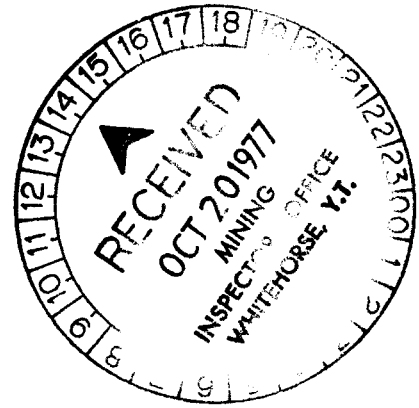
CANEX PLACER LIMITED
EXPLORATION DIVISION

1977 Progress Report

CLEA Project, Y.T. V-152

N.T.S. 105-I-13

J.M. Kowalchuk
October, 1977



090240

Supervising Mining Recorder

OCT 20 1977

WHITEHORSE

Yukon Territory

This report has been [illegible] by the Geological [illegible] and is recommended to the Commissioner to be credited [illegible] of

36,100.00

D. B. Craig

~~Resident Geologist~~ or

~~Resident Mining Engineer~~

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

B. R. BAXTER

Supervising Mining Recorder

Commissioner of Yukon Territory

1977 Progress Report
Clea Project, Y.T. V-152
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J.M. Kowalchuk

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Summary:

This report describes the results of the July and August field program conducted on the Clea Property in the Selwyn Mountains of the Yukon Territories. Several calc-silicate units, up to 50 metres thick, were located during geological mapping and detailed prospecting of the staked area. Within these calc-silicate units, many quartz-garnet-diopside-biotite-scheelite skarns were found and sampled. One of these skarns was traced over a strike length of 500 metres averaging at least 8 metres in thickness. Eight lines of chip samples across this unit gave encouraging results. One such line resulted in 1.88% WO_3 over 12 metres. Limited trenching with minor success was attempted over three separate skarn beds. The large number of calc-silicate beds and the extensive area of hydrothermal alteration leaves much room for discovery of economic tonnages and grade of tungsten mineralization.

INTRODUCTION:

History

In 1976, during a reconnaissance program oriented towards finding lead-zinc mineralization, Ben Ainsworth, a Canex Placer geologist discovered scheelite mineralization in skarn float on the present Clea claims. With further prospecting, Canex geologists found many skarn outcrops containing scheelite. Noting the large area of hornfelsing around the relatively small outcrop of a quartz-monzonite stock, Canex Placer personnel staked and recorded 46 Clea claims in August 1976. In the winter, spring and summer of 1977 a further 52 claims were staked and recorded. In July 1977, two claims, Omo 3 and Omo 4, were bought from Brandt Wallenhaupt of Keremeous, B.C. During July and August of 1977, a camp was set up on the Clea Property from which geological mapping, trenching and rock chip sampling was carried out.

..2/

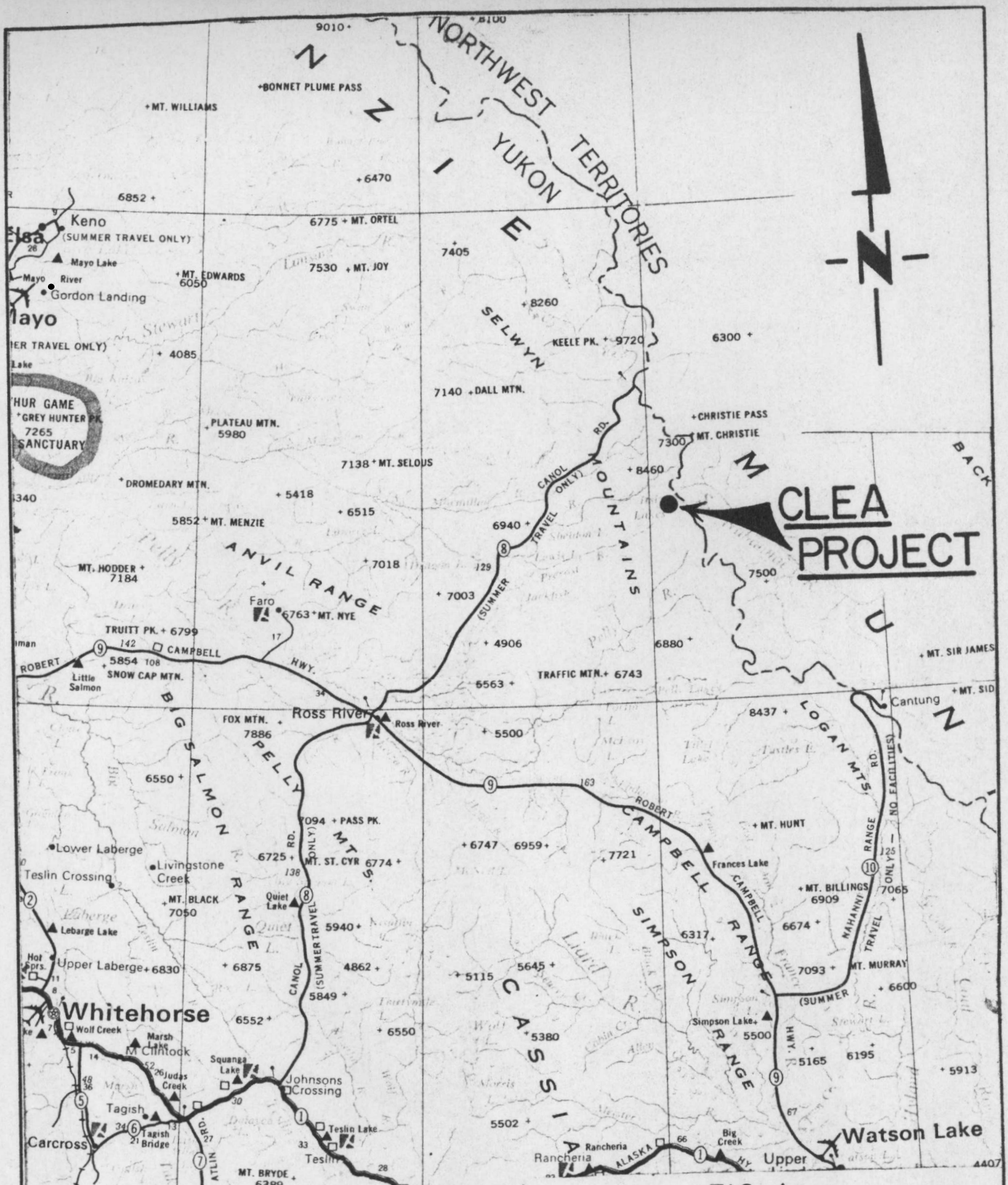


FIG. 1

CANEX PLACER LIMITED

CLEA PROJECT

LOCATION MAP

SCALE 1: 2,500,000

SEPT. 1977 V-152 J. M. K., J. L.

Location & Access (Figure 1, Figure 2)

The Clea property is located within the Selwyn mountains in the Eastern Yukon. The claims lie within the headwaters of the Pelly and Prevost Rivers approximately 8 kilometres west of the Yukon, North West Territories border. The property also lies about 50 kilometres south of MacMillan Pass on the North Canol Road. It is located on map sheet 105-I-13 within the Watson Lake Mining District.

Access to the property is by truck from Ross River to milepost 100 on the North Canol Road and then by helicopter 35 kilometers to the property.

Property & Ownership

The Clea property consists of 110 full sized and fractional claims which are listed below and shown on figure 3.

Claim Name	Record Number	Anniversary Date
Clea 1-46	YA978-YA11016	September 1977
Clea 47-60	YA12451-YA12404	September 1977
Clea 61F-64F		September 1978
Clea 65-66	YA12466-YA12467	September 1977
Clea 67F-70F		September 1978
Clea 71-72	YA12468-YA12469	September 1977
Clea 73F-74F	YA12470-YA12471	September 1977
Clea 75-76	YA12472-YA12473	September 1977
Clea 77F-78F	YA12464-YA12465	September 1978
Clea 79-86	YA21325-YA21332	September 1977
Clea 87-108		September 1978
Clea 100	YA 21807	August 12, 1978
Omo 3-4	Y41530-Y41531	September 1977

..3/

PRELIMINARY SERIES

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

105-I

LEGEND

MESOZOIC CENOZOIC

PLEISTOCENE AND RECENT

20 Unconsolidated glacial and alluvial deposits

CRETACEOUS

19 Medium-grained biotite, biotite-hornblende and hornblende-quartz monzonite, granodiorite and minor granite; commonly porphyritic; 19a, biotite-bearing hornblende granite; 19b, quartz latite porphyry

PALAEOZOIC

DEVONIAN AND (?) MISSISSIPPIAN

18 Black shale and argillite, in part light grey-weathering, minor brown sandstone, siltstone and light to dark grey-weathering banded chert; 18a, dark grey to brown chert pebble conglomerate, chert sandstone and siltstone; 18b, undivided 18, 18a and minor 16

MIDDLE DEVONIAN

17 NAHANNI FORMATION: resistant, fine- to medium-grained light grey-weathering limestone; 17a, fine- to coarse-grained light grey limestone, in part bioclastic and dolomitic, correlation uncertain

16 HEADLESS FORMATION: buff-brown-weathering argillaceous and silty fine-grained limestone, platy to thin-bedded; minor calcareous shale and resistant light grey-weathering massive limestone; 16a, probably includes Funeral Formation; 16b, resistant light grey-to white-weathering crinoidal limestone and grey dolomite, massive and thick bedded

15 Dark grey-to black-weathering very fine- to crypto-grained platy limestone; in part flaggy and thin-bedded; minor black chert; rouge hematite-rich bands and laminations common; 15a, includes much light and medium grey dolomite, mainly correlative with the Arnica and Landry Formations but includes rocks as old as Upper Ordovician

14 LANDRY FORMATION: light silvery grey-weathering fine-grained dark grey limestone, thin- to thick-bedded; in part crinoidal and massive

13 ARNICA FORMATION: dark grey, well-bedded dolomite; in part interbedded light and dark grey

LOWER DEVONIAN

12 SOMBRE FORMATION: light and medium grey banded dolomite; 12a, dark grey dolomite

SILURIAN AND DEVONIAN

11 DELORME FORMATION: buff, orange, light grey-weathering dolomite and limestone

ORDOVICIAN AND SILURIAN

UPPER ORDOVICIAN AND SILURIAN

10 Black graptolitic shale, dark grey to black, fissile to flaggy, argillaceous limestone; minor black chert, cherty argillite and dolomite

MIDDLE ORDOVICIAN TO SILURIAN

9 Light and medium grey, thick-bedded, medium-grained dolomite and massive, light to medium grey-weathering, dark grey, fine-grained limestone, in part argillaceous, silty and dolomitic, platy and buff- or pink-weathering; 9a, mainly limestone

CAMBRIAN AND (?) ORDOVICIAN

8 Undifferentiated units 4, 5, 6 and 7; 8a, mainly 6 or 7; 8b, mainly 4 or 5

UPPER CAMBRIAN AND (?) ORDOVICIAN

7 Irregularly banded blue-grey-weathering, dark grey, fine-grained limestone; buff- to orange-weathering dolomitic siltstone; minor flaggy and thin-bedded orange-weathering silty dolomite; locally includes sandy dolomite and quartzite at base; 7a, red, orange, and brown-weathering sandstone, sandy dolomite and quartzite locally includes 7; 7b, correlation uncertain, possibly includes 6

CAMBRIAN

MIDDLE CAMBRIAN

6 Grey and brown siltstone, limestone and orange-weathering silty dolomite; platy to thin-bedded; 6a, possibly includes 7

LOWER AND (?) MIDDLE CAMBRIAN

5 Brown- to orange-weathering thin-bedded quartzite, siltstone dolomite and shale; minor green and purple, probably tuffaceous shale and argillite in upper part; 5a, undivided 4 and 5; 5b, bright yellow- and orange-weathering silty and sandy dolomite; 5c, buff-weathering dolomite, silty and sandy dolomite, minor sandstone and shale

LOWER CAMBRIAN

4 Light grey- to buff-weathering, massive dolomite, interbedded buff and orange-weathering dolomitic siltstone and grey silty limestone; 4a, "swiss-cheese" limestone; 4b, in part equivalent to 5

CAMBRIAN AND EARLIER

3 Brown weathering, grey to green interbedded siltstone, fine-grained quartzite and slate; 3a, buff-weathering light grey dolomite

2 Brown to red-brown-weathering vari-coloured slates and phyllites; minor siltstone and fine-grained quartzite, in part equivalent to 3

1 Grey- and buff-weathering gritty feldspathic quartzite, quartz and feldspar pebble conglomerate, sandstone, grey, green and maroon shale and phyllite, minor limestone; 1a, mainly grey and green shale and phyllite

Geological boundary (defined, approximate, assumed)

Bedding, tops known (horizontal, inclined, vertical)

Bedding, tops unknown (inclined)

Bedding (estimated attitudes, may include foliation; dip: g, gentle; m, medium; s, steep)

Foliation (inclined, vertical)

Lineation (inclined)

Fault (defined, approximate, assumed)

Anticline (defined, approximate, arrow indicates plunge)

Syncline (defined, approximate, arrow indicates plunge)

Glacial striae (direction of ice movement known, unknown)

Fossil locality

Mineral prospect or occurrence ×W

Location of measured section

MINERALS

Arsenic	As	Tungsten	W
Copper	Cu	Zinc	Zn
Gold	Au		

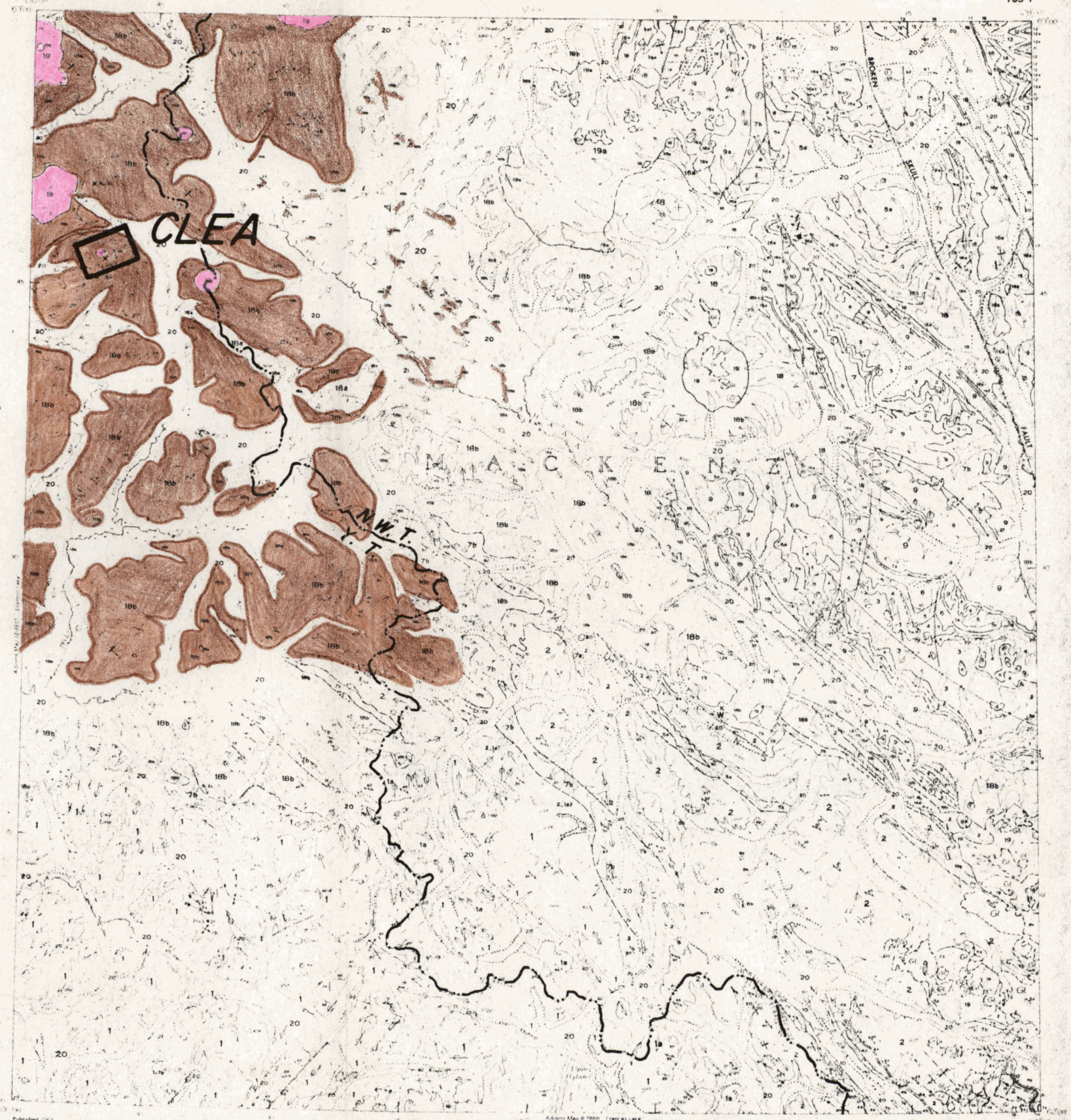
Geology by L. H. Green and J. A. Roddick, 1960, S. L. Blusson, 1962, 1966

Geological cartography by the Geological Survey of Canada, 1967

Base-map prepared by the Army Survey Establishment, R. C. E., 1949-1954 with minor revisions by the Geological Survey of Canada, 1961

Magnetic declination 1967 varies from 34°27' easterly at centre of west edge to 34°36' easterly at centre of east edge. Mean annual change, decreasing 5.4'

Elevations in feet above mean sea-level



Published 1968
Copies of the map may be obtained from the Director, Geological Survey of Canada, Ottawa

Printed by the Surveys and Mapping Branch

MAP 8-1967
(SUPERSEDES PART OF MAP 14-1961)

GEOLOGY

NAHANNI

DISTRICT OF MACKENZIE AND YUKON TERRITORY

Miles 4 0 4 8 12 Miles
Kilometres 6 0 6 12 18 Kilometres

FIG. 2

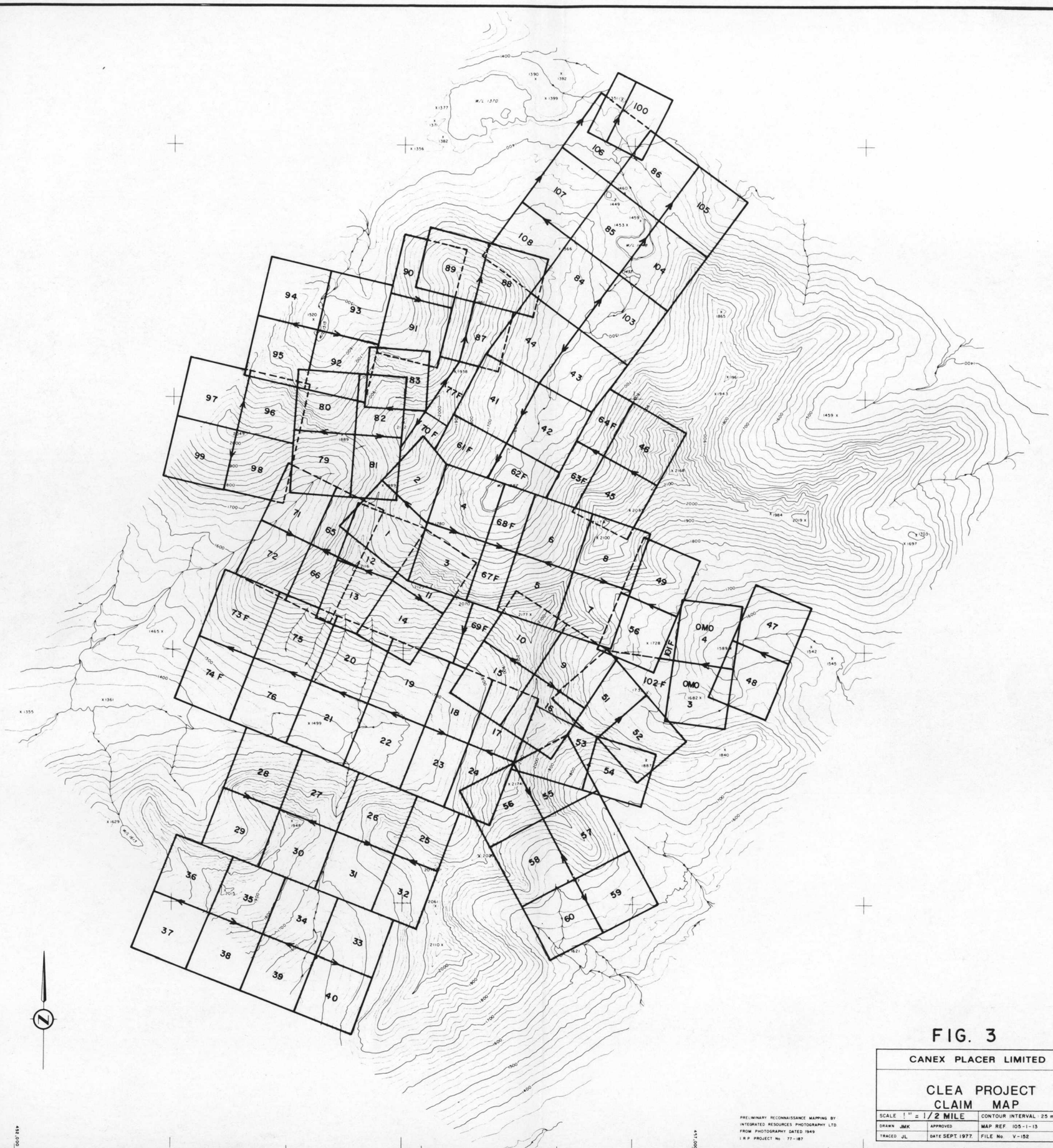


FIG. 3

CANEX PLACER LIMITED		
CLEA PROJECT CLAIM MAP		
SCALE 1" = 1/2 MILE		CONTOUR INTERVAL: 25 metres
DRAWN JMK	APPROVED	MAP REF. 105-1-13
TRACED JL	DATE SEPT 1977.	FILE No. V-152

PRELIMINARY RECONNAISSANCE MAPPING BY INTEGRATED RESOURCES PHOTOGRAPHY LTD. FROM PHOTOGRAPHY DATED 1949
I.R.P. PROJECT No. 77-187

62° 44' 00"
129° 47' 00"
57,000 N
5,000 E

The Clea prospect is owned by Canex Placer Limited and Essex Minerals Limited. Canex Placer Limited is the operator.

Topography & Climate

The topography is extremely rugged showing signs of recent alpine glaciation. Glacial features show steep walled cirques, broad U-shaped valleys containing medial and terminal moraines and razorback ridges or arêtes. The property covers elevations ranging from 1,350 metres to 2,180 metres. The valley containing the discovery showings contains the remnants of a glacier.

The climate on the property is typical of that found in the Selwyn Mountains, cool wet summers and cold relatively sunny winters. Average temperatures for July and August were: maximum $10^{o}C$ and minimum $2^{o}C$.

The property is completely above tree line, except in a few sheltered areas below 1,350 metres where stunted spruce are found. The vegetation is alpine meadow and lichen.

Work Performed

During the 1977 field season, the Clea claims and surrounding ground was mapped at a scale of 1:10,000 or 1 cm = 100 m.

In two locations: the discovery cirque, and the Omo claims, detailed mapping at a scale of 1:2,500 was performed using a chain and compass grid for survey control. Six trenches were blasted to better expose skarn outcrops. In all, 150 chip samples were taken over skarn outcrops on the property and assayed for copper and tungsten. The sample interval was 1 metre.

...4/

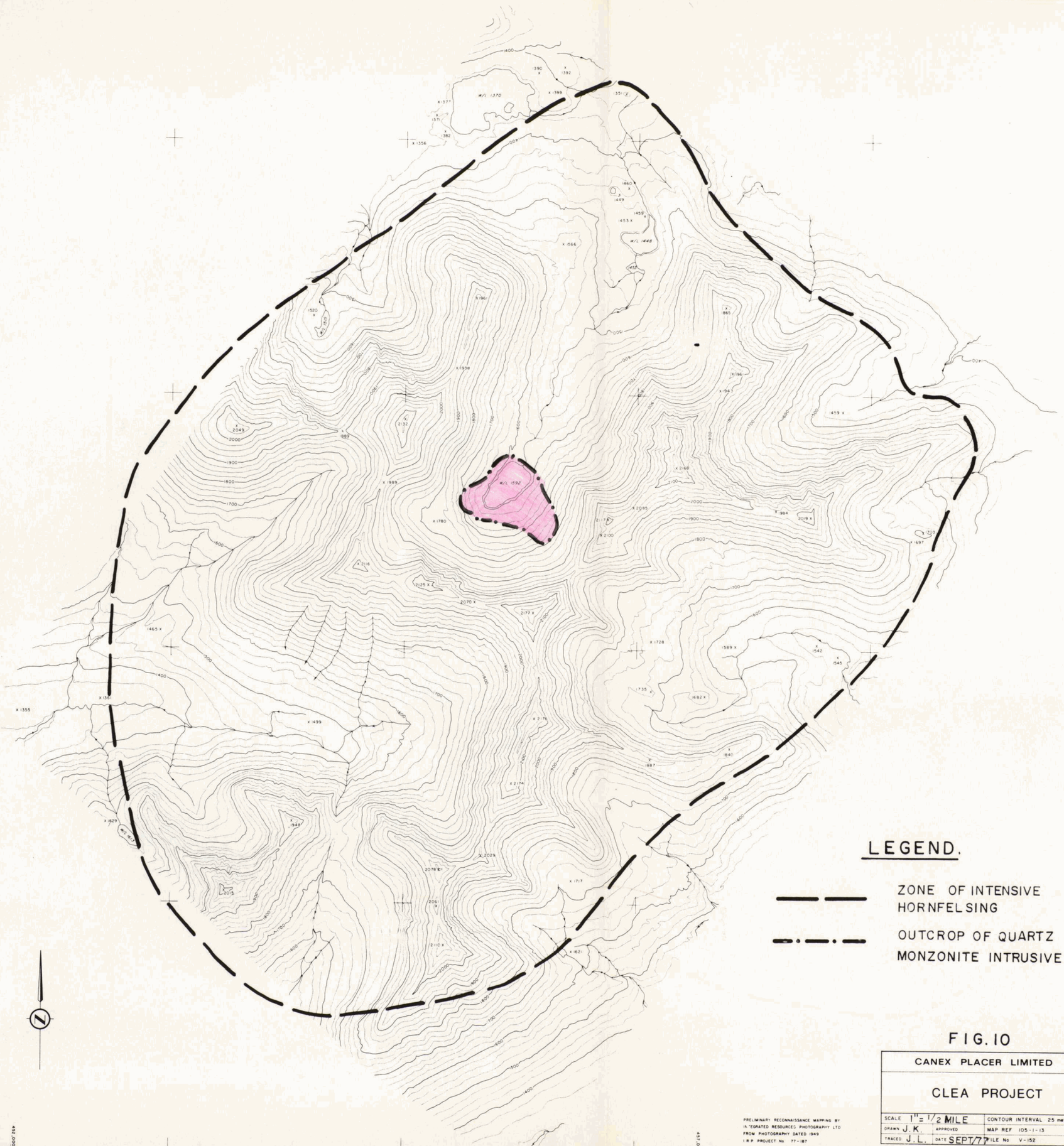


FIG. 10

CANEX PLACER LIMITED

CLEA PROJECT

SCALE 1" = 1/2 MILE		CONTOUR INTERVAL 25 metres	
DRAWN J.K.	APPROVED	MAP REF 105-1-13	
TRACED J.L.	DATE SEPT/77	FILE No V-152	

PRELIMINARY RECONNAISSANCE MAPPING BY INTEGRATED RESOURCES PHOTOGRAPHY LTD FROM PHOTOGRAPHY DATED 1949
I.R.P. PROJECT No 77-187

Regional Geology

The regional geology is taken from Stu Blusson's geological map of the Nahanni sheet, 105-I-6 (Figure 2). The property lies within a terrain of black shales and carbonate of Ordovician to Mississippian age. These rocks lie within two major groups, Ordovician-Silurian mudstones and carbonates or Road River Group and Devono-Mississippian mudstones, wackes and carbonates or Besa River Group. The Road River Group consists of black graptolitic shales, dark grey to black fissile to flaggy argillaceous limestones, minor black chert and cherty argillites and dolomites. The Besa River rocks consist of black shales and argillites, minor brown sandstones, siltstones and light to dark grey-weathering banded chert.

The regional strike of these pelitic and clastic rocks is north-west - south-east.

These sedimentary rocks are intruded by Cretaceous medium grained to porphyritic quartz-monzonites.

Property Geology

The property geology is shown on maps Fig. 4, Fig. 5, Fig. 6 and sections Fig. 7, Fig. 8, Fig. 9, all in the back pocket. The Clea Property is underlain by pelitic and carbonate rocks of Lower Silurian age and younger. These rocks have all undergone intense hydrothermal alterations producing a large metamorphic aureole around two stage quartz-monzonite stock. The extent of this aureole is shown on Figure 10. The stratigraphic section as mapped on the property consists of; black hornfels, meta-argillite, light-grey hornfels, calc-silicate rocks consisting of marble, siliceous calc-silicate and skarn, equigranular quartz monzonite and feldspar porphyry. A description of the section is as follows:

..5/

Black Hornfels (unit 1)

These are the oldest and most prevalent rocks on the property. They consist of very fine-grained, very siliceous black hornfels. Formerly black mudstones and siltstones the rocks have lost most of their original sedimentary structures and textures. Some of the rocks have some sandy beds within them which possibly show some cross bedding textures. The hornfels sometimes show relic bedding as a result of former compositional layering. The rocks contain pyrrhotite and pyrite mineralization in concentrations ranging from 0-5% of the rock. The sulphides are finely disseminated throughout the rocks and often give the rocks a banded appearance as the pyrrhotite formed along former bedding planes. This unit where it contains greater than 1% sulphides weathers to quite a rusty reddish-yellow and appears as a large rusty gossan from the air. Where the rock contains no sulphides it forms a resistant black unit.

Meta-Argillite (unit 2)

This unit consists of very soft,dark grey to purple biotite rich argillites. The rocks contain little or no sulphides. These meta-argillites or "biotite hornfels" (Larry Dick, private communication) were formerly limey mudstones and siltstones. There is an even grained silt sized texture in this "biotite rock" The bedding isquite massive over most of the property with beds varying from 5 to 50 cm. in thickness. No sedimentary structures were seen in this unit although some quartzitic beds were noticed on the ridge between the Omo and Clea detailed map areas. Within a shaley section of this unit were found Lower Silurian graptolites, monograptus convolutus. These graptolites indicate a Llandoverian age.

Although the greater part of this unit occurs above the black hornfels, meta argillites are also found interbedded with both black hornfels and light grey hornfels. This rock type is more a function of slight compositional differences within the regular pelitic rocks than an actual stratigraphic unit on its own.

..6/

Light-Grey Hornfels (unit 3)

This unit consists of very fine grained, pyritic and siliceous siltstones and mudstones. The unit varies in colour from light to dark grey and in grain size from fine mud to medium grained sand size. Within the light grey argillites, dark grey wisps subparallel to bedding are characteristic. These textures are similar to those found in the Flaggy Mudstone unit in John Morganti's Howards Pass Section of the Road River. Mr. Morganti describes them as worm burrows that have been deformed and "ripped up" by dewatering of the mudstone. Where the flaggy mudstone contains a large percentage of dolomite and barite; the light-grey hornfels contains very little. Hydrothermal alteration drove off the carbonates and sulphates and silicified the whole rock. The unit contains up to 4% pyrite disseminated throughout it making for a yellow-brown rusty weathered surface. This unit was not recognized earlier in the mapping, and so is probably more prevalent than is indicated on the map. It is quite massive and siliceous throughout except on the ridge north of the Omo Cirque where it is strongly foliated to a muscovite phyllite.

Calc Silicate Rocks

There are six major calc silicate units cutting across the property. These may be separate beds but more likely are just repeats of the same bed through both isoclinal folding and thrust faulting. These calc silicate beds are quite easily seen as they show up as thick white units within the black and rusty rocks surrounding them. The units vary from 10 to 50 metres in thickness although there are also many thin units 1-2 metres thick. The thicker calc silicate units can be broken into three sub-groups - (a) marble, (b) siliceous calc-silicates, (c) dark green skarns. These sub-units are often interbedded however the marble is usually found at the stratigraphic top and the skarn at the stratigraphic bottom of the calc-silicate bed.

(a) Marble (unit 6)

The marble unit consists of interbedded, recrystallized dark and light grey sugary limestones. The sugary texture was formed by recrystallization of the rock producing euhedral calcite grains varying in size from 5 mm. to 1 cm. Bedding varies in thickness from 1 cm to 10 cm. The unit often shows severe contortions in the bedding and sometimes shows good boudinage. The unit usually lies at the top of each major calc-silicate bed but also is sandwiched between siliceous calc-silicates on top and skarns below.

(b) Siliceous Calc-Silicates (unit 7)

By far the most common rock type within the calc-silicate unit, this sub-group consists of thinly bedded, alternating, white and green siliceous rocks. The beds consist primarily of quartz grains with alternating green beds consisting of quartz diopside and minor garnet. Minor biotite, chlorite and feldspars are also found in the rocks. These were probably thinly laminated silty limestones which became silicified and partly skarnified. The laminations are usually less than 1 mm. thick with bedding being less than 1 cm. thick. This unit is quite hard and forms prominent resistant outcrops.

(c) Dark Green Skarns (unit 8)

Several different types of skarns occur within the calc-silicate unit. Usually they are only 1 to 2 metres thick and are quite patchy in the lower part of each unit, however, some of the skarns near the intrusive have shown good continuity and thickness.

The skarn seen throughout the property as a very poddy skarn is the tremolite-actinolite-garnet skarn. It usually is less than two metres thick and contains little or no tungsten mineralization within it. It consists of medium to coarse grained intergrowths of tremolite and actinolite with some euhedral almandine garnets located within it. Although it is common over the whole property it does not occur in large concentrations in any one place.

...8/

The skarn which has good economic potential is a medium to coarse grained quartz-biotite-diopside-garnet skarn. This unit is common in all of the calc-silicate units and is found in thicknesses of 2-15 metres. This skarn always contains some scheelite however, it is usually less than 0.5% WO_3. Near the intrusive, the grade goes up sharply to over 1.5% WO_3 over thicknesses up to 12 metres.

A skarn which has been seen in only a few places but may have the best economic potential is a quartz-biotite-diopside-garnet-pyrrhotite-chalcopyrite-scheelite skarn. This skarn was found in a roof-pendant configuration in the Clea cirque. A three metre sample ran over 3.5% WO_3. A ten metre sample taken in 1976 ran 3.2% WO_3. Pyrrhotite skarn was also found in the Omo Cirque and this also gives grades of over 3% over one to three metres.

Equigranular Quartz-Monzonite (unit 9)

This intrusive is thought to be the earlier phase of the main intrusive plug surrounding Ben Lake in the Clea cirque. The equigranular quartz monzonite consists of quartz 20%, K-feldspar 35% Na-Ca-feldspar - 25%, biotite 20%. The unit is found south-east of Ben Lake and within various quartz-monzonite dykes in the Clea cirque and south. This is a medium grained rock with an average grain size 0.2-0.5 cm.

Feldspar Porphyry (unit 10)

The younger phase of the intrusive plug is a crowded porphyry. Forty percent of the rock consists of orthoclase phenocrysts up to 10 cm. long. The composition of the whole rock is probably much the same as the quartz-monzonite. The ground mass surrounding the phenocrysts is quite fine grained (less than 0.1cm), suggesting a rapid quenching. No cross cutting relationships were seen between the two phases although in some areas of quartz-monzonite, up to 5% of the rock contained coarse grained orthoclase phenocrysts.

..9/

Accessory minerals in both phases were tourmaline, apatite, scheelite and chlorite.

Structural Geology

The structural picture on the property is quite intense and an interpretation of it is by no means complete. The structure is complicated by isoclinal folding low angle thrust faults and several normal faults. Most of these are shown on Fig's 4, 5, 6, 7, and 8. More will no doubt be found in future years of work. The main structural feature on the property is very tight and very intense isoclinal folding. The fold axes and bedding have a regional strike varying from 120^{0} to 140^{0} and dipping about 40^{0} to 60^{0} to the south-west. The folds all plunge to the north-west at about 30^{0}. There are at least four syncline - anticline sets of isoclinal folds giving up to 8 repeats of the major 50 metre thick calc-silicate unit. To further complicate matters two major thrust faults and three major normal faults occur. Many minor faults also cut the property. Intense quartz veining is found along the trace of some of the faults. With the quartz veining is some tourmaline alteration.

Mineralization

Scheelite mineralization was found in all the skarn beds sampled but grades over 0.5% WO_3 were only found in two types of skarn. The quartz-biotite-diopside-garnet-scheelite skarn (dark green skarn) occurs in all the calc-silicate beds and contains grades of scheelite up to 3% near the intrusive. One such bed is 500 metres long and about 10 metres thick and averages 1.00% WO_3 analysing 65 1 metre chip samples. In this skarn the scheelite is quite coarse, up to 2 mm. across.

..10/

The skarn that shows good potential for sulphide mineralization although it isn't as common as the biotite skarn is the Quartz-biotite-diopside-garnet-pyrrhotite-scheelite-chalcopyrite skarn. This skarn has been located in three locations and averages over 3% wherever it has been sampled. More effort should be directed to tracing this unit. Some minor scheelite occurs in selvages around quartz-tourmaline veins within the intrusive. The intrusive contains some disseminated scheelite as well.

Trenching:

Six trenches were dug on several skarn outcrops, hoping to better expose the skarn for sampling purposes. Of these six trenches, one was in a large boulder of talus and another one did not reach outcrop. The four trenches that were eventually sampled are located on the sample locations map of the Clea cirque (Figure 11). These trenches are: T_1 located at L0+25E Δ 0+75N; T_2 located at L0+25E Δ 0+50N; T_3 located at L3+25E Δ 1+75S; T_4 located at 3+30E Δ 1+90S.

The dimensions of the various trenches are as follows:

T_1 - 2 m. x 0.5 m. x 0.5 m.

T_2 - 3 m. x 0.8 m. x 0.5 m.

T_3 - 2 m. x 1.0 m. x 0.8 m.

T_4 - 3 m. x 1.0 m. x 0.8 m.

The trenches were dug by drilling with an Atlas Copco Cobra drill and then blasting with 40% Forcite and prima cord. The trenches were mucked out with a shovel and mattock where necessary. The drilling was very difficult and slow due to the broken character of the weathered skarn. The skarn fragments would plug the hole and coat the hole above the bit often jamming the drill steel within the hole. Because of the slow difficult drilling, the trenching was discontinued after six trenches.

..11/

Chip Sampling

One hundred and fifty samples were taken over 1 metre intervals perpendicular to strike on any skarn outcrops giving indications of tungsten mineralization. The samples were pulverized and split at the Placer Research Lab where they were assayed for copper. A split of each sample was sent to General Testing Labs. in Vancouver, B.C., where it was assayed for tungsten, colourimetrically. Samples over 1% WO_3 were checked by gravimetric analysis. Check samples were also sent to the Bondar - Clegg Laboratories in North Vancouver, B.C.

Most of the chip samples are plotted on Figure 11 and Figure 12 and are located within the regions of detailed mapping on the Clea Cirque and the Omo Cirque. Samples not found on these two maps are located on a map of the property showing their location (Figure 1).

Discussion

A complex structural history folded a thick limestone bed isoclinally. The limestone was probably an interbedded dark and light-grey limestone and the dark beds being silty and the light beds being clean. Intrusion of the Clea stock occurred and the limestones were altered. The later stage rapid cooling of the porphyry released a large volume of hydrothermal fluids which created the large area of hornfelsing, and skarn and calc silicate mineralization in the carbonate beds. A later influx of quartz-tourmaline (indicated by quartz-tourmaline veins in the intrusive) veining along major breaks in the area silicified the calc-silicate rocks to their present stage. Tungsten mineralization was probably introduced during the rapid hornfelsing of the rocks following the rapid quenching of the porphyry.

...12/

Work of 1977 has located two interesting beds of skarn containing scheelite mineralization. These beds show some potential for economic tungsten mineralization. Several other calc-silicate beds strike across the property and dip towards the intrusive. They all contain skarn and scheelite and have good potential for economic tungsten mineralization when they approach the intrusive.

John Kowalchuk

J.M. Kowalchuk

JK/ct
Oct. 12/77
Attachments (in pocket)

62° 49' 00"

129° 57' 00"

129° 47' 00"

65,000 N

W/L 1370

W/L 1448

W/L 1592

W/L 1613

B

B'

C

C'

GEOLOGIC LEGEND

- OUTCROP
- GEOLOGICAL BOUNDARY (DEFINED, APPROXIMATE, ASSUMED)
- BEDDING (HORIZONTAL, INCLINED, VERTICAL, OVERTURNED, DIP UNKNOWN)
- CLEAVAGE (HORIZONTAL, INCLINED, VERTICAL, DIP UNKNOWN)
- LINEATION, AXES OF MINOR FOLDS (HORIZONTAL, INCLINED, VERTICAL)
- FAULT (DEFINED, APPROXIMATE, ASSUMED)
- FAULT (INCLINED, VERTICAL)
- THRUST FAULT (DEFINED, APPROX.)
- JOINT (INCLINED, VERTICAL, HORIZONTAL, DIP UNKNOWN)
- ANTICLINE (DEFINED, APPROXIMATE)
- SYNCLINE (DEFINED, APPROXIMATE)
- ANTICLINE OR SYNCLINE (MAJOR, MINOR)
- ANTICLINE OR SYNCLINE (ARROW INDICATES PLUNGE)
- (F) FOSSIL LOCALITY.

LEGEND

- 8 FELDSPAR PORPHYRY
- 7 EQUIGRANULAR QUARTZ MONZONITE

CALC.-SILICATF ROCKS

- 6 a. MARBLE
- 5 b. SILICEOUS CALC.-SILICATES
- 4 c. SKARNS
- 3 LIGHT GREY HORNFELS
- 2 META-ARGILLITE
- 1 BLACK HORNFELS

PRELIMINARY RECONNAISSANCE MAPPING BY:
INTEGRATED RESOURCES PHOTOGRAPHY LTD.
FROM PHOTOGRAPHY DATED 1949
I.R.P. PROJECT No.: 77-187

FIGURE 4.

CANEX PLACER LIMITED

CLEA PROJECT

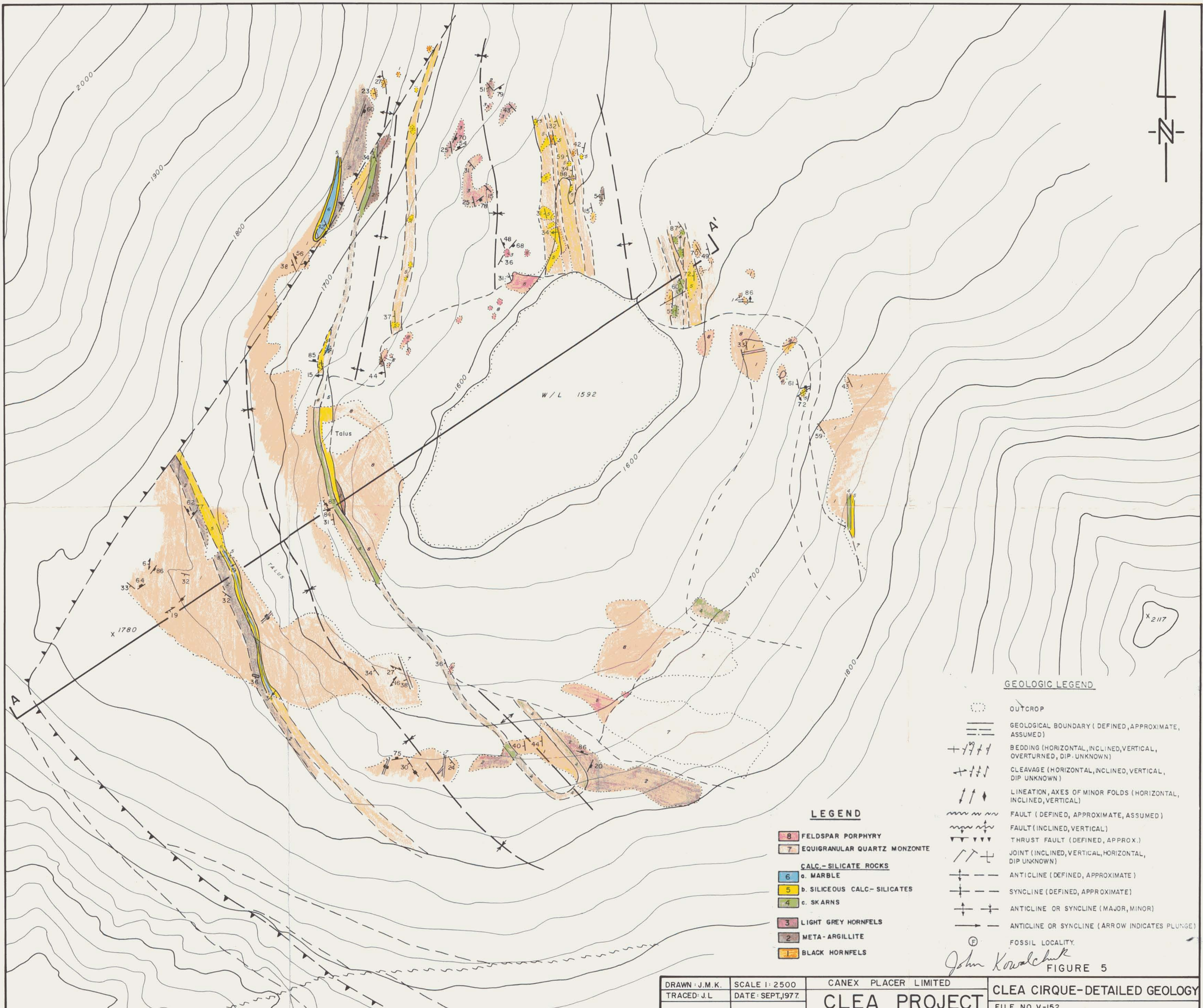
SCALE : 1:10,000		CONTOUR INTERVAL : 25 metres
DRAWN J.M.K.	APPROVED	MAP REF. 105-1-13
TRACED J.L.	DATE SEPT, 1977.	FILE No. V-152

57,000 N

452,000 E

457,000 E

62° 44' 00"



John Kowalchuk

FIGURE 5

DRAWN: J.M.K.	SCALE 1:2500	CANEX PLACER LIMITED	CLEA CIRQUE-DETAILED GEOLOGY
TRACED: J.L	DATE: SEPT., 1977	CLEA PROJECT	FILE NO. V-152

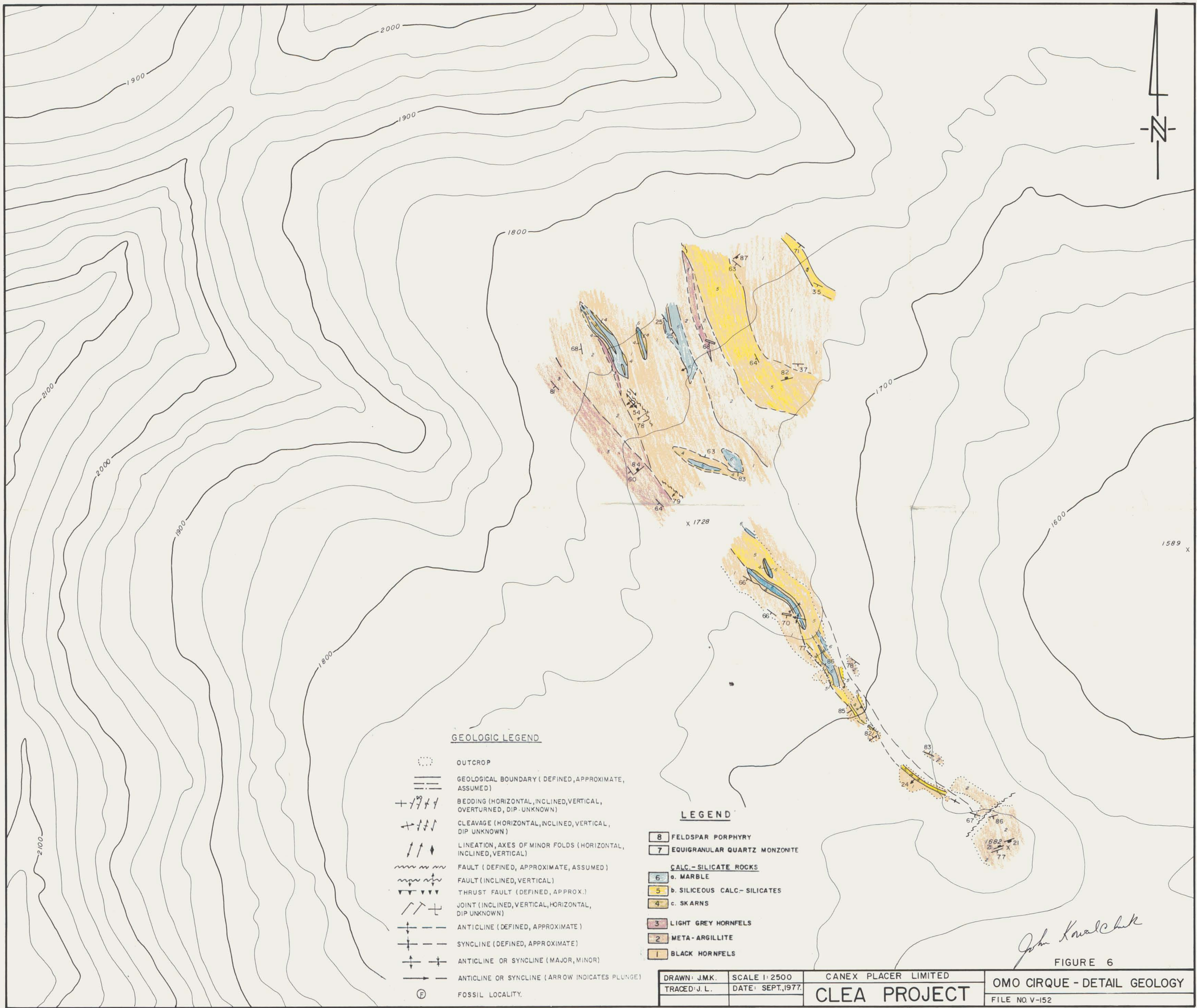


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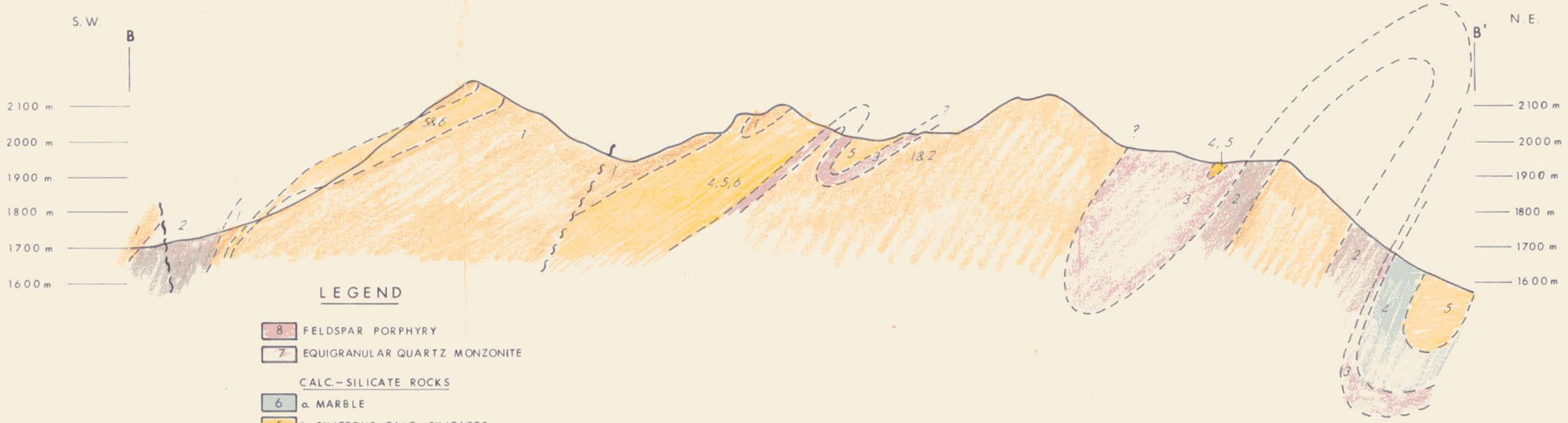
FIGURE 6

DRAWN: J.M.K.	SCALE 1:2500	CANEX PLACER LIMITED	OMO CIRQUE - DETAIL GEOLOGY
TRACED: J. L.	DATE: SEPT., 1977.	CLEA PROJECT	FILE NO. V-152



LEGEND

- 8 FELDSPAR PORPHYRY
- 7 EQUIGRANULAR QUARTZ MONZONITE

CALC.-SILICATE ROCKS

- 6 a. MARBLE
- 5 b. SILICEOUS CALC.-SILICATES
- 4 c. SKARNS
- 3 LIGHT GREY HORNFELS
- 2 META-ARGILLITE
- 1 BLACK HORNFELS

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FIGURE 7

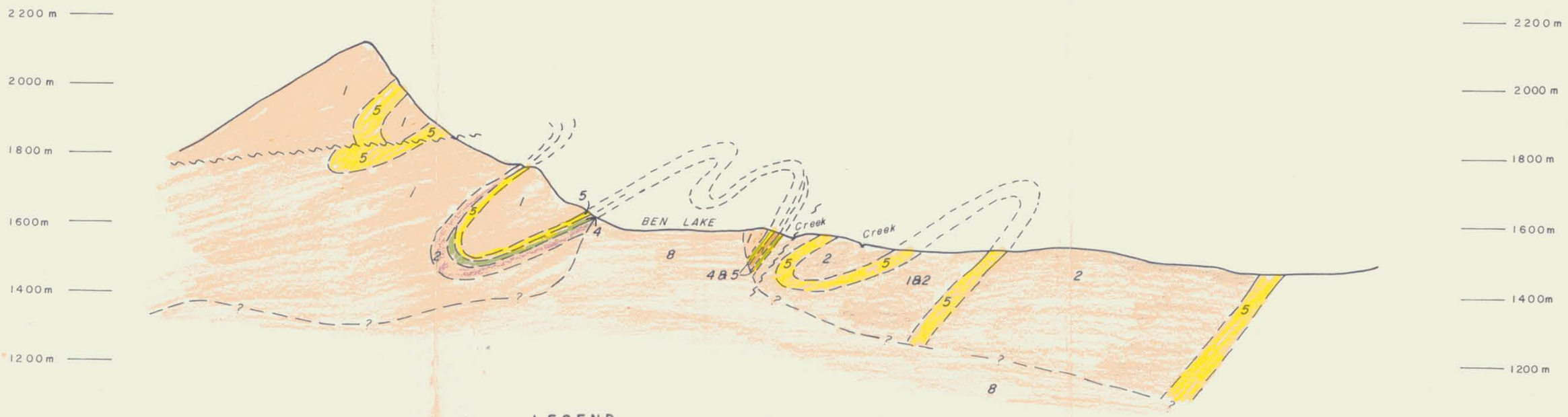
DRAWN: J.M.K.	SCALE: 1: 10,000	CANEX PLACER LIMITED	GEOLOGICAL SECTION
TRACED: A.K.	DATE: 12 Oct, 1977	CLEA PROJECT	FILE No. V-152
APPROVED:	REVISED:		

SW

C

NE

C'



LEGEND

- 8 FELDSPAR PORPHYRY
- 7 EQUIGRANULAR QUARTZ MONZONITE

CALC.-SILICATE ROCKS

- 6 a. MARBLE
- 5 b. SILICEOUS CALC.-SILICATES
- 4 c. SKARNS
- 3 LIGHT GREY HORNFELS
- 2 META-ARGILLITE
- 1 BLACK HORNFELS

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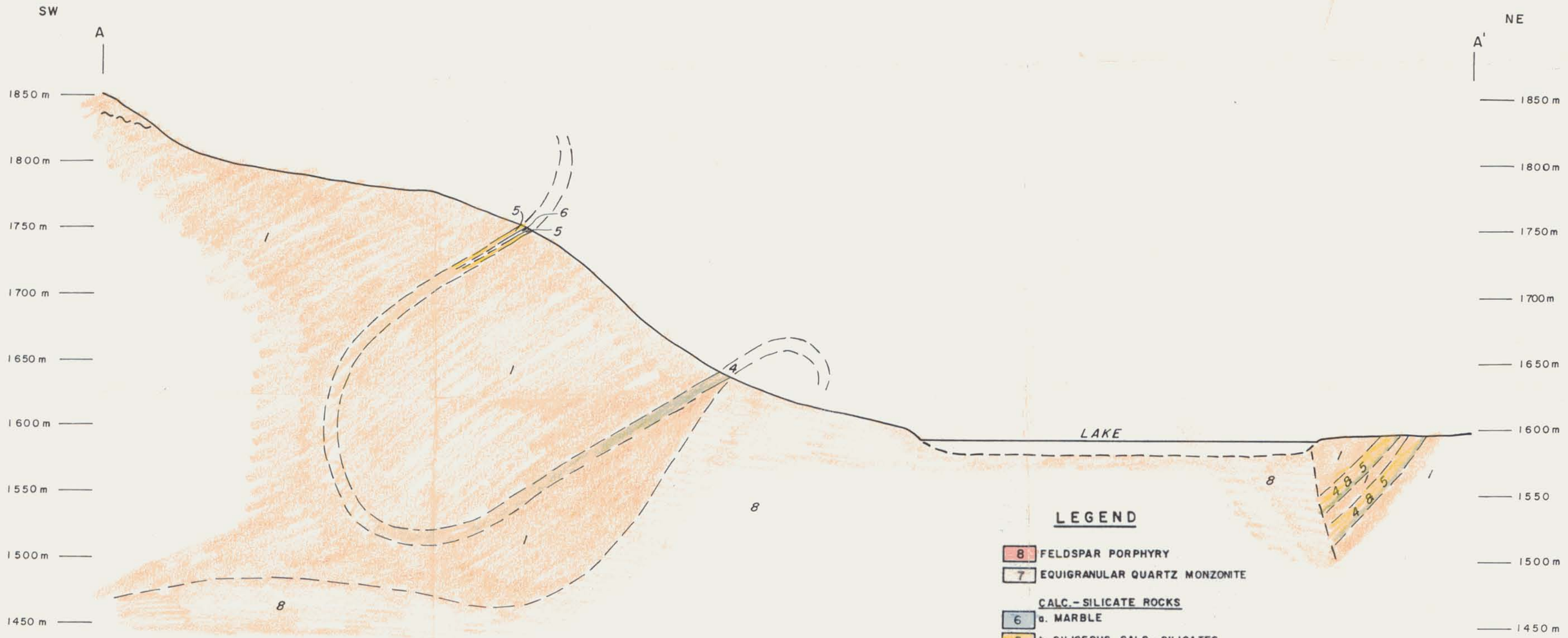
FIGURE 8

DRAWN J.M.K.	SCALE 1:10000	CANEX PLACER LIMITED	GEOLOGICAL SECTION C-C'
TRACED: J.L.	DATE: OCT., 1977.	CLEA PROJECT	FILE NO. V-152



LEGEND

- 8 FELDSPAR PORPHYRY
- 7 EQUIGRANULAR QUARTZ MONZONITE

CALC.-SILICATE ROCKS

- 6 a. MARBLE
- 5 b. SILICEOUS CALC.-SILICATES
- 4 c. SKARNS

- 3 LIGHT GREY HORNFELS
- 2 META-ARGILLITE
- 1 BLACK HORNFELS

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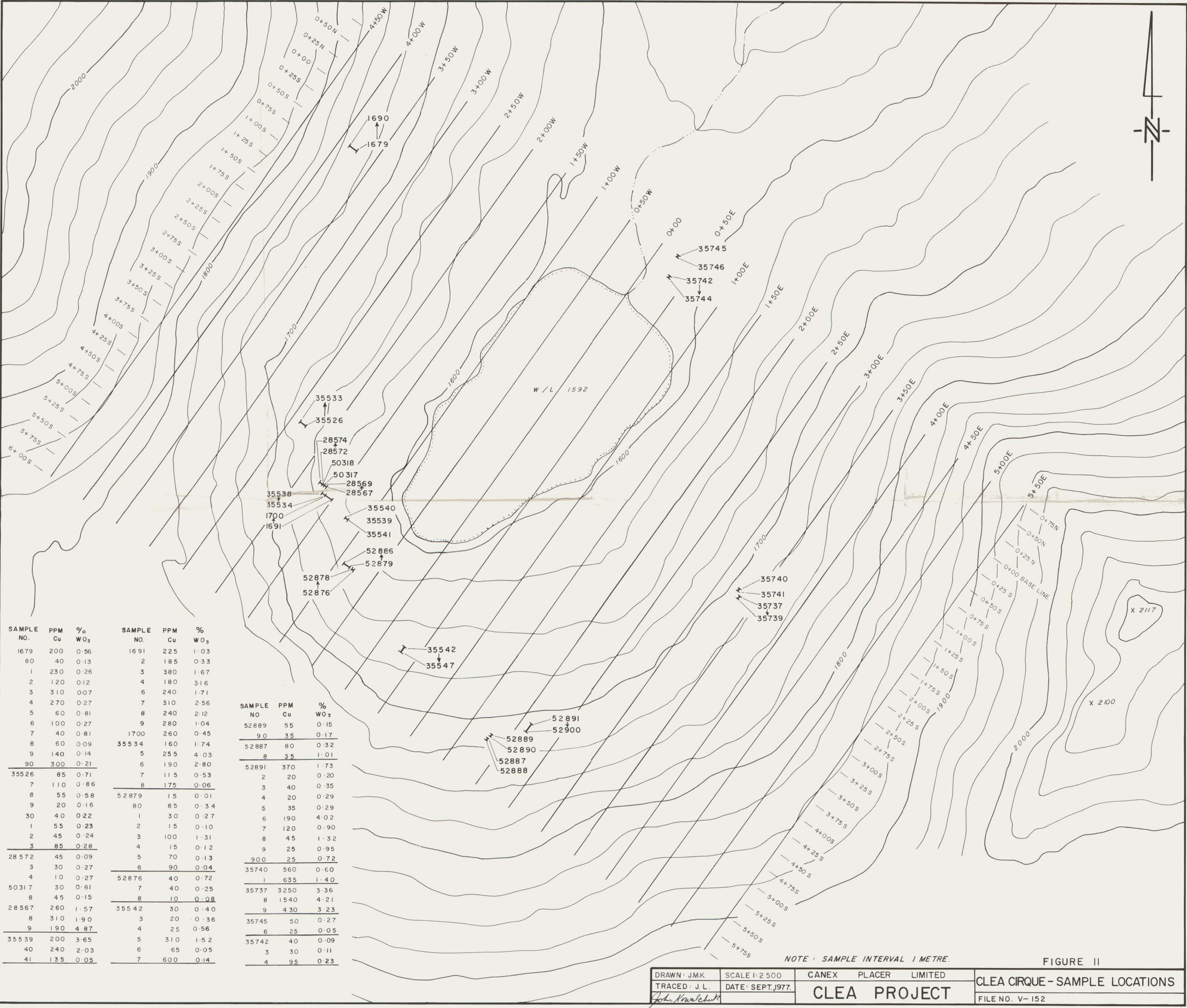
FIGURE 9

DRAWN: K. T.	SCALE 1 : 2500	CANEX PLACER LIMITED	CLEA CIRQUE - DETAILED SECTION
TRACED: J. L.	DATE: SEPT. 1977.	CLEA PROJECT	FILE NO. V-152



SAMPLE NO.	PPM Cu	% WO_3
1679	200	0·56
80	40	0·13
1	230	0·26
2	120	0·12
3	310	0·07
4	270	0·27
5	60	0·81
6	100	0·27
7	40	0·81
8	60	0·09
9	140	0·14
90	300	0·21
35526	85	0·71
7	110	0·86
8	55	0·58
9	20	0·16
30	40	0·22
1	55	0·23
2	45	0·24
3	85	0·28
28572	45	0·09
3	30	0·27
4	10	0·27
50317	30	0·61
8	45	0·15
28567	260	1·57
8	310	1·90
9	190	4·87
35539	200	3·65
40	240	2·03
41	135	0·05

SAMPLE NO.	PPM Cu	% WO_3
1691	225	1·03
2	185	0·33
3	380	1·67
4	180	3·16
6	240	1·71
7	310	2·56
8	240	2·12
9	280	1·04
1700	260	0·45
35534	160	1·74
5	255	4·03
6	190	2·80
7	115	0·53
8	175	0·06
52879	15	0·01
80	85	0·34
1	30	0·27
2	15	0·10
3	100	1·31
4	15	0·12
5	70	0·13
6	90	0·04
52876	40	0·72
7	40	0·25
8	10	0·08
35542	30	0·40
3	20	0·36
4	25	0·56
5	310	1·52
6	65	0·05
7	600	0·14

SAMPLE NO	PPM Cu	% WO_3
52889	55	0·15
90	35	0·17
52887	80	0·32
8	35	1·01
52891	370	1·73
2	20	0·20
3	40	0·35
4	20	0·29
5	35	0·29
6	190	4·02
7	120	0·90
8	45	1·32
9	25	0·95
900	25	0·72
35740	560	0·60
1	635	1·40
35737	3250	3·36
8	1540	4·21
9	430	3·23
35745	50	0·27
6	25	0·05
35742	40	0·09
3	30	0·11
4	95	0·23

NOTE : SAMPLE INTERVAL 1 METRE.

FIGURE 11

DRAWN : J.M.K.	SCALE 1:2500	CANEX PLACER LIMITED	CLEA CIRQUE - SAMPLE LOCATIONS
TRACED : J. L.	DATE : SEPT., 1977.	CLEA PROJECT	FILE NO. V-152
John Kowalchuk			

SAMPLE NO.	PPM Cu	% WO_3
35551	4500	9·40
2	3900	2·08
3	120	1·06
4	85	0·25
5	80	0·22
6	320	0·11
7	30	0·06
35565	540	0·29
8	370	0·09
9	430	0 37
35566	55	0·06
7	1510	0·21
35558	380	0·38
9	220	0·14
60	1630	0·42
1	260	0·97
2	1110	2·96
3	215	0·68
4	300	0·17
52976		0·09
7		0·09
8		0·10
9		<0·01

SAMPLE NO.	PPM Cu	% WO_3
52980		0·14
1		0·08
2		0·11
3		0·05
4		0·12
52985		0·05
6		0·02
7		<0·01

NOTE : SAMPLE INTERVAL 1 METRE.

FIGURE 12

DRAWN: J.M.K.	SCALE 1: 2500	CANEX PLACER LIMITED	OMO CIRQUE - SAMPLE LOCATIONS
TRACED: J. L.	DATE: SEPT., 1977	CLEA PROJECT	FILE NO. V-152
John Kowalchuk			