REPORT on 1974 EXPLORATION

LISA CLAIM GROUP Box 5

N.T.S. 105-K-7

015488

CYPRUS ANVIL MINING CORPORATION

By: G. Jilson April, 1975

Report on 1974 Exploration of the LISA Claims, Whitehorse Mining District, Yukon Territory

for

Cyprus Anvil Mining Corporation

by

Gregg Jilson

April 1975

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INTRODUCTION AND SUMMARY

The LISA 1-28 claims were staked by Ridgemont Mining Corporation in February 1973 to cover small copper-bearing massive sulphide showings in the canyon of Ace High Creek. Geological work conducted in 1973 and analysis of previous work, indicated an area on and adjacent to the southern portion of the claim block to be at a similar stratigraphic position to the Faro deposit, and to have an untested I. P. anomaly near sulphide mineralization. During the 1974 field season this surrounding ground was staked and the favourable area was covered by Turam E. M., magnetometer and copper-lead-zinc soil geochemical surveys on a new 800' x 100' cut grid. The surveys show that no subcropping orebodies exist on the claims but there is some evidence that a blind sulphide deposit could exist at depth just south of the canyon of Ace High Creek in the area of the known sulphide occurrences. A gravity survey is recommended to evaluate this possibility.

LOCATION AND ACCESS

The LISA claims are located in the central Yukon Territory 14 miles northeast of the town of Faro and 16 miles east of the Anvil minesite on map sheet 105 K-7. Access is from Faro by helicopter or from Ross River 30 miles to the southeast.

CLAIMS

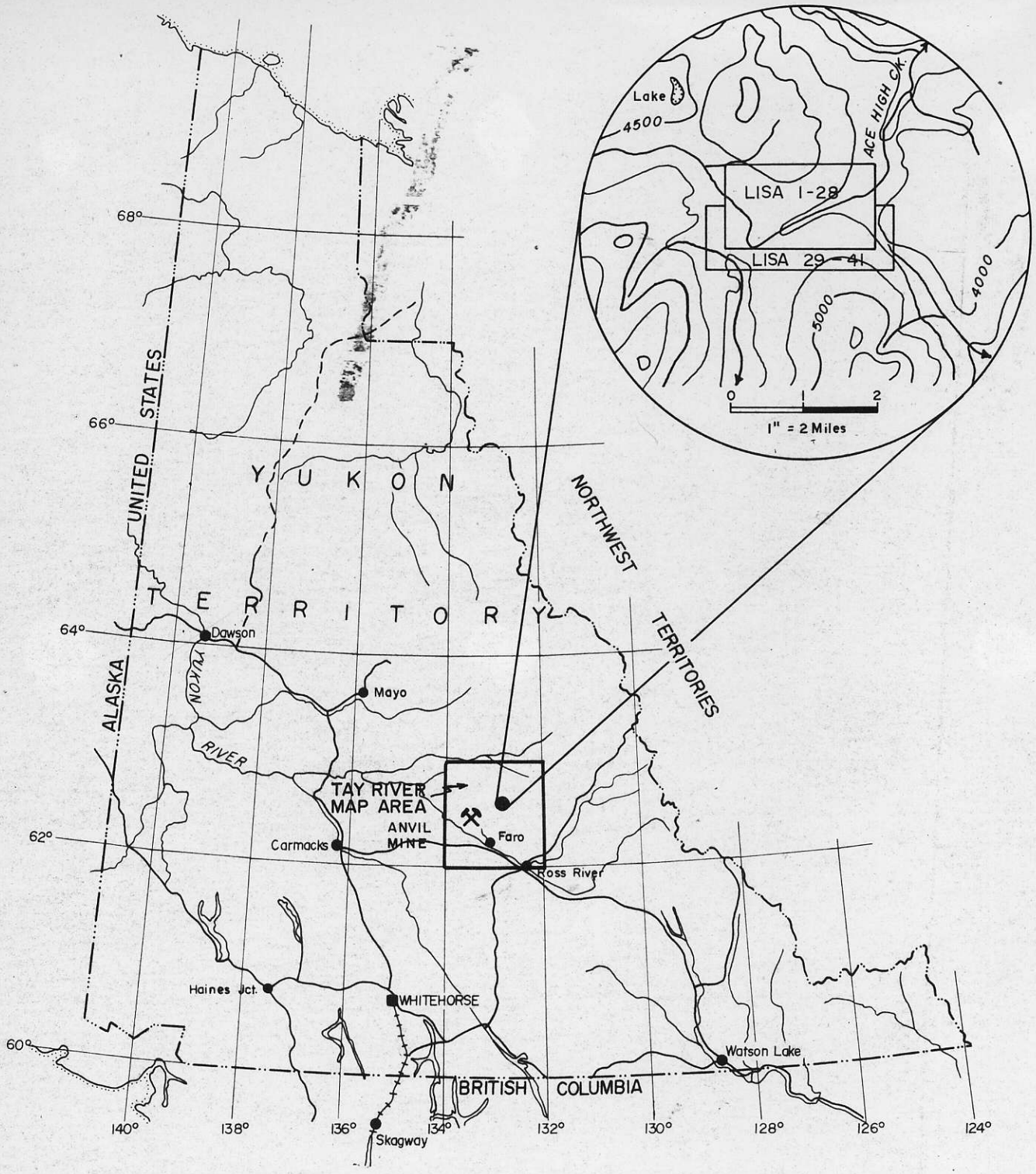
The property is composed of 41 full-sized mineral claims listed in Table I.

Table I

List of Claims

Name	Grant No.	Record Date	Expiry Date
LISA 1-28 incl.	Y75073-Y75100 incl.	8 Mar 1973	8 Mar 1976
LISA 29-38 incl.	Y80441-Y80450 incl.	28 Aug 1974	28 Aug 1976
LISA 39-41 incl.	Y80451-Y80453 incl.	28 Aug 1974	28 Aug 1975

The claims are owned by Ridgemont Mining Corporation, a subsidiary of Cyprus Mines Corporation of Los Angeles. Exploration on the LISA claims is being conducted by Cyprus Anvil Mining Corporation under agreement with Ridgemont.



CYPRUS ANVIL MINING CORPORATION

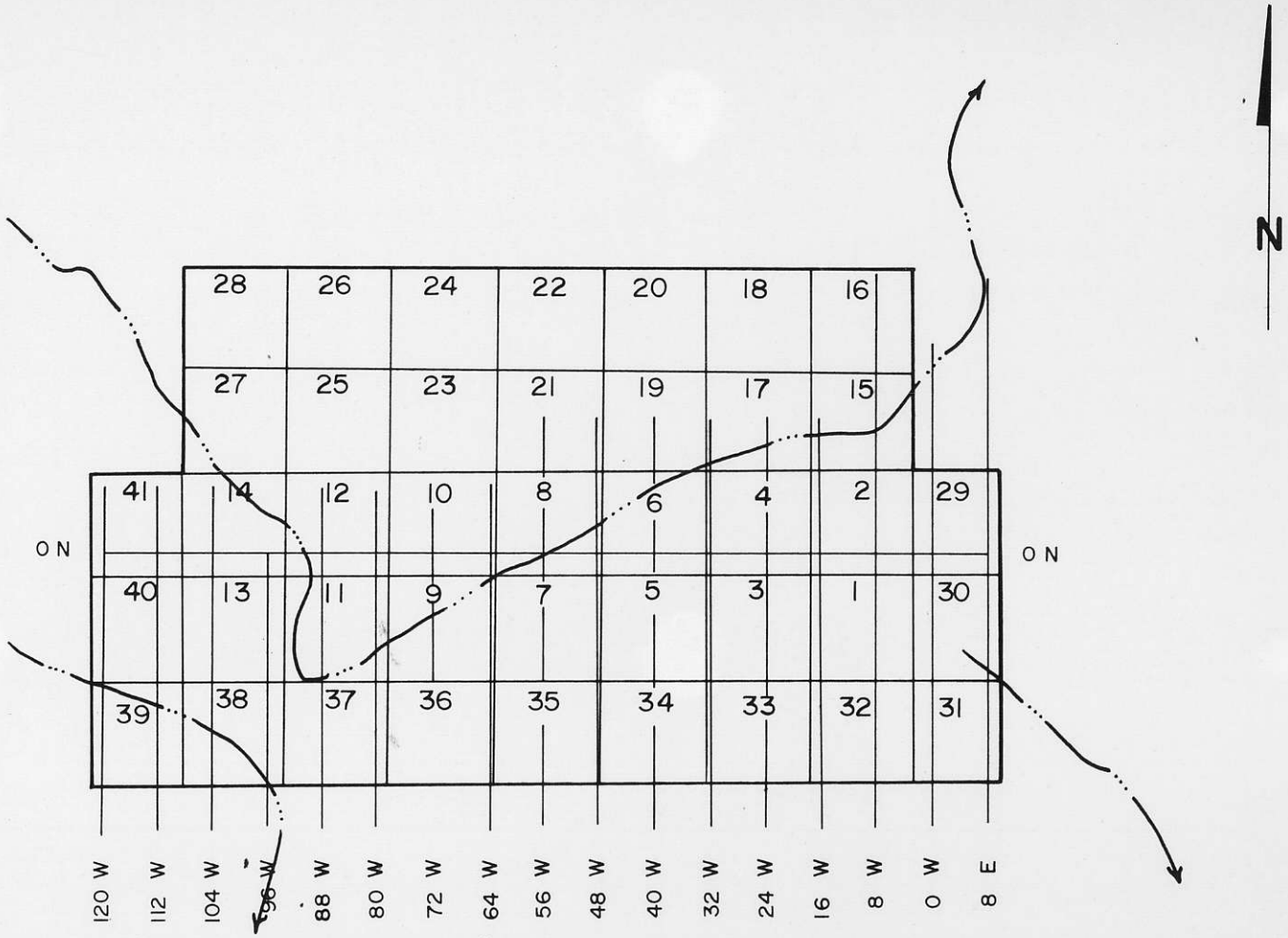
LISA CLAIMS

PROPERTY LOCATION MAP

YUKON

SCALE : 1" = 100 MILES

Figure 1



LISA CLAIMS AND GRID

Scale: 1" = 1/2 Mile

Figure 2

HISTORY

The area of the LISA claims was first staked in 1965 as the ACE claims by Dynasty Explorations following airborne magnetometer and electromagnetic surveys and discovery of massive sulphide float along a deeply incised creek now known as Ace High Creek. Dynasty conducted ground E. M. and magnetometer surveys on the eastern portion of the ACE claims in 1965. The western part of the ACE claims was covered by ground E. M., magnetometer and soil geochemical surveys in 1966 by Anvil Mining Corporation following transfer of the ACE claims from Dynasty. Four drill holes were put down late in the 1966 field season to test geophysical targets; all failed to intersect encouraging mineralization. In 1967 Anvil conducted additional geochemical and I. P. surveys in the vicinity of the known showings in the creek. The weak I. P. anomalies discovered by the above surveys were drill tested and found to be caused by dispersed mineralization of no economic value. The ACE claims were allowed to lapse in 1970.

Spartan Explorations restaked the area as the MAG claims in 1971 and conducted geochemical, magnetometer and I. P. surveys in the vicinity of the sulphide showings. Their I. P. work was concentrated between Anvil's earlier I. P. surveys and in the vicinity of the showings. The anomalies obtained were not drilled and are not known to have been otherwise further tested. The property was allowed to lapse following this work.

Ridgemont restaked the property in February 1972 as the LISA claims. In 1973 the property was mapped geologically but no other surveys were carried out. This work showed that the sulphide occurrences were at a similar stratigraphic position as the Faro orebody, that this horizon had been tested over only a small part of its subcrop by previous surveys and that the I. P. anomalies obtained by Spartan were worthy of further testing. Since part of this horizon was off the claim block additional claims were staked to cover this ground prior to the start of the 1974 field program.

GEOLOGY

The property is underlain by three main groups of rocks, namely a thick unit of monotonous, coarse, muscovite-biotite schists, locally containing garnet and staurolite, overlain by a more varied sequence of limy, pelitic and quartzose schists and phyllites which are in turn overlain by graphitic phyllite and pelitic phyllite. Superposition of units given above is with respect to the dominant foliation which in the lowest rocks is a pervasive second period foliation which passes gradually into a less intense crenulation cleavage and finally primary schistosity is the pervasive foliation midway through the middle group of rocks. All foliations are essentially parallel through the section and dip 30-50° to the northeast. Intensity of the second metamorphism decreases up section as does the degree of development of second period fabric.

Key to Figure 3

Dynasty (1965)

Electromagnetic & magnetic

Anvil (1966 – 1967)

Electromagnetic & magnetic

Soil Geochemical

Induced polarization

66-A-1 Diamond drill holes

Spartan (1971)

Magnetic

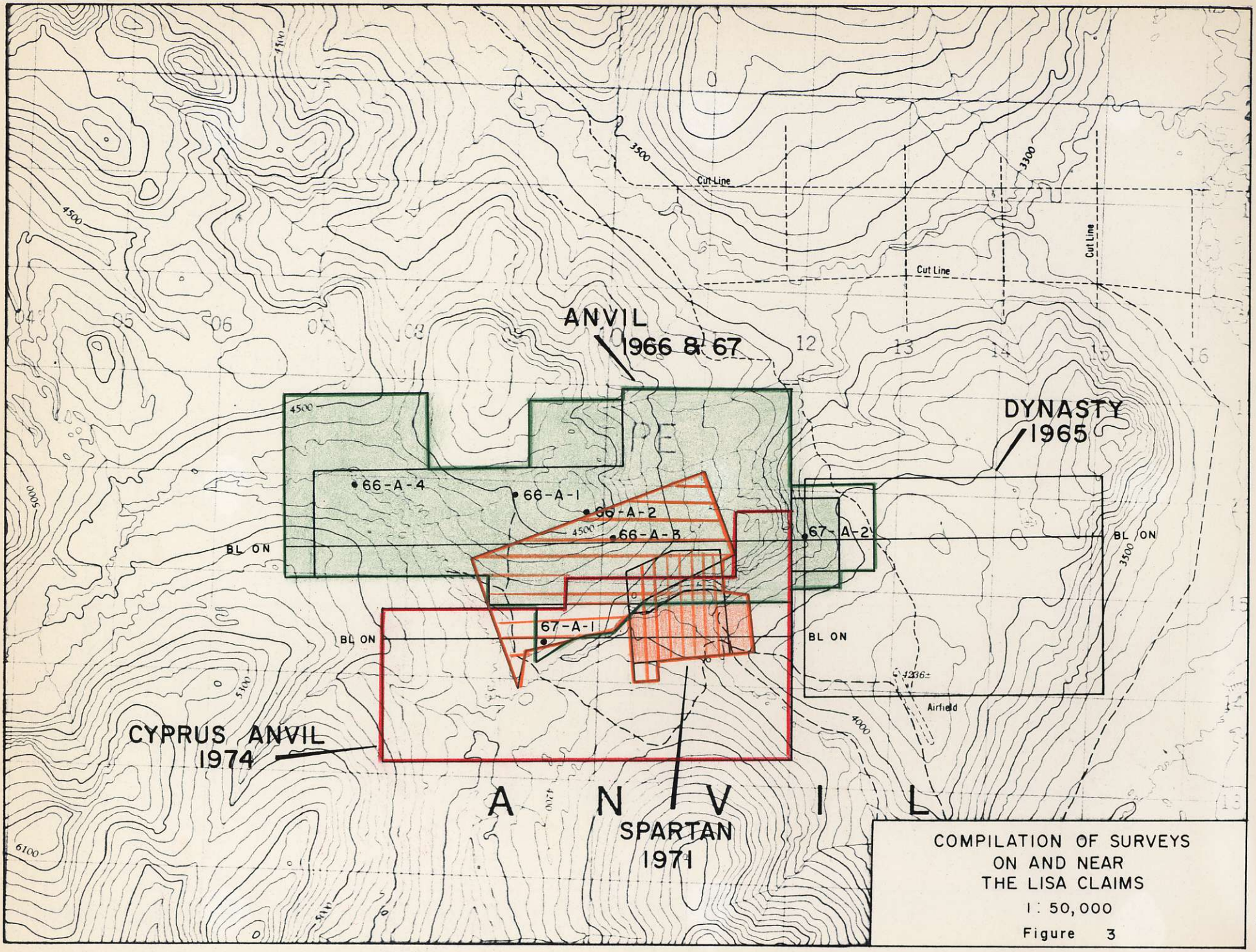
Soil geochemical

Induced polarization

Cyprus Anvil (1974)

Turam electromagnetic, magnetic,

Soil geochemical



COMPILATION OF SURVEYS
ON AND NEAR
THE LISA CLAIMS
1 : 50,000
Figure 3

The showings in Ace High Creek are hosted by the middle unit and consist of lenses up to two feet thick and ten feet long of massive pyrrhotite with minor chalcopyrite and traces of sphalerite. The lenses are conformable to foliation in the surrounding blocky, rusty-weathering, light coloured phyllites.

The reader is referred to a report by P. F. Lewis and J. G. Simpson (1974) for details of the geology of the property and surrounding areas and a geological map.

1974 FIELD SEASON

During the 1974 field season Turam E.M. and magnetometer surveys were conducted by P. E. Walcott and Associates over a 800' x 100' grid cut and picketted by Eastern Associates. The grid was also soil sampled by Anvil personnel. The results of these surveys are presented in this report (Maps 2-5) and in a report by P. E. Walcott and Associates. The survey results are also summarized on sepia overlays (Figures 7-10) which are intended to be used with the geological map in Lewis and Simpson (1974) to provide a topographic and geological background to properly locate and evaluate the results.

Geochemical Survey

Methods and Procedure:

Samples were collected from the upper part of the "B" horizon using a mattock. Samples were placed in wet strength Kraft paper bags and air dried in camp. The samples were analysed by Barringer Research at their Whitehorse laboratory. At Barringer's laboratory the samples were oven dried at 75°C, then sieved to minus 80 mesh. 250 mg of the minus 80 mesh fraction was treated with perchloric acid ($HClO_4$) and the resultant solution was analysed by atomic absorption spectrophotometry.

Results:

The results of the survey are presented in histogram forms as Figures 3, 4 and 5 and in plan form as Maps 2, 3 and 4 in the pockets at the rear of this report. The statistics of the sample distributions are in Table II below.

Table II

Statistics of Geochemical Results

	Arithmetic Average ($\bar{x}$)	Standard Deviation (σ)	Threshold ($\bar{x}+2\sigma$)	Threshold ($2\bar{x}$)
Cu	20	9	38	40
Pb	23	6	35	46
Zn	50	30	110	100

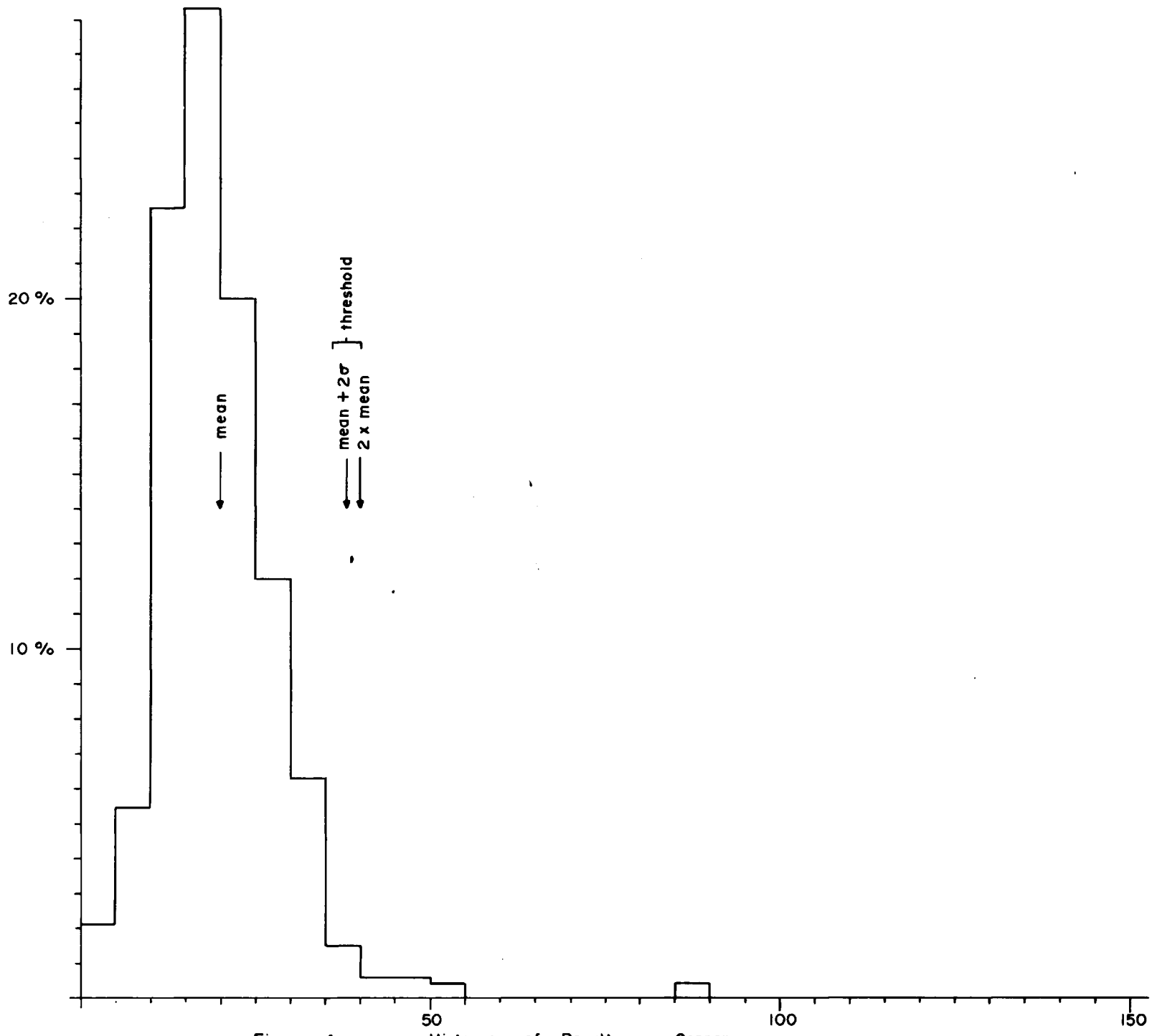


Figure 4 Histogram of Results — Copper

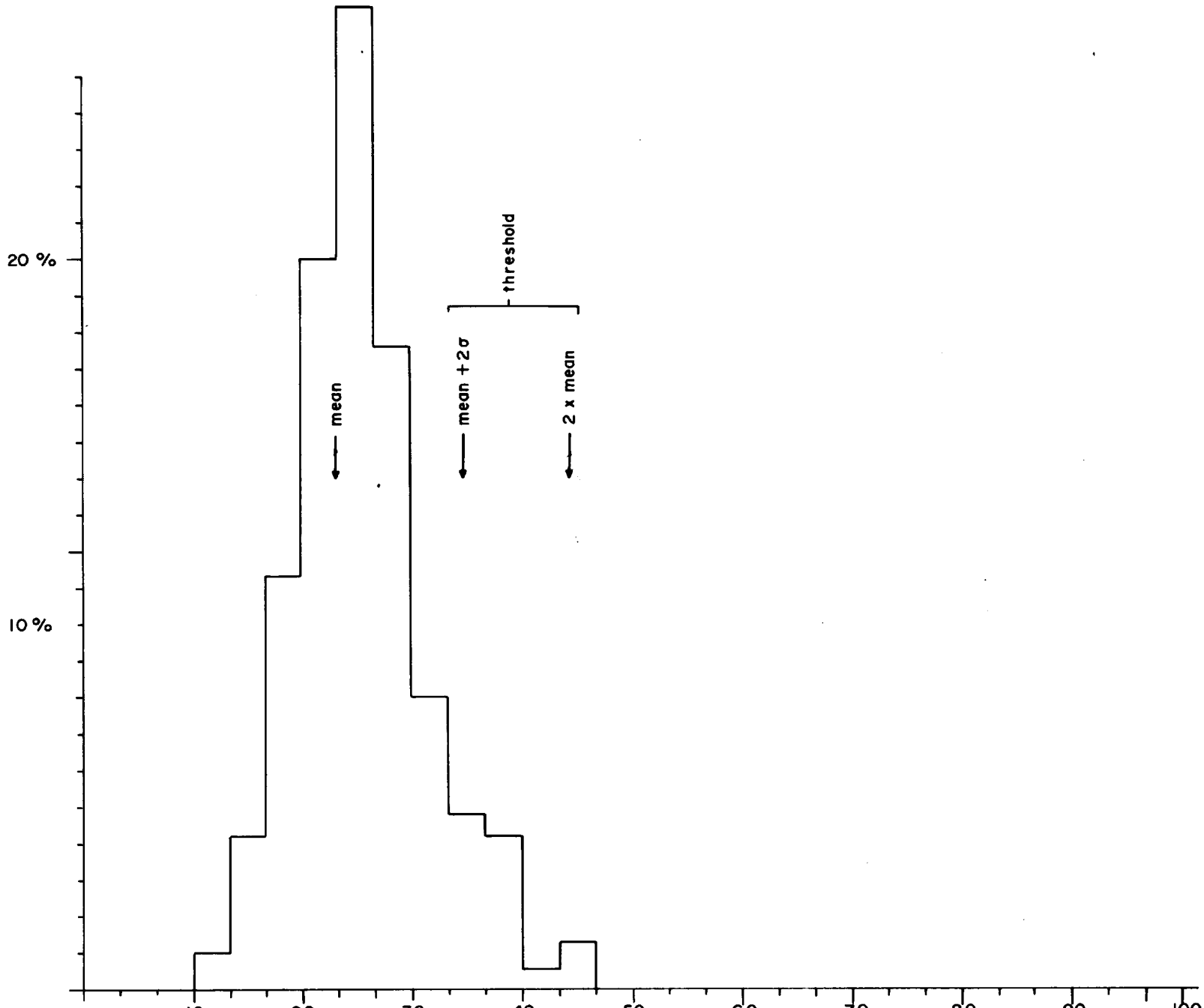


Figure 5 Histogram of Results — Lead

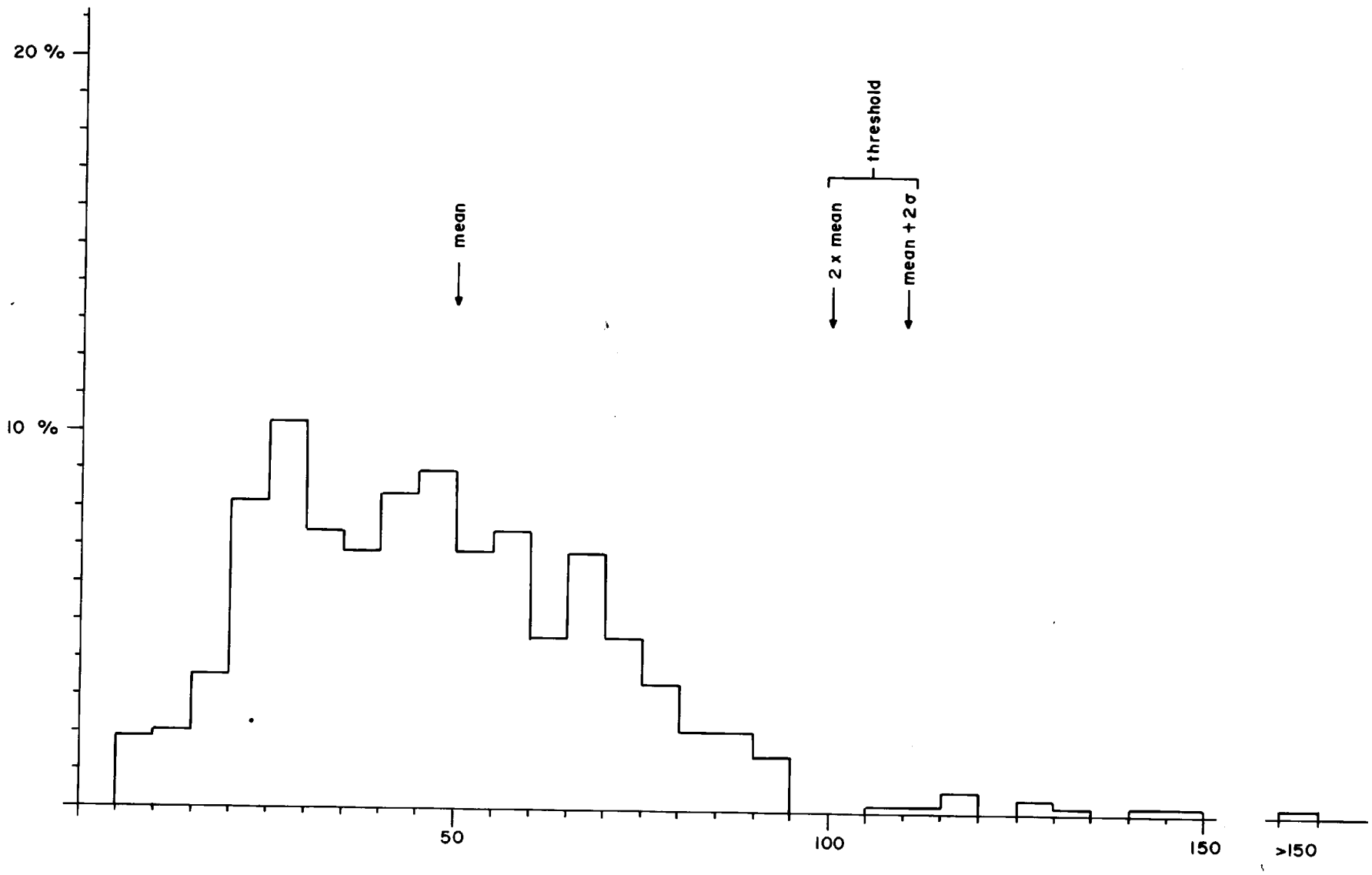


Figure 6 Histogram of Results — Zinc

The values for all these metals are low and those samples that exceed threshold values are not comparable to anomalous samples over known mineralization elsewhere in the Anvil Range. However, significant patterns develop when these low values are contoured. These patterns can generally be related to geology and the surficial environment.

The higher lead values cluster on the west side of the grid at the base of a hill. The schists cropping out on the hill are the lowest rocks in the section; they do not crop out elsewhere on the grid thus the local higher soil values may be due to a higher lead content of the schists. The higher lead values and weakly anomalous copper and zinc values further down the hill or at the bottom of the valley, could be due to hydromorphic concentration of background metals; however this phenomenon is not observed at the base of other hills in the area. The high lead values could also be due to glacial material with slightly higher lead content from known lead mineralization up Ace High Creek (CAM or MUR and FAT claims), or from long range hydromorphic dispersion from an unknown source up the hill, although this is unlikely in light of regional surveys.

Local high copper and zinc values are found in the canyon of Ace High Creek and in the cliffs north of the canyon. These high values are obtained in part from the copper concentrations in the pyrrhotite lenses and stringers cropping out in the creek, known in drill holes, and suspected elsewhere. The low values show that economic concentrations do not subcrop in the canyon. Copper values are also higher in the southeast corner of the grid and could be related to small coincident Turam anomalies. The slightly anomalous copper values and low lead and zinc values suggest that this area could be underlain by calc-silicate rocks which cause weak copper soil and silt anomalies elsewhere in the Anvil Range. The possibility that these copper values are part of a more extensive and intense anomaly to the south or east is limited by patchy surveys on adjoining ground which yielded negative results.

Higher zinc values are erratically distributed, commonly in areas where swampy accumulation is likely, but the greatest concentration is in and just north and south of the canyon where sulphide mineralization occurs. Again the low zinc values show that a large subcropping base metal deposit is lacking.

Magnetometer Survey

Methods and Procedure:

The magnetometer survey was carried out by P. E. Walcott and Associates. A McPhar M600 fluxgate magnetometer was used; this instrument measures the relative intensity of the vertical component of the earth's field. Base stations were set up along the base line and these stations were read at approximately one hour intervals to check for diurnal variations and instrument drift. Any drift noted was linearly distributed back through the loops.

Results:

The survey defines an area in the northeast corner of the grid with high magnetic relief (up to 500γ) surrounded by an area of lower relief (~100γ) which grades southerly into an area of practically no relief and low values (~1250γ). The boundary between the areas of low and no relief corresponds with the upper contact of the coarse biotite muscovite schist. The rocks underlying areas of low and high relief contain limy and quartzose horizons and are finer grained grading upwards into phyllite.

To the west these rocks are known to contain minor amounts of pyrrhotite in outcrop and short massive sections of pyrrhotite in drill holes. On the property these rocks are host to the small massive pyrrhotite lenses noted above. The pyrrhotite lenses fall within the area of high relief suggesting that the difference between high and low relief areas is caused by variation in the maximum size or density of contained pyrrhotite lenses.

An area of very low relief in the southeast corner of the grid corresponds with a swampy depression, suggesting that the low relief generally observed over the rocks inferred to underly this area has been suppressed to the point where it is no longer recognizable, by increasing the depth to source though increased thickness of overburden.

At the northeast corner of the grid the area of high relief appears to pass northward into an area of high values (>1600γ) and moderate relief (100γ-400γ), which reflects the presence of a long intense magnetic anomaly known to trend east-west just north of the 1974 grid.

Turam Survey

Methods and Procedure:

See a report by P. E. Walcott (1975) for details of the Turam technique applied on the claim group.

Results:

The Turam response in the surveyed area is generally fairly flat but numerous small, very weak anomalies are present. Most anomalies occur in the areas of high or moderate magnetic relief and most are directly associated with either a magnetic response indicating that for the most part they reflect the presence of pyrrhotite lenses similar to those cropping out in the canyon and spatially related to some of the anomalies. None of these sharper anomalies reflect the presence of a large base metal deposit.

There is a tendency towards higher field strength ratios north of the baseline within the area of high to moderate magnetic relief. This may be the result of slightly more conductive rocks perhaps because of the presence of scattered pyrrhotite lenses and stringers.

Within this zone of higher field strength ratios two irregularly shaped areas can be outlined with ratios greater than 1.04%. The northern area is not closed off; it is associated with higher magnetic readings and contains a small sharp E.M. anomaly coincident with a 150γ magnetic high. The southern and eastern area extends from line 0W to 32W and is best developed on lines 16W and 24W. It exhibits variable magnetic response but is cored by 150-200γ magnetic highs on lines 16W and 24W. These zones may merely reflect the presence of more closely spaced and/or more interconnected pyrrhotite lenses and stringers thus causing a slightly higher conductivity. Because of the gradual build-up of field strength ratios to low peak values it is possible that the broad zones could reflect the presence of a deep base metal sulphide deposit at or near the depth of Turam penetration and geochemically completely blind.

An I.P. survey conducted over this area by Spartan Explorations in 1971 showed indications of a sulphide body at depth on some lines as well as numerous shallow sources. This I.P. pattern could be explained by small pyrrhotite lenses overlying a larger base metal deposit at depth. The highest magnetic response on the grid (north end of L8W) does not correspond with a similar broad Turam build-up suggesting that the presence of magnetic material has nothing to do with the Turam ratio build-up or that the mineralization there is more dispersed, perhaps consisting of small amounts of disseminated magnetite rather than pyrrhotite lenses and stringers.

In the southeast corner of the grid where higher copper values are found there are four small sharp Turam anomalies only one of which shows magnetic response. These are small features of no direct economic interest, but could indicate that graphitic rocks are entering the lower part of the section to the east suggesting that more work might be warranted to the south and east of the claim block.

CONCLUSIONS AND RECOMMENDATIONS

The surveys carried out to date on the LISA claims show that a subcropping base metal bearing massive sulphide orebody is not likely to be present. A small area south of the canyon of Ace High Creek appears to have some potential for a blind sulphide deposit. This area should be further tested by a gravity survey. The gravity survey should cover at least lines 16W and 24W from 10S to 30N, i.e. approximately two miles of gravity work and one-half mile of linecutting at a cost of about $1500.

Respectfully submitted,

Gregg Jilson

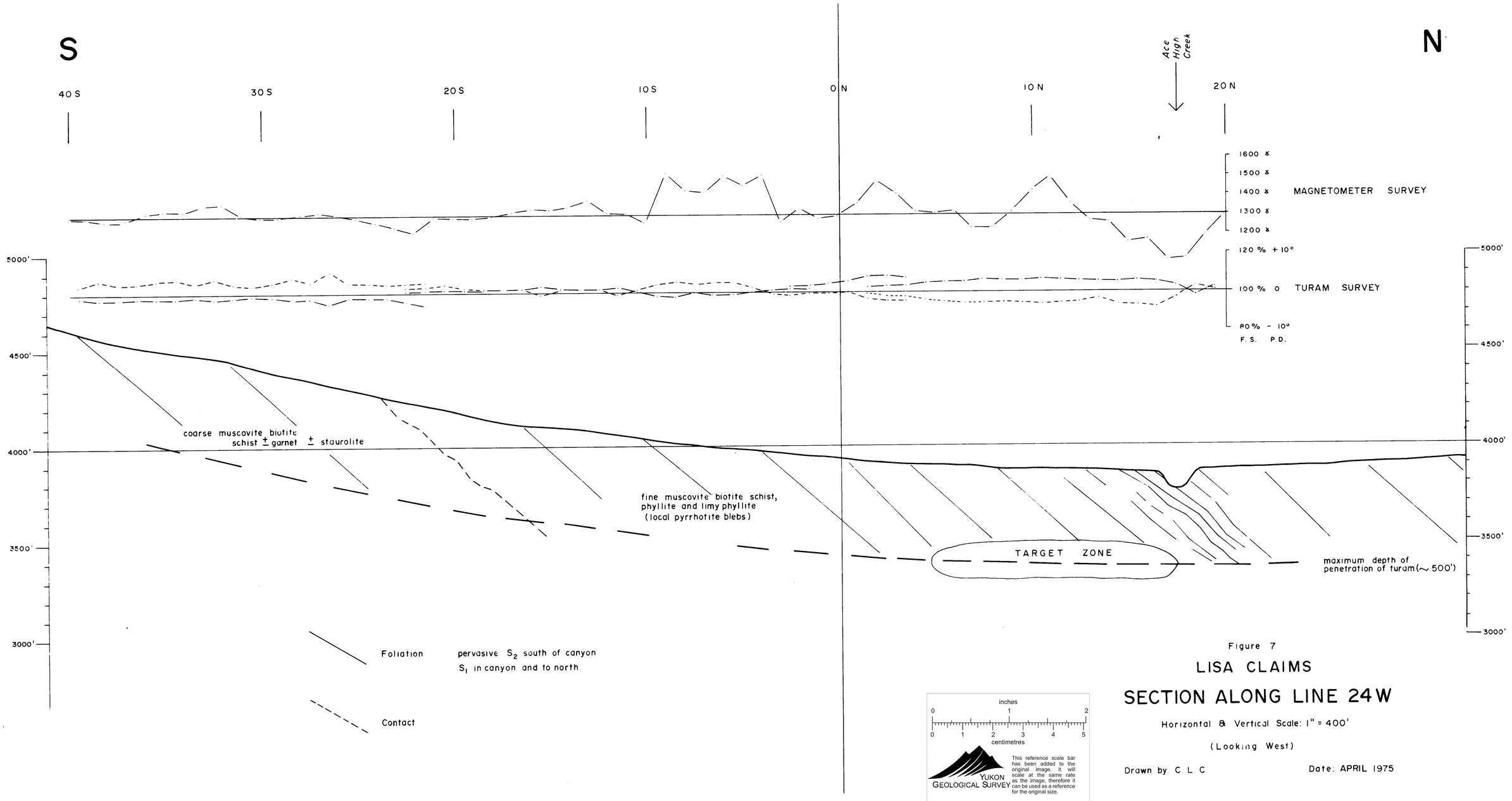


Figure 7

LISA CLAIMS

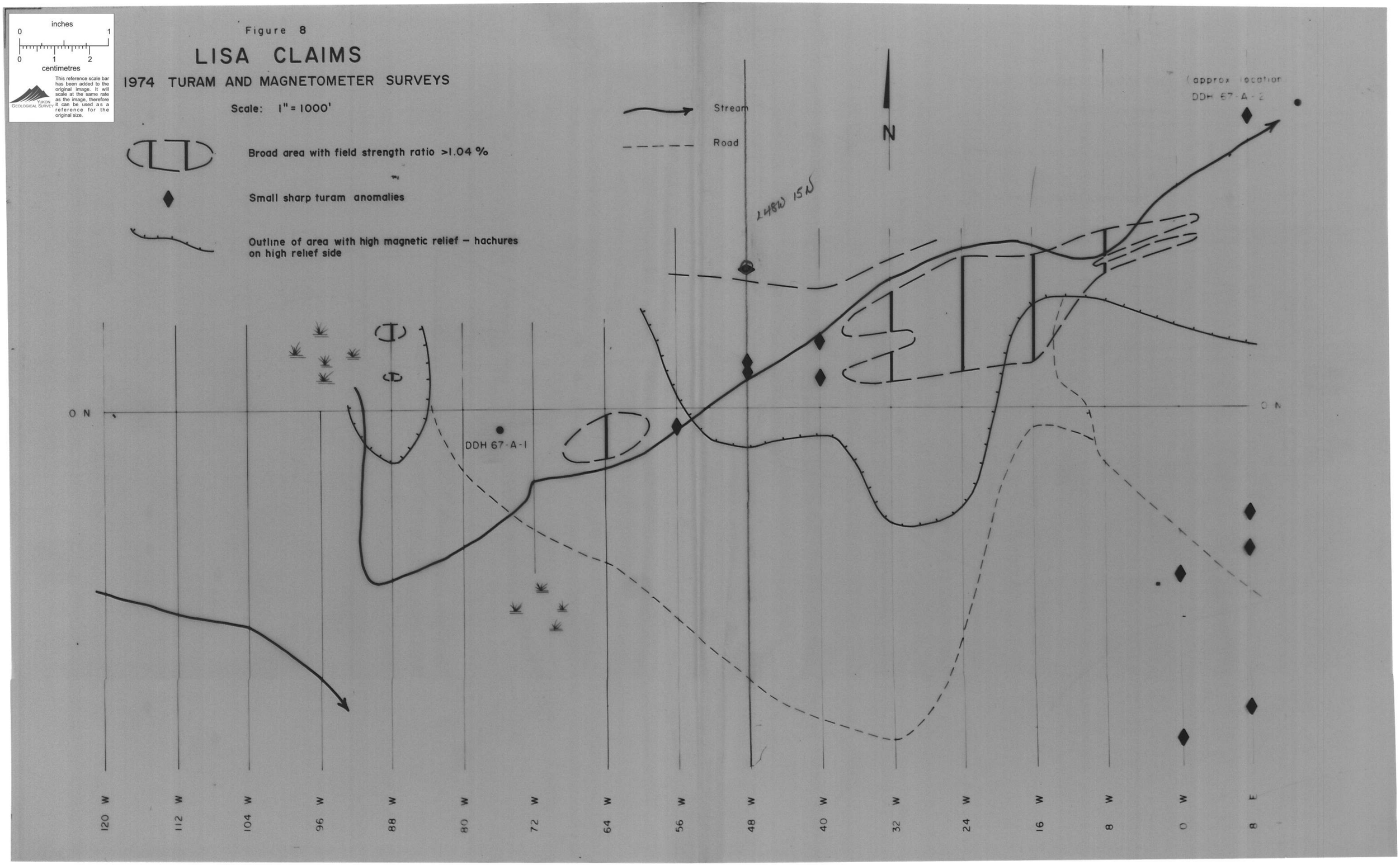
SECTION ALONG LINE 24W

Horizontal & Vertical Scale: 1" = 400'

(Looking West)

Drawn by C. L. C.

Date: APRIL 1975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1
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1
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centimetres
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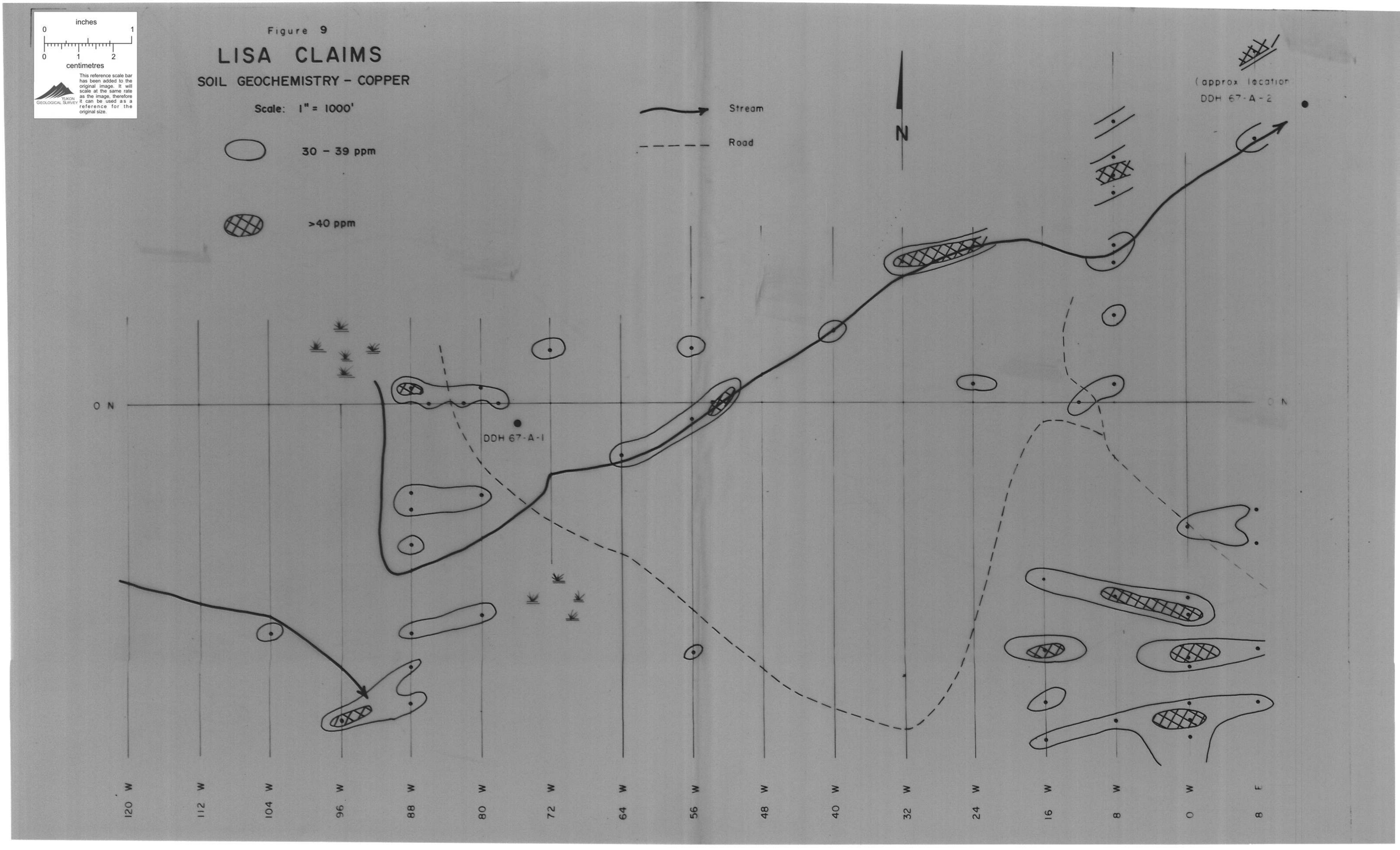
YUKON GEOLOGICAL SURVEY
Figure 8
LISA CLAIMS
1974 TURAM AND MAGNETOMETER SURVEYS
Scale: 1" = 1000'
Broad area with field strength ratio >1.04 %
Small sharp turam anomalies
Outline of area with high magnetic relief – hachures on high relief side
Stream
Road
N
(approx location
DDH 67-A-2
DDH 67-A-1
0 N
0 N
120 W
112 W
104 W
96 W
88 W
80 W
72 W
64 W
56 W
48 W
40 W
32 W
24 W
16 W
8 W
0 W
8 E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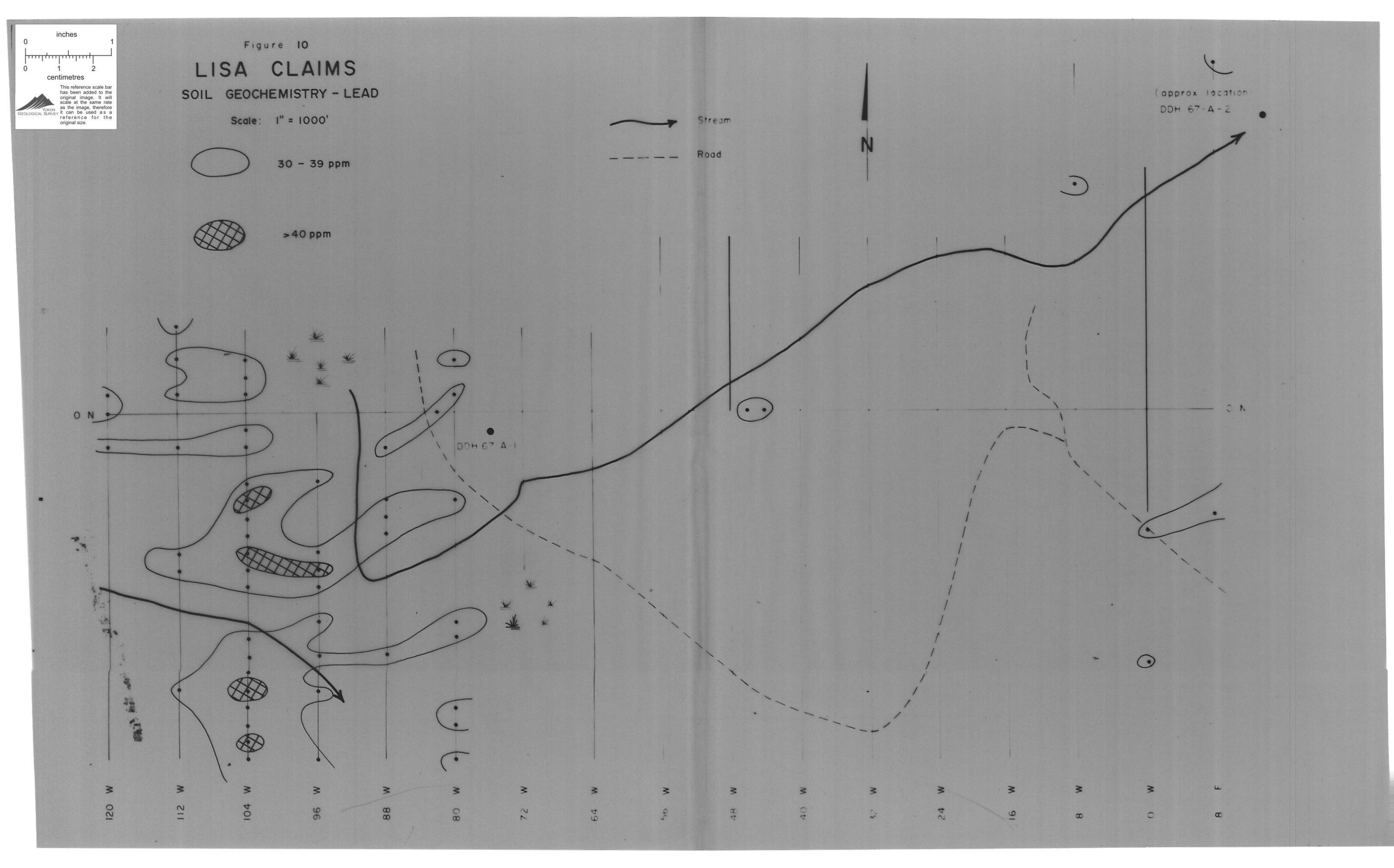
YUKON GEOLOGICAL SURVEY
Figure 9
LISA CLAIMS
SOIL GEOCHEMISTRY - COPPER
Scale: 1" = 1000'
30 - 39 ppm
>40 ppm
Stream
Road
N
(approx location
DDH 67-A-2
DDH 67-A-1
0 N
0 N
120 W
112 W
104 W
96 W
88 W
80 W
72 W
64 W
56 W
48 W
40 W
32 W
24 W
16 W
8 W
0 W
8 E


inches
0
1
0
1
2
centimetres
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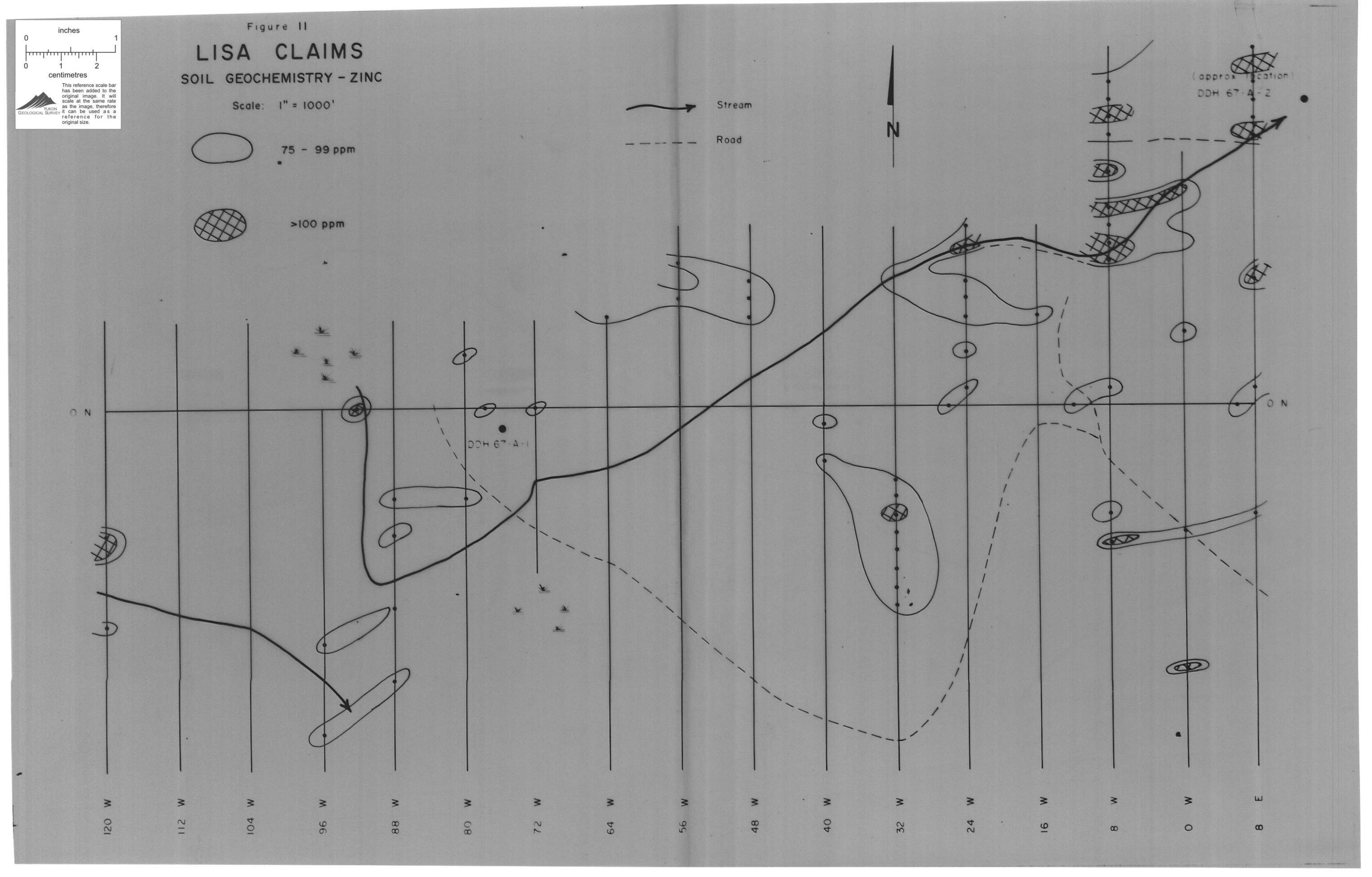
YUKON GEOLOGICAL SURVEY
Figure 10
LISA CLAIMS
SOIL GEOCHEMISTRY - LEAD
Scale: 1" = 1000'
30 - 39 ppm
>40 ppm
Stream
Road
N
(approx location
DDH 67-A-2
DDH 67-A-1
0 N
0 N
120 W
112 W
104 W
96 W
88 W
80 W
72 W
64 W
48 W
40 W
24 W
16 W
8 W
0 W
8 E


inches
0
1
0
1
2
centimetres
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YUKON GEOLOGICAL SURVEY
Figure II
LISA CLAIMS
SOIL GEOCHEMISTRY - ZINC
Scale: 1" = 1000'
75 - 99 ppm
>100 ppm
Stream
Road
N
(approx location)
DDH 67-A-2
DDH 67-A-1
0 N
0 N
120 W
112 W
104 W
96 W
88 W
80 W
72 W
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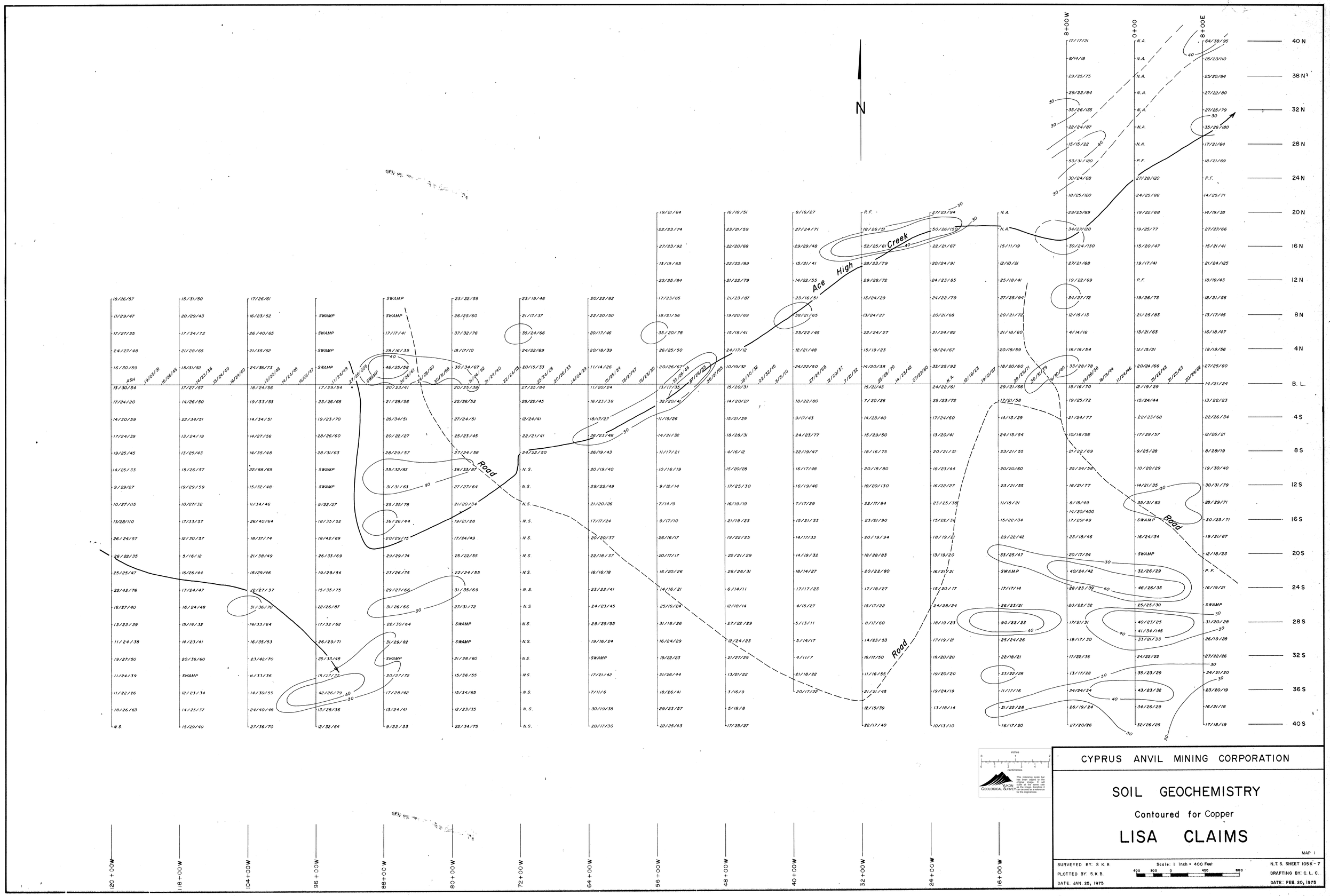


CYPRUS ANVIL MINING CORPORATION

SOIL GEOCHEMISTRY

Contoured for Copper

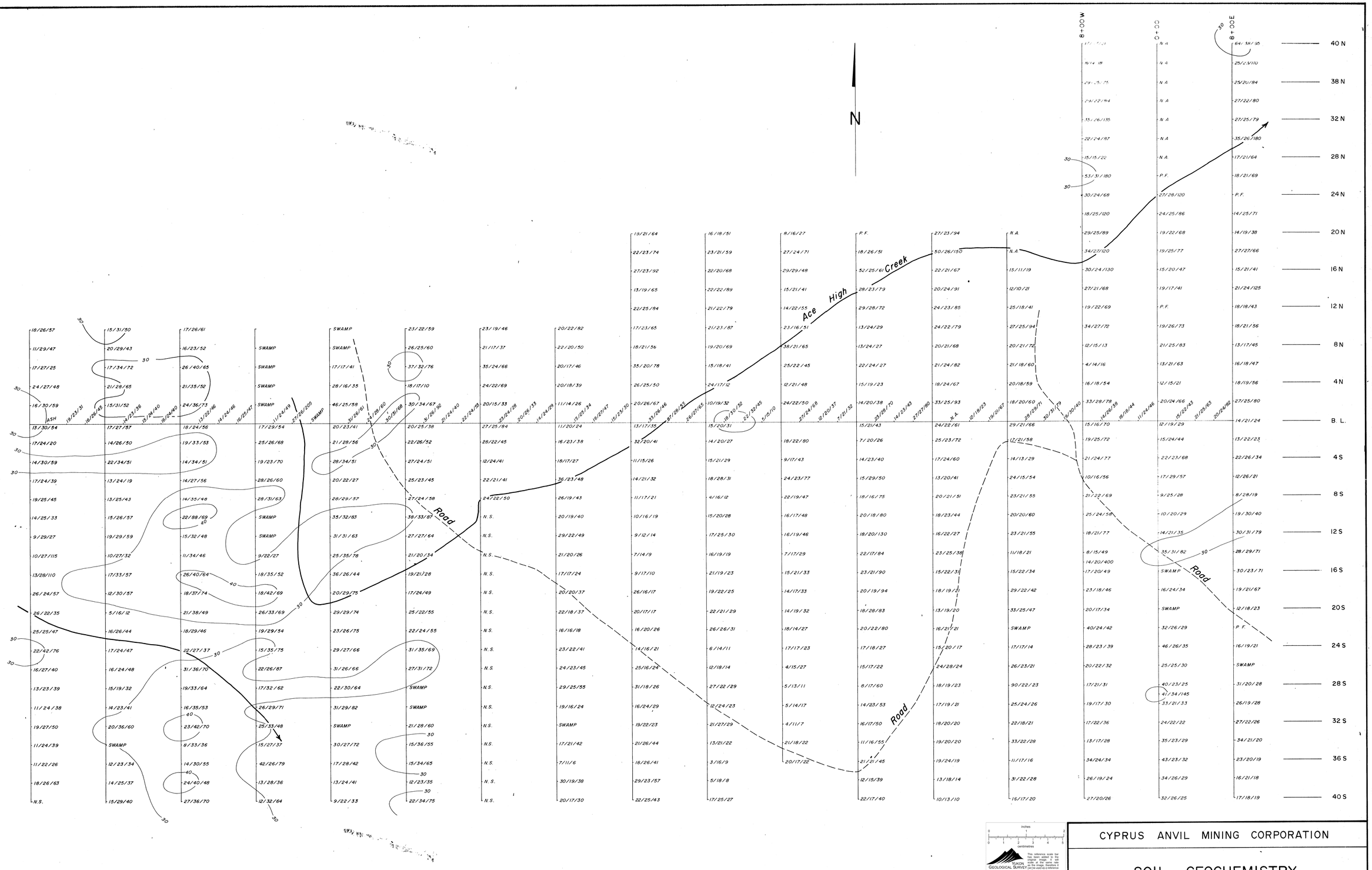
LISA CLAIMS

MAP I

SURVEYED BY: S.K.B.
PLOTTED BY: S.K.B.
DATE: JAN. 25, 1975

Scale: 1 Inch = 400 Feet
400 800 0 400 800

N.T.S. SHEET 105K-7
DRAFTING BY: C.L.C.
DATE: FEB. 20, 1975



CYPRUS ANVIL MINING CORPORATION

SOIL GEOCHEMISTRY

Contoured for Lead

LISA CLAIMS

MAP 2

SURVEYED BY: S. K. B.
PLOTTED BY: S. K. B.
DATE: JAN. 25, 1975

Scale: 1 Inch = 400 Feet
400 200 0 400 800

N.T.S. SHEET 105K - 7
DRAFTING BY: C. L. C.
DATE: FEB. 20, 1975

YUKON GEOLOGICAL SURVEY
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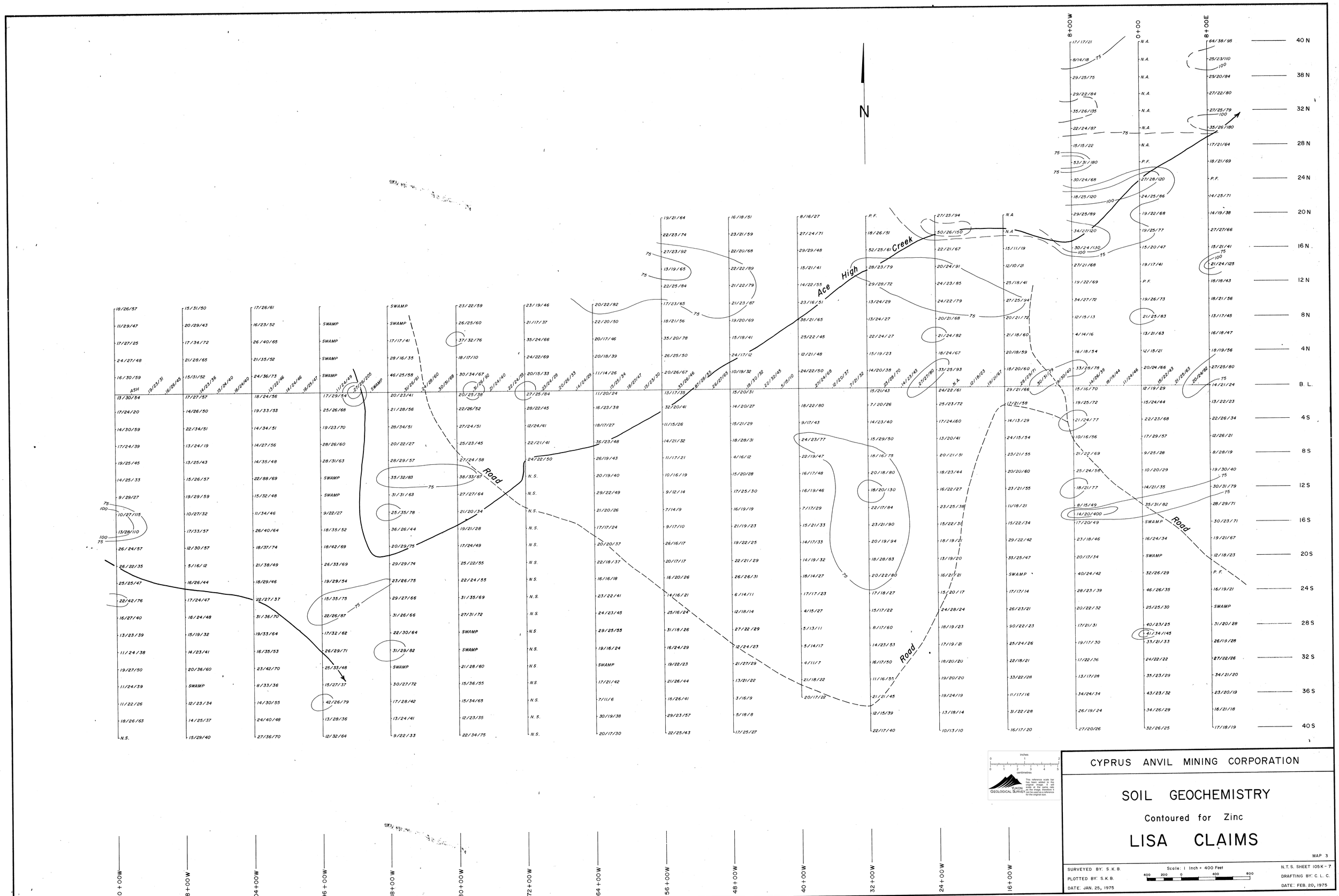


CYPRUS ANVIL MINING CORPORATION

SOIL GEOCHEMISTRY

Contoured for Zinc

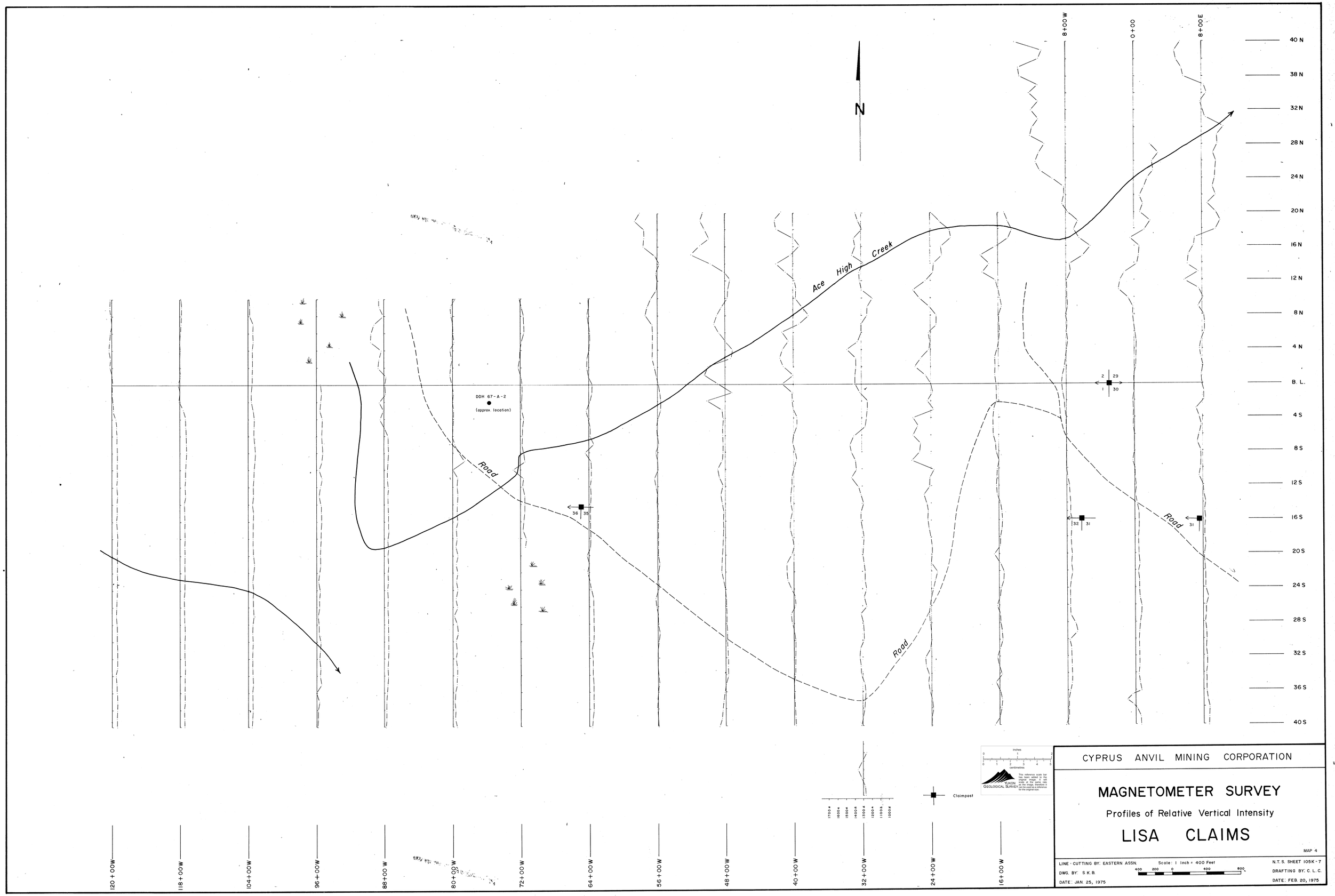
LISA CLAIMS

MAP 3

SURVEYED BY: S. K. B.
PLOTTED BY: S. K. B.
DATE: JAN. 25, 1975

Scale: 1 Inch = 400 Feet
400 200 0 400 800

N.T.S. SHEET 105K - 7
DRAFTING BY: C. L. C.
DATE: FEB. 20, 1975


N
Ace High Creek
Road
Road
Road
DDH 67-A-2
(approx location)
8+00W
0+00
8+00E
40 N
38 N
32 N
28 N
24 N
20 N
16 N
12 N
8 N
4 N
B. L.
4 S
8 S
12 S
16 S
20 S
24 S
28 S
32 S
36 S
40 S
120+00W
118+00W
104+00W
96+00W
88+00W
80+00W
72+00W
64+00W
56+00W
48+00W
40+00W
32+00W
24+00W
16+00W
Claimpost
YUKON GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
CYPRUS ANVIL MINING CORPORATION
MAGNETOMETER SURVEY
Profiles of Relative Vertical Intensity
LISA CLAIMS
MAP 4
LINE - CUTTING BY: EASTERN ASSN.
DWG. BY: S.K.B.
DATE: JAN. 25, 1975
Scale: 1 inch = 400 Feet
N.T.S. SHEET 105K-7
DRAFTING BY: C.L.C.
DATE: FEB. 20, 1975