

92N/16W,
15E

888509

Ref. GSC Paper 68-33
Mount Waddington

TATLA LK.
AREA (Blackhorn Mtn.)

GEOLOGICAL REPORT

McDUCK, McDON, McCOPE, and McMUL CLAIM GROUP

CLINTON MINING DIVISION

N.T.S. LOCATION 92N/10W

LATITUDE 51 Deg. 31 MIN LONGITUDE 124 Deg. 47 MIN.

OWNERS OF CLAIMS:

T. WAUGH
P. MacDONALD
J. McMULLIN
M. KADUK
J. BERRYERE

OPERATOR:

T. WAUGH

CONSULTANT:

G. McCONNELL

AUTHOR:

G. McCONNELL

Date: SEPTEMBER 10, 1982.

*Visited
Aug. 11/88
TGS+CL*

1. INTRODUCTION(1) Location and Access

The McDuck, McDon, McCope and McMul Claim Group is located in the Clinton Mining Division (Mineral Claim Map 92N/10W) at longitude 124 degrees, 47 minutes and latitude 51 degrees, 35 minutes, approximately 40 kilometres southwest of the town of Tatla Lake and 20 kilometres southwest of White Saddle Air Services Ltd. helicopter base at Bluff Lake.

J.J. #1 } Copeland
J.J. #2 }

Access to the property is by helicopter from Bluff Lake with an approximate air time of 12 minutes for a fully loaded Bell Jet Ranger.

The property covers rugged topography with elevations rising from 1800 metres on the eastern boundary to over 2400 metres on the western side, covering the southern flank of Blackhorn Mountain with a peak of 3200 metres. See Index Map.

(11) Property, History, Owners & Economic Assessment

The current claim group consists of the following:

McDuck Gold	(395)	- 6 units	J.J. #1
McDon	(867)	- 6 units	
McCope	(866)	- 6 units	
McMul 1	(868)	claim	
McMul 2	(869)	claim	

The registered owners are as follows:

P. McDonald
J. McMullin
M. Kaduk
T. Waugh
J. Berryere

Jack James Copeland

The operator for the current work is T. Waugh.

The property was first staked in 1936 on the basis of several finds of gold-bearing quartz veins and a company Homathko Gold Mines Limited, was formed in 1937 to develop the showings. Work carried out during the period 1936-1939 included surface trenching on a number of showings, open-cut mining and milling (Gibson prospector's mill) of a few tons of high-grade ore, establishment of an aerial tramway, the driving of an adit and drift on the main showing and approximately 600 metres of diamond drilling. The majority of the work

was done while the property was under option to N.A. Timmins Limited. This early work is described in B.C. Minister of Mines Annual Reports for 1937, 1938 and 1939 (Refs. 1, 2 and 3).

With the advent of World War 11, all work ceased on the property.

As a result of renewed interest in gold properties, the area was restaked in 1979 and brief prospecting programmes have been undertaken by the present owners.

The current mapping and sampling programme has confirmed the existence of high-grade gold-quartz veining on the property which may be of a continuous nature over considerable strike lengths. A thorough re-assessment including re-vitalization of an underground programme is warranted.

(111) Summary of Work Done

The current programme has consisted of a review of past work and geological mapping and sampling of the adit and drift on a scale of 1 : 250. The adit is approximately 30 metres long and drifting, covers a strike length of approximately 57 metres.

Field work was done during the period August 20th to 25th, 1982.

2. TECHNICAL DATA AND INTERPRETATION

Mapping and sampling of the adit and drift is shown on Map No. 2 on a scale of 1 : 250.

The adit is driven in massive fine grained green andesite and andesite breccia with weak fracturing and jointing. Dips appear to be about 45 degrees northwest.

At 30 metres from the portal a narrow quartz vein, approximately 0.6 metres wide is encountered. The vein strikes N50E and is steeply dipping to the northwest and drifting on it was undertaken to the northeast and southwest for about 30 metres in each direction.

The hanging wall of the vein is composed of schistose andesite, with minor crystalline pyrite mineralization. A 2 metre wide quartz porphyry dyke cuts the andesite at the east end of the drifting and is probably the same dyke encountered in the adit. The dyke dips vertically.

Cross faulting at right-angles to the quartz vein occurs in several places and near the east end of the drifting, the vein is offset to the southeast about 5 metres. The quartz is generally grey white and contains carbonate along fractures, and chlorite wisps. Sulphide mineralization comprises up to 10 percent of the vein material, but generally averages about 2 percent. The sulphides in order of abundance are arsenopyrite, pyrite, sphalerite, chalcopyrite and galena. The arsenopyrite is generally in the form of clusters of fine acicular crystals. Pyrite is generally crystalline and disseminated. The other sulphides occur as blebs and small masses. Visible gold occurs as fine grains on fractures.

Five chip samples were taken in the drift as shown on Map No. 2. From southwest to northeast a description is as follows:

1. Grey quartz-carbonate fractures
2% fine crystalline arsenopyrite
minor pyrite and chalcopyrite
Fine disseminated gold
(Sample 179 P)
2. Grey-white quartz.
5% fine needles of arsenopyrite.
Minor pyrite galena and sphalerite
Fine flour gold on fractures
(Sample 180 P)

3. White-grey quartz.
Minor fine arsenopyrite needles
(Sample 181 P)
4. White quartz.
2% fine arsenopyrite
Minor disseminated fine crystalline pyrite
Some coarse visible gold on fractures
(Sample 182 P)
5. Grey quartz-Chlorite inclusions
5% fine crystalline arsenopyrite
Minor pyrite, galena, sphalerite and chalcopyrite.
(Sample 183 P)

Gold assays and widths are shown on Map No. 2.
An assay sheet is attached showing both gold and silver values (Chemex Labs Ltd.).

An uncut average for the five samples is 2.092 oz./ton gold and 1.64 oz./ton silver across 0.56 metres.

A grab sample of adit muck at the portal consisting of grey quartz with 5% fine crystalline arsenopyrite, minor pyrite, chalcopyrite, galena and sphalerite assayed 0.680 oz./ton gold and 1.00 oz./ton silver. (Sample 186 P).

A selected grab sample of similar mineralization, but containing considerable visible free gold on fractures, assayed 19.066 oz./ton gold and 4.32 oz./ton silver (Sample 187 P).

Approximately 25 metres vertically above the vein in the adit, at the top of a bluff, quartz veining in a chloritic shear zone, probably representing the surface expression of the adit vein, is exposed in trenching. A chip sample across 1.0 metres consisting of grey quartz with schist inclusions and minor fine crystalline arsenopyrite and pyrite assayed 0.550 oz./ton gold and 0.59 oz./ton silver. (Sample 185 P). A grab sample of similar material containing some fine visible gold on fractures assayed 2.168 oz./ton gold and 1.38 oz./ton silver (Sample 188 P).

At the base of a tramway built to raise equipment to and lower muck from the adit, a grab sample of white-grey quartz with 3% fine arsenopyrite, minor pyrite and a few specks of visible gold taken from a muck pile assayed 1.880 oz./ton gold and 0.82 oz./ton silver (Sample 184 P).

This sampling confirms the results of work done by Homathko Gold mines Limited in 1936-1939 and results

of examinations reported in B. C. Minister of Mines Annual Reports (Refs. 1, 2 and 3) in which chip sampling of the vein in the adit averaged 1.6 oz./ton gold and 1 oz./ton silver.

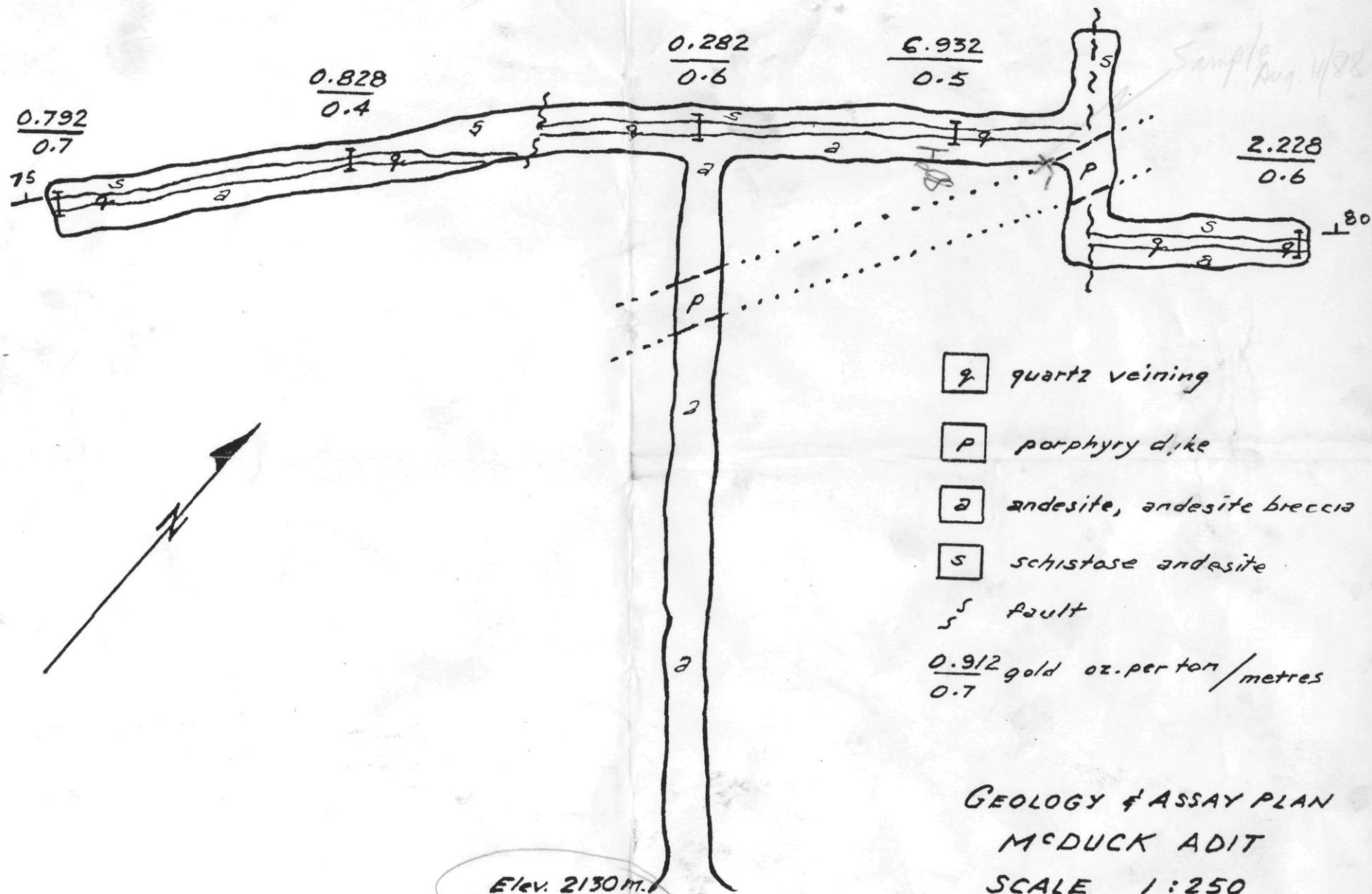
Short reconnaissance traverses to the north and south of the adit area and in the talus slopes below, indicated that the underlying sequence is mostly massive andesite with some schistose sections and minor argillaceous rocks. Light coloured porphyritic material indicates a number of dykes cutting the sequence.

At a location approximately 300 metres northeast of the adit a grab sample of grey quartz with arsenopyrite, galena and pyrite in talus assayed 0.576 oz./ton gold and 7.78 oz./ton silver (Sample 189 P). This may be related to the showing described as the galena-showing in the B. C. Minister of Mines Annual Report, 1937 (Ref. 1).

The present geological assessment and sampling information has confirmed previous descriptions of the geology and gold-bearing quartz veining on the property. In particular, the assessment of the adit area indicates that narrow continuous quartz veining is present and that the quartz contains high-grade gold values.

The property warrants extensive work which should include a re-assessment of all surface showings located in past exploration, with a view to outlining diamond drill targets and the revitalization of an underground programme in the adit area to establish the strike extent and vertical continuity of the gold-quartz veining.

This programme would necessitate the building of a road from Bluff Lake to Wolverine Lake, a distance of approximately 20 km.



- q quartz veining
 - p porphyry dike
 - a andesite, andesite breccia
 - s schistose andesite
 - f fault
- $\frac{0.912}{0.7}$ gold oz. per ton / metres

GEOLOGY & ASSAY PLAN
 MCDUCK ADIT
 SCALE 1:250



MAP No. 2

G.W.M. Sept./82

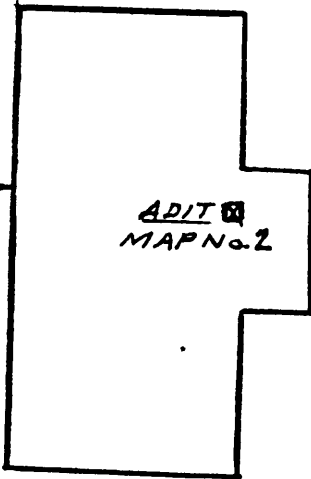
Aug. 11/88
 JCB + CL

BLACKHORN MT.
+

RAZOR CK.

20 KM.
BLUFF
LAKE

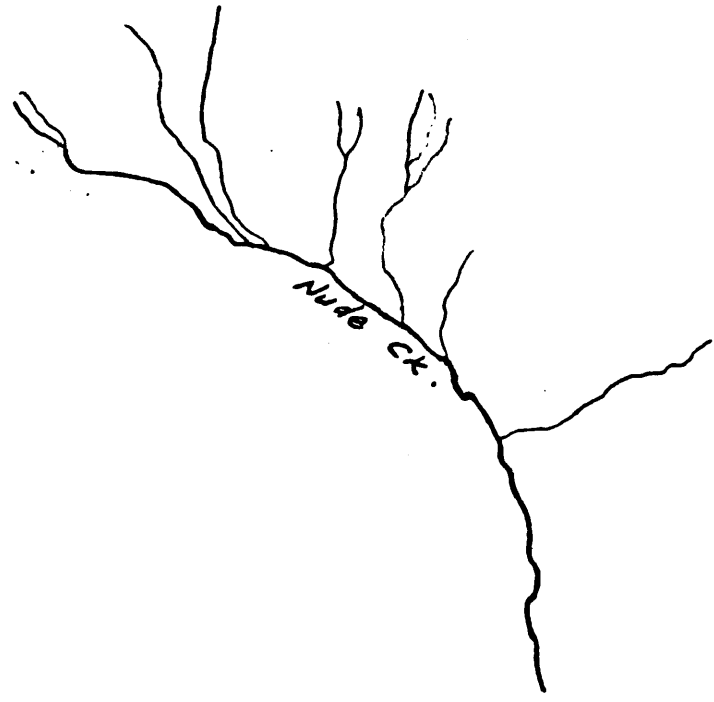
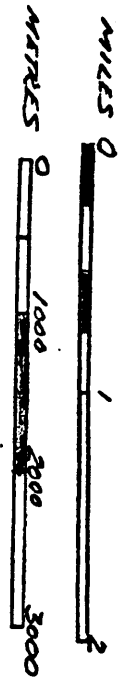
MCDUCK, MCDON
MCCOPE & MEMUL
CLAIM GROUP



ADIT
MAP No. 2



WOLVERINE
LAKE



NUAB CK.

124°45'

51°30'

INDEX MAP

92 N / 10 W
MAP No. 1

Inspection and Sampling of the
Homathko Adit, McDuck, McDon,
McCope and McMul Claim Group

Latitude 51° 31'
Longitude 124° 47'
NTS 92 N/10W

Clinton Mining Division
British Columbia

B. Way, P. Geol.
March 4, 1984

Introduction

At the request of M. Strembitsky the writer visited the Homathko Adit and sampled the quartz vein at various locations in order to confirm the assays reported by McConnell (McConnell, 1982) and as reported by the B.C. Minister of Mines Annual Reports, 1937, 1938, and 1939.

Location and Access

The McDuc, McDon, McCope and McCul Claim Group centers at latitude $51^{\circ} 31'$ and longitude $124^{\circ} 47'$ which is approximately 40 km. southwest of Tatla Lake village. The property covers the southern flank of Blakhorn Mountain which rises to 3200 meters. Elevation on the property range from 1800 meters to 2400 meters.

Access to the property can only be gained by helicopter.

Ownership

As of March 3, 1983, the claim group consisted of the following:

Mineral Claim	Number	Units	Expiry Date
McDuck	395	6	Aug 11/84
McDon	867	6	Aug 24/84
McCope	866	6	Aug 24/84
McMul 1	868	1 located claim	Aug 25/83
McMul 2	869	1 " "	Aug 25/83

The registered owners are as follows:

T. Waugh
 M. Kaduk
 P. McDonald
 J. McMullin
 J. Berryere

History

Gold was discovered in 1936 on Blackhorn Mountain. Subsequent to staking Homathko Gold Mines Ltd. was incorporated and the property was optioned to N.A. Timmins Ltd. Between 1936 and 1939 extensive prospecting, trenching and open-cut mining led to the driving of a 30 m cross-cut and 57 meters of drifting. Several tons of ore were milled and concentrated on the property before the option was dropped. (B.C. Minister of Mines, Annual Report, 1937, 1938 and 1939.)

The property was restaked during 1979 and reconnaissance prospecting has been conducted by the present owners.

Geology

Geological mapping in the property area was completed by H.W. Tipper (Tipper, 1968) at a scale of 1: 126:720. A succession of volcanic flows, breccias tuffs and sediments of Upper Triassic age is indicated. The succession is now extensively faulted and further complicated by a thorough green schist grade metamorphism and thrust faults. A great deal of silica injection was apparent on exposures noted by the writer.

The adit occurs in greenstone which is thought to be andesitic. Near the quartz vein the greenstone is schistose and shows bleaching suggesting that the vein follows the course of strong faulting.

This vein dips near vertically; other veins that have been reported have shallow dips and have a bulbous character. Gold has been reported in both the steep dipping veins and in the shallow dipping veins; the only occurrence of gold over a considerable strike length occurs in the steep vein exposed in the adit. From old descriptions there is suggested to be a control of vein character and gold content by differing rock types. The writer was unable to examine this concept due to winter conditions.

The vein in the adit is a strong feature showing wispy chlorite bands within milky quartz. Pods of sulfides are readily apparent. They include arsenopyrite, sphalerite, chalcopyrite galena and pyrrhotite. Carbonate occurs in fractures. Native gold also occurs on fractures suggesting a late-stage mineralizing event. The sulfide content is about 2% of the vein.

ie. Mesothioramal

This vein shows distinctly no open-space filling characteristics. The boundaries are generally sharp with some bleaching of the host rock. The vein is cut by cross faults; maximum horizontal displacement is approximately 5 meters. A felsic dyke also cuts the vein.

The vein strikes 050° and is steeply dipping to the northwest.

Sampling Program

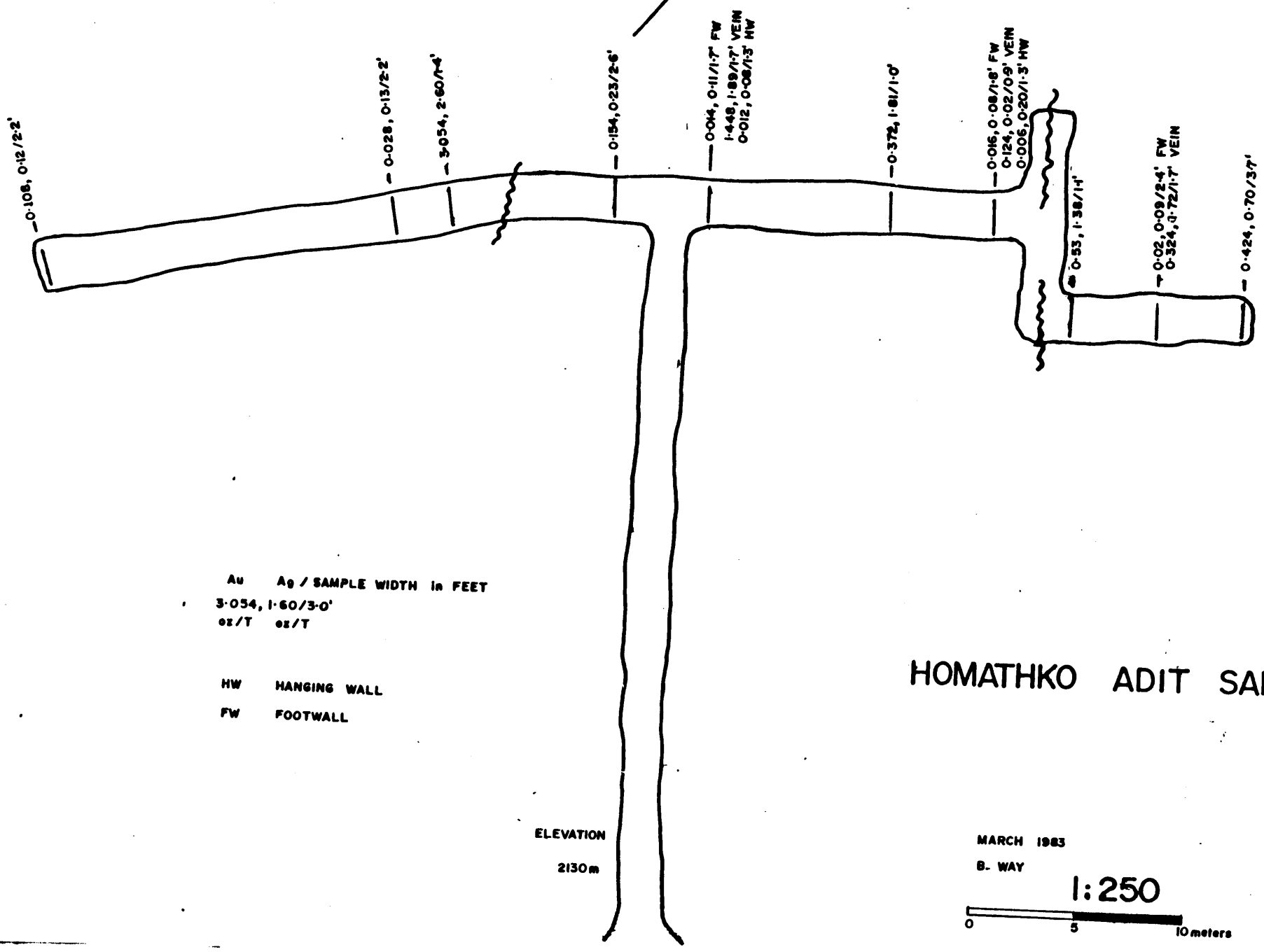
A total of 16 samples were chipped across the vein and adjacent rock in order to confirm values reported by earlier workers (McConnell 1982 and B.C. Minister of Mines, Annual Reports 1937, 1938, 1939). The samples were cut at irregular intervals but in representative locations. Assays are plotted on an accompanying drift plan and the certificates are attached to this report.

Summary and Recommendation

Sampling performed by the writer has confirmed the presence of hygrade gold in the Homathko adit. The gold silver ratio appear to be of the order of 1: 0.5 .

Previous sampling by government geologists indicates many quartz veins bearing gold occur in the area.

It is therefore recommended that the property be optioned for a period so that a 2 stage exploration program can be conducted.



Au Ag / SAMPLE WIDTH in FEET
 3-054, 1-60 / 3-0'
 oz/T oz/T

HW HANGING WALL
 FW FOOTWALL

ELEVATION
 2130m

HOMATHKO ADIT SAMPLING

MARCH 1983
 B. WAY
 1:250
 0 5 10 meters

PART F.

WESTERN MINERAL SURVEY DISTRICT (No. 6).

BY

B. T. O'GRADY.

GENERAL SUMMARY.

In the Bridge River area large-scale production was continued at the Pioneer and Bralorne, and in the latter case was substantially increased.

Mining and milling were discontinued at the Minto and Wayside and exploratory work was suspended at some other properties.

Prospecting and small-scale exploratory activities were conducted in certain areas. Stibnite and cinnabar prospects are being seriously investigated and tested.

In the Chilcotin area seasonal activities with small crews occurred at the following properties: Homathko Gold Mines, Limited, Morris, Langara, Vick, Hi Do, and Taylor-Windfall. Prospecting was actively conducted in the Black Horn Mountain area, which includes the Homathko Gold Mines, Limited, property, and in the Lord River area south of Taseko Lake.

The Zeballos area on the west coast of Vancouver Island rapidly developed as a new gold-mining camp during the year. A bulletin entitled "Lode-gold Deposits of the Zeballos Area, West Coast of Vancouver Island," by J. S. Stevenson, has been published. No reference, therefore, is being made to the area in the following report.

LODE-GOLD DEPOSITS.

CHILCOTIN DISTRICT.

Black Horn Mountain Area.

The property of this company, in the Clinton Mining Division, is stated to consist of thirty mineral claims and fractions, being held by location. Associated with the company are L. Butler, N. Pohlman, and C. Mackill, who, with some associates, represent the original owners. The property is situated on the western side of the valley at the head of Wolverine Creek, a tributary of Mosley Creek (West Branch of the Homathko River), or about 24 miles south-south-west of Tatla Lake Post-office. The latter point is about 150 miles westerly from Williams Lake, on the Pacific Great Eastern Railway.

The claims cover the steep, rocky, eastern slopes of Black Horn Mountain, a conspicuous feature of the district, which rises to over 9,000 feet elevation. The tent camp, at 5,455 feet elevation, adjoins a lake, about 4,500 feet in length and up to 1,400 feet wide, which occupies a glacial depression at the head of Wolverine Creek. To the east of the lake the ground rises steeply towards Razorback Mountain, which culminates in a peak 10,667 feet above sea-level. Adjoining the camp, immediately below the property, there is a limited amount of balsam up to 10 inches in diameter, timber for mining purposes being available farther down the valley.

The workings, at elevations ranging from 7,094 to 7,300 feet, are above timber-line, being situated on steep to precipitous ground covered by talus and rock bluffs. There are two shallow glaciers on the claims and others, more extensive, can be seen to the south.

Access to the area is first by the Chilcotin Motor-road 151.8 miles westerly from Williams Lake; thence by rough road, over which trucks are operated, about 15 miles in length to the northern end of Bluff Lake. A pack-trail, 17 miles in length, roughly estimated, extends from the latter point to the claims. The first 2 miles of this trail, located along the rocky eastern side of Bluff Lake, includes a bad section, about 450 yards in length, where rock-work is needed to build a safe grade. From the southern end of the lake the trail traverses wooded ground, side-hill slopes being gentle to moderate. The pack-trail was cheaply and hastily built by N. Pohlman and associates in 1936, sections damaged by slides being reconstructed in 1937. It is generally a rough and meandering trail which needs relocating to improve

grades and shorten total distance. When justified by development, an aerial tram would be the best means of transportation from the vicinity of the showings to the valley below.

The geology of the district is described in Geological Survey of Canada Summary Report 1924, Part A, under "Chilco Lake and Vicinity." The claims are largely underlain by greenstone which, below the workings, is intercalated with bands of argillite and conglomerate, the series being highly metamorphosed. The conglomerate is a rusty-weathering, sericitized greenish rock, silicified in part, the pebbles being flattened and elongated. As appreciable gold assays had, according to report, been obtained from the conglomerate, three samples were taken by the writer, but these only gave traces in gold and silver. These rocks are intruded by and adjoin the eastern margin of the Coast Range batholith, the contact being marked irregular. The deposits examined occur in Triassic greenstones about a mile north-east of a large area of granodiorite occupying the south-western part of Black Horn Mountain. In the vicinity of the showings there are several dykes, ranging in composition from andesite porphyry to quartz porphyry, and varying in width from 2 to 20 feet, some of which cut the veins. The general strike of the stratified formation is northerly and dips are westerly generally at from 40 to 45 degrees. In places the dykes strike westerly with vertical or southerly northerly dips and at other points strike with the formation, dips not being definitely revealed.

The veins examined apparently conform in attitude with the strike and dip of the enclosing greenstone, which is schistose in part. They consist of quartz containing small amounts of sulphides, specified later, together with native gold. A large proportion of the gold is free from the sulphides and specimens containing visible gold have frequently been found. As the character of the ore is unusual, the results of the microscopic investigation on a polished section is given in full: "Metallic minerals identified in order of abundance: Arsenopyrite, pyrrhotite, chalcopyrite, sphalerite, pyrite, and gold. Arsenopyrite occurs largely as small disseminated crystals, forming in places nearly solid bands and masses of the mineral. Pyrrhotite occurs as irregular masses, associated with chalcopyrite and sphalerite and occupying fractures in gangue, these minerals veining and replacing arsenopyrite in places. Chalcopyrite and sphalerite occur as described, but are somewhat rare in the section examined. A few crystals of pyrite occur similarly to arsenopyrite. Gold is relatively abundant in the section examined. The following tables illustrate its size-distribution and mode of occurrence:—

Size-distribution. No. Grains Gold.	Greatest Dimension. Mesh.
2	Plus 100.
19	Minus 100 plus 200.
35	Minus 200 plus 325.
103	Minus 325.

"The largest grain noted was in the form of a veinlet about 350 microns long and 10 microns wide; the smallest ranged down to 1 or 2 microns, with the bulk of the minus 100 mesh gold between 10 and 30 microns in size.

Mode of Occurrence.	No. of Grains.
(1.) Grains in quartz	23
(2.) Grains in carbonate gangue	58
(3.) Grains on contact carbonate and quartz	4
(4.) Veinlets in quartz	41
(5.) Veinlets in quartz containing carbonate gangue	10
(6.) Veinlets in quartz containing carbonate and pyrrhotite and (or) sphalerite	8
(7.) Contact of arsenopyrite	5
(8.) Contact of pyrrhotite	3
(9.) Inclusions in arsenopyrite	4
(10.) Veinlets in pyrrhotite	2

"From the above analysis it would appear that a fairly large proportion of gold occurs in quartz alone. Actually, however, all the occurrences noted were in the proximity of fractures containing carbonate gangue. As judged by the section, gold bears little or no relationship to arsenopyrite, being controlled by carbonate-bearing fractures through the

"These same fractures carry pyrrhotite, sphalerite, and chalcopyrite, but gold is believed to belong to a separate and later stage of mineralization, in that it was noted veining fractures in pyrrhotite in two places."

At the time of examination, in July, 1937, this type of ore was restricted to one open-cut, from which a few tons had been extracted and sent to the Gibson prospector's mill, referred to later, indicating that such material was of exceptional occurrence. Some or all of the sulphides specified, with, in addition, galena in places, occur in the vein, or veins, at other points, but assays in these other cases did not show proportionately high gold values, suggesting a possibility that there has been enrichment with gold at certain points during a later stage of mineralization. In this connection similar high-grade ore is reported to have been uncovered at and beyond the southern end of the property since the writer's visit.

The discoveries were made in the summer of 1936 by N. Pohlman and claims were staked by him and three partners, L. Butler, C. Mackill, and W. Pohlman. After some preliminary exploration, which revealed ore containing free gold, the owners installed a Gibson prospector's mill, driven by a water-wheel, on Wolverine Creek at a point about 1,500 feet downstream from the camp.

Since the summer of 1936, approximately 3.5 tons is stated to have been milled from which gold, recovered by amalgamation, returned a value of about \$275. Milling was then discontinued and about 5.5 tons of similar ore, containing numerous specimens showing native gold, remains at the mill-site. Up to the time of the writer's examination, development, including a 45-foot adit, was very limited. The Homathko Gold Mines, Limited, a public company, was incorporated in May, 1937.

The principal working, from which the high-grade ore was extracted, is a large open-cut, at 7,180 feet elevation, on a narrow, rocky bench forming the top of a bluff, at the foot of which is located the incompleated adit-crosscut referred to later. These and adjacent workings, described hereinafter, are at the head of a glacial cirque which locally interrupts the uniform easterly slope. The open-cut, described as point A for convenience, exposes a lightly-mineralized quartz-showing 21 feet long which, in its central part, was up to 6 feet wide where it spread out against an apparent fault-plane striking north 10 degrees west and dipping westerly at from 50 to 60 degrees.

At both extremities of the showing the width of the quartz was reduced to 8 inches. Structural conditions were somewhat indefinite, the hanging-wall fracture apparently dipping 30 degrees westerly. In later, and deeper, work, however, the vein is reported to have become steeper.

Sampling results were:—Across 6 feet in the centre of this open-cut: Gold, 0.235 oz. per ton; silver, trace; across 8 inches at southern end: Gold, 0.56 oz. per ton; silver, 0.12 oz. per ton; across 8 inches at northern end: Gold, 0.06 oz. per ton; silver, trace. A grab sample from a small pile of quartz containing disseminated sulphides assayed: Gold, 0.32 oz. per ton; silver, 0.1 oz. per ton. Going southerly along the contour from location A, the outcrop is covered by talus up to a point 258 feet distant, where it was partially exposed in a shallow cut. Here a sample across 8 inches assayed: Gold, 0.14 oz. per ton; silver, trace; and a grab sample gave: Gold, 0.02 oz. per ton; silver, trace. At 85 feet farther to the south the vein reappears in bluffs, where a sample across 7 inches assayed: Gold, 0.17 oz. per ton; silver, trace. From this point to 51 feet farther south the vein, from 3 to 12 inches wide, is continuously exposed in the bluffs, and at the latter point a sample across 12 inches assayed: Gold, 0.82 oz. per ton; silver, 0.1 oz. per ton.

For another 100 feet going south along the rock-face the vein appears in the form of connected short lenses swelling in width from 3 to 12 inches. At the last-mentioned or farthest-south location a sample across 8 inches assayed: Gold, 0.06 oz. per ton; silver, trace. All the above exposures, south of point A, are at elevations varying from 7,180 to 7,165 feet and are on the edge of the precipitous slope to the glacial cirque. Southerly from the last-mentioned sample location the vein was not examined, its extension being covered by a shallow glacier, about 1,000 feet across, roughly estimated. In subsequent prospecting it is reliably reported that vein-outcrops have been found at intervals, sometimes very widely separated, southerly beyond the glacier across two claims of the Homathko property and farther south on to the separately-owned Homestake group adjoining the granodiorite. Some open-cuts are said to have been made exposing vein-sections which, in some cases, vary appreciably in

A Elevation

elevation, suggesting displacement if they belong to the same vein, or separate veins of similar attitude.

Reverting to the large open-cut at A and going northerly along the strike there is deep talus. Going 48 feet north 44 degrees east from point A, at 7,155 feet elevation and in a narrow gulch, there is a mineralized quartz-showing, 10 to 12 inches wide and 3 feet long, striking south-westerly towards the open-cut at A and dipping at 75 degrees to the south-east.

A sample across 1 foot at this location, described as point B, assayed: Gold, 0.09 oz. per ton; silver, trace. A and B showings are stated to connect in former stripping, but the ground between was covered with boulders. Differing in attitude from all other exposures seen, this latter vein-section may have been broken over by erosion adjoining the gulch.

The portal of the adit, at 7,094 feet elevation, is distant 90 feet along a bearing of south 77 degrees east from the large open-cut at A. It had been driven north 65 degrees west for 45 feet in massive greenstone, being directed towards the centre between A and B showings. At 12 feet in from the portal a quartz-calcite stringer was encountered and continued to the face. It varied in width from 2 to 12 inches, being sparingly mineralized with pyrite. A sample across 10 inches near the face gave a trace in gold and silver. Going north 56 degrees east for 80 feet from the adit-portal there is a band of iron-stained, silicified rock, 20 feet wide, which, on sampling, gave traces in gold and silver. This is apparently an extension of the conglomerate sampled at other points, though at this location pebbles are widely separated or absent.

About 1,000 feet, estimated, north-easterly from point A, and at 7,300 feet elevation, there is an open-cut, partly caved when examined, in a rock-slide sloping steeply to the east. Here there are lenticular quartz-showings, over a length of 12 feet, conforming to the 45-degree westerly dip of the schistose greenstone. This is known as the "galena-showing," this mineral being present in places with pyrite and sphalerite in the quartz which, at the northern end, is 24 inches wide and 20 inches wide at the southern end. A grab sample from a pile of about 1 ton of mineralized quartz extracted from this cut assayed: Gold, 0.805 oz. per ton; silver, 1.2 oz. per ton; lead, trace; zinc, 2 per cent. Between this working and the open-cut at A there are poorly-exposed outcrops of iron-stained quartz in places, indicating the possibility of other lenses or vein-sections along the strike.

Samples were taken at the mill-site as follows: From a pile of about 5.5 tons, "excluding" obviously rich specimens, a grab sample assayed: Gold, 1.52 oz. per ton; silver, 0.5 oz. per ton; lead, nil; zinc, 0.6 per cent.; arsenic, 0.59 per cent. As stated before, this ore was derived from the vicinity of the large open-cut at A. Pannings from a small quantity of tailings assayed: Gold, 38.60 oz. per ton; silver, 8.8 oz. per ton; lead, 1.1 per cent.; zinc, 1 per cent.; arsenic, 20.3 per cent.

Exploratory work was at a very early stage when the property was visited. The showings and indications are such that, in addition to tracing the "bedded" veins, thorough prospecting of the area may lead to the discovery of other veins, and in this connection a vein cutting the formation is indicated at one point. Since the writer's examination several other showings are stated to have been exposed principally towards the southern end of the ground.

TASEKO LAKE AREA.

Hi Do. This group of thirteen claims, in the Clinton Mining Division, is held by location and owned by A. Pelletier, A. J. Allaire, and associates. The property is distant about 5 miles south-westerly from the southern end of

Taseko Lake and on the south-eastern side of Falls Creek, the most northerly tributary of the Lord River from the west. The name "Falls" is in local use, this creek being officially unnamed. The camp, at 6,525 feet elevation and in the edge of timber-line, is on the steep wooded ground sloping north-westerly towards the creek. The workings, at elevations ranging from 7,740 to 8,150 feet, are on a bare, rocky, or talus-strewn ridge to the south-east of the camp and separated from it by an extensively-glaciated basin, surrounding peaks rising to 9,000 feet elevation, or higher.

Access is by means of a fair pack-trail, 7 miles in length, roughly estimated, which first follows the western side of Lord River and then turns up the valley of Falls Creek. From the camp a switchback trail, about 1.5 miles in length, leads to the workings.

wall of the working. This fracture, $\frac{1}{2}$ inch to 2 inches thick, containing gouge and quartz, does not intersect the previously mentioned fracture in the working.

TATLA LAKE AREA.

In the past three or four seasons there has been a good deal of prospecting in certain sections of the area tributary to Tatla Lake Post-office. Situated about 2 miles west of the south-west end of Tatla Lake, Tatla Lake Post-office is approximately 215 miles due north of Vancouver and is about 105 miles westward from Williams Lake, on the Pacific Great Eastern Railway. This report deals with lode-gold prospects in the Blackhorn Mountain section, approximately 24 miles south 20 degrees west, and in the Perkins Peak section, approximately 21 miles south 75 degrees west from Tatla Lake Post-office. Prospects on Tatlayoko Lake, also tributary to Tatla Lake Post-office, have been described in recent reports.

Blackhorn Mountain, in the Clinton Mining Division, and Perkins Peak, in the Quesnel Mining Division, lie within the "Tatla-Bella Coola Area," mapped geologically by Dolmage (Geological Survey, Canada, Summary Report, 1925, Part A). A hematite deposit and a prospect carrying low values in gold, both on Perkins Peak, were described by Dolmage. Of these, the hematite deposit has been described in several Annual Reports of the Minister of Mines of British Columbia. So far as the present writer knows, O'Grady's description of the property of the Homathko Gold Mines, Limited, on Blackhorn Mountain, published in the Annual Report of the Minister of Mines, British Columbia, 1937, Part F, is the only publication dealing with prospects in that section, where the activity dates from discoveries made in 1936. Current interest in the Blackhorn Mountain and the Perkins Peak sections is in gold-bearing quartz. Both sections lie comparatively short distances east of the eastern contact of the Coast Range batholith, which is composed essentially of granodiorite and quartz diorite. The general trend of the contact is west of north but the actual outline of the batholith is very irregular. Dykes, doubtless related to the batholith, are conspicuous in both sections and are very numerous in the Blackhorn Mountain section.

The settlement of Tatla Lake is near the western margin of the Interior Plateaux system. A few miles to the west the rolling plateau gives way to more rugged topography, merging, in turn, into the Coast Mountains, which cut off direct access to the sea and necessitate a trip of about 150 miles by road eastward to Williams Lake; thence 315 miles by railway and steamer, or about 365 miles by highway, in order to reach Vancouver.

The area tributary to Tatla Lake has a moderate precipitation, has generally a dry summer and a rather cold winter. Settlers have lived in this area for many years, driving their cash product—beef cattle—to the railway at Ashcroft in the early days and now to Williams Lake. A motor-truck makes the return trip between Williams Lake and Tatla Lake weekly, carrying mail, passengers, and freight. Accommodation for travellers is available at various points along the route, also at the ranch of Robert Graham, site of the Tatla Lake Post-office and store, and of a very comfortable dwelling, where excellent accommodation is afforded travellers. At Kleena Kleene, 15 miles westward on the route to Perkins Peak, James Mackill maintains a lodge offering good accommodation.

Blackhorn Mountain Section.

Following a discovery of gold-bearing quartz in 1936, there has been a good deal of prospecting activity at the head of Razor (Wolverine) Creek, a northward-flowing tributary of Mosley Creek (West Branch of the Homathko River). The work has been done principally on Blackhorn Mountain, which is on the western side of Razor (Wolverine) Creek, though some quartz discoveries have been reported on the eastern side.

A truck-road, 15 miles in length, runs southward from Tatla Lake to the north end of Bluff Lake. From this point a pack-trail about 2 miles in length, along the eastern side, leads to the south end of the lake. Near the north end the trail crosses precipitous bluffs for about 450 yards. It is more convenient to travel the length of the lake by boat. From the southern end of Bluff Lake the pack-trail continues to the head of Razor (Wolverine) Creek, a distance of about 15 miles. It runs through sections in which the trees have been killed by fire in the past few seasons. The grade of the trail is easy for most of its length. The trail up the main valley of Razor (Wolverine) Creek leads to temporary camps situated on the eastern side of a lake near the head of the creek. A branch trail climbs steeply up the

western side to a temporary camp, at 6,300 feet elevation, on the property of the Homathko Gold Mines, Limited. From the head of the lake a trail crosses to the west side and climbs to a temporary camp at approximately 6,950 feet elevation on the *Homestake* group of A. F. Rafferty.

The only topographical map of this section shows the peak known as Blackhorn as reaching an elevation of approximately 10,000 feet, and Razorback Mountain, east of the valley, is shown as reaching a height of 10,667 feet above sea-level. The lake near the head of the valley has been named Blackhorn Lake, is a little less than a mile in length and reaches a width of about a quarter of a mile. Its elevation is approximately 5,450 feet. The head of the lake is immediately at the toe of a glacier which occupies the valley-bottom from this point upward, rising rather steeply in a south-westerly direction. The eastern or south-eastern side of the valley near the head of Blackhorn Lake is precipitous and several hanging glaciers are to be seen above the level of the ice-tongue in the main valley. The western valley-wall is also precipitous in part. It is cut by several narrow chutes or draws and contains several small glaciers. Except on the steeper slopes the bed-rock is covered with talus or glacial debris of varying thickness.

The elevations of the workings and principal exposures, as determined by altimeter readings, range from about 6,775 to 7,575 feet above sea-level. The workings and the two temporary camps near them are above timber-line, a considerable handicap as it necessitates packing fuel and such timber as may be required for prospecting. There is some small balsam timber near the lake, and a more abundant supply of suitable timber farther down the valley.

Some forty-nine claims were reported to be in good standing in the fall of 1938. None of the claims has been surveyed and the writer saw comparatively few of the location posts or cairns. The following explanation of the positions of the various holdings is based on information supplied by the owners. It is understood that the ten *Homestake* claims, owned by A. F. Rafferty and associates, cross the valley above Blackhorn Lake and include, therefore, bluffy country south and south-east of the lake, the glacier-filled valley-bottom and ground on the western side of the main valley. Of the thirty claims held by Homathko Gold Mines, Limited, it is understood that two lie just east of the lake and the others lie on the west side of the valley extending northward from the *Homestake* claims for about 3 miles. However, it is understood that the *Black Horn* claim, owned by Mrs. R. Nicholson, of Tatla Lake, and the *Victor No. 2* claim, owned by J. Hamm, also of Tatla Lake, divide the company's claims into two blocks. Further, it is understood that the *Hunting Lodge* claim, owned by J. Mackill, of Kleena Kleene, is surrounded by claims in the company's south block, that the *Victor No. 1*, owned by G. V. Braid, of Tatla Lake, adjoins the *Victor No. 2* to the north-west, and that Rafferty's *Bonanza* group of six claims adjoins the company's northern block of claims to the north-west.

The writer visited this section early in September, and in addition to the time required travelling between Tatla Lake and the camp on the Homathko Gold property, spent four days examining workings and surface exposures. During this period some snow fell, accumulating on occasion to a depth of perhaps 1 inch; there were also heavy rains. These reduced the visibility and did not facilitate getting over the rugged terrain. Because of weather conditions it was not possible to visit all reported discoveries, though places where substantial work has been done were visited, as were also many showings where little work had been done. No showings lying east of Razor (Wolverine) Creek were visited by the writer. A surface cut and near-by outcrop on the *Golden Lode* claim were the only points examined in the northern block of the Homathko Gold Mines holdings. The adjoining *Bonanza* group and the *Victor No. 1* and *Victor No. 2* were not visited.

The report on this Blackhorn Mountain section is based on the writer's observations in September, 1938, and on the reports by O'Grady and Dolmage, previously mentioned. Available maps of the section are of small scale and are incomplete. For the purposes of this report the relative positions of the various workings and exposures were determined roughly by a combination of pace and compass surveys with triangulation, based on differences of elevations from altimeter readings, and on bearings and vertical angles, measured with a Brunton compass. These methods are necessarily subject to considerable errors.

The head of Razor (Wolverine) Creek lies approximately at the southern limit of the geological and topographical mappings by Dolmage (Geological Survey, Canada, Summary Report,

1925, Part A), which shows the section as underlain by rocks of Triassic age, with intrusive rocks of the Coast Range batholith lying not far to the west and south-west. The Triassic rocks are described as a "thick series of volcanic rocks—interbedded with some thin beds of argillite and lenses of limestone containing fossils of Triassic age." The Coast Range batholith is composed of quartz diorite and granodiorite.

The examination made in September, 1938, was confined to a belt about 3 miles in length on the west side of Razor (Wolverine) Creek. The belt examined generally lies between elevations of 6,800 and 7,500 feet. The highest rocks observed are greenstones, though in the steep slopes and crags which tower above the highest points visited there are probably beds or lenses of sedimentary rocks. The rocks exposed consist of greenstone, conglomerate, generally green in colour, dark, thin, platy argillaceous rocks, some bands of grey sericitic schist, and numerous light-coloured dykes and sills which cut the other rocks. The greenstones probably represent altered andesite. The pebbles and matrix of the conglomerate are so permeated with chlorite that from a distance of a few feet it is not readily distinguishable from the greenstone. The conglomerate is schistose at some points, but some green chlorite schist, which grades into massive greenstone, may represent highly chloritic sediments or the greenstone rendered schistose near its margin.

Owing to the difficulty in travelling along the steep easterly-sloping side of the valley, to interruptions of continuity by numerous dykes which extend high above the belt examined, and to the fact that the attitudes of the rocks show considerable variation, coupled with the fact that accumulations of ice or rock debris mask certain sections, the relationships of various rock-masses were not traced with certainty. Therefore, the interpretations which enter into the following description of relationships are subject to revision.

The belt examined extends in a general north-south direction for approximately 3 miles. The upper camp and the adit on the Homathko Gold Mines property are approximately 1 mile from the north end, and Rafferty's upper camp on the *Homestake* group is about half a mile from the south end. These camps furnish points of reference used in the following notes. For much of the southerly 2 miles, black, platy argillites were the lowest rocks observed. The top of this member of the formation ranges from about 6,800 feet elevation half a mile south of the adit to 7,200 feet elevation a little south of Rafferty's camp. The base of this member was not observed, but near Rafferty's camp a thickness of 300 feet is exposed. Green conglomerate overlies the platy argillites. A thickness of 300 feet of conglomerate was measured at one point. This may include some bands of argillaceous rock. Grey sericitic schist, probably varying in thickness and 50 to 60 feet thick at some points, tops the conglomerate. Green schist, grading upward into massive greenstone, immediately overlies the grey sericitic schist. North of the Homathko Gold Mines camp the underlying argillites may also be almost continuous, but of this the writer is less certain. However, the green conglomerate, topped by grey schist, in turn overlain by massive greenstone, was observed 1 mile north of the camp. Not far south of the camp massive greenstone outcrops in a spur projecting eastward into the valley. The greenstone appears to have a width of at least 1,000 feet from north to south and to extend westward right below the adit. The lowest point at which the greenstone was observed was at approximately 6,400 feet elevation, below which it continues for some distance at least and above which it appears to continue to just below the adit. The greenstone thus breaks the continuity of the platy argillites which, however, were seen at the proper elevations to the north and to the south, though their contacts with this greenstone are covered with debris. The presence of this greenstone is of considerable importance, as it is undoubtedly more favourable structurally for fissure-vein formation than the platy argillite and probably more than the green conglomerate.

Light-coloured granitic dykes and sills are prevalent and conspicuous. Many of the dykes have an east-west trend and stand almost vertically. They also vary in attitude. Between 1 mile and 1¼ miles south of the camp, dykes and masses of this rock form the greater part of the exposures. In the vicinity of Rafferty's camp and for some distance south dykes and sills are numerous and are particularly conspicuous in the black argillite which, curiously enough, appears generally to lie almost horizontally, though so cut by intersecting dykes that it appears as comparatively small masses of black, platy rock, separated by almost equal widths of dyke-rock. The compositions of the dykes vary considerably, but they are generally of the granodiorite to quartz diorite order and are commonly porphyritic. At a number of points these dykes cut the quartz veins without important displacement. South of

Rafferty's camp there are several cuts exposing quartz on either side of a diabase dyke and close to a granitic dyke. The nature of the exposure was not such that the relationships could be definitely determined.

Where bedding-planes could be recognized their strikes range from northward to 30 degrees west of north with low to moderate westerly dips. Schistosity, however, ranges from north-west with south-westerly dips to north-east with north-westerly dips. The dips are generally between 15 and 30 degrees, but occasionally reach 45 degrees.

There are numerous quartz exposures. In general, these are in the schistose rocks. Commonly quartz, as stringers or as narrow veins, follows the schistosity or bedding. At other points quartz occupies fractures which definitely cut across the host-rock. The occurrences observed are generally less than 2 feet wide and most of them range from 1 inch to 15 inches wide. Some of them are traceable for considerable distances, but quite a few are comparatively short lenses which are related to more persistent structural breaks. Commonly the quartz is present as numerous irregular stringers over widths of several feet. Usually there is some silicification of wall-rock, and in some cases, adjacent to veins and stringer-zones, the wall-rock has been largely replaced by quartz and carbonate for widths up to 9 or 10 feet. Some steeply dipping quartz veins were observed cutting across the strike of the schist, and of these some were observed to pass abruptly, in a roll, from this cross-cutting relationship to an attitude essentially conforming with that of the schist.

The quartz at various points contains sulphides, and commonly fine sulphides are disseminated in the silicified wall-rock. Generally the sulphides have been introduced after the quartz has been fractured, and occasionally they have replaced carbonate in fractures or small masses in it. Visible sulphides include arsenopyrite and pyrite, and some chalcopyrite, sphalerite, and galena occur locally, and pyrrhotite has been reported in a section examined microscopically. Free gold in fine grains is to be seen in some of the ore and has also been reported from microscopic studies. Some of the free gold found in material from the outcrops may represent surface concentrations, but visible free gold has been recognized in specimens from the adit away from any significant oxidation. In the notes on microscopic study of material from the Homathko Gold property, published in the 1937 Report of the Minister of Mines, it is suggested that the gold belongs to a period in the mineralization later than the deposition of the sulphides.

This is perhaps borne out by the fact that some vein material carrying fair sulphide mineralization does not assay very well in gold, and wall-rock, even though impregnated with sulphides, in most cases is practically barren. However, the sections carrying best values in gold are usually well-mineralized with sulphides, of which arsenopyrite is commonly the most abundant. Lacking sulphides or visible free gold, quartz sampled by the writer was essentially barren.

Numerous quartz-outcrops are to be seen at intervals in a length of 3 miles, and at several points interesting values in gold are found. In general, these exposures are in schist and the mineralization would be regarded as weak. Though there is a rough alignment for considerable distances there is also a good deal of variation in the attitudes of the various quartz veins and lenses. Though no one vein can be said to have been traced continuously for any great distance, the occurrence of numerous quartz-outcrops in the weaker rocks over a distance of 3 miles, with occasional sections yielding attractive values, is encouraging and with the results of a small amount of underground work suggest to the writer that there are fair chances of finding commercial ore-bodies in fractures in the more competent rocks near the quartz-outcrops. This statement must be modified to exclude the granitic dykes which cut the quartz veins and are therefore probably later than the gold mineralization.

This claim was recorded in 1936 in the name of Mrs. R. P. Nicholson, of **Black Horn** Tatla Lake. It is understood to adjoin the *Golden Lode No. 2* claim to the **Claim.** south-east and, accordingly, lies between the northern and southern blocks of claims owned by Homathko Gold Mines, Limited. The writer was guided to the showings on the claims by J. Hamm, of Tatla Lake, owner of the *Victor No. 2*, recorded in August, 1938, which is said to lie just west of the *Black Horn*. The *Golden Lode No. 2*, on which a cut at 7,000 feet elevation is described under Homathko Gold Mines, Limited, and the *Black Horn* claim were reached by climbing north-westward up the slide from a point on the trail about three-quarters of a mile northward from the Homathko Gold Mines camp. The

showings are from one-half to three-quarters of a mile from the trail and 950 to 1,175 feet higher, at elevations from 6,775 to 7,000 feet.

The most northerly showing on the *Black Horn* claim is about 200 yards, somewhat east of south, from the *Golden Lode No. 2* cut at approximately 7,000 feet elevation. The showing consists of quartz exposed from north to south for about 100 feet. It is cut by a porphyritic dyke 30 feet from the north end. The quartz is from 1 inch to 4 or 5 inches wide for most of its length, but is about 1 foot wide at the north end where it contains a moderate proportion of sulphides. For most of the length the quartz follows the foliation of the grey schist host-rock. It strikes north 30 degrees west and dips 20 to 30 degrees westward. At the south end the quartz turns sharply downward to occupy a narrow fracture, striking east and standing almost vertically, which is exposed for 4 feet below the flat-lying vein. The flat-lying vein does not appear to continue southward, but from 35 to 50 feet southward at approximately the projection of the flat vein quartz about 3 inches wide is exposed, conforming with the schist. It, too, turns down in a steeply-dipping fracture, on the sides of which the schist is altered and impregnated with sulphides for a total width of about 18 inches. A short distance to the south, at approximately the same elevation, a vein is exposed cutting the schist at a small angle. The fracture strikes north-west and dips 45 degrees south-westward. Northward the outcrop rises along the face of a bluff, slowly cutting through the grey sericitic schist to green schist underlying massive greenstone, and gradually assumes the attitude of the schist, which strikes north 30 degrees west and dips 20 degrees south-westward. Quartz is traceable for about 120 feet, beyond which irregular lenses appear for another 75 feet. Near the lower and southerly end there is up to 18 inches of quartz along the sides of the narrow fracture. The wall-rock is altered and impregnated with sulphides so that a maximum width of about 4 feet shows evidence of mineralization. A porphyritic dyke 10 feet wide, striking north-eastward, cuts the mineralized band from 40 to 50 feet from the south end. Beyond the dyke the mineralized width narrows from 3 feet to from 6 to 18 inches with irregular lenses lying below the main vein at some points. The southerly 40 feet is the widest and best mineralized section. It contains galena and pyrite and some chalcopryrite occurring in small masses, though much of the mineralized material contains little sulphide.

The following two samples were taken 15 feet from the south end, they give a section across a mineralized width of 42 inches.

Description.	Gold.	Silver.
	Oz. per Ton.	Oz. per Ton.
20 inches quartz with sulphides	0.18	Trace
22 inches mineralized schist underlying the quartz	Trace	Trace

A cut has been made in this wide quartz-lens which, for convenience, will be referred to as "cut X," from which distances south-eastward were estimated roughly. There are several exposures lying to the south-east on which some stripping has been done. From about 350 to 480 feet south-eastward a reddish-weathered band is exposed. It consists of 3 to 6 feet of altered schist cut by many quartz stringers and impregnated with disseminated sulphide grains. A selected sample of the best mineralized material assayed a trace in gold and 0.2 oz. silver per ton.

Between 570 and 675 feet south-eastward a similar rusty lens about 5 feet in width is exposed with a cut about midway along the lens at about 6,760 feet elevation. Beyond this, the bluffs are precipitous and inaccessible for some distance, but about 1,300 feet south-eastward from cut X there is a cut at approximately 6,725 feet elevation. It is in shearing which strikes about north 30 degrees west and dips 20 degrees north-westward, and follows the foliation of the green schistose conglomerate in which it lies. Quartz is irregularly distributed along the shearing which is exposed for 60 feet northward and 80 feet southward from the cut. The quartz, usually 1 to 2 inches wide, swells at points to 8 inches and occasionally to 12 inches wide. Some of the quartz contains a moderate amount of sulphide minerals.

This company, incorporated in May, 1937, acquired claims on Blackhorn Mountain which had been owned by L. Butler, N. Pohlman, C. Mackill, and Homathko Gold Mines, Ltd. associates. The thirty claims held include twenty-nine staked in 1936 and one staked in 1937. William Pohlman is president of the company. Prospecting and development-work have been carried on during the past three years. In the fall of 1938, L. H. Timmins, acting for the N. A. Timmins Corporation, of Montreal, acquired an option on the property. The property was described by O'Grady in the 1937 Annual Report of the British Columbia Minister of Mines, Part F, and as noted there a small quantity of ore milled by amalgamation on the property is reported to have yielded gold to the value of about \$275.

The claims cover ground to the west of Razor (Wolverine) Creek, with the exception of two claims lying just east of Blackhorn Lake. According to information supplied by the various claim-owners, the company's holdings are divided into a north and a south block, separated by the *Bluck Horn* and *Victor No. 2* claims, owned respectively by Nicholson and Hamm. The south block, including fifteen claims on the west side of the valley, extends for the length of five claims from north to south. The camp is in the northern half of this block, at approximately 6,300 feet elevation, on a bench overlooking the lake. The most important workings on the property, an adit at approximately 7,100 feet elevation and a surface cut 85 feet above it, are in this block, about half a mile due west of the camp. The cut is at the top of a bluff overlooking a small cirque and the adit is about at the base of the bluff. Both lie just south of a narrow chute or draw which discharges into the cirque. As mentioned earlier in this report it is probable that massive greenstone extends downward from approximately the elevation of the adit to about the elevation of the camp and possibly lower.

The cut was driven 28 feet south 50 degrees west from the edge of the draw; thence 6 feet due west, crosscutting a roll in the hanging-wall. A rusty fracture, 2 to 8 inches wide, striking north-east and dipping 55 degrees north-west, is exposed along the south-eastern side of the cut. At the end of the 28-foot leg of the cut, quartz with included greenstone widens from a few inches near the first fracture, 6 or 7 feet above the floor, to 6 feet near the floor on the south wall of the 6-foot westerly extension of the cut. The hanging-wall appears to roll from a northerly strike to a north-easterly one and the dip, which is 30 degrees westward and north-westward higher up, appears to become steeper near the floor. On the north wall of the 6-foot westerly extension the width becomes less near the floor. Loose rock fragments on the floor of the cut and outside the cut obscured the extent of the showing. The wide showing was sampled where crosscut by the westerly extension of the cut. The 2 feet measured from the hanging-wall, normal to the dip, sampled on both walls of the cut, assayed a trace in gold and in silver. This material consisted of quartz with included schist and contained comparatively little sulphide. The adjoining 2 feet to the foot-wall assayed: Gold, 0.98 oz. per ton; silver, trace. The sample consisted of quartz with a good deal of sulphides and was taken from the south wall. As the wall of the working presented an unfractured, hard, fairly smooth surface, the sample was difficult to cut. O'Grady described this occurrence as it appeared in July, 1937, as a lens 21 feet long, up to 6 feet wide in the central part, and quoted the assays of three samples as follows:—

Description.	Gold.	Silver.
	Oz. per Ton.	Oz. per Ton.
Width, 8 inches at south end of lens	0.56	0.12
Width, 6 feet in centre	0.235	Trace
Width, 8 inches at northern end	0.06	Trace

Above the cut for 30 or 40 feet the schist is rusty and contains stringers and small, irregular lenses of quartz. The schistosity strikes about 10 degrees west of north and dips about 15 degrees westward. Fairly prominent joints striking 30 degrees west of north and dipping about 80 degrees north-eastward cut the schist. Southward from the principal cut, at about the same elevation, there are several shallow cuts in the first 150 feet and another at about 260 feet, beyond which there are exposures in bluffs which become inaccessible farther south. O'Grady described the showing to a point about 500 feet south, beyond which a rusty streak is seen for some distance. The cuts expose rusty schist or quartz, and in the bluffs

there is a fairly continuous quartz vein generally 2 to 4 inches thick, but occasionally swelling to a thickness of 10 or 12 inches. It appears to dip flatly to the west conforming to the attitude of the schistosity. The following information regarding sampling along these surface showings is taken from O'Grady's report:—

Distance.	Width.	Gold.	Silver.
Southward from principal cut—	Inches.	Oz. per Ton.	Oz. per Ton.
258 feet	8	0.14	Trace
343 feet	7	0.17	Trace
394 feet	12	0.22	0.1
About 500 feet	8	0.08	Trace

The adit, at 7,100 feet elevation, 85 feet below the principal cut, is driven through greenstone in which there are two prominent sets of joints which strike from 30 to 50 degrees west of north, the one set dips steeply to the north-east and the other low to the south-west. Near the inner end of the adit the greenstone is schistose. The adit which is driven approximately 100 feet north 65 degrees west crosscut a vein in the last 2½ feet and ended in schist. The position of the vein is about 18 feet north-west of the vertical projection from the narrow fracture in the cut above, and 10 or 12 feet north-west of the vertical projection from the wide lens. Assuming that this vein connects directly with the showings in the cut, the indicated dip would be about 80 degrees north-westward. The walls of the vein are irregular, but the average strike is north-eastward and the dip appears to be almost vertical.

The vein is composed of quartz with some carbonate, sulphides, and chlorite. The chlorite doubtless represents altered inclusions of wall-rock. The sulphides, present in greater abundance than in most exposures on the property, include pyrite, sphalerite, a little galena, some chalcopyrite, and fine-grained arsenopyrite. A little free gold was seen in some selected material stored at the portal. The vein, from 18 to 30 inches wide, was widest in the roof and in the south-west wall of the working, but becomes narrower toward the floor and in the north-east wall. A sample was taken across the vein on each wall about 2½ feet above the floor. The averages of widths and assays were: 25 inches; gold, 1.6 oz. per ton; silver, 1 oz. per ton. The adit crosscut a dyke of porphyritic granodiorite between 83 feet and 89 feet from the portal. The walls of the dyke are irregular, but the strike appeared to be about north 25 degrees east and the dip about 45 degrees north-westward.

It was reported that when work was suspended early in December drifting on the vein had been done both ways from the crosscut, the total amounting to 67 feet. In the drift to the north-east it is reported that the dyke was encountered and that the vein was picked up on the north-east side without much displacement. It was also reported that the drift to the south-west encountered a fault beyond which the vein was found displaced a short distance to the east. It was further reported that sampling of the vein in the drifts yielded values which are regarded as commercial.

Between points 500 feet southward and about 1,500 feet south 15 degrees east from the cut above the adit, the showings in the bluffs are inaccessible. For part of the distance debris or ice masks the bluffs above the elevation at which the outcrop might be expected. From the point, approximately 1,500 feet south 15 degrees east from the principal cut, there are shallow cuts or exposures on the surface, at considerable intervals, for 2,100 feet, on a general course of 15 to 20 degrees east of south. These showings range from 7,575 to 7,200 feet in elevation and over a considerable distance from east to west. It is apparent that they do not represent one vein, but they may be taken as indicating that there is a considerable zone in which veins occur. In these showings the quartz generally follows the foliation of the schist host-rock.

Near the north end of this series of exposures, at 7,575 feet elevation, and by calculation 1,700 feet south 13 degrees west from the adit, a thin granitic sill outcrops. The wall-rock is green schist striking north 15 degrees west and dipping 20 to 25 degrees westward. Irregular lenses of quartz and carbonate occur above and below the sill in a total thickness of 6 feet. Some of the lenses are fairly well-mineralized with galena, sphalerite, and pyrite. They also contain chlorite. The sphalerite is in small, almost black, resinous grains. A sample of selected well-mineralized material assayed: Gold, 0.20 oz. per ton; silver, trace.

Outcrops of the granitic rock are to be found for some distance to the north, and quartz-carbonate lenses to a maximum thickness of 1 foot are exposed at intervals to a point 300 feet northward in the bluffs overlooking the cirque. There, flat-lying quartz, 16 inches wide, turns to follow a joint and cuts sharply across the schist, but a few feet below turns back again to an attitude approaching that of the schist. At 7,325 feet elevation, east of the line of outcrops just described, there is a flat-lying outcrop of quartz 4 to 6 inches thick, which contains a little arsenopyrite and some free gold. The schist, adjoining the quartz, is altered and impregnated with sulphides. A sample across 7 inches of sulphide-bearing schist assayed *n/l* in gold and silver. Southward the showings are at lower elevations and pass downward from green schist into the grey, sericitic schist. The most southerly showing in this series, at about 7,200 feet elevation, is on a bluff near a tongue of a small glacier.

Three groups of showings, the most southerly on the property, will be described next in this report. The writer did not go directly from the showing just described to these most southerly showings and conditions were not favourable for locating them closely. However, the nearest of the three is estimated to be about 1,700 feet south-westward from the showing near the tongue of the small glacier, and is, therefore, considerably west of the course on which the showings just described lie.

The most southerly part of the south block of claims is very rugged and granitic dykes are numerous. The three groups of showings are from 7,450 to 7,500 feet in elevation, each is near a draw or slide course. The middle one at 7,450 feet elevation, and some 6,000 feet southward from the camp, yielded encouraging assays. There, quartz 32 inches thick, is exposed for a short distance along the strike which is north-eastward, the dip is about 25 degrees north-westward. The quartz contains pyrite, galena, and sphalerite. Between 7 and 12 inches from the hanging-wall sulphides were plentiful, and this 5-inch section, sampled separately, assayed: Gold, 0.84 oz. per ton; silver, 1 oz. per ton. The 7 inches above and 20 inches below, in which the sulphides are less plentiful, assayed: Gold, 0.16 oz. per ton; silver, trace. The combined average is 0.26 oz. in gold across the full width of 32 inches. About 25 feet lower on the same slide course, two cuts about 25 feet apart expose 12 to 18 inches of schist impregnated with quartz and fine sulphides. This material was not sampled. A porphyritic dyke outcrops just north of the slide on which the cut is situated, and dyke-rocks occupy most of the section for 250 feet to the south. At the other two points, respectively 500 feet north and 500 feet south, quartz exposures strike between north-east and north-north-east and dip about 25 degrees westward. Sulphide mineralization is less than in the middle showing.

Northward from the cut above the adit the surface consists of glacial debris and talus, but at a few points a little rusty quartz is exposed. At approximately 1,300 feet north-east there is a cut exposing some quartz in schist, and about 200 feet farther north-east at 7,265 feet elevation a cut, known as the "galena showing," exposed a lens of quartz, 12 feet long. It strikes north-east and dips 45 degrees north-west, and conforms with the green schist in which it lies. The lens pinches out rapidly at the north-east end. It was not well-exposed in September, 1938. O'Grady described it as 20 inches wide at the south-west end and 24 inches wide at the north end. He took a grab sample from about 1 ton of mineralized quartz, which assayed: Gold, 0.80 oz. per ton; silver, 1.2 oz. per ton; lead, trace; zinc, 2 per cent. Flat-lying quartz is exposed at intervals to a point 400 feet to the north-east where the hillside becomes precipitous. The rock is schistose greenstone, striking north-eastward and dipping from 45 to 70 degrees westward.

The remaining surface showing on this property visited by the writer is on the *Golden Lode* claim, near the southern boundary of the northern block of claims. The showing is at 7,000 feet elevation at a point about 1 mile northward from the adit, and is just below bluffs a short distance north-west of a tongue of a glacier, to be seen from the trail, three-quarters of a mile north of the camp.

The exposure is in grey sericitic schist immediately overlying green conglomerate, and consists of a lenticular mass composed of quartz, carbonate, and incompletely replaced schist. The lens is exposed for a length of 50 feet, is 1 foot wide at the south end, 9 feet wide at a shallow cut 20 feet to the north, and 3 to 4 feet wide 30 feet farther to the north, where it is buried beneath talus. At the south end an east-west fissure, dipping steeply to the south, rolls to the north to conform with the north-striking schist which dips west at a moderate angle. The schist above is cut by many narrow, irregular quartz stringers, and is partly

replaced by vein material including some pyrite. There is a considerable quantity of fine, silky, white mica in the resulting lenticular mass of replacement material.

At the cut 10 to 12 inches of quartz, occupying a steep southward-dipping fracture of east strike, rolls north to form the bottom of the lens. The quartz vein containing pyrite was sampled, and across 10 inches assayed: Gold, 0.14 oz. per ton; silver, 0.3 oz. per ton. A chip ample across 5 feet of the overlying replacement material yielded nil assays in gold and silver.

Homestake. The *Homestake* claims, ten in number, owned by A. F. Rafferty, of Vancouver, and his associates, cross the valley of Razor (Wolverine) Creek above the lake. South-westward from the lake the bottom of the valley is occupied by a glacier. A sheltered position for a tent-camp has been found in a tiny cirque in the bluffs on the west side of the valley at about 6,950 feet elevation. The workings and principal showings on the property lie south-westward from the camp between 7,200 and 7,425 feet elevation. The workings examined are within 1,800 feet of the camp, on narrow benches along bluffs or on a talus-slope north of the bluffs. It was reported that there are other showings of importance farther to the south and west, and that some showings have been found in the bluffy ground across the valley to the north-east. The claims have been prospected each season since they were located in 1936.

The N. A. Timmins Corporation, of Montreal, had an option on the property for a short period but relinquished it in the fall of 1938. From the east side of Blackhorn Lake a pack-trail crosses the valley and climbs by a series of switchbacks to the camp in the little cirque. This camp can also be reached readily enough on foot from the upper camp on the Tomathko Gold property, 1½ miles to the north; there is no trail for most of the distance, but the route across suitable points on the bluffs is not difficult.

In the vicinity of Rafferty's camp the black, platy sediments lie flat, but a short distance to the south they strike about north 30 degrees west and dip 15 degrees south-westward. Due west of the camp they are in contact with overlying green conglomerate at about 7,200 feet elevation. The dip of the contact brings it lower down, south of the camp, where it disappears beneath debris and ice. Light-coloured dykes which are conspicuous near the camp, are also numerous at several points to the south; they have an east strike and stand almost vertically or dip steeply. Most of the showings are in the green conglomerate or in green schist.

The most southerly cut visited is about 1,700 feet south of the camp at about 7,400 feet elevation. From a point 100 feet farther south, quartz and a zone of alteration are seen extending southward in the bluffs. Quartz is exposed on the surface or in cuts for much of the 500 feet northward from this cut. Two lenses of quartz, each about 1 foot thick, separated by about 4 feet of green schist, are exposed for a length of 5 feet, 35 feet south of the cut. The quartz is rusty and honeycombed. At the cut 2 feet of quartz containing some schist strikes north 20 degrees east and dips 65 degrees westward. The wall-rock is green, schistose conglomerate, of which the foliation strikes about north 30 degrees east and dips 20 to 35 degrees westward. The schist is rusty for 2 feet in the foot-wall and 6 feet in the hanging-wall of the quartz. Stripping, at several points in the 90 feet to the north, exposed quartz-lenses and irregular stringers over a width of about 15 feet. The quartz in the cut is traceable for 60 feet northward where, 10 feet to the east, there is a rusty honeycombed quartz-lens 1 foot thick. At 100 feet north of the first cut quartz, 12 inches wide, is exposed, from which 6 inches of quartz splits off to cut the formation vertically, then turns to follow the formation with moderate westerly dip, and is traceable for 35 feet to the north as far as a small creek. Unconsolidated material obscures the main quartz-bearing zone for this distance.

A second cut, about 165 feet north 15 degrees east from the first, has been driven 23 feet westward in the rock. This crosscuts several quartz-lenses which, with greenstone in which they occur, contain pyrite. Sampling of this material gave negligible values in gold and silver. The lenses strike about north-east and dip about 50 degrees north-westward. They probably are on cross-fracturing between a fracture, striking north 15 degrees east, about 6 feet west of the outer end of the cut, and another fracture, occupied by a greenstone dyke, about at the face of the cut, which can be traced for 75 feet due north. The fracturing or shearing near the outer end of the cut, striking north 15 degrees east, can be traced for 60 feet or so to a third cut, near which it is joined by a narrow, quartz-filled, cross-fracture

striking north-east, extending from the other fracture 20 feet to the west. In the north 15 degrees east fracture at the face of the cut there is 2 feet of quartz and sheared greenstone with some sulphides, and just west of this a sulphide-lens, 15 feet long and 27 inches wide, is exposed. The sulphide-lens consists largely of pyrite, but chalcopyrite and sphalerite were also recognized. Adjoining this to the west the greenstone contains disseminated sulphides. Three samples taken from west to east gave the following results:—

Description.	Width.	Gold.	Silver.
	Inches.	Oz. per Ton.	Oz. per Ton.
Greenstone, with quartz and some sulphides	22	0.02	0.2
Quartz and greenstone, with much sulphide	27	0.78	0.2
Quartz and greenstone, some sulphides	24	Nil	Nil

From this cut to the next the distance is 175 feet north 20 degrees east. Between 80 and 145 feet on this course there are several light-coloured dykes striking westward, a draw is crossed in the same interval. The cut on the north side of the draw exposed quartz 3 to 10 inches thick, striking north-eastward and dipping irregularly to the north-west, for 6 feet along the strike; 4 feet in the foot-wall it exposed a quartz-lens 10 inches thick. The wall-rock is green schist apparently not derived from the green conglomerate. From this point northward, talus below bluffs occupies the projection of the zone followed this far.

About 550 feet north-east, at approximately 7,200 feet elevation, a cut has been made in the face of the bluff just above the talus where a fault cuts the green conglomerate. The fault strikes north 15 degrees west and dips 50 degrees westward. Limy material on the footwall-side has been brought against the conglomerate hanging-wall of the fault. At the floor of the cut green dyke-rock occupies the fault, but higher up it does not appear. The rusty fault-gouge containing some quartz and pyrite was sampled and yielded *nil* assays in gold and in silver. In the 350 feet northward from this cut there are several light-coloured dykes.

From 400 feet north of the cut at 7,200 feet elevation a diabase dyke, 3 to 4 feet wide, is traceable northward, diagonally up the hill, for some distance. An altered, light-coloured porphyritic dyke lies a short distance to the east. Shearing, generally parallel with the dykes, was observed between the dykes and west of the diabase dyke. Quartz of varying thickness is developed in the shears. The shearing and the dykes strike north 10 degrees west and dip about 55 degrees westward. At three points, in about 200 feet along the outcrop, strippings or closely-spaced cuts over a distance of 30 feet from east to west crosscut the dykes and the shearing. The quartz is lenticular and up to 3 feet thick. Sulphide minerals are wanting or present in small quantity. A sample across the widest quartz exposure assayed *nil* in gold and silver. These cuts are about due west of the camp.

About 300 feet south-westward from the highest of these cuts, another cut exposes 8 inches of quartz with several quartz stringers in 4 feet of sheared greenstone striking north-eastward and dipping steeply to the north-west. The shearing is traceable to the south, but in general contains little quartz or sulphide. At 170 feet southward, quartz 8 inches wide is exposed, and at 200 feet quartz 30 inches wide is exposed. These showings strike about north 20 degrees east and dip steeply to the west. They are in fractures which run to the north-eastward-striking shear traceable north to the cut.

Perkins Peak Section.

Beginning with the 1935 season there has been a revival of interest in prospecting for gold-bearing quartz on Perkins Peak. Most of the activity has centred on the north-westerly slope of the mountain, where the *Mountain Boss* group was staked covering ground containing some old surface workings. The owners of the *Mountain Boss* group have prospected this ground in the past three seasons and have staked some additional claims. Workings on these claims were examined by the writer late in August, 1938. In 1938 some claims were staked in the same section for other interests. As little or no work had been done on these claims they were not examined.

The *Mountain Boss* group of eight claims was staked in 1935 and is held in the names of F. Crosby, J. Peacock, and J. N. Killas, all of Prince Rupert. Six claims constituting the

Underground operations were carried on intermittently during 1939 and several hundred feet of drifting and crosscutting accomplished by hand-miners. A compressor was installed in August and one shift, drilling and blasting one round per day, was employed up to the end of the year. The low-level adit was advanced 650 feet from the portal and considerable crosscutting was done from it. The total over-all footage to date is 1,200 feet. Eleven men were employed while the camp was in operation. A team of six huskies is kept at the camp for emergency use when the roads are blocked with snow.

[Reference: Annual Report, 1929.]

SPANISH MOUNTAIN.

Owned by P. Hunter and associates. The property is on Spanish **Three Hills Group** Mountain, longitude $121^{\circ} 25'$, latitude $52^{\circ} 34'$, about 4 miles south-east of Likely. It is reported that an adit was started in 1939 to cut at depth a quartz vein much oxidized on the surface and apparently responsible for rough, coarse gold found in a small dry gulch below. This adit was stopped before the objective was reached.

CHILCOTIN AREA.

Company office, 208 Pacific Building, Vancouver, B.C.; mine office, **Taylor Windfall Gold Mining Co., Ltd.** Williams Lake, B.C. Ervin J. Taylor, President; Wm. Warner, Secretary-Treasurer; S. H. Davies, Mine Manager. Capital: 2,000,000 shares, \$1 par. The company operates the *Taylor Windfall* mine on the upper Taseko River. The mine operated from May 17th to August 15th. A maximum of about twenty men were employed. Development-work was continued on the 200 and 300 levels. On the former, this work consisted of 150 feet of drifting north-easterly along the zone and of 223 feet of crosscutting both ways from the drifting. On the latter, it consisted of 270 feet of drifting to the north-east and 260 feet of crosscutting. A new powder magazine was erected and a Gardner-Denver H.K. hoist and fan for the 300 level were installed.

[Reference: Annual Report, 1935, Part F.]

BLACKHORN MOUNTAIN.

Company office, 507 Stock Exchange Building, Vancouver, B.C. Wm. **Homathko Gold Mines, Ltd.** Pohlman, President. Capital: 3,000,000 shares, 50 cents par. The company owns claims on Blackhorn Mountain, longitude $124^{\circ} 40'$, latitude $51^{\circ} 43'$, near the head of Homathko River. It is reached by road and trail from Williams Lake, on the P.G.E. Railway. N. A. Timmins, Limited, optioned the property in 1938, and in 1939 did 180 feet of drifting, 120 feet of crosscutting, and 2,100 feet of diamond-drilling before relinquishing the option in September.

[Reference: Annual Report, 1938, Part F.]

BRIDGE RIVER AREA.

CADWALLADER CREEK.

Company office, 470 Granville Street, Vancouver, B.C.; mine office, **Pioneer Gold Mines of B.C., Ltd.** Pioneer Mines P.O., B.C. Victor Spencer, President; A. E. Bull, Secretary-Treasurer; H. T. James, Managing Director; E. F. Emmons, General Superintendent. Capital: 2,500,000 shares, \$1 par; issued, 1,751,750.

The company owns the *Pioneer* mine on Cadwallader Creek, a tributary of Bridge River, 52 miles by road from Bridge River station on the P.G.E. Railway. The mine is equipped with mining plant and 400-ton cyanide plant. The mine is developed by two shafts from the surface and one internal shaft, No. 4, from the 24th to the 29th level. The levels are at 125-foot intervals.

On October 8th, 1939, this mine was closed by a strike and remained closed for the remainder of the year. Up to that date the development-work carried out consisted of 4,279 feet of drifting, 38 feet of crosscutting, and 2,456 feet of raising. No. 4 shaft

PREMIER GOLD MINING COMPANY LIMITED

Premier, B. C.

BRIEF OF REPORT BY

B. T. O'GRADY - 1937 M.M.R.

ON

HOMATHKO GOLD MINES, LIMITED

CHILCOTIN DISTRICT

49' Northstar

The locations of this and some of the other claims are shown on the following map.

Locations: The property is 24 miles south - south-west of Tatla Lake P. O. on the eastern slope of Black Horn Mountain, elevation 7000' - 7300'. It covers 0.603 ozs. Au and 1.2 ozs. Ag, approximately.

Owners: L. Butler, H. Pohlman, G. Mackill and associates are the owners. The three mentioned staked the ground in 1936.

Access: By motor road 151.8 miles west from Williams Lake, then by rough truck road 15 miles to Bluff Lake, then 17 miles by rough pack trail to the claims.

Geology: The underlying rocks are largely greenstones and below the workings they are intercolated by bands of argillite and conglomerate, all highly metamorphosed. The adjoining Coast Range batholith contact is very irregular. (See map page 60, 1924 Summary Report Part A and map #2103, Tatla Bella Coala Area, 1925 Summary Report.)

Ore Occurrences: Quartz veins conforming in attitude with the strike and dip of the enclosing greenstone, contain small amounts of sulphides, together with native gold. A fairly large percentage of the gold occurs in the quartz alone, but all occurrences noted were in the proximity of fractures containing carbonate gangue. These same fractures carry pyrrhotite, sphalerite and chalcopyrite, but gold is believed to belong to a separate and later stage of mineralization as ^{gold was noted in} veining fractures in pyrrhotite was noted in two places.

Development and Values: Up to the date of examination development including a 45' adit (which had apparently not reached its objective), was very limited. From a point A, 3 1/2 tons of high grade yielded \$275.00 in gold. From this point the following assays were obtained:

6' - 0.235 ozs. Au	- Tr. Ag	8" - 0.56 ozs. Au	- 0.12 ozs. Ag
8" - 0.06 ozs. Au	- Tr. Ag	Grab - 0.32 ozs. Au	- 0.1 ozs. Ag

Samples taken at intervals for 500 feet to south assayed as follows:

258' South - 8" - 0.14 ozs. Au - Tr. Ag Grab - 0.02 ozs. Au - Tr. Ag
343' South - 7" - 0.17 ozs. Au - Tr. Ag
394' South - 12" - 0.82 ozs. Au - 0.1 ozs. Ag
494' South - 8" - 0.08 ozs. Au - Tr. Ag

Since the date of the examination the vein outcrops have been found at intervals across two claims to the south and farther, onto the Homestake Group adjoining the granodiorite.

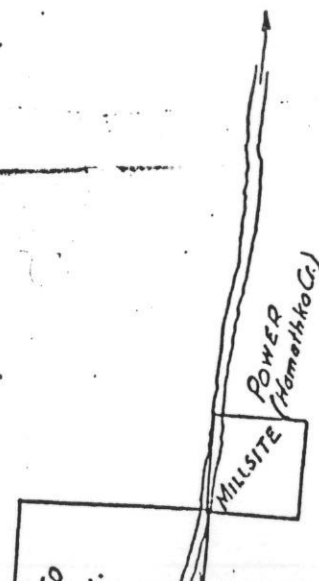
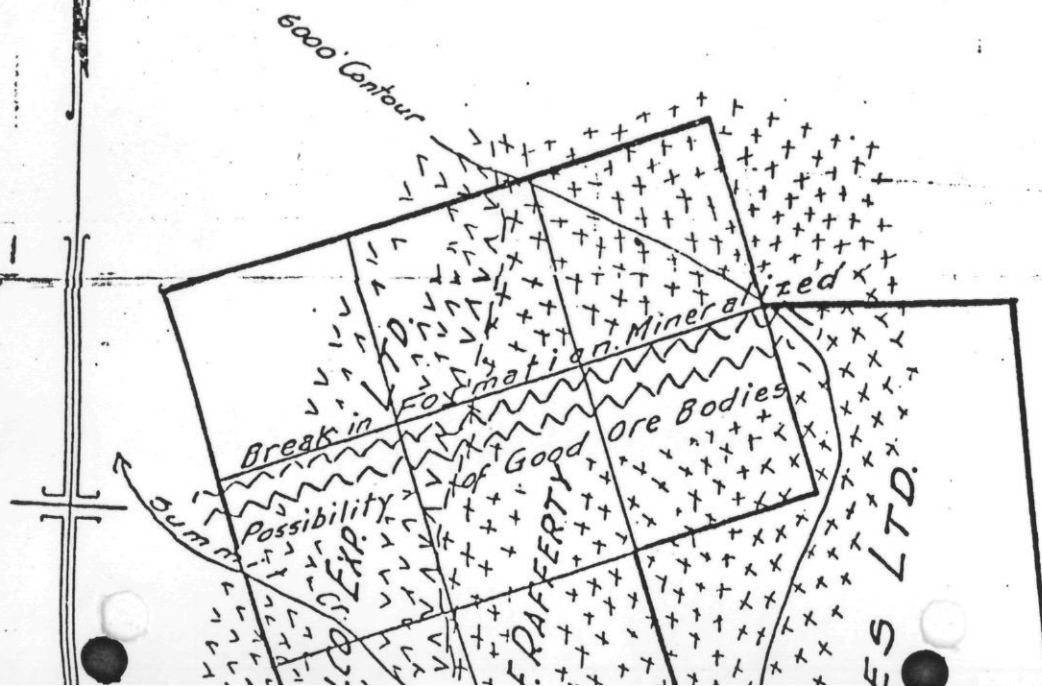
To the northeast from point A the following assays were obtained from samples taken:

48' Northeast - 1' - 0.09 ozs. Au - Tr. Ag

The locations of this and some of the outcrops to the south suggest that displacement has taken place. About 1000' northeast a pile of mineralized quartz, taken from a cut exposing a lenticular quartz showing 12' long was sampled. It assayed 0.805 ozs. Au and 1.2 ozs. Ag, apparently the vein is very lenticular throughout its length.

A grab of ore to be milled at location of small Gibson mill assayed:
1.52 ozs. Au - 0.5 ozs. Ag - nil Pb - 0.6% Zn - 0.59% As.

SKETCH SHOWING
 RAFFERTY GOLD PROPERTY
 Homathko Gold Mining Area
 British Columbia
 Scale 1 inch = 1000 Feet.

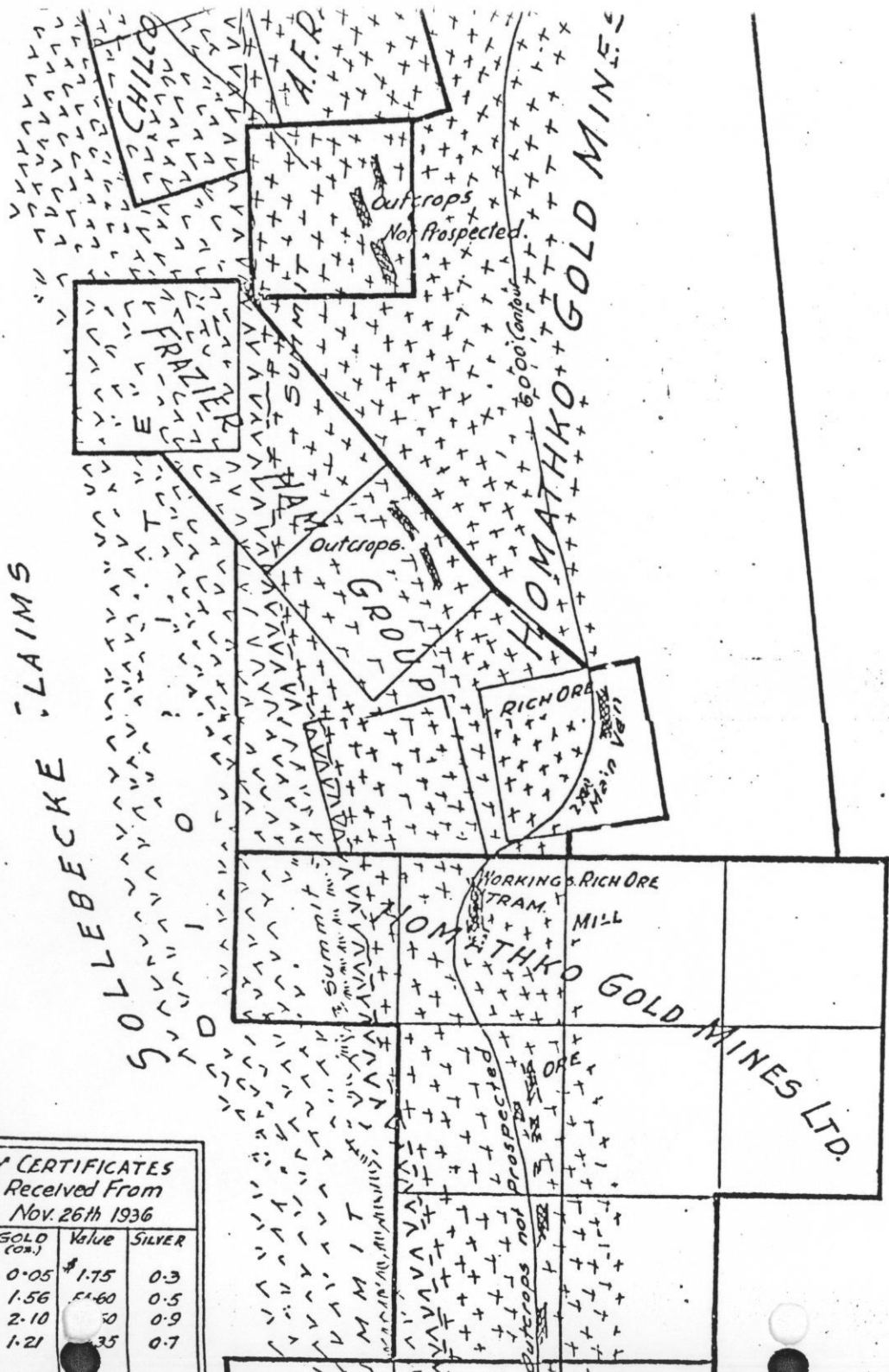


SOLEBECKE CLAIMS

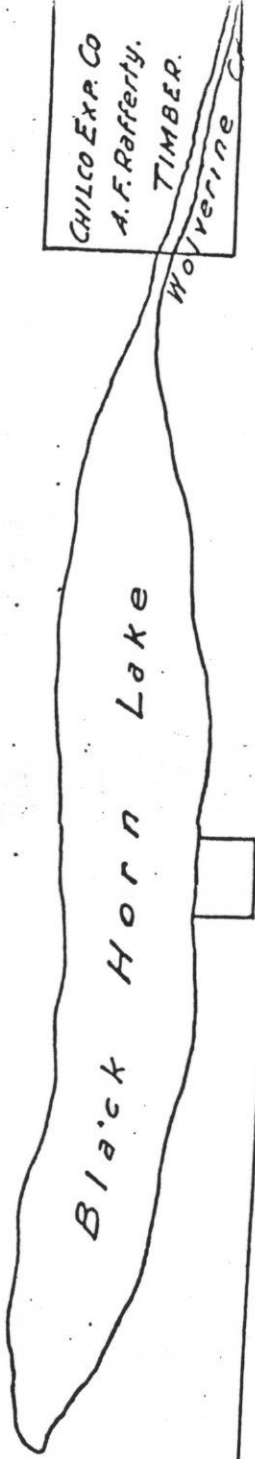
SOLEBECKE CLAIMS

OF ASSAY CERTIFICATES
 of Ore Received From
 Rafferty. Nov. 26th 1936

	GOLD (oz.)	Value	SILVER
Ice Bridge Across 5'	0.05	\$1.75	0.3
H. #1 claim	1.56	51.60	0.5
Homestake #2	2.10	70	0.9
H. #2	1.21	35	0.7
H. #1 Ledge			



CHILCO EXP. CO
 A.F. Rafferty.
 TIMBER.
 Wolverine



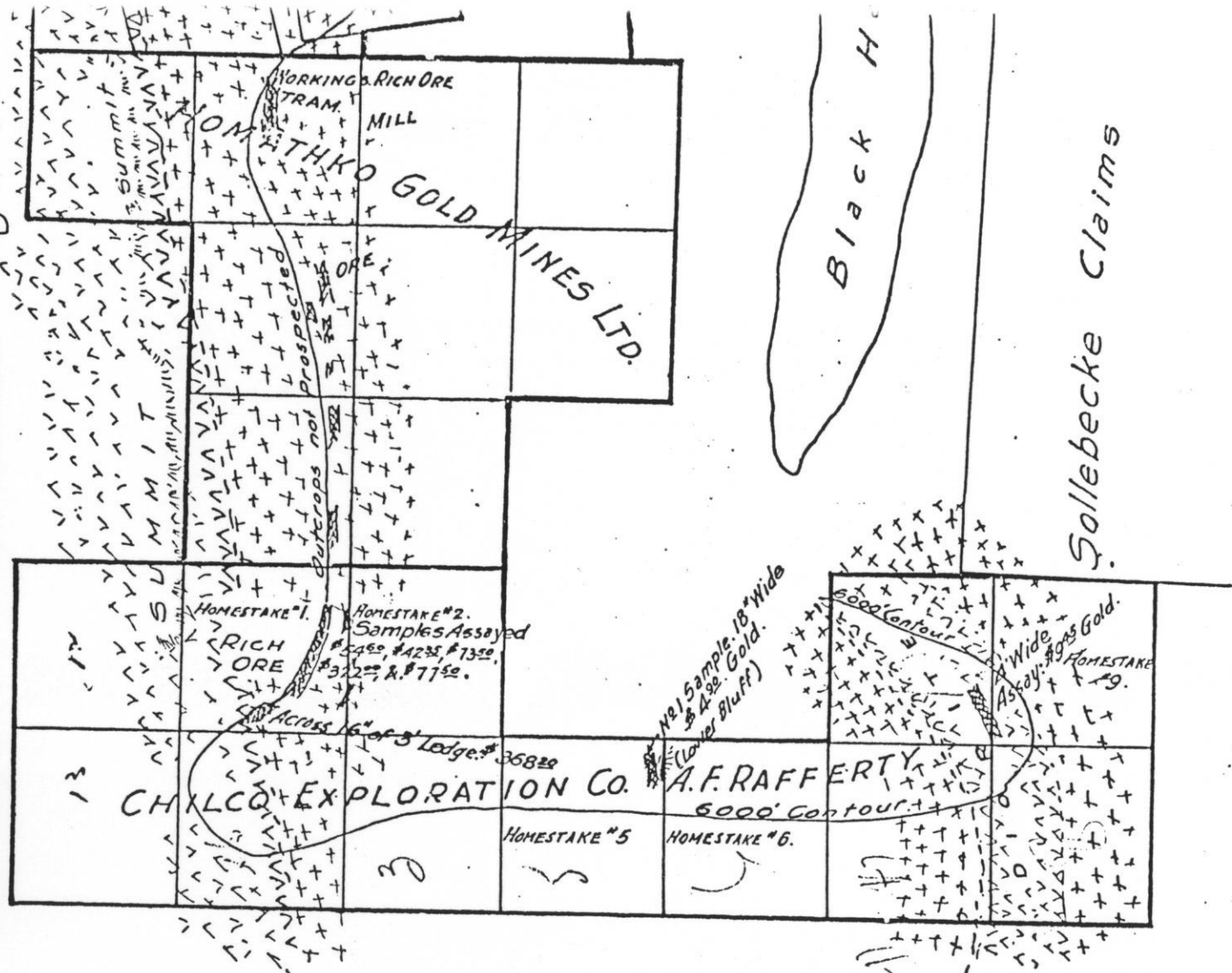
SOLEBECKE CLAIMS

ASSAY CERTIFICATES
of Ore Received From
Rafferty, Nov. 26th 1936

Bridge	GOLD (ozs.)	Value	SILVER
55' 5"	0.05	\$1.75	0.3
Claim	1.56	54.60	0.5
Ledge #2	2.10	73.50	0.9
Ledge #1	1.21	42.35	0.7
Ledge	10.52	368.20	32.4
58' H*1	9.20	322.00	9.1
55' H*1	2.22	77.70	0.8
Bluff			
6	0.14	4.90	0.8
Bluff			
6	0.27	9.45	0.3

at \$35 per Oz.
(and) P.W. Thomas
Provincial Assayer
Vancouver, B.C.

icates Diorite
icates Argillite with Greenstone Intrusions
d Schist. (Triassic & Lower Cretaceous.)



Compiled from A.F. Rafferty's Sketch Plan.
May 17th 1937, Noël Humphrys & Co. Vancouver



DATE ... July 22, 1981.....

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

SAMPLE RECEIVED FROM JACK J. COPELAND.....

ADDRESS #303 - 42 E. Cordova Street, Vancouver, B. C., ... V6A 1K2.....

LABORATORY NO.	SUBMITTER'S MARK	LABORATORY REPORT
4540	McDUCK #1	<p>Spectrographic Analysis: 1.25% Arsenic; 0.1% Lead; 0.03% Zinc; 0.02% Copper and 0.015% Antimony were found. The other base metals found, and their percentages, were those occurring normally in rocks.</p> <p>Gold - 7.11 oz. per ton Silver - 1.4 oz. per ton</p>
4541	McDON	<p>Spectrographic Analysis: Copper was found. The other base metals found, and their percentages, were those occurring normally in rocks.</p> <p>Gold - Trace Silver - Trace Copper - 1.81%</p>
4542	McCOPE	<p>X-ray Identification: GALENA, SPHALERITE and CHALCOPYRITE are the main sulfide minerals detected in the submitted sample.</p> <p>Spectrographic Analysis: 0.02% Copper; 0.3% Boron; 0.15% Lead and 0.07% Zinc were found. The other base metals found, and their percentages, were those occurring normally in rocks.</p> <p>Gold - 3.27 oz. per ton Silver - 0.2 oz. per ton</p>

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED FOR PROMOTIONAL OR ADVERTISING PURPOSES.

LEGEND

T - TRACE
M.C. - MAJOR CONSTITUENT
N.D. - NOT DETECTED
P - PRESENT

W. M. Johnson
.....
CHIEF ANALYST

