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YUKON PROSPECTING PROJECT
1966

013564

Abstract of Yukon Prospecting Project - 1966

During the period 1st July - 26th September, a total of 31 properties and mineral showings were examined, 26 of these being located along the Shakwak Valley, the balance being in the Carmacks and Whitehorse areas.

Further work is recommended at the following localities:

1. White River area
2. Quill and Tetamagouche Creek
3. Burwash Creek
4. Significant anomalies delineated by the recently issued aeromagnetic maps.
These cover part of the Shakwak Valley and the Aishihik district.

YUKON EXPLORATION PROJECT - 19661. Properties and Areas Examined - 1966

| <u>Property/Area</u> | <u>Location</u> |
|-------------------------|-----------------|
| Niggerhead, West & East | Snag |
| Mirror Creek | Snag |
| Miles Group | White River |
| Wolverine | " " |
| Kletsan Creek | " " |
| Canyon City | " " |
| Lep Group | " " |
| Rabbit Creek | " " |
| Ice Group | " " |
| Jim Group | Edith Creek |
| Hazel Group | Korideun Creek |
| Quit Creek | Kluane Lake |
| Arch Creek | " " |
| Tetamagouche Creek | " " |
| Burwash Creek | " " |
| Raft Creek | " " |
| Sheep Creek | " " |
| Congdon Creek | " " |
| Giltana Lake | Aishihik Lake |
| Hopkins Lake | " " |
| Cracker Creek | " " |
| Mush - Esker Creek | Dezadeash |
| Mush Lake | " |
| Beloud Creek | " |
| Johobo | " |
| Canadian Barranca | " |
| Big Creek | Carmacks |
| Crossing Creek | " |
| Granite Mountain | " |
| M'Clintock | Whitehorse |
| Reservoir | Whitehorse |

YUKON EXPLORATION PROGRAM - SUMMER 1966

TARGET:- QUILL/ARCH CREEK.. KLUANE AREA.

MINERALIZATION:- Malachite, azurite, native copper, bornite, nickeliferous sulphides, occurring in reddish amygdaloids. Early Mesozoic intrusives in limestones, shales.

STATUS:- Ground held by Hudson Yukon Mining.

ACCESS:- Road exists, condition unknown.

115 G/5

PRIORITY:-

TARGET:- TETAMAGOUCHE CREEK.. KLUANE AREA.

MINERALIZATION:- Similar environment as Quill/Arch Creek.

STATUS:- Ground held by Alice Lake Mines, also by Ruth Ackland.

ACCESS:- Helicopter required.

115 G/6

PRIORITY:-

TARGET:- MUSH CREEK.. DEZADEASH AREA.

MINERALIZATION:- Small seams of chalcopyrite, carried in highly silicified andesitic rocks infilling a lengthy shear zone which extends north and south along a possible granodiorite contact.

STATUS:- Staked, but not extensively. Cerro de Pasco examined property - 1960, but dropped option.

ACCESS:- Helicopter.

115 A/3

PRIORITY:-

TARGET:- JOHOBO MINE. DEZADEASH AREA.

MINERALIZATION:- Mainly bornite with minor chalcopyrite and chalcocite, occurring in small veins. Deposit is on a limb of a tightly folded anticline, in andesitic flows of volcanic and sedimentary rocks. Fault and shear zones may control ore deposition.

STATUS:- Staked. Options have been held by Conwest, Cerro de Pasco and General Enterprises. Owners; H. Johannes and H.E. Boyd of Whitehorse.

ACCESS:- Road.

115 A/5

PRIORITY:-

TARGET:- GILTANA LAKE. AISHIHIK AREA.

MINERALIZATION:- Chalcopyrite, malachite in magnetite association. Mica schists and limestones have been intruded. Contact metasomatic deposit?

STATUS:- Fairly extensive staking around Hopkins and Giltana Lakes.

ACCESS:- Road.

115 H/7

PRIORITY:-

TARGET:- MILES CREEK. WHITE RIVER AREA.

MINERALIZATION:- Irregular massive lenses of nickeliferous sulphides disseminated in siliceous tuffs and argillites at the contact of a basic intrusion.

STATUS:- Claims staked over relevant zone by Canalask Mines who reported 550,000 tons @ 1.68% Ni., and 0.04% Cu.. Owned now by Peter Versluce.

115 F/15

115 K/2

ACCESS:- Roads probably exist in the immediate area.

PRIORITY:-

TARGET:- DISCOVERY. WHITE RIVER AREA.

MINERALIZATION:- Native copper. Copper associated with massive reddish amygdaloids and also narrow calcite veins infilled with chalcocite and cuprite. Chalcopyrite may occur at depth.

STATUS:- Claims are staked along side and across the river. P. Newson owner? Property to be drilled this summer.

ACCESS:- Existence of road unknown. Helicopter or float plane may be required.

PRIORITY:-

115 F/15

TARGET:- KLETSAN CREEK. WHITE RIVER AREA.

MINERALIZATION:- Native copper superficially. May give way with depth to chalcocite and then chalcopyrite. Environment - carboniferous basaltic amygdaloids.

STATUS:- Unknown, an old source of native copper.

ACCESS:- Helicopter.

PRIORITY:-

115 F/10

TARGET:- HAZEL AND JIM GROUPS. KOIDERN RIVER. KLUANE RIVER.

MINERALIZATION:- Unknown, but located in favorable geological environment.

STATUS:- Staked.

ACCESS:- Three miles along trail from Alaska Highway
Mile 1145.

PRIORITY:-

HAZEL 115 F/16
JIM 115 F/9

TARGET:- NIGGERHEAD. WHITE RIVER AREA.
MINERALIZATION:- Unknown.
STATUS:- Two claim groups on either side of Alaska Highway.
Owned by Peter Verslucce.
ACCESS:- Road. 115 K/2
PRIORITY:-

TARGET:- WOLVERINE. WHITE RIVER AREA.
MINERALIZATION:- Unknown. Contact metamorphic deposit.
STATUS:- Originally staked, now open.
ACCESS:- Road from Koidern. 115 F/16
PRIORITY:-

TARGET:- WILLIAMS CREEK. CARMACKS AREA.
MINERALIZATION:- Veins of quartz impregnated chiefly with bornite,
also minor chalcopryrite and malachite. Ore occurs
at or near contact of granite intrusives. May be
much faulting in the locality.
STATUS:- Claims at confluence of Williams Creek and Yukon
River, otherwise open.
ACCESS:- Unknown. 115 I/7
PRIORITY:-

TARGET:- MARCH PROPERTY. CARMACKS AREA.

MINERALIZATION:- Unknown, but favorable geology.

STATUS:- 44 Claims located at head water of Merritt Creek.
Option possibly held by Canex.

ACCESS:- Possibly road.

PRIORITY:-

115 I/7

TARGET:- MECHANIC CREEK.

MINERALIZATION:- Unknown. Area of precambrian intrusives, possibly syenite boss.

STATUS:- About 100 claims grouped around Mechanic Creek.
Work done by Teck Explorations @ 1954. Owner -
P.F. Gooder?

ACCESS:- Unknown.

PRIORITY:-

115 I/6

TARGET:- MONA PROPERTY. CARMACKS AREA.

MINERALIZATION:- Unknown. Contact metasomatic deposit.

STATUS:- Some 50 claims staked over Blue Ribbon Creek. Owner -
Wheeler?

ACCESS:- Trail - possibly road from Yukon Crossing.

PRIORITY:-

115 I/2

TARGET:- ROSY CREEK. TESLIN RIVER AREA.

MINERALIZATION:- Cupriferous occurrence reported on small creek flowing into lake, presumably chalcopyrite and bornite. Contact metasomatic deposit?

STATUS:- Open.

ACCESS:- Float plane or helicopter.

PRIORITY:- 105 C/13

TARGET:- SIDNEY CREEK. TESLIN RIVER AREA.

MINERALIZATION:- Copper float found in creek. Favorable geology.

STATUS:- Unknown at present.

ACCESS:- Road, condition unknown.

PRIORITY:- 105 C/14

TARGET:- CONE MOUNTAIN. TESLIN RIVER AREA.

MINERALIZATION:- Unknown. Contact zone between Coast intrusives and limestone.

STATUS:- Staked.

ACCESS:- Helicopter or float plane.

PRIORITY:- 105 C/11

TARGET:- STEELE MOLYBDENUM. ST. ELIAS MOUNTAINS.

MINERALIZATION:- Porphyritic biotite granite, silicified and pyritized, contains both molybdenum and chalcopyrite. Large medial moraine of silicified monzonite containing much molybenite and chalcopyrite in veinlets and flakes.

STATUS:- Southwest Potash Company reported finding source of float during exploration programme - 1959 and 1960.

ACCESS:- Helicopter.

PRIORITY:-

115 G/5

TARGET:- MOOSE PROPERTY. WHITEHORSE AREA.

MINERALIZATION:- Unknown. Contact metamorphic deposit, possibly located on anticlinal structure.

STATUS:- Staked.

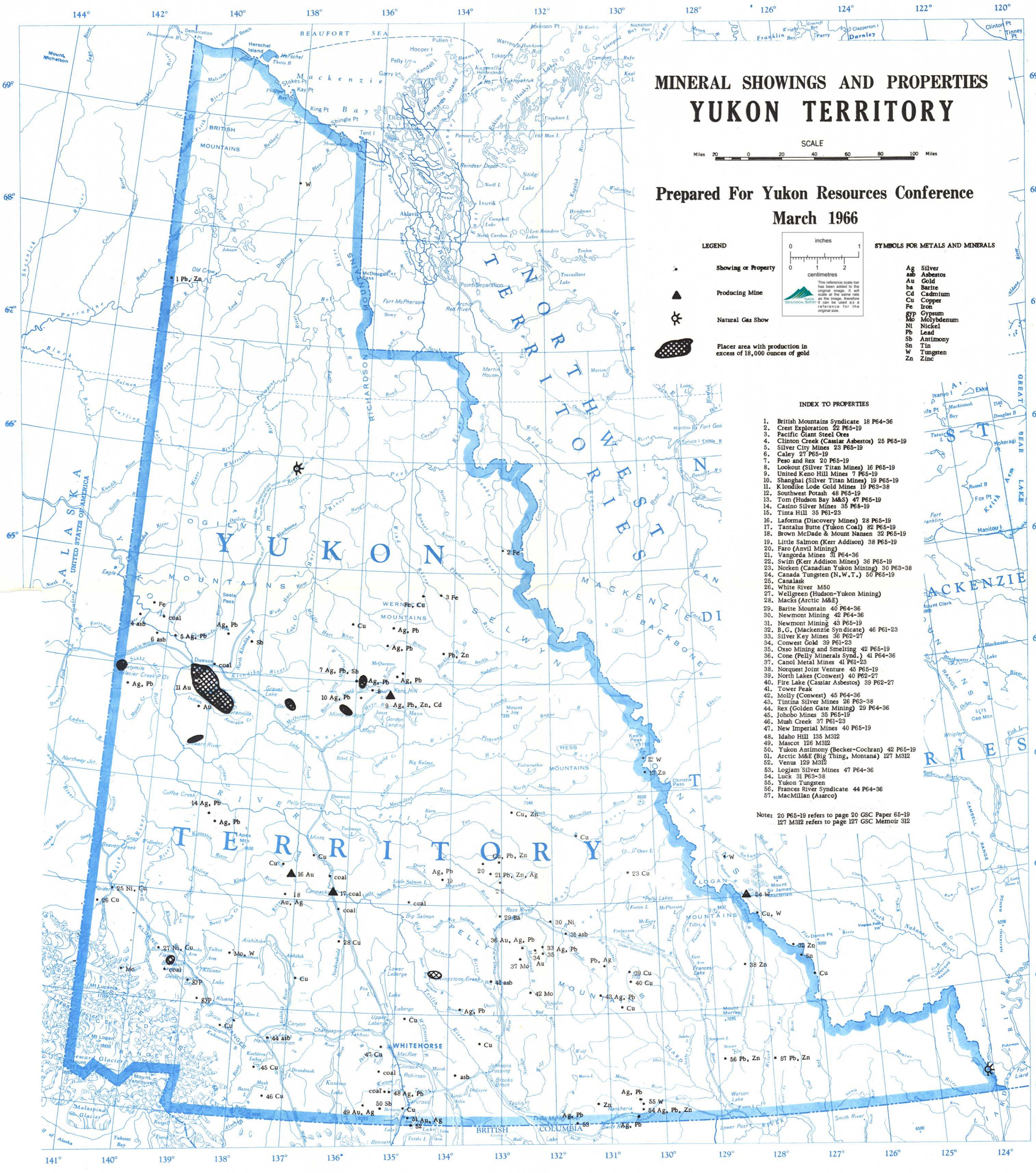
ACCESS:- Unknown.

PRIORITY:-

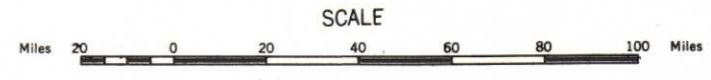
105 D/15

No research has, as yet, been done on targets in the Whitehorse and Carcross areas as any work done in these localities can wait until the end of the season.

Priorities may well have to be changed depending on the general field and operating circumstances, also on results obtained on the primary targets.



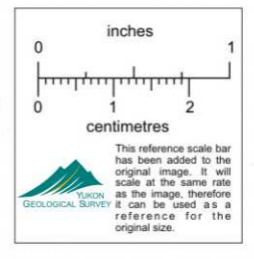
MINERAL SHOWINGS AND PROPERTIES YUKON TERRITORY



Prepared For Yukon Resources Conference
March 1966

LEGEND

- Showing or Property
- Producing Mine
- Natural Gas Show
- Placer area with production in excess of 18,000 ounces of gold



SYMBOLS FOR METALS AND MINERALS

- Ag Silver
- Asb Asbestos
- Au Gold
- ba Barite
- Cd Cadmium
- Cu Copper
- Fe Iron
- Gyp Gypsum
- Mo Molybdenum
- Ni Nickel
- Pb Lead
- Sb Antimony
- Tn Tin
- W Tungsten
- Zn Zinc

INDEX TO PROPERTIES

1. British Mountains Syndicate 18 P64-36
2. Crest Exploration 22 P65-19
3. Pacific Giant Steel Creas
4. Clinton Creek (Cassiar Asbestos) 25 P65-19
5. Silver City Mines 23 P65-19
6. Caley 27 P65-19
7. Peso and Rex 20 P65-19
8. Lookout (Silver Titan Mines) 16 P65-19
9. United Keno Hill Mines 7 P65-19
10. Shanghai (Silver Titan Mines) 19 P65-19
11. Klondike Lode Gold Mines 19 P63-38
12. Southwest Potash 45 P65-19
13. Tom (Hudson Bay M&S) 47 P65-19
14. Casino Silver Mines 35 P65-19
15. Tinta Hill 35 P61-23
16. Laforma (Discovery Mines) 28 P65-19
17. Tantalus Butte (Yukon Coal) 82 P65-19
18. Brown McDade & Mount Nansen 32 P65-19
19. Little Salmon (Kerr Addison) 38 P65-19
20. Faro (Anvil Mining)
21. Vangorda Mines 31 P64-36
22. Swim (Kerr Addison Mines) 36 P65-19
23. Norken (Canadian Yukon Mining) 30 P63-38
24. Canada Tungsten (N. W. T.) 50 P65-19
25. Canalak
26. White River M50
27. Wellgreen (Hudson-Yukon Mining)
28. Mac's (Arctic M&E)
29. Barite Mountain 40 P64-36
30. Newmont Mining 42 P64-36
31. Newmont Mining 43 P65-19
32. B.G. (Mackenzie Syndicate) 46 P61-23
33. Silver Key Mines 36 P62-27
34. Conwest Gold 39 P61-23
35. Oxso Mining and Smelting 42 P65-19
36. Cone (Pelly Minerals Synd.) 41 P64-36
37. Canol Metal Mines 41 P61-23
38. Norquest Joint Venture 45 P65-19
39. North Lakes (Conwest) 40 P62-27
40. Fire Lake (Cassiar Asbestos) 39 P62-27
41. Tower Peak
42. Molly (Silver Mines) 45 P64-36
43. Tintina Silver Mines 26 P65-38
44. Rex (Golden Gate Mining) 29 P64-36
45. Johobo Mines 35 P65-19
46. Mush Creek 37 P61-23
47. New Imperial Mines 40 P65-19
48. Idaho Hill 135 M312
49. Mascot 129 M312
50. Yukon Antimony (Becker-Cochran) 42 P65-19
51. Arctic M&E (Big Thing, Montana) 127 M312
52. Venus 129 M312
53. Logjam Silver Mines 47 P64-36
54. Luck 31 P65-38
55. Yukon Tungsten
56. Frances River Syndicate 44 P64-36
57. MacMillan (Asarco)

Note: 20 P65-19 refers to page 20 GSC Paper 65-19
127 M312 refers to page 127 GSC Memoir 312

YUKON EXPLORATION PROJECT

PROGRESS REPORT NO. 1

Thursday 30th, June to Sunday 3rd, July was spent travelling from Vancouver to Whitehorse, night stops being made at Prince George, Trutch and Watson Lake.

At Whitehorse it was discovered that a seal on one of the front brakes was broken, so a spare had to be ordered from Vancouver and the brake linings also replaced, this delaying departure until Wednesday (6th), when we drove up to Beaver Lodge - Mile 1202.

Thursday 7th, July, preliminary examination of targets was started, details of which follow:

NIGGERHEAD WEST GROUP

This property lies one mile west of the Alaska Highway at Mile 1188, this being the junction of the Snag road.

Topographically, the area has a very low relief. Mostly muskeg and marshland with a few low lying ridges, trending east-west. There are many small and probably stagnant lakes in the vicinity, and overburden is generally thin.

From old claim tags found, the property has evidently been restaked. It was last staked on April 12th, 1965, but since no Certificate of Work was filed, it is now open.

Line cutting has been carried out over the claims and there are stations marked at 100' intervals, so presumably either an E.M. or Mag. survey has been run. No bedrock or even float was found and it is extremely unlikely that any exists on surface due to the nature of the ground.

There does not appear to be any showings of mineralization on this

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property and the only possible work is some form of geophysical survey and geochemical work would be of dubious value.

NIGGERHEAD EAST GROUP

This property is about 3 miles west of the above group and generally very similar. Access is from the Snag road, a one mile walk being required. Relief is much the same as the west group, but there are fewer lakes and less muskeg.

The East and West groups were staked at the same time by P. Versluce, and comprised of 40 and 17 claims respectively. Both groups are now open.

Old signs of line-cutting suggest that a geophysical survey was run. Again no bedrock was found and there is no indication as to why these claims were staked in the first place.

Large slabs of granodiorite found in the creek to the east of this group may be typical of the country rock. There was no sign of any mineralized float.

There are no references in any reports to mineralization occurring in the immediate area and unless further information is forthcoming from private sources, there seems little point at the moment in planning any further exploration on these claims.

MILES GROUP - WHITE RIVER

The claims in this area stretch along the Miles Ridge and across the White River to the west side. Access is by road - some three miles from Mile 1168 to the showings on the west bank of the river. There is no road into the properties on the east bank, a helicopter would be required to get in.

The topography of the east side is very severe, on the west bank less so but cover is thick, mainly willows and fir.

P. Versluce holds 24 claims covering what used to be the Canalask

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Nickel property. Canex may also be tied in here. These claims were recorded on July 23, 1965 and as there was no camp on the property nor had the access road been used for several months it seems likely that these claims will become open within the next fortnight since no Certificate of Work had been filed by the beginning of this month.

Cominco hold some 30 claims to the northwest of this group which adjoin it and lie along the strike of the mineralized zone, so it is possible that they may try to restake them. I was informed at the motel that they have a crew up on their property.

GEOLOGY

Nickel-bearing pyrrhotite in association with elongated serpentinitised peridotite bodies located along the contact with the enclosing Permian volcanic sedimentary series. Copper is present as chalcopyrite associated with the pyrrhotite, but Canalask reported it at 0.04% Cu..

Workings on Micro No. 4 consist of 375' drift and 336' winze on the 2400' level, just above the river, and 1000' of adit and X-cut at the 2700' level.

P.H. Sevensma, P.Eng. prepared a report on the property dated March 14th, 1966 for P. Versluis but the recommendations do not seem to have been implemented.

DISCOVERY AND KLETSAN CREEK

A helicopter will be required to reach them. Bullock Helicopters (Calgary) have a machine at Upper Canyon, Mile 1168, under contract to Geophoto Services of Calgary who in turn appear to be under contract to an oil company, but it seems unlikely that we would be able to use their machine to examine this property.

WOLVERINE PROPERTY

The property is located one mile north of the Highway at Mile 1164. It comprises a long high isolated ridge running parallel to the road, rising some 2300' above the road. Access is on foot.

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The ground has been staked at least twice before by persons unknown.

GEOLOGY

The west part of the ridge comprises an intrusive (Mesozoic?) of hornblende - rich granodiorite, with abundant small dykes of aplite. To the east there is a contact with the Yukon Group?, these being schist, quartzite and white coarsely crystalline limestones. Outcrop is abundant throughout the area. Besides some fine disseminated pyrite there was no evidence of mineralization.

There are few creeks on the hill and soil cover is generally thin, so that any geochemical work would be of limited use.

HAZEL AND JIM GROUPS

Helicopter would be required to gain access to these groups. Hazel Group is open, and the Jim Group is staked but due to some query it is under inspection at the moment and the records of ownership, etc. are not available.

Little else is known about these targets.

QUILL/ARCH CREEK AREA 115 G 6 and G 5

A gravel road from Mile 1111 follows Quill Creek some 8 miles to the site of the Hudson Yukon Mine workings. There is a caretaker at the camp (Wally Green) but he was absent.

The camp is equipped for about 30 persons, with compressor, generator and machine shops. There is only one adit, this being frozen up, but U/G workings are probably fairly extensive with at least one winze.

The road continues through the camp for some 4 miles to the headwaters of the Arch Creek. A tote road leading down Arch Creek to the Donjek River and connecting with the Highway has been washed out.



New claim posts, dated June 11, 1966, were found at the end of the road and it is likely that most of Arch Creek, west of the Hudson Yukon holdings is now staked. More up to date claim maps will have to be obtained.

A camp can be established at the end of the road, and exploration of the lower part of the Arch Creek, which Kindle recommended can be carried out as well while examining the headwater area.

TETAMAGOUCHE CREEK

Access to the area can best be made by walking in from the road to the mine and tracing the Quill to its source, as it shares the same watershed as the Tetamagouche; this was not tried due to the snow on the ground. A camp can easily be lifted in, probably from Burwash Landing.

Much of this area is staked, details are:

| <u>Claim Group</u> | <u>Date recorded</u> | <u>Holder</u> |
|--------------------|----------------------|------------------|
| Mary | 23rd August 1965 | Alice Lake Mines |
| Jay | 14th February 1966 | Ruth Ackland |
| Ram | 12th October 1965 | Peter Versluce. |

No Certificates of Work have been filed on any of these as yet.

Cairnes mentions the occurrence of copper along Burwash Creek, possibly on the south side on the northern slopes of Amphitheatre Mountain, viz Cooper Creek, and this may be worth investigating. There are no claims recorded in this area.

More information is available on two targets originally selected:

1. NORDENSKIOLD RIVER AREA

Cairnes reports a copper deposit occurring in the hills overlooking Nordenskiold River valley, north of Hutshi Lakes. Ore occurs at contact of andesite and limestone, and consists of magnetite impregnated with chalcopyrite, malachite and azurite. The main mass is in the form

of a hill almost solid iron ore about 200' wide and 300-400' long. A second occurrence is reported, some 10' wide and assaying 5.55% Cu.. The main showing assays 1.8% Cu..

Reference: Memoir on the Yukon Territory No. 284 Page 568.

However Caines is none too specific as to the location of the deposit, and he may be referring to Mack's Copper. This is an area located at the confluence of the Nordenskiold and Kirkland Creeks, close to the Whitehorse-Dawson road. Map No. 115 H 9.

The claim sheet shows a large block of ground staked in this area. Alice Lake Mines hold some 50 claims here and Certificates of Work have been granted on all of them until March 11, 1969. Artic Mining and Exploration also hold a large area. This ground is some 30 miles north east of Hutshi Lakes, and it is worth investigating to see if it is the deposit referred to by Caines.

A helicopter will be required.

2. RAFT CREEK MAP NO. 115 G 8

Raft Creek runs into Talbot Arm, an arm of Kluane Lake. Some 40 claims were staked here. All but four are now lapsed. Bear 1-4 have Certificates of Work granted until September 23, 1966.

L. Nault, the owner, reports assay of 0.1 Au., 4.0 Ag., and 0.88% Mo.. He omitted to give any dimensions. This property should be examined.

Access would appear to be by helicopter.

July 10, 1966

Ian Turnbull.

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YUKON

White River Copper Showing

REPORT ON CANYON CITY COPPER DEPOSIT - WHITE RIVER AREA, Y.T.

SUMMARY

The existence of copper in this area has been known since the turn of the century, but little detailed work has ever been done in the immediate region. On the only showings seen in the area, considerable native copper was found in talus slides below small open pits on the east bank of the White River, and it is evident that this has come from the many fractures in the volcanic country rock. Old workings and staining occur along a length of 450 feet oblique to the direction of strike, so that true width may be in the nature of 300 feet. There are no indications as to length of the zone. No examination has yet been made of the west side of the White River, nor of the reported copper showings on the west bank of the Klutlan River about $4\frac{1}{2}$ miles to the east. The main showings are "open" on three sides and located in an environment similar to that of the Kennecott mine in Alaska - ie. volcanics associated with limestones and possibly significant faulting.

Due to a forest fire nearby, only a short time was spent in the area, but arrangements have been made for a further visit to the locality at the end of August, providing arrangements for a helicopter can be made.

LOCATION AND ACCESS

The area under investigation lies $1\frac{1}{2}$ miles south of the peninsula at the junction of the White and Klutsan Rivers, on the White River. (Map No. 115F 15. $61^{\circ} 47'$ N.L. $140^{\circ} 47'$ W.L.) From Mile 1170 on the Alaska Highway it is 15 air miles, a helicopter being the only practical mode of transport. A trail exists from the highway to the property, but the Klutlan River has to be forded at one stage. The showings occur in a line parallel to the river, but 150' above it, along a steep hillside on the Golden Horne #1 claim.

TOPOGRAPHY

The peninsula between the rivers is generally flat-lying

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and covered with muskeg, bed rock being absent. Further south a rock bluff rises two hundred feet above the plateau, this being the Slaggard Ridge. The White River, for the most part flows in a broad valley lowland with a narrow flood plain. However for 3 - 4 miles above the Canyon City copper deposit it flows through a gorge with abrupt walls rising almost vertically 150' - 200' on either side. Except for a section of Slaggard Ridge, the only rock exposure is along these walls.

HISTORY AND STATUS

Copper was discovered in 1905. The discovery copper grant located over the present showings is the only place where work has been done. Three adits and a few open cuts and trenches at the same elevation were driven early in the century. It is from this property that the 2700 lb. copper nugget in Whitehorse came. There is evidence that an I.P. Survey was done a few years ago in the immediate vicinity of the showings, but a search of the files at the Dept. of Mines in Whitehorse failed to turn up any information. The only report on the property being by D.D. Cairnes, Memoir 50 "Upper White River District" 1915 P.139.

A block of 144 claims, the Marc Group, were staked over the area and recorded on April 26, 1966 by Ace. R. Parker who transferred all rights to Silver City Mines. These claims surround the six claims covering the showings - Golden Horne 1-4 and Slaggard 1-2 which were recorded by Arthur Rivers on September 4, 1964 and certificates of work filed last year, so that at the moment these claims are in good standing until September 4th, 1966. However, rumours suggest that Rivers has been trying to sell these 6 claims to Silver City Mines for \$15,000.00, so it seems unlikely that he will allow them to come open on the 4th September of this year. As no new work has been done so far this year it is possible he may pay the usual \$100.00 per claim to hold them.

GENERAL GEOLOGY

Bedrock is mostly covered so that structure is obscure. The region is predominantly underlain by volcanic rocks, those outcropping at the river being mainly andesite and diabase. Outcropping to



the south of the showings and trending approximately east-west. is a cliff line of massive limestone and associated shale.

Ace R. Parker, P. Eng. states in his report to Silver City Mines dated May 18, 1966, on the Marc claims that "although the area is somewhat noted for its native copper, the largest economic potential lies in the sulphide content of the volcanics and the possibility of replacement deposits of chalcocite in limestones in areas of significant faulting similar to the geological environment of the Kennecott Mine located near the headwaters of the White River in Alaska".

MINERAL OCCURRENCE

Some 150 - 200' above the river, on the east bank, are located the original discovery showings. Driven into the hill are three short adits - two of which have since caved - all on the same elevation. There are also three old open cuts which are also partially caved. However, they reveal an andesitic host rock which strikes about east - west and dips steeply to the north. This host is itself barren of any mineralization. Although it has been reported that copper occurs in fine-grained amygdaloids within the volcanics, this was not seen. Much native copper was found, mostly as small nuggets, but two large slabs, each in the vicinity of 400-500 lbs. were also found and appear to have come from the same trench.

As the copper found is nearly all in a tabular or slab form, it has presumably come from the many fractures, some of which exhibit pronounced slickensiding. None of the native copper found was in place, all coming from the dumps at or below the adits and open cuts.

Some small stringers of chalcocite, associated with calcite, were also found, but this too was in rock that had sloughed off the open-cut walls. Minor bornite and cuprite is also evident but no chalcopyrite was seen, although Cairnes reports the existence of it in his memoir on the district.

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The excavations extend along the river bank for a distance of 450' but this is at a bearing oblique to that of the strike, so that, providing the mineralization is continuous between the various workings, copper may exist across width of 300'. The length along strike is unknown, the river cutting through the zone as far as is known. Two lines of soil sampling were run north-south and to the east of the exposures (No.91-No.140) to try to determine if there is an extension to the east of the mineralization. The soil samples may prove to be of little use in this immediate area as the terrain is all of a muskeg nature, and permafrost exists some 6" below surface.

SAMPLING

It was not possible to cut any samples from the old workings, as all the native copper has fallen from the fractures in the face of the walls. However, for an approximate valuation, it is considered likely that for every four feet of rock wall there is an average of one inch of fracturing. This fracturing contains native copper. On this basis, a grade of close to 2.0% could be realized. It is not known whether all the fractures carry mineralization and the exposures are not continuous but judging from the numerous slabs of native copper present this mineral occurrence has definite possibilities, as yet untested from all appearances.

CONCLUSIONS AND RECOMMENDATIONS

Besides the trenches, adits, none of which were more than 30' long, and possibly an induced potential survey, there are no signs of otherwork having been done in the area. There has certainly never been any drilling, so that no information is available as to mineralization at depth. However, the presence of copper in a favourable geological environment, where it is exposed, and the possibilities of widespread mineralization, warrant a further detailed examination of the area.

A helicopter will be required, and is being sought at the moment, so that a more extensive search can be made. An examination of the west side of White River, around Boulder Creek, and of the re-

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ported copper occurrences on the west side of the Klutlan River will also be carried out. At the same time, a check will be made to see if the six claims held by Arthur Rivers have come open, and should this be the case, they will be restaked. Depending upon the availability of a helicopter, it is recommended that further exploration be carried out upstream of the Canyon City area, so far as the Alaska Border, and south into Kletsan Creek. This will require continuous helicopter support for a period of at least ten days and an expenditure for a possible forty hours flying of \$4400.00 for a Bell G-2 or \$5400.00 for a Bell G-3. At this date, Klondike Helicopters are unable to tell me if there will be a machine available for the end of the month.

August 5, 1966

Ian Turnbull.

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EXAMINATION OF CANYON CITY COPPER SHOWING, WHITE RIVER, Y.T.

On Saturday, 3rd September, I accompanied Messrs. Brown and Tully for a further examination of the copper occurrence on the east side of the White River in Canyon City vicinity.

Reference: My report submitted 5th August 1966
Memoir 284. Yukon Territory. Page 326.

Access was gained by a float plane, chartered from Whitehorse, a landing being made on a small lake $1\frac{1}{2}$ miles south east of the showings.

MINERALIZATION:

As previously noted in my report, native copper, derived from the fractures in the host rock, is the main form in which the copper occurs. Minor chalcocite, chalcopyrite and bornite also occurs, but this is always associated with the fracturing, the volcanic host itself being barren of any mineralization.

Four samples were cut across the backs of the old workings, which comprise one standing adit and three open cuts. These samples were split after crushing so that two separate assays could be run for each sample, so as to preclude any erratically high values being obtained due to the presence of native copper.

| <u>Sample No.</u> | <u>Length</u> | <u>% Cu.</u> |
|-------------------|---------------|--------------------|
| 11-1 | 5' | 1.88 Native Copper |
| 11-2 | 5' | 1.82 |
| 12-1 | 25' | 0.37 |
| 12-2 | 25' | 0.37 |
| 13-1 | 15' | 0.02 |
| 13-2 | 15' | 0.01 |
| 14-1 | 15' | 0.01 |
| 14-2 | 15' | 0.01. |

During the previous visit to the property, two lines of soil samples were run to the east of the showings, as shown on the accompanying sketch.

Values are generally low and, despite the far from ideal soil profile, the results seem to indicate no great extension or existence of an orebody in the immediate area.

CONCLUSIONS AND RECOMMENDATIONS:

Although impressive slabs of native copper were found in the slides below the open cuts, these could have originated from one single fracture zone, and due to the irregular occurrence of the native copper it is not thought that this by itself would prove economical.

Assays of samples taken across the faces of the old workings show very limited mineralization, any copper present occurring in small fractures, the country rock being barren so that mineralization and mining is limited by the extent of fractures in the volcanics.

Despite the fact that the workings exist over a length of 400', although the workings are not continuous, the copper mineralization is generally too weak to support an economic mining venture and it is therefore recommended that no further action be taken on this property.

Respectfully submitted

6th September 1966

Ian Turnbull.

GOLDEN HORNE No 3.

OUTCROP.
CU. STAINING

NATIVE COPPER IN SLIDE

No. 11 1.85% ACROSS 5'

No. 12 0.37% ACROSS 25'

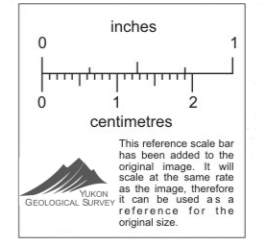
No. 13 0.015% ACROSS 15'

No. 14 0.01% ACROSS 15'

- | | |
|-------|-----|
| .24 | .19 |
| .18 | .21 |
| .20 | .20 |
| .26 | 28. |
| .36 | .22 |
| .34 | .16 |
| .32 | .34 |
| .40 | .40 |
| .38 | .25 |
| .82 | .22 |
| .50 | .60 |
| .3000 | .30 |
| .88 | .16 |
| .34 | .18 |
| .26 | .32 |
| .34 | .28 |
| .50 | .32 |
| .40 | .42 |
| .46 | .28 |
| .24 | .28 |
| .26 | .36 |
| .26 | .22 |
| .30 | .24 |
| .30 | .40 |
| .30 | .24 |

CAVED ADITS.

TRAIL



WHITE RIVER COPPER SHOWING
SCALE. 1"=100'

XERO COPY XERO COPY XERO COPY XERO COPY
Telephone Empire 4-1938

JOHN ROSS STIRRETT
Barrister and Solicitor
372 Bay Street
TORONTO, CANADA

C
O
P
Y

January 27, 1955

Lendall P. Warriner, Esq.
Cyprus Mines Corporation
161 East 42nd Street
New York 17, New York
U.S.A.

Dear Mr. Warriner:

In reply to your letter of January 25th, for which I thank you, Hagan is a man of about 70 years of age, who inherited a large tract of land near Morenci, Arizona, from his father who was a landed rancher in that area, and one of its original settlers. He is an enterprising lay-man with only a superficial knowledge of the science of geology and of the mining industry. I have talked with him at least 50 times by long distance. Usually Hagan called me. His brother in Clifton, Arizona, seems to have "gone native", and married some Indian or Mexican wife. I am acquainted with his general background and keep in contact with him in the belief that he may yet come up with something very good in the way of strategic minerals.

Now that the price of copper metal has risen to around 40¢ a pound, I assume that you will be interested in copper properties. I accordingly offer you on favourable terms (namely, the re-payment of the cost of acquisition, estimated at \$150.00 a claim, and a one-third interest in the vendor consideration of a company to be formed), a working option on 72 unpatented claims in the vicinity of Canyon City on both banks of the White River in the Yukon Territory. This is the site of the famous slab of native copper weighing 6,000 pounds, a picture of which you will see as a frontispiece to Memoir 50 of the Geological Survey of Canada on the Upper White River District, by D.D. Cairnes. I enclose herewith a copy of the claim map of the area, together with the latest geological map, by Dr. Bostock of this area. The engineer who staked these 72 claims brought to me and left with me yesterday two bags of native copper float taken from these 72 claims. Most of the nuggets are less than 5 inches in diameter. Similar nuggets, he said can be picked up all over the 72 claims.

In addition to this group of 72 claims in the Yukon, my clients have staked another group near the Yukon-Alaska boundary line, where the geology is similar to that of the Bonanza Mine at Kenecott. I assume that you are familiar with this section of south-eastern Alaska. (See Prof. Irving's report on copper in Alaska enclosed.)

I do not think I should burden you with the published data relating to these newly staked properties, both of which are copper prospects, until you express a desire to examine this material. The bibliography is very extensive, and includes such material as the 21st Annual Report, Part 2 of the U. S. Geological Survey, where the Upper White River deposits are described at page 379 and the following pages. Since much of this early material was

published, the transportation problem has been largely overcome. The 72 claim group, for instance, is less than 20 miles from Koidern, a government telegraph station on the Alaska Highway. Hudson Bay Mining and Smelting Company are now doing underground exploration on a nickel-copper ore-body not more than 30 or 40 miles to the south-east, and Prospectors Airways, and a new Canadian company called "Canalask" have a very promising partly-drilled property on the east bank of the White River near Koidern, less than 15 miles from the 72 claim group.

If you are really interested in copper, you will, I feel sure, find this White River project in the Yukon and Alaska an attractive undertaking for the coming season. Kindly let me know if you would like to have fuller particulars about it.

Yours sincerely,

(signed) J. R. Stirrett

P. S. The doubts you expressed to me last month about the future price of uranium after 1962 were also uttered here yesterday by Bennett of the Eldorado Company, which acts as the agent in respect of uranium production and purchase for the Canadian Government. An interview with him was published in the Toronto Star. He warned us about the likelihood before 1962 of overproduction of UR.

JRS

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January 31, 1955

Mr. John R. Stewart
372 Bay Street
Toronto, Ontario
CANADA

Dear Mr. Stewart:

As acknowledging yours of January 27th concerning the native copper showing on White River in the Yukon, I am forwarding it to Mr. C. H. H. Stewart, Vice President of Cyprus Exploration Corporation Limited, our wholly owned subsidiary with offices at 80 Richmond Street West, Toronto 1, Ontario. Mr. Stewart handles all matters with reference to Canadian properties. As I have previously pointed out to you, our Los Angeles office covers the United States west of the Mississippi, Mexico, and Alaska, whereas in New York we try to cover the rest of the world--we find it quite an assignment!

If you can supplement for Mr. Stewart's benefit the information you sent me, it will be helpful to him in giving consideration to the YK claims surrounding the native copper showing.

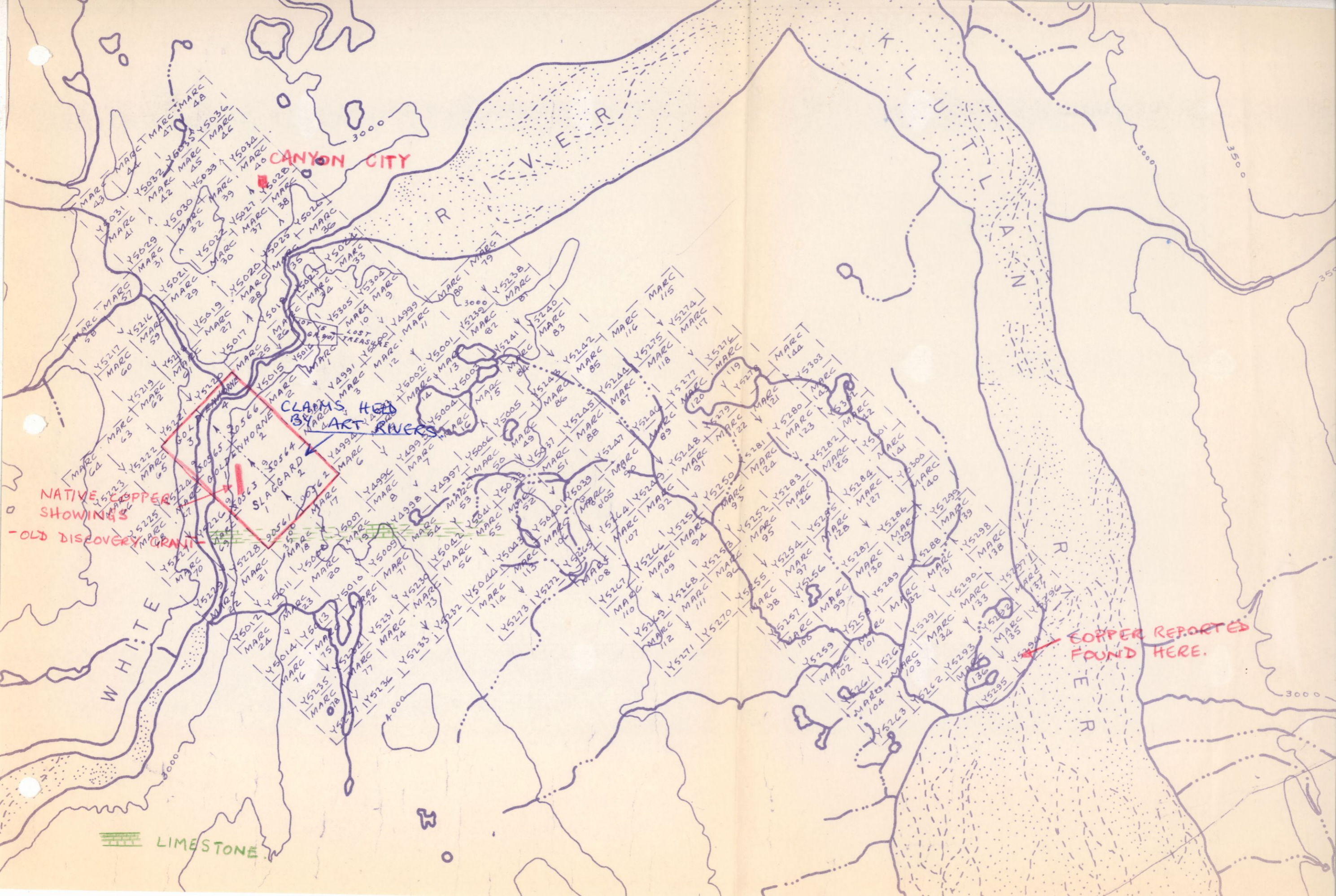
It will save time, naturally, if you discuss with Mr. Stewart any future presentations you may have in Canada.

With kind regards,

Yours very truly,

Lordall F. Worsdiner

LPW:EM
CC: Mr. C. H. H. Stewart with enclosure.



REPORT ON QUILL/TETAMAGOUCHE AREA, KLUANE LAKE, Y.T.

LOCATION AND ACCESS:

The copper showings lie in the main feeder creek at the headwaters of Quill Creek, 8 miles west of Mile 1105 on the Alaska Highway. A road, passable only by four wheel drive vehicles, leads to the mouth of this feeder creek from the access road to the Hudson Bay property, this latter road leaving the Highway at Mile 1111. Map No. 115G/6. $61^{\circ}26'$. $139^{\circ}25'$.

TOPOGRAPHY:

The showing lies on a mountainous ridge which runs north west from Kluane Lake some 15 miles to the Donjek River. Total elevation is 6,000'. The belt is cut by many creeks which makes the terrain slow to cover on foot. Vegetation is practically nonexistent. Soil cover is thin and there is a fair degree of outcrop exposed.

HISTORY AND STATUS:

Throughout this belt a great many mineral claims have been located from time to time, commencing around 1908. However, no ore has ever been produced from the locality. The Wellgreen property owned by the Hudson-Yukon Mining Co. is situated four miles to the north west. This is a nickeliferous sulphide deposit with a reported 737,600 tons averaging 2.04% Ni., 1.42% Cu.. The property is dormant at the moment.

The copper showing is located on the Ram No. 1 claim, which was recorded on 12th October 1965. It is presently held by P. Versluce. It is likely that assessment work will be filed on the Ram group this fall. The Jay group, which surrounds the Ram group, was recorded on 14th February, 1966.

The claims are held by the following:

| | | |
|-----------|-------------------|------------------|
| Jay 1-8 | Grace Chambers | Burwash Landing |
| Jay 9-16 | Ruth Ackland | Burwash Landing |
| Jay 17-24 | (Marjorie Rogers) | Burwash Landing |
| Jay 25-32 | (Leland Allanger) | Burwash Landing |
| Jay 33-40 | Tommy Clare | Destruction Bay |
| Jay 41-48 | Violet Riley | Burwash Landing. |

The Linda claims are also held by P. Versluce, and were staked at the same time as the Ram group - 12th October, 1965.

It is obvious that these women did not in fact stake these claims themselves, and are probably holding them for another party, but as no transfers have been recorded this cannot be confirmed.

The staking of the Jay group is so bad, that, should it be required a successful dispute could be obtained. A brief survey run over one location line showed a distance of 3,700' between claim posts instead of a maximum of 1,500'. At the same time the majority of posts are unmarked, missing and/or of illegal size.

The blocks of claims to the east of the Jay group - the Mary Group- were recorded on August 23rd, 1965, and are held at present by Alice Lake Mines.

REFERENCES:

Kluane Lake map area: Paper 58-9. J.E. Muller. G.S.C. Memoir 284
Page 377.

MINERALIZATION AND ORE OCCURRENCE:

The copper showing is located on the east wall of the subsidiary creek with staining being evident over a length of 200'. Copper occurs as chalcocite and sometimes minor bornite, infilling fractures in the volcanic host. There is also much malachite of a secondary origin. At the location of the showing, there is an old diamond drill setup, with a helicopter pad further up the hill. This was probably established around 1955, but there is no sign of drill holes.

The basaltic rock is in some places amygdaloidal, but the amygdaloids do not appear to carry any copper, although this mode of mineralization has been reported to occur elsewhere in the belt.

Three samples were originally cut across the creek wall. The results were:

| | | |
|----------|------------|-------|
| No. 3753 | across 75' | 0.64% |
| No. 3754 | across 75' | 1.75% |
| No. 3755 | across 75' | 2.45% |

Average grade across 225' 1.61% Cu..

The showing was then resampled, sampling being extended along the creek to determine the cut-off and samples also cut on the west bank to determine if the outcrop carried any values - see Fig.1 -

Results were:

| | <u>Length</u> | <u>% Cu.</u> |
|----------|---------------|--------------|
| No. 3761 | 40' | 0.12 |
| No. 3762 | 35' | Tr. |
| No. 3763 | 35' | 1.27 |
| No. 3764 | 35' | 2.88 |
| No. 3765 | 35' | 2.62 |
| No. 3766 | 50' | Tr. |
| No. 3767 | 50' | 0.07 |

No.'s 3763 and 3765 give an average grade of 2.25% across 105'.

The creek at the showing runs approximately N 60° E. and cuts the mineralized section of the hillside obliquely, so that dimensions of this zone are in the region of 600' x 40', or 2,400 tons per vertical foot.

Throughout the mountain belt, there is copper float (in the form of malachite stained basaltic rocks and, infrequently native copper) to be found in the creeks. This could be derived from small and uneconomical zones or fractures, or possibly from an extensive ore deposit. A brief reconnaissance survey of the copper concentration in stream sediments was carried out; - see Fig.2 -.

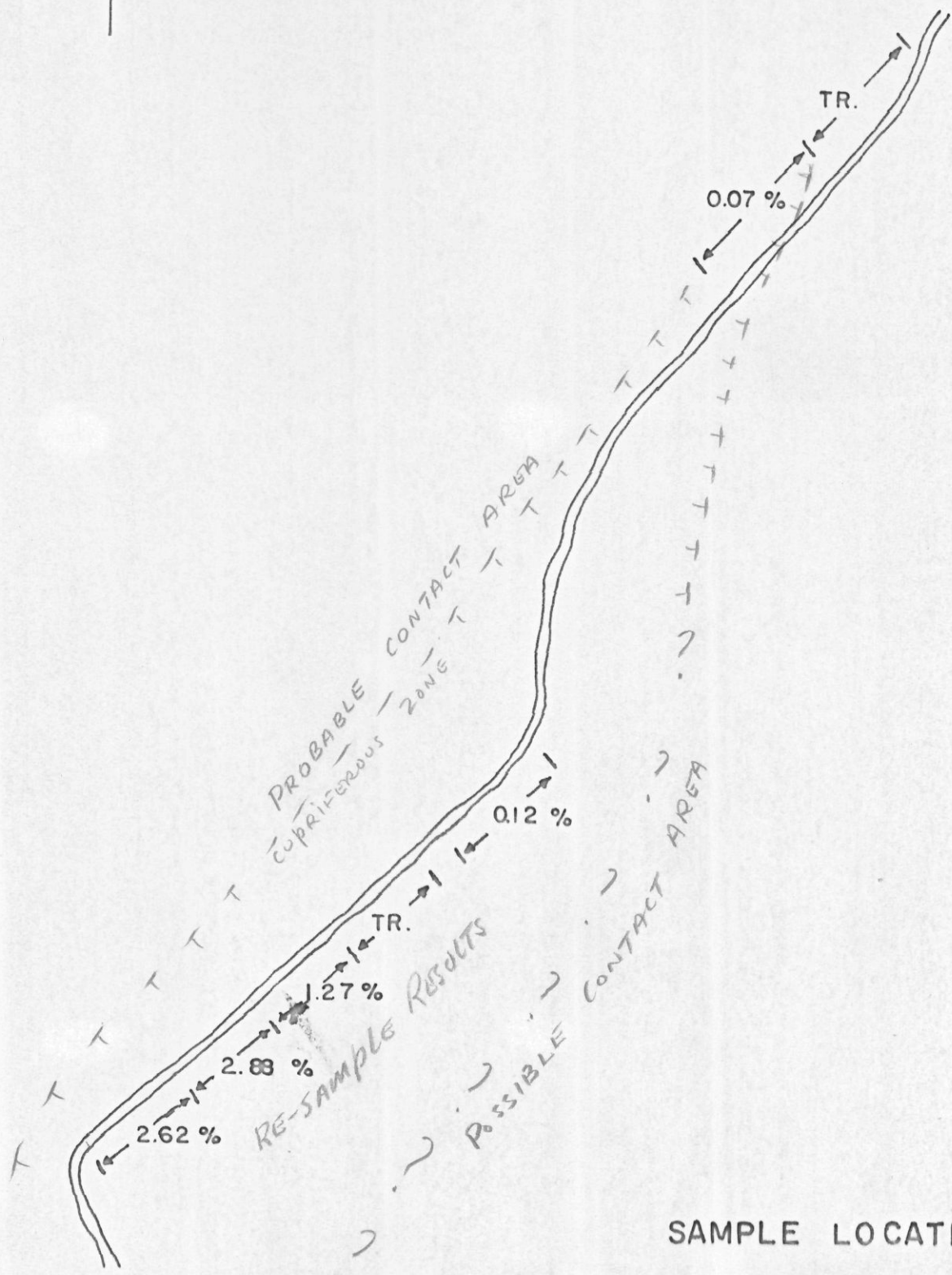
CONCLUSIONS AND RECOMMENDATIONS:

It has been known for many years that copper mineralization occurs in this belt, but as yet no deposits of economic size have been found, save for the Hudson Bay property which is primarily a nickel deposit. The showing discussed in this report does not appear to have sufficient size by itself to be of economic interest, and it is possible that the secondary malachite in the creek wall has enriched the grade such that the assays obtained are not truly representative of any further ore in that zone.

There is little point at the moment in disputing the Jay claims, but it is intended that an examination of the Mary group be carried out before their anniversary, so that should it be required, they can be restaked as soon as, and if, they come open. Further prospecting in the area is adviseable, as the terrain is ideal for a geochemical approach, there being a widespread and good drainage system.

Plans attached
5th August/1966

Ian Turnbull.



SAMPLE LOCATION.

SCALE 1" = 50'

FIG. 1.

H.B.M. & S.

LINDA

JAY GROUP
142.56

RAM GROUP

MARY GROUP. (ALICE LAKE MINES)
238.65

QUILL CREEK

OLD DRILL SITE:


OF CREEK WALL:


- 0.64 % - 75'
- 1.75 % - 75'
- 2.45 % - 25'

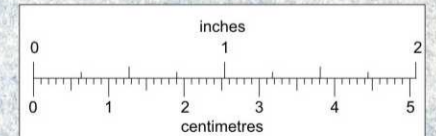
Cu content ppm.

TETAMAGOUCHE CREEK



 FLOAT: CHALCOCITE & SECONDARY MALACHITE.

 CONC. OF COPPER IN STREAM SEDIMENTS (PPM)



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.



C.M.C.

KLUANE LAKE AREA
YUKON TERR.

SCALE. 2" = 1 MILE *Transcribed July 1966.*

REPORT ON MUSH CREEK/ESKER CREEK PASS - DEZADEASH, Y.T.

LOCATION:

The area investigated lies to the south of the pass at the headwaters of Mush and Esker Creeks, six miles south of Mush Lake. Map No. 115 A/3 60°13'. 137°22'. The showings extend north-south along the west wall of a minor creek, between the elevations 3,200' and 3,900'.

ACCESS:

A Department of Mines helicopter was used to establish a camp on a ridge south of the pass. A trail from Dalton Post is the only other means of access to the locality.

TOPOGRAPHY:

The valley floor, at an elevation of 2,900', is flat and covered mainly with willows. To the north the ground rises steeply to 5,300', the hill having very little soil cover. To the south, the ground rises at about 30°, to a final elevation of 600'. There are two main creeks flowing down this side hill which have cut steep gorges along which there are excellent rock exposure. The rest of the side hill is covered to a very great extent by large rock slides of granodiorite.

HISTORY AND STATUS:

This copper occurrence has been known for some time, Kindle mentioning it in his memoir on the Dezadeash Map - area, No. 268 (1953) Page 57. The British Yukon Navigation Co. Ltd., optioned the property in 1959 but dropped it the following year.

A group of 40 claims (Bay group) was staked on March 31, 1966 by B. Cook of Whitehorse as shown in the accompanying sketch, but for some reason he failed to cover the main copper showings. Claims have evidently been staked regularly over the past several years on this showing.

MINERALIZATION:

A strong fault zone extends north-south along the length of the west creek, and the copper mineralization is associated with this fault.

At the head of the creek the fault enters the granodiorite. The granodiorite, in some instances a diorite porphory, is highly fractured so that throughout the area underlain by it, there are very extensive slides of broken rock, the blocks often being of a rectangular shape. These slides blanket the hillside, and hinder a soil sampling program. Contacting the granodiorite to the north are tuff and andesite rocks. In the area of the fault zone the andesites are highly silicified, this being evident on both sides of the pass. No mineralization was seen on the north side of the pass. Generally, the andesites strike north-west dipping at 45° to the south-west.

The copper showing is on the west side of the creek at elevations 3,600' -3,900'. The andesitic rock is shattered and faulted, and there are many siliceous veins carrying pyrite and chalcopyrite, with some minor bornite. The pyrite has caused extensive yellow-white coloration. This mineralization is evident only in the creek wall so that dimensions are difficult to gauge. However, it is exposed in the wall for a distance of 300' along the incline, and this is also almost along the strike. Vertically, copper stain appears over 150'. Two lines of soil samples were taken further to the west to see if there is an extension in this direction. However, since the granodiorite contact runs north west this will act as a cut-off in this direction. On the east side of the creek, and on the other side of the fault, there are only a few patches of staining and no signs of continuous mineralization. It would appear that the only hope of extending the mineralized zone is to the north below the valley floor.

Four samples were cut along the creek wall over a total length of 300'. The results are:-

| | <u>Length</u> | <u>Au.</u> | <u>Cu.</u> |
|----------|---------------|------------|------------|
| No. 3756 | 75' | 0.005 | Tr. |
| No. 3757 | 75' | Tr. | Tr. |

| | | | | |
|----------|-----|-------|-------|--|
| No. 3758 | 75' | Tr. | Tr. | |
| No. 3759 | 75' | Tr. | 0.43% | |
| No. 3760 | 12' | 0.005 | 3.50% | Sample taken from 12' wide quartz lead exposed in a creek to the east. |

Sample No. 3759 agrees with one taken by Kindle in 1953 which assayed Au. Trace, Cu. 0.46% across 75' in the same creek wall.

CONCLUSIONS AND RECOMMENDATIONS:

Although the creek wall showed copper stain over a length of 300', sampling has shown most of this to be virtually barren, which could possibly be due to leaching out of the copper. However, copper mineralization is only apparent over a triangular area 300' x 200', or approximately 3,000 tons per vertical foot. On account of this, the low grade, and the slim chances of finding additional ore it is recommended that no further action be taken on this property.

August 6, 1966

Respectfully submitted
Ian Turnbull.

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REPORT ON THE PAPP COPPER SHOWING, AISHITIK LAKE, DISTRICT Y.T.LOCATION AND ACCESS:

This property is located 20 miles north of Mileage 980 on the Alaska Highway and some 7 miles southwest of Hutshi Lakes. Map No. 115-H-2 Lat. $61^{\circ} - 02'$, Long. $136^{\circ} - 44' W$.

Access was gained by floatplane chartered from Whitehorse, some 75 air miles away. A "cat" trail from the highway follows Cracker Creek north and past Moraine Lake to the property.

STATUS:

Steve Papp, a prospector resident in Whitehorse, owns the Ball group of eight claims, which were staked in June 1962 and are at present in good standing.

GEOLOGY AND MINERALIZATION:

The copper occurrence is similar to those around Giltana and Hopkins Lake (see my report August 11th). It would appear that the mineralization is genetically associated with the intrusion of the Coast Range Granites, which are mapped in the immediate area of the claims. Although no contact was found between the granites and the precambrian metamorphic rocks, the presence of garnets, epidote and abundance of other silicate minerals indicates the proximity of such a contact, and that mineralization is a result of contact metamorphism.

Locally stripping along the hillside has revealed a rock formation of mica schist with banded limestone, quartzite and slate. These being members of the Yukon Group of Precambrian metamorphic rocks. Three vein structures show mineralization consisting of magnetite carrying chalcopyrite with attendant malachite, and minor molybdenite. The strike of all three is uniformly to the northwest, and dip is 40° to the south.

Ian Turnbull Report 23/9/66 Page 2.

These veins are 175 feet apart, and samples cut across each gave the following assays:-

| | Width | CU. % | MOS ₂ % |
|-------------|-------|-------|--------------------|
| North Vein | 20' | 0.15' | TR. |
| Middle Vein | 15' | 0.51' | 0.03 |
| South Vein | 10' | 0.63 | 0.01 |

Samples taken from the intervening rock reported as only a trace copper.

CONCLUSIONS & RECOMMENDATIONS:

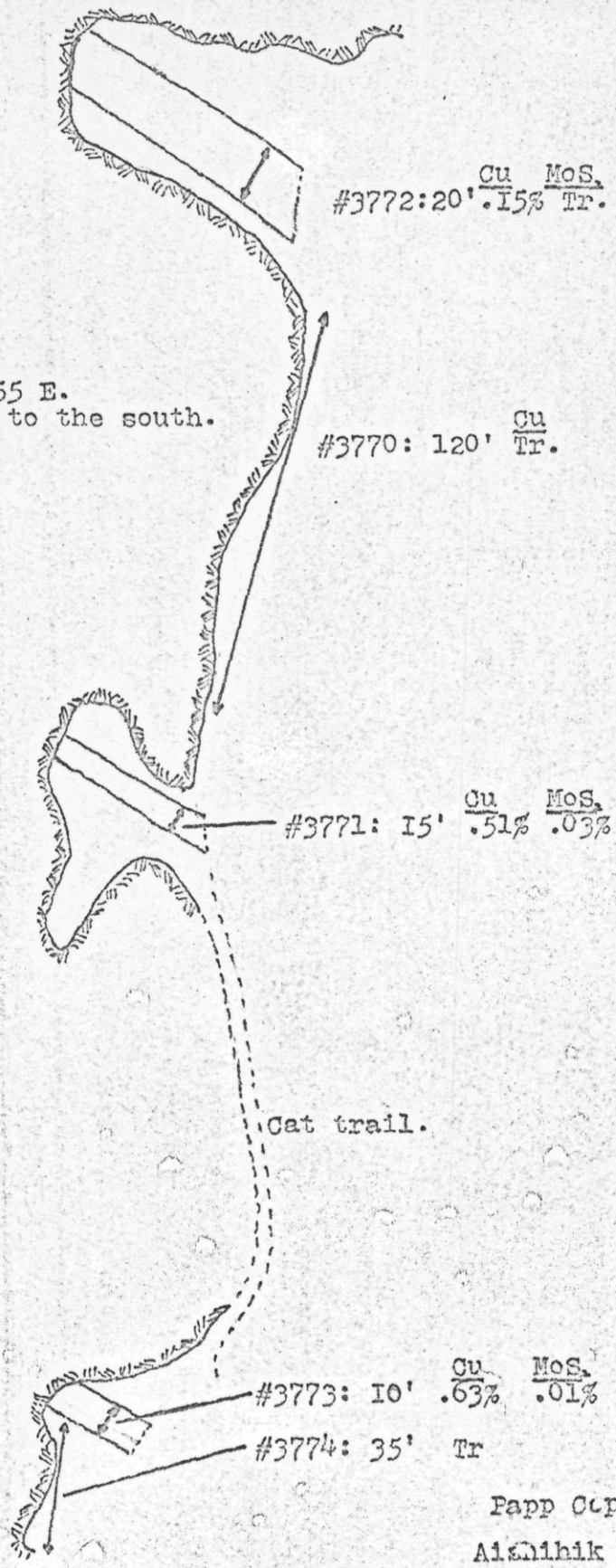
Further stripping to the north and south of these showings have failed to locate any further mineralization, although no work has been done to determine the lengths of the present showings.

Mr. S. Papp informs me that his terms for any deal would be \$150,000.00 plus 10% of any stock issued, but since this deposit is at present of no economic interest and shows no indications of being so, I would recommend that no further action be taken.

23rd September 1966

Respectfully submitted

(Signed) Ian Turnbull.



Strike of Veins: S 55 E.
 Dip : 40 to the south.

Trenching along side-hill.

Cat trail.

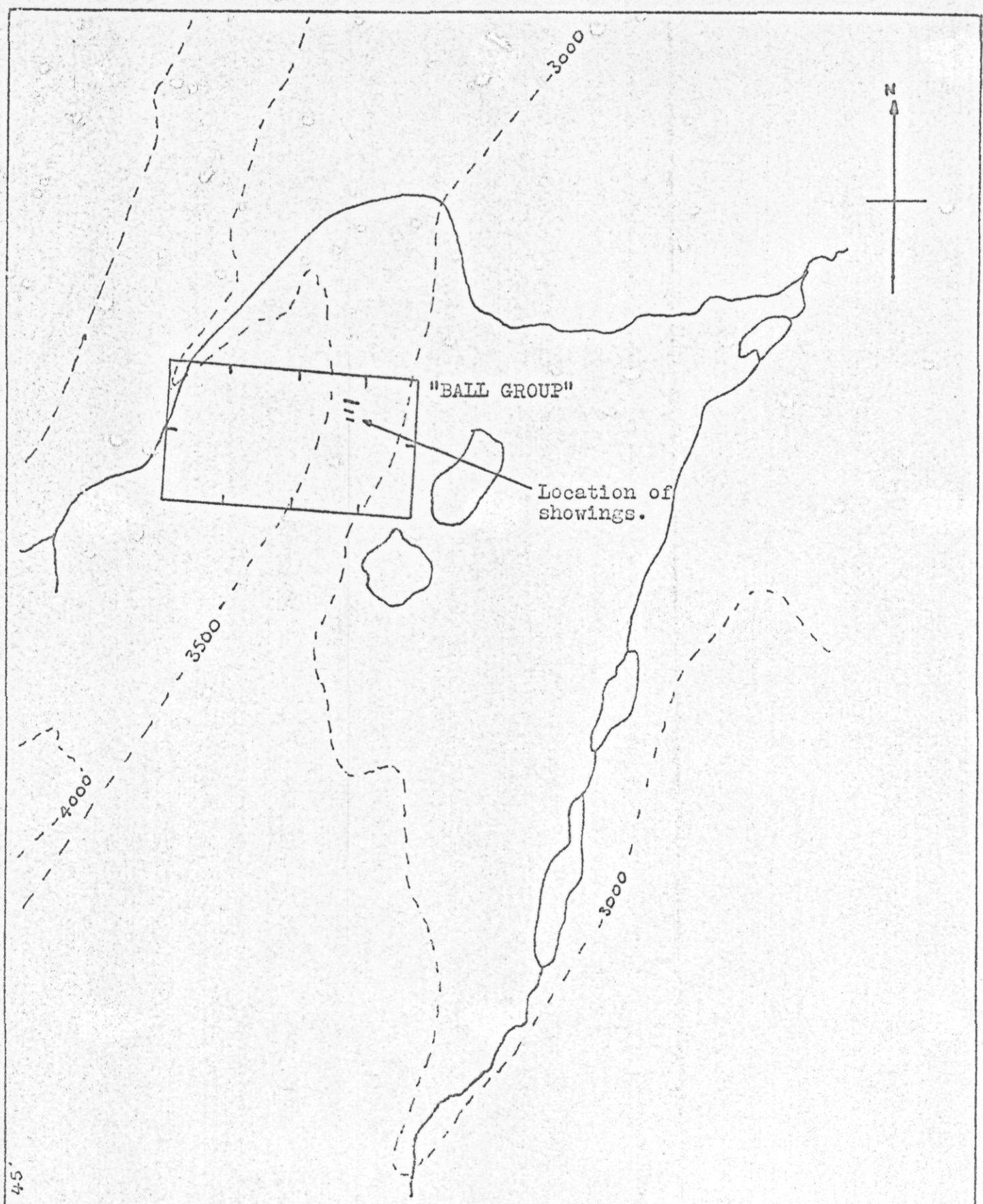
Fapp Copper Showing.
 Aiskihik Lake District
 Scale: 1" = 50'. September 1966.

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136° 45'
61° 00'

PAPP COPPER SHOWING.
AISHIHIK LAKE DISTRICT.
SCALE: 1:3000. SEPT. 1966

CANADIAN BARRANCA MINES LTD.

REPORT ON THE CANADIAN BARRANCA PROPERTY, DEZADFASH AREA, Y.T.

LOCATION AND ACCESS:

The property is located on one of the minor creeks flowing into the Jarvis River (fig.1) Map No. 115-A-13.

A six mile tote road has recently been built to give access to the property, this leaving the Alaska Highway at Mile 1035.5.

STATUS:

Twenty-eight claims have been located in the vicinity of the showings, of these, twenty-one were staked this year around the original seven, which were first recorded on 6th June 1962. Canadian Barranca hold 100% interest in all the claims, these being in good standing until 18th May 1967. I am informed that Hudson Bay Mining & Smelting took an option on the property in 1964, but although there is an old helicopter pad and one old diamond drill set-up on the showing, there is no record of this in the Ledger Record of the claims.

At the moment a portable X-ray diamond drill is on the property, the intention being to test the showing to see if it is worthwhile bringing in a larger drill next summer. Save for building an access road into the property and along a section of the creek to the present drill set-up, no other "cat"work has been attempted.

GENERAL GEOLOGY:

The M.C. claim group is located at the south east end of the peridotite

Ian Turnbull Report - 27/9/66 Page 2

belt which stretches along the south side of the Shakwak valley system from Dezadeash to White River. Locally the peridotite forms an elongated body some one to two miles wide and twelve miles long; the copper showing is at the north west end of this intrusive belt. The peridotite intrudes sedimentary strata of the Alsek group along the mountain front on the south west side of the Shakwak valley, the mountains themselves being composed largely of sedimentary rocks, these being slate, argillite, quartzite, impure limestone, conglomerate and bedded volcanic tuffs.

LOCAL GEOLOGY AND MINERALIZATION:

Locally the peridotite is partially and in some cases wholly serpentized. The serpentine varies from a pale to dark green colour and is infrequently cut by thin veinlets of dark red limonite. The serpentine is generally massive, but in some cases, along a shear, has a schistose structure. More common are bands of talc and chlorite schist associated with these shears, which strike to the northwest and dip steeply to the southwest. A few traces of asbestos were noted in the serpentine, but never more than miniscule amounts.

The mineralization occurs as chalcopyrite and pyrite, associated in quartz, which interlace a 20 foot wide shear zone with many small stringers. Minor bornite is also present, and there is extensive malachite and azurite staining over the surface exposure of the mineralized section.

The shear zone strikes east-west across the creek, the main exposures being on the two opposing creek walls, and dips to the south at 30°. A drill hole put down by Canadian Barranca intersected the zone across a true width of 17 feet at a distance of 100 feet to the southwest of the surface exposure, so that at present the zone has been traced over a strike length of some 150 feet but is still open at both ends for continuation. There are no records available as to the results of the hole drilled 150 feet down dip (south-east) of the showings by Hudson Bay so that the ore bodies extension in this direction is unknown. A report in the George Cross News Letter (No. 180-1966) indicates that drilling is intended for the No. 2 zone, and

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Ian Turnbull Report - 27/9/66 Page 3.

it would appear that this refers to the showings on the east side of the creek, which is an extension of the No. 1 zone, rather than to another independant ore-body. An examination of the surrounding ground and sampling of the stream sediments failed to give any indications of an orebody.

SAMPLING:

| | <u>Location</u> | <u>Length</u> | <u>% Cu.</u> |
|----------|---|---------------|--------------|
| No. 3785 | East side of creek. | 20' | 2.9 |
| No. 3786 | West side of creek. Incomplete sample as wall partly caved. | 15' | 1.33 |

Assay of drill core for the first hole gave 10' at 2.7% Cu. and 7' at 3.6% Cu. for an average of 3.07% Cu. across 17 feet.

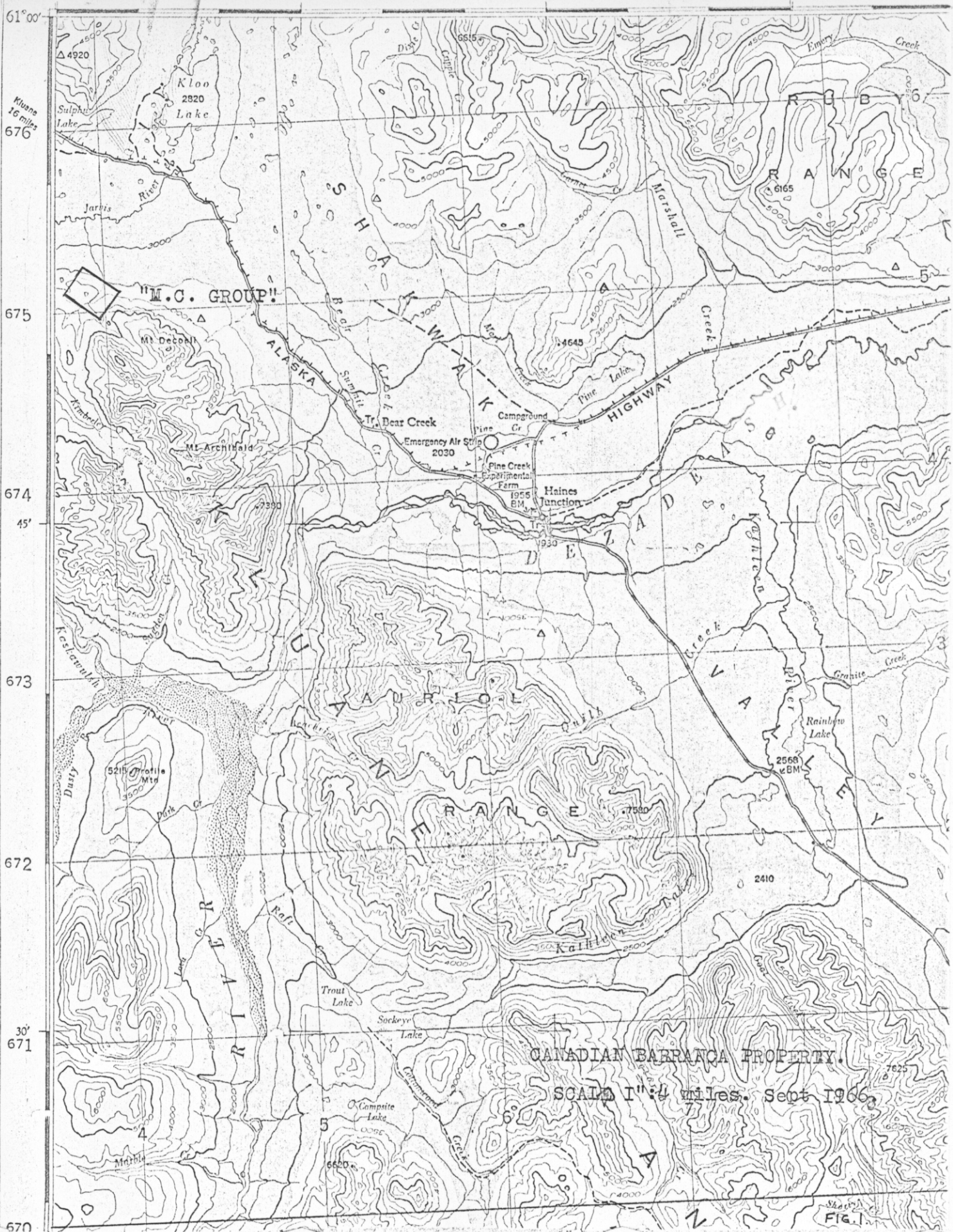
CONCLUSIONS AND RECOMMENDATIONS:

At present an orebody has been delineated over a strike length of 150 feet with a width of 20 feet, the grade of which is close to 3.0% Cu.. Chances seem good of increasing the present figure of 300 tons/vert.ft., but only further test drilling can show this. The nature of this copper occurrence would necessitate underground mining and unless or until a substantially greater strike length and/or width are indicated I would advise no further action be taken.

27/9/66

Respectfully submitted

(Signed) Ian Turnbull.

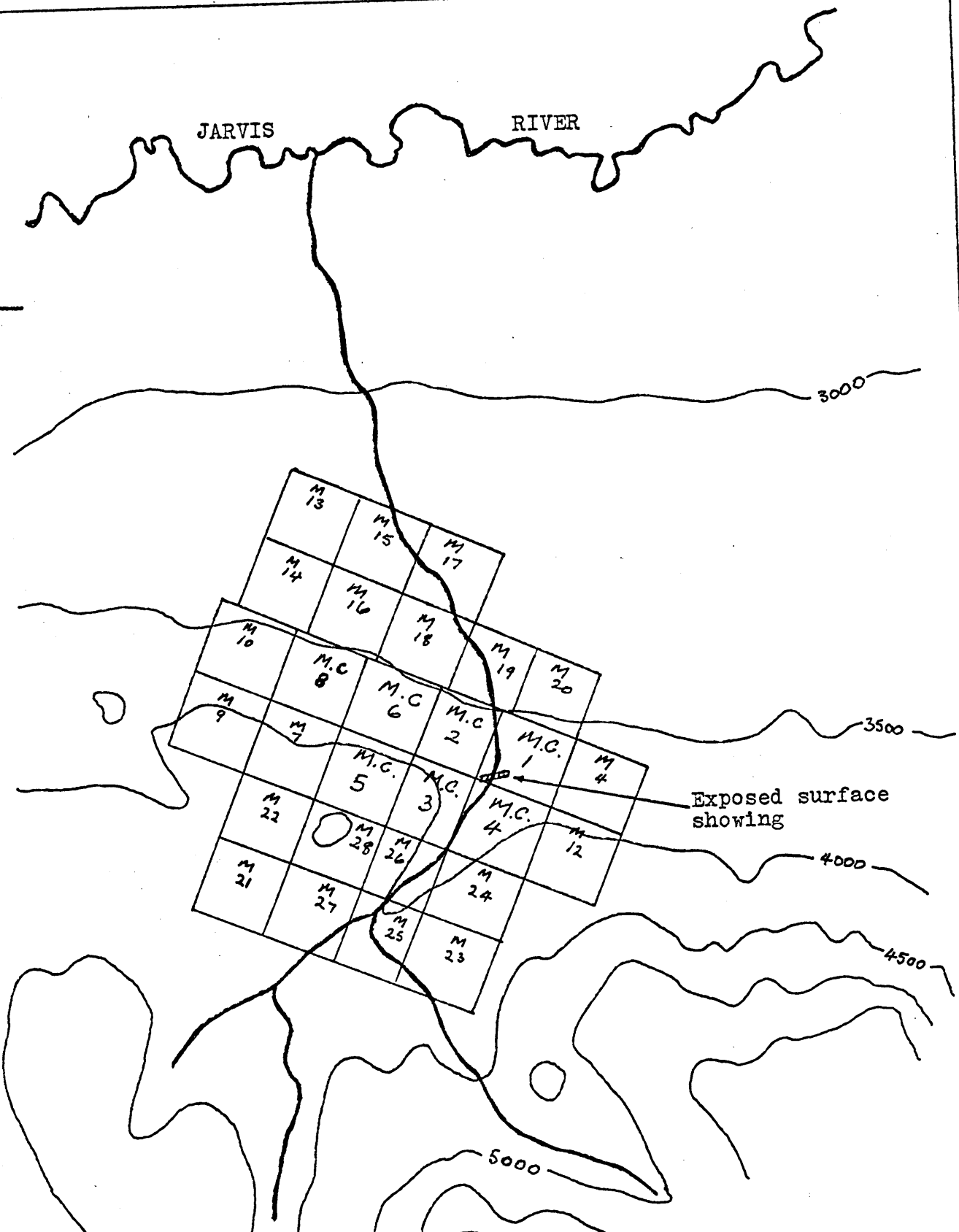


CANADIAN BARRANCA PROPERTY.
 SCALE 1" = 4 miles. Sept 1966

FIG. 1

JARVIS

RIVER



Exposed surface showing

CANADIAN BARRANCA PROPERTY

Dezadeash Area. Y.T.

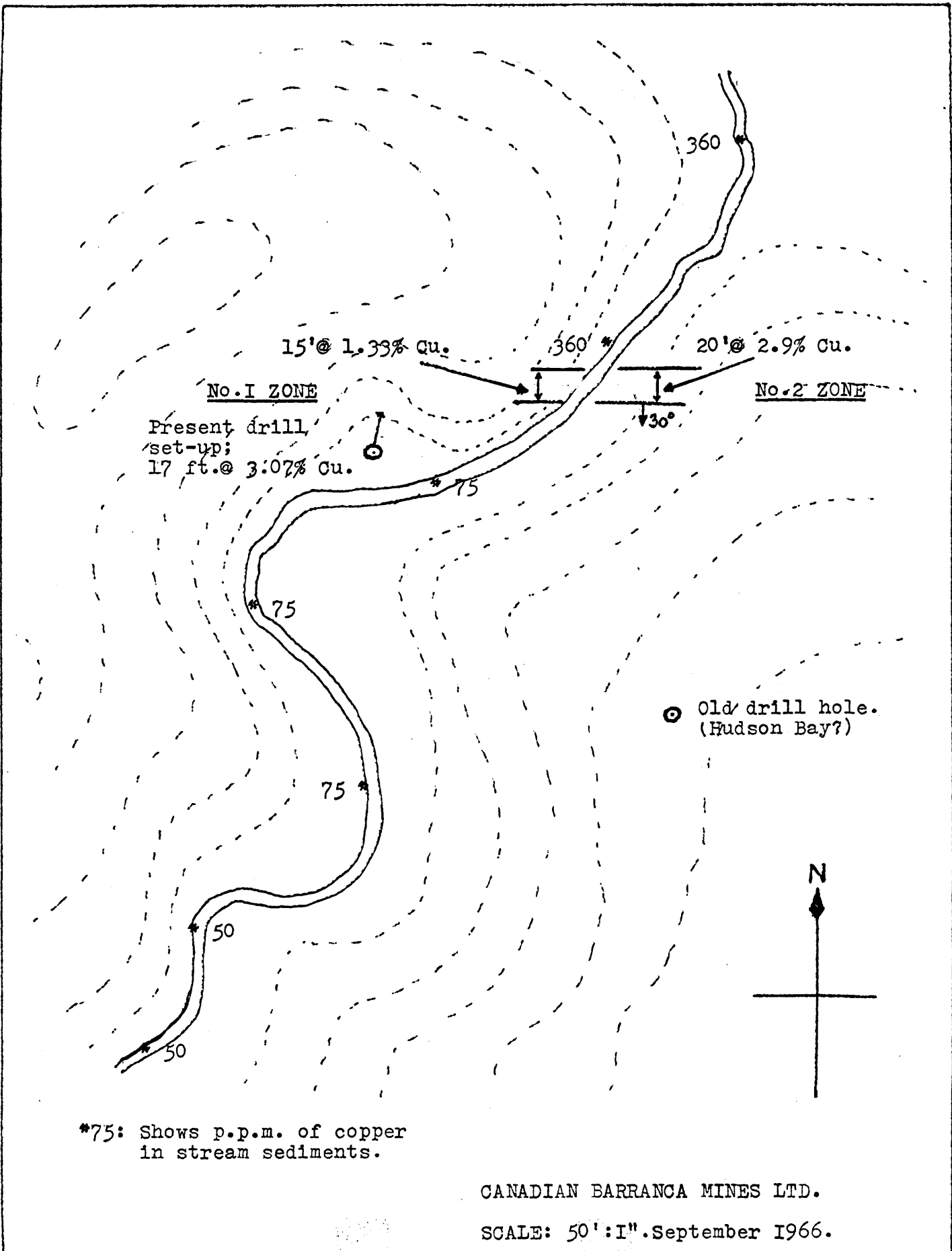
SCALE: 2":1 mile. Sept. 1966

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*75: Shows p.p.m. of copper in stream sediments.

CANADIAN BARRANCA MINES LTD.

SCALE: 50' : 1'' . September 1966.

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DETAILS OF MINERALIZATION OF SPECIFIED CLAIMS - YUKON TERRITORY

Claim No. Y 609. Ace No. 7. Map 115-I-7.

Mineral deposits occur at or near the contact of the intrusive granites and the Mount Nansen group of volcanics - the latter having been recrystallized and converted into amphibolite and allied types of schist. Mineralization consists of veins of quartz carrying bornite, chalcopyrite and malachite. These veins range from a few inches to 6 feet in width, and carry values of gold and silver.

| | | |
|------------|--------------|-------------|
| No. Y 4686 | A.S. No. 4. | Map 115-H-7 |
| No. 85143 | Yucca No. 1. | |
| No. 85147 | Acme No. 1 | |
| No. 90392 | Pony No. 8. | |

These claims adjoin the ground held by Tom Martin and Nathan Saunders: See Report on Aishihik Lake District 22nd August 1966.

Claim No. 60420. Shearzone No. 1. Map 115-I-6 (Freegold Mountain)

Mineralization consists of veins up to 4 feet wide which carry pyrite, arsenopyrite and chalcopyrite in quartz and follow a shearzone. Another deposit, of contact metamorphic origin, is exposed in trenches and the chief mineral magnetite contains abundant limonite and minor pyrite and chalcopyrite. This is some 30 feet wide and 200 feet long.

Claim No. 60770. Quill No. 4. Map 115-G-6. (H.B.M. & S.)

Nickeliferous sulphide deposits occur as irregular massive lenses of pyrrhotite, with minor pentlandite or as disseminated sulphides in siliceous tuffs and argillites at the contact of basic intrusions.

Claim No. 67185. Revenue Copper No. 6. Map 115-I-6. (P.F. Guder)

Mineralization consists of pyrite and chalcopyrite in an extensively

altered breccia. This is only evident in one small trench. Work done on the property to date:-

1954-55 Optioned by Teck Explorations who carried out a geo-physical survey and drilled five holes (1,401 feet) beneath the showing. Only minor amounts of mineralization were found.

1964 Option taken by Canex who drilled three holes (541 feet) on a geochemical anomaly but only a trace of copper was obtained.

Claim No. 68281. Don No. 2

Claim No. 68299. Henry No. 4. Location at present unknown.

Claim No. 73230. Aldas No. 3. Map 115-F016.

See Progress Report No. 1. 10th July 1966 - Wolverine Property.

Claim No. 73669. Klaza No. 33. Map 115-I-3. (Peso Silver)

Deposits occur as vein structures in a mainly gneissic rock of the Yukon group. Veins vary from broken zones to 8 feet in width carrying thin lenses of dark grey quartz with bands of sulphides up to 6 inches thick. Sulphide minerals include arsenopyrite, pyrite, galena, sphalerite and stibnite. Drifting on the two major vein structures have revealed strike lengths of 600 feet and 1,370 feet.

Mount Nansen Mines report following reserves:

| | | |
|------------------|-------------------------------|--------------|
| Webber Property | 73,450 tons @ 0.39 ounces Au. | 22.3 oz. Ag. |
| Huestic Property | 32,190 tons @ 0.61 ounces Au. | 5.4 oz. Ag.. |

Claim No. 73892. Star No. 6. Map 115-A-5. (Johobo Mine)

The deposits are on the eastern limb of a tightly folded northwest trending anticline in andesite flows and sedimentary rocks (Lower Mesozori). The ore is present in faults and shearzones as irregular bornite lenses (a few inches to a few feet long) as veinlets and breccia fragments or as disseminated particles. Malachite and chalcocite are present along fractures in the ore. Chalcopyrite also occurs in small lenses within or alongside the bornite. These deposits lie

within an area 450 long, and the mineralized zones are 6 feet - 8 feet wide and plus 50 feet long and deep.

Claim No. 74202. May No. 6. Map 115-I-7. (May Group)

Claim No. 91862. March No. 12. (Canex) (March Group)

These groups adjoin one another.

The May Claims: Drill by Conwest has shown a persistent galena-sphalerite vein up to $2\frac{1}{2}$ feet thick lies along a shear zone about 100 feet wide. This is 1,200 feet long and 350 feet deep but is traceable for 4,000 feet. Chalcopyrite and pyrite are disseminated on either side of the vein in places mineralization is 10 feet wide. Bostock reports that the vein varies from 3 feet-6 feet in width, and contains pyrite, galena, sphalerite, chalcopyrite, tetrahedrite and values of gold silver. Lead, zinc and copper values are reported to be good at depth.

March Group

Mineralization unknown, but claims cover Granite Mountain which has been intruded by quartz porphyry dykes.

Claim No. 86084. Old No. 1. Map 115-I-6. (Freegold Mountain)

Claim No. 86096. Old No. 13.

Presumably, any ore occurrence will be similar to the Au/Ag vein structures on the adjoining Lafoforma and Shearzone claims.

Claim No. 91885. Snag 1. Map 115-K-2.

Claim No. 91925. Snaggy 10.

See Progress Report No. 1 - 10th July 1966.

SNAG - NIGGERHEAD EAST GROUP
SNAGGY - NIGGERHEAD WEST GROUP.

Claim No. 92076. Mona 4. (J.M. Wheeler). Map 115-I-2.

Mineralization unknown. Claim are close to the May group (No. 74202) and probably vein structure.

Claim No. 92627. Teddy No. 2. Map 115-G-6

Claim No. 92647. Mary No. 14. (Alice Lake Mines).

Malachite and bornite are found irregularly distributed along the tissues, cracks and fractures in the volcanic country rock. Deposits are not persistent and usually irregular in form. One deposit 4 feet thick and 20 feet long is almost solid bornite and occurs in a reddish amygdaloidal rock.

Claim No. 99138. Jay 16. Map 115-G-6.

See report on Tetamagouche/Quill Creeks.

August/1966

Ian Turnbull.

REPORT ON AISHIHIK AREA

WHITEHORSE MINING DIVISION, YUKON TERRITORY

1.

GILTANA LAKE COPPER SHOWINGS

These copper showings were discovered at the turn of the century, and reported upon by D.D. Cairnes in 1908. Memoir 284, page 281.

Beside the Aishihik road at Mile 27, small trenches reveal chalcopryite mineralization disseminated through small seams 1 foot wide and associated with quartz. In all, only three such veins were seen, although rock exposure is good, and none of these extend more than 50 feet in length.

Across Giltana Lake from the road and these showings, and some 700 feet above the Lake are further copper showings. Bands of schist, which strike north-south and dip into the hill, have been mineralized with chalcopryite, with much secondary malachite staining the interbanded limestone. Magnetite is present, associated with the chalcopryite or visa versa, as barren magnetite was found, but the copper mineralization was always found in association with the magnetite in the schists. There are three main bands of mineralization, some 6 feet thick and spread over an elevation of 200 feet evident in the hillside. Strike length varies from 50-100 feet, mineralization is generally weak, although some rich pockets of chalcopryite in the seams occur infrequently.

2.

TOM MARTIN COPPER PROSPECT

Twenty-four claims have been staked by Tom Martin and his partner Nathan Saunders to cover some old trenches and open pits on the northwest end of Hopkins Lake, west of Mile 32 on the Aishihik road.

The nature of the copper mineralization is similar to that of the Giltana Lake showings, which are 5 miles to the south. Three magnetite/chalcopyrite mineralized veins were seen, each 3 feet thick, one being 250 feet long, the other two are less than 50 feet in strike length and dipping at 20° to the east. Lateral extension is unknown and the showings are spread over an elevation of 500 feet. Save for the veins the rest of the outcropping rock is a white crystalline limestone. The rock outcrops on a knoll which rises 600 feet above the generally subdued and swampy surrounding district. Diamond drilling had been carried out about 10 years ago at the base of this knoll, the hole being drilled to the west, presumably to intersect the vein structures. There appears to have been only one hole drilled.

CONCLUSIONS

Although these veins may carry a fair amount of copper (Cairnes reports between 1.35 and 9.00%) the dimensions of the mineralized zone are too small for these copper occurrences to be of any economic interest. Tom Martin has been informed that no further action is to be taken on his property.

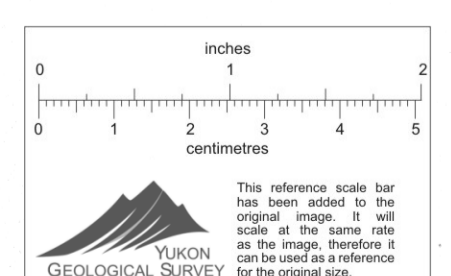
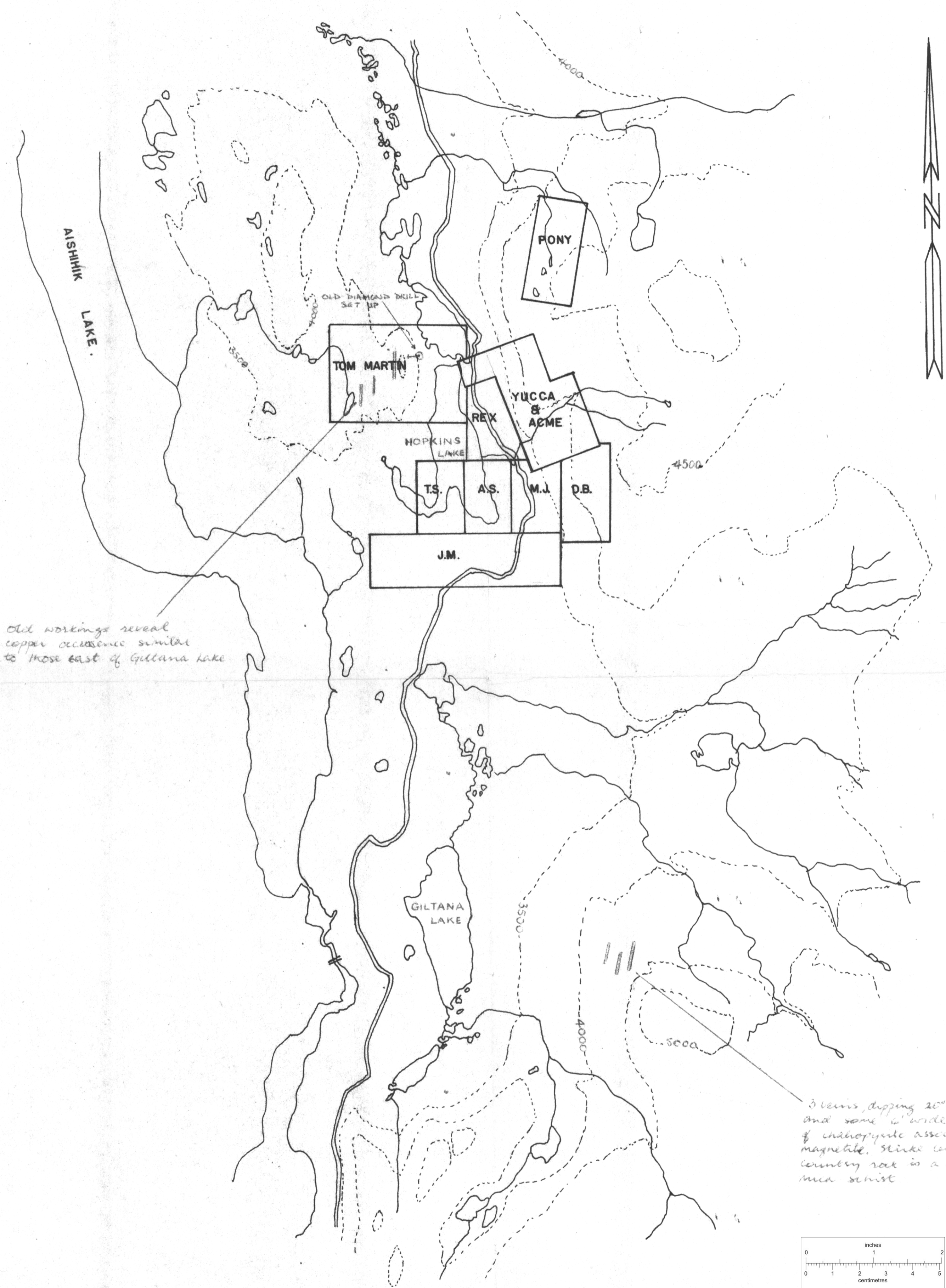
RECOMMENDATIONS

The geology of the Aishihik Lake district is favorable for the occurrence of mineral deposits, the coast range intrusives forming one of the main geological formations of the area, and are important as possible ore-bringers. As all the mineralization seen so far is associated with magnetite, the best indications of copper deposits may come from an airborne magnetometer survey of the area. As yet no such survey has been flown, or no maps released, but when such maps are available, an investigation should be made of all the anomolous zones so indicated.

Respectfully submitted

11 August, 1966

Signed Ian Turnbull.



1. Lep Group: White River

30 claims were staked by Geophoto Services on 4 July 1966.

Mineralization occurs at the contact of silicified limestones and the Triassic volcanics of the Shakwak Valley system.

Veins of sulphide - pyrite and pyrrhotrite - varying from 1' to 10' in width occur in the volcanics, striking both parallel to one another and to the strike of the contact - N40°W. These vein structures dip steeply to the southwest, and exist over a visible total width of 250'.

Two similar structures are exposed in two separate creeks, some 7000' apart, and since both showings occur at the sedimentary/volcanic contact and line up on strike, it is possible that the structure is continuous between the two creeks.

13 samples were obtained across the sulphide showings; results are:

| <u>Sample No.</u> | <u>Width (Ft.)</u> | <u>Cu%</u> | <u>Ni%</u> | <u>Au</u> | <u>Ag</u> |
|-------------------|--------------------|------------|------------|-----------|-----------|
| 3782 | 9' | .03 | | | 0.16 |
| 3783 | 30' | .30 | | | TR |
| 3789 | 9' | Tr. | Tr. | Tr. | TR |
| 3790 | 15' | .42 | Tr. | | |
| 3791 | 1' | Tr. | Tr. | | |
| 3792 | 15' | Tr. | Tr. | | |
| 3793 | 100' | Tr. | Tr. | | |
| 3794 | 75' | Tr. | Tr. | | |
| 3795 | 75' | .07 | Tr. | | |
| 3796 | 100' | Tr. | Tr. | | |
| 3797 | 100' | .12 | Tr. | | |
| 3798 | 2' | .25 | Tr. | Tr. | 0.26 |
| 3799 | 100' | Tr. | Tr. | Tr. | |

Geochemical analysis of stream sediments taken from the creeks in the area failed to show any anomalous copper values.

Despite the discouraging assays obtained, I would recommend that arrangements be made for a further and more detailed examination of this property, as the size of any mineralized zone has the potential of a very large tonnage.

The aeromagnetic map of the Canyon City area published by the G.S.C. in December 1966 shows a fairly significant anomaly coincident with the strike of the mineralization, over the Lep claim group.

Fairbanks (Alaska) 356 m

51 0000 m. E.

141° 00'

62° 00'

687 0000 m. N.

6

5

45'

4

3

2

30'

45'

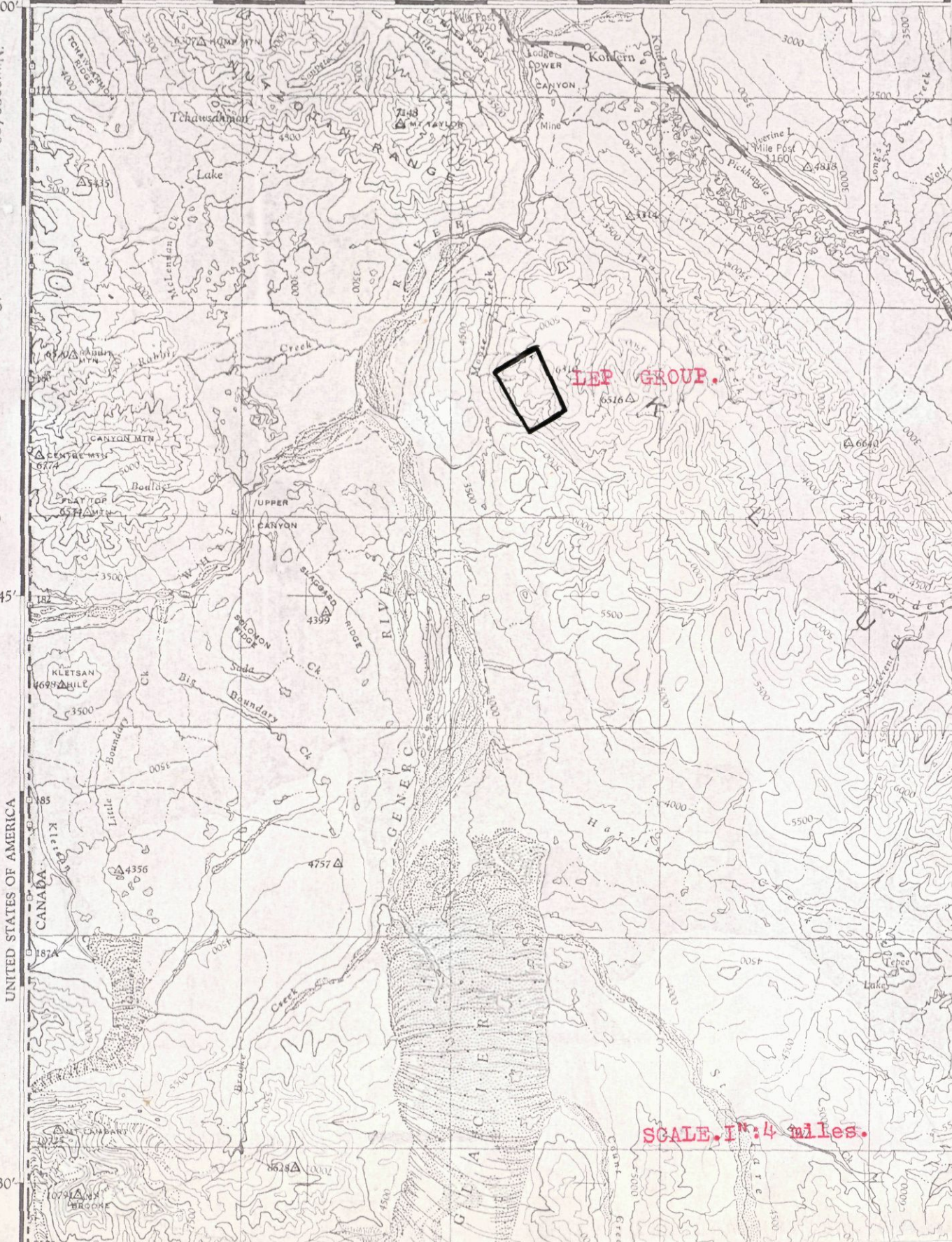
2

30'

3

15'

4



SCALE, 1" = 4 miles.

UNITED STATES OF AMERICA
CANADA

GENERIC
GLACIER

LEP GROUP.



LEP GROUP
WHITE RIVER AREA

P.P.M. Copper in Stream Sediments.

Scale. 1" : 3000' . Sept. 1966.

2. Cork Group: Burwash Creek

12 claims were staked by Geophoto Services Ltd. on 23 July 1966. These cover four minor creek systems to the north of Burwash Creek.

High readings in p.p.m. of copper in the stream sed. were found in the most westerly creek. Along the creek walls in this same creek a fairly ^{EXTENSIVE} copper ~~extensive~~ straining occurs.

Mineralization consists of chalcopyrite occurring along the fractures of the red andesities. These have been intruded by many latite dykes, which also carry some disseminations of chalcopyrite. At the northern limit of the claims, the volcanics are overlain by limestone and conglomerate beds.

9 samples were obtained; results are:

| <u>Sample No.</u> | <u>Width</u> | <u>Cu%</u> |
|-------------------|--------------|------------|
| 3768 | 150' | 0.07 |
| 3769 | 25' | Tr. |
| 3775 | 60' | Tr. |
| 3776 | 25' | Tr. |
| 3777 | 100' | Tr. |
| 3778 | 50' | Tr. |
| 3779 | 100' | 0.12 |
| 3780 | 300' | Tr. |
| 3781 | 30' | Tr. |

Mineralization appears to be very low grade but its occurrence over an area approximately 1000' x 100' is sufficiently impressive to warrant further attention.



P.P.M. COPPER.

NORTHWEST YUKON AREA

REPORT ON MINERAL SHOWINGS AND THOUGHTS FOR FUTURE POSSIBILITIES

BY C.A. LANGLOIS

1. MUSH LAKE AREA

Some future thought should be given to this section, especially around headwaters of Beloud Creek and vicinity of 4 Cal. claims. Some significant areas seem to me to designate faulting, although overburden seems to be overly dense. Mainly malachite, chalcopryrite.

2. JOHOBO - KATHLEEN LAKE AREA

There seems to be some very interesting areas to the north and southwest of this showing. Mainly bornite, minor chalco and malachite.

3. BURWASH CREEK

This area is on intense interest mainly because of huge mineralized area, malachite, which should indicate possibly better mineral to be found. This area is greatly faulted with dykes cutting across the main formations. Mainly malachite with some iron pyrites in sulphides.

4. QUILL CREEK

Very good area as main showings indicate. I found some native copper on the main Tetamagouche Creek. This should be considered an important area for future prospecting.

I would deem it very necessary to give this section some more very close inspection.

Northwest Yukon AreaPage 2.

5. WHITE RIVER SECTION
GEOPHOTO CLAIMS

I found a very large vein which consisted of almost solid sulphides. Mainly iron pyrites and some chalcopyrites. Also reasonably sure arsenopyrite. Although samples proved disappointing copper wise, there is a good possibility of gold and silver here. This is a large zone and should be closely checked. This is all on one creek. I also found a large mineralized area on the creek to the south of this which seems to be striking towards this vein system. Ian seems to think this is all the same.

We soil sampled all these sections taking numerous samples. However with the time spent on each creek we would not inspect very thoroughly every place that should have been given more time.

6. SLAGGARD CLAIMS

Although these claims have not been considered by the Company, they are of interest mainly because of the large amount of native copper to be found. Some slabs in my estimation would weigh in excess of 2,000 lbs.. There could be some interesting sections further south of here.

7. SUMMARY

Although we never made any approach to vendors of these properties, I still am very interested in three of these sections. I would strongly recommend further exploratory work in these sections. Further, I believe there is big zones of mineral to be found in the vicinities around the neighborhood of these showings.

8. RECOMMENDATIONS

I would advise, if possible, future work in these areas - especially

Northwest Yukon Area

Page 3

for one square mile area - very careful prospecting.

1. Geophoto claims area (Lep.Claims)
2. Tetamagouche Creek area
3. Burwash Creek area.

These recommendations I humbly submit to my superiors.

November 7th, 1966

(Signed)
C.A. Langlois, Prospector.

CURRENT ACTIVITIES IN THE SOUTH WEST YUKON

There are three other exploration programs underway in the south west Yukon this summer. These operations are all supported full-time by helicopters.

1. GEOPHOTO SERVICES

This is a Calgary based Company, and I am informed that they are working for an oil company. One of Geophoto's principals is PAUL FUENNING. Telephone Calgary 266-8661.

This Company is doing geochemical work exclusively, sampling the silts in every creek from Snag to Dezadeash, and intend by the end of the season to have covered some 40,000 sq. miles. To date they have staked at least two blocks of claims, one somewhere in the White River area, another near the south end of Kluane Lake.

I suspect that the White River claims are in the map No. 115F 10 area, for which there is, as yet, no claim sheet issued by the Dept. of Mines. The geologist, Jerry McKewar, was connected with the discovery of the Northgate mine in Ireland; I am very impressed with their program, and would advise some follow-up as I think they have a very good chance of success.

Their program is copper orientated.

2. HIGHLAND BELL MINES

This Company, under the direction of Paul Sawyer, is based at White River Lodge and have three or four two man camps in the field. A helicopter is used to continually move the camps, as they are also sampling all the creeks in the area, doing both on the spot total heavy metals in streams, and total extractable copper determination of silts. By the end of the month they intend to move down to the Dezadeash area. Copper and molybdenum are the targets.

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3. MERIDIAN EXPLORATIONS

These people have just appeared in the area, using a Coast Range Airways helicopter. Party chief is Donald R. Cochrane - possibly associated with Homestake Mines^{inc}. Operation is out of Burwash Landing, presumably also copper orientated. They have apparently just finished work on the west side of the Donjek, possibly in Wolverine or Steele Creeks.

There are also several individuals - Peter Versluce, Wally Green, etc. in the area, particularly around the Quill/Tetamagouche district who are prospecting and staking.

The Department of Mines have a field party based at Dezadeash Lodge who have been running geodetic surveys from Snag to the south east. They have allowed us use of their helicopters twice, but only when the weather is too cloudy for their crews to work.

A geological survey party is reported to be in the Snag area, but are using pack horses for transportation.

5/8/66

Ian Turnbull.

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