

RELEASED

ASSESSMENT REPORTS

MAP No. 205-P-9

TYPE OF WORK: GEOLOGICAL

REPORT FILED UNDER

R.H. Seraphim

DATE PERFORMED

1954

LOCATION - LAT.

61°-33' N

Headwaters of the Ketza River

LONG.

132°-10' W

CLAIM Nos.

GALENA group of 14 claims

WORK DONE BY

R.H. Seraphim, Ph.D.

WORK DONE FOR

R.H. Seraphim, Ph.D.

REMARKS.

Three showings with values of Pb, Ag. - none of economic value.

W/H File: C3062-A(B)

CONFIDENTIAL

GEOLOGICAL
and
SAMPLING REPORT

Galena 1 - 8 and Prop 1 - 6 Claims

KETZA RIVER AREA

YUKON TERRITORY

by

R. H. Seraphim, Ph.D.

Lat. $61^{\circ} 33' N$, Long. $132^{\circ} 10' W$

KETZA RIVER AREA

St. Cyr Range, Pelly Mountains

CONFIDENTIAL

Summary and Conclusions

The Galena Group is on the headwaters of the Hotan River, Tokan Territory. Fourteen claims cover three showings. One showing consists of small, non-persistent galena veinlets in quartzite, and divergent from the nearly contact of the quartzite with underlying slate. The veinlets are in a zone about ten feet wide, and the zone would average two or three percent Pb for about sixty feet. The extensions are obscured by overburden.

The second showing is in dolomite, near the contact with the same band of underlying slate. A grab sample over an exposure of about five feet in diameter assays - 0.05 oz. Au, 12.0 oz. Ag, and 26.9% Pb. The mineralization has petered out in extensive outcrops about thirty feet on strike to the south, and the northern projection is obscured by overburden.

The third showing is a quartz vein, eighteen feet wide, containing galena in the eastern portion. The eastern ten feet assays - 0.016 oz. Au, 6.9 oz. Ag, and 9.8% Pb. Another outcrop of this vein, about eight hundred feet to the north, is barren. Elsewhere the strike is covered by overburden.

None of the showings contained economic values across mining widths under present conditions. Although overburden covers most of the possible extensions, the available outcrops do not indicate persistence along strike. The property cannot be recommended except for detailed surface prospecting.

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Location and Accessibility

The showings lie on the ridge south of the west headwaters of Ketsa River (see accompanying map). Bruce Lakes, in the Pelley trench 16 miles south-east of the Ross River Indian Village on the Canal Reach, are adequate for float plane landing. Ill defined trapper and game trails are followed through a low swampy pass south of the lakes and up the east side of the Ketsa valley to the headwater forks. Two small steep creeks flow from the south into the west fork at about one and one and one half miles respectively from the main river. The showings are near and above timber-line on and near these two small creeks.

A new road from the Carmacks road to Ross river is now being surveyed. A few man days' work would suffice to make a pack horse trail into the upper Ketsa.

Regional Geology

The Ketsa basin is underlain by slate, micaceous schist, crystalline limestone and quartzite. These metamorphic rocks are folded with axes trending westerly to northwesterly. No intrusive rocks other than small dikes were seen either in place or in float. The metamorphic rocks are cut and replaced by numerous veins and stringers of quartz and carbonate (calcite, siderite and ankerite).

Local Geology

Veins with galena and traces of chalcopyrite cut quartzite and carbonate rocks near the contact with a band of underlying slate. The underlying slate is at least one thousand feet thick, and the overlying quartzite and dolomite band appears of similar thickness.

Three showings have been found:

No. 1 The showing in the east creek (see sketch) is on the contact of the slate with overlying quartzite. The slate-quartzite contact is here almost horizontal. Veinlets of galena, the widest seen being four inches, trend southerly (divergent from the contact) and dip steeply west. Three or four other veinlets were found over a zone fifteen or twenty feet wide, but these veinlets were one inch or less thick. No disseminated galena was found. The mineralized zone was traced for about 100 feet along the west side of the small steep creek. To the south it goes under heavy overburden for 1000 feet or more in the floor of the cirque making the head of the creek. To the north it passes under lateral moraine, but numerous oxidized boulders up to 1 foot in diameter occur in the first two hundred feet, where the moraine is probably thin.

Sampling across the zone was not feasible because of insufficient outcrop. It would average less than 1% or 2% Pb where exposed. A sample of the four inch vein assayed - .03 os. Au, 43.8 os. Ag, and 29.7% Pb.

No. 2 The showing in the second creek (see map) is about 300 feet south of, but only a few tens of feet stratigraphically above, the slate-quartzite contact. The mineralization consists of irregular galena veins and patches, associated with siderite, in dolomite. Oxidation and jumbled fracturing precluded diagnostic sampling but the best of the mineralization would contain about 9% Pb over three or four feet width. A grab sample of this contained -0.03 os. Au, 12.0 os. Ag, and 26.9% Pb.

The galena bearing zone appears to trend about north-south. It peters out within twenty to thirty feet in the creek bottom to the south, and is covered by heavy rock slide for several thousand feet to the north.

Galena patches occur in one or two of the small outcrops west of the best mineralized section.

No. 3 The third showing is about 1000 feet east of the second creek, at the edge of a rock bluff (see sketch). A mineralized quartz vein eighteen feet wide strikes 170 degrees and dips vertically. The east wall may not be exposed, but a well defined topographic wall bounds the exposed section. Only twenty to thirty feet of the mineralized vein is exposed along strike. Two old trenches are completely slumped in but show galena in the dumps. Channel sample locations and assays are shown on the accompanying sketch map. About eight hundred feet north of the mineralized showing, the vein is exposed in the west creek but is barren of sulfide. South of the mineralized showing detailed prospecting in rock bluffs failed to locate the vein. A twenty to thirty degree deviation in strike would make it skirt these bluffs, and put it under slide rock for several thousand feet.

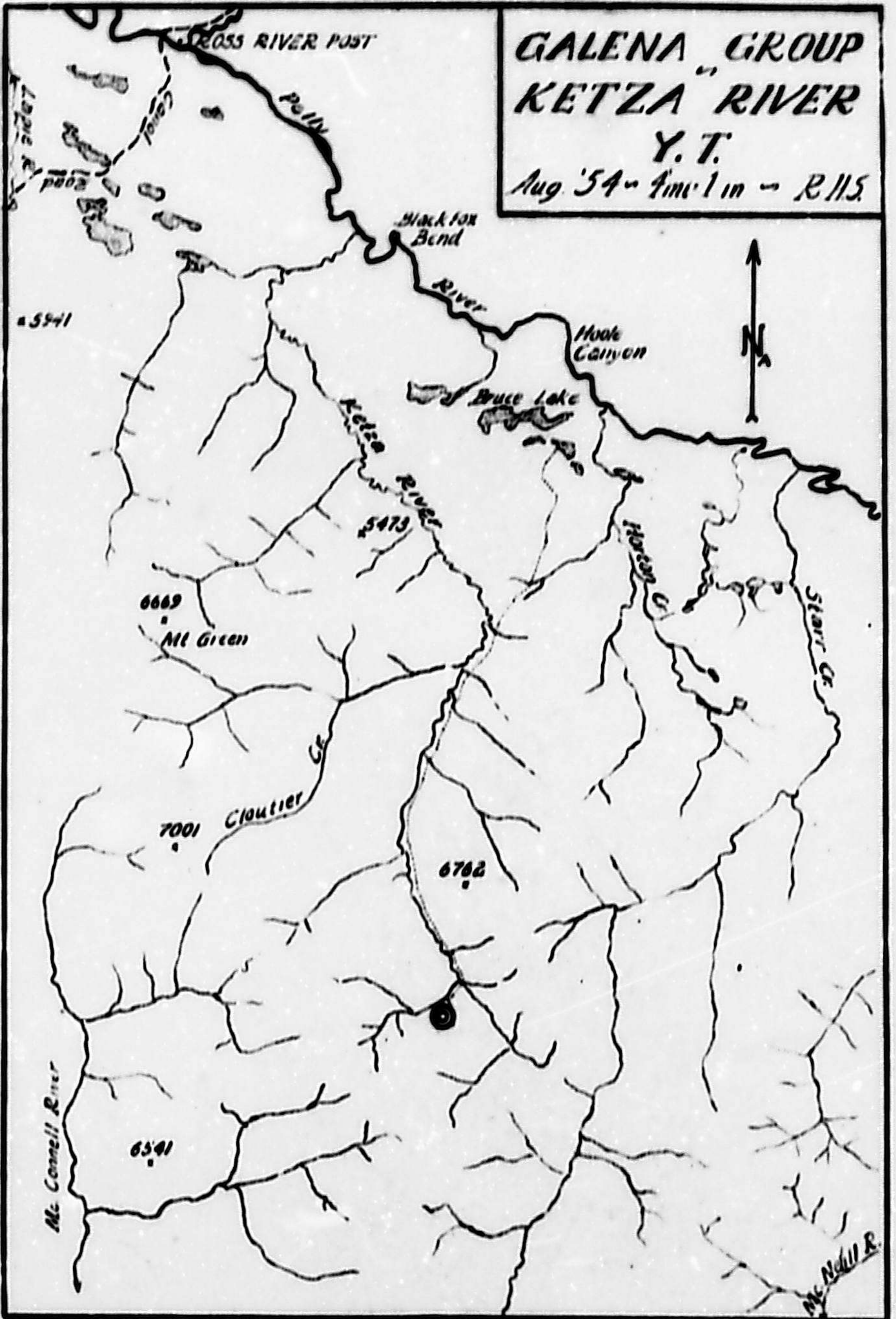
CLAIMS




Eight claims, Galena Nos. 1 to 8 inclusive, are held by Mr. Frank Hovey, and six claims, Prop. Nos. 1 to 6 inclusive, by R. H. Saraphis.

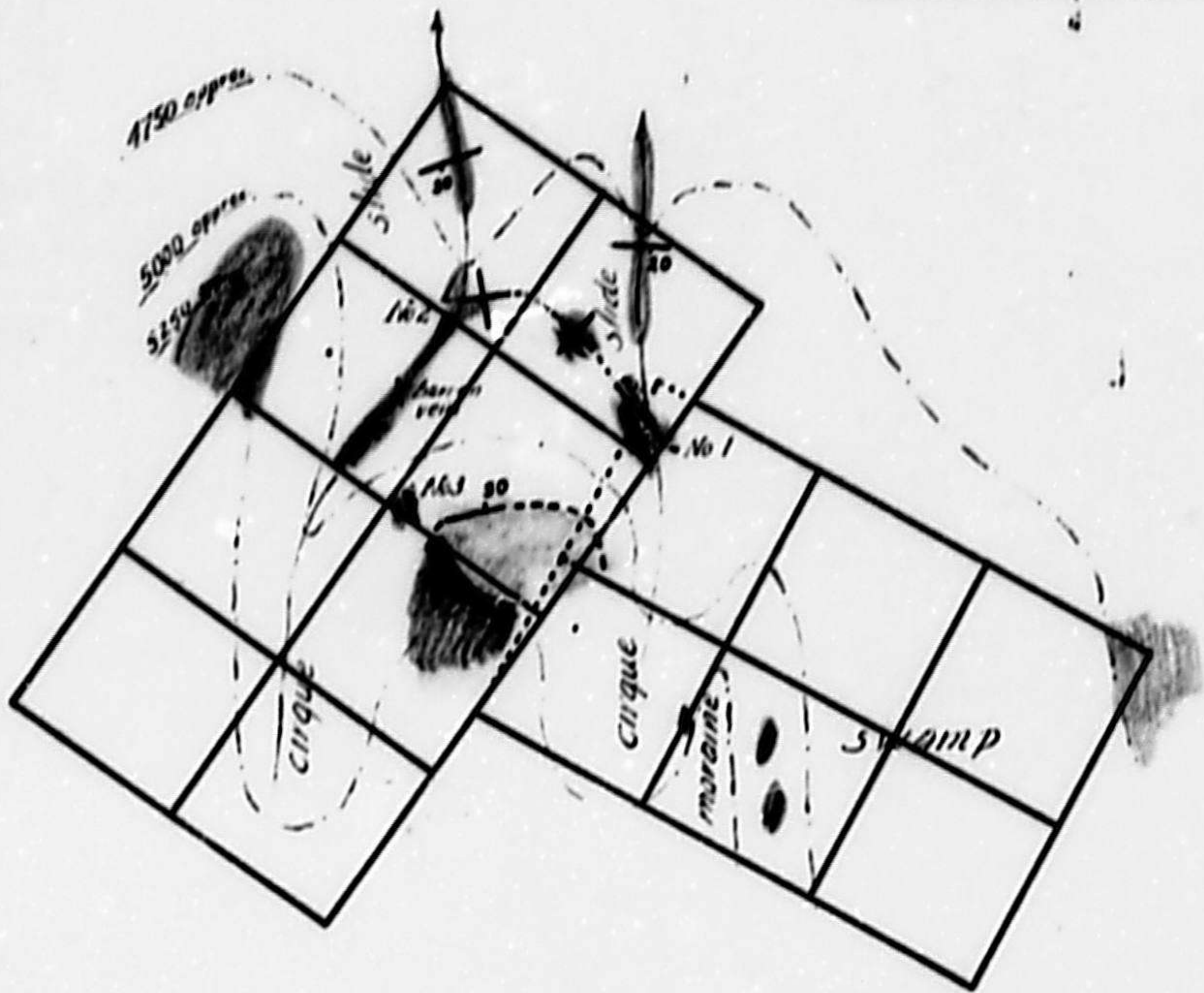
September, 1950.

R. H. Saraphis

**GALENA GROUP
KETZA RIVER
Y.T.**
Aug '54 - 4 mi. 1 in - R. 115



limestone	
quartzite + dolomite	
slate + schist	



GALENA GROUP
 Sketch of Geology
 and Claims
 1500 ft. 1 in.
 Aug. '54 R.H.S.



Stamped French galena in float

70.7	10	4.6	30.05	1.20	5.20
45	75	2.70	40.25	1.25	28.7
44	75	0.2	0.3	0.2	0.3
27	8	3.5	1.0	5.0	0.5



Stamped French galena in float

GALENA GROUP

Sketch of Quartz Vein - No 3 Show

20ft. 1 in

Aug 54

R.H.S.

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Geological Report
on
Galena 1 to 8 and Prop 1 to 6 Claims
Lat. $61^{\circ} 33'$ N, Long. $132^{\circ} 10'$ W
Ketza River Area
St. Cyr Range, Pelly Mountains
Yukon Territory

This report is by Evan Just, M.S., D. Eng., Vice President of Cyprus Mines Corp. (USA) and of Cyprus Exploration Ltd., and is based partly on a report made by R. H. Seraphim, geologist, of Vancouver, B. C. Seraphim visited the property in early August, 1954, and Just in July, 1955. Both were accompanied by Frank Hoey, prospector, of Toronto, who staked the Galena claims. Seraphim staked the Prop group. The Seraphim report of September, 1954, is attached hereto.

Geological Report

To: Cyprus Exploration Corp. Ltd., Frank Hoey, and R. H. Seraphim

By: Evan Just, M.S., D. Eng., vice president of Cyprus Exploration Corp. Ltd.

In re: Galena claims 1 to 8 and Prop claims 1 to 6, Ketz River area, Y. T.

Based on: A two-day inspection of the properties in company with Frank Hoey, prospector, of Toronto, on July 13 and 14, 1955. The writer left Edmonton, Alberta, on the morning of July 11 and returned to Edmonton on the evening of July 16. Five of these six days were devoted exclusively to the findings reported herein, the sixth day being devoted to administrative matters in Whitehorse, Y. T.

Claim Groups

The Galena group, claims 1 to 8, were staked by Frank Hoey in July of 1954 and recorded on July 23, 1954. The Prop group, claims 1 to 6, were staked by R. H. Seraphim late July 1954, and recorded on August 2, 1954.

The azimuth of the Galena base line is approximately N 34 E (or north, magnetic) and that of the Prop base line is N 76 W between Claims 1 and 2, and N 70 W between Claims 3 and 4, and 5 and 6.

Location

As indicated on Maps #1 and 2, the claims are located on two short, steep tributaries of the next-to-southernmost west tributary of the Ketzka River (Lat. $61^{\circ} 33'$ N, Long. $132^{\circ} 10'$ W). The Ketzka River is a tributary of the Pelly River, and drains the southeastern end of the St. Cyr Range of the Pelly Mountains. Elevation of the claims is near 5000 feet, which is approximately timber line.

Accessibility

Under current conditions, the property is reached by landing aircraft on Bruce Lakes, 20 miles to the north, thence by pack trail to the upper reaches of the Ketzka River. Bruce Lakes are approximately 130 miles east of Whitehorse, the nearest aircraft base.

In case of production, 36 miles of not-difficult road would have to be built to intersect the Canol Road (now closed) near Ross River. Two or three additional miles of steep mountain road would have to be built to reach the property.

The highway mileage from Ross River to Carcross is approximately 150 (provided the Canol road is maintained). From Carcross to tidewater at Skagway, Alaska, is about 70 miles via White Pass and Yukon railway, a narrow-gauge line.

The cost of transportation is a critical factor in determining the worth of a mineral property in this area.

Topography and Climate

Although the upper portion of the Ketzka River can be reached by low gradients, the two minor tributary valleys, in the upper portions of which the claims lie, are very steep, ending in cirques. These cirques, as in the entire Pelly Mountain system, occupy the north sides of mountain ridges. Snow and rock slides are common, and fully three-fourths of the claim area is occupied by overburden or slide rock. In late August, the ground will usually thaw to bedrock. Freezing is a problem in prospecting, as it impairs digging and blast-hole drilling.

In midsummer, the claim area is cool, with freezing temperatures at night. The floor of the Ketzka valley is warmer, with only occasional night freezing. Winter temperatures in the area are severe, ranging to -50 or -55° minimum.

General Geology

All rocks observed on the claim group are sedimentary. What is apparently the lowest group is a thick series of micaceous brown to buff phyllites and slates. Near the top, as exposed in the easternmost creek, is apparently black, carbonaceous slaty shale. However, inasmuch as black slaty shale also appears interbedded with the overlying beds, this apparent top series may be a downfaulted portion of upper beds. The phyllite-slate series occupies the lower reaches

of both creeks and the easternmost half of the Prop Group of claims.

Lying above the phyllite-slates, apparently unconformably, as exposed in the eastern creek, is a thick series of sandstone-quartzites and crinoidal limestones with some interbedded black slaty shale. The sandstone-quartzites are white to gray in color and the limestones are gray to black. Probably this series is of Paleozoic (Carboniferous?) age. The semi-metamorphosed condition of the phyllite-slates suggests that they too are Paleozoic rather than Pre-Cambrian.

All the above rocks are steeply folded, and dips on the claim groups range from horizontal to vertical. The general dip of the phyllite-slates in the lower reaches of the two creeks is southward, averaging about 40° . The general dip of the upper series is northward, averaging about 30° .

These sediments are transected by a series of east-west faults, the most prominent of which is marked by thick quartzite gouge in the phyllite-slate, along the east creek, a short distance above its intersection with the north line of the Galena Group, by a saddle in the divide to the west, and by gouge at the slate-quartzite contact in the west creek near the south line of Galena #2 claim. The valley of the west creek is transected by at least five other parallel faults as it crosses Galena #3. At least one addi-

tional parallel fault is observable in the east wall of the valley midway in the west half of Galena #5 claim.

A study of the drainage pattern of the entire St. Cyr Range indicates that the entire area is transected by a number of east-west to northeast-southwest faults, these being apparently tributary to the major northwest-southeast faulting of the Pelly Trench.

Locally, it would appear that mineralization occupies north-south fractures tributary to the east-west faults. All of the known showings are close to faults or to projections of their strikes. Thus, it appears that the east-west faults and attendant gash fractures are important in localizing mineralization.

The Showings

Lead-silver mineralization appears at three places in the Galena Group and float is reported by Dr. Smitheringale, of Conwest Explorations, along the west slope of the quartzite ridge in the east half of Prop #2. The latter showing was not seen by myself. All these portions of the showings that are in place are fine-grained, bright, argentiferous galena veinlets up to one foot thick. Showing #3 has several galena veinlets in a quartz vein about 12 feet thick. Showing #1 is not well enough exposed to pass judgment. All the showings seem to dip steeply westward. None are clearly of commercial importance as presently exposed.

The sampling done by Seraphim seeming adequate for present exposures, none was done by myself.

Showing #1

This showing is on the west side of the east creek in the southern corner of Galena #1 claim. It strikes north-south and appears to dip steeply westward. It is too poorly exposed for an adequate sample. It lies at the apparently unconformable contact between black slates, below, and quartzites, above. The slate dips about 40° somewhat west of south, and the quartzite 15° to the north. This contact may be faulted. To the north, the showing and the contact are masked by slide rock, but for about 200 feet to the north of the showing in place, chunks of massive galena float, the largest being one foot in the shortest dimension, can be found along the west slope of the gulch. To the south, for approximately 1000 feet in Prop #2 claim, all outcroppings are obscured by boulders and slide rock, covering the floor and lower walls of the cirque which begins immediately to the south of the showing. The largest veinlet of galena exposed in place is 4 inches wide. The actual width of the mineralized zone is not clear, but the smaller veinlets over a 10 to 15 foot width, as observed by Seraphim, may have been covered with snow at the time of my visit. The narrow zone observed was at the edge of a heavy snowbank which occupied the drop-off from the lip of the cirque at

the time of my visit.

Although no faults were observed within 1000 feet of this showing, it is on strike with a faulted area in the west creek valley. Thus, it would seem advisable to trench at short intervals to the north of the showing. Trenching is not feasible to the south because of heavy boulder overburden.

According to Dr. Smitheringale of Conwest, galena in float was found in slide rock on the east wall of the cirque to the south. This east wall is a quartzite north-facing spur which begins southwestward from the showing and extends southward through the corner of Prop claims 1, 2, 3 and 4. To the east of this spur, the east half of the Prop Group is occupied by a broad terrace, underlain by phyllite-slate.

Showing #2

This showing is on the west bank of the west creek where it crosses the line between Galena claims #2 and 3. The showing is obscure and is just south of a fault contact between phyllite-slate on the north and quartzite on the south. The slate dips about 35° southward and the quartzite about 15° northward. The area to the south is broken by several faults at close intervals, thus I do not believe that any commercial length could be exposed, with a reasonable amount of work. The galena veinlets appear to be associated with vein quartz and siderite, with minor pyrite.

The vein strikes north-south. No prospecting to the north would appear feasible as the showing butts into a major fault in this direction. The outcrop to the south is obscured by slide and mantle rock.

Showing #3

This is a quartz vein, striking north-south and dipping vertically or steeply westward, and carrying veinlets of galena in the eastern portion. The vein is exposed for about 20 feet along its strike. The outcrop is in the south wall of an east-west gully tributary to the stream on the west, the gully probably reflecting a fault which appears to cut the vein off on the north. To the south, the strike of the vein is parallel to the west wall of the main mountain spur between the two main creeks, and the vein disappears under soil and slide rock. However, galena float was found in slide material about 400 feet to the south in sufficient abundance to suggest that the vein extends for this distance. Some 300 feet farther, a fault clearly intersects the mountain face so that a length of more than 700 or 800 feet can hardly be expected, unless the faulted continuation can be located. The country rock is quartzite, dipping northward at 45° . To the west of the outcrop, quartz outcrops intermittently for a hundred feet, being either a large associated vein or blowout, or a replacement of country rock.

Seraphim refers to a barren continuation of the #3 vein

to the north, but, inasmuch as there are several faults between the two areas, it seems unjustified to refer to the two veins as continuations of each other.

There are two old caved trenches along the #3 showing, but they do not expose the vein. More recent work by our men has exposed the vein somewhat, but our trenches to the south were still in frozen overburden when seen.

Conclusions and Recommendations

Considering the extraordinary expense of prospecting in this area, the cost of road construction, and the high transportation costs for incoming supplies and outgoing products, I cannot recommend an extensive prospecting or development program. Thus, I have arranged for a limited trenching program during August by men already on the spot, and, unless this work or work in the area by others, is definitely encouraging, I do not recommend further expense.

On the favorable side, the potential silver content of concentrates (about one ounce for each percent of lead on our showings, and up to three ounces for each percent of lead on Conwest ground) makes shipment of concentrates economically feasible. However, all present evidence suggests that the veins are small, irregularly mineralized, and either short in length or faulted, if not both. Therefore, I rate the odds as being strongly against the development

of mines that could show attractive profits in view of the
extraordinary costs.



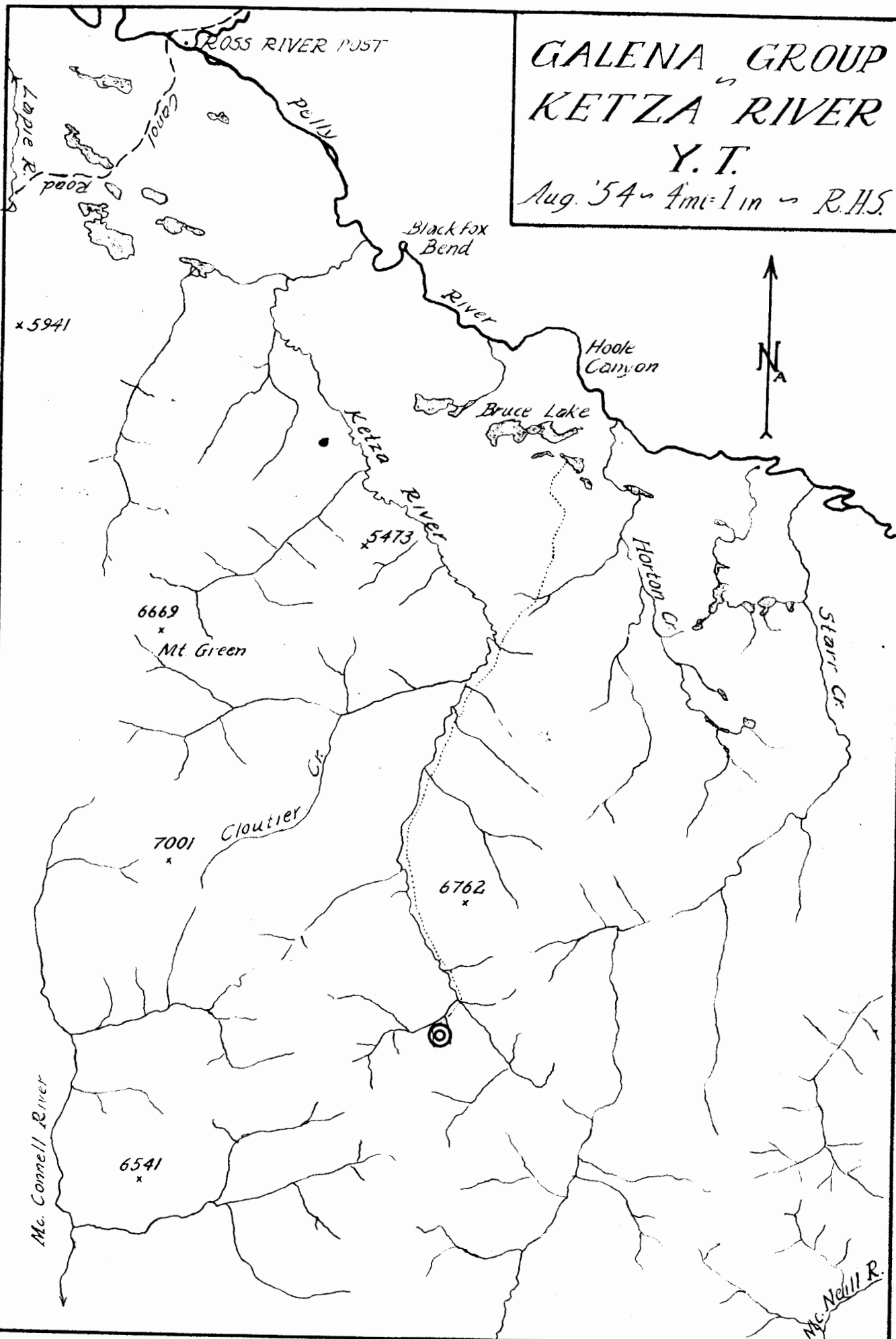
Evan Just

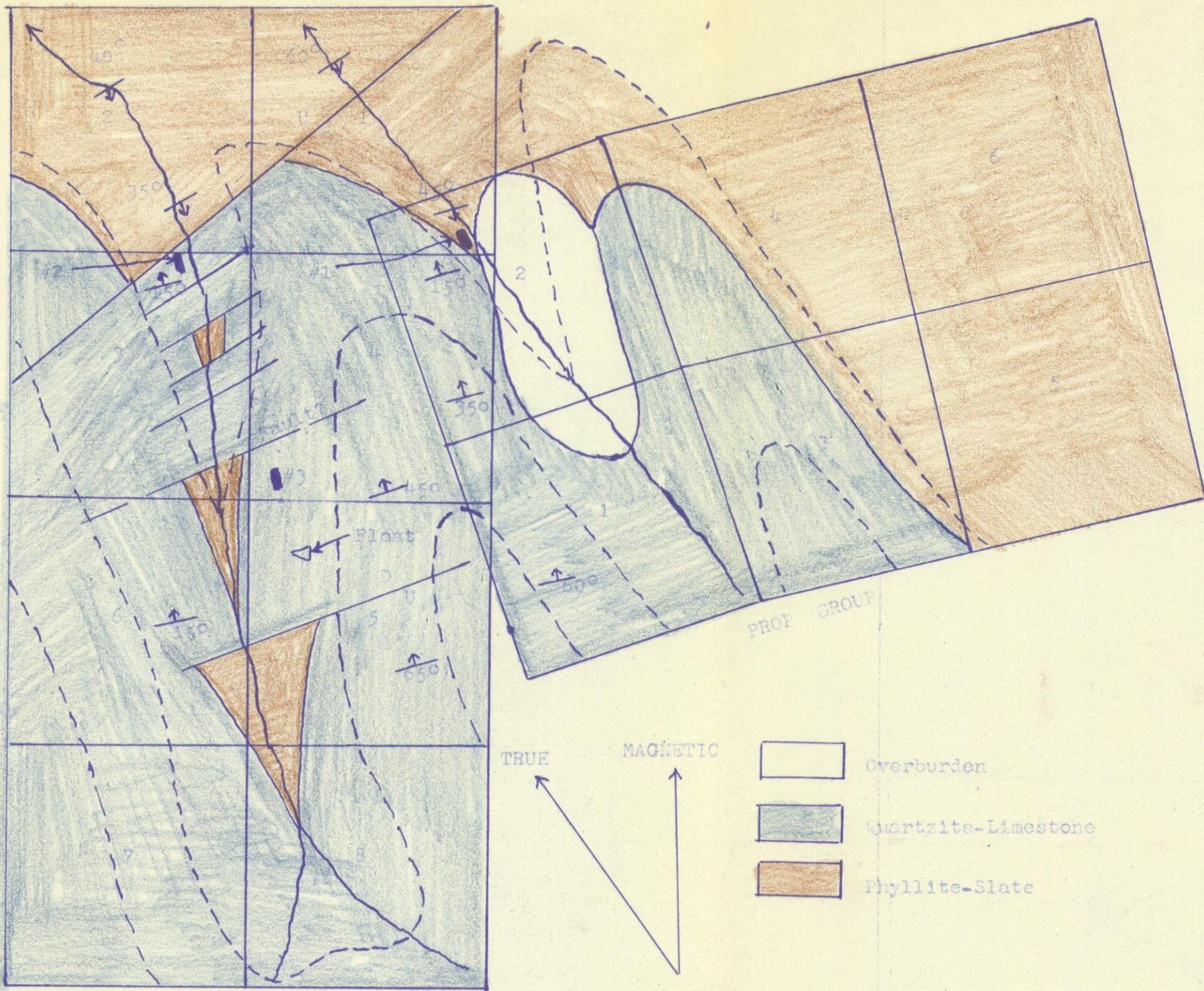
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August 16, 1955

GALENA GROUP KETZA RIVER

Y.T.

Aug. '54 - 4 mi - 1 in - R.H.S.





GALENA GROUP

MAP # TWO

0 500 1000 1500

Scale - Feet