4459

A GEOCHEMICAL REPORT

on

Mineral Claims JIM 1 - 8,

Angus Creek, 18 miles northwest
of
Cranbrook, B.C. (Lat. 49°36'N, Long. 116°7'W)

for

URSUS MINERALS LTD.

by

P. E. Lane, M. Sc., P. Eng.
Cranbrook, B.C.
July 1973

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INTRODUCTION

Between the 31st May and 13th July, 1973 soil sampling was carried out by Mr. R. Zimmermann for Ursus Minerals Ltd. on the Jim Claim Group situated approximately eighteen (18) miles northwest of Cranbrook, B.C.

Samples have been analysed for copper, lead and silver, and the data are presented as contour maps at a scale of 1" = 250 feet.

The property was visited by the writer on July 13th to examine geochemically anomalous areas.

CLAIMS

The claim group consists of the Jim 1 - 8 mineral claims (record Nos. 17201 - 17208), located in the Fort Steel Mining Division. The claims are held in the name of Ursus Minerals Ltd.

LOCATION AND ACCESS

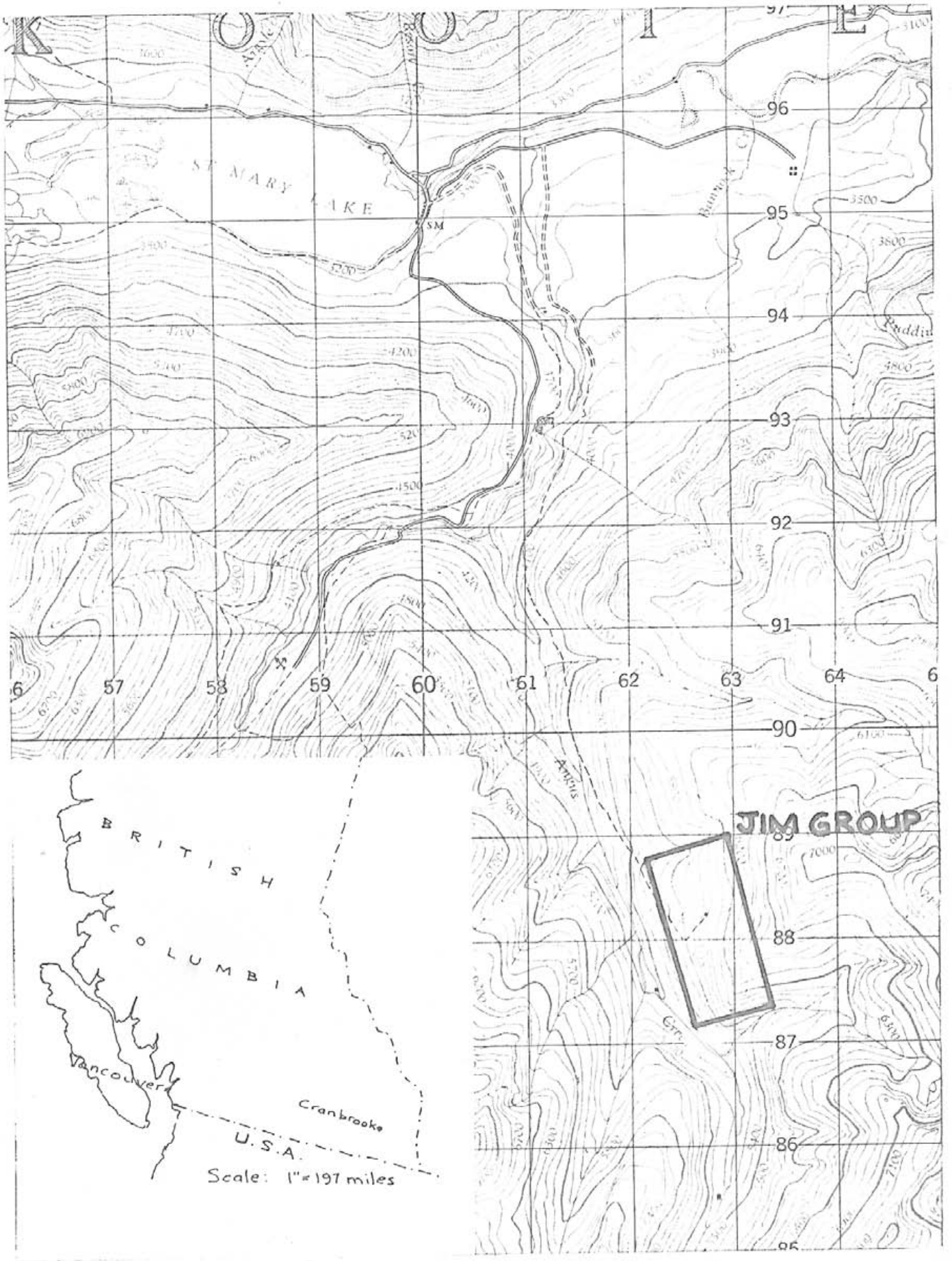
The Jim Group is located within the St. Mary Lake (82F/9E) topographic sheet (Mineral Claim map 82F/9E(M)). It lies approximately five (5) miles south of the confluence of Angus Creek and St. Mary River, on the east side of Angus Creek.

Access was via helicopter from the saw mill site at the east end of St. Mary Lake. A logging road runs from the St. Mary valley to the property but was blocked by dead falls and a washed out bridge at the time of the visit to the property.

TOPOGRAPHY

The claims lie on the east side of Angus Creek between elevations of 5200 and 6200 feet. The general azimuth of the downward slope of the hillside is 230° to 260° except on the southern end of claims Jim 7 and 8 where the slope is southerly. The grade of the hillside varies from 10° to 20° in the north of the claim group to as high as 45° in the south with areas of vertical rock bluffs.

The bush is generally open with little to moderate underbrush and moderate timber at higher elevations but in lower, less steeply sloping areas, it becomes more dense with heavier timber.



URSUS MINERALS LTD. - JIM GROUP

LOCATION MAP

4459

GEOLOGY

The property was formerly known as the Wellington and as the Leader. It is briefly described in G.S.C. Memoir 228. The main vein of workings were mapped and sampled by Virgil Chamberlain of Great Falls, Montana in 1962.

G.S.C. Map 15-1957 "St. Mary Lake" indicates that the mineralization is located along a nearly north-south trending, steeply dipping fault, which brings rocks of the Creston formation to the west against Kitchener Sihey formation to the east. These formations are generally west-dipping.

The general nature of the Kitchener-Sihey is a series of varicoloured argillites, dolomitic argillites and dolomites which mostly weather buff to brown.

The Creston formation of typically green, grey and purplish argillaceous quartzite, quartzite and argillite.

Within a quarter-mile a Proterozoic granodiorite, pegmatitic stock has intruded the Creston formation.

The vein strikes has been traced for approximately 1000 feet with an average width of approximately 1 foot and a maximum width of 2 feet. Assays obtained by Chamberlain ran as high as; gold 1.08 oz/ton; silver 3.3 oz/ton, and lead 14.78%. The mineralization is reported to be banded white quartz carrying visible galena, pyrite, some chalcopyrite, and possibly tetrahedrite.

Workings consist of a shaft, an adit and open cuts along the vein.

GEOCHEMISTRY

Sampling Technique

Soil samples were collected at 200 foot intervals on lines 400 feet apart, from a depth of approximately twelve inches which, for the great majority of samples, was in the upper rusty brown section of the 'B' horizon. In areas of deeper overburden the samples may have come from the lower part of the 'A' horizon, whilst in areas of very thin overburden the samples were probably from the 'C' or lower 'B' horizon.

Samples were obtained by using an auger. They were then placed in Kraft sample bags. Drying and screening was carried out at the Laboratory.

Analytical Technique

The samples were analysed by C. L. McIsaac, Loring Laboratories Ltd., Calgary, Alberta.

The samples were oven dried, screened through a -80 sieve, digested for 3 hours in aqua-regia and then aspirated into an atomic absorption spectrophotometer and the content of copper, lead and silver was recorded in parts per million.

Discussion of Data

The data are presented as contour maps for lead, copper and silver in parts per million, at a scale of 1" = 250 feet on base maps supplied by Ursus Minerals Ltd.

The background values for lead are of the order of ppm in the easterly half of the grid as opposed to background values of 35 to 45 ppm in the westerly half. This probably reflects, to some extent the reported difference in country rock of Kitchener Sihey to the east and Creston formation to the west. The general background values to the west are probably also enhanced by downslope migration from Anomaly 'A'. The copper and silver background values do not exhibit the same contrast.

Four anomalous zones, A, B, C, and D, have been designated for the lead values. There is generally close agreement with the anomalous silver values and some, poor, correlation of the copper results.

Anomaly 'A' correlates with the surface outcrop of the mineralized quartz vein. The very high values at 4N/2W and 4S/4W may be due to the sampling of the 'C' horizon as in both localities overburden is very rubbly and probably quite thin. In the case of 4N/2W the anomalous reading may be due to downhill transport of mineralized material as the vein is known to outcrop above this location. Silver and copper anomalous values correlate in location with the anomalous lead. The anomaly is closed to the north where it may extend as far as line 12N. To the south the anomaly is open. The minimum strike length is 2400 feet.

Anomaly 'B' is of limited strike extent. The high values at 8N/8W and 8N/6W occur in an area of probably very thin overburden and the anomaly may be enhanced as a result of 'C' horizon samples. Quartz vein and granodiorite float, with abundant ironstaining was seen in the locality. The part of the anomaly at 8N/10W and 4N/8W may be partially enhanced or entirely due to hydromorphic causes. Water seepages were noted in the locality. There is also a distinct change from lightly treed open bush to a denser undergrowth and heavier trees suggesting an area of deeper overburden and possibly deeper 'A' horizon. Anomalous silver values are coincident with the lead anomaly and a weak one-point copper anomaly correlates with the highest lead and silver reading.

Anomaly 'C' is not continuous but is composed of two discrete, high-valued anomalies. At 12S/4E the soil is thin and probably close to the 'C' horizon, whilst at 4S/2E the profile seems to be well developed. The anomalous reading at 4N/0+00 may be the result of down-slope soil migration from anomalous soil at 4S/2E. There is partial correlation of silver values and correlation with weakly anomalous copper values. The anomaly is open to the south and east on line 12S. The anomalies at 12S/4E and 4S/2E have been resampled.

Anomaly 'D' occurs in an area of deeper overburden which is more heavily timbered. The 'A' horizon is developed to at least 1 foot in places. Seepages were noted at 20N/12W and 24N/8W and the anomalous readings may be hydromophic, at least in part. At 32N/4W a distinct break of slope was noted although no seepage was apparent. There is partial coincidence of copper and silver anomalous values. The anomaly is open to the north and west.

Anomalous silver values occur at 00/14W and 4S/15W producing a N.N.E. trending anomaly which is open to the west. The area was not examined by the writer. There are no lead or copper anomalies associated with it.

There are a few one-point copper and silver anomalies which are probably due to variations in the sampling depth.

The data has not been analysed statistically. Such a treatment could modify the general trends as outlined.

CONCLUSIONS

Anomaly 'A'

The anomaly is partially coincident with the known mineralization and possibly extends the known strike length of the vein. The width of the anomaly is almost certainly caused by down-hill migration and the true location of the vein will be nearer the eastern edge of the anomaly.

Anomaly 'B'

The part of the anomaly on Line 8N is very possibly due to bedrock mineralization. To the south there may be some influence from hydromorphic and organic effects.

Anomaly 'C'

The lack of continuity of anomalous readings across Line 8S in the vicinity of 2E downgrades the anomaly. It could be due to a bedrock source.

Anomaly 'D'

The well developed 'A' horizon and evidence of seepages suggests that the anomaly may not be the result of directly underlying bedrock mineralization.

RECOMMENDATIONS

Anomaly 'A'

In order to establish the northern limits of the anomaly more precisely, additional soil sampling should be carried out over new Lines 14N, 18N and 22N from 2W to 8E at 100 foot intervals.

The location of the vein could be better defined by resampling at intervals of 50 feet on those lines where the vein subcrops.

The southward extension of the vein should be investigated by further soil sampling on Lines 16S to 28S from 0+00 to 10W.

Anomaly 'B'

From 8N/4W to 8N/8W profile sampling at 50 foot intervals and depths of 6 inches, 1 foot and 2 feet, could be attempted in order to determine whether geochemical values increase with the depth of sampling. If it proved impossible to sample to significantly greater depths then hand pitting should be attempted. However, before this was undertaken samples at 50 foot intervals should be collected to determine theuphill edge of the anomaly more precisely.

On Line 4N from 6W to 8W profile sampling should also be attempted. Samples at 6 inches, 1 foot and 2 foot depths should be collected at 50 foot intervals. The samples should be analysed using cold extractable and 'total' digestion attacks in order to determine to what degree the anomaly is hydromorphic, by determining the cold extractable to total metal ratio.

Anomaly 'C'

If the resampled values at 4S/2E and 12S/4E support the previous results then intermediate soil lines should be run on Lines 2S and 6S from 0+00 to 4E; on Lines 10S and 14S from 2E to 6E at 50 foot station intervals.

The possible southward extension of the anomaly should be investigated by further soil sampling.

Anomaly 'D'

Profile sampling at 6 inches, 1 foot and 2 foot depths should be undertaken on Line 24N from 6W to 14W at 100 foot intervals. Samples should be analysed by cold and total extraction techniques to investigate the extent of hydromorphic effects.

Further recommendations would be contingent upon the results of the additionzl soil sampling.

Respectfully submitted

P.E. Lane

P. E. Lane, P. Eng.

REFERENCES

Rice, H. M. A.	G.S.C.	Memoir 228, 1941	
Leech, G.B.	G.S.C.	Map 15 - 1957	St. Mary Lake

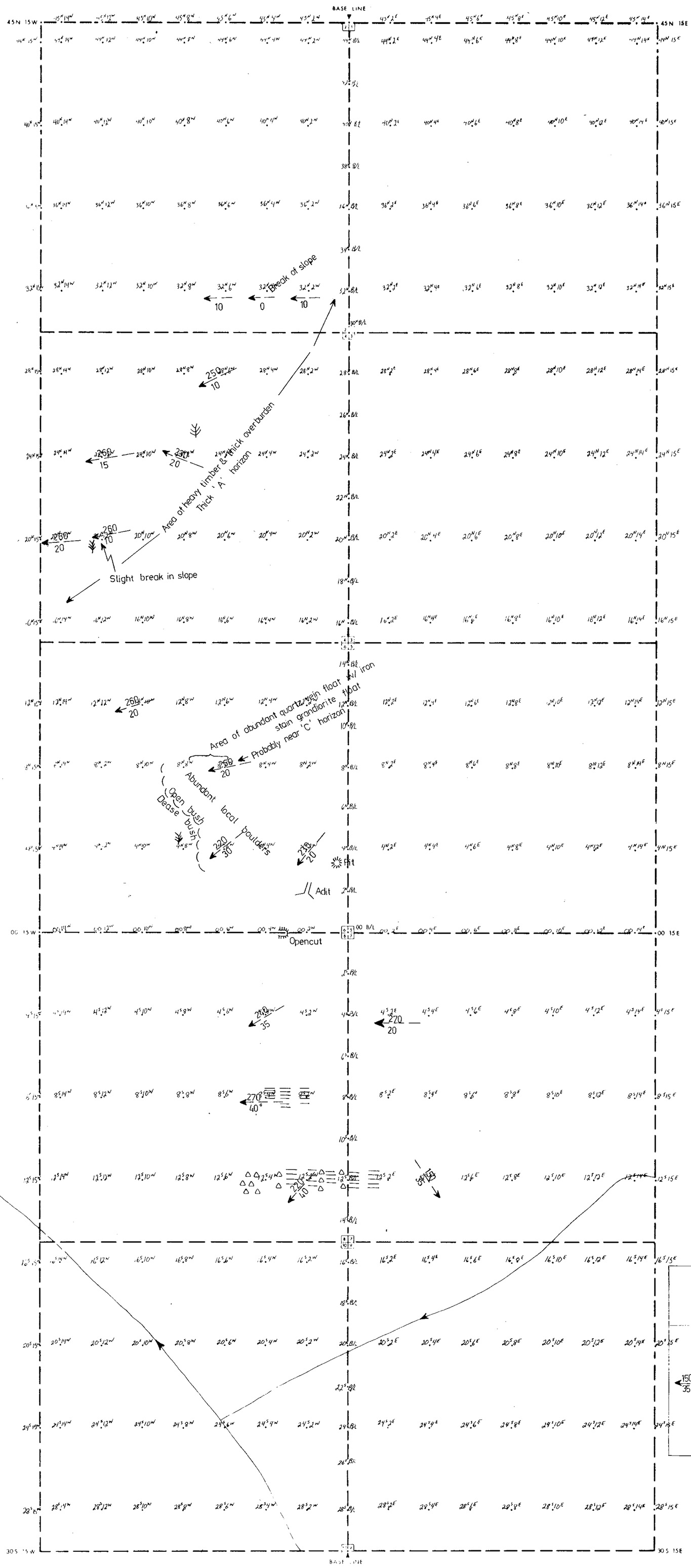
APPENDIX

Declaration of Costs

Personnel:

Name	Days Worked	Dates	Daily Fee	Total
P. E. Lane	4	July 11th to 14th	$140.00	$560.00

LINE GRID



LEGEND

- Coarse slide material
- Rock bluffs
- 150 (Azimuth) / 35 (Slope) — Local drainage direction
- Seepage

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ANGUS CREEK PROPERTY

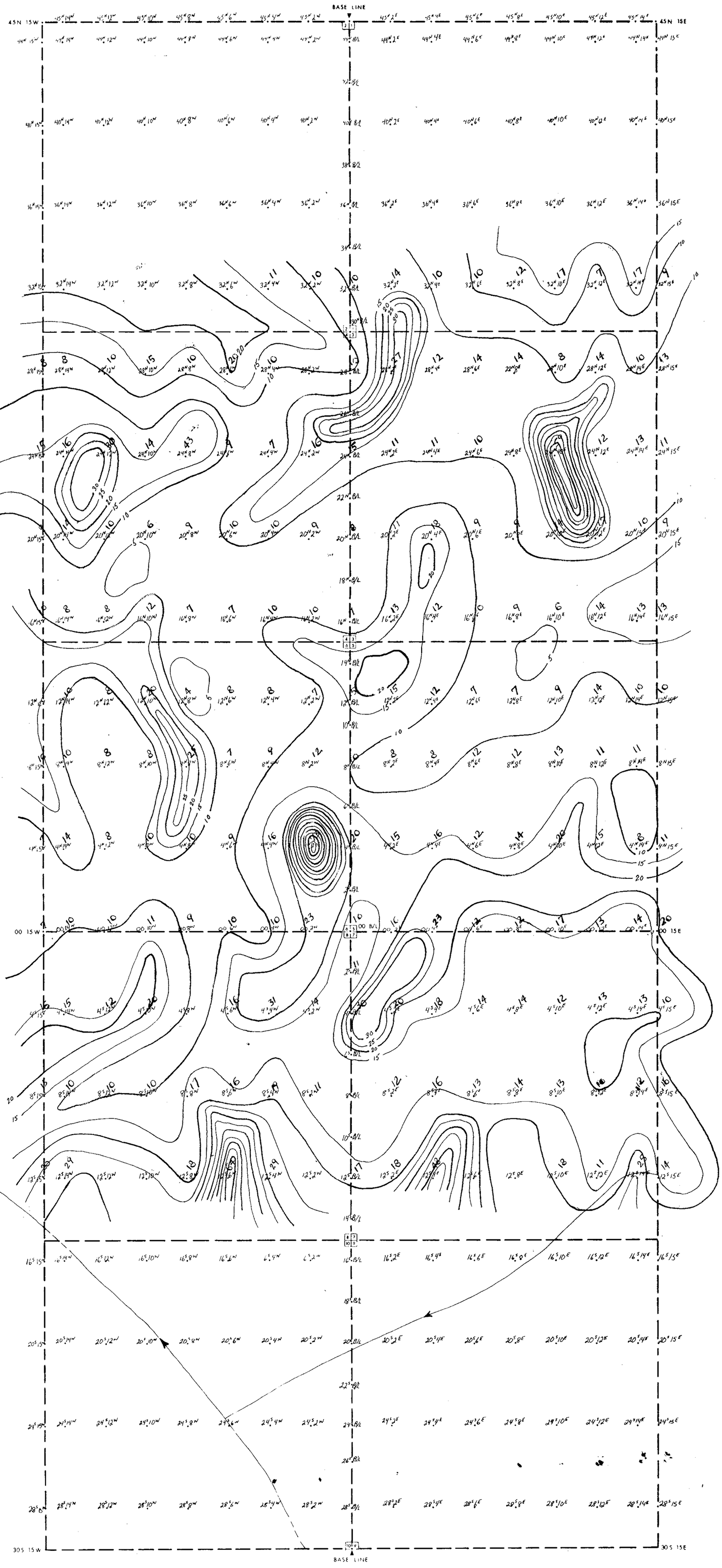
JIM GROUP - No 1 TO 8

LINE MAP WITH TOPOGRAPHIC FEATURES NEAR GEOCHEMICAL ANOMALIES

SCALE 1 INCH = 250 FEET

To accompany geochemical report
by P. E. Lane, P. Eng.,
16 th July, 1973

LINE GRID



URSUS MINERALS LTD.

ANGUS CREEK PROPERTY
JIM GROUP No. 1 TO 8

SOIL SAMPLE MAP

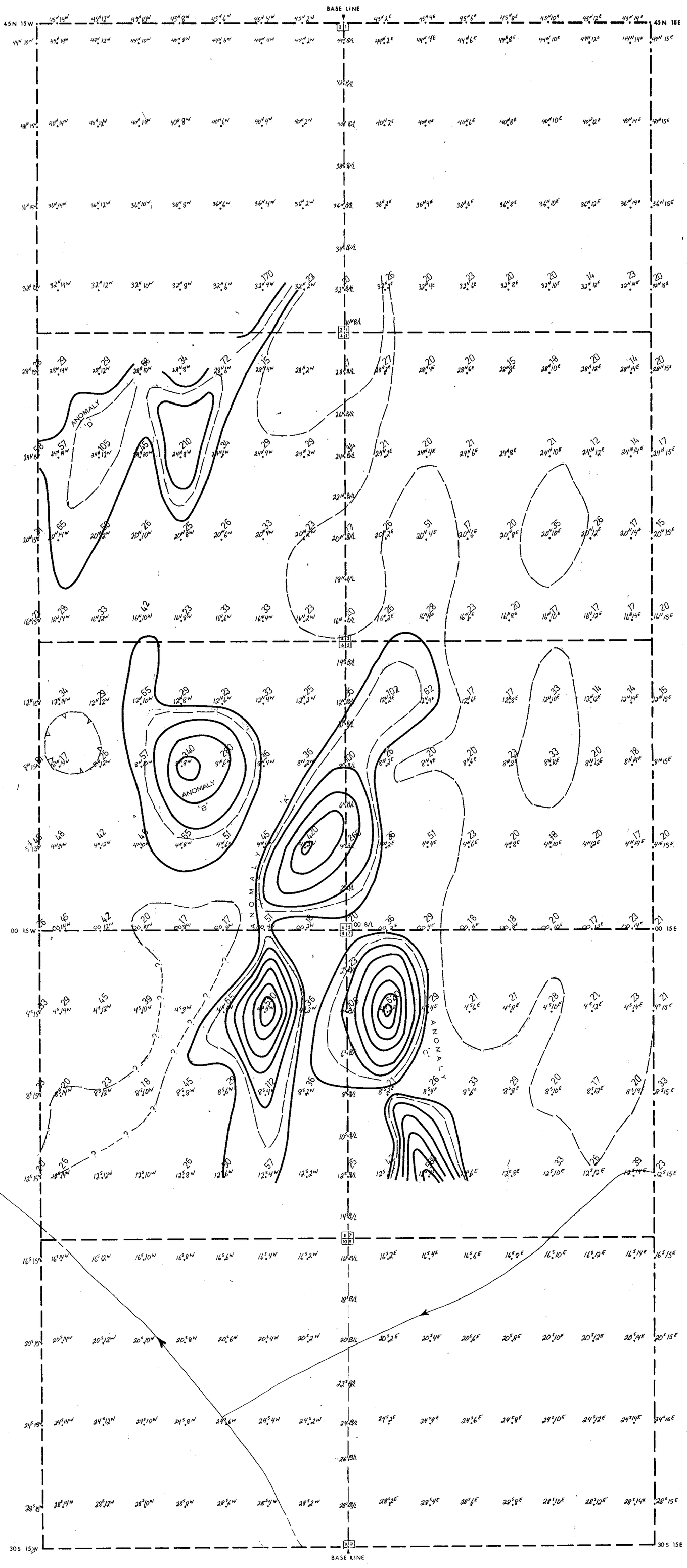
SCALE 1 INCH = 250 FEET

Cu (PPM)

Contour interval 5 ppm

To accompany geochemical report
by P. E. Lane, P. Eng.
16th July, 1973 P. Lane.

LINE GRID



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URSUS MINERALS LTD.

ANGUS CREEK PROPERTY

JIM GROUP – No. 1 TO 8

SOIL SAMPLE MAP

SCALE: 1 INCH = 250 FEET

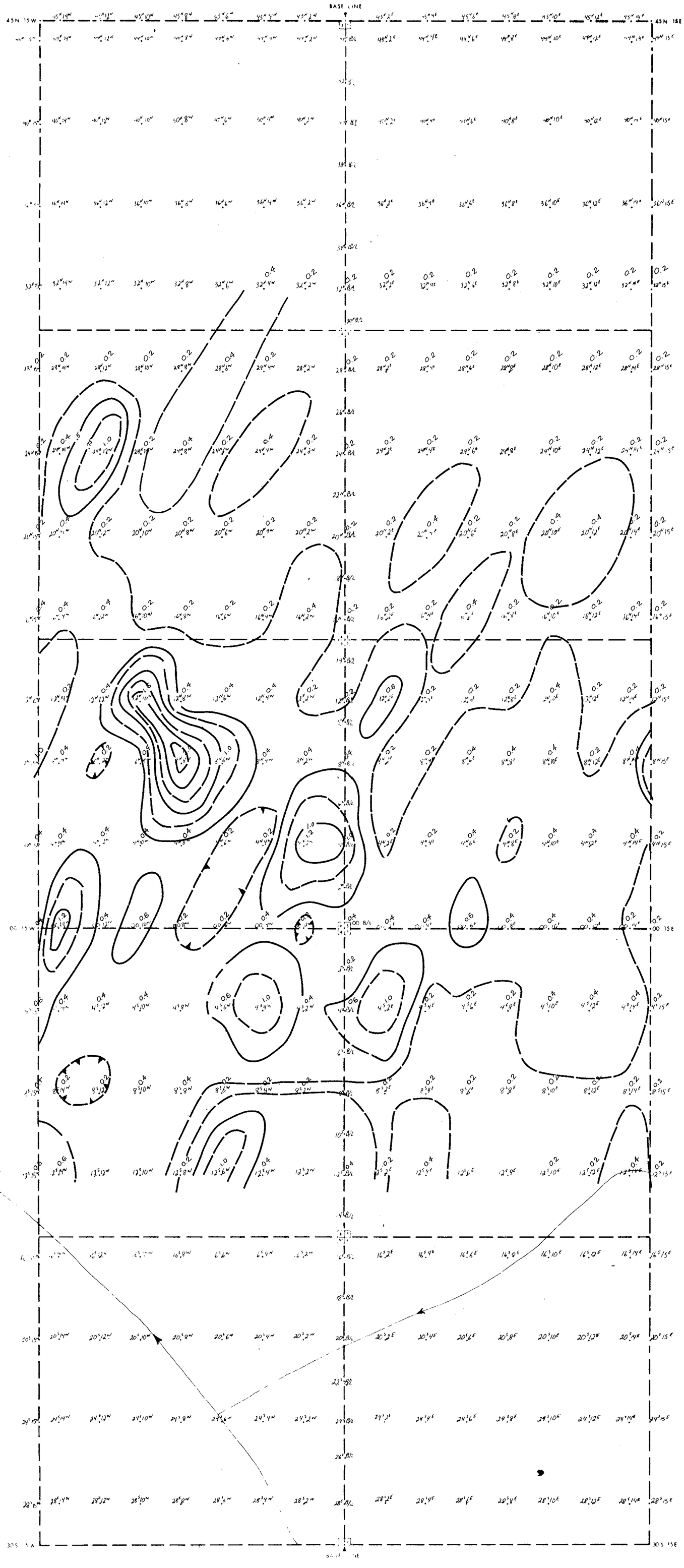
Pb (PPM)

--?--?--? DOUBTFUL CONTOUR

CONTOUR INTERVAL 25 PPM

To accompany geochemical report
by P. E. Lane, P. Eng.,
July 16, 1973
P. Lane.

LINE GRID



URSUS MINERALS LTD.

ANGUS CREEK PROPERTY
JIM GROUP - No. 1 TO 8
SOIL SAMPLE MAP

SCALE 1 INCH = 250 FEET

SILVER - PPM

.5 ; 1.0 ; 1.5 contour

.25 ; .75 contour

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4459 MAP #4

To accompany geochemical report
by P. E. Lane, P. Eng.,
July 16th, 1973 P. Lane