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KILBORN

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March 10, 1982

Pacific Cassiar Limited
714 - 603 7th Avenue, S.W.
Calgary, Alberta
T2P 2T5

Attention: Mr. Steve Vavra
President

Dear Sirs:

We are pleased to submit our Report entitled:

'PACIFIC CASSIAR LIMITED
PORTER IDAHO PROJECT
PRE-FEASIBILITY STUDY'.

This Report contains the estimated Capital and Operating Costs for 100,000 and 200,000 ton per year production rates.

A Financial Analysis has been included to indicate reserves required for viable operations at different metal prices and operating rates. An assumed grade of 20 ounce troy silver has been used in this analysis. If another grade is used, the metal price would have to be increased by a similar percentage to maintain the same net smelter return for the analysis.

We trust that this Pre-Feasibility Study will assist you in your assessment of the Project.

Yours truly,

KILBORN ENGINEERING (B. C.) LTD.

J. B. Fairbairn, P.Eng.
Manager, Mining Engineering

JBF/bj

PACIFIC CASSIAR LIMITED

PORTER IDAHO PROJECT

PRE-FEASIBILITY STUDY

SUBMITTED BY:

KILBORN ENGINEERING (B.C.) LTD.
101 - 1199 West Pender Street
Vancouver, B.C.
V6E 2R1

MARCH, 1982

PACIFIC CASSIAR LIMITED

PORTER IDAHO PROJECT

PRE-FEASIBILITY STUDY

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1.0 INTRODUCTION

following Report, comprising an evaluation of the Porter Idaho Property near ewart, British Columbia, has been prepared at the request of Mr. Steve Vavra, esident of Pacific Cassiar Limited, and has been compiled by Kilborn Engineering . C.) Ltd.

methods used to exploit the deposit during previous operations in 1930 volved:

) Basing men in a camp situated at the mine.

) Transporting direct smelting ore down (by aerial tramline) to tidewater for shipment.

) Transporting material (and it is reported, men) up to the mine by aerial tramline.

) Selectively mining narrow widths of high grade ore using labour intensive methods.

en studying the potential reopening of the mine, these methods used during evious operations in 1930 would not be considered effective today. A new proach appears to be advisable as follows:

) Base employees in Stewart, British Columbia.

) Develop an year-round access to the mine.

) Concentrate the ore up at the mine.

) Use mechanized mining methods.

) Mine lower grade material over greater widths.

wever, before a new approach to mining can be used, there must be a major ploration program to confirm a new mine. Before a major exploration program n be started, a means of access must be provided for the men, equipment and pplies.

2.0 SUMMARY

SCOPE OF STUDY

This Report indicates the technical and economic problems associated with bringing the Porter Idaho Property into production.

The study provides conceptual designs for the mine, mill and support facilities and services required for production.

The preliminary work is in sufficient detail to permit capital and operating cost estimates.

The information contained in this study allows an estimate to be made of the reserves required to provide the desired cash flow.

CAPITAL COST SUMMARY

This study is meant to provide guidance as to the monies required to start a profitable mine on the Porter Idaho Property. Unit costs used in estimating were based on other operations; however, the units were taken from drawings of this hypothetical mine.

Table 2.2.1 is a summary list of the Capital Costs for a 100,000 ton per year mine, plant, and infrastructure; Table 2.2.2 lists the Capital Costs for a 200,000 ton per year operation. These costs are in 1981 dollars.

OPERATING COST SUMMARY

The Operating Costs for a mining operation in this area tend to be higher than in the more settled areas of the Province. Table 2.3.1 is a summary of estimated annual Operating Costs for a 100,000 ton per year operation. Table 2.3.2 is a summary of estimated annual Operating Costs for a 200,000 ton per year operation.

TABLE 2.2.1

CAPITAL COST SUMMARY
(100,000 t/y)

Item	Cost
[redacted] Adit	$ 1,500,000
[redacted] Road	600,000
[redacted]ft	955,000
[redacted]r Permanent Mine Development	1,945,000
[redacted]l Excavation	925,000
[redacted]ineering and Contract Supervision (On Excavation)	815,000
[redacted]tingency (On Excavation)	1,100,000
[redacted] Equipment and Installation	1,700,000
[redacted]ling Equipment	2,550,000
[redacted]ling Equipment Installation	900,000
[redacted]ineering and Construction Supervision (On Milling Equipment)	630,000
[redacted]tingency (On Milling Equipment)	630,000
[redacted]r Supply	800,000
[redacted]vice Equipment	450,000
[redacted]sing Subsidies (Allowance)	1,500,000
[redacted]Total	$ 17,000,000
[redacted]erest During Construction	$ 2,550,000
[redacted]AL CAPITAL COST	$ 19,550,000

TABLE 2.2.2

CAPITAL COST SUMMARY
(200,000 t/y)

Item	Cost
cess Adit	$ 1,500,000
cess Road	600,000
aft	955,000
her Permanent Mine Development	4,055,000
l Excavation	2,290,000
gineering and Contract Supervision (On Excavation)	1,400,000
ntingency (On Excavation)	1,700,000
ne Equipment and Installation	2,400,000
lling Equipment	4,050,000
lling Equipment Installation	1,400,000
gineering and Construction Supervision (On Milling Equipment)	1,150,000
ntingency (On Milling Equipment)	1,150,000
wer Supply	1,300,000
rvice Equipment	550,000
using Subsidies (Allowance)	2,000,000
btotal	$ 26,500,000
terest During Construction	$ 3,975,000
TAL CAPITAL COST	$ 30,475,000

TABLE 2.3.1

OPERATING COST SUMMARY
(100,000 t/y)

Item	Annual Cost
ining Salaries and Wages	$ 4,500,000
ining Supplies and Expenses	2,700,000
btotal	$ 7,200,000
72.00 per Ton Mined)	
lling Salaries and Wages	$ 1,250,000
lling Supplies and Expenses	1,450,000
btotal	$ 2,700,000
27.00 per Ton Milled)	
ministration and General Salaries and Wages	$ 400,000
ministration Supplies and Expenses	1,300,000
rketing Expenses	3,400,000
btotal	$ 5,100,000
TAL OPERATING COST	$ 15,000,000
150.00 per Ton of Ore Produced)	

TABLE 2.3.2

OPERATING COST SUMMARY
(200,000 t/y)

Item	Annual Cost
ing Salaries and Wages	$ 5,400,000
ing Supplies and Expenses	3,600,000
total	$ 9,000,000
5.00 per Ton Mined)	
ling Salaries and Wages	$ 1,500,000
ling Supplies and Expenses	2,300,000
total	$ 3,800,000
9.00 per Ton Milled)	
inistration and General Salaries and Wages	$ 600,000
inistration Supplies and Expenses	1,800,000
keting Expenses	6,800,000
total	$ 9,200,000
TAL OPERATING COST	$ 22,000,000
110.00 per Ton of Ore Produced)	==========

FINANCIAL ANALYSES

Cash flow tables were made up for a hypothetical mine (recovered grade of 20 ounces of silver per ton), at two mining rates (100,000 and 200,000 tons per year), and at silver prices in $5.00 increments (from $10.00 Canadian to $30.00 Canadian per troy ounce).

For a mining rate of 100,000 tons per year, Graph 'A' presents a comparison of the cash flow tables and is summarized as follows:

TABLE A

Dollars per Ounce Ag	Payout Time	Payout Tonnage	Reserves Required (Suggested Minimum)
10.00	Indefinite		
15.00	21 Months	180,000	300,000 Tons
20.00	14 Months	110,000	180,000 Tons
25.00	10 Months	90,000	130,000 Tons
30.00	8 Months	70,000	100,000 Tons

It is indicated that a mining operation on this deposit will not become viable - under the conditions shown for Table A - until the selling price for silver is well in excess of $10.00 per troy ounce.

For the mining rate of 200,000 tons per year, Graph 'B' presents a comparison of the cash flow tables and is summarized as follows:

TABLE B

Dollars per Ounce Ag	Payout Time	Payout Tonnage	Reserves Required (Suggested Minimum)
10.00	29 Months	480,000	800,000 Tons
15.00	14 Months	230,000	350,000 Tons
20.00	10 Months	170,000	220,000 Tons
25.00	8 Months	140,000	190,000 Tons
30.00	6 Months	100,000	150,000 Tons

It is indicated that a mining operation on this deposit is viable - under the conditions shown for Graph B - for selling prices of silver of $10.00 Canadian, or greater, per troy ounce.

(In the above-mentioned summaries, the suggested minimum reserves are based on return of capital plus 50 percent.)

Graph 'C' illustrates the comparitive payout times for the two mining rates - based on a recovered value per ton of ore treated. The 200,000 ton annual mining rate pays out much more quickly than the 100,000 ton rate; this is attributable to the combined effect of lower unit costs in production and the lower development costs per annual ton. Production costs are a function of the assumed width of the ore zones, and development costs consider that the initial cost of getting to the ore zones is the same for both cases.

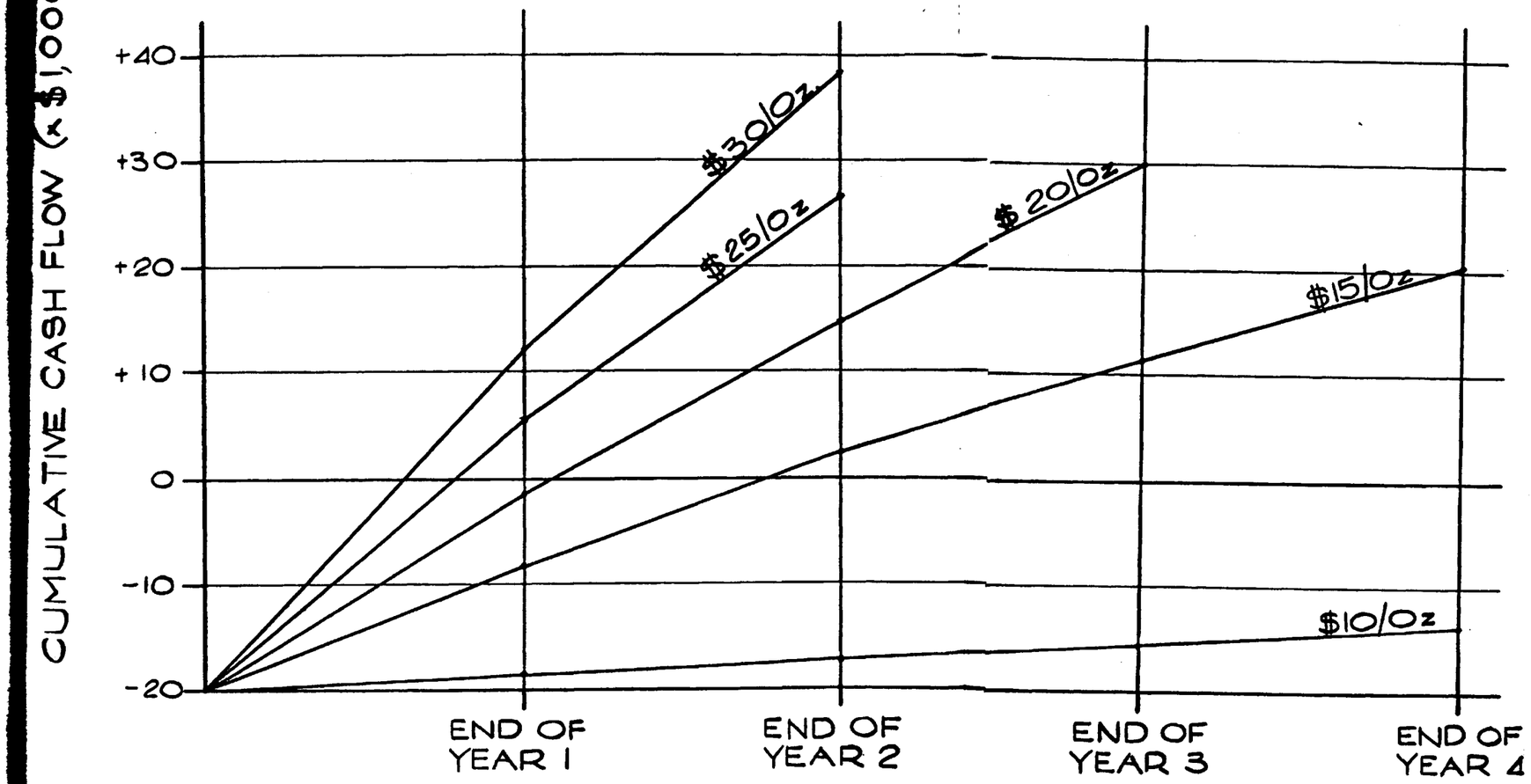
CONCLUSIONS

It has been assumed that a profitable mining operation, for this Report will pay back the initial expenditures which will be 100 percent debt financed, the interest on these expenditures, at 20 percent, plus an additional income of at least 50 percent of the initial expenditure.

It is indicated that the Porter Idaho Project can be developed as a profitable mining operation at the rate of 100,000 tons per year, if the net smelter return, F.O.B. job site, exceeds $250.00 per ton of ore - approximately 300,000 tons of ore must be available for treatment. (The tonnage of ore that must be available, decreases rapidly as the net smelter return values exceed $250.00 per ton.)

It also is indicated that the Porter Idaho Project can be developed as a profitable mining operation at the rate of 200,000 tons per year if the net smelter return values exceed $200.00 per ton, approximately 800,000 tons of ore must be available for treatment. (The tonnage of ore that must be available, decreases rapidly as the 'paid for' values exceed $200.00 per ton.)

100,000 TONS/YEAR, 20 OUNCES SILVER (RECOVERED/TON).
NO EQUITY, ALL BORROWED MONEY AT 20% COMPOUNDED ANNUALLY, INTEREST IS AN OPERATING EXPENSE.
DEVELOPMENT WRITTEN OFF AS CONVENIENT.
PREVIOUS EXPLORATION WRITTEN OFF AS CONVENIENT.
CAPITAL WRITTEN OFF AT 30% ON DECLINING BALANCE.
TAXES AT 40% NET PROFIT.



REVISIONS	No	DATE	BY

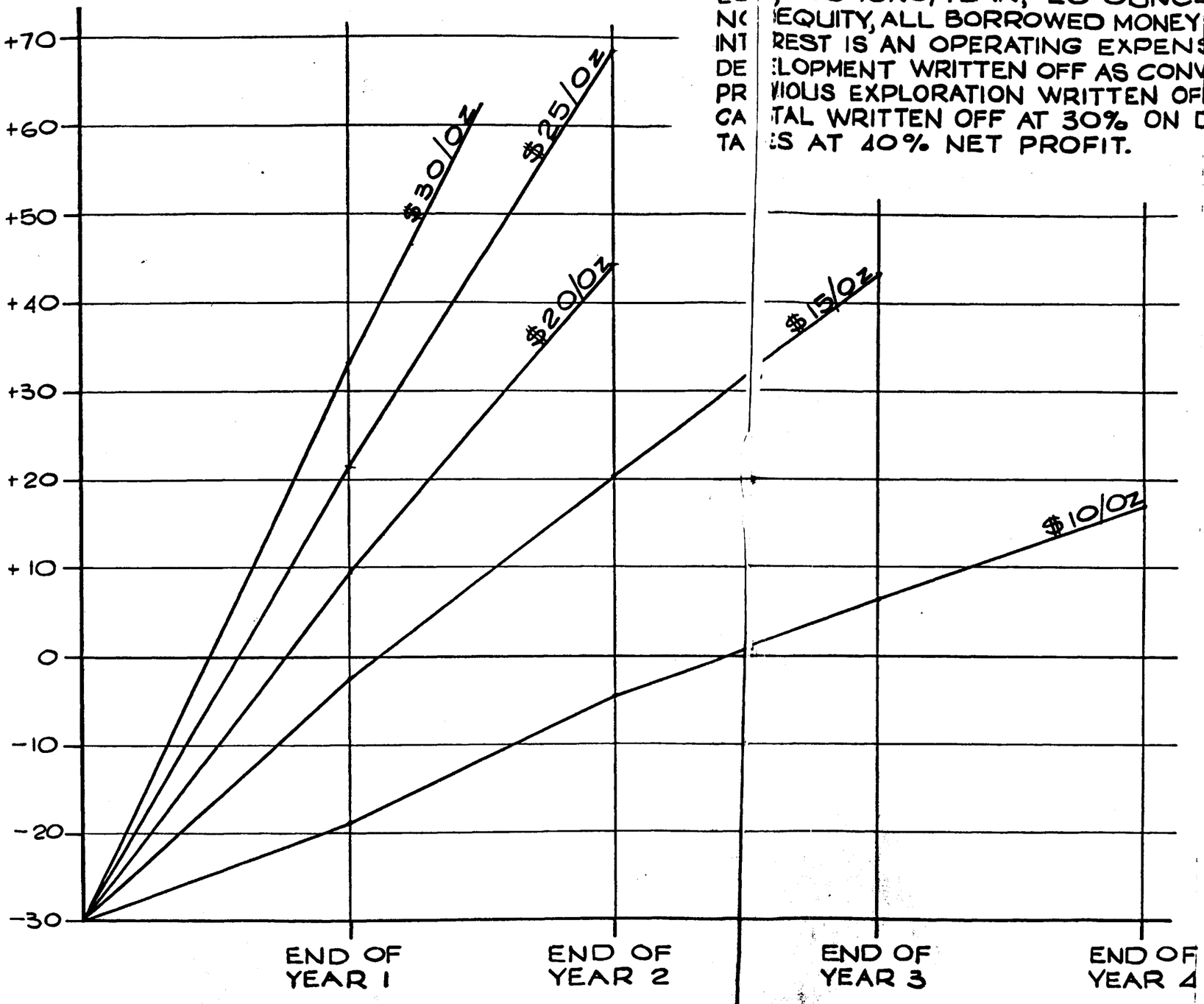
SCALE
DESIGNED H.F.B.
DRAWN P.A.H.
CHECKED
APPROVED

CLIENT PACIFIC CASSIAR LIMITED
LOCATION STEWART B.C.
KILBORN

PORTER IDAHO PROJECT
100,000 TONS PER YEAR
CASH FLOW AND PAYOUT

PROJ. No 7559 | DWG. No. GRAPH 'A' | REV.

20,000 TONS/YEAR, 20 OUNCES SILVER (RECOVERED/TON).
NO EQUITY, ALL BORROWED MONEY AT 20% COMPOUNDED ANNUALLY,
INTEREST IS AN OPERATING EXPENSE.
DEVELOPMENT WRITTEN OFF AS CONVENIENT.
PREVIOUS EXPLORATION WRITTEN OFF AS CONVENIENT.
CAPITAL WRITTEN OFF AT 30% ON DECLINING BALANCE.
TAXES AT 40% NET PROFIT.



REVISIONS	No	DATE	BY	SCALE		DATE	
				DESIGNED	H.F.B.	NOV.81	
				DRAWN	P.A.H.	NOV.81	
				CHECKED			
				APPROVED			

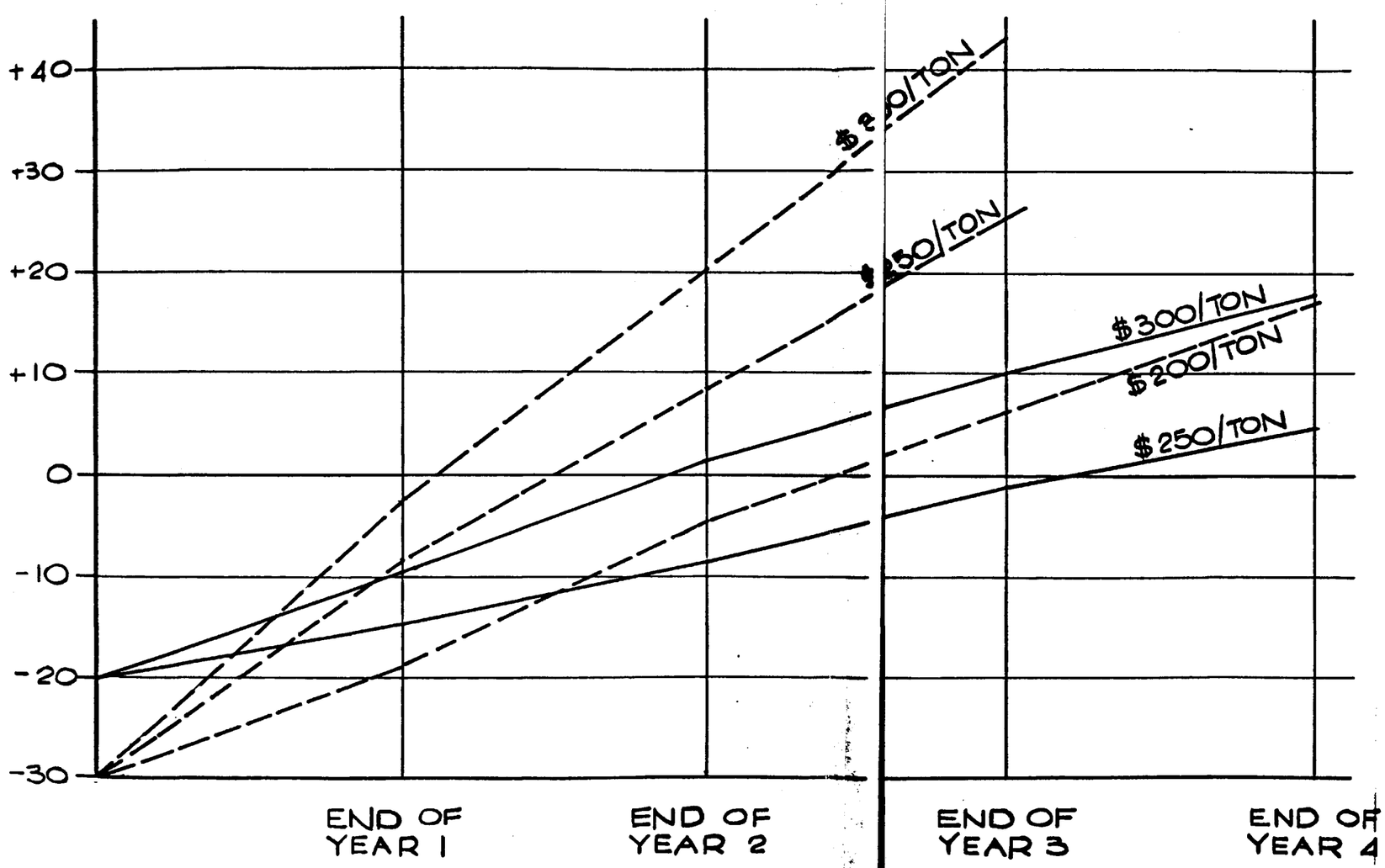
CLIENT: PACIFIC CASSIAR LIMITED
LOCATION: STEWART B.C.

KILBORN

PORTER IDAHO PROJECT
200,000 TONS PER YEAR
CASH FLOW AND PAYOUT

PROJ. No. 7559 | DWG. No. GRAPH 'B' | REV.

NET VALUES OF ORE AT $300, $250 AND $200 PER TON.
NO EQUITY, ALL BORROWED MONEY AT 20% COMPOUNDED ANNUALLY,
INTEREST IS AN OPERATING EXPENSE.
DEVELOPMENT WRITTEN OFF AS CONVENIENT.
PREVIOUS EXPLORATION WRITTEN OFF AS CONVENIENT.
CAPITAL WRITTEN OFF AT 30% ON DECLINING BALANCE.
TAXES AT 40% NET PROFIT.
——— 100,000 TONS PER YEAR.
– – – – 200,000 TONS PER YEAR.



REVISIONS	No	DATE	BY

SCALE
DESIGNED H.F.B. NO
DRAWN P.A.H. NO
CHECKED
APPROVED

CLIENT
PACIFIC CASSIAR LIMITED
LOCATION STEWART B.C.

KILBORN

PORTER IDAHO PROJECT
100,000 VS 200,000 TONS PER YEAR
CASHFLOW AND PAYOUT
COMPARASION

PROJ. No 7559 | DWG. No. GRAPH 'C' | REV.

RECOMMENDED PROCEDURE

The following is the recommended sequence of activities to bring the mine into production:

(a) A tractor trail will be built up to the target exploration area, see Drawing No. 100-10-F1. Part of the trail will be at 10 percent grade (suitable for incorporation later into a year-round road), and the remainder of the trail will be at grades up to 25 percent. It is assumed that most of the trail can be constructed by a heavy bulldozer with ripper, however an allowance has been included for blasting.

(b) Equipment and supplies will be brought up the tractor trail for a major exploration program (up to 5000 feet of drifting and raising, and 20,000 feet of diamond drilling).

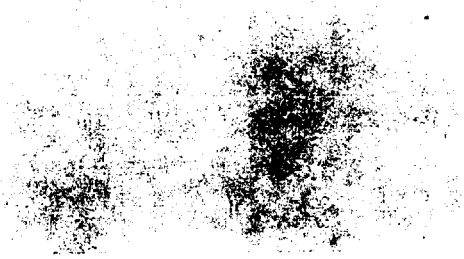
During the exploration phase, personnel will be accommodated in camps near the portals. Transportation (of personnel) in and out of camp will be by helicopter, or by four-wheel drive, over the tractor trail.

(c) A feasibility study will be carried out, based on a successful exploration program.

Note: It is now assumed that the study indicates a profitable 100,000 or 200,000 ton per year mining operation.

(d) After a decision is made to proceed to production, the tractor trail, up to the 'production portal' site, will be upgraded to a year-round road (10 percent grade).

An adit will be driven from the 'production portal' to a point under the potential ore zones. Concurrently, mine development will be carried out from the upper portals to reduce the development period prior to production.



Mine development will include a vertical shaft servicing the mining horizons and connecting with the termination of the adit.

Excavation for a concentrator will be made at selected locations near the lower limit of the shaft.

Concentrator, hoist room, and underground mine service facilities will be close together; this will allow for transportation of personnel (by vehicle) to a single point.

3.0 THE PROPERTY

LOCATION

The Porter Idaho Property is located in the Portland Canal Mining Division, approximately 3 miles southeast of the Town of Stewart, British Columbia.

The Property is made up of three groups of claims, each of which was owned and operated by a separate mining organization. These three groups were known as the Porter Idaho, Prosperity and Silverado.

The Porter Idaho and Prosperity Groups are situated on the northerly side of the north fork of the Marmot River and extend from the Marmot Glacier to the approximate summit of the ridge which joins Mounts Rainey and McGee. The terrain above this ridge is ice capped. The easterly boundary is approximately 3 miles, nearly due east, from the British Columbia-Alaska boundary line at Hyder. The Silverado Group extends from near the east shore of the Portland Canal, approximately 1 mile south from the Town of Stewart, over the summit and across the ice cap to make contiguous contact with the northerly boundary of the Prosperity Group.

TOPOGRAPHY

Mount Rainey rises directly from tide water, at the head of the Portland Canal, to an altitude of 6550 feet in a horizontal distance of 2 miles. The Marmot River flows into the Canal from the east approximately 4 miles southerly from Stewart. Three miles from its mouth, the River forks and the north fork occupies a glacier-filled, precipitous valley which trends approximately northeast or nearly parallel with the course of the Canal. The properties lie athwart the high divide extending from an altitude of approximately 2900 feet at the northerly rim of the Marmot Glacier, up slopes averaging close to 37 degrees, to the rim of the ice cap approximately 6000 feet or

higher in altitude, across the ice cap and westerly down over the slopes of Mount Rainey nearly to the Canal. Certain areas are precipitous but being, for the most part, above timberline and, to a large extent, without vegetation of consequence, that part of the area not covered by the ice cap was relatively easy to prospect.

The Marmot Glacier is a valley spillover from the Cambria ice fields which blanket many square miles of high territory. The Kitsault Glacier, 18 miles southwest of the Marmot Glacier, is another spillover from the same ice fields. The Kitsault Glacier is the source of the River which flows into the head of Alice Arm. The topographic features of the Properties are of particular importance because of their bearing on circumstances affecting mining operations.

CLIMATE

The average annual precipitation at Stewart, British Columbia, is approximately 75 inches, which figure includes the water from an average snowfall of approximately 220 inches. At sea level, the snowfall period usually begins in November and continues until late March or early April. Light snowfall or snow flurries may occur during any month of the year on the high summits. January is the coldest month; in this month, in 1917, a record low temperature of minus 35 degrees Celsius was registered at Stewart. Precipitation and, to a lesser extent, temperatures vary more or less directly according to the altitude. At the Porter Idaho Property, Prosperity camps and working sites, the temperatures, during winters, are no particular impediment to operations but snow builds up to great depths and snow sheds are necessary at all tunnel portals.

The higher portions of the Properties, except for the ice fields, are usually more or less free of snow from July until late in October. While climatic conditions are rigorous, the properties were successfully operated by Premier Gold Mines Ltd. during the winters. Comfortable camps, conveniently placed plant buildings, snow sheds, covered runways to portals of working adits and aerial tramway trans-

port having been provided, underground operations were carried forward without extraordinary difficulty and, presumably, at reasonable cost.

HISTORY

The first claims of the Porter Idaho Group were staked by Clay Porter and Associates in approximately 1921. In the following years, development was carried forward on two veins more or less continuously during the open seasons. Work was carried on during one winter. A very considerable amount of work, in the aggregate, was completed. Transport was by pack animals. During this time, nearly 500 tons of crude, hand sorted ore was packed out and shipped. Assays were from approximately 250 to 400 ounces silver to the ton, on the ore shipped.

Prosperity was staked in 1926 and the discovery outcrops were recognized as being continuations of Porter Idaho veins. A shipment was made of ore from the original outcrop. Approximately 29 tons, assayed approximately 415 ounces silver to the ton.

Early in 1928, both the Porter Idaho and Prosperity Groups came under control of Premier Gold Mines Ltd. Premier acquired a 60 percent interest in the Porter Idaho Property and agreed to spend $500,000 in providing transport facilities, mining plant, and development. It also acquired an 80 percent interest in the Prosperity Group. Construction of the aerial tramway began in the same year. The tramway was completed in September, 1929. The power plant and transmission line installations were completed around the same time, and in November and December of this year, 1650 tons or ore was shipped; which averaged approximately 66 ounces per ton in silver. In this same year, a steam heated camp was built; the 1200 cubic foot per minute compressor with its motor drive and other mining equipment was installed. In the year 1930, the ore shipped was reported as 18,049 tons containing 348 ounces gold, 1,364,729 ounces of silver and 916,135 pounds lead. The average values were 0.015 ounces per ton gold, 75 ounces per ton silver, and 2.5 percent lead. Most of this ore was from the Prosperity section.

In this year, the Prosperity Property was the third largest silver producer in the Province. Development and production operations continued until early in April 1931, when due to the low price of silver, which had dropped to $0.28 per ounce, all production was suspended. Two watchmen were continuously maintained on the Properties for a period of approximately 11 years.

The American Smelting and Refining Company, the controlling interest holders in Premier Gold Mines Ltd., having decided to liquidate their northern British Columbia holdings, the Properties were acquired by the Big Four Silver Mines Company in 1946.

The mine workings of the Porter Idaho - Prosperity section are on the Nettie L, Lucille, Prosperity, Gargoyle Fraction, Sunday and Teapot Dome claims. Ore production has been mainly from the Nettie L and Prosperity claims. The aggregate length of workings has been estimated at approximately 15,000 feet. All mine entries are adits; there is only one shallow winze in the mine.

The mine workings partly explore and develop an area roughly 3000 feet in a north-northwest, south-southeast direction by 1750 feet in a northeast-southwest direction. The workings extend in altitude from 4220 feet to 5750 feet; a vertical interval of more than 1000 feet. At four points, three being on the Gargoyle Fraction and one on the Teapot Dome, workings are at or near the southerly rim of the ice cap.

The upper main adit, known as the No. 3 Tunnel is near the westerly corner of the Sunday claim at an altitude of 5085 feet. At approximately the 550 foot point, the adit swings westerly and continuous for a distance of approximately 1200 feet to the present face. Except for the wide angled turn at the 550 foot point, this adit is straight throughout. The D Vein was intersected at or near the 550 foot point; it was drifted on northerly for a distance of 300 feet through shear structure. Though it exposes short lengths of narrow high

grade sulphides, no stoping was done. At approximately the 1050 foot point, the 'Blind' Vein was intersected. This Vein was drifted out 700 feet to the north and approximately 425 feet southerly. Ore was encountered at the Vein intersection with the adit, and in the east corner of the Prosperity claim, and extending south on the Nettie L claim over a length of approximately 150 feet. This shoot was worked extensively through two raises and sublevels above the No. 3 level; other high grade sections on this drift were also stoped to a much lesser extent. Approximately 1700 feet from the portal, the Prosperity Vein was cut. It was drifted out 750 feet northerly and approximately 650 feet southerly to daylight in a canyon on the Lucille claim. Due to the resulting natural ventilation, this southerly drift is now choked with ice. This drift encountered good ore similar to that of the Blind Vein. A winze was sunk a depth of 50 feet on the main orebody. According to the Mine Superintendent's reports however, the ore, though of a satisfactory grade, was mashed and gougy in character and difficult to mine and handle by the selective methods being used. This is the only winze in the mine. Except for the winze work, the downward extensions of the orebodies on the No. 3 level; except, of course, for D Vein, are intact.

At an elevation of 5392 feet, or approximately 300 feet higher than the No. 3 Tunnel, the No. 1 Tunnel has been driven. This working cuts the Prosperity Vein at a distance of 200 feet from the portal. It is drifted out northerly; a distance of approximately 1200 feet, and southerly (towards daylight) approximately 125 feet.

The C Tunnel, at an elevation of 5246 feet, has been driven on the Prosperity Vein a distance of 1200 feet. It also exposes a fourth vein which is opened over a length of 500 feet. Mine workings located southerly from the main transport adit could not be inspected due to accumulations of ice. It will be understood that the terrain on the northerly side of the No. 3 adit forms part of the westerly side of Mount Rainey and that it slopes upwards at angles averaging 35 to 40 degrees.

At an elevation of 4691 feet, nearly 400 feet vertically below the No. 3 Tunnel, is the D Tunnel. This follows well defined shear structure from the portal to the face; a distance of approximately 1400 feet. In the first 700 feet of the drive, a number of narrow 'spots' and short lengths of good ore occur which have not been investigated by raises. Commencing at approximately the 800 foot point, two closely spaced shoots with a maximum width of up to 35 feet were encountered. The length of these two shoots aggregates approximately 200 feet. A 300 foot inclined raise and sublevels developed this shoot and ore production amounting to approximately 5000 tons of 'selected' ore was mined and shipped.

At least two, and possibly more, veins occur near the southerly corner of the Nettie L claim. Four tunnels with somewhat extensive workings, including connecting raises, were driven by the original owners of this Property. It was largely from these workings that the 500 tons of high grade ore was shipped prior to 1928. Elevations range from 4360 to 4511 feet. These workings are partly sloughed and, in places, blocked with ice. At the time when this work was underway, ore assaying 100 ounces per ton or lower was thrown over dumps since, under the circumstances then obtaining, it was valueless.

The 'I' Tunnel, at an elevation of 4222 feet, or 469 vertically lower than the D Tunnel, is believed to have been driven on the D Tunnel shear structure. An exploratory drift makes connection with the older Porter Idaho workings. The main working follows the shear structure northerly for a distance of 1500 feet and the present face is nearly beneath, on the dip, the southerly end of the ore shoot which was worked above the D Tunnel level. The distance measured on the dip between D and I levels is approximately 550 feet. All this vein area is virgin. Premier Gold Mines Ltd. was driving the I Tunnel, for the downward extension of the D Tunnel orebodies, at the time the decision to cease operations was made.

During 1949, the Big Four Silver Mines Company drove a shallow adit on a similar type of shear structure to the others. This adit is approximately parallel to the other adit; it is located a little to the east of the upper camp. A high grade lense of ore yielded approximately 7 tons of hand sorted ore over a length of approximately 25 feet.

In 1952 Cassiar Consolidated Mines Limited assumed control of the Big Four Silver Mines property and they partly rehabilitated the E, D and I level adits. The Property is now held by Pacific Cassiar Limited, which is the successor Company to Cassiar Consolidated Mines Limited.

Following the recommendations of Mr. Walter E. Clarke in his Report of May 1980, an exploration program was started.

The 1980 program began in early August and ended in October. A trailer and tent camp was established at the D level.

The D level workings, including raises and subdrifts above the level, were rehabilitated and washed for geological mapping and sampling.

On the No. 3 level, the 301 and 303 drifts were rehabilitated. No rehabilitation was done on the I level, however, the workings were all accessible.

The program, recommended by Mr. Clarke, continued in 1981 from a camp established at the No. 3 level.

4.0 GEOLOGY AND MINERAL RESERVES

GEOLOGY

A Report prepared by Mr. B.W.W. McDougall in 1950 has been used in the preparation of this Pre-Feasibility Study, in regards to topography, climate and history of the Deposit. The following are geological descriptions taken from Mr. B.W.W. McDougall's Report:

'The waterway or inlet known as the Portland Canal extends northerly and inland from the Pacific at Dixon Entrance for a distance of 90 miles. It cuts across the Coast Range batholith and reaches into territory lying on the northeast flank of the great body of intrusive rocks.

The batholitic rocks which extend northwesterly from Observatory Inlet and east of the Canal are overlain by large remnants of older (Triassic to Lower Cretaceous) sedimentaries and volcanics.

In the vicinity of the Marmot River, the batholith plunges northeasterly and the northeastern area indicates only few and relatively small areas of granodiorite though there are innumerable dykes.

It is in this area, underlain immediately by Bear River Formation rocks, (Hazelton Group), that most of the ore deposits occur. It is of interest to note, also, that many of the most important gold and silver mines of the Province are situated on the eastern flank of the Coast Range batholith.

The claims of the Porter Idaho and Prosperity Groups are underlain by Triassic volcanics of the Bear River Formation. These are principally andesites, tuffs, agglomerates, breccias and minor rhyolites. These rocks are older than the batholith but are cut by numbers of lamprophyre dykes which are younger than the orebodies. The general strike of the volcanic rocks is northeasterly and the dip northwesterly.

Ore bearing shear zones occur in a belt of general shearing which appears to cross the properties in a northerly direction. These shears attain widths up to 35 feet but, in general, the widths are considerably narrower. Sulphides occur, within the ore shoot areas, in somewhat erratic manner. Several of the shear structures have been extensively developed. Dykes of lamprophyre occur in some abundance cutting across both rocks and ore bearing shears.

The shear structures are highly oxidized down to the greatest depth reached by development workings, (750 feet). In many places this oxidation is so intense as to obscure structure and even ore minerals and some of the highest grade ore extracted consisted of this highly oxidized material. Ore minerals include galena, pyrite, sphalerite, grey copper (probably freibergite), ruby silver and native silver. The gangue is largely sheared and silicified country rock - there is comparatively little vein quartz. There has undoubtedly been considerable supergene enrichment of silver but much of the sulphide content is, undoubtedly, primary.

The relative abundance of silver minerals strongly suggests a temperature sequence zoning of sulphide minerals which would indicate that the Mount Rainey area occupies a high position in the original ore columns. It has not yet been determined to what depth these silver bearing sulphides may be expected to extend. Secondary silver enrichment may, of course, be expected to extend well into the base metal zone - depending on the porosity of the shear structures.

Some 6 silver bearing shear structures are opened by the present workings. Of these, 4 are more or less parallel and have a general north-northwest strike and a dip of 50-70 degrees westerly. Two are somewhat irregular as to course but appear to have a general north-northeast strike and a westerly dip. At least two shear systems traverse the area and in directions about parallel to the ore bearing shears. It seems plain that the multiple intersections of the two systems have had important influence on ore deposition and to the localization of ore shoots.

The surface rocks over the area explored by the mine workings are volcanics of which a particularly conspicuous variety is a tuffaceous agglomerate. Underground, oxidized products of both country rock and sulphide bearing shear structures often rather effectively masks host rock identification. The rock formations are sheared over wide areas and, probably for this reason, are very pervious. Heavy oxidation persists to the lowest horizons yet reached and, I think, this condition may be expected to extend to much greater depths.

In ore shoot areas in the shear zones, ore mineralization is observed to occur irregularly over widths up to 35 feet. More commonly, widths are less than half as great. Walls may terminate at a gouge streak but, in some instances, even this indication is lacking. The most obvious silver bearing minerals are galena and blende which, invariably, carry high silver values. These minerals occur in small bunches, thin streaks and, in places, in solid bands more than one foot in width. Usually, but not invariably, these more massive sulphide occurrences follow one or both walls.

It is probable that, in the apparently clean galena, argentite occurs in more or less solid solution. In addition to the 'visable' ore, there are occasional streaks of oxidized materials which assay high in silver. Some of the shipments made by the original Porter Idaho Owners consisted almost entirely of this oxidized materiel.

Drifts which follow shear structures outside of the definite ore shoot zones frequently reveal narrow widths of high grade sulphides. The shears are persistent in strike and dip and in no case have they been known to fade out or disappear.'

MINERAL RESERVES

Mr. B.W.W. McDougall's Report also states that ore containing 'about 2,200,000 ounces of silver' were produced 'from the Porter Idaho and Prosperity properties'; and that 'it is...' 'quite reasonable to expect that there is as much silver in ores located in the immediate vicinities of present workings as has already been expected.'

Also, the current exploration program has shown mineralized material, over good widths (average 15 feet), on the Prosperity Vein in the 305 south drift. However, until the vertical continuities of the mineralized sections are confirmed, very little tonnage may be classified as mineral reserves. This requirement, for establishing the vertical continuity, applies both to the current program in the 305 south drift, and to any downdip extensions of the Prosperity, Blind and D Veins.

In our opinion, for this Deposit, mineral reserves to be considered as proven, must be blocked out on three sides by drifting and raising. If adequate drilling information is available, blocking out on two sides may be sufficient in particular instances. Again, for this Deposit, it is considered that at least the payout tonnages, (Item 2.4 - 'Financial Analyses', Tables 'A' and 'B'), must be classified as proven reserves before mine development is started; the balance of the suggested minimum reserves could be classified as probable, which would allow for projecting a reasonable distance on geologic evidence.

There are virtually no proven or probable mineral reserves at present. However, if a program of drifting and raising is concentrated in the best known areas, the required minimum tonnages could be proven with a relatively small amount of development footage.

5.0 MINE

GENERAL

A visit to the Porter Idaho Property was made by Mr. A. E. Stephansson on August 18th, 1981, in the company of Messrs. M. Kenyon and W. Clarke.

The visit consisted of a short flight around Mount Rainey and a walk through part of 3 level. It served the purpose of obtaining a conception of the topography and of the competency of the underground rocks.

Due to the extremely rugged terrain and high precipitation, and with the danger of rock and snow slides, the rock and concentrate should be transported as close as possible to sea level via underground tunnels, Drawing Nos. 100-10-F1 and 200-05-F1 show conceived development.

GEOLOGY

The mineralization occurs as sinuous fissure veins in shear and breccia zones, and the rocks are generally blocky and incompetent.

The veins trend northerly to northwesterly and dip 55 degrees to 65 degrees west.

MINING PLAN

Access

Initial access to the mine during development will be existing adits. These will be used during the development stage.

From a review of alternate access systems, it has been determined that the most cost effective approach will be to drive a major adit below the known ore from the North side of Mount Rainey and develop an internal shaft to service the various mining levels. This adit and shaft will be developed as shown on Drawing No. 200-05-F1.

5.3.2 Ventilation

The main ventilation circuit will be as follows:

(a) Fresh air will be heated to above freezing and enter the mine through the main entrance adit;

(b) At the mill camp, some of the air will be bled off to ventilate the mill and shop area and be exhausted to surface;

(c) The remaining air will flow up through the service shaft and be directed through the working levels and stopes as required;

(d) All air from the mine will exhaust from the existing mine adits, after use.

5.3.3 Mining Method

The mining method recommended is cut and fill using slushers or L.H.D. units, steel mill holes, and mucking machine drawpoints or chutes at the mill holes on the haulage levels, Drawing No. 200-05-F2.

The stopes will be mined by horizontal breasting with air leg drills. The stope muck will be moved to the mill holes by slushers or L.H.D. units. The walls and backs will be supported by rock bolts and wire mesh as required.

Productivity within the stope is estimated at 12.5 tons per manshift at the 100,000 tons per year product rate.

5.3.4 Ore Haulage

The broken ore from the stopes will be hauled in 3 ton rock type cars, pulled by 3 ton battery locomotives. The track will be 36-inch gauge, 40 pounds per yard rail.

The cars will be dumped through grizzlies on the haulage levels into an orepass raise which will feed directly to the coarse ore bin.

SERVICES

Personnel and material will be transported from Stewart, British Columbia by vans and trucks to the portal at the 3000 foot elevation, then up a tunnel to the location of a shaft.

The shaft will be established by raise boring down from the upper haulage on 3 level to the access tunnel. It will consist of two 5 foot by 5 foot compartments, and will be serviced by a single drum hoist; the hoist will have all electrical and mechanical safety devices as required by the Mines Act of the Province of British Columbia.

The shaft will be connected to the 3, D, and I levels by entrance drifts or crosscuts.

Maintenance and repair shops for mine equipment will be located in the access tunnel in an area close to the bottom of the shaft.

A radial arm saw and bench will be provided in a timber storage area.

Explosive storage capacity will be dependent on the service provided by suppliers. Suitable magazines will be located underground.

Compressed air will be supplied to the mine by two 1500 cubic foot per minute stationary compressors located near the underground shop.

Telephone communication will be provided between the office in Stewart, the mill, mine hoist room and mine levels.

Lighting in all areas will be to the requirements of inspection authorities and to good standard practice.

Substations will be located, as required, in the underground workings.

6.0 PROCESSING PLANT

6.1 METALLURGY

The previous operations on the Porter Idaho Deposit produced direct smelting ore which was concentrated by hand sorting. While this Report was being prepared, Kamloops Research and Assay Laboratories Limited and Met Engineers Ltd., had completed some initial test work on the ore. Test work has indicated that the ore is amenable to concentration by flotation. For this study, a concentration ratio of 5:1 has been assumed.

The following test work is recommended:

(a) Flotation tests at different size distributions to determine the effect of grinding on recovery.

(b) Flotation tests using different reagents to determine the effect on recovery.

(c) Flotation tests to determine optimum retention times and concentration ratios.

(d) Grinding tests to determine horsepower requirements and grinding mill size.

(e) Thickening and filtration tests to permit equipment sizing.

The bulk sample requirements will be approximately 500 pounds for the laboratory testing. This sample will require crushing and mixing to provide a uniform sample.

Head samples, tailings samples and concentrate grades will require analysis for the following:

(a) Potential metals - gold, silver, copper, lead and zinc.

(b) Potentially deleterious elements - mercury, arsenic, antimony, bismuth, iron, sulphur and silica.

6.2 PROCESS DESCRIPTION

In developing the capital and operating costs for this study, the following processes were considered:

6.2.1 Plant Structure

The required plant structures to contain the process plant will be underground excavations, which will be accessed from the main access adit shown on Drawing No. 200-05-F1. An evaluation of placing the plant underground versus locating the plant underground, indicated that because of topography, avalanche potential, difficulty in transportion, and the necessity for backfill in the mining method - an underground location would be preferable.

6.2.2 Ore Storage

Run-of-mine ore storage will consist of a 12,000 cubic foot bin, excavated within the mine workings. This bin will feed the crushing plant and allow one shift crushing plant operation. Crushed ore will be stored in a second 6,000 cubic foot excavation. This bin in turn, will feed the grinding circuit.

6.2.3 Crushing

The crushing plant will utilize two-stage crushing, incorporating a jaw crusher in open-circuit, followed by a shorthead cone crusher in open-circuit. The crushing plant will be sized to meet production demands in 5 shifts crushing per week.

6.2.4 Grinding

The grinding plant will consist of a ball mill in closed circuit with a cyclone. A jig will be located at the mill discharge to recover any coarse heavy particles liberated by grinding. Relatively high maintenance items, such as cyclones and feed pumps, will be duplicated with spare units to avoid excessive shutdowns.

6.2.5 Flotation

A bulk flotation concentrate will be produced. Rougher, cleaner and scavenger flotation cells will be installed. The cleaner tailings and scavenger concentrate will be returned to the grinding circuit for regrinding.

The flotation tailings will be deslimed through hydraulic cyclones, and the deslimed portion will be used as backfill in the mine. The slime fraction will be pumped to a slimes retention area.

6.2.6 Dewatering

The concentrate will be dewatered in a thickener-filter circuit. Thickener overflow and filtrate will be returned to the process water system for reuse.

6.2.7 Tailings Disposal

Tailings from the process will be pumped to deslime cyclones (two-stage) at the mine backfill storage tanks located in the upper mine workings. A deslimed coarse fraction will be stored in a retention storage tank until required in underground stope backfilling.

The slimes will be pumped to an impermeable impoundment basin. It is intended that water will be reclaimed from the tailings impoundment for reuse in the process.

7.0 SERVICES

Some of the Service facilities will be located at the entrance to the mine road, and some in the underground mill excavation.

At the entrance to the mine road, it is planned to locate the following:

(a) Parking Lot;
(b) Mine Office;
(c) Gate House;
(d) Concentrate Weighing;
(e) Material Receiving;
(f) Storage (for certain materials that cannot be kept underground in large quantities).

7.1 POWER

Electric power for the mine will be transmitted by a power line roughly parallel to the mine road. If power is not available from B.C. Hydro, then a diesel-electric generator, at the mine road entrance will supply the electricity.

7.2 GATE HOUSE

A fully manned gate house will control access to the mine, and the duties of the security man on shift will include:

(a) Recording of Shifts - In and Out;
(b) Maintaining Constant Communication With the Mine/Mill Complex;
(c) Monitoring of Power Supply;
(d) Dispatching of Road Service Equipment - Graders, Snowplows;
(e) Weighing and Recording Concentrate Loads;
(f) Control of All Traffic on the Road.

7.3 OFFICES

Administration and Accounting will be located in an office at the entrance of the mine road. The mine office and mill office will be located up in the underground mine/mill excavation; however, all permanent records, of the operations, will be stored in a vault in the Administration office.

7.4 WAREHOUSING

All supplies will be received at the gate and transferred, by Company personnel, to a storage warehouse in the underground complex - except for (for example), large quantities of fuels, reagents and explosives. Bulk storage for the last items will be provided at appropriate locations near the mine road entrance.

7.5 CHANGEHOUSE

The changehouse will be located in the underground complex. Employees will be transported in buses from the gate house.

7.6 MAINTENANCE FACILITIES

One small maintenance shop will be located underground to serve both the mine and the mill.

7.7 WATER

It is assumed that enough water can be gathered from the old workings to supply the process water. Water for washing will be treated and filtered, and potable water will be brought in daily.

7.8 SEWER AND DRAINAGE WATER

Several types of toilets are available that do not need a water supply; these will be used throughout the underground complex.

It is considered that only a small quantity of water will exit via the adit, however, a treatment facility will be required to bring this water to an acceptable standard for release.

7.9 FIRE PROTECTION

Fire protection in the underground complex will be by Company crews. On each shift, it will be arranged that enough trained employees are available to make up a fire brigade and a mine rescue crew.

7.10 AMBULANCE

A fully equipped ambulance (all wheel drive) will be kept at the underground warehouse.

8.0 INFRASTRUCTURE

It is assumed that many of the employees will reside in the Town of Stewart, British Columbia. Other employees may elect to stay 'single status' in Stewart, and maintain their permanent residences elsewhere; both Terrace and Smithers, British Columbia are within the range for commuting on days off or weekends.

A sum of $2,000,000 was included in the Estimate for employee accommodation subsidies; the monies required may vary, depending on the level of activity in the Stewart area at the time.

The Stewart area is accessible by sea, by air, and by road. Sea access is usually by freight barge up the Portland Canal from Prince Rupert, British Columbia. There is a daily air service from Prince Rupert (weather permitting), by aircraft capable of landing on land or water.

Highway 37, which runs from Hazelton up through Dease Lake and into the Northwest Territories (Hazelton is on the railway and the main highway connecting Prince George and Prince Rupert). Supplies for the mining operation probably will come from Prince George by road, or by sea from Vancouver through Prince Rupert.

9.0 ENVIRONMENTAL AND SOCIOECONOMIC CONSIDERATIONS

9.1 ENVIRONMENTAL CONSIDERATIONS

A limited quantity of waste rock, from the adit, must be disposed of outside the portal. This will be used to build up a flat area around the portal.

Every effort will be made to reuse the process water. A very small quantity will be discharged from the entrance portal; this discharge water will be treated to meet the applicable environmental protection standards.

The major environmental problem will be disposal of mill tailings. The cut and fill system of mining has been selected, and this reduces a great quantity of tailings to be disposed of. The finer fraction of tailings, not used for fill, will be placed in old workings if possible. A small quantity of tailings may have to be disposed of on surface; it is planned to place this behind a dam outside the upper portals - most of the dam will be constructed with waste rock from mine development.

9.2 SOCIOECONOMIC CONSIDERATIONS

The Porter Idaho Property is located in a historical mining area. The Town of Stewart, British Columbia, the nearest community, serves as the major retail supply centre for the area. Industry which is serviced through Stewart includes the Granduc Mine of Canada Wide Mines Ltd., Scott Gold Mine, logging and some commercial fishing. There is some tourism during the summer months.

Harbor facilities exist for the shipping of copper concentrates, asbestos fibre from Cassiar and timber. Off-loading facilities exist to receive packaged goods and petroleum products in bulk.

The community of Stewart contains accommodation and services for a population which is greater than current levels. The main employer during the population peak was Granduc Operating Company which employed up to 900 people. The current operators of the Granduc Mine have in the order of 400 to 500 employees. Other employment opportunities in the area have not replaced the missing jobs from the reductions at Granduc.

The Town has adequate shopping, hotel accommodation, schools and housing. There is a mission type Roman Catholic Church with a travelling priest, and an interdenominational protestant Church in the community. The community is served with television.

The majority of the mine supplies will be brought into the area from major distribution centres in British Columbia, and have little affect on the community.

The major economic impact to the community will be an increase in retail business because of employee spending.

The community will feel a slight impact in that there will be more people using the services of the community.

10.0 CAPITAL COSTS

10.1 CAPITAL COST SUMMARY (100,000 Tons per Year)

Access Road			$ 600,000
Access Adit:			
(a) 2000 Metres at $750.00 per Metre			1,500,000
Shaft: (350 m)			955,000
(a) Bored and Reamed with Raise Boxes			
(b) Slashed to Size			
(c) Timbered			
Other Permanent Mine Development:			
(a) Ventilation Raises (400 m)		$ 200,000	
(b) Ore Pass Raise and Bin (400 m)		420,000	
(c) Level Development (1000 m)		750,000	
(d) Decline to Adit	(435 m)	325,000	
(e) Other Excavation	(5000 m^3)	250,000	1,945,000
Mill Excavation:			
(a) Linear Advance	(300 m)	$ 225,000	
(b) Excavation	(8000 m^3)	500,000	
(c) Ground Support		200,000	925,000
Engineering and Contract Supervision (On Excavation at 15 Percent)			815,000
Contingency (On Excavation at 20 Percent)			1,100,000
Mine Equipment and Installation:			
(a) Hoist (Used)		$ 200,000	
(b) Fan		50,000	
(c) Scoop - Tram		150,000	
(d) Slushers		160,000	

(e)	Battery Locomotives	120,000	
(f)	Mine Cars	120,000	
(g)	Track, Pipe, Ventilation Doors Doors, Ore Pass Hardware, etc.	600,000	
(h)	Installation	300,000	1,700,000
Milling Equipment			2,550,000
Milling Equipment Installation			900,000
Engineering and Construction Supervision (On Milling Equipment and Installation, Approximately 18 Percent)			630,000
Contingency (On Milling Equipment and Installation)			630,000
Power Supply:			
(a)	Transmission Lines	$ 300,000	
(b)	Substation or Generator	500,000	800,000
Service Equipment:			
Portable Office Building, Changehouse, Ambulance, Fire Truck, Transport Truck, Other Vehicles			450,000
Housing Subsidies (Allowance)			1,500,000
Interest During Construction			2,560,000
TOTAL CAPITAL COST			$19,550,000

10.2 CAPITAL COST SUMMARY (200,000 Tons per Year)

Items listed on the Summary were derived from the 100,000 tons per year estimate.

Economies of scale applied mostly to the mine, to the permanent excavation, and to the fixed service installations. The mill was approximately double the cost for double the capacity.

The total amount is in the Order of Magnitude, however, individual items will vary considerably if a detailed study were done at this production rate.

Projected increases over a 100,000 tons per day operation are:

Mine Development	$ 2,110,000
Mill Excavation	1,365.000
Engineering and Contract Supervision (on Excavation)	585,000
Contingencies on Excavation	600,000
Mine Equipment and Installation	700,000
Mill Equipment	1,500,000
Mill Equipmement Installation	500,000
Milling Equipment and Construction Supervision (on Milling Equipment)	520,000
Contingency (Milling Equipment)	520,000
Power Supply	500,000
Service Equipment	100,000
Housing Subsidies	500,000
Construction Interest	1,425,000
TOTAL INCREASE IN CAPITAL COST	$10,925,000

11.0 OPERATING COSTS

It may be necessary to offer above average salaries to attract the experienced miners and tradesmen to the area.

All hourly personnel will be paid one hour travel time at their regular rate, and a production bonus equal to 10 percent of their regular rate (for the hours worked). The production bonus may be made contingent upon attendance or continuity of service, or some other factor designed to promote a stable work force. Staff positions also will participate in the production bonus, however, travel time is incorporated in the base wage. Fringe benefits are calculated at the rate of 26 percent of earnings - exclusive of production bonus - for both staff and hourly personnel.

The mine will be operated on two 8 hour shifts per day, 5 days per week. The mill will operate on three 8 hour shifts per day, 7 days per week.

Transportation services will be provided fer each shift.

11.1 MINING (100,000 Tons per Year)

Salaries and Wages:	Annual Cost
Mine Superintendent (1)	$ 81,500
$ 60,000 Salary	
$ 15,500 Fringe Benefits	
$ 6,000 Production Bonus	
Mine Captain (1)	$ 73,500
$ 54,000 Salary	
$ 14,000 Fringe Benefits	
$ 5,500 Production Bonus	

Salaries and Wages:	Annual Cost
Shift Boss (2)	$ 131,000
$ 48,000 Salary	
$ 12,500 Fringe Benefits	
$ 5,000 Production Bonus	
Stope Miner (32)	$ 2,062,500
$ 15.00 per hr x 8 hrs x 250 days = $ 30,000 Wages	
$ 7.50 per hr x 8 hrs x 250 days = $ 15,000 Incentive	
$ 15.00 per hr x 1 hr x 250 days = $ 3,750 Travel	
Subtotal 48,750 x 26% = $ 12,700 Fringe	
$ 3,000 Production Bonus	
Development Miner (8)	$ 515,500
As per Stope Miner	
Trammer (10)	$ 455,000
$ 15.00 per hr x 8 hrs x 250 days = $ 30,000 Wages	
$ 15.00 per hr x 1 hr x 250 days = $ 3,750 Travel	
Subtotal 33,750 x 26% = $ 8,750 Fringe	
$ 3,000 Production Bonus	
Timberman (4)	$ 182,000
As per Trammer	
Fillman (2)	$ 91,000
As per Trammer	
Hoistman (2)	$ 103,000
$ 17.00 per hr x 8 hrs x 250 days = $ 34,000 Wages	
$ 17.00 per hr x 1 hr x 250 days = $ 4,250 Travel	
Subtotal 38,250 x 26% = $ 3,400 Production Bonus	

Salaries and Wages:	Annual Cost
Mechanics (4)	$ 206,000
As per Hoistman	
Electrician (2)	$ 103,000
As per Hoistman	
Labourer (5)	$ 182,500
$ 12.00 per hr x 8 hrs x 250 days = $ 24,000 Wages	
$ 12.00 per hr x 1 hr x 250 days = $ 3,000 Travel	
Subtotal 27,000 x 26% = $ 7,000 Fringe	
$ 2,400 Production Bonus	
Engineer (1)	$ 73,500
As per Captain	
Geologist (1)	$ 65,500
As per Shift Boss	
Surveyor (1)	$ 65,500
As per Shift Boss	
Surveyor Helper - Sampler (2)	$ 91,000
As per Trammer	
TOTAL SALARIES AND WAGES - MINING	$ 4,482,000
(Round Off To)	$ 4,500,000

Mining Supplies and Expenses

Data from other studies and from operating mines, indicate that labour/supply ratios are in the 60:40 range, for smaller conventional underground mines.

At the lower production rate, the operation will be slightly more labour intensive, so the labour/supply ratio used was 62.5:37.5

Annual Cost of Mining Supplies and Expenses = $ 2,700,000

11.2 MILLING (100,000 Tons per Year)

Salaries and Wages:	Annual Cost
Mill Superintendent (1)	$ 73,500
As per Mine Captain	
Shift Foreman (4)	$ 218,000
$ 40,000 Salary $ 10,500 Fringe $ 4,000 Production Bonus	
Crusher Operator (1)	$ 45,500
As per Trammer	
Grinding Operator (4)	$ 182,000
Flotation Operator (4)	$ 182,000
As per Trammer	
Filter Operator (4)	$ 182,000
As per Trammer	

Salaries and Wages:	Annual Cost
Mechanic (2)	$ 103,000
As per Hoistman	
Electrician (2)	$ 103,000
As per Hoistman	
Labourer (4)	$ 146,000
TOTAL SALARIES AND WAGES - MILLING	$ 1,235,000
(Round Off To)	$ 1,250,000

Milling Supplies and Expenses

Data from other studies and from operating mines was used to determine a figure of $14.50 per ton milled, at this level of operation.

Annual Cost - $ 1,450,000

11.3 OTHER COSTS (100,000 Tons per Year)

Administration and General Salaries and Wages:	Annual Cost
Manager (1)	$ 95,000
$ 70,000 Salary	
$ 18,200 Fringe	
$ 7,000 Production Bonus	
Accountant (1)	$ 73,500
As per Mine Captain	

Administration and General Salaries and Wages :	Annual Cost
Office Supervisor (1) - Materials and Transportation	$ 65,500
As per Shift Boss	
Transport Driver (1)	$ 45,500
As per Trammer	
Secretary (1)	$ 45,500
As per Trammer	
Clerk - Warehouseman (1)	$ 45,500
As per Trammer	
Labourer - Janitor (1)	$ 32,500
$ 12.00 per hr x 8 hrs x 250 days = $ 24,000 Wages	
Subtotal 24,000 x 26% = $ 6,250 Finge	
$ 2,400 Production Bonus	
TOTAL SALARIES AND WAGES - ADMINISTRATION AND GENERAL	$ 403,000
(Round Off To)	$ 400,000

Administration - Supplies and Expense:	Annual Cost
Road Maintenance Contract	$ 260,000
$ 30,000 per Month Jan., Feb., Mar., Apr., Nov., Dec.	
$ 20,000 per Month May, Oct.	
$ 10,000 per Month June, July, Aug., Sept.	
Personnel Busing Contract	$ 200,000
2000 Trips per Year at $100 per Trip	

Security Contract	$ 240,000
Gateman, Fire, Ambulance	
Assaying Services	$ 300,000
3000 Determinations per Year	
Office Expense	$ 180,000
Vehicle Expense	$ 120,000
TOTAL ADMINISTRATION - SUPPLIES AND EXPENSE	$ 1,300,000

Marketing Expenses:

Concentrate Shipping	$ 1,500,000
Smelting	$ 1,900,000
TOTAL MARKETING EXPENSE	$ 3,400,000

11.4 MINING (200,000 Tons per Year)

It is assumed that the increased tonnage is obtained by mining larger stopes - rather than mining a proportionally larger number of stopes. No additional staff will be added, and the additions to the hourly pair personnel will be as follows:

12 Stope Miners	-	$ 773,500
2 Trammers	-	$ 91,000
1 Labourer	-	$ 36,500
TOTAL		$ 901,000
(Round Off To)		$ 900,000

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Salaries and Wages:	Annual Cost
Previous Cost (For 100,000 Tons per Year)	$ 4,500,000
Additional Cost	900,000
TOTAL	$ 5,400,000

Mining - Supplies and Expenses:	Annual Cost
The 60:40 Labour Supply Ratio is Used	$ 3,600,000

11.5 MILLING (200,000 Tons per Year)

It is assumed that the increased tonnage will be planned for from the start, using larger equipment in the mill - rather than adding additional equipment of the same size. The additional staff and hourly paid personnel are as follows:

Mill Engineer (1) (As per Mine Shift Boss)	-	$ 65,500
Mill Operator (3)	-	$ 136,500
Mechanic (1)	-	$ 51,500
TOTAL		$ 253,500
(Round Off To)		$ 250,000

Salaries and Wages:	Annual Cost
Previous Cost (For 100,000 Tons per Year)	$ 1,250,000
Additional Cost	250,000
TOTAL	$ 1,500,000

Milling - Supplies and Expenses:	Annual Cost
The Reduced Cost is Attributable to the Larger Units Used	$ 2,300,000

11.6 OTHER COSTS (200,000 Tons per Year)

Administration and General Salaries and Wages:			Annual Cost
Previous Cost (For 100,000 Tons per Year)			$ 400,000
Additional Cost - Staff and Hourly:			
Junior Accountant	-	$ 45,500	
Senior Warehouseman	-	45,500	
Stenographer	-	32,500	
Driver	-	32,500	
Warehouseman	-	32,500	
Subtotal		$ 188,500 (Round Off To)	$ 200,000
TOTAL SALARIES AND WAGES - ADMINISTRATION AND GENERAL			$ 600,000

Administration - Supplies and Expense	Annual Cost
There Will be a Cost Increase for Each Item as Follows:	
Road Maintenance Contract	$ 60,000
Personnel Busing Contract	100,000
Security Contract	70,000
Assaying Services	150,000
Office Expense	60,000
Vehicle Expense	60,000
Subtotal	$ 500,000
Previous Cost For 100,000 Tons per Year	1,300,000
TOTAL ADMINSTRATION - SUPPLIES AND EXPENSE	$ 1,800,000

Marketing Expense	Annual Cost
It is Aassumed, that twice as much concentrate must be handled at 200,000 tons per year:	
Concentrate Shipping (2 by 1,500,000)	$ 3,000,000
Smelting	3,800,000
TOTAL MARKETING EXPENSE	$ 6,800,000

12.0 FINANCIAL ANALYSIS

A series of financial scenarios has been calculated and are shown on the accompanying Payout Tables A-1 through B-5. Conditions calculated are:

Table A-1	100,000 Tons per year Recoverable Silver Content 20 ounces per ton Silver Price	$10.00 per ounce Troy
Table A-2	Silver Price	$15.00 per ounce Troy
Table A-3	Silver Price	$20.00 per ounce Troy
Table A-4	Silver Price	$25.00 per ounce Troy
Table A-5	Silver Price	$30.00 per ounce Troy
Table B-1	200,000 Tons per year Recoverable Silver Content 20 ounces per ton Silver Price	$10.00 per ounce Troy
Table B-2	Silver Price	$15.00 per ounce Troy
Table B-3	Silver Price	$20.00 per ounce Troy
Table B-4	Silver Price	$25.00 per ounce Troy
Table B-5	Silver Price	$30.00 per ounce Troy

PAYOUT TABLE A1

Mining Rate: 100,000 Tons per Year	Year-1	Ore Grade (Recoverable) 20 oz Ag (troy) per Ton Year 1	Year 2	Year 3	Silver Price $10 CDN per (troy) oz Year 4
Development (incl. constr. interest)	$ 11,500,000	-	-	-	-
Paid Off at Year-End	-	-	-	-	659,000
* Balance to be Paid Off	11,500,000	11,500,000	11,500,000	11,500,000	10,841,000
Capital (incl. constr. interest)	8,050,000	-	-	-	-
Paid Off at Year-End	-	1,090,000	1,308,000	1,570,000	1,225,000
** Balance to be Paid Off	8,050,000	6,960,000	5,652,000	4,082,000	2,857,000
* + ** Balance to be Paid Off	19,550,000	18,460,000	17,152,000	15,982,000	13,698,000
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	(3,000,000)	(3,000,000)	(3,000,000)	(3,000,000)
Gross Revenue	-	20,000,000	20,000,000	20,000,000	20,000,000
Operating Cost	-	15,000,000	15,000,000	15,000,000	15,000,000
Interest Expense	-	3,910,000	3,692,000	3,430,000	3,116,000
Operating Profit	-	1,090,000	1,308,000	1,570,000	1,884,000
Write Off	-	1,090,000	1,308,000	1,570,000	1,884,000
Taxes	-	-	-	-	-
Net Cash Flow Annually	-	1,090,000	1,308,000	1,570,000	1,884,000
Cumulative Cash Flow	-19,550,000	-18,460,000	-17,152,000	-15,582,000	-13,698,000

PAYOUT TABLE A2

Mining Rate:

100,000 Tons per Year

Ore Grade (Recoverable)
20 oz Ag (troy) per Ton

Silver Price
$15 CDN per
(troy) oz

	Year-1	Year 1	Year 2	Year 3	Year 4
Development (incl. constr. interest)	$ 11,500,000	-	-	-	-
Paid Off at Year-End	-	8,675,000	2,825,000	-	-
* Balance to be Paid Off	11,500,000	2,825,000	-	-	-
Capital (incl. constr. interest)	8,050,000	-	-	-	-
Paid Off at Year-End	-	2,415,000	1,691,000	1,183,000	828,000
** Balance to be Paid Off	8,050,000	5,635,000	3,944,000	2,761,000	1,933,000
* + ** Balance to be Paid Off	19,550,000	8,460,000	3,944,000	2,761,000	1,933,000
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	(3,000,000)	-	-	-
Gross Revenue	-	30,000,000	30,000,000	30,000,000	30,000,000
Operating Cost	-	15,000,000	15,000,000	15,000,000	15,000,000
Interest Expense	-	3,910,000	1,692,000	789,000	552,000
Operating Profit	-	11,090,000	13,308,000	14,211,000	14,448,000
Write Off	-	11,090,000	7,516,000	1,183,000	828,000
Taxes	-	-	2,317,000	5,211,000	5,448,000
Net Cash Flow Annually	-	11,090,000	10,991,000	9,000,000	9,000,000
Cumulative Cash Flow	-19,550,000	- 8,460,000	+ 2,531,000	11,531,000	20,531,000

PAYOUT TABLE A3

Mining Rate: 100,000 Tons per Year	Year-1	Ore Grade (Recoverable) 20 oz Ag (troy) per Ton Year 1	Year 2	Year 3	Silver Price $20 CDN per (troy) oz Year 4
Development (incl. constr. interest)	$ 11,500,000	-	-	-	
Paid Off at Year-End	-	11,500,000	-	-	
* Balance to be Paid Off	11,500,000	-	-	-	
Capital (incl. constr. interest)	8,050,000	-	-		
Paid Off at Year-End	-	2,415,000	1,691,000	1,183,000	
** Balance to be Paid Off	8,050,000	5,635,000	3,944,000	2,761,000	
* + ** Balance to be Paid Off	19,550,000	5,635,000	3,944,000	2,761,000	
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	-	-	-	
Gross Revenue	-	40,000,000	40,000,000	40,000,000	
Operating Cost	-	15,000,000	15,000,000	15,000,000	
Interest Expense	-	3,910,000	1,127,000	552,000	
Operating Profit	-	21,090,000	23,873,000	24,448,000	
Write Off	-	16,915,000	1,691,000	1,183,000	
Taxes	-	1,670,000	8,873,000	9,306,000	
Net Cash Flow	-	19,420,000	15,000,000	15,142,000	
Cumulative Cash Flow	-19,550,000	- 130,000	+14,870,000	30,012,000	

PAYOUT TABLE A4

Mining Rate:

100,000 Tons per Year

Ore Grade (Recoverable)
20 oz Ag (troy) per Ton

Silver Price
$25 CDN per
(troy) oz

	Year-1	Year 1	Year 2	Year 3	Year 4
Development (incl. constr. interest)	$ 11,500,000	-	-		
Paid Off at Year-End	-	11,500,000	-		
* Balance to be Paid Off	11,500,000	-	-		
Capital (incl. constr. interest)	8,050,000	-	-		
Paid Off at Year-End	-	2,415,000	1,691,000		
**Balance to be Paid Off	8,050,000	5,635,000	3,944,000		
* + ** Balance to be Paid Off	19,550,000	5,635,000	3,944,000		
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	-	-		
Gross Revenue	-	50,000,000	50,000,000		
Operating Cost	-	15,000,000	15,000,000		
Interest Expense	-	3,910,000	1,127,000		
Operating Profit	-	31,090,000	33,873,000		
Write Off	-	16,915,000	1,691,000		
Taxes	-	5,670,000	12,873,000		
Net Cash Flow	-	25,420,000	21,000,000		
Cumulative Cash Flow	-19,550,000	5,870,000	26,870,000		

PAYOUT TABLE A5

Mining Rate:
100,000 Tons per Year

Ore Grade (Recoverable)
20 oz Ag (troy) per Ton

Silver Price
$30 CDN per
(troy) oz

	Year-1	Year 1	Year 2	Year 3	Year 4
Development (incl. constr. interest)	$ 11,500,000	-	-		
Paid Off at Year-End	-	11,500,000	-		
* Balance to be Paid Off	11,500,000	-	-		
Capital (incl. constr. interest)	8,050,000	-	-		
Paid Off at Year-End	-	2,415,000	1,691,000		
**Balance to be Paid Off	8,050,000	5,635,000	3,944,000		
* + ** Balance to be Paid Off	19,550,000	5,635,000	3,944,000		
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	-	-		
Gross Revenue	-	60,000,000	60,000,000		
Operating Cost	-	15,000,000	15,000,000		
Interest Expense	-	3,910,000	1,127,000		
Operating Profit	-	41,090,000	43,873,000		
Write Off	-	16,915,000	1,691,000		
Taxes	-	9,670,000	16,873,000		
Net Cash Flow	-	31,420,000	27,000,000		
Cumulative Cash Flow	-19,550,000	11,870,000	38,870,000		

PAYOUT TABLE B1

Mining Rate:

200,000 Tons per Year

Ore Grade (Recoverable)
20 oz Ag (troy) per Ton

Silver Price
$10 CDN per
(troy) oz

	Year-1	Year 1	Year 2	Year 3	Year 4
Development (incl. constr. interest)	$14,375,000	-	-	-	-
Paid Off at Year-End	-	7,075,000	7,300,000	-	-
* Balance to be Paid Off	14,375,000	7,300,000	-	-	-
Capital (incl. constr. interest)	16,100,000	-	-	-	-
Paid Off at Year-End	-	4,830,000	3,381,000	2,367,000	1,657,000
**Balance to be Paid Off	16,100,000	11,270,000	7,889,000	5,522,000	3,865,000
* + ** Balance to be Paid Off	30,475,000	18,570,000	7,889,000	5,522,000	3,865,000
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	(3,000,000)	-	-	-
Gross Revenue	-	40,000,000	40,000,000	40,000,000	40,000,000
Operating Cost	-	22,000,000	22,000,000	22,000,000	22,000,000
Interest Expense	-	6,095,000	3,714,000	1,578,000	1,104,000
Operating Profit	-	11,905,000	14,286,000	16,422,000	16,896,000
Write Off	-	11,905,000	13,681,000	2,367,000	1,657,000
Taxes	-	-	242,000	5,622,000	6,096,000
Net Cash Flow	-	11,905,000	14,044,000	10,800,000	10,800,000
Cumulative Cash Flow	-30,475,000	-18,570,000	- 4,526,000	+ 6,274,000	17,074,000

PAYOUT TABLE B2

Mining Rate: 200,000 Tons per Year	Year-1	Year 1	Year 2	Year 3	Year 4
		Ore Grade (Recoverable) 20 oz Ag (troy) per Ton			Silver Price $15 CDN per (troy) oz
Development (incl. constr. interest)	$14,375,000	-	-	-	
Paid Off at Year-End	-	14,375,000	-	-	
* Balance to be Paid Off	14,375,000	-	-	-	
Capital (incl. constr. interest)	16,100,000	-	-	-	
Paid Off at Year-End	-	4,830,000	3,381,000	2,367,000	
** Balance to be Paid Off	16,100,000	11,270,000	7,889,000	-	
* + ** Balance to be Paid Off	30,475,000	11,270,000	7,889,000	-	
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	-	-	-	
Gross Revenue	-	60,000,000	60,000,000	60,000,000	
Operating Cost	-	22,000,000	22,000,000	22,000,000	
Interest Expense	-	6,095,000	2,254,000	1,578,000	
Operating Profit	-	31,905,000	35,746,000	36,422,000	
Write Off	-	22,205,000	3,381,000	2,367,000	
Taxes	-	3,880,000	12,946,000	13,622,000	
Net Cash Flow	-	28,025,000	22,800,000	22,800,000	
Cumulative Cash Flow	-30,475,000	- 2,450,000	+20,350,000	43,150,000	

PAYOUT TABLE B3

Mining Rate:

200,000 Tons per Year

Ore Grade (Recoverable)
20 oz Ag (troy) per Ton

Silver Price
$20 CDN per
(troy) oz

	Year-1	Year 1	Year 2	Year 3	Year 4
Development (incl. constr. interest)	$14,375,000	-	-		
Paid Off at Year-End	-	14,375,000	-		
* Balance to be Paid Off	14,375,000	-	-		
Capital (incl. constr. interest)	16,100,000	-	-		
Paid Off at Year-End	-	4,830,000	3,381,000		
** Balance to be Paid Off	16,100,000	11,270,000	7,889,000		
* + ** Balance to be Paid Off	30,475,000	11,270,000	7,889,000		
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	-	-		
Gross Revenue	-	80,000,000	80,000,000		
Operating Cost	-	22,000,000	22,000,000		
Interest Expense	-	6,095,000	2,254,000		
Operating Profit	-	51,905,000	55,746,000		
Write Off	-	22,205,000	3,381,000		
Taxes	-	11,880,000	20,946,000		
Net Cash Flow	-	40,025,000	34,800,000		
Cumulative Cash Flow	-30,475,000	+ 9,550,000	+44,350,000		

PAYOUT TABLE B4

Mining Rate:
200,000 Tons per Year

Ore Grade (Recoverable)
20 oz Ag (troy) per Ton

Silver Price
$25 CDN per
(troy) oz

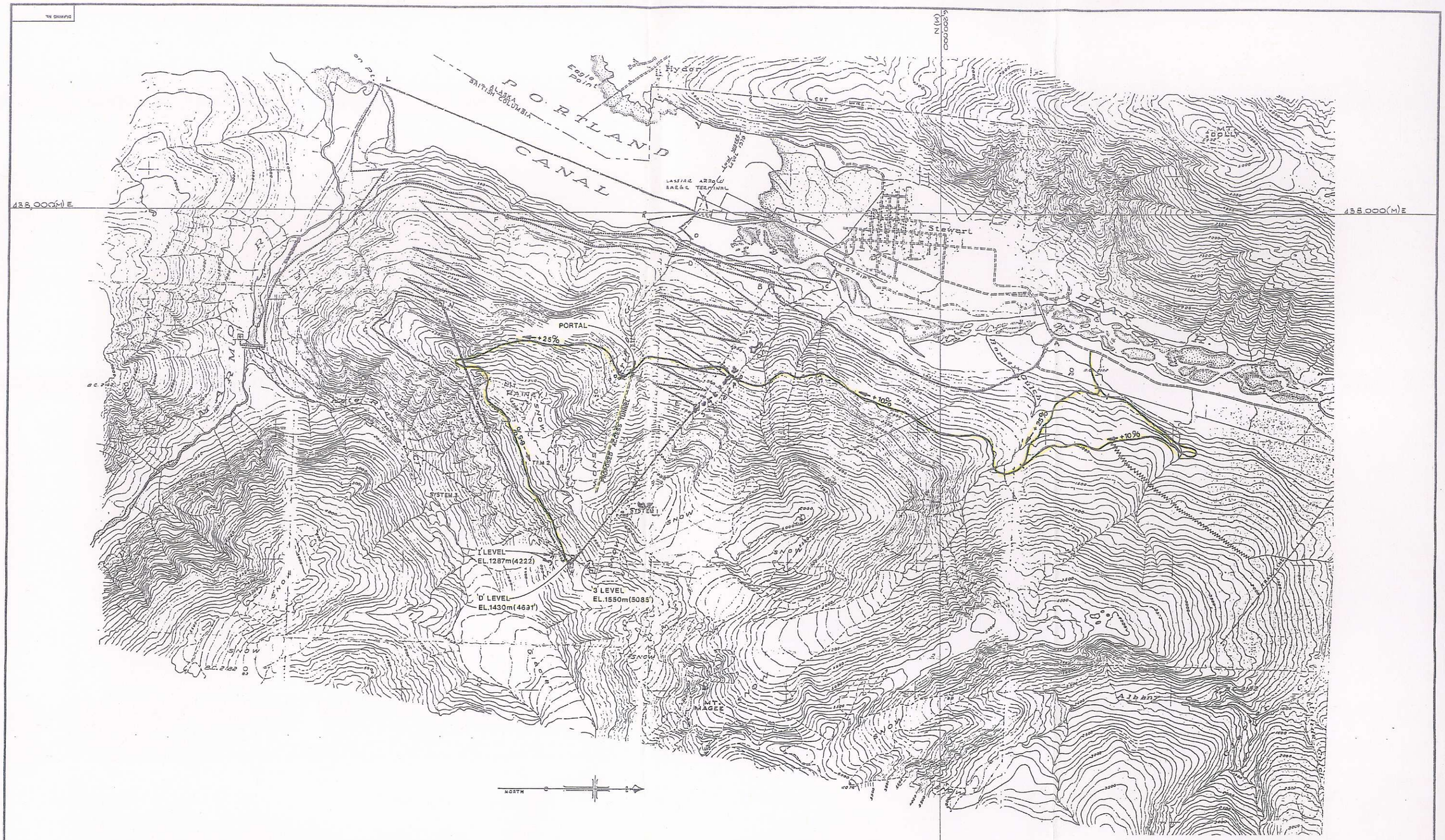
	Year-1	Year 1	Year 2	Year 3	Year 4
Development (incl. constr. interest)	$14,375,000	-	-		
Paid Off at Year-End	-	14,375,000	-		
* Balance to be Paid Off	14,375,000	-	-		
Capital (incl. constr. interest)	16,100,000	-	-		
Paid Off at Year-End	-	4,830,000	3,381,000		
** Balance to be Paid Off	16,100,000	11,270,000	7,889,000		
* + ** Balance to be Paid Off	30,475,000	11,270,000	7,889,000		
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	-	-		
Gross Revenue	-	100,000,000	100,000,000		
Operating Cost	-	22,000,000	22,000,000		
Interest Expense	-	6,095,000	2,254,000		
Operating Profit	-	71,905,000	75,746,000		
Write Off	-	22,205,000	3,381,000		
Taxes	-	19,880,000	28,946,000		
Net Cash Flow	-	52,025,000	46,800,000		
Cumulative Cash Flow	-30,475,000	21,550,000	68,350,000		

PAYOUT TABLE B5

Mining Rate: 200,000 Tons per Year	Year-1	Ore Grade (Recoverable) 20 oz Ag (troy) per Ton Year 1	Year 2	Year 3	Silver Price $30 CDN per (troy) oz Year 4
Development (incl. constr. interest)	$14,375,000	-	-		
Paid Off at Year-End	-	14,375,000	-		
* Balance to be Paid Off	14,375,000	-	-		
Capital (incl. constr. interest)	16,100,000	-	-		
Paid Off at Year-End	-	4,830,000	3,381,000		
** Balance to be Paid Off	16,100,000	11,270,000	7,889,000		
* + ** Balance to be Paid Off	30,475,000	11,270,000	7,889,000		
Previous Exploration Remaining (Used Only as Tax Deduction)	(3,000,000)	-	-		
Gross Revenue	-	120,000,000	120,000,000		
Operating Cost	-	22,000,000	22,000,000		
Interest Expense	-	6,095,000	2,254,000		
Operating Profit	-	91,905,000	95,746,000		
Write Off	-	22,205,000	3,381,000		
Taxes	-	27,880,000	36,946,000		
Net Cash Flow	-	64,025,000	58,800,000		
Cumulative Cash Flow	-30,475,000	33,550,000	92,350,000		

13.0 DRAWINGS

Drawing Number	Description
100-10-F1	Porter Idaho Project Surface Plan Access Road and Tunnel
200-05-F1	Porter Idaho Project Composite Plan and Longitudinal Section of Access Tunnel
200-05-F2	Porter Idaho Project Longitudinal Section of Typical Stoping Methods



NOTE:
GRID IS NATIONAL TOPOGRAPHIC GRID.

DWG. NO.	REFERENCE DRAWINGS

No.	DESCRIPTION	CLIENT	FIELD	CHECK
	REVISIONS			

No.	DESCRIPTION	CLIENT	FIELD	CHECK
	REVISIONS			

No.	DESCRIPTION	CLIENT	FIELD	CHECK
	REVISIONS			

SECTION:	
SCALE:	DATE
DESIGNED BY: H.F.S.	OCT. 81
DRAWN BY: P.A.H.	NOV. 81
CHECKED BY:	
APPROVED BY: J. [illegible] F.	

CLIENT: PACIFIC CASSIAR LIMITED
LOCATION: STEWART B.C.

KILBORN

TITLE
PORTER IDAHO PROJECT
SURFACE PLAN
ACCESS ROAD AND TUNNEL
SUPERIMPOSED ON
PREVIOUS STUDY BY OTHERS

R.O.M. No.	
PROJECT No.	DIVISION No.
7559	
DRAWING NUMBER	
100-10-F1	REV.

DRAWING No.

6,137,000(M)N

440,000(M)E

442,000(M)E

6,136,000(M)N

443,000(M)E

'A'

100M @ 0%

TOTAL LENGTH OF RAMP = 2118m
FROM PORTAL TO 'I' LEVEL

No 1 TUNNEL
EL.1643M
(5392')

'5' LEVEL
EL.1550M
(5085')

30m R

30m R

SHAFT

'O' LEVEL
EL.1430M
(4691')

'C' TUNNEL
EL 1599M
(5246')

30m

'A'

1904m @ 15%

'I' LEVEL
EL.1287M
(4222')

6,136,000(M)N

PLAN

EL.6000'
EL.1800 M

EL.5000'
EL.1500M

EL. 4000'
EL.1200M

EL. 3000'
EL. 900M

3050' LEVEL

SHAFT

404m @ 15%

444m RAMP
@ 20%

'I' LEVEL EL.1287M

100M
@ 0%

1500M
@ 15%

EL. 914M (3000')

UNDERGROUND MILL
EXCAVATION

HOIST ROOM

SECTION A-A

DWG. NO.	REFERENCE DRAWINGS

No.	DESCRIPTION	CLIENT	FIELD	CHECK
	REVISIONS			

No.	DESCRIPTION	CLIENT	FIELD	CHECK
	REVISIONS			

No.	DESCRIPTION	CLIENT	FIELD	CHECK
	REVISIONS			

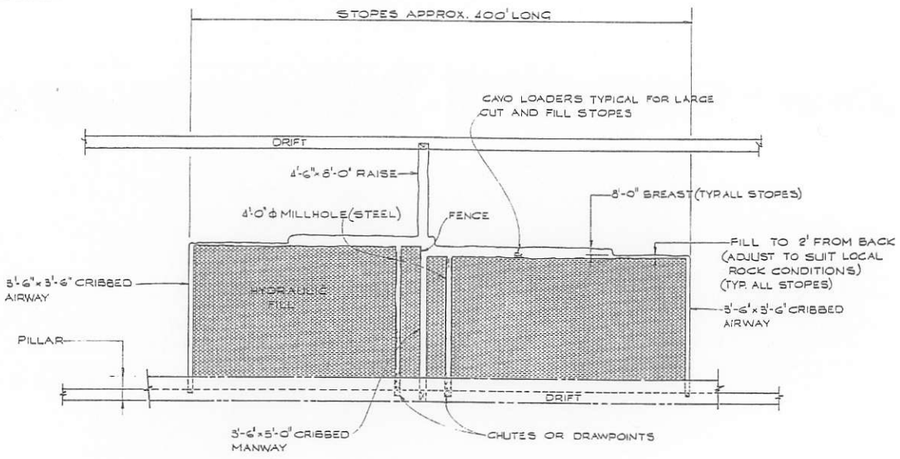
SECTION:
SCALE: 1:2500 DATE
DESIGNED BY: H.J.S OCT.81
DRAWN BY: P.A.H. NOV.81
CHECKED BY:
APPROVED BY: JEP

CLIENT: PACIFIC CASSIAR LIMITED
LOCATION: STEWART B.C.

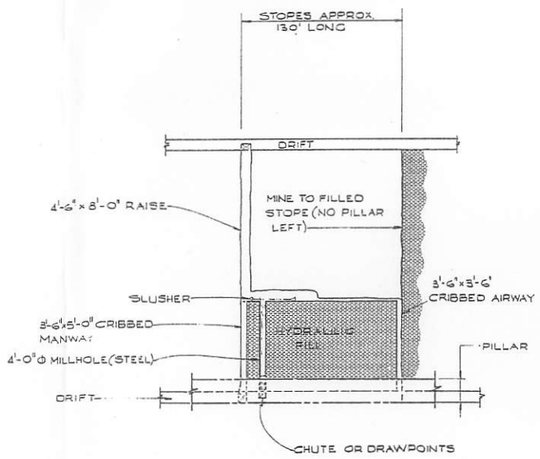
KILBORN

TITLE
PORTER IDAHO PROJECT
COMPOSITE PLAN AND LONGITUDINAL SECTION OF ACCESS TUNNEL

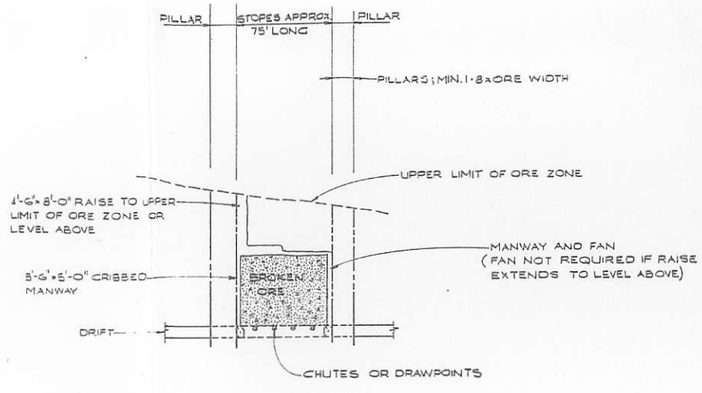
B.O.M. No.
PROJECT No. 7559
DIVISION No.
DRAWING NUMBER 200-05-F1
REV. -



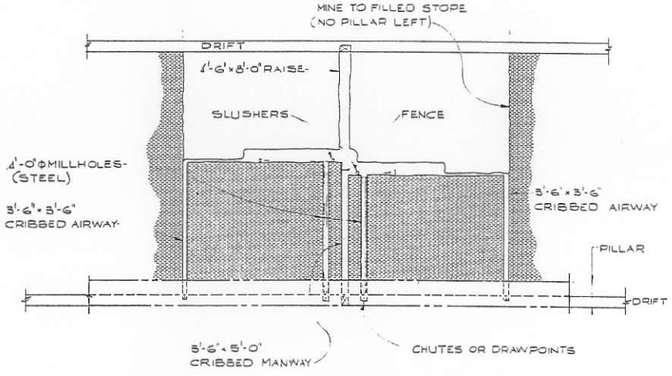
L.H.O. CUT AND FILL STOPES



SINGLE SLUSHER CUT AND FILL STOPES



SHRINKAGE STOPES



DOUBLE SLUSHER CUT AND FILL STOPES

NOTE:
1. ALL STOPES TYPICAL ONLY, SIZE TO BE DETERMINED BY LOCAL ROCK CONDITIONS AND GRADE.
2. DOUBLE SLUSHER CUT AND FILL STOPES TO BE PREFERRED TO SINGLE SLUSHER CUT AND FILL STOPES IN ORDER TO PROVIDE MAXIMUM LABOUR EFFICIENCY.
3. CHOICE OF STEEL VERSUS TIMBER MILLHOLES TO BE DETERMINED BY CALCULATED TONNAGE OF ORE TO BE HANDLED.

DWG. NO.	REFERENCE DRAWINGS

REVISIONS

No.	DESCRIPTION

SECTION:
SCALE: 1" = 10'-0" DATE
DESIGNED BY A.E.S. DEC.81
DRAWN BY P.A.H. DEC.81
CHECKED BY:
APPROVED BY J.B.F.

CLIENT: PACIFIC CASSIAR LIMITED
LOCATION STEWART B.C.
KILBORN

TITLE
PORTER IDAHO PROJECT
LONGITUDINAL SECTION OF TYPICAL STOPING METHODS

B.O.M. No.
PROJECT No. 7559
DIVISION No.
DRAWING NUMBER 200-05-F2
REV.