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Report on the
Prosperity-Porter Idaho and Silverado Prospects
Of
Pacific Cassiar Limited

Nov 81

Atkins Mining Consultants Limited

REPORT ON

THE PROSPERITY, PORTER IDAHO AND SILVERADO PROSPECTS

OF

PACIFIC CASSIAR LIMITED

ATKINS MINING CONSULTANTS LIMITED
Toronto, Canada M5H 2G4

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TABLE OF CONTENTS

INTRODUCTION

The Prosperity-Porter Idaho and Silverado properties are in the Portland Canal district of British Columbia, a short distance southeast of the town of Stewart. These comprise forty-six Crown Granted Mineral Claims in two groups adjoined by one large Claim and six Fractions held by location.

The Prosperity-Porter Idaho workings are situated on the southeast slope of Mount Rainey and the Silverado workings are located about one and one-half miles to the northwest on the northwest slope. The mountain sides are steep and subject to rock slides and avalanches so that, although the workings may be reached by trail from Stewart, for practical purposes, access is by helicopter. The climate is characterized by high precipitation much of which is snow, and frequent periods of fog and wind in the winter. Exploration work in 1980 and 1981 has been confined to a five month period from May to October.

The initial mineral discovery on the west side of the mountain was in 1904 but no serious work was done until the Silverado claim group was staked and acquired by the Silverado Mining Company in 1921. Over the next six years, a series of flat lying quartz veins were investigated with little success. In 1928, the property was acquired by Premier Gold Mining Company Limited and some 4,000 feet of drifting, cross cutting and raising were done in the investigation of a series of northwesterly striking shear zones. No significant amounts of ore were discovered and the property was closed in 1930. In

PACIFIC CASSIAR LIMITED

MINERAL PROPERTIES

Crown Granted Mineral Claims

Name	Lot No.	Name	Lot No.
Red Reef 2	1406	Sunday	4731
Red Reef 3	1407	Eureka	4732
Tea Pot Dome	1857	Never Sweat	4733
Prosperity	1858	Prickly Heat	4734
Prosperity Fr.	1859	Gem of the Mountains	4735
Honest John	1860	Gem of the Mountains Fr.	4736
Copper King	1864	Prickly Heat Fr.	4737
Copper Queen	1865	Never Sweat Fr.	4738
Gargoyle Fr.	1866	Triumph	4739
Iran Hill	4508	Victoria	4740
Glenearn	4510	Silver Key Fr.	5103
Fortune	4512	Silver Key 1	5104
Silver Bow 3 Fr.	4514	P.G. 1 Fr.	5105
Glacier Fr.	4515	P.G. 2 Fr.	5106
Silver Bow 1	4518	Key Fr.	5113
Silverado 3	4520	Silver Key 3	5114
Silverado 4	4521	Silver Key 4	5115
Silverado 4 Fr.	4523	Silver Key 5	5116
Canyon	4524	Silver Key 6	5117
Melvin 3 Fr.	4727	Silver Key 7	5118
Slide	4728	Cambria	5119
Lucille	4729	Guard	5120
Nettie L.	4730	Silver Key 2	5122

Claims Held by Location

Canal Fraction No. 1
Canal Fraction No. 2
Canal Fraction No. 3
Canal Fraction No. 4
Canal Fraction No. 5
Canal Fraction No. 6

Ryan Mineral Claim

1946, the property was acquired by Big Four Silver Mines Limited which built a camp, installed a tram line and undertook a small amount of drifting and diamond drilling in 1947. The property has remained idle since that time but control passed to Cassiar Consolidated Mines Limited in 1952 and ultimately to Pacific Cassiar Limited, the present owner.

Development of the Porter Idaho property was begun by the Porter Idaho Syndicate which made an initial shipment of 149 tons of high grade silver oxide ore in 1924. The Porter Idaho Mining Co. Ltd. was organized in 1925 and further shipments of very high grade ore were made in succeeding years. In 1926, the owners of the Prosperity claim began work on the projected extension of one of the Porter Idaho veins and are recorded to have shipped 29 tons of ore containing 12,073 ounces of silver.

By 1928, the Premier Gold Mining Company had acquired majority control of the Prosperity and Porter Idaho claims and took over management of the combined operation. Extensive underground development was undertaken; five miles of aerial tramline was erected to provide transport for ore, supplies and personnel between the mine site and a dock on the Portland Canal about five miles south of Stewart. Shipment of selected ore commenced in 1929 and the mine was shut down on April 9, 1931. Total production during this period was about 27,400 tons of shipping ore and 7,200 tons of low grade which was stored at the tram terminal. It is recorded that some

2,500 tons of the low grade ore was shipped in 1938 and 1939.

Recorded production from the Prosperity and the Porter Idaho properties is as follows:

Mine	Year	Tons of Ore Shipped	Gold oz.	Silver oz.	Copper lbs.	Lead lbs.	Zinc lbs.
Prosperity	1926-29	26,600	568	1,765,598	52,444	2,277,000	6,000
Porter Idaho	1924-31	5,256	276	563,466	5,200	724,000	-

The Prosperity-Porter Idaho and Silverado properties were acquired by Big Four Silver Mines Limited in 1946. This company carried out limited underground exploration on the Silverado and on the Prosperity-Porter Idaho claims and shipped 154 tons of ore containing 31,137 ounces of silver from the Silverado and 28 tons of sorted ore from the Porter Idaho mine dumps.

In 1952, the Silverado and Prosperity-Porter Idaho properties were acquired by Cassiar Consolidated Mines Limited which rehabilitated the 'E', 'D' and 'I' level adits, mapped the workings and did some diamond drilling. Cassiar Consolidated Mines Limited was succeeded in 1976 by Pacific Cassiar Mines Limited which in turn was succeeded in 1978 by Pacific Cassiar Limited. Under the direction of the present owners, the property was examined and appraised by Wright Engineers Limited of Vancouver, B.C. who recommended a three-phase exploration programme to assess the economic potential of the properties. Phase I of the programme, including re-

mapping and extensive sampling and test holing on the 'D' vein, was completed in 1980. In 1981, the rehabilitation of the 3 level in accordance with proposals for Phase II, was largely completed but test holing in the 305 drift south was substituted for the proposed diamond drilling on the 'D' vein.

It is the purpose of this report to provide an over all view of the results of previous exploration and mining with particular reference to the results of the 1980 and 1981 work programmes, as a basis for appraisal of the known deposits and for estimation of the probability that continuing exploration will define ore reserves of sufficient grade and in sufficient quantity to be mined profitably.

SCOPE OF REPORT

First hand data for the report is limited to information gathered during a two day visit to the property by C. W. Ball, P.Eng., on behalf of Atkins Mining Consultants Limited. This visit included a cursory examination of underground workings on the 'D' level and '3' level and the inspection and sampling of the new surface discovery north of the small ice-field. This data has been supplemented by information drawn from previous reports by well recognized and competent engineers and geologists including D.F. Kidd, Ph.D. and B.W.W. McDougall, P.Eng., whose reports of 1948 and 1950 respectively provide a good description of the geological setting, the nature of the ore deposits and details of previous operations. Reports covering the period of operations

by Cassiar Consolidated Mines Limited were submitted by:

A.C. Skerl, Ph.D., reports dated 1961 and 1966.

J.W. Merton, B.Sc., for Bacon and Crowhurst Ltd., 1969.

W.R. Bacon, Ph.D., and W.D. Thomson, M.Sc., 1973.

R.H. Seraphim, Ph.D., 1975.

Information on work directed by Pacific Cassiar is obtained from:

Wright Engineers, A definitive report on the property compiled by Walter E. Clarke, P.Eng., May, 1980.

Torchinsky Consulting Limited, A Transportation Study, December 16, 1980.

Walter E. Clarke, Ph.D., A Summary Report of 1980 Operations together with proposals for a exploration programme submitted to Pacific Cassiar Limited, March 9, 1981.

Verbal reports by J. Michael Kenyon and John A. Greig, assay and sample records, relating to the 1981 programme of surface and underground exploration.

It is understood that Atkins Mining Consultants is required to give an opinion as to to whether or not further expenditures on exploration and development of the Prosperity-Porter Idaho and Silverado properties of Pacific Cassiar Limited is likely to be a profitable undertaking. Preferably, the expectation of profitability is assessed in terms of the risk adjusted present value of expected revenues in relation to

the estimated cost of exploring, developing and equipping the mine. If the ore body has already been defined, then the major operating parameters are known and evaluation is a relatively straight-forward procedure. If, on the other hand, the ore body has yet to be defined, the justification of exploration and development expense will necessarily depend on the degree to which such work can be expected to reduce the risk of achieving an assumed level of profitability from an ore body which has yet to be defined. If the estimated difference between the risk adjusted present value before and after the work is done is greater than the cost of doing the work, then the work is justified. The requisite work on the Prosperity and Porter Idaho claims is that which will first, determine with greater precision the average mineable grade of the known deposits and second, that which will be required to determine through exploration of the favourable environment, whether or not there is sufficient ore to support a profitable mining operation.

SUMMARY AND CONCLUSIONS

The joint Prosperity-Porter Idaho, Silverado property of Pacific Cassiar Limited is a silver prospect located near the town of Stewart in the Portland Canal district of British Columbia. The several properties have a long history dating back to the early years of this century. Small intermittent shipments of selected high grade silver ore were made during the early years. From 1926 to 1940, the properties were controlled by the Premier Gold Mining Co. Ltd. and from late 1929 to early 1931, regular shipments of selected ore were sent to the Tacoma smelter. Total recorded production from the properties is about 30,000 tons of ore containing 2,200,000 ounces of silver and 2,400,000 pounds of lead. Overall average grade was 75 ounces of silver and 4 per cent lead. The operation was closed down in 1931 apparently as a result of low prices for silver and the virtual exhaustion of reserves of high grade silver ore.

The properties are now controlled by Pacific Cassiar Limited which during the summer seasons of 1980 and 1981 carried out extensive rehabilitation and resampling of both surface and underground workings.

Underground sampling of selected areas by percussion drilled test holes in walls of existing drives on two levels has delineated two separate silver-bearing zones on two different structures each of which has an area of intercept at the sampled horizon of about 12,000 square feet. The

tonnage potential is of the order of 1,000 tons per vertical foot at the sampled horizon and on the basis of a relatively small number of samples mostly on one horizon, the in situ grade of both occurrences is estimated to be in the range of 12 to 20 ounces per ton. Dilution during mining and processing losses would reduce the recoverable grade to between 8 and 16 ounces per ton. The best prospect for economic production is dependent on the proving of a sufficient tonnage of moderate grade.

Calculations based on an assumed 500 tons per day operation indicate that the risk/reward ratio on exploration expenditures has been favourable but that remaining uncertainties about the grade and quantity of ore preclude a production decision at this time.

The discovery of a surface outcrop of a mineralized zone from which sampling by Atkins Mining Consultants Limited averaged 16 ounces of silver over a width of 15 feet is thought to be indicative of the possible recurrence of mineralized zones similar to those which have been encountered in underground workings.

It is the considered opinion of Atkins Mining Consultants Limited that a programme of exploration designed to delineate and sample the three principle mineral occurrences cited above and estimated to cost about one million dollars is warranted on the basis that the benefits measured in terms of an increase in Risk Adjusted Present Value although not

assured, will probably be much greater than the cost of the proposed exploration. A favourable outcome of the proposed 1982 programme will provide the basis for a more detailed investigation which presumably will include a definitive study of the feasibility of economic production.

Cost Estimate

1982 EXPLORATION PROGRAMME

Mobilization			$ 15,000
Camp Expansion			30,000
Underground Work:			
Drifting	800' @ $125/ft.	$100,000	
Cross cuts & Sub Drifts	400' @ $75	30,000	
Raising	500' @ $70	35,000	
Test holing		5,000	
Diamond Drilling	15,000' @ $20	300,000	
Rehabilitation of '3' level & 'I' level		20,000	
Total Underground			$ 490,000
Surface Work:			
Stripping & Trenching		$ 30,000	
Diamond Drilling	6,000' @ $25	150,000	
Total Surface Work			$ 180,000
Transportation			30,000
Engineering, Supervision			75,000
Consulting			10,000
Camp Costs			90,000
Total			$ 920,000
Contingencies			140,000
Estimated Cost of 1982 Exploration Programme			$1,060,000

GEOLOGY AND MINERAL DEPOSITS

There is general agreement amongst the various writers that the ore deposits occur in what are described by Grove[3] as layered buff, green and red epiclastics, crystal tuffs and intercalated, thinly laminated siltstones and greywackes which comprise the Bear River formation of the Hazelton Group. These rocks have not been mapped in detail so attitudes and structures are not accurately known. In the vicinity of the mine workings, the rocks generally strike in a north to northwesterly direction and dip steeply to the west.

The veins are variously described by different authors but in general are seen as composite structures varying in width from a few inches to 40 feet or more, and are made up of a twork nf intersecting fractures, apparently breeciated country rock, minor quartz and quartz-carbonate veining or matrix with streaks, threads and blebs of silver-bearing lead and zinc sulphides. Minerals include galena, sphalerite, grey copper (freibergite) and minor polybasite and native silver. Oxidation is widespread and alteration of the iron and manganese-bearing carbonates results in extensive buff and black staining of the vein material. Oxidation minerals occur locally in streaks and in fillings and are believed to be the source of significant silver enrichment in parts of the veins. The process, however, is not well understood and hand specimens of ore from a surface outcrop are surprisingly fresh and unaltered.

The 'veins' apparently occur in zones of relatively incompetent rocks which are evidenced by surface depressions and gaps in ridge lines. Accordingly, these zones have generally been thought of as sub-parallel shear zones into which the ore minerals have been introduced. The available evidence, however, would not seem to preclude the possibility of primary mineralization in strata bound deposits which became the loci of re-adjustment during subsequent deformation of the sedimentary assemblage.

ECONOMIC GEOLOGY

The principal mineralized lode is the Prosperity from which some 22,000 tons of high grade shipping ore were mined. Included in this tonnage is a small production from the '304' or Blind vein. Production from the Porter Idaho claims includes some 4,600 tons from the 'D' vein and about 600 tons of very high grade oxide ore recovered from small near surface workings prior to 1929. The average grade of ore shipped from the underground workings from 1929 to 1931 was about 75 ounces in silver, and 4.5 per cent lead. Peak production was achieved in 1930 when 21,780 tons of ore were shipped. Silver prices in 1928 averaged 58 cents per ounce declining steadily thereafter to half that price by March, 1931. Average price during the production period was 38 cents per ounce. Net returns after deduction of freight and smelter charges were probably no more than sufficient to cover operating costs including development so the operation was

uneconomic. More importantly, however, it is evident that in spite of a very active development programme and the discovery of the main 'D' vein ore shoot as well as the '304' or Blind vein, the mine was unable to find sufficient 75 ounce ore to replace the ore which had been mined and in 1931, was nearing the exhaustion of reserves of this tenor. Clearly, there is very little possibility of developing sufficient tonnage of 75 ounce ore to support a continuing operation. Skerl[10] and Clarke[2] then are correct in suggesting that the prospect for economic production lies with the possibility of developing larger tonnages in wider and more continuous ore zones of lower average tenor.

MINERAL OCCURRENCES

VEIN

Recent mapping of the 'D' vein in the 'D' level drift, cross cuts, raises and sub drifts has shown that mineralized fractures can be traced for 1,300 feet or more in the 'D' adit drift and that for a distance of some 600 feet (Co-ordinates 13,600 N to 14,200 N,) there is a complex zone of fractures over widths up to 40 feet or more. Back and wall sampling in exposed drifts and cross cuts supplemented through sampling by percussion drilled test holes has shown that the mineralized zone is generally confined to the area of fracturing and indicates that mining could be controlled visually. The uncut average of the wall and test hole samples within the pre-defined zone of fracturing (approximately 12,000 square feet,) is 17 ounces of silver per ton. This calculation, it should be pointed out is greatly influenced by a few very high silver assays. The test hole samples were drill sludges collected from successive drilling intervals (usually four feet). Since the sample interval is selected arbitrarily, sludge samples are less precise than core samples and may also be subject to bias caused by the caving of soft or friable material. It appears that in this case proper techniques were used for drilling and collecting of the test hole samples, and checking of assay results does not show any evidence that samples have been affected to a detectable degree by proximity to high grade ore sections. The possi-

bility of a slight positive bias cannot be ruled out but it ... concluded that the test hole sampling is valid within the expected limits of sampling error.

The 'D' vein has been exposed on strike for 250 feet on No. 1 sub level which is 200 feet above 'D' level and midway between 'D' level and '3' level. The exposed widths of mineralization are less than on 'D' level but further exploration is required as it is not certain that the full width or length of the zone has been tested. The 'D' vein was intersected in the '3' level cross cut where it assayed 26 ounces silver over a width of six feet. Drifting to the west followed a narrow fracture zone which for a length of 23 feet assayed 91 ounces over an average width of 1.2 feet. Re-sampling of cross cuts and supplementary test holing along a strike length of about 350 feet, (Section 'C' to 100 feet northwest of Section 'A') indicated only sporadic low silver content within an average sampled width of 60 feet. Additional drifting and test holing south of 301 cross cut is required to completely explore the 'D' structure on '3' level, but there is as yet no positive evidence that the 'D' level wide ore zone persists to the '3' level.

The 'I' level at elevation 4222 was driven for the purpose of investigating the 'D' vein 470 feet below the 'D' adit. The 'I' drift north for a distance of 700 feet is driven nearly parallel to the 'D' level and at a location which would correspond to the normal 60 degree dip of the 'D'

structure. Cross cuts and branch drifts have explored to one hundred feet on either side of the main north drift apparently without finding a stronger or more persistent structure. Previous drilling (Holes 75-1, 75-2 and 75-3) does not assist in determining the probable location of 'D' structure on 'I' level. It is quite possible that the strongest section of 'D' vein lies north of the face of the 'I' level north drift. This can be tested by drifting north on 'I' level or by drilling from the 304 drift south as proposed by Clarke[2].

The 'D' vein therefore is a major mineralized zone which at 'D' level would yield approximately 1,000 tons per vertical foot. At present however, because of lack of information on the length, width and grade of this zone above and below the 'D' level, no substantive estimate of tonnage potential can be made. Considering the available information, it is not unreasonable to expect that such a zone might continue 200 feet above and below the 'D' level and would contain 375,000 tons more or less in situ, with a probable range of 200,000 to 500,000 tons.

The arithmetic mean of combined wall and test hole samples within the confines of what appears to be a geological entity is 17 ounces of silver per ton. Significantly however, rather extensive mining along this section of the 'D' level has restricted access so that, very little of the zone within the limits of the drift has been included in this sampling. Since this presumably represents a better than average section of

the zone it is possible that the arithmetic mean of 17 ounces is artificially low in comparison to a similar sampling of the Prosperity Vein in the 305 drift south. Accordingly, for the purpose of this evaluation it will be assumed that the true average grade of the deposit in situ will lie within the range 10 to 20 ounces per ton which is equivalent to an average recovered grade with a range of 8 to 16 ounces per ton, this being the same range of tenor applied to the Prosperity 305 south zone.

THE PROSPERITY VEIN

The Prosperity vein has been opened on three levels and intervening sub-levels over a vertical range of 750 feet and for a strike length well in excess of 1,000 feet. It was the principal source of ore during the main production period, yielding some 22,000 tons of ore and 1,650,000 ounces of silver. As a rough estimate, approximately 10,000 feet of development work was required for this production. Total strike length explored is about 2,000 feet. The objective of this work however, was to discover high grade shipping ore and little attention was paid to defining the total zone of mineralization. Test holing in 305 drift south during the 1981 season has delimited a mineralized zone up to 40 feet in width and extending for at least 400 feet on strike. No test holing has been done in the 305 drift north. When the extent of the wide ore-bearing zone on the '3' level has been fully defined, it will be necessary to continue the exploration

above and below '3' level.

The discovery of a wider zone of mineralization on the Prosperity vein is an important development in that it demonstrates that the tonnage potential previously demonstrated for the 'D' vein has now been duplicated. The indicated total area of the mineralized zone in the 305 drift south is approximately the same as the area of the 'D' zone on 'D' level, namely 12,000 square feet indicating an in situ zone of about 1,000 tons per vertical foot at this horizon. The arithmetic mean of samples from 14 test holes lying within the outlines of an assumed geologic entity which could be mined as a unit is 22 ounces of silver per ton. Assays from two test holes near the northern extremity of the zone which were not available at the time this calculation was made are expected to be low grade and their inclusion would reduce the arithmetic mean to perhaps 20 ounces of silver per ton. This sample mean for several reasons cannot be taken to indicate the average grade of the deposit. First, because of restrictions imposed by the width of the drift and the presence of timber, the samples are taken at irregular intervals and at varying angles and generally do not test the full width of the zone. Second, the samples indicate a highly skewed sample population, characterized by a large number of low grade samples, a few very high grade samples which contribute much of the silver and a deficiency of samples of intermediate grades. In such a distribution, the arithmetic mean is not

considered to be a reliable estimator of the true average ade of a deposit. There are procedures available for adjusting, (normalizing such sample populations to give a more reliable estimate,) but considering the small number of samples and the deficiencies noted above, the utility of such procedures in this case is questionable. Alternatively, it is a common practice among estimators to reduce high assays to some arbitrary value such as the arithmetic mean of all the samples. If this is done and the assays are then re-averaged, the resultant mean is less than 10 ounces silver to the ton which, in the opinion of this estimator, is an understatement of the probable true grade of this mineralized zone at this horizon. Pending the availability of more detailed sample data at two or more horizons which would warrant a more phisticated treatment it is thought preferable to say that the probable true grade of the deposit in place is in the range of 10 to 20 ounces of silver per ton which, assuming 20 per cent dilution in mining and 90 per cent overall recovery of silver, is equivalent to a recoverable grade in the range of 8 to 16 ounces per ton of ore processed.

Co-incidentally, the cross sectional area of the 305 south zone on the Prosperity Vein is about 12,000 square feet which is roughly equal to the 'D' vein intercept on the 'D' level. For the purpose of this preliminary assessment, the two zones will be considered to have equal tonnage potential, namely a range of 200,000 to 500,000 tons with a likely value of ,000 tons in place.

'304' OR BLIND VEIN

This structure was intersected in the 301 cross cut and appears to correspond to a mineralized structure found in a surface trench opened by early prospectors. A small tonnage of ore of good grade was mined and shipped during the 1929-1931 production period. Additional exploration work, including drifting, raising and wall sampling with percussion drill holes will be required to assess the possibility of significant ore occurrence in this structure.

SURFACE SHOWING

During the 1981 work season, a mineralized outcrop was discovered north of the small ice-field and roughly on strike with the presumed surface trace of the 'D' vein. The showing has been opened by blasting and sampling over a width of 15 feet and has yielded the following confirmed results:

Sample No.	Width Feet	Gold Oz./Ton	Silver Oz./Ton	Lead %	Zinc %	Silver/Lead Ratio: Oz./%
212	0.7	0.020	115.09	21.26	5.98	5.41
213	4.4	0.004	1.51	0.24	0.51	2.96
214	1.3	0.002	72.50	8.13	16.44	8.92
215	8.8	0.014	7.87	0.63	1.02	12.49
Weighted Average	15.2	0.019	16.49	2.11	2.42	7.82

The record of the assay of this sampling is compiled in Exhibit I.

This discovery will require additional work including surface stripping and trenching, followed by diamond drilling to fully appraise its economic potential. The discovery

however, is an important event in that it constitutes a significant mineral discovery in a previously unexplored area and may in fact represent a recurrence of wide ore at a point which is 1,200 feet on strike and 500 feet higher than the nearest known ore on the 'D' vein. This has important implications for continuing exploration on the 'D' and Prosperity Veins and perhaps for other potentially ore-bearing structures as well.

Realistically however, this occurrence indicates the possibility of a mineralized zone of the same order of magnitude as the zones already discovered on the 'D' and Prosperity Veins and should not, on the basis of present information, be construed as a continuation or extension of the 'D' level zone of wide mineralization. The potential is comparable to that of the previously explored zones but, being at a very preliminary stage of investigation, the risk is relatively much higher.

ECONOMICS OF EXPLORATION

Obviously, the justification for mineral exploration is the expectation of finding an ore deposit or ore deposits which can be exploited to yield a net profit on all investment. During the early stages of any exploration programme, there is always the difficulty of determining what expenditures are warranted and what constitutes a significant discovery. One method of dealing with this problem is to set up a model depicting the size, tenor, and configuration of the ore body and of the economics of the development and exploitation of such an ore body which, having regard to the geological history and other characteristics of the search environment, is a reasonable and prudent assumption.

Exploration of the Prosperity-Porter Idaho claims to date has resulted in the discovery of two wide zones of silver mineralization, one on the 'D' vein and one on the Prosperity vein. Definitive information is limited in each case to one horizon. The strike dimension of the wider mineralization is known and it is probable that dip dimension is also finite and of similar magnitude. Such an assumption would be consistent with mineralization which has been localized in an intensely fractured zone within an envelope of shearing stress or with localization within depositional basins during the sedimentary sequence. If this is true then in order to sustain production it will be necessary to locate and develop

recurrent ore bodies within one or more known or yet to be discovered mineral environments. The primary exploration objective therefore is the full delineation and sampling of the 'D' and Prosperity mineral zones and the secondary objective is the discovery and delineation of recurrent zones of mineralization on the 'D', the Properity or other vein structures. It is in this respect that the significance of the recent surface discovery north of the ice-field becomes apparent. This is first a probable recurrence of wide ore on the extension of the 'D' structure and it may also be indicative of a locus of mineralization which for one reason or another could have resulted in the formation of significant zones of mineralization on the Prosperity or other known or unknown structures in this vicinity. This would indicate that the second priority of the exploration programme should be the further delineation, definition and sampling of the new surface discovery zone coupled with prospecting in this vicinity along the projections of other known mineralized structures. If warranted by the results of surface work, an underground drive from '3' level (1,500 feet more or less) would explore the down dip extension of this zone about 500 feet vertically below the outcrop.

With regard to the possible exploitation of the ore which may be discovered, it is apparent that the known zones are of sufficient lateral dimensions to permit mining at rates of 700 tons per working day or 175,000 tons per year. If the

two zones extend for two hundred feet above and below the level (a not unreasonable expectation) then there could be available in situ approximately 750,000 tons which, including dilution of 20 per cent, would provide 900,000 tons of mill feed which is sufficient for a mill processing 500 tons per day or 175,000 tons per year for five years. From the standpoint of economics and having regard for the high cost of infrastructure and the high fixed cost of operation, the scale of operations should be as high as is practicable. For these reasons, a production rate of 175,000 tons per year equivalent to 350 days of operation at 500 tons per day for the mill and 250 days of operation at 700 tons per day for the mine is indicated.

Estimated capital cost of developing and equipping a mine and mill to process 175,000 tons of ore per year is 40.5 million dollars as detailed in the following section, based on expected January 1983 costs including an escalated estimate of the cost to provide access to the mine by tunnelling as proposed by Torchinsky. The tunnelling alternative, despite higher cost, is preferred because of the operating advantages cited in the Torchinsky report and for the very important consideration that such a tunnel would provide the only practicable means for the exploration of the northern extensions of the known mineral zones, the outcrops of which are covered by ice.

Estimated operating costs for a mine and flotation concen-

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Estimate of Capital Cost

500 Ton Per Day Mine and Concentrator

Basis: January, 1983 Canadian Dollars

1. MINE ACCESS - Torchinsky System No. 1
Option: HEDBA

(a) Tunnel to west face Segment H-E

Estimated Cost	$3,570,000	
Escalation @ 11% per year	830,000	
Total		$4,400,000

(b) Road to base of mountain, Segment E-D

Estimated Cost	$1,625,000	
Escalation @ 11% per year	375,000	
Snowshed Allowance	500,000	
Total		2,500,000

(c) Road Segment D-B

Estimated Cost	$ 30,000	
Escalation	10,000	
Total		40,000

(d) Road Segment B-A

Estimated Cost	$1,180,000	
Escalation	270,000	
Total		1,450,000

Total Estimated Cost of Mine Access	$8,390,000

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Estimate of Capital Cost

500 Ton Per Day Mine and Concentrater

Basis: January, 1981 Canadian Dollars

2. MINE PLANT

(a) Mine Development	
$5,750 x T = 5,750 x 700 =	$ 4,025,000
(b) Mine Equipment and Installation	
$47,000 x $T^{0.6}$ = 47,000 x $700^{0.6}$ =	2,400,000
(c) Mine Maintenance Facilities	
$22,000 x $T^{0.5}$ = 22,000 x $700^{0.5}$ =	575,000
(d) Plant Site Clearing, Bulk Excavation	
$70,000 x $T^{0.3}$ = 70,000 x $500^{0.3}$ =	450,000
(e) Crushing Plant, Bins and Conveyors	
$70,000 x $T^{0.5}$ = 70,000 x $700^{0.5}$ =	1,850,000
(f) Concrete Foundations	
$64,000 $T^{0.5}$ = 64,000 x $500^{0.5}$ =	1,450,000
(g) Concentrator Building	
$85,000 x $T^{0.5}$ = 85,000 x $500^{0.5}$ =	1,900,000
(h) Fine Ore Storage and Grinding	
$16,000 x $T^{0.7}$ = 16,000 x $500^{0.7}$ =	1,250,000
(i) Flotation Section	
$8,000 x $T^{0.7}$ = 8,000 x $500^{0.7}$ =	650,000
Carried forward	$14,550,000

. MINE PLANT (Continued)

Carried forward		$14,550,000
(j) Thickening & Filtering Section $\$15,800 \times T^{0.5} = 15,800 \times 500^{0.5} =$		350,000
(k) Concentrate Storage and Loading $\$6,400 \times T_c^{0.8} = 6,400 \times 100^{0.8}$		250,000
(l) Electric Power Supply & Distribution - (Assume Diesel Generated Power, 2000 kw peak load, 50% Standby)		
Diesel Generators $\$7,000 \times 2000^{0.8} =$	$3,600,000	
Substation $\$550 \times 2000^{0.8} =$	250,000	
Distribution (L.V.) $\$950 \times 2000^{0.8} =$	400,000	
Distribution (H.V.)	150,000	
Total Power		4,400,000
(m) Tailings Storage - (Rough Estimate)		750,000
(n) Water Supply		100,000
(o) Plant Services, Office, Shops, etc.		600,000
(p) Employee Accommodation		1,000,000
Total Estimated Cost of Mine Plant		$22,000,000

SUMMARY

ESTIMATE OF CAPITAL COST

500 Ton Per Day Mine and Concentrator

Basis: January, 1981 Canadian Dollars

Estimated Cost of Mine Plant		$22,000,000
Estimated Cost of Mine Access		8,390,000
Total Estimated Direct Cost		$30,390,000
Administration & Overhead Cost		
Feasibility & Design	$1,000,000	
Project Supervision	800,000	
Construction Camp Operation	1,400,000	
Administration, Accounting, etc.	500,000	
		3,700,000
Contingency Allowance		3,410,000
Working Capital		3,000,000
TOTAL CAPITAL REQUIREMENTS		$40,500,000

trator treating 175,000 tons of ore per year are 15.3 million dollars per year or $87.50 per ton based on expected January 1983 wages and prices. These estimates of capital and operating costs have attempted to take into account the known factors which are peculiar to the locale, the mining environment and the characteristics of the ore, but cannot be specific in the absence of more precise information on the ore configurations, the metallurgical characteristics of the ore, the method of mining and the mill flow sheet which would be required for equipment and design specifications. Because of these limitations, the estimates are subject to variances of the order of 15 per cent but are adequate for the purpose of planning and justifying exploration budgets.

The potential profitability under the assumed conditions will be dependent primarily on the grade of ore and on metal prices, particularly the price of silver. The grade of ore mined is, to some degree, subject to control by the operator who by greater or lesser selectivity can increase or decrease the grade of ore mined and co-incidentally decrease or increase the tonnage of mineable ore. Usually there is an optimum mining grade which will change with changes in metal prices and operating costs. The operator has no control of metal prices except to the extent to which he may be able to hedge through advanced sales in the futures market. In the long term, silver prices will tend to reflect the cost of production and will therefore tend to escalate with costs.

ESTIMATE OF OPERATING COSTS[1]

500 Ton Per Day Mine and Concentrator

Mining Cost - (Cut and Fill Mining)		
Labour	$36.00	
Supplies	6.00	
Total Mining		$42.00
Milling Cost		
Labour	$10.00	
Supplies	7.00	
Total Milling		17.00
Administration & Services		
Electrical Services	$ 2.70	
Surface Plant Services	1.00	
General Administration	2.80	
Fringe Benefits (Service, Labour)	2.50	
Electric Power	7.00	
Service Supplies	0.50	
Personnel Expenses	7.00	
Administration Expenses	2.00	
Road Maintenance	3.00	
Total Administration		28.50
TOTAL OPERATING COST - (per ton Milled)		$87.50

Probable variance of estimate is minus 10 per cent and plus 15 per cent giving a probable range of operating cost from 80 to 100 dollars per ton.

(1) Includes escalation to January 1, 1983.

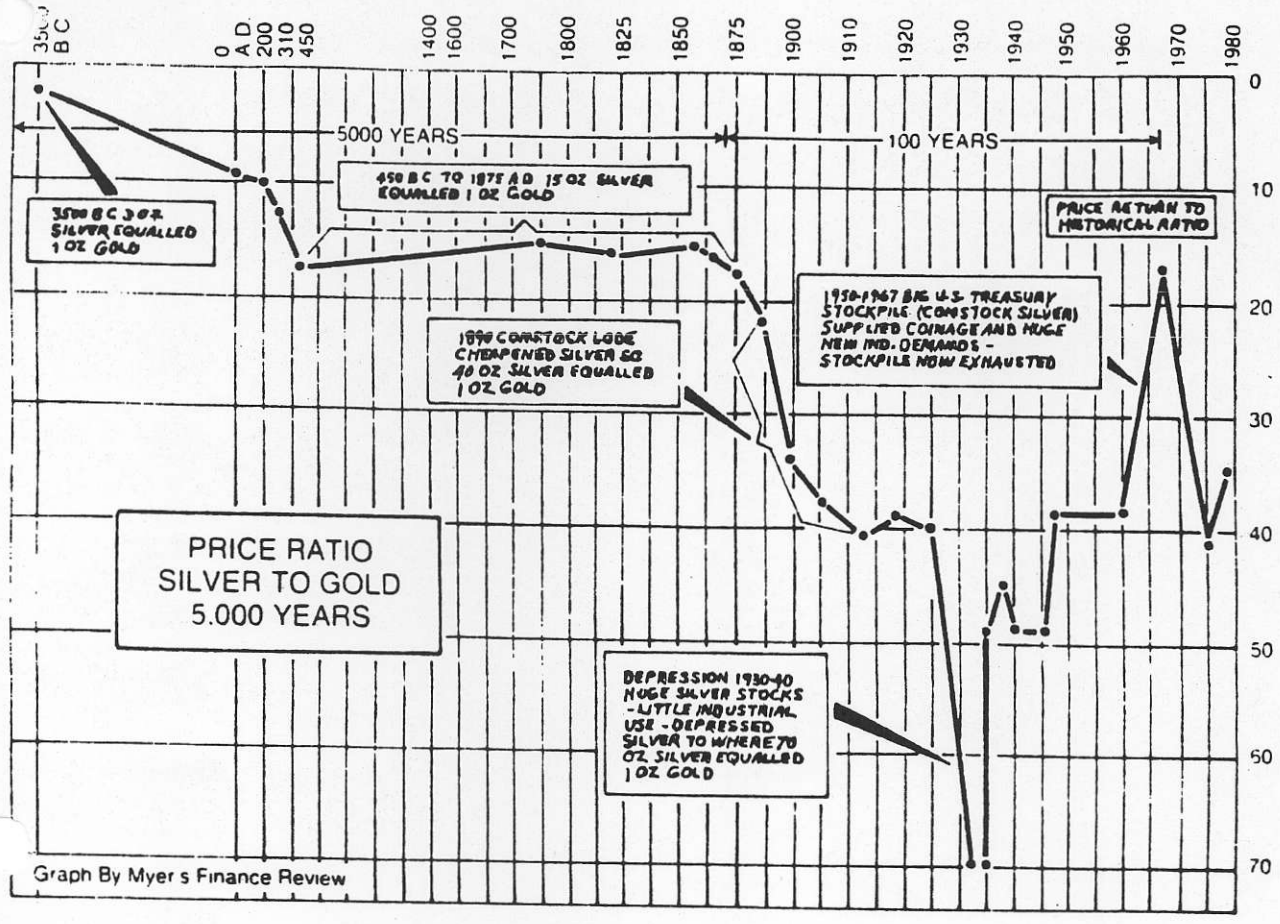
Three-quarters of the world's primary silver is produced as a by-product of lead, zinc and copper mining and for this reason supply is relatively inelastic and unresponsive to price changes. Demand is variable, tends to be somewhat elastic in response to price changes but is greatly influenced by speculator activity as exemplified by the 1979-1980 price fluctuations.

Relative prices and production levels of silver and gold have tended to remain constant but to reflect major events such as economic crises, mineral discoveries or advances in technology. Figure 1 illustrates these relationships throughout the historical period. Notable are first, the apparent constancy of price ratios since 1890 (except for the aberrations coinciding with the 1929 depression, and the U.S. demonitorization of silver,) and second, the near constant ratio between gold and silver production over the past 40 years. The former is the basis for the frequently cited 'normal' ratio of 35 to 1 for gold and silver prices.

A recent record of silver prices is listed in Table I which shows prices in U.S. dollars of the day and in constant U.S. dollars over a period of 20 years. Omitting the years 1979 and 1980 which are anomaleus, the price has increased at an average annual rate of 5 per cent for eighteen years but was essentially constant from 1973 through 1978, averaging $6.56 per ounce in 1980 dollars.

The current price of silver (Handy & Harman, October 19,

Figure 1.


3500 B C
0 A D
200
310
450
1400
1600
1700
1800
1825
1850
1875
1900
1910
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1930
1940
1950
1960
1970
1980
5000 YEARS
100 YEARS
3500 B C 3 OZ SILVER EQUALLED 1 OZ GOLD
450 B C TO 1875 A D 15 OZ SILVER EQUALLED 1 OZ GOLD
1890 COMSTOCK LODE CHEAPENED SILVER SO 40 OZ SILVER EQUALLED 1 OZ GOLD
1950-1967 BIG U.S. TREASURY STOCKPILE (COMSTOCK SILVER) SUPPLIED COINAGE AND HUGE NEW IND. DEMANDS - STOCKPILE NOW EXHAUSTED
PRICE RETURN TO HISTORICAL RATIO
PRICE RATIO SILVER TO GOLD 5.000 YEARS
DEPRESSION 1930-40 HUGE SILVER STOCKS - LITTLE INDUSTRIAL USE - DEPRESSED SILVER TO WHERE 70 OZ. SILVER EQUALLED 1 OZ GOLD
0
10
20
30
40
50
60
70
Graph By Myer s Finance Review

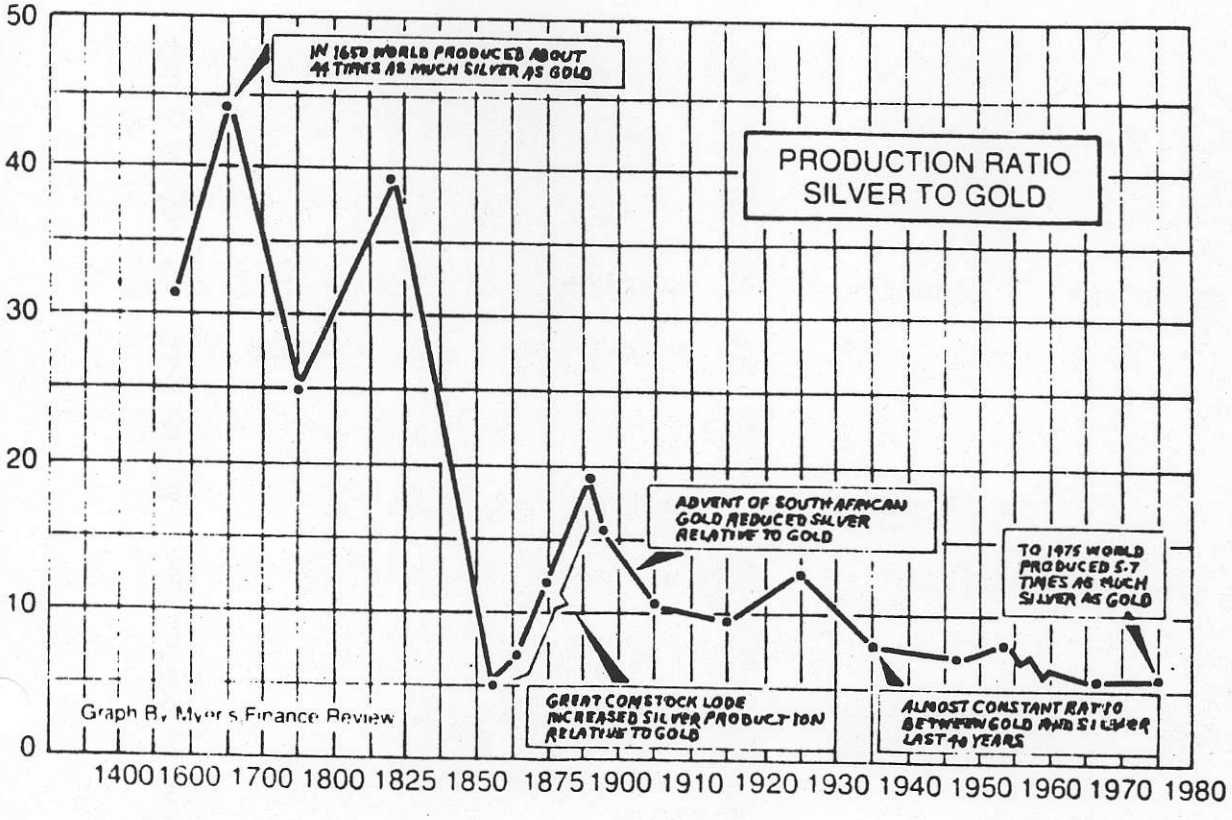
50
40
30
20
10
0
IN 1650 WORLD PRODUCED ABOUT 44 TIMES AS MUCH SILVER AS GOLD
PRODUCTION RATIO SILVER TO GOLD
ADVENT OF SOUTH AFRICAN GOLD REDUCED SILVER RELATIVE TO GOLD
TO 1975 WORLD PRODUCED 5.7 TIMES AS MUCH SILVER AS GOLD
GREAT COMSTOCK LODE INCREASED SILVER PRODUCTION RELATIVE TO GOLD
ALMOST CONSTANT RATIO BETWEEN GOLD AND SILVER LAST 40 YEARS
Graph By Myers Finance Review
1400 1600 1700 1800 1825 1850 1875 1900 1910 1920 1930 1940 1950 1960 1970 1980

TABLE I

Silver Prices Indexed at 1980 Dollars (U.S.)

Year	Average Annual Price per Troy oz. H & H, N.Y.	U.S. Producer Metal Price Index, 100 = 1980	Price
1960	0.914	32.4	2.82
1965	1.293	33.8	3.83
1970	1.770	40.8	4.34
1971	1.546	41.6	3.72
1972	1.684	43.3	3.89
1973	2.558	46.5	5.50
1974	4.708	60.2	7.82
1975	4.419	65.0	6.80
1976	4.353	68.6	6.35
1977	4.623	73.2	6.32
1978	5.401	79.6	6.79
1979	11.094	90.8	12.22
1980	20.632	100.0	20.63

1981) is $9.36 U.S. per ounce and the ratio of gold price to silver price is 47 to 1. The prevailing price level is influenced by several factors including the low ebb of economic activity and the attendant low prices of all major metals, substitution brought about by excessive silver prices in 1979 and 1980, and the current sales by the U.S. treasury in the implementation of a plan to dispose of 139 million ounces at the rate of one million ounces per month over the next three years. It is noted also that this silver was declared surplus in 1976 and although approval for the proposal was not given until 1981, the existence of the surplus probably depressed prices during 1977 and 1978.

For Canadian producers there is the added factor and added unoertainty of fluctuations in the Canadian/U.S. exchange rate.

From the evidence cited, it is concluded that the price of silver at present is below a long term trend line which will reflect a gradual increase in the real value of silver through time. With improvement in the general level of economic activity during the next five years, it is expected that the price of silver will again rise to a level between $12.00 and $15.00 U.S. and that the Canadian price will be in the range of $13.50 to $17.50, all prices being in terms of January 1983 dollars.

EVALUATION OF MINING POTENTIAL

The usual basis of evaluation of a mining venture is the present value of the expected net cash flow less the present value of the cost of developing and equipping the mine for production or what is commonly referred to as the excess present value of the undertaking.

The essential elements of this calculation are:

(a) Estimates of annual gross revenues.

(b) Estimates of annual cost of operation.

(c) A discount factor, arbitrarily selected which is intended to take into account the time value of money (real interest rate,) the perceived rate of ongoing inflation, and an allowance with respect to the uncertainty or risk of the undertaking.

The calculations which follow depart from the standard procedure in three important respects. First, in order to avoid the need to estimate the inflationary trend, the calculations use constant dollars of a particular date. Implicit in this is the assumption that operating cash and revenues will escalate at the same rate. This will not be precisely true but for the relatively short terms under consideration, is well within the overall limits of accuracy and the calculations are much simplified.

Secondly, the risk element is removed from the general discount factor so that there is first computed a risk free present value of the undertaking, which value is then adjusted downward in accordance with the perceived risk of non-

fulfillment. This procedure has the advantage of focusing attention on the actual assessment of risk and avoids the doubtful assumption that risk varies exponentially with time which is implicit in the alternative procedure.

Finally, it is recognized that each element entering into this calculation is a variable factor having a wide range of possible values and in such circumstances an aggregation of the most likely values for each individual element may not properly reflect these variances in the final result which preferably should be stated as a probability distribution of the risk adjusted value. This may be accomplished by means of computer simulation or through direct application of probability calculus. A variant of the latter is considered to be the most appropriate in this instance.

The factors entering into the present value calculation are:

1. Production capacity. - Arbitrarily taken as 175,000 tons of ore per year equivalent to 700 tons per operating day of the mine and 500 tons per operating day of the mill.

2. Capital Cost. - Estimated at 40.5 million dollars (basis January 1, 1983) with probable range from 36 million dollars to 47 million dollars.

3. Operating Costs. - Estimated at $87.50 per ton of ore processed (basis January 1, 1983) with probable range from $80 to $100 per ton. In absence of more precise data, it is assumed that revenue from by-products will cover the cost of freight and treatment of concentrates.

4. Grade of Ore (recoverable as metal) is estimated to be in the range of 8 ounces per ton to 16 ounces per ton - the most likely grade being 12 ounces per ton.

5. Price of Silver (January 1, 1983 basis) is estimated to

lie within the range of $13.50 to $17.50 per troy ounce, the most likely value being $15.00 per ounce.

6. Operating Life - (2 Ore bodies) - 5 years.

7. The time value of money (true interest rate) is taken as 3 per cent per annum which rate then becomes the inflation-free, risk-free discount rate applicable to present value calculations.

8. Risk. - Having regard fer the uncertainty of future exploration results and the significant variance of each of the elements which enter into the calculation of the present value, it is our considered opinion that a risk factor of 50 per cent is appropriate for this evaluation.

CASH FLOW APPRAISAL

Gross Revenue per ton of ore mined in the absence of metallurgical data and applicable smelter schedules for treatment of concentrate is taken as a product of the expected price of silver and the estimated recoverable silver in the ore (allowances being made for ore dilution, mill losses and smelter deductions). It is assumed that credits for lead and other by-products will cover the cost of freight and treatment of concentrates. Calculations based on the stated assumptions indicate that there is a 70 per cent probability that the Gross Revenue will be $150 per ton or greater, the most likely value being $180 per ton.

The Operating Margin is the excess of gross revenues over operating costs. Calculations osing the assumed range and most likely value of operating costs, together with the probability distribution of gross revenues, indicates that there is a 70 per cent probability that the Operating Margin will be $75 per ten or greater, the most likely value of the Operating Margin being $90 per ton. The most likely annual Cash Flow at a production rate of 175,000 tons per year would be 15.8 million dollars. A risk-free Present Value of the expected Cash Flow in terms of constant dollars can be computed as the sum of the annual increments, discounted for time at the real (risk-free, inflation-free) interest rate. Discounting of this present value by a risk factor which in this case is judged to be 50 per cent gives the risk dis-

counted present value of the expected Cash Flow. The positive difference between the risk discounted Present Value and the estimated Capital Cost at the same date gives the Risk Discounted Excess Present Value of the venture which, at this stage of development, should be viewed not as indicative of the ultimate worth of the project but rather as a measure of the effectiveness of the exploration effort. In this instance it has been calculated that there is a 70 per cent probability that the Risk Discounted Present Value is positive and has a most likely value of 5 million dollars. This value has been generated almost entirely by the programmes carried out during 1980 and 1981. Since this has been achieved with the expenditure of less than two million dollars, the risk/reward ratio has been favourable.

With regard to continuing exploration, it is apparent that the project is at a stage where the Risk Discounted Present Value may be enhanced significantly as a result of improvement in one or more of the variable factors such as grade of ore, quantity of ore, the outlook for metal prices and costs, or simply as a result of a lower level of uncertainty due to more accurate information. A further programme of exploration such as outlined herein and costing up to $1,250,000 is warranted because of the relatively high probability such a programme would increase the Risk Adjusted Present Value of the project by an amount which is several times the anticipated outlay. Thus, an increase of 10 per cent in the

anticipated mine run grade of ore, all other things being equal, would increase the calculated Present Value by about ten million dollars. Alternatively, if the level of uncertainty could be reduced to the extent that a discount factor of 40 per cent would be appropriate then the Present Value would be similarly enhanced. Favourable results from exploration of the new surface showing and adjacent areas would enhance the prospects for a longer life project but would require much more work to produce measurable results in terms of Risk Adjusted Present Value. It is most unlikely that the 1983 programme would be sufficiently positive to warrant a decision to production, but it is possible that results could be sufficiently encouraging to warrant the starting of work on the haulage tunnel for use initially as an exploration base.

It must be recognized of course that strongly negative results from next year's programme for the development and appraisal of the known occurrences would have an extremely negative effect on the outlook for success in the exploration of relatively inaccessible extensions of the mineralized zones.

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(9)SKERL, Dr. A.C., report dated November 2nd, 1961: The Prosperity Idaho Silverado Property, Cassiar Consolidated Mines.

(10)SKERL, Dr. A.C., report dated September 21st, 1966: The Prosperity Idaho Silverado Property, Cassiar Consolidated Mines.

Atkins Mining Consultants Limited

EXHIBIT I

Assay Record

From

Sampling of Surface Trench

Presumed 'D' Structure

October, 1981

EXHIBIT NO. 1

Re 8110-0752

Client: Mr. Clive W. Ball

Samples received Oct. 7 - client wanted fast assay results on AuAg.
AuAg results were assayed and phoned to client.
Pb and Zn values were reported later.

Oct. 15 or 16 - client phoned in and suggested some inconsistencies in the AuAg values and insisted recut assay on all samples.

Meantime, checking original data an error was discovered in the calculation on Sample 215; the correct value of the doré value should be 5.040 mg, instead of 50.40 mg.

In any case, rechecking of original pulps and re-cut assays were performed. Results as follows:

			Au(oz/St)	Ag(oz/St)	Pb%	Zn%
(1)	Original reported dated Oct. 15	212	0.004	89.87	21.26	5.98
		213	0.002	1.32	0.24	0.51
		214	0.002	67.40	8.13	16.44
		215	0.002	97.10	0.63	1.02
(	1st internal check from original pulp	212	0.004	115.12		
		213	0.002	1.41		
		214	0.002	72.35		
		215	0.002	7.83		
(3)	2nd internal check from original pulp	212	0.020	88.85		
		213	0.004	1.55		
		214	0.002	67.49		
		215	0.002	6.64		

---

le-cut sample as required by client

(4)	Final report	212	0.020	115.09	15.13	8.35
		213	0.004	1.51	0.23	0.52
		214	0.002	72.50	8.66	14.84
		215	0.014	7.87	1.17	1.72

General Testing Laboratories
A Division of SGS Supervision Services Inc.
1001 EAST PENDER ST., VANCOUVER, B.C., CANADA, V6A 1W2
PHONE (604) 254-1647 TELEX 04-507514 CABLE: SUPERVISE

TO:
MR. CLIVE BALL
3191 West 36th Ave.,
Vancouver, B.C.

CERTIFICATE OF ASSAY

No.: 8110-0752/B | DATE: Oct. 21/81

eby certify that the following are the results of assays on: Ore (Second cut from rejects)

MARKED	GOLD oz/st	SILVER oz/st	Lead Pb (%)	Zinc Zn (%)	Copper Cu (%)	xxx	xxx	xxx
212	0.020	115.09	15.13	8.35	0.33			
213	0.004	1.51	0.23	0.52	0.01			
214	0.002	72.50	8.66	14.84	0.27			
215	0.014	7.87	1.17	1.72	0.03			

ECTS RETAINED ONE MONTH. PULPS RETAINED THREE MONTHS. ON REQUEST PULPS REJECTS WILL BE STORE FOR A MAXIMUM OF ONE YEAR.

ITS ARE THE CONFIDENTIAL PROPERTY OF CLIENTS. PUBLICATION OF STATE-MENTS R EXTRACTS FROM OR REGARDING OUR REPORTS IN NOT PERMITTED WITHOUT ROVAL. ANY LIABILITY ATTACHED THERETO IS LIMITED TO THE FEE CHARGED.

P. Buschlen, Chemist
PROVINCIAL ASSAYER

General Testing Laboratories
A Division of SGS Supervision Services Inc.

1001 EAST PENDER ST., VANCOUVER, B.C., CANADA, V6A 1W2
PHONE (604) 254-1647 TELEX 04-507514 CABLE: SUPERVISE

TO:

MR. CLIVE W. BALL
3191 West 36th Ave.,
Vancouver, B.C.

CERTIFICATE OF ASSAY

No.: 8110-0752 | DATE: Oct. 15/81.

...reby certify that the following are the results of assays on: Ore

MARKED	Thickness (feet)	GOLD oz/st	SILVER oz/st	Lead Pb (%)	Zinc Zn (%)	XXX	XXX	XXX	XXX
212	0.7 ft	0.004	89.87	21.86	5.98				
213	4.4 ft	0.002	1.32	0.24	0.51				
214	1.3	0.002	67.40	8.13	16.44				
215	8.8 ft	0.002	97.10	0.63	1.08				
l	15.2 feet								

Check Assays by General Testing
Ray Roberts Assayer
Oct 21, 1981

...k (Feet)	Gold oz/st	Silver oz/st	Pb %	Zn %	Cu %
212 0.7	0.020	45.09	15.13	8.35	0.33
13 4.4	0.004	1.51	0.23	0.52	0.01
14 1.3	0.002	72.50	8.66	14.84	0.27
5 8.8	0.014	7.87	1.17	1.72	0.03
l = 15.2'		16.5 Avg			

Sampled by Clive W. Ball

...ECTS RETAINED ONE MONTH. PULPS RETAINED THREE MONTHS. ON REQUEST PULPS REJECTS WILL BE STORE FOR A MAXIMUM OF ONE YEAR.

...TS ARE THE CONFIDENTIAL PROPERTY OF CLIENTS. PUBLICATION OF STATE-MENTS, EXTRACTS FROM OR REGARDING OUR REPORTS IN NOT PERMITTED WITHOUT ...OVAL. ANY LIABILITY ATTACHED THERETO IS LIMITED TO THE FEE CHARGED.

PROVINCIAL ASSAYER

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A Division of SGS Supervision Services Inc.

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PHONE (604) 254-1647 TELEX 04-507514 CABLE: SUPERVISE

TO:
MR. CLIVE W. BALL
3191 West 36th Ave.,
Vancouver, B.C.

CERTIFICATE OF ASSAY

No.: 8110-0752 | DATE: Oct. 15/81

...by certify that the following are the results of assays on: Ore

MARKED	GOLD oz/st	SILVER oz/st	Lead Pb (%)	Zinc Zn (%)	XXX	XXX	XXX	XX
212	0.004	89.87	21.26	5.98				
213	0.002	1.32	0.24	0.51				
214	0.002	67.40	8.13	16.44				
215	0.002	97.10	0.63	1.02				

L. Wong
PROVINCIAL ASSAYER

LONGITUDINAL SECTION LINE

LONGITUDINAL SECTION LINE

I LEVEL ELEVATION 4222

I LEVEL ELEVATION 4222

SHEET INDEX

PACIFIC CASSIAR LIMITED

PLAN OF I, D, AND 3 ADITS

GEOLOGY

ATKINS MINING CONSULTANTS LIMITED

OCTOBER 1981

SCALE

FEET

inches

centimetres

This reference scale bar has been added to the original image. It will scale at the same ratio as the image, therefore it can be used as a reference for the original size.

LONGITUDINAL SECTION LINE

LONGITUDINAL SECTION LINE

I LEVEL ELEVATION 4222

I LEVEL ELEVATION 4222

SHEET INDEX

SHEET No 10

SHEET 8-8

PACIFIC CASSIAR LIMITED

PLAN OF I, D, AND 3 ADITS
PERCUSSION DRILL SAMPLES

ATKINS MINING CONSULTANTS LIMITED

OCTOBER 1981

SCALE

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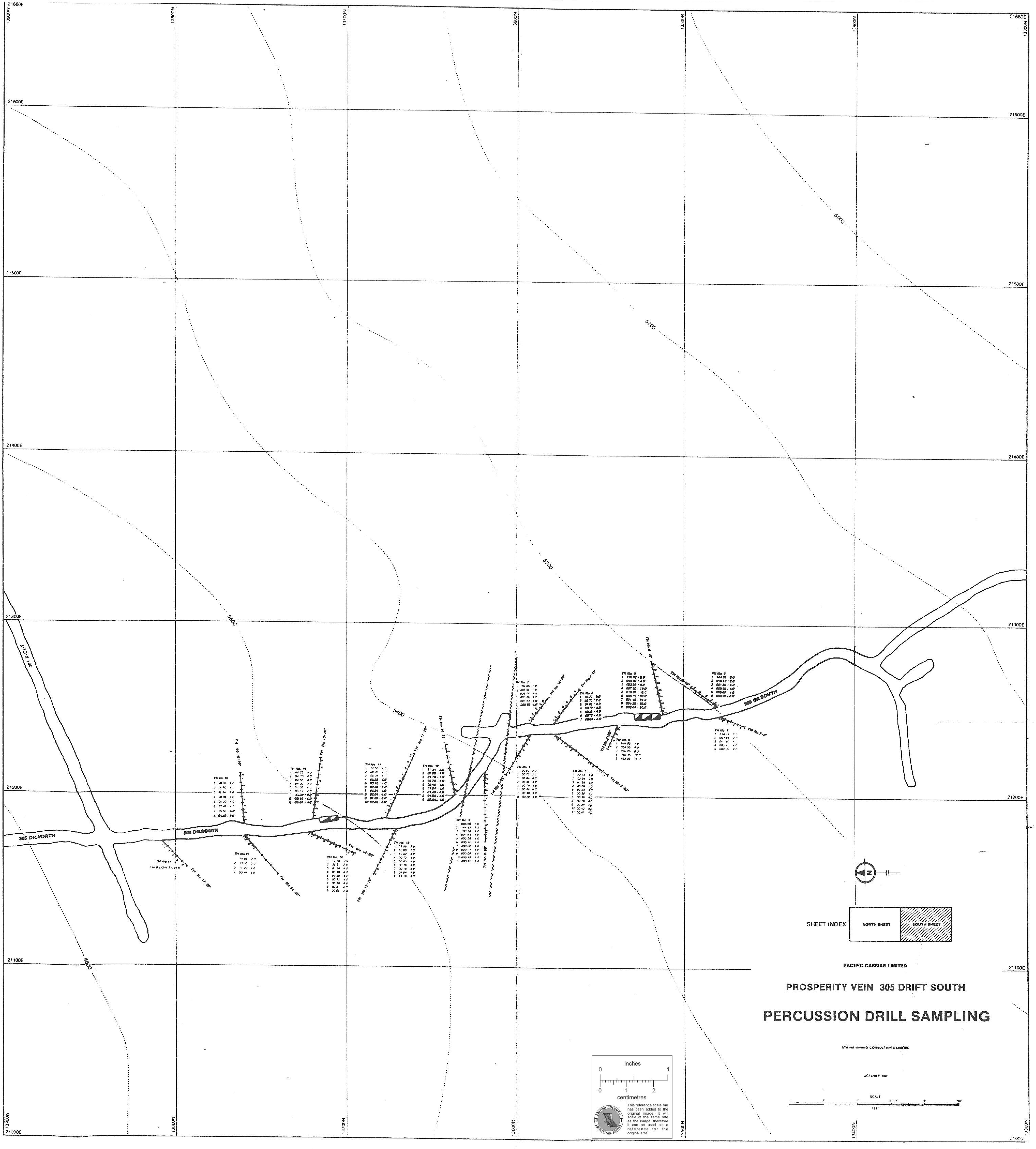

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305 DR.NORTH
305 DR.SOUTH
301 X CUT
SHEET INDEX
NORTH SHEET
SOUTH SHEET
PACIFIC CASSIAR LIMITED
PROSPERITY VEIN 305 DRIFT SOUTH
PERCUSSION DRILL SAMPLING
ATKINS MINING CONSULTANTS LIMITED
SCALE
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centimetres
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D LEVEL ELEVATION 4691

LONGITUDINAL SECTION LINE

No. 3 LEVEL ELEVATION 5065

SECTION B

SECTION C

SECTION D

SECTION E

SECTION F

I LEVEL EL 4222

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SHEET INDEX

SHEET 5 E

PACIFIC CASSIAR LIMITED

PLAN OF I, D, AND 3 ADITS

GEOLOGY

ATKINS MINING CONSULTANTS LIMITED

OCTOBER 1981

SCALE

0 20 40 60 80 100

FEET

LONGITUDINAL SECTION LINE

D LEVEL ELEVATION 4691'

O LEVEL ELEVATION 4691'

No. 3 LEVEL ELEVATION 5085

SECTION B

SECTION C

SECTION D

SECTION E

SECTION F

No.1 SUB DRIFT EL 4833

No.2 SUB DRIFT EL 4884

No.3 SUB DRIFT EL 4880

S SUB DRIFT EL 4715

No.3 FUSE EL 4776

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SHEET INDEX

SHEET B-W

SHEET B-E

PACIFIC CASSIAR LIMITED

PLAN OF I, D, AND 3 ADITS

PERCUSSION DRILL SAMPLES

ATKINS MINING CONSULTANTS LIMITED

OCTOBER 1981

SCALE

FEET