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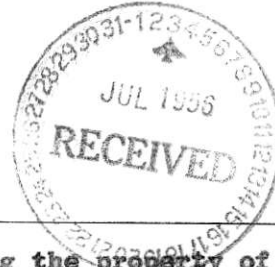
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MEMORANDUM

TORONTO June 29th, 1956

TO: THE DIRECTORS, TRIANA EXPLORATION LIMITED
FROM: MR. G. M. RADISICS
SUBJECT: CASSIAR CONSOLIDATED MINES

820081



Attached please find report covering the property of Cassiar Consolidated Mines Limited located near Stewart, British Columbia, which was submitted for the consideration of Triana Exploration Limited while the writer was in Vancouver recently.

I have referred to this proposition in my recent report summarizing results of my trip to the West and stated then that while the property has certainly definite merit, its further exploration and development would entail the expenditure of monies far in excess of Triana's budgetary limitations. I am, therefore, taking the liberty of submitting this proposition for possible consideration by the Directors of Prospectors Airways Company Limited, Anglo-Huronian Limited or Noranda Mines Limited. I may say that I have forwarded a copy of this report together with the maps to Mr. Chisholm at Whitehorse so that if you should decide to pursue this matter further, he would be in possession of all pertinent facts if you decide to make an examination of the property of Cassiar Consolidated Mines.

[Handwritten signature]

GMR:vk
Encl.

- c.c. Mr. W. S. Row
- Mr. C. L. Coleman
- Mr. R. V. Porritt
- Mr. James W. Baker
- Dr. Peter Price

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Cassiar Consolidated Mines.

Stewart B.C.

June 29 1956

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TRIANA EXPLORATION LIMITED

TELEPHONE
EMPIRE 3-8533

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SUITE 348
12 RICHMOND STREET EAST
TORONTO, ONTARIO

June 29th, 1956

Mr. E. O. Chisholm,
c/o Prospectors Airways Company, Limited,
Whitehorse,
Yukon Territory.

Dear Ted:

Attached please find copy of all data collected concerning the Cassiar Consolidated Mines property given to us while we were in Vancouver together by Lylie Jestley's office, for your consideration. I may say that I have submitted this proposal to the Directors for Prospectors Airways or Anglo-Huronian, whichever the case may be, and thought that should they wish to pursue this matter further it would be of help if you would have the data at hand since it would be you who would make any examination of the situation.

Since seeing you, I had occasion to discuss this property with Leo Telfer of C.M. & S., whose Company had the property under option a few years back, and while Leo considers it an excellent exploratory bet he feels that the only way an economic operation is at all feasible in that tough and inaccessible country would be to drive a long axis tunnel which, of course, being about a mile long would cost considerable moneys. In any event, you will get a better idea of the situation once you look over the attached data.

I hope you are having an enjoyable and busy time and I am looking forward to hearing from you. Meanwhile, best regards.

Very sincerely yours,



G. M. RADISICS

GMR:vk
Encl.

(a) The Company was incorporated as a specially limited public mining company under the laws of the Province of British Columbia on the 8th day of May, 1951; the registered office of the Company is 1519 Marine Building, 355 Burrard Street, Vancouver 1, B. C.; upon incorporation, the Company had an authorized capital of \$1,500,000.00 divided into 3,000,000 shares with a nominal or par value of 50 cents each; on the 21st day of November, 1955, pursuant to a resolution duly adopted at an Annual and Extraordinary General Meeting of the Company held on the 4th day of November, 1955, the authorized capital of the Company was increased to \$2,500,000.00 divided into 5,000,000 shares with a nominal or par value of 50 cents each of which there have been issued, as fully paid-up and non-assessable, 1,240,702 shares for mining properties and services and 685,005 shares for cash; the share capital of the Company consists solely of 4,000,000 ordinary common shares with a nominal or par value of 50 cents each; the Company has no indebtedness save for certain current accounts payable in the amount of approximately \$723.95, as at January 31, 1956, which will be paid in due course.

(b) By means of the proceeds of the sale of shares of the Company described herein, the Company proposes to carry out a program of preliminary exploration of the group of mineral claims which it recently acquired in the Highland Valley District of the Province of British Columbia and a program of development of its mining property near Stewart in the Province of British Columbia, consisting of diamond-drilling and drifting in accordance with the recommendations made by the Company's Consulting Geologist, Dr. A. C. Skerl.

Following its incorporation, the Company acquired from Big Four Silver Mines Ltd. (N.P.L.), under an agreement of the 14th day of May, 1951, as modified by a release

and quit claim of the 31st day of October, 1952, 36 Crown-granted mineral claims and leases of three reverted Crown-granted mineral claims, all situate in the Skeena Mining Division of the Province of British Columbia, as well as certain buildings, machinery and equipment situate at or near Stewart, B. C.; the Company also acquired from Lawrence S. Davidson under an agreement of the same date one recorded mineral claims and leases of eight reverted Crown-granted mineral claims, also situate in the said Mining Division. Under an agreement of the 20th day of February, 1952, The Consolidated Mining and Smelting Company of Canada Limited expended \$19,553.22 in conducting a geological survey, and in mapping, sampling and diamond-drilling on the Company's mining property near Stewart, B. C.

Under an agreement of the 1st day of September, 1954, between the Company and Portal Mining Company Limited (N.P.L.) as modified by agreements of the 27th day of May, 1955, and the 14th day of October, 1955, the Company was granted an option to purchase nine recorded mineral claims, 30 Crown-granted mineral claims and the right to acquire, at the expense of the said Portal Mining Company Limited (N.P.L.), Crown-grants of as many of 13 reverted Crown-granted mineral claims as the Company's Consulting Geologist might select from time to time up to the 31st day of March, 1956, by the allotment and issuance to the said Portal Mining Company Limited (N.P.L.), subject to the approval of the shareholders of the Company, of 650,000 shares of the capital stock of the Company, as fully paid-up and non-assessable; at the Annual and Extraordinary General Meeting of the Company held on the 4th day of November, 1955, it was unanimously resolved that the Company exercise the option granted to it by Portal Mining Company Limited (N.P.L.). On the recommendation of the Company's Consulting Geologist, the Company has now requested Portal Mining Company Limited (N.P.L.) to obtain Crown-grants of

the 13 reverted Crown-granted mineral claims and to cause clear title thereto to be vested in the Company; applications for Crown-grants are being made accordingly. The Company now proposes to allot and issue the said 650,000 shares forthwith upon receipt of the approval of the Superintendent of Brokers thereto.

During 1954 and 1955, the Company, at a cost of \$45,500.00 cleared out certain underground workings and carried out an extensive geological survey of its mining properties including those which it held under option from Portal Mining Company Limited (M.P.L.). In addition, for a total expenditure of \$19,600.00 the Company acquired the old Bank of Montreal premises at Stewart, B. C., for use as a mine office and accommodation for its crew and certain heavy equipment and machinery.

Under an agreement between the Company and Ralph Andrew Sostad of the 25th day of August, 1955, the Company acquired 30 recorded mineral claims situate in the Highland Valley district of the Kootenai Mining Division for a total consideration of \$5,000.00 and 200,000 shares of its capital stock issued to the said Ralph Andrew Sostad as fully paid and non-assessable; a further 14 recorded mineral claims and one fractional mineral claim, adjacent to the 30 recorded mineral claims acquired from the said Sostad, were staked for the Company and title thereto has now been transferred to it.

The Company's assets consist of certain current assets in the value, as at October 15, 1955, of \$2,937.96, and capital assets comprised of buildings, plant and equipment of a book-value as at October 15, 1955, of \$68,263.37, and mineral claims and leases.

The Company is the registered owner of the following Crown-granted mineral claims all situate in the Cassiar

District, Skeena Mining Division, of the Province of British Columbia. All minerals, precious and base, save coal, petroleum and natural gas, lying in or under:

<u>Lot No.</u>	<u>Name of Claim</u>	<u>Lot No.</u>	<u>Name of Claim</u>
1857	Tea Pot Dome	4734	Prickly Heat
1858	Prosperity	4735	Gen of the Mountains
1859	Prosperity Fraction	4736	Gen of the Mountains Fr.
1860	Honest John	4737	Prickly Heat Fraction
1866	Gargoyle Fraction	4738	Never Sweat Fraction
4512	Fortune	5103	Silver Key Fraction
4514	Silver Bow No. 3 Fraction	5104	Silver Key No. 1
4515	Glacier Fraction	5105	P.G. Number 1 Fraction
4518	Silver Bow No. 1	5106	P.G. Number 2 Fraction
4520	Silverado No. 3	5113	Key Fraction
4521	Silverado No. 4	5114	Silver Key No. 3
4523	Silverado No. 4 Fraction	5115	Silver Key No. 4
4728	Slide	5116	Silver Key No. 5
4729	Lucille	5117	Silver Key No. 6
4730	Nettie L.	5118	Silver Key No. 7
4731	Sunday	5119	Cambria
4732	Eureka	5120	Guard
4733	Never Sweat	5122	Silver Key Number 2

and all minerals, precious and base, save coal, petroleum and any gas or gases, lying in or under:

<u>Lot No.</u>	<u>Name of Claim</u>	<u>Lot No.</u>	<u>Name of Claim</u>
4508	Iron Hill	4510	Glencarn
4524	Canyon	1065	Copper Queen
1864	Copper King	744	Jumbo
775	Ben Bolt	1406	Red Reef No. 2
1407	Red Reef No. 3	4739	Triumph
4740	Victoria		

The Company is also the owner of the following recorded mineral claims, free and clear of all encumbrances:

- (a) Silver Cup Fraction, situate in the Skeena Mining Division of the Province of British Columbia;
- (b) Jerusalem mineral claims Nos. 1 to 32 inclusive, the Jerusalem No. 33 Fraction and the CAS mineral claims Nos. 1 to 12 inclusive, all situate in the Highland Valley district of the Kamloops Mining Division of the Province of British Columbia.

The Company, in addition, holds title to the tract of land and premises on which the old Bank of Montreal premises is situate, being Lot 7, Block 15, Map 1087, in the Village of Stewart, Province of British Columbia.

The Company is acquiring from Portal Mining Company Limited (N.P.L.), as hereinbefore set out, certain recorded mineral claims and Crown-granted mineral claims, all situate in the Cassiar District, Skeena Mining Division, Province of British Columbia, as follows:

A. Recorded mineral claims:-

Union Nos. 1 and 2, and the
 Union No. 1 Fraction, Union No. 2 Fraction,
 Union No. 3 Fraction, Union No. 4 Fraction,
 Union No. 5 Fraction and Union No. 6 Fraction.

B. Crown-granted mineral claims:-

<u>Lot No.</u>	<u>Name of Claim</u>	<u>Lot No.</u>	<u>Name of Claim</u>
1553	Black Bear	869	Sunbeam
1554	Tiger	4287	Dunwell No. 2
2961	Wolverine Fraction	4290	Dunwell Fraction
420	Sadie	926	Lulu
403	Last Chance	428	Mosquito
4476	Victory	437	Melba
2956	Helen	436	Olga
2955	Jane	2960	O. K. Fraction
2958	Jennie	2954	Billy
402	Lucky Boy	2959	Go-Between Fraction
1384	Little Pearl Fraction	1385	Kootenay
2317	Chicago No. 1	2957	Mabel
2318	Chicago No. 2	2325	Ben Bolt Fraction
2319	Chicago Fraction	1828	Silver Bar Fraction
1826	Silver Bar No. 1	1552	Thelma
770	Ajax	4419	Charles No. 3 Fraction
769	Rex	1827	Silver Bar No. 2 Fraction
5252	Alice No. 1	5253	Alice No. 2
5257	Alice No. 1 Fraction	5260	Alice No. 2 Fraction
771	Auto	4418	Charles
773	Maid of Erin	772	Kinnie
4420	Virginia Fraction		

(c) Under the terms of an underwriting agreement of the 4th day of October, 1955, between the Company, of the First Part, and William Raymond Wheeler, of the Second Part, as modified by agreements between the same parties of the 4th day of January, 1956 and the 12th day of April, 1956, the said William Raymond Wheeler holds an option to purchase, on or before the 12th day of July, 1956, all or any part of 150,000 shares of the capital stock of the Company at and for a price of 15 cents per share net to the treasury, and, on or before the 12th day of October, 1956, all or any part of 174,239 shares at and for a price of 20 cents per share net to the treasury; no commission or discount is to be

allowed on any of the shares sold under the terms of the said agreements.

(d) In view of the fact that the Registrar of Companies on the 10th day of April, 1952, granted to the Company a Certificate to commence business, and in view of the underwriting obtained by the Company described in the last preceding paragraph, in the opinion of the Directors no minimum subscription is required.

(e) There are no amounts paid or payable as commission for subscribing or agreeing to subscribe, or procuring or agreeing to procure subscriptions for any shares to be sold under the terms of the aforesaid underwriting agreement; discounts of 35 cents and 30 cents per share are to be allowed respectively on the 150,000 shares and the 174,239 shares to be sold at prices of 15 cents and 20 cents per share net to the treasury.

(f) There is no property purchased or acquired by the Company or proposed to be purchased or acquired, that is to be paid for wholly or partly out of the proceeds of the sale of shares under the aforesaid underwriting agreement; the Company, however, proposes to acquire from Portal Mining Company Limited (N.P.L.), as hereinbefore set out, clear title to nine recorded mineral claims and 43 Crown-granted mineral claims by issuance to the said Portal Mining Company Limited (N.P.L.) of 650,000 shares of the capital stock of the Company as fully paid and non-assessable.

(g) The full name and address of the vendor of the property under clause (f) is as follows:

Portal Mining Company Limited (Non-Personal Liability),
1519 Marine Building,
355 Burrard Street,
Vancouver 1, B. C.

(h) No debentures are offered for subscription by the Company.

(i) Services rendered or to be rendered to the Company that are to be paid for by the Company wholly or partly out of the proceeds of the sale of its shares under the aforesaid underwriting agreement, or have been paid within the last two years, are services incidental to the administration of the Company and the exploration and development of its mining properties, and no services are to be paid for by shares.

(j) No amounts have been paid or are intended to be paid to any promoter.

(k) 1. There are no special rights or restrictions attached to any shares to be sold under the terms of the aforesaid underwriting agreement.

2. In a show of hands every member present in person shall have one vote. On a poll every member shall have one vote for each share of which he is the holder.

3. The qualification of a director is the holding of at least one share in the Company.

4. Remuneration of the directors shall from time to time be determined by ordinary resolution, whether previous notice thereof has been given or not.

(l) The full names, addresses and occupations of the directors and the amount in cash subscribed by each of them for shares of the Company or otherwise contributed by each of them to the Company are as follows:

<u>Name</u>	<u>Address</u>	<u>Subscriptions in cash</u>
W. R. Wheeler	Angelus Hotel, 780 Dunsmuir Street, Vancouver, B. C.	\$58,900.00

<u>Name</u>	<u>Address</u>	<u>Subscriptions in cash</u>
J. H. M. Greenwood	1065 Palmerston, West Vancouver, B. C.	7,550.00
Ernest S. Earle	850 West Hastings St., Vancouver, B. C.	600.00
H. D. Rochfort	1365 West 12th Ave., Vancouver, B. C.	1,450.00
Ervin C. Thompson	3605 West 8th Ave., Vancouver, B. C.	1,000.00

(m) The Directors of the Company are members of Portal Mining Company Limited (N.P.L.), the vendor to the Company of the mining property described under paragraphs (b) and (f), and hold the following percentage interests therein:

W. R. Wheeler 32% J. H. M. Greenwood 6%
Ernest S. Earle 16% Henry D. Rochfort 18%
Ervin C. Thompson 6%

(n) The auditor of the Company is Roger M. Boyland, Chartered Account, 1523 Marine Building, 355 Burrard Street, Vancouver), B. C.

(o) (i) During the last two preceding years, the Company has offered for subscription under various underwriting agreements and, upon receipt of payment therefor in full, has allotted shares for its capital stock, as follows:

100,000 shares at and for a price of 10 cents per share net to the treasury,
150,000 shares at and for a price of 20 cents per share net to the treasury,
300,000 shares at and for a price of 10 cents per share net to the treasury,
50,000 shares at and for a price of 15 cents per share net to the treasury.

(ii) No amounts have been paid within the last two preceding years as commission for subscribing or agreeing to subscribe, or procuring or agreeing to procure subscriptions for any shares of the Company; there have been allowed in respect of the 600,000 sold during the last two preceding years discounts thereon in the total amount of 222,500.00.

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(p) The following is a copy of the last Balance Sheet of the Company:

Vancouver, B. C.
October 17, 1955.

The Shareholders,
Cassiar Consolidated Mines Limited (N.P.L.)

I have examined the Balance Sheet of Cassiar Consolidated Mines Limited (Non-Personal Liability) as at October 15, 1955, and the Statement of Development and Exploration for the seven and one-half months ended on that date and have obtained all the information and explanations I have required. My examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as I considered necessary in the circumstances.

In my opinion, the accompanying Balance Sheet and Statement of Development and Exploration are properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Company as at October 15, 1955 and the results of its operations for theseven and one-half months ended on that date, according to thebest of my information and the explanations given to me and as shown by the books of the Company.

" R. M. Hoyland "

Chartered Accountant

CASPIAN CONSOLIDATED MINES LIMITED
(Non-Personal Liability)

BALANCE SHEET AS AT OCTOBER 15, 1955

A S S E T S

Current Assets:

Imperial Bank of Canada	2,031.25	
Bank of Montreal	121.52	
Dr. A. C. Skerl - Trust Account	500.00	
Deposits	30.00	
Account Receivable	2.60	
Prepaid Insurance and Taxes	<u>252.59</u>	2,937.96

Capital Assets:

Mineral Claims and Leases	50,569.32	
Options (See notes attached)	1,100.00	
Buildings, Plant and Equipment	62,263.37	
Development and Exploration Expenditures:		
Balance at February 28, 1955	57,915.41	
Add, Expenditures for the		
seven and one-half months		
ended October 15, 1955		
(Exhibit "B")	<u>12,519.09</u>	<u>70,434.50</u>
		190,367.19
Incorporation Expenses		4,087.00
		<u>197,392.15</u>

L I A B I L I T I E S

Current Liabilities:

Sundry Creditors	3,938.65
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Share Capital:

Authorized -		
3,000,000 shares of 50 cents each	<u>1,500,000.00</u>	
Issued -		
1,040,702 shares for properties	520,351.00	
and services	167,502.50	
335,005 shares for cash	687,853.50	
	<u>1,375,707.00</u>	
Less, Discount on shares	187,853.50	
	<u>21,600.00</u>	193,453.50

Contingent Liability:

Payment to accrue under Option Agreement	<u>4,000.00</u>	
		<u>197,392.15</u>

OR BEHALF OF THE BOARD

"W. R. Wheeler" Director

"E. S. Barle" Director

CASSIAR CONSOLIDATED MINES LIMITED

(Non-Personal Liability)

BALANCE SHEET NOTES

1. The Company has entered into an Option Agreement with Portal Mining Company Limited (N.P.L.) to purchase certain mineral claims for 650,000 shares of its capital stock prior to November 15, 1955.

2. The Company has entered into an Option Agreement with Mr. R. A. Sostad to purchase certain mineral claims for \$5,000.00 cash and 200,000 shares of its capital stock prior to February 1, 1956.

3. Mr. W. R. Wheeler has agreed to accept 200,000 shares of the capital stock of the Company in full satisfaction of an advance of \$20,000.00 made by him to the Company.

4. The Company has agreed to sell to Mr. W. R. Wheeler 100,000 shares of its capital stock at a price of 10 cents per share and has granted him an option to purchase a further 200,000 shares at a price of 15 cents per share until January 4, 1956 and 174,239 shares at a price of 20 cents per share until April 4, 1956.

* * * * *

(q) The dates of and parties to every material contract are as follows:

Agreement in writing dated the 8th day of April, 1954 between the Company, of the First Part, and William Raymond Wheeler, of the Second Part.

Agreement in writing dated the 1st day of September, 1954, between Portal Mining Company Limited (N.P.L.), of the First Part, and the Company, of the Second Part.

Agreement in writing dated the 15th day of September, 1954, between Mike Lazarevich, of the First Part, and the Company, of the Second Part.

Agreement in writing dated the 15th day of October, 1954,

between the Company, of the First Part, and William Raymond Wheeler, of the Second Part.

Agreement in writing dated the 27th day of May, 1955, between Portal Mining Company Limited, (P.M.L.) of the First Part, and the Company, of the Second Part.

Agreement in writing dated the 25th day of August, 1955, between Ralph Andrew Bostad, of the First Part, and the Company, of the Second Part.

Agreement in writing dated the 4th day of October, 1955, between the Company, of the First Part, and William Raymond Wheeler, of the Second Part.

Agreement in writing dated the 14th day of October, 1955, between Portal Mining Company Limited (P.M.L.), of the First Part, and the Company, of the Second Part.

Agreement in writing dated the 4th day of January, 1956, between the Company, of the First Part, and William Raymond Wheeler, of the Second Part, and extension agreement in writing of the 12th day of April, 1956.

Each of the said documents, or a copy thereof, may be inspected during business hours at the offices of Messrs. Jestley, Morrison, Eckardt & Goldie, 1519 Marine Building, 355 Burrard Street, Vancouver 1, B. C.

WE, the undersigned directors, hereby certify that the foregoing statement is to the best of our knowledge true and complete.

WITNESS:

1519 Marine Building

355 Burrard Street

Progress Report

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CASSIAR CONSOLIDATED MINES LTD.

9th. October, 1955

The President and Board of Directors,
Cassiar Consolidated Mines Ltd.,
209 Credit Foncier Building,
Vancouver, B.C.

Dear Sirs,

At your request I am submitting the following brief progress report of my findings during my recent investigation of your properties in the Portland Canal Area.

The assay results for the 215 samples taken in the Ben Bolt workings will not be available for at least two weeks and as they are of critical importance the present account can only be tentative.

In the Glacier Creek section some promising ore occurrences were investigated.

It is hoped to obtain the old plans for the Silverado workings during the coming week and to make a further study of the numerous plans for the Prosperity-Idaho mine before submitting a formal report.

Yours Sincerely,

A. C. SKERL, P.Eng.

BEN BOLT

A PRELIMINARY inspection of the four tunnels with a total of 1800 feet of drifts and cross-cuts indicated that there was widespread mineralization with sulphides in an unusually large quartz vein. Your permission was therefore obtained to conduct a detailed sampling campaign throughout the workings. This has now been done together with a Brunton and tape survey but the all important assay results will not be available for about two weeks.

The walls of the workings were extremely dirty and only the numerous sample cuts made the mapping of the geological features at all possible.

Surface mapping shows that the vein has a true width of 170 feet with a dip of 30 degrees due west. The underground workings have explored less than one third of this width on the footwall side over a vertical range of 340 feet and a horizontal distance of 950 feet in a north-south direction.

Whilst some sulphide is scattered all through the vein there is a zone within this footwall section that is much more intensely mineralized over a true width of 30 feet and appears to be continuous between the levels.

At least one more zone is probably present because a highly rusty outcrop was seen in an inaccessible part of the bluff above the topmost tunnel and probably 30 feet into the hangingwall of the main zone.

Usually the mineralization is associated with an altered dyke that itself often contains sulphides. The minerals in order of abundance are pyrite, sphalerite, galena and chalcopyrite. They occur principally in seams up to three feet thick in the quartz vein and some can be traced through the workings for at least 150 feet.

It is hoped that the sampling results will indicate that the zone so far explored could contain 500,000 tons of ore with enough value in gold, silver, lead and zinc to make a profitable mining operation.

If the sampling results are sufficiently encouraging then it is proposed to drill about 20 vertical diamond drill holes on the surface at 50 to 100 feet intervals between and immediately south of the tunnels. These holes would average about 200 feet deep giving a total of 4,000 feet of drilling that would cost perhaps \$20,000.

If these holes are successful in demonstrating the continuity and grade of the main ore zone a further set of deeper holes could be drilled to the south. The presence of parallel orebodies higher up in the quartz vein would also be tested by the drilling and if found to be present a large open pit operation could be planned.

GLACIER CREEK AREA

SINCE the writer's examination of the Main Portland Canal Tunnel in March of this year a transit survey has been made of the various old workings within the area that might be considered as ultimately tributary to the tunnel.

The writer has now investigated all the accessible workings and the most

promising ore occurrences were found in and above the old Glacier Creek Mining tunnel about 2,200 feet north of the east end of the Portland Canal tunnel and 550 feet higher in elevation. Here a drift has explored a mineralized zone in an irregular manner for a length of 200 feet. The zone dips at 35 degrees west and contains persistent seams of pyrite with sphalerite and galena. One seam that was followed by the north drift averages for 90 feet:

Au 0.23 oz. Ag 2.74 oz. Pb 3.36%
Zn 0.98%

over a vertical width of 2 feet.

Just south of this two more bands are exposed in its hangingwall that with the mineralized country rock give

Au 0.17 oz. Ag 3.4 oz. Pb 1.05%
Zn 0.77%

over a vertical width of 8.5 feet.

A little farther south at the main cross-cut a band of mineralized quartz equivalent to the hangingwall of the previous 8.5 feet gave

Au 0.02 oz. Ag 1.0 oz. Pb tr.
Zn tr.

over a vertical width of 7 feet.

The width of the zone is at least 15 feet and more could be present in the unexplored footwall.

On the surface in a creek above the tunnel there is a zone similar in size and mineral content to the one described above but 200 feet in its hangingwall. No doubt this was the objective of the tunnel but it was not found presumably because of a north-south fault that has displaced it vertically for at least 100 feet or because a steeper and moderately mineralized vein in the cross-cut at 30 feet west of the fault represents the missing vein.

This latter vein assayed

Au 0.04 oz. Ag 0.45 oz.
over 4 feet.

This appears to be the Little Wonder vein to the south that was reportedly developed for 500 feet in a tunnel 45 feet lower in elevation and to within 200 feet of the Glacier Creek tunnel.

The Little Wonder workings are now caved but a picked sample from the dump of the material containing much pyrite that was shipped by leasers as-

ayed Au 0.86 oz., Ag 1.45 oz., whilst another with much galena and sphalerite gave Au 0.14 oz., Ag 0.10 oz.

Underground diamond drilling followed by drifting and raising is proposed for developing the ore in and above the Glacier Creek tunnel.

A drilling programme has already been submitted for the east end of the Portland Canal tunnel.

In view of the promising findings outlined above it is recommended that the options on the claims in this area be exercised (see attached list of claims).

PROSPERITY-IDAHO-SILVERADO AREA

THERE is a strong possibility that the belt of five parallel shears that contain the high grade silver veins in the Prosperity-Idaho ground extends beneath the ice-cap of Mt. Rainey for 7,000 feet to the Silverado workings where a similar set of five shears are found that contain rich although apparently more limited orebodies.

The shears in the Prosperity-Idaho section are compounded from two main directions of strike—due N and N25W with most of the ore along the former direction.

The corresponding directions on the Silverado side are N25W and N45W. This last direction is occasionally present in the first area.

The orebodies in the various shears are directly opposite each other thus forming cross zones. The individual orebodies are only from one to two hundred feet long but they extend down the dip for at least 500 feet on the Prosperity-Idaho side.

The limited evidence of two major cross zones on this side and a small one on the Silverado side suggests that there could be four other zones spaced along the strike at 1500 feet intervals.

Ore Reserves

On the Prosperity, Blind and D veins there are lengths of ore on their bottom

levels that extend to an unknown depth. The amount assumed for ore reserve calculations is therefore arbitrary.

For each one hundred feet of depth the respective tonnages would be 8,500, 4,500, and 30,000 tons for a minimum stopping width of 4.5 feet. This gives a total of 43,000 tons that would average about Ag 23 oz., Pb 2%, Zn 2%.

Another 50,000 tons of this grade are probably available above the D drift.

Ore in the dumps and other old stopes would easily bring the total to 100,000 tons with the arbitrary limit of 100 feet below the present bottom levels of each vein.

This figure is comparable with the production in the past that amounted to 30,000 tons averaging 73 oz. silver and probably 2.5% lead and 2.5% zinc or three times the grade of the above ore reserve. It was obtained by selective mining and sorting and would therefore be equivalent to 90,000 tons of average ore in place over a minimum mining width of 4.5 feet.

Discussion on Ore Reserves

In 1950 Mr. B. W. W. McDougall examined the Prosperity-Idaho mine and estimated an ore reserve of 105,000 tons averaging 21 oz. silver per ton which is very similar to that of the writer.

In 1951 Mr. C. Rutherford after studying the plans and reports gave a reserve of 46,000 tons averaging 26 oz. silver and 5% lead.

This considerable difference illustrates the necessarily arbitrary limits that an estimator gives to the extent of a block of ore in these deposits.

To the writer, however, the value of these properties lies in the prospective ore that may be developed by a bold underground development campaign. There are various geological factors that indicate a strong probability that considerable amounts of ore should exist on the known structures both beneath the present workings and farther into the mountain:

- 1. An important factor is the large

scale of the geological setting of the series of parallel ore-bearing shears that probably extend for two miles and that are situated symmetrically in a large embayment of volcanic rocks in the Coast Range granitoid intrusions. This suggests that the geological conditions during the formation of the deposits were uniform for at least two miles of strike and a vertical range of several thousand feet.

2. Certain horizons in the volcanic series may be more favourable to the formation of orebodies than others. Thus the exceptional size of the orebody on D level may be governed by the country rock in which case a similar condition could be looked for on the Blind and Prosperity veins at a similar horizon.

3. Apart from the enriched ore at the immediate surface as good a grade primary ore has been found at depth (e.g., on the D level at elevation 4700 ft.) as in the semi-oxidized ore that probably constituted much of the ore shipped in the past. On the Silverado side an exposure of fresh sulphide ore at the 2450 ft. elevation assayed over one foot Au 0.02 oz., Ag 0.10 oz., Pb 0.60%, Zn 10.70%, showing that ore values can be present at that comparatively low level.

4. The regularity of the fracture pattern on both sides of Mt. Rainey and the presence of orebodies in two cross zones on the south side about 1500 feet apart suggests that entirely new cross zones could be encountered by exploring the 7000 feet of strike beneath the ice-cap.

5. On the Prosperity-Idaho side the ore-making possibilities of the Wake and Angelo shears have been very inadequately explored.

The above considerations show that these combined properties present an excellent geological possibility of finding substantial amounts of ore in the large block of unexplored ground between them.

Dr. A. C. SKERL, P. Eng.

GLACIER CREEK AREA

Symbols: Au = Gold; Ag = Silver; Pb = Lead; Zn = Zinc