

December 8, 1978.

Mr. J. Michael Kenyon,
Vestor Explorations Ltd.,
166 - 10551 Shellbridge Way,
Richmond, B. C.
V6X 2W9

Dear Mr Kenyon:

Thank you for sending us the information on your DI, CINQ, and TROIS claim groups in the Howard's Pass area. Our budget for the 1979 field season is fully committed to exploration projects in the Anvil Range and elsewhere, so we are returning your reports and maps.

Assessment requirements on our own properties near Howard's Pass require that we carry out a drill program during the 1980 season, and perhaps further discussions might be fruitful at that time, if your properties are still available.

Thank you once again for offering the claim group to Cyprus Anvil.

Yours truly,
CYPRUS ANVIL MINING CORPORATION

P. M. Dean
Geologist.

PMD/ew
Encls.

VESTOR EXPLORATIONS LTD.

166 - 10551 SHELLBRIDGE WAY, RICHMOND, B.C. V6X 2W9 • PHONE 278-3028

November 30, 1978

Mr. Glen Simpson
Cyprus Anvil Mining Corp.,
355 Burrard Street
Vancouver, B.C.

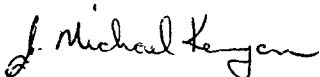
Dear Glen:

Enclosed are pertinent reports and accompanying maps concerning the Di, Cinq and Trois claim groups, Howard's Pass, Yukon. The geological assessment, further substantiated by G.S.C. personnel indicates that the favourable Road River Formation extends through the Di, Cinq claims and is barely exposed in some creek cuts. It underlies the Trois claims at depth.

The accompanying geochemical maps show very high zinc values in soils and silts but moderate to low lead values. It is possible that the lead values may be depressed, or that metal zonation within the basin has occurred. In any event, the anomalies present have not been investigated beyond the preliminary stages. We feel that the location and potential of the claims would dictate a more in-depth approach. The road to the XY deposit should further enhance property access.

Should you decide the claims do not fit with your exploration plans kindly return the enclosures.

Yours truly,



J. Michael Kenyon
JMK/vg

105-I-6

GEOLOGICAL, GEOCHEMICAL & GEOPHYSICAL

REPORT ON THE

DI - CINQ CLAIMS

SUMMIT LAKE AREA, N. W. T.

For

Vestor Explorations Ltd.

N. Badham & A. Rich

Aug-Dec/73

105-I-11

GEOLOGICAL REPORT

on the

TROIS CLAIMS

of

Vestor Explorations Ltd.,

Summit Lake Area, Y. T. - N. W. T.

N. Badham

August, 1973

GEOLOGICAL, GEOCHEMICAL & GEOPHYSICAL

REPORT ON THE

DI - CINQ CLAIMS

SUMMIT LAKE AREA, N. W. T.

for

VESTOR EXPLORATIONS LTD.

by

N. Badham and A. Rich - August - December, 1973

INTRODUCTION

The DI claims 1 - 18 and the CINQ claims 1 - 27 form one block of contiguous claims which is adjacent to the Placer discovery block on the southwest side (see Map 2, page 2).

The area is best reached by fixed-wing aircraft from the Placer airstrip which lies about a mile to the north of the claims. Under winter or spring conditions a ski plane can be landed directly on the flat area which lies just north of the claim boundary.

Initial exploration of the claims was carried out between June 13th and 25th, 1973. The first program consisted of geochem sampling of soils on a wide reconnaissance grid of 500 feet together with silt sampling of all creeks and seeps. Geological mapping of the claims was carried out simultaneously with the geochem. Operations were severely hampered by the deep snowdrifts remaining on the claims.

The first program was successful in that many anomalous geochem values were obtained. A second investigation was carried out between the 6th and 14th of August. This second program consisted of detailed geochem, detailed geology and a small program of geophysics.

GEOLOGY

Apart from ridge tops and the occasional exposure in stream cuts, there is very little outcrop on the claims. The slopes of the ridges are covered with rock fragments which are obviously little removed from their point of origin. The lower parts of the claims are covered by overburden.

Lithological Descriptions

Conglomerates and Grits

The conglomerates and grits unit is a variable sequence of conglomerates interbedded with alternating arenaceous and argillaceous rocks. In detail these rocks are a cyclic sequence, each cycle consisting of conglomerate overlain by interbedded sandstone and siltstone. In any one section the sequence is unique, because of variations in the thickness of individual units and because of sporadic unexpected massive sandstone units. Four successive cycles of conglomerate-shale were observed. Slight erosion precedes the deposition of each conglomerate unit.

The conglomerates contain chert pebbles, which are usually well rounded, and shale fragments. The pebble to matrix ratio varies from 90 to 50%. The matrix is a black shale-mudstone. In addition there are shale-chips, boulders of sandstone and large clasts, either of black shale or interbedded shale and sandstone. Clasts up to 10' long and 2' thick were observed. The beds are massive and rarely graded. Contacts between the individual conglomerate sandstone and shale lithologies are sharp. They are overlain by either alternating sandstone and shale or by sandstones. All the sediment is concluded to be autochthonous and the conglomerates are clearly massive slump deposits.

The sandstones vary in grain size and texture and normally have the composition of greywacke. They contain scattered shale chips and occasional small chert pebbles. Locally they are cross-bedded and ripple marked. The bases are sharp and often scour underlying beds and the tops are normally sharp. The massive units consist of beds up to 10' thick. Where inter-bedded with shales, the beds vary from a few inches to 2' in thickness. In general, in any one interval the beds are of fairly uniform thickness. The shales are inter-bedded with the sandstones. They are weakly graphitic and are strongly cleaved.

All the lithologies in the 'conglomerates and grits' unit contain blebs of recrystallized pyrite. The pyrite is often weathered out and may be the source for the abundant Fe-gossans found in topographically lower areas.

The sequence as a whole is clearly of slump - proximal turbidite origin. Parts of Bouma sequences were identified. Cleavage has masked other current features. A few beds of highly contorted black shale containing scattered rounded boulders (up to 3' across) of underlying sandstone were found and are good evidence for the slump hypothesis.

About 100' above the base of the conglomerate and grit unit there is a well defined thick massive sandstone unit which varies between 50 and 500' in thickness. The total thickness of the conglomerate grit unit has not been measured, but exceeds 2500 feet.

The Geological Survey of Canada considers the age of the sequence to be Devonian to Carboniferous.

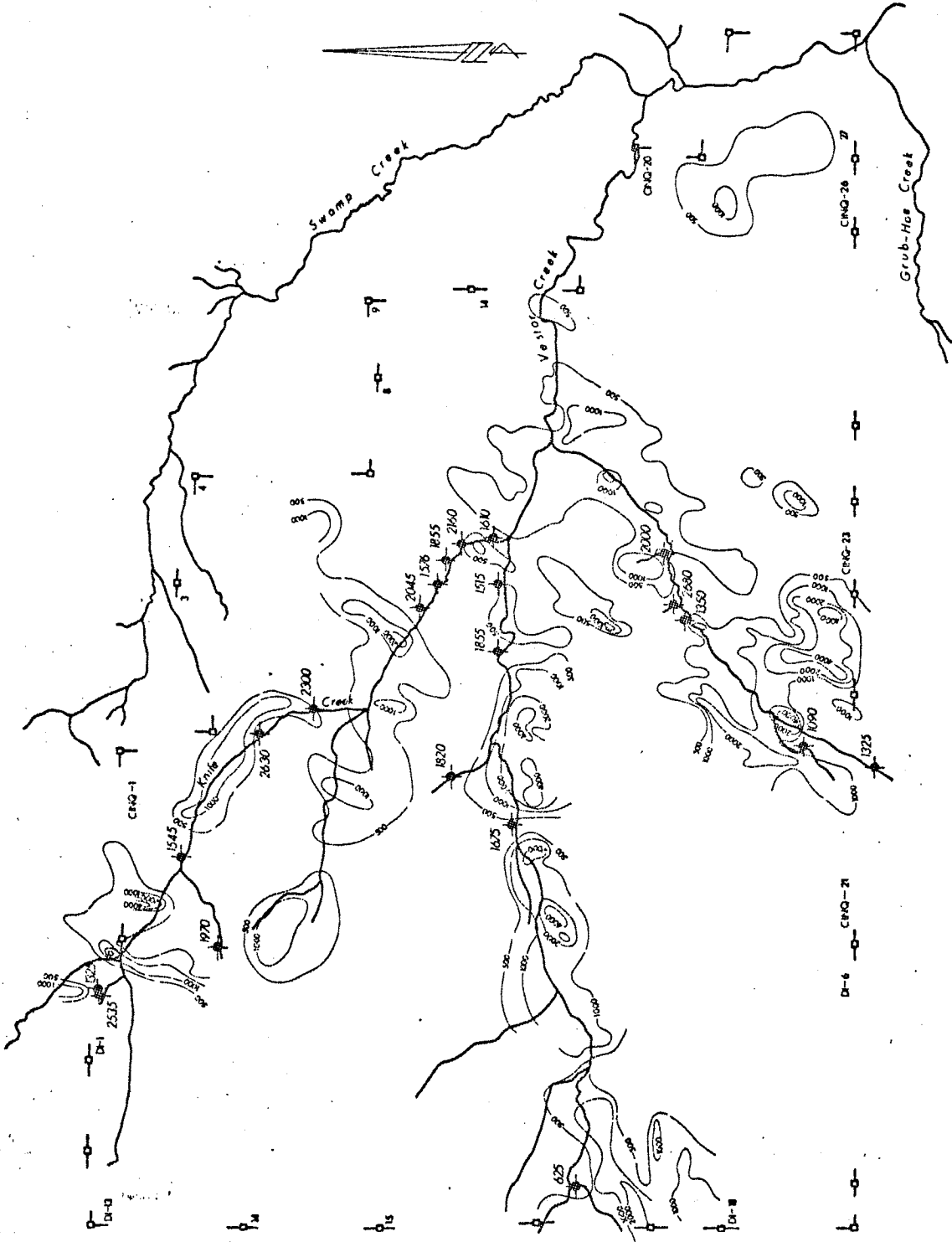
Siltstone Turbidites

Beneath the conglomerates-grits sequence is a well-bedded fissile black siltstone with rare sand interbeds. The unit is roughly estimated to be about 500 - 700 feet thick. Apparently thicker sections may be the result of faulting or thickening related to folding. Submarine channel scouring related to turbidity currents at the time of deposition of the conglomerate-grits, may have caused local thinning although this has not been observed in the field. The uppermost part of the unit has more sandstone interbeds and is very siliceous. Some beds are almost cherty. In its lower parts the unit becomes more graphitic and less well-bedded. Grading, ripple-marks, cross-bedding, scouring and loading, identify these rocks as the deposits of fast-flowing currents. Very small scale Bouma sequences are common and consequently the rocks are interpreted as distal turbidites. Some coarser turbidites consisting of convoluted pebbly sandstone invade the sequence.

Contours 500 ppm
 1000 ppm
 2000 ppm
 4000 ppm

— isolated sfts above 500 ppm
 2,300

MAP 4
 VESTOR EXPLORATIONS INC.
 ZINC GEOCHEM CONTOUR MAP
 DI, CING, CLAME
 Summit Lake Area, N.W.T.
 K.A.T. Geotechnical Services Ltd.
 1973



DEVONIAN or CARBONIFEROUS
 Conglomerate within silt
 Interbedded conglomerates, sands, silts & shales (slump/turbidite)

SILURIAN
 Siliceous silt (barrelites) with cherty matrix near the base & a thin limestone & 20' grey bed at the top

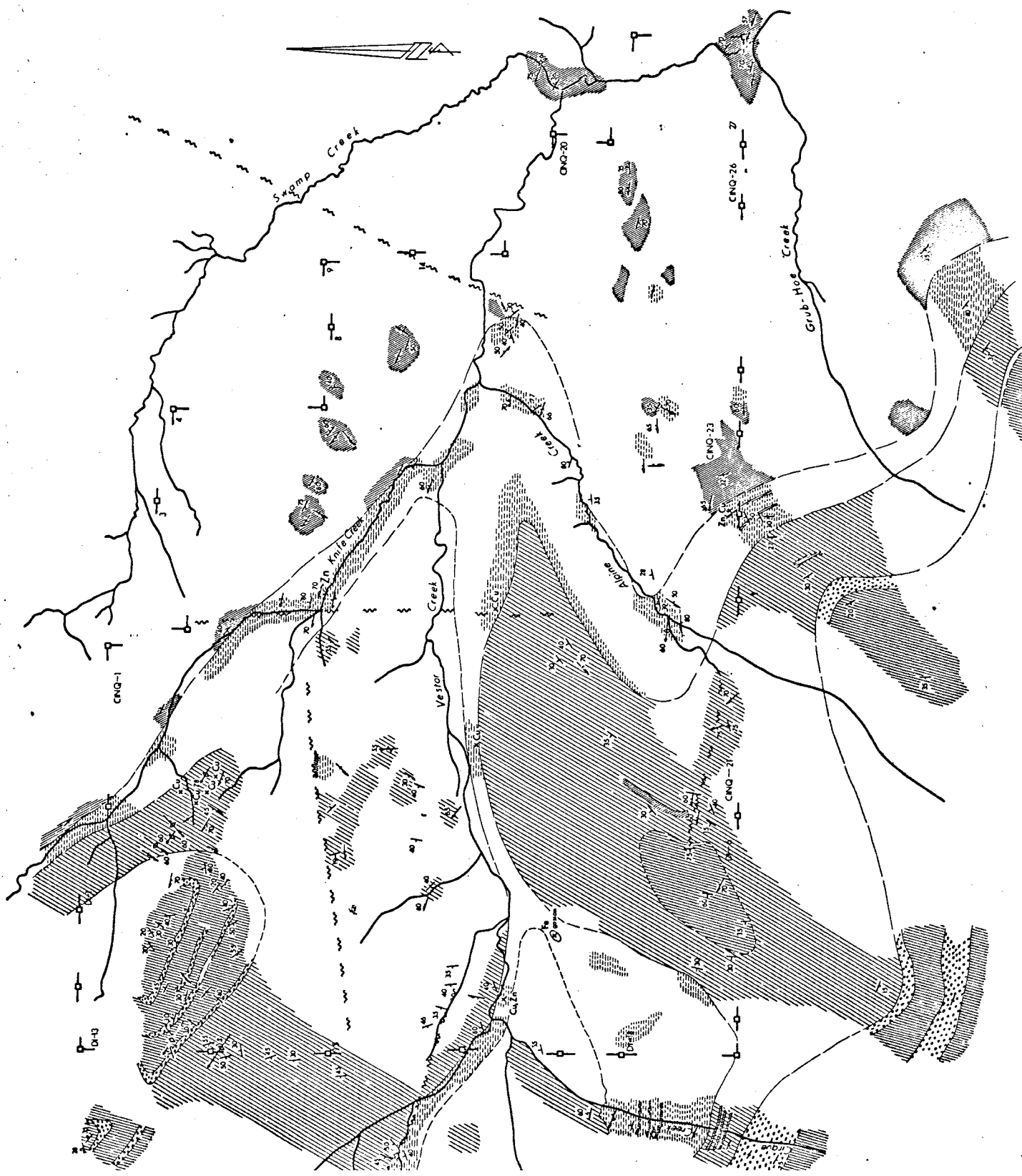
ORDOVICIAN
 Graphitic shale, a 10' basal siliceous silt and local calcareous beds

LOWER CAMBRIAN
 Banded argillaceous limestone

Local tight folding
 Fold axis and plunge (F1)
 Bedding dip
 S1 cleavage dip
 S2 cleavage dip
 F2 fold axis & plunge
 Inferred fault
 x G. Showing

Claim post Claim name
 CNO-1 CNO-20 CNO-23 CNO-26 CNO-27

MAP 3
VESTOR EXPLORATIC
GEOLOGY OF
 D1, C1N1G Claim
 Summit Lake Area
 Scale 0 200 400 600
 1973



On the basis of a definite Ordovician age of the underlying graphitic shales and the presumed Devonian-Carboniferous age of the conglomerates and grits, the siltstone turbidites are believed to be Silurian.

Graphitic Shales

Underlying the siltstones with apparent conformity, are graphitic shales and slates. The thickness is estimated to be about 200 feet. At the top, these shales contain a few cherty siltstone beds, but in general the only variations are in graphite content. More massive beds are found to be the most graphitic. In the lower 100 feet, black graphitic calcareous units up to 10' thick appear. Other black limestone units up to 2' thick occur at other levels in the section. An excellent graptolite collection obtained from these shales on another property establish a definite L-M Ordovician age.

Limestone

The graphitic shale unit is underlain by wavy-banded argillaceous brown grey weathering limestone of unknown thickness. The grey bands are shalier and contain minor graphite. Although the contact is nowhere observed, the gradual increase in calcareous content of the shales and the apparent conformity of bedding suggest that the sequence of deposition is uninterrupted. Protosponges observed elsewhere suggest a Cambrian age for the unit.

Structure

All the rocks are more or less affected by a regional penetrative cleavage that strikes about 300° and is near vertical. This cleavage, S_1 , is axial-planar to regional folding F_1 . The F_1 folds themselves are observed on all scales. In the conglomerates, the folding is broad and open. Mesofolds affect the shale/sandstone units within the conglomerate grit sequence but not

SKETCH SECTION OF RIDGE BETWEEN GRUB-HOE AND ALPINE CREEKS

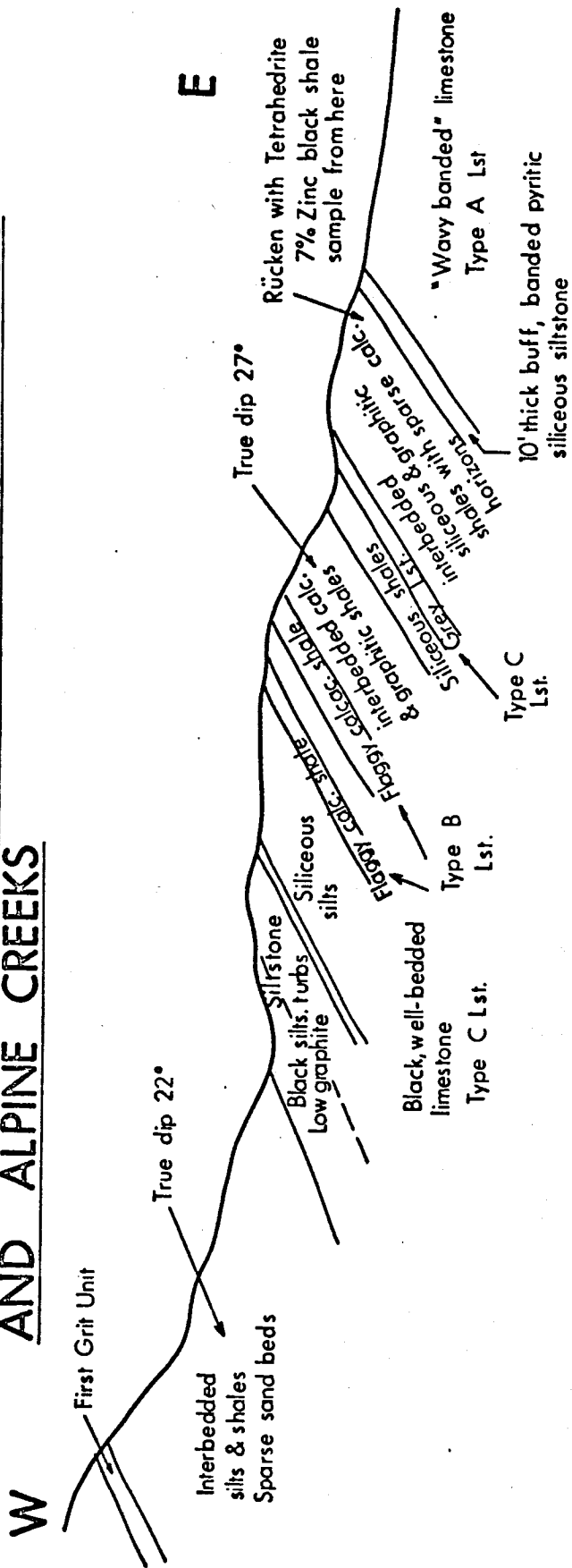


Figure 4

the conglomerates themselves. Similarly, folding in the limestones is not intense. The argillaceous units are more tightly folded between the more competent beds. Where cherty beds are present, the siltstones are folded into broken chevrons with axial angles in the 40° - 60° range. In the shales where tops can be distinguished, very tight folding is indicated. Usually, bedding is only observable where the cleavage is least intense such as in the troughs and crests of folds.

Many of the F_1 folds appear to change their degree of plunge; although this remains generally moderate to the west. There is a prominent joint set (S_2). This joint set strikes 20° - 30° and is vertically dipping. It is concluded that S_2 is the axial plane cleavage of broad-open, NE trending monoclines (F_2).

MINERALIZATION

Copper mineralization was observed at several locations on the claims. Significant zinc mineralization was observed at one location. The principal mineral locations are:-

- 1) Near the ridge top south of Alpine Creek (Map 3 & Fig. 4) a specimen was taken from 'near in place' talus. This specimen assayed 7% Zn. No primary zinc minerals were observed in the specimen. The host rock was a black graphitic shale which closely resembled the Placer host.
- 2) Quartz-calcite veins or Rücken, carrying copper minerals were observed in several locations on the property but were first observed on the northwest corner of the claim block. The veins occur in a black shale unit which appears to be stratigraphically higher than the Placer mineralized horizon. The shale contains disseminated pyrite throughout.

A second period of folding in this area resulted in S_2 lineation. The F_2 folds are gentle and open with fold axes striking SW and plunging from 60° to 85° SW. The quartz calcite veins occur in the S_2 joints and tension gaps and appear to be the result of remobilization during the second period of folding.

The quartz veins contain up to 35% recrystallized calcite. Black shale inclusions are abundant throughout. The veins vary between 2" and 8" in width and can be traced up to 6' along strike. The veins are porous in nature with an average grain size of the quartz crystals of 0.5 cm. Tetrahedrite occurs as well formed crystal aggregates with an average grain size of 2 mm. Azurite is frequently associated with the mineralization together with a very pale malachite.

3) About 3,000 feet west of camp, on the south bank of Vestor Creek, malachite staining on black shale was noted. Abundant malachite azurite and limonite staining were noted on cleavage planes. The shale is highly graphitic and about 150 feet of thickness is revealed in outcrop. The stratigraphic position of the shale is not known but it is suspected to be higher than the Placer deposit. Careful examination of fresh specimens revealed 'syngenetic' or bedded pyrite between graphitic layers with some chalcopyrite.

Similar mineralization in the same black shale was later traced (sporadically) over some three thousand feet to the east along the base of a talus slope. Copper staining was observed to be very subtle - a light-dusting of very pale blue bloom on cleavage planes of black shale. The 'mineralized section' of shale was sampled and assayed. The results however were discouraging:

	<u>Cu %</u>	<u>Zn %</u>
1)	0.02	0.13
2)	0.02	--
3)	0.04	0.11
4)	0.02	0.23

5)	0.02	0.18
6)	0.04	0.32
7)	0.02	0.12
8)	0.04	0.13
9)	0.02	0.06

All 10' channel samples taken west-east and representing true thickness.

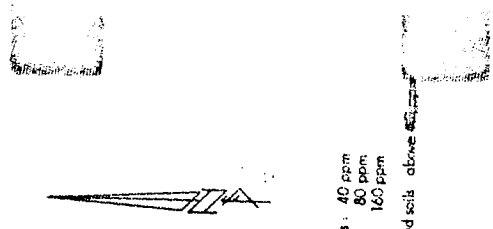
GEOCHEMISTRY

Reconnaissance soil samples were taken on an approximate grid of 500 feet. This initial grid was not uniform, as much of the area was still under heavy snow and the north part of the claim group was covered with water. The two mountains on the northwest and southwest side of the claims were not sampled. Silts were taken on all creeks at a spacing of about 500 feet along the creeks. All seeps were sampled.

Anomalous values up to 14,000 ppm zinc were obtained. Numerous values were in excess of 2,000 ppm. The anomalous areas were almost all confined to the belts of graphitic shale which underly the three main creeks on the claims.

The second phase of geochem sampling consisted of soil sampling on a grid of 100 feet EW and 500 feet NS. The sampling was restricted to the graphitic shale belt through Knife Creek and Alpine Creeks. The contoured results are shown on Maps 4, 5 and 6.

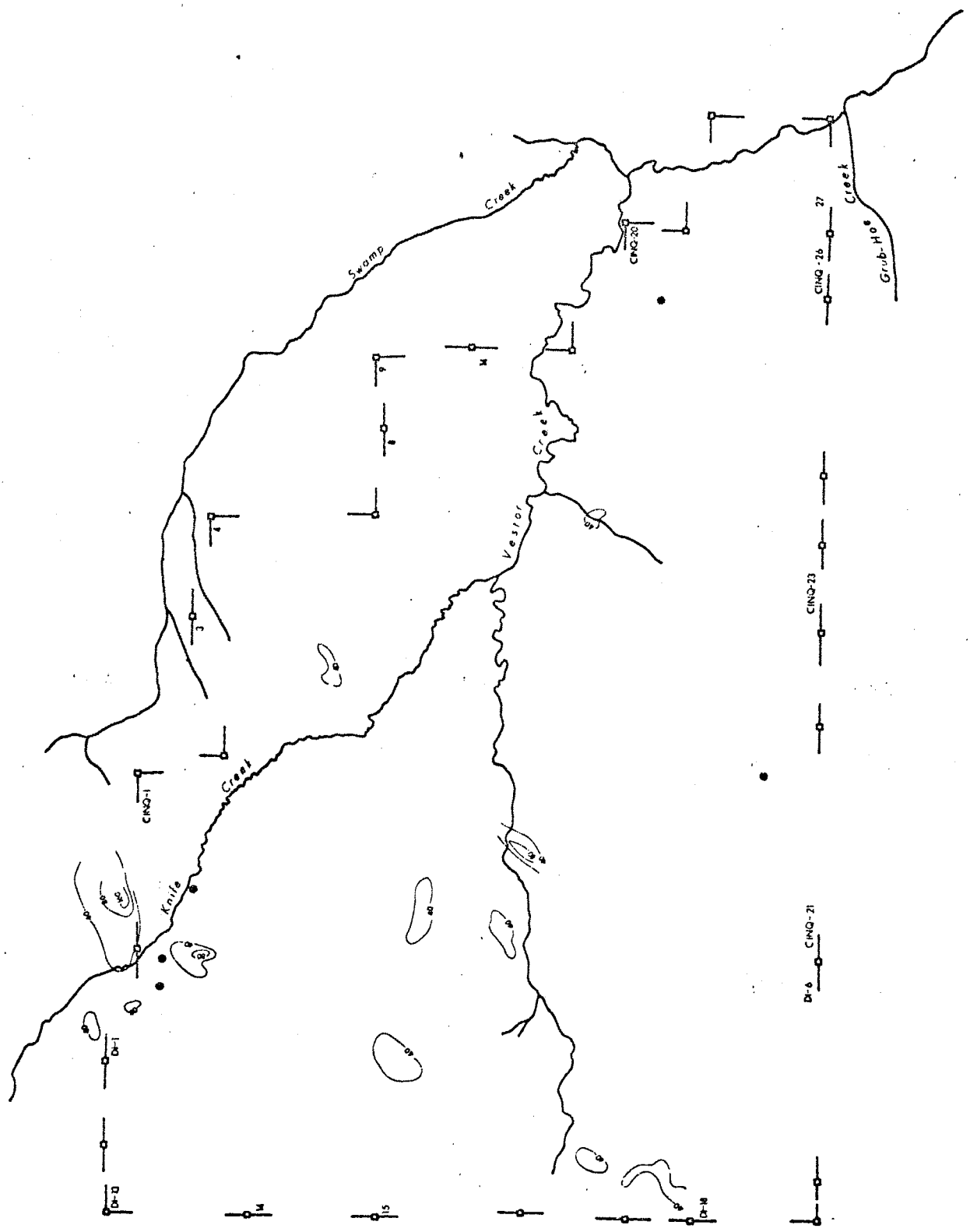
The correspondence of the zinc anomalies to the graphitic shale is quite striking. Unfortunately the shale is a very recessive unit and only rarely outcrops on the claims. Where the best anomalies occur, along Knife Creek, the overburden is thought to be moderately thick - about 15 feet on the average. The anomalies on Vestor and Alpine Creeks are in or near talus.

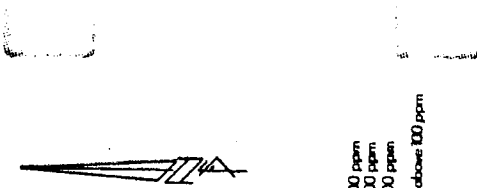


Contours : 40 ppm
 80 ppm
 160 ppm

● isolated soils above 400 ppm

MAP 5
 VESTOR EXPLORATIONS LTD
 LEAD GEOCHEM CONTOUR MAP
 DI, CINO, Chama
 Summit Lake Area, NMET
 0 20 40 80
 SCALE Feet
 Oct. 1973

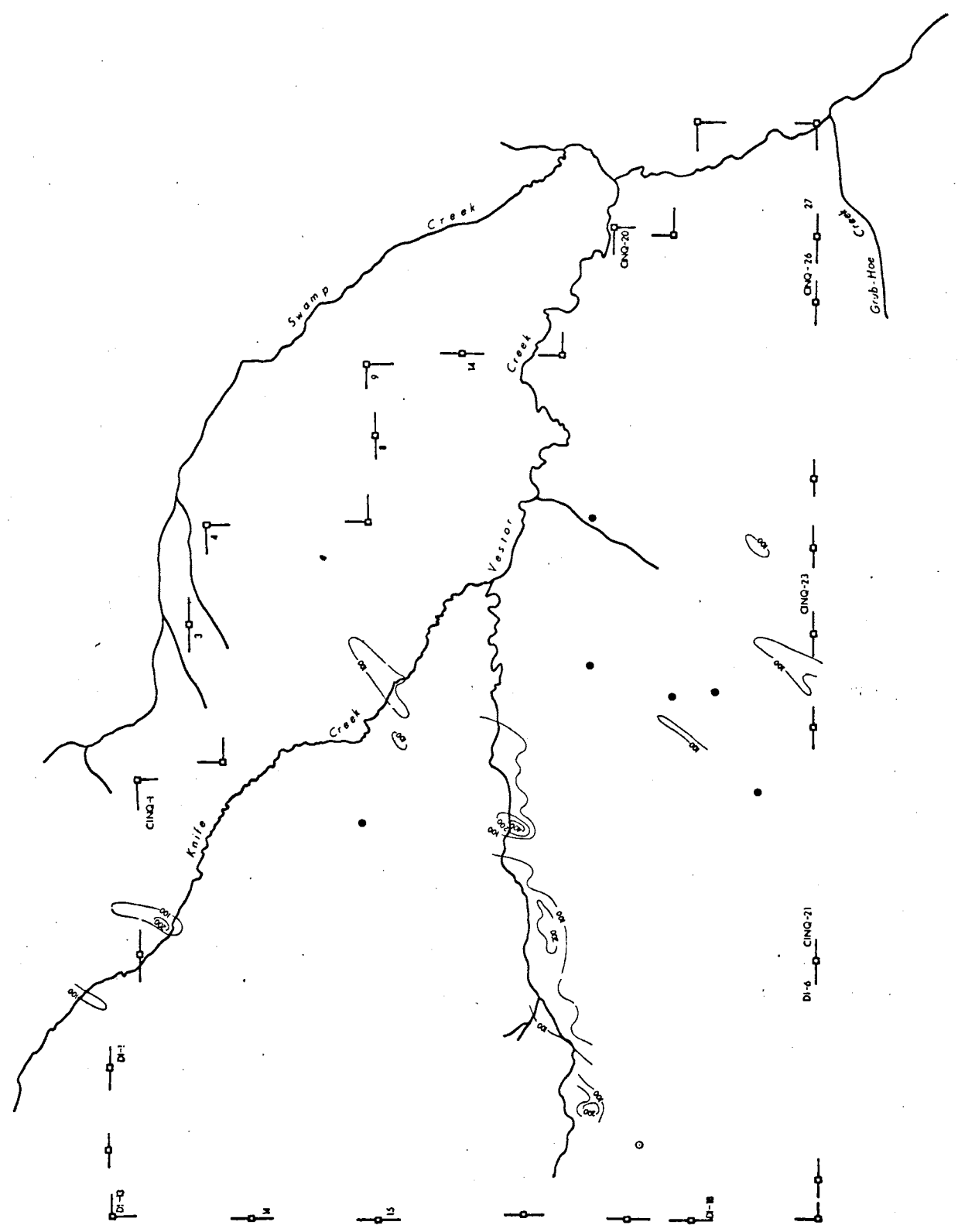


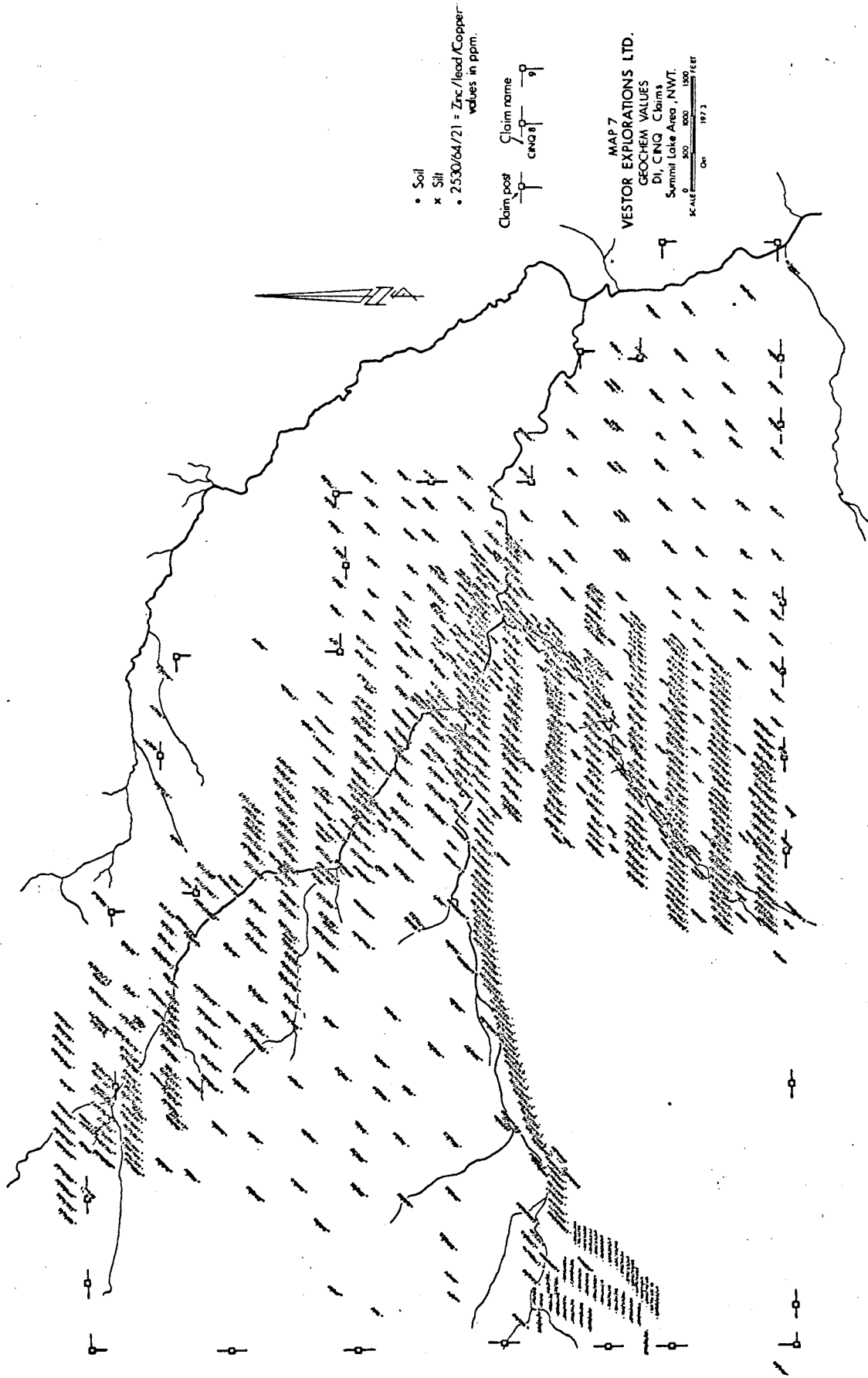


Contours: 100 ppm
200 ppm
400 ppm






● Isobathic axis above 100 ppm

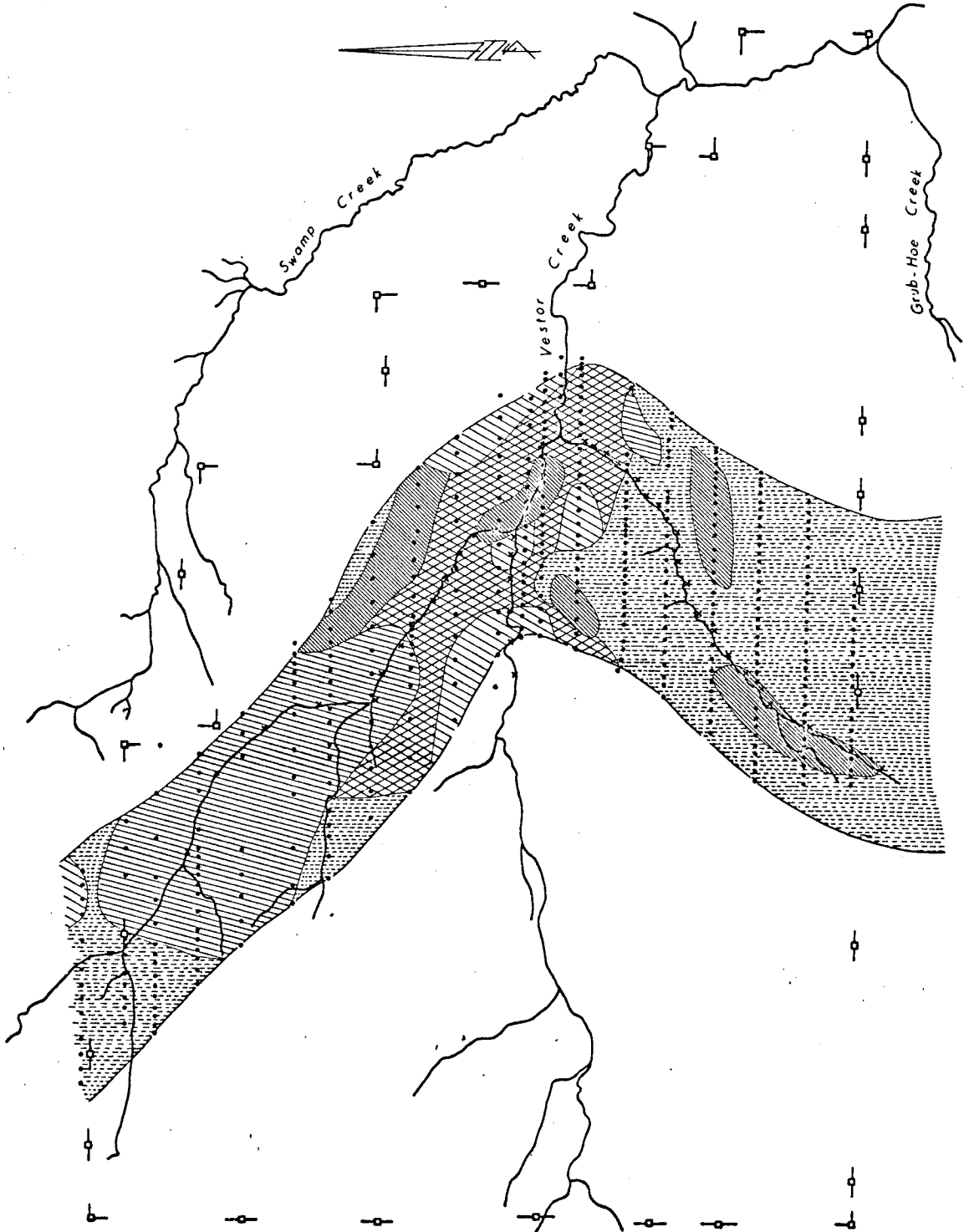
MAP 6
VESTOR EXPLORATIONS LTD.
COPPER-GEOCHEM CONTOUR MAP
DI, CINO Claims
Sikanni Lake Area, N.W.T.
SCALE 1:50,000
1:50,000 FEET
Oct. 1972.





MAP B
 VESTOR EXPLORATIONS LTD.
 SOIL - TYPES
 D1, C1Q C1a
 Summit Lake Area, MONT.
 SCALE 0 500 1000 FEET
 1972

-  Late loam - clay
-  Glacial till
-  Sandy clay
-  Shale - clay
-  Shale chips
- Soil samples
- × Stream samples



GRAVITY SURVEY

A Gravity survey was completed over an area stretching along Knife Creek. The area surveyed was wide enough to include both the sub-cropping graphitic shale and part of the underlying limestone. The 'grid' approximated 500 feet north-south and 100 feet east-west.

Stadia Survey

The elevations and locations of the stations were determined by a stadia survey.

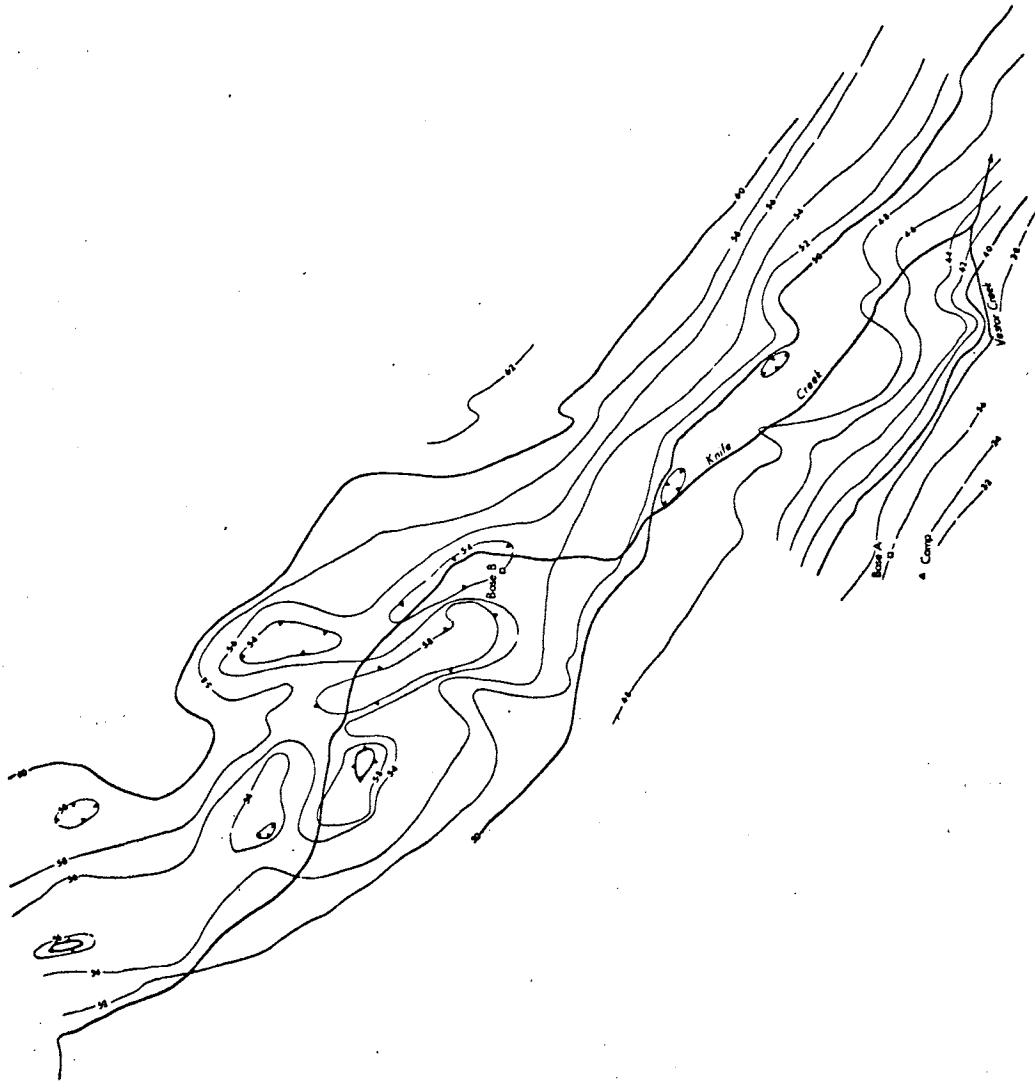
The instrument used was a Kern DKM1 Theodolite. This instrument measures angles direct to 10" and the telescope has a magnification of 20x. Although the DKM1 has an accuracy which is far greater than that required for this type of survey, it was chosen on account of its light weight and portability. Horizontal control was effected using a tubular compass permanently mounted on the instrument and used in conjunction with the horizontal circle. Prior to use, the instrument was thoroughly checked in Calgary. It was field-checked several times and each time the error was found to be immeasurable.

The rod was a 12 foot by 3 inch collapsible 'E' type. Each E = 1 foot. With this type of rod it was easily possible to read stadia \pm one foot at 1,000 feet and the rod to \pm 0.01 foot.

Elevation calculations were made using the equation for vertical rod:-

$$\text{diff elevation} = \text{stadia} \times \frac{1}{2} \sin 2\theta$$

A reasonable elevation was estimated for Base station A from the 1:250,000 topo map. All elevations were tied back to this. Despite the moderately steep topography, all elevation ties were good - that is less than 0.5 feet.



Contour interval 0.2 milligrams
 Gravity base was reduced to
 an arbitrary base line A
 an arbitrary value and of section
 and Base B led to this.

MAP 9
 VESTOR EXPLORATIONS LTD.
 BOULDER GRAVITY MAP
 IN CHINA
 Surveyed Lake Area, N.W.T.
 August 1972
 Scale 1:50,000
 0 500 1000 1500 2000 FEET
 0 1 2 3 4 Miles

Horizontal closures were minimal and well within the allowable error for this type of survey.

Meter Survey

The meter used was a Worldwide which is owned by the Company. This meter is similar in construction to the Worden, except that it exhibits much less mechanical drift. The meter has a dial constant of 0.11183 milligals per dial division.

Two bases were used for the entire survey and ties were made to these bases every two hours or less.

Calculations

A specific gravity of 2.50 was assumed for the graphitic shales and slates underlying the surveyed area, giving a total elevation correction factor of 0.06216 milligals per foot. A latitude correction of 0.0002003 milligals per foot was used. No terrain corrections were applied.

Copies of the original calculated and tabulated results are appended, in the pocket of this report.

RESULTS

Bouguer values are shown contoured on Map 9, page 26. Since no terrain corrections were used, it was found very difficult to contour the map on an interval of 0.1 milligals. The results were contoured with ease on a 0.2 milligal interval.

Two features are very obvious on the Bouguer map. The effect of the large mountain to the southwest is apparent, particularly on the south end of the gravity grid. Strong increases in gravity values over the limestone are ex-

hibited over the entire northeast part of the map, giving a strong regional gradient in that direction.

One or two interesting closed high anomalies exist just northwest of Base B. These occur, not only in an area underlain by graphitic shale but in an area which is anomalous geochemically. It would be somewhat speculative to say that these anomalies were caused by sulphide mineralization as they can just as easily be explained by 'undulations' in the underlying carbonates.

In short, the gravity survey did not produce any obvious 'sulphide' targets. When one considers the low density contrast of the sulphide material on the Placer property and the relatively high density contrast of the carbonates as compared with the host shales, it is realized that this type of deposit may not be clearly delineated by the gravity method.

A. Rich, P. Geol. - December, 1973

CONCLUSIONS

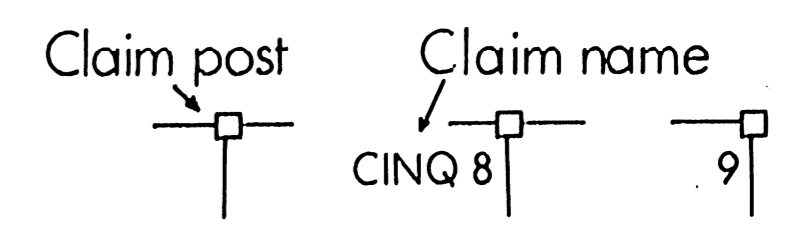
The highly anomalous zinc geochem results which correspond with the subcropping graphitic shales are of obvious importance. The area south of Knife Creek is considered to be a most important target. Not only were the highest geochem values obtained here, but this is the area closest to the Placer mineralization. The graphitic shale host should shallowly underly the entire area between Knife and Vestor Creeks.

Trenching in Knife Creek could be considered, but the overburden is thought to be reasonably thick. It would seem more reasonable to drill a number of shallow holes into the graphitic shale unit in that area south and west of Knife Creek. The results of the gravity survey could be used as a partial guide for drilling.

At the time of writing, it is understood that drilling on the Placer property has been quite successful, but there has been no official confirmation of tonnage or grade of the deposit. Only after such confirmation is made and the economic viability of the area better understood, is it proposed to drill the Di-Cinq property.



- Soil
- × Silt
- 2530/64/21 = Zinc /lead /Copper values in ppm.



MAP 7
VESTOR EXPLORATIONS LTD.
 GEOCHEM VALUES
 DI, CINQ Claims
 Summit Lake Area ,NWT.

SCALE 0 500 1000 1500 FEET
 Oct. 1973