

1975 EXPLORATION PROGRAMME
GEOLOGICAL/GEOPHYSICAL
and GEOCHEMICAL REPORT
on the
EAGLE CLAIM GROUP
Latitude $61^{\circ}08'$
Longitude $131^{\circ}10'$

WATSON LAKE MINING DIVISION
Yukon Territory
N.T.S. Sheet 105-G-3
for
TINTINA SILVER MINES LIMITED
Toronto, Ontario
by
R. G. Hilker, P. Eng.
G. G. Carlson, P. Eng.
R. G. HILKER LIMITED
Whitehorse, Yukon Territory

November 1st, 1975

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(Note:- 1975 Exploration Programme Plans following Table of Contents)

1975 EXPLORATION PROGRAMME PLANS

GEOPHYSICAL SURVEY

1975 Electromagnetic Survey - Geonics EM-16 Instrumentation

Sheet 1 - Profiles West Half Grid - South

Sheet 2 - Profiles West Half Grid - South

Sheet 3 - Profiles West Half Grid - South

Sheet 4 - Profiles West Half Grid - North

Sheet 5 - Profiles West Half Grid - North

and Number 10 Showing area.

(Scale: Horizontal 1" = 200 ft. and Vertical 1" = 20%)

1975 Magnetics Survey - Scintrex MF-2 Fluxgate Magnetometer Instrumentation

1975 Magnetic Survey - West Half Sheet

Scale 1" = 200 ft.

Contour interval = 100 gammas

1975 Detailed Magnetics Survey - West Half Grid Area.

Scale 1" = 50 ft.

Contour Interval = 100 gammas

Composite Plan - Overlay Showing Electromagnetic Conductors, Magnetic anomalies, and Geology - West Half Sheet & Portion of East Half Sheet, Scale 1" = 200 ft.

GEOLOGY

Geology Plan - East Half Sheet/West Half Sheet

Scale 1" = 200 ft.

(Cont'd)

1975 Exploration Programme Plans (Cont'd)

GEOCHEMICAL SURVEY

Sample Location Plan - East Half Sheet
West Half Sheet
Scale 1" = 200 ft.

pH and Zinc Determinations and Contour Plans
East Half Sheet
West Half Sheet
Scale 1" = 200 ft.

Lead and Silver Determinations and Contour Plan
East Half Sheet
West Half Sheet
Scale 1" = 200 ft.

INTRODUCTION

The Tintina Silver Mines Ltd. property was discovered by Conwest Exploration prospectors in the summer of 1961. In 1961 and through 1962 an exploration programme consisting of surface mapping, prospecting and underground exploration was conducted over the claim group. The underground drifting failed to intersect significant mineralization and interest in the property waned. No further work was conducted on the property until 1968, when a soil geochemical survey was conducted over the property and a regional stream geochemical survey covered adjacent areas of favourable geology. The present work is part of a continuing exploration programme commenced in the summer of 1974 and designed to fully evaluate the economic potential of the property.

The Tintina Silver Mines Ltd. property is a silver/lead/zinc prospect located in the south central Yukon Territory. A total of twenty-six (26) surface showings have been outlined on the property, many with very high grades of mineralization. The initial 1962 exploration programme tested only a very limited number of these showings, and the conclusion generally accepted at that time was that the most significant mineralization was localized in veins, possibly similar to that encountered at Keno Hill.

The 1974 diamond drilling programme was concentrated in the area of the initial discovery showings, the A Zone, where little follow-up work had been conducted in earlier programmes. It was soon appreciated that the mineralization in this area is stratiform, within a single limestone horizon, and localized within a drag fold. Other showings tested suggested that most mineralization in the area was originally stratiform, but subsequent structural activity had resulted in remobilization of the sulfides in some cases. Exploration drilling in the A Zone area was limited to a 300-foot strike length due to the irregular topography.

The 1975 programme, consisting of surface exploration, including geological mapping, soil sampling and test geophysical surveys, was designed to define the stratigraphy over the central part of the property, to locate known showings relative to this stratigraphy and to determine the potential of limestone along strike from the A Zone to host more extensive silver/lead/zinc mineralization.

On June 21, 1975, a crew of four from R. G. Hilker Ltd. moved from Ross River to the Tintina claim group, setting up camp in the area of the 1961 exploration campsite. The crew included a geologist, two soil samplers and camp cook. Two additional samplers joined the crew on July 8th. Although extensive snow cover hampered initial work, the first days were spent establishing survey control. Mapping and soil sampling were commenced by July 1st.

Work was hampered throughout the summer by bad weather including cold wind and rain almost daily. The work was completed by mid-August; personnel and camp gear were moved on August 14th to Ross River.

LOCATION AND ACCESS

The Eagle Claim Group of Tintina Silver Mines Ltd. is situated in the southern St. Cyr Mountains, at the headwaters of the Liard River, in the southeastern Yukon Territory, N.T.S. sheet 105-G-3. The property is approximately 110-miles northwest of Watson Lake, 140-miles east of Whitehorse and 75-miles south east of Ross River. (see Figures 1 and 2).

An airstrip, presently in useable condition, was built five miles southwest of the property to service the 1961-62 exploration programme. A winter road was also constructed, 110-miles in length, from mile 790 on the Alaska highway to the property.

For the present programme, access was by truck from Whitehorse to Ross River and by aircraft from Ross River to the campsite. The camp was moved in and out using the Terr Air Pioneer between Ross and the airstrip and the Terr Air Bell 206-B Jet Ranger helicopter between the airstrip and camp. The Jet Ranger was used directly from Ross River for the periodical camp supply trips.

Best access to the property with an all weather road would be from the Campbell highway. At present, a tractor trail exists from the highway, approximately 35-miles southeast of the town of Ross River, to the Hoole River, a distance of about 25-miles. This trail would require upgrading and its extension to the property would entail another 25-miles of road. (see Figure 2).

BEAUFORT SEA

SEA

68° 00'

INUVIK

OLD CROW
RIVER

N.W.T.
YUKON

Arctic Circle

NORMAN WELLS
RIVER

ALASKA

pool RIVER
Holt RIVER

W. Side RIVER
Bodner RIVER
PINE RIVER

Arctic RIVER
Red RIVER

DAWSON

ORENO HILL

MAYO

RIVER

Stong RIVER

Macmillan RIVER

RIVER

Kooie RIVER

South RIVER

Yukon RIVER

RIVER

PELLI RIVER

ROSS RIVER

PARO RIVER

CANTUNG

Nehanni

CARMACKS

Tollie RIVER

WHITEHORSE

TESLIN

WATSON LAKE

Liard RIVER

GULF OF ALASKA

BRITISH COLUMBIA

132° 00'

128° 00'

HAINES

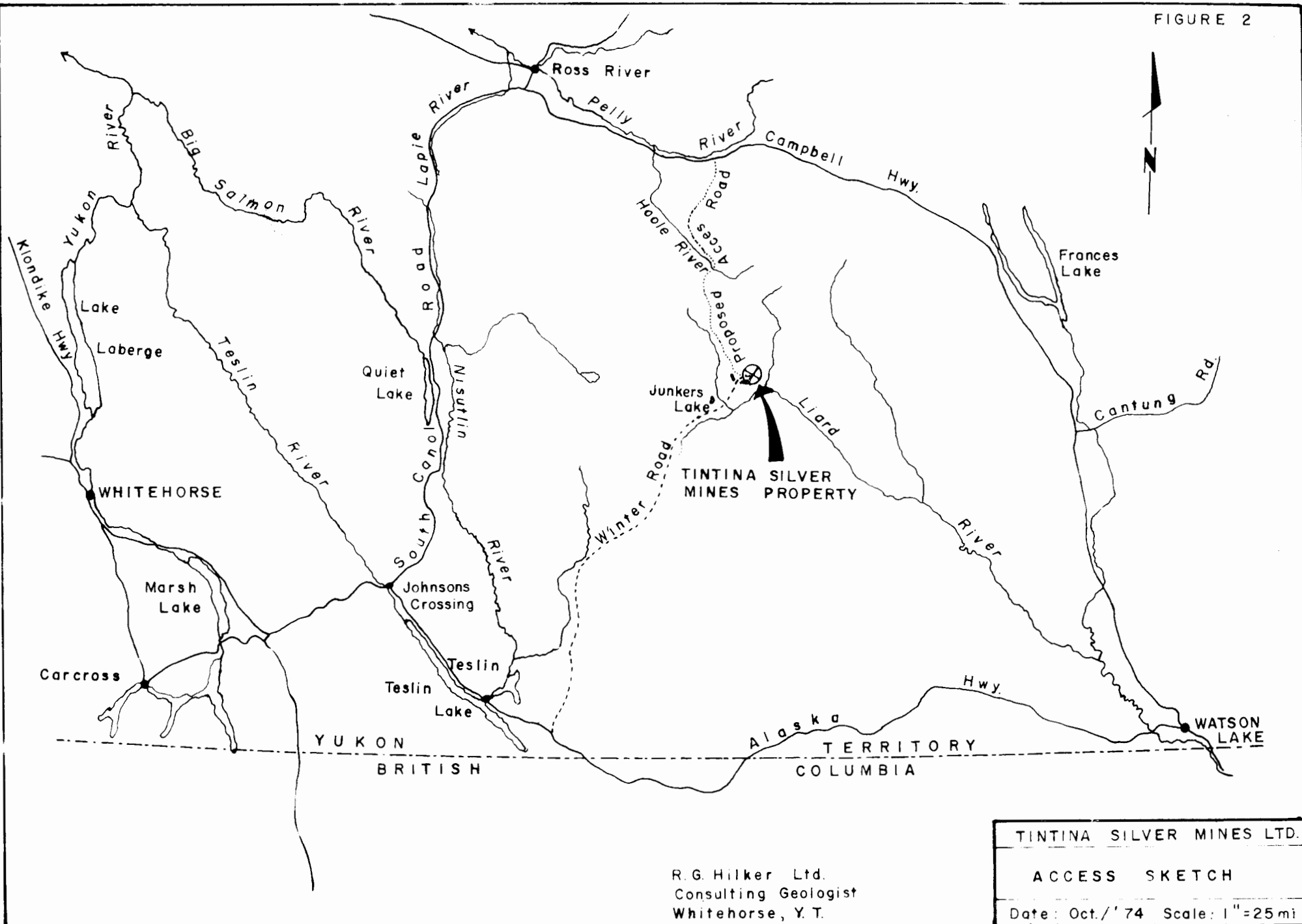
YUKON INDEX MAP

R. S. HILKER LIMITED,
CONSULTING GEOLOGIST,
WHITEHORSE, YUKON

DATE:

SCALE: 1" = 80 MI. (Approx)

FIGURE 2



R.G. Hilker Ltd.
Consulting Geologist
Whitehorse, Y.T.

TINTINA SILVER MINES LTD.
ACCESS SKETCH
Date: Oct./'74 Scale: 1"=25 mi

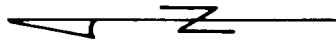
CLAIMS

The Eagle Claim Group of Tintina Silver Mines Ltd. consists of a total of 102 Claims, including 16, Eagle 139 to 154, which were staked during the 1975 exploration programme. The following is a list of these claims and their anniversary dates.

The Eagle Claim Group is located in the Watson Lake Mining District, Yukon Territory, on claim sheet 105-G-3, and centred at 131°10' west longitude and 61°08' north latitude.

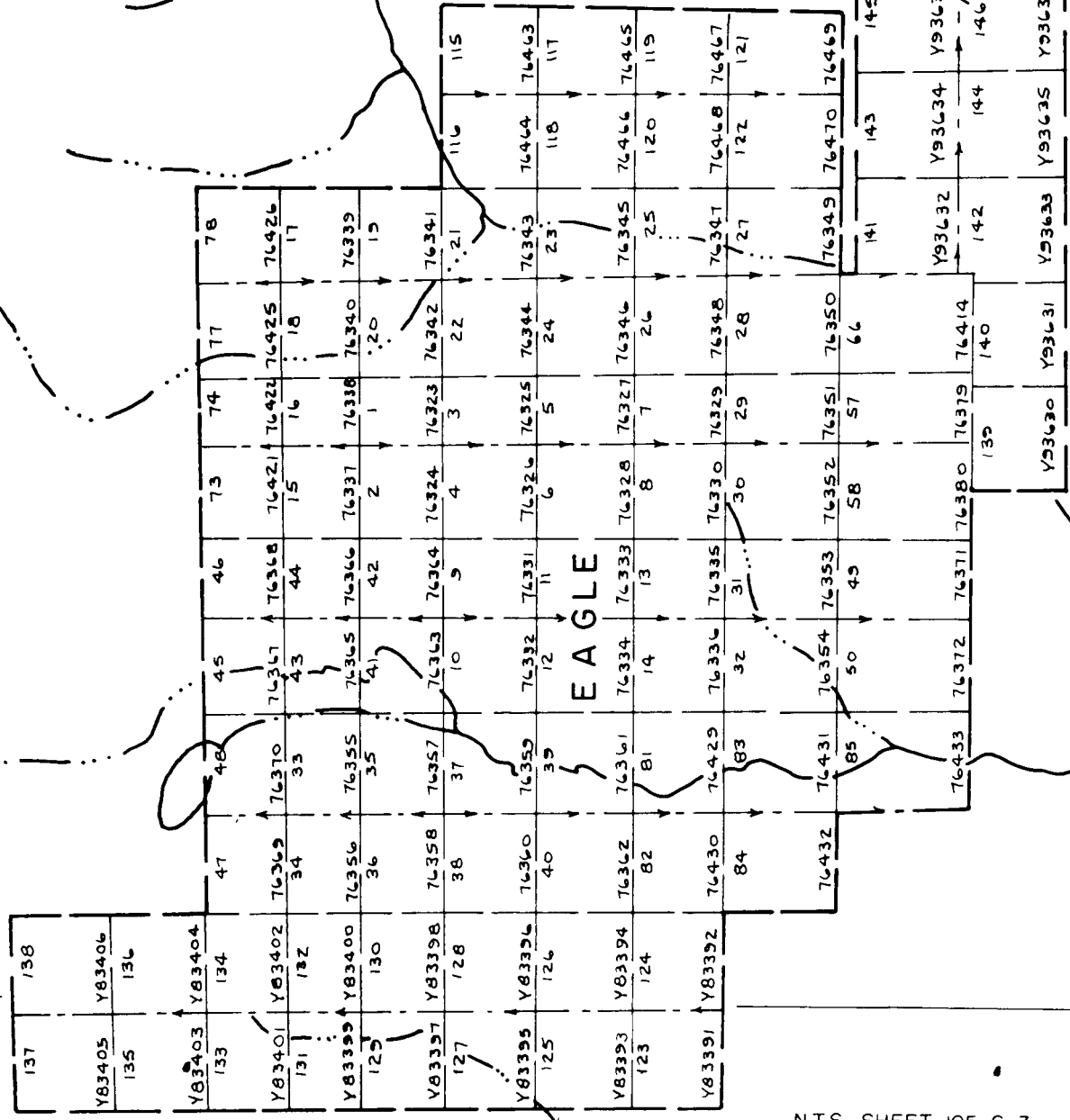
TABLE - 1
Status & Lapse Dates - Eagle Claim Group

<u>NAME CLAIM</u>	<u>GRANT NUMBER</u>	<u>ANNIVERSARY DATE</u>
Eagle 1 - 8	76323 - 76330	July 15, 1980
9 - 16	76331 - 76338	July 15, 1980
17 - 24	76339 - 76346	July 15, 1980
25 - 32	76347 - 76354	July 15, 1980
33 - 40	76355 - 76362	July 15, 1980
41 - 48	76363 - 76370	July 15, 1980
49 - 50	76371 - 76372	July 15, 1980
57 - 58	76379 - 76380	July 15, 1980
66	76414	July 15, 1980
73 - 74	76421 - 76422	July 15, 1980
77 - 78	76425 - 76426	July 15, 1980
81 - 85	76429 - 76433	July 15, 1980
115 - 122	76463 - 76470	July 15, 1980
123 - 138	Y83391-Y83406	Sept 23, 1978
139 - 154	Y93630-Y93629	Aug. 14, 1976



61°08'

131°12'



R.G.HILKER LTD.
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.

N.T.S. SHEET 105-G-3

TINTINA SILVER MINES LTD.

LOCATION PLAN
EAGLE CLAIM GROUP

DATE: NOVEMBER 1975 SCALE: 1" = 1/2 mile

BIBLIOGRAPHY

The following publications and private reports were referred to in the preparation of this report.

1. Geology Finlayson Lake, Y. T. - Map 8 - 1960, Sheet 105-G, Scale 1" = 4 miles - by J. O. Wheeler, 1958, 1959; L. H. Green and J. A. Roddick, 1959 - Geological Survey of Canada.
2. Geophysics Paper 7006-G Finlayson Lake, Y. T. - Airborne Magnetism - 1" to 4 miles - Department of Mines and Technical Surveys.
3. Physiography of the Canadian Cordilliers, with Special Reference to the Area North of the Fifty-Fifth Parallel by H. S. Bostock - G.S.C. Memoir 247.
4. Report of Work on Eagle Claims, Yukon Territory, by P. R. Heenan, P. Eng., May 10, 1962.
5. Geological Report on Tintina Silver Mines Limited, by W. W. Moorehouse, Ph.D., April 19, 1963.
6. Report on Tintina Silver Mines Limited, Eagle Claims in the Yukon Territory, by K. J. Christie, B.Sc., P. Eng., March 1968.
7. 1968 Exploration Programme, Eagle Property and Area, Tintina Silver Mines Ltd., A. R. Archer, October 25, 1968.
8. Report on the Eagle Claims, Tintina Silver Mines Ltd., Yukon Territory, by W. G. Hainsworth, P. Eng., November 8, 1973.
9. Tintina Silver Mines Ltd., 1974 Diamond Drill Programme; R. G. Hilker Limited Geological Report, by G. G. Carlson and R. G. Hilker.
10. Gabrielse H., 1969, Lower Cambrian Strata and Base Metals; Western Miner, February 1969, pp. 22-28.

1975 LINE GRIDS

A large number of different grid systems have been used in the various exploration programmes conducted within the Eagle Claim Group. However, only these grids used during the 1974 diamond drilling programme can be accurately located on the ground. It was therefore decided to lay out new grid systems suited to the specific needs and goals of the present programme. A total of four grids have been used to serve this purpose. All lines have been located using 4 foot pickets painted fluorescent red and marked with indelible carpenters pencil.

The West Slope baseline, the largest, is 6,300 feet in length with 25 north-south cross lines, ranging from 1,000 feet to 2,000 feet in length, and totalling 125,900 feet. This grid extends from the A Zone showings to the north and west over all the West Slope showings, including the Number 10 Zone, and the West Mountain showings. Crosslines are spaced 200 feet in areas of most interesting geology and 400 feet in other areas.

The northeast baseline is an extension of the West Slope grid to the northeast in Caribou Creek area. The east-west baseline extends for 2,900 feet, with 400 foot spaced crosslines totalling 22,800 feet.

The East slope baseline follows an azimuth of 150° , along the lower part of the East slope, for 3,500 feet. Crosslines, spaced every 200 feet, are more or less perpendicular to the slope. The slope is extremely steep, averaging 45° , and crosslines were chained parallel to the slope and as high on the slope as the difficult terrain permitted. The crosslines total 20,800 feet.

The East boundary grid is a reconnaissance grid with baseline, azimuth 85° , extending 4,100 feet from the East slope baseline to beyond the East boundary showing. Four (4) crosslines, spaced at 800-feet, extend a total of 9,000 feet.

REGIONAL GEOLOGY

The Eagle claims are located at the southern end of the St. Cyr mountain range, within the Pelly Mountains. This range trends north west and is bounded on the southwest by the Nisutlin Plateau and on the northeast by the Tintina valley, a strong, north-west trending fault zone which is a continuation of the Rocky Mountain Trench. The claims are within a mountainous terrain, elevations ranging from 4,000 feet to peak 7,393 just north of the claim group.

Reconnaissance mapping by the Geological Survey of Canada has shown the mountains in this area to consist of folded and faulted sediments, of early Paleozoic age, which have been intruded by Jurassic and/or Cretaceous granitic rocks. The geology in the vicinity of the claim group is shown on Figure 3.

The oldest rock in the area, Unit 1, is a sequence of Lower Cambrian quartzite, phyllite and limestone. This unit, and in particular the limestone, forms the host rocks for the Tintina Silver property mineralization. These rocks are overlain, often on south-westerly dipping thrust planes, by Unit 2, a thick sequence of Middle and Upper Cambrian (?) phyllites, with some interbedded dolomite, greenstone and chert. Adjacent to granitic intrusive bodies, this rock is frequently altered to hornfels (Unit 2a).

Overlying Unit 2, mainly to the northwest of the property, is a middle Paleozoic sequenc of thick bedded dolomite, with minor chert and sandy and silty dolomite, and overlain locally by slate, shale, chert and minor greywacke (Unit 4). These rocks have been intruded by granitic rocks (Unit 5), mainly biotite granodiorite.

A roughly circular granodiorite plug, approximately 1½ miles in diameter, forms the northern boundary of the property and cuts rocks of both Units 1 and 2.

LEGEND

- Fault
- Outline of Outcrop Area
- Geological Contact

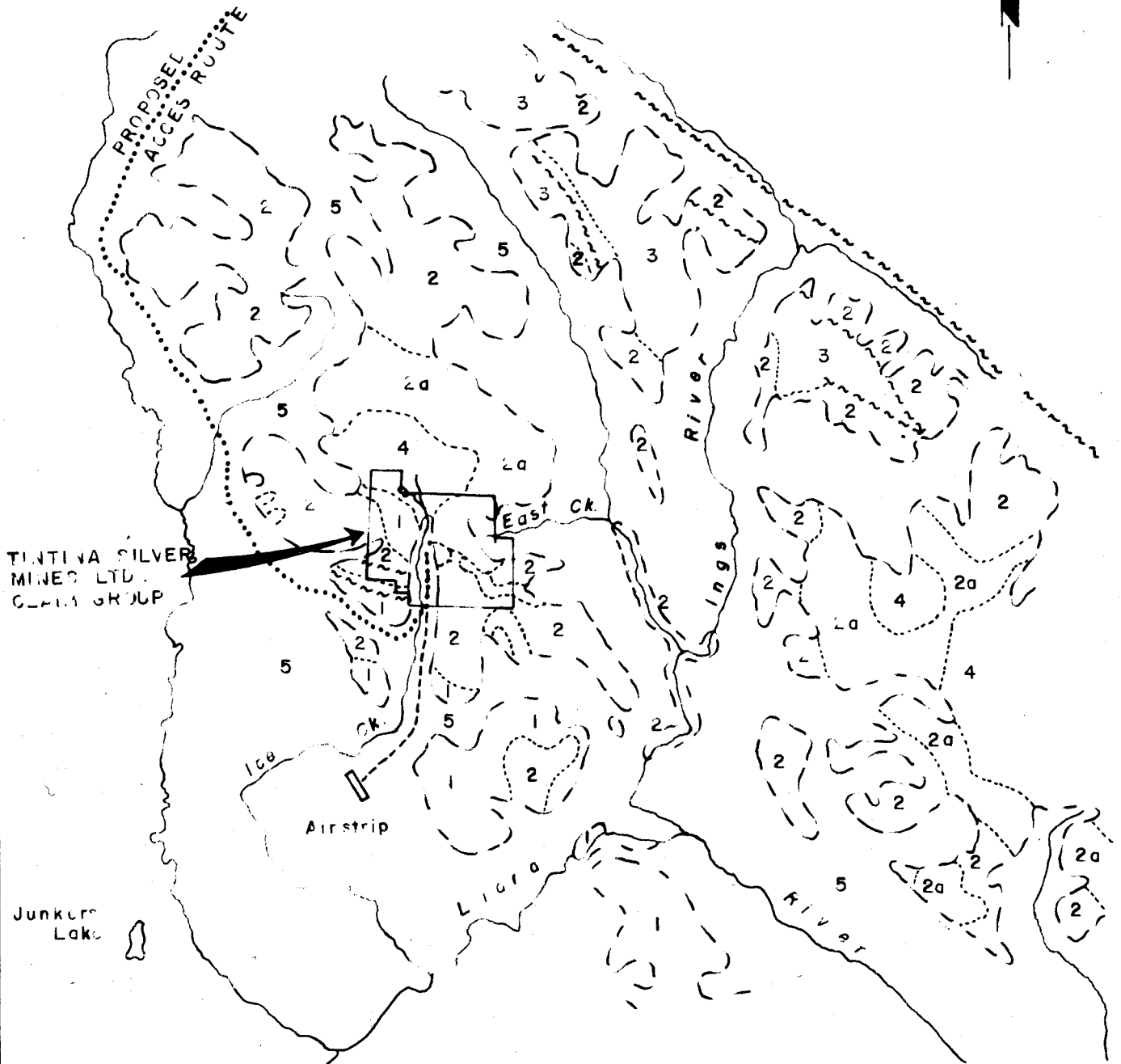


TABLE OF FORMATIONS

QUATERNARY

5 Unconsolidated glacial and alluvial deposits

MESOZOIC

Jurassic and/or Cretaceous

4 Biotite Granodiorite, Quartz Monzonite

PALEOZOIC

Silurian and Devonian

3 Dolomite, Chert, Quartzite, Slate, Shale

Middle and Upper Cambrian

2 Phyllite, Dolomite, Greenstone, Chert
2a - altered to Hornfels

Lower Cambrian

1 Quartzite, Phyllite, Limestone

R.G. Hilker Ltd.
Consulting Geologist
Whitehorse, Y.T.

NTS SHEET 105 - G - 3

TINTINA SILVER MINES LTD.

REGIONAL GEOLOGY
SKETCH

DATE: Oct./'74

SCALE: 1" = 3 mi

Pleistocene glaciation has covered the entire area, moving towards the northwest, and subsequent alpine glaciation has sculptured the mountains, determining the present topography. Unit 12, unconsolidated glacial and alluvial deposits, fill the valleys and cover most slopes to between 4,000 and 5,000 feet elevation.

Structure in the area is dominated by the northwest striking Tintina fault. The most important feature in the area of the Eagle claims is an anticlinal structure which trends parallel to the Tintina fault. Small scale folding associated with this structure is abundant, as is small scale cross faulting. Age relations between the various sedimentary units are often uncertain due to the thrust faulting from the southwest, as many of the major contacts are thrust fault planes.

CLAIM GEOLOGY AND STRATIGRAPHY

The geology within the Eagle claim group has been described in detail by Moorehouse, and reference should be made to his accounts of the property for an excellent discussion of petrology, structure and stratigraphy. The importance of both structure and stratigraphy as mineralization controls was recognized during the 1974 drilling programme. As a result of this work, combined with the present mapping programme, these features have been mapped in greater detail, particularly along the main synclinal axis and adjacent to known mineralization. The following account of the geology, and the accompanying claim geology map (see pocket) are derived from the present work, from the 1974 drilling programme, and from initial accounts of the claim geology by Moorehouse.

The host rocks for the mineralization are within the Lower Cambrian Unit 1 on the Regional Geology Sketch (Figure 4), and here named the Tintina Series. The Tintina Series consists of a basal argillite and limestone member, the Lower Argillite (Unit 1) overlain successively by the lower limestone (Unit 2), Middle Argillite (Unit 3), Upper Limestone (Unit 4), Black Argillite (Unit 5) and Argillaceous Limestone (Unit 6). The entire section has been intruded by a quartz monzonite porphyry plug (Unit 7) in the northern part of the property. It is roughly elliptical in shape, elongated in a northwest-southeast direction, and of probable Cretaceous age. Three types of dikes are observed in the area. Many narrow, fine grained aplitic granite dikes and apophysis are localized in the contact area of the main quartz monzonite intrusive. Two medium grained diorite dikes (Unit 8), from 50 - 100 feet in width, have been mapped in the West Slope area; one further exists in the upper Cirque area. Lamprophyre dikes (Unit 9), which appear to be often localized in fault zones, are concentrated mainly on the east slope and in the Cirque area. They are mical lamprophyres, often with abundant fine to very large inclusions of granite.

TABLE 2
EAGLE CLAIMS TABLE OF FORMATIONS

MESOZOIC

- Jurassic and/or Cretaceous
- 9 Lamprophyre
 - 8 Diorite
 - 7 Quartz monzonite

PALEOZOIC

- Cambrian
- TINTINA SERIES
- 6 Argillaceous Limestone - lime phyllite, silty limestone, thin to thick bedded, thick unit.
 - 5 Black Argillite - 10% pyrite and pyrrhotite, black colour, carbonaceous, weathers rusty colour.
 - 4 Upper Limestone - mottled due to stringers and patches of white calcite, minor argillite; host rock for silver, galena and sphalerite sulfides; irregularly drag folded.
 - 3 Middle Argillite- gray to brown colour, light coloured siliceous bands with tuff appearance, pyrrhotite and pyrite.
 - 2 Lower Limestone - locally argillaceous, strongly sheared, breccia appearance; fossils (?) - white rings and cylindrical shapes, reef structure (?)
 - 1 Lower Argillite - limy bands, brownish-purple colour, minor pyrrhotite.
 - S Sulfide Zone - silver, lead and zinc sulfide, mainly galena, sphalerite and tetrahedrite, from trace amounts to massive mineralization.

By G. G. Carlson, geologist, R. G. Hilker Limited

Following is a description of each of the above rock units. The complete Table of Formations is listed Table 2.

Lower Argillite - Unit 1

The oldest rocks recognized within the Eagle Claim group, and forming the basal member of the Tintina Series, is a relatively thick sequence of argillaceous rocks with some interbedded limestone. The base of this unit is not exposed in the area mapped, so the total thickness is unknown. The lowermost observed portion of this unit consists of greater than 100 feet of siliceous and thinly banded argillite, exposed at the base of West Mountain. This is overlain by approximately 200 feet of a very distinctively banded sequence of thinly interbedded limestone and argillite, exposed on the West slope above the campsite, within Ice Creek, and also on the side of West Mountain, draped over the intrusive contact. Higher in the section, the proportion of argillite increases to over 75% and the widely interspaced limestone beds thicken to 3 to 5 feet. This upper portion of Unit 1 totals approximately 50 to 100 feet. The argillite is brown to purplish brown in colour and is less siliceous than that occurring lower in the unit. The limestone typically contains thin streaks of argillite.

Lower Limestone - Unit 2

This limestone is similar to the limestone within the underlying Unit 1 except that it is thick enough to be recognized as a separate Unit and locally it is less argillaceous. Thickness of this unit varies from 5 to 10 feet in the West Mountain area to 25 to 50 feet on the West and East slope areas, 100 feet in the adit and 1974 drilling D Grid area to a maximum of 250 feet locally on the side of West Mountain. Although a certain degree of sedimentary thickening and thinning is likely, the most extreme thickness variations are apparently due mostly to subsequent structural deformation.

This effect is most noticeable in the West Mountain area, where the limestone thickens to 250 feet within a large drag fold while on the limbs of this fold it has thinned to as little as 10 feet.

Deformation within this unit has resulted in the development of log-shaped boudins of limestone within the argillaceous limestone, frequently with a breccia appearance. Locally within the limestone are zones rich in white rings and cylindrical bodies described by Moorehouse as possibly being Archeocyathids, seeming to suggest that this limestone may be a reef structure of Lower Cambrian age.

Unit 2 hosts known sulfide mineralization in the nose area of the Moorehouse Anticline in the Number 5, 6 and 7 zone areas and within drag folds on the limb of the anticline in the Number 10 zone and in the Number 12, 13 and 14 zones. (see also Mineral Deposits).

Middle Argillite - Unit 3

This argillite member, separating the two main limestone units, has been well documented in outcrop and in drill holes, in particular in the 1974 A grid drilling. Its thickness is again quite variable, ranging from less than 50 feet to over 150 feet.

It is foliated grey to brown coloured rock, with some limey sections, rich in pyrrhotite, pyrite and locally arsenopyrite, and frequently with abundant secondary quartz in stringers and patches. Lighter coloured massive, siliceous bands, up to three feet thick, have a tuffaceous appearance. Contacts between these quartzitic sections and the argillite and also between the argillite and overlying limestone, Unit 4, are very characteristic in that they usually consist of approximately six inches of a very fine grained light coloured shaley layer and an associated band of massive pyrrhotite, usually less than one inch thick, but locally two to three inches in thickness.

Adjacent to the intrusive, this unit has been altered to hornfels. A combination of this alteration and intense structural deformation in this area makes the distinction of this argillite from overlying argillites extremely difficult.

Upper Limestone - Unit 4

This limestone exhibits a mottled texture similar to that of Unit 2, but it is much more homogeneous, with only minor argillite content. It is not so thick as Unit 2, and the variable thickness is indicated in the drill sections from Grid A. This local thickness variability is due to folding and probably associated faulting. Strong internal deformation is evident in the drill core. Sedimentary thinning, both to the north and the south, is also apparent and thicknesses encountered vary from less than 10 feet to over 50 feet.

The mottled texture is due to secondary stringers and patches of white calcite and, to a lesser extent, quartz. At least two and possibly more ages of calcite stringers are observed. Unit 4 is the most important host for silver/lead/zinc sulfide mineralization noted to date on the property.

It is a helpful marker horizon for geological mapping, separating two usually distinctive argillite units. Exposure is good in the A Grid, Adit and East slope areas, while on the West slope it is largely obscured by overburden cover, and contacts in some areas have been inferred from the geophysical surveys. On West Mountain and on the west side of Hornfels Ridge, very tight folding has resulted in almost complete obliteration of this unit. It is observed only in narrow, discontinuous bands subparallel to the main fold axial plane.

On the east slope, the Upper Limestone often appears as a double horizon, separated by black argillite which is typically the overlying rock. This duplication could be due to folding or faulting, but its persistence in these areas suggests that locally the Upper Limestone actually includes two distinct sedimentary layers.

Black Argillite - Unit 5

Overlying the Upper Limestone is a black, graphitic, sulfide rich argillite which is visibly the most conspicuous rock unit in the area due to its colour, rusty and readily weathered appearance. Shearing has disrupted most primary features in the rock, and cleavage is strongly developed. Pyrite and pyrrhotite are present, forming up to 10% of the rock, and a distinct H₂S odour is detectable when drilling through this unit. Secondary quartz stringers and patches are usually present and are typically oriented obliquely to the main foliation or cleavage.

Moorehouse has observed that the Black Argillite has been a very active structural zone. It appears to have provided the (locus) of most of the major thrust faulting, and its lower contact with Unit 4 is frequently marked by quartz veins. Its spatial distribution is quite irregular, due to this structural deformation. Thrusting of younger sediments from the southwest appears to have scraped much of this argillite off the southeast limb of the Moorehouse anticline; thicknesses are greater on the northeast limb. In areas of most extreme structural deformation, on West Mountain and the West side of Hornfels Ridge, very tight folding of this unit and units 3 and 4 has resulted in an apparent interbedding of the Black and Middle Argillites, and, as previously mentioned, often the complete disappearance of the Upper Limestone due to remobilization.

Argillaceous Limestone - Unit 5

This is an extremely thick unit of bedded and strongly sheared and folded argillaceous limestone and is the youngest rock unit observed in the central area of the claim group. It is thin to thick bedded, with a strong cleavage which cuts the bedding, and it varies in composition from very limey argillite, and locally limestone beds, to thin bedded, platy siltstone. To the south it is overlain by the Peak Limestone, consisting of massive limestone and dolomite with argillite.

All rocks are affected to greater or lesser degrees within the contact metamorphic aureole surrounding the intrusives. The limestones are recrystallized and locally, particularly the thin limestone or limey argillite bands within the argillite units, silicate skarns are developed, containing garnet, diopside, plagioclase, epidote and sometimes scapolite, vesuvianite and iron sulfides. The argillites are altered to Hornfels which is usually fine grained but often contains abundant coarse cordierite. Unit 6, the argillaceous limestone, is relatively unmetamorphosed in this area, with rounded grains of scapolite being the only prominent metamorphic mineral recognized by Moorehouse. Within a few tens of feet of the contact, garnet, epidote and diopside skarns are developed in the limey layers.

STRUCTURAL GEOLOGY

Structure within the claim group is dominated by a northwest-southeast trending anticline, the Moorehouse Anticline; and a parallel syncline to the northeast. This major folding is complicated by an undulating fold pattern in the fold crests, drag folding along the flanks and abundant small scale cross faults. Further complication is introduced by large scale low angle thrust faulting, dipping towards the southwest.

Deformational style is variable within the area mapped. The main zone of thrusting within the Tintina Series is within the black argillite unit or along the contact between units 5 and 6. Displacement along this zone is not extreme, and in many cases contacts between the black argillite and overlying argillaceous limestone are conformable. The black argillite has been extremely mobile within this zone, due to folding and shearing, and appears to have been scraped off the nose area of the anticlines and pushed into the synclinal trough.

Folding in elevated areas, particularly in the West Mountain area and on the west side of Hornfels Ridge, is extremely tight. The Upper Limestone has apparently been squeezed and remobilized to the extent that it cannot be traced as an individual horizon, and it is observed only in discontinuous bands which are subparallel to the fold axial planes. The black and grey argillites of units 5 and 3 appear to be interbedded on a scale of one to several feet due to repetitions caused by folding. The intensive nature of this deformation may be due to the proximity of either the thrust zone or the intrusive contact, or a combination of the two. Similar deformation on a slightly less intensive scale is observed in the northern part of the East Slope. This area is not particularly near to the thrust plane; the intrusive may be near, although it is not exposed. Heat, as expressed by the hornfels zone, may be the more important factor in determining the degree of structural deformation.

In the main showing area of the A Grid and on the east and west slope areas the folding is of a more open nature, and the Upper Limestone is remobilized only slightly towards the nose of the drag folds and remains continuous on the limbs.

During the present mapping programme, measurements were made of bedding where it could be distinguished, foliation or cleavage, lineation axes and major joints and fractures. These have been plotted on stereographic projections as poles to the various planes and, in the case of lineations, as the axes themselves. (see Detail Geology Plan - East Half). Measurements from the West Mountain, West Slope and East Slope areas have been differentiated by different symbols on the sketches.

The poles to bedding planes show a wide scatter from all areas of measurement. Two great circles have been drawn which include the general trend of the data and suggest a fold axis with an azimuth of 127° and a plunge of 10 to 20° . Lineation axes, presumed to represent fold axes (the intersection of bedding and cleavage planes), show a fairly good cluster, with an average azimuth of approximately 130° , plunging to 20 to 25° . A small number are reversed, with an azimuth of approximately 310° and a plunge of 5 to 25° .

Cleavage and foliation planes observed in outcrop were almost always subparallel to any axial planes of small scale folding present in the outcrop. Variation in strike is not extreme, averaging 125° to 130° . Dip is quite variable, from 45° to 90° southwest, and averaging approximately 70° southwest.

The results of this work indicate that deformation is relatively homogeneous within the claim group. Initial folding may have been tilted and squeezed somewhat by a second deformational event involving overthrusting from the southwest, but there is little evidence of any

secondary folding. The strike of the present axial plane averages 125° to 130° , with an average dip of approximately 70° to the southwest. The fold axis plunges 10° to 20° to the southeast.

Poles to joint and fracture planes show a wide scatter but are concentrated in the southeast quadrant and to a lesser extent in the northwest quadrant. The average strike is approximately 40° with dips ranging from about 30° northwest to 60° southeast, averaging 70° northwest. These planes in general parallel the cross faults which are extremely abundant throughout the area. Most of these faults are of a very small scale, with displacements ranging from a few inches to several feet. Maximum displacement on the largest of these is not expected to exceed 100 to 200 feet.

The Moorehouse Anticline plunges to the southeast at 10° to 20° . However, from the northwest to the southeast there is relatively little decrease in the elevation of the anticline nose. A small number of lineation plunge reversals, to the northwest, were noted locally. Indeed, Moorehouse noted a correlation between these and the sulfide zones. However, they are not extreme enough to account for the constant elevation. It is suggested that although horizontal movement is noted along many of the cross faults, the major component of movement is actually vertical, with the southeast side moving up.

Interpretation of the sequence of events in the structural history of the property appears to be significant in the study of the localization of sulfide mineralization. The earliest recognized deformation was the major folding event which dominates the structural pattern observed presently. Later low to moderate angle thrusting from the southwest modified this fold pattern somewhat by tilting the fold axial plane slightly and distorting and compressing the small scale fold pattern, particularly in the vicinity of thrust surfaces. During this time, the Black Argillite, Unit 5, and the Upper Limestone, Unit 4, were very tightly folded in some areas, resulting in the complete disruption of the stratigraphic sequence and localization of the limestone

into discontinuous lenses.

Intrusion of the quartz monzonite plug was essentially passive. The only observed distortion of sediments adjacent to the contact is in the area of Ice Lake, where they have been gently warped up over the intrusive contact. Cross faulting may have been active at this time, or possibly earlier.

Crosscutting relations between the quartz monzonite, diorite and lamprophyre were not observed. The lamprophyre is relatively young, generally postdating the faulting when it occupies fault planes.

MINERAL DEPOSITS

Previous studies, particularly by Moorehouse (1962) and Carlson and Hilker (1974), have thoroughly described the nature of these sulfide mineral deposits. The 1974 drilling programme showed that the most important mineralization is stratiform, localized in the area of drag folds within the Upper Limestone, Unit 4. Sulfide textures, some silicification and the local development of tremolite suggest pyrometasomatic mineralization processes.

Several factors, however, suggest that the mineralization is more complex than a simple skarn. The intrusive is extremely fresh and dry, with only very minor pyrite observed along a few fractures, and only minor iron sulfides are noted within the sediments directly adjacent to the intrusive contact. Also, it has been noted by Gabrielse (1969) that throughout this part of the Yukon, lead-zinc mineralization appears consistently to be confined to Cambrian strata, while limestones of younger ages, cut by the same intrusives, are not mineralized. This suggests a sedimentary metal source. Thus, the intrusive is not an obvious source of mineralizing solutions, and its emplacement may be significant only in providing a heat source. The close association of the richest mineralization with the graphitic black argillite, Unit 5, suggests that this unit may be important as a source of sulfur and possibly the metals.

The genesis and history of the Tintina deposits are suggested by the geological observations to date. Of initial importance was the stratigraphy, with favourable limestone host horizons overlain by relatively impermeable clays, rich in sulfur, iron and possibly also lead, zinc and other metals. These units were folded, with internal brecciation possibly helping to provide channelways for mineralizing solutions within the limestone. The folding also produced structural traps for mineralizing solutions in the nose area of folds, particularly where these folds are offset by cross faults or domed slightly by secondary folding. In areas of intense structural deformation, the

limestone would be a poor sulfide host due to its discontinuous nature and sometimes its inaccessibility to mineralizing solutions.

The actual concentration of lead, zinc and silver in massive sulfide zones may then have occurred at the time of emplacement of the intrusive. Heat from the intrusive would drive a convecting groundwater system, possibly moving metals in solution towards the intrusive within the limestone, controlled by the structure, until thermochemical conditions resulted in the precipitation of sulfides, replacing the limestone.

Such a model is consistent with the observed geology and should be useful in predicting mineral occurrences, both regionally and within the property. In the latter case, primary exploration targets are limestone horizons in areas of open, relatively small scale folding. Since the Lower Limestone has not been tested in this type of environment by drilling, it may be equally or more important than the upper limestone as a sulfide host. The most promising target area is between the A zone and the 10 zone, within both the upper and lower limestones. Other parallel folds to the northeast, southeast along strike from the 12, 13 and 14 zones, also deserve attention. The southwest limb of the Moorehouse Anticline is not well exposed. However, the limestone horizons along this limb should provide favourable hosts and, in fact, encouraging results from the present geochemical and geophysical exploration programmes have helped to delineate exploration target areas.

On the regional scale, folding, usually of a relatively open nature, is the dominant structural style southwest of the Tintina fault. Thus, any area with Cambrian carbonates intruded by the Cretaceous granodiorite - quartz monzonite stocks would appear to provide favourable exploration target.

GEOCHEMICAL SURVEY

During the 1974 summer exploration programme, an extensive geochemical orientation survey was carried out (see Carlson and Hilker, 1974). The results of this survey indicated that strong geochemical anomalies would be generally restricted in size, due probably to post-glacial mechanical dispersion in areas of thin or nonexistent overburden cover or in areas of previous tractor trenching, and that more deeply buried mineralization would produce a very low profile anomaly. The test pit analysis indicated that optimum sample depth is approximately one foot, and that a multi-element determination, namely for Ag, Pb and Zn, would provide optimum anomaly definition.

During the 1975 survey, a total of 1,879 soil samples were collected over the central portion of the Eagle claim group. Samples were collected from the upper C soil horizon, at depths of 10 to 12 inches where possible. On upper slopes, soils are usually extremely thin and consist of relatively unaltered, finely abraded rock grit fragments. Samples were collected on a 100 x 400 foot grid spacing. This spacing was decreased to 100 x 200 foot over areas of obvious geological interest.

Approximately 300 gm. of sample material was collected in kraft paper sample bags. At each sample station, soil composition, colour and water content, vegetation cover and slope grade and direction were noted. At camp, samples were hung for partial drying. The pH of each sample was determined using a LaMotte Morgan colour-metric pH testing kit, to the nearest 0.2 pH unit. Samples were shipped to the Barringer Research Laboratory in Whitehorse, where they were analyzed for Ag, Pb and Zn.

TABLE 3.

Summary of Statistics

	<u>Raw Data (p.p.m.)</u>			<u>Log 10 Data</u>		
	Ag	Pb	Zn	Ag	Pb	Zn
\bar{x} - Mean	2.4	58.3	229.7	0.29 (1.95)	1.59 (38.9)	2.11
S - Standard Deviation	3.5	118.8	615.3	0.27	0.32	0.40
Minimum	0.2	5	15	-0.70	0.70	0.18
Maximum	84	2400	20500	1.92	3.38	4.31
Range	83.8	2395	20485	2.62	2.68	4.14

TABLE 3 (Cont'd)

CONTOUR VALUES *

S - Standard Deviation

\bar{x} - Mean

$\bar{x} + 1S$ = Mean + one standard deviation

$\bar{x} + 2S$ = Mean + two standard deviations

$\bar{x} + 3S$ = Mean + three standard deviations

	Ag-Silver	Pb-Lead	Zn-Zinc
$\bar{x} + 1S$.29 - 2.0 ppm	1.59 - 40 ppm	2.11 - 130 ppm
$\bar{x} + 2S$.55 - 3.5	1.91 - 80	2.51 - 325
$\bar{x} + 3S$.81 - 6.5	2.23 - 170	2.91 - 800
	1.07 - 12.0	2.55 - 350	3.31 - 2000

* NOTE: antilogs are rounded to approximate numbers.

Contour values: 2000
800
325
130
50

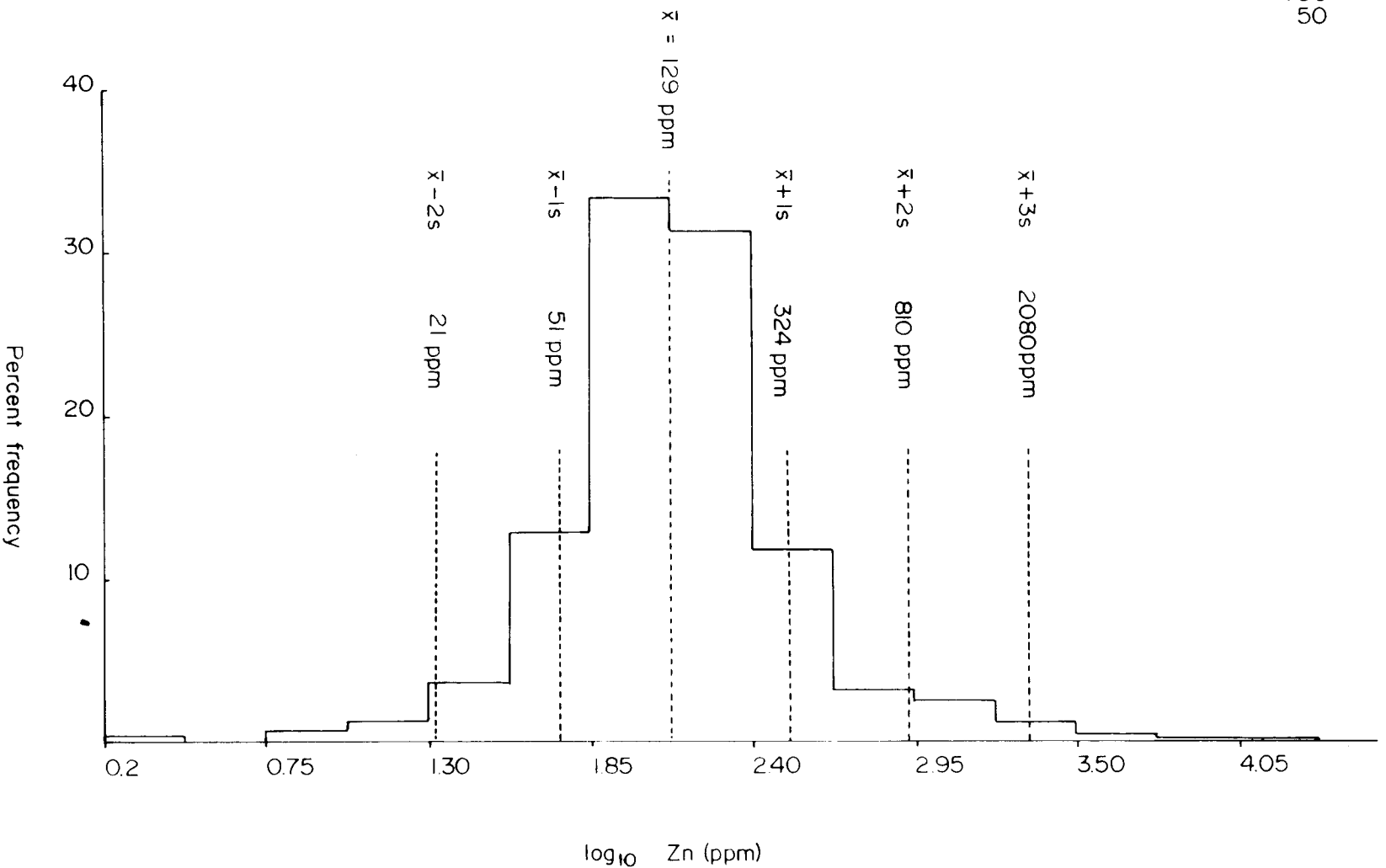
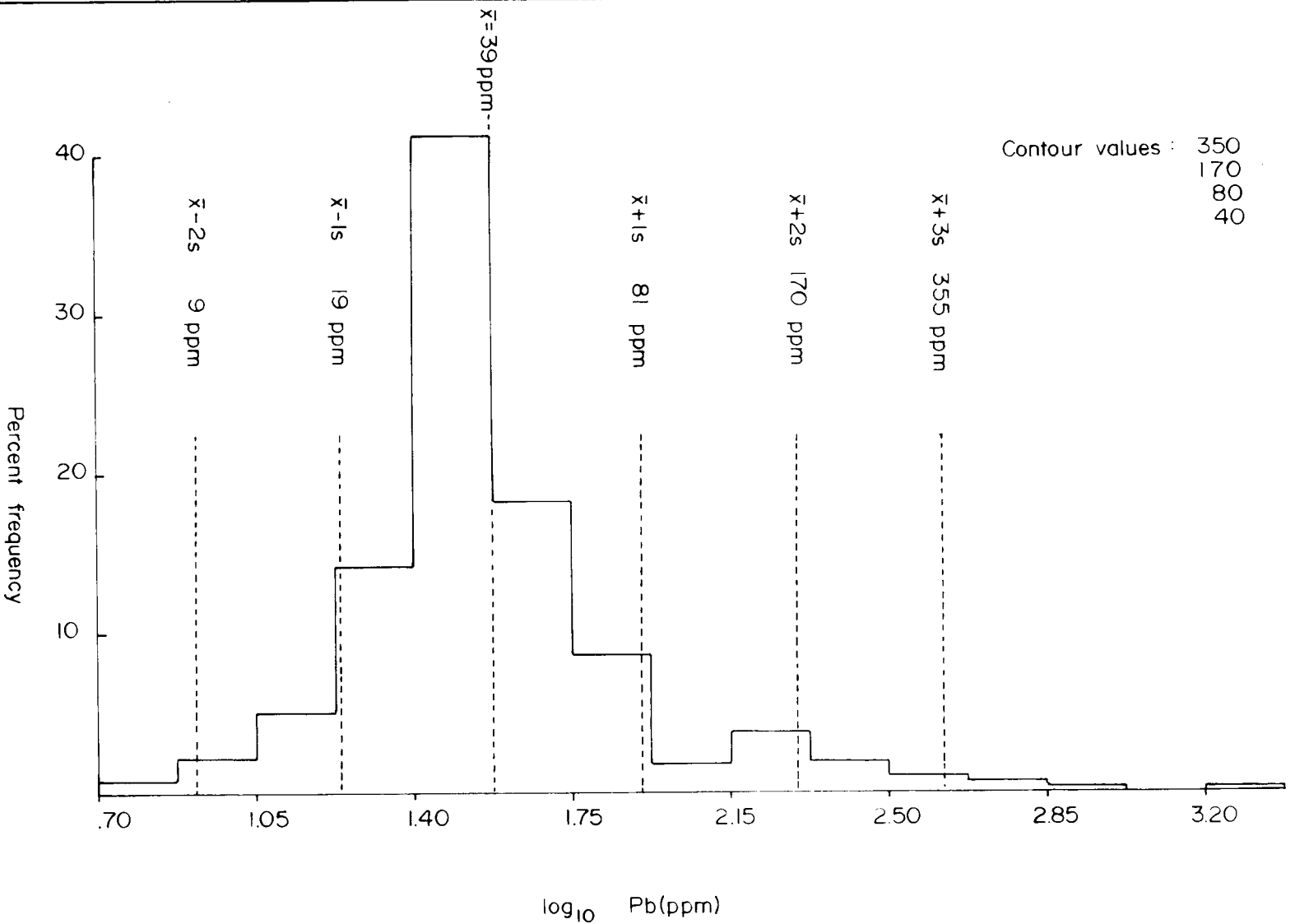


FIGURE 1

R.G. HILKER LTD.
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.

TINTINA SILVER MINES LTD.
HISTOGRAM - ZINC
DATE: NOVEMBER 1975
SCALE AS SHOWN

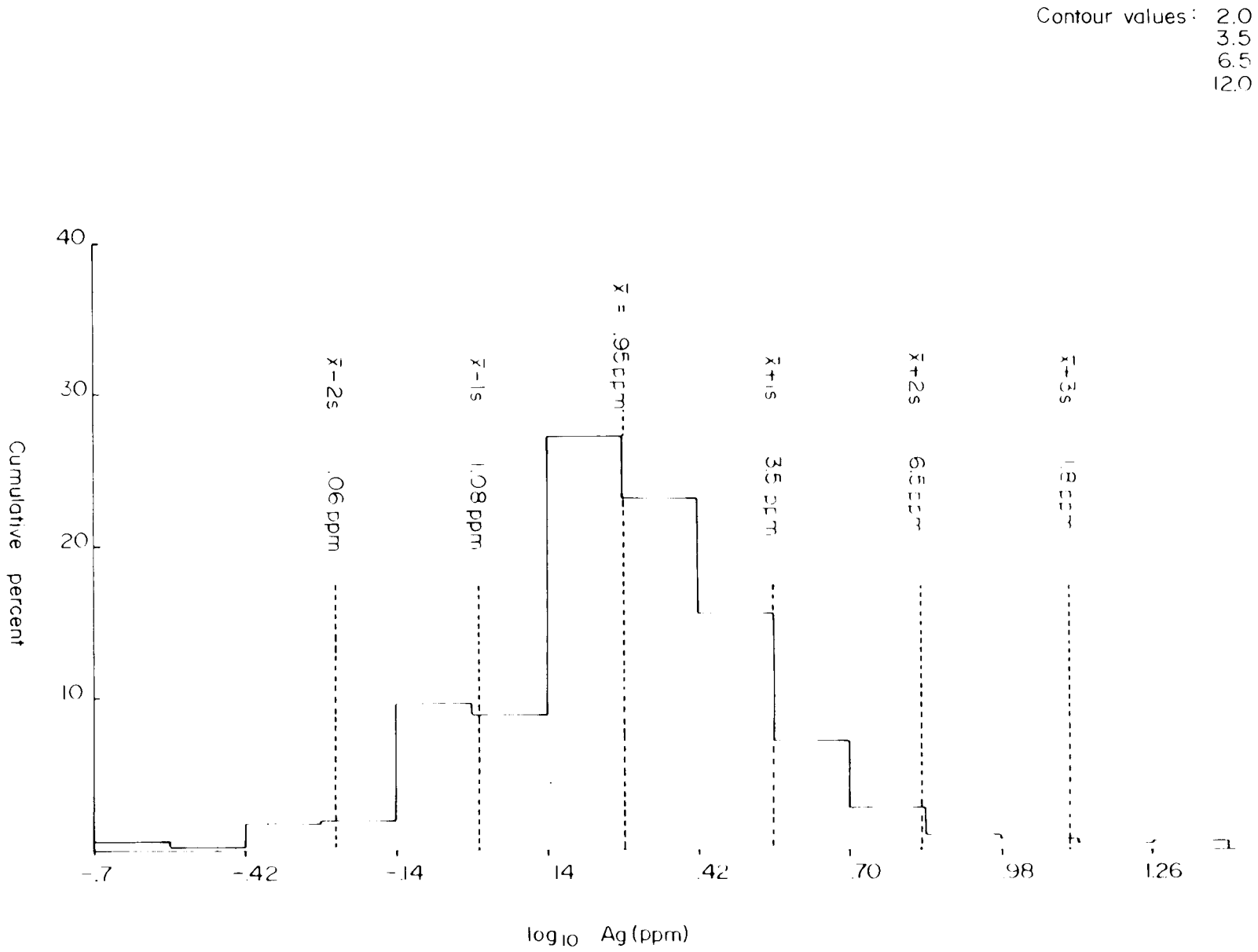
FIGURE 2



RG. HILKER LTD.
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.

TINTINA SILVER MINES LTD.
HISTOGRAM - LEAD
DATE: NOVEMBER 1975
SCALE AS SHOWN

FIGURE 3



R.G. HUKER LTD.
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.

TINTINA SILVER MINES LTD.	
HISTOGRAM - SILVER	
DATE: NOVEMBER 1975	SCALE AS SHOWN

In order to aid interpretation of the data, a statistical analysis has been carried out, calculating the mean and standard deviation of the metal concentrations and of the base 10 logarithmus of the metal concentrations. These statistics are summarized in Table-3. Histograms of the log 10 metal distributions have been plotted on the Geochemical Survey Plans, East Half. All sample determinations have been plotted and contoured on these plans, at a scale of 1" = 200 ft. Contour values of \bar{x} (mean), $x+1S$ (one standard deviation, $\bar{x} + 2S$ and $\bar{x} + 3S$ have been used for each metal. Since the distribution of the metals approaches lognormality, the logarithmic mean and standard deviation values were used in these contour value definitions.

pH

The pH of each soil sample, as determined colourmetrically using a Lamotte-Morgan pH testing kit, has been plotted on the Geochemical Survey plans. The average pH value is over 7 and many values are higher than 8 due to the pervasive presence of carbonate in the area. The effect of this is to reduce the chemical mobility of most metals, including Ag, Pb and Zn, and hence to reduce the size and intensity of secondary dispersion haloes.

Zone A anomaly

The presence of the A Zone is strongly reflected on L8+00E; 9+00S to 16+00S. This anomaly provides an indication of the strong but very localized geochemical response to significant sulfide mineralization exposed on surface. Maximum metal concentrations in the soils here are 22 ppm Ag, 640 ppm Pb and 4200 ppm Zn. The anomaly is only very weakly expressed on L4+00E, where the sulfide mineralization is masked beneath Black Argillite (Unit 5) and Argillaceous Limestone (Unit 6). The anomaly occurs in the area of 1974 - A Grid diamond drilling on showings #1 thru #4.

Zone B Anomaly - West Mountain Area

The major anomalous values are localized downslope from the number 17 Ag/Pb/Zn showing, which consists of scattered surface mineralization, some of which is high grade. The extent of strongly anomalous metal values suggest that extensive mineralization is not exposed on surface except above L54+00W in the vicinity of #17 showing. This implies that Ag/Pb/Zn mineralization is localized stratigraphically above mapped limestones, and is of the shear (number 8 showing) type. The anomaly in the vicinity of the #18 showing, a small pod of massive sulfides in the Lower Limestone, Unit-2, is relatively weak.

Zone C Anomaly - West Slope

The Ag, Pb, and Zn anomalies form a generally arcuate pattern which conforms to the mapped exposure of the Upper Limestone, Unit 4, on the limbs and through the nose of the Moorehouse Anticline. This unit defines the maximum upslope extent of anomalous metal values south of the baseline. The anomaly outlines mineralization in the Sidehill Showing and Showings #10 and #11.

Within this anomaly area, the highest metal concentrations in the soils are associated with the known showings and are presumed to be enhanced because of the disturbed surface around these showings. Weaker anomalies follow downslope routes of mechanical dispersion below the showings.

Two areas of particular interest in this area have been defined. One of these is upslope from the #10 showing, in the vicinity of 2+00S on L10+00W, and the other is a broad area from the vicinity of the Sidehill showing at 5+00W; 12+00S, approximately along the south limb of the Moorehouse Anticline to 28+00W; 20+00S and beyond.

The anomaly above the #10 showing indicated sulfide mineralization in this area and it therefore appears that the Upper Limestone (Unit 4) is mineralized as well as the Lower Limestone (unit 2), as exposed in the #10 and #11 showings within this drag fold structure. This possibility is further enhanced by a profile of deep soil samples (18") collected at 25-foot intervals across the presumed location of the Upper Limestone in the nose area of the drag fold. The sampling was from 8+00W to 12+25W along an east-west line at 1+00S, as plotted in Figure 4, overburden thickness is 5 to 8 feet in depth. Strongly anomalous metal values, to 310 ppm Pb, 2500 ppm Zn and 7.8 ppm Ag occur over or just downslope from the presumed location of the Upper Limestone, Unit 4.

Zone D Anomaly

The Zone C Anomaly is of lower intensity but may be of equal significance, as Zone-C. Overburden thicknesses are greater here and bedrock is not exposed. The mobility of the three metals is known to be low throughout the area. Some mechanical migration from upslope mineralization from the Sidehill Showing is to be expected. Yet the extent of these anomalies, discontinuously for over 3,000-feet from the Sidehill Zone into the Ice Creek Valley, suggests a strong possibility that further sulfide mineralization occurs along this trend and may in fact be localized in the Upper or Lower Limestones, perhaps in drag fold structures similar to those observed on the north limb of the Moorehouse Anticline.

Zone E Anomaly - Anticline Axis

Anomalies in the vicinity of the number 12, 13, 14 and 15 showings are quite intense and appear to reflect the known sulfide occurrences. Although these surface sulfide zones are of limited extent, as presently defined, they do occur within the Lower Limestone Unit C in a favourable structural environment. The overlying Upper

Limestone is poorly exposed in the area and it is possible that a soil geochemical expression of any mineralization within this unit is masked due to overburden cover. Scattered moderately anomalous Ag and Pb values and a broad, low intensity Zn anomaly east and north of the number 14 showing may be indicative of this type of mineralization. The anomaly trends in a northwest direction near the Moorehouse Anticline axis and is a continuation of Zone C.

Strong Ag, Pb and Zn anomalies are observed from 25+00N to 3+00N between lines 18+00W and 22+00W. These are apparently associated with small patches of mineralization within hornfelses, adjacent to the intrusive contact. However, beds of Upper and Lower Limestone are truncated by the intrusive near the hornfelses contact. The only sulfides observed in this area to date include minor pyrite. The highly contorted nature of the metasediments in this area is similar to that observed in the Zone B West Mountain area. Further surface exploration in those areas of Lower Limestone beds may outline sulfide mineralization and should be considered a priority area for additional survey.

Zone F Anomaly - East Slope

A very strong Ag/Pb/Zn anomaly is expressed on the north end of the East Slope grid, due east of the A Zone. The extreme northern end of this anomaly is within talus beneath the Fall showing and may be a downslope reflection of this or A Zone mineralization. However, high metal concentrations south of L2+00S, to L8+00S, appear to reflect some form of mineralization on the slope above the baseline. This area has not been intensively prospected due to the steep terrain. It is possible that sulfide mineralization is exposed on the slope, and the anomaly is due to mechanical dispersion, or sulfides are not exposed and the anomalous metal values may be chemically dispersed along fracture zones from mineralization beneath the East Ridge, such as an A Zone extension to the east.

Zone G Anomaly - East Slope

This anomaly, centered on L24+00S, is very similar to the Zone F anomaly. The slope is more accessible here, although the extent of overburden cover is greater. No sulfide mineralization, aside from minor pyrite, has been observed in this area, although fairly high silver/lead/zinc geochemical values occur on the East Slope area.

An intensive rock geochemistry survey should be conducted in both the Zone F and Zone G anomaly areas to determine if the anomalies are the result of a metal-rich rock unit or possibly a stratabound sulfide accumulation within the limestones.

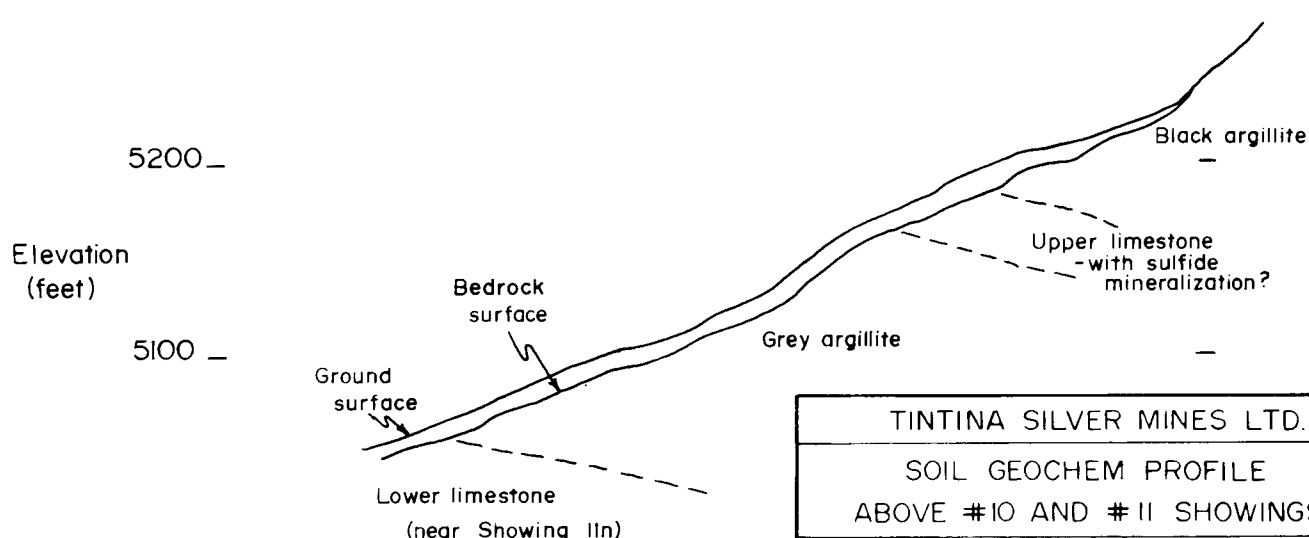
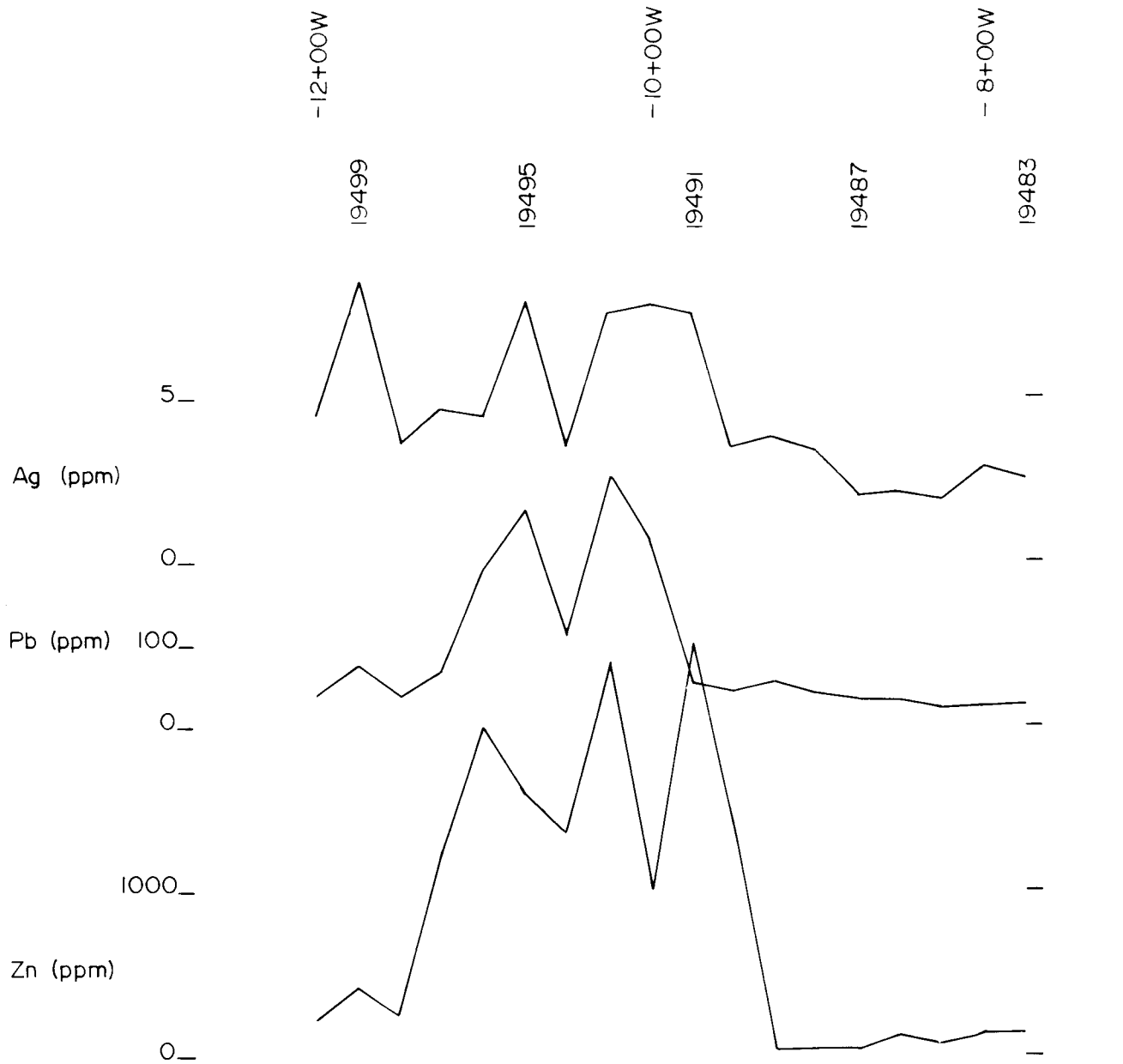
East Boundary Grid Area

Although no strong anomalies were detected on this grid, results are extremely interesting. A thick overburden cover is present on all but L24+00E north of the baseline. Therefore, scattered, moderately anomalous metal contents in the soils may be very significant, especially considering the broad line spacing. Favourable geology strikes into this area, and there is a potential for sulfide mineralization similar to that encountered in the A Zone. A detailed linegrid should be established in the area and a systematic geochemical soil sampling survey be conducted.

GEOCHEMICAL SURVEY CONCLUSIONS

The most significant anomaly encountered during the 1975 geochemical programme is that located in the vicinity of 2+00S on 18+00W above the #10 and #11 showings (Zone C). This anomaly suggests the strong possibility that the Upper Limestone (Unit 4) contains sulfide mineralization directly above and in the same drag fold as the sulfides exposed in the trenches of the #10 Zone, within the Lower Limestone (Unit 2).

L1+50S



TINTINA SILVER MINES LTD.	
SOIL GEOCHEM PROFILE	
ABOVE #10 AND #11 SHOWINGS	
DATE: NOVEMBER 1975	SCALE AS SHOWN

Of similar importance, however, is the occurrence of low profile anomalies on both the limbs and axis of the Moorehouse Anticline on Zone D and Zone E over the presumed subcropping of the Upper and Lower Limestones, in overburden covered areas. The potential for hidden sulfide deposits, particularly on the south limb and axis of the anticline, is enhanced by this data.

Two areas of very strongly anomalous metal concentrations on Zone F and Zone G on the East Slope are yet unexplained. They may reflect sulfide concentrations within limestone which are not exposed on surface or have not yet been observed, or they may represent local areas of abnormally high trace metal concentrations in one of the rock units, such as the Black Argillite.

Scattered anomalies on the East Boundary grid, in an area of thick overburden cover, may be caused by underlying sulfide mineralization. The limestones strike into this area from the East Slope, and folding is evident. The East Boundary Zone indicates that the grid is within the general area of sulfide mineralization and should have further survey work conducted over a detailed line-grid.

GEOPHYSICAL SURVEY

Electromagnetic Survey

During the 1975 Tintina Silver exploration programme, an electromagnetic survey was conducted using a Geonics EM-16 instrument, on part of the linegrid. The survey was made over most of the 1975 West Half Grid Sheet and on a few lines near the 1974 A-Grid drilling area of the 1975 East Half Grid Sheet. A total of 18 linemiles of EM-16 survey was conducted from July 16 through August 14 by R. G. Hilker and Chris Hughes, operating the instrument.

The EM-16 electromagnetic instrument operates on a power source from VLF (very Low frequencies) transmitting stations maintained by the U. S. Navy. The antenna current, from the VLF stations, is vertical and therefore creates a concentric horizontal magnetic field that is transmitted an infinite distance from the source. If the transmitted or primary magnetic field radiates over a buried conductive body, a secondary electromagnetic field occurs, that radiates from the conductor. The secondary field, over a buried conductor, has a vertical component that the EM-16 receiver measures. The receiver has two input coils that are on a vertical and horizontal axis. The instrument reads a tilt-angle that is calibrated in percentage in relation to the vertical axis. The second coil signal is parallel to the primary field and is a measured percentage signal that is shifted by 90° .

A transmitting station is selected that gives a field approximately at right angles to the strike of conductive metallic ore zones or geological structures. During the 1975 electromagnetic EM-16 survey Station NPG - Seattle, Washington was used that operates on a Frequency of 18.6 kHz.

Readings observed during the EM-16 survey were plotted in profile at the field camp daily, at a scale of Horizontal 1" = 200 ft. and Vertical 1" = 20° . Interpretation of the electromagnetic survey was made by R. G. Hilker and the results of the interpreted conductors

were plotted on plan at 1" = 200 feet. The aforementioned composite plan also shows the occurrence of magnetic and geochemical lead/silver/zinc anomalies in relation to the electromagnetic conductors.

The following is a brief discussion of the interpreted conductors indicated on the EM-16 survey profiles.

The EM-16 survey indicated nine conductive zones and are named as; EM-1, EM-2, EM-3, EM-4, EM-5, EM-6, EM-7, EM-8 and EM-9. It should be noted by the reader that the zinc mineral sphalerite is a non-conductor.

Zone EM-1

The conductors over the 1974 A-Grid ore zones are extremely erratic (line 8+00E at about 12-14+00S). Considerable lead, silver and zinc has been proven in the Tintina showings 1-2-3 and 4 areas. The mineral zone appears to be faulted and offset about 250 feet north and is described as a "weak conductor" that crosses L4+00E, L0+00E and L4+00W and is terminated along an inferred fault near the Sidehill zone Showing. The EM-1 conductor axis is interpreted to be on the north side of the conductive zone and to dip about 25-35° north. The conductor warrants continuation of the 1974 A-Grid drilling, north to L4+00W. Diamond drill holes should be located to drill vertical and to the south into and across the EM-1 conductive axis and zone. The conductor is located on the northeast limb of the Moorehouse Anticline.

A 1,200 gamm magnetic high is located on the north end of EM-1 near the inferred fault. Considerable magnetic relief occurs that ranges between 100, 300 and 800 gammas on the north and south sides of Zone EM-1 and the ore zone adjacent to surface showings 1 thru 4.

Zone EM-2

The EM-2 conductive zone crosses the survey linegrid at a 45° angle between mineralized Showings 10, 11, 11h, 12, 13, 14 and 15. The conductive zone is indicated on the profiles as distorted broad

conductor. The zone is probably distorted due to readings taken on the linegrid that are not at 90° to the Seattle transmitting station used for the survey. The ideal linegrid is located perpendicular to geological conductive zones and survey crosslines are selected approximately along the lines of the transmitted primary magnetic field. The EM-2 zone was interpreted to occur on the south side of a very large and broad in-phase negative. The conductive zone corresponds to the location of Unit 2 - Lower Limestone and the lead/silver/zinc mineral Showings #10 thru #15. Additional electromagnetic survey work should be done on a linegrid perpendicular to the zone and perhaps using the Hawaii transmitting station. The EM-16 instrument readings indicated a fairly good response over Showing #10, but all readings south of #10 on L10+00W is so distorted that they are meaningless. However, geology mapping in 1975 has suggested that the Lower Limestone Unit-4 starts to bend near Showings #11n, 11 and 10 and to strike due south along L10+00W. The limestone in Unit-4 again bends westward at about 14+00S on L12+00W and appears to strike westerly along conductive zones EM-4, EM-5 and EM-6. The EM-2 conductive zone interpretation possibly indicates mineral conductivity along or near geology contacts between the Lower Limestone Unit-2 and the Lower Argillite - 1h hornfels and the Middle Argillite - Unit 3.

The area between zone EM-2, Showing #10, the Lower Limestone along L10+00W and Zone EM-4 is a key and critical section to the understanding and interpretation of the continuation of proven ore in Showings #1 thru #4 and along Zone EM-1. The area along L10+00W is the point of intersection and change in direction of Zone EM-2 near Showing #10, the truncation of Zone EM-1 and Zone EM-4 and the south strike of the Lower Limestone across the northwest strike of the Moorehouse Anticline. The aforementioned features and problems are of prime interest because of a possible large tonnage lead/silver/zinc mineralized occurrence in the area of geological and geophysical change.

Zone EM-3

The axis of the conductor EM-3 is interpreted to occur on the north side of a broad and distorted large in-phase negative. The conductor axis roughly corresponds to the Upper Limestone, Unit-4 and the Black Argillite, Unit-5, contact. Distortion is probably due to the same conditions of linegrid orientation and transmitter station location, as described in the discussion of Zone EM-2. It is noted that the same geological features of the Upper Limestone, Unit-4, occur with a south strike on the southwest limb of the northwest bearing Moorehouse Anticline. The area along L8+00W and the Sidehill Showing is of considerable interest for reasons of similar conditions of geology change adjacent to L10+00W.

Zone EM-4

The axis of conductor EM-4 is interpreted to occur on the north side, at about 15+00S of lines 16+00W, 14+00W, and 12+00W. The conductor is inferred on lines 10+00W, 8+00W and 6+00W. The east end of the conductor is terminated on an inferred fault zone through the Sidehill Showing and the same feature that Zone EM-1 abutts against. The conductive zone dips north at about 25 - 35° and is described as medium strength. The Zone EM-4 is located on the south limb of the Moorehouse Anticline and is offset 200 feet south of Zone EM-5. The 1975 geology mapping indicates that the west end of conductor EM-4 is located on the Lower Limestone, Unit-2, and contact of the Lower Argillite, Unit-1.

Zone EM-5

The conductive EM-5 Zone is located between L36+00W thru L18+00W (21+00 feet long) at 10+50S to 14+00S. The conductor axis is interpreted to occur on the north side and dips fairly gently at 20°. Zone EM-5 is about 400 feet wide and is a strong conductor. The conductive zone is located on the south limb of the Moorehouse Anti-cline south of the campsite clearing. From this point west the terrain drops from the mountain side to the Creek Valley. The mountain side, at L18+00W and 15+00S, is scree covered to about L22+00W. From L24+00W and L28+00W the conductive zone has a mixture of scree and overburden cover. The area of lines 32+00W and 36+00W probably has fairly thick valley clay overburden cover with willow vegetation. The west end of Zone EM-5 terminates along an inferred fault and is offset 400 feet from Zone EM-6. The last outcrop of Lower Limestone, Unit-2 occurs at L16+00W and the strike of the bed is aligned with the west bearing Zone EM-5.

Zone EM-6

The axis of Zone EM-6 is interpreted to be on the north side of a strong conductor between L48+00W and L40+00W and to be about 10+00 feet long. The conductor is about 500 feet wide, dips 20 - 25° north, and is located in the valley bottom near the creek. A 500 gamma magnetic anomaly occurs over the conductor on L46+00W between 12+00S and 15+00S. The magnetic anomaly has a 600 foot long axis and stretches between L48+00W and L44+00W. The magnetic high is probably situated on the upper part of a tabular shaped conductive body that dips 20 - 25° north.

Zone EM-7

The conductive zone extends between L32+00W and L20+00W with a north dip axis at about 23+00S. Zone EM-7 is a weak conductor that lays between two 100 gamma magnetic highs that are located on the north and south sides of the zone. A third 100 gamma magnetic high lays on the north end of the conductor. EM-7 is situated on the side of a mountain between L20+00W and L28+00W and into the valley floor at L32+00W. The conductor occurs partially between two strong conductive zones; and are Zones EM-5 and EM-6 to the north and Zone EM-8 and EM-9 to the south.

Zone EM-8

Zone EM-8 is considered to be a strong conductor that dips 30° with an axis located on the north side. The conductor is situated in the creek valley between L28+00W and L36+00W, with a strike length of about 10+00 feet. A 300 gamma magnetic high lays on the south side of Zone EM-8, between L40+00W and L32+00W. A second magnetic high of 100 gammas is located on the northwest end of the conductor. The south magnetic high is possibly caused by a north dipping tabular conductor with the upper end nearest to surface. No electromagnetic conductors were found to occur on L40+00W at 27+00W and therefore EM-8 is terminated on the west end and does not continue westward to EM-9. The electromagnetic survey suggests a major structural feature in the valley floor adjacent to L40+00W. The feature is probably a block fault between two mountains and further indicated by the creek drainage system.

Zone EM-9

Zone EM-9 is probably a continuation of EM-8 that abutts on an inferred fault near L40+00W. The conductor dips $30 - 45^{\circ}$ to the north and is located between L48+00W and L44+00W at about 24+00S.

The axis is interpreted to be on the north side of the zone. A 200 gamma magnetic high is situated on L48+00W on the south side of the conductor. The magnetic high suggests a response from the upper end nearest surface of a tabular north dipping conductive body.

ELECTROMAGNETIC CONCLUSIONS AND RECOMMENDATIONS

The 1975 electromagnetic survey has indicated nine conductive zones that are plotted and located on the Composite Plan. The writer considers the nine delineated EM-16 electromagnetic conductors to be very significant in relationship to magnetic relief, geological structural and stratigraphy location to proven ore in the A-Grid area, and the several mineralized surface showings. The following paragraphs are a brief summary and recommendation of further exploration on the EM-16 electromagnetic conductors.

1. Zone EM-1 - The west end of the ore zone delineated in the 1974 A-Grid area appears to be offset 250 feet north by a fault. However, the electromagnetic survey indicates a conductor to continue another 800 feet further west. The west end of EM-1 is terminated on an inferred fault that is located near the Sidehill Showing. The conductor has considerable magnetic relief, above background, on both sides and ends. It is recommended that further diamond drilling be done on the north axis of conductor EM-1. Diamond drill holes should be located to drill vertical and at 45° south.
2. Zone EM-2 and EM-3 - The conductive zone is of prime exploration interest due to major geology and geophysical change and features. In the area of Showing #10, a major structural feature causes the westward strike of zone EM-1 conductor to pivot to the northwest to zone EM-2 and to offset south to Zones EM-4, EM-5 and EM-6. It is possible that the axis of the Moorehouse Anticline occurs along the

northwest strike direction of the Lower Limestone, Unit 2, between the Sidehill zone and surface mineral showings #10 thru #15. Conductive Zone EM-1 would therefore intersect the axis of the Moorehouse Anticline at a 45^o angle, on the northeast limb. Conductive Zone EM-4 would be located on the southwest limb of the anticline.

It is therefore postulated that the axis of the Moorehouse Anticline is located parallel to the Lower Limestone, Unit-4, bed and conductor EM-3. It is further noted that the northwest strike direction of the Moorehouse Anticline along the Lower Limestone bed and EM-3 is aligned to the southwest, with the previously located axis of the anticline along Unit 2 and mineral showings #5 thru #7. Detailed geology mapping during the summer of 1975 confirmed that the Upper Limestone, Unit 2, continued southeast to Showing #10. All further geological, geophysical and geochemical interpretation will be based on the location of the Moorehouse Anticline axis between the Sidehill Showing in a northwest direction along the Upper Limestone, Unit-2, and mineral showings #10 thru #15.

3. Zone EM-4 - The conductor is considered to be situated on the southwest limb of the Moorehouse Anticline and to be partially within Unit-2 of the Lower Limestone. Diamond drilling is recommended as indicated on the Composite Plan.
4. Zones EM-5 and EM-6 - The conductor zone has been traced for 31+00 feet in length. The axis is interpreted to be on the north side of a strong conductor. A 300 gamma anomaly is located on the west end of EM-6. The zone is aligned west of the last surface outcrops of Lower Limestone, Unit-2. Several

diamond drill holes are recommended along the length of zones EM-5 and EM-6.

5. Zone EM-7 - The conductor is "weak", but extends for a distance of 14+00 feet in an east-west direction. The zone would warrant diamond drilling to check for sulphide mineralization.

6. Zones EM-8 and EM-9 - The zone delineates a strong conductor that has a 30-45° dip north. The zone extends for about 20+00 feet and is discontinuous between EM-8 and EM-9. The south side of the conductor is adjacent to a 200 and 300 gamma magnetic high. The magnetic feature is possibly caused by the upper end, nearest surface, of a tabular conductive body. Several diamond drill holes are warranted along and across the Zone to check for economic sulphide mineralization.

MAGNETIC SURVEY

A total of 31 linemiles of magnetic survey was conducted on the West half of the 1975 linegrid using a Scintrex MF-2 Flux-gate Magnetometer. Magnetometer readings were taken on 24.75 line-miles of grid system at 2+00 feet and 4+00 feet spaced crosslines and 1+00 feet stations. The aforementioned survey was plotted on plan at 1" = 200 feet. A detailed survey was conducted at 50 feet spaced crosslines and stations and was plotted at a scale of 1" = 50 feet. All magnetometer readings were correlated to a common base control station that was assigned 1,000 gammas. A diurnal correction was applied in calculating the individual station readings when required. A maximum time period of one to two hours was allowed between instrument check readings at the base control station. Mr. R. G. Moffat conducted the field instrument readings and was under the supervision of R. G. Hilker.

1975 Magnetic Survey - West Half Sheet

The magnetic survey on the West Half of the 1975 linegrid has a magnetic background of less than 1100 gammas and contains magnetic highs of 100 to 400 gammas. In isolated areas a few anomalies are 600 to 1200 gammas above background. The range of 100 to 400 gammas suggests that pyrrhotite is the source of the magnetic anomalies. In a few scattered areas of 600 to 1200 gamma anomalies, some magnetite is probably associated with pyrrhotite.

A northwest trend of magnetic highs occur on the northeast limb of the Moorehouse Anticline and the axis of a syncline. Further to the north, a second northwest trending group of magnetic highs occur near a bed of Lower Limestone, Unit-2. Both of the magnetic features are possibly caused by pyrrhotite contained in the Unit-5 Black Argillite and Hornfels in contact with the Lower Limestone Unit-2. Magnetic highs occur on the edges of five electromagnetic conductors. The magnetic highs are located mainly on the south side of Zones EM-1, EM-6, EM-7, EM-8 and EM-9. The high magnetic relief is plotted on the Composite Plan showing the geology and geophysical surveys data. The magnetic highs associated near the south limits of the electromagnetic conductors are interpreted to be caused by the upper ends of dipping tabular bodies near the surface. The 100 to 300 gamma highs, near the EM conductors, are possibly caused by the sulphide mineral pyrrhotite. The magnetic data is extremely valuable when correlated with the electromagnetic data, as the magnetic highs further confirm the presence of sulphide mineralization. The magnetic highs, also located on the northeast side of the Moorehouse Anticline, bound the electromagnetic conductors in Zones EM-3 and EM-4. Therefore, the magnetic survey has delineated and further confirmed the Moorehouse Anticline structural feature and indicated sulphide mineralization near the electromagnetic conductive zones.

The detailed magnetic survey was conducted north and south of the linegrid baseline between L16+00W and L6+00W. The magnetic contours outline and confirms the Moorehouse Anticline trend that occurs on the West Half Sheet survey. The magnetic highs range from 100 to 300 gammas.

CONCLUSIONS AND RECOMMENDATIONS

The 1975 geology, geophysical and geochemical exploration surveys have delineated several zones for diamond drilling on the Eagle claim group. Electromagnetic conductors, magnetic anomalies and geochemical highs correlate with surface lead/silver/zinc mineralized showings on or near host beds of Upper and Lower Limestone.

It is postulated that the axis of the Moorehouse Anticline is located parallel to the Lower Limestone Unit-4 and conductor EM-3 (see Composite Plan) and is based on geology mapping and electromagnetic survey interpretation.

The electromagnetic EM-16 survey has indicated nine conductive zones and are named as; EM-1, EM-2, EM-3, EM-4, EM-5, EM-6, EM-7, EM-8, EM-9 and are plotted on the Composite Plan. Magnetic anomalies occur on or adjacent to the EM conductors and are probably caused by pyrrhotite and minor magnetite. The galena and sphallerite mineralization on the surface showings and 1974 diamond drilling is associated with pyrrhotite.

The geochemical lead/silver/zinc survey has indicated seven anomalous areas and are named as; Zone-A, Zone-B, West Mountain area, Zone-C, West Slope, Zone-D, Zone E, Anticline Axis, Zone-F, East Slope, Zone G, East Slope and East Boundary Grid Area. The geochemical anomalies occur near surface showings and on the flanks of the electromagnetic conductors EM-1, EM-2, EM-3 and EM-4 (see Composite Plan Overlay). The Zone-F and Zone-G indicates an extension of Zone-A (1974 A-Grid Ore Zone) to the East Slope.

The 1975 exploration programme results, when correlated together, indicates an excellent possibility of widespread economic lead/silver/zinc mineralization on the Tintina Silver Mines Eagle claim group.

RECOMMENDATIONS

The following expenditures are recommended for a diamond drilling and a detailed geophysical exploration programme to be conducted on the Eagle claim group of Tintina Silver Mines Limited.

Diamond Drill Programme

Diamond Drilling - 18,000 feet @ 17.00/ft.	\$ 306,000.00
Core Boxes	5,000.00
Transportation - mobilization, travel & demobilization.	20,000.00
Personnel	\$10,000.00
Equipment	<u>10,000.00</u>
Assaying Samples	7,000.00
Camp Operation	30,000.00
Food Supplies.....	20,000.00
General Camp.....	4,000.00
Camp Construction..	<u>6,000.00</u>
Geological Equipment	2,000.00
Flying Transportation	80,000.00
Fixed Wing Aircraft - 100 hrs. @ 200.00/hr.	
\$20,000.00	
Rotary Wing Aircraft - 200 hrs. @ 300.00/hr.	
60,000.00	
Communications	2,000.00
Geological Salaries	40,000.00
Field Geologist....	\$15,000.00
Supervision Geologist....	\$15,000.00
Geological Assistants....	10,000.00
Geological Evaluation Report - Drill Results.....	3,000.00

Surface Exploration Programme

Geophysical detail	15,000.00
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General Administration Expense

Head Office Administration	18,000.00
Field Office Administration	10,000.00
Travel, Telephone, Rents, etc.	8,000.00

TOTAL PROGRAMME COST \$546,000.00

R. G. Hilker, P. Eng.,
Consultant Geologist.
November 1st, 1975.

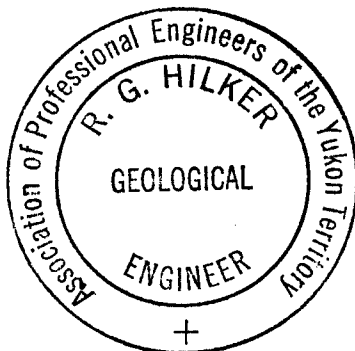
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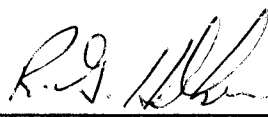
CERTIFICATION

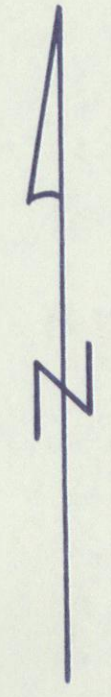
I, ROBERT G. HILKER, of #6 Chalet Crescent, Hillcrest, in the City of Whitehorse, in the Yukon Territory, DO HEREBY CERTIFY:

1. THAT I am a Consulting Geologist, with an office located at #8 Northern Metallic Building and Postal Address P.O. Box 4008, in the City of Whitehorse, in the Yukon Territory.
2. THAT I am a graduate of the Michigan Technological University located at Houghton, Michigan, U.S.A., where I obtained a Bachelor of Science Degree in Geological Engineering (Exploration Option) in 1962.
3. THAT I am a registered member in good standing of: The Association of Professional Engineers of the Yukon Territory, a Fellow of the Geological Association of Canada, and registered with The Association of Professional Engineers of British Columbia.
4. THAT I have practiced my profession as an engineer and geologist for the past twelve years.
5. THAT I have personally supervised the field work, geophysical surveys, data processing, and report preparation on the surface exploration programme on the Eagle claim group, located on N.T.S. Sheet 105-G-3 in the Junkers Lake and Ings River area of the Yukon Territory, during the period of June through October 31, 1975.
6. THAT I acknowledge that G. G. Carlson, P. Eng., did perform the field geology work and a part of the report preparation on the Eagle claim group surface exploration programme.
7. THAT I have no direct or indirect interests in any of the mineral claims, or in any of the securities held by Tintina Silver Mines Limited, nor do I expect to receive any.

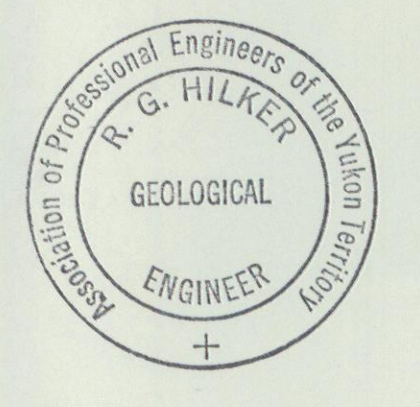
DATED this 1st day of November, A.D. 1975, at the City of Whitehorse, in the Yukon Territory.




R. G. Hilker, P. Eng.



- LEGEND**
- STRUCTURE**
- ANTICLINE AXIS
 - SYNCLINE AXIS
 - INFERRED FAULT
- GEOLOGY**
- UPPER LIMESTONE
 - LOWER LIMESTONE
- ELECTROMAGNETIC**
- CYLINDRICAL OR VERTICAL CONDUCTOR CENTRE
 - CONDUCTOR DIP
 - CONDUCTOR AXIS
 - CONDUCTIVE OVERBURDEN
 - PROPOSED DIAMOND DRILL HOLE
 - COLLAR & DIRECTION OF DRILLING
- MAGNETIC**
- MAGNETIC CONTOURS
 - 1200 and 1500 gammas (magnetic background approximately 1100 gammas)

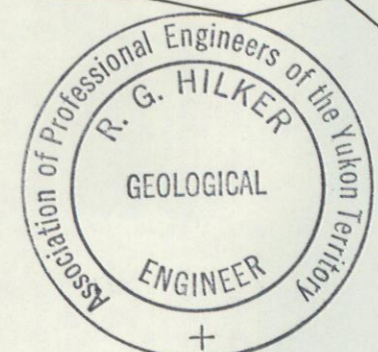
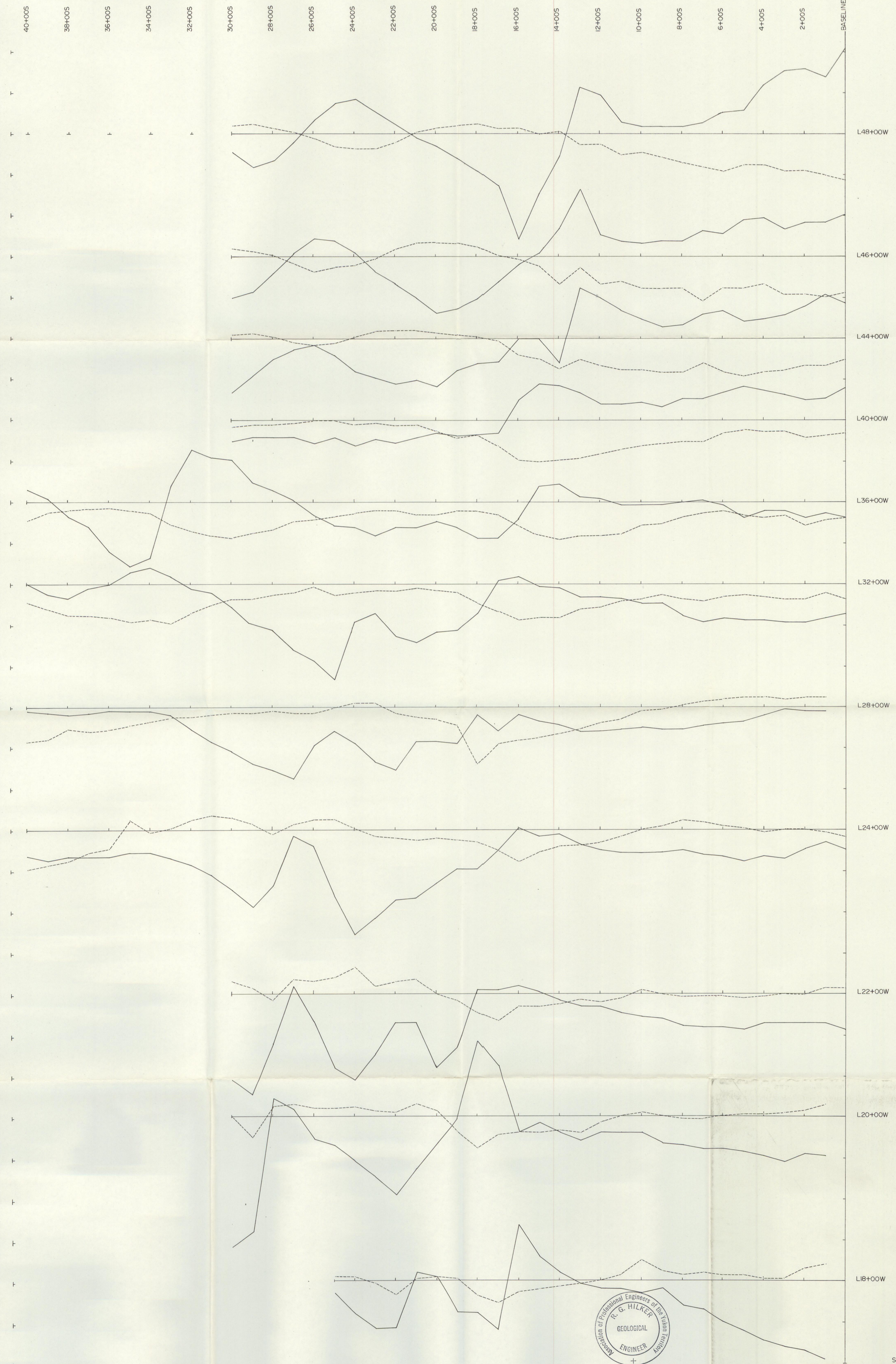


NTS SHEET 105-G-3
TINTINA SILVER MINES LIMITED

COMPOSITE PLAN SHOWING
ELECTROMAGNETIC CONDUCTORS
MAGNETIC HIGHS
MOOREHOUSE ANTICLINE AXIS
UPPER & LOWER LIMESTONE BEDS

WEST HALF SHEET
DATE: JULY/AUGUST 1975 SCALE: 1" = 200 FT.

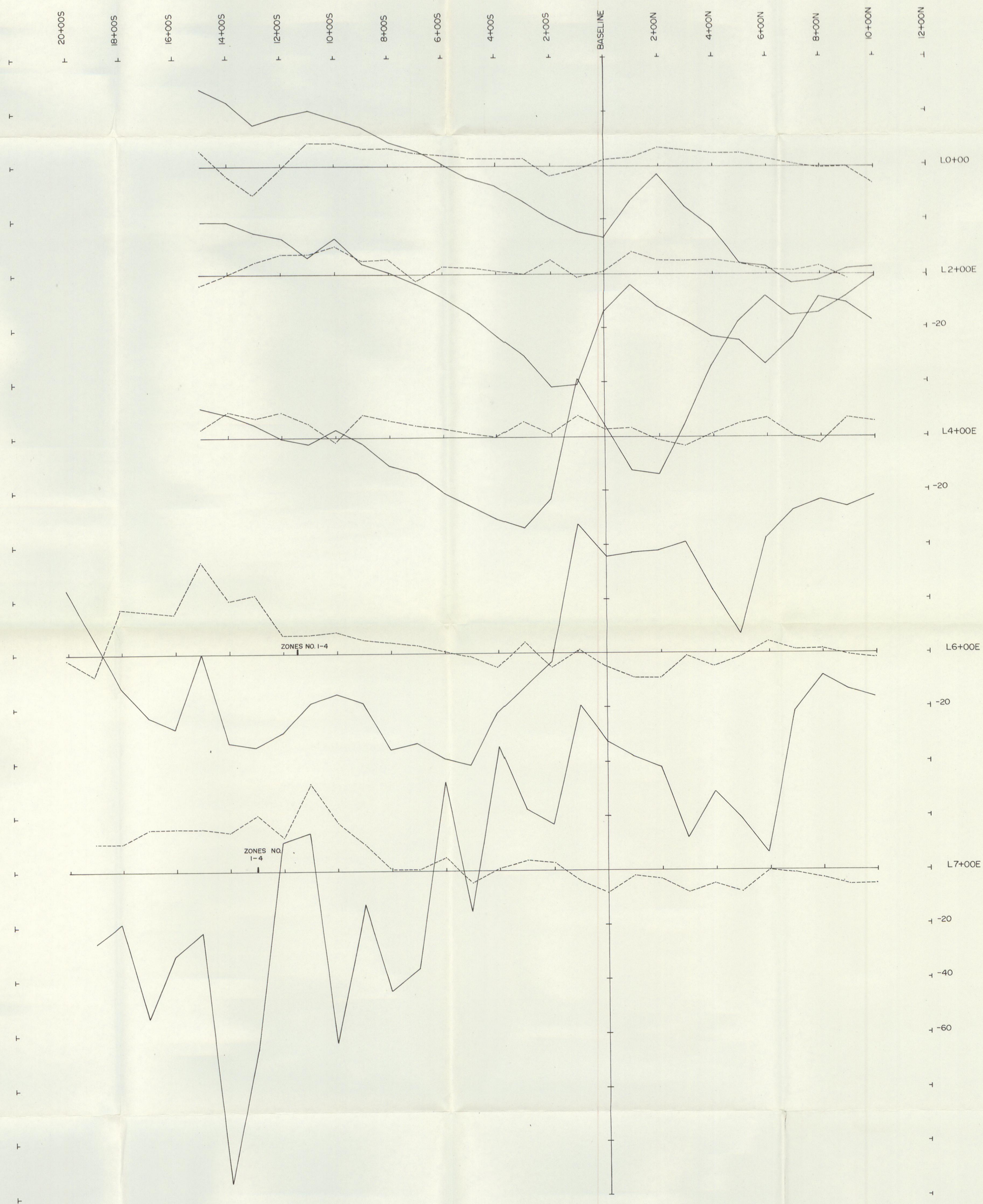
R G HILKER LTD.
CONSULTING GEOLOGIST
WHITEHORSE, YT



LEGEND
 — IN-PHASE
 - - - QUADRATURE
 STATION NPG - SEATTLE, WASHINGTON
 FREQUENCY 18.6 kHz - VLF TRANSMITTING STATION

R.G. HILKER LIMITED
 CONSULTING GEOLOGIST
 WHITEHORSE, Y.T.

TINTINA SILVER MINES LIMITED
 PROFILES
 1975 ELECTROMAGNETIC SURVEY
 GEONICS EM-6
 WEST HALF GRID - SOUTH
 DATE: JULY/AUGUST 1975 SCALE: HORIZONTAL 1"=200ft
 VERTICAL: 1"=20%



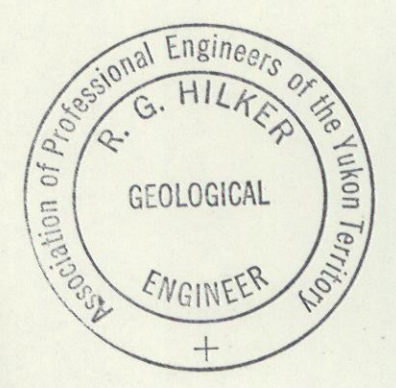
ZONES NO. 1-4

ZONES NO. 1-4

LEGEND

- IN-PHASE
- - - QUADRATURE
- STATION NPG - SEATTLE, WASHINGTON
- FREQUENCY 186 kHz - VLF TRANSMITTING STATION

R.G. HILKER LIMITED
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.

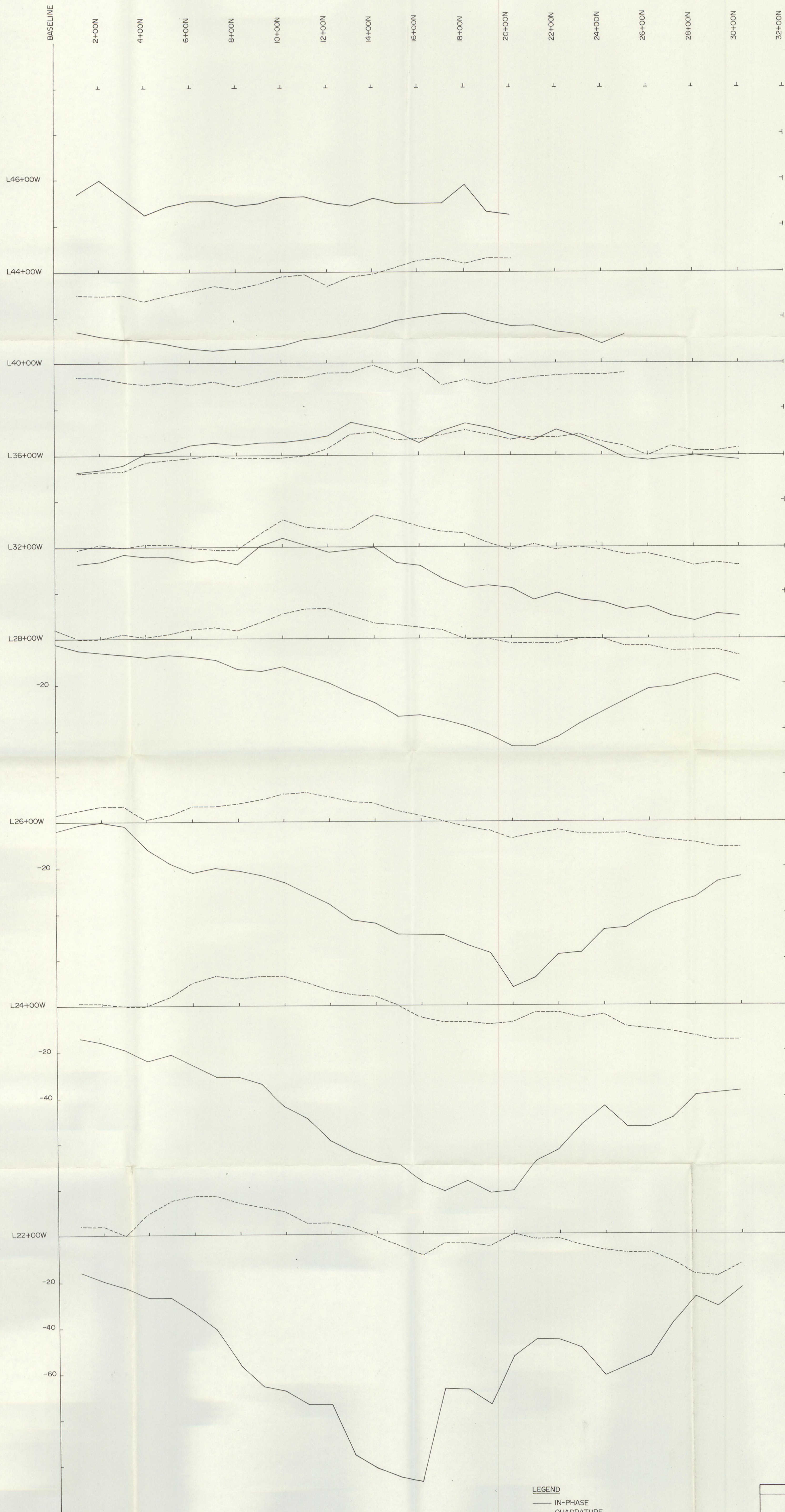


SHEET 3

TINTINA SILVER MINES LIMITED

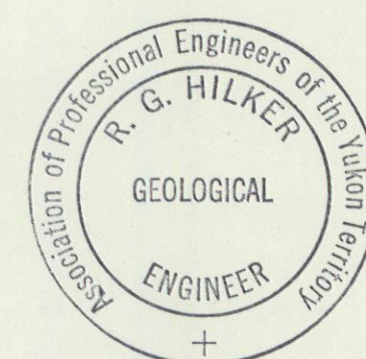
PROFILES
1975 ELECTROMAGNETIC SURVEY
GEONICS EM-16
WEST HALF GRID - SOUTH

DATE: JULY/AUGUST 1975 SCALE: HORIZONTAL: 1"=200ft.
VERTICAL: 1"=20%



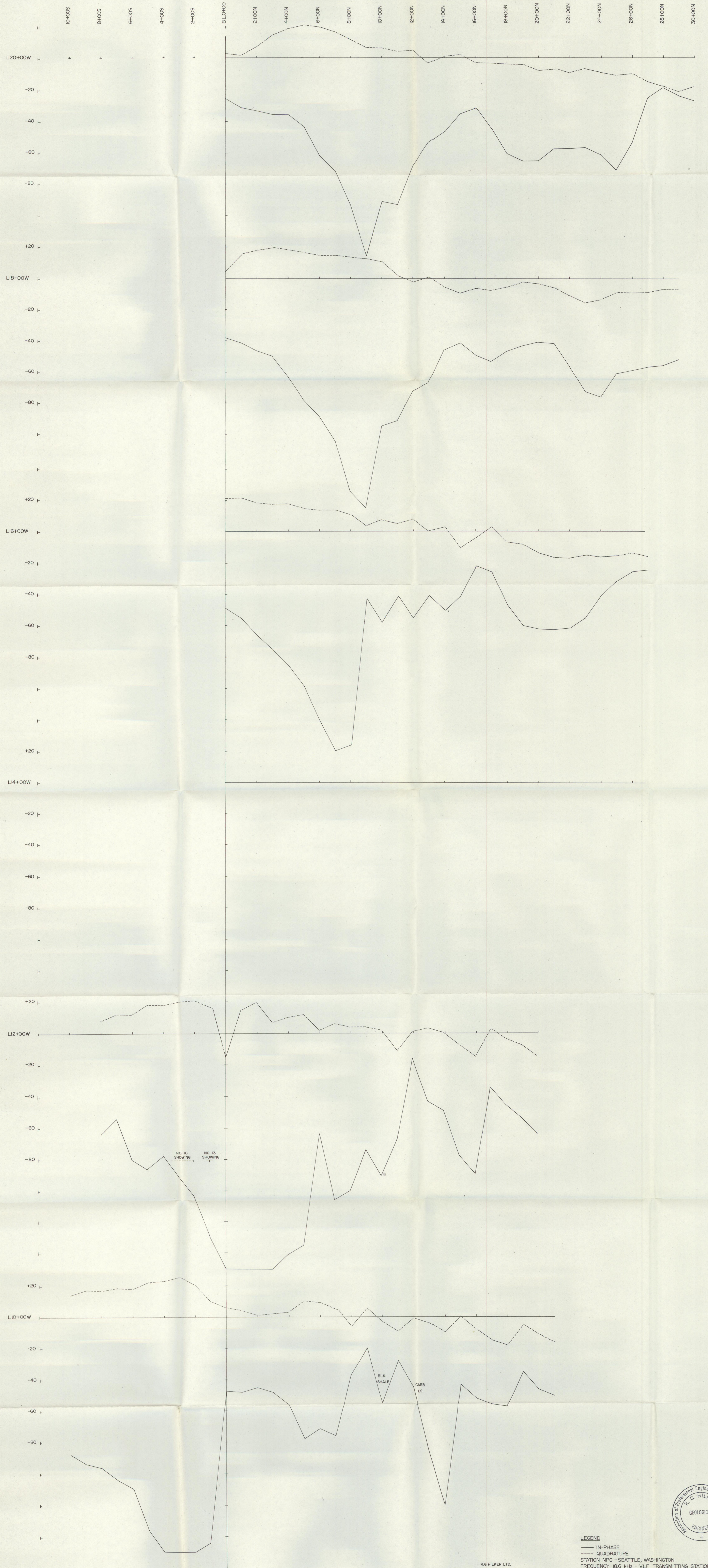
R. G. HILKER LIMITED
 CONSULTING GEOLOGIST
 WHITEHORSE, Y.T.

LEGEND
 — IN-PHASE
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 FREQUENCY 186 kHz - VLF TRANSMITTING STATION

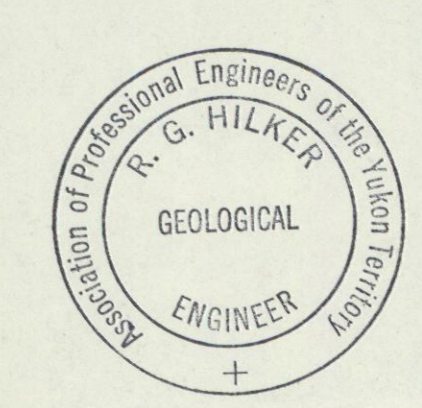


SHEET 4

TINTINA SILVER MINES LIMITED
 PROFILES
 1975 ELECTROMAGNETIC SURVEY
 GEONICS EM-16
 WEST HALF GRID - NORTH
 DATE: JULY/AUGUST 1975 SCALE: HORIZONTAL: 1"=200H
 VERTICAL: 1"=20V

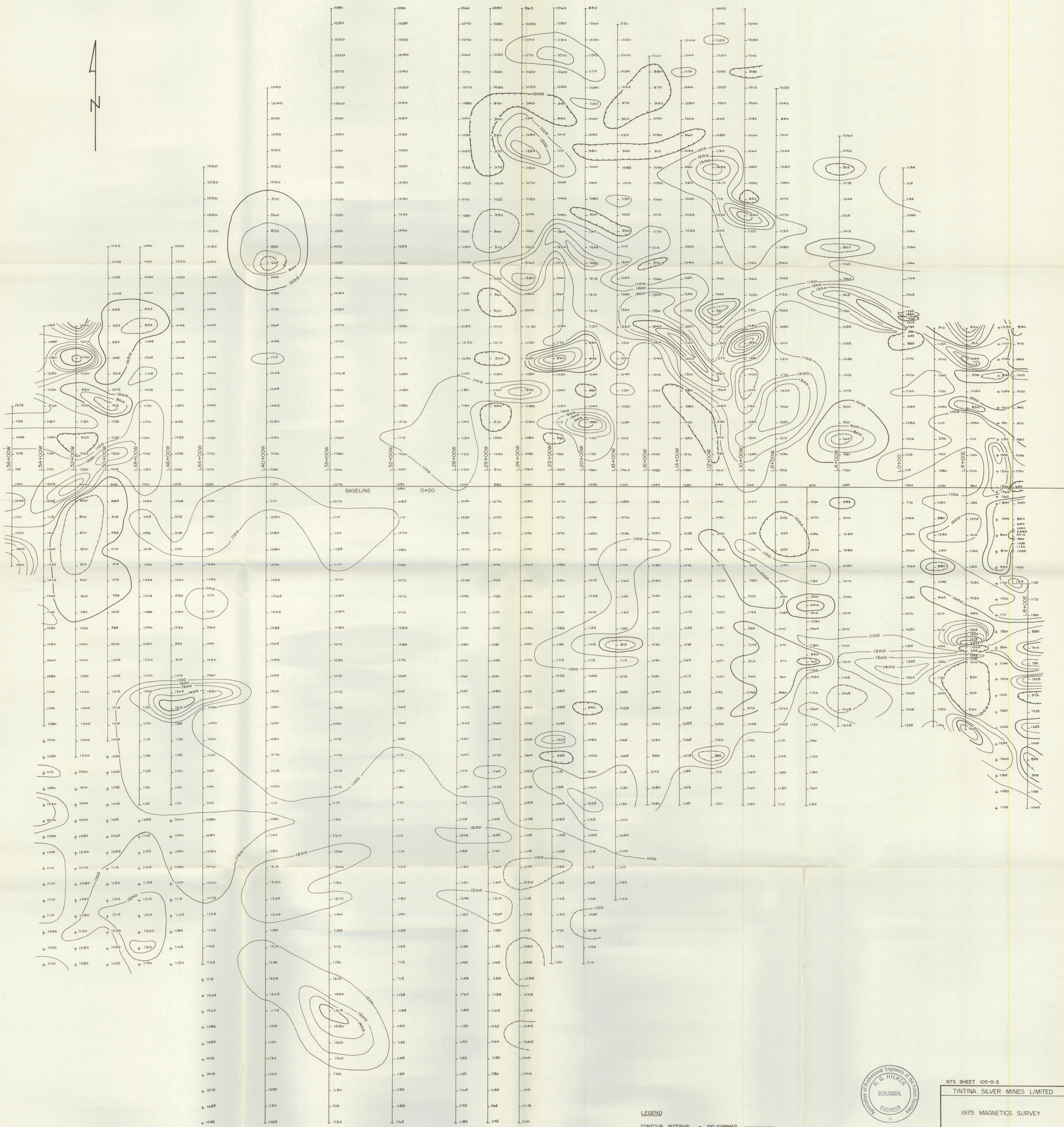
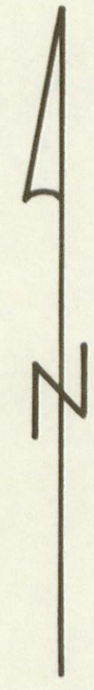


LEGEND
 — IN-PHASE
 - - - QUADRATURE
 STATION NPG - SEATTLE, WASHINGTON
 FREQUENCY 186 kHz - VLF TRANSMITTING STATION
 INSTRUMENT FACES 260°

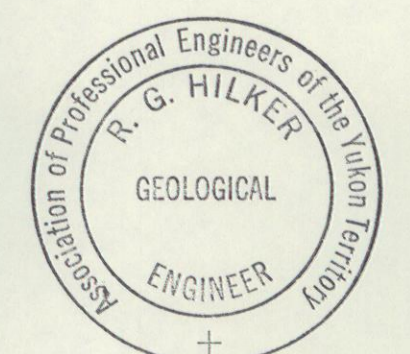


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 WHITEHORSE, Y.T.

TINTINA SILVER MINES LIMITED
 EM-16 RECONNAISSANCE SURVEY
 WEST END 1975 LINEGRID B NO. 10 SHOWING
 DATE: JULY 20, 1975 SCALE: HORIZONTAL 1"=200ft
 VERTICAL 1"=20ft



LEGEND
CONTOUR INTERVAL - 100 GAMMAS
500 GAMMAS
MF-2 FLUXGATE MAGNETOMETER SURVEY



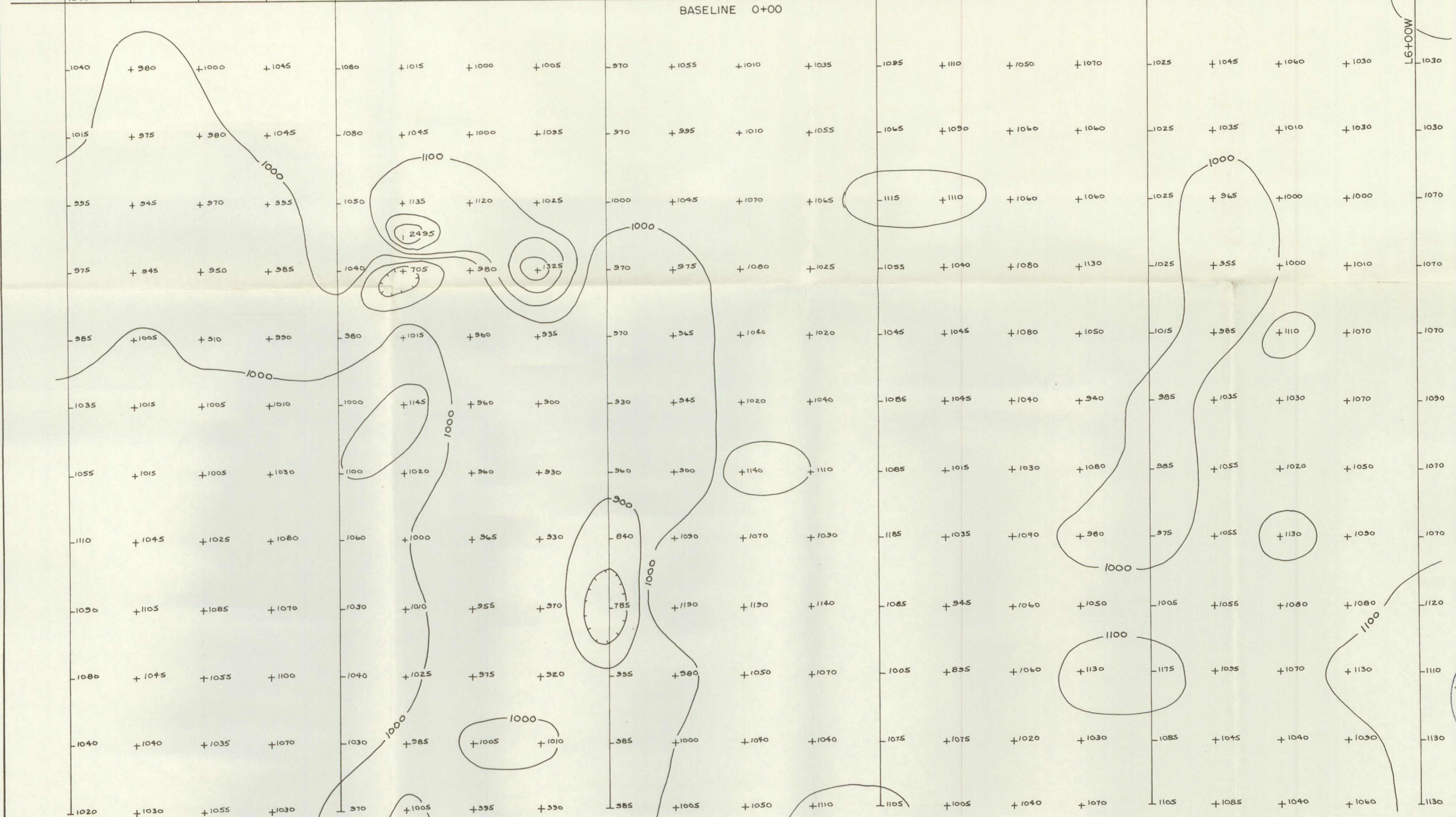
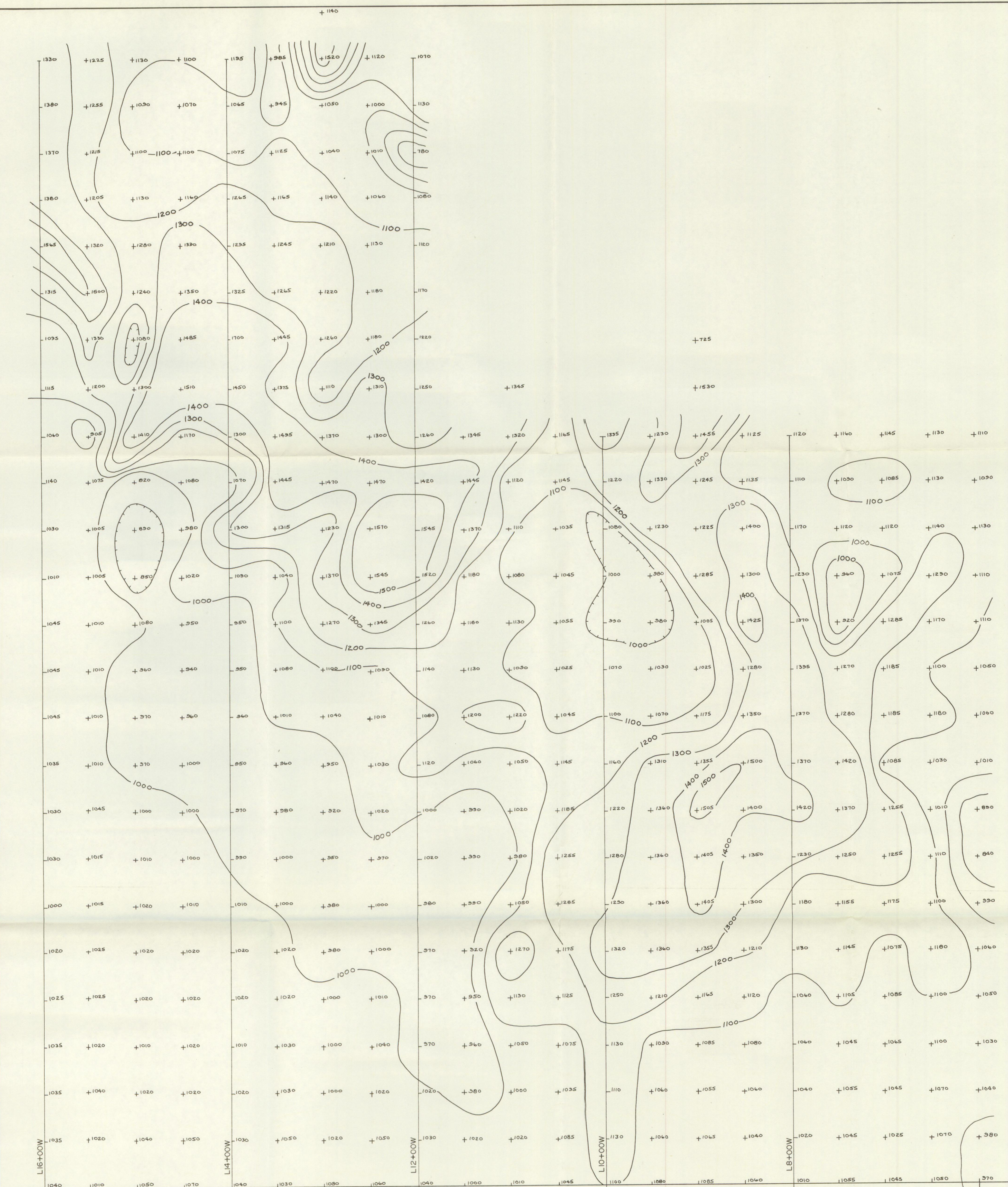
R. G. HILKER LIMITED
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.

NTS SHEET 105-G-3
TINTINA SILVER MINES LIMITED

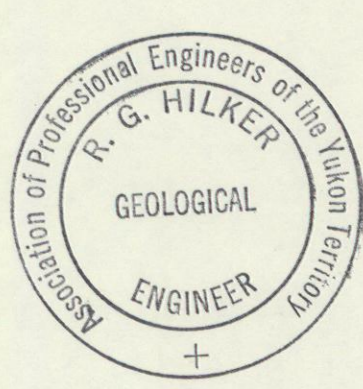
1975 MAGNETICS SURVEY

WEST HALF SHEET

DATE: JULY/AUGUST 1975 SCALE: 1" = 200 FT.



BASELINE 0+00



LEGEND
CONTOUR INTERVAL - 100 GAMMAS

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WHITEHORSE, Y.T.

TINTINA SILVER MINES LIMITED
1975 DETAIL MAGNETICS SURVEY
WEST HALF GRID AREA
DATE: AUGUST 1975 SCALE: 1" = 50 ft.

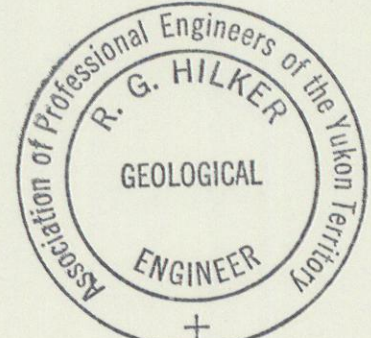


ZONE
EM-1

EM-1

LEGEND

- STRUCTURE**
- ⊕ ANTICLINE AXIS
 - ⊖ SYNCLINE AXIS
 - ~ INFERRED FAULT
- GEOLOGY**
- ④ UPPER LIMESTONE
 - ② LOWER LIMESTONE
- ELECTROMAGNETIC**
- ⊙ CYLINDRICAL OR VERTICAL CONDUCTOR CENTRE
 - ∠ CONDUCTOR DIP
 - ⊕ CONDUCTOR AXIS
 - CO CONDUCTIVE OVERBURDEN
 - ⊙^{DDH} PROPOSED DIAMOND DRILL HOLE COLLAR & DIRECTION OF DRILLING
- MAGNETIC**
- MAGNETIC CONTOURS
 - 1200 and 1500 gammas (magnetic background approximately 1100 gammas)



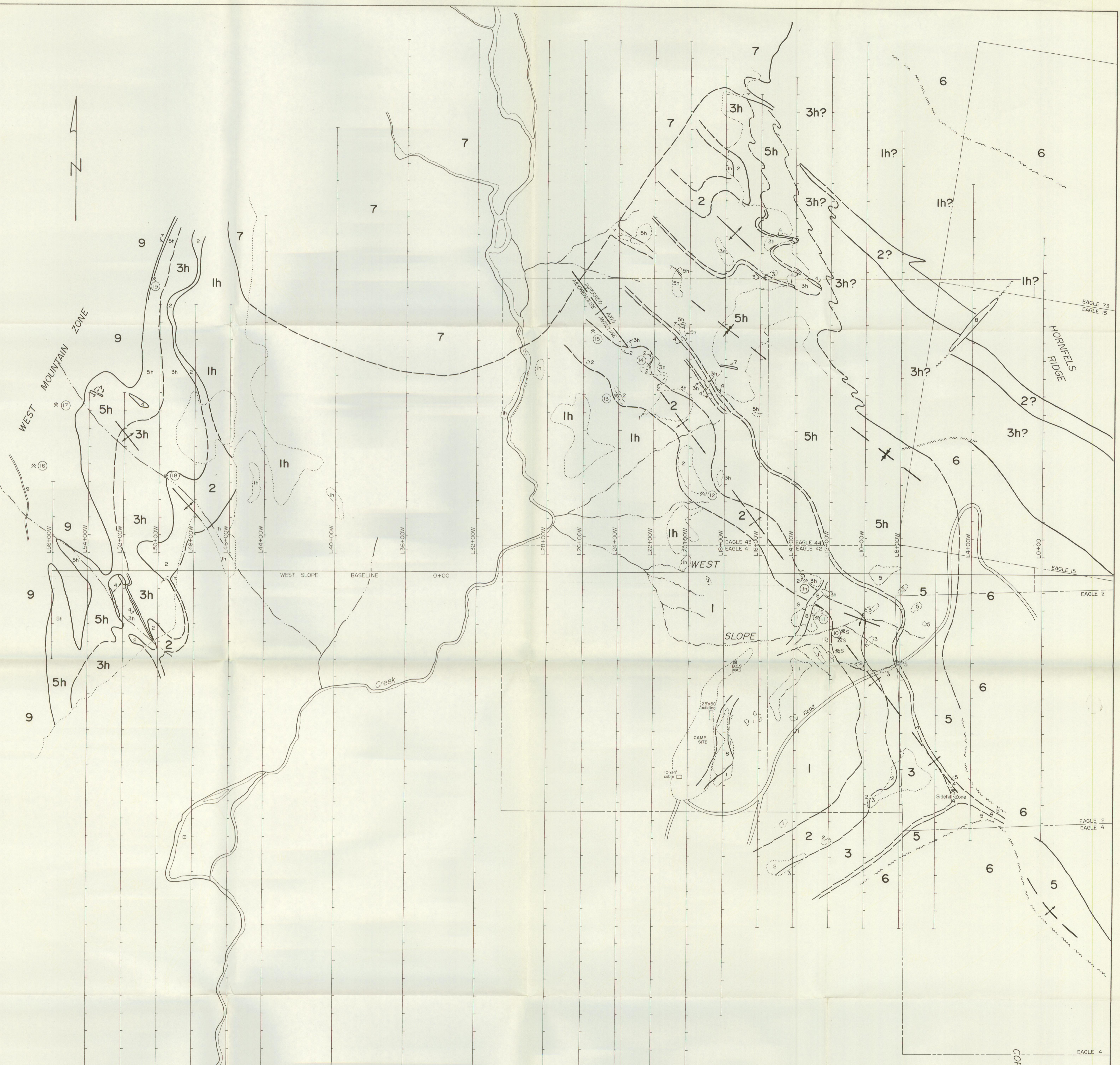
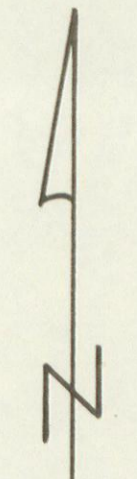
R.G. HILKER LTD.
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.

NTS SHEET 105-G-3
TINTINA SILVER MINES LIMITED

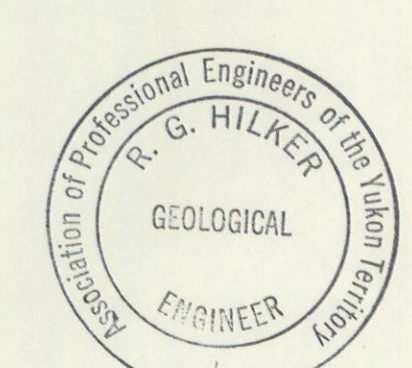
COMPOSITE PLAN SHOWING:
ELECTROMAGNETIC CONDUCTORS
MAGNETIC HIGHS
MOOREHOUSE ANTICLINE AXIS
UPPER & LOWER LIMESTONE BEDS

EAST HALF SHEET

DATE: NOVEMBER 1975 SCALE: 1" = 200 ft.

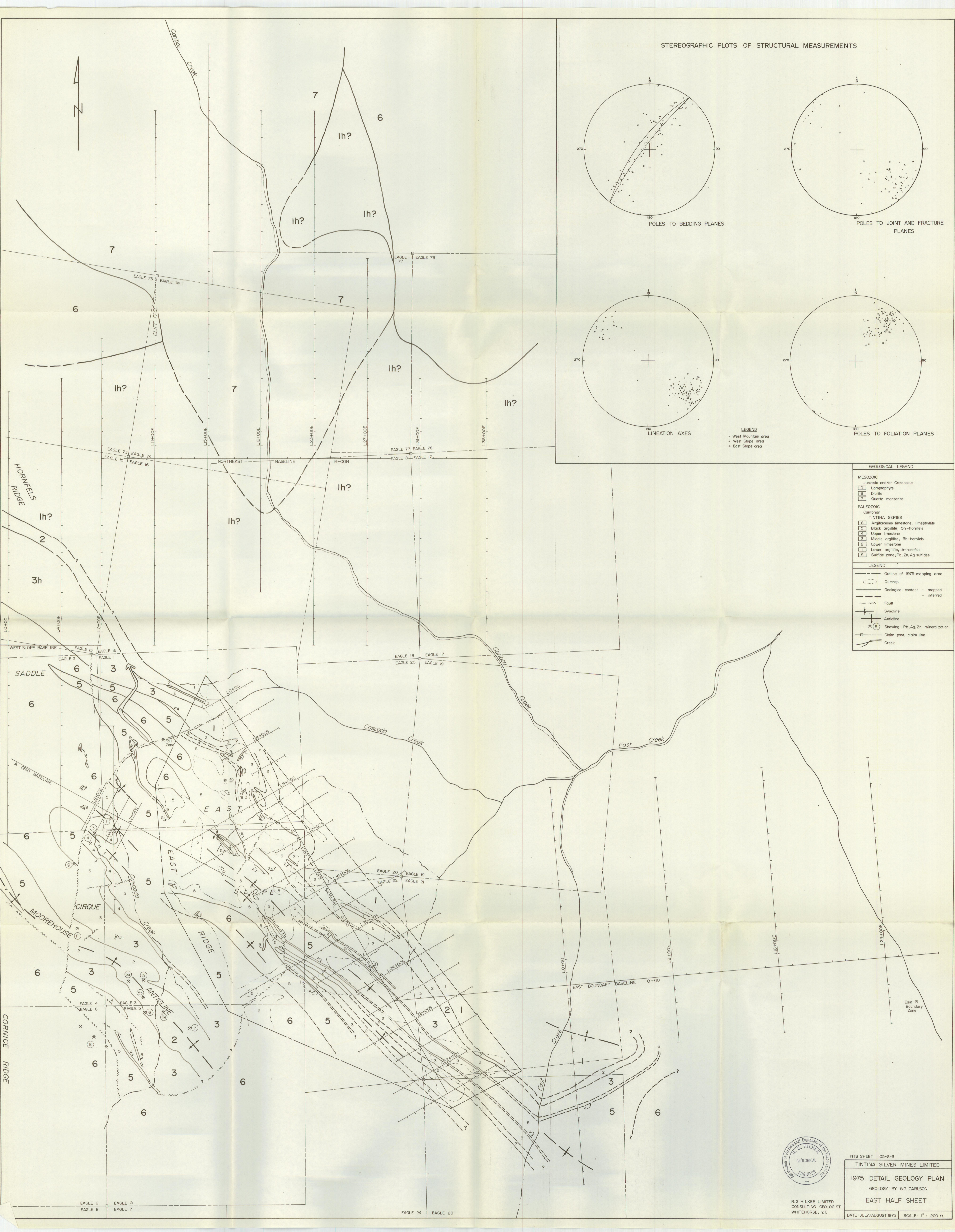


GEOLOGICAL LEGEND	
MESOZOIC	
Jurassic and/or Cretaceous	
5	Lamprophyre
18	Diorite
7	Quartz monzonite
PALEOZOIC	
Cambrian	
TINTINA SERIES	
6	Argilloceous limestone, limephyllite
5	Black argillite, 5h-hornfels
4	Upper limestone
3	Middle argillite, 3h-hornfels
2	Lower limestone
1	Lower argillite, lh-hornfels
S	Sulfide zone, Pb, Zn, Ag sulfides
LEGEND	
	Outcrop
	Geological contact - mapped
	Geological contact - inferred
	Fault
	Syncline
	Anticline
	Showing Pb, Zn, Ag, Zn mineralization
	Claim post, claim line
	Creek
	Road

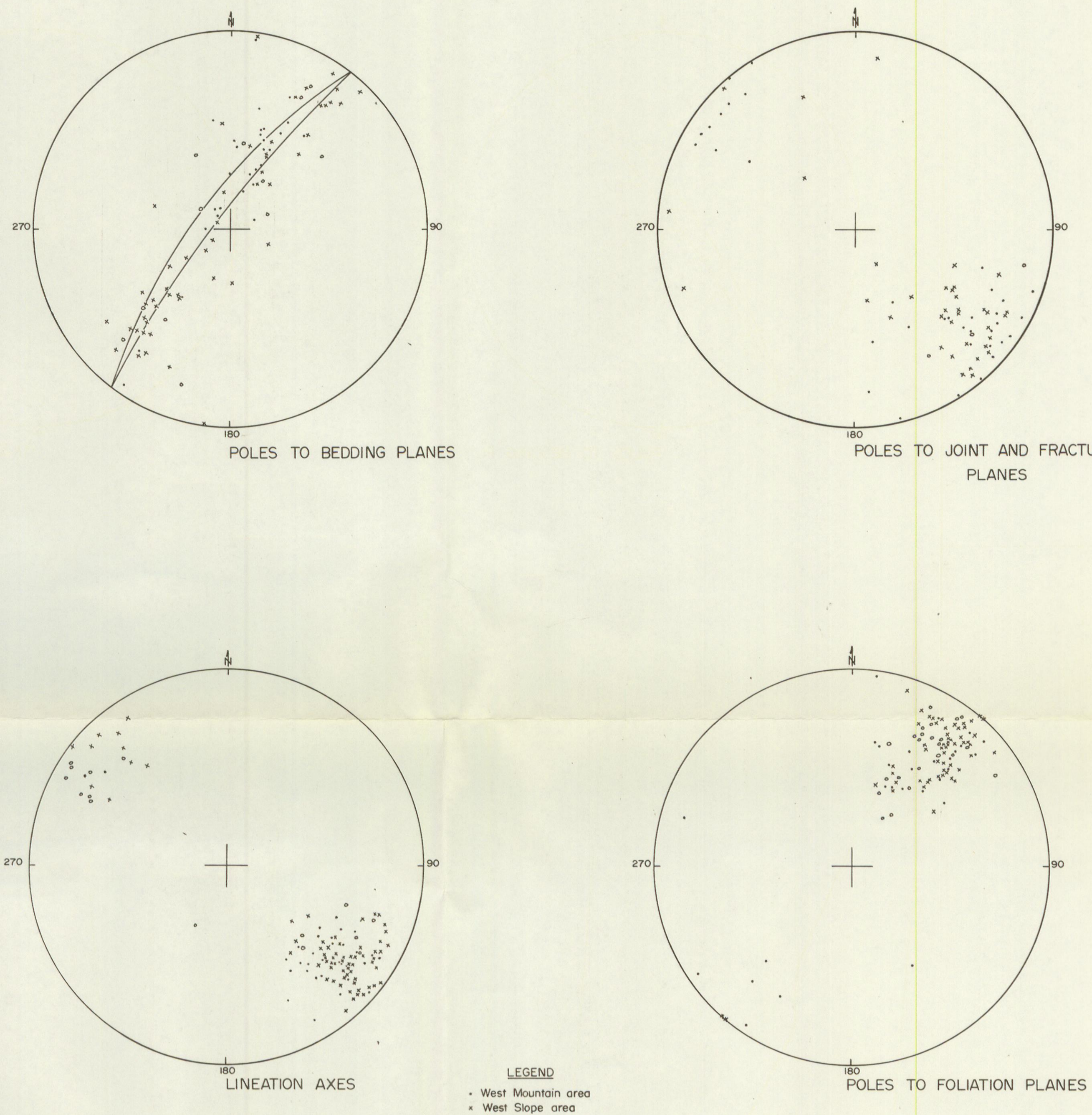


R.G. HILKER LTD.
CONSULTING GEOLOGIST
WHITEHORSE, YT

NTS SHEET 105-6-3
TINTINA SILVER MINES LIMITED
1975 DETAIL GEOLOGY PLAN
GEOLOGY BY G.G. CARLSON
WEST HALF SHEET
DATE: JULY/AUGUST 1975 SCALE: 1" = 200 ft.

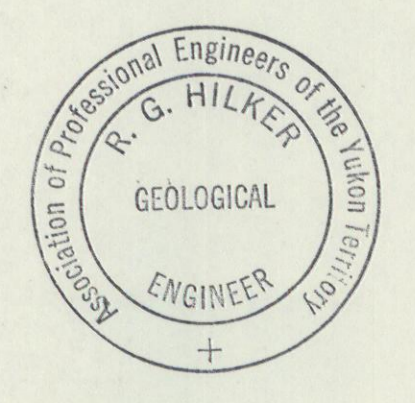


STEREOGRAPHIC PLOTS OF STRUCTURAL MEASUREMENTS



GEOLOGICAL LEGEND

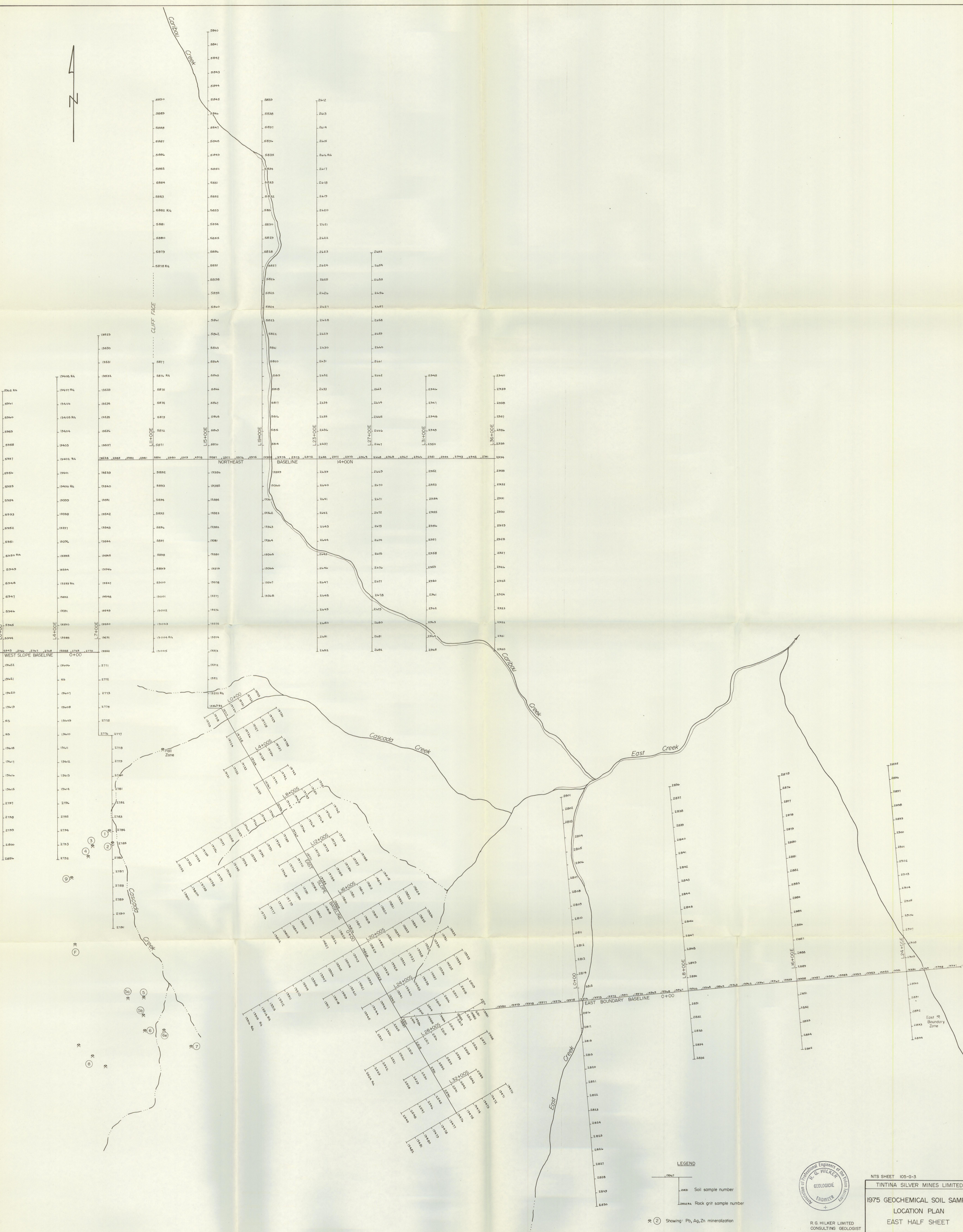
- MESOZOIC
 Jurassic and/or Cretaceous
 9 Lamprophyre
 8 Diorite
 7 Quartz monzonite
- PALEOZOIC
 Cambrian
 TINTINA SERIES
 6 Argillaceous limestone, limonite
 5 Black argillite, sh-hornfels
 4 Upper limestone
 3 Middle argillite, sh-hornfels
 2 Lower limestone
 1 Lower argillite, sh-hornfels
 S Sulfide zone, Pb, Zn, Ag sulfides
- LEGEND
 - - - Outline of 1975 mapping area
 - - - Outcrop
 - - - Geological contact - mapped
 - - - inferred
 - - - Fault
 - - - Syncline
 - - - Anticline
 * (S) Showing Pb, Ag, Zn mineralization
 - - - Claim post, claim line
 - - - Creek



NTS SHEET 105-G-3
 TINTINA SILVER MINES LIMITED
 1975 DETAIL GEOLOGY PLAN
 GEOLOGY BY G.G. CARLSON
 EAST HALF SHEET
 R. G. HILKER LIMITED
 CONSULTING GEOLOGIST
 WHITEHORSE, Y.T.
 DATE: JULY/AUGUST 1975 SCALE: 1" = 200 ft.

EAGLE 24 EAGLE 23

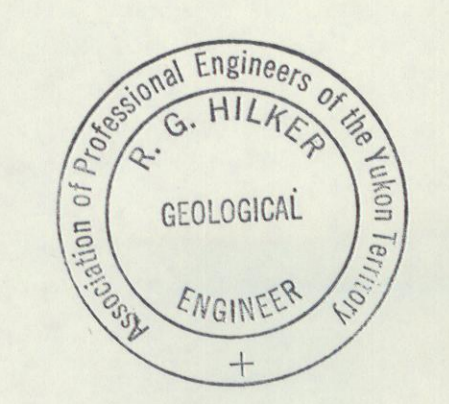
EAGLE 6 EAGLE 5
 EAGLE 8 EAGLE 7



LEGEND

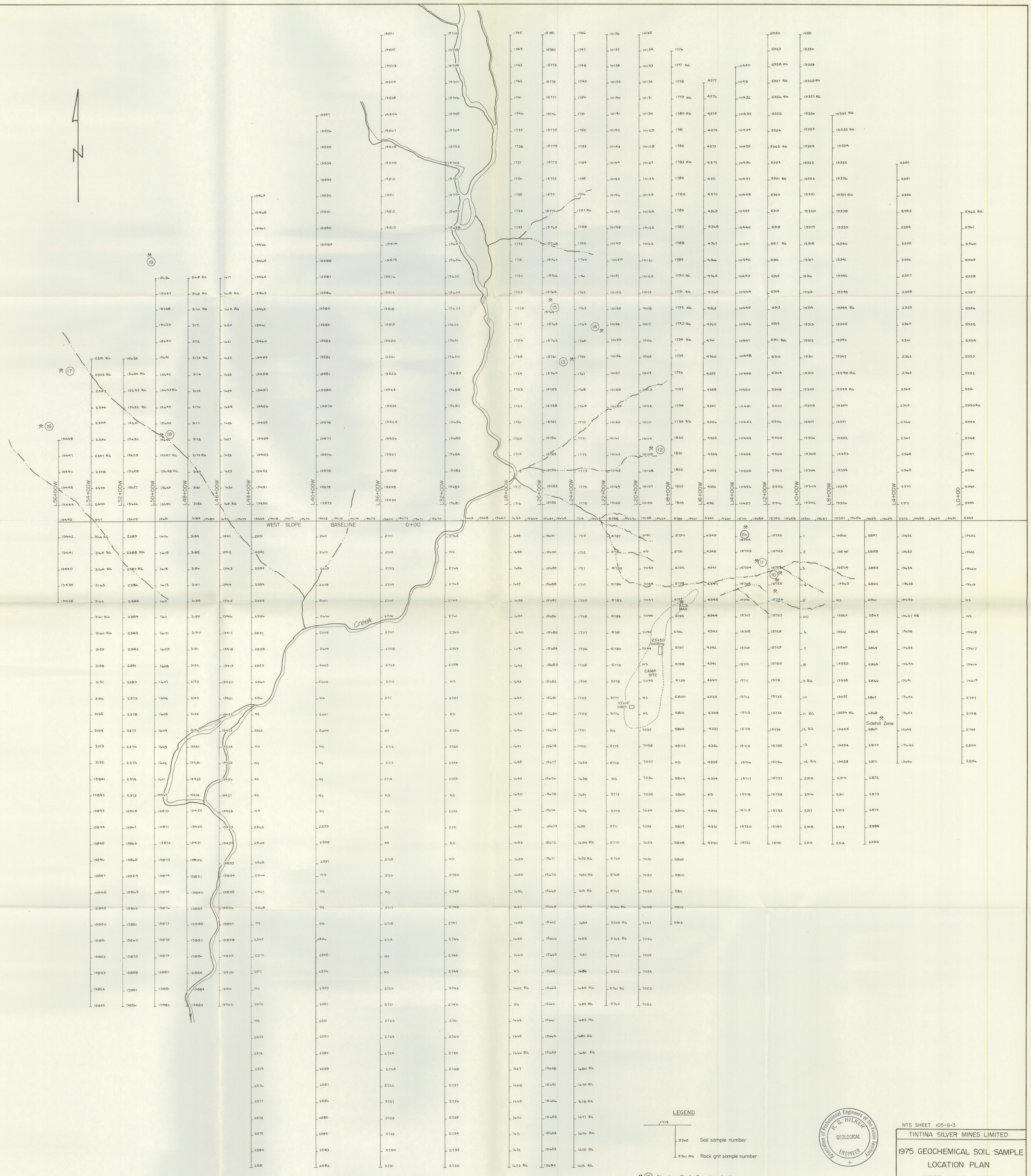
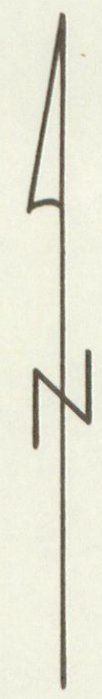
- ⊙ Soil sample number
- ⊙ Rock grit sample number

⊙ Showing Pb, Ag, Zn mineralization

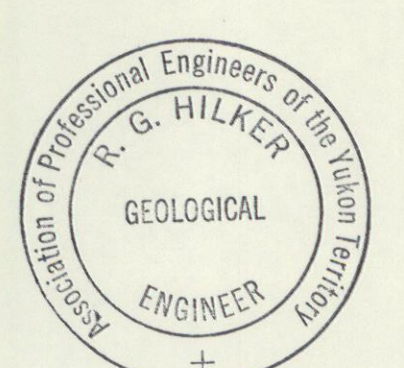


R. G. HILKER LIMITED
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.

NTS SHEET 105-G-3
TINTINA SILVER MINES LIMITED
1975 GEOCHEMICAL SOIL SAMPLE
LOCATION PLAN
EAST HALF SHEET
DATE: JULY/AUGUST 1975 SCALE: 1" = 200 ft

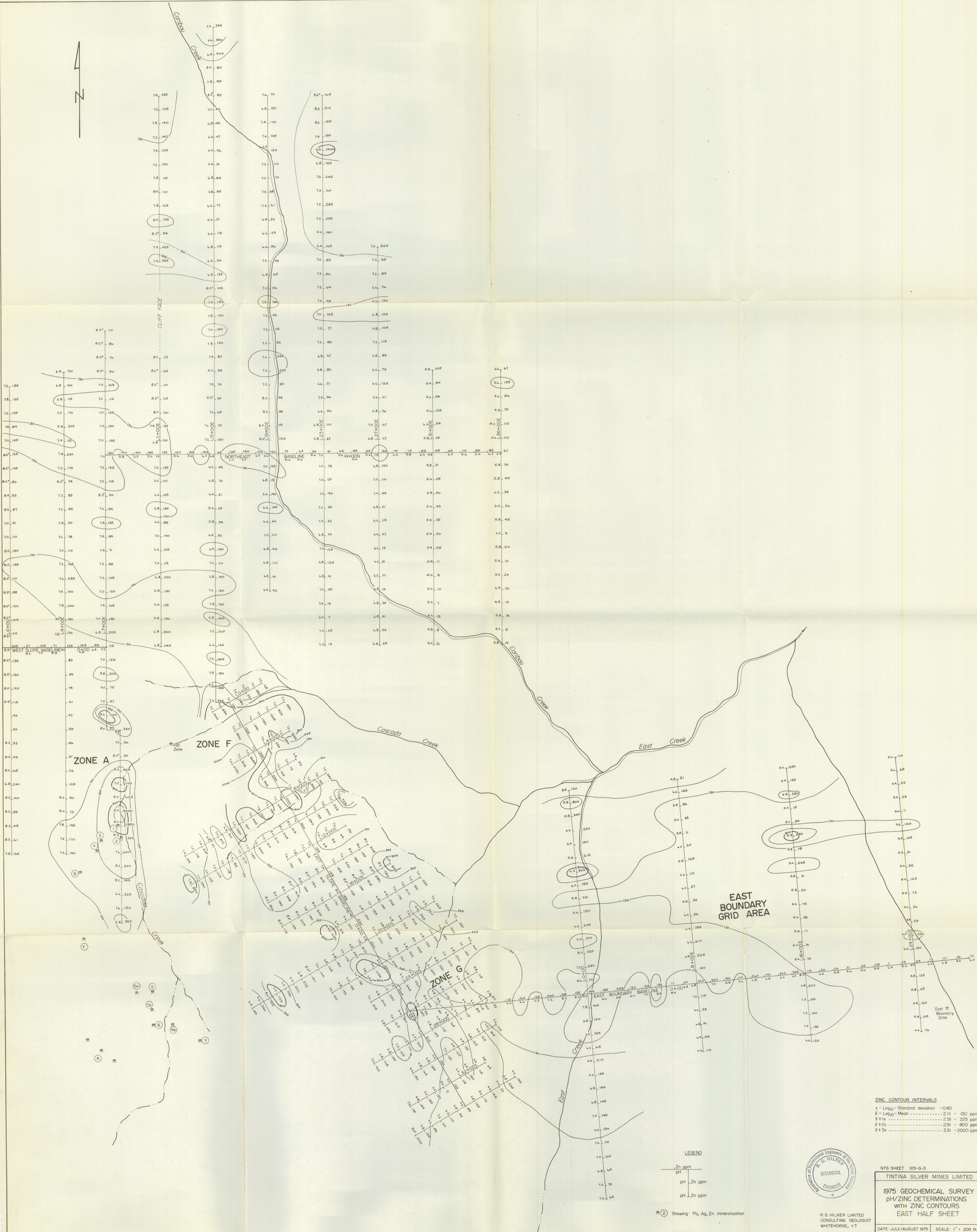
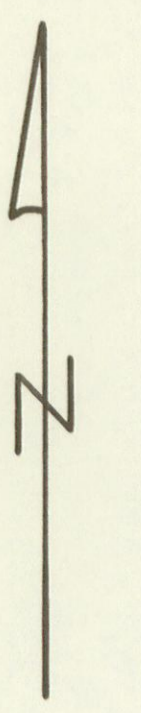


LEGEND
— Soil sample number
— Rock grt sample number
⊙ Showing Pb,Ag,Zn mineralization



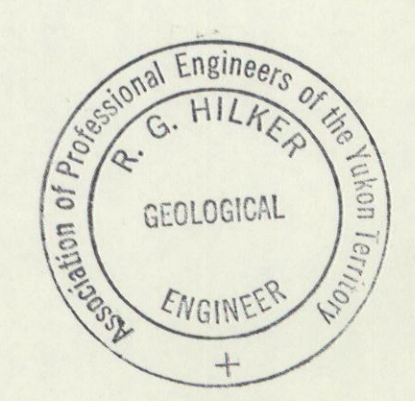
NTS SHEET 105-G-3
TINTINA SILVER MINES LIMITED
1975 GEOCHEMICAL SOIL SAMPLE LOCATION PLAN
WEST HALF SHEET
DATE: JULY/AUGUST 1975 SCALE: 1" = 200 ft.

R.G. HILKER LTD.
CONSULTING GEOLOGIST
WHITEHORSE, Y.T.



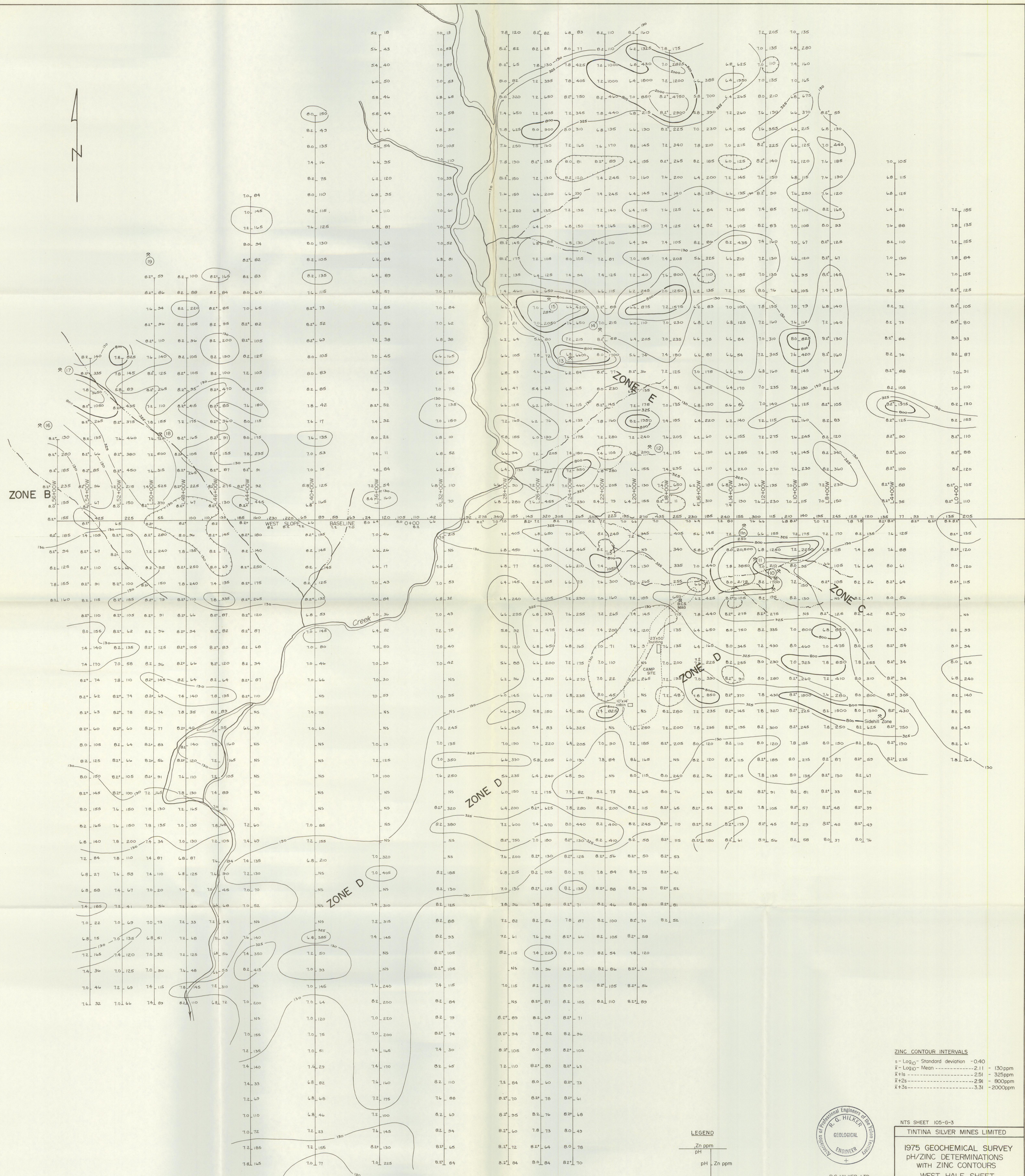
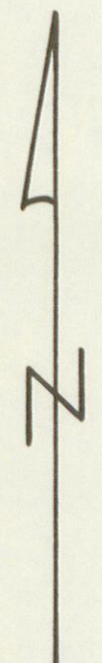
ZINC CONTOUR INTERVALS
 s - Log₁₀ Standard deviation -0.40
 x - Log₁₀ Mean -2.11 - 150 ppm
 x + 1s -2.51 - 325 ppm
 x + 2s -2.91 - 800 ppm
 x + 3s -3.31 - 2000 ppm

LEGEND
 Zn ppm
 pH
 pH - Zn ppm
 pH - Zn ppm
 (2) Showing Pb, Ag, Zn mineralization



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NTS SHEET 105-G-3
 TINTINA SILVER MINES LIMITED
 1975 GEOCHEMICAL SURVEY
 pH/ZINC DETERMINATIONS
 WITH ZINC CONTOURS
 EAST HALF SHEET
 DATE: JULY/AUGUST 1975 SCALE: 1" = 200 FT.



ZINC CONTOUR INTERVALS

s - Log ₁₀ - Standard deviation	-0.40	- 130ppm
x̄ - Log ₁₀ - Mean	-2.11	- 325ppm
x̄ + 2s	-2.91	- 800ppm
x̄ + 3s	-3.31	- 2000ppm

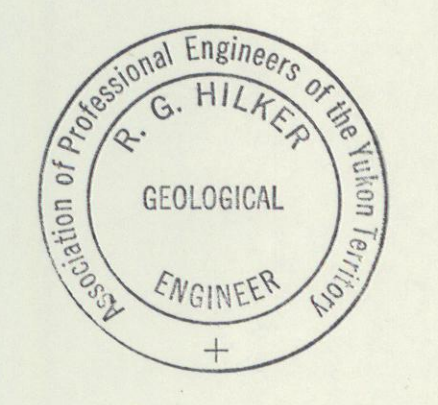
LEGEND

Zn ppm

pH

pH, Zn ppm

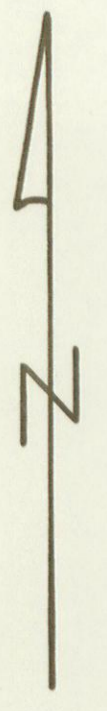
pH, Zn ppm



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TINTINA SILVER MINES LIMITED
1975 GEOCHEMICAL SURVEY
PH/ZINC DETERMINATIONS
WITH ZINC CONTOURS
WEST HALF SHEET
DATE: JULY/AUGUST 1975 SCALE: 1" = 200 ft.

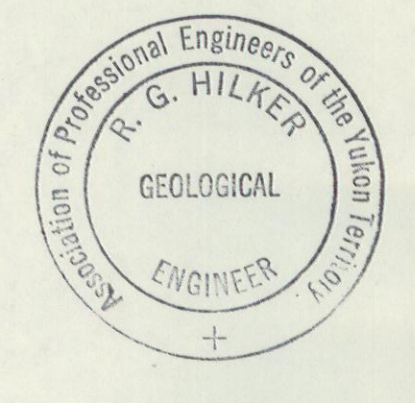
(10) Showing: Pb, Ag, Zn mineralization



LEAD CONTOUR INTERVALS
 s-Log₁₀-STANDARD DEVIATION -- 0.32
 z-LOG₁₀-MEAN 1.59 - 40ppm
 x+1s 1.91 - 80ppm
 x+2s 2.23 - 170ppm
 x+3s 2.55 - 350ppm

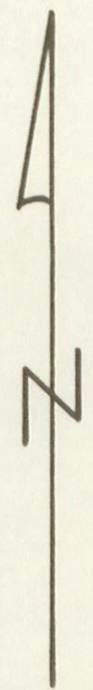
LEGEND
 Ag ppm
 Pb ppm Ag ppm
 Pb ppm Ag ppm

⊗ Showing Pb, Ag, Zn mineralization

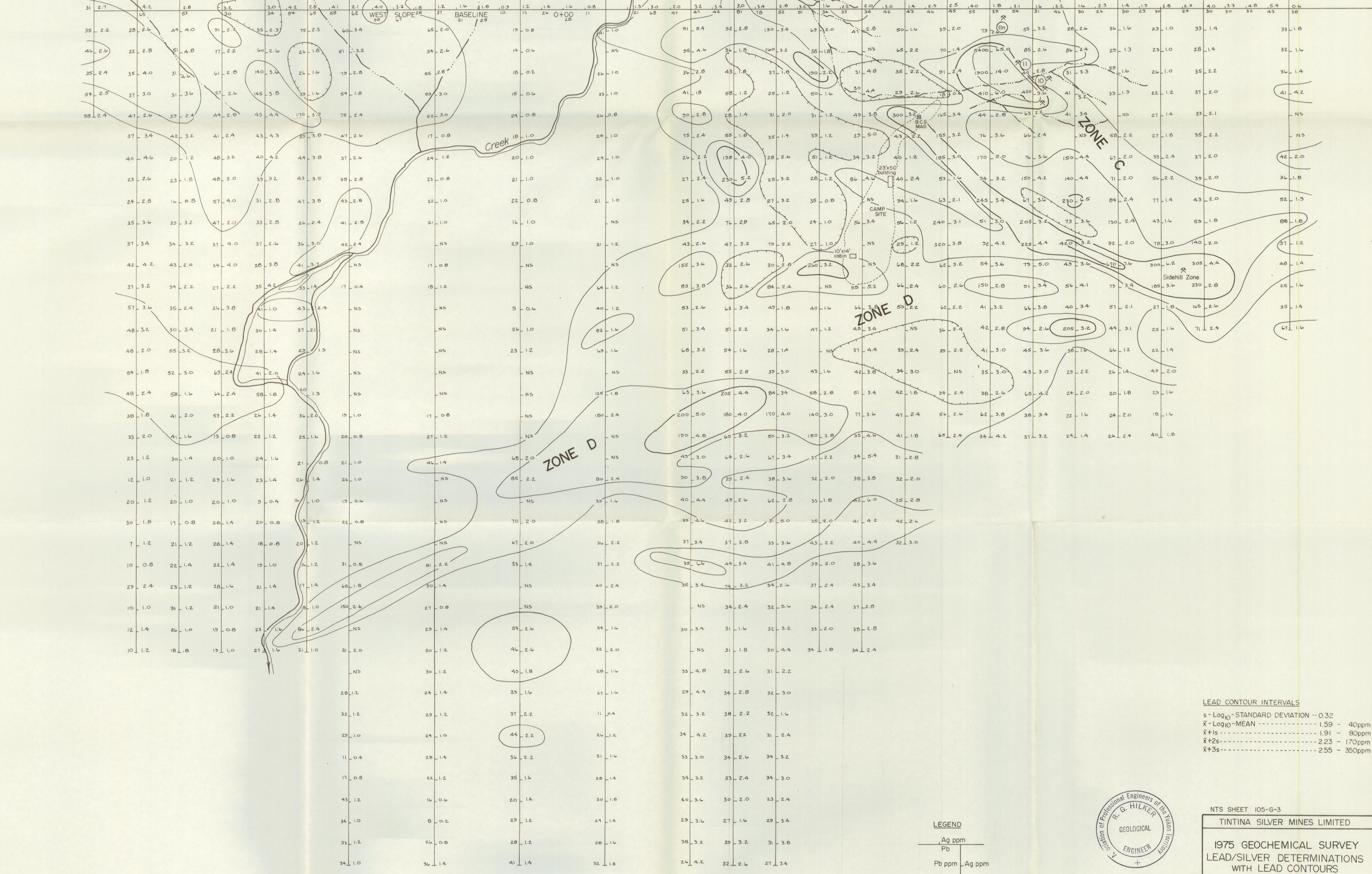


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NTS SHEET 105-G-3
 TINTINA SILVER MINES LIMITED
 1975 GEOCHEMICAL SURVEY
 LEAD/SILVER DETERMINATIONS
 WITH LEAD CONTOURS
 EAST HALF SHEET
 DATE: JULY/AUGUST 1975 SCALE: 1" = 200 FT

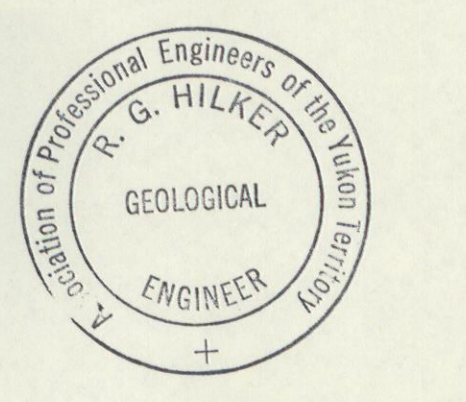


ZONE B



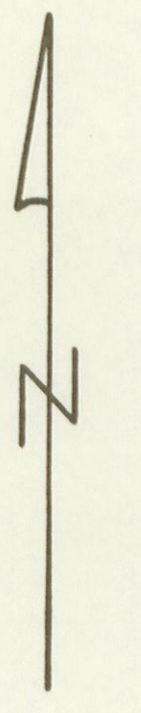
LEAD CONTOUR INTERVALS
 s - Log₁₀ STANDARD DEVIATION -- 0.32
 x - Log₁₀ MEAN 1.59 - 40ppm
 x+1s 1.91 - 80ppm
 x+2s 2.23 - 170ppm
 x+3s 2.55 - 350ppm

LEGEND
 Ag ppm
 Pb
 Pb ppm Ag ppm
 Pb ppm Ag ppm



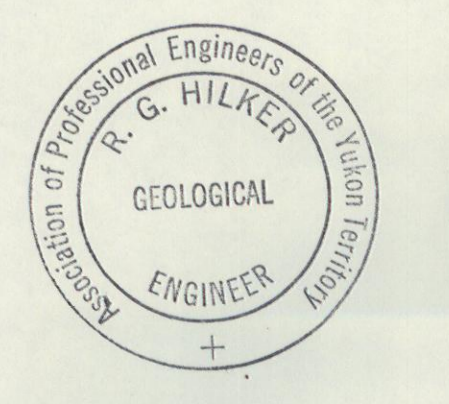
NTS SHEET 105-G-3
 TINTINA SILVER MINES LIMITED
 1975 GEOCHEMICAL SURVEY
 LEAD/SILVER DETERMINATIONS
 WITH LEAD CONTOURS
 WEST HALF SHEET
 DATE: JULY/AUGUST 1975 SCALE: 1" = 200 ft

⊗ (10) Showing: Pb, Ag, Zn mineralization



SILVER CONTOUR INTERVALS
 $s = \text{Log}_{10}$ - STANDARD DEVIATION - 0.27
 $\bar{x} = \text{Log}_{10}$ - MEAN - 0.29 - 2.0 ppm
 $\bar{x} + 1s$ - 0.55 - 3.5 ppm
 $\bar{x} + 2s$ - 0.81 - 6.5 ppm
 $\bar{x} + 3s$ - 1.07 - 12.0 ppm

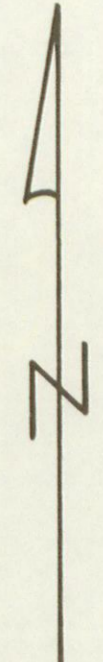
LEGEND
 Ag ppm
 Pb
 Pb ppm Ag ppm
 Pb ppm Ag ppm



NTS SHEET K05-G-3
 TINTINA SILVER MINES LIMITED
 1975 GEOCHEMICAL SURVEY
 LEAD/SILVER DETERMINATIONS
 WITH SILVER CONTOURS
 EAST HALF SHEET
 DATE: JULY/AUGUST 1975 SCALE: 1" = 200'

⊗ Showing Pb, Ag, Zn mineralization

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ZONE B

ZONE E

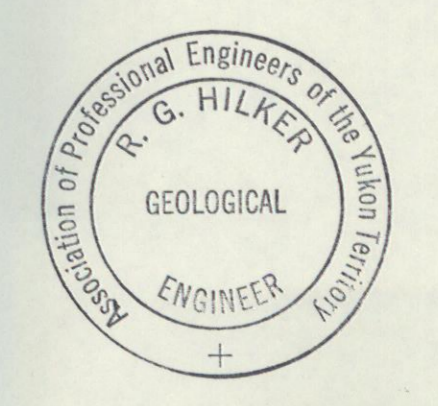
ZONE C

ZONE D



SILVER CONTOUR INTERVALS
 $s = \text{Log}_{10} \sigma$ STANDARD DEVIATION = 0.27
 $\bar{x} = \text{Log}_{10}$ MEAN = 0.29 - 2.0 ppm
 $\bar{x} + s$ = 0.55 - 3.5 ppm
 $\bar{x} + 2s$ = 0.81 - 6.5 ppm
 $\bar{x} + 3s$ = 1.07 - 12.0 ppm

LEGEND
 Ag ppm
 Pb ppm



NTS SHEET 105-G-3
 TINTINA SILVER MINES LIMITED
 1975 GEOCHEMICAL SURVEY
 LEAD/SILVER DETERMINATIONS
 WITH SILVER CONTOURS
 WEST HALF SHEET
 DATE: JULY/AUGUST 1975 SCALE: 1" = 200 ft

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Showing: Pb, Ag, Zn mineralization