1977 GEOLOGICAL and GEOCHEMICAL REPORT

on the

RAM 1 - 8 MINERAL CLAIMS

PRIMROSE LAKE AREA

WHITEHORSE MINING DISTRICT

by

R. J. Joy

and

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405 Main Street,
Whitehorse,
Yukon Territory

N.T.S. Sheet 105D-4
Latitude 60° 12'N
Longitude 135° 44'W

Dated: September 11, 1977

061625

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$ 1300

J A Munn

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory

Office Of The Supervising Mining Recorder
SEP 15 1977
WHITEHORSE
Yukon Territory

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INTRODUCTION:-

This report is based on two trips to the RAM property.

The first was on July 30th. The author and R. E. VanTassell were accompanied by E. Kreft and his nephew. While the writer and R. E. VanTassell examined the mineral showings, Mr. Kreft and helper collected 14 soil samples.

A second trip was made to the property on August 22nd. This time the writer was accompanied by Mr. E. Kreft and Mr. H. Muff. The whole day was spent soil sampling and 86 samples were collected. Mr. Kreft staked an additional claim, RAM No. 8, at this time.

A Hughes 500 helicopter was chartered from Yukon Air at the Whitehorse Airport for both visits.

LOCATION and ACCESS:-

The RAM Claim Group (Fig. 1) lies approximately 44 miles southwest of Whitehorse and one mile northeast of Primrose Lake. It is situated at latitude 60° 12'N and longitude 135° 44'W on N.T.S. Sheet 105D-4.

Access to the property is by helicopter from Whitehorse or fixed wing aircraft to Primrose Lake and a mile traverse up a steep hillside.

A winter trail along the Watson River valley lies about six(6) miles east of property.

HISTORY:-

Mr. E. Kreft discovered sphalerite mineralization while on a hunting trip during the 1976 season and staked two claims to cover the showing. Several days later he returned with several helpers and staked five additional claims. They collected 43 soil samples along lines parallel to and across the strike of the mineralization. These samples were analysed for Zn, Pb, Cu and Ag. Of these 9 samples returned values greater than 1,000 ppm zinc with values as high as 4,000 ppm.

Mr. Kreft brought his sample plot and several rock samples to our office during the spring for our examination. He was advised that United Keno staff would examine the property during the 1977 field season.

UNITED KENO HILL MINES LTD. EXPLORATION DEPARTMENT WHITEHORSE — YUKON	
Location Map RAM CLAIM GROUP	
Mining District	Whitehorse
N.T.S. Sheet No.	105 D 4
Scale	1 inch to 40 miles
Drawn by	*Date* 10 / 09 / 77

BCIL - 3042 - U.K.H.M.

Fig. 1

PROPERTY:-

The RAM Claim Group (Fig. 2) consists of eight(8) contiguous claims as follows:

CLAIM NAME	GRANT NO.	RECORD DATE	EXPIRY DATE
RAM 1	YA8188	13/Sept./76	13/Sept./77
RAM 2	YA8199	13/Sept./76	13/Sept./77
RAM 3	YA8220	28/Sept./76	28/Sept./77
RAM 4	YA8221	28/Sept./76	28/Sept./77
RAM 5	YA8222	28/Sept./76	28/Sept./77
RAM 6	YA8223	28/Sept./76	28/Sept./77
RAM 7	YA8224	28/Sept./76	28/Sept./77
RAM 8	YA19718	26 /Aug. /77	26 /Aug./78

PHYSIOGRAPHY:-

The property lies in the transitional zone between the Coast Mountains to the south and the Yukon Plateau to the north.

The area is characterized by a relatively smooth gently rolling upland surface undulating between 5,000 and 7,000 feet, locally surmounted by roughly conical peaks or groups of peaks. This surface is dissected by u-shaped valleys not more than three(3) miles wide, producing an average relief of 3,500 to 4,500 feet.

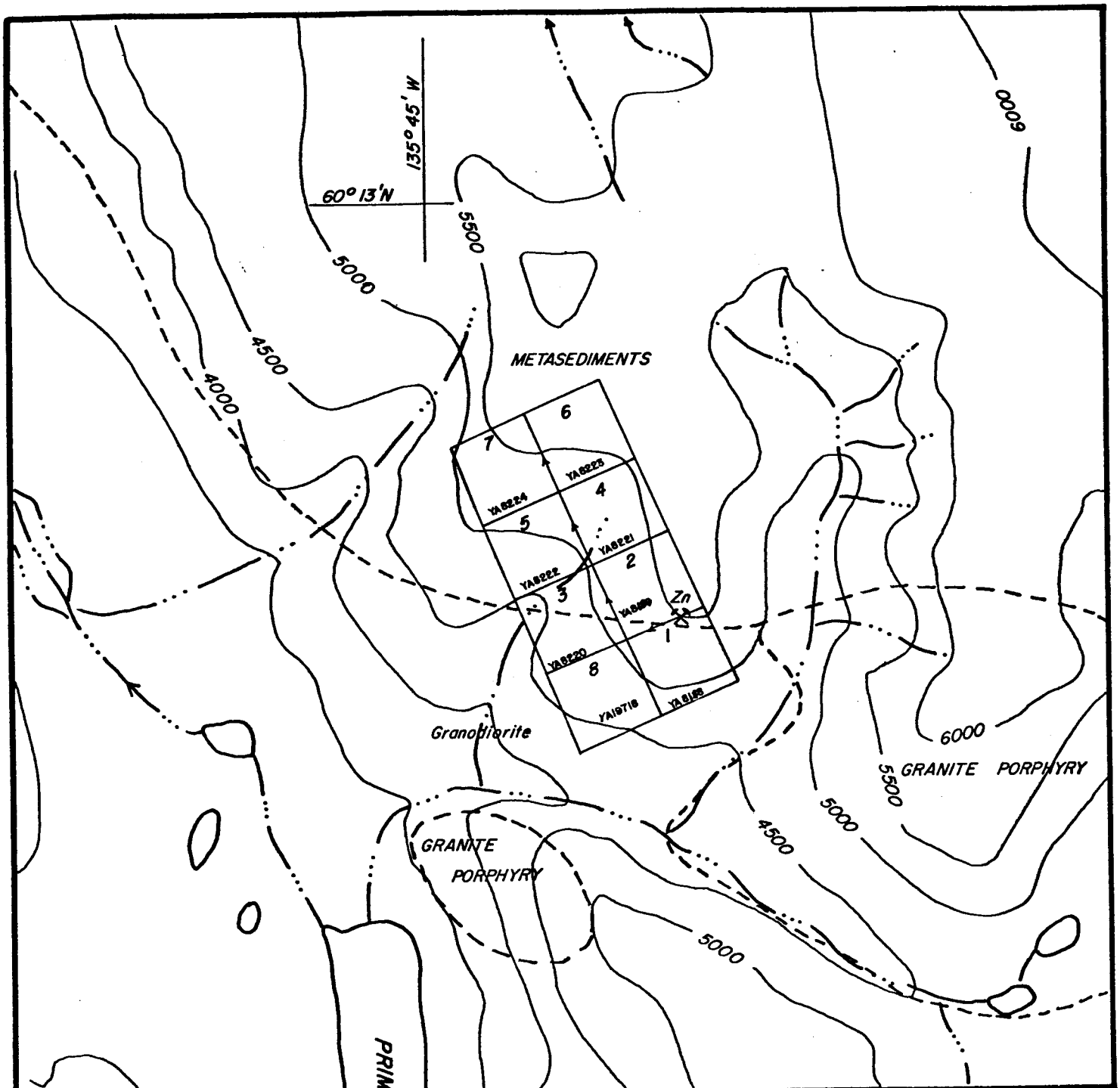
The zinc-lead showings occur on this gently rolling surface at about 5,500 feet. The copper showing occurs on the steep valley side.

GENERAL GEOLOGY:-

The property covers part of Yukon Group Metamorphics and the contact with Coast Range Intrusives. These predominantly quartz rich metamorphic rocks of the Yukon Group occur as a northwest trending belt of discontinuous outcrops which cover an area of about 100 square miles. Outcrops are interbedded schist, quartzite, gneiss, limestone, and amphibolite.

A section from near Mount Skukum 9 miles to the east showed 2,495 feet of thickness. The base was not exposed. An angular unconformity separates this unit from the overlying Skukum Group volcanics.

Rocks of the Yukon Group have been deformed into northwest trending folds. These folds, marked by beds of quartzite and limestone are irregular and overturned both northeast and southwest. The schistosity is parallel to bedding virtually everywhere (Wheeler, 1961).



UNITED KENO HILL MINES LTD.
EXPLORATION DEPARTMENT
WHITEHORSE — YUKON

RAM CLAIM GROUP

Mining District	Whitehorse
N.T.S. Sheet No.	105 – D – 4
Scale	1 inch to 1/2 mile
Drawn by RJ	Date 03 / 08 / 77

FIG. 2

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The Yukon Group locally grades into foliated quartz diorite characterized by melanocratic lenses but is commonly intruded by non foliated granodiorite, granite porphyry plugs, and andesite, basalt, and rhyolite dykes.

LOCAL GEOLOGY:-

Since only a short time was spent on the property only a brief description of the geology can be made.

The RAM Claim Group covers quartzite, quartz-sericite schists and coarse grained crystalline limestone of the Yukon Group and rusty weathering felsite or quartz porphyry (Fig. 3 & 4) of possibly early Tertiary age. The bedding and schistosity in the metasediments strike southeast and dip moderately to steeply southwest.

Several zinc, lead, silver, with minor copper occurrences were observed in the metasediments and a porphyry copper type occurrence was noted in the felsite. These are indicated on Figs. 3 and 4 as showings 'A' to 'E' and are briefly described below.

SHOWING 'A' -

Massive and disseminated sphalerite is exposed for about 30 feet along the contact of coarse grained, white crystalline limestone and pale greenish quartzite. The mineralized zone is about 8 feet across at its widest section. The host rock is pale green with 10 to 30% black fine to medium grained sphalerite. Fragments of rock blasted out of this showing indicate massive medium grained pods or veins of black sphalerite are present. A grab sample by Mr. Kreft assayed 21.75% Zn, 1.40 oz/ton Ag, 0.31% Cd, and 0.08% Cu. It was not assayed for Pb. Traces of disseminated chalcopyrite were noted in the pale green siliceous host.

SHOWING 'B' -

This showing measures approximately 2 feet by 2 feet. It contains a 5 inch vein of massive sphalerite with 3 inch and 16 inch wide zones containing about 5% disseminated sphalerite. A sample of chips from across this zone yielded .50 oz/ton Ag, 0.09% Pb, 4.56% Zn, and 0.06% Cd.

SHOWING 'C' -

This showing consists of a small area of float boulders in a hand pit. The galena and sphalerite(?) occur along laminations in a greenish grey siliceous rock. Much of the sulphides have been oxidized to a reddish limonite but some galena is visible. A sample assayed 2.58 oz/ton Ag, 1.75% Pb, 0.75% Zn, and 0.01% Cu.

SHOWING 'D' -

This showing lies about 600 feet east of showing 'A'. The sphalerite occurs as a narrow massive vein at a limestone contact. A small tremolite-diopside skarn is present in this area.

SHOWING 'E' -

This showing lies about 400 to 500 feet east-southeast of claim post No. 2 for claims 1 and 2. It consists of malachite and tenorite(?) along several fracture surfaces in a rusty weathering felsite or quartz porphyry. In places the felsite is cut by a fine network of quartz veins. The rusty color appears to have resulted from the weathering of disseminated pyrite. A soil sample from below this outcrop yielded 2370 ppm Cu, 7 ppm Mo, and 33 ppmAg. The high silver may suggest the black mineral may be a manganese complex rather than tenorite. Several other samples yielded lower copper and silver results but higher molybdenum values.

GEOCHEMISTRY:-

GENERAL -

Before United Keno examined this property, Mr. Kreft had collected 43 soil samples. These were collected in the vicinity of the sphalerite showing at spacings of 70 to 120 feet along lines parallel to and across the strike of the limestone contact. These samples were analysed by Whitehorse Assay Office for Zn, Pb, Ag and Cu. The pulps of these samples were checked by Whitehorse Copper Mines Limited when the property was offered to them for option. Coincident(±) values were obtained from both analyses.

In 1977, 95 additional samples were collected on a 100 by 100 foot grid. These were also analysed for Zn, Pb, Ag and Cu. Also, 7 soil samples were collected at 50 to 100 foot intervals along the 5,000 foot (approximate) contour. These samples were analysed for Cu, Mo, Ag and Au. Bonder-Clegg and Company Limited did the analyses in 1977.

All samples were analysed using standard analytical procedures.

INTERPRETATION OF RESULTS -

Since only a small number of samples were collected, background values for the metasedimentary rocks are not known. However, values obtained at the fringes of the sampled area appear to indicate backgrounds near 100 ppm in Zinc, less than 50 ppm for lead, less than 1.0 ppm for silver, and about 50 ppm for copper.

ZINC PLOT -

The zinc plot (Fig. 5) shows an area approximately 800 to 1,000 feet by 600 to 900 feet that contains zinc values in excess of 400 ppm zinc. Seven samples returned values of 2,000 ppm or greater with two values as high as 4,000 ppm.

The southern boundary of the anomalous zone closely follows the quartz eye porphyry/metasediment contact (Figs 3 & 5).

Trends appear to reflect the strike of the underlying metasediments. Although the southwest extension of the main anomaly is connected by the 400 ppm contour, it may be and probably is a separate mineralized zone.

The southwest part of the anomaly has a coincident small copper anomaly.

The main anomalous area has a near coincident lead anomaly.

Northeast of the main anomaly, values appear to be increasing, suggesting the possibility of another zone.

LEAD PLOT -

Two main areas contain lead values in excess of 200 ppm. The main area (Fig. 6) measures about 1,200 feet in a northwesterly direction and is 150 to 300 feet wide. The other is about 400 feet long and is open to the northeast. It lies northeast of the main anomaly and suggests that there may be another mineralized zone.

Several other small isolated highs with coincident zinc highs are present. These generally lie in the vicinity of the horizon containing showings A and B(Fig. 3).

Seven values greater than 500 ppm were returned with peak values of 1,500 and 1,650 ppm. The peak values generally correlate with high zinc values.

The main anomaly coincides with the northeastern part of the zinc anomaly. However, southwest of the main anomaly values are generally lower with isolated highs. This is indicative of the observed mineralization. The trend does parallel the strike of the metasediments and suggest that there are two zones, one of which is lead rich. It also suggests that the mineralization is stratabound.

SILVER PLOT -

The silver plot(Fig. 7) doesn't show any strong correlation with the lead or zinc plots. However, the higher values generally coincide with high zinc, and in several places, high lead values.

One soil sample collected below a copper mineralized felsite outcrop returned a value of 33 ppm silver. Other samples a short distance away returned much lower values.

COPPER PLOT -

Eighteen samples returned values greater than 100 ppm(Fig. 8). Two values greater than 200 ppm were returned for samples over the metasediments. These were 312 and 520 ppm and coincide with the observed chalcopyrite mineralization at showing 'A'.

Three samples taken from talus of felsite yield values of 2370, 310, and 265 ppm copper, respectively. Four other samples yielded values less than 100 ppm. Molybdenum values for these samples ranged from 6 to 28 ppm.

SUMMARY and CONCLUSIONS:-

A total of eight claims (RAM 1-8) were staked by Mr. E. Kreft to cover zinc-lead-silver and copper-molybdenum-silver mineralization.

The claims cover schist, gneiss, quartzite, and limestone of the Yukon Group and rusty weathering felsite, granite and quartz porphyry.

Three modes of occurrence were recognized for the zinc-lead-silver mineralization:

1. massive pods, veins and disseminations of black sphalerite $\pm$ chalcopyrite in greenish grey fine grained siliceous rock at the contact of coarse grained crystalline limestone and greenish quartzite.

2. massive sphalerite and galena in narrow veins in tremolite-diopside skarn at the contact of a limestone band.

3. galena and sphalerite along laminations in greenish grey siliceous rock.

Porphyry type copper-molybdenum- silver mineralization occurs in the highly oxidized felsite or quartz porphyry to the south.

Soil Geochemistry gave a good response for lead and zinc over the mineralized areas.

The zinc plot shows anomalous values over an area 800 to 1,000 feet by 600 to 900 feet. Peak values of 4,000 ppm with several over 2,000 ppm were returned.

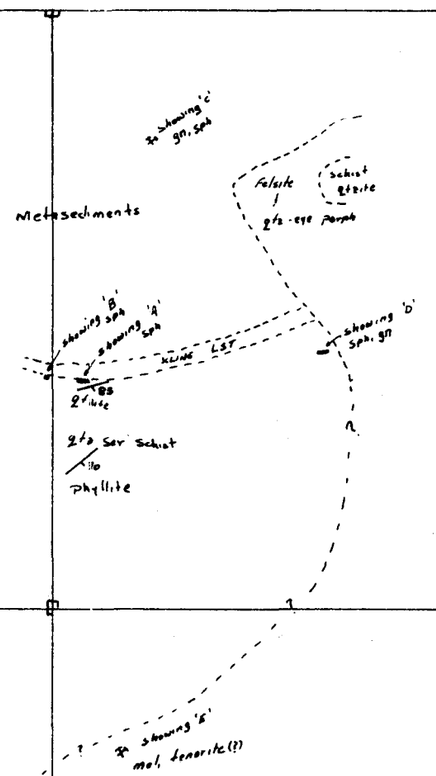
Lead values were anomalous over an area 1,200 feet by 150 to 300 feet with peak values of 1,500 and 1,650 ppm respectively. This anomaly is coincident with the eastern part of the zinc anomaly and suggests that the type 1 and 2 occurrences are lead poor.

Copper and silver values were erratic with one sample returning 33 ppm silver and 2,370 ppm copper. This was collected from the rusty weathering felsite talus below an outcrop with visible malachite and tenorite(or manganese complex). This area also returned anomalous molybdenum results.

For samples collected over the metasediments peak values of 9.5 and 5.0 ppm silver were returned and coincide with high lead or zinc values.

RECOMMENDATIONS:-

United Keno Hill Mines should option this property and conduct follow-up studies during the 1978 field season.



UNITED KENO HILL MINES LTD.
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WHITEHORSE — YUKON

RAM CLAIM GROUP

GEOLOGY

Mining District	Whitehorse
N.T.S. Sheet No.	105 – D – 4
Scale	1 inch to 400 feet
Drawn by RJ	Date 11/08/77

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FIG. 3

N

050°

13 NE

12 NE

11 NE

10 NE

9 NE

8 NE

7 NE

6 NE

5 NE

4 NE

3 NE

2 NE

1 NE

Showing 'C'

Assay 5221

2.58 oz/ton Ag

0.75 % Zn

1.75 % Pb

.01 % Cu

Metasediments

Showing 'B'

.50 oz/ton Ag .09 % Pb

4.56 % Zn ; .06 % Cd

Assay No 5220

72°

Showing 'A'

Sph (mass & diss)

80° Qtzite

Qtz-Ser Schist

Phyllite

70°

Assay SAMPLE

1.40 oz/ton Ag, .08 % Cu

21.75 % Zn, .31 % Cd

Coarse xline 1st

small bluff

Post 2, cls 1 & 2

Felsite & qtz eye porph

Schist, qtzite

Showing 'D'

sph, gn

NOT TO SCALE

400-500' to cl. Posts

Showing 'E'

Mal, tenorite

Rusty weathering felsite

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RAM CLAIM GROUP	
GEOLOGY	
Mining District	Whitehorse
N.T.S. Sheet No.	105 D 4
Scale	1" = 100'
Drawn by	RJ
Date	Aug 24 / 77

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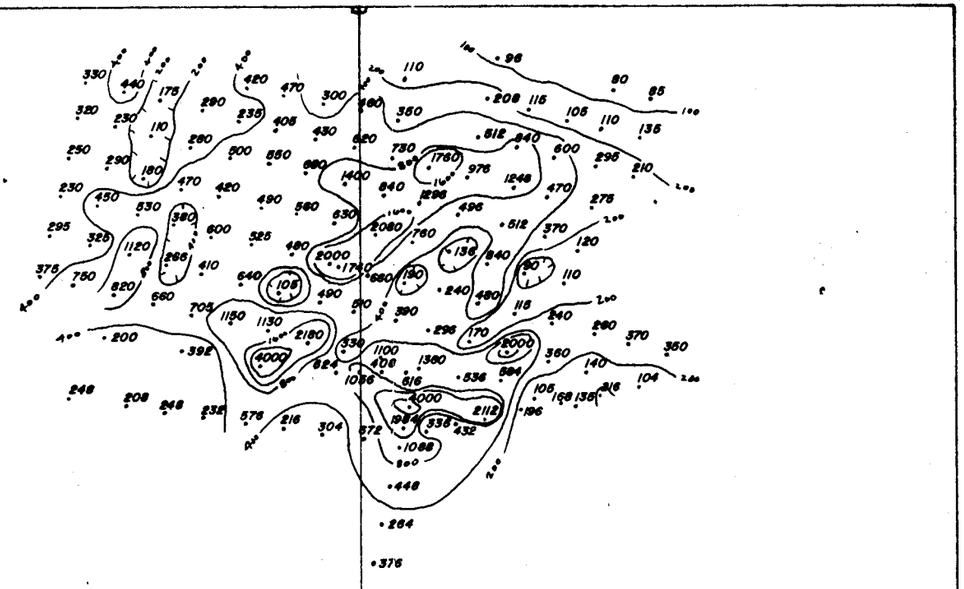
FIG. 4



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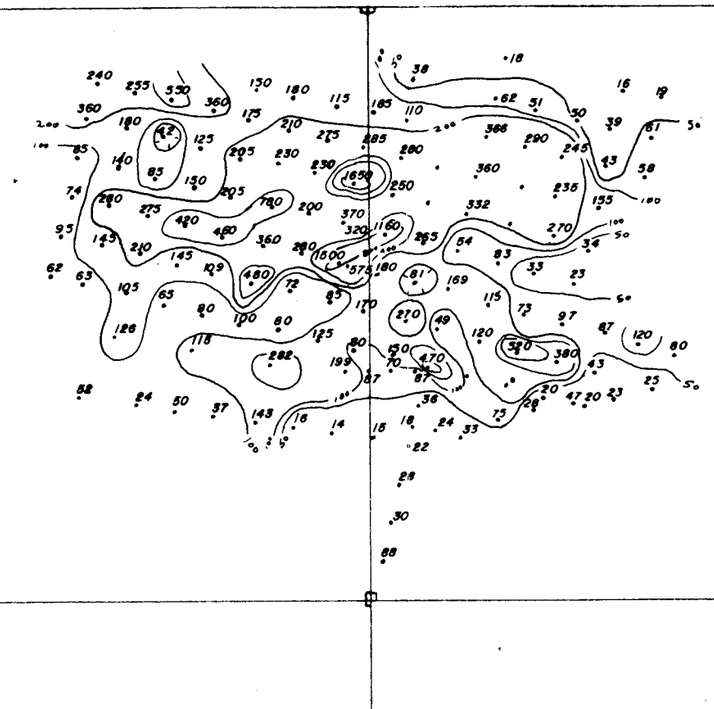
RAM CLAIM GROUP

ZINC PLOT

Mining District	Whitehorse
N.T.S. Sheet No.	105 – D – 4
Scale	1 inch to 400 feet
Drawn by RJ	Date 11/08/77

BCIL - 3043 - U.K.H.M.

FIG. 5



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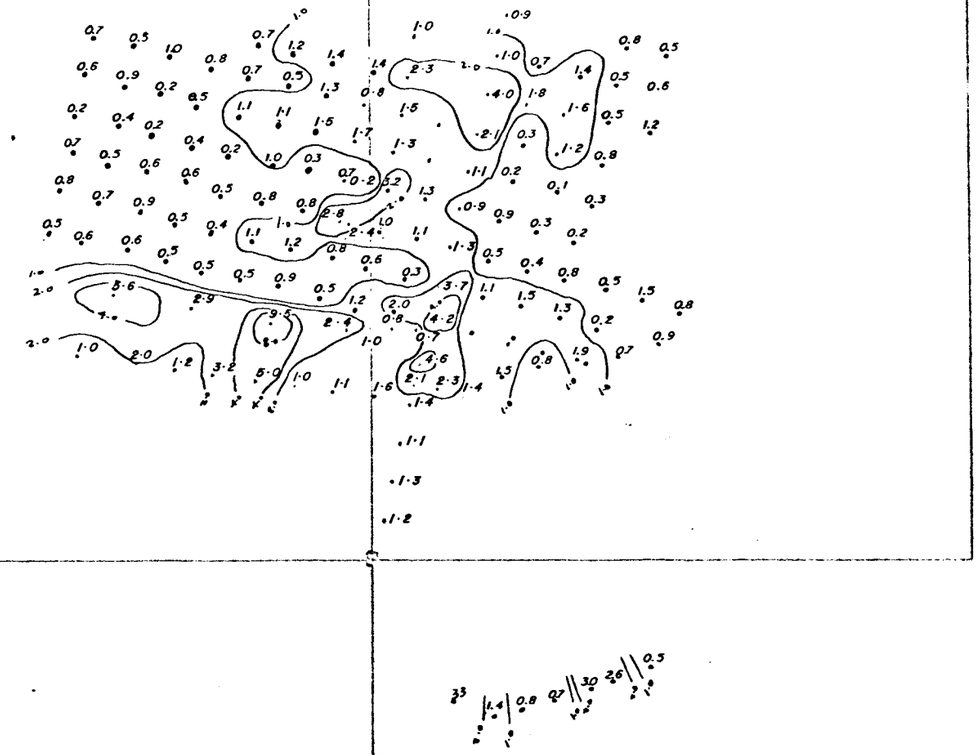
RAM CLAIM GROUP

LEAD PLOT

Mining District	Whitehorse
N.T.S. Sheet No.	105 – D – 4
Scale	1 inch to 400 feet
Drawn by RJ	Date 11/08/77



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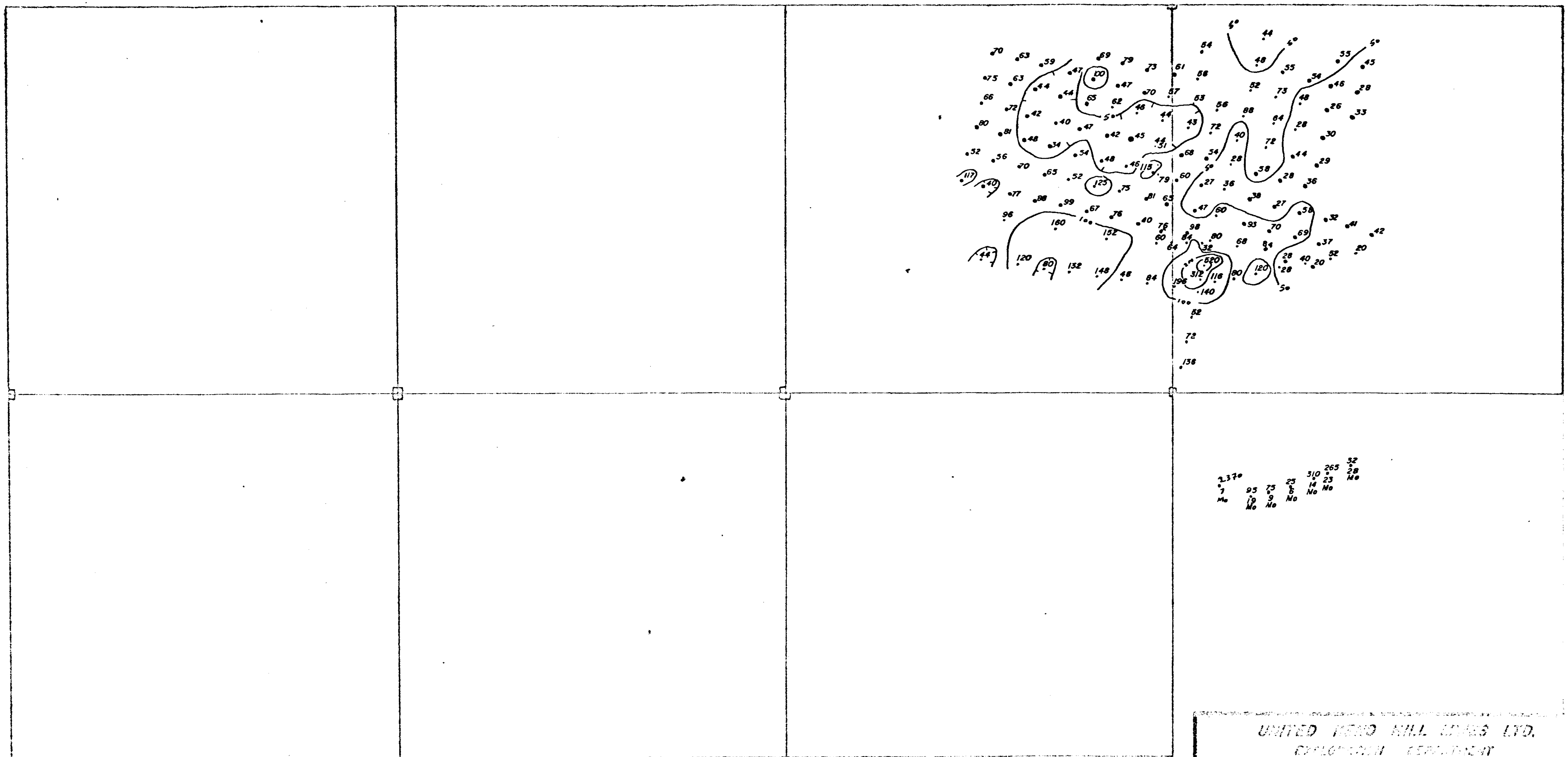
RAM CLAIM GROUP

SILVER PLOT

Mining District	Whitehorse
N.T.S. Sheet No.	105 - D - 4
Scale	1 inch to 400 feet
Drawn by RJ	Date 11/08/77

FIG. 7



UNITED [illegible] HILL [illegible] LTD.

[illegible] CLAIM GROUP

COPPER PLOT