

GEOLOGICAL & GEOPHYSICAL

ASSESSMENT REPORT ON THE

LAKE ADIT CLAIM

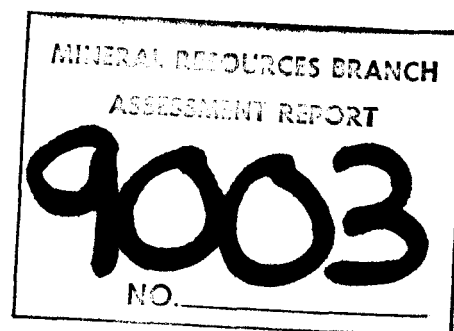
(CLAIM NO. 1319)

LILLOOET MINING DIVISION

92J/7E

50° 17.5 N 122° 36.5 W

MARCH 1981



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PROGRAM COST

Wages:

R. Kregoski - Geologist - 12 days @ 100.00	\$ 1,200.00
H. Kim - Prof. Geologist (includes Report prep.)	1,864.00
2 Helpers - @ \$50.00/man/day for 10 days	1,000.00
Transportation - 12 days @ 65.00/day	780.00
Assaying	871.00
Instrument Rental - 12 days @ 25.00/day	300.00
Food & loding - 12 days @ 100.00/day	1,200.00
Supplies	<u>200.00</u>
Total	\$ 7,415.00


H. Kim, P.Geol., F.GAC
CANKOR RESOURCE CONSULTANTS LTD.
7555 Greenwood Street
Burnaby, B. C.

APPENDIX II

Certificate

I, Hun Kim of 7555 Greenwood Street in the Corporation of Burnaby in the Province of British Columbia, do hereby certify that:

1. I am a graduate of Seoul National University (1958) holding a B.Sc degree in Geology and completed one year of the post graduate studies for Master of Sciences degree, (1960).
2. I am a consulting geologist and registered in the Geological Association of Canada.
3. I am a licenced professional geologist registered in the Association of Professional Engineers, Geologists and Geophysicists in the Province of Alberta.
4. I have practised my profession for 11 years in Canada, and for 7 years in the foreign countries per U.S. Agency of International Development oversea project.
5. I have studied available reports and maps from government and private sources on the region and visited and examined the properties and general area from August 20th to 22nd, 1980.
6. I have no interest, direct nor indirect, in the properties described herein, or in the securities of any company involved, nor do I expect to receive any interest in the future.



Dated at Burnaby, B. C.
6 October 1980
7555 Greenwood Street,
Burnaby, B.C., Canada
V5A 1T7

H. Kim, P.Geol., F.GAC
Consulting Geologist

APPENDIX I

REFERENCES

- Cairnes, C.F. (1924): Pemberton area, Lillooet District, B. C., GSC summary report 1924, Part A, p. 76-99.
- Cross, P.G. (1969): Report on the Ax-Zip claims, geological reconnaissance and geochemical surveys in the line grid.
- Kierans, M.D. (1970): Mineral exploration report; geological, geophysical and geochemical surveys on the Ax-Zip group, Pemberton area, Lillooet M.D., B. C. for Cerro Mining Company of Canada Ltd.
- Minister of Mines Reports, B. C. (1928 and 1932).
- Roddick, J. A. and Hutchison, W. W. (1973): Pemberton (east half) map-area British Columbia, GSC paper 73-17.
- Walcott, P.E. (1969): A report on a ground magnetic and electromagnetic survey by Eagle Geophysics Ltd., Pemberton area, B. C. for Cerro Mining Company of Canada Ltd.
- Woodcock, J.R. (1969): Geology of Eagle Prospect - AX claims, Lillooet area for Cerro Mining Company of Canada Ltd.
- Woodsworth, G.J. (1977):
1. Compilation of GSC geology map, Pemberton (92J), 1:250,000
 2. Metal distribution patterns across the eastern flank of the Coast Plutonix Complex, south-central British Columbia, Economic Geology Vol. 72, p. 170-183.

CONCLUSIONS

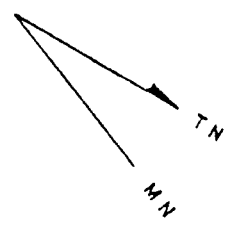
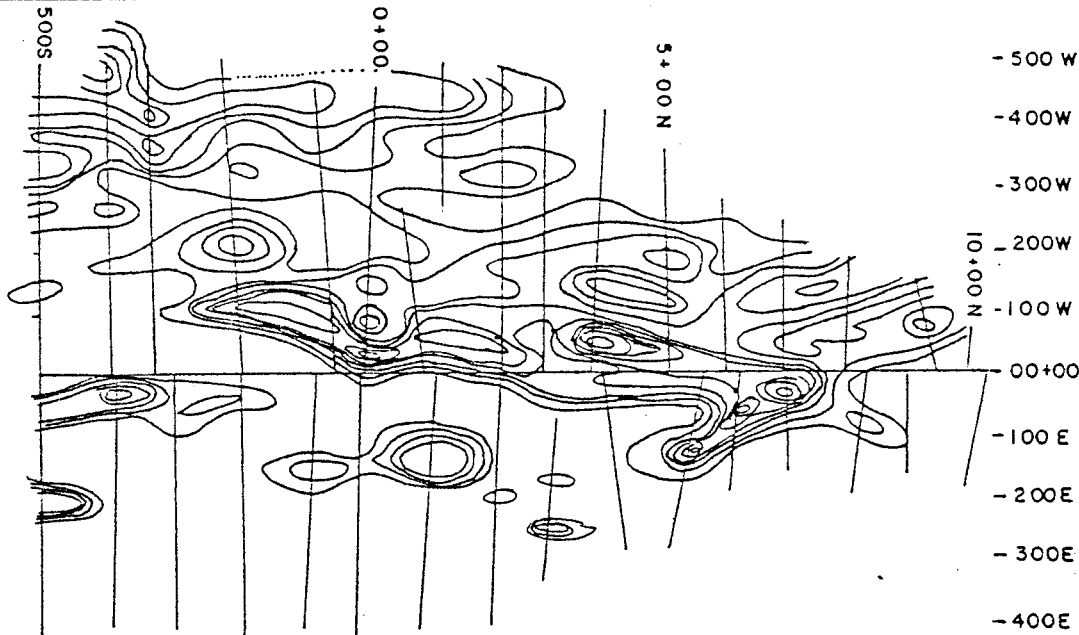
All the major showings on the property were detected by the 1980 VLF-EM survey. Most of the electromagnetic conductors are within the earlier geochemically anomalous zones. Several newly discovered conductors reflect unknown overburden-covered sulphide-mineralization.

The extent of the known sulphide-mineralization on the property has not been fully established. It appears that there may have been some displacement by faulting along the mineralized structures or a series of lenticular mineralized bodies, pinching and swelling along their strike and dip. In general, there are two types of mineralization on the property; massive sulphide-magnetite ore having commercial copper grade up to 2.8% Cu over 2.4 m in width and skarn type ore with ascended zinc values up to 10.10% Zn over 2 m in cut width. A magnetite body exceeds 60% in Fe value in places.

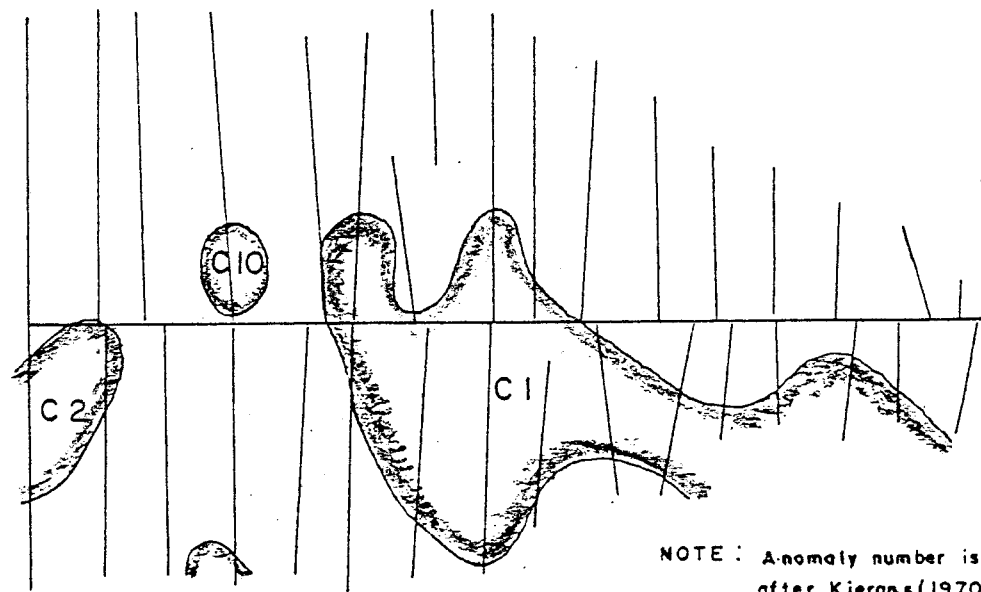
The 1969 ground magnetic and Crone electromagnetic survey concludes that possible mineralized zones disclosed by their survey, are too small to be of economic significance. However, as noted on page 7, the survey covers only the central one-sixth of the property. Development to date on the known mineralized showings has been confined to the surface, using short adits along strike and shallow drill holes. To the writer's knowledge, the southwestern part of the property has never been mapped and prospected.

The preceding factors lead the writer to conclude that the property warrants an additional exploration program to determine its economic feasibility.

<u>Location</u>	<u>Size</u> (meters)	<u>Remarks</u>
2+00 S, 1+00W	250 x 80	Dip angle up to 30°. Coincides with the earlier anomalies C ₁₀ and Z ₁ . Large sheared-gossan zone occurs.
Baseline, 0+00	250 x 50	Reflects known bedrock mineralization; Lake adit, showings 2-5 and North Eagle prospect. Dip angle up to 43°. Coincides with the earlier anomalies C ₁ and Z ₁ .
4+00 N, 0+50 W	200 x 60	New discovery in a tonalitized rock area with partial or no outcrop. Dip angle up to 43°. May reflect unknown bedrock mineralization.
9+00 N, 0+70 W	100 x 50	New discovery in the limestone-skarn zone. May reflect unknown zinc mineralization.
6+00 N, 0+80 E	330 x 60	Continuous with the conductor at 4+00 N, 0+50 W described above, but trends more west of north. Dip angle up to 38°. Within the earlier anomalies C ₁ and the southwest of Z ₂ . Tonalitized rocks were mapped in the vicinity.
1+50 N, 1+50 E	150 x 80	Within the earlier anomaly C ₁ . Few outcrops. May reflect overburden-covered mineralization. Dip angle up to 32°.
4+00 S, 0+30 E	90 x 40	Within anomalies C ₂ and Z _{1a} . Dip angle up to 22°. May reflect overburden-covered mineralization. Open-ended to the southwest.
5+00 S, 2+00 E	70 x 70	Within anomaly C ₂ . Dip angle up to 28°. Open-ended to the southwest. May reflect overburden-covered mineralization.

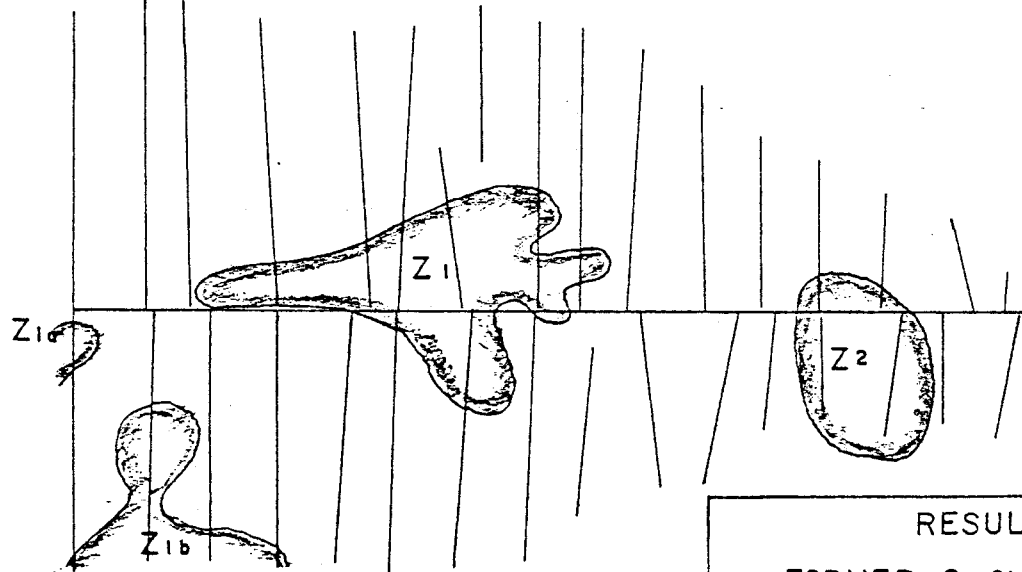


1980
 VLF-EM SURVEY
 RESULTS
 FRASER - FILTERED
 Dip angle : 0. - 43°



1969
 GEOCHEM. SOIL
 ANOMALIES
 FOR COPPER
 BAGROUND : less 130 PPM
 ANOMALOUS : more than
 250 PPM

NOTE : Anomaly number is
 after Kierans (1970).



1969
 GEOCHEM. SOIL
 ANOMALIES
 FOR ZINC
 BAGROUND : less than 1200 ppm
 ANOMALOUS : 3600 PPM

FIG. II



To accompany a report by
 H. KIM, P. GEOL., F. GAC

RESULTS OF
 FORMER & CURRENT WORK
 (1980 VLF-EM original map, scale 1 to 2500^m reduced
 to scale 1"= 1000' to correlate EM conductors with
 1969 geochem soil anomalies)
 SEPT. 1980
 H. KIM, P. GEOL., F. GAC,
 Consulting Geologist

1980 ELECTROMAGNETOMETER SURVEY AND RESULTS OF FORMER GEOCHEMICAL SURVEY ON THE LAKE ADIT PROPERTY AREA

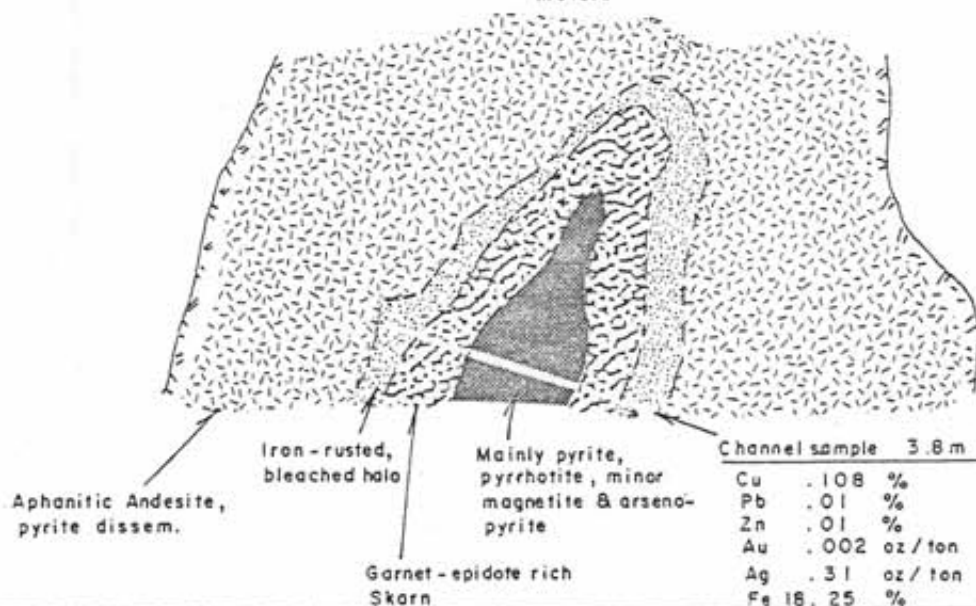
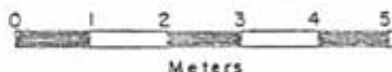
A Ronka EM-16 VLF electromagnetometer was used in this survey. This EM unit utilizes the primary electromagnetic fields generated by very low frequency marine communication stations, 15 - 25 kHz. The instrument measures the dip angle of the secondary field induced in a conductor. In the current program, readings were taken at 25 m intervals and the data filtered using D. C. Fraser's method (Geophysics, Vol. 34, No. 6, Dec. 1969). This method transforms or phase shifts the dip angle data by 90 degrees so that cross overs and inflections are transformed into peaks to yield controllable quantities.

The results of this survey confirms virtually all the principle showings described in the preceeding chapter. In addition, the survey disclosed a total of nine conductors, all of which trend northwesterly, subparallelling the base line. A summary of these conductors is tabulated below. Also, the original VLF-EM anomaly contour map at a scale of 1 cm = 25 m was converted for this description to a 1" = 1000' scale map, to correlate with the earlier geochemical soil anomalies (Figure 11).

(Viewing from south to north to the west of the base line first, and then from north to south to the east of the base line.)

<u>Location</u>	<u>Size</u> (meters)	<u>Remarks</u>
4+00 S, 5+00 W	200 x 150	New discovery in an area of no outcrop, the filtered dip angle is up to 45° and is open-ended. The area is not covered by earlier geochemical survey.
2+00 S, 2+00 W	150 X 80	New discovery but less significant than the above. Dip angle up to 15°. Scarce outcrops of rhyodacite and andesite are noted. Not covered by the earlier geochemical survey.

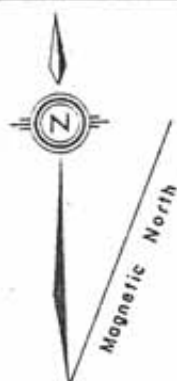
SHOWING NO. 7
 (Near +3 00 N, 2+50E)
 SKETCH looking northerly



Channel sample 3.8 m by Geologist R. Kregosky:

Cu	.108 %
Pb	.01 %
Zn	.01 %
Au	.002 oz/ton
Ag	.31 oz/ton
Fe	18.25 %

NOTE: This sketch is based on R. Kregosky's note.



ADIT
 (Near 1+50N, 3+70E)

PLAN VIEW



(Surveyed by Brunton compass & Pacing.)

NOTE:

Wall rocks through out adit are bleached and pyritized andesite.

- Sheared, limonitized zone with specks of sulphides
- Quartz vein
- Fault
- Joint / fracture

To accompany a report by
 H. KIM, P.GEOL., F.GAC,
 Consulting Geologist

28 September 1980

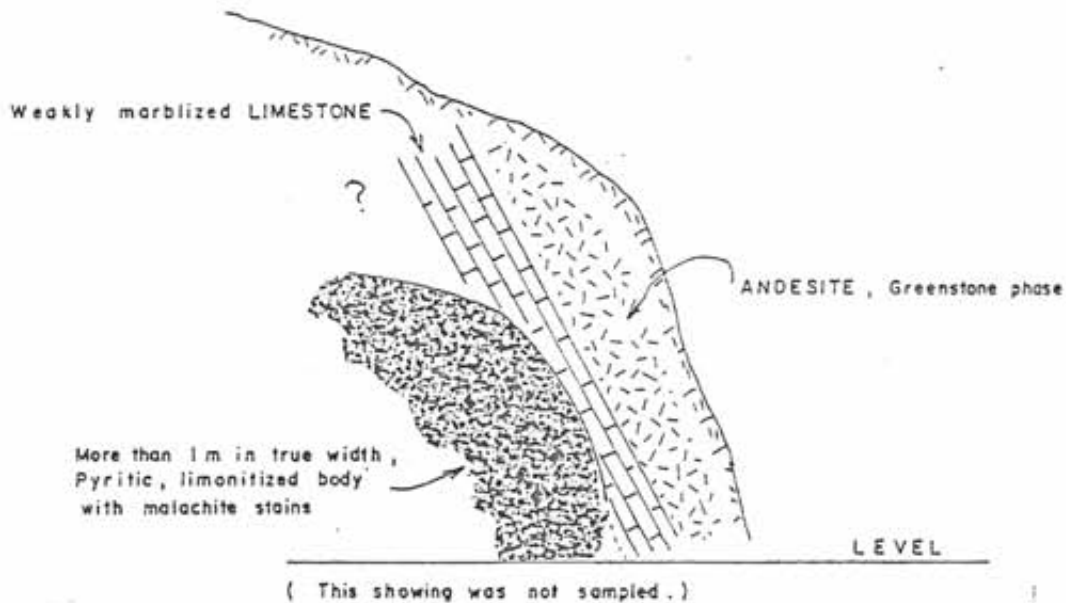
FIG. 10
 SHOWING NO. 7 - SKETCH
 ADIT, near Lake shore - PLAN
 (1+50N, 3+70E)

Sept. 1980 Drawn: J.J.L. Des.: H.K.

SHOWING NO. 5

(Near Base line 0+00 & 0+75 N)

SKETCH looking NW - free scale



SHOWING NO. 6

(Near Base line 0+00 & 2+20N)

SKETCH looking northerly - free scale

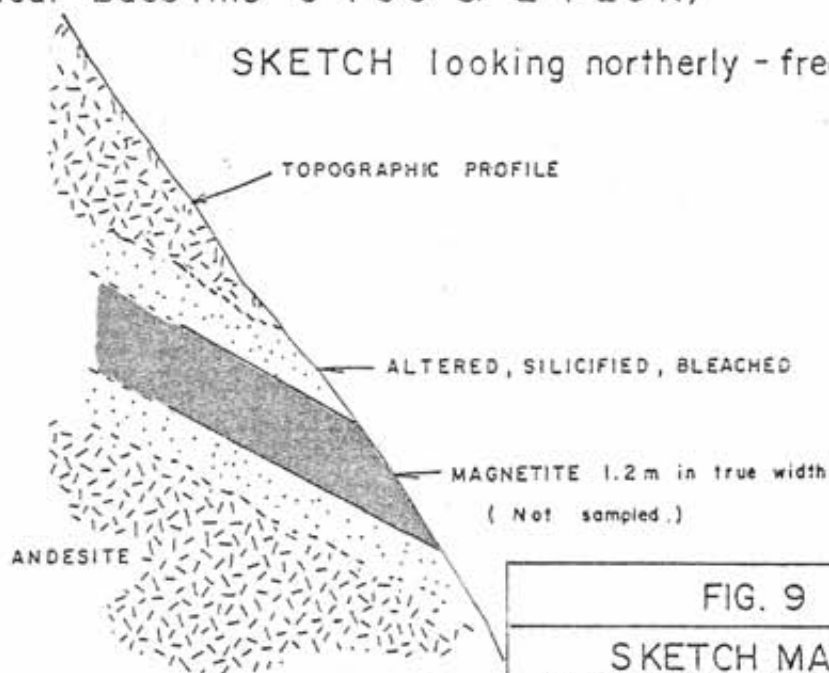


FIG. 9

SKETCH MAPS
SHOWINGS NOS. 5 & 6

Lake Adit property, Lillooet M. D.

To accompany a report by
H. Kim, F.GAC, P.Geol.,
27 September 1980

Drawn by
S.Y.L.

August, 1980
H. Kim, P.Geol., F.GAC,
Consulting Geologist

the mineralization is faulted on both sides, making juxtaposition with barren andesite and diorite. While the zinc value declined (1.86% Zn), the copper grade ascended significantly (2.795% Cu).

Showing No. 4 (Figure 8)

Conspicuous malachite coatings on the rustily weathered wall rocks indicate an appreciable copper mineralization. Note the limestone bed is associated with the showing.

Showing No. 5 (Figure 9)

Note also the limestone bed and malachite stains in the showing.

Showing No. 6 (Figure 9)

The magnetite body is overlain and underlain by bleached, silicified and pyritic rocks.

Showing No. 7 (Figure 10)

The sketch of this showing is based on Kregosky's field note and four rock samples from the showing. Note the garnetite skarn showing is about 150 m below the Lake adit and North Eagle prospect, and closer to the lake shore, where the Spetch Creek plutonic intrusive is close by.

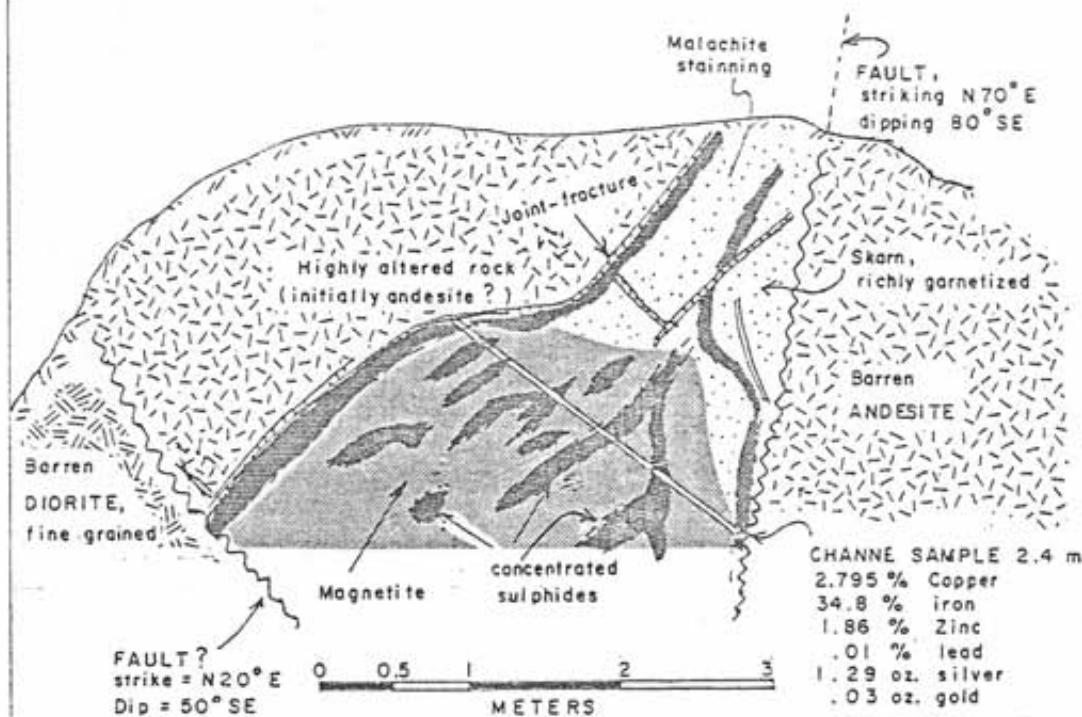
Adit, near 1+50 N, 3+70 E (Figure 10)

It might have been tunnelled in the early 1920's. No commercial sulphide mineral is observed visually.

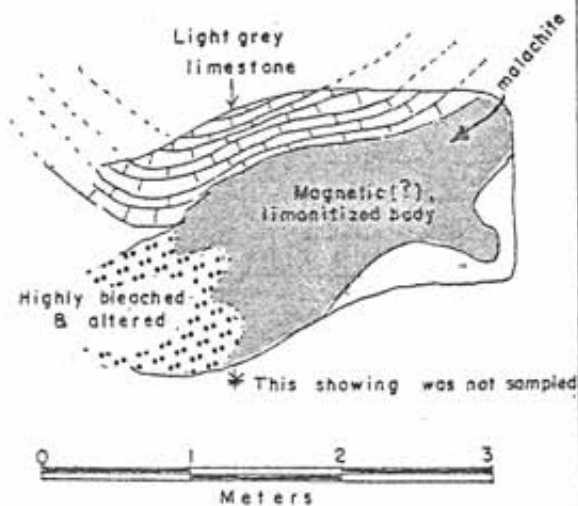
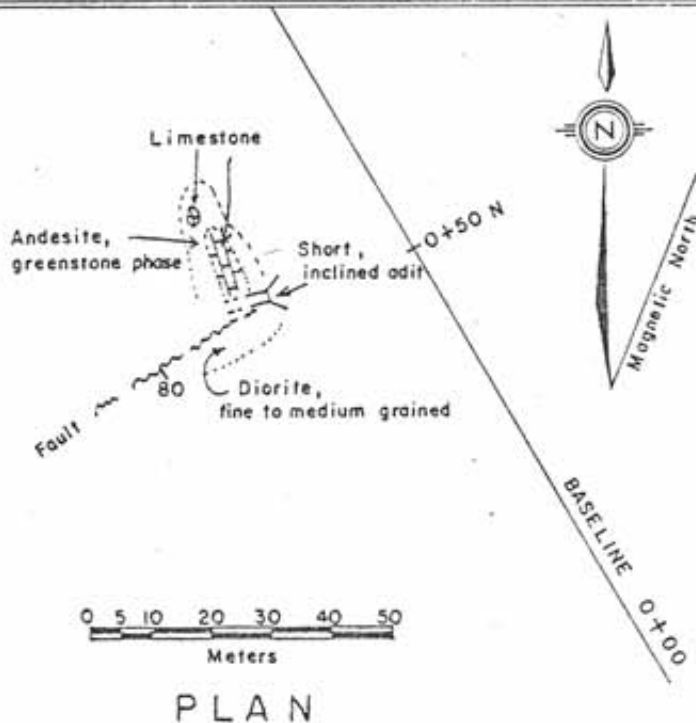
SHOWING NO. 3

(Near Baseline 0+00, 0+25 N)

(SKETCH - OPEN CUT, looking Westerly)



SHOWING NO. 4



SECTION

(SKETCH - NORTHERLY FACED WALL OF SHORT ADIT)

FIG. 8

SKETCH MAPS

SHOWING NOS. 3 & 4

Lake Adit property, Lillooet, M. D.

21 August 1980 Sketched & sampled by H. KIM
Drawn: SYL Designed: HK

To accompany a report by
H. Kim, F.GAC, P.Geol.,
Consulting Geologist

Sept., 1980

SHOWING NO. 1

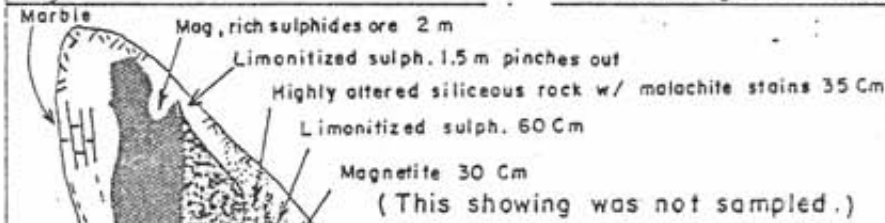
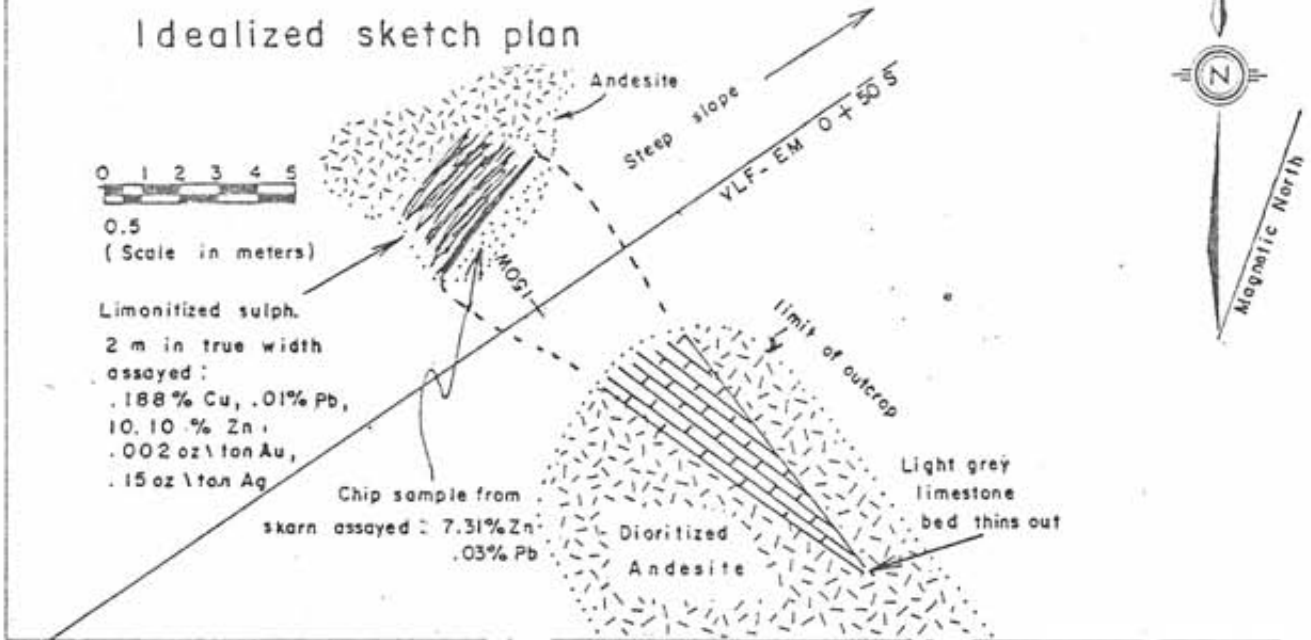
Idealized sketch plan



0.5
(Scale in meters)

Limonitized sulph.
2 m in true width
assayed:
.188% Cu, .01% Pb,
10.10% Zn,
.002 oz/ton Au,
.15 oz/ton Ag

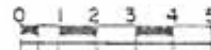
Chip sample from
skarn assayed: 7.31% Zn,
.03% Pb



SHOWING NO. 2

(Approx. 14 m above
Lake adit)

Sketch looking NW



0.5
(Scale in meters)

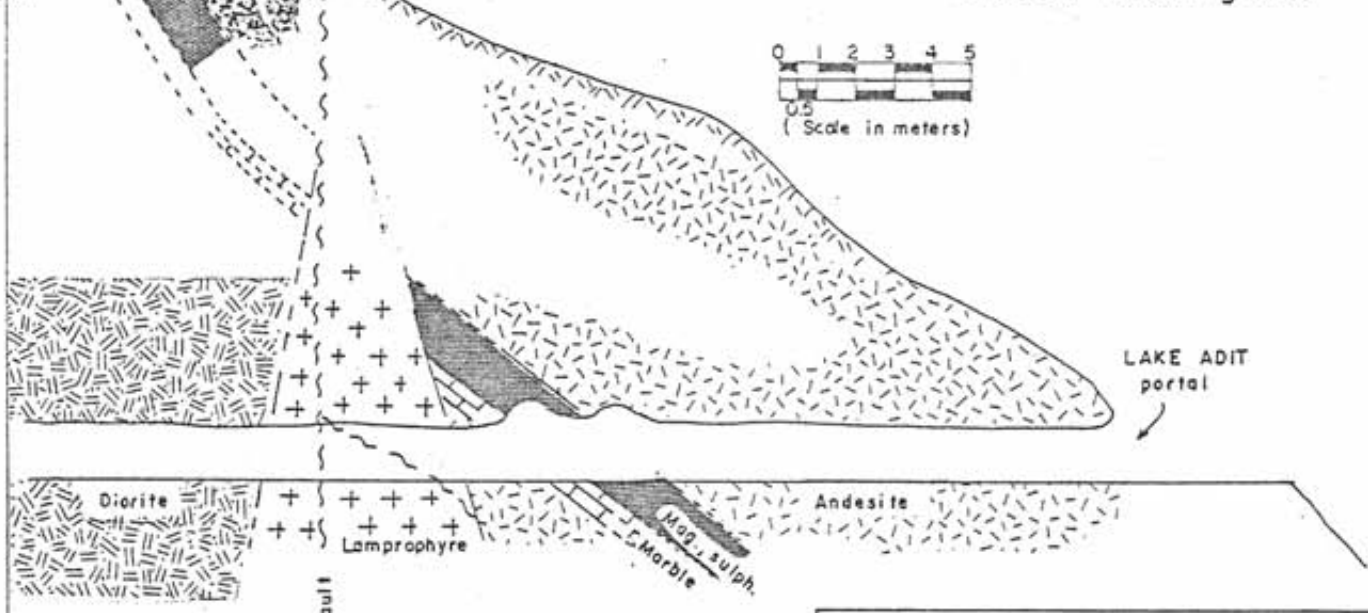


FIG. 7

SKETCH MAPS
SHOWING NOS. 1 & 2

TO ACCOMPANY A REPORT BY
H. KIM, P. GEOL., F. GAC,
CONSULTING GEOLOGIST
(SEPT., 1980)

DRAWN BY
J.J.L.

SKETCHED & SAMPLED BY
H. KIM, P. GEOL., F. GAC
22 AUGUST 1980



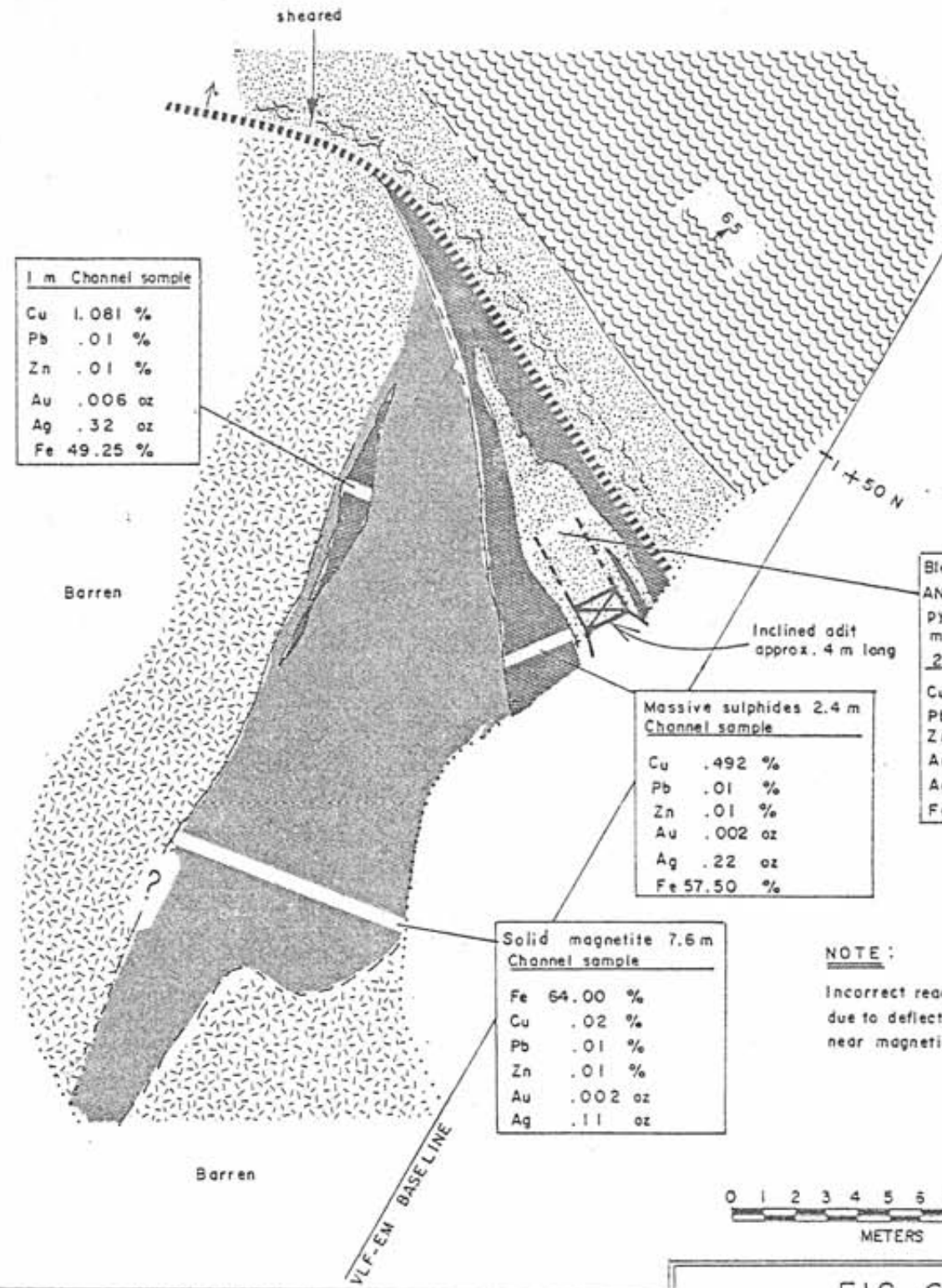
1 m Channel sample	
Cu	1.081 %
Pb	.01 %
Zn	.01 %
Au	.006 oz
Ag	.32 oz
Fe	49.25 %

Bleached, altered ANDESITE with rich pyrite disse., also magnetized & limonitized 2.7 m Channel sample	
Cu	.799 %
Pb	.01 %
Zn	.01 %
Au	.002 oz
Ag	.19 oz
Fe	31.00 %

Massive sulphides 2.4 m Channel sample	
Cu	.492 %
Pb	.01 %
Zn	.01 %
Au	.002 oz
Ag	.22 oz
Fe	57.50 %

Solid magnetite 7.6 m Channel sample	
Fe	64.00 %
Cu	.02 %
Pb	.01 %
Zn	.01 %
Au	.002 oz
Ag	.11 oz

NOTE:
Incorrect readings may be present due to deflection of compass needle near magnetic body.



LEGEND

- MASSIVE SULPHIDES :
Mainly pyrite, pyrrhotite, chalcopyrite
- MAGNETITE
- RHYOLITE to RHYODACITE
Schistose & bleached, pyritic
- ALTERED ANDESITE :
Bleached, limonitized, Pyritized, silicified
- MASSIVE ANDESITE
- FAULT
- SCHISTOSITY

FIG. 6
SKETCH GEOLOGICAL PLAN
NORTH EAGLE PROSPECT

SURVEYED BY BRUNTON & TAPE
22 AUGUST 1980

Drawn : JJJ Mapped & H. Kim, P.Geol, F.GAC
sampled by Consulting Geologist

		<u>Cu %</u>	<u>Ag oz/ton</u>	<u>Zn %</u>
Average massive zone	7 samples	1.07	0.09	0.36
Average contact zone	8 samples	0.99	0.07	3.66
Average disseminated zone	4 samples	0.27	0.16	3.88
Average mineralized zone (Kierans' sample #8 and 9)	2 samples	1.99	0.08	0.15

It is noteworthy that the current one channel sample from the adit ran 2.87% Cu and 3.07% Zn.

North Eagle Prospect (Figure 6)

All the important geologic features and assay results are generalized in the sketch plan. A remnant white crystalline limestone pod is observed on the southeasternmost of the showings, though it is not shown in the figure. The altered rocks and rhyolitic zone east of the fault should be sampled systematically for adequate future mineral appraisal.

Showing No. 7 (Figure 7)

The limestone lense thins out in a short distance. Characteristically, the zinc value ascended (7.31 - 10% Zn) while the copper grade declined (0.188% Cu).

Showing No. 2 (Figure 7)

Tentatively, the showing appears to be the surface equivalent of the mineralized zone in the southeast drift of the Lake adit, where the width thinned and grade declined. Note that the limonitized sulphide unit immediately overlying the massive magnetite zone pinches out. The other two units shown a pinching out are simply extrapolated.

Showing No. 3 (Figure 8)

As indicated in Figures 3 and 4, and an earlier report (North Eagle Prospect Geology by Woodcock - 1969), the showing appears to be spatially related to the main massive sulphide-magnetite body of the Lake adit. Note

H. Kim's 2.4 m cut channel sample from surface

2.795 % Cu
 .01 % Pb
 1.86 % Zn
 .029 oz/ton Au
 1.29 oz/ton Ag
 34.80 % Fe

Transferred from
 Assessment Report No. 2298
 By M.D.Kierans, P. Eng
 (MARCH 25, 1970)

Cu %	Pb %	Zn %	Au oz/ton	Ag oz/ton
.21	.13	4.42	Tr	Tr
.37	.10	2.08	.01	.20
.39	.20	.80	Tr	.10
.11	.05	.24	.09	.40
.95	.05	3.24	Tr	Tr
.89	Tr	.10	.02	.10
1.54	.05	.17	.02	.30
1.64	.20	.17	.04	.20



Sampled by H. Kim, Sept. 1980

Cu %	Pb %	Zn %	Ag oz/ton	Au oz/ton
.203	.01	4.28	.12	.002
.266	.01	5.68	.21	.003
.121	.01	.57	.14	.001
.293	.01	.68	.10	.001
.818	.01	.01	.40	.008
1.310	.01	.01	.50	.003
.449	.01	.01	.53	.008
1.405	.01	.21	.70	.002
.618	.01	.01	.26	.009

Assessment Report 2298
 M.D.Kierans' samples from lamprophyre, barren looking and magnetite-sulphides in the same dike:

Cu %	Pb %	Zn %	Au oz/ton	Ag oz/ton
.10	.15	.36	Tr	Tr
.70	Tr	.29	.04	.11
1.28	.10	.46	Tr	.10

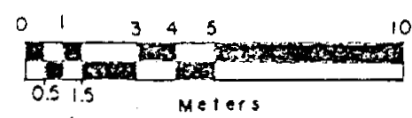
Cu	Pb	Zn	Au	Ag
1.03	.10	4.08	.005	.60
1.76	.12	1.11	.02	.40
1.06	.13	.34	.02	.10
1.08	.15	.22	Tr	.20
.68	.10	.15	.01	.10
.90	.12	.12	.005	.10
.63	.20	.12	.005	.10

H. Kim's 50 Cm channel sample
 2.87 % Cu, .01% Pb,
 3.07% Zn, .018oz Au,
 1.07oz Ag

M.D.Kierans' samples, March 1970

Cu %	Pb %	Zn %	Au oz/ton	Ag oz/ton
2.33	.05	.19	.02	.20
1.55	.12	.22	.04	.20

Transferred from
 Assessment Report
 NO. 2298
 By M.D.Kierans, P. Eng.
 March 25, 1970

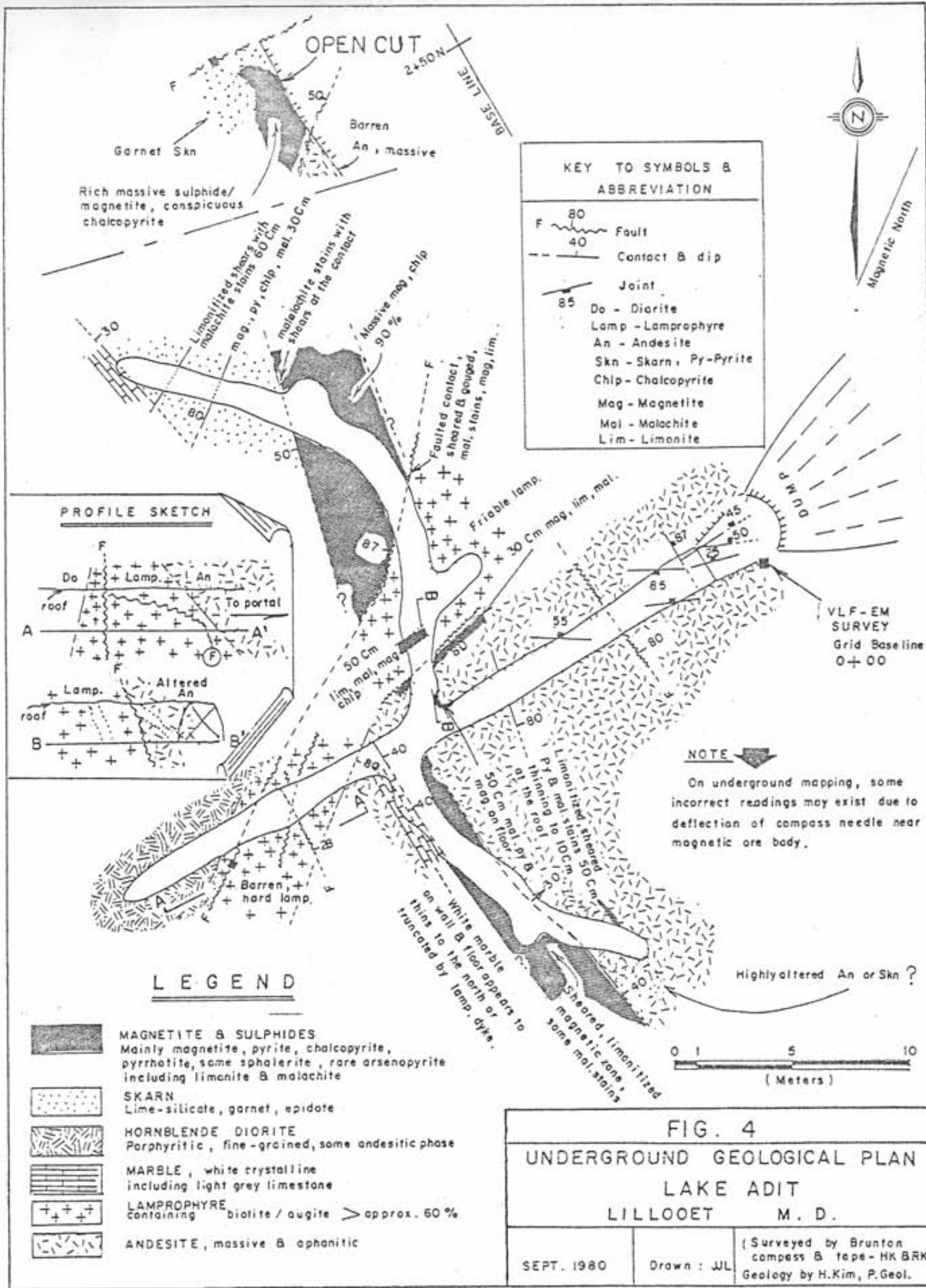


To accompany a report by
 H. Kim, P. Geol., F.GAC,
 Consulting Geologist
 Sept., 1980

FIG. 5

**COMPILATION OF ASSAY RESULTS
 LAKE ADIT & OPEN-CUT**

September 1980
 H. KIM, P. GEOL., F.GAC
 Drawn by J.J.L.



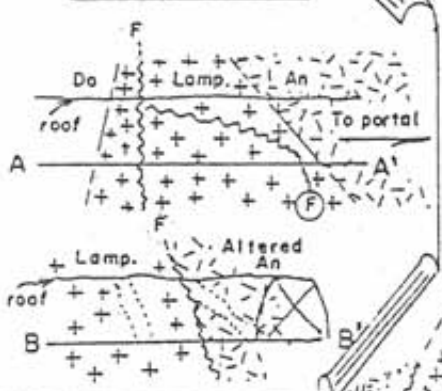
OPEN CUT

2450N
BASE LINE



KEY TO SYMBOLS & ABBREVIATION	
F	Fault
---	Contact & dip
—/—	Joint
Do	Diorite
Lamp	Lamprophyre
An	Andesite
Skn	Skarn, Py-Pyrite
Chlp	Chalcopyrite
Mag	Magnetite
Mal	Malachite
Lim	Limonite

PROFILE SKETCH



LEGEND

- MAGNETITE & SULPHIDES**
Mainly magnetite, pyrite, chalcopyrite, pyrrhotite, some sphalerite, rare arsenopyrite including limonite & malachite
- SKARN**
Lime-silicate, garnet, epidote
- HORNBLENDE DIORITE**
Porphyritic, fine-grained, some andesitic phase
- MARBLE**, white crystalline including light grey limestone
- LAMPROPHYRE**
Containing biotite / augite > approx. 60%
- ANDESITE**, massive & aphanitic

NOTE

On underground mapping, some incorrect readings may exist due to deflection of compass needle near magnetic ore body.



FIG. 4
UNDERGROUND GEOLOGICAL PLAN
LAKE ADIT
LILLOOET M. D.

SEPT. 1980 Drawn: J.L. (Surveyed by Brunton compass & tape - HK BRK) Geology by H. Kim, P. Geol.

DESCRIPTION OF SHOWINGS

All the principle showings are at or in proximity to the limestone horizon within the andesite-greenstone complex. The host volcanic rocks are highly bleached, argillized, silicified and hemato-limonitized. A brief description follows:

Lake Adit (Figures 4 & 5)

Since Figure 4 itself is self-explanatory, a geological description is not required. The following factors may lead to a concept for the mineralization control in the adit.

1. Proximity of the limestone contact.
2. Predominant northwest trending of:
 - a) the massive magnetite-sulphide body,
 - b) the limestone-marble bed, and
 - c) the limonitized and pyritized shear in andesite near the entrance of the northwest drift adit.
3. Pinching and swelling of the mineralized width along strike and dip.
4. Position of chalcopyrite mineralization in soft lamprophyre in the northwest drift is in line with the northwest trending massive, magnetite sulphide body.
5. Lamprophyre dyke intrusion predates the mineralization, unless it has been potassium-argon dated.

Figure 5 shows the assay pattern of the sulphide mineralization in the adit. Eight samples taken from the northwest drift by the writer confirms the earlier assay results, which are incorporated in Figure 5, for the reader's convenience. The average grade for the Lake adit reported by Kierans, seems to be reliable and is used here:

Cadwallader Group (undivided) on the area covered by this report consists of mainly greenstone, tuff and flows of andesite, rhyolitic tuff and flows and a minor lenticular limestone bed. The andesite-greenstone unit in the area also grades into and is cut by hornblende diorite. This unit also passes into tonalitized rock as typically noted at 5+00 N baseline. A hand specimen of this type of rock without field observation is easily mistaken for quartz diorite. The highly foliated, leucocratic and acidic rocks noted on the North Eagle showings and the southwest of the line grid area are provisionally termed as dacite to rhyodacite. Whether they are altered phases of greenstone or rocks of different extrusive origin is unknown.

The rock contacts (limestone-greenstone, rhyodacite-greenstone), foliations, joints, fractures and shearings observed in the line grid map area present a northwest trend, conforming to the regional trend of foliations, the Coast Crystalline belt, and tectonic elements in the Pemberton map area. Coincidentally, all the principle showings on the property are located near and along the line grid baseline, i.e. N30°W. There are also numerous northeast trending sets of joints, fractures, faults and rock contacts, but in the bulk view, these are not frequent on a regional tectonic trend basis. These tectonic elements may have provided conduits for hydrothermal mineralizing solutions and andesitic and dioritic dyke intrusions. An effect of contact metamorphism is evident from garnetite and epidote in a few skarn showings at and near the limestone horizon with the intrusive diorite or extrusive andesite. Kierans (1970) suggests that the lamprophyre dyke in the Lake Adit is spatially related to sulphide mineralization in the area. However, in the view of the search for the principle mineral deposits in the area, this dyke is less important. Based on mapping at the Lake and Eagle showings, secondary faults postdating the mineralization offset and truncate the extent of mineralized structure, resulting in discontinuity of any mineralized horizons in the area.

For a review of the general geology in the line grid map area, see Figure 3, Line Grid Geology of Lake Adit claim, mapped by R. Kregosky.

GEOLOGICAL SETTING

A 1977 GSC map (1 to 250,000), Pemberton (92J) compiled by G. J. Woodsworth updates the regional geologic information and refers to the earlier publications by 15 different workers including Cairnes (1925, 1937 and 1943), and Roddick and Hutchison (1973). The axis and northeastern limit of the Coast Crystalline Belt composed of granite, granodiorite, quartz monzonite and quartz diorite trend northwesterly across the Pemberton map area, intruding the Upper to Middle Triassic clastic and volcanic rocks.

The Lillooet Lake area occupies the southwestern flank of a broad northwest trending antiform of the crystalline belt. Typical intrusive-looking crystalline rock in the vicinity of Lake Adit claim is the Spetch Creek pluton, which extends 20 miles northwesterly from near Joffre Creek, opposite the property across the lake and has a width of up to 10 miles. The Spetch Creek pluton consists of a clean, homogeneous, medium to coarse grained granodiorite, which has been moderately foliated parallel with the shore of Lillooet Lake, trending northwest. It is bordered by outcrops of quartz diorite or in places by diorite. Whether they are phases of the Spetch Creek pluton or rocks of different age is not known (Roddick and Hutchison 1973). The reconnaissance geologic map on AX-Zip claims by Cross for Kierans (1970) indicates that a coarse grained crystalline plutonic rock borders the central part of the eastern edge of the Lake Adit claim, where two small islands or sand bars occur near the shore (about 1.8 miles northwest of the mouth of Ure Creek). However, neither the sand bar nor the outcrop was noted by the writer.

The GSC map by Woodsworth (1977) shows that the Lake Adit area is underlain by the pendant Cadwallader Group of Upper Triassic period, surrounded by quartz diorite-diorite complex of unknown age. Relationships between quartz diorite and diorite have not been fully established, but the contacts of the quartz diorite with diorite body at the head of Ure Creek are reportedly gradational; the contacts with the volcanic rocks of Cadwallader Group are commonly sheared (Roddick and Hutchison 1973).

4a. Reconnaissance soil sampling, 100' intervals on three lines 3000' apart in Boulder Creek by Harvdale with Kierans' supervision.

4b. Detail soil sampling, 100' intervals on six lines. 400' apart in the northeastern half of the Lake Adit claim. In all, about 600 samples were obtained from the B₂ horizons for Cu and Zn.

5. Mapping and sampling in the vicinity of the Lake and Eagle showings by M. D. Kierans. About 5,000 tons of ore at 1.00% Cu and 3.00% Zn estimated.

1970

Issuance of Mineral Exploration Report, Geological, Geophysical & Geochemical Surveys on AX-Zip claims group by M. D. Kierans.

Cairnes' conclusion:

"The bulk of ore minerals on these properties is, undoubtedly, very great. Unfortunately, the grade, except locally, is extremely low, although, in respect to the copper values at least, better returns may be obtained below the zone of oxidation."

1929

Diamond drilling of three holes near and under the Lake and Eagle showings by Howe Sound Company. The results are reportedly negative (Kierans 1970). Location of these holes is shown on Figure 3.

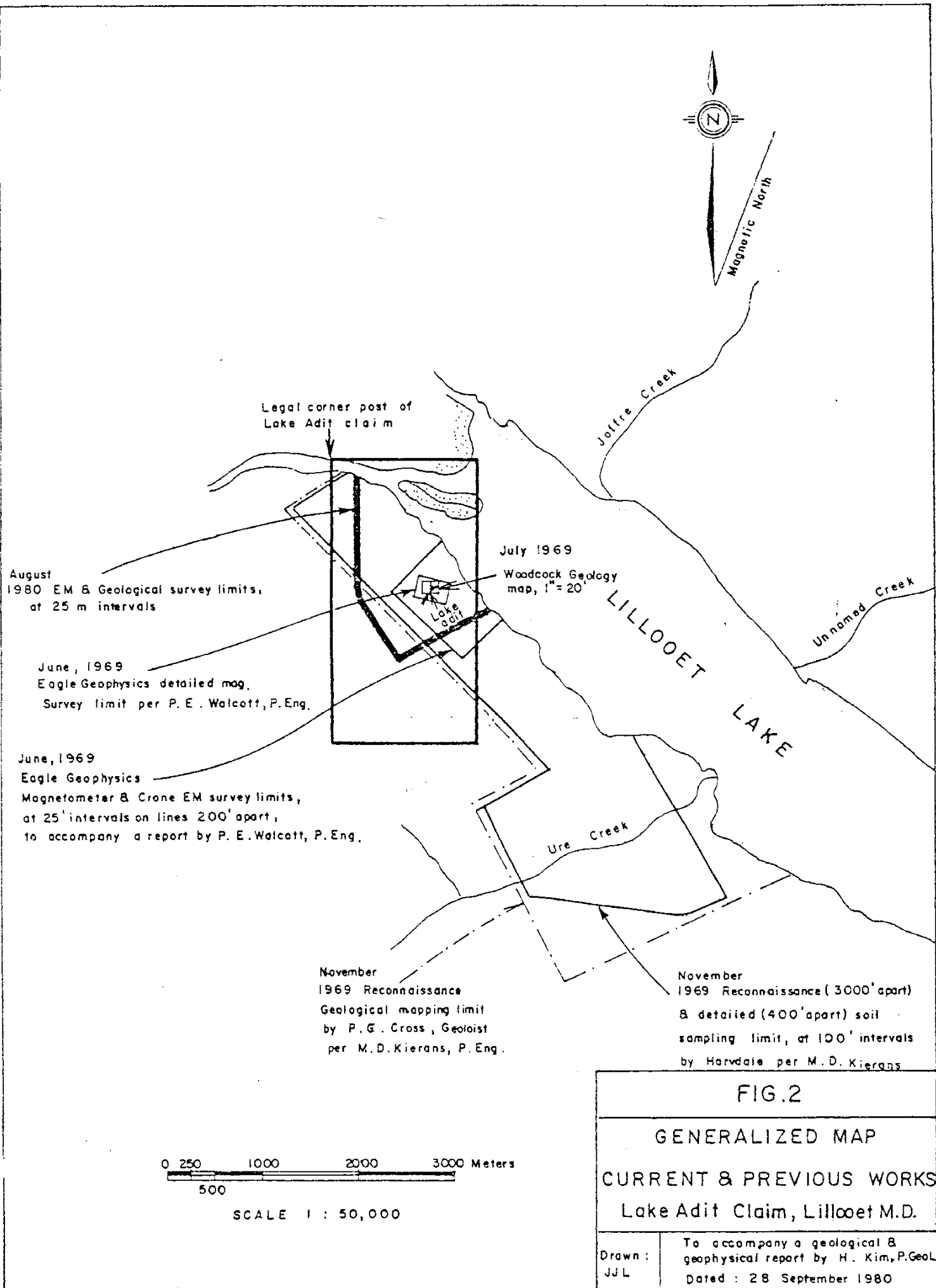
Late 1950's

Diamond drilling of one short hole probably immediately above the Lake Adit. Location and inclination of the hole cannot be established with certainty by the writer. A few boxes containing some EQ size drill cores still remain in the Lake Adit.

1969

Initiation of an extensive exploration program by M. D. Kierans for Cerro Mining Company of Canada Limited (Figure 2). The program included:

1. Reconnaissance geological mapping in the line grid area of AX-Zip mineral claim group by P. G. Cross. AX-Zip includes the Lake Adit, Eagle and Boulder Creek showings, but excludes the southwestern half of the Lake Adit claim area.
2. Detailed geological mapping confined to the vicinity of Eagle showings by J. R. Woodcock. The area of detail mapping covers about 0.02% of the total Lake Adit claim area.
3. Ground magnetic and electromagnetic surveys, 25' intervals on lines 200' apart, by Eagle Geophysics per P. E. Walcott & Associates. The survey covers roughly the central one-sixth of the property. The detailed magnetic survey was concentrated on the Eagle showings at 10' intervals on four lines 50' apart.



Magnetic North

Legal corner post of Lake Adit claim

August 1980 EM & Geological survey limits, at 25 m intervals

July 1969

Woodcock Geology map, 1" = 20'

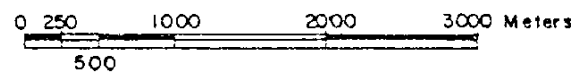
June, 1969 Eagle Geophysics detailed mag. Survey limit per P. E. Walcott, P.Eng.

LILLOOET LAKE

June, 1969 Eagle Geophysics Magnetometer & Crone EM survey limits, at 25' intervals on lines 200' apart, to accompany a report by P. E. Walcott, P. Eng.

November 1969 Reconnaissance Geological mapping limit by P. G. Cross, Geoloist per M. D. Kierans, P. Eng.

November 1969 Reconnaissance (3000' apart) & detailed (400' apart) soil sampling limit, at 100' intervals by Harvdate per M. D. Kierans



SCALE 1 : 50,000

FIG. 2

GENERALIZED MAP
CURRENT & PREVIOUS WORKS
Lake Adit Claim, Lillooet M.D.

Drawn: J.J.L.
To accompany a geological & geophysical report by H. Kim, P. Geol.
Dated: 28 September 1980

HISTORY

The date of the earliest exploration activities in the Lake Adit area cannot be set with accuracy, but they were apparently later than the early 1900's. Based on the reports by Cairnes (1924) and Kierans (1970), previous work on the property is summarized in chronological order below. In addition, areal limit of the 1969 Cerro Mining's field program performed by various consulting firms with M. D. Kierans' direction is shown in Figure 2.

1915

Discovery of Boulder Creek properties including the showings on the Lake Adit claim covered by this report.

1915-1923(?)

Driving two adits, one on the Lake (230') and the other on the Eagle showing (20'), preceded or succeeded by stripping and open cutting of several showings between the two adits and at other locations. The other locations include Boulder (Ure) Creek and the Apex mineral claim group adjoining the Boulder group on the southeast.

1924

Geologic mapping of a zone of mineralization $3\frac{1}{2}$ miles or more long and up to 600' in width in the area of Lake Adit, Boulder Creek and the further south claim groups by C. E. Cairnes of G.S.C. Cairnes' report includes comprehensive descriptions as to mode and occurrence of the Lake Adit, Eagle showings and others. Cairnes also quotes Dr. Uglow's four samples obtained from the Boulder Creek area:

<u>Sample No.</u>	<u>Width Sampled</u> (feet)	<u>Copper</u> %	<u>Silver</u> oz/ton	<u>Gold</u>
1	15	1.5	0.68	Trace
2	20	0.45	0.22	Trace
3	20	0.10	0.52	Trace
4	30	0.30	0.54	\$1.40/ton (1924)

PHYSIOGRAPHY

The property is situated on the northeastern slope of Mount Currie (2,549 m) of the Coast Mountain Range. Relief on the property is 1,260 m from 213 m elevation on the lake shore to 1,473 m on the ridge at the south-east corner of the property. Mountain terrain is rugged, forming numerous rock cliffs and steep slopes. Topographic profile on the property for its entire north to south length exceeds 30 degrees. The steep slope on the western part of the property displays abundant rock outcrops with several distinctive reddish iron oxide coatings, noticeable from a distance. However, the greater part of the east of the property is thickly vegetated with scarce outcrops, on which several anomalous zones are disclosed by the 1969 soil sampling and the 1980 VLM-EM survey.

The average elevation of the principal showings, VLF-EM conductors and soil anomalies on the property exceeds 200 m above Lillooet Lake. The area adjacent to the anomalies is devoid of water for drilling. Water for drilling would have to be pumped either from the lake or the Ure (Boulder) Creek about two miles to the southeast, substantially increasing the cost of drilling the anomalous zones.

PROPERTY

Claim No. 1319 named Lake Adit in the Lillooet Mining Division, containing 18 units (6S x 3E). Expiry date - April 18, 1981.

LOCATION AND ACCESS

The Lake Adit claim is at latitude $50^{\circ}17'N$ and longitude $22^{\circ}37'W$ (NTS 92J/7E) on the southwest shore of Lillooet Lake, approximately 14.5 road km (9 miles) east of Pemberton, B. C. (Figure 1).

The property can be reached by normal motor transportation and boat as follows:

Pemberton to Mount Currie Village, paved road for 8 km (5 miles), Mount Currie to Lillooet Lake, gravel road for 6.5 km (4 miles), crossing the Lake to the property, by boat for 1 mile.

It is reported that a usable light helicopter landing pad has been located about 100' from the portal of the Lake Adit during the 1969 field season. Pemberton is on Highway 99 and B. C. Railway, 152 km (95 miles) north of Vancouver.

INTRODUCTION

In the late summer of 1980, there has been a renewed interest in prospecting and exploration for base metal occurrences on the Lake Adit claim, about nine road miles southeast of Pemberton, B. C. The last geological, geophysical and geochemical fieldwork on the property was reported by M. D. Kierans, P.Eng., whose interest was aroused by the 1924 G.S.E. report (C. E. Cairnes) on the adit and skarn showings of the North Eagle prospect, for Cerro Mining Company of Canada Ltd., in March of 1970. Since then, the property has apparently been inactive until this summer. During August 1980, a VLF-EM survey and outcrop mapping were accomplished on the Lake Adit claim by a geological-geophysical crew of three men. This consisted of two field assistants and an independent geologist, Roy Kregosky of West Bridge, B. C., who worked under my supervision.

This report summarizes the results of the geological and VLF-EM surveys performed during August 1980. A detailed examination of the 10 base metal occurrences on the property was made by the writer, during the period from the 20th to 22nd of August 1980. Also, the report brings together the present and previous exploration concepts and recommendations relating to the magnetite-sulphide ore occurrences seen in the Lake Adit claim, by utilizing all available existing data.

SUMMARY

This assessment report summarizes the exploration work on the Lake Adit claim No. 1319 in the Lillooet Mining Division for the period from 13 August to 25 August 1980 and includes a reevaluation of all previous work on the claim.

Two types of sulphide mineralization occur on the property:

- (1) Massive magnetite, pyrite, chalcopyrite ore with lesser gold, silver, lead and zinc.
- (2) Skarn ore, principally pyrite and sphalerite with lesser chalcopyrite and silver.

About 40 channel samples were obtained with cut ranges from 50 cm to 2.4 m. The assay ranges were as follows:

Cu 0.21 - 2.87%
Zn 0.01 - 10.10%
Pb 0.01 - 0.22%
Au trace - 0.09 oz/ton
Ag trace - 0.70 oz/ton

One channel sample on the magnetite body assayed 64% Fe.

The 1980 VLF-EM survey revealed several new conductors which are equivalent to or larger than the previous showings. In the southwestern part of the line grid not covered by earlier soil sampling a significant new conductor open-ended to the south was disclosed.

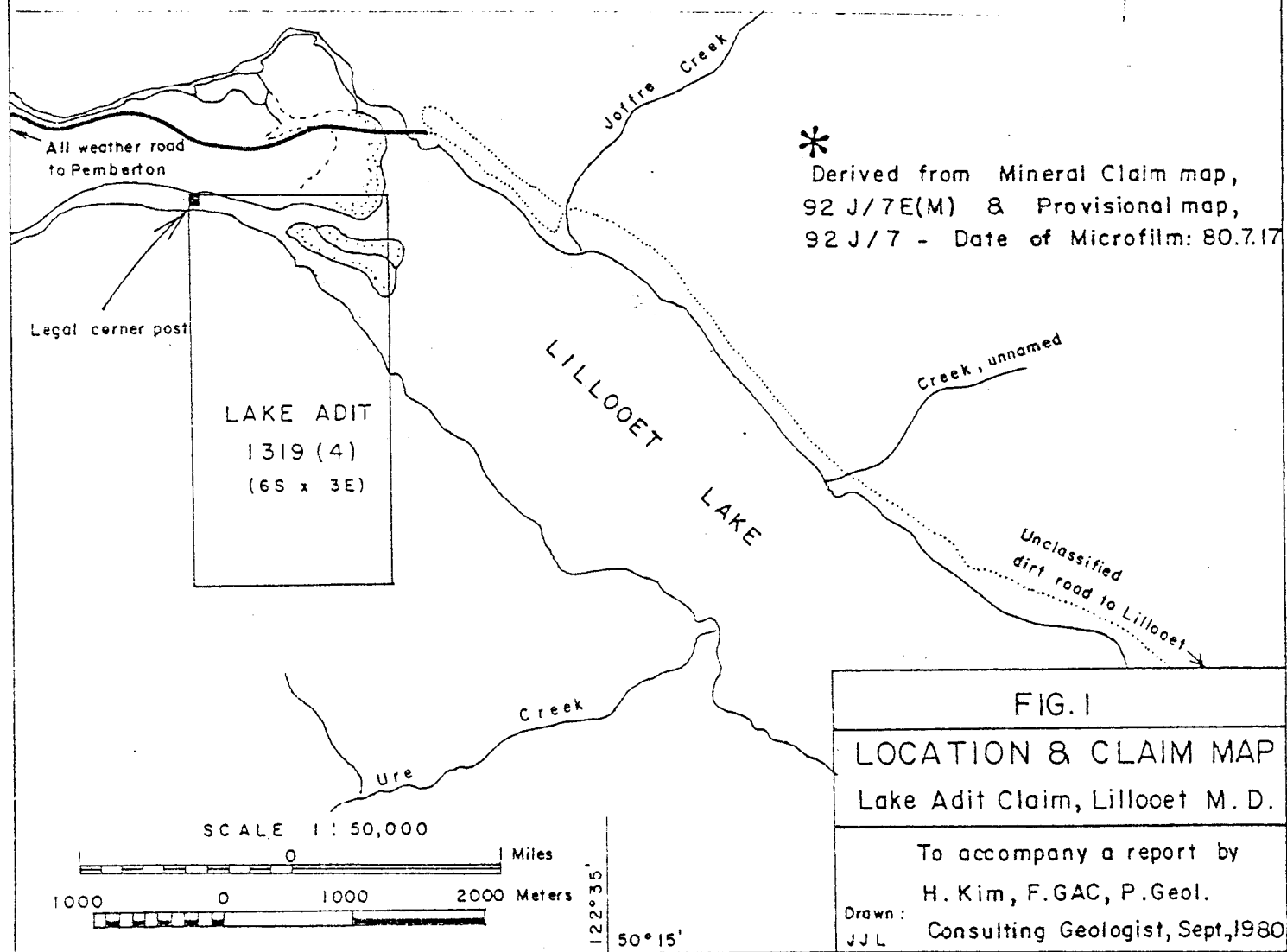
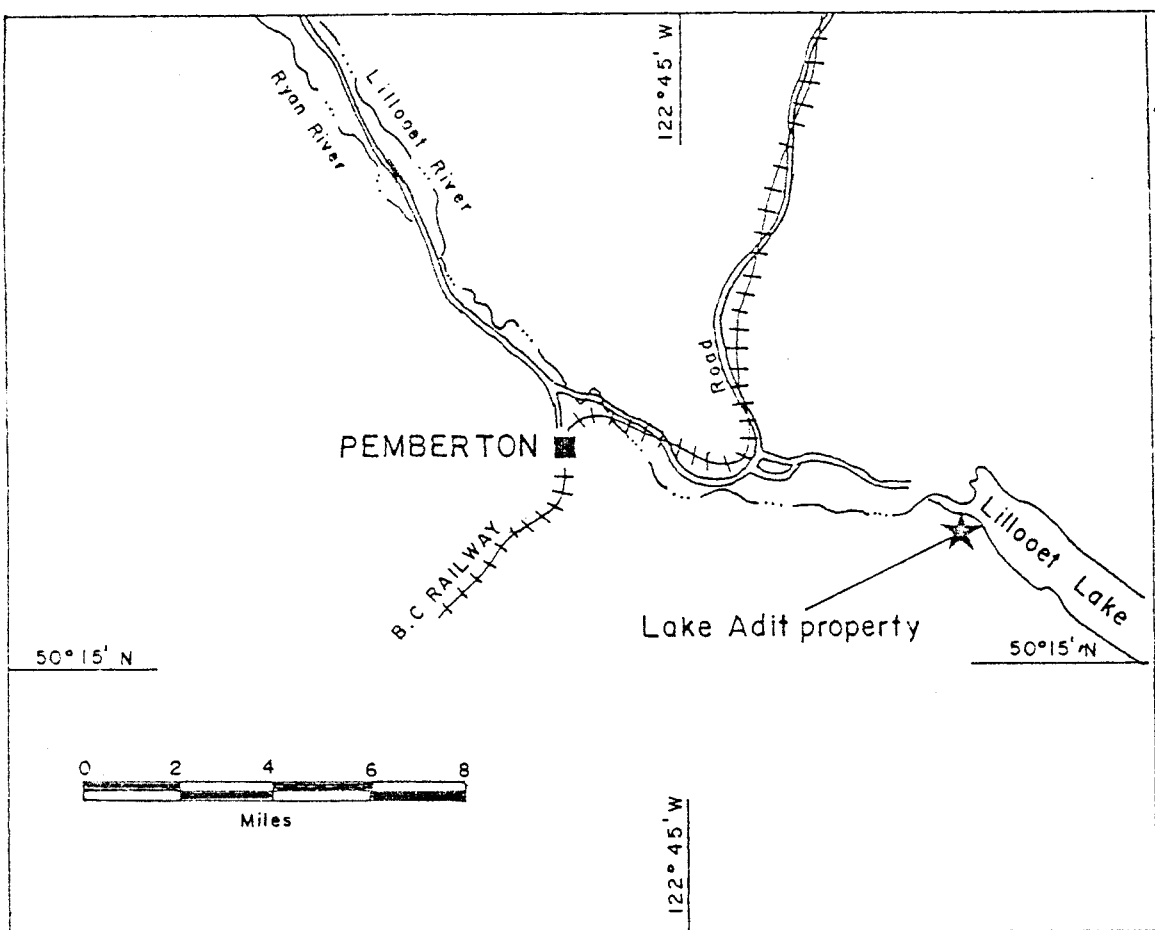
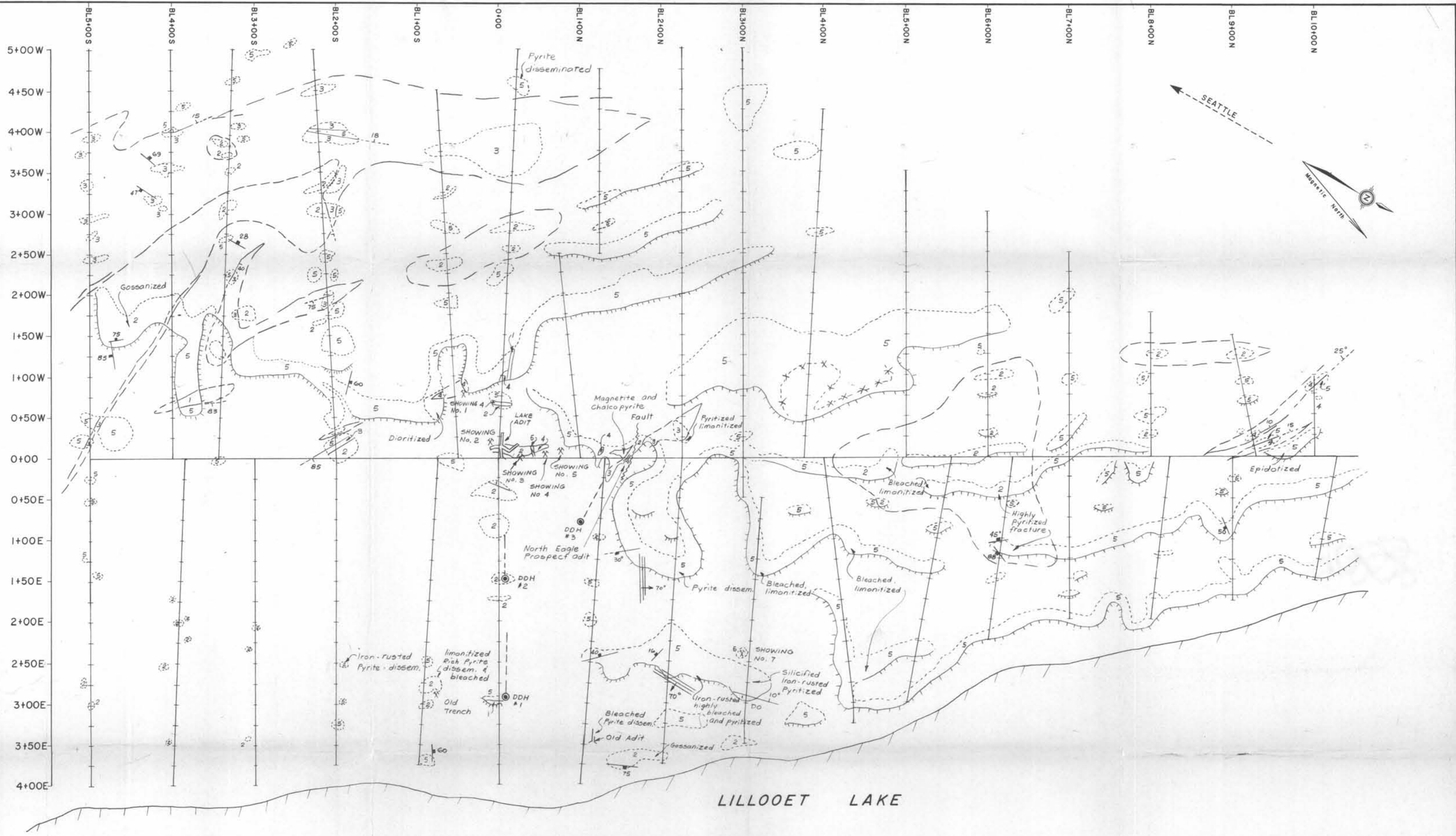


FIG. 1
LOCATION & CLAIM MAP
Lake Adit Claim, Lillooet M. D.
To accompany a report by
H. Kim, F.GAC, P.Geol.
Drawn:
J.J.L. Consulting Geologist, Sept., 1980



LEGEND

LITHOLOGY

- 1 HORNBLLENDE DIORITE
Mostly dykes and fine-grained
- 2 SILICIFIED, CHLORITIZED AND EPIDOTIZED ROCK (Undivided)
Derived from andesite
This unit contains tonalitized phase, fine to medium-grained, in local places
- 3 DACITE TO RHYODACITE
Flows and / or tuff; light-grey to milky white colored, quartziferous, aphanitic
This unit might have derived from andesite.
- 4 LIMESTONE, MARBLE AND SKARN
- 5 ANDESITE (Flows and Tuff) AND / OR GREENSTONE

SYMBOLS

- Geological contact, defined & assumed
- Fault
- Foliation
- Joint & Fracture
- Shear zone
- Outcrop outline
- Rock cliff
- Adit
- Base metal showing
- Drill hole

Note:

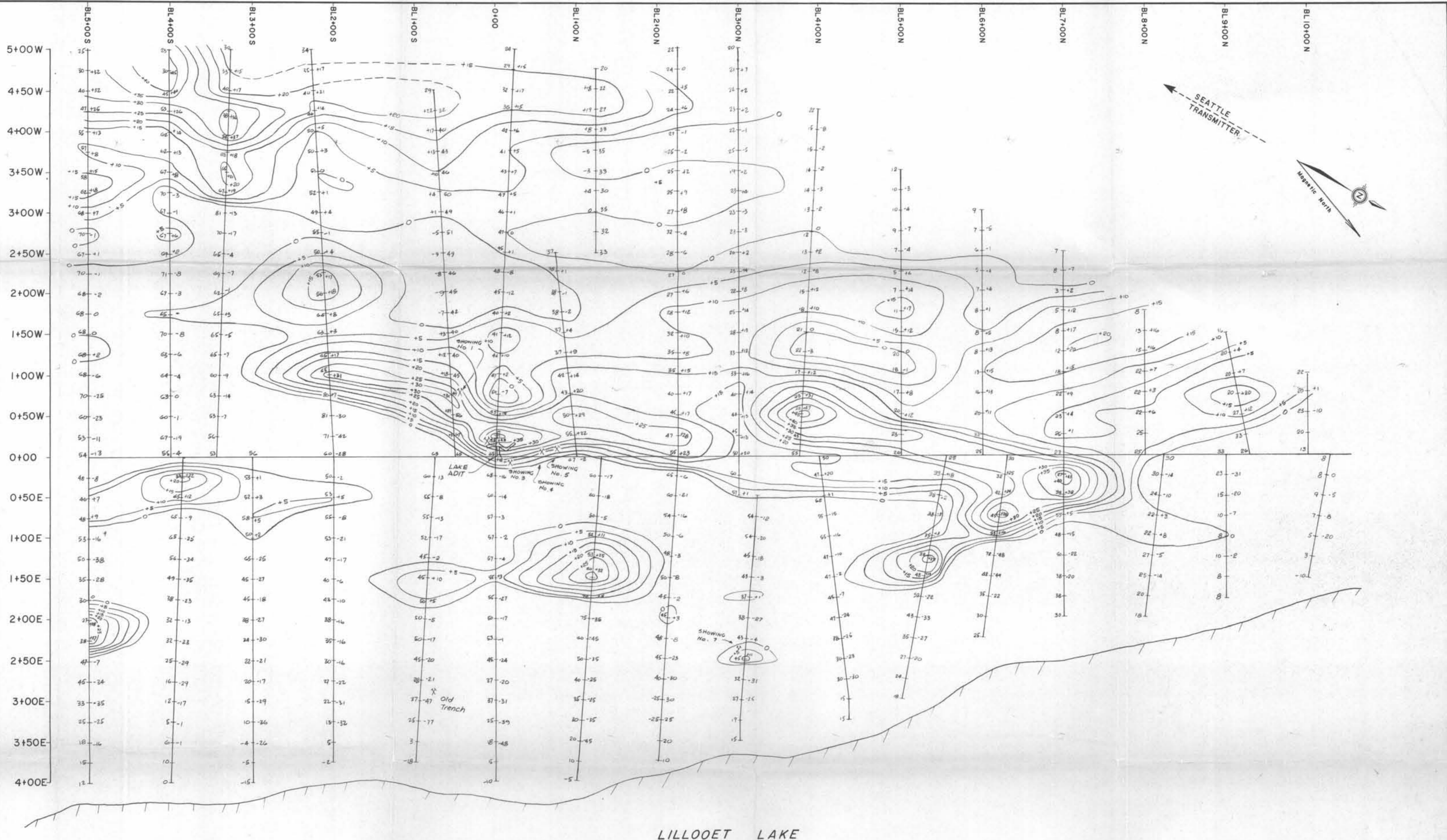
To accompany a geological and geophysical report by H. Kim, P. Geol., F. GAC on the Lake Adit claims near Lillooet Lake, Lillooet Mining Division.
Dated September 28, 1980

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9003
NO.

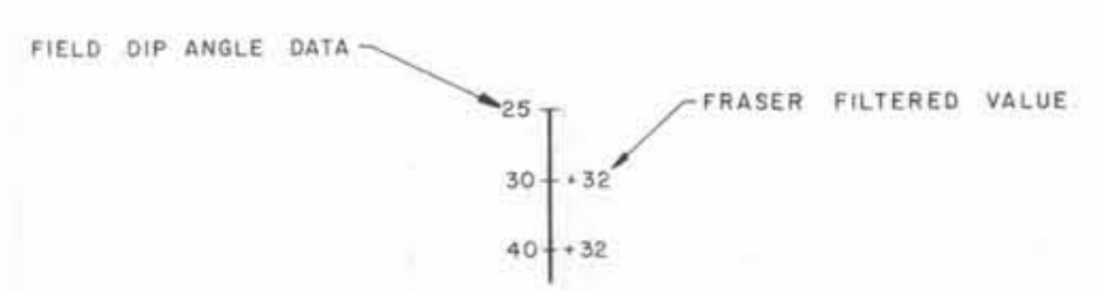


Line Grid GEOLOGY OF LAKE ADIT CLAIMS
Lillooet Lake, Pemberton, B.C.
Lillooet Mining Division

Drawn by: S. Wong	Geology by: R. Kregosky, Geologist
Date: SEPTEMBER 1980	Inspected and revised by H. Kim, P. Geol., F. GAC. Consulting Geologist
FIG. 3	



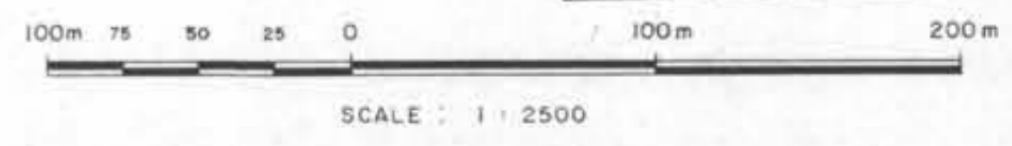
LILLOOET LAKE



NOTE: Readings are in degrees.

SCOP

MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
9003
 NO.



LAKE ADIT PROPERTY
 LILLOOET M.D., B.C.

VLF - EM SURVEY - RESULTS
 Fraser - Filtered

To accompany a report by H. Kim, P. Geol., F. GAC Consulting Geologist
 September 2, 1980

FIG. 12

Drawn: SW