GEOCHEMICAL REPORT

LAD MINERAL CLAIM GROUP
(Lad 103 - 168)

Mayo Mining District

Yukon Territory

Longitude : 132°13' N.

Latitude : 62°56' W.

N.T.S. 105-K-16

Field work done during period
September 17-September 28, 1968

This report has been examined by the Geological Evaluation Unit. Approved as to technical worth by:

D.B. Craig
RESIDENT GEOLOGIST

Approved as to cost in the amount of: $ 4,405.00

J.C. Torrington
RESIDENT MINING ENGINEER

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

COMMISSIONER OF YUKON

By:

Thomas J. Adamson

ATLAS EXPLORATIONS LIMITED

November 25, 1968

LIST OF CLAIMS

Claim Number	Grant Number	Date Recorded
LAD 103-168	Y31310-Y31375	September 17, 1968

NOTES: ONLY 800' SPACED GRID LINES SHOWN (INTERMEDIATE FILL-IN LINES NOT SHOWN)

LAD # 1 GRID AREA LINE 16W TO 96E, 55S TO 50N

LAD EAST GRID AREA LINE 104E TO 240E

LAD NORTH GRID AREA LINE 24W TO 24E, 40N TO 105N

105-K-16

ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

HESS REGION

LAD MINERAL CLAIM GROUP

KEY MAP OF CLAIMS AND GRID

PARTY CHIEF: T. ADAMSON

DRAWN BY: T.A & P.V.
DATE: DEC. 4/1968

1320 0 1320 2640
SCALE IN FEET

fig. 1

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TELEPHONE 685-4331

ATLAS EXPLORATIONS LIMITED
(N.P.L.)
330 MARINE BUILDING
355 BURRARD STREET
VANCOUVER 1, B.C.

GEOCHEMICAL REPORT
LAD MINERAL CLAIM GROUP
(Lad 103 - 168)

INTRODUCTION

The original Lad Group claims (Lad 3-12, 19-38, 45-62) were staked in September and October, 1967 to cover the area of three Ag, Pb, Zn, Cu showings, a number of sulphide float occurrences, and high lead results from reconnaissance soil and gossan sampling. Geological, geophysical and geochemical work on these claims during the 1968 field season has outlined a number of attractive targets for further work.

In September, 1968, Lad Mineral Claims 103 - 168, the claims dealt with in this report, were staked to the northeast and southeast of the original claim block. These claims were staked to cover a number of small sulphide showings and float locations and also some attractive geochemical silt sampling results.

The work done on these claims in the period September 17 - September 28, 1968, consisted of cutting a grid, over which a geochemical soil sampling survey was carried out. Only very preliminary prospecting and no geological mapping has been done in this area.

LOCATION AND ACCESS

The Lad Group is located on the SE slope of the Mt. Selous complex, in the north-central portion of claim sheet 105-K-16. Ross River, Y.T., the nearest settlement, is located about 65 miles south of the claim group.

Access to the property can be made by float equipped fixed-wing aircraft to "Van Lake", about 6 miles east of the claims. Helicopter support is required from this lake to the property.

The line cutting and soil sampling was done out of a fly camp established at the south end of the largest lake in the valley in the east-central portion of the group.

GEOLOGY

No detailed geological mapping has yet been done in this area. However, by extending known geology, and from brief observations within the group in question, it is thought that the area is underlain by quartzite, phyllite and limestones of Proterozoic age. Into this Proterozoic sequence have been infolded a number of "wedges" of graphitic shales, slates and cherts, and chert pebble conglomerate of Ordovician-Devonian age.

The general regional attitude of the sediments is about 135°, dipping moderately to steeply to the NE or SW. Sulphides have been found in place in two locations in this area. One showing is located at L176E, 29+00S. This is a galena-quartz-calcite fracture filling situation. The host rock is quartzite. The showing is poorly exposed in a steep talus slide. Blocks of galena up to 1 ft. in diameter have been found in the talus. Assays of representative grab samples of this material have averaged about 80% lead, and 4 oz/ton silver.

The other showing in the area is located about 148E, 30+00N. This is a very narrow ($<$ 1 ft.), discontinuous galena-quartz vein in siliceous argillite. Assay samples of this material ran about 19 oz/ton silver.

Galena and galena-sphalerite float has been found in creek gravels at L136E, 23+00S, and at L192E, 18+00N.

TOPOGRAPHY AND GROUND CONDITIONS

The Lad 103-168 claims are located mainly on a steep to moderate east-facing slope. This slope is disected by a number of west flowing streams that have cut steep precipitous valleys and canyons.

Timber line is at about 4500 ft. Below this elevation timber is thick and scrubby, consisting mainly of spruce, alder and dwarf birch.

The "A" soil horizon is thin over most of the area, except in small local swampy sections. A layer of volcanic ash is found at the base of the "A" horizon or very near the top of the "B" horizon. All soil samples were taken from the top of the "B" horizon, but below the ash layer.

GEOCHEMISTRY

Survey Method

A grid referred to as the Lad East grid, was cut over the area of interest. This grid adjoins the Lad #1 grid to the NW. Line spacing on the grid is 800 ft. Stations were established at 100 ft. intervals on all lines. A total of about 150,000 ft. of line was cut and sampled on the east grid, but only a portion of this, the work done after September 17, the recording date of the claims, can be submitted as representation work. The total footage cut after September 17 is 87,200 ft. (Base line 152 - 240E,

Cross-lines 152-240, north and south). The total number of soil samples taken in this time period was 857.

All samples were analyzed for Cu, Pb and Zn trace element at Chemex Labs Ltd., North Vancouver, British Columbia.

Each soil sample was dried in its kraft bag container, then screened to -80 mesh. To .2 grams of the -80 mesh material was added .5 ml. of concentrated hydrochloric acid and 1.5 ml. of concentrated nitric acid. The solution was let stand for one hour to decompose organics and then heated on a sand bath for two hours to complete the digestion. The solution was then diluted to 10 ml. with the addition of 8 ml. of water.

The samples were then run on an atomic absorption spectrophotometer unit, using prepared standard solutions for comparison.

The geochemical results (expressed in ppm) of each sample were plotted on a single grid plan (1":400'). Separate geochemical contour maps were drawn for each of copper, lead and zinc.

Geochemical Results

Copper

A frequency distribution plot of the copper results has shown the population to be moderately skewed in a positive direction. For this reason, the median is thought to be the best measure of background. The median was calculated to be 19 ppm. The threshold of anomalous values was taken

as the value at the 90% cumulative frequency. This was calculated to be 52 ppm. This established the anomaly threshold at about three times background.

The copper results were contoured about 50 ppm. A zone of about 800 ft. x 800 ft. of anomalous copper value is centred at 172E, 6N. The peak value is 585 ppm. However, there is only one value of this magnitude, the next highest value being about 130 ppm. Anomalous values are found on L120E, 2 to 25 N. this anomaly is closed to the NW, but open to the SE, because it trends towards lines 128E and 136E which have not yet been sampled.

A E-SE trending anomalous zone of up to 150 ppm copper is centred at L176E, 17S. This zone varies from 100 ft. to 500 ft. wide and is about 1600 ft. long.

A similar trending narrow sinuous anomaly extends from L176E, 29S to L200E, 18S, with a maximum value of 200 ppm copper.

A large, roughly SE trending, very interesting, flattened oval shaped anomaly is centred at L224E, 7N. This zone is about 3600 ft. long, from 300 to 700 ft. wide, and is still somewhat open to the SE. Values are up to 200 ppm. Smaller less significant copper anomalies are centred at:

144E, 38N
216E, 22S
240E, 14S

Lead

Because of the positive skewness of the frequency distribution, the median, calculated at 18 ppm, was determined to be the best measure of background for lead. The value

at the 90% cumulative frequency 83 ppm, was chosen as the anomaly threshold. The lead results were contoured above 75 ppm.

A SE trending anomaly, in size about 1600 ft. x 300 ft., with peak value of 200 ppm is centred at L160E, 27N.

Three anomalous areas of similar size (about 800 ft. x 500 ft.) and magnitude (highest contour enclosing any appreciable area, 200 ppm, and with only a single very high value in each case (445 ppm, 665 ppm, 1050 ppm) are centred at 164E, 8N; 164E, 2S; and 196E, 8S.

A long narrow sinuous anomaly, open to the SE, extends from L240E, 21S (5500 ppm) to L216E, 14S.

A large, very irregular, high magnitude, multi-peaked anomalous lead zone exists in the area between L152E and L200E, and from 12S to 34S. Some of the peak values in this area are 16,500 ppm, 1875 ppm, 1050 ppm and 3225 ppm lead.

Zinc

The background value for zinc (median) was calculated to be 73.7 ppm. The threshold value (taken as the value at the 90% cumulative frequency) is 248 ppm. Zinc values were contoured above 200 ppm.

A strong anomaly, 300 to 400 ft. wide, extends NE from BL168 to 7N and then SE to L176E, 5N. Peak values in this zone are 3200 ppm and 2100 ppm zinc.

Southwest of the above, an anomalous zone extends from L168, 8S to L200, 8S. The width of the zone varies

from 400 ft. in the NW to 800 ft. in the SE.

A large irregular high magnitude zinc anomaly extends, in a general SE direction, from L168E, 28S to L 200E, 20S. The width of the anomalous zone varies from 800 ft. to 2000 ft. An area of about 500 ft. x 3200 ft. has values of above 1000 ppm, with peak values within this area of 40,000 ppm, 17,000 ppm, 7,700 ppm and 4,700 ppm.

Anomalous values are found between 13S and 22S on L240E. This anomaly closes to the northwest, but is open to the southeast.

Interpretation of Geochemical Results

In virtually every instance, anomalous lead and zinc results are coincident. Copper anomalies that coincide with lead and zinc highs are centred at:

L168E, 7N
L176E, 17S
L176E, 29S
L240E, 14S and 21S

There are only random single value lead and zinc highs corresponding with the open copper anomaly on L120E, 2-25N.

The large, well defined, copper anomaly centred at L224E, 7N, does not have any corresponding lead and zinc highs associated with it.

Because of the lack of geological information from this area, the significance of the correspondence, or the lack of it, between copper and lead-zinc highs is not yet known.

The general trend of individual anomalies seems to be in a SE direction. However, it is interesting to note that in

the central grid area, a substantial number of the peaks of copper, lead and zinc anomalies lie on a remarkably straight N-NE trending line extending roughly from L176, 30S to L160, 27N. Again, the lack of geological information prevents drawing any concrete conclusions from this observation. It is possible that this may reflect mineralization associated with a transverse shear zone.

The sulphide showing at L176E, 29S is the peak of strong copper, lead and zinc geochemical anomalies. The E-SE extension of these anomalies could reflect either a subsurface continuation of the sulphide zone, or could be simply downslope migration of the metal ions from the known showing areas.

No significant geochemical results were obtained from around the other small sulphide showings, or in the area of sulphide float discoveries.

CONCLUSIONS AND RECOMMENDATIONS

The geochemical soil sampling survey has outlined a number of strong copper, lead and zinc target areas.

Detailed geological mapping and prospecting should be done in the east grid area, concentrating on the geochemical targets. Where necessary, to further define the geochemical anomalies, the line spacing should be reduced to 400 ft. and soil samples taken on those lines.

A magnetometer survey should be run over the cut grid, and experimental EM profiles could be run over selected target areas.

Bulldozer stripping and diamond drilling would be contingent upon the above work.

Respectfully submitted,

T. J. Adamson

T. J. Adamson

November 29th, 1968

SUMMARY OF COSTS

GEOCHEMICAL SURVEY
Lad 103-168 M.C. (E. Grid Area)
Period Sept. 17 - Nov. 30

A. LINECUTTING (E. Grid Area)

1. (a) Footage cut : 87,200 ft.

   (b) Linecutters : F. Charlie
   J. Acklack
   M. Acklack
   G. Johnny

2. (a) Wages:
   22 man days @$20.00, daily wage of natives. $ 440.00

   (b) Helicopter Support:
   .4 hrs. @$120.00/ hr. $ 48.00
   Fuel 17 gal./hr. @ $1.65/gal. $ 11.00

   (c) Fixed-Wing support $ 122.00

   (d) Subsistence Cost
   22 man days @ $8.00/man day $ 176.00

   (e) Supervision & Administration:
   3 man days @$23.00, daily wage of T. Adamson, geologist $ 69.00

   Subsistence:
   3 man days @ $8.00/man day $ 24.00

   (f) Overhead - 15% of total
   15% of $890 $ 133.00

TOTAL COST OF LINECUTTING $1,023.00

B. GEOCHEMICAL SURVEYS (Lad Group E. Grid Area)

1. (a) Total footage sampled on E. Grid : 143,100 ft.
   (b) Total number of soil samples taken : 1271

   Portion of above work done after recording date of claims (Lad 103-168, September 17) and which may be claimed for assessment work.

   (a) Footage sampled : 87,200 ft. (BL 152-240E lines 152-240 N & S)

   (b) Soil samples taken : 857

   (c) Soil samples analyzed: 1271

   (d) Geochem samplers : T. Charlie
   M. Acklack
   G. Johnny

2. (a) Wages:
   12 man days @$20.00, daily wage of natives — $ 240.00

   (b) Helicopter Support:
   2.2 hrs. @$120.00/hr. — $ 264.00
   Fuel: 17 gal/hr. @ $1.65/gal. — $ 62.00

   (c) Fixed-Wing support — $ 122.00

   (d) Subsistence Cost:
   12 man days @ $8.00/man day — $ 96.00

   (e) Analysis Cost:
   1270 samples @ $1.50/sample — $ 1,905.00

   (f) Supplies & miscellaneous equipment — $ 25.00

   (g) Supervision & Administration
   4 man days @$23.00, daily wage of T. Adamson, geologist — $ 92.00

   Subsistance:
   4 man days @ $8.00/man day — $ 32.00

   (h) Interpretation & Report Presentation:
   Drafting:
   3 man days @$19.00, daily wage of P. Vlasveld, Draftsman — $ 57.00

   Report Writing:
   2 man days @$23.00, daily wage of T. Adamson, geologist — $ 46.00

   (i) Overhead - 15% of total
   15% of $2,941 — $ 441.00

   TOTAL GEOCHEMICAL SURVEYS — $3,382.00

TELEPHONE 685-4331

Appendix II

ATLAS EXPLORATIONS LIMITED
(N.P.L.)
330 MARINE BUILDING
355 BURRARD STREET
VANCOUVER 1, B.C.

AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, Thomas J. Adamson, Geologist, Atlas Explorations Limited, Vancouver, British Columbia, do hereby state that, to the best of my knowledge and belief, the statement of costs presented with this report (Appendix I - "Geochemical Report - Lad 103 - 168 Mineral Claim Group") is both correct and true.

T. J. Adamson

T. J. Adamson

Mar. 29, 1968

Date

Commissioner for Oaths in
and for the Yukon Territory

LIST OF PERSONNEL

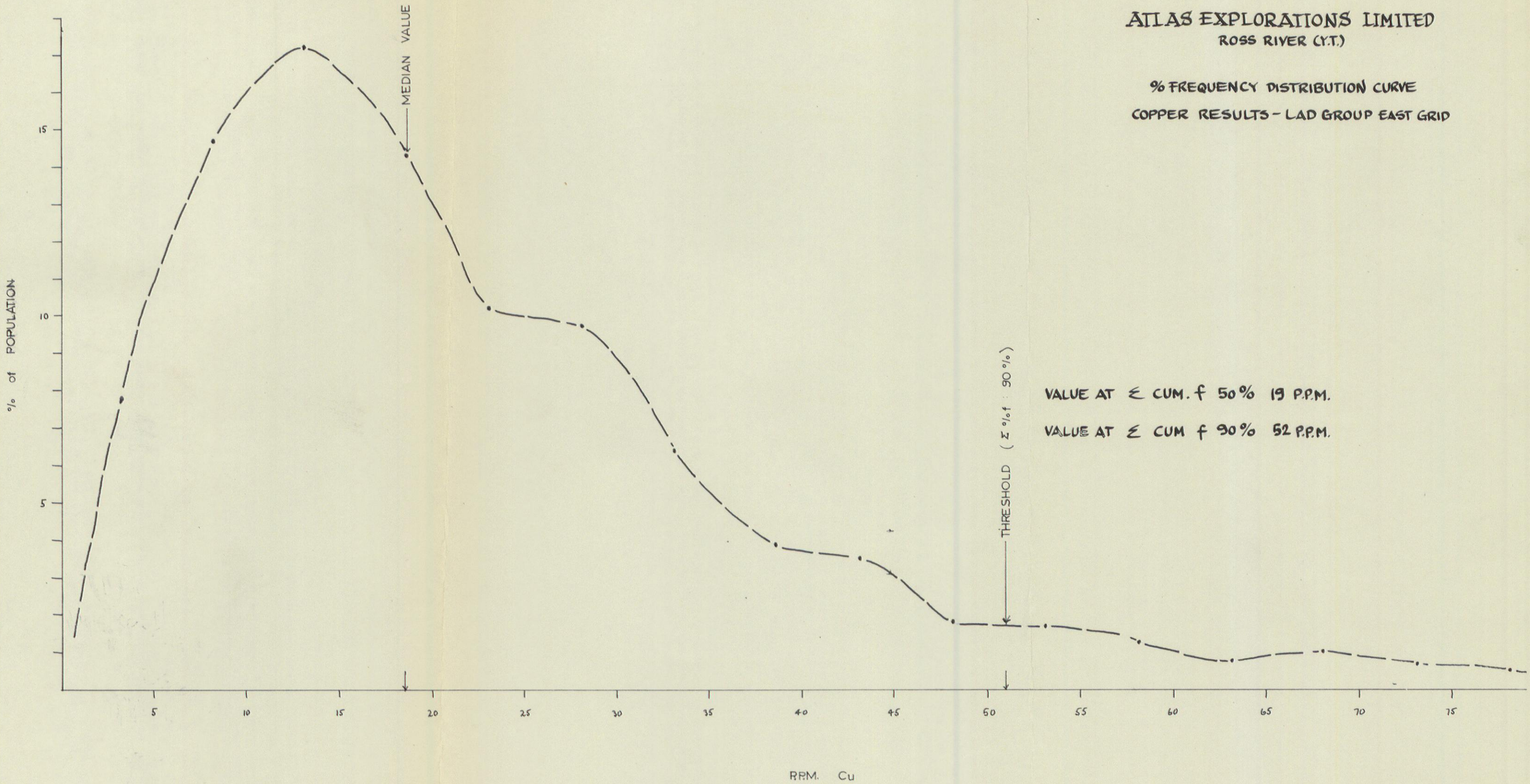
T. Adamson	Geologist-Party Chief	Vancouver, B.C.
M. Acklack	Linecutter-Geochem Sampler	Ross River, Y.T.
G. Johnny	Linecutter-Geochem Sampler	Ross River, Y.T.
F. Charlie	Linecutter-Geochem Sampler	Ross River, Y.T.
T. Charlie	Linecutter-Geochem Sampler	Ross River, Y.T.
J. Acklack	Linecutter-Geochem Sampler	Ross River, Y.T.
P. Vlasveld	Draftsman	Vancouver, B.C.

ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

% FREQUENCY DISTRIBUTION CURVE

COPPER RESULTS - LAD GROUP EAST GRID



VALUE AT Σ CUM. f 50% 19 P.P.M.

VALUE AT Σ CUM f 90% 52 P.P.M.

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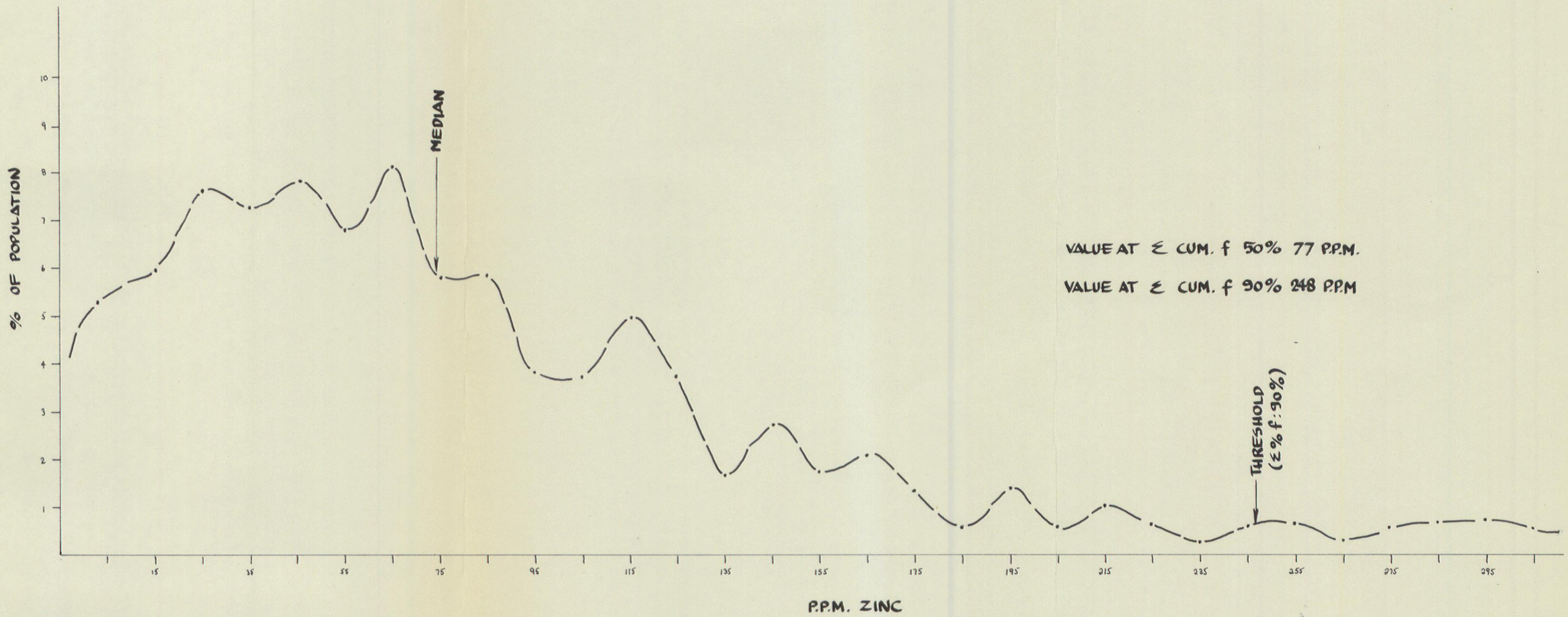
ROSS RIVER (Y.T.)

% FREQUENCY DISTRIBUTION CURVE
ZINC RESULTS - LAD GROUP EAST GRID



VALUE AT Σ CUM. f 50% 77 P.P.M.

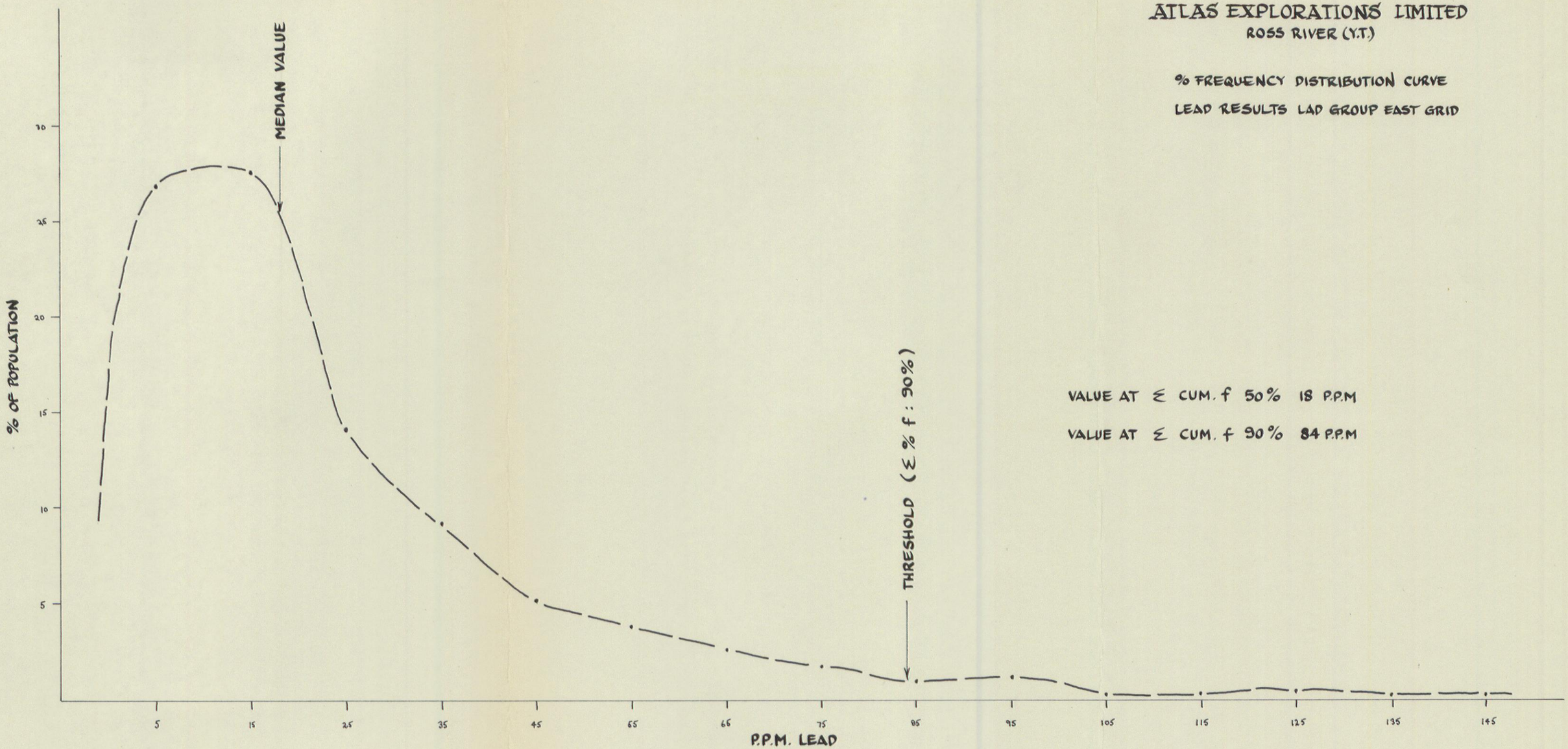
VALUE AT Σ CUM. f 90% 248 P.P.M

ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

% FREQUENCY DISTRIBUTION CURVE

LEAD RESULTS LAD GROUP EAST GRID



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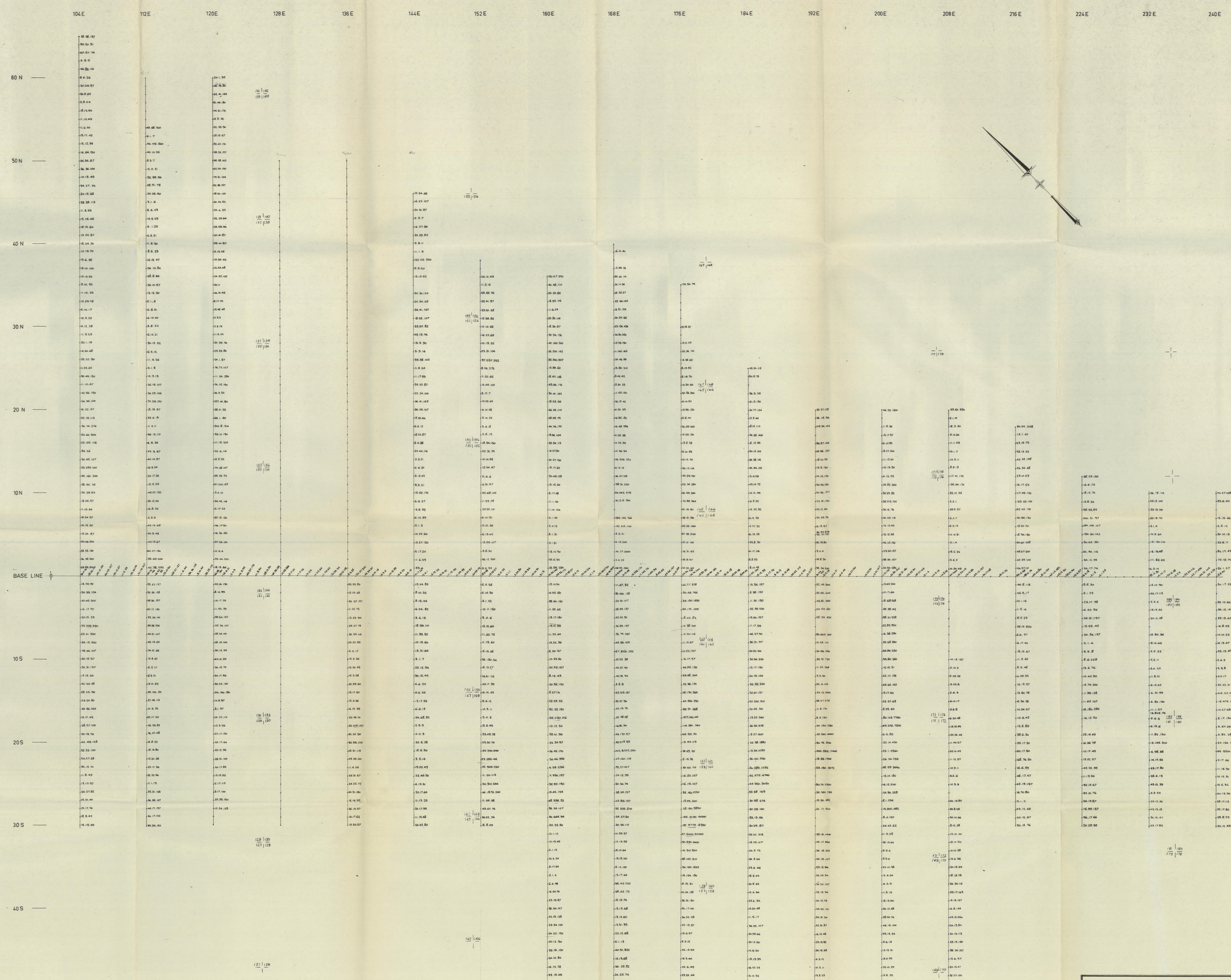
VALUE AT Σ CUM. f 90% 84 P.P.M



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ROSS RIVER (Y.T.)

HESS REGION

LAD MINERAL CLAIM GROUP

GEOCHEMICAL RESULTS BY ATOMIC ABSORPTION COPPER, LEAD, AND ZINC, SPECTROPHOTOMETER ANALYSIS. (EAST)

PARTY CHIEF: T. ADAMSON
SAMPLER: T. CHARLIE

DRAWN BY: P.J.F. VLASVELD
DATE: NOVEMBER 7/68

400 0 400 800 feet

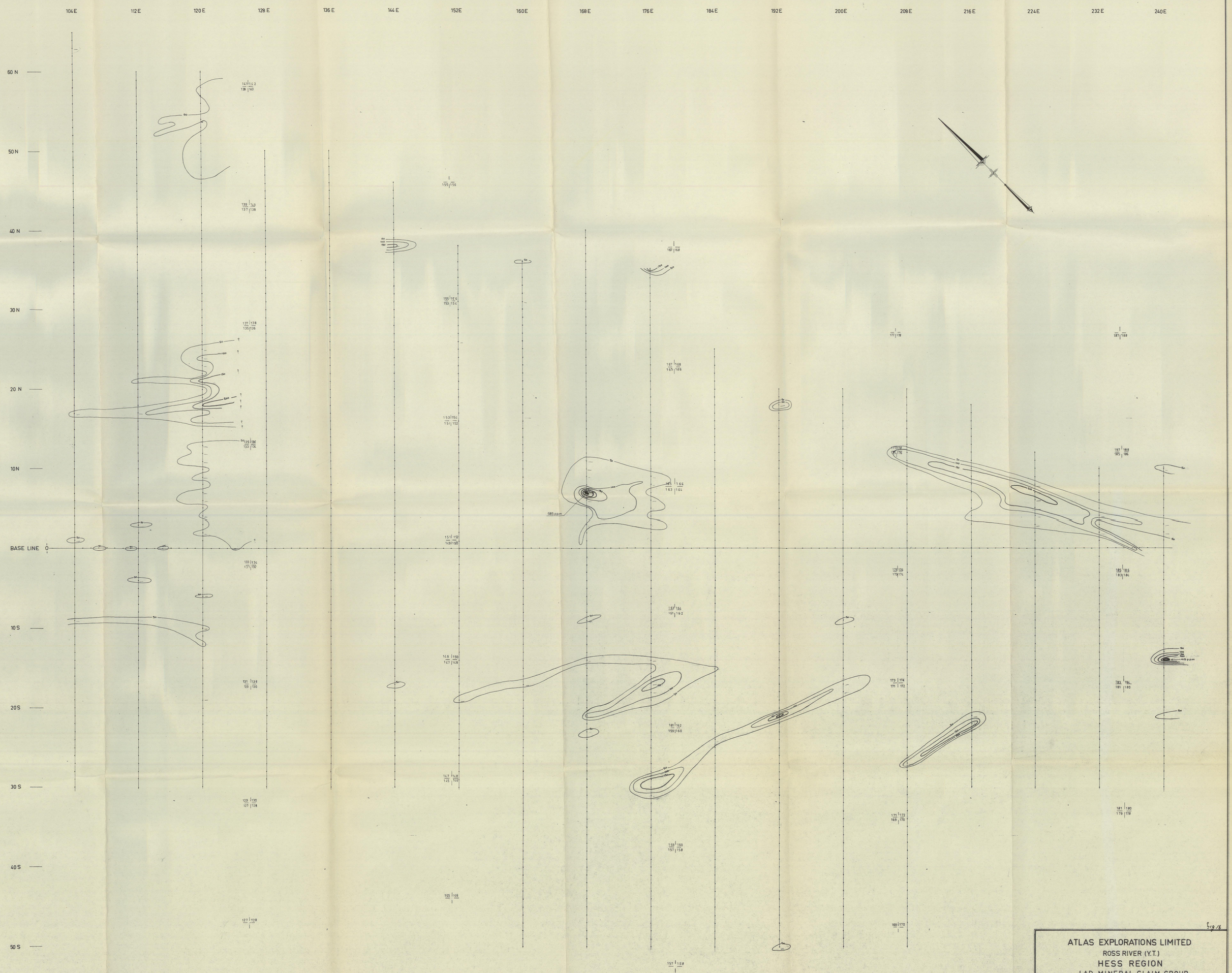

Fig 18

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HESS REGION

LAD MINERAL CLAIM GROUP

GEOCHEMICAL SOIL SAMPLE SURVEY

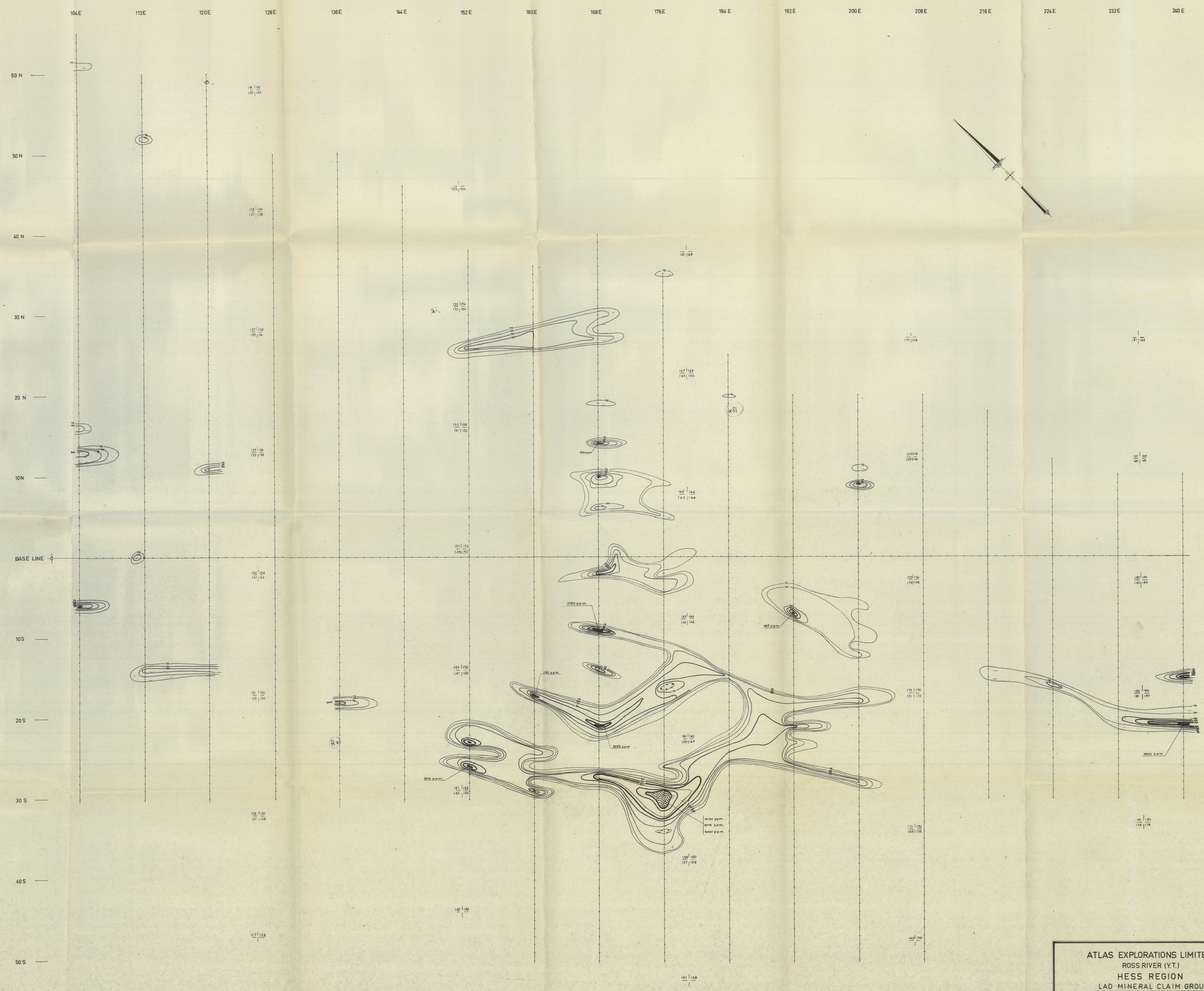
COPPER CONTOUR MAP (EAST)

PARTY CHIEF: T. ADAMSON
SAMPLER: T. CHARLIE

DRAWN BY: P.J.F. VLASVELD
DATE: NOVEMBER 1968

SCALE 400 0 400 800 feet

105-K-16



ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

HESS REGION

LAD MINERAL CLAIM GROUP

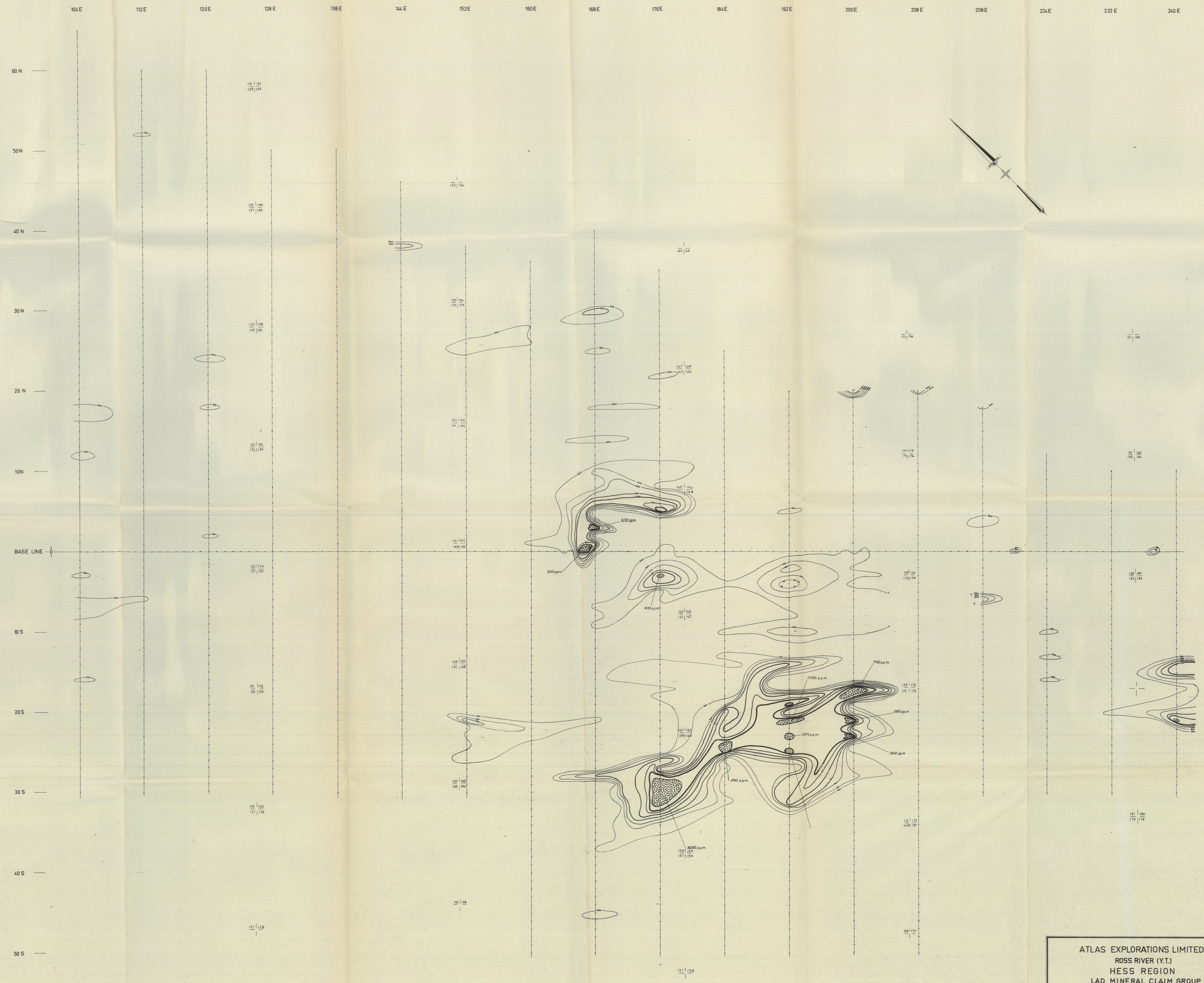
GEOCHEMICAL SOIL SAMPLE SURVEY
LEAD CONTOUR MAP (EAST)

PARTY CHIEF: T. ADAMSON
SAMPLER: T. CHARLIE

DRAWN BY: P.J.E. VLASVELD
DATE: NOVEMBER 1968

SCALE 400 0 400 800 feet

105-K-16



ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

HESS REGION

LAD MINERAL CLAIM GROUP

GEOCHEMICAL SOIL SAMPLE SURVEY
ZINC CONTOUR MAP (EAST)

PARTY CHIEF: T. ADAMSON
SAMPLER: T. CHARLIE

DRAWN BY: P.J.F.VLASVELD
DATE: NOVEMBER 1988

SCALE 400 0 400 800 feet

105-K-16

74, 2018