

012145

AREA EXPLORATION COMPANY

FINAL REPORT

on

EXPLORATION ACTIVITIES

on the

TEE, BUN, and SUE CLAIMS
WHITEHORSE MINING DISTRICT, YUKON TERRITORY

JULY, 1974

P.F. LEWIS, B.Sc., A.R.S.M.
Geologist, #802, 1686 W 12th Avenue, Vancouver, B.C.

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INTRODUCTION

This report summarizes the exploration activities of Area Exploration Company on the TEE, BUN, and SUE claim groups in Whitehorse Mining District, Yukon Territory. The work was performed during the summer of 1971 and consisted of:-

- (i) Geological mapping,
- (ii) Soil sampling, with analysis for copper, molybdenum, lead and silver,
- (iii) A ground magnetometer survey,
- (iv) 1,450 feet of diamond drilling in one hole, and 450 feet of percussion drilling in one hole.

The claim groups were optioned from Mr. T. Wheeler of Carmacks, Yukon Territory, and lie on the periphery of porphyry copper type mineralization explored by Area during the 1971 to 1973 field seasons. Lead-zinc-silver-gold bearing veins on the property are considered to represent the outer zone of such porphyry mineralization, and may have economic potential for a small-scale operation. The present exploration program, however, was designed to test the area for large tonnage, low grade copper-molybdenum mineralization and no attempt was made to evaluate the vein mineralization.

LOCATION AND ACCESS

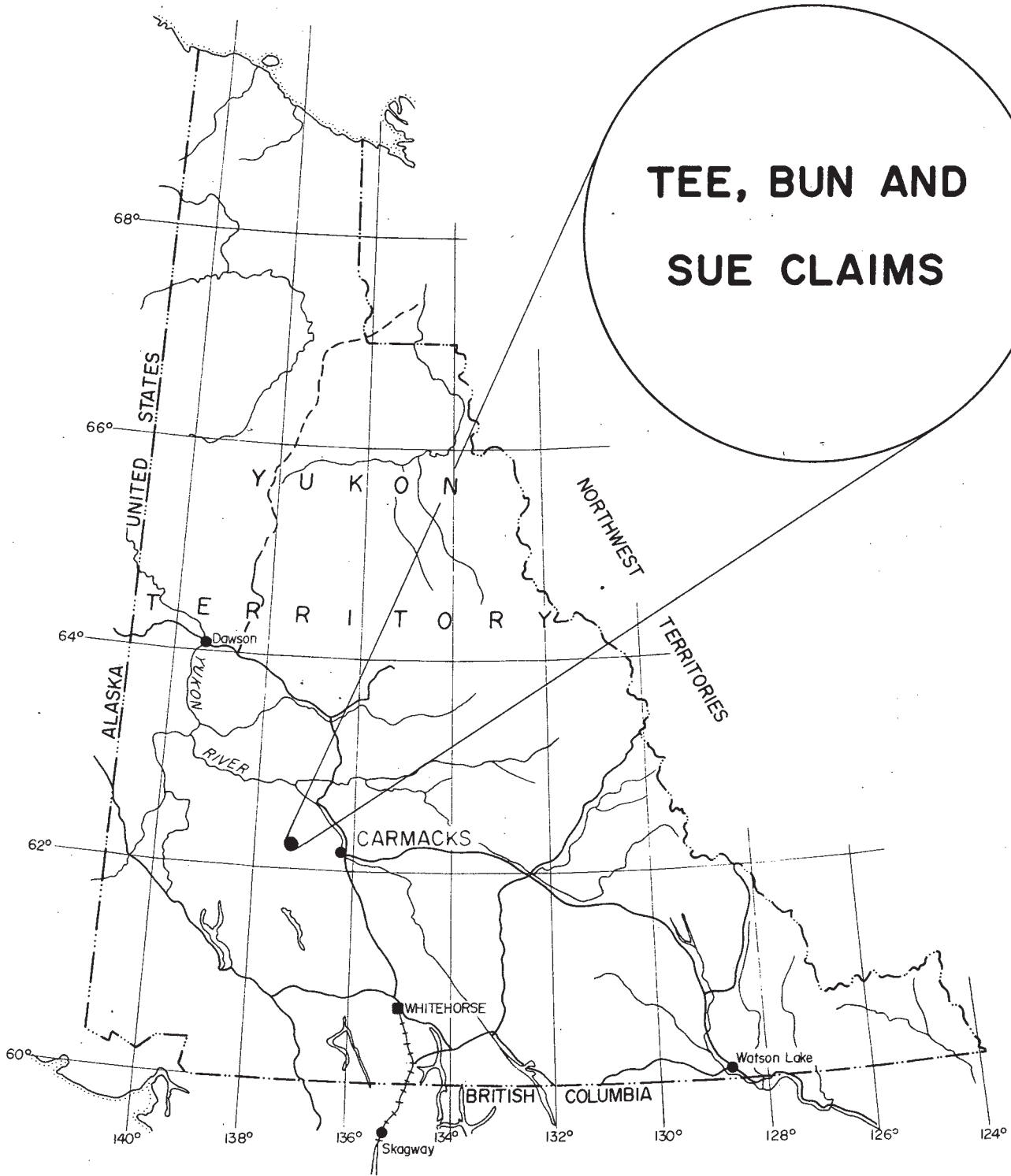
The claims are situated approximately thirty miles west of Carmacks at latitude $62^{\circ}07'$ north and longitude $137^{\circ}15'$ west, on NTS sheet 115-I/3. From Carmacks, forty miles of all-weather gravel road leads to the mill-site and camp of Mount Nansen Mines Ltd., from which five miles of dirt track suitable for four-wheel drive vehicles provides access to the property.

PHYSIOGRAPHY

The claims lie at the southeast end of the northwest-trending Dawson Range, in the physiographic region known as the Yukon Plateau. This is an area of peneplanation of elevation between 4,000 and 5,000 feet, which in its western part apparently escaped Pleistocene glaciation and is characterized by gentle summits and V-shaped valleys.

The claims cover the southeast flank of Caribou Hill which is the northeast spur of Mount Nansen, 5,593 feet. The latter is a more rugged, craggy, summit underlain by volcanic rocks, whereas the former is gently rounded and more typical, underlain by granitic intrusive.

A few spruces dot the lower elevations in the claim group, but most of the area is covered in buck brush with the highest elevations becoming grassy and open.



AREA EXPLORATION CORPORATION LTD.

PROPERTY LOCATION MAP

SCALE : 1" = 100 MILES

CLAIMS

The property consists of sixteen (16) full mineral claims optioned from and owned by Mr. T. Wheeler of Carmacks.

<u>Claim Name</u>	<u>Grant Number</u>	<u>Location Date</u>	<u>Expiry Date</u>
TEE 1-4 inc.	Y24049-Y24052 inc.	March 4, 1968	March 1, 1976
BUN 1-4 inc.	Y12189-Y12192 inc.	March 6, 1967	March 1, 1976
SUE 1-8 inc.	Y20649-Y20656 inc.	July 29, 1967	March 1, 1976

PREVIOUS WORK

High grade silver-lead mineralization was found in float on Caribou Hill in the 1930's, but the discovery was not followed up until 1967 when Mr. Jack Smith of Whitehorse did reconnaissance soil sampling in the area. Limited trenching of anomalies failed to reveal any mineralization. In 1968, Ace Parker and Associates conducted an electromagnetic and soil sampling survey over the trenched area, defining three sub-parallel northwesterly trending anomalies. Further trenching of these zones revealed a zone of shearing and alteration, with irregular and discontinuous vein material containing some galena, pyrite, arsenopyrite and oxidation products. The best mineralized section assayed 0.44 oz. gold and 14.1 oz. silver per ton over six feet. Further work on the hill was shelved following the failure of Mount Nansen Mines Ltd., five miles to the south, in 1969.

In 1971, Area Exploration Company, a wholly-owned subsidiary of Cyprus Mines Corporation of Los Angeles, recognized the potential of the area to the southeast with respect to porphyry-type copper-molybdenum mineralization, and the present property was optioned to protect the margin of this area.

GEOLOGY

The property is underlain by hornblende-biotite quartz monzonite (unit 3) and hypersthene quartz diorite (unit 2) which form a northwesterly trending batholith apparently intruding volcanic rocks of the Mount Nansen Group (unit 1), which outcrop to the southwest and northeast of the property. A small area of rhyodacite porphyry float (unit 4) probably indicates the presence of a small stock or dyke to the southeast of the property.

The quartz monzonite is the dominant rock-type in the area and is a medium to coarse grained, hypidiomorphic-granular textured rock consisting of andesine (40%), orthoclase (20%), quartz (15%), biotite (10%), and hornblende (5%), with minor zircon and accessory magnetite, sphene, chlorite, epidote and sericite. A wide zone of alteration and shearing in the unit was exposed by trenching near the summit of Caribou Hill. Within this zone are bands of bleached and kaolinitized material, with northwesterly strike and vertical to moderate southwesterly dip, containing irregular lenses and veins of lead-zinc-silver-gold-copper bearing material.

The quartz diorite apparently forms a peripheral early phase of the batholith. It is a mesocratic, fine to medium grained, equigranular rock with a characteristically high magnetic response, and contains andesine (50%), orthoclase (10%) quartz (10%), biotite (10%), hypersthene (10%), hornblende (10%), and accessory magnetite apatite, chlorite, and actinolite.

The Mount Nansen Group volcanic rocks consist of andesitic flows and flow breccias, and hornblende monzonite porphyry dykes and sills. Age relations of these rocks with the intrusives are uncertain and a recent open-file report by the Geological Survey of Canada describes the Mount Nansen Group as Early Tertiary and presumably unconformably overlying the Late Cretaceous batholith, which has been dated by K-Ar methods at approximately 100 m.y. The present author would, however, agree with Bostock (1936) that the batholith intrudes the volcanic pile in this area, on the basis of the spatial relationships of units 1, 2, and 3.

Campbell (1969) describes the geology of four trenches cut in March 1969, which expose the two known vein systems immediately west of the claims. An altered andesite dyke is exposed with the northeast vein system.

GEOCHEMISTRY

Soils from the "B" horizon were sampled at 200 feet by 400 feet spacing on a northwesterly trending grid, using a D7 with ripper to penetrate indurated volcanic ash and ice. Analyses for copper, molybdenum, lead and silver were made by Barringer Research using the following methods:-

<u>Sample</u>	<u>Sample</u>	<u>Attack</u>	<u>Analysis</u>
Cu	250 mgm, -80 mesh	Hot HClO ₄	Atomic Absorption
Mo	"	"	"
Pb	"	"	"
Ag	2.5 gm, -80 mesh	KCN	"

Thresholds: Cu - 70 ppm, Mo - 7 ppm, Pb - 50 ppm, Ag - 0.5 ppm

Thresholds for lead and silver are probably very local, since the whole of the sampled area is probably relatively anomalous in these elements.

The results of the program are shown on maps 2 to 5. In general, the expected zonation pattern associated with porphyry deposits can be seen, in that molybdenum anomalies are to the southeast, nearest to the centre of porphyry-type mineralization, and there is a trend through copper to lead and silver in the northwest. In detail, however, the anomalies are spotty and fairly certainly due to small high-grade veins and lenses of mineralization characteristic of the periphery of a porphyry deposit. Northwesterly trends are not apparent from the survey, but might become apparent if a 100 by 400 feet spacing was employed. The major silver-lead anomaly at the west edge of the grid is the expression of the easterly extension of the vein zone exposed in the trenches.

GEOPHYSICS

The grid was covered by a magnetic survey (map 6) using a Sharpe M.F.1 fluxgate magnetometer, accurate to ± 10 gammas, measuring the vertical component of the earth's magnetic field. Corrections for diurnal variations were made by tying-in to previously established base stations at intervals not exceeding two hours.

The results of the survey show a contouring bias due to the large line spacing, but the magnetic expression of the quartz diorite, unit 2, in the northern part of the grid can also be clearly seen.

The area to the southeast of the present property was also covered by I.P. and E.M. surveys. However, these surveys did not extend onto the claims, and are not discussed further.

DRILLING

One diamond hole, number CD-2, 1,450 feet in depth, and one percussion hole, number CP-9, 430 feet in depth, were collared on the present claims.

CD-2

Location: 332N/200W
 Dip and Azimuth: -45° , 190°
 Footage Drilled: 1,450 feet
 Purpose of Hole: To test a coincident copper-molybdenum soil anomaly.

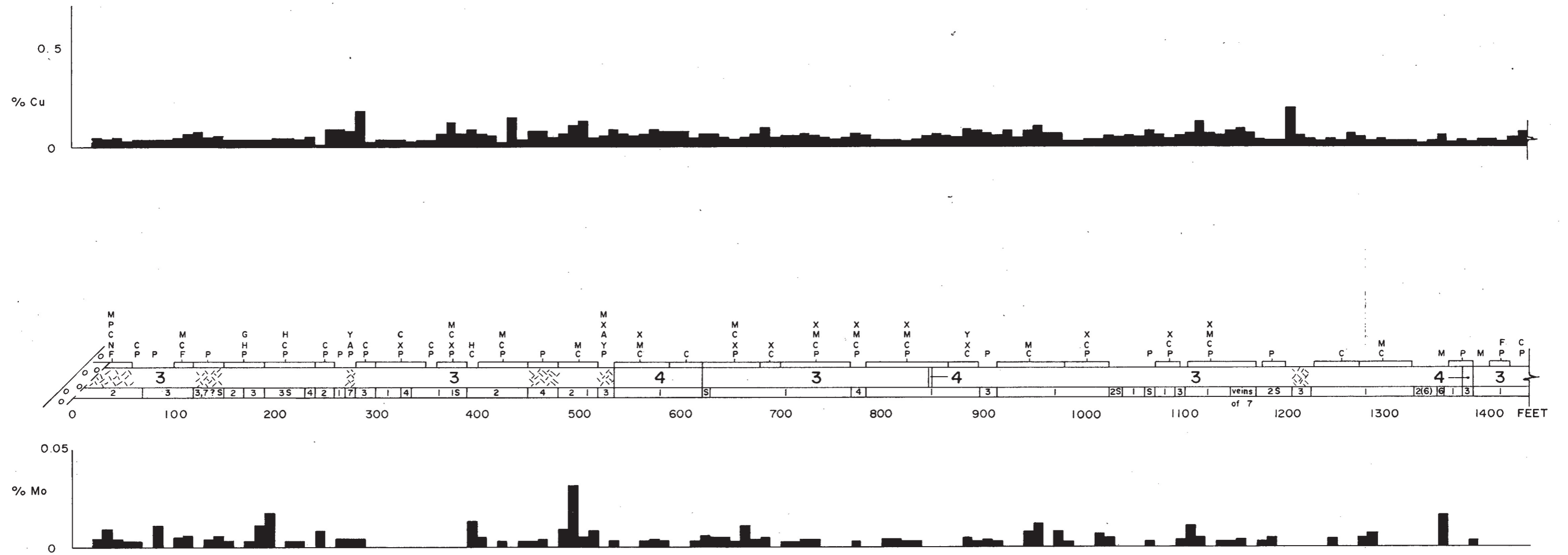
Results: Lithologies and mineralization intersected are shown on the graphic log overleaf. Dykes of rhyodacite porphyry, unit 4, were noted in the quartz monzonite, and the hole was weakly mineralized with copper and molybdenum throughout its length.

CP-9

Location: 336N/216W
 Depth: 430 feet
 Purpose of Hole: To test a coincident copper-molybdenum soil anomaly.

Results: The hole was again weakly mineralized with copper and molybdenum throughout its length, with spotty high values due to probable veins.

DIAMOND DRILLING 1971

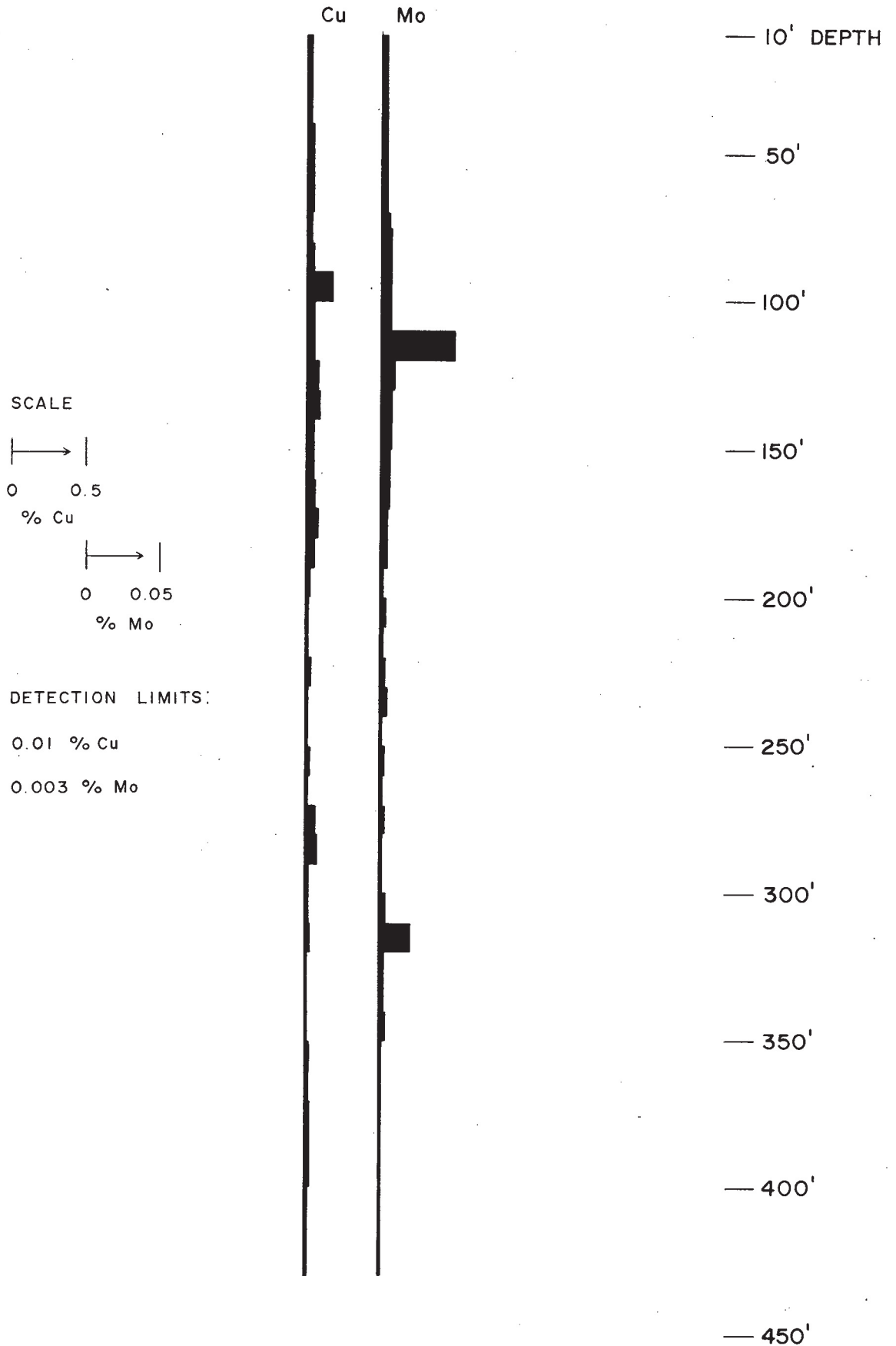


CD - 2

- KEY:
- P - PYRITE
 - C - CHALCOPYRITE
 - M - MOLYBDENITE
 - F - IRON OXIDE
 - N - MANGANESE OXIDE
 - H - CHALCOCITE
 - G - GALENA
 - A - ANHYDRITE
 - X - MAGNETITE
 - Y - CALCITE
 - 3** - QTZ-MONZONITE
 - 4** - RHYODACITE PORPHYRY
 - BRECCIATION FAULT

- ALTERATION FACIES and DIAGNOSTIC MINERALS
- 1 FRESH
 - 2 PROPYLITIC (Chlorite)
 - 3 ARGILLIC (Clays)
 - 4 ADVANCED ARGILLIC (Clay, Sericite)
 - 5 PHYLIC (Sericite)
 - 6 ADVANCED PHYLIC (Sericite)
 - 7 POTASSIC (K-Feldspar)
 - S SILICIFIED

CP-9



PERCUSSION HOLE

1971

CONCLUSIONS AND RECOMMENDATIONS

The TEE, BUN, and SUE claims are underlain by quartz monzonite containing sub-economic copper-molybdenum mineralization as a dissemination, in the southeast, and silver-gold-lead mineralization as northwesterly trending veins in shears, in the northwest. The latter type of mineralization is untested, but may have the potential to support a small mining operation.

Respectfully submitted,

P. F. Lewis, B.Sc., A.R.S.M.,
Geologist, Vancouver, B.C.

APPENDIX IREFERENCES:



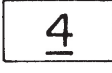
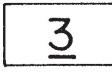
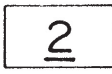




Bostock, H.S., 1936 Carmacks District, Yukon
G.S.C. Memoir 189

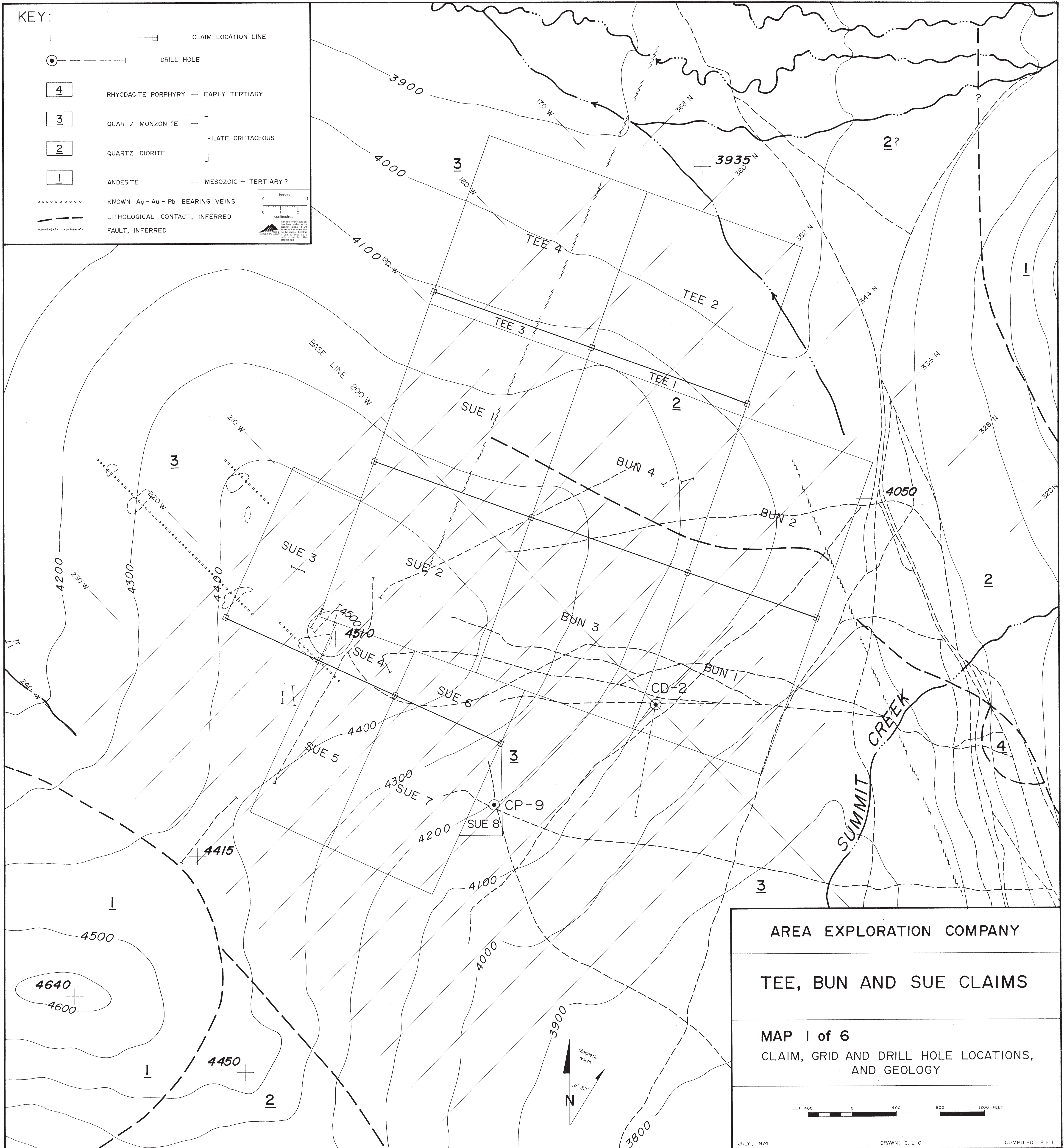
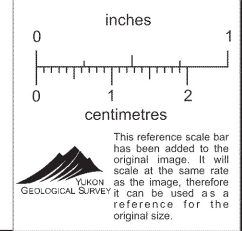
Campbell, D.D. and Guardia, F., 1969 May Group Claims,
Carmacks, Y.T. Report for Esensee Explorations Ltd.

Dickenson, R.A., 1972 The Petrology and Alteration of the
Mount Nansen Porphyry Stock and Adjacent Rocks,
near Carmacks, Yukon Territory.
Unpublished B.Sc. Thesis, University of British Columbia

Various internal reports of Area Exploration Company

KEY:

-  CLAIM LOCATION LINE
 -  DRILL HOLE
 -  RHYODACITE PORPHYRY — EARLY TERTIARY
 -  QUARTZ MONZONITE —
 -  QUARTZ DIORITE —
 -  ANDESITE —
- LATE CRETACEOUS
- MESOZOIC — TERTIARY ?
-  KNOWN Ag - Au - Pb BEARING VEINS
 -  LITHOLOGICAL CONTACT, INFERRED
 -  FAULT, INFERRED

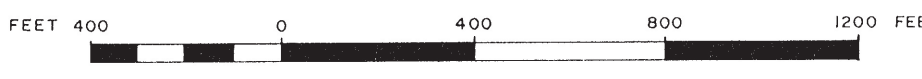


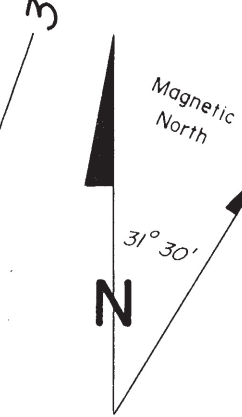
AREA EXPLORATION COMPANY

TEE, BUN AND SUE CLAIMS

MAP 1 of 6
CLAIM, GRID AND DRILL HOLE LOCATIONS,
AND GEOLOGY

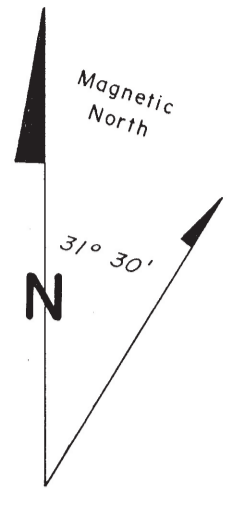
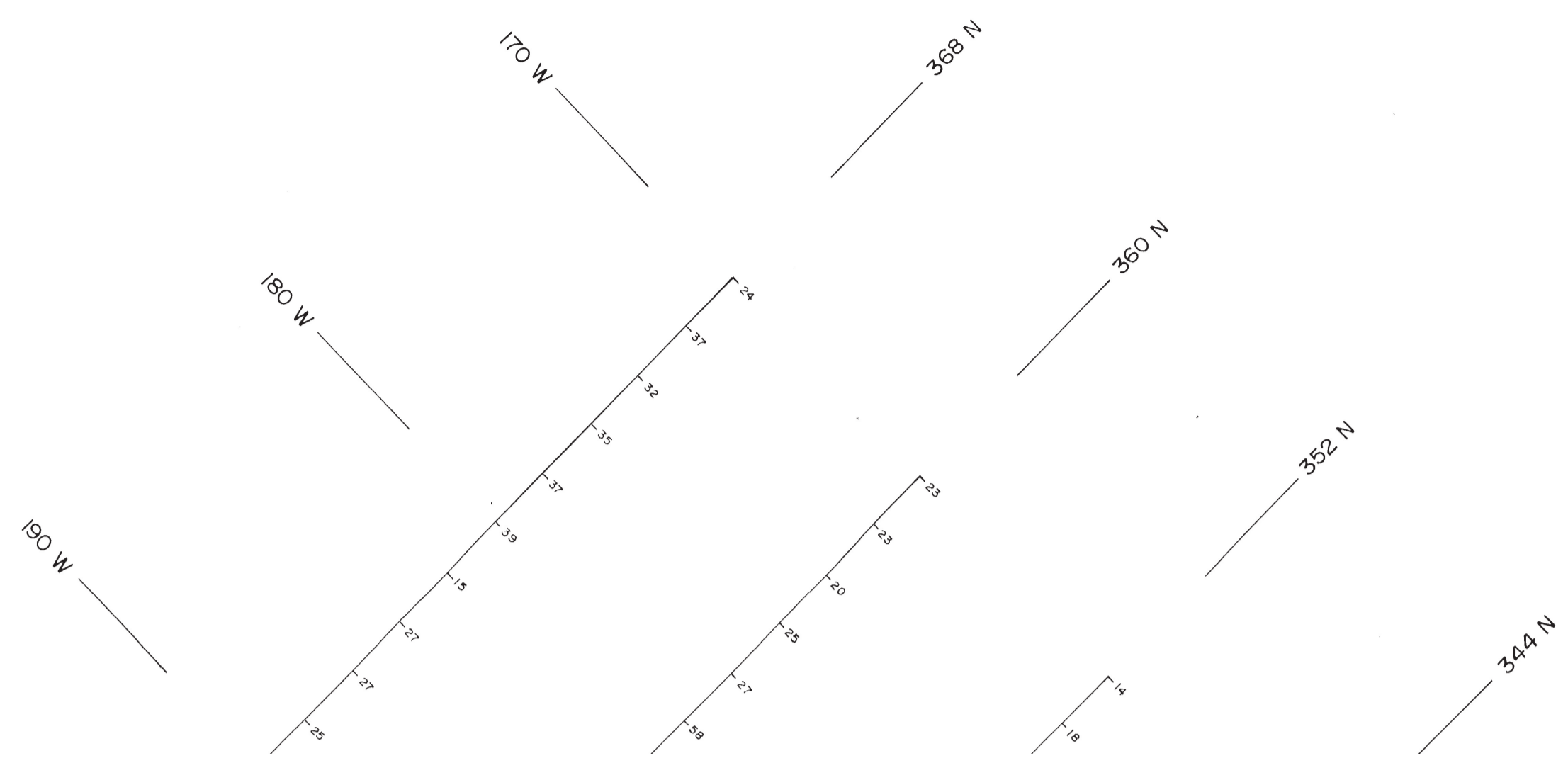
FEET 400 0 400 800 1200 FEET

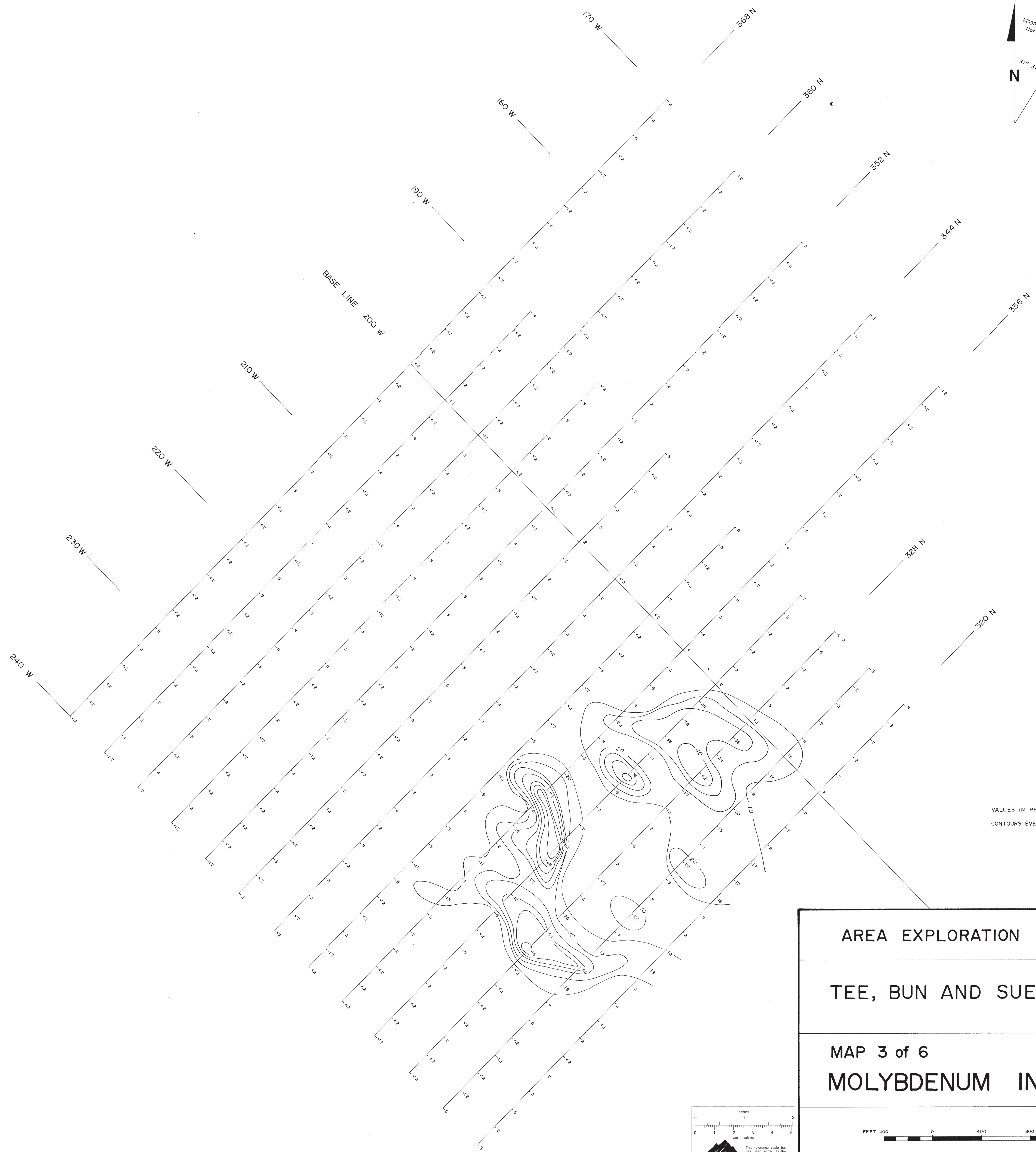
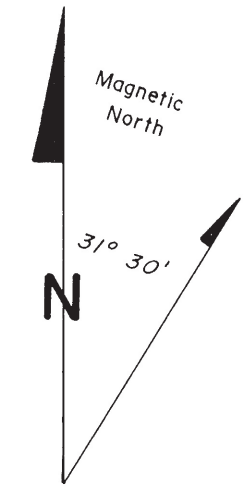




Magnetic North
31° 30'

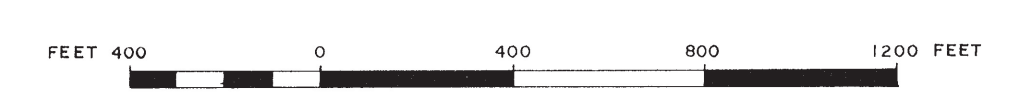
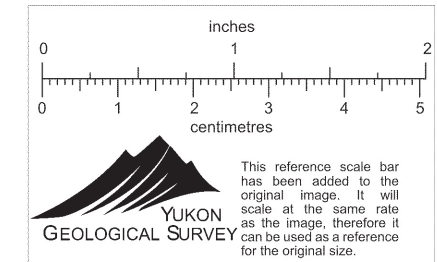
JULY, 1974
DRAWN: C. L. C.
COMPILED: P. F. L.

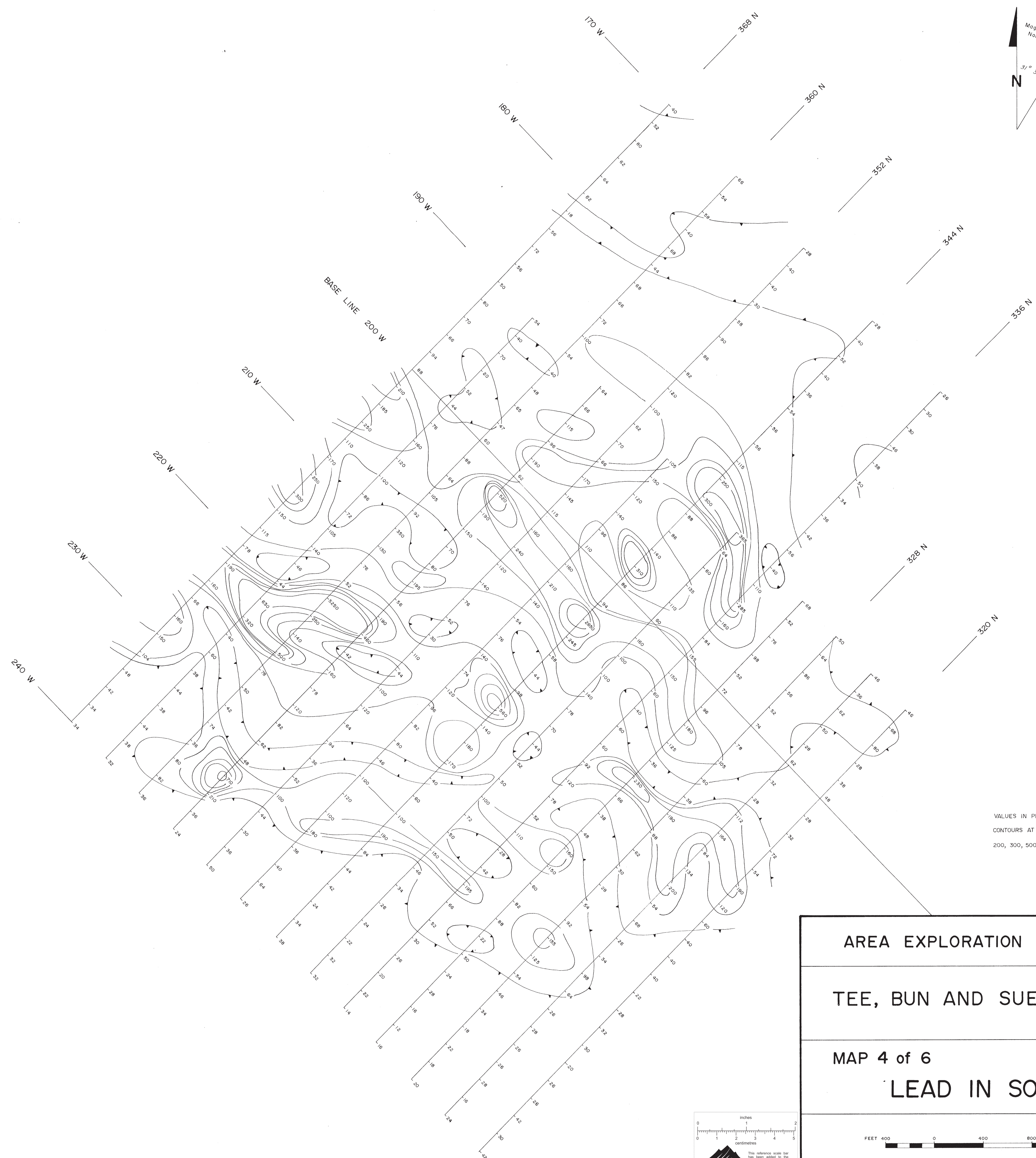
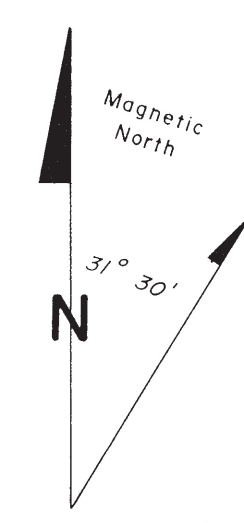




VALUES IN PPM
CONTOURS EVERY 10 PPM, TO 70 PPM

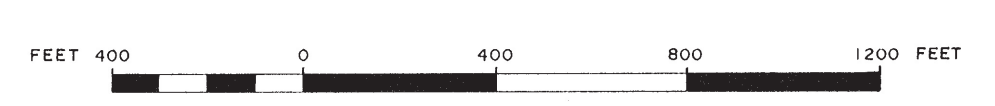
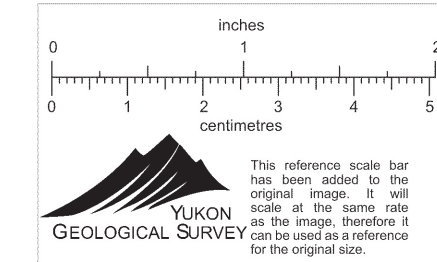
AREA EXPLORATION COMPANY
TEE, BUN AND SUE CLAIMS
MAP 3 of 6
MOLYBDENUM IN SOILS

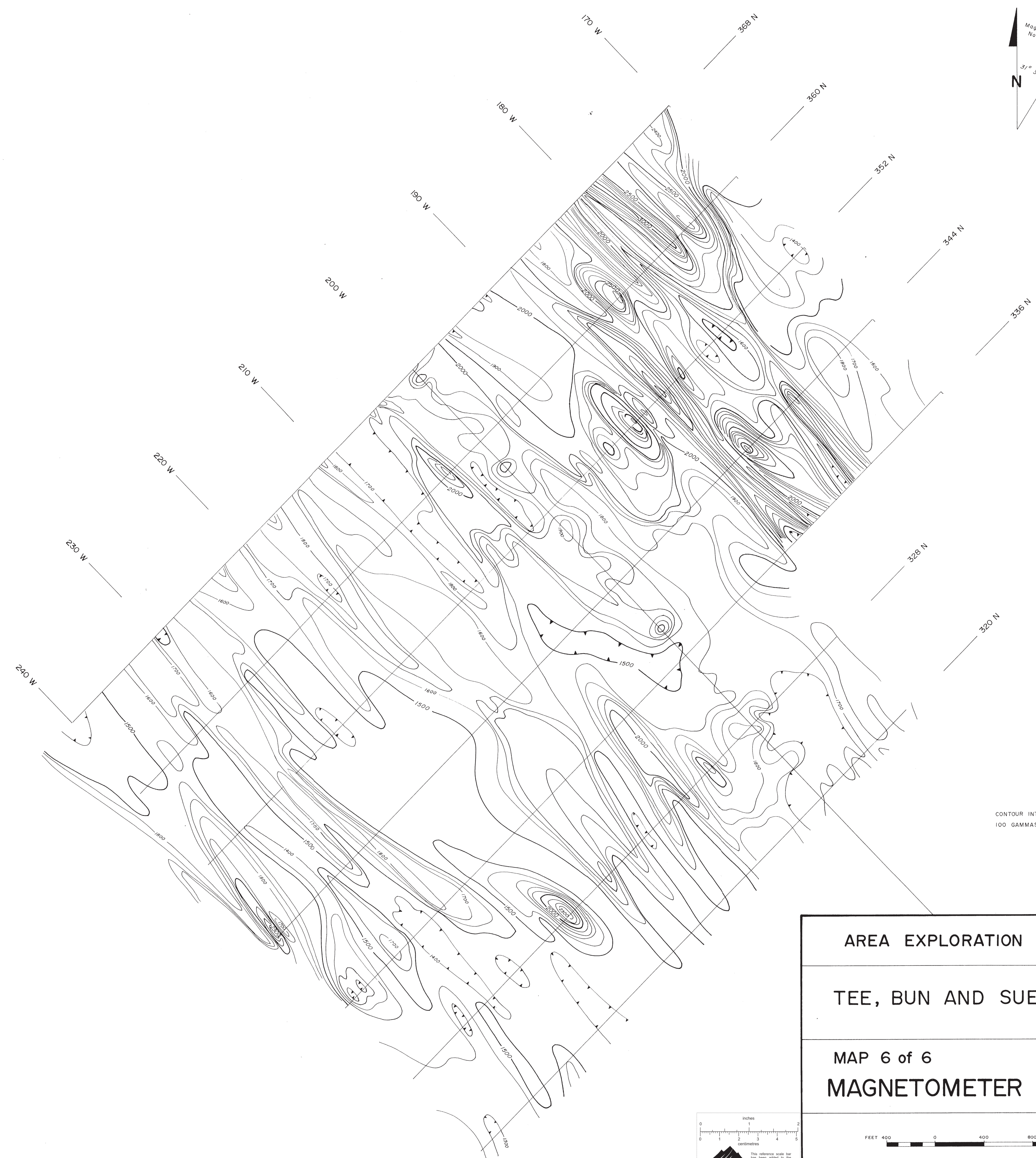
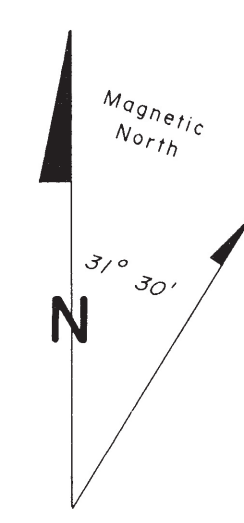




VALUES IN PPM
CONTOURS AT 50, 100, 150,
200, 300, 500 PPM

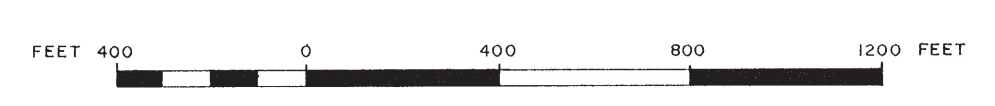
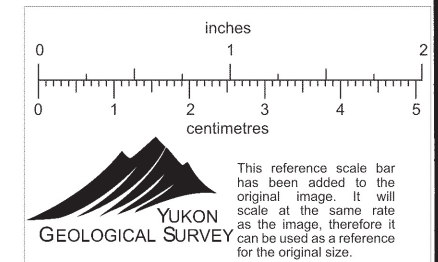
AREA EXPLORATION COMPANY
TEE, BUN AND SUE CLAIMS
MAP 4 of 6
LEAD IN SOILS

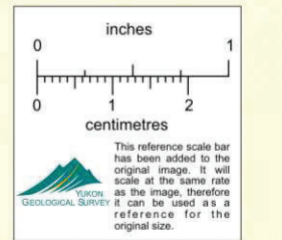
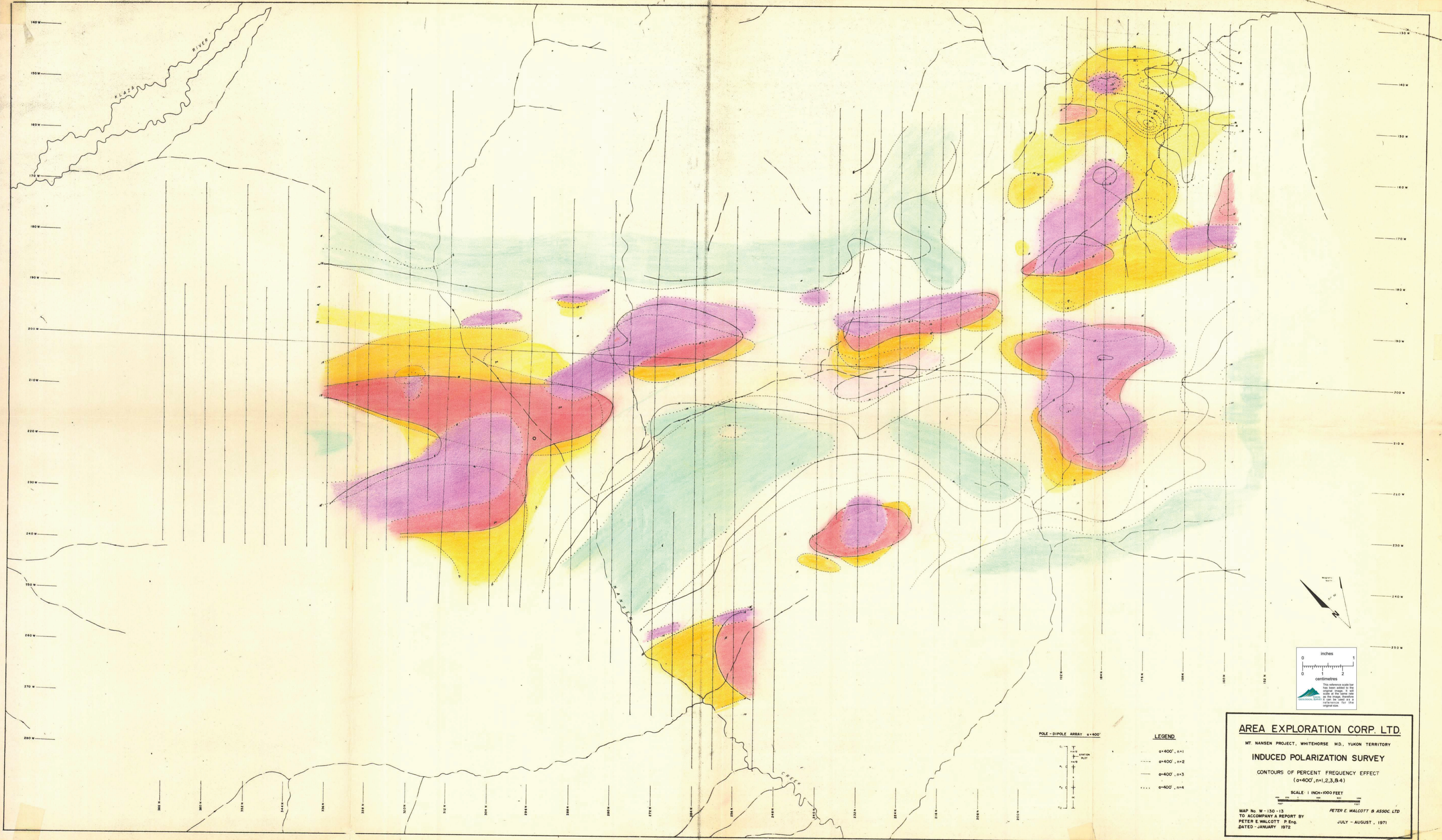




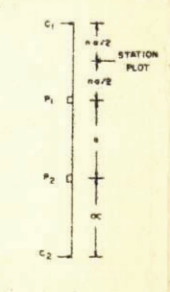
CONTOUR INTERVAL
100 GAMMAS

AREA EXPLORATION COMPANY
TEE, BUN AND SUE CLAIMS
MAP 6 of 6
MAGNETOMETER SURVEY





POLE - DIPOLE ARRAY $a=400'$



- LEGEND**
- $a=400', n=1$
 - - - $a=400', n=2$
 - $a=400', n=3$
 - · · $a=400', n=4$

AREA EXPLORATION CORP. LTD.

MT. NANSEN PROJECT, WHITEHORSE MD., YUKON TERRITORY

INDUCED POLARIZATION SURVEY

CONTOURS OF PERCENT FREQUENCY EFFECT
($a=400', n=1,2,3,4$)

SCALE 1 INCH=1000 FEET

MAP No. W-130-13
TO ACCOMPANY A REPORT BY
PETER E. WALCOTT P. Eng.
DATED - JANUARY 1972

PETER E. WALCOTT & ASSOC. LTD.
JULY - AUGUST, 1971