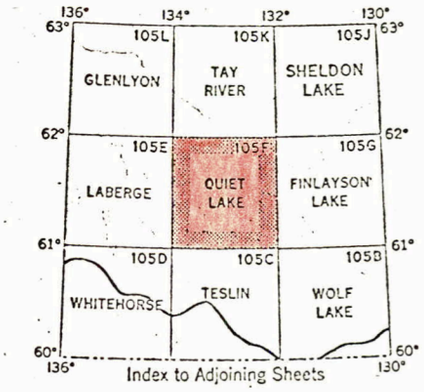

Index to Adjoining Sheets

QUIET LAKE

YUKON TERRITORY

SHEET 105 F
FIRST EDITION

LODE OCCURRENCES

NTS 105 F 1

Quiet Lake

#1

Conwest Exploration Company Limited (Molly Group) (61°10'N, 132°25'W)

1963

References: Wheeler, Green, and Roddick (1960a); Skinner (1961, pp. 41-42); Green and Godwin (1963, p. 30).

Late in the 1962 field season, the company staked the Molly group of 72 claims covering a molybdenite showing. Work carried out during the summer of 1963 consisted of trenching, diamond drilling, and detailed mapping of the prospect. A crew of about 20 men was employed. Results proved discouraging and work was suspended early in August, 1963. The main showing is at an altitude of about 5,500 feet and is on the south side of a small valley tributary to McNeil River. The camp, located on a small bench in this valley, was supplied by a helicopter based at Quiet Lake on the Canol Road, about 22 miles to the west.

The main showing occurs near the contact of metamorphic rocks of unknown age (unit A, Wheeler, Green, and Roddick, 1960a) with granodiorite (unit 9). The metamorphic rocks consist of a limestone, perhaps 50 feet thick, which has been irregularly altered to: (i) diopside-garnet skarn, (ii) wollastonite-garnet skarn, and which contains thin bands of finely banded green diopside hornfels and purplish brown biotite hornfels probably formed from siliceous limestone and argillite respectively. This band is overlain by a finely banded unit, probably more than 1,000 feet thick, composed of green diopside hornfels, purplish brown biotite hornfels, and irregular stringers of limestone. This unit probably formed from a limy argillite and appears similar in original lithology to unit 2 of Middle and Late Cambrian age as mapped by Wheeler, Green, and Roddick (1960a). Molybdenite occurs mainly in the diopside-garnet and the wollastonite-garnet skarns formed from the limestone band. These have been traced for about 800 feet trending northeast and dipping moderately to the southeast beneath the finely banded overlying rocks. The overall structures of the metamorphic rocks appear simple, but complex crumpling on a minor scale was observed in outcrops of the finely banded hornfels unit. Seventeen diamond drill holes with a total length of 2,500 feet were drilled to test the showing at depth.

The north showing occurs on a ridge about 3,400 feet northwest of the main showing. There, trenching exposed disseminated molybdenite in a thin band of "hybrid granite" or "meta-diorite", composed of plagioclase feldspar and diopside, developed at the contact between the granodiorite and the overlying diopside skarn and hornfels. The altered limestone band of the main showing is not present. Specimens from this showing contain considerable cream-coloured powellite, formed through the alteration of molybdenite.

The north showing is similar in type to the molybdenite showing about 25 miles to the northwest, which was explored by Canol Metal Mines Limited in 1959 and 1960 (Skinner, 1961, pp. 41-42).

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*Assayed by G. Spalding, Whitehorse, Y.T.

Quiet Lake

NTS 105 F 1

#1 Conwest Exploration Company Limited Molybdenite Showing (61°10'N, 132°26'W)

References: Conwest Exploration Co. Ltd. (1963); Northern Miner (Oct. 11, 1962).

1962

Late in the prospecting season the company announced the discovery of a molybdenite showing about 20 miles east of Quiet Lake. The company holds 72 claims in the area. It is reported that mineralization is exposed at intervals over a distance of 1,500 feet and that samples taken from several locations are of ore grade. Investigation of the showings is planned for the 1963 field season.

Boswell River

(Silver-Lead) NTS 105 F 4

#2 Boswell River showing (61°03'N, 133°48'W)

References: Bostock (1935, p. 12); Lees (1936, p. 23-24); Wheeler, Green, and Roddick (1960a).

1965

J. Mohagen of Whitehorse, Yukon holds 23 claims in 3 scattered blocks covering silver-lead showings in the Boswell River area. Showings in this area were first reported by Bostock (1935, p.12) in 1934 and later described by Lees (1936, pp. 23-24). The area has been prospected by Mohagen for many years. The westernmost showings, on the Gopher claims, were visited briefly in his company in mid-summer 1965. The showing is located at an elevation of about 4,100 feet on a burnt-over sidehill overlooking Boswell River about 2 miles east of the mouth of Falls Creek and just west of the triple fork in the river. It may be reached by helicopter or by a trail about 15 miles in length leading from Teslin River at the mouth of the Boswell. The Teslin River at this point is suitable for use by float-equipped aircraft.

Country rock in the vicinity of the showing consists of quartz-feldspar-biotite gneiss, in part calcareous, with minor interbedded sugary white dolomite; all striking about S 70° to 80° E and dipping nearly vertical. The dolomite bands are usually 10 feet or less in thickness but one band about 35 feet thick is present a few hundred feet north of the showings and forms the south rim of a small draw. The centre of the draw is covered and a quartz-feldspar porphyry sill, about 20 feet thick, forms the north rim. The quartz-feldspar porphyry contains scattered phenocrysts to about 3 mm of quartz and, less commonly, feldspar in a pale buff sugary matrix, all much altered to fine secondary mica. Regionally, a number of granite porphyry and felsite bodies have been mapped in the area (Lees, 1936) and the showings are located about 1½ miles SW of the contact of granitic rocks of the Cassiar intrusion (Wheeler, Green, and Roddick, 1960a). The showings themselves are of two types: galena bearing lenses in dolomite within the gneiss and quartz veins with galena. Both parallel the foliation of the enclosing rocks.

When visited, a galena-bearing dolomite lens, up to 10 feet thick and partially altered to tremolite, has been explored in three trenches over a distance of about 50 feet. It was best exposed in the middle trench where the first 18 inches containing considerable galena assayed*: trace of gold, 95.60 ounces of silver per ton, 51.60 per cent lead, 0.3 per cent zinc and the remaining 36 inches exposed assayed*: trace of gold, 1.90 ounces of silver per ton, 1.2 per cent lead and a trace of zinc. A sample of cerussite-coated galena, taken from this cut and tested to determine the silver to lead ratio assayed*: 0.01 ounces of gold and 157.70 ounces of silver per ton, 81.5 per cent lead, traces of antimony and zinc. About 300 feet to the west, a number of small pits had been sunk on quartz veins with some galena. A composite sample of quartz with galena broken from a vein 2 feet in width assayed: trace of gold, 5.70 ounces of silver per ton, 6.8 per cent lead, and 0.1 per cent zinc. Older workings about 300 feet west of the present workings and overlooking a small creek tributary to Boswell River include a cut in the thick dolomite bed and an adit about 50 feet above the creek in elevation. The cut exposes dolomite cut by numerous quartz veins and containing traces of galena along fractures in the latter. The adit was collared in the gneiss just to the south of the thick dolomite bed but appears to have been very short.

Four miles further upstream, Lees (1936, p. 24) reported that an adit 120 feet long was driven in biotite schist reportedly to cut the contact of the granitic rocks. This objective was never attained but the adit cut 15 feet of quartz at its inner end; the latter carrying silver-bearing galena with a little molybdenite.

While the showings seen were small, the area would appear worthy of careful prospecting in as much as most samples have a favorable silver to lead ratio and showings have been reported over a distance of about 5 miles.

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* Assayed by G. Spalding, Whitehorse, Y.T.

#3 Upper Sheep Creek 1960

Canol Metal Mines Limited has a molybdenum property consisting of 30 claims at the head of Upper Sheep Creek, 36 miles south-southeast of Ross River. The adit is at lat. 61°29 1/2'N, long. 132°48'W, at an elevation of about 6,400 feet on the south side of a ridge about 7,000 feet high. The property is accessible by a 14-mile truck road along Upper Sheep Creek from mile 100 on the Canol Road.

The showing was discovered by A. Racicot in 1955. In 1958, Racicot cut eleven trenches exposing disseminated molybdenite along the contact between granodiorite and limestone. Samples from four of these assayed from 4.2 to 9.3 per cent molybdenum. Canol Metals was incorporated in September 1958 to acquire and explore the property. In 1959 the company explored the property with a total of about 1,000 feet of adit, drifts, and crosscuts and 26 or more diamond-drill holes. The company made a detailed geological survey of the property in 1960.

At the end of August 1959 the underground workings consisted of the following: an adit extending N52°W for 150 feet; a cross-cut at 110 feet from the portal, extending southwest for 20 feet to a drift paralleling the adit; this drift extended 80 feet northwesterly and 40 feet southeasterly along the granodiorite-limestone contact; a second drift at 105 feet from the portal extended north for 240 feet; a third drift at 160 feet extended N50°E for 70 feet; and a fourth drift at 240 feet extended northwest for 140 feet. About 95 per cent of the tunnel is in granodiorite.

The regional geology of the area has been described by Wheeler, Green and Roddick (1960a). Canol Metal Mines Limited molybdenite showing is at the north contact between a large granodiorite stock and Middle and Upper Cambrian (?) limestone and phyllite. The contact is conformable with the bedding of the overlying limestone and phyllite. From 75 to 250 feet northeast of the adit the bedding is almost flat-lying; however, southwest of there it dips to the southwest. Thirty feet southwest of the adit the bedding strikes N50°W and dips 40°SW.

A skarn zone is present in the limestone near the contact with granodiorite. This zone is about 20 feet thick where the bedding is almost flat-lying and about 3 feet thick where the bedding dips 40°SW. Molybdenite is disseminated in the skarn and granodiorite near the contact, but grades are better where the contact dips to the southwest. Assays from samples taken in a 40-foot trench across the contact above the adit were 0.68 per cent molybdenum sulphide along 22 feet in skarn, and 8.4 per cent molybdenum sulphide along 12 feet in granodiorite. A high-grade molybdenite body cut in the adit from 95 to 120 feet from the portal is in granodiorite from 10 to 20 feet from the contact, where

the contact is dipping 30 to 40°SW. The body is from 4 to 7 feet thick, more than 45 feet down dip, and about 24 feet along strike. The grade of this body has not been released, but it is probably greater than 4 per cent molybdenum sulphide.

The granodiorite in the underground workings is highly fractured and cut by many small faults. Several of these faults strike northeasterly and dip steeply southeastward. Two sets of faults strike northwesterly: one dips steeply northeastward, the other steeply southwestward. A few of the faults are easterly striking and dip steeply. One northerly striking normal fault dips 50°E and displaces the orebody a few feet.

#3

July 7, 1959.

BRIEF REPORT ON POTENTIAL OF

CANOL METAL MINES MOLYBDENUM PROPERTY

Yukon Territory

BRIEF REPORT ON POTENTIAL OF
CANOL METAL MINES MOLYBDENUM PROPERTY
Yukon Territory

Aaro E. Aho
Geological Engineer. July 7, 1959.

INTRODUCTION

At the request of A.E. Buller, the writer examined this property briefly on July 1 and 2, 1959, for Union Carbide Corporation of New York, to report verbally on its potential and progress of the work. However, this brief writeup of ideas and the accompanying plans will clarify the picture further. The Canol Metal Mines prospectus can be referred to for other details.

GENERAL GEOLOGY (See Figure 1)

The deposit lies at the irregular northeastern margin of the Pelly Mountains granitic complex, at a calcic reaction zone between granite and overlying skarn and limestone which are part of a larger section comprised mostly of phyllite and schist with many limy horizons. The metamorphic rocks strike north to east and dip northwesterly about 20°, but in detail they are intricately drag-folded. The granite, exposed to the southeast, probably dips under these rocks

since the trace of its contact appears to follow the dip southwest of the property.

Discontinuity of the limestones above the deposit, and a shear at the mountain top, suggest that a N 20°W fault with a steep dip and apparent left lateral displacement (W side N) of the order of 400 feet or more may pass through the deposit. However, neither the granite contact nor the mineralized zone is offset, suggesting (a) little or no faulting; or (b) pre-granitic faulting and juxtaposition of minor limestone on strike with the larger limestone.

MINERALIZATION (See Figures 2, 3)

The best mineralization occurs in a hybrid calcite-rich "dioritic" rock up to a few tens of feet wide at the contact between coarse granite and garnet-bearing diopside skarn up to 50 feet wide, and overlain by 100 to 400 feet of limestone. The skarn contains only small, irregular amounts of molybdenite, but the "diorite", where observed, usually carries about 0.5 to 1% MoS_2 (visual estimate) with heavy dissemination in soft, coarse calcic phases and near fractures.

Due to snow cover and caving of the trenches, the mineralization could be seen in place only at the contact near trench No.7 and in trench No.9, and underground where it is surrounded by granite. The mineralization underground occurs in a limy,"dioritic" altered blob in the granite, being localized partly by fractures.

SUGGESTED ORE CONTROLS

Since the favourable "diorite" host rock almost certainly represents lime assimilation at the granite contact, proximity of the limy sediments is an important ore control. If the granite contact dips steeply it would probably pass down into phyllites and the mineralization would die out unless there was introduction of lime from below. However, the limestone appears to swing around in a gentle, northwesterly-plunging, anticlinal crumple at the showings and the trace of the skarn and "dioritic" zone appears to parallel roughly the limestone, suggesting that the granitic contact is conformable with the structure. If this is the case, the mineralization may extend a considerable distance down dip, perhaps localized by the anticlinal crumple and, if it exists, by the N 20°W fault since fracturing also appears important.

PROGRESS OF EXPLORATION

The 145-foot adit encountered only one 20-foot section of ore that averaged about 1.35% MoS_2. Drifting on two sides did not reveal lateral continuity.

Assays are given both as % Mo and as % MoS_2. My 2.12% channel sample across 7 feet represents a better grade section near the fault. This was the only reasonable place left to sample. Canol Metal Mines had also taken a 5-foot channel sample from 95' to 100' which assayed 5.42% Mo (this

might be MoS_2 --- there is some confusion). This sample happened to hit a zone of high grade stringers. Assays received July 3rd from the ore in the adit (locations not available) were as follows:

5' Channels	Muck	
1.35% MoS_2	0.80% MoS_2	
1.52	0.87	
1.86	1.47	
0.73	1.10	
1.37	1.10	
1.93	2.04	N drift
0.74	1.74	N drift
1.21	1.88	N drift

The north drift is being advanced northerly at about 20 feet per day and presently appears to be in the barren granite footwall, but may encounter similar mineralization at any time. It should intersect the north limb of the mineralized zone in about 10 days to 2 weeks. The most promising exploration would appear to be (a) diamond drill holes directed westerly at plus 60°; (b) crosscuts to the west; (c) intersection of the north limb about 200 feet farther on; and (d) extension of the zone on the surface by means of bulldozer cuts.

CONCLUSIONS AND RECOMMENDATIONS

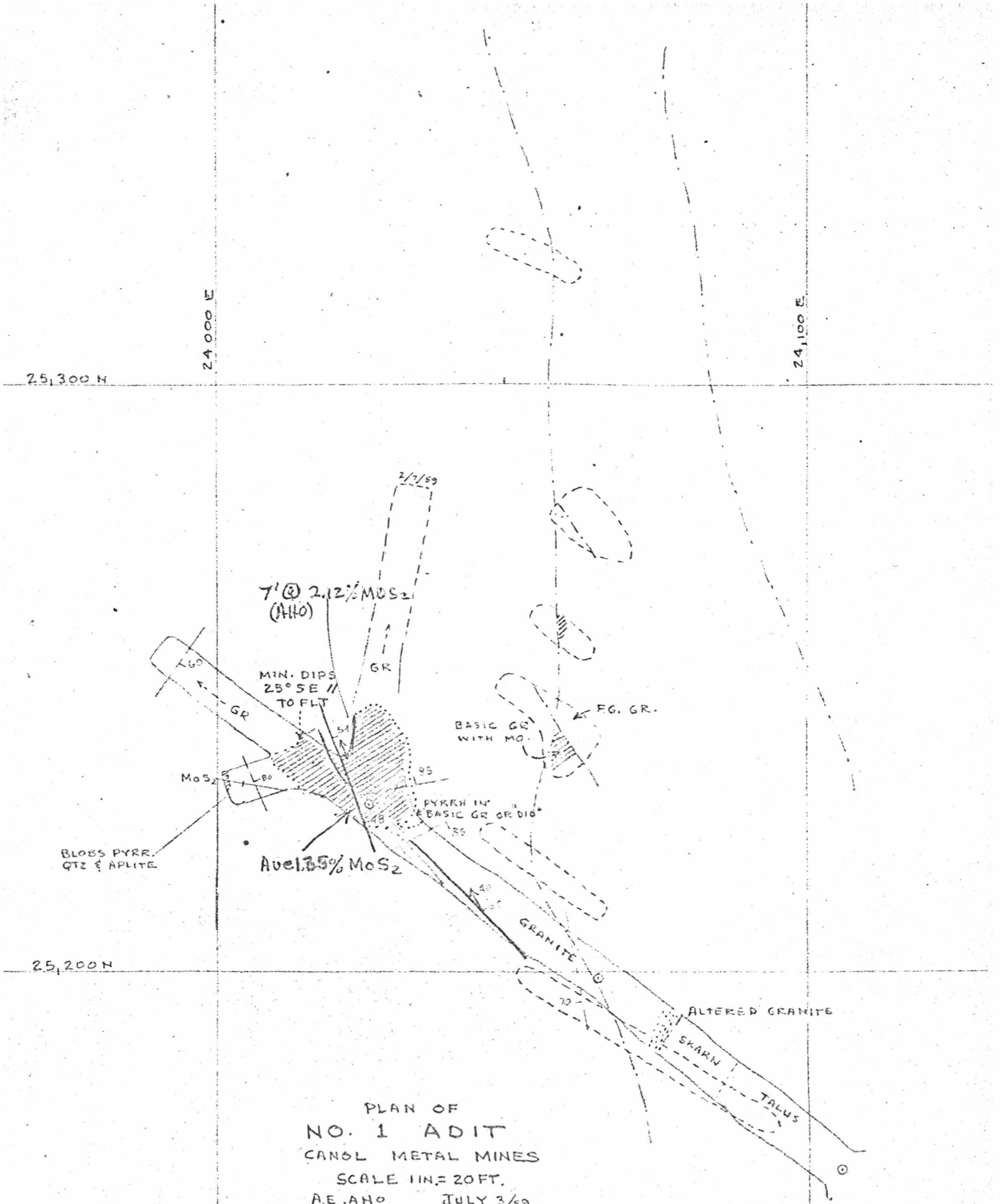
The grade and tonnage potential of this deposit are still unknown but the geologic potential would appear to be favourable for a small or modest-sized deposit.

Examination in two or three weeks' time should provide a better basis for judging this prospect.

Respectfully submitted,

Aaro E. Aho.

Vancouver, B.C.
July 7, 1959.



PLAN OF

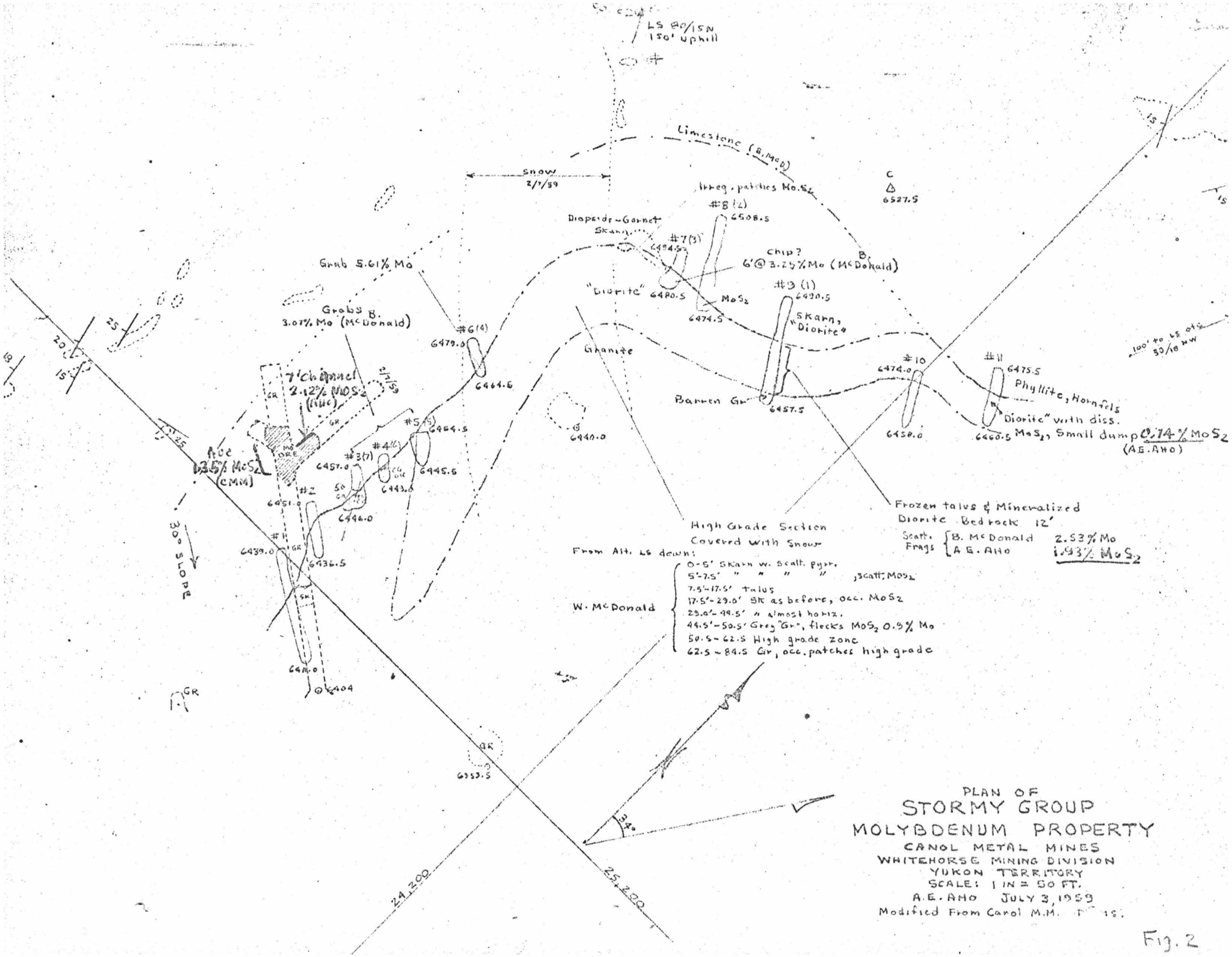
NO. 1 ADIT

CANOL METAL MINES

SCALE 1 IN. = 20 FT.

A.E. AHO JULY 3/59

Fig. 1



PLAN OF
STORMY GROUP
MOLYBDENUM PROPERTY
CANOL METAL MINES
WHITEHORSE MINING DIVISION
YUKON TERRITORY
SCALE: 1 IN = 50 FT.
A.E. AHO JULY 3, 1959
Modified From Canol M.M. [illegible]

Fig. 2

Ketza River NTS 105 F 9

#4 Silver Key Mines Limited (all about 61°33'N, 132°10'W)
(Silver-Lead) 1966

References: Wheeler, Green and Roddick (1960a); Skinner (1961, pp. 39-40; 1962, p. 36); Green (1966, pp. 64-68).

Silver Key Mines Limited holds a total of 125 claims and 7 fractions covering numerous silver-lead showings near the headwaters of Ketza River about 30 miles south-southwest of Ross River. The property is reached by a 23-mile access road that leaves the Watson Lake-Ross River road about 10 miles east of its junction with the Canol road. There is a permanent base camp at the junction of Cache Creek and Ketza River near the northeast boundary of the property. During the 1966 season a crew of up to 14 men were engaged in exploration, stripping and drilling a number of the showings. Several of the principal showings were visited by the author in mid-September 1966. Other showings on the property are described by Green (1966, pp. 64-68).

Silver-lead occurrences have been known in the Ketza River area since 1947 and intermittent exploration has been done in the district since that time, notably by Hudson Bay Exploration and Development Company Limited and Conwest Exploration Company Limited (Green, 1966, pp. 64-65). The present company was incorporated in 1964 and since then has acquired most of the property covering the original Ketza River discoveries.

The silver-lead mineralization occurs along vein breaks cutting quartzite, quartzitic schists and phyllites and argillaceous rocks containing graphitic layers of probable Mississippian or earlier age (Wheeler, Green and Roddick, (1960a). Vein material is commonly quartz and siderite with variable amounts galena, pyrite and subordinate sphalerite. Mineralization is usually best developed to massive character where breaks cut more competetent quartzitic horizons; in phyllitic and argillaceous schists, sulphides (chiefly pyrite, pyrrhotite and subordinate galena) commonly occur as thin, discontinuous stringers and disseminations conformable to schistosity and bedding planes.

Cache Creek Zone

Several sulphide showings have been exposed by trenching and stripping along a northwest-trending structure lying along the northeast side of Cache Creek. The No. 1 showing consists of irregular lenses and pods of disseminated to massive galena and subordinate pyrite and sphalerite with quartz and carbonate in graphitic argillite containing impure quartzite bands. The rocks are highly contorted in detail but generally strike about northeast and dip 60 degrees northwest. When visited, the zone had been opened over a strike length of about 100 feet by bulldozer trenching and benching and a short 45°-angled hole was being drilled to test its extension to depth.

The Cache Creek No. 2 showing lies about 300 feet southeast of the No. 1 zone. It consists of rusty sulphide-bearing lenses and stringers in quartzitic argillaceous schist. The principal sulphide is pyrite, but locally knots and pods of heavy sulphide mineralization containing up to 10 per cent galena occur. The zone has been exposed over a length of about 150 feet by trenching. The schists strike about east and dip 30°-50° N and the mineralized zone appears to be generally conformable to schistosity. It may have a maximum width of 8 to 10 feet.

F-2 Showing

The F-2 showing is located about ¾ mile south of the Cache Creek showings, on a shoulder above Cache Creek. It consists of a strong, regular break that has been traced for a total distance of 980 feet. The zone strikes N 10° E, dips about 60° E and is locally up to 15 feet wide. It carries quartz and rusty carbonate vein material, pyrite, and discontinuous massive galena lenses, locally up to 10 inches thick. The main part of the break is in massive quartzite that is overlain by rubbly, blocky-weathering limestone. Downslope from the main showing and towards its southern end, steeply north-dipping argillite is exposed, apparently in unconformable contact with the overlying quartzite. This zone has been tested by 9 angled diamond drill-holes collared along a bench downslope and to the west of the surface exposure. A chip sample collected across a 7-foot width of discontinuous galena mineralization exposed above the part of the zone tested by drilling assayed*: 0.01 ounces per ton gold, 22.6 ounces per ton silver, 35.6 per cent lead, trace zinc, and 0.01 per cent copper.

F-3 Showing

The F-3 showing is located southeast of the Cache Creek zone near the headwaters of a small north-flowing tributary to Cache Creek. It is about ½ mile northeast of the F-2 showing. This zone comprises a moderately-strong break cutting graphitic argillite and argillaceous schists unconformably overlain by massive quartzite. The zone strikes about northwest, dips steeply southwest and contains stringers and lenses of quartz with much rusty gouge material. Massive galena occurs in small discontinuous lenses and pods along the break and the most extensive mineralization is contained within the fractured quartzite above the unconformable contact with argillite. The mineralized zone locally attains a width of 3 to 5 feet but is erratic and discontinuous along strike. The zone has been exposed over a distance of about 150 feet by benching with a bulldozer. A grab sample of rusty vein material containing disseminated galena mineralization assayed*: trace gold, 7.40 ounces per ton silver, 16.6 per cent lead, trace zinc and trace copper.

A-1 Zone

Late in the 1966 season a geochemical survey carried out jointly by Silver Key Mines Limited and adjacent Stump Mines Limited outlined a strong anomaly bordering the southwest part of the former company's property. Subsequent bulldozer stripping over part of the anomaly lying on Stump Mines Limited property exposed a mineralized vein structure with a reported strike length of 1,040 feet (Financial Record, October 10, 1966). Initial sampling of the zone reportedly indicated an average grade over a 600-foot strike length and 4-foot width of: 0.005 ounces per ton gold, 32.6 ounces per ton silver, and 27.0 per cent lead (op. cit.).

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*Assayed by G. Spalding, Whitehorse, Y.T.

NTS 105 F 9

(Silver-Lead)

#4 Silver Key Mines Limited (all about 61°35'N, 132°10'W)

References: Wheeler, Green, and Roddick (1960a); Skinner (1961, pp. 39-40; 1962, p. 36).

1965

Silver Key Mines Limited hold 124 claims and 6 fractions of which 37 claims are optioned covering a number of showings in the Ketza River area. During the 1965 season, a crew of up to 5 men was engaged in exploration, stripping, and sampling of a number of the showings. The Ketza area is reached by a tote road, about 24 miles in length, that leaves the Watson Lake-Ross River road about 10 miles from the junction of the former with the Canol Road. Three main showings were visited by the author in late September 1965.

Silver-lead showings were discovered in the Ketza area in 1947 by Hudson Bay Exploration and Development Company Limited (Skinner, 1961, p. 40); the original showing being the Vic 3 claim about 2 miles southeast of the Key 3 showing. In 1954, G. Fairclough, the late E. Erickson, and associates discovered the main Key showing and several others and in the same year the Conwest gold showing was discovered by that company. Conwest Exploration Company Limited and a number of other groups did extensive exploration work in the district in 1954 and 1955 and intermittent work has been done since. A very large number of showings are known in the area and some, found mainly as float, have sufficiently high silver values to be direct shipping ores. The only shipment appears to be about 15 tons of silver-lead ore from the Key 3 A vein (Skinner, 1962, p.36). At the time much of the initial work was done transportation to the area was extremely difficult and most of the operations were supplied by fixed wing aircraft. In winter, supplies were flown to a winter airstrip in the valley of Ketza River and in summer, to Bruce (61°49'N, 132°07'W) and Grayling (61°30'N, 132°35'W) Lakes from whence they were moved to the properties by packstrings operating up to 20 miles over difficult trails. The region is more accessible now that a tote road has been completed to the Ketza valley and a number of the showings and will become even more so on completion of the Ross River-Carmacks portion of the development road.

#4a Silver Ridge (Key 3) Showing (61°34½'N, 132°13'W)

The showing, located at an elevation of about 5,600 feet in a steep draw on the west side of the Ketza River valley is reached by a tote road about 4 miles long from camp in the main valley.

Exploration work on the showing was done in the following years: in 1954 and 1955 by Conwest Exploration Company Limited, in 1959 by R.R. Kirwan, who controlled the property at that time, and in 1960 and 1961 by Ketzakey Silver Mines Limited who made a 15 ton shipment from the property. Since then, the property has been inactive due to litigation until acquired by Silver Key Mines Limited in late 1964. During 1965, the company improved the road to and stripped portions of the main showing.

The Key 3 showing occurs along what may be a fault contact between overlying brown-weathering, phyllitic rocks with some contained volcanic rocks and lower black shale with minor chert and black quartzite. Rocks of both units and the contact strike between east-west and southeast and dip about 30 degrees to the south or southwest. Rocks in the vicinity of the showing have been mapped as volcanic rocks of Mississippian (?) or earlier age (Wheeler, Green, and Roddick, 1960) but the overlying phyllite closely resembles unit 2 of Middle and Upper Cambrian (?) (op. cit.) and the underlying black shale, unit 5 of Mississippian (?) or earlier age (op. cit.).

Stripping has exposed somewhat discontinuous mineralization along the contact between two of the old adits, a distance of about 150 feet, and for a further 120 feet to the northwest. The mineralization appears to occur mainly in hard siliceous beds and a few quartz lenses parallel to the contact. In places, galena is present in blocks to a few feet in size, elsewhere only as thin veinlets. Other minerals observed include lustrous brown sphalerite, pyrite, and light brown siderite. Tetrahedrite and chalcopyrite have also been reported (unpublished report by J.R. Woodcock).

The former adits, now caved or partially removed in stripping, were driven in from the face on what appears to have been cross veinlets at a large angle to the main lens. The longest adit, No. 2, about 36 feet in length, followed a vein striking about south and dipping 38° west. Sampling (Woodcock, op. cit.) indicated erratic high silver values over widths to 3 feet and a silver to lead ratio (ounces of silver per one per cent of lead) varying between 1.13 and 5.00. A sample of massive galena collected from the surface showing by the author in 1963 assayed*: 0.01 ounces of gold and 76.7 ounces of silver per ton, 67.4 per cent lead and a trace of zinc.

4 Galena vein (Hoey) Showing (61°33'N, 132°10'W)

The showing, located at an elevation of about 5,000 feet on the south side of Cache Creek (a left-limit tributary that joins Ketza River near 61°34'N, 132°10'W) is one of the early discovered showings of the Ketza area. Country rocks are quartzite and carbonate of Silurian and Devonian Age (Wheeler, Green, and Roddick, 1960). These strike about east and dip north so that the hillside is close to a dip slope. The showing occurs on a nose of

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*Assayed by G. Spalding, Whitehorse, Y.T.

quartzite and consists of a faulted zone, containing galena, that trends about north and dips steeply. Float from the zone has been traced about 100 feet uphill and 50 feet downhill in a number of small pits but the showing is only well exposed at one point where the zone is about 30 feet wide and marked by much fracturing of the enclosing quartzite. Stringers of massive galena to 12 inches wide and perhaps 10 feet long occur in the eastern 12 feet of the zone and thinner stringers in the remainder. The east side of the showing consists of a rock face about 6 feet high and further to the east below this the slope is talus covered. At the base of the face a small pit exposes limonite with some galena. Ankerite (N_o about 1.720) was observed in one of the lower pits and much of the limonite may have originated through alteration of the former mineral. A composite sample of galena from the main portion of the showing assayed*: 0.04 ounces of gold and 48.1 ounces of silver per ton, 73.2 per cent lead, and a trace of zinc. Another small galena showing, referred to as the Gopher Copter, is located downhill and about 700 feet to the northwest.

4b South Fault Zone (61°32½'N, 132°08'W)

The showing is located in the valley of the upper Ketza River at an elevation of about 4,200 feet and is accessible by a tote road, 4 miles in length, from the main camp. Country rock of the showing is black dolomite with some beds of graphitic phyllite which appears to be interbedded with buff-weathering limy phyllite. The phyllite is probably of Middle and Upper Cambrian (?) age (unit 2 of Wheeler, Green, and Roddick, 1960) and the black limestone and phyllite may belong to the same unit or unit 3 of Ordovician and Silurian age (op. cit.). The dolomite is much fractured with the fractures healed by coarser crystals of secondary white

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*Assayed by G. Spalding, Whitehorse, Y.T.

dolomite. Scattered showings occur in bulldozer trenches overlooking the Ketza River and in pits along a small east-flowing tributary creek over a total distance of about 1,100 feet. When visited in mid-September, the trenches had not reached undisturbed bedrock but slide material containing black dolomite with sphalerite and galena had been discovered. A composite sample of material from the trenches, rich in galena, assayed*: trace of gold, 20.0 ounces of silver per ton, 28.1 per cent lead, and 8.1 per cent zinc. To the west in the valley of the small creek a number of hand-dug pits had been put in on small showings all of which appear to occur in black dolomite near the contact with overlying buffy phyllite. Relationships are uncertain, as the creek is in a small V-shaped valley and there has been a great deal of sloughing, but about 50 feet of the black beds appear to be present in two places, probably a result of a single bed being repeated either through folding or faulting. Rocks in the creek appear to strike about north and dip moderately to the west. A composite sample, rich in galena, from the upper exposure assayed*: 0.005 ounces of gold and 54.5 ounces of silver per ton, 24.2 per cent lead, and 8.4 per cent zinc. It is not obvious whether the showings occur along a fault or faults cutting the black dolomite bed or as lenses at the contact of this bed with the buffy phyllites.

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*Assayed by G. Spalding, Whitehorse, Y.T.

PELLY MOUNTAINS AREA

Ketza River NTS 105 F9

#4a Ketzakey Silver Mines Limited (61°34'N, 132°13'W)

References: Skinner (1961, pp. 39-40; 1962, p. 36).

1963

In the Ketza district, Ketzakey Silver Mines Limited hold 44 claims that include the Ketzakey silver-lead showing (Skinner, 1961; 1962). The property, about 30 miles south-southeast of Ross River, lies parallel to the Ketza River and straddles Cache Creek.

From 16 August to 15 September, W.J. Hay, representing the majority stockholder interest in the company engaged Alrae Exploration Limited of Vancouver to examine the property and nearby claims held by G. Fairclough of Carmacks, Y.T. An access road to the area was commenced preparatory to an exploration program planned for the Ketzakey and Fairclough properties in 1964. The road leaves the Watson Lake-Ross River development road about 8 miles southeast of the Canol Road and follows, in part, an earlier road to the property. About 10 miles of new construction to near the bend of Ketza River was completed.

PELLY MOUNTAINS AREA

Ketza River

#4a Key Group Showing (lat. 61°34 1/2'N, long. 132°13'W)

References: Wheeler, Green, and Roddick (1960a); Skinner (1961, pp. 39-40).

1961

The Key Group of 44 claims is situated on upper Ketza River, 28 miles south-southeast of Ross River. The main silver-lead showing is about a mile west-southwest of the Conwest Exploration Company camp on Ketza River at an altitude of about 5,500 feet. A 35-mile tractor road to the property leaves the Canol Road at Jackfish Lake (5 miles from Ross River). Ketzakey Silver Mines Limited—owned by G. Smith and E.T. Case of Edmonton—acquired the property from R.R. Kerwan of Cassiar, British Columbia, in 1960.

In 1961 the company exposed the Key 3A vein over a length of 100 feet or more and mined and shipped about 15 tons of silver-lead ore from it. The smelter return on the ore is reported to have been $2,800. In 1962 Ketzakey plans to do further exploratory work on the property.

105 NTS 105 F 9
1960

#46

Ketzakey Silver Mines Limited was formed in 1960 to explore and mine the Key group of 44 silver-lead mineral claims on the upper Ketza River, 28 miles south-southeast of Ross River. The property was acquired from R.R. Kirwan of Cassiar, British Columbia. The main showing is at lat. 61°34 1/2'N, long. 132°13'W, at an elevation of about 5,500 feet, about a mile west-southwest of the Conwest Exploration Company camp on Ketza River. A 35-mile winter road to the Conwest camp leaves the Canol Road at Jackfish Lake (5 miles from Ross River).

Silver-lead showings were discovered in the Ketza area in 1947 by Hudson Bay Exploration and Development Company Limited. The original discovery is on the Vic 3 claim about 2 miles southeast of the Ketzakey main showing. In 1954, G. Fairclough, E. Erickson, and associates of Whitehorse discovered the Ketzakey main showing and several others. They staked 39 claims and 5 fractions and optioned them to Conwest Exploration Company Limited, who explored and mapped the area and showing in 1954 and 1955. The company drove a 20-foot adit southwest into the hill over the main showing and cut mainly quartzites and argillites. A 2 1/2-foot-deep winze was sunk near the portal to expose the vein. A 3-foot sample across the vein material assayed 40 ounces of silver and 7 per cent lead. Another adit 30 feet long was driven S20°W from a point 30 feet southeast of and about 7 feet higher than the first adit. The second adit was in black fractured slates and did not cut ore. In 1959, Kirwan, who had acquired the controlling interest in the property, drove a 30-foot adit S15°W, starting immediately east of and 6 feet lower than the first adit. This adit cut the ore near the portal. Ketzakey Silver Mines Limited have not explored the showing, but intend to in 1961. In 1960 the company built the 35-mile winter access road to the Conwest Exploration Company camp on Ketza River about a mile from the main showing.

Wheeler, Green, and Roddick (1960a) have described the regional geology of the area. The following description of the showing is mainly from a 1955 Conwest Exploration Company report and from personal communications with consulting geologists of Ketzakey Silver Mines. The property is underlain by Middle and Upper Cambrian (?) phyllites, slates, and argillites. The main showing is reported to be a 14-foot width of massive high-grade silver-bearing galena that appears to strike N10°W and dip 30°W. The host rock is highly fractured, buff or grey, cherty quartzites and argillites; its average strike is N60°W and its average dip is 30°SW. A large fault lies immediately below the showing and separates the quartzite-argillite host rock from underlying fractured black slates. The fault cuts across the bedding at a small angle, striking about N45°W and dipping about 40°SW. Selected samples taken from the vein are reported to have assayed as high as 500 ounces of silver per ton and 35 per cent lead, but average assays are about 80 ounces of silver per ton and 35 per cent lead. Company consulting geologists estimated that 4,000 tons of high-grade ore could readily be mined by open-cut methods. Nine other showings are exposed on the property but have not yet been explored by Ketzakey Silver Mines Limited.

#4

Aaro E. Aho, Ph. D., P. Eng.

CONSULTING GEOLOGICAL ENGINEER
YUKON 7-2962

4219 LIONS AVENUE
NORTH VANCOUVER, B.C.

Report on
Property of
KETZAMEY SILVER MINES
Quiet Lake Area
Whitehorse M.D., Y.T.

4219 Lions Avenue,
North Vancouver, B. C.

Dr. A. E. Aho;
Consulting Geological
Engineer.

Submitted to Elwin Cano, Ketzakoy Silver
Mines Limited, Edmonton, Alberta.

SUMMARY

The Ketzakoy property contains two or more veins subsidiary to a main fault, and work to date has exposed vein for 170 feet with three ore shoots 15 to 30 feet long, averaging 50 ounces per ton silver and 15% lead across 2.5 feet.

Good possibilities exist for finding a larger potential of similar ore along unexposed extensions and blind parallel veins near the main fault. Other prospects on the property may also prove interesting.

It is recommended that some further stripping be done and that the possibilities be probed by diamond drilling, with final evaluation to be confirmed by drifting.

A preliminary expenditure of, say $40,000, mainly in drilling should determine if a suggested total of $125,000, or a portion thereof, should be spent on further work, chiefly underground.

(continued)

INTRODUCTION

Silver has become an increasing attractive metal since the United States treasury stock pile used to make up the 100-million-ounce difference between Free World consumption (300 million ounces annually) and production (200 million ounces) will be depleted by the end of this year, and a price increase is thus virtually certain.

The Kotza River district of Yukon, first staked extensively in 1954, and prospected to a limited extent since that time, is one of few undeveloped silver districts that can be explored with reasonable expectations.

The Kotzakoy property contains the best silver prospect presently known in the district. A new road has largely overcome previous difficulty of access and bulldozer stripping has exposed the vein well so that the possibilities of the property can be judged better than before.

GENERAL CONDITIONS

The property lies at the headwaters of Kotza River, latitude 61° 54"N and longitude 137°13'W, in the Selly Mountains of south central Yukon 110 miles northeast of Whitehorse in the Whitehorse mining district. It can be reached best by driving 79 miles from Whitehorse to Johnson's Crossing, 133 miles up the Canol Road, about 14 miles to Kotza River, and then by tractor 20 miles up the Kotza River road to the property.

The Kotza River road mainly follows the east side of the river on good terrain but crosses the river 20 times, for expedience mainly (see enclosed map 105F). Except for crossings in high water in June, only a few thousand dollars would make the road serviceable for motor vehicles, preferably with 4-wheel drive. Work that should be done to make the road more permanently serviceable would be:

1. Improve first section up to mountains.
2. Consider re-routing to east side at head of river.
3. Re-route 3 miles of repeated crossings to east side around Gloutior Creek.
4. Re-route deep crossing 4 miles above Gloutior Creek and crossing 6 miles above.
5. Improve muddy stretch in first half mile up hill.

The government should be urged to help in every way to make this a permanent access road as a major step in development of this promising district. Cost of this work would be of the order of $20,000.

Timber suitable for exploration and mining purposes exists in adequate quantity down Kotza River and nearby Tintina Valley.

Water for drilling and underground use can be obtained in summer from a stream about a thousand feet northwest of the main showing; a limited amount of water trickles from a flat drill hole at the showing. Kotaa River, a mile and a half directly below the showings would supply good water year-around for a main camp and mill.

Climate is typical of mountainous areas of Yukon, with short cool summers and long cold winters, but presents no unusual difficulties to year-around operation. The field season for surface work extends from about May 30 to September 30 as a maximum; prospecting and mapping can be done only in the snow-free period between June 15 and September 15, depending on elevation and weather.

The main showing lies at 5650 foot elevation on the steep talus-covered northeast side of Silver Ridge, about 1700 feet in elevation above Kotaa River. The slopes are occasionally subject to snow and rock slides which would have to be taken into consideration in any permanent construction.

No facilities whatever except cabins exist in the area.

Costs of operation would be comparable to that of United Keno Hill Mines in the equally distant Mayo area, except that ground conditions and a few other factors may differ. For preliminary purposes a cut-off grade of 30 ounces or so a ton is assumed although this may be too low in the final analysis.

HISTORY

Low grade silver-lead showings were originally discovered around the head of Kotaa River in 1949 by Hudson Bay Exploration Company. In 1954 showings of the present Kotaatoy property were discovered and staked by George Fairclough, Erik Erikson, Jim Gherty, Roddy Blaetjack and associates. These discoveries were optioned to Conwest Exploration who trenched several of the showings, drove three short adits, then relinquished the option. During this period numerous other discoveries were made in the district, including a gold deposit that was drilled by Conwest and is still held.

After the option was dropped, Conwest offered a final cash settlement of $35,000 payable in two years, which was turned down, and R.R. Irwin and W.H. Roybar took up the option. Further work was done on the property, largely ineffective in changing the overall picture, and the property was then optioned to Kotaatoy Silver Mines Limited of 10070-149th Street, Edmonton, which is controlled by Irwin and Stanley Cano. Cano and an associate, Smith, constructed the Kotaa road in 1960 and 1961, stripped the main showing, and hand-sorted about 20 tons of shipping ore.

The property has been examined in detail by Canwest, and briefly by James M. MacLeod, Cooper and Hood, and others. Reports by Canwest and MacLeod were available to the writer.

I examined the property for Edwin Case on September 3, 4, and 5, 1961, in the company of Edwin Case and Stanley Case.

GEOLOGY AND MINERALIZATION

REGIONAL (see Geological Survey of Canada map 7-1960)

The Kotaa River District lies along a mineral belt paralelling the Tintina Valley fault trench some 15 miles to its southwest. Silver-lead prospects occur in or adjacent to Lower Cambrian rocks in this belt , and promising new discoveries made recently by Canwest 40 miles to the southeast along this belt also occur with these rocks.

The district structure in the Kotaa River area consists of a half-dome uplift of Lower Cambrian rocks cut by northwest faults which have dropped down the northeast side of the dome so that overlying Paleozoic rocks lie on this side. The Kotaley showings occur as veins of chlorite and quartz with argentiferous galena and tetrahedrite, localized in and subsidiary to, northeast faults in this section of Paleozoic rocks. Other showings occurring around the half-dome structure consist of similar veins and breccia replacements in limestone with a silver-lead ratio of about 0.7 and also some high silver values. Arsenopyrite veins with gold values, and quartz veins with copper are also common.

KEETZAKEY PROPERTY (see Figure 1)

I examined the main showing, Key No. 3A, in detail and scouted some adjoining parts of the property. At the time of my visit a bulldozer was used to clean off and expose the main vein.

Key 3A Showing (see Figure 2)

This showing originally consisted of two veins exposed only in short adits driven by Canwest Exploration in 1955. The lower of these two veins has now been stripped and well exposed for a continuous length of 170 feet which was mapped and sampled.

The exposed veins lie on the southwest side of a major fault, called the main fault, which strikes northwest, apparently dips steeply, and brings a section of buff slate

and thin-bedded quartzite on the southwest side in contact with black slate on the northeast. The buff slate-quartzite section forms the relatively competent host rock for the veins. This section is several hundred feet in thickness, strikes east-west, and dips about 20°south.

The veins, consisting of siderite and quartz mineralised with galena tetrahedrite and pyrite, are emplaced along subsidiary faults, often with galena in the faults themselves, in later offsetting cross-faults, and in stringers and seams in the intensely fractured wall rocks. The veins strike northerly and dip about 35 to 50 degrees west. Widths vary from a few inches up to about 4 feet, averaging 2.5 to 3 feet with individual sections or shoots of ore (A, B, C, and D) being 15 to 30 feet in length. The shoots appear to be localised at concavities and intersections in the vein and may also have some spatial relationship to the main fault.

The main north- to northwest-trending veins are intersected by, and locally terminated against, north-striking fractures or faults which also carry galena and dip about 50 to 65 degrees west.

Left-hand offsets up to 10 feet occur along NNE cross-faults which dip flatly southeast and also carry minor galena. A former impressive showing of 9.5 feet of galena may have resulted from simultaneous exposure of the two faulted segments of shoot "B", the upper lens of galena now having been removed.

Assuming a cut-off grade of say 30 ounces of silver per ton, present exposures of shoots A, C, and D would give a rough average of about 25 tons per vertical foot with 2.5 feet width averaging about 50 ounces per ton silver and 15% lead. If they extend 100 feet down along the veins, this would give a potential of some 2500 tons of ore with a gross value of about $200,000.

The present exposures are not impressive but the structural setup is such that considerable more ore may be expected to occur in the following situations:

(a) Along possible extensions of the veins down dip.
(b) Along strike where the veins lie under minor black slate to the southeast, and where they are not opposed against the main fault to the northwest.
(c) In other blind veins which may mimic the present ones in the competent section that is unexposed on the southwest side of the main fault.
(d) At vein intersections.

Thus the potential of the veins in this locality might prove to be substantially more than is suggested by

present exposures but may be expected to be similar in character.

Short X-ray diamond drill holes under shoot "C" are said to have intersected 8 feet of vein (almost certainly not true width), but no records were kept of the holes. One hole drilled by Case at minus 45 degrees penetrated buff slate for 60 feet under the vein. This drilling, however, is of insufficient extent to contribute much additional information.

Other Showings and Possibilities (see Figure 1)

Several other silver-lead showings and areas of float have been found on the Kotaney property and have had limited work done on them. Of these I visited only the Key 6A and Key 11A prospects, but the others are adequately described for present purposes by Connost and MacLeod.

Key 6A showing is comprised of several small sub-parallel veins or stringers up to a few inches wide, a few feet apart, striking about N20-35° W, dipping 70-85° W and mineralized with galena, aldorite, and minor tetrahedrite. These appear to be associated with faults which strike northwest and dip about 45° southwest. A sample of the best mineralisation gave 101.8 oz. per ton silver and 61.3% lead. These stringers do not appear to have any economic possibilities but could indicate other nearby veins that might be revealed by further investigation.

Galena float reported on the Jan claims farther downhill suggest another vein in that vicinity, which might be discovered by further prospecting and stripping.

Key 11A showing consists of a zone of shearing about 2 feet wide, striking N10° W, dipping nearly vertically, and containing a few inches (up to 6 inches judging by float) of mineralisation of galena, an unidentified antimony mineral (jamesonite?), sphalerite, and minor pyrite and tetrahedrite. This vein cuts and alters a section of competent greenstone and andesitic tuff. A selected sample contained 30.3 oz. per ton silver and 44.2% lead. The relative roadness of the vein and the low silver-lead ratio do not encourage further work, but the competent greenstones in the area should be excellent host rocks if better veins can be found. Typical rusty alteration in the greenstones is a good guide to vein proximity.

Key 13A showing is reported by MacLeod to consist of an 8-foot zone of massive pyrite assaying .03 oz. per ton gold and 0.40 oz. per ton silver, with a 14-foot adit driven on it. Several tons of quartz boulders with sparse chalcopyrite and galena, and boulders of pyrite and galena with chalcopyrite are reported on the peak-trail above this showing.

Key 16A showing is reported by MacLeod to consist of massive pyrite assaying .04 oz. per ton gold and 0.60 oz. per ton silver across a width of 3 foot in an anticlinal fold. 50 foot west of this a quartz-carbonate zone with pyrite and arsenopyrite exposed by digging is reported to carry the same values.

Key 16B showing is reported by MacLeod to be a shear zone striking N-S and dipping 60° W, with a width of 16 foot and still unexposed on the east wall. A 6-foot sample across grey-green gouge with small pieces of quartz assayed 0.10 oz. per ton gold and 6.5 oz. per ton silver. A drill hole bearing S50°E at minus 40 reportedly encountered quartz-carbonate vein matter and pyrite and ended at about 85 foot.

Key 13A, 16A, and 16B showings are typical of several other such occurrences in the district, with and without accompanying galena and low silver values. Except for possibilities of interesting gold values or nearby high grade silver, they appear to have little or no economic potential but do warrant further prospecting in their vicinity.

Descriptions of Key 7A and 9A showings as well as the other showings already described are being obtained from Conwest. At the time of writing these have not yet been received but they will be forwarded and can be appended to this report.

CONCLUSIONS

Bulldozer stripping of the main Key 2A showing has exposed enough information to indicate good additional possibilities of encountering high grade silver-lead ore of economic potential (a) down dip, (b) along strike, (c) in parallel unexposed veins, and (d) at vein intersections.

Well guided work on other showings, areas of float, and favourable prospecting terrain may well uncover additional sections of ore.

Recent completion of an access road has greatly enhanced capability of exploration which was formerly costly and largely ineffective due to the limited extent of work possible by hand trenching and tunnelling and light drilling.

The property definitely warrants considerable careful exploration under the best possible geologic guidance.

RECOMMENDATIONS

Further exploration work should include the following:

1. Some improvement of access road for vehicles.
2. Some additional stripping of extensions of the Key 3A showing and possibly others with a bulldozer.
3. Diamond drilling.
4. Underground exploration (drifting).
5. Additional prospecting.

Bulldozer stripping on Key 3A zone, alternated with limited road improvement and work on other prospects while waiting for frost to thaw, should be begun in early June when long daylight produces maximum rate of thaw. A bulldozer will be necessary in any case for transportation during high water.

Drilling with a large machine and B core should be started by July, with steeply inclined holes on the southwest side of the main fault to test for lateral and depth continuity and possible parallel veins. Because of irregularity of the mineralization and probably of the coring results, this drilling should be used to confirm the presence of promising veins, which would determine the extent and location of adit and drifts to be driven to evaluate these veins.

Because of complex structure, careful geologic work must be done throughout this program.

By mid-August an expenditure of say $40,000 in this work should determine roughly the extent to which an underground program and continued surface work would be justified. With reasonable planning the underground work can be started before freeze-up and continued in winter, although lack of water will be a difficulty.

Provided a reasonable agreement can be negotiated on price of property and work done to date, $125,000 should be tentatively allotted to exploration roughly as follows;

Stripping and road	$20,000
Drilling say 1500' @ $15	25,000
Drifting say 1000' @ $25	25,000
Equipment	25,000
Geology, supervision, etc.	10,000
Camp, labour, etc.	20,000
Total	$125,000

Respectfully Submitted,

4219 Lions Avenue,
North Vancouver, B. C.
September 10, 1951.

Dr. A. E. Aho
Consulting Geological Engineer.

APPENDIX

ADDITIONAL DATA FROM REPORT BY R. WOODCOCK, COMINCO
COULEE EXPLORATION CO. LTD.

On Key 3A showing, drag on fractures indicates that the hanging wall moved down and to the north, thus the veins would be in tensional fractures.

Key 1A showing, on Key 1 claim near a supposed fault, consists of a few pieces of galena float up to 4 inches wide which assayed 75 oz. per ton silver and 70% lead.

At Key 6A showing, a massive lens of galena is mentioned as replacing argillite with a channel sample across it assaying 91.40 oz. per ton silver and 75.0 % lead.

Key 7A showing is described as a 15-foot width of arsenopyrite with minor carbonate, pyrite, and sphalerite assaying 0.10 oz. per ton gold and 0.42 oz. per ton silver.

Key 9A showing consists of an irregular galena coating, formerly about 5 inches thick, on a fault surface striking N45 W and dipping 35 SW; from which galena assayed 155.0 oz. per ton silver and 75.3% lead.

Key 11A, 16A, and 16B showings were described by Macleod and myself after more work had been done, but values have remained about the same as when Woodcock examined them.

Key 13A showing is described as lying between two diverging faults striking N52 W/30 NE and N25 W/vertical, with small lenses of galena and sphalerite, from which grab samples assayed 9.03 oz. per ton silver and 24.0% lead.

On Strike No. 4 claim, just off the southwest boundary of the Rotunkey property, a 4-inch vein of galena striking N50 W and dipping 10 SW assayed 175.4 oz. per ton silver and 70.0% lead.

A number of other minor occurrences of galena are mentioned, including galena fragments in breccia along the main fault.

Dave E. Hutcheon

#4

SILVER-LEAD DEPOSITS
SILVER AND SILVER-LEAD MINERAL CLAIMS

Comeau's silver-lead showings of the Kotsa River Area are confined to Silver Ridge (see Sketches 12 & 14). This ridge is underlain by three rock formations:

1. Volcanics -- flow breccias and lavas
2. Ridge Formation -- interpolated limy phyllite, and greenstones
3. Kotsa Formation -- argillites, slates, cherts, greywacke, quartzite.

The main galena showings occur in the upper part of the Kotsa Formation. Several small veins have been found in the volcanics.

SHOWING NUMBER 2A: (Upper, Lower)

This showing, which is the main one in the area, consisted of two occurrences of galena float about 150 feet apart (P_1 and P_2 of sketch 1). It was described by Mr. V. Smithwingale in his initial report; and worked on by Brenky's crew in September, 1954.

Rock Types:

The rocks in the vicinity of Showing Map 2A have been divided into three members (see Sketch 1). The lowest member consists of at least 300 feet of black slates and slightly graphitic schists. The black slates form a rugged, dark-colored cliff just above the bed of Silver Creek.

The Strike 3, 5, 7, 9, 11 Mineral Claims have been restaked as the Brush 1, 2, 3, 4, 5 Mineral Claims respectively.

The middle member consists of about 300 feet of rusty-weathering argillites, slates, and cherts. In places, there are also some black slates. This member forms two series of small cliffs, and two steep slopes covered with talus. The galena deposits occur in this member.

The two members described above belong to the upper part of the Kotsa Formation of the geological map.

Above these two sedimentary members, are intercalated bands of greenstone and lizy phyllite which belong to the lower part of the Ridge Formation. The greenstone bands are basic intrusives and volcanic tuffs. This member forms a prominent rugged cliff about 500 feet high.

Structure:

The rocks of the slate and argillite horizon dip southerly at angles between 20 and 50 degrees. One main fault crosses the hillside, its trace striking northwest from the showings. To the northwest of the showings, the fault runs along the base of a cliff; and forms the boundary between the two lower sedimentary members.

Large blocks of cemented breccia are found on the talus slope just below the cliff. One large piece of the breccia (at Pg of Sketch 1) consists of loosely cemented fragments of black slate and a few fragments of galena. The breccia is coming from the fault at the foot of the cliff; a small amount of work would expose the fault at Pg (as it was exposed at point C) and might expose the source of the galena fragments.

Galena Showings (see Sketches 1 & 6)

On July 7, work was started on the two occurrences of galena float

(P_1 and P_2). It was soon discovered that the two occurrences represented two separate veins. A drift was started on the vein at P_2; and an adit was started at P_1 with the hope of cross-cutting the other vein.

The drift at P_2 (Adit #2) follows the vein for 24 feet. The vein follows a definite fault; and consists of a replacement of the gouge and rock adjacent to the fault. The fault dips 30 degrees west; and cuts sediments which dip 20 to 25 degrees southerly. Its hanging wall is buff-weathering slate and argillite; and its footwall is cherty quartzite. Drag on fractures in the footwall indicate that the hanging wall has moved down and northward relative to the footwall.

Drag on bedding adjacent to the accessory fault (see Sketch 6) 130 feet northwest of Adit #2 indicates the same relative movement. This accessory fault branches off from the main fault and curves southward until it has a strike of 163 degrees azimuth. The mineralized fault in Adit #2 is probably a similar accessory fault branching off from the main fault.

The mineralized zone along the fault of Adit #2 contains one or more veins of massive galena adjacent to the fault. In places, the vein of massive galena splits into two smaller veins separated by a remnant of rock. The total thickness of massive galena varies, along strike, between two and twelve inches. Disseminated galena, which occurs in the silicified footwall, peters out with increasing distance from the fault. At the face of the drift, there is an increase in thickness of the mineralized zone. This is due to the occurrence of a second fault which, at its position of intersection with the first fault, has an attitude of S25°E/45°SW, and is mineralized.

Mineralization in the drift consists of galena with minor ankerite, pyrite, and tetrahedrite. Near the face, there is an increase in the amount of ankerite and pyrite in the vein.

An assay plan for Adit #2 accompanies the report. The average grade over a 3-foot width for the first 24 feet of drifting is: Ag - 39.2 oz; Pb - 17.6%; Ag/Pb ratio - 2.20

Adit #1 was started beside the cut made by Brookey's crew. It crossed a mineralized zone and entered barren rock extending a total distance of 23 feet underground. The adit was placed too high, and only the top of the mineralized zone was intersected. In order to get the attitude of the zone, and a good sample of the ore, a winze was started in the floor of the adit. The winze was about three feet deep on August 20th when work on Adit #1 ceased.

The ore deposit encountered in the adit is not a definite vein; but, rather a fractured zone in which lenses of vein material are separated by remnants of the argillite host rock. The lenses consist of masses of galena up to six inches across or larger masses of brownish quartz up to two feet across. The so-called quartz is silicified argillite, and contains ankerite, pyrite, galena, chalcopyrite, and tetrahedrite.

The muck from the winze was divided into two lots (see Sketch 5) and sampled by cone-and-quartering. The assays are as follows:

Sample A: from SW half of 7-foot-long, 2½-foot-deep winze
Cu- 0.5%; Zn- tr; Pb- 7%; Ag- 48 oz; Au- tr; Ag/Pb ratio - 6.9

Sample B: from NE 3½ feet of winze; 1½ feet deep.
Cu- 0.2%; Zn- tr; Pb- 2.6%; Ag- 15 oz; Ag/Pb ratio - 5.8

Because the mineralized zone, where cut by Adit #1, was right at the surface of the ground, it was highly fractured. Consequently, very little information on the correct attitude of the vein could be obtained. It is thought

that the sparse sulphides found in Adit #1 represent minor mineralization in the rock adjacent to and above the vein, and that the ore obtained in the winze was part of the vein.

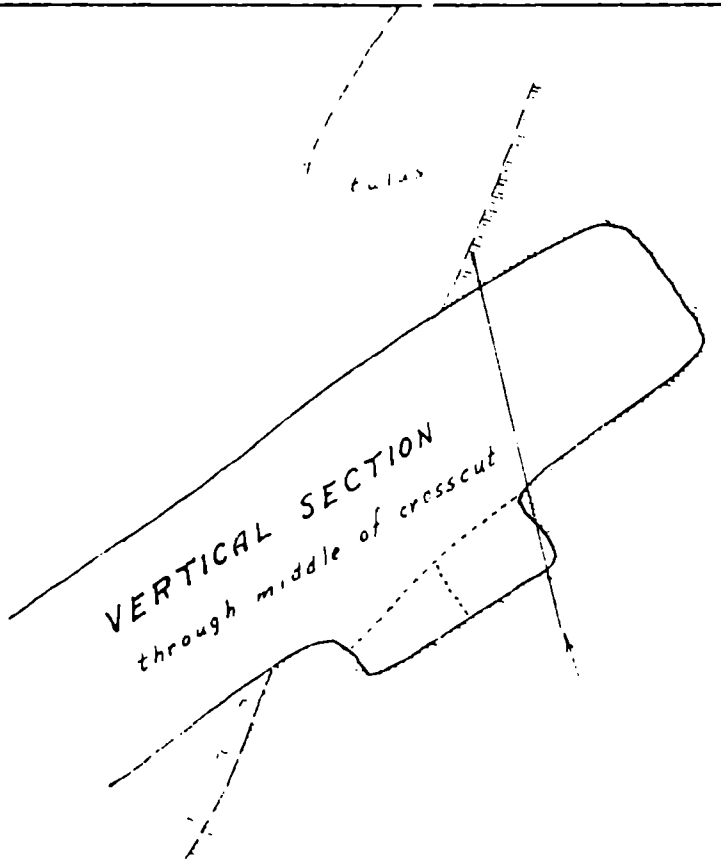
From a consideration of the special relationships shown on Sketch 6, it is concluded that the vein will probably dip gently westward. If the vein strikes 17½° azimuth and dips 25° southwest (approximately parallel to the vein of Adit #2). the seven feet of ore found in the winze will represent ~~2.7~~ 4.0 feet of the true vein width.

The above attitude is in accordance with the fact that, although the muck from the winze was richer in sulphides than that found in the adit, it did not contain the large pieces of sulphides that were found in Breakey's cut. The attitude is also in accordance with the general attitude of the exposed galena veins on Silver Ridge. All the galena veins which have been exposed (Strike 8A, Strike 4A, Key 9A, and vein #2 of Key 3A) have westerly dips of less than 35 degrees.

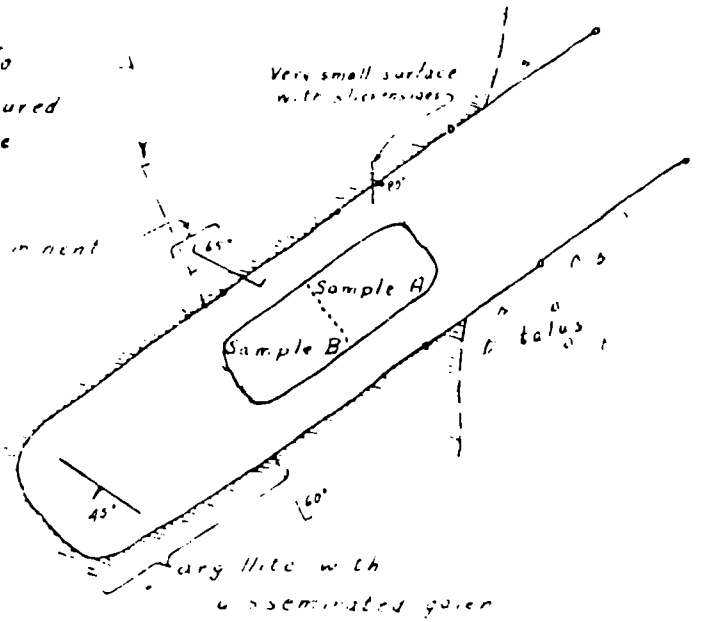
Adit #3 and the open cut below Adit #1 were located by Heshka; and are in contorted slates and argillites.

About 170 feet north of Adit #2, iron-rich springs issue from the talus at the top of the cliffs and give the water of Hill "C" its high iron content (Sketch 1). The iron may come from oxidizing pyrite in or near the Main Fault.

SHOWING KEY 3A
CROSSCUT at P, (Adit #1)
As on August 24, 1955
SCALE 1" = 6'



Prominent fracture seems to form SW boundry of fractured & mineralized zone



PLAN of FLOOR

SKETCH 5

OTHER GALENA SHOWINGS OF SILVER RIDGE:

Showing Key 9A: (N53100, E57000)

At this place, remnants of what was once an irregular galena coating up to five inches thick, can be found on a gently-dipping (135°/35°SW) fault surface. Pieces of the massive galena are dropping off an overhanging cliff into a short steep gulley to the west of the fault surface. A grab sample of the galena float found in the gulley assayed: Pb- 75.0%; Ag- 135.00 oz; Ag/Pb ratio - 1.8

Showing Strike 4A: (N51150, E55650)

At the top of one of the large slopes of greenstone rubble, there is a small knob where the volcanic rock crops out. Galena float can be found for 40 feet across the southern slope of this knob; and a 4-inch galena vein is exposed in one place. It strikes 130° azimuth and dips 10° southwest. A grab sample from the float assayed: Pb - 70.0%; Cu - 0.5%; Au - 0.2 oz, Ag - 135.4 oz; Ag/Pb ratio - 1.9

Showing Key 11A: (N52765, E56120)

At this point, pieces of massive galena up to six inches across can be found on the greenstone talus for about 200 feet across the hillside (Smitherlugale's Showing #3). The galena is coming from an old soil horizon which is overlain by about twelve feet of coarse greenstone talus. Although the vein was not exposed, it is thought that the galena forms a thin irregular coating on a fault surface similar to that seen at Showing Key 9A. A grab sample of the galena float assayed: Pb - 47.5%; Ag - 39.6 oz; Ag/Pb ratio - 0.83.

Showing Key 1A: (N56465, E52246)

At this point, float was found in the vicinity of a supposed fault. An open cut was made in the hillside; but the source of the galena was not reached.

The pieces of galena are up to four inches across; and some contained small remnants of the argillite host rock. A grab sample from the small pile beside the cut assayed: Pb - 70%; Ag - 75.0 oz; Ag/Pb ratio - 1.07

Showing Key 6A: (N55800, E56054)

A lens of massive galena ten inches wide and four feet long is exposed in the cliff face on the west side of a gulley. The lens has been formed by replacement of the argillite; and no controlling fracture or fault is visible. A few smaller stringers of galena were found near the lens. A channel sample across the 10-inch lens assayed: Pb - 75.0%; Ag - 91.40 oz.

Showing Key 13A: (N50950, E59900)

In the north bank of Cache Creek, a heavily oxidized zone containing some pyrite and galena (Saitheringale's #4 Showing) was opened up; and the opening was lagged to prevent slumping from above. This revealed two diverging faults with attitudes 138°/80°NE (west fault) and 155°/90° (east fault). The faults are two feet apart at the portal entrance and five feet apart nine feet from the entrance; and the sedimentary rock between these two faults is completely replaced by pyrite and ankerite. Near the intersection of the faults, there are small lenses of vein material which contain considerable galena and some sphalerite.

A chip sample across the 5-foot face of pyrite and ankerite assayed: Pb - nil; Zn - nil; Cu - nil; Au - 0.04 oz; Ag - 0.16 oz.

A grab sample from the galena-rich lenses assayed: Pb - 24.0%; Zn - 1.0%; Cu - 1.5%; Au - 0.02 oz; Ag - 9.08 oz.

Showing Key 16A: (N51450, E61900)

In a 40-foot cliff face on the south side of Cache Creek, there is

a 2-foot zone of oxidation with a N-S strike and a vertical dip (Smitheringale's Showing #3). In this zone, there are small stringers and lenses composed of ankerite, quartz, arsenopyrite, pyrite, and galena.

Showing Key 14: (N51000, E52100)

On the south bank of Cache Creek, a weathered and slumped 6-foot vein was exposed. The boulder remnants in the vein consist of ankerite, arsenopyrite, pyrite and quartz; and assay: Au - 0.03 oz; Ag - 0.70 oz.

Showing Key 74: (N54200, E55700)

On a steep southwesterly slope at this point, a dike-like body of greenstone projects through the phyllite talus. Over a 15-foot width along the western side of the intrusion, are blocks of arsenopyrite containing minor ankerite, pyrite, and sphalerite. (Smitheringale's Showing #2). A grab sample of the fresh sulphides assayed: Pb - tr; Zn - 0.5%; Au - 0.10 oz; Ag - 0.42 oz.

A few small pieces of material containing galena and sphalerite were found around the intrusion.

Minor Galena Occurrences:

Disseminated galena and small stringers of galena were found in many places in argillite on the Key M.C's. Small occurrences of disseminated galena were found on Key 19 M.C. at N59310, E51940; on the cliffs on Key 2 M.C. at N53000, E56300 (across from the main showing); along the cliffs on Key 3 M.C. at the same elevation as and west of the main showing; on Key 6 M.C. near N56200, E55600; and at N59430, E49680 on the Hill 16 M.C.

In the small saddle at N54950, E54650 on Key 5 M.C. a 6-inch-long piece of massive sulphides was found. It consisted of pyrite, sphalerite, and galena; and probably came from a 2-inch vein.

CONCLUSIONS (silver-lead deposits):

Comaco's silver-lead showings of the Kotaa River Area are confined to the Key and Strike mineral claims on Silver Ridge. They occur in slates and argillites of the Kotaa Formation and in the uppermost volcanic formation.

Four galena veins have been exposed; and these all dip less than 35 degrees westerly. The galena veins, which have been exposed in the volcanics, are small and discontinuous. The galena veins found in the argillites and slates are replacements along definite faults, and seem to have better continuity than the veins found in the volcanic rocks. However, of all the silver-lead veins exposed to date, only those of Showing Key 3A merit further attention.

At Showing Key 3A, the following structure has been inferred. A main fault with a NW-SE strike and a SW dip of 30° cuts the slates and argillites. Accessory faults branch off the main fault and curve away from it towards the south until they have a N-S strike and a gentle westerly dip. The direction of movement found along the accessory faults indicates that they could probably be called tension faults. The two showings of galena represent mineralization along two of the accessory faults.

The vein of Adit #2 was drifted along for 24 feet; and for this length had an average value over three feet of: Pb - 17.6%; Ag - 39.2 oz; Ag/Pb ratio - 2.2

The vein of Adit #1 was not properly exposed; but for reasons stated on page It is assumed that the vein dips approximately 25° west. Muck from a 7-foot-long winze, which was sunk into the upper part of the vein, assayed: Pb - 4.0%; Ag - 31 oz; Ag/Pb ratio - 6.4. If the assumed attitude is correct, the muck from the winze will represent 2.7 feet of the true vein width.

RECOMMENDATIONS (silver-lead deposits)

The galena deposit at P_1 (Adit #1) of Showing Key 3A, yields the best silver/lead ratio found in the Kotsa River Area. The deposit has been exposed but inadequate work has been done to determine its possibilities. The vein should be re-exposed and a new drift started on it. As a guide for future work, the values 170°/25°SW could be used for the attitude of the vein.

Large blocks of fault breccia are found downslope from the Main Fault. These masses of breccia are coming from the Main Fault; and in one place (P_5 of Sketch 1) contain a few small fragments of galena. The fault should be exposed at P_5 so that the source of the galena fragments can be observed.

The source for the galena float of Showing Key 1A has not been reached. Because the host rock is similar to that found on the main showing, and because the locality is in the vicinity of some faulting, the source of the float should be found.

The Key mineral claims south of Cache Creek are largely covered by overburden and have not been thoroughly prospected. More prospecting on Key 15, 16, 17, 18, 36, 37 mineral claims is needed.

REPORT ON

KEY GROUP

KETSA RIVER, YUKON - 105 F 9

REPORT ON

KEY GROUP

KETSA RIVER, YUKON -105 F 9

INTRODUCTION:

The examination of the KEY group was carried out between Aug. 9 and Aug. 15, - 1959. Several of the interesting showings, namely those on claims 1, 6, 7, and 9 shown on the accompanying plan provided by Mr. Don Rotheram, Conwest Engineer, were not seen due to time limitations and the fact their exact location was not known to the writer.

DESCRIPTION OF PROPERTY:

The property consists of 37 full claims and 5 fractions. These are located approximately 150 miles northwest of Watson Lake or 110 miles northeast of Whitehorse. The closest lakes from which aircraft can operate are BRUCE and GREYLING, both about 18 miles from the camp on Ketsa River. The trip to the property was made on foot from GREYLING LAKE following a pack trail used by Conwest Exploration Co. This trail, if followed regiously, crosses the creeks 18 times and takes a full days travel for an estimated distance of 20 miles.

A road is presently being surveyed by the Federal Government, between Ross River and Watson Lake which when completed will pass within 8 to 10 miles of the KEY camp. Mr. Don Rotheram intimated that future plans of his company were a road to their camp, very likely from the Canol Highway passing through the KEY claims. This could be in 1960. Although the area is rugged with peaks rising to 7000 feet the many "U" shaped valleys would present no difficulty to road building to within a short distance of these mineral occurrences. Thus road construction of 8 to 10 miles would provide access to government built roads and a haul of 240 miles to the inland terminus of the White Pass & Yukon Railway at Whitehorse, Y.T.

Snow conditions vary with the elevation, where most prospecting is carried out - above timberline or the 5000 foot elevation - a snow free period can be expected ONLY between June 1st. and September 15th.

HISTORY:

The original discovery of galena in this area was made nearly 10 years ago by prospectors working for Hudson Bay Mining & Smelting Co. The massive high grade deposit now located on claim KEY 3, was entirely missed by them.

The present showing comprising the KEY group was staked as a follow up of the earlier finds. These claims were staked by Mr. Erick Erickson of Whitehorse as leader of the party, with 4 Indians and a Mr. George Fairclough. The names of the four Indians are - 1.Roddy Black Jack, 2.Field Johnny, 3. Pat Bill, and 4. Jim Shorty of Carmacks & Whitehorse.
In 1955 the group of claims were optioned to Conwest Exploration Company, for $75,000.00 payable in 3 years, with 300,000 shares fully paid and non-assessable, in the share structure of the subsidiary company Conwest would incorporate to develop and operate the property.
After the Conwest people had drove (driven) 3 adits on claim # 3, built the present camp & a winter airstrip, they dropped their option.
In 1957 Conwest approached the group with a final cash offer of $36,000.00 payable in 2 years, and no shares offered.
Mr. Kirwan has shown me a copy of the registered original option from Conwest Exploration Co. to the optionors, and a copy of the notice of surrender of this option. In this same year 1957 Mr. R.R. Kirwan and Mr. H.H.Regehr took up the option with Mr. Erick Erickson retaining his original interest.
Mr. Kirwan has the present registered option which shows he paid $12,000.00 cash to the original optionors and has agreed to pay the balance of $24,000.00 on or before December - 1959.
Mr. Kirwan has receipts showing he spent $4,300.00 in 1958 on assessment work, development work, and attorney's fees.
So far in 1959 Mr. Kirwan has spent approximately $8,000.00 in diamond drilling, wages, horses, helicopter expenses etc.
This puts a price tag - of $48,300.00 - on the property, of which $24,300.00 is actual cash outlay by Mr. Kirwan. All the cash todate spent on the property is his own money.
I checked while in Whitehorse with Mr. Victor Wylie, of WYLIE & BATES, attorneys in Whitehorse,who is Mr. Kirwan's attorney, who also drew up the present option, and who paid the money supplied by Kirwan, to the original optionors. There is no question as to the legality of this option held by, Kirwan - Erickson - & -Regehr. Mr. Kirwan's associates have assured me personally, that Mr. Kirwan having supplied all the money todate has full power to transact any sale or disposal of this property, and any agreement entered into by him, will be deemed legal & binding, by all parties concerned.

DESCRIPTION OF SHOWINGS:

KEY NO. 3

This showing is located 1½ miles southwest of the camp. A pack trail leads from the camp at elevation 3700 to the showing at elevation 5600 to 5700. There is considerable highly mineralized float on the talus in the vicinity of the showings and the work todate has been to prospect for veins in place. In this regard Conwest Exploration Co. drove three adits.

The adit No.1 is partially caved but was being re-opened and timbered by Mr. Tony Riba and crew.. This adit has

intersected a lens of galena in the floor. It would appear this is a continuation of the large deposit since located by the diamond drilling, situated between adits #1 and #3. A winze several feet deep was required to locate this contact and appears to be some of the last work by the Conwest Exploration Co.

The No. 2 adit follows a narrow well mineralized zone for approximately 40 feet. It then intersects another narrow mineralized gouge zone. A sample taken at the face of the adit and including the gouge assayed 69.4 oz. Ag. and 34.8 % Pb. over 2.5 feet.

The adit No. 3 is between 35 & 40 feet long, is situated 40 feet due west of adit No. 1 and did not intersect any mineralization.

Recent stripping this year, between adits No. 1 & No. 3 has uncovered excellent galena mineralization. One clearly defined lens 2 to 3 feet wide strikes southeast and dips to the west but further stripping will have to be carried out to determine the attitude of the wider mineralization from which peices 4' to 5' wide have been removed.
A sample taken across 3 feet of the massive galena assayed 69.8 oz. Ag. and 48.6 % Pb. The various drill holes done in this area are of little value, core recovered amounts to about 25 feet all of which came from 3 holes. It was thrown into boxes without proper markings. I would suggest a larger core would give us more data, as the 5/8" core from the X-Ray drill is very hard to save. This high grade galena is difficult to core even with the larger drills. Mr. Tony Riba and the driller both insist this vein is 8 feet wide according to their sludge samples. I can accept only what I could see for myself.

Outcrop is good above the adits consisting of buff colored slates, this area requires more work to give us the information required. For about 100 feet below the adits there is little outcrop and below this talus covered section there lies a band of black slates. The general trend of the rocks is N 70 W with low dips to the southwest. The local variation as shown on the accompaning sketch is due to gentle roll in the formations. Several pits have put down over a distance of 300 feet northwest of the No. 2 adit in the overburdened section between the buff and black slates. These pits are all in leached oxidized material with one 100 feet northwest of adit No. 2 probably on the upper margin of the zone containing quartz with good galena mineralization.

The numerous individual occurrences of galena as seen by the writer, do not indicate sufficient tonnage potential at this time to warrant a mill, especially considering the transportation problems. However, I believe if the area was thoroughly stripped with a dozer, and prospected for further

similar occurrences and determination of attitude of these excellent known lenses. I suggest this stripping be carried across the talus covered area between the buff and black slates, where the oxidized zone may be found quite extensive. If more work was done on this property it could conceivably enhance the present value of the claims many times. My personal opinion is, a dozer should be utilized for some time before setting up a diamond drilling program.

KEY No. 16

Where Cache Creek cuts through claims 13 and 16 outcrops are very good since here it crosses the trend of the formation. This is in contrast with most of the area below timberline where outcrop is generally sparse. The cutbanks expose mainly highly contorted buff slates with well developed cleavage which can easily be mistaken for bedding.

About 500 feet down the creek from the southwest corner of claim 16 a shear zone is located on the south bank of the creek. Two sections have been stripped across the shear which strikes N S and dips 68 degrees to the west. About 16 feet of zone has been uncovered but the east wall has not been exposed. A sample across 6 feet of the grey green gouge containing many small chunks of quartz assayed 0.18 Au. and 6.5 Ag. A two foot section close to the hanging wall containing mainly quartz and pyrite assayed 0.20 Au. and 1.9 Ag. A drill hole, bearing S 50 E, dip 40, and reportedly 85 feet long was drilled under this zone, only 22 feet of core was found. This core was comprised of 60% quartz-carbonate and several buttons of massive pyrite were recovered.

About 200 feet west of this zone on the north bank of the creek a small anticline is exposed controlling the deposition of massive pyrite. The width of mineralization between the limbs of the fold is 8 feet, a sample of which assayed - 0.04 Au. and 0.6 Ag. - 50 feet west of this zone digging into the bank has uncovered pieces of quartz-carbonated highly mineralized with pyrite and considerable arsenopyrite. A grab sample taken here ran 0.04 Au. and 0.6 Ag. Conwest Exploration Co. were drilling arsenopyrite approximately 3 miles from this showing and the gold content of their drilling results is the basis of the proposed road and future work in this area. I personally did not see any assays from the diamond drill hole put in under this zone, these results would be interesting, and no doubt can be obtained. Mr. Don Rotheram - Conwest's geologist told me he had several assays taken from this area, as well as from the massive galena deposit between adits No. 1 and No. 3 . He assured me this could be obtained from Mr. H.H. Regehr's office in Whitehorse, as he had sent copies of the reports to Mr. Regehr for Mr. Kirwan's attention. Todate I have not received this information from either Mr. Regehr or Kirwan.

KEY 13

On the north bank of the creek approximately midway in the section of the creek crossing claim No. 13 a 14 foot adit has been driven on a 8 foot zone of massive pyrite. A sample taken across 8 feet at the face assayed 0.05 Au. and 0.40 Ag.

On the pack trail just above this zone are found several tons of large quartz boulders sparcely mineralized with pyrite and the odd speck of chalco. In the same area there are also many boulders heavily mineralized with pyrite, galena, and chalco. Although some miles from this location it is of interest that the outcrop o[illegible] claim is similar to the combination of boulders on claim No. 13.

KEY 11

At an elevation of 5200 on this claim a vein approximately 3 feet wide has been blasted into but not mucked out. This vein strikes N 10 W and dips at 90 degrees. A sample taken across the exposed section of this vein assayed 0.04 Au. - 4.86 Ag. and 9.5 % Pb. This vein occurs in diorite which at this point is silli like into the slates and phyllite with the main body of the intrusive lying quite some distance to the west.

EDWIN CASE,
10029 - 148 ST.,
EDMONTON, ALTA.

The mineral occurrence on this claim is located about 2 miles south of the mouth of a small creek which flows into [illegible] Creek midway between the two camps. The showing is on the summit of a saddle at an elevation of 5700 feet. One pit has been put down on a light gossan 30 feet wide and over 100 feet long. This vein strikes N 40 E, this pit exposed one wall of the zone and although the dip is indefinite, I believe this is probably the footwall. A sample taken across 12 feet of the massive sulfides in the pit assayed, 0.04 Au. - 12.8 Ag. - 16.2 % Cu. and 0.1% Zn.

Outcrop to the north of the pit and gossan is impure limestone, 40 feet to the southeast of the gossan light overburden obscures any evidence of the underlying rock, the next 20 odd feet would appear to be black slate, then there occurs a quartz vein which is well over 60 feet wide. The quartz is mostly barren but several spots are well mineralized with chalco. This vein strikes N S and dips to the east but the area so far exposed is not enough to determine for certain the extent of contact.

con't.

Just south of the quartz vein a small pit has put down on a 2 foot vein well mineralized with chalco. A sample taken across the 2 foot vein assayed 0.04 Au. - 4.5 Ag. and 12.4 Cu.

An X-Ray drill was setup close to the larger pit and one tray had 25 feet of core in it. I noticed that the first 8 feet of core was in vein material.

This is a very interesting copper showing, however if the zone is limited to the extent of the gossan that is, 100 feet by 30 feet, with transportation problems and remotness of the area, its hardly large enough to get excited about. A small amount of stripping here again, would determine weather this zone extends under the overburden, beyond the gossan on not. I feel the money spent on diamond drilling by Mr. Kirwan this year would of been better spent stripping the property with a small dozer. Its quite possible and also my firm belief that it does extend under the overburden and beyond the gossan particularly to the southwest.

If & his associates would leave their present investment lay for a year, then I would recommend my people to pay the option payment in December and properly prepare the ground with a dozer before attempting to set up any major drilling program. The area is highly mineralized and is well located. With the possibilities of the Conwest Co. establishing a good service road in 1960, and the government road a certainty although somewhat later, I would advise the optionees to hold on to this property until further work is done on it. I mean by this, if a working agreement cannot be reached with us, or anyone else this fall, the property has sufficient potential to hold on to.
I feel excessive money has been spent for the amount of good information that is available.

Respectfully submitted

James W. MacLeod

Vancouver, B. C.
September 2, 1959.

Return to A E Aho

REPORT ON
KETZA RIVER AREA, Y.T.

Submitted to British Yukon Exploration Co., Vancouver, B.C.

Nov. 10, 1954.
Dr. A.E. Aho.

INTRODUCTION

The Ketza River area lies in the Whitehorse Mining District 30 miles south of Ross River Post on Pelly River, 50 miles southeast of Prospectors Airways' Vangorda Creek showing, and 120 miles east of Whitehorse, Y.T. Silver-lead and gold-copper deposits discovered there in 1954 lie on the southwest side of the headwaters of Ketza River, on ridges at elevations between 4000 and 6000 feet. Topography in the area is rugged and outcrops are abundant above timberline which is near 3500 feet. Water is available in most of the valleys. Snowfall in winter is probably moderate.

At present the area is accessible by 35 miles of trail from Ross Post on the Canol Road, or by 20 miles of trail from Bruce Lake, the nearest place a plane can land. A passable road could be built up the southeast side of Ketza River but the first 15 miles of the route would have to be chosen carefully to avoid muskeg.

The rich silver-lead discoveries were staked and optioned in August, 1954, but no staking rush developed until late September. Now, more than 400 claims have been staked and numerous other discoveries of mineralization have been made. The reader is referred to the accompanying map for data on claim locations and ownership. Except for sampling and trenching on a few showings no exploration has been conducted yet.

GEOLOGY

The main staking and silver-lead showings lie within a competent or brittle section of quartzites, phyllites, slates, and limestones or dolomites which form a ridge extending above 6000 feet in elevation. Dips of these rocks vary, with considerable folding. Axes of the folds strike northwest. Faulting also trends generally northwest and the showings lie along some of these breaks.

This competent mineralized section of rocks continues to the northwest but not to the southeast into the valley of the Upper West fork of Ketza River. As far as the head of this fork the valley shows almost continuous exposures of contorted slates and phyllites which apparently underlie the competent section. Only lenticular, discontinuous, barren-looking quartz-carbonate veins were seen in these rocks which extend several miles northwest and southeast. To the west the phyllites are overlain again by a competent section comprised at least partly of westward-dipping dolomite. This section probably extends through copper-gold, grey copper (tetrahedrite), and galena showings staked up the 2nd West Fork and it forms the high ridge at the head of the Upper West Fork where British Yukon

Exploration's Kay group of claims lie. These competent dolomite, quartzite or limestone sections are considered to be more favourable for continuity of vein type mineralization than the contorted phyllites.

MINERALIZATION

At the time of examination, Conwest's No.1 showing on the Key group of claims consisted of a couple of tons of blocks of massive galena dug from cuts in talus at 6000 feet elevation on a mountainside. Ore minerals are galena with minor tetrahedrite, chalcopyrite, pyrite and sphalerite. Assays gave from 0.04 to 0.16 oz Au, 80 to 165 oz Ag and 30-50% Pb. Gossanous mineralized zones extend at least several hundred feet to the northwest of these showings. The best cut was dug out and sampled in September by Conwest. An account in the Northern Miner describes even better assays and widths.

The other showings to the southeast, including those on the Galena group (Hoey's showings) consist of narrow or poorly exposed veins and float. These carry less galena, more pyrite and some arsenopyrite, as compared to the No. 1 showing, and their silver-lead ratio is lower.

Showings staked later on the Fury, Willa; Moon, and other groups to the southwest of the main showings consist of large gossans containing pyrite, pyrrhotite, arsenopyrite and chalcopyrite, some tetrahedrite float, galena float, and chalsopyrite float. Appreciable gold assays are reported from some of the float.

During a brief one-day scouting trip at the head of the Upper West Fork of Ketza River, a short distance along stike from the above staking, Aho and Dodson discovered some mineralization. Small amounts of vein float containing galena were found in the lower part of the fork. At the head of the fork the rocks are extensively carbonatized, are cut by a 3-foot-wide gossan zone and contain a small amount of zinc mineralization. Some fluorite found irregularly scattered in an unusual, veried intrusive body, is slightly radioactive, giving a 70 to 80 count on a scintillometer (4 times background).

Dodson cut his head with an axe so Aho and Dodson were forced to return to Whitehorse without any opportunity to determine the extent of mineralization or to do any staking. Since snow blanketed the area to timberline, it seemed advisable to leave the Ketza area until early next season, then to prospect the Upper West Fork and the adjoining head of White Creek as soon as feasible. However, staking of the Fury, Peel, Goat, Willa, Moon, Penguin, Pioneer, Quonchu, Boom and other groups along strike from this area shows that the region is more widely mineralized than previously anticipated. Since the pressure of staking would probably increase, Cox and Versluce and two Indians were sent to stake the Kay group of 32 claims which we now hold in the mineralized area at the head of the Upper West Fork. Cox reports having found float of what he believes is grey copper (tetrahedrite) near the northeast boundary of Kay No. 11 claim.

The area covered by the Kay group (see enclosed map) contains the 3-foot gossan zone (A), the small amount of zinc and fluorite mineralization (B), and probably the source of the reported grey copper float (C). The rocks covered are part of the possibly favourable competent section lying southwest of the phyllites and lie along strike from the later discoveries on the Fury, Willa, and other groups. Furthermore, the rocks on the Kay group are cut by a highly varied and altered intrusive which has produced structural complexity and alteration. The rocks contain much quartz-carbonate vein matter and carbonatization, which are a general indication of mineralizing activity throughout the Ketza area.

CONCLUSIONS AND RECOMMENDATIONS

The Ketza River area contains rich silver-lead showings and copper-gold showings and is more extensively mineralized than anyone anticipated. Very little prospecting has been done outside the staked areas and the total extent of mineralization is unknown, thus this should be a very active prospecting area next season.

It is recommended that as early as is feasible next season, a prospecting party should carefully cover the general unstaked region around the headwaters of White Creek and the Ketza River. Later in the season a geologist and prospector assistant should carefully prospect and geologically map the Kay group of claims.

Respectfully submitted,

Dr. A.E. Aho.

105 F-9

(Silver-Lead)

NTS 105 F 9

#5

Oxo Group (Oxso Silver Mining and Smelting Company Limited)
(61°31'N, 132°13'W)

Reference: Wheeler, Green, and Roddick (1960a).

1964

Oxso Silver Mining and Smelting Company Limited holds the group of 10 claims. The group, first recorded in 1955, was previously held by the late E. Erickson and P. Versluce, both of Whitehorse. The main showing is located at an elevation of about 5,800 feet at the head of one of the branches of Cache Creek, a tributary of Ketza River. During the 1964 season, the company worked on a road from the Watson Lake-Ross River development road to the property, a distance of about 32 miles, but this was not completed. The nearest lake suitable for float-equipped aircraft is about 12 miles west of the showing. The property was visited in late July 1964.

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*Reprinted in Geological Survey of Canada, Memoir 284 (Bostock, 1957, pp. 423-424).

The main showing is a brown- to black-weathering, sulphide-rich lens, about 70 feet in length and 10 feet in width, occurring in Early Cambrian limestone (Wheeler, Green, and Roddick, 1960a). Bedrock exposed near the showing consists of somewhat platy, brown-weathering, grey limestone and minor phyllite. The showing does not appear to be related to the fault shown on the geological map (op. cit.). The showing has been explored by a number of trenches, most of which have not reached undisturbed bedrock but have uncovered blocks rich in pyrrhotite with minor pyrite, galena, and sphalerite. A chip sample from blocks in a 12-foot trench assayed*: 0.02 ounces of gold and 10.2 ounces of silver per ton, 12.7 per cent lead, 0.4 per cent zinc, and 0.03 per cent copper. Another grab sample from a single block assayed*: 0.005 ounces of gold and 4.88 ounces of silver per ton, 6.3 per cent lead, 0.1 per cent zinc, and 0.03 per cent copper. The mineralized area is bounded by unaltered limestone to the northwest, appears to pass into limestone with only minor sulphide minerals in the last trench to the northeast, but may extend under a grass covered area to the southeast. In the author's opinion, the showing is a lens parallel to the foliation of the enclosing limestone, is probably not much larger than the present exposure and only a few feet thick. The present showing does not appear to be of economic interest in view of the remote location, apparently limited size, and low assay returns.

A number of quartz veins carrying minor chalcopyrite were observed about 500 feet southwest of the main showing and float of similar material is common in this area. The veins appear to strike northwest and are up to a few feet in thickness. A specimen, selected for a high chalcopyrite content, assayed*: 0.01 ounces of gold and 0.28 ounces of silver per ton and 7.65 per cent copper. In general, the precious mineral content of the vein quartz is negligible and the copper content too low to be of interest.

#6 Ketza River

1960

Conwest Exploration Company Limited has a gold property on upper Ketza River, 31 miles south-southeast of Ross River settlement. The property consists of about 90 claims. The showing is at lat. 61° 32'N, long. 132°16 1/2'W, at an elevation of about 5,300 feet. A 35-mile winter road to the Conwest camp leaves the Canol Road at Jackfish Lake (5 miles from Ross River), and a 5-mile trail beyond the camp leads to the showing. The last 4 miles of the trail goes up a west tributary of Ketza River, locally called 'Cache Creek'. The showing is on a 20-degree slope on the northwest side of, and about 400 feet above, Cache Creek.

The gold deposit was discovered in the autumn of 1954 by Conwest Exploration Company. In 1955 the company explored the showing with fourteen trenches, sampled the mineralized zone, and made a geological survey of the area and showing. In 1956 the company explored the deposit to a depth of about 90 feet with a pack-sack drill, doing about 2,000 feet of drilling; and in 1958 and 1959 they explored the deposit to a depth of 200 feet, drilling about 5,000 feet of AX core and 1,500 feet of EX core. An orebody—about 600 feet long, 200 feet deep, and averaging about 12 feet wide—was outlined. In 1960 the company drilled a 1,100-foot BX diamond-drill hole to test the ore zone at depth. No ore was cut and the country rock differed from that in the shorter holes. Because the orebody appeared to be small and of modest grade, exploration of the property was discontinued in June of that year.

Wheeler, Green, and Roddick (1960a) have described the regional geology of the area. The following description is from a 1955 Conwest Exploration Company report and from personal communications with that company's representatives. The showing is about 500 feet long and 100 feet wide, and consists of irregularly shaped sulphide bodies interspersed with large remnants of limestone. The orebody is in a 500-foot-thick bed of Lower Cambrian limestone that occurs along a steeply dipping fault zone. This is on the crest of a small northeasterly trending anticline superimposed on a larger easterly trending syncline. Underlying the host rock is phyllite. The ore consists of nearly-horizontally-bedded pyrrhotite, gold-bearing arsenopyrite, pyrite, and minor chalcopyrite, and replaces the limestone along the fault. Bedding control is apparent from the irregular shape of the orebody.

#7

McConnell River

Pelly Minerals Syndicate (61°36'N, 132°37'W)

Reference: Wheeler, Green, and Roddick (1960a).

1963

In 1963, Pelly Minerals Syndicate - interests held by Canex Aerial Exploration Limited, Kerr-Addison Gold Mines Limited, Noranda Exploration Company Limited, and Homestake Mining Company - worked mainly near the head of McConnell River on a gold, silver, lead property about 27 miles south-southwest of Ross River. A group of 16 claims that covered the property was held by the syndicate, but by the end of 1963 all but 6 claims had lapsed. Access to the property is by foot or packhorse up McConnell River from a small lake (locally referred to as Grayling Lake), suitable for small float-equipped aircraft, which is 7 miles south of the property.

Three to five men, working from 30 June to 20 July 1963, examined a showing on the Cone No. 1 claim and some showings on the Cone No. 11 claim (lapsed November 1963). Work included hand trenching and pitting, magnetometer surveying, and sampling. In addition, prospecting was done in the general vicinity of the property and east toward Ketza River.

The main showing, visited by the writers in early September 1963, is trenched over an area about 35 to 70 feet. Sulphide mineralization apparently forms a sheet or lens-like mass that is up to 10 feet thick and possibly as much as 80 feet long (Dr. A.E. Aho, personal communication). The sulphides are within an altered volcanic unit (Wheeler, Green, and Roddick, 1960a, unit 6c). Locally white, coarsely crystalline marble is exposed in the trenches. The marble, likely replaced by the sulphides, probably occurs as lenses in the volcanic unit. Sulphide minerals in the showing, associated with a rusty gossan of iron oxide and manganese oxide, are mainly massive pyrrhotite, pyrite, and galena. One galena-rich grab specimen, taken by the writers, assayed*: 0.02 ounces of gold and 26.7 ounces of silver to the ton, 79.0 per cent lead, and 0.2 per cent zinc.

Four small showings, not examined by the writers, that occur on the Cone No. 11 claim, are gossans or sulphide lenses 3 feet or less in width, in shear zones (Dr. A.E. Aho, personal communication). The sulphides are similar to those at the Cone No. 1 showing.

#7 Preliminary Report - Cone Claims, McConnell Creek, Yukon Terr.
Pelly River Syndicate

The Cone claims, staked for the Pelly River Syndicate by prospectors Versluce and Cox, were checked on the 21st of September, 1962 by this writer. The claims are located on a small tributary to the McConnell River near its headwaters. They are accessible by twelve miles of pack horse trail from Greyling Lake to the south or by backpacking over the mountain from Seagull Lake six miles to the northwest. Greyling and Seagull Lakes are both accessible by float aircraft from Whitehorse.

The ridge between Seagull and McConnell creeks on which the Cone claims are located is primarily felsitic tuffs and breccias with stocks of related hornblende syenite. The discovery area is largely covered by slide and vegetation. Within the limited time available for the inspection little could be done other than sample and examine the outcrops exposed by the prospectors trenching.

An area of approximately forty feet in length along the general strike of the mineral showing had been exposed. This was sampled for twenty-five feet perpendicular to the strike of the overlying beds. The upper ten feet was mainly massive galena. This was followed by approximately ten feet pyrrhotite with disseminated galena. The final five feet was disseminated galena with minor bands of massive galena. The assay results were as follows:

	Au.	Ag.	Pb.	Width
15026	.02	24,0	38.0	5'
15027	.30-.30	18.7	26.6	5'
15028	.34-.50	7.12	10.9	5'
15029	.54-.52	4.00	6.2	5'
15030	.06	6.04	8.5	5'
Ave	.252	11.97	18.04	

check well almost along strike?

Ratio oz Ag / %Pb = 1 / 1.5

Another outcrop of massive galena was exposed approximately one hundred feet to the northwest. Not enough of this showing had been opened up to sample effectively but a previously assayed grab sample gave the following results:

Au	Ag	Pb
.03	32.3	53.1

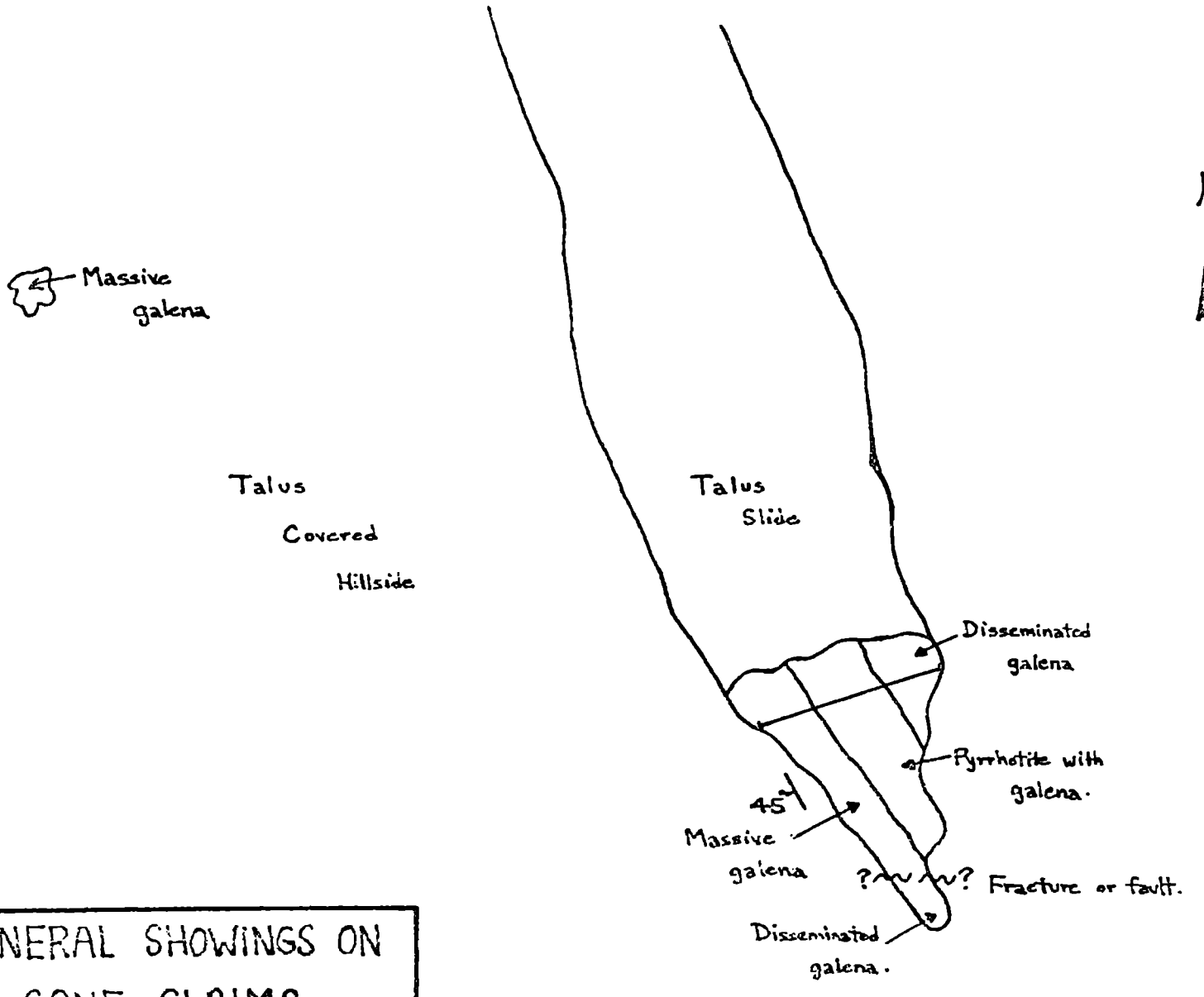
Float and smaller galena showings are present to the southeast above the main showing but were not sampled at this time.

The width and number of showings together with the gold and silver values obtained make the Cone claims a good prospect for a mine and certainly merits more work. The showings thus far exposed are located on steep hillside. It is doubtful that a bulldozer could work effectively on the claims. Hand trenching together with detailed geologic mapping will be the most effective way initially to determine the extent and size of ore bodies present. It is suggested a program along these lines be initiated for the next year.

R.D. Wesemann

October 23, 1962

R.D. Wesemann, Geol. Eng.



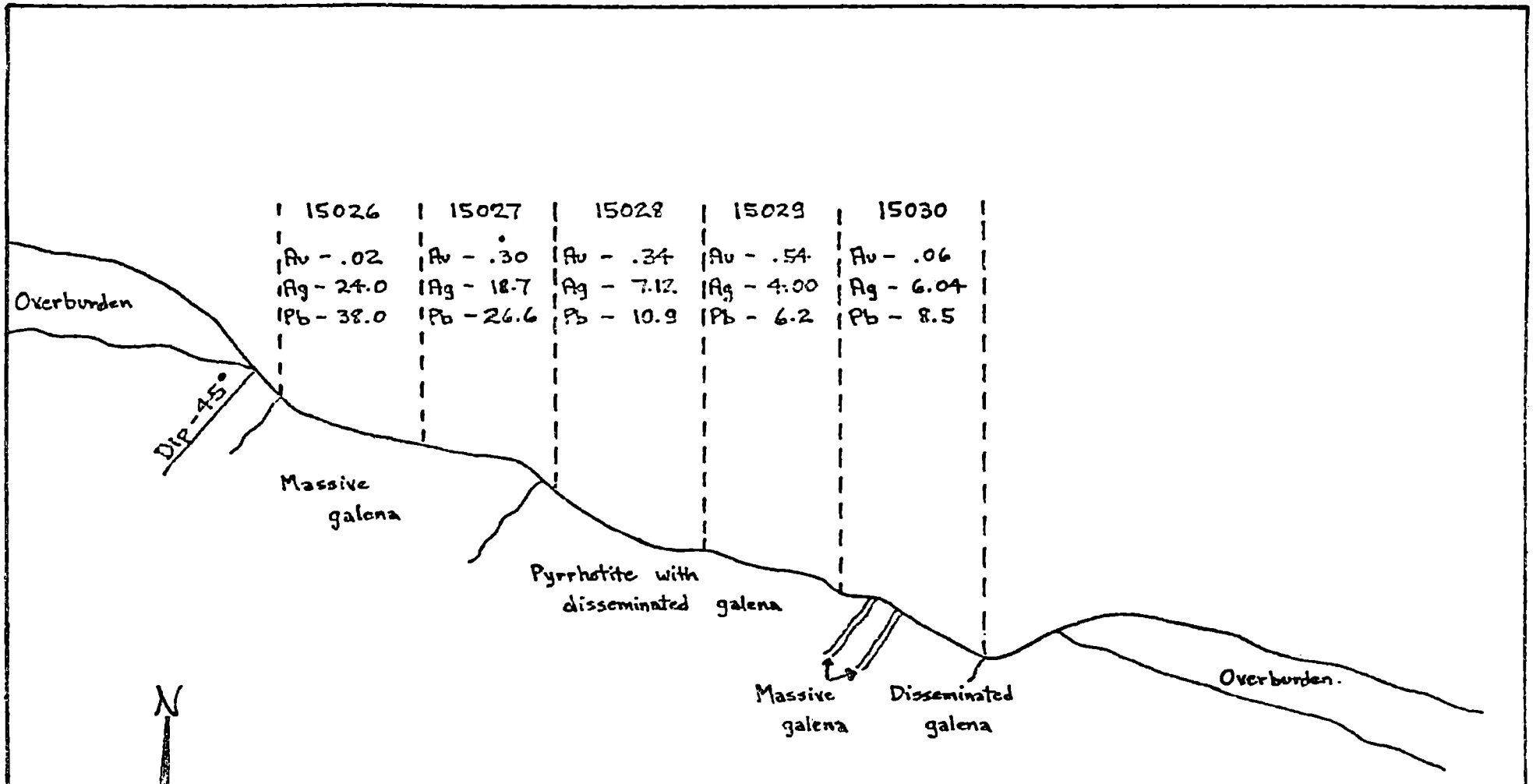
MINERAL SHOWINGS ON CONE CLAIMS

PELLY MINERALS SYNDICATE

SEPT. 21, 1962 R. WESEMANN

SCALE: 1 INCH = 20 FT. (approx.)

S-127



CROSS SECTION OF MAIN SHOWING ON CONE CLAIMS

KETZA RIVER DISTRICT
YUKON

SEPT. 21, 1962 R. WESEMANN

SCALE: 1 INCH = 5 FT.

Barite Mountain

#8 P. Versluce (61°50'N, 133°00'W)

1963

References: Kindle (1946, pp. 23-26); Wheeler, Green and Roddick (1960a).

P. Versluce holds three claims on Barite Mountain near Mile 118 on the Canol Road. During the summer of 1963, a tote road, about 1 2/3 miles in length, was built from the Canol Road to the showing. About 3 tons of barite were mined. The property was visited by Green in September.

Barite-bearing veins were discovered by Kindle's field party during reconnaissance mapping of the Canol Road. Kindle (1946, pp. 25-26) reported that the barite veins range from 1 foot to 10 feet in width, and are most abundant between elevations 4,800 and the top of the mountain at an elevation of 6,100 feet. They include more than a dozen strong veins, one of which, between elevations 5,950 and 6,100 feet, occurs in a zone of brecciated limestone 30 feet wide partly replaced by barite. Kindle estimated that about 50,000 tons of proved barite were present. Presumably much of the tonnage would be within the brecciated zone described.

The present exploration was confined to the base of two draws at an altitude of about 5,000 feet, as the mountain face rises too abruptly above this to permit extension of the road to a higher elevation. In this area, steeply dipping carbonate and quartzite (unit 4, Wheeler, Green, and Roddick, 1960a) appear to be thrust on shale and greywacke (unit 5), which strikes northwest and dips moderately to the southwest. Scattered barite veins to 3 feet wide were observed in one of the draws a few hundred feet above the base of the carbonate. The barite mined was hand sorted from talus near the probable location of the thrust. The potential of the deposit appears limited, as the barite veins are narrow, widely scattered, and occur on a steep mountain face.

Bruce Lake NTS 105 F 16

#9 Newmont Mining Corporation of Canada Limited (61°48 1/2'N, 132°02'W)

References: Wheeler, Green, and Roddick (1960 a, b); Geological Survey of Canada (1963 a, b).

1963

Following publication of Geological Survey of Canada aeromagnetic maps (1963 a, b) of the area, Newmont Mining Corporation of Canada Limited did additional airborne work in conjunction with Sherritt Gordon Mines Limited and recorded 494 claims in the area. The exploration was sparked by the knowledge of nickel-bearing float in the area and the suggestion from the airborne work that a large area of basic rock overlain by flat-lying volcanic rock was present. During the summer of 1963, a crew of up to 8 men prospected and did

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*Assayed by G. Spalding, Whitehorse, Y.T.

magnetometer and electromagnetic work on the claims. The Watson Lake-Ross River development road passes through the claims on the south side of Pelly River.

Outcrops are found along Pelly River, Horton Creek, and on a few high knobs. Elsewhere, most of the area is heavily mantled by glacial drift. Bedrock consists of cherty quartzite, phyllite, and marble of unknown age (unit A, Wheeler, Green, and Roddick, 1960a, b), which has been intruded by ultrabasic rocks (unit D, not shown in this area in the original mapping); and, in part, overlain by flat-lying Tertiary volcanic rocks (unit 11).

Ultrabasic rocks, varying from pyroxenite to serpentinite, outcrop in one or two places along Horton Creek and on both sides of Pelly River upstream from Horton Creek. The pyroxenite is dark grey to black with grains of clinopyroxene to 1 cm in length. In some specimens, the pyroxene is partly altered to either secondary amphibole or serpentine. One nickel-bearing specimen had a matrix of fine amphibole and contained considerable pyrrhotite. The serpentinite is almost completely altered to dense, fine serpentine and only traces of the original minerals remain. The serpentinite may have formed from pyroxenite or possibly peridotite.

The results of the exploration were discouraging in that much of the area is deeply covered by overburden or Tertiary volcanic rocks, the ultrabasic rocks do not appear to be as extensive as suggested by the airborne work, and the nickel content of the sulphide-bearing ultrabasic rock occurring both in place and as float is very low.

#10: Small vein (2-3 feet wide) with pyrite and minor galena near the headwaters of Seagull Creek at an elevation of approximately 5,100 feet.

#11: Quartz vein, up to a few feet wide, striking NW, on the west side of the upper reaches of Seagull Creek. Mineralization consists of galena and minor sphalerite. A grab sample assayed at 27% Pb, 25.3 oz/ton Ag, trace of gold from galena.

#12: No mineralization was found in place at this locality, however, several tons of quartz float containing galena was found. Best material assayed 45.5% Pb, 22.92 oz/ton Ag. Numerous other small galena and tetrahedrite float occurrences were found. However, Ag assays were low.

#13: Located on the west side of the upper reaches of Seagull Creek at an elevation of approximately 5,700 feet. Showing consists of a massive galena with very minor pyrite and tetrahedrite vein which cuts a host dolomite at N12-20°E/85-90NW. The vein was traced for 150 feet and pinches out gradually to the north and rapidly to the south. Best assays ran 70% Pb, 50 oz/tons Ag. Drilling at the main showing showed no mineralization 25 foot depth. Several tons of massive galena was uncovered in 3 trenches.

#14: Near showing #4, an occurrence of 100 lbs. of massive galena float up to 8 inches across. Assays: 62.9% Pb, 31.92 oz/ton Ag, 0.04 oz/ton Au.

#15: Lenses or pods of pyrite with galena, up to 3 feet wide and several feet long, are exposed for 100 feet along a quartz vein zone. The vein zone cuts dolomite and strikes NNW with a steep dip. Better mineralization assayed 7.9% Pb, 5.44 oz/ton Ag and a trace of Au.

#16: Wide zone of arsenopyrite with traces of galena is exposed irregularly for between 100 and 200 feet along strike. It is largely covered with overburden and may be several tens of feet wide. Minor galena bearing pods gave 3.2% Pb, 9.94 oz/ton Ag, 0.09 oz/ton Au.

#17: Zone or large boulder nearly in place containing pyrite with scattered galena in creek bottom. Also magnetite, chalcopyrite, much siderite reported nearby.

#18: East side of the upper reaches of Seagull Creek.
Showing consists of galena-sphalerite stringers in dolomite in small shears or breccia zones. There is also a coarse grained quartz-galena vein 8 inches wide in an altered intrusive. Average assays from picked samples from the dolomite were 24.4% Pb, 4.5 oz/ton Ag, trace Au. Massive galena from intrusive gave 81.4% Pb, 10.8 oz/ton Ag, 0.01 oz/ton Au.

#19: Large amounts of siderite float with a smaller amount (several tens of tons) which contains specks of blobs of galena. The better material averages 12.8% Pb, 9.4 oz/ton Ag and 0.02 oz/ton Au. Considerable prospect pitting done but nothing found in place; probably talus or slide material resting in valley bottom. One piece of tetrahedrite float gave 498 oz/ton Ag. Considerable pyrite, pyrrhotite, and minor chalcopyrite are associated with the siderite in lower Cambrian limestone.

#20: Upper reaches of White Creek, a tributary of the McConnell River.
Irregular replacement and breccia filling of pyrrhotite, pyrite and galena at upper contact of lower Cambrian limestone. Two sampled exposures 6.3 feet and 13.3 feet in 2 trenches averaged 11.4% Pb, 7.9 oz/ton Ag, 0.03 oz/ton Au. May be related to NW cross fault.

#21: Upper reaches of White Creek.
Stringers and breccia zones of siderite with galena in lower Cambrian limestone. North showing 39.1% Pb, 28.0 oz/ton Ag, 0.02 oz/ton Au. South showing 33.8% Pb, 42.9 oz/ton Ag, 0.04 oz/ton Au.

#22: Headwaters of White Creek.
Breccia zone 60 feet or more wide in lower Cambrian limestone mineralized with pyrite, siderite and minor scattered galena which assayed 14.6% Pb, 9.9 oz/ton Ag, 0.02 oz/ton Au. Some massive galena float 100 feet to SE, also barren arsenopyrite.

#23: Headwaters of White Creek.
Siderite and quartz vein 12 to 14 inches wide with boulangerite or jamesonite, galena, and sphalerite traced 300 feet vertically, 300 feet horizontally up a dolomite cirque headwall and down into talus. A 20 inch channel sample and 2 grab samples averaged 11.4% Pb, 10.3 oz/ton Ag, 8.4% Zn and 0.02 oz/ton Au.

#24: A few inches of galena in 3 foot wide quartz vein 00/70E at the top of dolomite overlain by shale.
The vein is exposed for 50 feet and assayed 68.0% Pb, 47.8 oz/ton Ag.
A 3 inch quartz vein containing tetrahedrite, assayed (select) 0.131 oz/ton Ag, 1.4% Cu.

#25: Near headwaters of Ketza River.
Galena in brecciated dolomite. Best specimens gave 26.6% Pb, 30.4 oz/ton Ag.

#26: Located on the ridge between the headwaters of the White Creek and Ketza River.
Minor replacement of scattered Zn and Pb with barite in limestone reefs. (2 localities).

#27: Massive pyrhotite with galena up to 9 feet wide, 70 to 80 feet long in a rusty silicified breccia zone in limestone. Average approximately 12% Pb, 10.5 oz/ton Ag, 0.1% Cu, 0.02 oz/ton Au. Some massive blobs of chalcopyrite in quartz nearby, 6 oz/ton Ag, trace Au.

#28: Float of galena in quartz, 31.9% Pb, 24.4 oz/ton Ag, trace Au.

#29: Galena float on east side of the headwaters of the Ketza River.

#30: East side of Seagull Creek. Pyrite, arsenopyrite, galena, pyrrhotite and magnetite. Two samples taken. One carried 4.0 oz/ton Ag, 0.01 oz/ton Au; the other 13.6 oz/ton Ag, 0.01 oz/ton Au.

#31: Arsenopyrite, antimony (jamesonite) and galena. Nearby sample ran 30 oz/ton Ag.

#32: Sphalerite, galena and pyrite. Up to 10 inches wide, traceable for 200 feet.

#33: Magnetite, minor sphalerite and galena. Width from 2 to 4 feet. No gold values.

#34: Pyrrhotite, chalcopyrite, 2 feet wide appears to be a small pocket. Sample assayed 0.01 oz/ton Au, 0.54 oz/ton Ag, nil Cu.

#35: Galena and some copper stain. Width 4 feet, traced for 175' along strike. 17.0 oz/ton Ag.

#36: Galena mineralization, traceable for 50 feet, 17.8 oz/ton Ag.

#37: Massive pyrrhotite, pyrite and galena with lesser dark sphalerite, arsenopyrite and minor chalcopyrite occur in a replacement body localized along a lense of limestone which strikes NNE and dips about 40-50° NW. The sulphide body is downwardly convex with a true width of from 10 to 15 feet and a length of from 40 to 80 feet. The general section is tuffaceous shale and tuff. An apparent 35 foot width across the oxidized zone on the surface yielded average values of 24.8% Pb, 16.4 oz/ton Ag and 0.17 oz/ton Au. The average assays across the true width of from 10 to 15 feet in fresh sulphides were 14.3% Pb, 8.91 oz/ton Ag, 0.06 oz/ton Au. Several smaller showings of similar mineralogy occur nearby. Assays are generally lower than on the main zone and all appear to be podlike replacements with little continuity.

#38: Pyrite, pyrrhotite, arsenopyrite, fine grained galena and sphalerite in 3 separate lenses separated by about 100 feet. The best zone is 100 feet long, carrying 13.8% Pb, 4.26 oz/ton Ag and 0.02 oz/ton Au across a maximum single sample width of 3 feet.

#39: Pyrrhotite, arsenopyrite, pyrite and minor chalcopyrite up to 15 or 20 feet wide striking north-south, localized along a zone of altered limestone, faulted between relatively gently dipping argillite, quartzite and tuffaceous rocks. Mineralization can be traced for at least 200 to 300 feet. Silver values were up to 0.740 oz/ton, gold varied from a trace to 0.01 oz/ton. Several tons of sulphide float occur 250 feet to the southwest. Here the mineralization consists of pyrrhotite with some arsenopyrite and pyrite, and minor galena, sphalerite and chalcopyrite. A general chip sample of the float assayed 0.005 oz/ton Au, 1.44 oz/ton Ag, and 0.15% Cu. This appears to be an isolated pod with no extensions.

#40: Galena in small veins. Two grab samples 0.02 oz/ton Au, 9.10 oz/ton Ag, 30.8% Pb, 14.6% Zn, and 8.42 oz/ton Ag, 74.0% Pb. Massive galena float nearby assayed 0.02 oz/ton Au, 64.7 oz/ton Ag and 79.3% Pb.

#41: Galena, tetrahedrite, and pyrite in siderite-quartz veins in subsidiary faults on the south-west side of a main northwesterly fault which dips steeply. The veins strike northerly and dip about 35 to 50 degrees west. The host rock is buff slate-quartzite. Widths vary from a few inches up to 4 feet, averaging 2.5 to 3 feet. The main vein is exposed for 170 feet with 3 ore shoots 15 to 30 feet long averaging 50 oz/ton Ag and 15% Pb.

#42: Galena, siderite and minor tetrahedrite in sub-parallel veins up to a few inches wide, a few feet apart striking N20-35^{o}W, dipping 70-85^{o} west. Appears to be associated with faults that strike northwest and dip 45^{o} southwest. A sample of the best mineralization gave 101.8 oz/ton Ag and 61.3% Pb.

#43: Massive pyrite in an 8 foot zone running 0.05 oz/ton Au and 0.40 oz/ton Ag. Above this showing several tons of quartz boulders with sparse chalcopyrite, galena and pyrite are reported.

#44: Massive pyrite assaying 0.04 oz/ton Au and 0.60 oz/ton Ag across a width of 8 feet in an anticlinal fold. Fifty feet west a quartz-carbonate zone with pyrite and arsenopyrite is reported to carry the same values.

#45 A north-south shear zone dipping 68° west with a width of 16 feet and still unexposed on the east wall. A 6 foot sample across grey-green gouge with small pieces of quartz assayed 0.18 oz/ton Au and 6.5 oz/ton Ag.

#46 Remnants of an irregular galena coating up to 5 inches thick on a gently dipping fault surface (135/35° SW). A grab sample from float below this fault ran 135 oz/ton Ag and 75.8% Pb.

#47 Galena as float and as a 4 inch vein in greenstone striking S50°E and dipping 10° southwest. A grab sample of float assayed 135.4 oz/ton Ag, 70.0% Pb, 0.5% Cu, and 0.2 oz/ton Au.

#48 Galena float in the vicinity of a supposed fault. Individual pieces were up to 4 inches across with small remnants of argillite host rock. A grab sample assayed 75.0 oz/ton Ag and 70.0% Pb.

#49 Arsenopyrite, minor ankerite, pyrite and sphalerite over a 15 foot width along the western side of a dike-like body of greenstone projecting through phyllite talus. A grab sample of fresh sulphide assayed 0.42 oz/ton Ag, trace Pb, 0.8% Zn, and 0.18 oz/ton Au.

#51: Asbestos and chrome in dunite and serpentine. Much anthophyllite up to 8 inches, only a few ¼ inch stringers of chrysotile at southern serpentenized contact. Chromite in small hands, pods and disseminations up to 2 inches wide scattered widely in the dunite. Trace of platinum in creeks.

#52: Chalcopyrite and sphalerite replacement in quartz lenses. Best assays ran 16.50% Cu, 6.55 oz/ton Ag, 0.01 oz/ton Au.

#53: Gold values in irregular arsenopyrite bearing sulphide zones, also pyrrhotite and chalcopyrite. Assays around 0.5 oz/ton Au.

#54: Stringers of galena in east-west shear zone. Reported low Ag:Pb ratio.

#55: Chalcopyrite in quartz, float.

#56: Minor chalcopyrite in quantity.

#57: Minor asbestos in serpentinized dolomite.

#58: Minor occurrence of sphalerite, galena, chalcopyrite and arsenopyrite, considerable sulphides and gossan.

#59: Gossan with associated magnetite.

#60: Nickel-copper pyrrhotite in ultrabasics, float. Assayed 0.2% Ni, trace Cu. Same as #9.

#61: Galena float.

#62: Irregularly disseminated molybdenite in skarn zone near granite contact.

#63: Quartz veins striking in the foliation of northwesterly trending quartz-biotite schist are sparsely mineralized with galena and lesser amounts of pyrite, pyrrhotite, chalcopyrite and molybdenite. The most persistent veins, that average from 5 to 8 feet thick and may be traced for as much as 2000 feet along strike, occur within a few hundred feet of a granite batholith lying to the north. Galena rich sections are small in size and appear to be restricted to cross-structures within the veins. The best assay reported is 131.5 oz/ton Ag with 66.3% Pb. One section 2.5 feet wide reported to have run 102.5 oz/ton Ag and 45.2% Pb. Gold values vary from a trace to 0.02 oz/ton.

#64: Steeply dipping quartz veins up to 10 feet wide strike in various directions. They lie in northwest trending zone and cut schists, quartzite and limestone near a quartz porphyry dike, 1½ miles from the contact of the granite. A selected sample of pieces of quartz with galena from a vein cutting limestone assayed 94.14 oz/ton Ag and a trace of gold. Same as #2.

#65: A quartz vein 3 feet wide assayed 0.01 oz/ton Au, 1.34 oz/ton Ag and 5.19% lead. Other veins of similar width as well as quartz lenses, contain a little pyrite and galena down the slope towards the river. The veins strike N55W and dip northeast at 35 to 80 degrees. The wall rock is altered shale, locally changed to talc schist and kaolinized slate.

#66: Galena, jamesonite and arsenopyrite in quartz veins. A picked specimen assayed 0.005 oz/ton Au, 1.54 oz/ton Ag, and 3.82% Pb.

#67: Small scattered occurrences of galena and sphalerite.

#68: Minor amounts of galena and sphalerite in place. One boulder of massive galena float.

#69: Minor galena in zone 30 feet wide. One assay 12.5% Pb, 12 oz/ton Ag. One specimen of massive galena float ran 64.5% Pb, 67.6 oz/ton Ag, 0.04 oz/ton Au.

#70: Magnetite 30 feet wide with some bands of pyrrhotite.

#71: Quartz veinlets with chalcopyrite.

#72: Pyrrhotite body up to 30 feet wide traceable for over 1000 feet in a northwesterly direction, adjacent to a gabbro dike. Reported assayed up to 0.5% Ni and 0.25% Cu.

#73: A number of pyrrhotite, sphalerite, galena veins carrying some silver in phyllite and limestone country rocks. Granite contact a short distance to the north.

#74: Pyrrhotite, galena and sphalerite float. Reported low silver values.

#75: A reported asbestos showing on the south-east slope of Tower Peak.

#76: Asbestos showing north-west of Tower Peak.

Notes by R.E.G. Davis and A.E. Aho

#77 Fox Group - 105-F-15. Located on S.E. slope of Mt. Cook. Two calcite veins 12"-18" wide, exposed for a length of 40', carrying massive sphalerite, considerable galena, and also some copper.

SUMMARY REPORT

on

S I L V E R - L E A D M I N E R A L I Z A T I O N

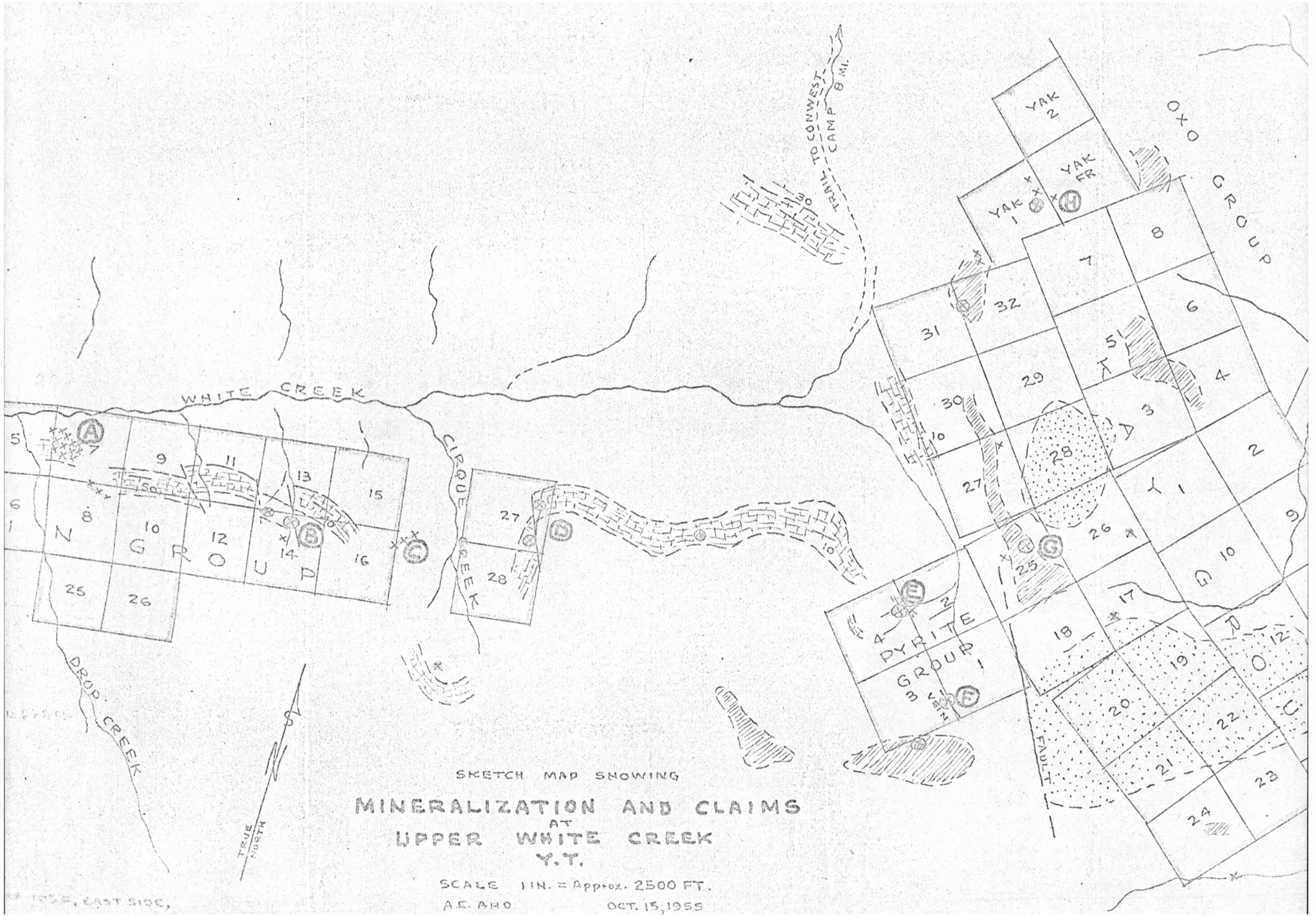
in the

U P P E R W H I T E C R E E K A R E A

Y.T.

Submitted to British Yukon Exploration Company, Ltd.

Aaro E. Aho
October 14, 1955.



SKETCH MAP SNOWING

MINERALIZATION AND CLAIMS AT UPPER WHITE CREEK Y.T.

SCALE 1 IN. = Approx. 2500 FT.

A.E. AHO OCT. 15, 1955

CONTENTS

SUMMARY STATEMENT ---------- 1

INTRODUCTION ---------- 2
Location and accessibility ---------- 2
Topography, Climate, etc ---------- 2
History ---------- 3

GEOLOGY OF THE AREA ---------- 4

MINERALIZATION ---------- 5
Locality A ---------- 6
Locality B ---------- 7
Locality C ---------- 8
Locality D ---------- 8
Locality E ---------- 9
Locality F ---------- 10
Locality G ---------- 11
Locality H ---------- 11
Other Mineralized Areas ---------- 12

CONCLUSIONS AND RECOMMENDATIONS ---------- 13

SUMMARY STATEMENT

This report describes and evaluates silver-lead showings discovered in 1955 by British Yukon Exploration in the upper White Creek vicinity 100 miles northeast of Whitehorse, Y.T. The showings consist of veins and irregular replacement bodies of lead sulfides which vary considerably in grade but have an average silver-lead ratio ($\frac{\text{oz/ton silver}}{\% \text{ lead}}$) of about 0.70; i.e. concentrate of about 70% lead would contain 50 oz/ton silver (total value $240 per ton). 50% Pb $172/ton

Of over a dozen showings discovered several deserve further work and two are particularly promising. One of these consists of a sizeable area of mineralized boulders of low grade, with one boulder exceptionally high in silver. The other consists of a strong mineralized zone with nearby silver-lead boulders and a possible vein extension.

It is recommended that next season a geologist and two good men carry out a program of geologic and geophysical work, and trenching to evaluate the possibilities of the most promising showings before more serious exploration is justified. pair of prospectors should also cover the vicinity (White Creek vicinity) further, as well as several adjoining promising areas.

INTRODUCTION

Location and Accessibility

The upper White Creek area lies in the Pelly Mountains of Whitehorse Mining District, about 110 miles due northeast of Whitehorse, Yukon. At present the area can be reached best from two lakes on which planes can land:(a) Bruce Lake from which 30 miles of good trail lead up Ketza River, (b) Grayling Lake, from which it is a 15-mile hike up White Creek. The area can also be reached in two days by horses from the Canol Road which runs in a north-south direction about 30 miles east of the area. The Canol Road is in fair shape for travel and the White Creek area could be easily connected to it at Quiet Lake by building 35 miles of road up Misutlin River, McConnell River, and White Creek. Such a road would place the area within a trucking distance of about 180 miles from Whitehorse, Y.T.

Topography, Climate, etc.

The White Creek area is one of the higher and more rugged parts of the Pelly Mountains, with peaks reaching up to 7000 feet elevation and valleys lying at 3500 feet or less. The Pelly Mountains form a pronounced weather barrier; snowfall is moderate to heavy (6 feet or more), and storms are common even in summer. The area is largely clear of snow in early or mid-June and becomes blanketed again in mid-or late September. Timber suitable for exploration purposes (spruce and balsam) grows to elevations of 4500 feet and water is plentiful especially early in the season. The north slopes and other local areas are underlain by permafrost which hampers stripping

of mineral showings.

History

The Pelly Mountains have remained relatively unprospected until the last few seasons, particularly 1954 and 1955 when Conwest's rich silver-lead discovery up Ketza River drew attention to the region. Over 500 claims were staked on this discovery and around adjoining showings of similar mineralization late in 1954. British Yukon Exploration staked the Kay Group of 32 claims, south of Conwest's ground on the divide between the upper West fork of Ketza River and upper White Creek.

The general Ketza Area did not attract as many prospectors as it deserved in 1955, probably because of its relative inaccessibility for short trips and because of the late spring. However, a number of new showings were found and Conwest's main showing is continuing to be promising enough to attract attention to the possibilities of the area. At present, it appears that the area is promising enough to merit at least several seasons further prospecting and exploration.

From May 11 to October 2nd British Yukon Exploration employed two to four men in the general Ketza area doing prospecting, geologic mapping, and trenching. Most of the time was spent in upper White Creek where plans had called for prospecting and mapping of the Kay Group of claims and adjoining ground. Several promising silver-lead discoveries were made along White Creek and much of the effort was devoted to tracing these, until snow at the end of September prevented further work. Twenty-seven claims (Yak No. land 2, Yak fraction, Rain Nos. 1-16 and 25-28, and Pyrite 1-4 inclusive) were staked

in 1955 to cover the new discoveries. The reader should refer to maps included with this report.

GEOLOGY OF THE AREA

The mountains and bedrock of the White Creek area consist chiefly of layers of sedimentary rocks which accumulated on top of each other as mud, limy coral reefs, and sand in a sea bottom some 500 million years ago (Cambrian time). These sediments have been deeply buried by other deposits and squeezed by earth movements over \\ periodsof millions of years so that heat and pressure have hardened the sands into quartzite, the limy reefs into limestone and dolomite, and the mud into slate and phyllite. The layers are not flat-lying as originally deposited but have been crumpled into broad folds up to a mile or two across. Squeezing of the softer rocks such as the slates during this folding has resulted in great complexity of detailed structure. At the head of White Creek these rocks can be seen now as they lie exposed once again by stream and ice erosion. The original layers still lie in the same order in which they were deposited, showing the following approximate thicknesses and sequence (stratigraphic section):

Top	200-500	ft	-- quartzite, impure limy quartzite.
	100	ft	-- black slate and phyllite.
	150	ft	-- brown dolomite
	500	ft	-- black and brown slate and phyllite.
	150	ft	-- grey limestone.
	200+	ft	-- grey phyllite with small limestone layers near the top.
Bottom			

After the rocks had been folded and hardened, further earth pressures produced numerous breaks or faults which cut

the rocks mainly in northerly and northwesterly directions. In some places the rocks have been displaced up to 500 feet or more by movements along these breaks. Hot solutions carrying silver, lead, iron, and silica have ascended from depth along the breaks, have chemically changed the wall rocks, and have deposited silver and lead as veins along the breaks and as replacements of the wall rocks near the breaks. Most of the silver-lead showings discovered at White Creek occur where the grey limestone layer is cut by such a break or fault, and several tend to occur near the top of the limestone as if the silver-lead solutions were dammed by the impervious overlying slate or phyllite.

MINERALIZATION

Mineralization in the White Creek area consists mainly of lead sulfide (galena) and local zinc and copper sulfides (sphalerite and chalcopyrite) with appreciable silver values, especially when the copper-antimony sulfide "grey copper" (tetrahedrite) is present. No appreciable gold values (over 0.06 oz per ton) were encountered. Iron sulfides (pyrite and pyrrhotite) and manganiferous iron carbonate (siderite) accompany much of the mineralization, producing characteristic iron rust that helps in prospecting. Quartz (silica) is present in some of the mineralization.

The silver-lead mineralization occurs in two types which grade into one another: (a) as veins or open-space fillings along breaks or faults in any of the several rock types, (b) as irregular-shaped replacements in limestone.

Some of the veins consist chiefly of galena and carry up to 70% lead and 50 to 60 oz/ton or more silver while others are less pure and contain quartz, iron sulfides, iron carbonates, or zinc as well. The replacements consist of iron carbonate with or without iron sulfides in which galena is scattered giving 12 to 15% lead and about 10 oz silver per ton. Although smaller, the veins can carry higher values while the replacements, although larger, are lower in grade. In most of the mineralization the ratio of silver (oz/ton) to lead (%) averages about 0.7, being about 0.6 in iron-rich replacements and 0.9 or more in certain veinlets. Exceptionally high silver values were encountered in two localities in vein type mineralization which contained grey copper, a silver-carrier in this area.

Locality A

#10 In a low-lying forested area of overburden at locality A on Rain No.7 claim, numerous boulders of replacement-type silver-lead mineralization were found along with one boulder of grey copper exceptionally rich in silver. The silver-lead boulders occur over a restricted area several hundred feet across and do not appear to have moved far from their source; however several trenches dug failed to reach bedrock and digging was locally hindered by permafrost. Samples of the mineralized boulders average 12.8% lead, 9.4 oz/ton silver, and 0.02 oz/ton gold (silver/lead = 0.73). Only one boulder of grey copper was found but a grab sample from this contained 498 oz/ton silver, trace of gold, and 3.8% copper.

From the amount of strongly mineralized boulders found

in this locality it would appear that a considerable tonnage of the low grade silver-lead ore might be found, and the presence of silver-rich grey copper encourages further work in an effort to find the high silver values in place. Digging has already outlined the area of loose boulders (float), but a brief geophysical survey should be made to determine their source, which should then be tested by further trenching and followed by drilling if warranted.

Scattered silver-lead-zinc mineralization and much manganiferous iron carbonate was found as boulders on the hillside about a thousand feet southeast of Locality A. This may be another mineralized zone or an extension of the one at Locality A. Another area of similar manganiferous carbonate boulders carrying silver-lead and some copper lies about 2500 feet west of Locality A and may represent another mineralized zone.

Locality B (Shorty showing)

#11 Mineralization at Locality B on Rain No. 13 and 14 claims consists of irregular replacements of iron sulfides (pyrrhotite and pyrite) with evenly scattered silver-lead (galena) found near the top of the grey limestone formation where it is cut by a break. Trenching exposed the sulfides over 6.3 feet and 13.3 feet in two separate exposures which are apparently unconnected on the surface, but may connect at depth. The northeasterly body apparently continues for few tens of feet northeast along the hillside. Three channel samples and one sample of the loose sulfide boulders averaged 11.4% lead, 7.9 oz/ton silver, and 0.03 oz/ton gold (silver/lead = 0.69). Although there is no evidence of higher silver values around

this showing and its size possibilities appear limited, the mineralization could be traced by magnetometer and trenched easily on the steep hillside. Enough such work should be done to indicate the size the showing and any possilbilities of better silver values.

More mineralized boulders containing silver-lead were found about 300 feet to the south and also about 500 feet to the west of the above showing. These localities should be investigated more closely.

Locality C

A few boulders similar to the mineralization at Locality B were found on an east-sloping hillside at Locality C and have apparently originated on the hillside to the west on Main No. 16 claim One boulder assayed 23.9% lead, 18.2 oz/ton silver, and a trace in gold (silver/lead = 0.76) -- some copper was also observed. The source of these boulders, although low in grade, should be located by magnetometer and exposed by trenching.

Much iron and some copper mineralization were found at the head of the creek south of Locality C.

Locality D

#12 Two small silver-lead showings with associated iron carbonate (siderite) were found near breaks in the limestone at Locality D on Main No. 27 claim.

The north showing consists of about a ton of boulders, nearly in place, from which grab samples yielded 39.1% lead, 22.0 oz/ton silver, and 0.02 oz/ton gold (silver/lead = 0.72).

The source could be easily exposed by trenching.

The south showing consists of numerous small boulders which assayed 35.8% lead, 42.9 oz/ton silver, and 0.04 oz/ton gold (silver/lead = 1.20). Some of the mineralization was found in place as irregular veins and pods in the limestone. This hillside should be prospected more closely in view of the higher than average silver-lead ratio.

About half a mile east of Locality D, a vein a few inches wide of iron sulfide (pyrrhotite) and silver-lead assayed 22.0% lead, 20.2 oz/ton silver, and a trace of gold (silver/lead = 0.92).

Locality E

#13 At the head of White Creek at Locality E on Pyrite No. 2 and 4 claims, a strong mineralized break in the limestone was exposed for at least 60 feet by trenching. Iron carbonate (siderite), iron sulfides (pyrite) and arsenides (arsenopyrite) occur in crushed (brecciated) limestone in most of this showing but they contain only a trace of gold, and in two places a small amount of silver-lead from which the best sample assayed 20.9% lead, 12.7 oz/ton silver, and 0.02 oz/ton gold (silver/lead = 0.61). Some well-mineralized boulders of silver-lead found below the showing assayed 14.6% lead, 9.9 oz/ton silver, and 0.02 oz/ton gold (silver/lead = 0.68). About 100 feet southeast of the showing several sizeable boulders, a total of about a ton of solid silver-lead, yielded an assay of 68.2% lead, 51.3 oz/ton silver, and 0.02 oz/ton gold (silver/lead = 0.75). Small amount of grey copper, a carrier of high silver values, was found nearby.

With such a strong mineralized zone and associated boulders of good silver-lead mineralization as well as better silver possibilities, Locality E appears well worth further work. The showing in the creek should be trenched both east and west since the full width is not yet exposed and may contain more silver-lead. However, trenching by hand to the southeast would be impractical because of depth of overburden and permafrost -- a bulldozer would be needed. A small electrical geophysical survey should be very helpful in tracing the mineralization and determining its extent.

Locality F

#14 On the steep mountain side at Locality E on Pyrite No. 1 claim, a well-exposed vein 12 to 14 inches wide was traced in phyllites for about 300 feet vertically and about 300 feet horizontally to the southeast. The vein consists chiefly of quartz (silica), a grey lead mineral, lead sulfide (galena), and zinc sulfide (sphalerite), from which one 20-inch channel sample and three grab samples averaged about 11.4% lead, 10.3 oz/ton silver, 8.4% or less zinc, and 0.02 oz/ton gold (silver/lead = 0.90). This vein may well be a southeast continuation of the mineralized zone at Locality E, about 2000 feet to the northwest, but unless higher precious metal values can be found in it, it will be too small to warrant further work even though the silver-lead ratio is slightly higher than average. Some silver-lead mineralization was found in dolomite cliffs above the vein. In the underlying limestone, however, the vein may widen out and this possibility should be checked in conjunction with any geophysical work

on Locality Localities E and F are covered by four claims, Pyrite Nos. 1 to 4 inclusive.

Locality G

#15 On Key No. 25 claim at Locality G, a small quartz vein (striking north-south and dipping 70 degrees east) containing some massive silver-lead lenses was traced for about 70 feet in dolomitic wall rock. 3-foot channel sample yielded 23.8% lead, 17.0 oz/ton silver, and 0.02 oz/ton gold (silver/lead = 0.71); while grab samples with grey copper from a small branch veinlet 2 to 4 inches wide assayed 131 oz/ton silver, a trace of gold, and 1.4% copper. One sample of float which appeared to contain much grey copper did not carry any exceptional silver values. Trenching did not reveal any better widths and the vein appears to pinch out at both ends.

small amount of trenching and more detailed prospecting should be done in this locality in an effort to find more of the high silver values.

Locality H

#16 small amount of trenching on Yak No. 1 claim at Locality exposed blebs and veinlets of silver-lead mineralization in broken up (brecciated) dolomite. sample of the better mineralization assayed 26.6% lead, 30.4 oz/ton silver, and a trace of gold (silver/lead = 1.14). Mineralization of this type can be found in several places nearby so this locality deserves more prospecting and trenching especially because of the slightly higher than average silver-lead ratio.

About 2000 feet southwest of Locality a silver-lead

veinlet 2 inches wide in a dolomite cliff assayed 78.2% lead, and 95.3 oz/ton silver (silver/lead = 1.22). A nearby limestone bed contains scattered zinc-lead mineralization which, although non-economic, is a favourable indication.

Other Mineralized Areas

Small amounts of silver-lead mineralization can be found in many parts of the upper White Creek vicinity -- several such areas deserve further prospecting in the hope of discovering further showings.

A strong crushed (brecciated) zone of quartz with iron and some copper stain cuts phyllites at the south end of the Key Group of claims. A nearby find of boulders of massive iron sulfide (pyrite) with silver-lead assayed 3% lead, 1.8 oz/ton silver, and a trace in gold (silver/lead = 0.60). Another silver-lead-zinc vein several miles to the west assayed only 4.4% lead, 1.8 oz/ton silver, and a trace in gold (silver/lead = 0.41).

CONCLUSIONS AND RECOMMENDATIONS

Prospecting by British Yukon Exploration in the upper White Creek vicinity has revealed promising silver-lead mineralization similar to the rich discoveries being explored by Convest at Ketza River several miles to the northeast.

The most promising discovery (Locality A) is a sizeable low-lying area 3 miles down White Creek with many tons of mineralized boulders containing about 12.8% lead and 9.4 oz/ton silver, and one rich boulder containing 498 oz/ton silver. Another promising area at the head of White Creek contains a strong mineralized zone with small lenses of silver-lead and nearby boulders of richer silver-lead mineralization (Locality E); and also a low grade silver-lead-zinc vein (Locality F) which may be an extension. Other silver-lead discoveries include a low grade showing with modest size possibilities (Locality B), a modest area of low grade boulders (Locality C), two small showings of fair grade (Locality D), a small vein with an associated high-grade veinlet (Locality G), a zone with scattered fair values (Locality H), and numerous other localities in which lesser amounts of mineralization were found.

The above discoveries, especially those at Locality A and Localities E and F, should be exposed by trenching and traced by careful prospecting, geologic mapping, and detailed geophysical work. The upper White Creek area deserves more detailed prospecting in conjunction with the other work and adjoining promising areas including part of the Key claims should also be prospected.

The following program is recommended for the White Creek area to accomplish the maximum results with minimum expense next season:

Starting in early or mid-June when the area is largely free of snow, a good geologist should map each showing and its vicinity in detail, trace the magnetic ones with a small magnetometer, and the others with a small electro-magnetic (EM) unit. To expose the discoveries he should have two good men capable of trenching, using powder, and doing some local prospecting. This work, which could be continued until mid-or late September, should provide sufficient information to decide if more costly drilling or underground work would be justified.

A pair of prospectors should prospect from June 15 to late September in the same area, in adjoining areas to the south and west, and also west of McConnell River. The chief prospector and geologist would have to be employed in early May -- they could prospect another promising but more accessible area until June.

Respectfully submitted,

A.E. Aho

Dr. A.E. Aho, P. Eng.

cc: Mr. F.H. Brown
Mr. A.P. Friesen

PLACER OCCURRENCES

#1: Reported placer gold at the junction of Scurvy Creek and Big Salmon Creek. A.E.A.

Whiskey Lake

#1 Coal Group (about 61°57.5'N, 132°30'W)

Reference: Wheeler, Green and Roddick (1960).

1966

G. Harris and I.L. Foster of Whitehorse hold 2 coal leases near Whiskey Lake covering a new coal outcrop discovery in Paleocene sandstone and shale in Tintina Trench (unit 10, Wheeler, Green and Roddick, 1960) just west of the Canol Road. Assays from the exposure are reported to show high carbon, low ash, non-coking grade bituminous coal.

Quiet Lake Sheet

#10 1. Small vein (2-3 feet wide) with pyrite and minor galena near the headwaters of Seagull Creek at an elevation of approximately 5100 ft.

#11 2. Quartz vein, up to a few feet wide, striking NW, on the west side of the upper reaches of Seagull Creek. Mineralization consists of galena and minor sphalerite. A grab sample assayed at 27% Pb, 25.3 oz/ton Ag, trace of gold from galena.

12 3. No mineralization was found in place at this locality, however, several tons of quartz float containing galena was found. Best material assayed 45.5% Pb, 22.92 oz/ton Ag. Numerous other small ~~float~~ galena and tetrahedrite float occurances were found. ~~Had assays~~ ~~low~~ ~~in~~ However, Ag assays were low.

13 4. Located on the west side of the upper reaches of Seagull Creek at an elevation of approximately 5700 feet. ⊗ Showing consists of ¼" massive galena with very minor pyrite and tetrahedrite vein which cuts a host dolomite at N 12-20° E/ 85-90 NW. The vein was traced for 150 feet and pinches out gradually to

the north and rapidly to the south. Last assays ran 70% Pb, 50 oz/ton Ag. Drilling at the main showing showed no mineralization ~~at~~ 25 foot depths. Several tons of massive galena was uncovered in 3 trenches.

5. Vein showing #4 an occurrance of 100 lbs of massive galena float up to 8 inches across. Assays: 62.9% Pb, 31.92 oz/ton Ag, 0.04 oz/ton Au.

6. Lenses or pods of pyrite with galena, up to 3 feet wide and several feet long, are exposed for 100 feet along a quartz vein zone. The vein zone cuts dolomite and strikes NNW with a steep dip. Better mineralization assayed 7.9% Pb, 5.44 oz/ton Ag and a trace of Au.

7. Wide zone of arsenopyrite with traces of galena is exposed irregularly for between 100 and 200 feet along strike. It is largely covered with overburden and may be several tens of feet wide. Minor galena bearing pods gave 3.2% Pb, 9.94 oz/ton Ag, 0.89 oz/ton Au.

8. Core or large boulder nearly in place containing pyrite with scattered galena in creek bottom. Also magnetite, chalcopyrite, much siderite reported nearby.

17

9. East side of the upper reaches of Seagull Creek. Showing consists of galena-sphalerite stringers in dolomite in small shears or breccia zones. There is also a coarse grained quartz-galena vein 8 inches wide ~~wide with a few inches of~~ in an altered intrusive. Average assays from picked samples from the dolomite were 29.4% Pb, 4.5 oz/ton Ag, trace Au. Massive galena from intrusive gave 81.4% Pb, 10.8 oz/ton Ag, 0.01 oz/ton Au.

18

10. Large amounts of siderite float with a smaller amount (several tens of tons) which contains specks or blobs of galena. The better material averages 12.8% Pb, 9.4 oz/ton Ag and 0.02 oz/ton Au. Considerable prospect pitting done but nothing found in place; probably talus or slide material resting in valley bottom. One piece of tetrahedrite float gave 498 oz/ton Ag. Considerable pyrite, pyrrhotite, and minor chalcopyrite are associated with the siderite in lower Cambrian limestone.

19

11. Upper reaches of White Creek, a tributary of the McConnell River.

20 Irregular replacement and breccia filling of pyrhotite, pyrite and galena at upper contact of Lower Cambrian limestone. Two sampled exposures 6.3 feet and 13.3 feet in 2 trenches averaged 11.4 % Pb, 7.9 oz/ton Ag 0.03 oz/ton Au. May be related to NW cross-fault.

12. Upper reaches of White Creek.

21 Stringers and breccia zones of siderite with galena in Lower Cambrian limestone. Both showing 39.1 % Pb, 28.0 oz/ton Ag, 0.02 oz/ton Au. South showing 33.8 % Pb, 42.9 oz/ton Ag, 0.04 oz/ton Au.

13. Headwaters of White Creek.

22 Breccia zone 60 feet or more wide in Lower Cambrian limestone mineralized with pyrite, siderite and minor scattered galena which assayed 19.6 % Pb, 9.9 oz/ton Ag, 0.02 oz/ton Au. Some massive galena float 100 feet to SE, also barren arsenopyrite.

14. Headwaters of White Creek.

Siderite and quartz vein 12 to 14 inches wide with boulangerite or jamesonite, galena, and sphalerite traced 300 feet vertically, 300 feet horizontally up a dolomite cirque headwall and down into talus. A 20 inch channel ~~any~~ sample and 2 grab samples averaged 11.4% Pb, 10.3 oz/ton Ag, 8.4% Zn and 0.02 oz/ton Au.

23

15. A few inches of galena in 3 foot wide quartz vein 00/70E at the top of dolomite overlain by shale. The vein is exposed for 50 feet and assayed 68.0% Pb, 47.8 oz/ton Ag.

24

A 3 inch quartz vein ~~on~~ containing tetrahedrite, assayed (select) 131 oz/ton Ag, 1.4% Cu.

16. Near headwaters of Ketza River.

Galena in brecciated dolomite. Best specimens gave 26.6% Pb, 30.4 oz/ton Ag.

25

17. Located on the ridge between the headwaters of the White Creek and Ketza River

Minor replacement of scattered Zn and Pb with barite in limestone reefs. (2 localities)

26

18. Massive pyrrhotite with galena up to 9 feet wide, 70 to 80 feet long in a rusty silicified breccia zone in limestone. Average approximately 12% Pb, 10.5 oz/ton Ag 0.1% Cu, 0.02 oz/ton Au. Some massive blobs of chalcopyrite in quartz nearby, 6 oz/ton Ag, trace Au.

27

19. Float of galena in quartz, 31.9% Pb, 24.4 oz/ton Ag, trace Au.

28

20. Galena float on east side of the headwaters of the Ketza River.

29

21. East side of Seagull Creek. Pyrite, arsenopyrite, galena, pyrrhotite and magnetite. Two samples taken. One carried 9.00 oz/ton Ag, 0.01 oz/ton Au; the other 13.6 oz/ton Ag, 0.01 oz/ton Au.

30

22. Arsenopyrite, antimony (Jamesonite) and galena. Nearby sample ran 30 oz/ton Ag.

31

23. Sphalerite, galena and pyrite. Up to 10 inches wide, traceable for 200 feet.

32

24. Magnetite, minor sphalerite and galena. Width from 2 to 4 feet. No gold values.

33

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
Quite Lake 105-F								
105F1-1	108 GSC P67-36	Conwest Molly Grp.	1963	61°10'N 132°25'W	Mo.	Skarn Mid-Late Cambrian	Contact zone Granodiorite & Lst.(skarn) fracturing	17 d.d.h.-2500', treaching-molybdenite & powellite. Best min. in hybrid lime rich dioritic rock (up to 1%)
105F4-2	99GSC P67-36	Mohagan Property, Boswell R.	1965	61°03'N 133°48'W	Ag-Pb	Dolomite lenses within qtz. fspr. biotite gneiss & qtz. veins	Parallel the foliation of enclosing rocks. Some Tremolite.	One lens 10'wide expl.- over 3 trenches; middle trench- 18" 95.6 oz. Ag; 51% Pb. - Next 36" 1.90 oz. Ag; 1.2% Pb. Galena 157.70 oz. Ag; 81.5% Pb. Composite qtz-galena 2' - 5.70 Ag. 6.8% Pb (300'-W. of above)
105F4-63				61°01'N 133°42'W	Ag,Pb, (cu-Mo)	NW trending qtz-Bi-Schist	Qtz. veins concordant with foliation	Most persistant veins -8' and traced 2000' within few hundr feet of granite batholith, Gal rich sections small, restricte to cross structures in veins. Best assay 131.5 oz. Ag. with 63% Pb.
105F6-75	101 GSC P67-36	Tower Peak		61°16'N) 133°11'W) 75 61°18'N) 133°12'W) 76	Asb.			Reported showings SE slope of Tower Peak, and NW of Tower Pe
105F7-3	106 GSC P67-36	Canol M.M. Upper Sheep Creek	1960	61°29'N 132°48'W	Mo(W)	U.Cambrian Lst. and phyllite and granodiorite border	Repl. in skarn and in hybrid meta diorite bordering granodiorite. Contact Meta.skarn.	Ig. sed. contact conformable-s 3'-20' thick thickest when nea flat lying. 1959 -1000' adit, drift, crosscuts, 26 d.d.h. ho to N50°W/40°SW- 0.68% MoS_2 ove 22' skarn, 8.4% MoS_2 over 12' granodiorite. High grade body in granodiorit 10'-20' from contact 4-7'thick and more than 45' downdip x 2 along strike probably greater than 4% MoS_2. Fracturing & faul ing extensive in granod. NE, N steep one N/50E. Normal fault places ore body a few feet.

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
105-F Contd.								
105F7-57				61°28'N 132°42'W	Asb.	Serpertinised dolomite		Minor asbestos. (notes)
105F7-58				61°27'N 132°39'W	Zn,Pb, Cu		Gossan	Minor occurrence (notes)
105F8-32 & 33		#32 & #33 in Rept.combined		61°30'N 132°25'W	Pb,Zn, Ag		Veins	Sphalerite and galena #32 10" wide 200'long #33 width 2'-4' (notes)
105F8-35 & 36		#35 & #36 in Rept. combined		61°24'N 132°17'W	Pb,Ag. (some cu in #35)		Veins	#35 gal. and cu stain 4'x175' - 17 oz. Ag. #36 gal. traceable for 50' 17.8 oz. Ag. (notes)
105F8-21				61°29'N 132°16'W	Pb,Ag.			#21 Rept. stringers & bx. zones in siderite. -39.1% Pb - 28 oz. Ag.0.02 oz.A -33.8% Pb -42 oz.Ag. 0.04 oz. A
105F8-24	114 GSC P67-36			61°29½'N 132°12'W	Pb,Ag.			#24 - 3' qtz. veins 00/70E top of dolomite, exposed for 50'. Select. assayed 68% Pb, 47.8 oz. Ag. some tetrahed.
105F9-56	105 GSC P67-36			61°37'N 132°23'W	Cu			Minor cpy. in quantity. (notes)
105F9-55				61°35'N 132°22'W	Cu			Qtz. float cpy. (notes)
105F9-52				61°35'N 132°17'W	Cu, Zn	Qtz. lenses	Rept. in Qtz.	Best assay 16.50% Cu, 6.55 oz. 0.01 oz. Au (notes)

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
105-F Contd.								
105F9-69				61°34'N 132°20'W	Pb,Ag.			Zone? 30' wide(minor galena) One assay -12.5% Pb, 12 oz. Ag. one of massive galena 64.5% Pb. 67.6 oz. Ag. and 0.04 Oz. Au. (notes)
105F9-6 & 53	112 GSC P67-36	Conwest	1960	61°32'N 132°16'W	Au(cu)	L.Cambrian Lst.	Bedding control replacement	Horiz. "bedded" po, As py (Au), py., and minor cpy. Ore body 6(long, 200' deep x 12' wide. Small & modest grade. 2000' packsack drill, 5000' Ax core, 1500 Ex, 11,00 Bx(one ho #53 same mineralogy. Assay 0.5 oz. Au.
105F9-4	111 GSC P67-36	Silver Key	1964	61°33'N 132°10'W	Pb. Ag (Zn)	L.C. Lst. & dolomite.#48 in argillite.	Veins & repl. in carbonates and along fault zones.	Silver Key: Galena assoc. with faults in phyllites, shale & qtzite. and in veins and replacement bodies in carbonates. Tetrahedrite & cpy. also report
105F9-4		Silver Key #42?		61°35'N 132°10'W	Pb. Ag. (Zn)	#49 greenstone dyke in phyllite		
105F9-4a		Silver Ridge #44 (Key 3)		61°34½'N 132°12'W	Pb,Ag (Zn)	Some in faults as young as Mississippian or earlier		Assays: -0.01 oz. Au. 76.7 oz. Ag.67.4% -0.04 oz.Au,48.1 oz.Ag. 73.2% P -20.0 oz.Ag.28.1% Pb. 8.1% Zn. -54.5 oz.Ag.24.2% Pb. 8.4% Zn
		Ketzakey & Key Grp. Showing	1965	61°34½'N 132°13'W	Pb,Ag (Zn)			
105F9-5	113 GSC 67-36	OXO Group	1964-65	61°31'N 132°13'W	Pb, Ag (cu)	L.C. Lst. & dolomite (see back)	Veins & Replacement in carbs. and along fault zones	Main showing brown black sulphi rich lens 10'x 70' po., py., gal. sph. Chip sample from blocks in tre -0.02 oz.Au., 10.2 oz. Ag. 12.7% Pb. 0.4% Zn, 0.03% Cu.

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
105-F Cont.								
105F8-19				61°28'N 132°17'W	Pb, Ag. (cu)	L.C. Lsts. & dolomite (see back)	Veins & replacement in carbs. and along fault zones	#19 Float (siderite) galena, some tetrahedrite, po, py & minor cpy., (tetrahedrite-498 oz.Ag., better material ave. 12.8% Pb, 9.4 oz. Ag. & 0.12 oz. Au.
105F8-20				61°28½'N 132°16½'W				#20 Repl. & Bx filling in L.C. Lst. upper contact. Two exp. 6.3' & 13.3' ave. 11.4% Pb, 7.9 oz. Ag. May be related to NW cross fault.
105F8-22				61°28'N 132°15½'W				#22 Bx. 60' zone in ls. 14.6% 9.9 oz. Ag., 0.02 oz. Au.
105F8-23				61°28'N 132°13'W				#23 Siderite & Gu.vein 1' wide jamesonite, galena, sphalerite, traced 300' vertic. 300' hori: and down into talus. 20" channel & 2 grab assayed 11.4% Pb. 47.8 oz. Ag. Some tetrahedrite
105F8-61				61°27½'N 132°13½'W	Galena Float			Galena Float
105F9-25				61°30½'N 132°12'W	Ag, Pb.			Galena in bx. dol. best 26.6% 30.4 oz. Ag.
105F9-26				61°30¼'N 132°13'W	Ag,Pb.			Repl. scattered Zn. & Pb. in lst. some barite.
105F9-27				61°31'N 132°14'W	Ag,Pb.			Massive po. with galena 9'x70' in silic. bx. zone in Lst. Ave 12% Pb, 10.5 oz. Ag. 0.1% Cu. 0.02 oz. Au.

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
105-F Cont.								
105F9-28				61°31½'N. 132°12'W	Ag, Pb			Galena float in quartz.
105F9-29				61°30'N 132°10'W	Ag, Pb			Galena float
105F9-48	110 GSC P67-36	Mount Misery		61°20'N 132°14'W	Ag, Pb			Galena float - near supposed fault, up to 4" with remn. of argillaceous host - 75 oz. Ag. 70% Pb.
105F9-47				61°19'N 132°14'W	Ag, Pb			4" vein galena in grnstone S50°E/10°SW - piece of float 135.4 oz. Ag. 70% Pb, 0.5% Cu, 0.2 oz. Au.
105F9-46		#46 Rept.		61°18½'N 131°11'W	Ag, Pb			Remnants of galena coating on fault surface - up to 5" thick Fault 135/35°W - float sample below fault 135 oz. Ag. 75.8% Pb.
105F9-43		#43 Rept.		61°17½'N 131°12'W	Ag, Pb.			Massive py. in 8' zone .05 oz. Au., .40 oz. Ag. - above qtz. boulders with sparse cpy., ga sphal.
105F9-42, 44 & 49 plot at 105F9-4		#42 Rept.						Galena, siderite, minor tetra-hedrite, sub parallel veins, inches wide few feet apart N20-35W/70-85W. Assoc. with NW faults. Best mineralization 101.8 oz. Ag, 61.3% Pb.
		#44 Rept.						Similar to 43 in anticlinal f also 50'W. qtz-carb. zone with py. & Aspy.

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
105-F Contd.								
105F9-42, 44 & 49- plot at 105F9-4		#49 Rept.					k	Aspy, ankerite, py, sphalerite, 15' width along W. side of greenstone dyke ? projecting through phyllite talus. Fresh sulphide sample - 0.42 oz. Ag. trace, Pb, 0.8% Zn, 0.18 oz. Au.
105F9-45				61°18½'N 132°8'W	Ag,Pb			N-S shear zone/68°W 16' exposed width (east wall under overburden 6' sample across gouge with quartz. 0.18 oz. Au, 6.5 oz. Ag.
105F10-72				61°44'N 132°41'W	Cu, Ni		Pyrhotite bdy. up to 30' whick traced over 1000' adj. to gabbro. Dyke trends NW	0.5% Ni, 0.25% Cu.
105F10 & 68				61°42'N 132°47'W	Pb, Zn, Ag.		Veins	Up to 3' wide minor amounts sulphide.
105F10-11				61°39½'N 132°50'W	Pb, Ag, (Zn)	Dolomite	Qtz. veins	#11 Qtz. vein striking NW (few ft. thick) 27% Pb, 25.3 oz. Ag.
105F10-12				61°39'N 132°52'W	Pb, Ag			Float
105F10-13				61°39'N 132°48'W	Pb, Ag.			#13. Massive galena, very minor pyrite and tetrahedrite, cuts colomite at NNE/vertical- 150'. Best assay 70% Pb, 50 oz. Ag.
105F10-14				61°38'N 132°49'W	Pb, Ag			Float
105F10-15				61°37'N 132°47'W	Pb, Ag			#15 lenses pyr, galena, in dolomite. NNW/90°.

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
105-F Contid.								
105F10-16				61°37½'N 132°46'W	Pb, Ag			Arsenopy. & minor galena.
105F10-17				61°38'N 132°45'W	Pb, Cu			
105F10-18				61°37½'N 132°40'W	Pb, Zn, Ag			#18 Galena and sphalerite - shear & bx. dolomite, also qtz., galena in intrusive - dol.- 24'.
105F10-67				61°38'N 132°39'W	Zn, Ag			#67 Small scattered occurrence galena & sphalerite.
105F10-40				61°37'N 132°38'W	Zn, Ag, Pb.			#40 Galena in small veins, sam - .02 oz. Au, 9.10 oz. Ag, 30.8% Pb, 14.6% Zn. - 8.42 oz. Ag., 74% Pb.
105F10-37				61°36'N 132°37' W	Zn, Ag, Pb.			#37 same minerals. Replacement body in Lst. lens sti. NNE/45° 10-15' thick x 80' long in tuffaceous schist and tuff. Across width - 14.3% Pb, 8.91 Ag., 0.06 oz. Au.
105F10-38				61°36'N 132°38'W	Zn, Ag, Pb.			Same minerals - 3 sep. lenses 100' apart. Best is 100'long 13.8% Pb, 4.26 oz. Ag. 0.02 oz Au.
105F10-39				61°35'N 132°38'W	Cu, Zn, Pb.			#39, Po., Aspy., py., minor cp N-S 300'x15x20' - Low Aug & A Galena & sphal. in places 0.1 Cu.

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
105-F Contd.								
105F10-30				61°30'N 132°40'W	Pb, Ag.			#30 - Py., Aspy., Gal., Po., Ma 2 samples: -4.0 oz. Ag., 0.01 oz. Au. -13.6 oz. Ag., 0.01 oz. Au
105F10-34				61°34½'N 132°37'W	Cu			#34 - Po., Cpy., Spl., .01 oz. Aug 0.54 Ag. Cu-nil.
105F10-7	107 GSC P67-36	Pelly Minerals Syndicate (Cone)	1963	61°36'N 132°37'W	Pb, Ag, Au.	(Unit 6C-GSC) Volcanic & marble in volcanic	Sheet like or lens like mass 10' thick x 80' long. Shears in places	Trenching, pitting, mag. Massive po., py., Galena .02 oz. Au, 26.7 oz. Ag., 79% P 0.2% An (grab sample)
105F10-31				61°33'N 132°49'W	Sb, Pb, Ag			Sample 30 oz. Ag.
105F10-54				61°32'N 132°35'W	Pb, Ag.		Stringers galena, in E-W shear zone	Low Ag/Pb.
105F11-74				61°41'N 133°13'W	Pb, Zn.	Occurs as float		Pyrrhotite, galena, & sphalerit Float - low Ag. values
105F12-51				61°35'N 133°57'W	Asb. Cr, trace Pt.	Dunite intrus. serpentine & alteration	Asbestos in serp. south contact, chromite in pods, small bands & dissem. in dunite	Notes
105F11-66				61°35'N 133°03'W			In qtz. veins	Picked specimen 1.54 oz. Ag., 3.82% Pb (galena, jamesonite, arsenopyrite). Notes
105F14-73				61°53'N 133°20'W	Pb, Ag, Zn	Phyllite & Lst.	Veins short distance south of granite contect	Pyrrhotite, sphalerite, galena Notes.

NTS & Occur. Number	Reference	Name of Occurrence	Date	Lat.& Long.	Metals	Host Rock (with age)	Alteration, Gangue and Control	Remarks
105-F Cont.								
105F14-8	103 GSC P67-36	Barite Mtn. P.Versluce		61°50'N 133°00'W	Barite	Carbonate & qtzite thrust over shale & greywacke (Units 4 & 5 GSC)	Fractures & brecciated Lst.	1'-10' wide veins-most abundar between 4800' to summit at 6100'. Dozen strong veins- mos prominent 30' wide- brecciate Lst. host.
105F15-70				61°56'N 132°57'W	Fe		Magnetite band 30' wide	Some bands pyrrhotite. Notes
105F15-77		Fox Grp. SE Slope Mt. Cook		61°55'N 132°53'W (Show on GSC P67-36 map as 1° south of here)	Pb, Zn (Cu)		2 calcite veins 12"-18" exp. 40' width massive sulphides	Notes
105F15-65	104 GSC P67-36	Canusa		61°52'N 132°54'W	Ag, Pb	Altered shale	Qtz. veins & lenses up to 3' wide Str. N55W/35'-80E. Talc, kaolin	Au. .01 oz.;Ag, 1.34 oz, Pb. 5.19%. Notes.
105K15-71				61°48'N 132°59'W	Cu		Qtz. veinlets with cpy.	Notes
105F16-9	115 GSC P67-36	Bruce Lake (Newmont)	1964	61°48½'N 132°02'W	Ni	Ultrabasic		Low values - intrusive largely covered by Tertiary volcanics
105F6-78	100 GSC P67-36	Iola Mines		61°21½'N 133°19'W	Zn			

Quiet Lake - 105 F

1) Follow up unit 5 in 9, 15, pending investigation of same unit in Finlayson Lake Sheet — St Cyr Fault.

2) All Skarns should be checked for Helvite (Be) and Scheelite (W)

RANGE
Mt Green
6669
Cloutier
Cr
River
7001
6762
6541
River
White
Creek
59

SALMON RANGE

TAINS

ROAD

QUIET LAKE

Mt St Cyr
6725

ND PD
NC PC

Tower Peak
5672

Pisa Mtn

Dropoff Mtn

Crater Pt

Crater Mtn
6557

Granite Pt

Little Bear Mtn
5941

Indian Mtn
5940

Mt. Hogg
6774

McConnell Pk
6182

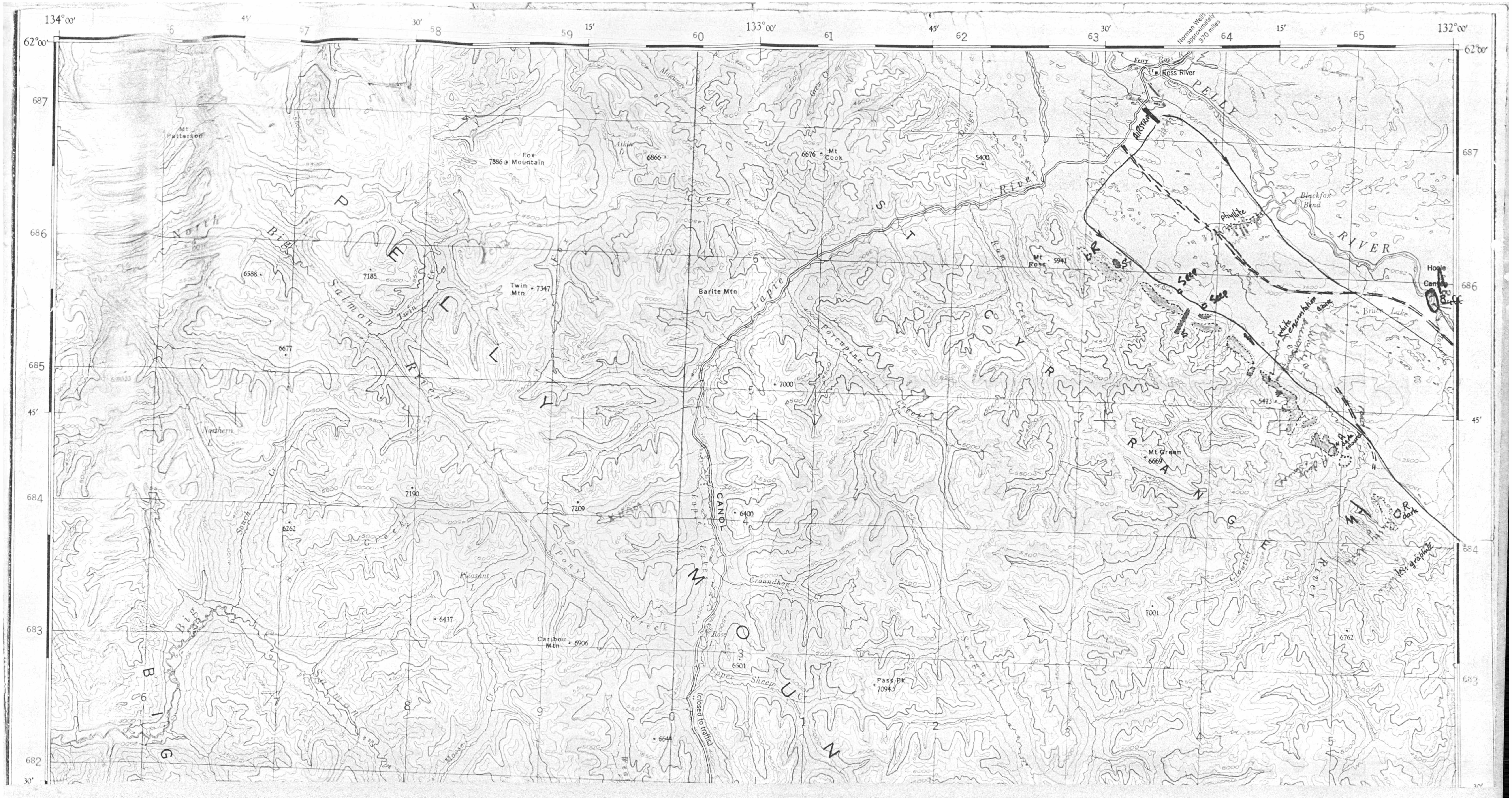
East Peak

Nisutlin Lake

Johnsons Crossing
40 miles

QUIET LK 15' 105 F

682
681
680
679
678
677
15'
61°00'
6770000 m N.
560000 m E.
134°00'
45'
57
30'
58
15'
59
60
61
133°00'
62
45'
63
64
30'
65
66
132°00'


134°00'
132°00'
62°00'
133°00'
Norman Wells approximately 370 miles
Ross River
Ferry
PELLY RIVER
Blackfox Bend
Hoole Canyon
Bruce Lake
Airstrip
Phyllite
Mt Ross 5941
Mt Cook 6676
Mt Green 6669
Mt Patterson
Fox Mountain 7886
Twin Mtn 7347
Barite Mtn
Caribou Mtn 6906
Pass Pk 7094
Ram Creek
Porcupine Creek
Lapie River
Lapie Lakes
Groundhog
Upper Sheep Cr
Seagull
Pony Creek
Pleasant L
Salmon River
Big Salmon
North Big Salmon
Twin Cr
Northern
Danger Cr
CANOL
(closed to traffic)
ST CYR RANGE
PELLY MOUNTAINS
BIG
less graphite
white
5400
6866
7185
6588
6677
7000
6400
7209
7190
6262
6437
6501
6544
7001
6762
5473

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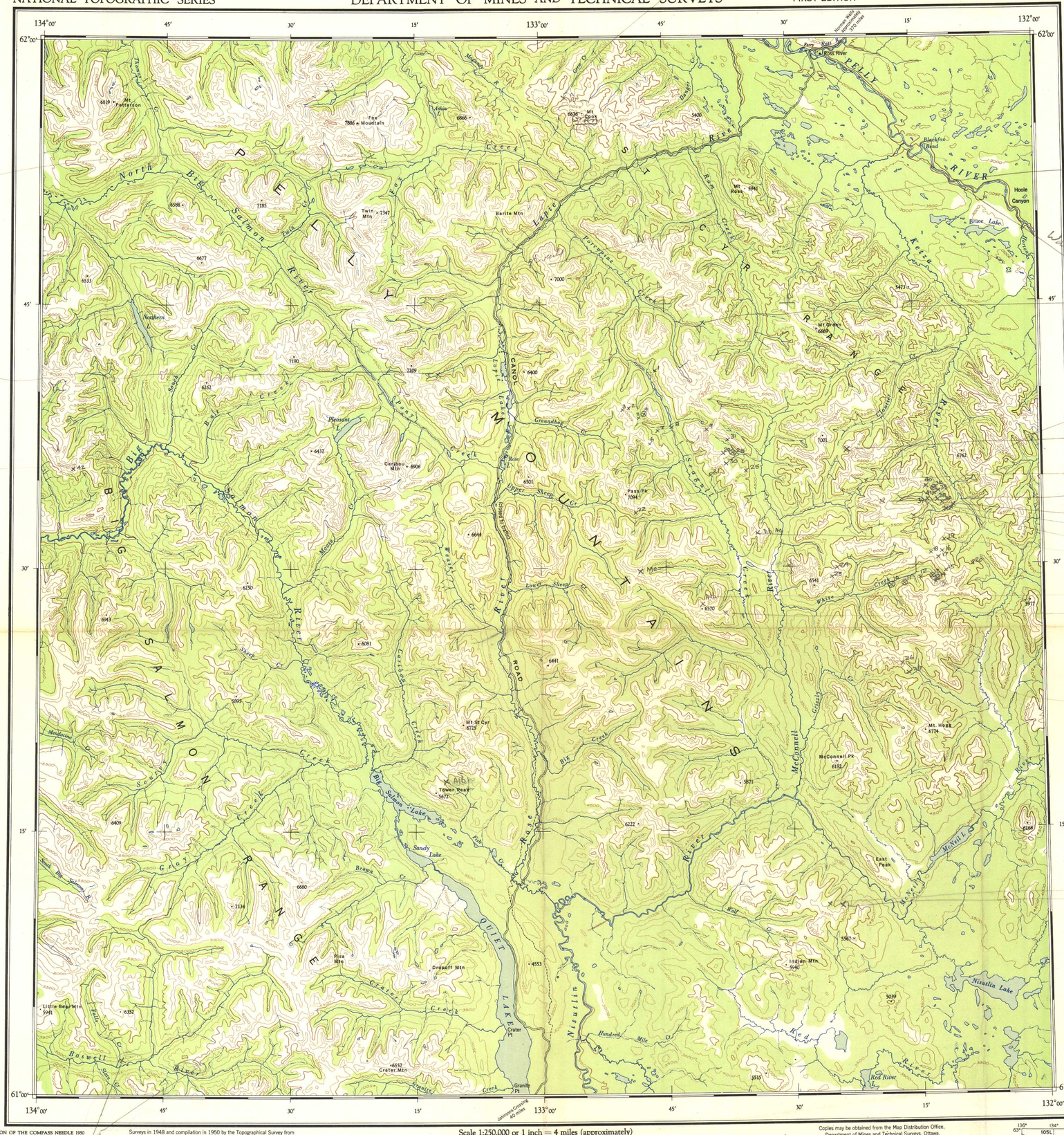
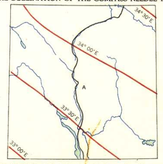


THE DECLINATION OF THE COMPASS NEEDLE 1950



The declination of the compass needle at any place along a red line is the declination given on that red line. At other places the declination is between those given on the neighbouring red lines; thus at the place marked A the declination is between 33°30'E and 34°00'E. The declination of the compass needle is decreasing 4 minutes annually.

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REFERENCE

Road, Hard Surface, All Weather	More than 2 Lanes / 2 Lanes or More	2 Lanes / Less than 2 Lanes	Route No. 2 / Less than 2 Lanes, Dry Weather
Road, Loose Surface, All Weather			
Road, Special, etc.	Snow Road, Pack Route	Cart Road	Portage or Trail
Boundary, International		Boundary Mon.	
Boundary, Provincial		Survey Mon.	
Boundary, County or District		Bench Mark	BM 1514
Boundary, Township, Seigniory or Parish		Triangulation Sta.	
Boundary, Indian Reserves, Park		Spot Elevation (in feet)	4590
Surveyed Line		Telephone, Trunk Route	
Railway, Standard Guage	Multiple Track / Station	Abandoned	Single Track / Stop

Scale 1:250,000 or 1 inch = 4 miles (approximately)

Miles 5 0 5 10 15 20 Miles

Kilometres 5 0 5 10 15 20 25 30 Kilometres

inches 0 1 2

centimetres 0 1 2 3 4 5

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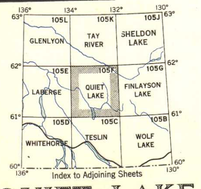
REFERENCE

Building	Fire Lookout Tower	Contours, Elevation
School	Wireless Station	Contours, Approximate
Post Office	Mine	Contours, Depression
Church	Cliff	Esker
Stream, Indefinite or Unsurveyed		Wooded Areas
Stream, Intermittent		Navigable Canal
Stream, in Dry River Bed		Rapids and Falls
Braided Stream		Ferry
Marsh or Swamp		Dam
Marsh or Swamp, in water		Lighthouse
Glacier or Snowfield		Aerodrome (Elevation in feet) 2156
Sand, Gravel or Mud	Sand / Mud	Seaplane Anchorage



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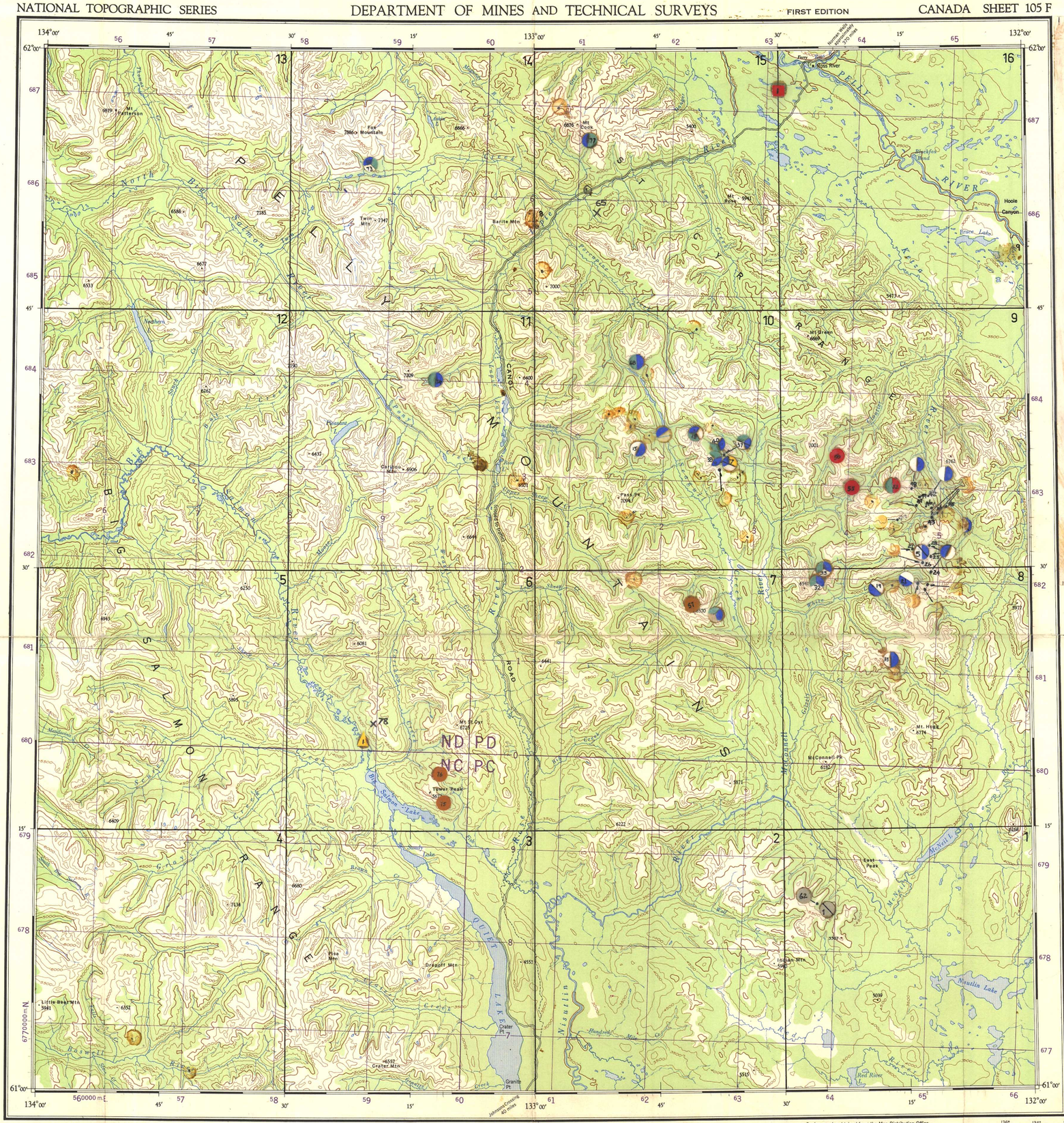


MINERAL SHOWINGS LOCATION MAP

LEGEND:

LODE DEPOSITS

- MINERAL PRODUCER (PAST, PRESENT OR FUTURE)
- PROSPECT
- MINERAL OCCURRENCE (SMALL OR NO INFORMATION AVAILABLE)

COLOR CODE:

- GOLD
- SILVER
- COPPER
- LEAD
- ZINC
- TUNGSTEN
- MOLYBDENUM
- IRON
- BARITE
- NICKEL
- ASBESTOS

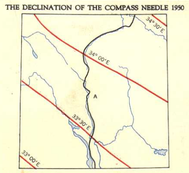
PLACER DEPOSITS

- GOLD
- TIN

COAL DEPOSITS

- PRODUCER
- OCCURRENCES

THE DECLINATION OF THE COMPASS NEEDLE 1950



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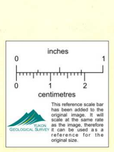
REFERENCE

Road, Hard Surface, All Weather	More than 2 Lanes / 2 Lanes	Route No.	Less than 2 Lanes
Road, Loose Surface, All Weather	2 Lanes or More / Less than 2 Lanes		Dry Weather
Road, Special, etc.	Snow Road, Pack Route / Cart Road		Portage or Trail
Boundary, International		Boundary Mon.	
Boundary, Provincial		Survey Mon.	
Boundary, County or District		Bench Mark	BM 1514
Boundary, Township, Seigniory or Parish		Triangulation Sta.	
Boundary, Indian Reserves, Park		Spot Elevation (in feet)	4590
Surveyed Line		Telephone, Trunk Route	
Railway, Standard Guage	Multiple Track / Station	Abandoned / Siding	Single Track

Scale 1:250,000 or 1 inch = 4 miles (approximately)

Miles 5 0 5 10 15 20 Miles
Kilometres 5 0 5 10 15 20 25 30 Kilometres



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UNIVERSAL TRANSVERSE MERCATOR GRID
TEN THOUSAND METRE ZONE 8

GRID ZONE DESIGNATION 8V
100,000 M. SQUARE IDENTIFICATION ND PD / NC PC
(IGNORE the SMALLER figures of any grid number; these are for finding the full coordinates. Use ONLY the LARGER figures of the grid number: example 68/900 / 60)

TO GIVE A STANDARD REFERENCE ON THIS SHEET TO NEAREST 1,000 METRES

SAMPLE POINT: SPOT HEIGHT 6501

1. Read letters identifying 100,000 metre square in which the point lies: PD
2. Locate first VERTICAL grid line to LEFT of point and read LARGE figures labelling the line either in the top or bottom margin, or on the line itself. Estimate tenths from grid line to point: 0.5
3. Locate first HORIZONTAL grid line BELOW point and read LARGE figures labelling the line either in the left or right margin, or on the line itself. Estimate tenths from grid line to point: 2.9

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REFERENCE

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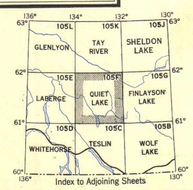
School	Sch	Wireless Station	
Post Office	P	Mine	
Church		Cliff	
Stream, Indefinite or Unsurveyed		Contours, Elevation	
Stream, Intermittent		Contours, Approximate	
Stream, in Dry River Bed		Contours, Depression	
Braided Stream		Esker	
Marsh or Swamp		Wooded Areas	
Marsh or Swamp, in water		Navigable	
Glacier or Snowfield		Navigable Canal	
Sand, Gravel or Mud	Sand / Gravel / Mud	Rapids and Falls	
		Ferry	
		Dam	
		Lighthouse	
		Aerodrome (Elevation in feet)	2156
		Seaplane Anchorage	



Index to Adjoining Sheets

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