

1978 REPORT

on the

DEB CLAIM GROUP

WHITEHORSE MINING DISTRICT

by

K. W. Watson

and

R. J. Joy,
United Keno Exploration,
405 Main Street,
Whitehorse, Y.T.
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N.T.S. Sheet: 105D-5
Latitude: 60° 21'N
Longitude: 135° 51'W
Dates: Sept. 1 to 20, 1978

Dated: December 28th, 1978

090490

A handwritten signature in black ink, appearing to be 'R. Joy', is located in the bottom right corner of the page.

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

\$14,000.00 Approved

J. A. Main

Resident Geologist or

Resident Mining Engineer

Acting Regional Geologist

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

B. R. BAXTER

Supervising Mining Recorder

Commissioner of Yukon Territory



A F F I D A V I T



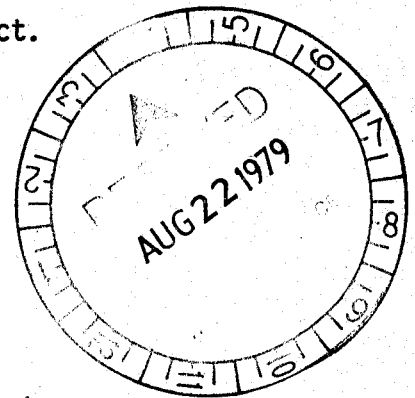
I, Robert E. Van Tassell, of Whitehorse, in the Yukon Territory,
Exploration Superintendent, do solemnly declare:



1.

That I am duly appointed agent of United Keno Hill Mines Limited,
and except where otherwise stated have a personal knowledge of the
facts and matters herein, and swear to the value of work contained
in Appendix I.

And I make this solemn declaration conscientiously believing it to
be true and knowing that it is of the same force and effect as if
made under oath and by virtue of the Canada Evidence Act.



Declared before me at
Whitehorse, in
The Yukon Territory,
this 21st day of
August 1979.

Richard Jay
Notary Public

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PHOTO: View northwest toward DEB Claims from ridge immediately south of RAM Claims.

MAPS IN POCKET:

Geology Map	1" = 400'
Geochem - Lead Plot	1" = 400'
- Zinc Plot	1" = 400'
- Copper Plot	1" = 400'
Electromagnetic Survey Plans	1" = 200'

SUMMARY and CONCLUSIONS:-

The DEB (1-28) Claim Group is located about 40 miles southwest of Whitehorse. It lies about one mile west of Rose Lake, at latitude 60° 21' N, longitude 135° 51' W, on N.T.S. Sheet 105D-5.

The property covers part of a northwest trending belt of metasedimentary rocks (Yukon Group). These comprise biotite-quartz schist to quartzite and limestone in the DEB area. Elsewhere, gneiss and amphibolite are an integral part of this metasedimentary sequence. Narrow, elongate bodies of fine-grained biotite-rich quartz diorite are present within the metasediments. These bodies are parallel with the enclosing rocks. The quartz diorite exhibits a weakly developed foliation parallel to that in the enclosing metasediments. Therefore, it is believed that these rocks predate or were contemporaneous with the last metamorphism of Yukon Group rocks (Wheeler, 1960).

Medium-grained granodioritic rocks of the Coast Range Intrusives surround this belt of metasediments. These intrusives are exposed in the north, east, and west corners of the property.

During the period September 1 to 20, a crew of two (2) to seven (7) men conducted geological, geochemical, and geophysical surveys on the property. Geology and geochem coverage was completed over most of the northwest half of the property. An EM-16 Survey was carried out over the central four claims which contain the main showings.

Six separate mineral occurrences were found over a distance of about 2100 ft. Lead-zinc-silver mineralization occurs within limestone skarn zones within Yukon Group metasediments.

The mineralized limestone skarn zones are weakly to highly silicified and appear to be moderately to highly deformed. Generally, barren moderately silicified limestone skarn containing coarse-grained diopside and garnet is spatially associated with the mineralization.

Seven rock samples were submitted for assay determinations. A 10 ft. chip sample from the main showing area (Showing B) returned 14.99% lead, 5.3% zinc, and 4.94 oz/ton silver. Results for copper, gold and tungsten were poor. Values returned for a 2 ft. chip sample taken about 2100 ft. northwest of this showing are 3.35% lead, 17.12% zinc, and 0.53 oz/ton silver.

A total of 940 soil sample were collected on a 100 by 300 foot spacing. These samples were analysed for lead, zinc, and copper by Bondar-Clegg and Company Limited.

There is generally excellent correlation between anomalous lead and zinc values. Except for peak values (12,000 ppm for lead and 5400 for zinc), lead values are generally much lower than zinc values. The more anomalous values generally lie within narrow, elongate, northwest trending areas of weakly anomalous values. In the main showing area, a northeast trend is also apparent. This trend is particularly strong in the lead results.

Areas where mineralization was observed are indicated by anomalous soil values. Other anomalies must be investigated.

Copper values are generally low and erratically distributed. A peak value of 670 ppm was returned for a sample collected near a malachite showing (Showing E). This correlates with an anomalous zinc value (680 ppm). Elsewhere, values are not correlative with lead or zinc.

The EM-16 Survey outlined a strong northwest trending crossover south of the main showings. This crossover was interpreted to be a fault. Two other north-northwest trending crossovers appear to have been a single conductor which was offset right-laterally a distance of about 1100 feet along this fault.

Most of the strong geochem anomalies lie along or just north of the projection of the interpreted fault.

Further work is necessary in this area.

RECOMMENDATIONS:-

Geological and geochemical surveys should be completed over the remainder of the property.

EM-16 coverage should be expanded to trace the structures outlined during the 1978 survey.

Hand trenches should be excavated across the known showings so that reliable sampling can be carried out.

INTRODUCTION:-

The DEB 1-28 Claims were staked to cover lead-zinc-silver mineralization discovered during the Arkell reconnaissance program. The property lies about 40 miles southwest of Whitehorse and west of Rose Lake.

Quartz-rich metasediments of the Yukon Group underlie most of the property. Granodiorite of Coast Range Intrusives was mapped in the north and west corners of the claim group.

Six separate occurrences of sphalerite and galena were mapped along a strike length of about 2100 feet. The mineralization generally occurs in limestone skarns within the metasediments.

During the period September 1 to 20 a two (2) to six (6) man crew conducted geological and geochemical surveys over approximately half the property. Between September 16 and 19 a small electromagnetor (EM-16) survey was conducted over the four central claims which contain the main mineralized zones.

A total of 940 soil samples were collected. These were analysed for lead, zinc, silver, and copper. A number of rock samples were collected for assay determinations.

LOCATION and ACCESS:-

The DEB Claim Group is located about 40 miles southwest of Whitehorse and one and one half miles west of Rose Lake (Figure 1). It is situated at latitude 60° 21'N, longitude 135° 51'W, on N.T.S. Sheet 105D-5. The property lies about 8½ miles northwest of the RAM Claims (Photo 1).

Access was by turbine helicopter from Whitehorse. Rose Lake can be used as a landing site for fixed wing aircraft.

PROPERTY:-

The DEB Claims comprise a group of 28 contiguous claims (Figure 2) as follows:

<u>CLAIM NAME</u>	<u>GRANT NOS.</u>	<u>LOCATION</u>	<u>RECORD DATE</u>	<u>EXPIRY DATE</u>
DEB 1-14	YA23465-78	8 Aug/78	22 Aug/78	22 Aug/79
DEB 15-28	YA23479-92	9 Aug/78	22 Aug/78	22 Aug/79

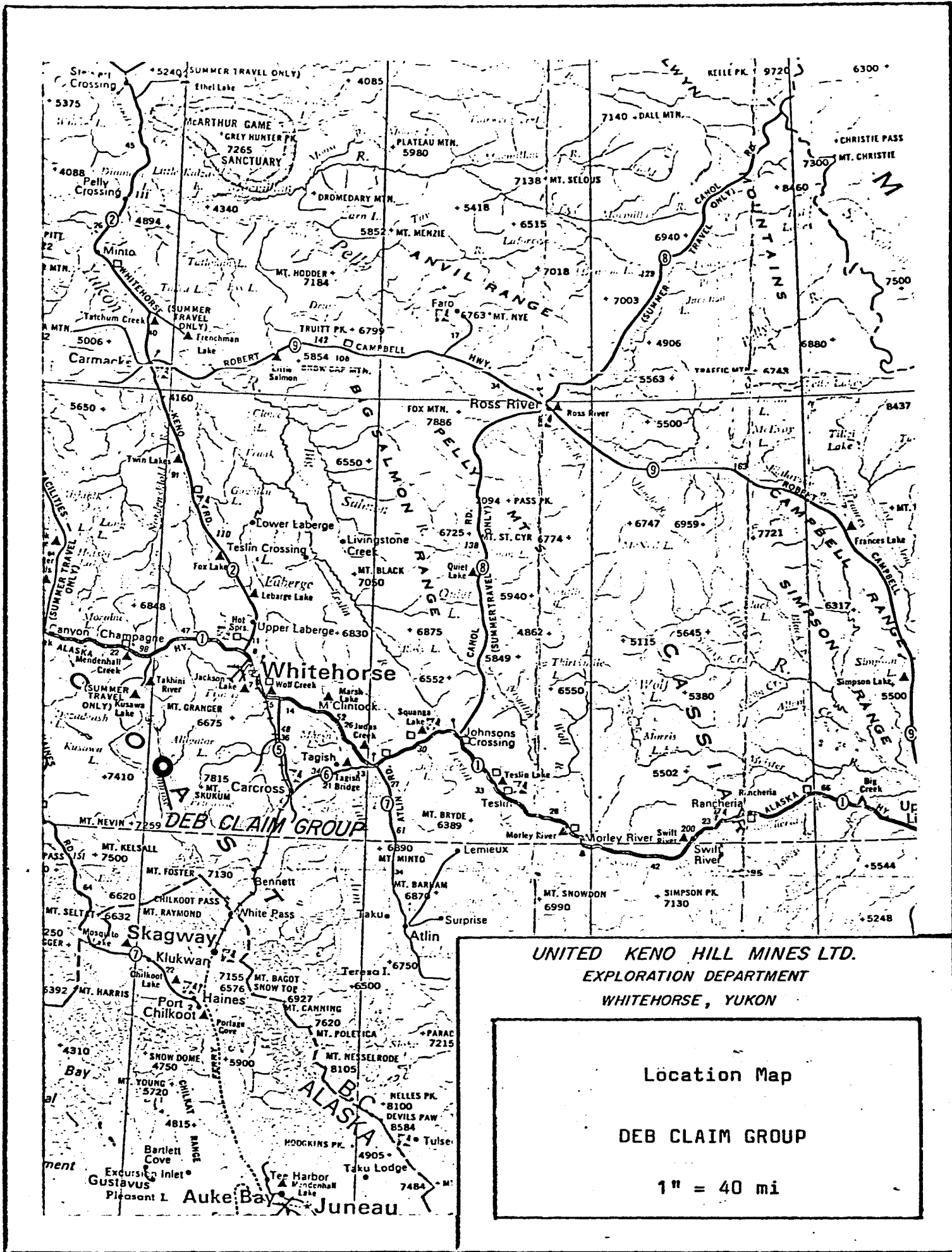
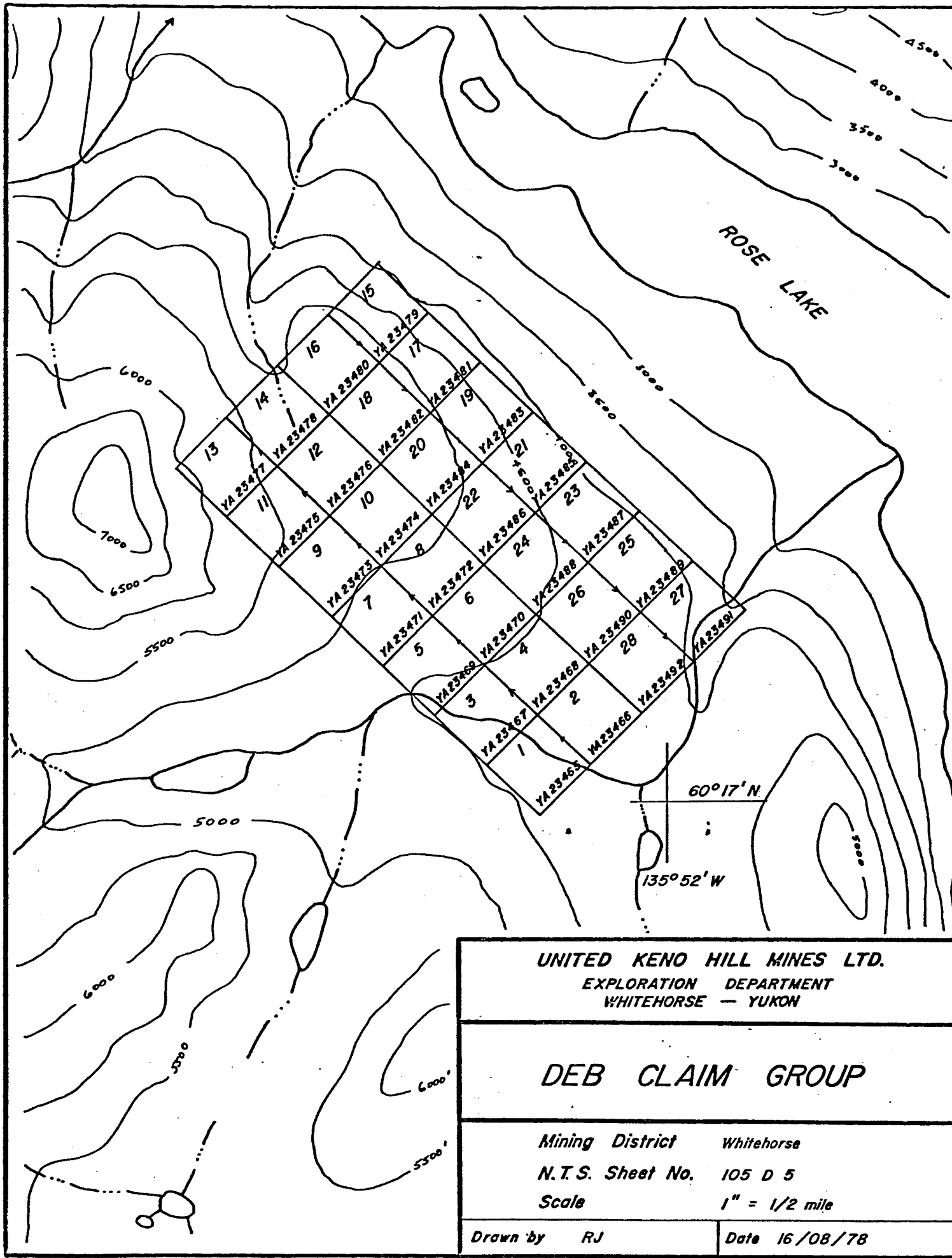


Figure 1



UNITED KENO HILL MINES LTD. EXPLORATION DEPARTMENT WHITEHORSE — YUKON	
DEB CLAIM GROUP	
<i>Mining District</i>	Whitehorse
<i>N.T.S. Sheet No.</i>	105 D 5
<i>Scale</i>	1" = 1/2 mile
<i>Drawn by</i>	RJ
<i>Date</i>	16/08/78

HISTORY:-

Gold, copper, lead, zinc, silver, and antimony showings were discovered in the Mt. Skukum-Chieftian Hill area in the 1900's.

The DOT Claims, located one (1) mile north of Rose Lake, were staked in 1969 to cover a gold showing in quartz veins within granodiorite. These were restaked as the SHEEP Claims in 1973 and have since lapsed.

The ROSE Claims, located four (4) miles southwest of Rose Lake were staked in 1968 to cover a zinc showing in massive limestone. These were restaked in 1971 as the PRIM Claims and again in 1972 as the RIC Claims. United Keno Exploration examined the showings in 1971, but the limited extent of the mineralization precluded an option agreement. These claims have also lapsed.

The RAM Claims, located one (1) mile northeast of Primrose Lake were staked in 1976 and 1977. Mineralization consists of lead-zinc-silver in skarn zones within Yukon Group metasediments. These zones occur near the contact with late Tertiary granite porphyry and Coast Range granodiorite. United Keno Exploration optioned this property in 1977 after obtaining encouraging geochem results. In 1978 detailed mapping, soil sampling, and geophysical surveys were carried out. Upon completion of an IP Survey, and additional 37 Claims were staked. A geochem survey was conducted over these new claims. (See 1978 RAM Report).

The Arkell reconnaissance program was initiated after completion of detailed mapping on the RAM. This program resulted in the discovery of mineralization which was later staked as the DEB Claims.

PHYSIOGRAPHY:-

The DEB Claims cover part of the northeast fringe of the Coast Mountains. Over most of the property, slopes have gentle to moderate dips to the east or northeast. Steep cliffs and talus slopes lie along the west and north corners of the property. A north flowing creek flows through a steep sided-ravine across the eastern edge of the claims.

Elevations range from about 3600 ft. on the eastern claims to 6400 ft. on the western claims.

A small stream flows northwest off the northwest end of the property. This stream is fed, in part, by a small slough on this edge of the property.

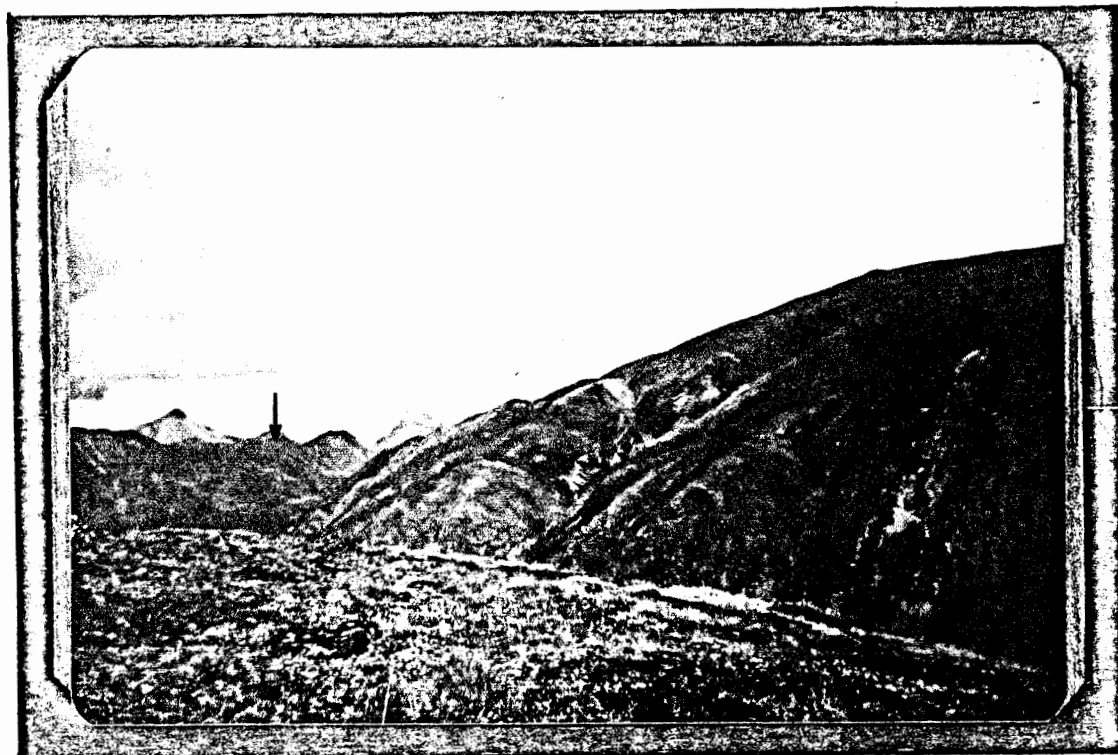


Photo 1. View northwest toward DEB property (arrow)
from ridge immediatly south of RAM property. Gossan on
extreme right outlines extent of altered granite porphyry.
(Photo courtesy K. Watson)

Bedrock exposure is good on the higher parts of the property, on the steep cliff faces, and in the ravine. Elsewhere, only about 5% of the surface has exposed bedrock. Overburden depths range from nil on steep slopes to probably 50 ft. at lower elevations. Rounded glacier transported boulders of Coast Range intrusives are scattered throughout the area.

Treeline is at about 4200 ft. but scrub alder is present up to about 5000 ft.

REGIONAL GEOLOGY:

The DEB Claim Group lies within the northwest trending Mount Skukum-Rose Lake belt of Yukon Group metasediments (units Q1Psn and Q1Pc, Figure 3). Because this belt is quite narrow in this area, the claims cover part of the northeast and southwest contacts with the Coast Range intrusives (unit M1gd).

Yukon Group rocks are believed to be pre-Mississippian in age. They consist of interbedded schist, quartzite, gneiss, limestone, and amphibolite. A section near the head of the Watson River revealed a minimum thickness of 2495 ft. (Wheeler, 1960). Quartzose schists were the most common rock type observed.

These metasediments have been deformed into northwest trending folds. Such folds, marked by beds of limestone and quartzite, are irregular and overturned both to the northeast and southwest. Bedding and schistosity are parallel virtually everywhere.

The Mount Skukum-Rose Lake belt of Yukon Group metasediments lies within the northern extension of the Coast Range intrusives. These intrusives are probably Jurassic in age and consist primarily of medium-grained equigranular granodiorite. Contacts between these rocks are generally steep, sharp, and irregular. In some contact areas, pendants and screens of metasediments are present within the granodiorite.

Early Tertiary felsic to basaltic volcanics of the Mount Skukum group overlie metasediments and intrusives in the Mount Skukum area and at the head of Watson River.

Late Tertiary granite porphyry occurs as plugs and a small stock east of the north end of Primrose Lake. These intrude rocks of the Yukon Group and Coast Range intrusives.

No Tertiary intrusives or extrusives were recognized on the DEB Claims.

DETAILED GEOLOGY

Yukon Group metasediments -

The dominant rock types encountered on the DEB Claims were siliceous biotite-quartz schist and coarse-grained massive to banded crystalline limestone. The mapped portion (northwest half) of the property is underlain by these two rock types in near equal proportions.

Several small areas of limestone skarn were observed. These contain up to 30 percent garnet, diopside, and quartz (+ epidote). Such skarn is generally barren. It is commonly present along the fringes of mineralized skarn zones.

biotite-quartz schist to quartzite (unit P1Psn) -

The most common rocks of this unit are generally well-banded biotite-quartz schist. Quartz-rich bands alternate with biotite-rich bands. Fresh surfaces show clear recrystallized quartz bands (2-4 mm thick) with little or no mafics and dark biotite-rich bands with 10-20 percent disseminated quartz grains. Weathered surfaces are generally brown to brown black. In some areas, however, weathering of biotite has produced orange to red-brown gossans.

Locally, massive quartz bands, lenses, and pods occur within these rocks. The quartz bands vary from 1 to 10 cm in thickness and are conformable with the schistosity. Quartz lenses vary from 2.5 by 15 cm to 30 by 180 cm and are also conformable with the schistosity. Pods were rarely observed and vary from 10 to 60 cm in diameter.

The biotite-quartz schist varies to a quartzite with increasing silica content. Contacts are generally gradational. However, in some areas, small bands of micaceous quartzite or quartzite have sharp contacts with the enclosing schists. As the quartz content increases, the banding becomes less distinct. Quartzites are massive and have no apparent banding. Minor quartzite is exposed on claim 16.

A black laminated fine-grained siliceous rock is exposed on the top of the hill on the north corner of the property. Cleavage is well developed parallel to the laminations. It normally contains 15 to 40% siliceous material and is probably a siliceous argillite. Graphite constitutes up to 10% of this rock. It was mapped as graphite schist (Map in pocket).

Alteration of biotite has produced variable amounts of chlorite in some schists.

limestone (unit P1Pc)

This unit is composed of white to grey massive, medium to coarse grained crystalline limestone. It is commonly banded. Light and dark colored bands vary from 0.5 to 20 cm in thickness. This banding is parallel to the schistosity in adjacent schists and probably represents original bedding.

A large limestone band is exposed on the DEB Claims. It has a strike length greater than 4500 ft. and a width which varies from 400 ft. to more than 3500 ft. Other limestone bodies have strike lengths from 1500 to 4500 ft and widths from 200 to 600 ft.

Most of the limestone occurs as isolated bodies. However, in some areas, biotite-quartz schists and limestone are interbedded. A few sections of limy schist or schistose limestone were encountered.

limestone skarn (unit P1Pc-sk)

This unit is not very extensive. However, it is important because the exposed mineralization appears to be genetically related to it.

It is composed of fine to medium grained crystalline limestone with up to 30 percent garnet, diopside, and minor epidote. These minerals generally occur as medium to coarse-grained anhedral to subhedral crystals. They occur as individual crystals or as clusters along discontinuous bands. Translucent to opaque garnets are a pale red to brown color. Diopside and epidote are pale to medium green in color. The limestone skarn is moderately silicified.

Where exposed, it appears to form an envelop around (laterally, at least) the mineralized zones. This may indicate an early stage of wallrock preparation in the mineralization process. The contact between these skarns and the mineralized zones were not examined. However, such contacts are believed to be sharp or gradational over short distances.

The mineralized skarn is generally more siliceous. In the main showing area, it appears to be more irregular (deformed??) and is more susceptible to attack by weathering processes. At showing E, galena crystals (about 5% by volume) occur within limestone skarn with 30% garnet and diopside.

quartz diorite

The age of this fine-grained biotite-rich quartz diorite is unknown. However, since it has a weakly developed foliation with similar orientation to that observed in the adjacent metasediments, it probably predates or was intruded during the last metamorphism of the Yukon Group (Wheeler, 1960).

Quartz diorite is present near most showings on the DEB Claims. Further work must be carried out to determine whether there is a genetic relationship with the mineralization.

The exposure adjacent to showing A (Figure 5) is weathered a rusty color. Elsewhere, it is generally weathered a grey-brown to black color.

Coast Range intrusive -

granodiorite (unit Mlqd)

Granodiorite surrounds the Mount Skukum - Rose Lake belt of metasediments. It is exposed on the north, west, and east corners of the property. The granodiorite is composed of medium-grained granular quartz (30-45%), white to beige feldspar (30-55%), and mafic minerals (10-25%, biotite and hornblende in near equal amounts).

A small exposure of hornblendite was noted in the north corner of the property. Coarse-grained hornblende crystals constitute about 95 percent of this rock. It contains 3-5 percent disseminated pyrite.

Contacts with the metasediments are generally steep, sharp, and irregular. These relationships suggest passive emplacement of the intrusive.

In one area on the north corner of the property, magnetite constitutes up to 15 percent of the siliceous schists within 20 ft. of the intrusive/ metasediment contact .

STRUCTURE:-

Yukon Group metasediments generally have a well defined foliation which is parallel to bedding.

Figure 4 is a stereonet plot of poles to foliation and bedding. Measured fold axes were also plotted. From this plot it is readily apparent that northwest trending folds predominate. The scatter is greater for northeast dipping surfaces. Strikes vary from 260° to 360° and dips generally vary from 40° to vertical. Southwest dipping surfaces, however, vary from 290° to 345° in strike and from 20° to vertical in dip. A cluster of points in the northeast quadrant suggest a slight preference for surfaces with orientations of about 325°/25-46°SW. Few measured northeast dipping surfaces have dips shallower than 40°. This plot indicates that folds are irregular and asymmetric. More measurements and observations of field relationships are necessary before more comments can be made.

This interpretation of the stereonet plot suggest the structure is simple. This is not the case. Complex folds are evident in cliff faces. Small scale folds (wavelengths up to 1 inch) and crenulations were noted in the biotite-quartz schists and banded limestones. Such small folds are very conspicuous in differentially weathered limestone.

One fault was interpreted in the main (A,B,C) showing area. It has a northwest trend and appears to be along the hinge of an anticline. This fault was later confirmed by an EM-16 survey. This survey suggests there may be as much as 1100 ft right-lateral offset along this fault. A north-northwest trending structure appears to be offset by this amount (see map in pocket).

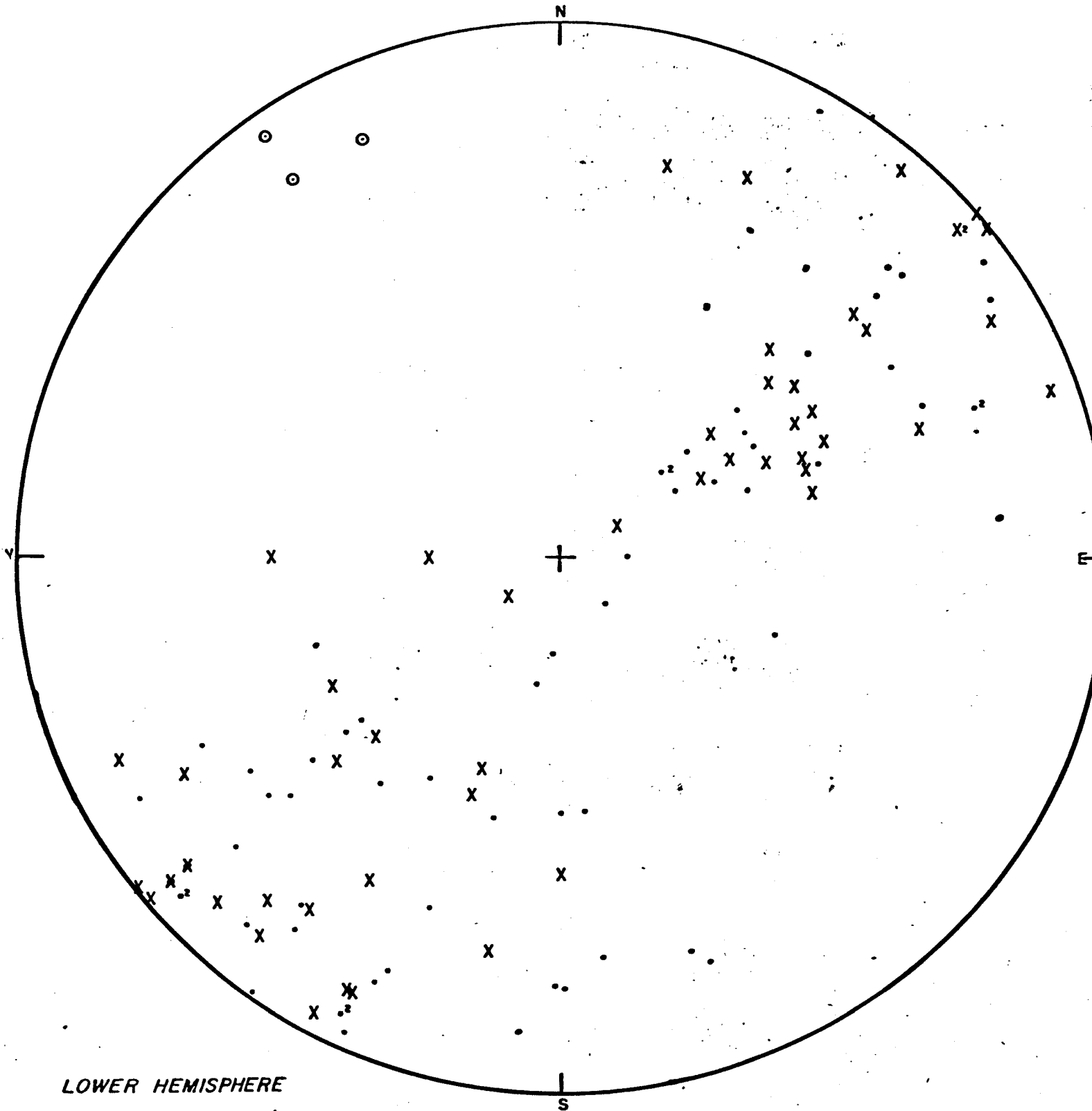
A north-northeast striking, westerly dipping (70°) shear zone was observed in the ravine near the southeast edge of the property. This zone cuts medium grained hornblende granodiorite.

Granodiorite/metasediments contacts are sharp, irregular and generally have steep dips.

MINERALIZATION:-

Six occurrences of skarn-type lead-zinc-silver mineralization were observed on the DEB Claims. One copper-silver occurrence in an epidote-rich rock was observed near the contact between schist and granodiorite.

DEB CLAIM GROUP - POLES to FOLIATION, ect.



LOWER HEMISPHERE
Equal Area Net Plot.

- POLES to FOLIATION (72 POLES)
- X POLES to BEDDING (48 POLES)
- ⊙ FOLD AXES

UNITED KENO HILL MINES LTD.

EXPLORATION DEPARTMENT

Fig. 4

Two showings (A and B) of lead-zinc-silver mineralization were initially observed (Figure 5). Showing A is a northwest trending (330°) mineralized zone about 10 to 15 ft wide and 70 to 80 ft long. It comprises disseminated galena, sphalerite, and reddish oxide material in a highly deformed and moderately siliceous limestone. One small (1 by 2 ft.) area in the showing contained massive sphalerite and galena in a highly siliceous matrix.

Red-brown (rusty) fine-grained slightly foliated biotite-quartz diorite lies along the northeast contact of the zone. Biotite-quartz schist is present along the southwest contact. The zone is covered by overburden and biotite-quartz schist talus to the northwest. To the southeast, it pinches out in an unmineralized diopside-garnet limestone skarn. A 13 ft chip sample from across this zone assayed 10.32% Pb, 4.10% Zn and 2.38 oz. per ton Ag. A grab sample of rusty limestone with some disseminated mineralization returned 4.85% Pb, 6.45% Zn, 1.15 oz. per ton Ag, 0.01% Cu, 0.02% WO_3 , and 0.005 oz per ton Au.

Although showing B has quartz-biotite schist along both contacts, it is similar to A in many respects. It appears to strike at 320° , has a 10 to 15 ft width, and is 30 to 40 ft long. A 10 ft chip sample across this zone assayed 14.99% Pb, 5.30% Zn, and 4.94 oz per ton Ag. A narrow sill(?) of quartz diorite is exposed about 20 ft northeast of the zone.

Several other occurrences (Showing C-G) were found as mapping progressed. Showing C lies about 50 ft southwest of showing A. It consists of a northwest (about 325°) trending reddish gossan containing mineralized and barren float. This area is about 15 ft long and 6 ft wide. Minor disseminated sphalerite and galena were the only sulphides noted. Barren float consists of limestone skarn and coarse-grained crystalline limestone. Biotite-quartz schist lies along both contacts of the mineralized zone. A small hand trench was excavated, but bedrock was not reached. The reddish soil gives a positive zinc zap response. A soil sample collected adjacent to this showing returned values of 12,000 ppm Pb, 5400 ppm Zn and 110 ppm Ag.

Showing D comprises 1-2 cm wide bands of massive sphalerite and galena in crystalline limestone. Some calc-silicate skarn associated with the mineralization gave a positive zinc zap response but no mineralization was observed. Hand trenching exposed dimensions of 1 ft by 5 ft (minimum). It also strikes at approximately 330° .

Showing E is exposed about 700 ft northwest (on strike) of the main showings (A, B & C) area. It consists of about 5 percent disseminated medium-grained galena in a moderately siliceous limestone skarn. Much of the zone is unmineralized limestone which has been weakly to moderately converted to diopside-garnet skarn. This is in contact with biotite-quartz schist, a small section of which contains minor malachite. The width of the mineralization varies from 2 inches to 1.5 feet. It is discontinuous along a strike length of 20 feet. Quartz diorite is exposed about 150 ft north of this showing.

Showing F lies about 2100 ft northwest of the main showings. Disseminated galena and sphalerite^{occur} with red oxidized material in a calc-silicate limestone skarn. It is in contact with crystalline limestone, chlorite-biotite-quartz schist, and quartz diorite. Widths vary from 1 to 3.5 ft along a 20 ft exposed strike length. A 3.5 ft chip sample from across the zone assayed 2.65% Pb, 2.18% Zn and 0.41 oz per ton Ag. A 2 ft chip sample assayed 3.35% Pb, 17.12% Zn, and 0.53 oz per ton Ag. Rusted biotite-quartz schist adjacent to showing gave assay results of 0.01% Pb and 0.01% Zn.

Showing G consists of copper-silver mineralization at the contact between granodiorite and schist in the west corner of the property. Malachite is present in float boulders which are composed of 50 to 70 percent epidote, 10 to 30 percent garnet, and up to 5 percent tourmaline. A grab sample of this rock assayed 1.49% Cu, 4.56 oz per ton Ag, 0.10% Zn and 0.01% Pb.

The lead-zinc-silver mineralization in limestone skarn occurs on the steeply dipping northeast limb of an anticline. A fault with undetermined displacement (see Geophysics) is exposed in the hinge region. Short discontinuous zones of mineralization were observed along a 2100 foot strike length.

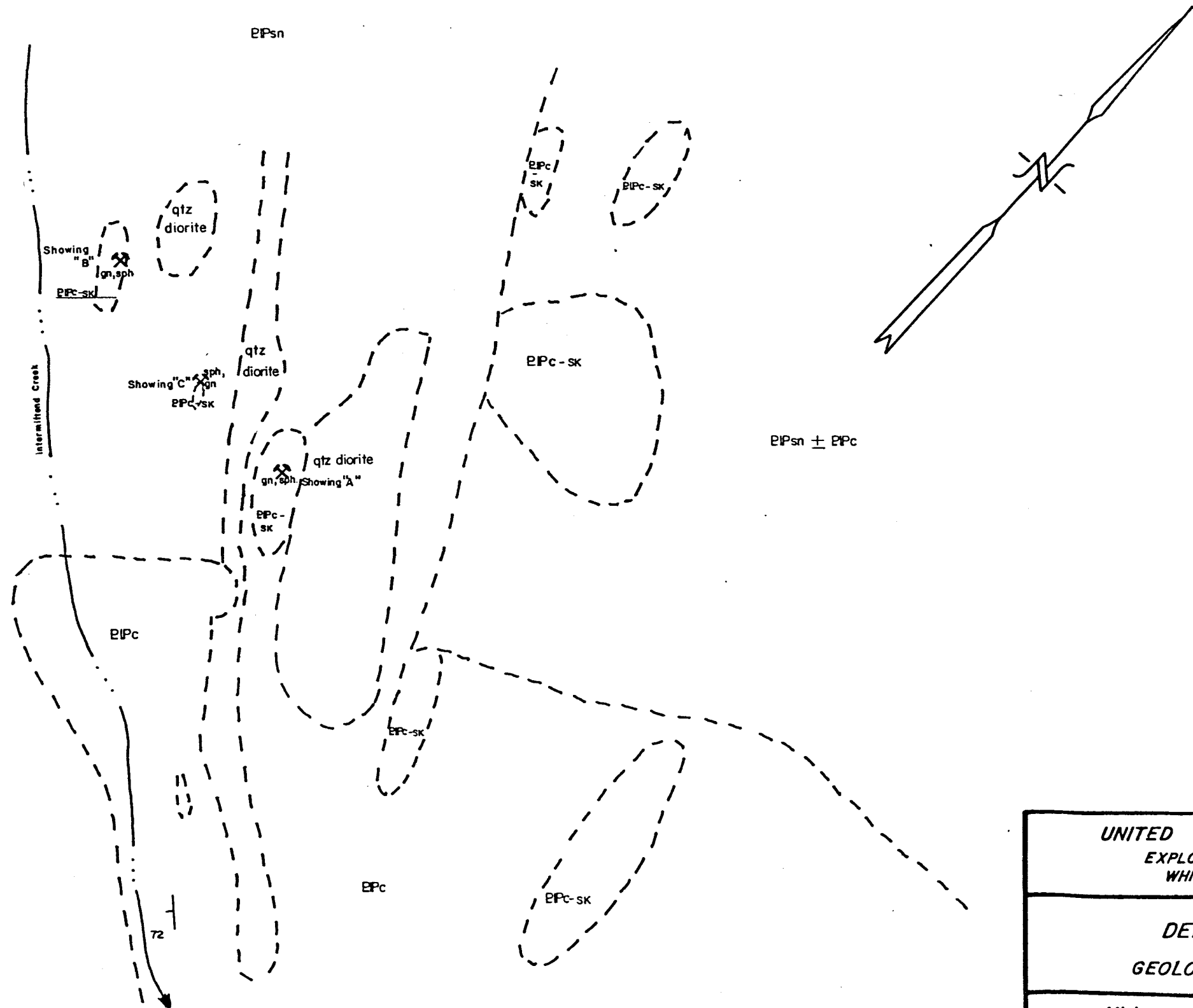
Although fine-grained quartz diorite is present in the vicinity of most showings, it's relationship to the mineralization is not known.

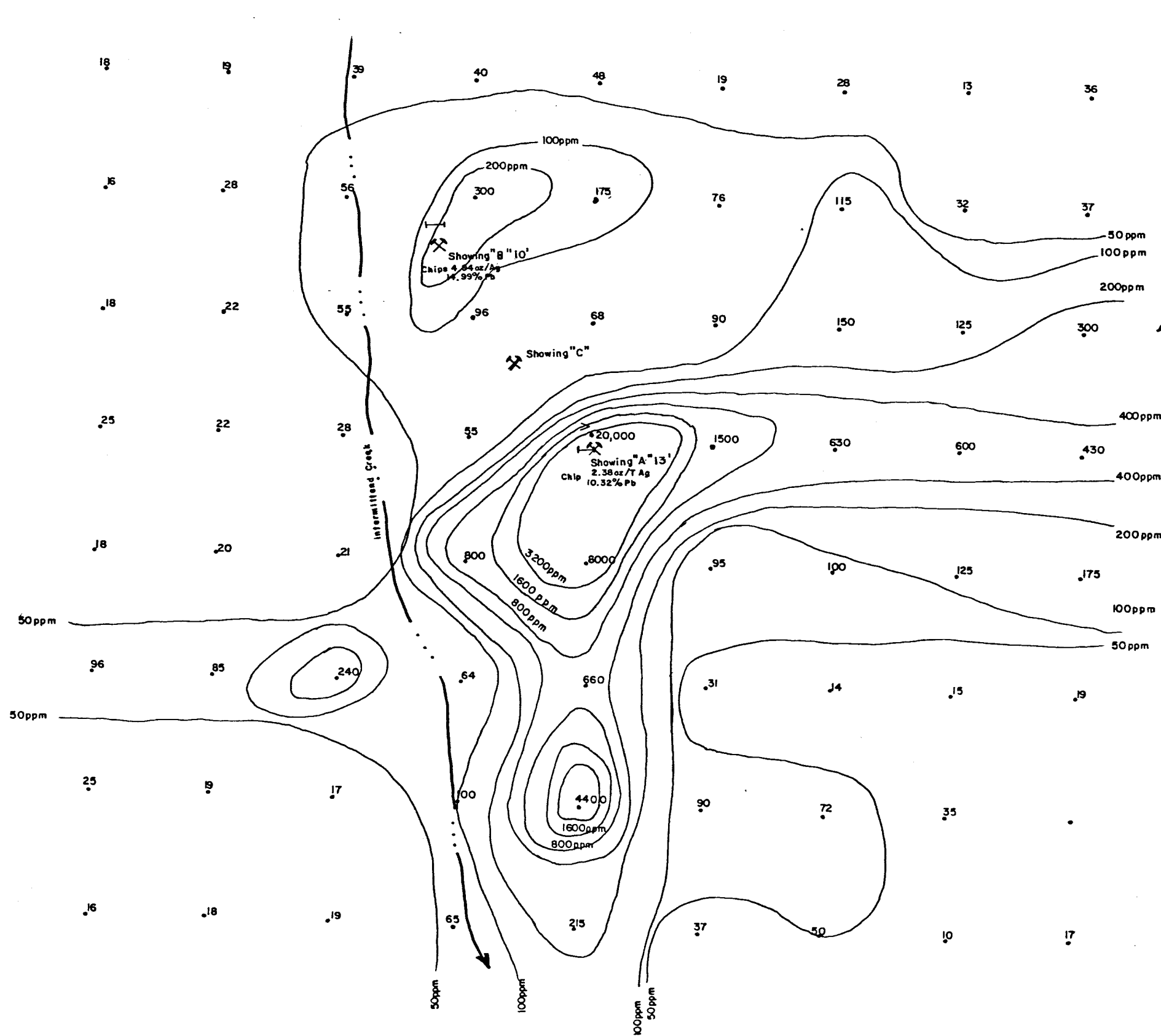
GEOCHEMISTRY

GENERAL:-

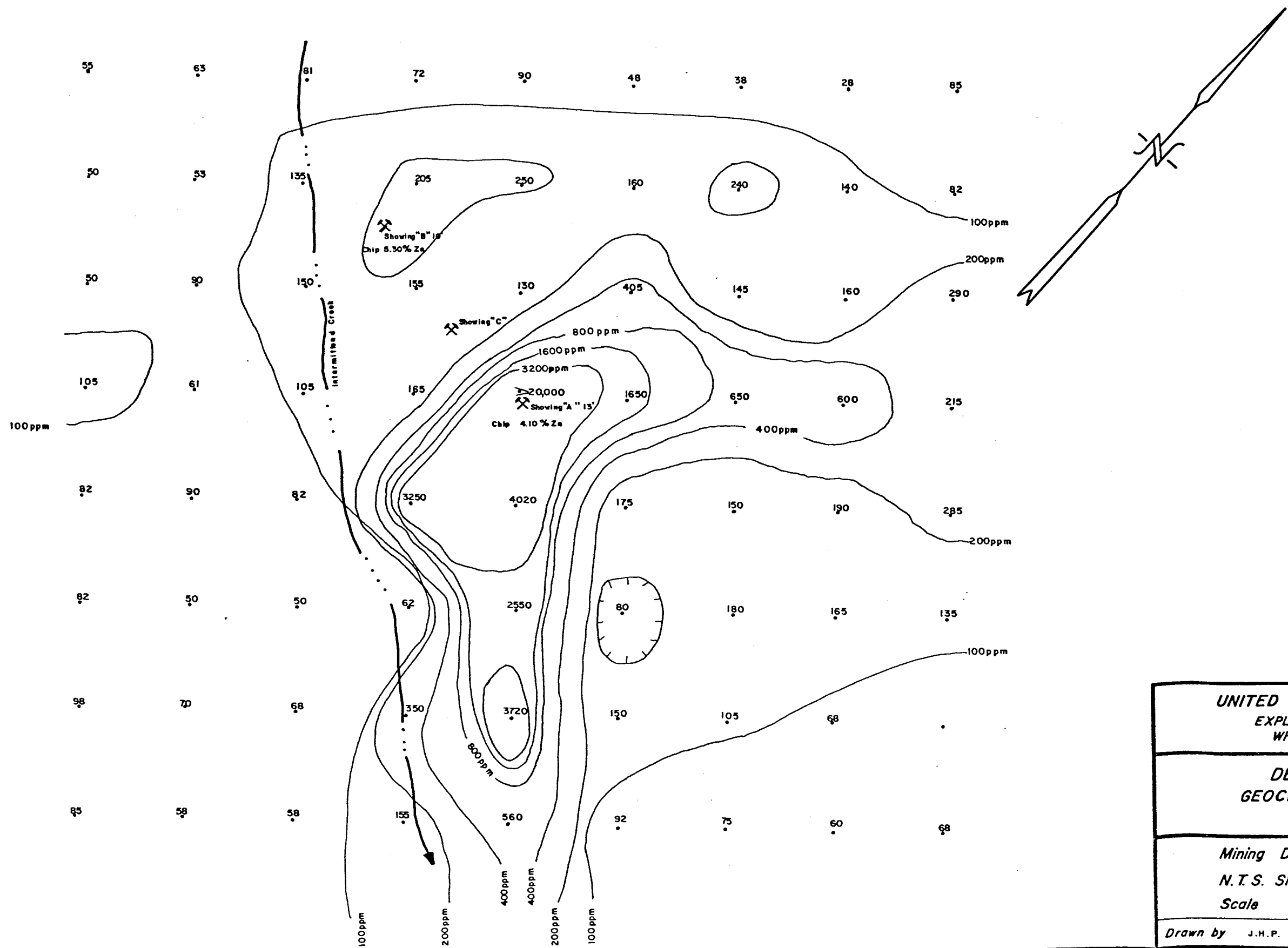
Two northwest trending baselines were established while the claims were staked. These were used for control during the geochemical sampling program. Samples were collected on a 100 by 300 foot spacing (300 ft intervals along strike). All samples were analyzed for lead, zinc, and copper.

A small 100 by 100 grid was sampled over the main showing (Figures 6 & 7) prior to staking the DEB Claims.





UNITED KENO HILL MINES LTD. EXPLORATION DEPARTMENT WHITEHORSE — YUKON	
DEB CLAIM GROUP GEOCHEM — Showings A, B, C LEAD PLOT	
Mining District WHITEHORSE N.T.S. Sheet No. 105-D-5 Scale 1 inch = 100 feet.	
Drawn by J.H.P.	Date Jan. 2/1979



UNITED KENO HILL MINES LTD. EXPLORATION DEPARTMENT WHITEHORSE — YUKON	
DEB CLAIM GROUP GEOCHEM — Showings A,B,C ZINC PLOT	
Mining District WHITEHORSE N.T.S. Sheet No. 105-D-5 Scale 1 inch = 100 feet	
Drawn by J.H.P.	Date Jan. 2/1979

RESULTS:-

There is generally excellent correlation between anomalous lead and zinc values. The only exception is in the southwest part of the property. There, a zinc value of 630 ppm was returned for a sample which contained only 26 ppm lead. Correlation is also quite good between weakly anomalous lead and zinc values. Peak values of 5400 and 2300 ppm were returned for zinc and 12,000 and 940 ppm for lead. (Geochem-plots in pocket)

The distribution patterns are near identical for both metals. The zinc plot shows more of a scatter. Anomalies are generally narrow and elongate in a northwesterly direction. In the main showing area, however, zinc shows a northeast trend also. This northeast trend is even more apparent in the lead plot. This feature hasn't been explained yet. It may indicate either en-echelon arrangement of small showings or an underlying structure with which the mineralization is associated.

Anomalous values are generally coincident with areas of exposed mineralized skarn. Other anomalies probably represent mineralization that hasn't been observed. The orientation is generally similar to that of the underlying rocks. Many of the anomalies lie along the schist/ limestone (P1Psn/P1Pc) contacts.

The anomalous zinc value (630 ppm) in the southwest part of the property may reflect a sphalerite-rich lens in crystalline limestone.

Copper values are generally low. Any five samples yielded results in excess of 150 ppm. A peak value of 670 ppm was returned. This sample was collected near Showing E where malachite was observed on schist. An anomalous zinc value (680 ppm) was also returned for this sample. Elsewhere, the weakly anomalous copper values cannot be correlated with lead or zinc values.

Anomalous copper values in the northwest corner of the property may indicate traces of copper mineralization in hornblendite. This hornblendite contains 3-5 percent disseminated pyrite.

Other erratically distributed values probably reflect traces of copper in skarns or schist.

The anomaly associated with the main showings lies to the north of the northwest trending structure outline by the EM-16 survey. If this structure were projected along strike to the northwest, most of the coincident lead-zinc anomalies would lie along or just to the north of it.

GEOPHYSICS:-

Between September 16 and 20th, a small EM-16 survey was conducted by S. Presunka (APPENDIX III) over the four central claims which cover the main showings. Soil sample locations were used for control. Readings were taken for signals originating at Seattle and Hawaii (see plots in pocket).

A strong northwest trending crossover was identified just south of the main showings. This was interpreted as reflecting the fault exposed on surface about 100 ft south of the showings. If this interpretation is correct, then there appears to be about 1100 ft of right-lateral displacement along this fault. This is indicated by an apparently offset north-northwest trending crossover.

A short, strong northeast trending crossover was indicated near the campsite. This is a one station anomaly (see Maine plot).

REFERENCES:-

- Archer, Cathro Northern Mineral Inventory.
- Watson, K.W. & Joy, R.J. - 1978 Report on Arkell Project Area, N.T.S. 105D-4 & D-5, U.K.H.M. Files
- Watson, P. & Joy, R., 1979, 1978 Geological, Geochemical and Geophysical Report on the RAM 1-45 Claim Group, N.T.S. 105D-4. Being edited
- Wheeler, J.O., 1960, Whitehorse Map Area, Geological Survey of Canada, Memoir 312

APPENDIX I

LOGISTICS:

PROJECT: DEB Claim Group, Project No. 40

DATE: 1978, September 1 to 20th

TERRAIN: Mountainous

MAIN BASE: Whitehorse

OPERATING CAMPS: One (1)

CREW: Two(2) to seven(7) men

HELICOPTER UTILIZATION:

7.5 hours for camp mobilization and supply

OPERATING MAN-DAYS:

Possible Days	75	100%
Operating days	55	73.3
Days lost		
- camp moves	9	12.0
- weather & other	11	14.7

PROJECT COSTS:

	<u>Cost</u>	<u>%</u>
General	\$ 673.00	4.6
Property Acquisition	392.00	2.7
Geological	2,872.00	19.8
Geochemical	5,709.00	39.4
Geophysical	1,004.00	6.9
Camp Operation	1,061.00	7.3
Aircraft Charter	2,741.00	18.9
Vehicle Rental	<u>55.00</u>	<u>0.4</u>
	\$14,507.00	100.0

APPENDIX II

FOLIATION and BEDDING ATTITUDES

FOLIATIONS

340/40SW
340/40NE
290/60NE
320/40NE
300/85SW
330/80NE
320/50SW
310/80NE
320/60NE
300/40NE
310/60SW
300/60SW
300/45SW
000/10W
020/35NW
308/45NE
284/42N
335/?
264/65N
250/70N
318/70NE
340/30SW
329/82SW
293/76NE
330/60SW
325/45SW
280/20N
315/60NE
306/70NE
322/90
050/10N
320/85NE
318/70SW
332/65NE
318/57NE
250-290/40N
337/62SW
252/67NW
292/73NE
271/70N
294/88NE
318/85NE
320/80NE
318/85NE

Cont'd

295/85NE
340/70SW
355/70SW
325/85SW
320/71SW
340/42SW
012/?
315/?
085/40N
090/70N
275/79NE
320/20SW
305/68SW
305/75NE
275/?
305/90
330/?SW
320/43NE
275/?N
320/?NE
265/?W
275/15N
320/?SW
320/35SW
320/65SW
295/?
323/29SW
330/20SW
320/25SW
320/28SW
330/46SW
330/34SW
325/34SW
320/20SW

BEDDINGPlunge of Fold axes

323/60SW
340/40SW
000/20E
320/10NE
000/20-70NE
290/20-70NE
300/60NE
320/60SW
320/?
305/?
305/80NE
280/65NE
335/80NE
311/85SW
340/60SW
323/45SW
330/70NE
296/68SW
336/45SW
341/85SW
331/80SW
317/33SW
338/40SW
317/47NE
308/80NE
298/87NE
346/40SW
330/20SW
330/40NE
320/90
320/85SW
320/85NE
320/80NE
315/40NE
335/35SW
335/?SW
315/46SW
320/?SW
285/65S
310/73NE
330/45SW
270/50N
320/42SW
250/?
290/35N
315/80NE
330/42SW
320/30SW
330/?SW
330/25SW
325/?SW
330/10SW
295/80NE
296/80NE
320/85SW

5° @ 320°
15° @ 325°
15° @ 335°
? @ 324°

APPENDIX III

DEB CLAIM GROUP - GEOPHYSICAL NOTES

ROSE LAKE AREA - YUKON

Electromagnetic Survey - Instrument - Ronka EM-16 Ser. No. 2 -

Readings were taken every fifty feet along the lines using two V.L.F. stations, 18.6 (Seattle) and 23.4 (Hawaii). There are three plans submitted, one plan for 23.4 (contoured) and two for 18.6 one profiled and the other contoured. The contoured plan is helpful in determining geological structure.

Plan #1 - Profiled V.L.F. St. 18.6 (Seattle) -

The "A" conductor which strikes in a northwest direction across the entire grid has faulted off the "B" and "C" conductors. This "A" fault dips flatly to the northeast as interpreted from the EM-16 results. It's possible the "A" conductor on lines 53, 51 and 47 is weakly mineralized. Depth to the conductor on L-47 is approximately 120 feet.

The "B" and "C" conductor, which has been faulted off by the "A" conductor, strikes in a north-south direction. The "B" conductor, on lines 47 and 45, some 700 feet N.E. of base line #1 is very likely due to sulphides. Depth to this conductor on L-47 N.W. is approximately 125 feet. This conductor dips steeply to the north east. The "C" conductor, northeast of the "A" is deep. The indicated depth to the conductor on L-53 is approximately 250 feet.

Plan #2 - Contoured V.L.F. St. 18.6 (Seattle) -

Likely indicates the geological structure.

Plan #3 - Contoured V.L.F. St. 23.4 (Hawaii) -

There are four conductors shown on this plan, which are alphabetically listed from "A" to "D". The "A" conductor parallels the "A" conductor of V.L.F. St. 18.6 to L-57 N.W. and is faulted off by the north striking "B" conductor. The "C" conductive zone on lines 53 and 51 some 1000 feet south of baseline #2 dips flatly to the north and is about 250' down to the conductor.

The "D" conductor, striking in a northeast direction, is located between lines 47 and 45 in the camp area. This is a strong conductor and appears to be dipping steeply to the southeast. Depth to this conductor is approximately 100 feet. There is a good chance that this is a sulphide conductor. At line 47, some 1300 feet N.E. of baseline #1, this "D" conductor suddenly swings to the west crossing L-51.

The geochem results very likely will be usefull evaluating the EM conductive zones.

Sept. 23, 1978

Steve Presunka

APPENDIX IV

PERSONNEL and CONTRACTORS EMPLOYED

K. Watson	Party Chief	September 11 to 20
M. Childs	Assistant	September 11 to 20
S. Cross	Soil Sampler	September 1 to 20
O. Lindsey	Soil Sampler	September 1 to 20
J. Richardson	Geologist	September 14 to 20
G. Dix	Geologist	September 14 to 20

HELICOPTER SUPPORT:-

Yukon Air Limited,
Hangar "A",
Whitehorse Airport,
Whitehorse, Y.T.

Shirley Helicopters Limited,
Hangar "B",
Whitehorse Airport,
Whitehorse, Y.T.

Trans North Turbo Air,
T.N.T.A. Hangar,
Whitehorse Airport,
Whitehorse, Y.T.

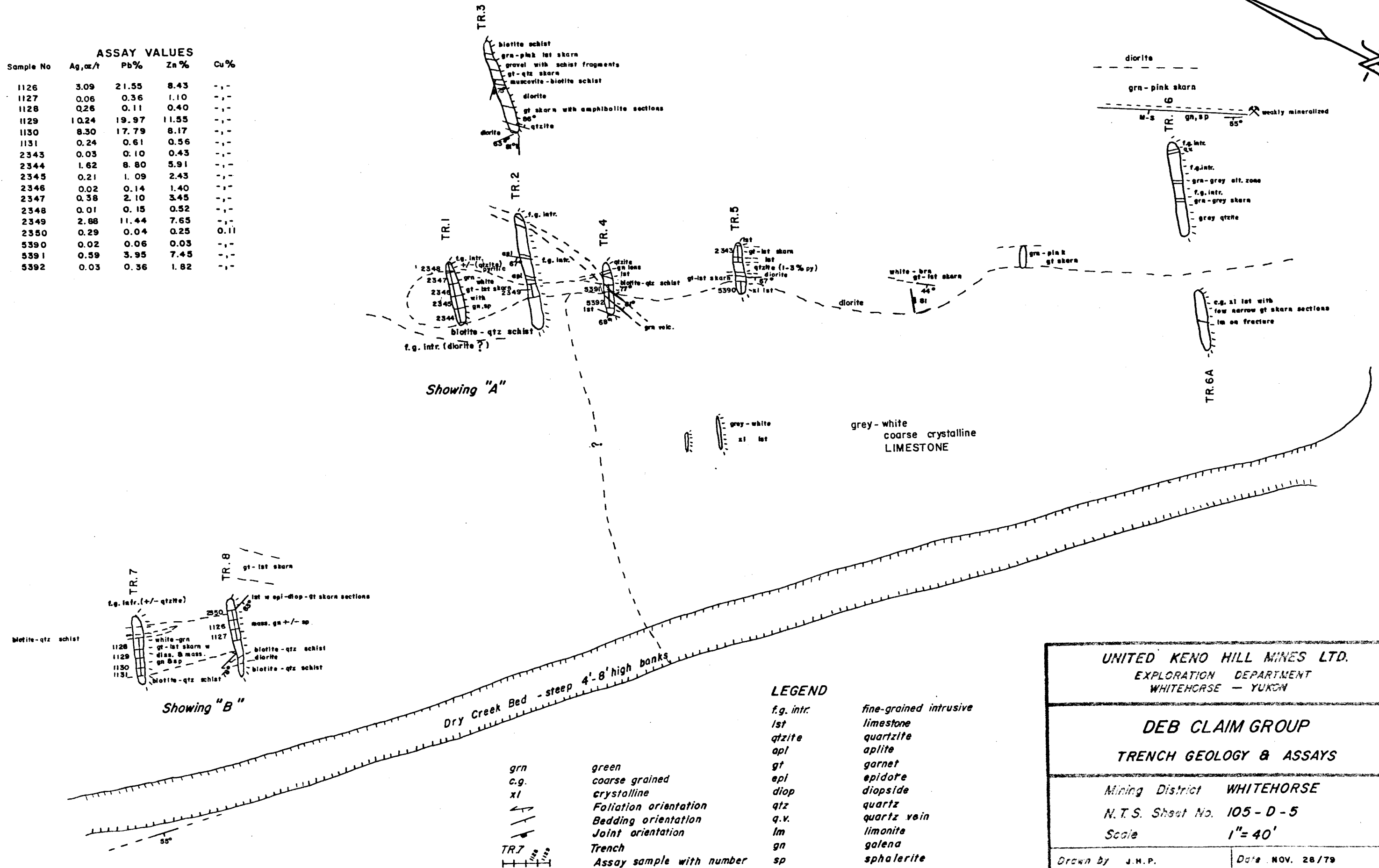
GEOPHYSICAL SURVEY:-

Mr. Steve Presunka,
Presunka Geophysical Exploration Ltd.,
Toronto Dominion Bank Tower,
Vancouver 1, B.C.

GEOCHEMICAL ANALYSES:-

Bondar-Clegg and Company Limited,
136B Industrial Road,
Whitehorse, Y.T.

Sample No	ASSAY VALUES			
	Ag, oz/t	Pb%	Zn%	Cu%
1126	3.09	21.55	8.43	..
1127	0.06	0.36	1.10	..
1128	0.26	0.11	0.40	..
1129	10.24	19.97	11.55	..
1130	8.30	17.79	8.17	..
1131	0.24	0.61	0.56	..
2343	0.03	0.10	0.43	..
2344	1.62	8.80	5.91	..
2345	0.21	1.09	2.43	..
2346	0.02	0.14	1.40	..
2347	0.38	2.10	3.45	..
2348	0.01	0.15	0.52	..
2349	2.88	11.44	7.65	..
2350	0.29	0.04	0.25	0.11
5390	0.02	0.06	0.03	..
5391	0.59	3.95	7.45	..
5392	0.03	0.36	1.82	..



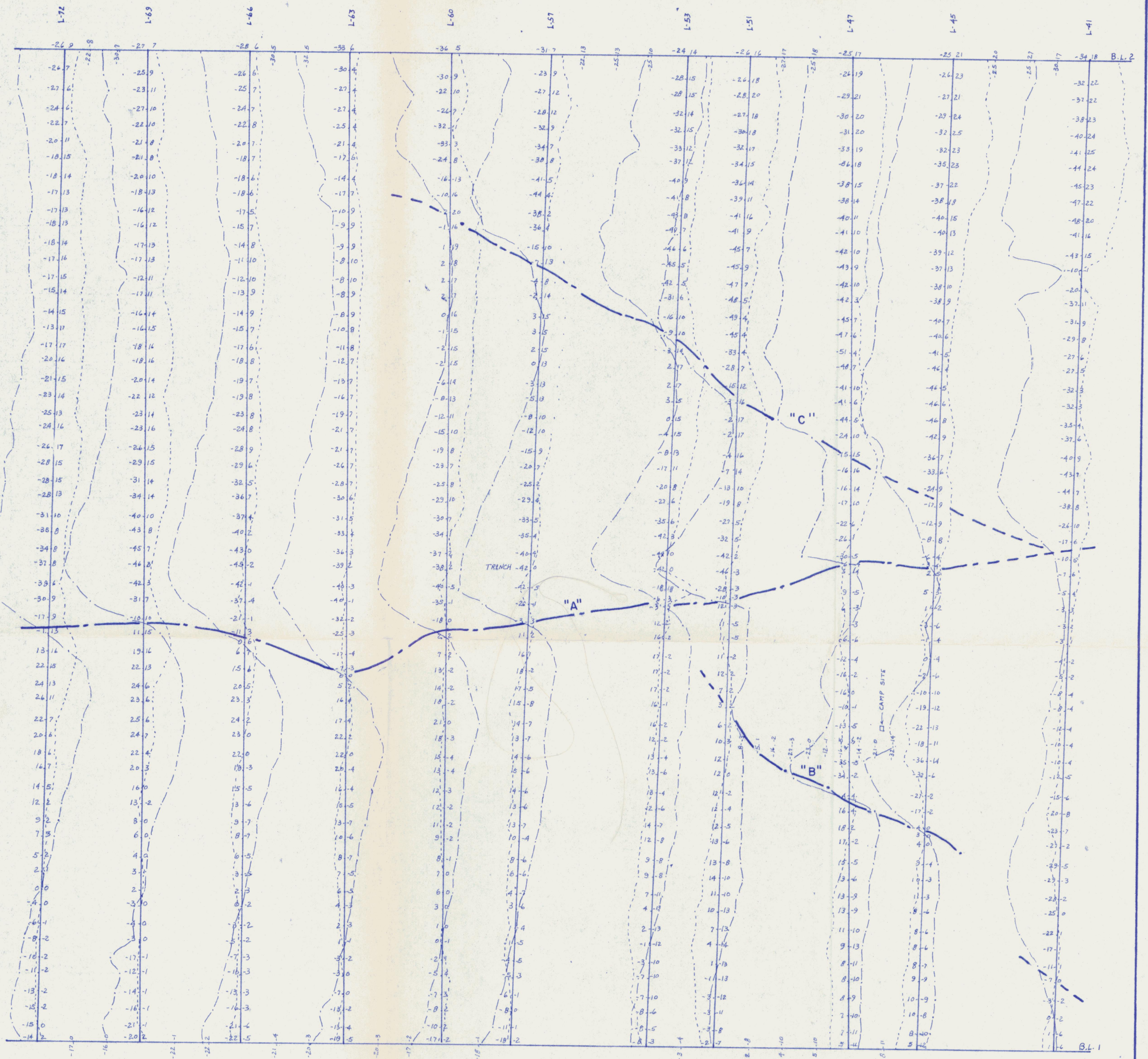
UNITED KENO HILL MINES LTD.
EXPLORATION DEPARTMENT
WHITEHORSE - YUKON

DEB CLAIM GROUP
TRENCH GEOLOGY & ASSAYS

Mining District **WHITEHORSE**
N.T.S. Sheet No. **105-D-5**
Scale **1" = 40'**

Drawn by J.H.P. Date **NOV. 28/79**

Fig. 4

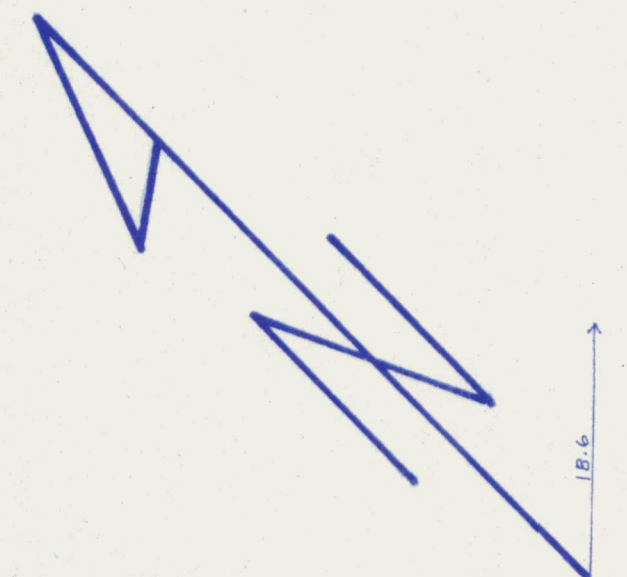


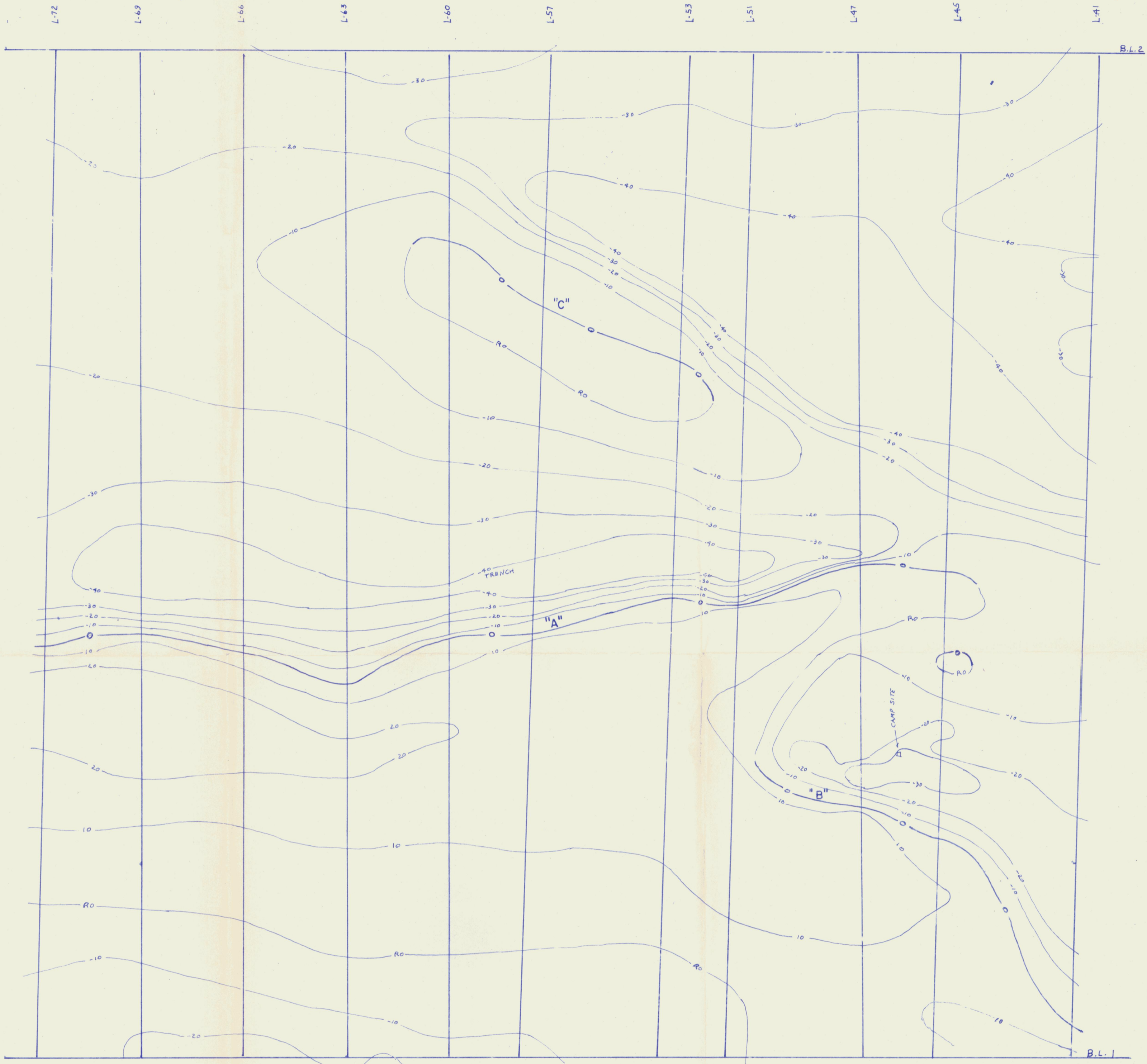
UNITED KENO HILL MINES LTD.
EXPLORATION DEPARTMENT
WHITEHORSE Y. T.

PLAN No 1

ELECTROMAGNETIC SURVEY
Inst. RONKA EM 16 Ser. No. 2
Inphase: ————) 1" = 40%
Quadrature: - - - -)
Conductors: - - - -)
Scale 1" = 200' Sept. 1978
S. Presunka.

DEB CLAIMS
N.T.S. 105 - D - 5





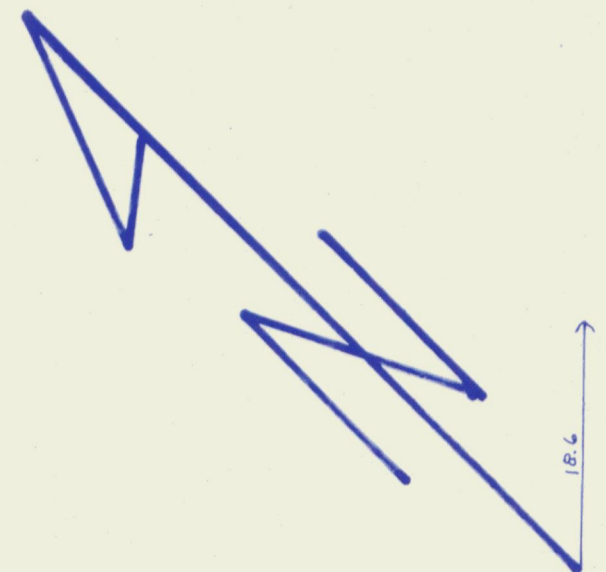
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 EXPLORATION DEPARTMENT
 WHITEHORSE Y.T.

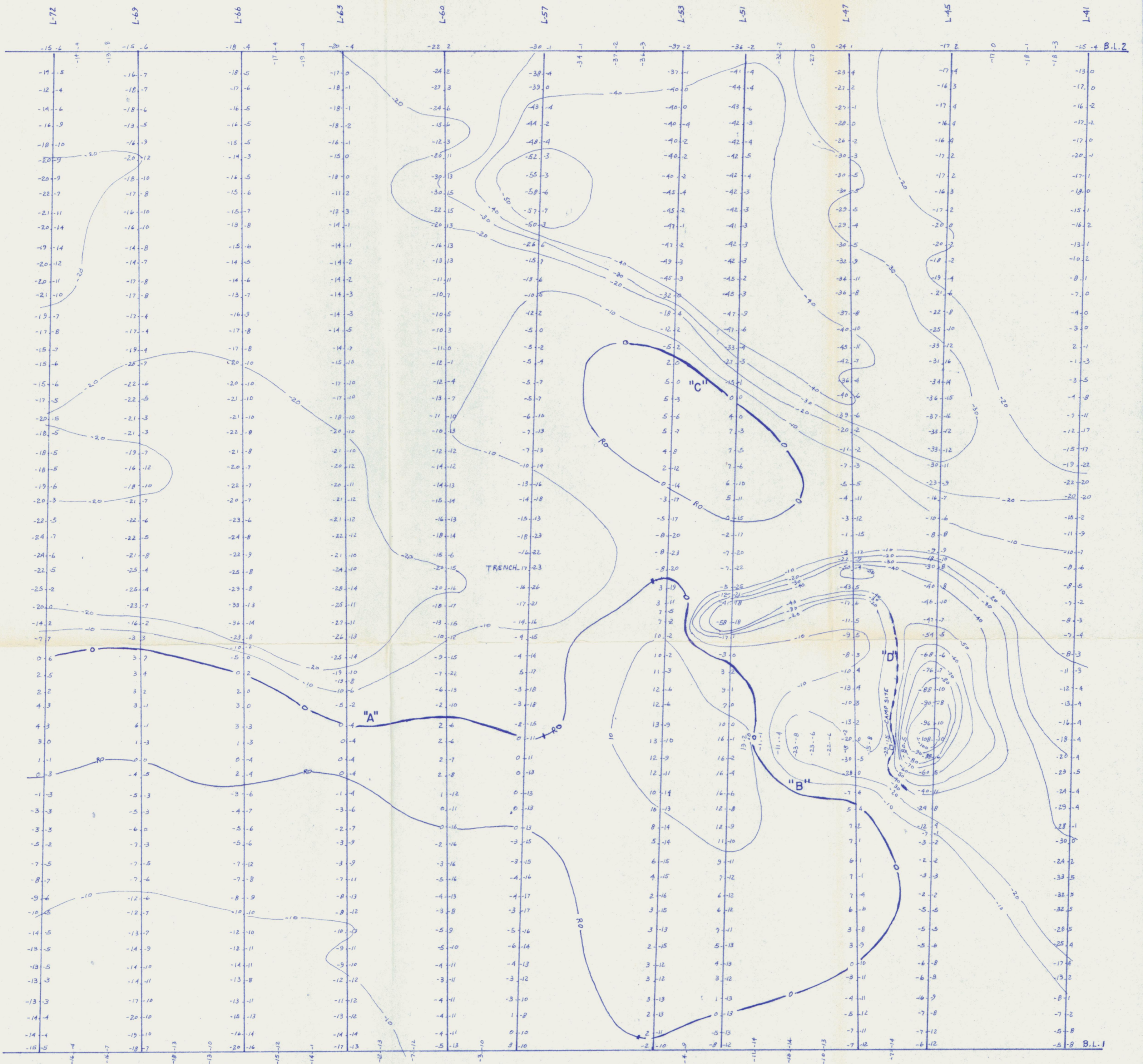
PLAN No. 2

ELECTROMAGNETIC SURVEY
 Inst. RONKA EM 16 Ser. No 2
 V.L.F. ST 16.6 - Inphase contours
 Conductive Zone —○—○—
 Scale 1" = 200' Sept. 1978
 S. PRESUNKA.

DEB CLAIMS

N.T.S. 105 - D - 5





UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT
 WHITEHORSE Y. T.

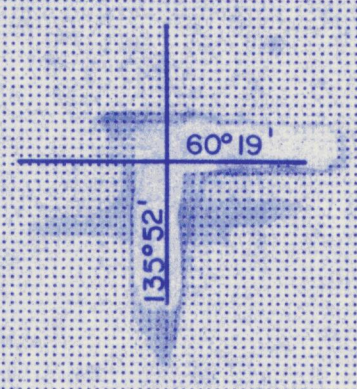
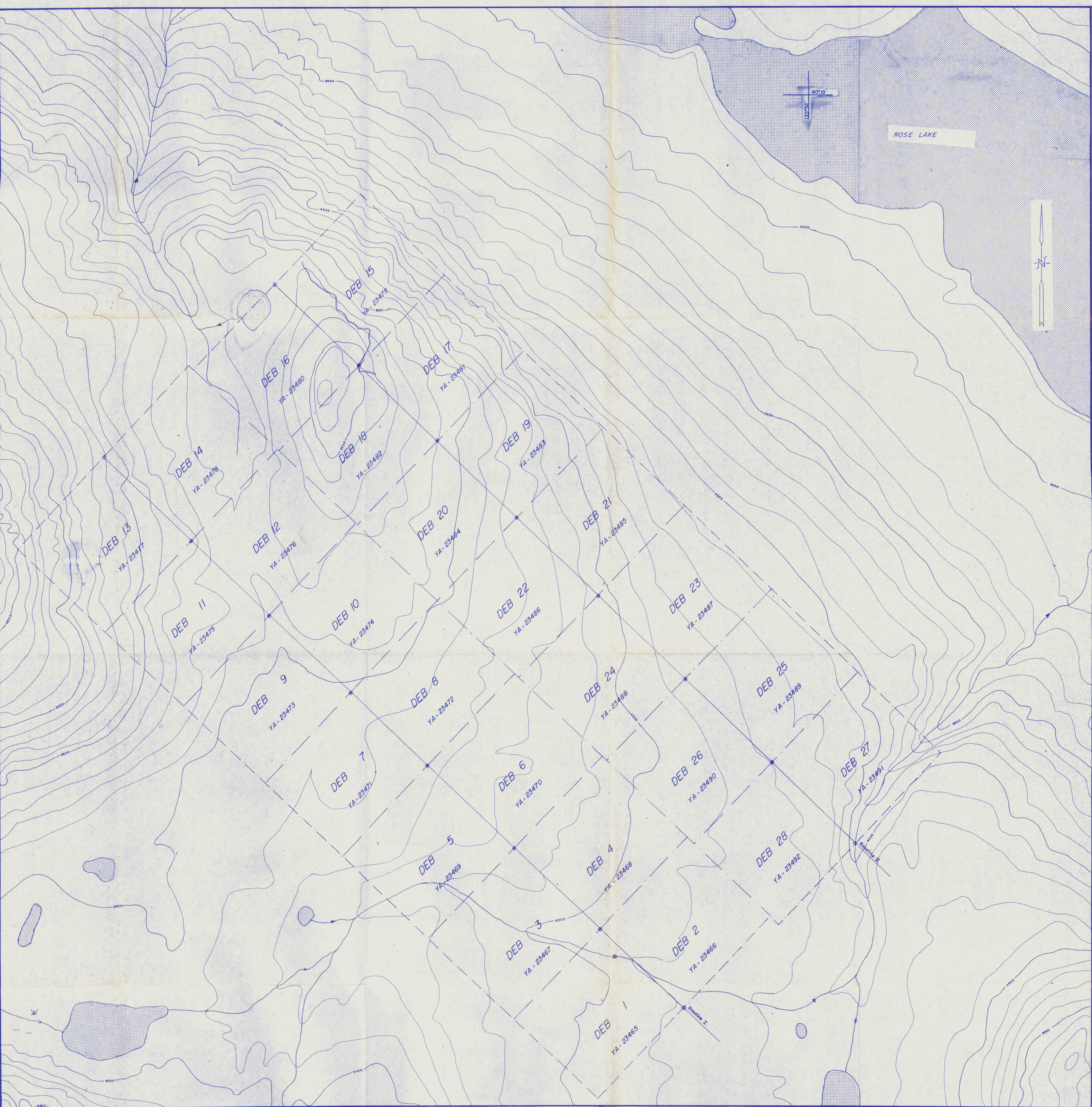
PLAN No. 3

ELECTROMAGNETIC SURVEY
 Inst. RONKA EM 16 Ser. No. 2
 V.L.F. St. 23.4 - Inphase Contours
 Conductive Zones
 Scale: 1" = 200' Sept. 1978
 S. Presunka.

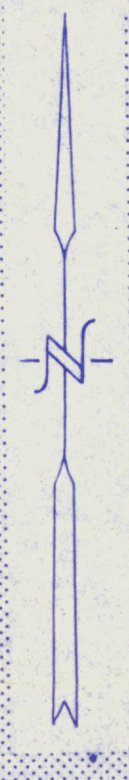
DEB CLAIMS

N.T.S. 105 - D - 5





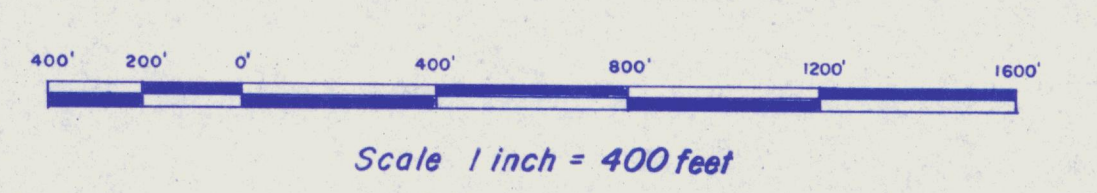
ROSE LAKE



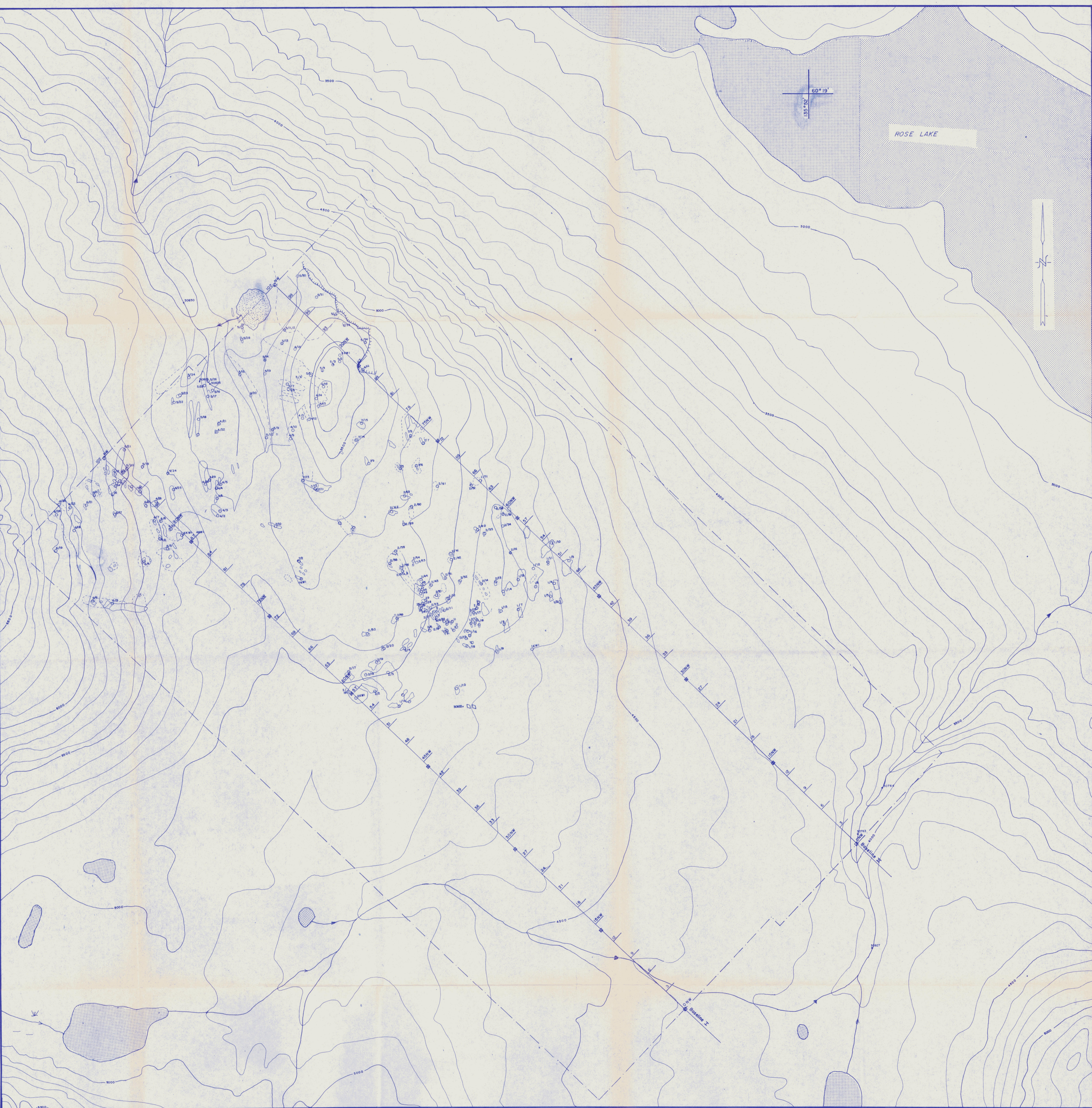
- Creeks with flow direction
- Lakes and Ponds
- Contour Intervals 100 feet
- Claim posts
- Claim boundary
- Cliff

UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT WHITEHORSE, Y. T.
DEB CLAIM GROUP
 N. T. S. SHEET 105 - D - 5

SURFACE PLAN





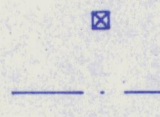
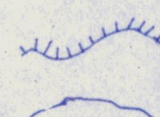

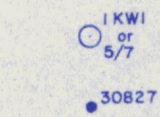
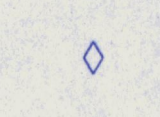

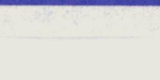
No.	Revision	Date	By	No.	Revision	Date	By	Drawn by	DWG.
1		Sept. 27/1978	J.M.P.					J.M.P.	
									Date Sept. 19/1978



60° 19'

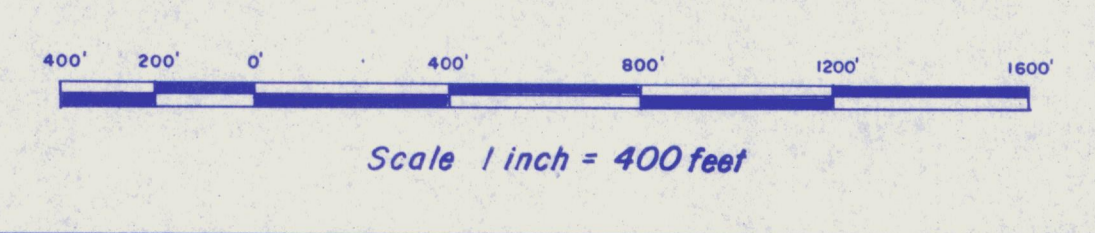
ROSE LAKE



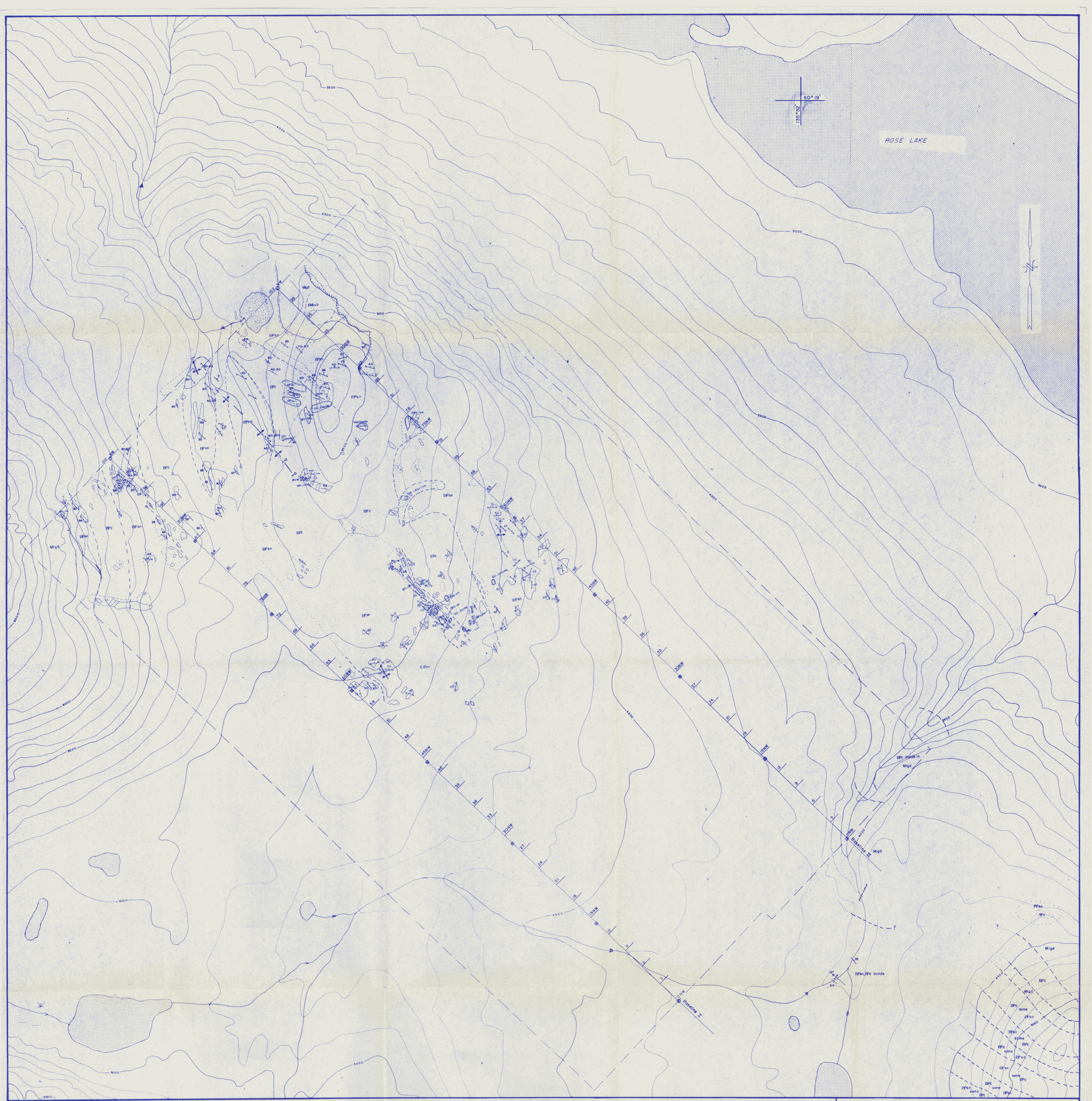
-  Creeks with flow direction
-  Lakes and Ponds
-  Contour Intervals 100 feet
-  Claim posts
-  Claim boundary
-  Cliff
-  Outcrop
-  Float
-  Rock sample location with number
- Geochem sample location with number
- Camp site

UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT WHITEHORSE, Y. T.
DEB CLAIM GROUP
 N. T. S. SHEET 105 - D - 5

SURFACE EXPOSURE



NO.	Revision	Date	By	NO.	Revision	Date	By	Drawn by	DWG.
1	REV.	8/19/78	J.H.P.					J.H.P.	DWG.
								Date	Sept. 19/1978



LEGEND

- MESOZOIC**
- COAST RANGE INTRUSIVES:**
 Mgd medium-grained granodiorite
- MESOZOIC and/or PALEOZOIC**
- EPsub coarse-grained hornblende
- PALEOZOIC and/or PROTEROZOIC**
- YUKON GROUP METASEDIMENTS**
- EPsn biotite-quartz schist to quartzite
- EPc crystalline limestone: EPC-sk, limestone with diopside-garnet skarn
- di.dor fine-grained quartz diorite

- Limit of outcrop and boulders
- geological contact (defined, approximate, assumed)
- folliation (vertical, inclined, dip unknown)
- bedding (or banding in limestone) (vertical, inclined, dip unknown)
- anticlinal fold axis with known plunge

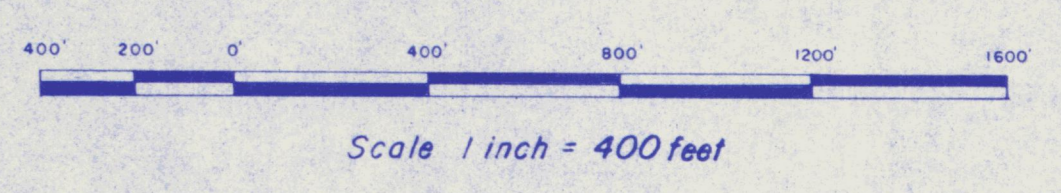
- Creeks with flow direction
- Lakes and Ponds
- Contour intervals 100 feet
- Claim posts
- Claim boundary
- Cliff
- Camp site

UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT WHITEHORSE, Y. T.

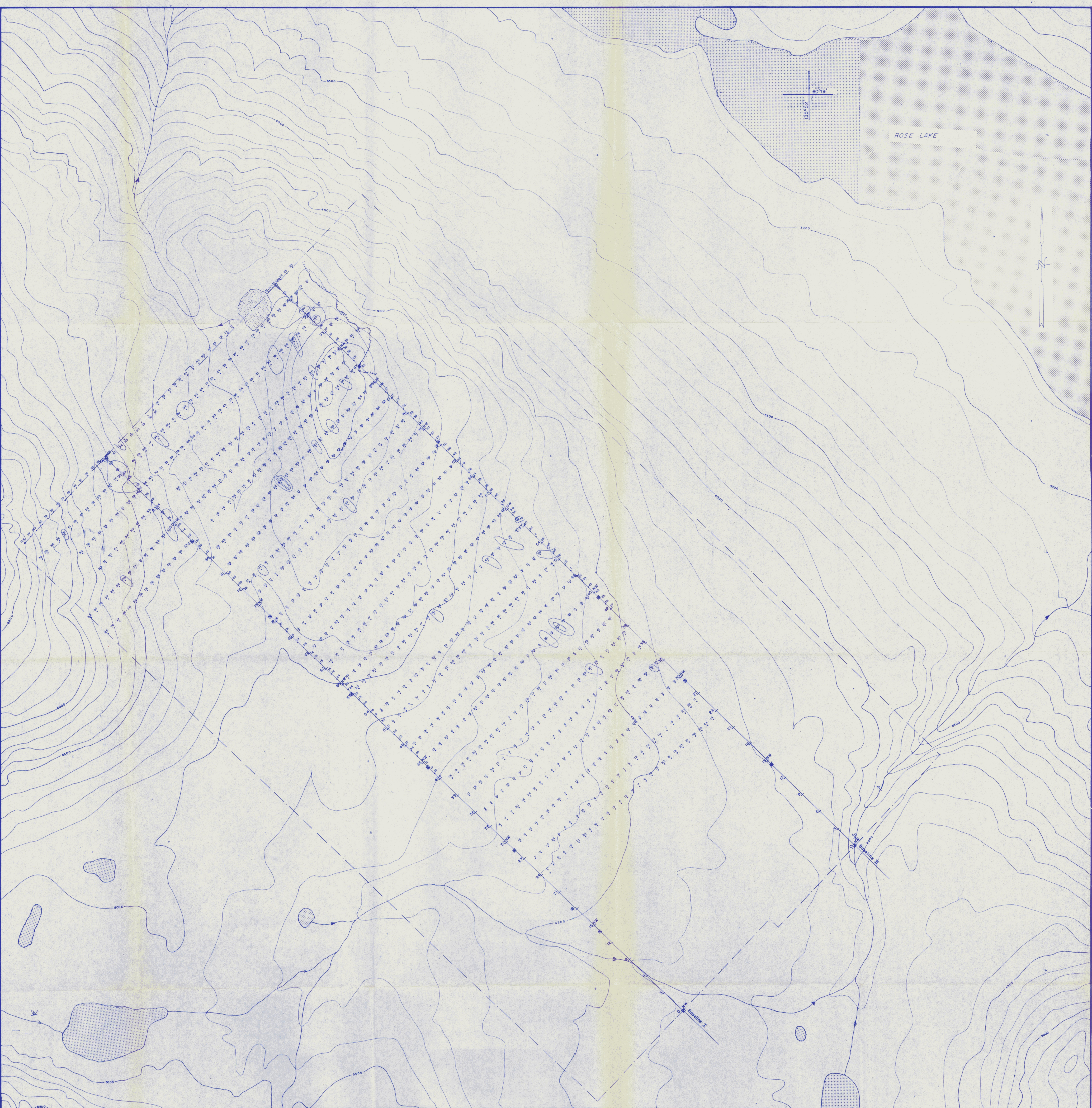
DEB CLAIM GROUP

N. T. S. SHEET 105 - D - 5

GEOLOGY



NO.	Revision	Date	By	NO.	Revision	Date	By	Drawn by:	DWG.
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								Date	Sept. 19/1978

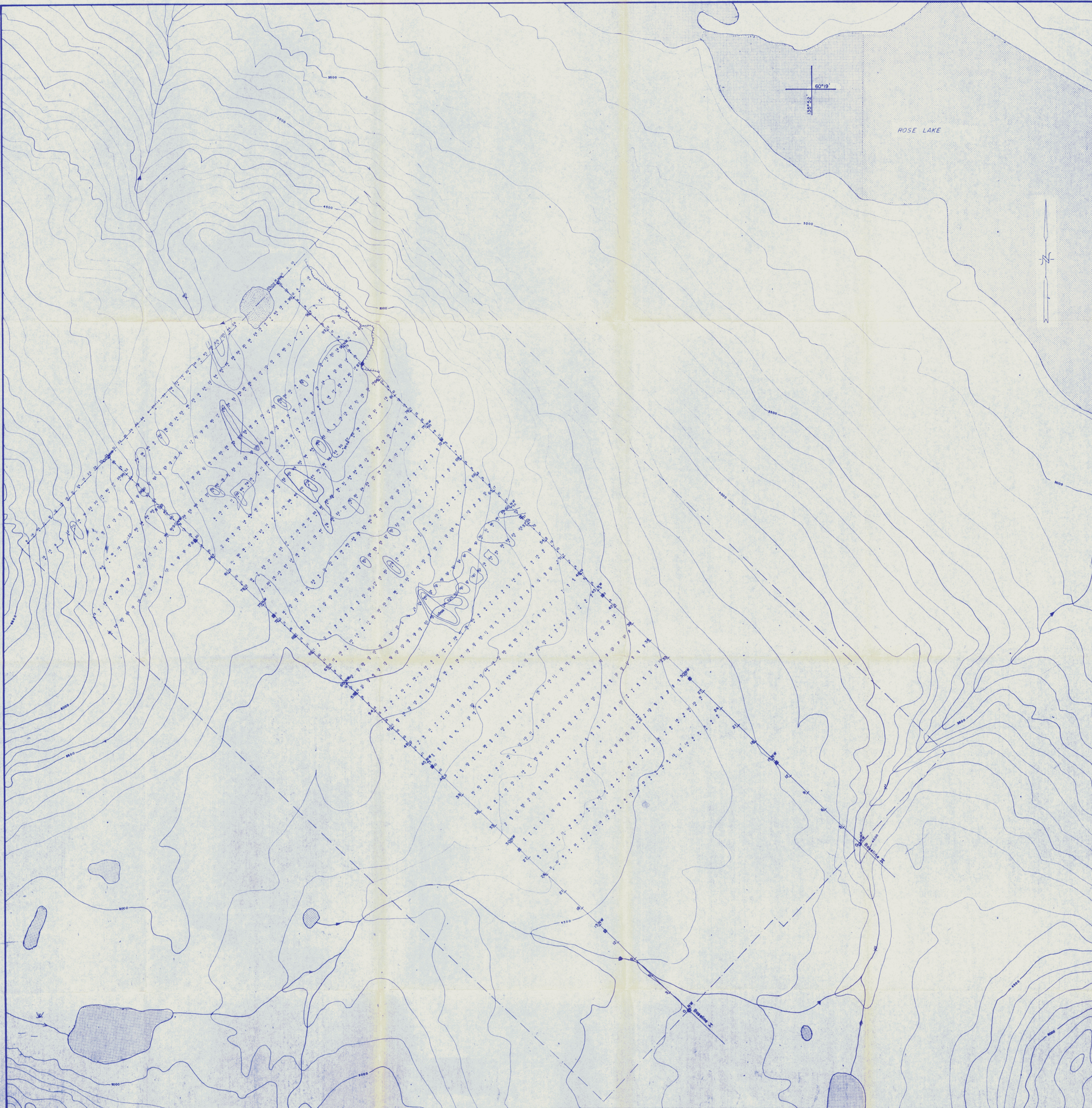


LEGEND

- COPPER in ppm.**
- 0 - 74
 - 75 - 149
 - 150 - 299
 - 300 +
- Creeks with flow direction
 - Lakes and Ponds
 - Contour Intervals 100 feet
 - Claim posts
 - Claim boundary
 - Cliff
 - Soil sample location
 - Sediment or Seepage sample location

UNITED KENO HILL MINES LTD.
EXPLORATION DEPARTMENT WHITEHORSE, Y. T.
DEB CLAIM GROUP
N. T. S. SHEET 105 - D - 5
COPPER PLOT
Scale 1 inch = 400 feet

NO	Revision	Date	BY	NO.	Revision	Date	BY	Drawn by: J.H.P.	DWG.
1	Rev.	8/1978	J.H.P.					Date Sept. 19/1978	

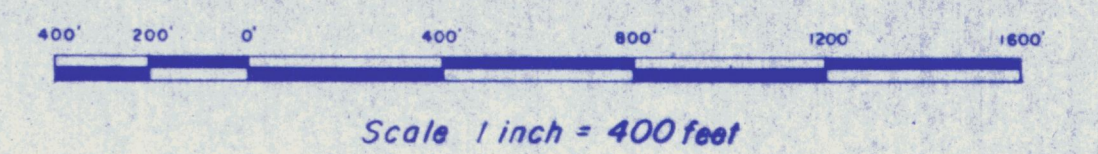


LEGEND

- LEAD in p.p.m.
- 0 - 49
 - 50 - 99
 - 100 - 199
 - 200+
- Creeks with flow direction
 - Lakes and Ponds
 - Contour intervals 100 feet
 - - - Claim boundary
 - Claim posts
 - ⚡ Cliff
 - Soil sample location
 - × Sediment or Seepage sample location

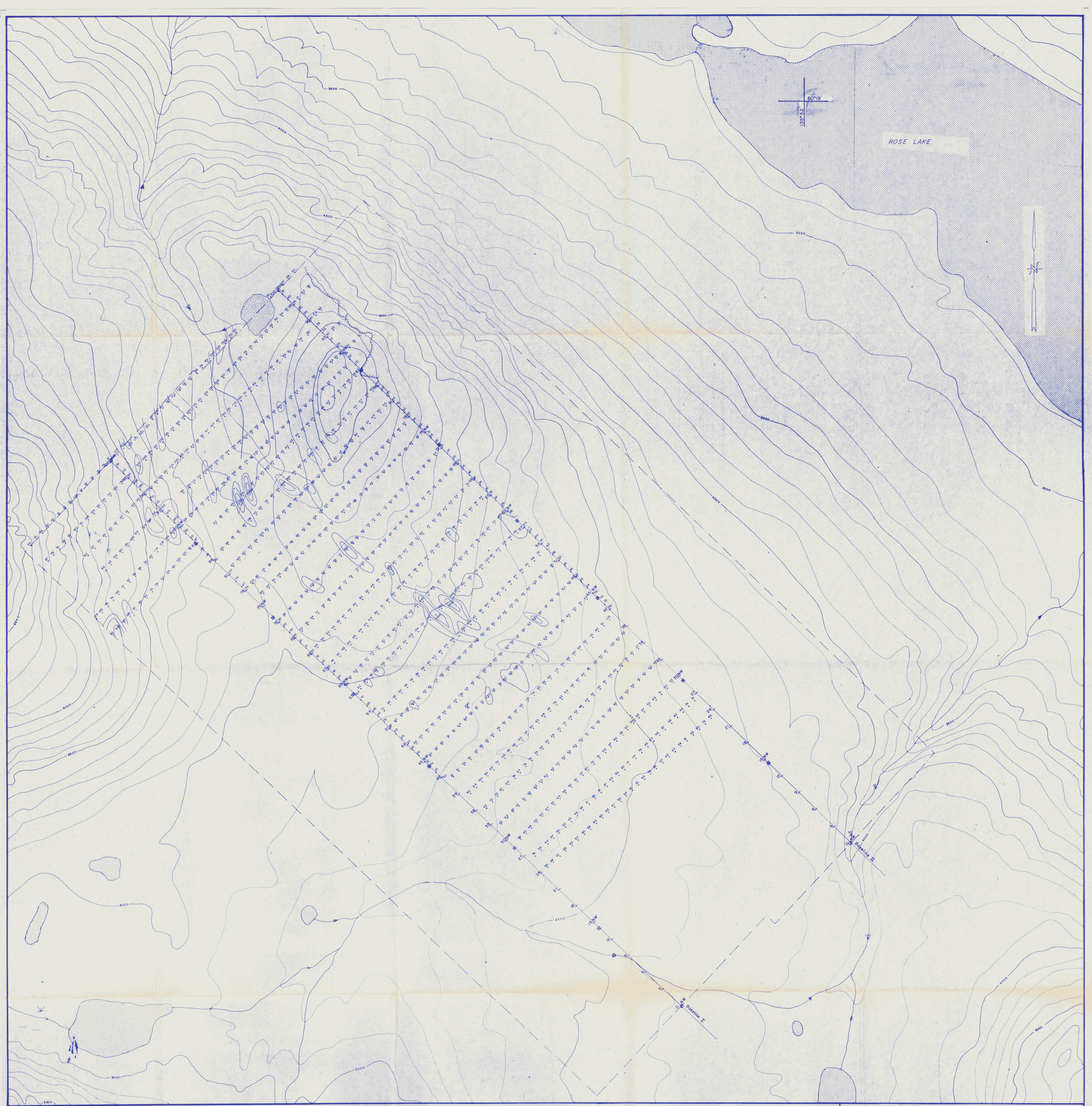
UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT WHITEHORSE, Y. T.
DEB CLAIM GROUP
 N. T. S. SHEET 105 - D - 5

LEAD PLOT



No.	Revision	Date	By	No.	Revision	Date	By
1		7/1978	J.H.P.				

Drawn by J.H.P. QWS
 Date Sept. 19/1978



ROSE LAKE

LEGEND

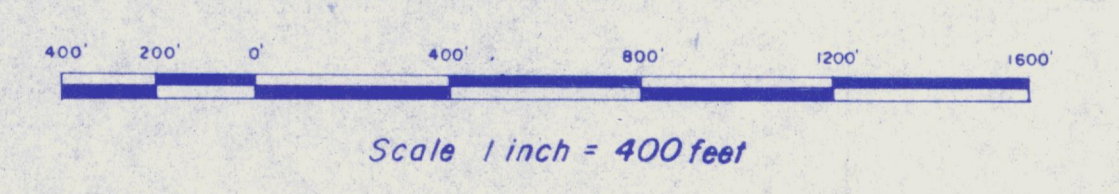
ZINC in P.P.M.

□	0 - 149
□	150 - 299
□	300 - 599
□	600 +

- Creeks with flow direction
- Lakes and Ponds
- Contour Intervals 100 feet
- Claim posts
- Claim boundary
- Cliff
- Soil sample location
- Sediment or Seepage sample location

UNITED KENO HILL MINES LTD.
 EXPLORATION DEPARTMENT WHITEHORSE, Y. T.
DEB CLAIM GROUP
 N. T. S. SHEET 105 - D - 5

ZINC PLOT



NO.	Revision	Date	BY	NO.	Revision	Date	BY	Drawn by: J.H.P.	DWG.
1		Nov. 8/1978	J.H.P.						Date Sept. 19/1978