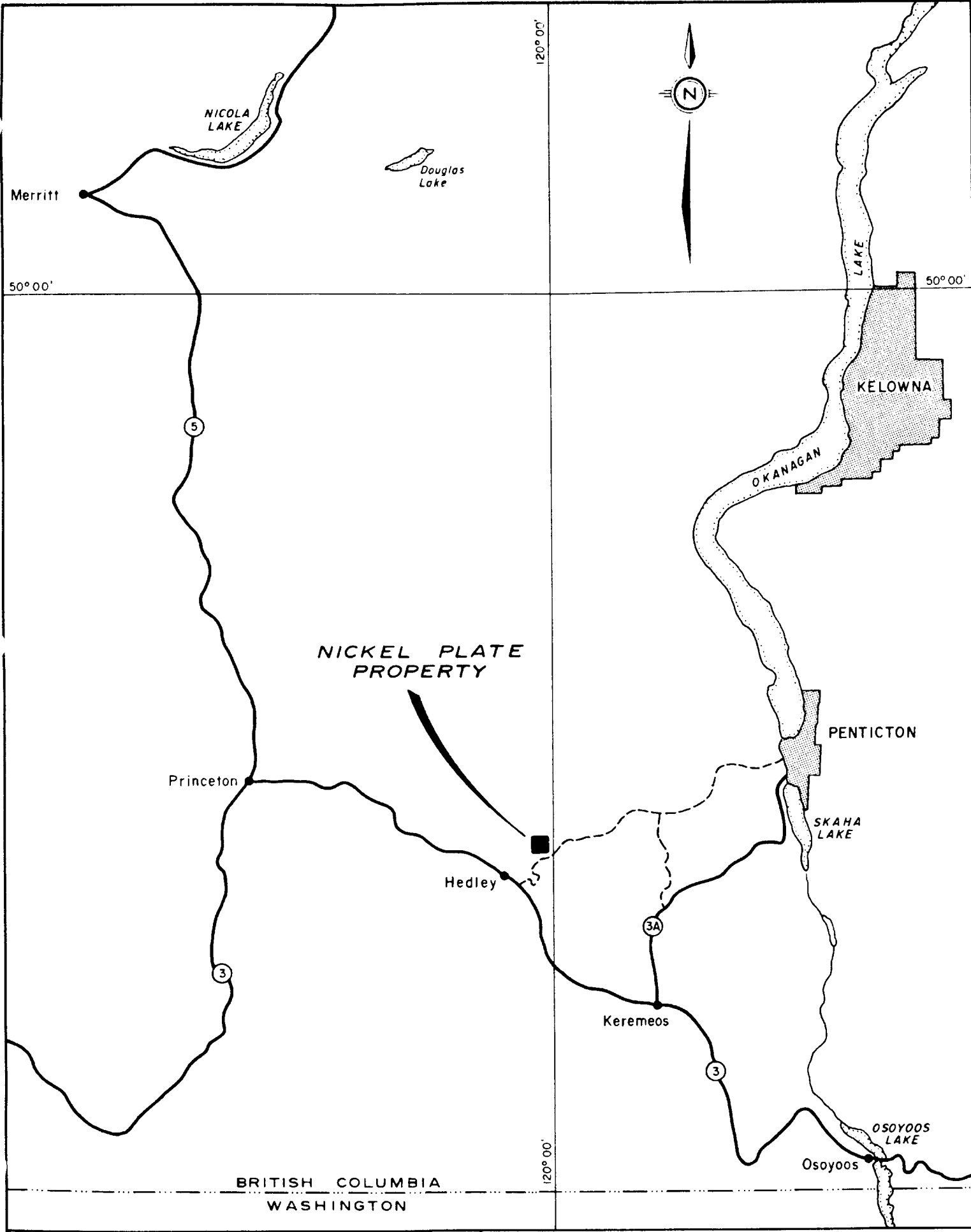
Throughout its operating life 2,969,926 tonnes (3,273,800 tons) of ore yielding 45,054 kilograms (1,448,500 oz) of gold were recovered from the three main ore systems, the Nickel Plate, Morning and Sunnyside.

### 2.3 Location and Access

The Nickel Plate property is located approximately 240 kilometers (150 miles) east of Vancouver, in the Osoyoos Mining Division, near Hedley, British Columbia. The claims lie along the southern, eastern and western slopes of Nickel Plate Mountain, approximately three kilometers northeast of Hedley at 49° 22' North latitude and 120° 02' West longitude.

Access to the property is by a 16 kilometer (10 miles) gravel road from Hedley, which is on Southern Trans-Provincial Highway No. 3. The property can also be accessed from Penticton via the road to the Apex Mountain ski resort, the total distance by this route is approximately 40 kilometers (25 miles), of which 29 kilometers (18 miles) is paved road and the remainder is gravel road. No new roads will be required to provide access however, it is anticipated that the road from Apex to the mine site will require upgrading.

Major highways, railroads and airports lie within 40 kilometers (25 miles) by road of the mine.



**NICKEL PLATE  
PROPERTY**



**Mascot Gold Mines Limited**

**NICKEL PLATE PROJECT  
LOCATION MAP**

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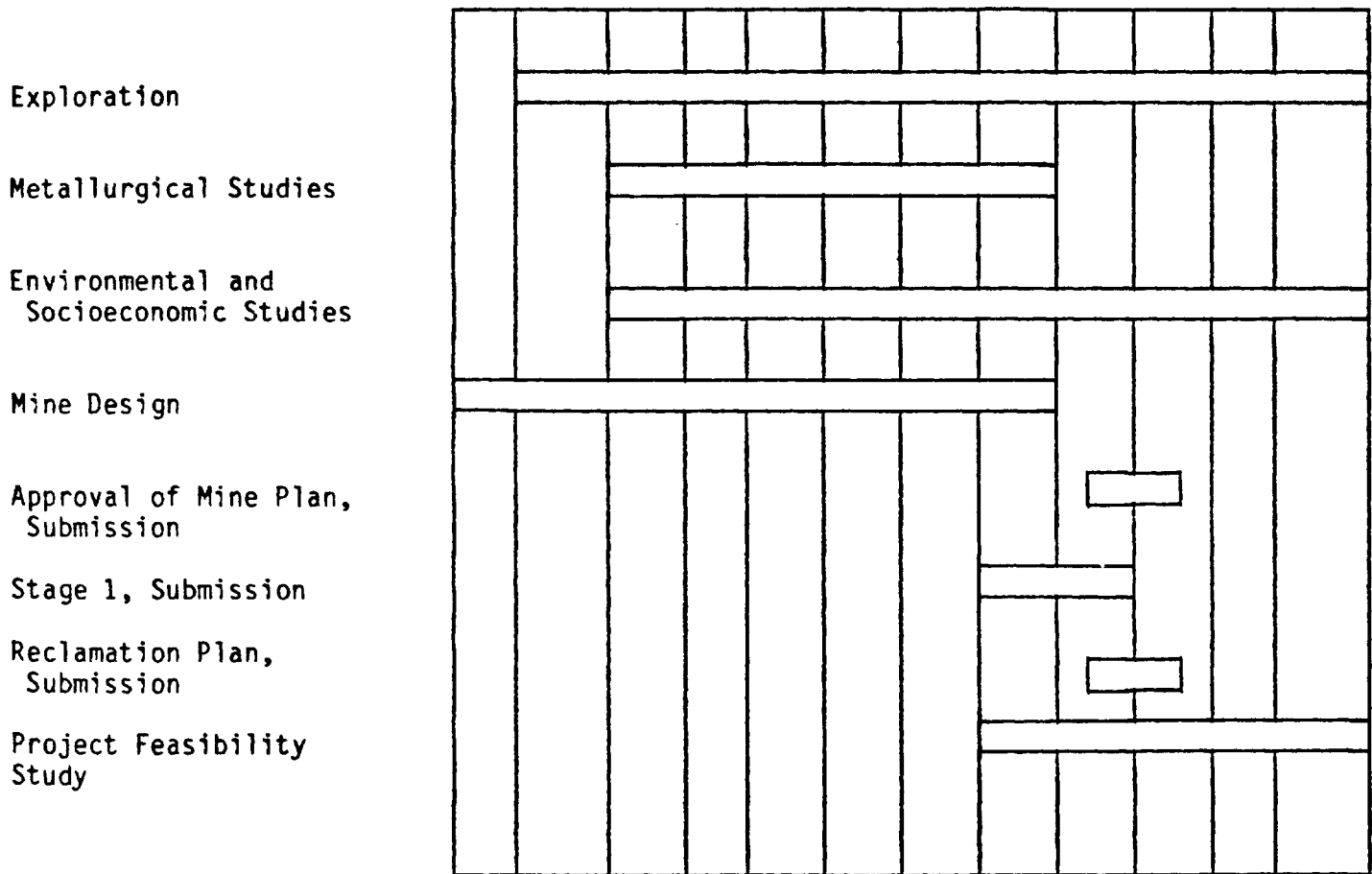
## 2.4 Planning Schedule

Preliminary economic studies indicate that the Nickel Plate Mine could be profitably operated at current gold prices (\$300.00 to \$350.00 U.S. per oz.). Mascot plans to continue exploration work, to begin the work required to complete a feasibility study, and to make application for Provincial approval for development of a mine at Nickel Plate during 1985. A schedule for the work planned is attached as Figure 2. Mascot anticipates being able to make a final production decision in late 1985, and commencing construction in early 1986 providing provincial approval is obtained.

FIGURE 2.2

MASCOT GOLD MINES LIMITED  
NICKEL PLATE PROJECT - 1985 PROJECT SCHEDULE

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC



## SECTION 3 - EXISTING ENVIRONMENT

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### 3.1 Physiography

Nickel Plate Mountain lies in the southern part of the Thompson Plateau. The Thompson Plateau is a rolling upland of generally low relief which ranges from 1200 to 1800 meters (3940 to 5900 feet) in elevation, with prominences of more resistant rock such as Nickel Plate and Lookout Mountains rising above it. The plateau is deeply trenched near Nickel Plate Mountain by the Similkameen River Valley. Hedley, located in the valley floor, is over 1370 meters (4490 feet) below the 1900 meter (6230 feet) summit of the mountain. Creeks such as Hedley, and Cahill flow from the uplands at steep gradients, through narrow canyons into the Similkameen Valley. The area is part of the Columbia River drainage system.

Nickel Plate Mountain forms a high ridge heading southwest from the side of Lookout Mountain. The sides of Nickel Plate Mountain are steep, especially the west side which drops over 1200 meters (3940 feet) from the summit at an average gradient of 32°. The northeast and southeast sides are more gentle, and slope at an average of 16° into Cahill Creek.

The lower slopes are typically open and grassy or sparsely wooded with pine and aspen. The higher slopes are generally well timbered with pine, fir, spruce, aspen and balsam. Slopes with southern exposure have moderate to sparse tree cover with many open areas of grass and sagebrush vegetation.

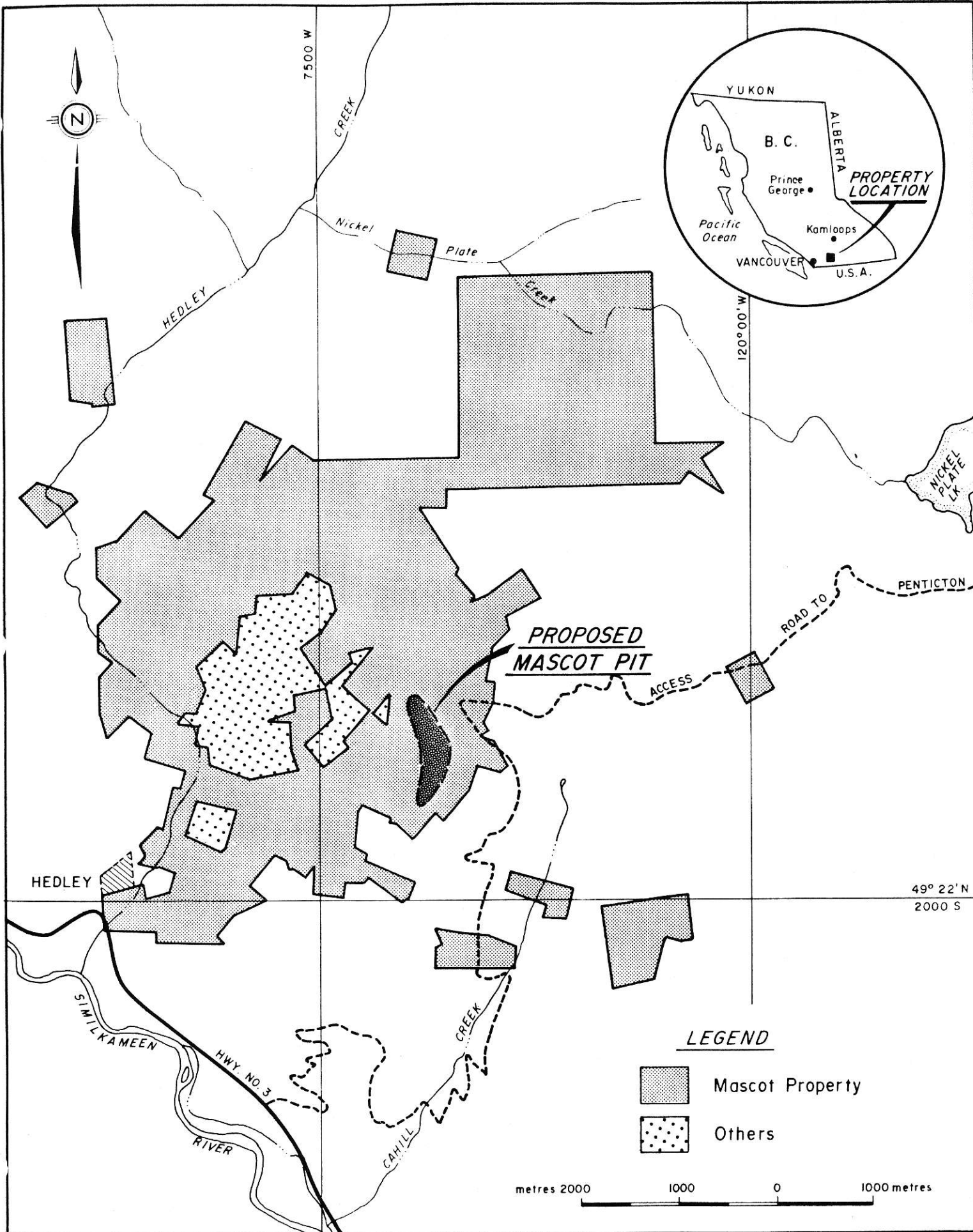
### 3.2 Land Tenure and Water Rights

The Nickel Plate property consists of 83 Crown-granted mineral claims, two mineral leases totalling 26 claims and six recorded claims of 33 units. Surface rights are held on thirteen of the Crown-granted mineral claims and two other parcels. The mineral holdings total approximately 2045 hectares (5050 acres). Water rights on Sunset Creek for 295 cubic meters (65,000 gallons) per day and on Hedley Creek for 6662 cubic meters (1,465,500 gallons) per day are owned by Mascot.

The proposed plant will be located closer to the top of the mountain than the previous plant. Mascot presently holds water rights in the valley floor and would like to trade them for water rights closer to the proposed site. For example, a trade of water rights on Hedley Creek in return for water rights on Nickel Plate Lake or Nickel Plate Creek which are located nearer the anticipated mill sites would be acceptable. Appendix A contains a Schedule of Property holdings and water licenses.

### 3.3 Climate

The Similkameen Valley is characterized by warm dry summers and cool cloudy winters. The region, however, is one of marked relief and the temperature and precipitation differences between the valley bottoms and surrounding uplands is great. An illustration of this is the comparison of observations taken at Hedley and at the old Nickel Plate Mine. These two points only 4000 meters (13,120 feet) apart horizontally are 1200 meters (3940 feet) different in elevation. The mean annual precipitation at Hedley is 30 centimeters (11.8 inches), while the mean at the mine is 58 centimeters (22.8 inches.)



Mascot Gold Mines Limited

NICKEL PLATE PROJECT  
**LOCATION & PROPERTY MAP**

DATE: DEC. /1984

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DRAWING No. 3.2

The yearly mean temperature at the Nickel Plate Mine is 1.7°C (35.1°F), while the high monthly mean, which peaks in July, is 12.4°C (54.3°F). The low monthly mean bottoms in January at minus 8.3°C (16.9°F). Freezing temperatures and snowfalls can occur in every month at the mine.

### **3.4 Historic and Archaeological Sites**

The old mining sites are of some historical value, being the first in the Similkameen area and dating from 1898. However, all of the buildings related to the former Nickel Plate operation, located on company property, were removed prior to 1970.

## SECTION 4 - PROJECT DESCRIPTION

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### 4.1 Exploration

In late 1980 a surface diamond drilling program totalling 4415 meters (14,480 feet) in 97 holes was completed in the Sunnyside and Nickel Plate systems. This was followed by an extensive underground drilling program through the winter of 1981-82 aggregating an additional 9904 meters (32,500 feet) in 377 holes in 12 areas. In the summer and fall of 1982, a surface program of geologic mapping, surface trenching, sampling and a limited amount of surface and underground diamond drilling was undertaken to locate surface expressions of mineralized zones and to obtain a greater understanding of the structures in areas previously known. This surface work located the new Silverside zone, added dimensions to the Sunnyside No. 1 zone and expanded the information in the Bulldog No. 3 zone.

In April 1984, a drill program was initiated with the dual purpose of locating additional bodies of mineralization with economic potential and expanding the previously outlined areas of ore grade mineralization. Particular emphasis was placed on developing reserves that can be mined by lower cost open pit methods. The program of surface and underground exploration was carried out on the Nickel Plate property between April and December of 1984. Details of the program are tabulated as follows:

- 67.7 line kilometers (42.1 miles) surface grid established with transit control line cut every 305 meters (1,000 feet).

- 59.8 line Kilometers (37.2 miles) of soil geochemical survey on 30.5 m. grid.
- 31.2 line kilometers (19.4 miles) of magnetometer survey
- 60.8 line kilometers (37.8 miles) of V.L.F. Electromagnetic survey
- 10.7 line kilometers (6.6 miles) of Induced Polarization survey
- 17.9 kilometers (11.1 miles) of drill access road either upgraded or constructed, along with 259 drill sites.
- 4,008 meters (13,150 feet) of underground diamond drilling in 120 holes.
- 9155 meters (30,035 feet) of surface diamond drilling in 111 holes.
- 10,425 meters (34,202 feet) of surface rotary-percussion drilling in 148 holes.

At the same time the 1984 drill program was being carried out all of the previous drilling and assay data that was available was integrated into a computer data base. From this data base, computer-generated sections were obtained and the property was looked at as an integrated whole, rather than as a series of discrete zones.

The 1984 surface drilling was successful in confirming and expanding open-pit potential of the property while the underground drilling continued to test the deeper subsurface targets and was particularly successful in extending the Sunnyside 250 and 450 zones.

Mascot is now confident that there are significant areas of gold mineralization near surface that can be mined by open pit methods. An ore





**PROPOSED MASCOT PIT**

Approx. Location Of Cross-Section (Fig.3)

Violet Glory Hole

CAMP

Nickel Plate Glory Hole







Sunnyside 4 Glory Hole

Sunnyside 3 Glory Hole

Sunnyside 2 Glory Hole

Sunnyside 1 Glory Hole

**LEGEND**

-  Porphyry Dykes
-  Porphyry Sills
-  Tuff Breccia
-  Upper Tuff Beds
-  Skarns
-  Faults

Feet 500 0 500 Feet



**Mascot Gold Mines Limited**

**NICKEL PLATE PROJECT  
GENERAL GEOLOGY**

DATE: DEC. / 1984    SCALE: 1" = 500'    DRAWING No. 4.1

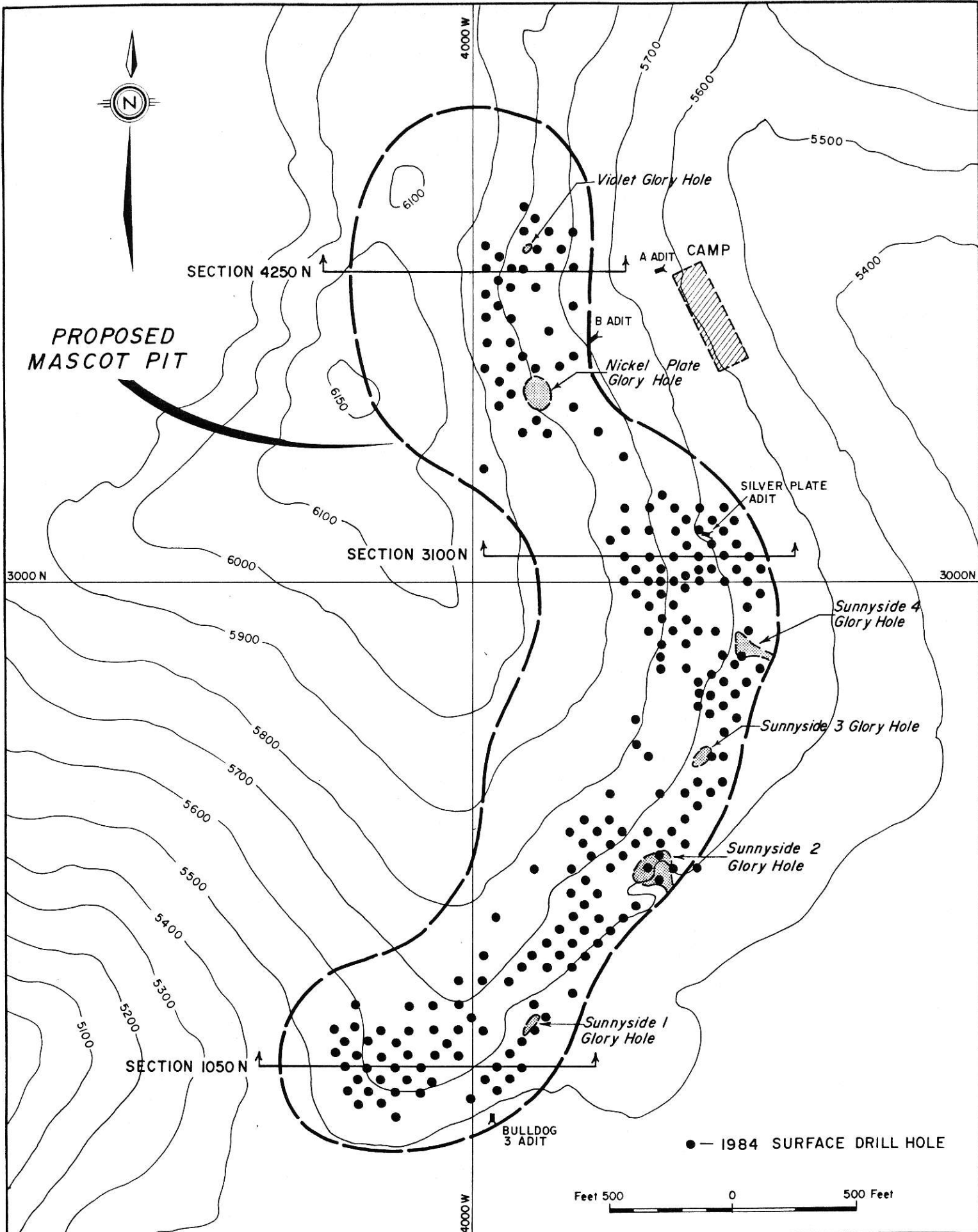
reserve study utilizing all available data indicates mineable open pit reserves of 3.0 million tonnes (3.3 million tons) grading 5.15 grams of gold per tonne (0.15 troy ounces per ton). Preliminary studies indicate an underground reserve of at least 500,000 tonnes (550,000 tons). Further analysis of the data is underway to establish the total quantity and grade of underground reserves currently available. Additional exploration is required to fully delineate the mineralized zones which are known but only partly explored. Geochemical and geophysical surveys conducted in 1984 have detected a number of anomalous zones in the potential open pit area as well as beyond it.

The exploration program recommended for 1985 on the Nickel Plate property is as follows:

- a) Complete the drilling of the gold mineralization in the potential open pit area.
- b) Complete the evaluation by surface drilling and trenching of the geochemical and geophysical anomalies in the immediate area of the pit, found in 1984.
- c) Rehabilitate the portions of the underground workings and carry out geological mapping, sampling, surveying and drilling to ascertain the reserves available below the level of feasible open pit mining.

#### **4.2 Geology and Deposit Description**

In the Hedley area the oldest rocks are sediments of Mesozoic age that correlate with the Nicola group of the Triassic period. The Nicola formations were derived from an epoch of wide-spread volcanism that flowed into a marine



**PROPOSED MASCOT PIT**

SECTION 4250 N

SECTION 3100 N

SECTION 1050 N

4000 W

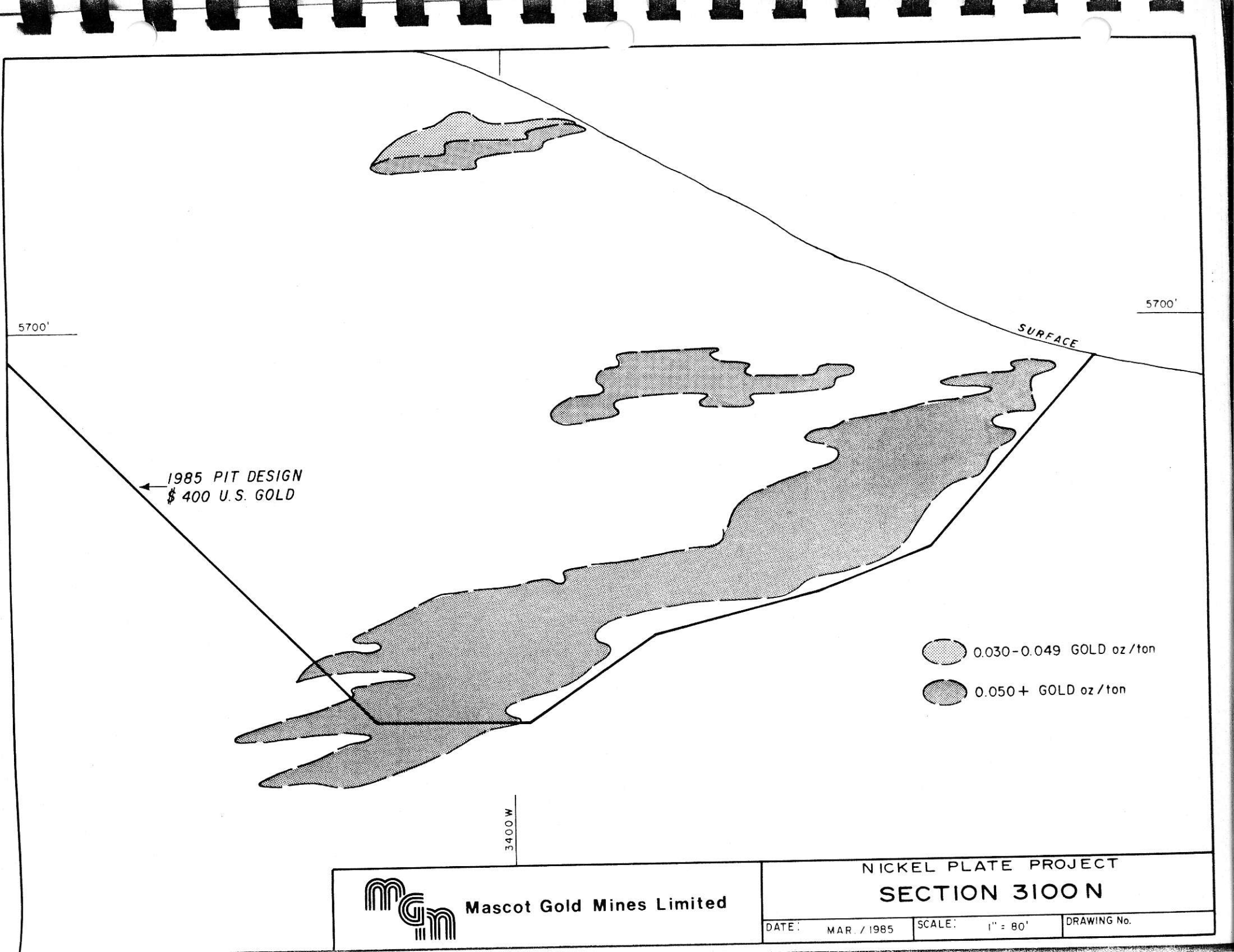
Feet 500 0 500 Feet

● — 1984 SURFACE DRILL HOLE



Mascot Gold Mines Limited

NICKEL PLATE PROJECT  
**PROPOSED OPEN PIT**



5700'

5700'

SURFACE

← 1985 PIT DESIGN  
\$ 400 U.S. GOLD

- 0.030-0.049 GOLD oz/ton
- 0.050+ GOLD oz/ton

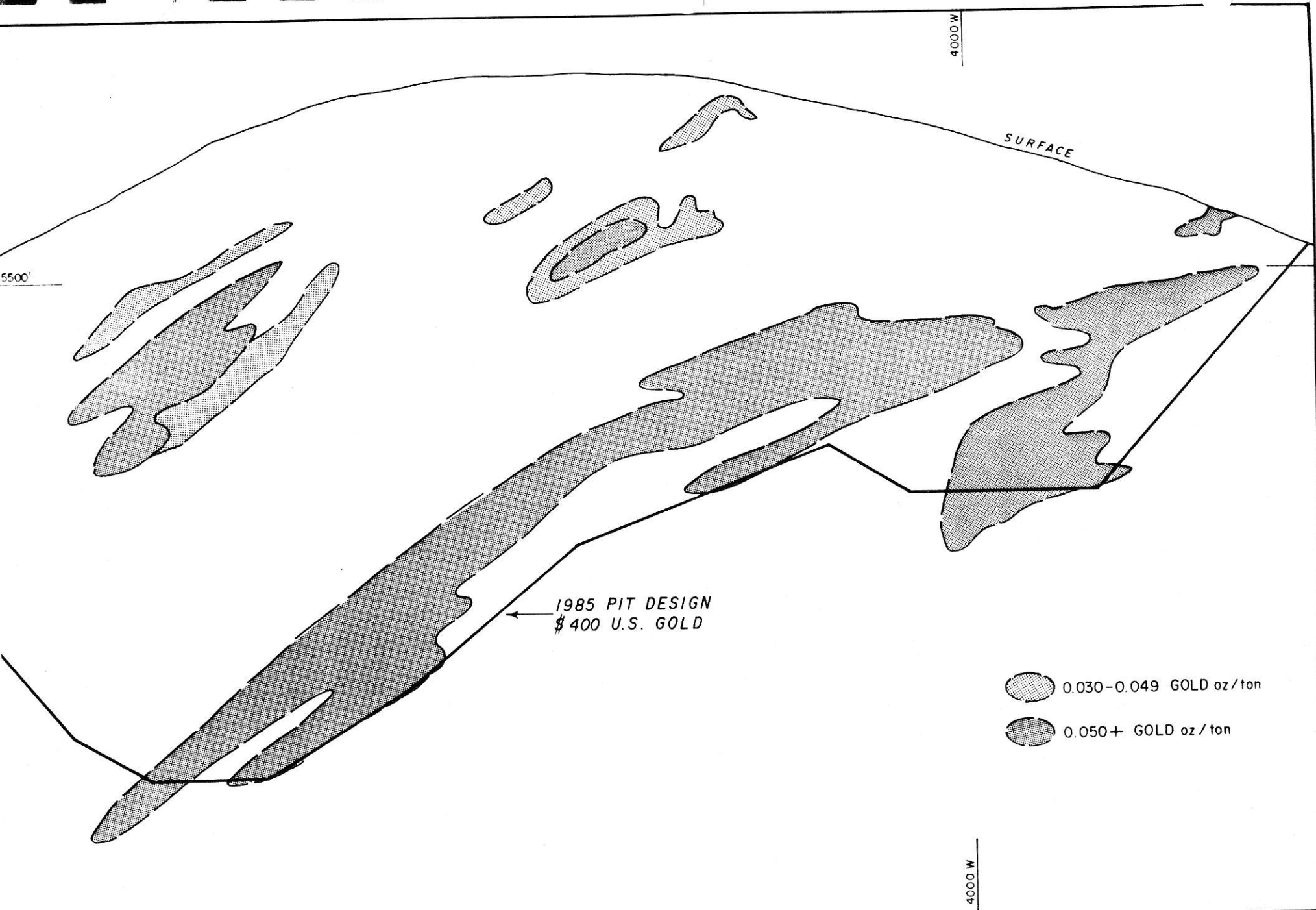
3400 W





Mascot Gold Mines Limited

NICKEL PLATE PROJECT  
SECTION 3100 N

DATE: MAR. / 1985	SCALE: 1" = 80'	DRAWING No.
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1985 PIT DESIGN  
\$ 400 U.S. GOLD

-  0.030-0.049 GOLD oz/ton
-  0.050+ GOLD oz/ton



Mascot Gold Mines Limited

NICKEL PLATE PROJECT  
SECTION 1050 N

DATE: MAR. / 1985	SCALE: 1" = 80'	DRAWING No.
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basin of great extent and depth resulting in the formation of argillite and limestone with some local fine-grained quartzites.

Strong pressure from the east and west caused folding of the sediments which in the Hedley area formed an asymmetrical anticline striking from 15° to 20° east of north. This overturned fold, whose axial plane dips steeply to the west displays a limb dipping 15° to 40° to the west which is cut longitudinally by the flat dipping north-east striking Bradshaw Fault. This fault structure occupies Windfall Canyon through which flows Twenty Mile Creek.

Intrusion by early magmas produced a granitic core which underlies the sediments. Outpourings of later basic magmas were responsible for several large area plutons and extensive groups of dykes and sills.

The stratigraphic column in the Hedley area is depicted as follows:

Aberdeen	- Sediments
Red Mountain	- Volcanics
Nickel Plate	- Top Bed (Kingston Limestone)
Middle Bed	- Middle Member
Bottom Bed	- Sunnyside Limestones
Red Top	- Quartzites

The Nickel Plate formation has been subjected to alteration, forming "skarn", a coarse aggregate of diopside, garnet, epidote, wollastonite plus the infused silica. A sharp demarcation skarn line referred to as the "Marble Line" marks the normally abrupt transition from variably altered to unaltered

strata. This demarcation lies generally in the vicinity of the contact with the underlying unaltered Sunnyside limestones.

Exploration at the Nickel Plate property has shown the existence of at least five ore controls. They are (i) favourable beds, (ii) relationship to the Marble Line, (iii) presence of sills and dykes, (iv) folds and fractures and (v) presence of arsenopyrite. Any of the above controls which are present individually or in conjunction with other influencing factors could establish economic mineralization.

Other minerals present include silver, pyrite, pyrrhotite, chalcopyrite and minor amounts of cobalt.

The Nickel Plate property is a complex mixture of stratigraphy and structure which have produced three different sets of ore systems: (i) the Nickel Plate, (ii) the Sunnyside (including the Bulldog zone), and (iii) the Morning.

- (i) **Nickel Plate System Orebodies:** This system is composed of a series of tabular gold bearing lenses that may be described as a set of overlapping shingles following the dip of the strata for a distance of 900 meters on a bearing of north 70° west. The ore beds have been mined from the surface through to the 17th level at elevation 1450 meters.
  
- (ii) **Sunnyside System Orebodies:** The surface exposure of this system was discovered early in the history of the mine and became the staple mill feed along with the near-surface Nickel Plate ore

systems. The Sunnyside ore beds lie deep in the Middle formation and are closely related to indentations or keels in the Marble Line. They are moderately folded with the mineralization being confined to the apex and/or one limb of the fold. Their down dip expression is shallow. In addition, two dykes converging to the east form a loci with a sill where ore grade mineralization is generally formed. The newly-discovered Silverside zone is a similar dyke-related ore structure which overlies the Sunnyside 450 zone and which has given some credence to the possibility of a comparable stacking of ore structures as those of the Nickel Plate system. The Sunnyside 250 zone is most unlike the other Sunnyside zones. It is not associated with visual arsenopyrite and, at present, has no recognizable ore controls. The Bulldog ore zones are similar to the Sunnyside zones in stratigraphy, but lie further to the south and down the rake of the strata. Sills play a prominent part in the relationship of the distribution of the gold values.

- (iii) **Morning System Orebodies:** This system is unlike that of the Nickel Plate orebodies in both structure and grade. Two of the better known porphyry structures, the Midway Sill and the Flange Dyke, combine at depth to form orebodies at their junction. The grade and persistence of the mineralization is related in most instances to the tight folding at these "crotches". The Morning ore structures, because of their rich grade were thoroughly stoped above the 4,050 level. Some mining was carried out below this level as well.



### 4.3 Conceptual Plan of Mine Development

The proposed Nickel Plate Mine is expected to be a combination open pit and underground mining operation, with the majority of ore coming from the open pit during the initial years. A mining rate of 1000 tonnes (1,100 tons) per day of ore is expected during the operation of an open pit. Current reserve estimates indicate that 3.0 million tonnes (3.3 million tons), are available for open pit mining methods with a stripping ratio of about 7.5 : 1.

The open pit reserves are based on a preliminary pit design. These reserves may change somewhat once detailed design is undertaken. A geotechnical study is planned to determine the optimum angle of pit walls.

Waste rock produced by the open pit operations will be used for tailings dam construction. This rock is not expected to be acid generating (see page 21). The dam constructed will serve to contain the tailings from the milling operations and to serve as reservoir to impound the water to be recycled to milling operations. As the operation is located in an area with a relatively dry climate the storage and recycling of spring runoff and mine drainage water for process water will be important.

In the previous operations, underground ore was initially extracted via the Nos. 3 and 4 adits. Later with the continuation of the ore-bodies below 4 Level, ore was transported to the No. 4 Level by means of the Dickson and Morning inclines prior to being hauled to the surface via the No. 4 adit. The ore was

mined in open stopes. The ground is very competent and virtually no timbering and rock bolting was necessary except in the very deepest parts of the mine. The competence of the rock at Nickel Plate is attested to by the fact that stopes mined in the early 1900's have stood to date completely unsupported over spans of over 100 feet. A portion of the current underground reserve blocks are pillars left for support, and it is expected that these pillars can be mined following backfilling of some of the old stopes.

Proposed underground mining is expected to be conducted using similar open stope methods. To transport material to the surface, the Dickson incline and the No. 4 level will probably be rehabilitated. Consideration is being given to alternative ways of transporting the ore to the surface. Ideas such as driving a new haulageway to surface and trackless mining are being studied.

#### **4.4 Conceptual Plan of Ore Processing**

Gold will be the chief commercial product of the mine. Values of silver, copper and cobalt have been obtained in certain parts of the mineralized beds however, recovery of products other than gold will depend on the grade of the material and the cost of recovery.

A suite of eight samples from four of the zones of the Nickel Plate property; the Bulldog Zone, the 250 Zone, the 450 Zone, and the Nickel Plate Zone were submitted to the Cominco Exploration Laboratory for microscopic study. The results of the study shows that:

1. Gold occurs as electrum in the Bulldog Zone sections studied, while gold appears as native gold in all other zones.
2. The electrum from the Bulldog is relatively coarse, normal 20 to 300 microns while the native gold in other zones is normally 1 to 20 microns in size.
3. The native gold in the 250, 450 and Nickel Plate Zones is often included in arsenopyrite and in contact with hedleyite (a Bismuth Telluride).
4. One sample from the 250 Zone contains a Ni-Cobaltite, and this mineral in turn hosts the native gold.
5. The Bulldog samples are rich in silver due to the presense of electrum and pyrargyrite as opposed to the almost total lack of silver in the other sections.

The near surface ore mined by the original operators was treated by gravity with amalgamation, however, as the mining proceeded into ore below the influence of surface alteration the effectiveness of this type of treatment dropped and only a small percentage of gold could be recovered using this method. As a result, the recovery process was changed to increase the recovery from the deeper ore. In the later plant, ore was crushed and then ground to 80% minus 325 mesh in a cyanide solution. Following agitation of the slurry, the solids and the cyanide solutions were separated and gold was recovered from

the pregnant cyanide solution and dore bar was produced. A sulphide concentrate was then produced by flotation of the slurry and shipped to the smelter at Tacoma, Washington. The concentrate contained about 25-35% arsenic, 51.5-85.8 grams per tonne (1.5 - 2.5 troy ounces of gold per ton) and varying amounts of silver and copper.

The composition of the mineralized zones on the property varies significantly, and thus the Nickel Plate beneficiation plant will be designed with flexibility in mind. The plant will be required to treat the ore types listed below in their order of expected abundance:

1. High arsenopyrite, low chalcopyrite,
2. High arsenopyrite, high chalcopyrite,
3. Sunnyside 250 ore type, low sulphides,
4. Oxidized, near surface ores and fault gouges.

All of these zones have pyrrhotite occurrences throughout.

The flowsheet of the proposed plant will be determined following the completion of metallurgical studies planned for 1985. Based on previous testing and operation, some aspects that will likely be incorporated in the process are as follows:

1. Fine grinding (80% minus 325 mesh),
2. A cyanide leaching circuit to recover the bulk of the gold values,
3. Flotation of a copper-silver-gold concentrate, to recover copper from zones of high chalcopyrite,
4. A process to reduce the arsenic content of any concentrates produced.

Note that the proposed locations of the plant and tailing disposal facilities have not been finalized, but both are expected to be located on Nickel Plate Mountain near the known deposits. All site locations being considered are on the side slope of Nickel Plate Mountain, below the exit ramps of the open pit so as to facilitate the movement of ore.

**SECTION 5 - ENVIRONMENT AND SOCIOECONOMIC STUDIES**

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The development of a mine on Nickel Plate Mountain will be beneficial in terms of the economic life of the four communities; Hedley, Princeton, Keremeos and Penticton, which would be the residence of the workers and provide services required during the operation of the project. The local communities have already benefited greatly from the exploration programs which have been conducted almost continuously since 1979. Approximately \$9,000,000 has been spent on the exploration of the Nickel Plate property in the past three years and whenever possible local services and people have been utilized. For example, during the 1984 Exploration Program, 19 hourly employees were employed by Mascot and 16 of the 19 were residents of Hedley, Keremeos or Penticton.

Direct employment at the mine during operations is expected to total around 100 employees. At the planned mining rate of 1000 tonnes per day it is anticipated that annual operating costs will be approximately \$10,000,000 and that 60% of this or \$6,000,000 will be paid out as wages and benefits to employees. As the communities of Hedley, Princeton, Keromeos, Penticton and the environs of each of the communities are within reasonable travel times of the proposed mine site there will be no need for a new townsite at the property. Mascot would expect that all of the positions available could be filled within British Columbia, with the majority from the local region. It is also expected that the local communities have sufficient accommodation available to supply the needs of workers that may migrate to the area to work

at the project. During the construction period it is planned to supply living accommodation at the mine site, however, Mascot plans to phase out such camp facilities within the first year of operation.

The visual effects of the mine development are related to the topographic changes which are part of any mining project, as by definition mining involves the removal and displacement of materials. The proposed development which includes an open pit will result in the stripping of large quantities of overburden and waste rock, and the creation of substantial waste dumps. These clean rock dumps and steep pit walls will appear visually similar to the natural relief in the area. For example the west side of Nickel Plate Mountain which drops 1200 meters into Windfall Canyon at an average slope of 32°, has large areas of bedrock exposed forming cliffs and crags in many places; as well natural talus slopes occur.

The run-off from waste dumps and pit areas <sup>will</sup> ~~is not expected to~~ be acidic as the limestone beds adjacent to the sulphide beds <sup>will</sup> should neutralize any acid solutions produced by the oxidation of the sulphide minerals. The drainage water leaving the 3750 Portal has been monitored during the summer months since 1983, and the average pH of the water has been 7.75. A total of nine water samples were collected with the lowest pH recorded being 7.5. The 3750 adit is the lowest of the mine entrances and the water exiting this adit has seeped down through the mine workings for some 50 years and the sampling has shown no indication that the drainage water is acidic.

There are two aspects of the proposed plant operation that are environmentally sensitive. First, the use of cyanide will almost certainly be part of the process, and secondly the arsenopyrite content of parts of the ore-body. Because of the effect that these materials might have on the environment a great deal of consideration will be given to the design of the plant and the tailings disposal system in order to minimize the potential harm to the environment.

The main sources for potential degradation of air quality are dust and fumes from the beneficiation operation, the open pit mining operations and the tailings disposal. With modern plant design the quantity of fumes and dust generated by the process ~~should~~<sup>will</sup> be minimal and therefore not significantly degrade air quality. The use of good mining practices ~~should~~<sup>will</sup> keep the generation of dust from mining operations and tailings area to acceptable levels.

The disruption of any wildlife habitat because of the open pit mine, the tailing disposal and plant construction is not expected to severely affect indigenous species. The operation will, however, increase the opportunity for pressures on wildlife due to hunting, observation and general human activity around the mine.

Mascot recognizes that the Similkameen Valley and the surrounding country are important recreational areas for both residents and tourists and that the environmental and recreational values of the area must be preserved. During 1985, Mascot intends to engage an environmental consulting firm to



conduct studies and provide guidelines for the development of the mine. The studies will assess the probable environmental and social impacts of the development and will propose measures to mitigate conflicts arising from the mine development.

A number of areas, will receive priority in the environmental assessment. These are as follows:

- the effect of mining operations on the recreational area.
- the effect of mining operations on wildlife, particularly the local mountain goat population.
- the effect of mining operations on surface and ground water quality, noting that the milling process will almost certainly involve cyanide leaching and that portions of the orebodies contain high levels of arsenopyrite.
- the proposed procedures and goals of reclamation programs on disturbed areas.

As these studies are carried out and after additional discussions are held with governmental agencies, if it becomes apparent that other factors require investigation then more work will be carried out in the appropriate areas.

**APPENDIX A**

## APPENDIX A

NICKEL PLATE PROJECT  
SUMMARY OF PROPERTY HOLDINGS  
(December 31, 1984)

## 1. MINERAL TITLE

<u>Type of Claim</u>	<u>No. of Claims</u>	<u>No. of Units</u>	<u>Area</u>	
			<u>Acres</u>	<u>Hectares</u>
A. Crown grant	83	83	2,710.95	1,097.11
B. Mineral lease	2	26	964.61	390.37
C. Recorded	<u>6</u>	<u>33</u>	<u>1,377.58</u>	<u>557.50</u>
	91	142	5,053.14	2,044.98

## 2. SURFACE TITLE

<u>Type of Ownership</u>	<u>No. of Parcels</u>	<u>Area</u>	
		<u>Acres</u>	<u>Hectares</u>
Freehold	15	487.08	197.12

## 3. WATER LICENSES

<u>Type of License</u>	<u>No. of Licenses</u>	<u>Authorized Amount</u> <u>(Imperial G.P.D.)</u>
Conditional	1	65,000
Final	<u>2</u>	<u>1,465,468</u>
	3	1,530,468

NICKEL PLATE PROJECT

SCHEDULE OF PROPERTY HOLDINGS AND WATER LICENSES

AS AT DECEMBER 31, 1984

1. MINERAL TITLE (Osoyoos Mining Division)

A. <u>CROWN GRANTED MINERAL CLAIMS</u>	<u>LOT NO.</u>	<u>ACRES</u>	<u>HECTARES</u>
PS Fraction	200 S	28.07	11.36
Nellie A	265 S	32.60*	13.19
Badger	389 S	13.40	5.42
Beaver	634 S	25.10	10.16
Morning	655 S	48.70	19.71
Paris	656 S	26.60	10.76
Triangle Fraction	663	5.50	2.23
Dominion	679 S	51.65*	20.90
Wellington	707	27.49	11.13
Cracker Jack	708	42.69	17.28
Exchange Fraction	725	12.80	5.18
Nickel Plate Fraction	735	0.30	0.12
Bulldog	739	40.32	16.32
Sunnyside	740	45.95	18.60
Nickel Plate	741	49.85	20.17
Copper Field	742	40.40	16.35
Silver Plate	743	29.09	11.77
Gold Field	744	47.30	19.14
Electro Plate	745	50.60	20.48
Alice	852	22.20	8.98
July Fraction	1581 S	1.06	0.43
New York Fraction	1582 S	29.24	11.83
Iron Duke	1600	23.00	9.31
Danube	1792	33.53	13.57
Gold Plate	1793	45.60	18.45
Sunshine No. 1 Fraction	1794	1.50	0.61
Warrimoo	1795	36.90	14.93
Aorangi	1796	28.82	11.66
Danube Fraction	1797	2.07	0.84
Woodland	1798	34.50	13.96
Mound	1876	51.65	20.90
Copper Cleft	1877	42.35	17.14
Mafeking	1975	49.75	20.13
Iron Plate Fraction	1980	5.82	2.36
Kingston	2474	31.00	12.55
Rollo	2475	37.57*	15.20
Princeton	2476	21.90	8.86
King	2477	8.00*	3.24
Warhorse	2478	33.80	13.68
Grandview	2479	4.00	1.62
Metropolitan	2480	36.20	14.65
Kingston Fraction	2481	6.50	2.63
IXL	2664	20.50	8.30

<u>CROWN GRANTED CLAIMS (Con'd)</u>	<u>LOT NO.</u>	<u>ACRES</u>	<u>HECTARES</u>
Climax	2665	40.00*	16.15
Red Mountain	2666	45.38	18.37
Sacramento	2673	39.90*	16.16
Banner	2819	26.00*	10.52
Centre Star Fraction	2822	18.00	7.28
Draw	2823	40.97	16.58
Czar Fraction	2832	37.58	15.21
Kitchener Fraction	2903 S	23.75	9.61
Salt Lake Fraction	2904 S	4.22	1.71
Mound Fraction	2905 S	0.07	0.03
Red Eagle	3032	25.00	10.12
Midday Fraction	3033	45.50	18.41
Mayflower	3034	25.80	10.44
War Eagle	3037	34.40	13.92
Victoria Fraction	3113 S	16.16	6.54
Coyote Fraction	3312 S	0.40*	0.16
Annie Brooks Fraction	3313 S	6.26	2.53
August	3314 S	40.06*	16.21
Enckechim	3326 S	51.37	20.79
Synkelip	3327 S	51.65	20.90
Chinook	3328 S	51.65	20.90
Chilanko	3398 S	43.11	17.45
Mowich	3399 S	48.24	19.52
Ciutan	3400 S	51.51	20.85
Windfall	3410 S	36.00	14.57
Bighorn	3411	31.20	12.63
Winchester Fraction	3412	48.00	19.43
Stemwinder	3464	50.68	20.51
Glenwood Fraction	3465	21.00	8.50
Charter Oak	3466	41.50	16.79
Sage	3850 S	51.65	20.90
Spruce Fraction	3851 S	47.15	19.08
Fir Fraction	3852 S	51.54	20.86
Pine Fraction	3853 S	51.65	20.90
Juniper Fraction	3854 S	43.39	17.56
Aspen Fraction	3855 S	51.62	20.89
Cedar Fraction	3856 S	51.65	20.90
Thistle No. 2	3878 S	42.55*	17.22
Thistle No. 2 Fraction	3879 S	49.68*	20.11
Thistle Fraction	3880 S	48.84*	19.77

TOTAL 83 CROWN GRANT CLAIMS

2,710.95

1,097.11

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\* Area derived from earlier schedule  
but not verified on survey plan

B. <u>MINERAL LEASES</u>	<u>NUMBER</u>	<u>ACRES</u>	<u>HECTARES</u>
1. Mineral Lease consisting of one Rev. C.G. Mineral Claim:	M-71	51.47	20.83

<u>Name of Mineral Claim</u>	<u>Lot No.</u>	<u>Lands Dept. File No.</u>
Cannon Ball	1512-S	0114977

2. Mineral Lease consisting of twenty-five Rev. C.G. Mineral Claims:	<u>NUMBER</u>	<u>ACRES</u>	<u>HECTARES</u>
	M-72	913.14	369.54

<u>Name of Mineral Claim</u>	<u>Lot No.</u>	<u>Lands Dept. File No.</u>
Northern Light Fraction	3039	0114287
Canadian Belle	3038	0114252
Union Fraction	801	0114251
Vindicator	3336s	0278463
Vindicator Fraction No. 1	3337s	0133939
Vindicator Fraction No. 2	3338s	0133940
Vindicator Fraction No. 3	3339s	0133941
Vindicator Fraction No. 4	3340s	0133942
Vindicator Fraction No. 9	3341s	0133947
Vindicator Fraction No. 6	3342s	0133944
Vindicator Fraction No. 7	3343s	0133945
Vindicator Fraction No. 5	3344s	0133943
Vindicator Fraction No. 8	3345s	0133946
Phyllis	204s	0114285
Mollie	909s	0114232
Jack Frost	2766	0114233
Zero	2767	0114286
Forty Nine	895s	0278469
Goldman	896s	0278471
Snowflake	897s	0278472
Mother Lode	898s	0278473
Lookout	899s	0278474
Humming Bird Fraction	900s	0278475
Mountain View	901s	0278476
Presidential Tryangle Fraction	266s	0278470

TOTAL MINERAL LEASES	<u>ACRES</u>	<u>HECTARES</u>
	964.61	390.37

C. MINERAL CLAIMS HELD BY LOCATION

<u>Claim Name</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
Mali 10 Fr.	1	20475M	Sept. 18, 1988
Mali 21	1	20479M	Sept. 18, 1988
Mali 22	1	20480M	Sept. 18, 1988
NP 1	14	2149(12)	Dec. 19, 1985
NP 2	12	2150(12)	Dec. 19, 1985
NP 3	4	2151(12)	Dec. 19, 1985
	<u>33</u>		

2. SURFACE TITLE (Similkameen Division of Yale Land District)

<u>Claim or Parcel</u>	<u>District Lot No.</u>	<u>Of Title</u>	<u>Acres</u>	<u>Certificate Hectares</u>
Victoria Fraction	3113s	R 54993F	16.16	6.54
Chilanko	3398s	R 54994F	43.11	17.45
Block 57	1975,1977	R 54995F	0.34	0.14
Mayflower	3034	R 54996F	25.80	10.44
Parcel "A" & "B", Plan B4184	1975	R 54997F	18.85	7.63
Czar Fractional	2832	R 54998F	37.58	15.21
Copper Field	742	R 54999F	40.40	16.35
Electro Plate	745	R 54999F	50.60	20.48
Danube	1792	R 54999F	33.53	13.57
Glenwood Fraction	3465	R 55000F	21.00	8.50
Bulldog	739	R 55001F	40.32	16.32
Sunnyside	740	R 55001F	45.95	18.60
Nickel Plate	741	R 55001F	49.85	20.17
Silver Plate	743	R 55001F	29.09	11.77
Woodland	1798	R 55001F	<u>34.50</u>	<u>13.96</u>
TOTAL AREA			487.08	197.12
			=====	=====

3. WATER LICENSES (Princeton Water District)

Final Water License No. 14559 for 65,000 Imperial gallons per day from Sunset Creek for mining and domestic purposes

Final Water License No. 14558 for 926,908 Imperial gallons per day (two c.f.s.) from Hedley Creek and additional amounts which may be determined by the Water Rights Engineer, less 150,000 Imperial gallons per day which may be diverted by Hedley Improvement District, for mining and domestic purposes.

Conditional License No. 22075 for 538,560 Imperial gallons per day (one c.f.s.) from Hedley Creek for mining purposes.