

ATLAS EXPLORATIONS LIMITED

HESS RIVER PROJECT REPORT

December, 1967

by

Clyde L. Smith,
Chief Geologist

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A) INTRODUCTION

The Hess Syndicate conducted an extensive program of preliminary exploration in the Hess River region of Yukon in 1967. The intent of the program was to map geology on a reconnaissance scale over a wide area, develop concepts of regional controls of mineralization, sample gossans in favourable geologic environs, and to conduct conventional prospecting and geochemical soil sampling in favourable geologic areas and near gossans found to give high geochemical results.

Prior to the program, the Hess River region was one of the major unexplored regions of the Yukon. Previous work had been done mainly by independent prospectors and large company reconnaissance programs which covered large areas rapidly. Much previous work was done before the advent of geochemical prospecting as a serious exploration tool.

Location and Access

The Hess region may be defined roughly as lying between the South Macmillan River on the south, the Lansing and Rogue Rivers on the north, the Yukon-Northwest Territories border on the east, and the Stewart River on the west. As such, it is a region of about 6,000 square miles, covering the southern two-thirds of the Lansing (105-N) and Niddery Lake (105-O) sheets and the upper margins of the Tay River (105-K) and Sheldon Lake (105-J) sheets. Access to the region is by float-equipped aircraft landing on the few large lakes, such as Fairweather and Niddery Lakes, and thence by helicopter to other points.

Claim groups, feature staked, and location:

Lad Group - 44 Claims

Covers an area of several copper-silver and lead-zinc showings and float as well as a gossan-carrying lead, located on southeast slope of Mt. Selous. Copper-silver mineralization occurs as dissemination in quartzite; assay 13 oz/ton Ag and over 5% Cu, float from lead gossan assayed 24.4% lead and 29.6 oz/ton silver.

Hugo Group - 16 Claims

Staked over a sizeable gossan carrying high zinc geochemical values along the northwest shore of Fair-weather Lake.

Bob Group - 4 Claims

Staked over three large gossans carrying high zinc geochemical values.

Scot Group - 24 Claims

Covers a $1\frac{1}{2}$ x $\frac{1}{2}$ mile geochemical anomaly of high zinc values reaching a peak over 5000 ppm Zn north of Niddery Lake.

Art Group - 12 Claims

Covers a $1\frac{1}{2}$ mile long geochemical anomaly of high copper, lead, and zinc values north of Niddery Lake.

Tom Group - 14 Claims

Covers a $\frac{1}{2}$ -mile long gossan with associated geochemical anomaly of high copper and zinc values near the headwaters of the North Macmillan River. Tetrahedrite float running 66.8 oz/ton Ag also on group.

Ivor Group - 48 Claims

Staked over a 2-mile long gossan-geochemical anomaly area of high copper and zinc values just north of the Canol Road.

TOTAL NUMBER OF CLAIMS STAKED - 162

B) WORK DONE

Airborne geologic reconnaissance and gossan spotting and sampling (fixed wing and helicopter)

A two-stage reccy program was conducted by A.E. Aho, sometimes accompanied by C.L. Smith. The first stage consisted of geologic mapping and gossan sampling from a Cessna 180. A three-day program was successful in outlining major geologic structural features, granitic intrusives, and large gossans. Preliminary prospecting and geochemical sampling was conducted in areas outlined by the reccy work. The second stage of the program consisted of more careful geologic mapping while flying at lower levels in a helicopter, spotting of more gossans, and geochemical sampling of all significant-looking gossans.

Gossan sampling

Gossans were sampled by taking 1-5 geochemical samples from limonite deposits or nearby soils or silts. All gossans sampled are noted on the 4-mile geologic map (Fig. 1). They are numbered AH, CSH, or HTA.

Geologic Mapping

Ground parties consisted of prospectors, geologists, and geochemical samplers. All areas investigated were geologically mapped at a scale of 1" = ½ mile. Data from local areas was correlated and entered on the 4-mile map.

Geochemical Soil Sampling

Reconnaissance soil sampling was done in areas of gossan results as well as over broad areas of favourable geology. Samples were taken at 300-500 foot intervals from the B horizon and analyzed at the Atlas Geochemical Laboratory in Ross River. Single lines were run near the base of mountain slopes and above glacial cover in valleys. Detailed grids were run over spots of high reconnaissance results.

Claim Staking

Important showings and geochemical anomalies were staked. See list of claim groups above.

C) RESULTS AND INTERPRETATIONS

Regional Geology

General: The Hess River region lies northeast of a major northwest-southeast trending lineament along the South Macmillan River which resembles the Tintina Fault to the southwest. Numerous other topographic features in the region express a northwesterly grain and, in fact, it has now been shown that

the greater part of the region is underlain by folded rocks trending northwesterly; in places, parallel faulting has been demonstrated. Folds appear to be open to moderately tight, but local complexities and probable isoclinal structures also exist. Two main intrusive trends occur:

- 1) The Mt. Selous - Mt. Armstrong belt with smaller marginal plutons - both granodiorites and quartz diorites occur;
- 2) A broad belt running from the Itsi Range through the Hess (Rogue) Mountains to the Lansing Range - a wide range of compositions has been noted in this belt.

Stratigraphy: Two major stratigraphic levels have been recognized: Proterozoic (?) and Ordovician-Devonian.

The Proterozoic (?) was divided into three units for the purpose of geologic mapping (1a, b, c); no stratigraphic relations between the units are known and each type appears to occur at several stratigraphic levels. Unit 1a is a well-layered, buff to white quartzite with conglomeritic, feldspathic, and highly micaceous sections. This unit characterizes the Proterozoic (?) and is probably correlatable with similar rocks in the Keno Hill district. Unit 1b simply includes numerous white-grey, massive bedded limestone beds at whatever level they occur within the quartzite. Sections of brightly-colored (maroon, green, yellow, light grey) phyllite (1c) occur in the succession; some are chloritic, some grade into mica schist.

The Ordovician-Devonian sequence is believed to consist mainly of Devonian age, low grade metasediments. The greater part of the Hess region is underlain by these rocks, which occur:

in a broad belt northeast of a Proterozoic (?) arch along the Mt. Selous - Mt. Armstrong axis. Six units have been distinguished; no stratigraphic relations are known.

Unit 3a is the most widespread rock type in the region; it consists of black slates and black bedded cherts and is characterized by dark brown, rusty-appearing weathered surfaces. Rock type 3b is dark brown massive dolomite with minor interbedded calcareous (?) phyllite and thin dark limestone beds. Unit 3c is phyllite. Unit 3d is a very distinctive massive chert pebble conglomerate which commonly underlies topographic highs. It is a polymictic conglomerate consisting mainly of rounded chert pebbles; grain sizes vary from sand to boulders. Unit 3e is a distinctive alkaline basalt noted only in one location - east of Mt. Adamson. Unit 3f is bedded grey chert which occurs in a belt between Fairweather Lake and east of the Lad group.

Structure: All beds are folded around northwesterly trending axes; dips range from gentle to steep, but most are moderate, implying that most folding is probably relatively open. There is a pronounced swing in strike from about N45⁰W near Mt. Selous to east-west near Mt. Aho. Structural trends in the area between Mt. Pratico and Husky Dog Creek do not conform to the regional picture: attitudes describe a broad arc convex to the north.

Three main sets of faulting have been recognized: northwest, northeast, and northwest trending thrust (?) faults. The northwesterly set parallels the Macmillan River lineament; evidence for this set is best seen southwest of Fairweather Lake where a broad shear zone may be traced from the Hess River to southeast of the Lad group. The Gold River fault is another member of this set. Major northeasterly-trending faults occur along Husky Dog Creek and the Fairweather Lake lineament. Move-

ment on the above two types is not known, but is probably wrench fault movement as suggested by the straight fault traces.

Geology in the Fairweather Lake area is complex; several repetitions of Proterozoic (?) and Devonian strata occur. It is believed that these repetitions are caused by displacements along northwesterly-trending thrust faults.

The Mt. Selous - Mt. Armstrong trend appears to represent a broad northwesterly-trending Proterozoic (?) arch surrounded by younger beds to either side. This arch may be of importance as a regional control for mineralization.

Mineralization: Mineralization of apparent significance has been located in only one area (Lad group) in the Hess region, although small showings have been found in five areas (Lad group, east of Art Lake, south of Mt. Darney, Tom group, and north of Emerald Lake). On the Lad group, high grade disseminated Cu in silicified granitic intrusive (?) or quartzite (?) has been located in float, although not in outcrop. Showings east of Art Lake and south of Mt. Darney are small Cu and Cu-Zn skarn bodies of no apparent significance. One specimen of tetrahedrite, with over 60 oz/ton Ag, was found in float on the Tom group - it is probably of quartz vein origin. Small Mo and tungsten showings along syenite contacts occur north of Emerald Lake.

Geochemical anomalies, mainly of high Zn only locally associated with Cu or Pb, occur in several locales in the Devonian. Their significance is not known, but where

bedrock in the area of geochemical highs has been examined, black slates have been found to be abundant and no mineralization has been located. The suspicion is that high metal values in bedrock have caused much of the anomalous geochemistry.

Detailed geologic, geochemical, and prospecting results by areas

Sheet 105 J 13

A gossan (Syl gossan) which responded with high geochemical values was covered with a soil grid. (Fig.4). Only erratic Cu highs were located. Black slate is abundant in the area and the gossan highs are probably of no significance.

Sheet 105 J 15

High geochemical results in gossans and soils occur in the northwest corner of this sheet. Forty-eight claims (Ivor group) were staked to cover these highs. Only black slate bedrock was found in the area. No mineralization was located.

Sheet 105 K 16

Several spot geochemical highs occur in the east Mt. Selous area. Not all were explained by showings and the area deserves more detailed geochemistry and prospecting. A gossan (Hugo gossan) west of Lake Hugo carries galena and gave high geochemical values - no outcrop occurs in the locale. The Lad group was staked to cover a small

area of Cu-bearing silicified granite (?) or quartzite (?) float in a creek bed 5 miles southeast of Mt. Selous. The creek bed was traversed by geologists and found to contain several small shear zone replacement showings associated with pyrite alteration in quartzite and mica schist. No showings seen are of economic significance. The Cu float was not seen in outcrop. It is notable that several geochemical results downslope from the showings area are anomalous in Cu and Pb. The Cu float is associated with magnetic pyrrhotite and it is suggested that magnetics be run over the float area as well as more detailed prospecting and geochemistry.

Sheet 105 N 1

Anomalous geochemical results were obtained from east of Art Lake and a soil grid was run over the area and it was prospected. Narrow skarn zones with Zn-Cu-Pb were found and believed to explain the geochemistry. No showings are of economic significance.

Sheet 105 N 2

Two clusters of high Zn values were located in the southwest corner of the sheet. No outcrop occurs in the area. The highs occur near the Macmillan lineament and detailed prospecting and geochemical follow-up are highly recommended.

Sheet 105 N 8

Near the northwest end of Fairweather Lake, a gossan gave high geochemical results. Several soil lines were run uphill from the gossan, but no highs were located. The Hugo group was staked over the gossan.

Sheet 105 N 9

High geochemical results were obtained from gossans south and southwest of Mt. Aho. Soil lines over gossan areas also gave high values, mainly in Zn with minor Cu. Geology in the areas consists dominantly of black slates and chert pebble conglomerates. No showings were located, although high geochemical areas were carefully prospected. It is believed that high metal backgrounds in black slates explain the geochemistry. The Bob group was staked to cover a gossan area.

Sheet 105 O 3

Abundant geochemical highs were located west and south of Mt. Pratico; most values are in Zn with some Cu highs. One showing of tetrahedrite in quartz with over 60 oz/ton Ag was found and staked, along with a gossan area to the south of the showing on the Tom group. No other showings were found in the area. Black slates were found to abound and again it is probable to assume a high background lens..

Sheet 105 O 6

Two areas of high geochem. were located. One occurs west of Jake Lake; a detailed grid over reccy highs outlined a $1\frac{1}{2}$ x $\frac{1}{2}$ mile zone of high Zn values with a peak of over 5000 ppm. The anomaly was staked as the Scot group. A second area of highs occurs north of Jake Lake Creek. Zn values are very high and one associated Pb high occurs. No prospecting was done in the area, but the zone was staked as the Art group. This geochem area has a greater potential than others and should be carefully prospected.

Emerald Lake area - Arrowhead Lake area

Small tungsten and molybdenum showings were located north of Emerald Lake and some geochemical highs are associated. The area is one of abundant outcrop, but no significant showings were located. East of Arrowhead Lake, Cu geochemical highs are located. The area was prospected, but deserves a detailed examination.

D) RECOMMENDATIONS

Although no important showings were located during the preliminary exploration of the Hess River region, it is notable that several areas of high geochemical values were found. In most cases, it appears that the highs reflect high background amounts of metal in black slates. However, the proximity of the region to the Tom group of Hudson Bay Mining and Smelting makes the area deserving of careful examination of all geochemical anomalies.

It is recommended that detailed geology and prospecting be done over favorable geochemical targets and that more preliminary work be done in areas of favorable geology.

Respectfully submitted,

Vancouver, B. C.
December 1, 1967.

Dr. Clyde L. Smith.

GEOLOGY

SHEETS 105 K (TAY R.), 105 J (SHELDON L)

LEGEND

QUATERNARY

- 15 15a, modern unconsolidated alluvial deposits;
15b, unconsolidated glacial and alluvial deposits

TERTIARY

- 14 Grey and dark grey andesite, dacite, and basalt, commonly massive and porphyritic; minor pyroclastic material
- 13 Granodioritic quartz and feldspar porphyry, probably plutonic equivalent of 14

PALEOCENE

- 12 Brown-weathering, brown, impure sandstone with plant remains, grey and brown conglomerate, and brown shale; 12a, rusty weathering conglomerate; minor sandstone and shale, may be equivalent to 12 but age not established, locally interbedded with part of 14

CRETACEOUS (?)

- 11 Medium-to coarse-grained quartz monzonite and granodiorite, commonly porphyritic; minor diorite and gneiss

TRIASSIC

- 10 Interbedded, dark grey to black, friable, micaceous sandstone, and shale; minor conglomerate and concretionary shale

MISSISSIPPIAN (?) AND/OR LATER (?)

- 9 9a, greenish grey quartzite, commonly thin-bedded; micaceous and silvery graphitic schists; minor dark grey siliceous slate, silty limestone, and grey micaceous quartzite; 9b, conglomerate with pebbles of chert, andesite, quartzite, chlorite schist, and limestone

- 8 Altered, dark green andesite and basalt flows and tuffs, commonly schistose, rarely porphyritic; minor phyllite, dark argillite, and light grey quartzite

- 7 Banded quartzose granulite, green and purplish banded skarn, quartz-sericite schist, hornfels and phyllite; chlorite schist and thin altered andesite (8) common in upper part; minor crystalline limestone

MISSISSIPPIAN

- 6 Dark grey massive limestone

Ordovician-Devonian

- 3f Gray Bedded Chert

- 3e Alkaline Basalt

- 3d Chert Pebble Conglomerate, Minor Quartzite

- 3c Phyllite

- 3b Dolomite, Calcareous Phyllite, Minor Limestone

- 3a Black Slate-Black Bedded Chert, Argillite, Greywacke

CAMBRIAN (?)

MIDDLE AND UPPER CAMBRIAN (?)

- 2 Buff and grey-weathering, grey, green, and black shales, slates, and phyllites; silty limestone and siltstone

- 1 1a, light grey and whitish quartzite, banded hornfels and granulite, grey quartzite, skarn; minor chert and crystalline limestone; 1b, crystalline limestone; 1c, green and maroon shale, slate, phyllite, quartzite; minor andesite; 1d, gritty massive, quartz-pebble quartzite, medium-grained, grey quartzite, and dark slate

- A Quartz-biotite schist, micaceous quartzite, banded, altered, sedimentary and volcanic rocks, hornfels; minor gneiss and crystalline limestone

Geological boundary (defined, approximate, assumed)

Bedding (horizontal, inclined, vertical, tops unknown)

Foliation (inclined)

Fault (defined, approximate, assumed)

Anticline (arrow indicates direction of plunge)

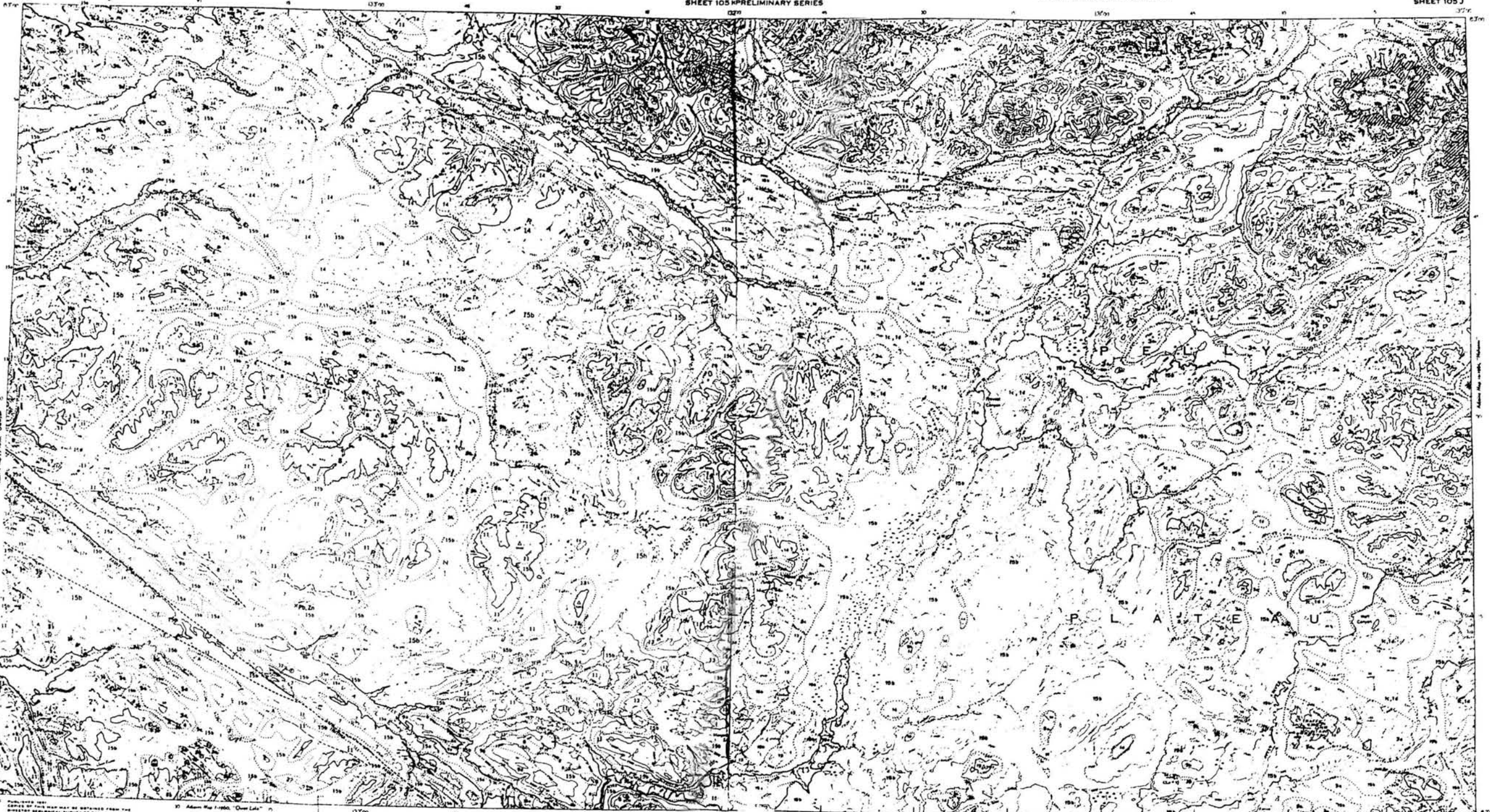
Fossil locality

Mineral occurrence or prospect (lead, Pb; zinc, Zn)

Geology by J.A. Roddick, 1958, 1960, and L.H. Green, 1960

Cartography by the Geological Survey of Canada, 1961

PROTEROZOIC



MAP 13-1961
GEOLOGY
TAY RIVER
YUKON TERRITORY
Scale: One Inch to Four Miles = $\frac{1}{253,440}$
Miles

LEGEND
Road (dry wash)
Horizontal control point
Intermittent stream
Marsh
Contours (interval 500 feet)
Height in feet above mean sea-level
Base-map prepared by the Army Survey Establishment,
R.C.E. Dept. of National Defence, 1949-1951.
Approximate magnetic declination, 34° 30' East



MAP 12-1961
GEOLOGY
SHELDON LAKE
YUKON TERRITORY
Scale: One Inch to Four Miles = $\frac{1}{253,440}$
Miles

LEGEND
Road (shaded)
Horizontal control point
Intermittent stream
Marsh
Contours (interval 500 feet)
Height in feet above mean sea-level
Base-map prepared by the Army Survey Establishment,
R.C.E., Department of National Defence, 1949-1951.
Approximate magnetic declination, 34° 30' East

Fig. 1










REGIONAL GEOLOGY - HESS AREA

LANSING (105-N) , MIDDERY LAKE (105-O) SHEETS.

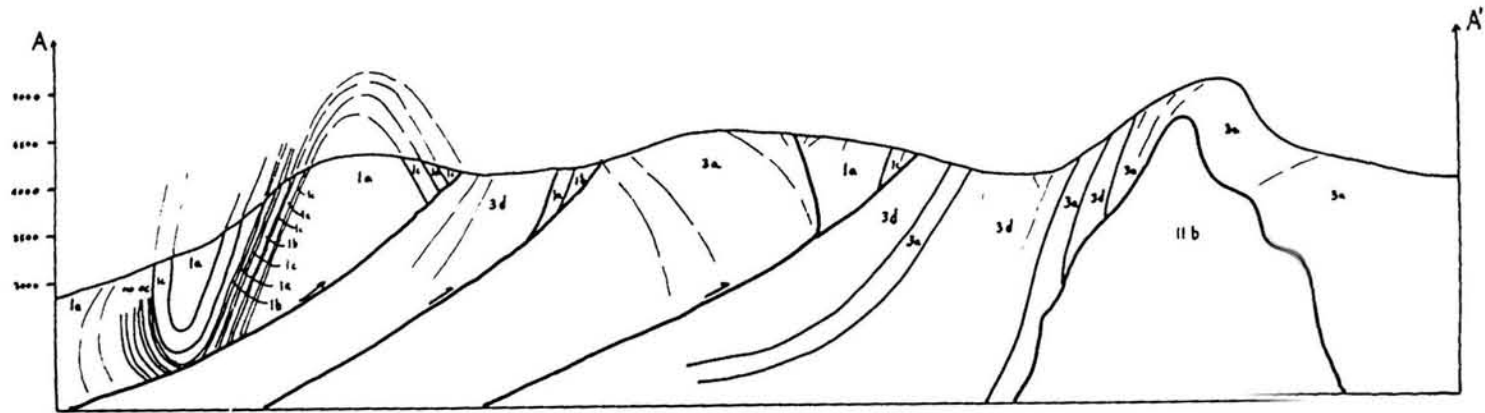
LEGEND:

CRETACEOUS	11	GRANITIC INTRUSIVES
	3f	GRAY BEDDED CHERT
	3e	ALKALINE BASALT
ORDOVICIAN- DEVONIAN	3d	CHERT PEBBLE CONGLOMERATE, MINOR QUARTZITE
	3c	PHYLLITE
	3b	DOLOMITE, CALCAREOUS PHYLLITE, MINOR LIMESTONE
	3a	BLACK SLATE - BLACK BEDDED CHERT, ARGILLITE, GREYWACHE.
	1c	VARICOLORED PHYLLITE, MICA SCHIST
PROTEROZOIC	1b	LIMESTONE
	1a	QUARTZITE, FELDSPATHIC QUARTZ SANDSTONE MINOR- MICA SCHIST.

SYMBOLS:

	CONTACTS
	INFERRED FAULT (ARROW, INFERRED THRUST FAULTS)
	FOLIATION BEDDING ALTITUDE
	DRAGFOLD
	SHEAR ZONE
	QUARTZ VEIN
	RUSTY ALTERATION
	GOSSAN
	MINERAL SHOWING



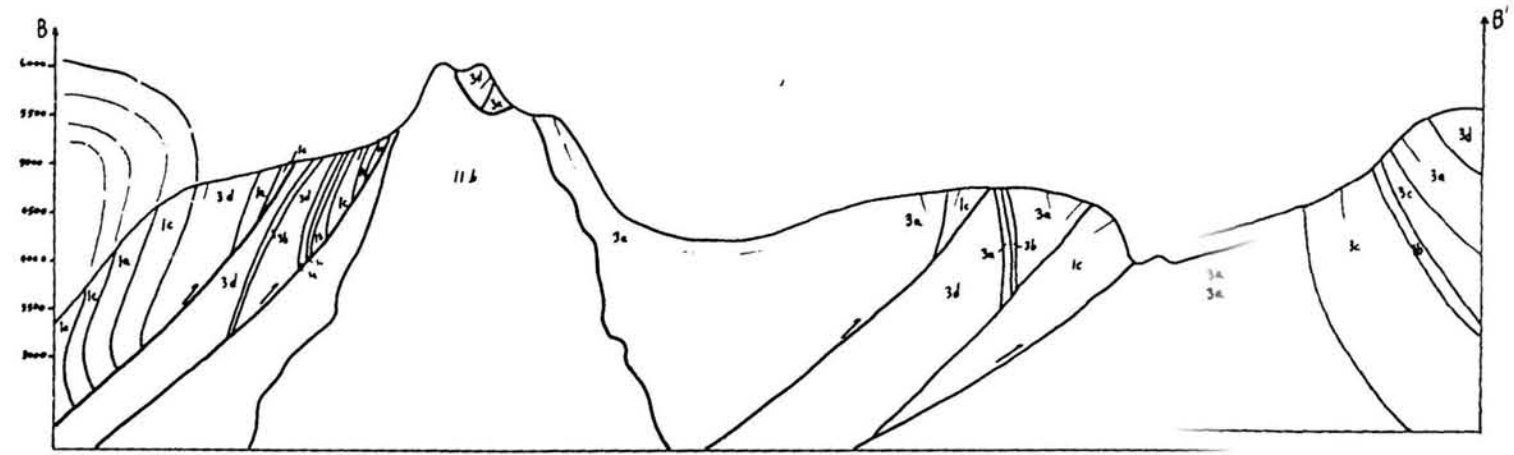


ATLAS EXPLORATIONS LTD.

ROSS RIVER, Y.T.

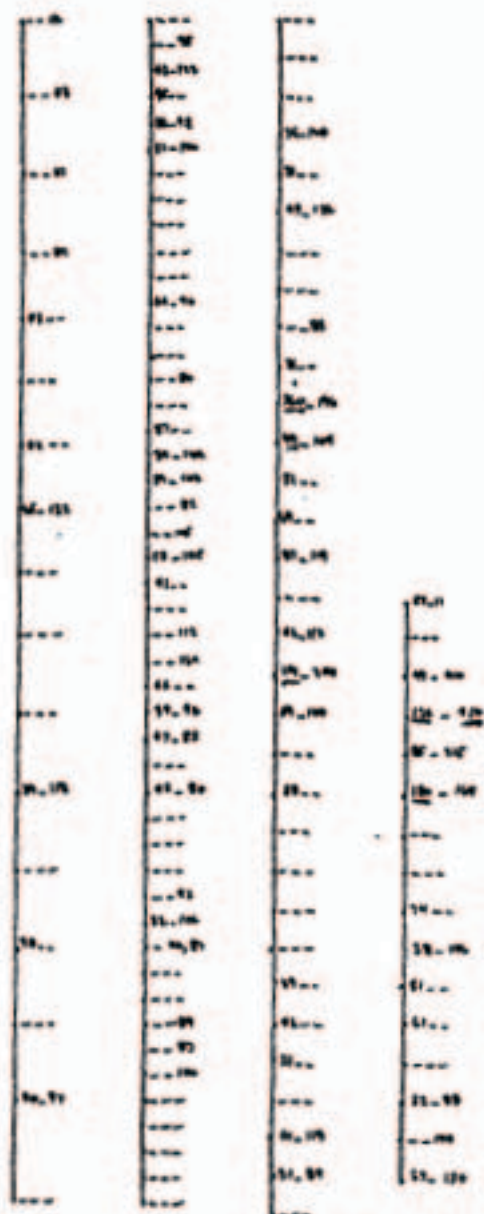
GEOLOGIC CROSS-SECTIONS

FAIRWEATHER LAKE AREA
 MAP SHEET 105-N
 HORIZONTAL SCALE 1" = 1 MILE
 VERTICAL SCALE 1" = 1000'



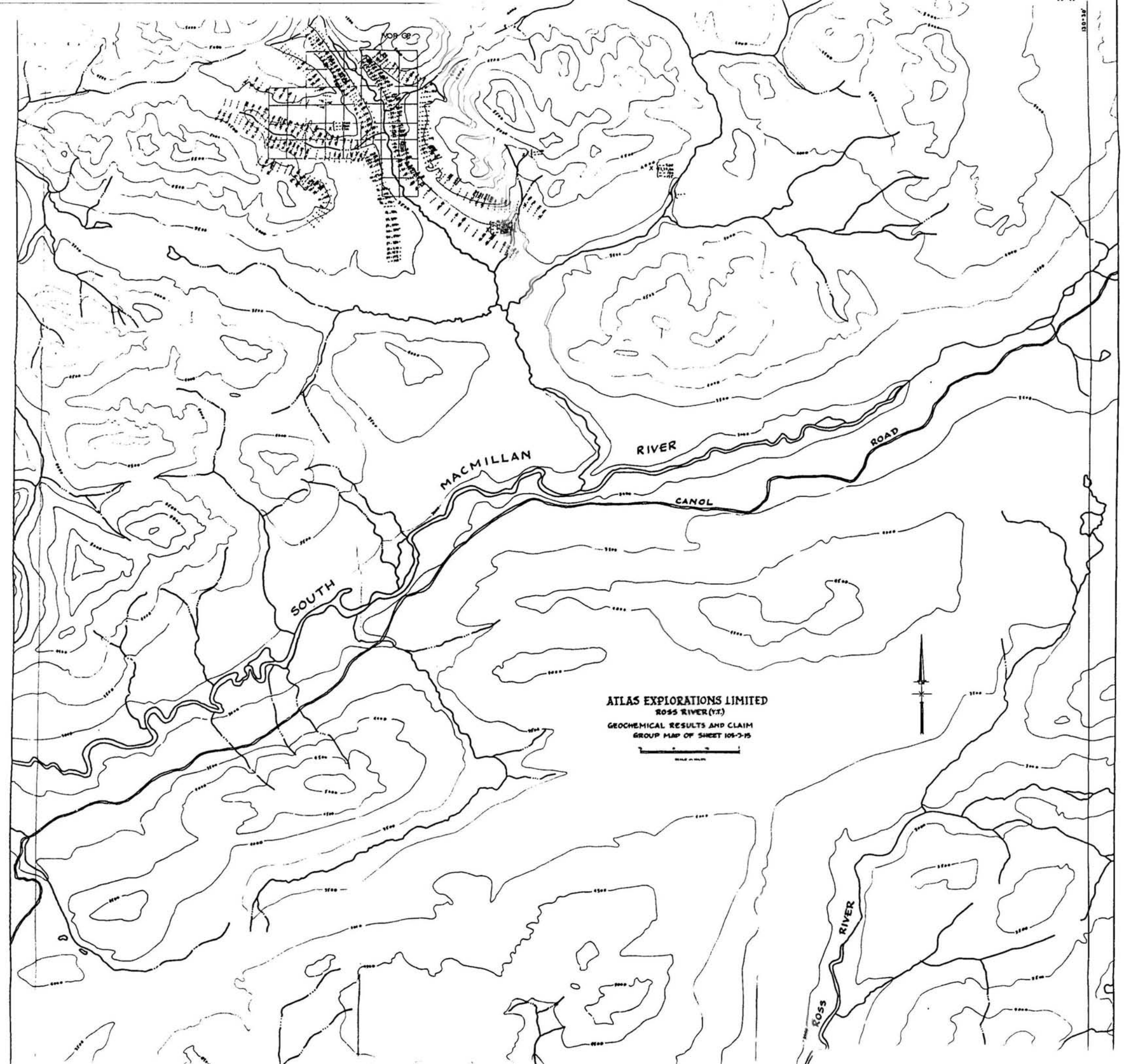
LEGEND:

CRETACEOUS	11	GRANITIC INTRUSIVES
	3f	GRAY BEDDED CHERT
	3e	ALKALINE BASALT
ORDOVICIAN-DEVONIAN	3d	CHERT PEBBLE CONGLOMERATE
	3c	PHYLLITE
	3b	DOLOMITE, CALCAREOUS PHYLLITE, MINOR LIMESTONE
	3a	BLACK SLATE - BLACK BEDDED CHERT, ARBILLITE, GREYWACKE.
PROTEROZOIC	1c	VARICOLORED PHYLLITE, MICA SCHIST
	1b	LIMESTONE
	1a	QUARTZITE, FELDSPATHIC QUARTZ SANDSTONE MINOR - MICA SCHIST



SYL GOSSAN SOIL SAMPLE GRID
SE Van Lake Area

Scale : 1" : 1000'



MOB GP

MACMILLAN

RIVER

ROAD

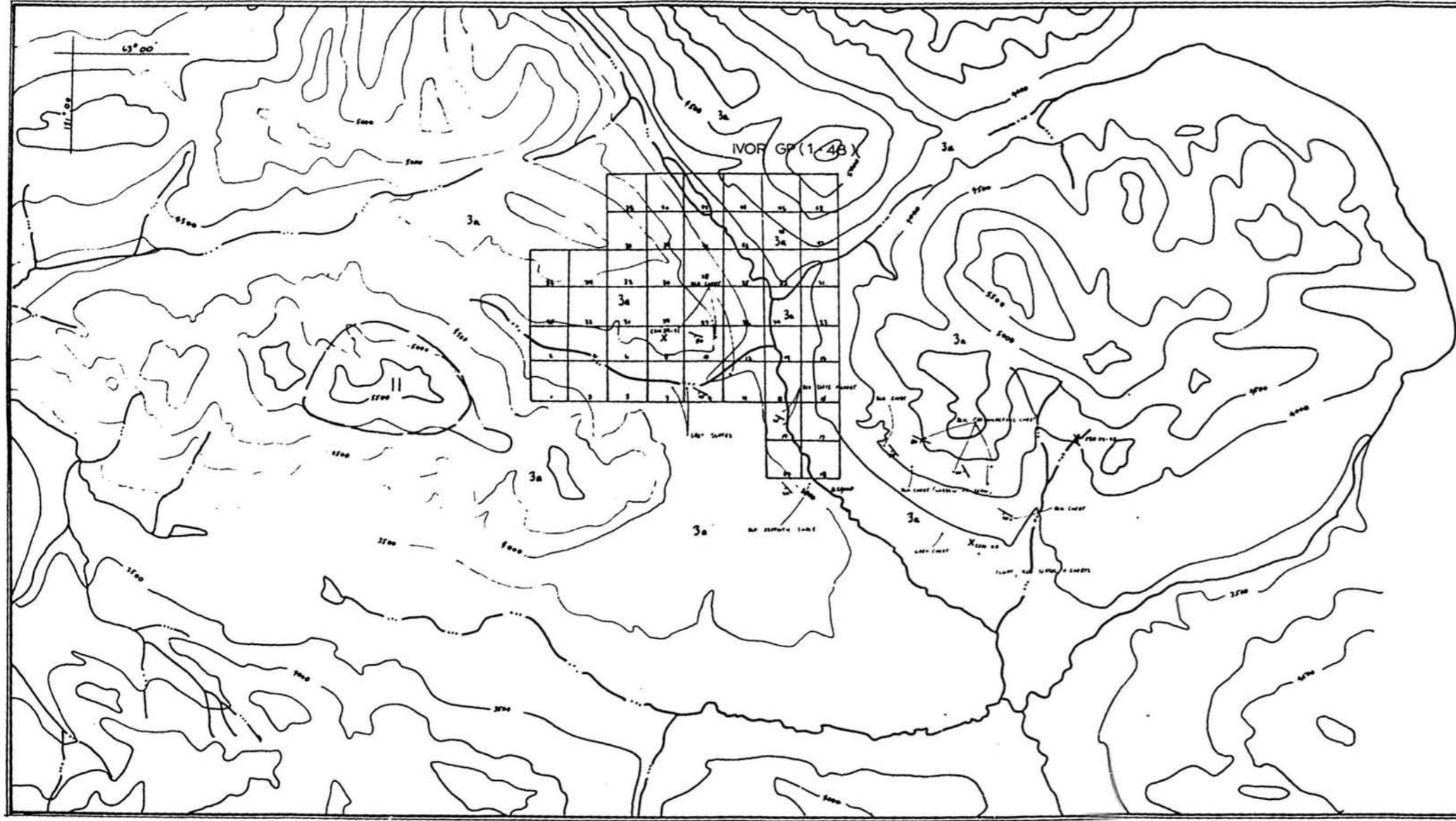
CANAL

SOUTH

ATLAS EXPLORATIONS LIMITED
ROSS RIVER (Y.T.)
GEOCHEMICAL RESULTS AND CLAIM
GROUP MAP OF SHEET 105-3-15

0 1 2 3 4 5 6 7 8 9 10
KILOMETERS

ROSS
RIVER



ATLAS EXPLORATIONS LTD.
 ROSS RIVER Y.T.
GEOLOGY MAP
 IVOR GROUP AREA
 CLAIM SHEET 108-J-15
 SCALE 1" = 1/2 MI.



LEGEND

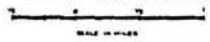
- 11 - GRANITIC INTRUSIVES
- 3a - BLACK SLATE, BLACK CHERT, ARGILLITE, GREYVACKE

SYMBOLS

- - - CONTACTS
- - - BEDDING ATTITUDE
- ORANGE - RUSTY ALTERATION
- X RED - GOSSAN
- X BLACK - MINERAL SHOWING

SOUTH
MACMILLAN
RIVER

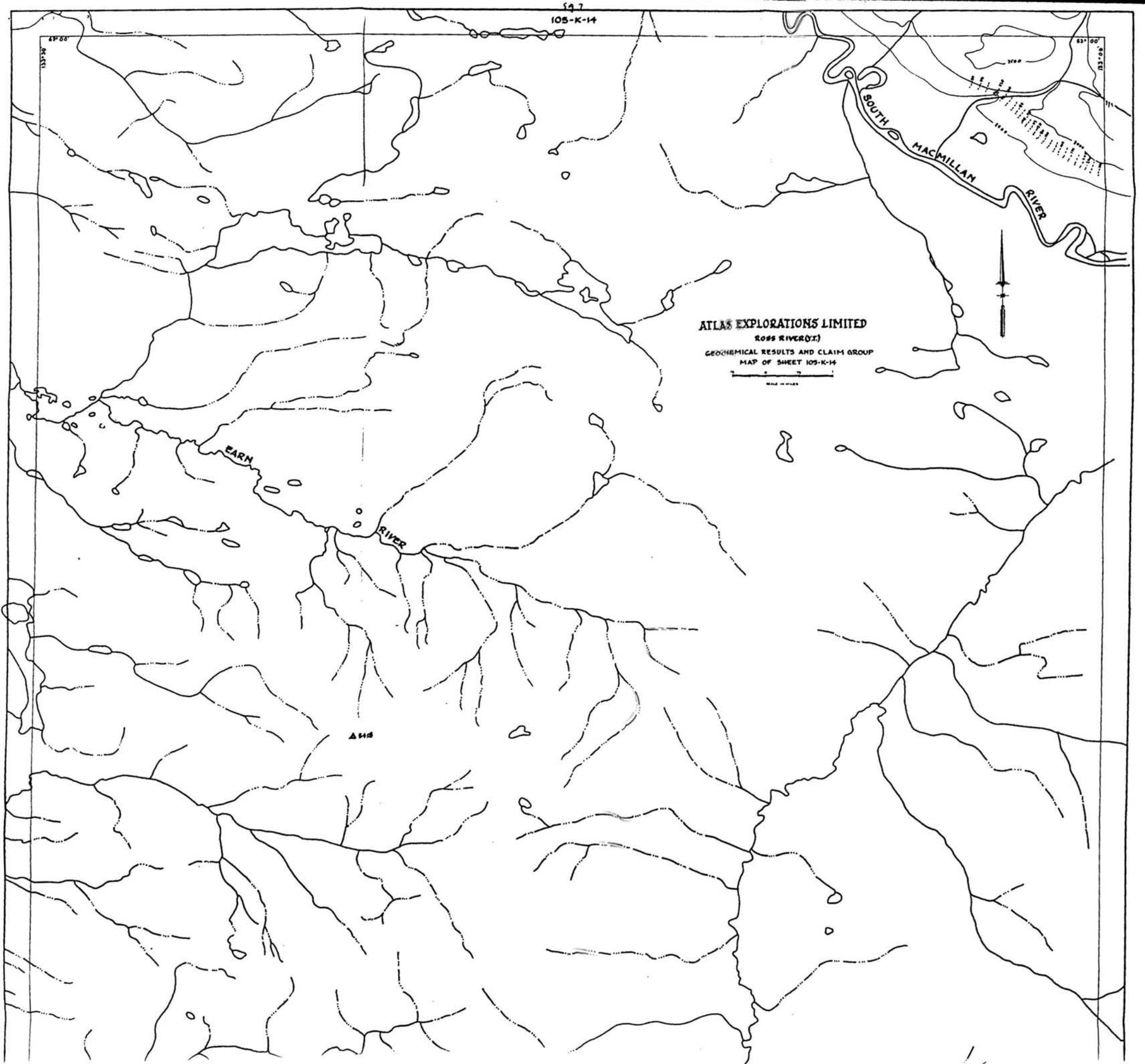
ATLAS EXPLORATIONS LIMITED
ROSS RIVER (S.T.)
GEOCHEMICAL RESULTS AND CLAIM GROUP
MAP OF SHEET 105-K-14



EARN

RIVER

▲ 418



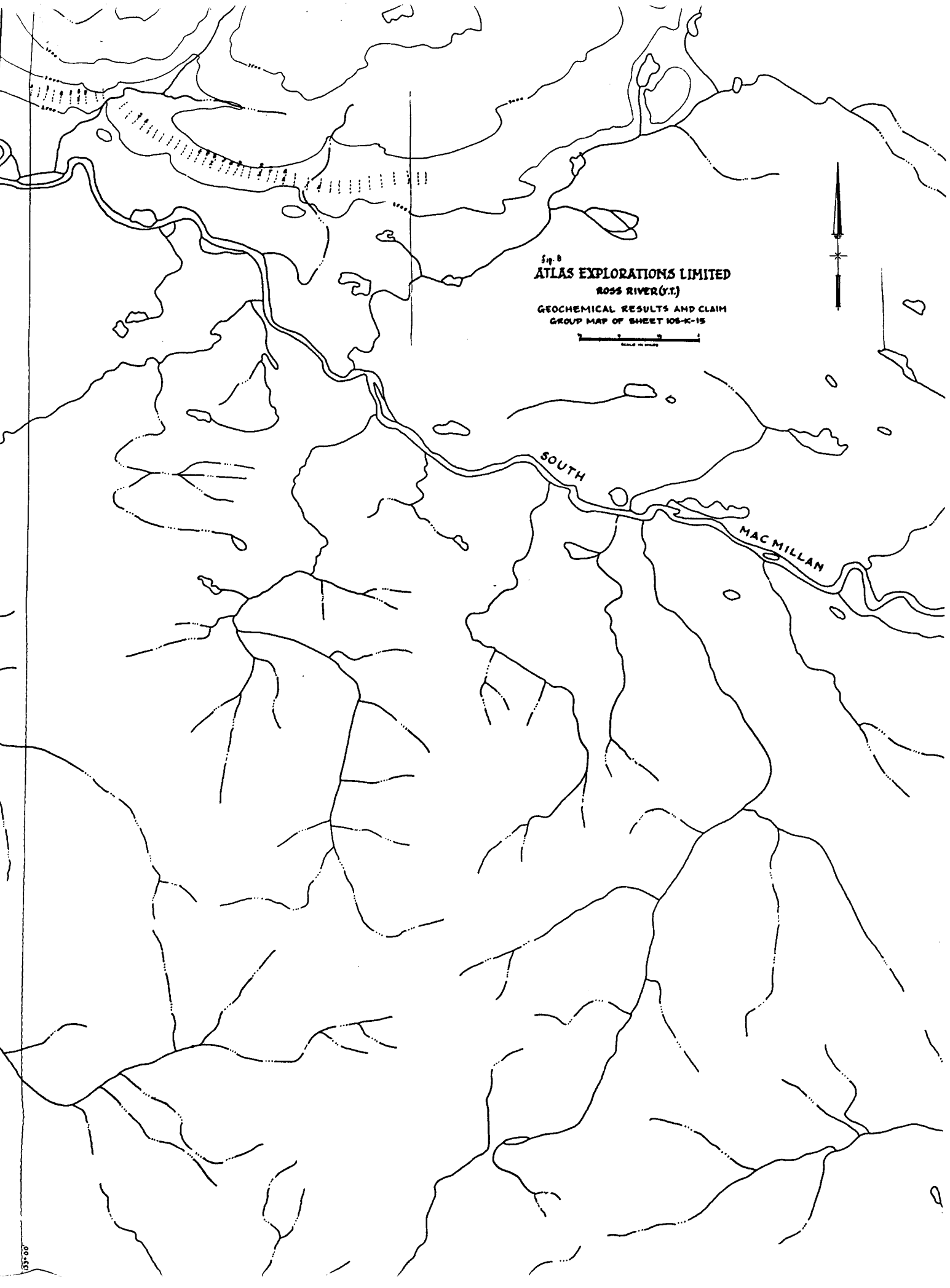
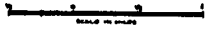


Fig. 8
ATLAS EXPLORATIONS LIMITED
ROSS RIVER (Y.T.)
GEOCHEMICAL RESULTS AND CLAIM
GROUP MAP OF SHEET 105-K-15



SOUTH

MAC MILLAN

MOUNT
SELOUS

LAD GP

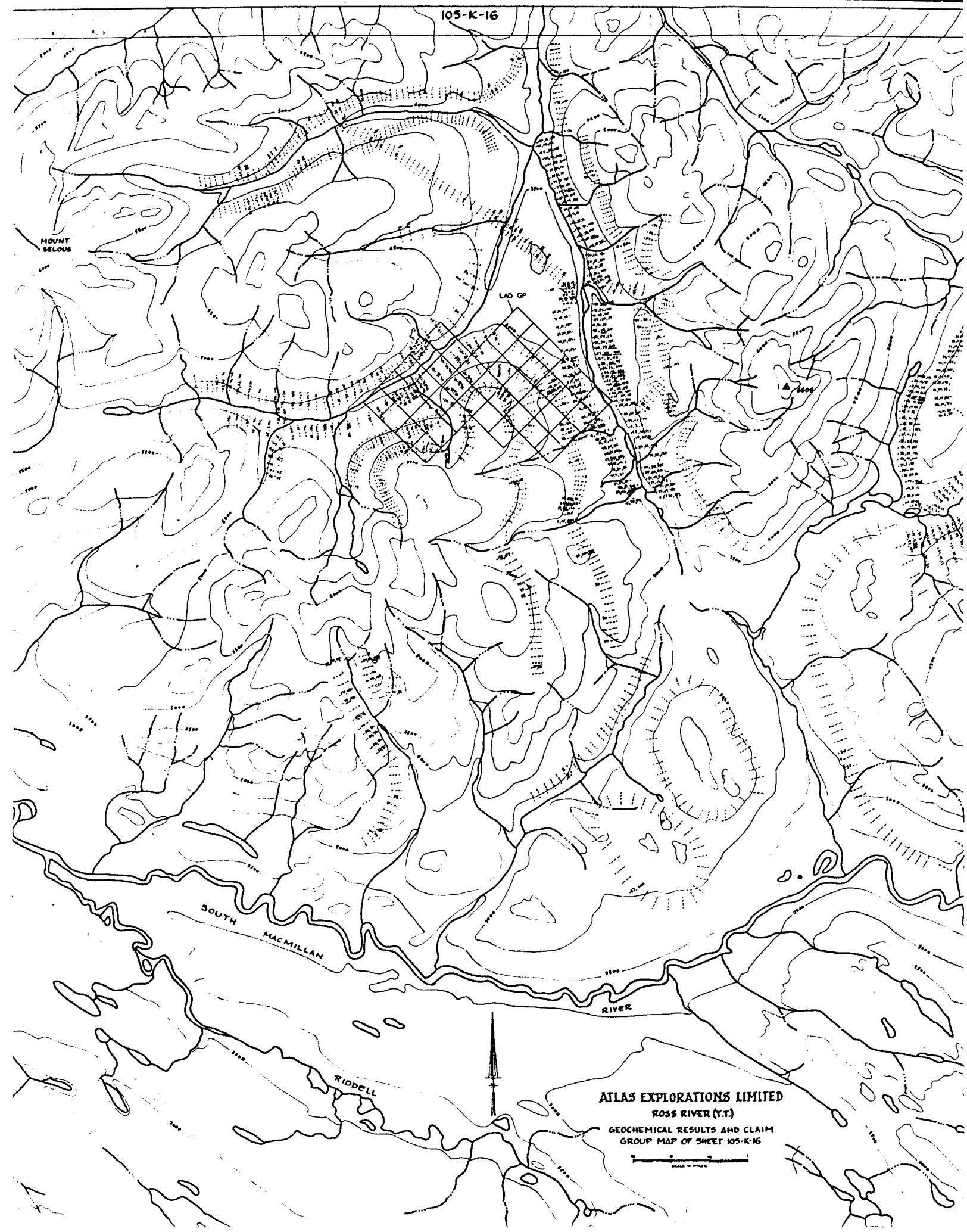
SOUTH
MACMILLAN

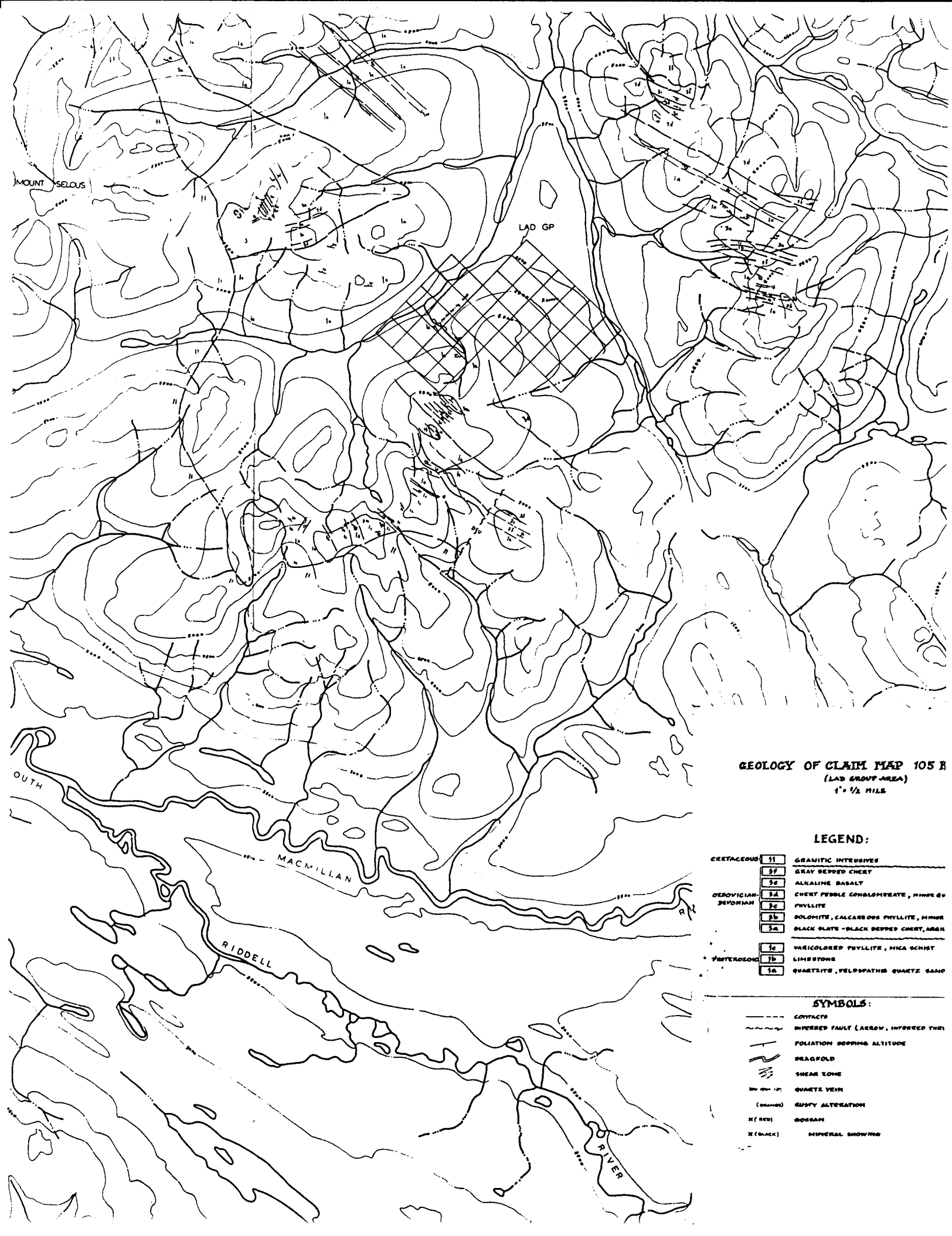
RIVER

RIDDELL

ATLAS EXPLORATIONS LIMITED
ROSS RIVER (Y.T.)
GEOCHEMICAL RESULTS AND CLAIM
GROUP MAP OF SHEET 105-K-16

SCALE 1:50,000





GEOLOGY OF CLAIM MAP 105 R
 (LAD GROUP AREA)
 1 1/2 MILE

LEGEND:

CRETACEOUS	11	GRANITIC INTRUSIVES
	12	GRAY BEDDED CHERT
	13	ALKALINE BASALT
DEVONIAN	14	CHERT PEBBLE CONGLOMERATE, MINOR PHYLITE
	15	PHYLITE
	16	DOLOMITE, CALCAREOUS PHYLITE, MINOR
	17	BLACK SLATE - BLACK BEDDED CHERT, MASH
	18	VARICOLORED PHYLITE, MICA SCHIST
PALAEZOIC	19	LIMESTONE
	20	QUARTZITE, FELDSPATHIC QUARTZ SAND

SYMBOLS:

- CONTACTS
- INFERRED FAULT (ARROW, INFERRED THRU)
- FOLIATION DIPPING ALTITUDE
- DRAGFOLD
- SHEAR ZONE
- QUARTZ VEIN
- (ORANGE) RUSTY ALTERATION
- X (RED) GOSAN
- X (BLACK) MINERAL SHOWING

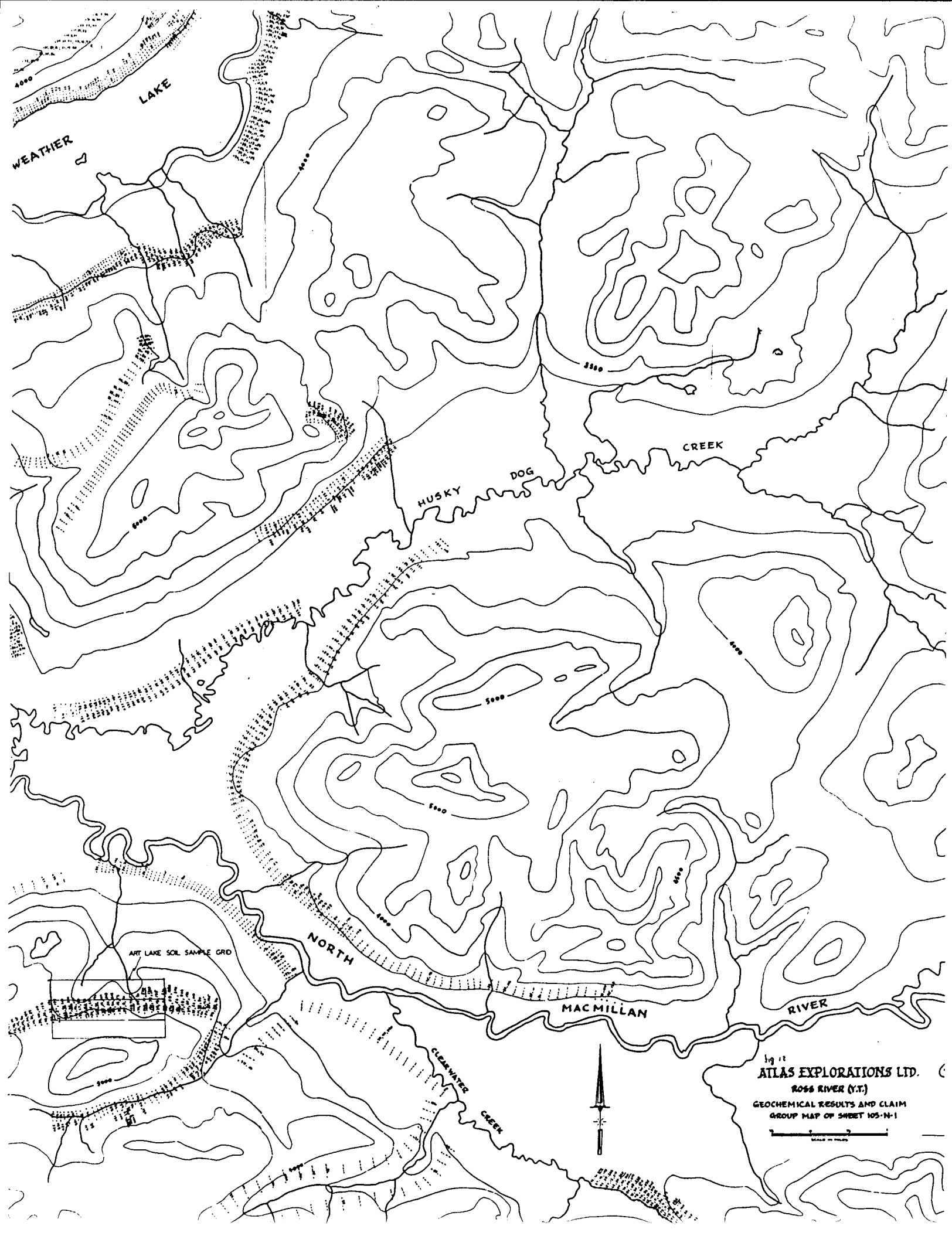
62-98	55 --	320 - 350	- 44-
60-100	104 --	64, 84, -	74, 100 -
48 --	110 - 90	---	46, 70, -
46 --	118 --	66 - 137	114, 57, 140
40 --	20 --	30-80	74, 280, 116
44 --	71, 51, 105	31 --	68-90
46 - 115	71 --	32 --	33 --
---	30 --	54 - 120	70, 61, 136
57-101	20 - 111	66, 82, 134	40, 40, 105
---	48 - 80	50, 40, 94	46 --
37 --	30 --	---	61, 40, 91
46 - 109	52 - 139	37, 22, -	84, 60, 112
---	40, 40, 105	61, 93, 152	55, 40, 80
---	120, 82, 100	76, 90, 150	64, 73, 106
---	---	50, 60, 94	99, 57, 143
---	---	50, 51, 140	84, 209, 458
---	---	54, 44, 145	60, 40, 167
---	---	62, 44, 100	32, - 115
---	---	74, 10, 230	30 - 99
---	---	89, 45, 113	---
---	---	61, 61, 150	---
---	---	40, 7, 97	31 - 97
---	---	54, 93, 152	---
---	---	59, 200, 110	---



ART LAKE SOIL SAMPLE GRID

(pace & compass)

Scale : 1" : 1000'



WEATHER

LAKE

HUSKY DOG CREEK

CREEK

NORTH

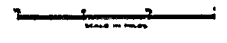
MACMILLAN

RIVER

CLEARWATER CREEK

ART LAKE SOIL SAMPLE GRID

Fig. 11
ATLAS EXPLORATIONS LTD. (C)
ROSS RIVER (Y.T.)
GEOCHEMICAL RESULTS AND CLAIM
GROUP MAP OF SHEET 105-N-1



ATLAS EXPLORATIONS LTD

ROSS RIVER (V.T.)

GEOLOGIC, GEOCHEMICAL SHOWINGS
ASSAY AND CLAIM GROUP MAP OF
SHEET 105 N 2

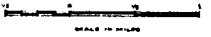
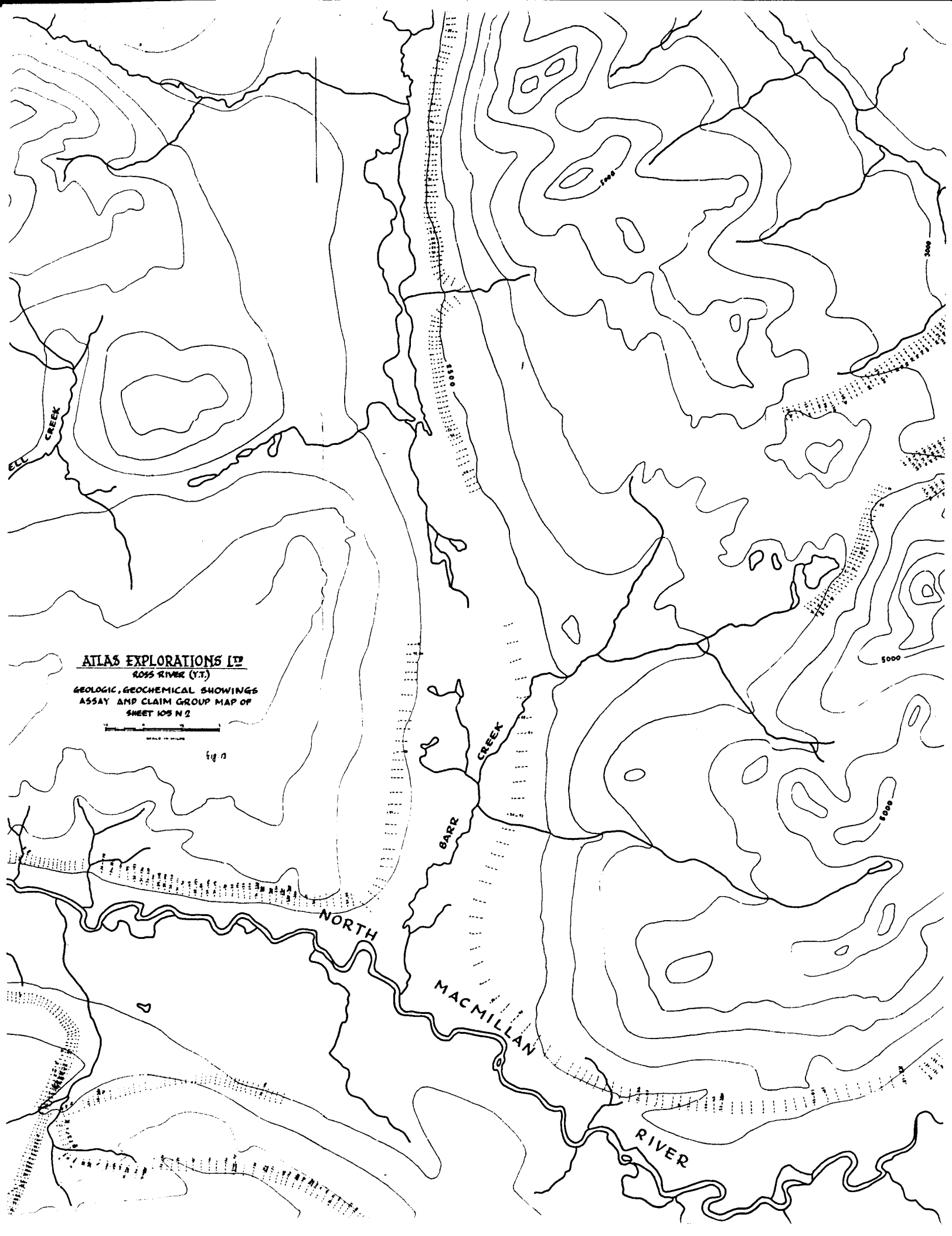
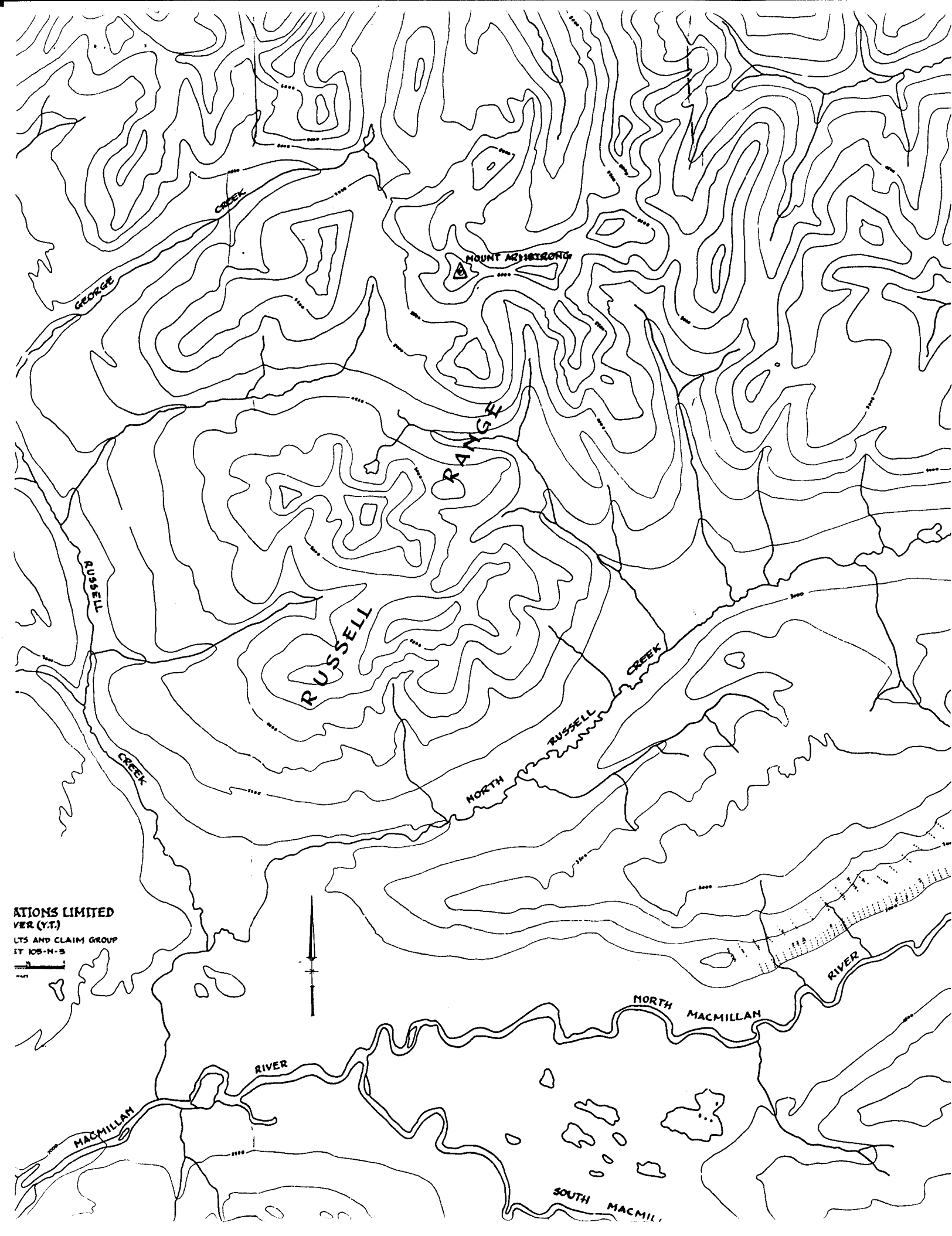


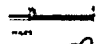
Fig. 1

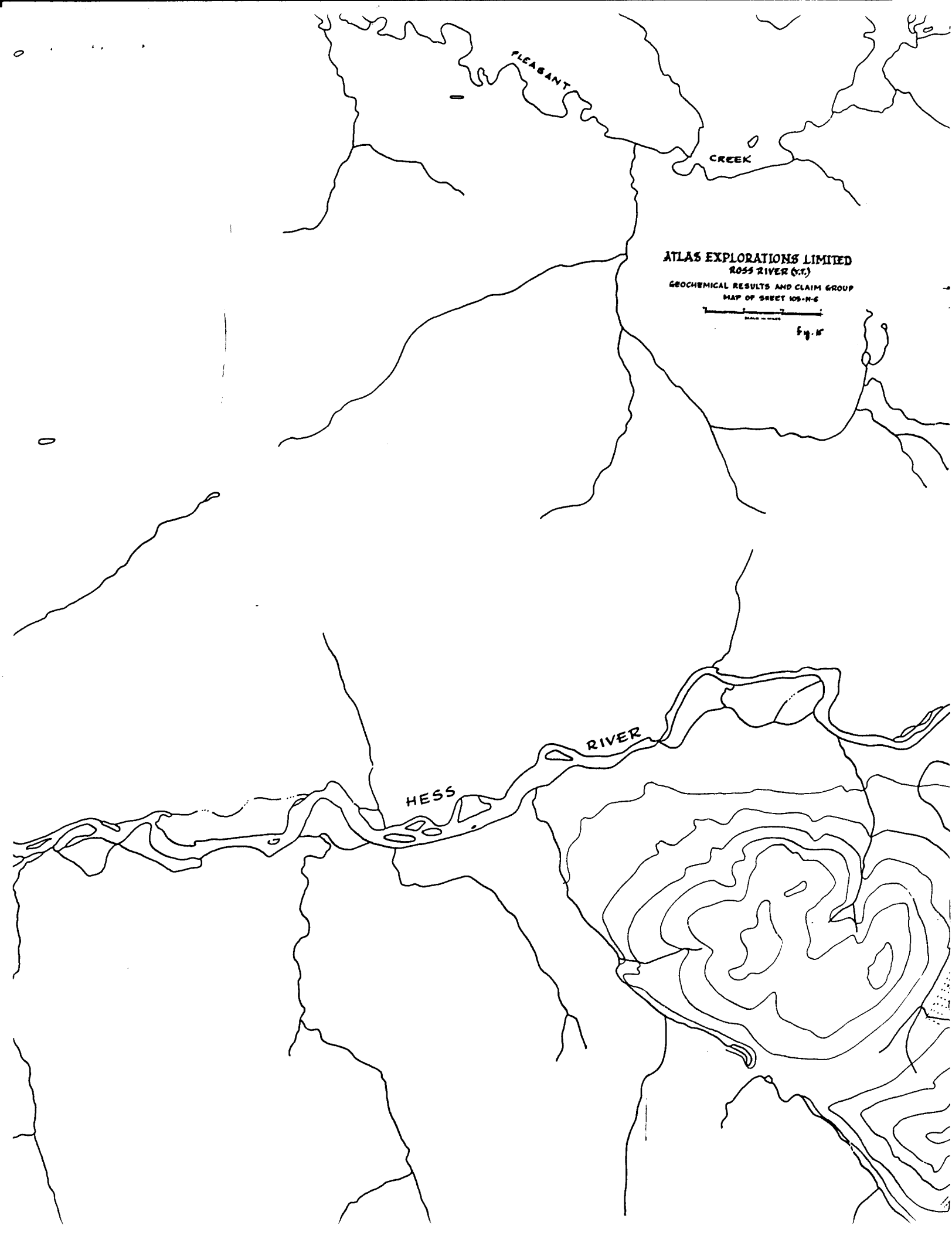




ATIONS LIMITED
VER (Y.T.)

LTS AND CLAIM GROUP
ET 105-N-5





PLEASANT

CREEK

ATLAS EXPLORATIONS LIMITED
ROSS RIVER (S.T.)
GEOCHEMICAL RESULTS AND CLAIM GROUP
MAP OF SHEET 105-N-6

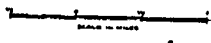


Fig. 1

RIVER

HESS

ATLAS EXPLORATIONS LIMITED
ROSS RIVER (Y.T.)
GEOCHEMICAL RESULTS AND CLAIM
GROUP MAP OF SHEET 105-N-7

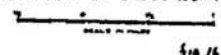
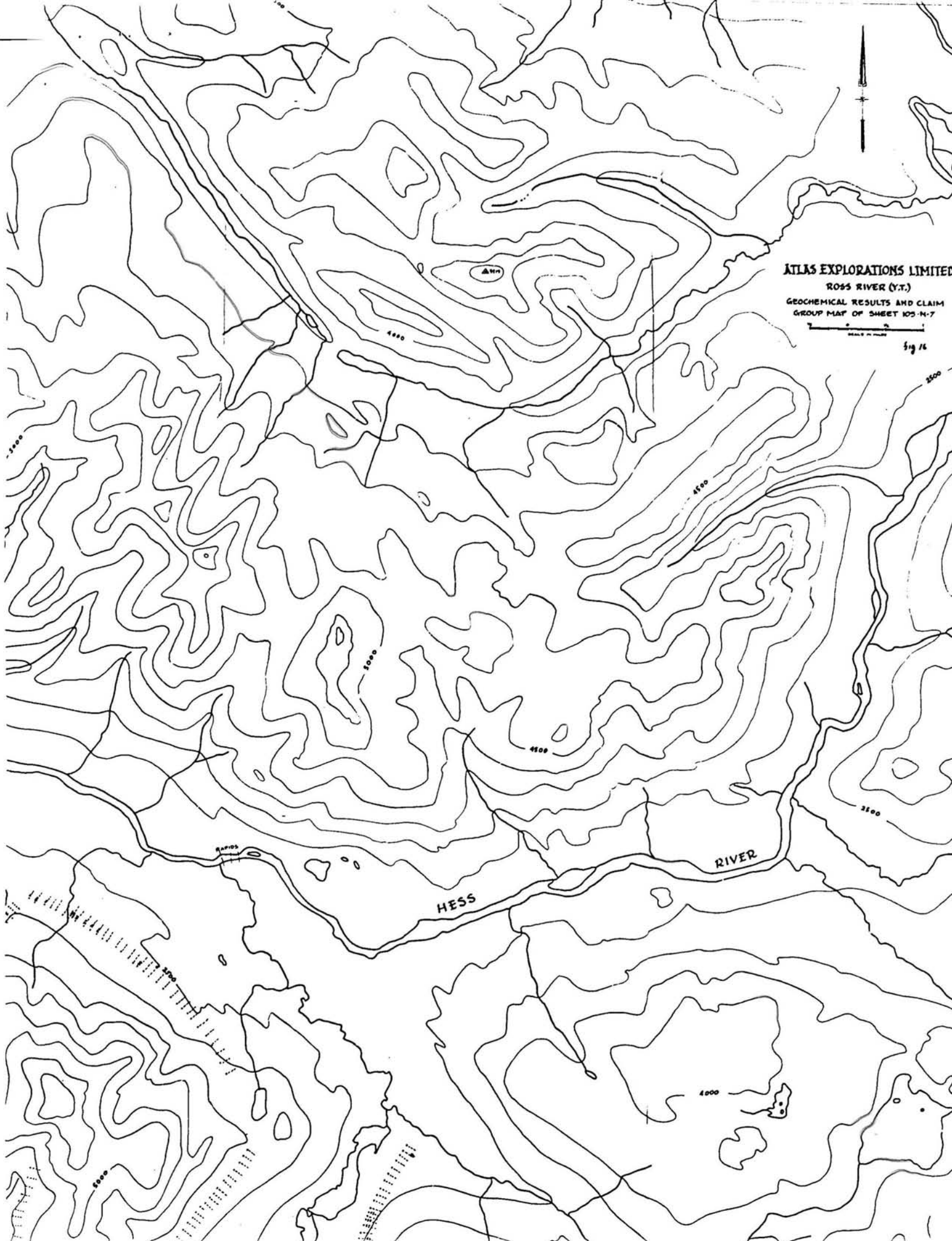
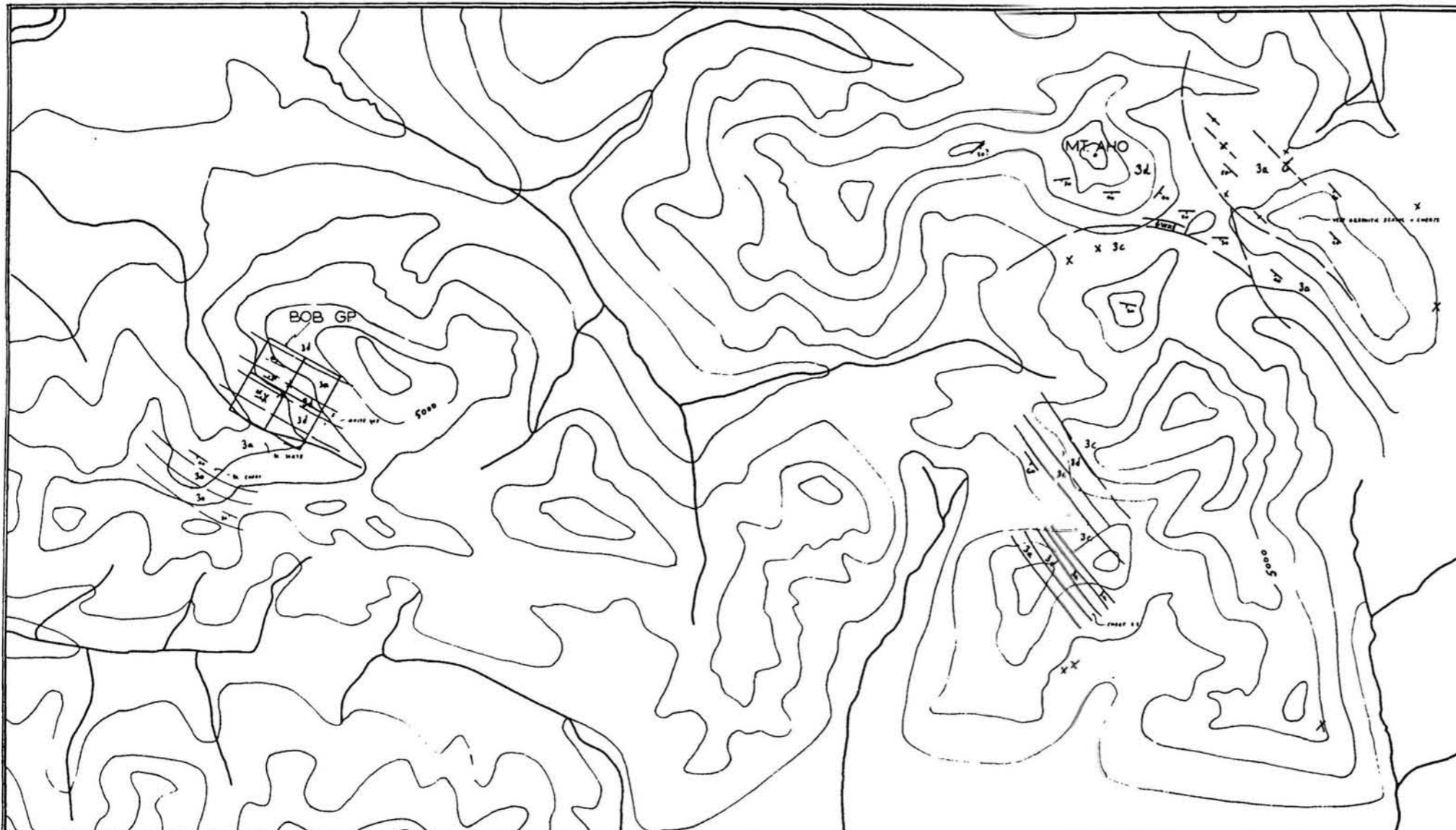


Fig 16





ATLAS EXPLORATIONS LTD.
 ROSS RIVER Y.T.
 HESS REGION
GEOLOGY MAP
 BOB GROUP
 MT. AHO AREA
 CLAIM SHEET 105-N-9
 SCALE 1" = 1/2 MI

LEGEND:

CRETACEOUS	3f	GRANITIC INTRUSIVES
	37	GRAY BEDDED CHERT
	3e	ALKALINE BASALT
ORDOVICIAN DEVONIAN	3d	CHERT TEBBLE CONGLOMERATE, MINOR QUARTZITE
	3c	PHYLLITE
	3b	DOLOMITE, CALCAREOUS PHYLLITE, MINOR LIMESTONE
	3a	BLACK SLATE - BLACK BEDDED CHERT, ARGILLITE, GREYWACKE
PROTEROZOIC	3c	VARICOLORED PHYLLITE, MICA SCHIST
	3b	LIMESTONE
	3a	QUARTZITE, FELDSPATHIC QUARTZ SANDSTONE MINOR MICA SCHIST.

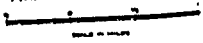
SYMBOLS

---	CONTACT
— / —	BEDDING
X	GOSSAN

ATLAS EXPLORATIONS LIMITED

ROSS RIVER (Y.T.)

GEOCHEMICAL RESULTS AND CLAIM GROUP
MAP OF SHEET 105-0-3





ATLAS EXPLORATION

ROSS RIVER V.T.
HESS REGION

GEOLOGY MAP

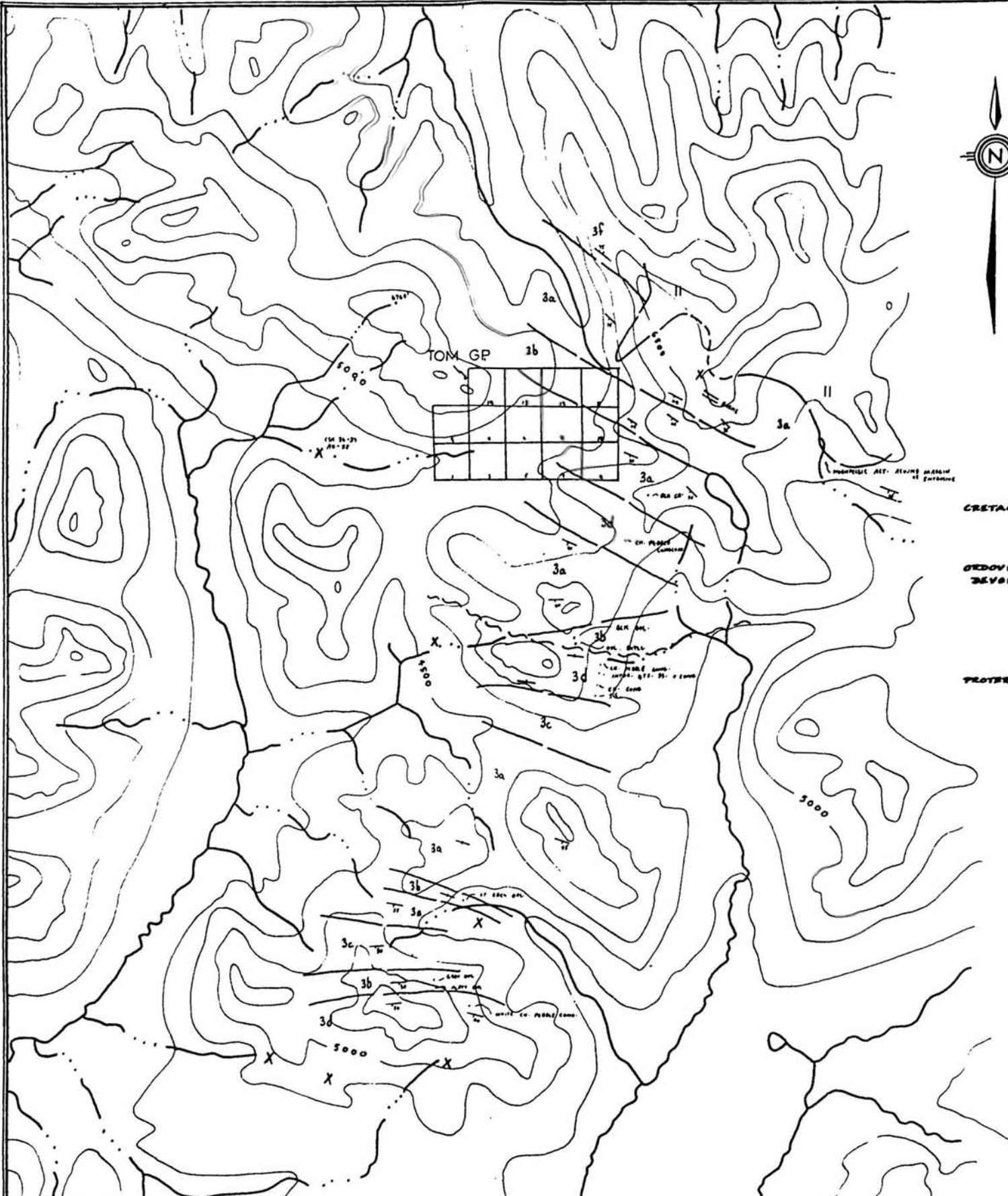
TOM GROUP
MT. PRATICO AREA
CLAIM SHEET 105-0-3
SCALE 1 1/2 MI.

LEGEND:

CRETACEOUS	11	GRANITIC INTRUSIVES
	3f	GRAY BEDDED CHERT
	3c	ALKALINE BASALT
ORDOVICIAN	3a	CHERT TEBBLE CONGLOMERATE
DEVONIAN	3c	PHYLLITE
	3b	DOLOMITE, CALCAREOUS PHYLLITE
	3a	BLACK SLATE / BLACK BEDDED
PROTEROZOIC	1c	VARI-COLORED PHYLLITE, MIC
	1b	LIMESTONE
	1a	QUARTZITE, FELDSPATHIC QZ

SYMBOLS

- - -	CONTACT
/ / /	BEDDING
X	RED BOSSAN
ORANGE	ROSY ALTERATION
*	BLACK MINERAL SHOWING
- - -	Fault



EMERALD

RIVER

ART GR

▲ 4904

SCOT GR

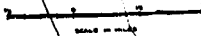
JAKE LAKE SOIL
GRD

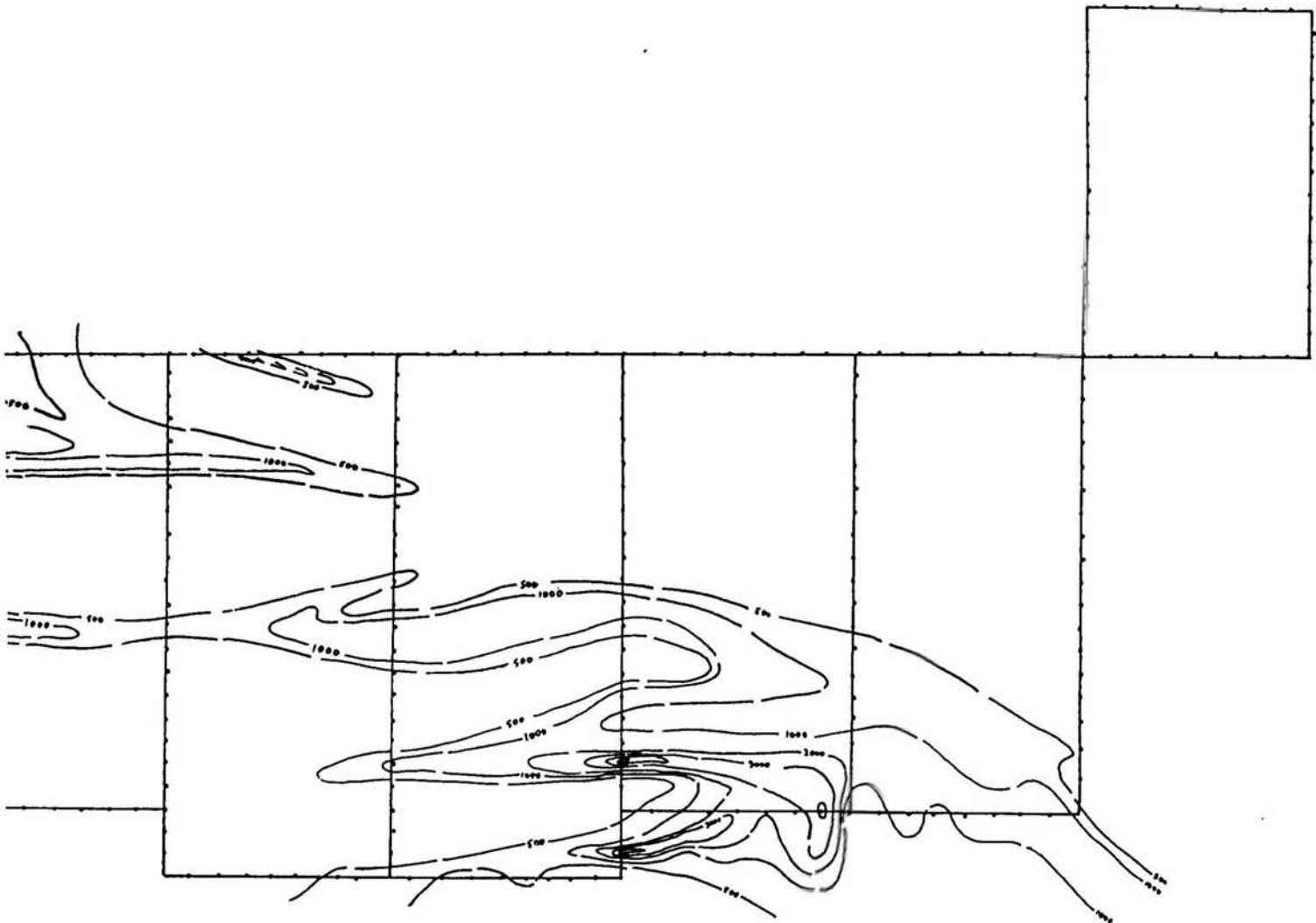
HESS

RIVER

ATLAS EXPLORATIONS LIMITED
ROSS RIVER (Y.T.)

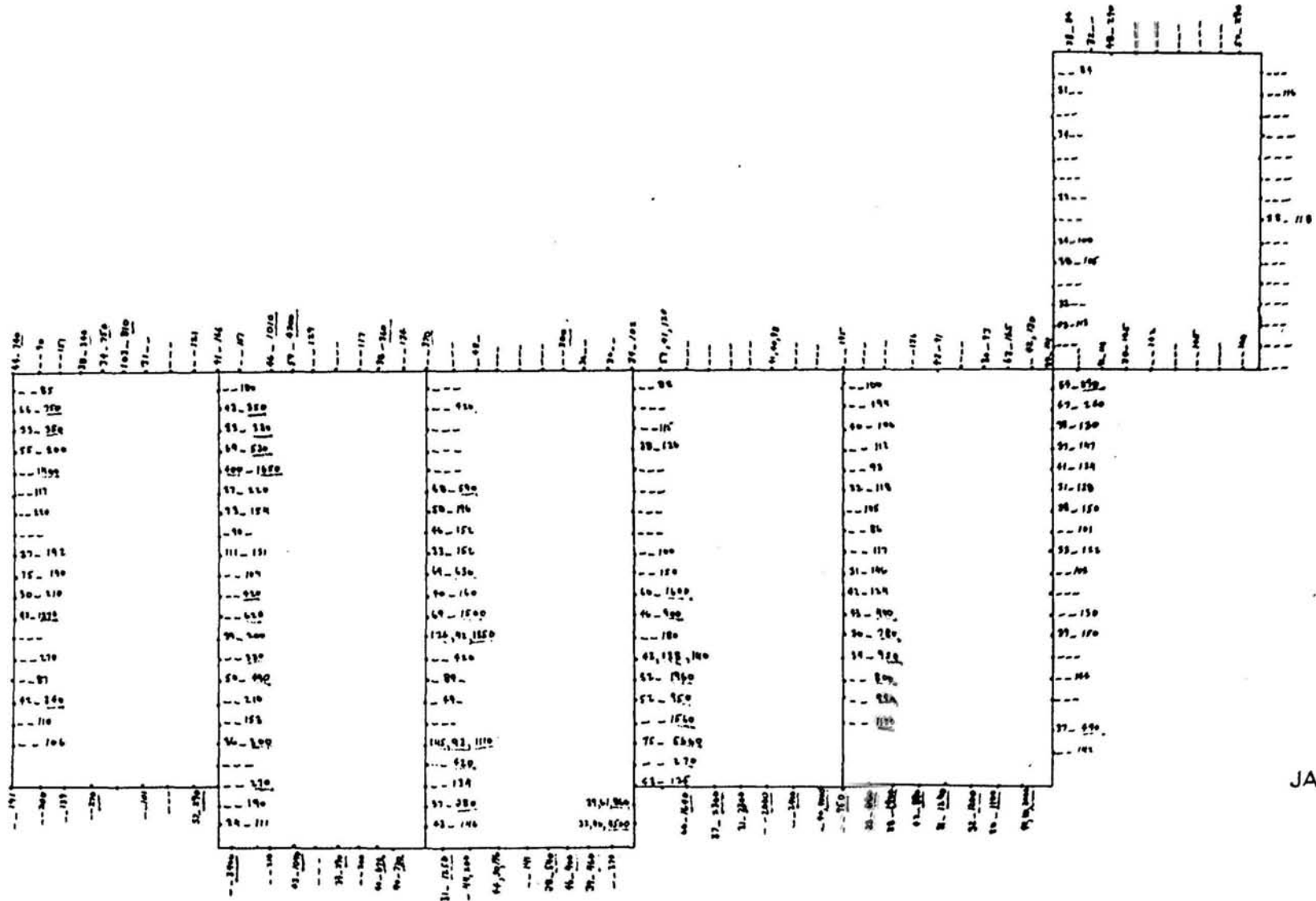
GEOCHEMICAL RESULTS AND CLAIM
GROUP MAP OF SHEET 105-0-6



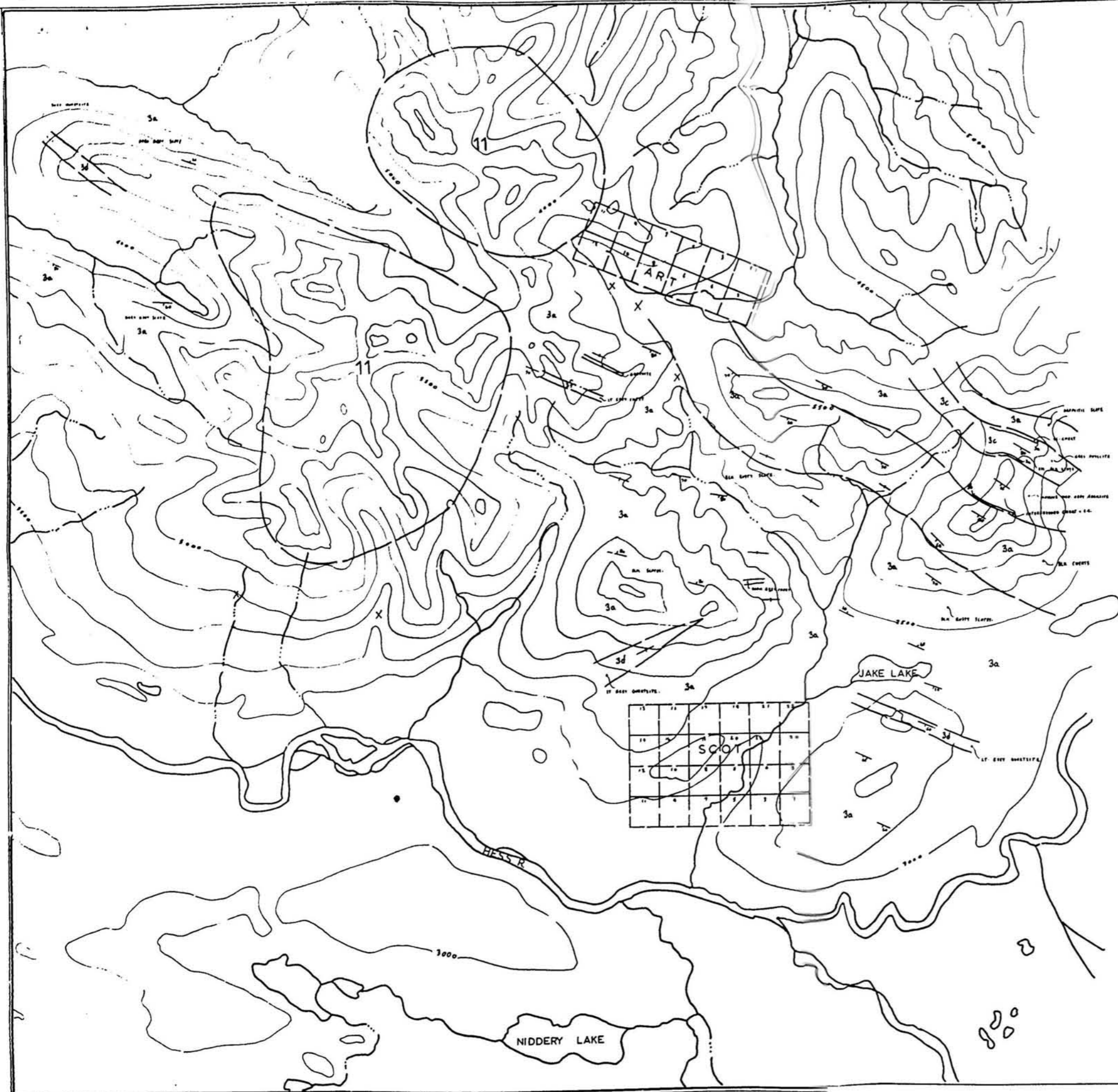


JAKE LAKE SOIL SAMPLE GRID
ZN CONTOURS

Scale : 1" : 1/4 Mile



JAKE LAKE SOIL SAMPLE GRID
 (pace & compass)
 Scale: 1" : 1/4 Mile



ATLAS EXPLORATIONS LTD.
 ROSS RIVER Y.T.
 HESS REGION
GEOLOGY MAP
 SCOT GROUP
 ART GROUP AREA
 CLAIM SHEET 103-0-6
 SCALE 1" = 1/2 MI.

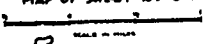
LEGEND:

CRETACEOUS	11	GEANITIC INTRUSIVES
	3f	GRAY BEDDED CHERT
	3e	ALKALINE BASALT
ORDOVICIAN	3d	CHERT PEBBLE CONGLOMERATE, MINOR QUARTZITE
DEVONIAN	3c	PHYLLITE
	3b	DOLOMITE, CALCAREOUS PHYLLITE, MINOR LIMESTONE
	3a	BLACK SLATE - BLACK BEDDED CHERT, ARGILLITE, GREYWACKE
PROTEROZOIC	1c	VARICOLORED PHYLLITE, MICA SCHIST
	1b	LIMESTONE
	1a	QUARTZITE, FELDSPATHIC QUARTZ SANDSTONE, MINOR MICA SCHIST.

SYMBOLS

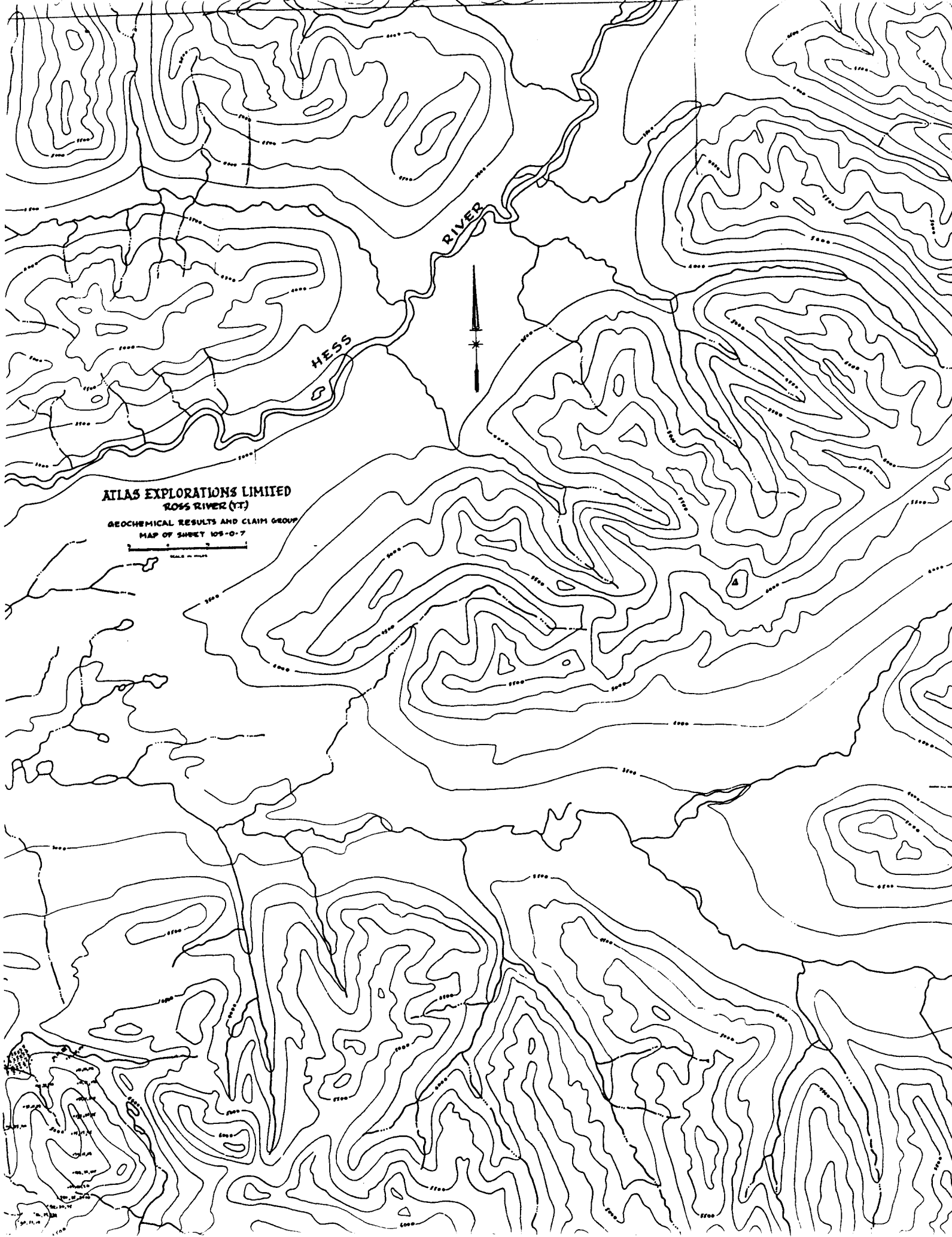
- - - CONTACT
- / / / BEDDING
- X TED GOSSAN
- ORANGE RUSTY ALTERATION
- X BLACK MINERAL SHOWING

ATLAS EXPLORATIONS LIMITED
ROSS RIVER (VT)
GEOCHEMICAL RESULTS AND CLAIM GROUP
MAP OF SHEET 105-0-7



ROSS RIVER

HESS



ATLAS EXPLORATIONS LIMITED
ANALYTICAL WORK SHEET
GEOCHEMICAL

Report Number A-71 Weight of Sample _____
 From H.E.S.S. PROPERTY #1 Extraction _____
 Tested For Cu, Pb, Zn Volume Used _____
 Date Sept 1/67 Analyst Blacks P.J.S.

SAMPLE NUMBER		Cu	PPM	Pb	PPM	Zn	PPM		PPM		PPM
OURS	YOURS										
42	H.B. 15	4.25	1740	140	1400						
43	J.H. 15	56	38	200	200						
44	16	8	20	205	205						
45	17	24	17	205	205						
46	18	34	20		47						
47	19	9	38		32						
48	20	29	23		92						
49	21	24	20		40						
50	22	19	23		540						
51	23	24	23		38						
52	24	46	14		79						
53	25	45	20		113						
54	A.H. 17	27	26		210						
55	15	35	20		154						
56	16	19	10		116						
57	17	47	17		240						
58	18	27	14		42						
59	19	78	20		120						
60	20	5	11		44						
61	21	47	17		28						
62	22	34	14		140						
63	23	10	14		200						
64	24	16	10		48						
65	25	22	42		20						
66	26	46	29		52						
67	27	210	20		21						
68	28	24	17		64						
69	29	47	20		260						
70	30	210	14		350						
71	31	61	14		400						
72	32	47	14		260						
73	33	20	15		27						
74	34	34	17		16						
75	35	210	27		310						
76	36	8	10		24						
77	37	6	10		205						
78	38	19	17		205						
79	39	10	7		200						
80	40	21	26		200						
81	41	30	10		72						
82	42	47	14		4						

? Blue Pb mesa.
 S. Lake Hugo
 E. Antelope
 N. Jute l. Cr.
 E. Midway l.
 E. Midway l.
 Nitrogen - no. 11
 N. Tam. Cr.
 E. Tam. Cr.
 S. e. Mid. Ladine
 N. Pange
 S. e. Ladine
 N. Ladine R.
 S. e. Ladine

ATLAS EXPLORATIONS LIMITED
ANALYTICAL WORK SHEET
GEOCHEMICAL

Report Number: A-71
 From: H.E.S.S. PRIORITY #1
 Tested For: Ch. PL 20
 Date: Sept 11/67

Weight of Sample: _____
 Extraction: _____
 Volume Used: _____
 Analyst: Blak, P.L.S.

SAMPLE NUMBER		Cu.	PPM	Pb	PPM	Zn	PPM	PPM	PPM	PPM
OURS	YOURS									
83	A.H. 43		108		14		72			- N. Range E. - S.H. comp. N. Range E.
84	44		ND		17		210			
85	45		ND		ND		47			- NW. Emerald L.
86	46		160		14		86			
87	47		92		17		160			
88	48		150		10		78			
89	49		12		10		23			
90	50		92		17		610			- S.E. Nidney I. (Nidney)
91	51		19		ND		56			
92	52		21		ND		107			
93	53		5		10		36			
94	54		610		20		700			
95	55		ND		9		62			- Bul. Cr. - W. Mt. P. (P. Cr.)

ATLAS EXPLORATIONS LIMITED
ANALYTICAL WORK SHEET
GEOCHEMICAL

Report Number A-84 Weight of Sample _____
 From HES Extraction _____
 Tested For _____ Volume Used _____
 Date Sept 21/67 Analyst Blaker

SAMPLE NUMBER		Cu	PPM	Pb	PPM	Zn	PPM	PPM	PPM	PPM
OURS	YOURS									
1	A-H 56A	46								
2	69	43								
3	70	65				116				
4	71	61								
5	72	174				106				
6	73	170				170				
7	74	114				94				
8	75	61				300				
9	76	230				230				
10	77	110				370				
11	L.L. 471	58				410				
12	472	116				450				
13	473	56				1300				
14	474	65				400				
15	475	61				370				
16	476	71				810				
17	477	63				530				
18	478	51				400				
19	479					120				
20	470	37				136				
21	481	69				239				
22	482	57				200				
23	483					127				
24	484	45				186				
25	485					149				
26	486	110				410				
27	487	51				240				
28	488	86				350				
29	489	110				710				
30	490	75				200				
31	491	126				740				
32	492									
33	493	45				450				
34	494	88				500				
35	495	81				790				
36	496					310				
37	497	38				570				
38	498	130				500				
39	499	38				1170				
40	500	40				700				
41	501					1000				

Handwritten notes:
 7 1 *Handwritten signature*
 8 *Handwritten signature*

1

ATLAS EXPLORATIONS LIMITED

ANALYTICAL WORK SHEET

GEOCHEMICAL

Report Number A-88 Weight of Sample _____
 From HESS Extraction _____
 Tested For Ag, Pb, Zn Volume Used _____
 Date Sept 27/67 Analyst Blake

SAMPLE NUMBER		Cu	PPM	Pb	PPM	Zn	PPM	PPM	PPM	PPM
HOURS	YOURS									
1	HTG 1	—	—	—	—	190				
2	2	—	—	—	—	192				
3	3	60	—	—	—	100				
4	4	38	—	—	—	—				
5	5	—	—	—	—	—				
6	6	86	—	—	—	—				
7	7	—	—	—	—	87				
8	8	—	—	—	—	—				
9	9	—	—	—	—	170				
10	10	—	—	—	—	370				
11	11	44	—	—	—	110				
12	M.L. 183	67	—	—	—	152				
13	124	—	—	—	—	—				
14	125	37	—	—	90	103				
15	186	44	40	—	—	123				
16	187	33	—	—	—	88				
17	188	30	—	—	—	—				
18	189	39	—	—	—	124				
19	190	36	—	—	—	200				
20	191	36	—	—	—	116				
21	192	57	—	—	—	103				
22	193	35	—	—	—	93				
23	194	44	—	—	—	126				
24	195	32	—	—	—	108				
25	196	36	—	—	—	107				
26	197	62	—	—	—	195				
27	198	56	—	—	—	230				
28	199	44	—	—	—	170				
29	200	32	—	—	—	135				
30	201	33	—	—	—	—				
31	202	—	—	—	—	—				
32	203	39	—	—	—	124				
33	204	38	—	—	—	120				
34	205	—	—	—	—	106				
35	206	39	—	—	—	131				
36	207	65	—	—	—	200				
37	208	—	—	—	—	—				
38	209	83	—	—	—	—				
39	210	33	—	—	—	—				
40	211	174	—	—	—	194				
41	212	80	—	—	—	107				