

860964

FISH LAKE PROSPECT

of

TASEKO MINES LTD.

CLINTON M.D.

April 26, 1972.

G.W. Dixon

R.H. Seraphim

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SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Fish Lake prospect controlled by Tascko Mines Limited contains low grade copper mineralization in well altered dioritic rocks. The drilling conducted by Phelps Dodge, Tascko, and Mittetsu provides an adequate test of the grade of the mineralization on the pediments. But the broad valley bottom, which is suspected to contain the area with the most fracturing, has not been tested.

Magnetic surveys show the location of the Tertiary volcanics, and some weak trends in the mineralized dioritic rocks. The magnetic surveys could be extended to provide a more precise determination of the contacts of the dioritic rocks with the overlying Tertiary volcanics.

I.P. surveys have located weak anomalies in the valley bottom. I.P. surveys should be extended over more of the valley and a wide spacing should be used to ensure reaching below the deep (173+ feet in Mittetsu H-3 hole) overburden. These surveys would provide better guidance to the recommended drill program.

Percussion drilling on a broad grid, say at 400 ft centers, will be necessary to give the prospect a fair test. A risk exists that the overburden is too deep to allow percussion drilling in some of the desired sites, therefore provision is also made for deep drilling by diamond drill or other dependable equipment.

A bulldozer will be needed in conjunction with the drilling, and some trenching should be completed, particularly near 14000, 1500, on Phelps Dodge 'B' grid. Some copper mineralization approaching 0.5% grade exists here, and has not been explored in detail.

This program will need continued supervision and recording of data by a competent engineer, so that adaptations can be made as the work progresses, and so that the information obtained is acceptable to organizations who might wish to be involved in major financing. The authors recommend the program with this in mind.

COSTS

STAGE I

Expedition, Equipment, Transportation, Communication	\$10,000.00
Magnetic Survey	5,000.00
I.P. Survey	5,000.00
Bulldozer trenching - 400 hours @ \$25.00/hr.	10,000.00
Percussion drilling - 20 holes @ 300 feet = 6,000 ft @ \$5.00 overall cost	30,000.00
Diamond drilling - 10 holes @ 500 feet = 5,000 ft @ \$20.00 overall cost	<u>100,000.00</u>
	<u>\$160,000.00</u>

STAGE II

Contingent upon general success in the above program	
Percussion drilling - 25 holes @ 300 feet = 7,500 ft @ \$5.00 overall cost	\$ 37,500.00
Diamond drilling - 15 further holes @ 500 feet = 7,500 ft @ \$20.00 overall cost	<u>150,000.00</u>
	<u>\$187,500.00</u>

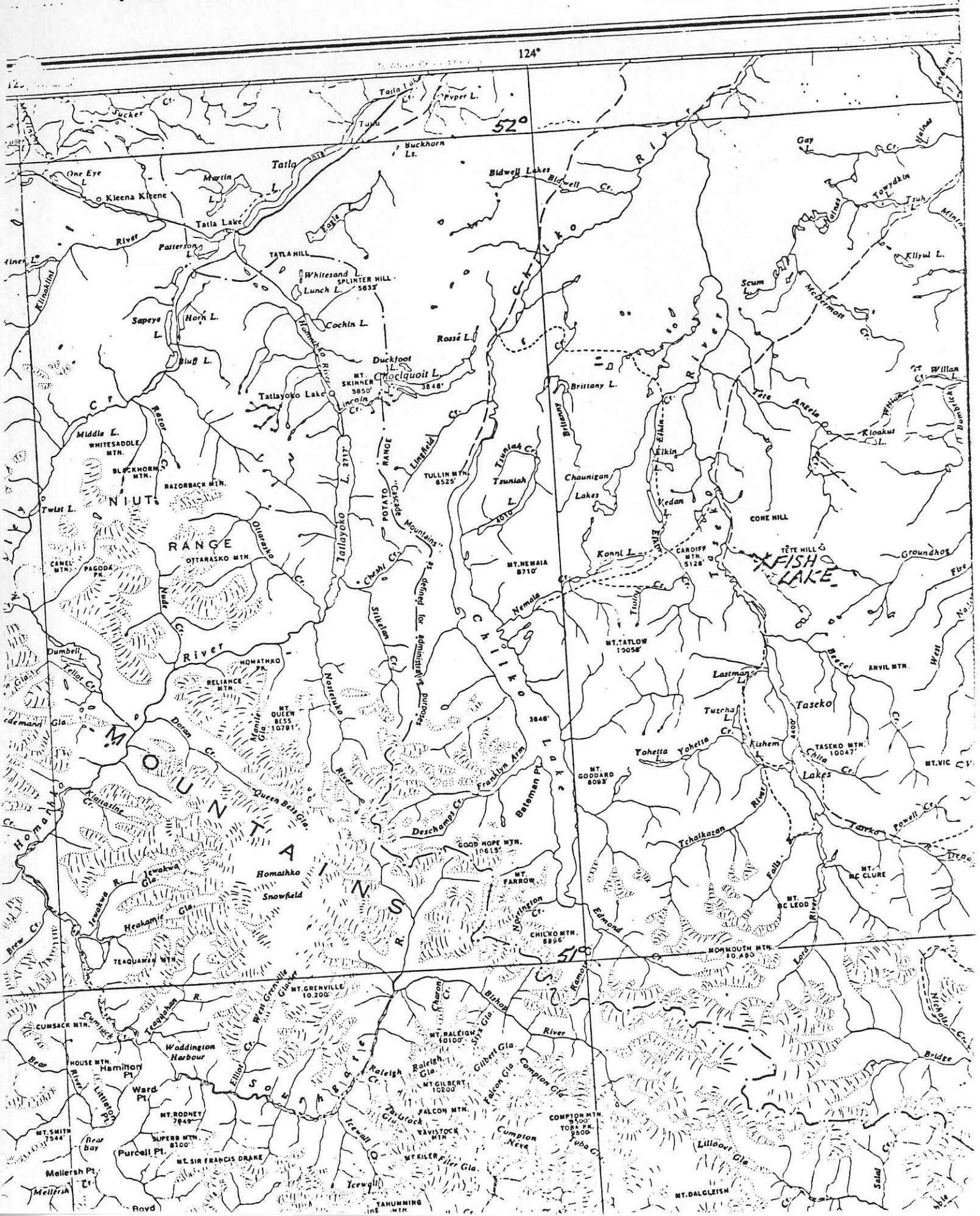
INTRODUCTION

G.A. Dixon visited this prospect on June 17 to 19 in 1969. H.H. Seraphim visited it initially on July 15, 1970 when it was under option to Nittetsu Mining Co. Ltd. The property showed many of the features common to the large porphyry copper deposits, therefore it was revisited and mapped on October 19 through October 23, 1971 after it reverted to the owner, Taseko Mines Ltd.

Information has been obtained from Nittetsu Mining Co., and from previous reports by Dr. A.G. Pentland, W.B. Dunlop, and G.A. Dixon. All this information is summarized briefly in the following text.

LOCATION AND ACCESS

The location map shows the property relative to Taseko Lake. The property can be reached from Williams Lake by a fair truck road, 115 miles long. Small float planes land at Fish Lake.



NIUTS RANGE

MOUNTAIN RANGE

FISH LAKE

Waddington Harbour

Ward Pt.

Mellersh Pt.

Chalko R.

Tatlayoko R.

Taseko R.

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TOPOGRAPHY

The property is on the Chilcotin Plateau, and approximately 20 miles east of the Coast Range. Although the elevation of Fish Lake is close to 5000 ft., it is in the shadow of the Coast range, and probably receives only a foot or two of snow. The relief in the claim area is only two or three hundred feet. The area is characterized by jack-pine covered ridges and open swampy meadows. Natural outcrop is very sparse.

HISTORY

Some of the mineralized area was staked originally by C.M. Vick and Associates for gold values. The Minister of Mines Report for 1935, pp. F28 and 29, refer to the prospect as the Viccol and Mary Stewart. Phelps Dodge relocated the claims in 1960, and conducted geochemical, magnetic, and induced polarization surveys. Eight short diamond drill holes were completed in 1962 and 1964, after which the property was allowed to lapse.

Taseko Mines Ltd staked the ground in 1966, bulldozed a road into the property, and completed a number of trenches. This work was followed by some magnetic and geochemical surveying. Twelve percussion holes and six diamond drill holes were completed in 1969. The property was optioned to Nittetsu Mining Company in 1970.

Nittetsu conducted an I.P. survey over a part of the mineralized area, and followed up with four short diamond drill holes. The property was returned to Taseko Mines Ltd., and remained idle in 1971.

CLAIMS

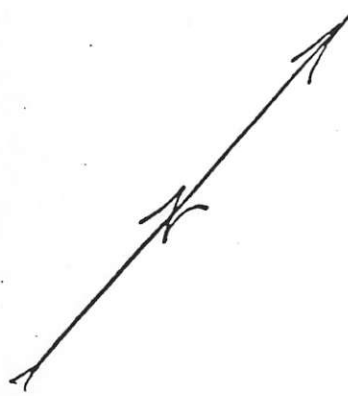
The claims are listed as follows:

<u>Claim</u>	<u>Record No.</u>	<u>Date</u>
BB 2	12833	June 13
BB 4	12835	June 13
BB 6	12837	June 13
BB 8	12839	June 13
BB 10	12841	June 13
BB 12	12843	June 13
BB 21 to 34 inc.	12852-12865	June 13
BB 41 to 60 inc.	12872-12891	June 13
BB 61 to 80 inc.	13172-13191	June 20
BJ 1 to 72 inc.	18417-18488	June 25
BT 19 to 38 inc.	19065-19084	Sept 30
BF 73 to 92 inc.	18489-18508	June 25
BW 18 & 19	1991+ & 19915	Dec. 10

The entire 174 claims are shown on the accompanying sketch. Some of the claim posts were noted during the examination but the claims have not been surveyed.

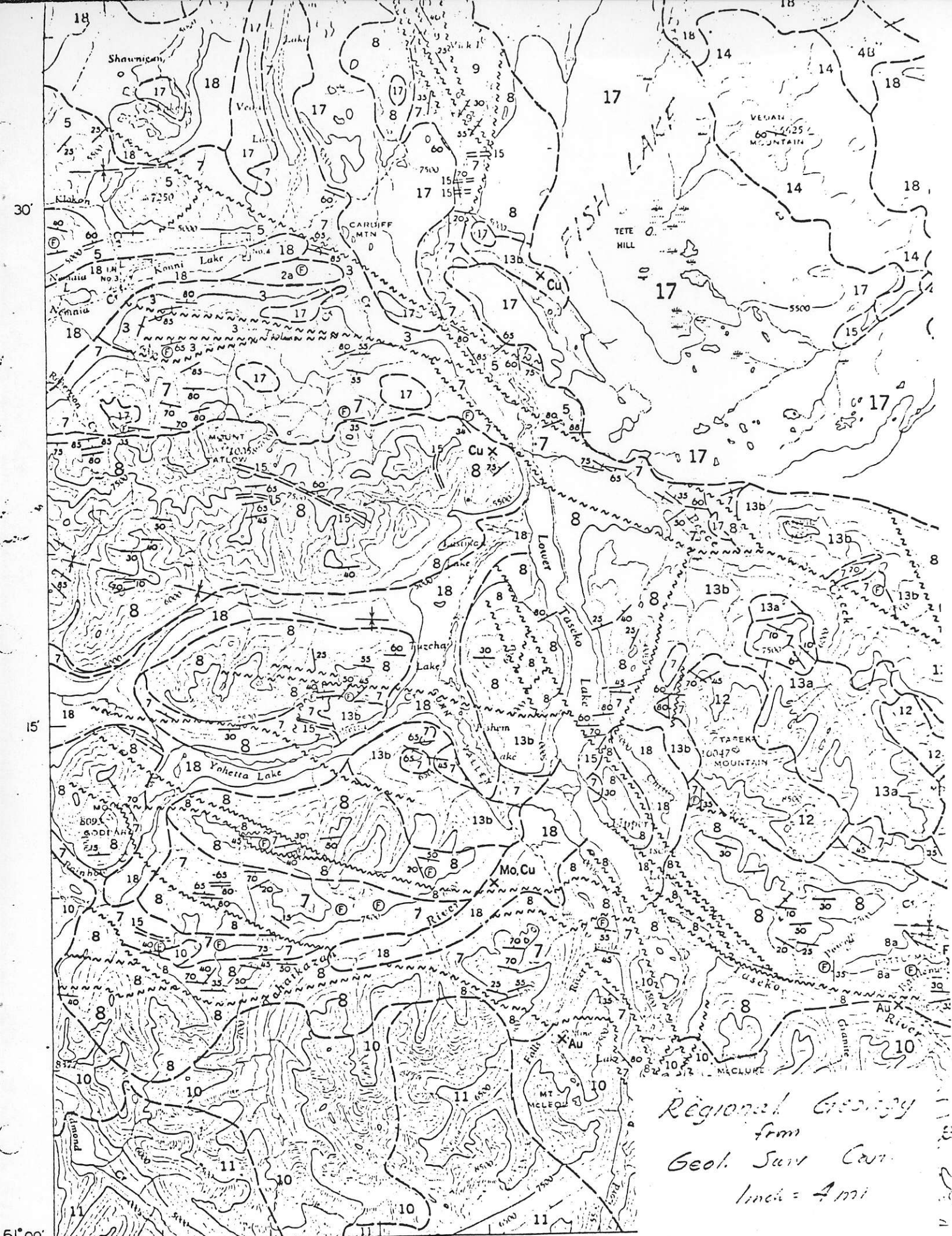
BW 19	BW. 18
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BT 37	BT 38	BB 80	BB 79	BB 60	BB 59	BF 92	BF 91	BF 86	BF 85				
BT 35	BT 36	BB 78	BB 77	BB 58	BB 57	BF 90	BF 89	BF 84	BF 83				
BT 33	BT 34	BB 76	BB 75	BB 56	BB 55	BF 88	BF 87	BF 82	BF 81				
BT 31	BT 32	BB 74	BB 73	BB 54	BB 53	BB 34	BB 33	BF 80	BF 79				
BT 29	BT 30	BB 72	BB 71	BB 52	BB 51	BB 32	BB 31	BB 12	BF 78				
BT 27	BT 28	BB 70	BB 69	BB 50	BB 49	BB 30	BB 29	BB 10	BF 77	BJ 60	BJ 59	BJ 62	BJ 61
BT 25	BT 26	BB 68	BB 67	BB 48	BB 47	BB 28	BB 27	BB 8	BF 76	BJ 58	BJ 57	BJ 64	BJ 63
BT 23	BT 24	BB 66	BB 65	BB 46	BB 45	BB 26	BB 25	BB 6	BF 75	BJ 56	BJ 55	BJ 66	BJ 65
BT 21	BT 22	BB 64	BB 63	BB 44	BB 43	BB 24	BB 23	BB 4	BF 74	BJ 54	BJ 53	BJ 68	BJ 67
BT 19	BT 20	BB 62	BB 61	BB 42	BB 41	BB 22	BB 21	BB 2	BF 73	BJ 52	BJ 51	BJ 70	BJ 69
		BJ 2	BJ 1	BJ 14	BJ 13	BJ 26	BJ 25	BJ 38	BJ 37	BJ 50	BJ 49	BJ 72	BJ 71
		BJ 4	BJ 3	BJ 16	BJ 15	BJ 28	BJ 27	BJ 40	BJ 39				
		BJ 6	BJ 5	BJ 18	BJ 17	BJ 30	BJ 29	BJ 42	BJ 41				
		BJ 8	BJ 7	BJ 20	BJ 19	BJ 32	BJ 31	BJ 44	BJ 43				
		BJ 10	BJ 9	BJ 22	BJ 21	BJ 34	BJ 33	BJ 46	BJ 45				
		BJ 12	BJ 11	BJ 24	BJ 23	BJ 36	BJ 35	BJ 48	BJ 47				



FISH

LAKE



Regional Geology
 from
 Geol. Surv. Can.
 inch = 4 mi

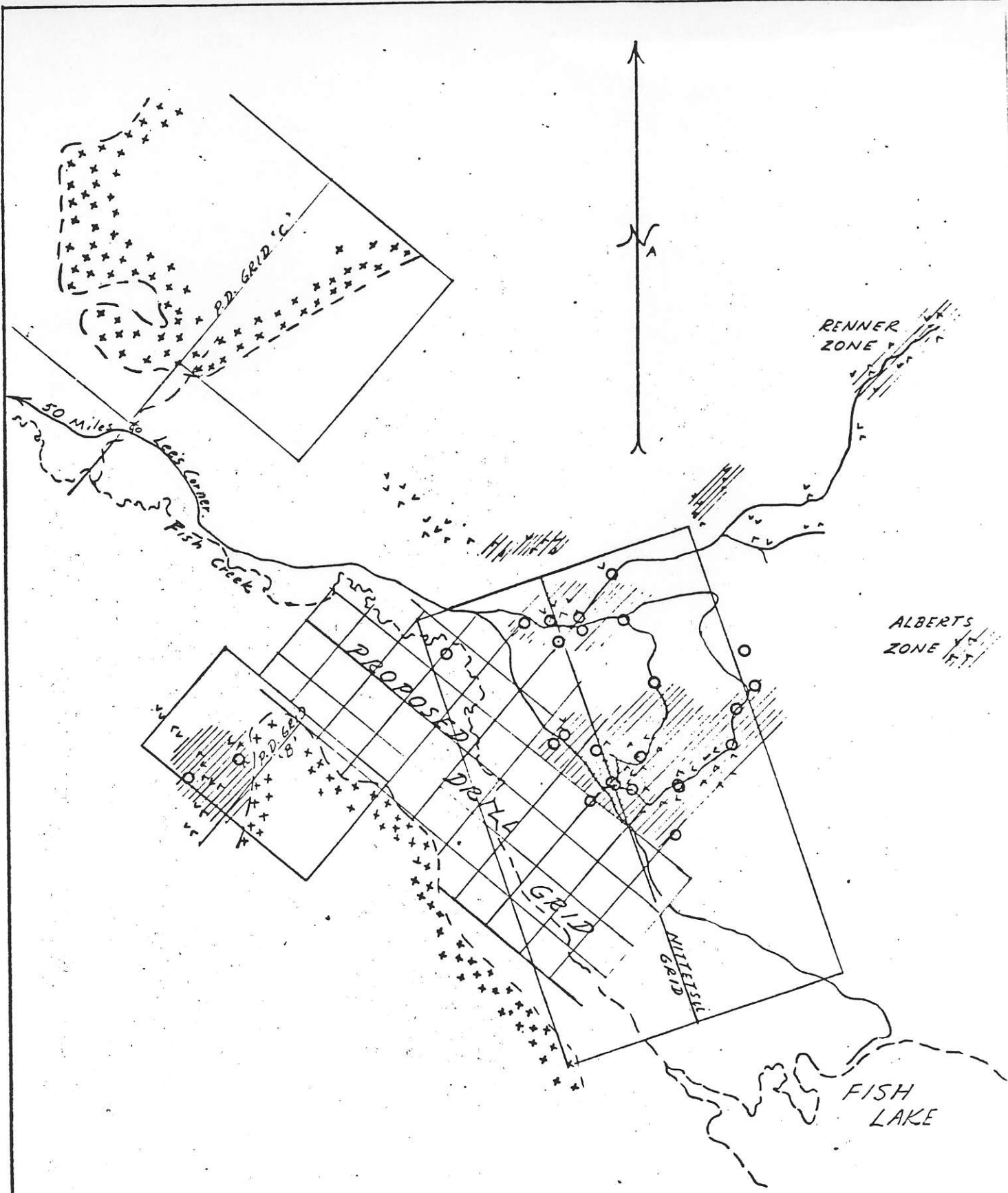
REGIONAL GEOLOGY

The regional geology is shown on G.J.C. Map 29, 1963 "Taseko Lakes". This map indicates that a dioritic stock intrudes upper and lower Cretaceous andesites, greywackes, conglomerates, and shales. All these are capped by the Tertiary basaltic rocks which are prevalent on the Chilcotin Plateau.





Major northwest trending faults belonging to the Taseko and Yalakom systems are mapped a few miles to the south of the prospect. No confirming evidence of a major fault was found near the prospect in Fish Creek Valley, but the valley does form a lineament. The Poison Mountain porphyry copper prospect, which lies fifty miles southeast of Fish Lake, is in a very similar structural location with respect to the same series of major faults.

LOCAL GEOLOGY

The area was mapped at 400 ft to the inch, and a smaller revision of this map accompanies this report. Natural outcrop in the area is almost limited to a few exposures of the Tertiary volcanics on the shoulders of the main Fish Creek Valley. The exposures which were examined all showed these Tertiary volcanics to be flat lying.



0 800' 1600' 2400'

-  Tertiary voles
-  Alteration + mineralization
-  Diorite + porphyry
-  Drill holes

FISH LAKE
 TASEKO MINES LTD
 Geology - Drilling - Grids
 April 1972
 RNS
 CAD

Oxidized dioritic intrusive is exposed in numerous trenches, and occurs as float. The fresher diorite is dark green, with cloudy white to pale grey feldspar, and little or no quartz. However, alteration to chlorite, sericite, and clay minerals make the nature of the original rock indeterminate in many places. A few feldspar porphyry dykes were noted in some drill core, and in the canyon near Taseko River. Both Fentland and Dixon mention feldspar porphyry dykes in the trenches, but the trenches are now too sloughed in to permit a determination of structural features.

Thin quartz veinlets are prevalent in the mineralized areas. Pyrite is both abundant and widespread, it undoubtedly accounts for much of the I.P. anomaly. Chalcopyrite is, in general, sparse except in the trenches near the baseline at 1500 North on the Kittitsu Grid, and a trench near 1400 South, 150 West on Phelps Dodge's Grid 'B'. These trenches showed abundant disseminated chalcopyrite in strongly bleached dioritic rocks.

The lack of outcrop makes the structure particularly difficult to determine. Fish Creek valley is part of a northwest trending topographic lineament. The drill holes on the pediments all show that the rock is intensely altered and shattered, but the attitudes of the major fault strands, if any, are not known at present.

The outcrops further west in the valley bottom north of Phelps Dodge grid 'B', and in the canyon west of the mapped area, all show northerly trending shearing. The U.S.C. has also mapped a northerly trending fault zone in this area. This zone could cut off the hypothetical northwest trending structure in Fish Creek Valley.

Pentland examined the trenches north of the branch road near the baseline, 1600 North, Wittetsu grid, before they were sloughed in. He did not map the fracturing, but suggests that the better mineralization in the area trends east-west, and may be controlled by a fracture zone. 'Alberts Zone', and the tertiary-diorite contact southeast of Phelps Dodge grid 'B' could be controlled by the same east-west fracture zone. The aerial photographs show a weak east-west lineament which fits with the above described features.

The valley bottom in the general area east of Grid B is thus indicated as a locus where several fracture zones might intersect. This area is a target for further drilling.

GEOCHEMISTRY

The thick glacial till covering most of the ridges, and the humus and till in the valley-bottom meadows make geochemistry an unreliable method of prospecting. Some geochemistry has been completed, but only low copper values were obtained over areas which later show copper when trenched or drilled. A few anomalously high values were obtained, all in the general area which has now been tested by drilling.

MAGNETICS

Several magnetic surveys were assembled on an overlay to the geological map. A high response is obtained over the tertiary volcanics, and it appears that magnetics can be used to determine their location. Most of Phelps Dodge Grid C (the northeast part), and the south part of Grid B are probably underlain by tertiary volcanics.

No strong trends are determinable other than those provided by the contacts of the tertiary rocks. Some weak east-west zones do appear in the dioritic rocks, and these might be related to variations in the intensity of alteration. A magnetic low is evident over the strongly altered and mineralized area near the baseline, 1600 N., Nittotsu grid. However, a moderate high accompanies the strong alteration and mineralization east of the baseline near 300 S on the same grid.

INDUCED POLARIZATION

The I.P. anomalies known from the Nittetsu survey are shown on the geological map. The weak anomaly from 0 to 600 south at 1200 west (Nittetsu Grid) was suggested by the geophysicist to be possibly part of the same anomalous zones which are shown near the baseline, with deep overburden precluding obtaining anomalous readings in the intervening area. In any event, the presence of this weak anomaly in the valley bottom, co-incident with the area of geological interest, should encourage further investigation.

DRILLING

Phelps Dodge completed eight diamond drill holes totalling 2373 feet. These holes were widely spaced, and mostly laid out to test induced polarity anomalies. They intersected mostly dioritic rocks with relatively abundant pyrite, with some intercepts of a few tens of feet carrying 0.1% to 0.2% copper.


Taseko completed six diamond drill holes totalling 3358 feet in 1969. The intercepts are listed as follows:

<u>Hole</u>	<u>Footage</u>	<u>Copper Assay</u>
69-1	42-503	0.28%
69-2	10-603	0.25%
69-3	19-170	0.17%
	170-448	0.06%
69-4	40-700	0.29%
69-5	174-504	0.26%
69-6	108-600	0.15%


Mittetsu completed four holes totalling 774 feet. Three of these were in the vicinity of the Taseko drilling, and intercepted a similar grade of copper. The fourth hole did not reach bedrock, although it was drilled to 173 feet.

Twelve percussion holes by Taseko also intersected similar grade of copper to that shown by Taseko's diamond drilling. These percussion holes were all on the northeast side of the valley, near the Taseko and Mittetsu holes.

The broad valley bottom remains virtually untested.


R.E. Seraphin, Ph.D. P.Eng.

April 26, 1972.


G.A. Dirom, P.Eng.



R. H. SERAPHIM ENGINEERING LIMITED
GEOLOGICAL ENGINEERING


316 - 470 GRANVILLE STREET
VANCOUVER 2, B.C.

CERTIFICATION

I, Dr. R.H. Seraphim, of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am a geological engineer residing at 4636 West 3rd Ave., Vancouver, B.C., and with office at 316-470 Granville St., Vancouver, B.C.
2. I am a registered Professional Engineer of British Columbia. I graduated from the University of British Columbia in 1947, and from Massachusetts Institute of Technology in 1951.
3. I have practiced my profession for 25 years.
4. I have no interest, direct or indirect, in the Fish Lake claims, or in the securities of Taseko Mines Ltd., or its affiliates, and I do not expect to receive any interest.
5. The above report is based on an examination of the property on October 19 through October 23, 1971, together with the records of previous work which were available.

DATED at Vancouver, B.C. this 26th day of April, 1972.



R.H. Seraphim, Ph.D. P.Eng.

CERTIFICATION

I, GAVIN A. DIROM, of the City of
Vancouver in the Province of British Columbia, HEREBY
CERTIFY AS FOLLOWS:

1. That I am a registered Professional Engineer in
the Province of British Columbia, No. 1582.
2. That I am a Consulting Mining and Geological
Engineer, residing at 4554 West 6th Avenue,
Vancouver 8, B.C.
3. That I have practised as a mining and geological
engineer since graduation from the University of
British Columbia in 1932 with a B.A.Sc. degree.
4. That I have no direct or indirect interest or
holdings of securities of Inseco Mines Ltd. (N.C.L.)
or in the property described in this report, nor
do I expect to receive any.

April 26, 1972.


Gavin A. Dirom, P.Eng.

