

Geological and Geochemical Assessment Report

on the

Alpine Claim (12 units)

Kamloops Mining Division

N.T.S. 921/4

Latitude $50^{\circ} 10'N$ Longitude $121^{\circ}50'W$

on behalf of

LONGBAR MINERALS LTD.

Field Work; August 13-16, 1977

Report by

A. L. Littlejohn, Geologist

D. R. Cochrane, P. Eng.

August 14, 1978



Cochrane Consultants Limited
4882 Delta St., Delta, B.C. V4K 2T8 946-9221
Geotechnical Consulting / Exploration Services

6854
geology
geophysics
geochemistry

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INTRODUCTION

The Alpine Claim consisting of twelve (12) metric units, was located on the second week of August, 1977; and covers an "old" gold silver property known as the GLACIER GROUP. The Alpine was located during what is known as the BOSTON BAR TO BRALORNE RECONNAISSANCE PROGRAM: an exploration venture sponsored by Longbar Minerals (Aquarius Resources), whose purpose was to trace and re-evaluate lode gold and silver deposits along the north section of the COQUINHALLA GOLD BELT.

This report is prepared for assessment work submission and is based on field notes prepared by A. Littlejohn, geologist for the Recon Program.



SUMMARY & CONCLUSIONS

1. LONGBAR MINERALS LTD., holds title to the ALPINE CLAIM, which consists of twelve (12) 500m by 500m units staked four (4) units north by three (3) units east and located near the divide between the North Fork, and "Main Stream" of Kwoiek Creek, Kamloops Mining Division, in British Columbia. The property is centered some 24 air kilometers (15 miles) due west of Lytton, and 130 air kilometers (80 miles) north-north east of downtown Vancouver, in the Coast Range Mountains of Southern Mainland British Columbia.

2. The ALPINE CLAIM covers an "old" gold-silver showing previous called the GLACIER GROUP and is partially explored by a series of pits and an adit. The occurrence of antimony in the area is just mentioned in the Annual Report of the Minister of Mines (B.C.) in 1915, and that of asbestos and gold in Report for 1925. A good description of the showing is contained in the Minister of Mines Report of 1929 (pg C-236 and C-237).



3. The claims are situated in a rather steep area of the coast mountains and lie within a northwest trending metasedimentary basin enclosed on three sides by Coast Range Batholith . It is flanked on the north by the Cantilever Range of Mountains and to the south by Kwoiek Glacier and mountain range. The property is above timber line and is most easily reached by helicopter.

4. Recent work on the claims was conducted by Mr. A. Littlejohn (Geologist) and an assistant prospector who staked, examined and sampled a portion of the vein system in August 1977. Work consisted of geological inspection, soil and rock sampling.



5. The main point of economic attention is the northwest trending vein system which consists of rather massive sugary textured quartz vein impregnated with arsenopyrite. Visible gold is not readily observable but may be panned from crushed and roasted samples.

6. Values in excess of 0.5 troy ounces of gold per short English ton were taken across vein width of up to 4 meters by Mr. A. Littlejohn.



7. In view of the recent increase in the price of gold, and other activities southerly along the COQUILWALLA GOLD BELT, it is recommended that additional exploration work be conducted on the ALPINE CLAIM.

Respectfully submitted



D. R. Cochrane, P. Eng.
August 14, 1978

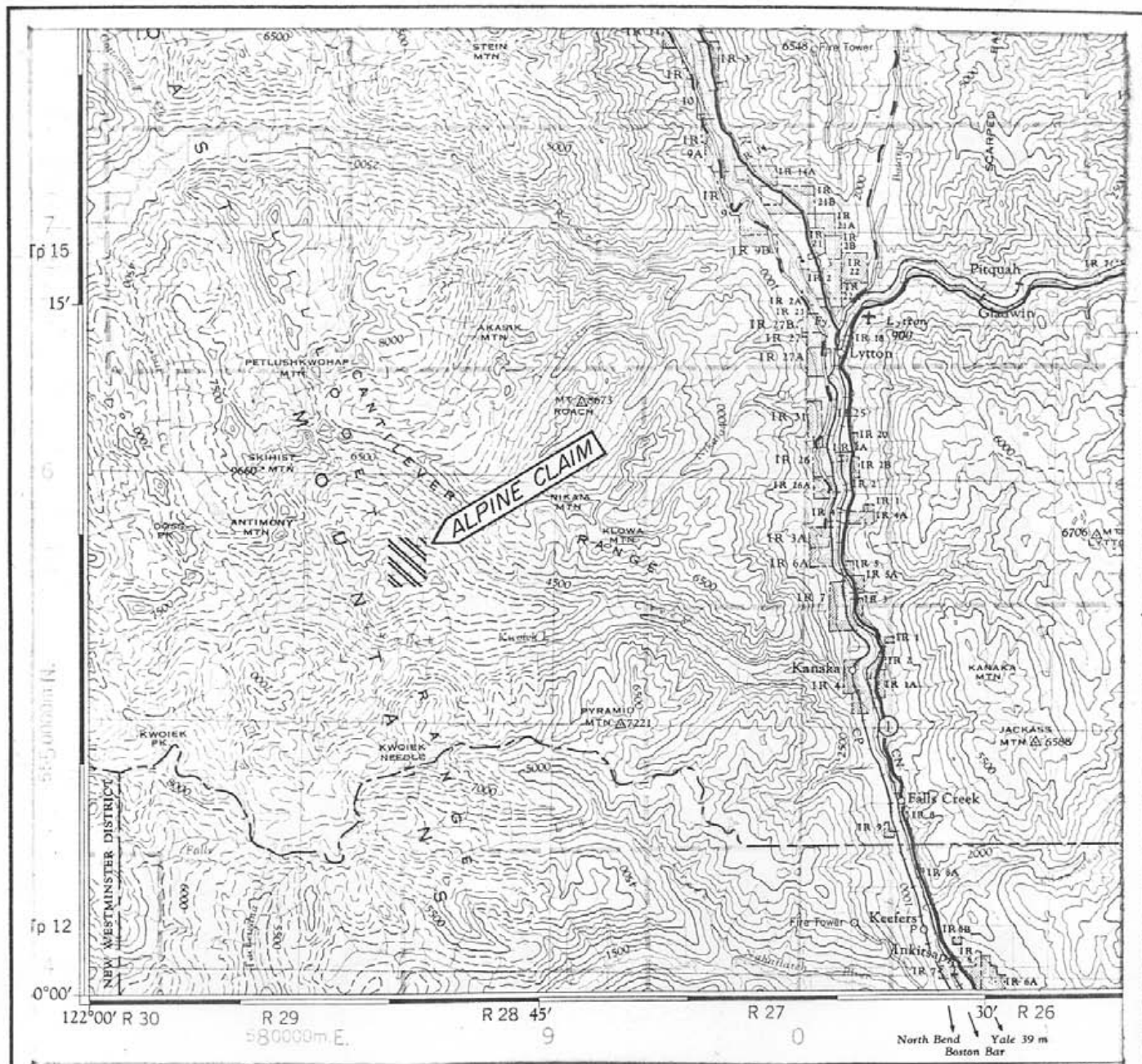


LOCATION & ACCESS

The Kwoiek Creek Area is part of the Coast Mountain Range of high, rugged peaks. Kwoiek Creek runs eastwards along a U-shaped valley into the Fraser River. The elevation of the valley floor is about 1000 meters and is glacially fed. The valley sides are extremely steep and rugged, rising to heights in excess of 2800 meters. Timberline is about 2000 meters, above which alpine meadows and bare rock are found. Access to the area is by ferry at Lytton or North Bend, along a rough road to the mouth of Kwoiek Creek opposite Kanaka Bar, and by good logging road up the valley as far as Kokwasky Lake. The area is being actively logged by B. C. Forest Products Ltd. and there are several branch roads which provide good access to elevations of about 1500 meters. Access at higher elevations requires the services of a helicopter which may be chartered from Lytton, Hope or Aggisiz B. C.

The NTS map sheet for this area is 94 1/4.





LONGBAR MINERALS LTD.

ALPINE CLAIM, Kamloops M.D., 92 I/4. Fig.1

Location Map

Scale: 1 to 250000 or 1 inch equals approx. 4 miles



Aug. '78, b.a.c.


 Cochrane Consultants Limited
 4882 Duffin St., Delta, B.C. V4K 3T8 548-8221

CLAIMS INFORMATION

<u>CLAIM NAME</u>	<u>RECORD NO.</u>	<u>UNITS</u>	<u>ANNIVERSARY DATE</u>
Alpine	990	12	August 14





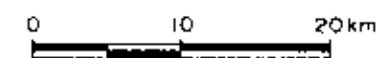
LONGBAR
MINERALS LTD.

ALPINE CLAIM

KWOIEK CREEK AREA

near Lytton B.C.
n.t.s. 92 I/4
Kamloops M.D.

1 : 50,000



MAP FROM FIELD SKETCH BY ALL
AUG / 77

TRACED LYM
REVISED H.A.C. FEB / 78
AUG / 78

Figure R-2

GEOLOGICAL
SKETCH,
SAMPLE PLAN,
CLAIM MAP

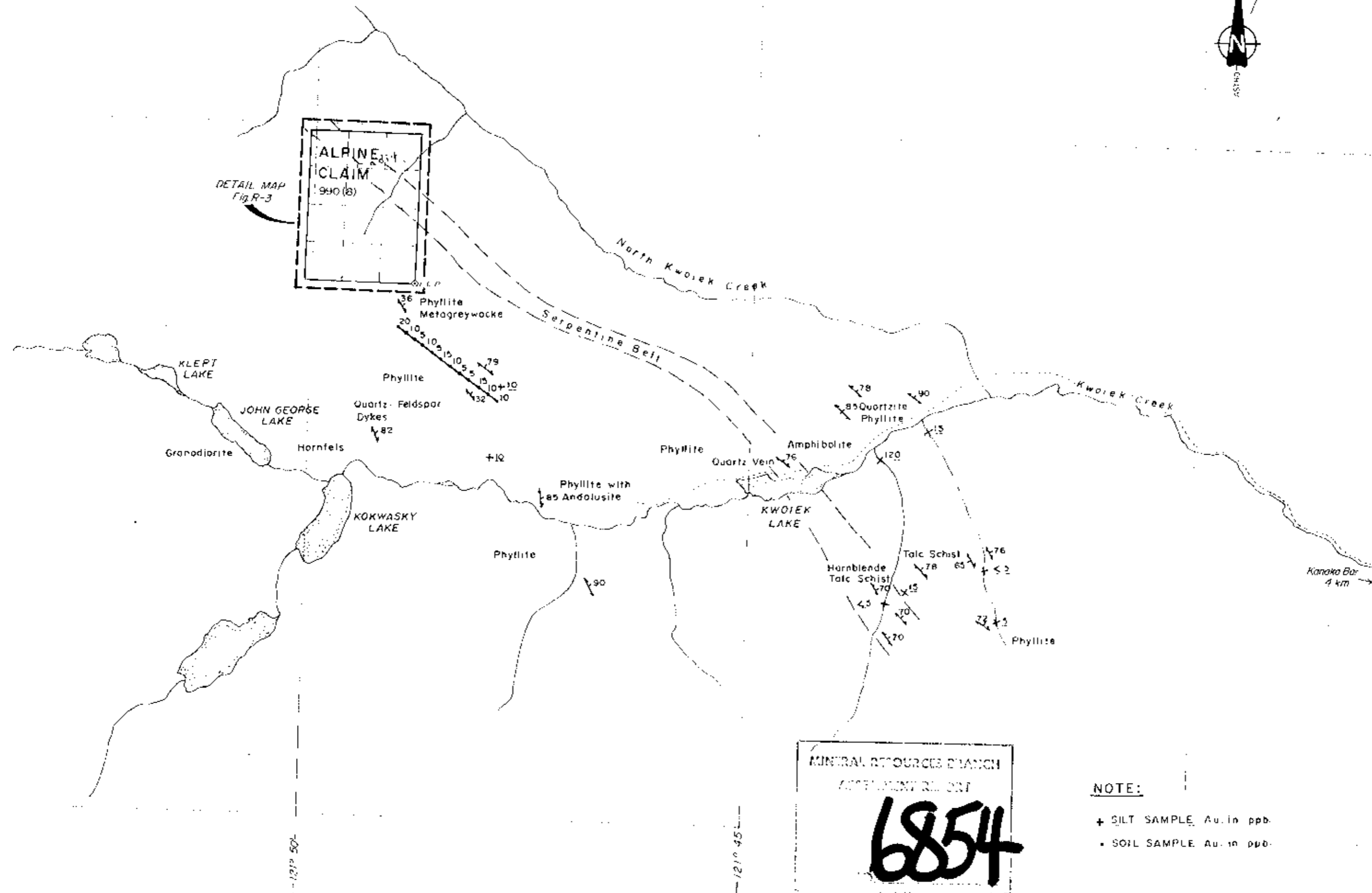


Cochrane Consultants Limited
1425 Ave. B. One B.C. 100.116.116.116



50° 10'

50° 05'



MINERAL RESOURCES BRANCH
APPENDIX R-2

6854

NOTE:

- + SILT SAMPLE Au. in ppb.
- SOIL SAMPLE Au. in ppb.

HISTORY

There are only two references that the authors could find on the ALPINE (formerly GLACIER GROUP) and these are reproduced in full below along with the appropriate reference:

Reference #1 (Report of the Minister of Mines, 1929 pg. C236)

"This group is situated at the head of the North fork of Quoiiek creek stream which flows into the Fraser River from the west just below the flag station of Keefers, on the Canadian Pacific Railway. The property comprises of eight mineral claims and is owned by J. W. Murphy, of Lytton, and associates. The distance from the railway-track to the claims is approximately 15 miles, of which distance of 8 miles is covered by a rough trail following the main stream to its forks, from which point it climbs a steep ridge between the North and South forks to an elevation of approximately 5500 feet after which a gradual ascent is made to the location of the claims above timber-line."

"The area is occupied by slates and greenstone, intersected by acid dykes, related to a large body of granitic intrusive that is exposed on the east side of the North fork of the creek. The slaty argillites are in contact



with the greenstone in a cirque-like area where the mineral occurrence is found and a high degree of schistosity is developed in both formations. The vein that has been the object of the prospecting-work upon the property occurs in the argillite formation, and may be traced over a distance of approximately 800 feet, lying conformably with the schistosity and being exposed at several points down the rock-strewn mountain-side, for a vertical distance of approximately 400 feet. In most of the exposures the vein appears to be about 2 feet wide, but there is a greater development of quartz at points where the dykes are intersected."

"At a point near the summit of the mountain where the quartz vein appears to be about 2 feet wide a sample was taken which assayed: Gold, trace; silver, 0.4 oz. to the ton. From an open-cut about 150 feet below the highest exposure a sample was taken across 14 inches which assayed: Gold, 0.04oz to the ton; silver, 4.5 oz. to the ton. From an open-cut still farther down the hill a sample taken across a width of 2 feet assayed: Gold, trace; silver, 0.5 oz. to the ton."

"Below this point there is another exposure where the vein appears to cross a body of dyke-matter and there is a considerable width of quartz. A sample taken across the



vein at this point assayed: Gold, 0.04 to the ton; silver, 13.2 oz. to the ton; while a sample of quartz in the vicinity of the vein assayed: Gold, 0.01 oz. to the ton; silver, 3.4 oz. to the ton."

"Still farther below this point the vein appears to swing round towards the south-east in conformity with the schistosity, which appears to indicate an anticlinal structure; the dip is steeply towards the east, whereas in the higher exposures it lies towards the west. Some open-cutting at the point where this change of direction is first noticed exposes a width of quartz of about 4 feet; a sample taken across this width at this point assayed: Gold, 0.02 oz. to the ton; silver, 0.04 oz. to the ton. The vein is also found with well defined walls in a short tunnel and open-cut some 50 feet below the point last mentioned. A sample taken across 3 feet 6 inches in this tunnel assayed: Gold, 0.16 oz. to the ton; silver, 0.08 oz. to the ton."

"The predominance of gold over silver values in this south-east section of the vein occurrence is of interest, but with the small amount of work yet accomplished it is not possible to determine whether this is a separate vein or not; the evidence in general points to the explanation given above."



"The occurrence is deserving of further investigation although the facts thus far observable, in regard to the size and value of the single vein that has been discovered up to the present time, are not such as to indicate commercial importance, more particularly in view of the difficult location of the property."

" The association of slates and greenstone near a granite-contact in this belt of country enhances the importance of the mineral discovery, and it may be suggested that further prospecting within this area would not be without promise. The greenstone lying to the east is greatly altered along shears and bodies of serpentine occur in which seams of asbestos are developed. These seams are narrow and irregular and, although some good fibre may be obtained, the deposits could hardly be considered as commercial assets under existing conditions."



Reference # 2

From G. S. C. Memoir 262, Ashcroft Map Area, by Duffell and McTaggart (1952):

Glacier Group (24)

Reference: B.C. Minister of Mines, Ann. Rept. 1929, p. 236

"The Glacier group lies at an elevation of about 7,000 feet on the northeast side of the nose that lies between the north and south forks of Kwoiek Creek, and is reached by good pack-trail from the mouth of Kwoiek Creek. The rocks consist mainly of steeply dipping argillites and slates, with some greenstone and serpentine. The slates and greenstones are cut by dykes that appear to be offshoots of the large mass of granodiorite lying to the northwest. One, and probably two, quartz veins, ranging in thickness from a few inches to 6 feet, lie in the bedding planes of the slates. Pyrite and arsenopyrite are abundant in the quartz, and it is reported that assays show both gold and silver."

"Workings consist of numerous open-cuts and one adit about 40 feet long. There is no record of production."



GENERAL GEOLOGY/WORK DONE

The Coquihalla Serpentine Belt is made up of a variety of basic and ultrabasic rocks. Andesite and serpentinitised andesite are found south of Last Chance Creek. These also occur near Patch Creek. Between Patch Creek and Last Chance Creek the rocks are diorite and serpentinite. Greenstone with small serpentine and talc bodies is characteristic of the belt northwest of Boston Bar.

In the Kwoiek Creek area the serpentine belt lies within a steeply dipping, thick sequence of dark grey phyllites which are lithologically similar to the Ladner Slates.

On the ALPINE CLAIM in the Kwoiek Creek area, the veins consist of further massive, sugary textured quartz which is well mineralized with arsenopyrite. No visible gold was seen although colours were obtained from crushed and roasted samples.



Soil samples taken over the quartz veins range in value from 40 to 25,000ppb in gold. Three (3) chip samples across the veins have values of 0.147, 0.117 and 0.227 oz. per ton of gold. A 4m "channel" sample from the dump at the adit mouth contained 0.567 oz. of gold per ton. Two (2) samples of rock from the dump were crushed, roasted and panned. These had values of 24.17 and 6.67 oz. per ton of gold.

The full extent of the vein systems has not been determined, but the values obtained indicate that more work is warranted. Soil sampling has indicated that the veins will give a good geochemical response to the overlying soils. It is recommended, therefore, that a soil sampling program on a 25 x 100m grid, in conjunction with geological mapping and sampling, be carried out to delineate the vein systems. This could be accomplished in two weeks.

Most of the results of the recent work done are reported in graphic form on accompanying maps.



RECOMMENDATIONS

In view of the encouraging assays and geo-chemical anomalies on the Alpine Claim, it is recommended that further work be conducted in order to more fully evaluate this gold-silver occurrence

Respectfully submitted by

A. L. Littlejohn

and

D. R. Cochrane, P. Eng.



APPENDIX I

COST BREAKDOWN (Revised)

Wages:	
D. R. Cochrane, ½ day (Aug. 1977)	
@ \$200/day.....	\$ 50.00
Prospector, 2 days (Aug. 15, 16/77)	
@ \$75/day.....	\$ 150.00
Field person, 2 days (Aug. 15, 16/77)	
@ \$75/day	\$ 150.00
A. Littlejohn, geologist, field work, report preparation, 3 days (Aug. 16, Oct. 10 and 11/77)	
@ \$120.00/day	\$ 360.00
Draftsperson, (Feb./78) 20.5 hrs.	
@ \$10/hr.....	\$ 205.00
Accommodation:	
Food - 2 men, 1 day @ \$15/day	\$ 30.00
2 men, 2 days @ \$15/day.....	\$ 120.00
Transportation:	
½ hr. helicopter @ \$280/hr.....	\$ 140.00
4 x 4 Vehicle, 2 days (Aug. 15 & 16/77)	
@ \$15/day	\$ 30.00
102 km @ 15¢/km	\$ 15.30
Lab costs	\$ 98.85
Final Report:	
D. R. Cochrane, P. Eng. ½ day	
@ \$230/day.....	\$ 115.00
Typist, report compilation, typing.....	\$ 25.00
Draftsperson, additional drafting 1 hr.....	\$ 10.00
Reproduction	\$ 30.00
Total.....	\$1,529.15



To: Cochrane Consultants Ltd.

REPORT No A27 - 682

PAGE No. 1

BONDAR-CLEGG & COMPANY LTD.

DATE: August 31, 1977

1 - 4882 Delta Street
Delta, B.C.
V4K 2T8

CERTIFICATE OF ASSAY

Samples submitted: August 23, 1977
Results completed: August 31, 1977

I hereby certify that the following are the results of assays made by us upon the herein described ore samples.

MARKED	GOLD		SILVER							TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	
ALPINE 13	0.72									
15	0.20									
19	0.36									
Rock of Dump 40' A Dit	0.32									
Rock 23	0.048									


 Registered Assayer, Province of British Columbia

COMPAN

Cochrane Consultants

GEOCHEMICAL ANALYSIS DATA SHEET

Alpine

FILE No. 4454

PROJECT No.:

MIN - EN Laboratories Ltd.

DATE: Aug. 25,

ATTENTION:

D. Cochrane

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

1977.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb				
6	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	
81	86	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160
1												2.0				
2												88.00				
3												14.0				
4												47.0				
5												117.00				
6												250.00				
7	soil											25.0				
8												110.00				
9												8.0				
10												6.5				
11												5	oz/ton			
12												4.0				
14	Rock chips - anal.											44.00	0.147			
16	Gravel from anal.											35.00	0.117			
17												68.00	0.227			
18	Channel 12'											17.00	0.567			
20												72.50	24.17			
21	Crushed rock from dump											200.00	6.67			
24												2.00	0.007			

CERTIFIED BY: *D. Cochrane*

APPENDIX III

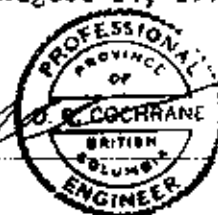
CERTIFICATE:

I, Donald Robert Cochrane of the Municipality of Delta, British Columbia, do hereby certify that:

1. I am a consulting geological engineer with an office at 4882 Delta Street, Delta, British Columbia. V4K 2T8
2. I am a graduate of the University of Toronto (1962) with a degree in Applied Geology (B.A. Sc.) and a graduate of Queen's University (1964) with a degree in Economic Geology (M.Sc. Eng.)
3. I have practiced my profession continuously since graduation and while being employed by such companies as Noranda Exploration Co. Ltd., Quebec Cartier Mines, and Meridian Explorations Syndicate. I have been in private independent practice since 1969.
4. I have no interest, either direct or indirect, in the properties or securities of Longbar Minerals Ltd., nor do I expect to acquire any such interest.
5. I am a member in good standing of the Association of Professional Engineers (A.P.E.) of the Province of British Columbia, and also a member of the A.P.E. in the Provinces of Ontario, Saskatchewan, and the Yukon Territories.

Delta, B. C.

(Signed) D. R. Cochrane, P. Eng.
August 14, 1978

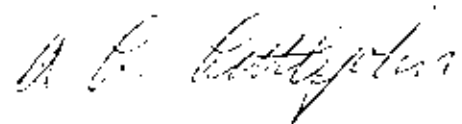


APPENDIX IV

CERTIFICATE

I, Alastair L. Littlejohn, of Vancouver, British Columbia, do hereby certify that:

1. I am a geologist with an office at 4882 Delta Street, Delta, B. C. V4K 2T8.
2. I am a graduate of Aberdeen University (1969) with a degree in Geology (B.Sc. Hons.) and the University of British Columbia (1972) with a degree in Geology (M.Sc.)
3. I have practised my profession continuously since graduation while being employed by such companies as Canada Tungsten Mining Corp. Ltd. and Amok Ltd.
4. I have no interest, either direct or indirect, in the properties of Longbar Minerals Ltd., nor do I expect to acquire any such interest.



(signed) A. L. Littlejohn,
October 14, 1977,

Delta, B. C.



APPENDIX V

Prospector's Notes

ALPINE CLAIMS - West of the Cantelver range at an elevation of app. 5300 feet.

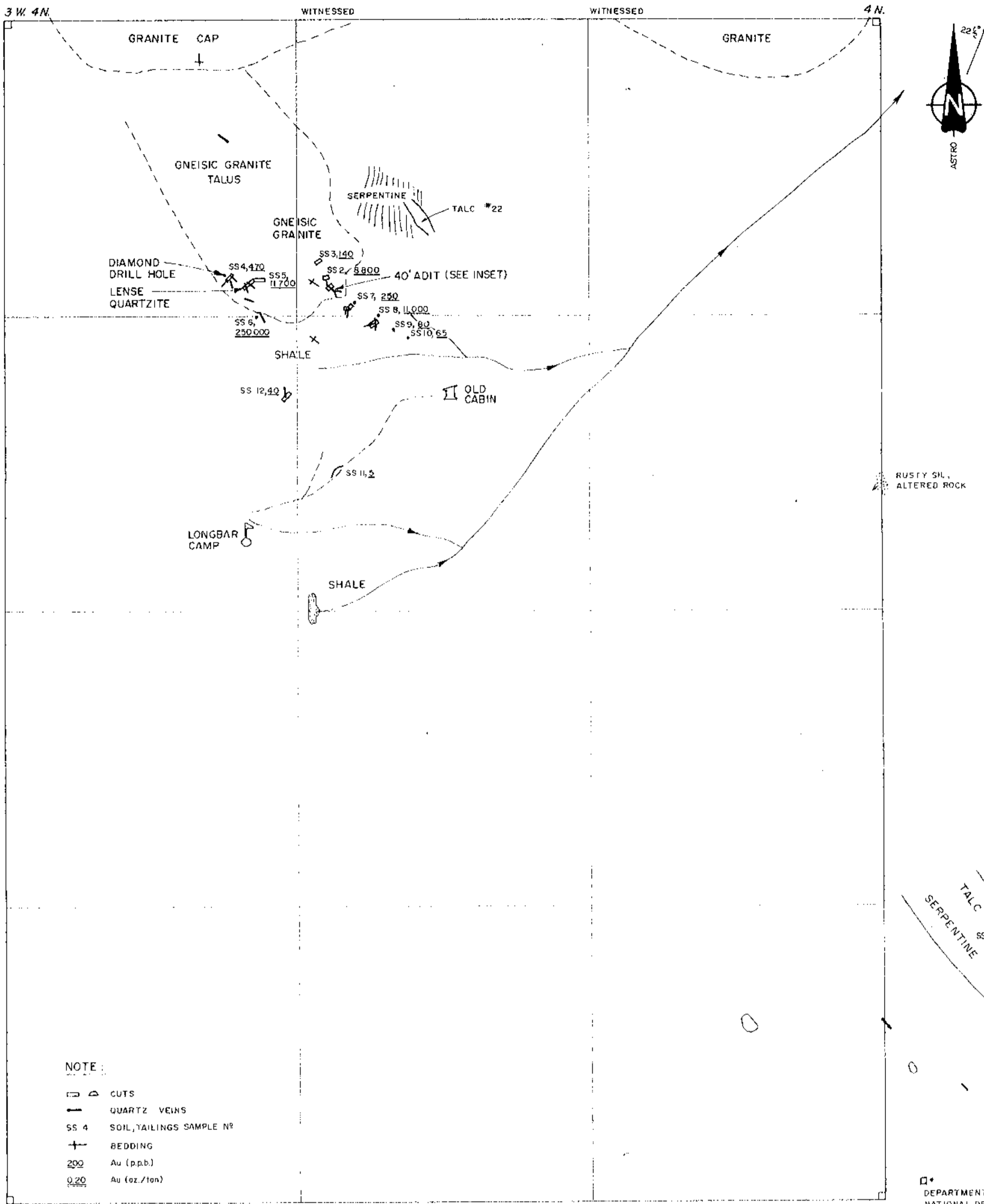
Unless assays prove otherwise, the only area of interest is the vein in the 40 foot adit. This vein is 24 to 30 inches wide where it is visible for app. 24 feet on the floor and the roof of the adit. It is vertical in vertical gneiss with some shale inclusions. Judging from small amounts of lime on the dump; calcite crustifications on the walls and garnet in the vein; the vein probably replaced a lime inclusion in the gneiss. There is no sign of similar geology in this area and this is the only zone with visible mineralization of any consequence. It is possible that this vein continues N.W. under the talus.

The main vein contains disseminated and veins of arsenopyrite, garnet, sparse galena, actinolite and possibly pyrrhotite. Crushed, roasted and panned samples indicate free gold.

Soil samples were mostly taken in old cuts and from the dumps of these cuts as much of the area is moraine covered.

R.E.MICKLE

Aug. 18, 1977

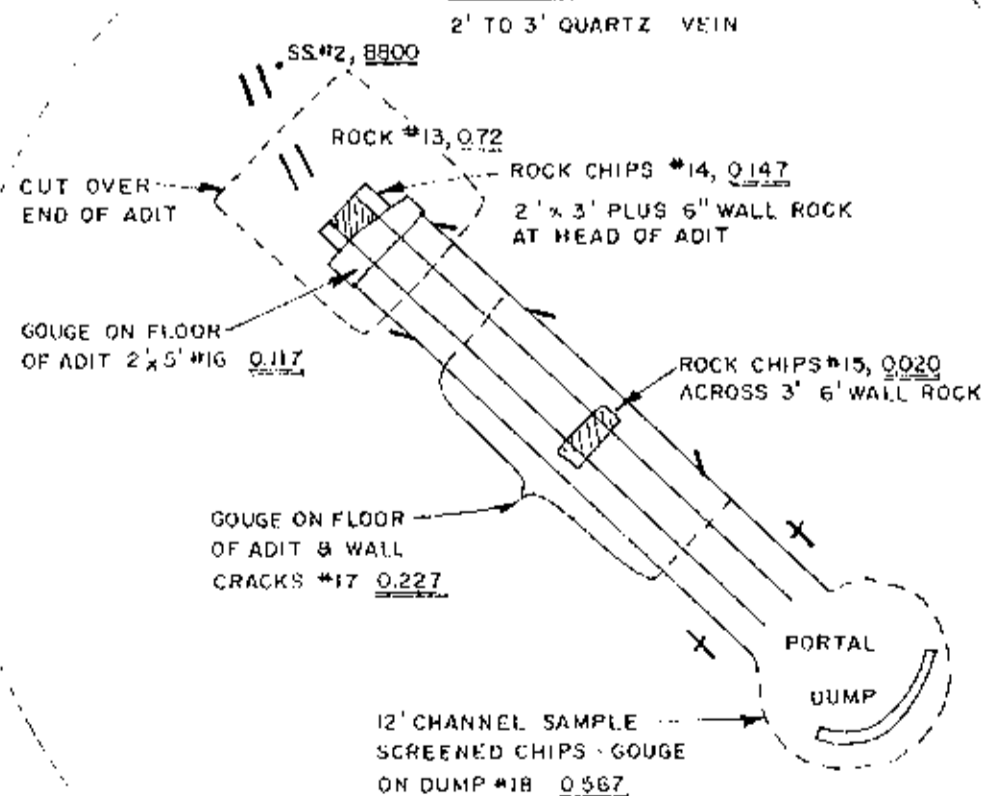


NOTE:

- CUTS
- QUARTZ VEINS
- SS # SOIL/TAILINGS SAMPLE N°
- + BEDDING
- 200 Au (p.p.b.)
- 0.20 Au (oz./ton)

□* DEPARTMENT OF NATIONAL DEFENCE BENCH MARKER & CAIRNE

(INSET) 40' ADIT (no scale)



NOTES:

- * 19, HI GRADE ROCKS ON DUMP, 0.36
- * 20, ROASTED & PANNED GOUGE AT HEAD OF ADIT 5 VIS. NUGGETS, 24.17
- * 21, CRUSHED, ROASTED & PANNED CHIPS ACROSS 3', 28" FROM PORTAL 3 SPECS. VIS. AU, 6.67
- * 22, TALC AND ASBESTOS 1 N.E. OF ADIT
- * 23, PYHROTITE, ACTINOLITE IN CUT BY SS#12 SAME POOR SHOWING AT SS#11, 0.48
- * 24, ROCK BY SERPENTINE, GRANITE
- PLUG - 3000' EAST OF L.C.P., 0.007
- ROCK OF DUMP 40' ADIT, 0.32

MINERAL REVENUE CLAIM
 LOCATION REPORT
6854
 NO.



LONGBAR MINERALS LTD.

**ALPINE CLAIM
 KWOIEK CREEK AREA**

near Lytton B.C. 92 1/4 Kamloops M.D.



MAP FROM FIELD SKETCH BY R.E.M. AUG. 77

SCALED L.V.M. FEB. 78

ALPINE CLAIM SAMPLING

Figure R-3

PROFESSIONAL ENGINEER
 B.C. COCHRANE
 BRITISH COLUMBIA
 ENGINEER

Cochrane Consultants Limited
 4570 Hwy 10, Kamloops, B.C. V2C 1S1