

ARCHER, CATHRO

& ASSOCIATES LIMITED

CONSULTING GEOLOGICAL ENGINEERS

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WERNECKE JOINT VENTURE
HAND TRENCHING REPORT
FACE 1-8 CLAIMS
(YA5723-YA5730)

JANUARY, 1982

Claim Sheet 106D/16

Latitude: 64°50'N; Longitude: 134°20'W

D. Eaton, B.A., B.Sc.

Work done from June 17, 1981 to July 19, 1981



090968

FROM: Mining Recorder at Map

TO: Supervising Mining Recorder at Whitehorse, Y.T.



FOR ACTION ARE:

NEW APPL'N for PLACER LEASE to PROSPECT: Name: _____ Lease No. _____

RENEWAL APPL'N PLACER LEASE to PROSPECT: Name: _____ Lease No. _____

AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name _____ Lease No. _____

ASSIGNMENT of PLACER LEASE No. _____
From: _____ To: _____

GROUPING APPL'N UNDER SEC. 52(2) PLACER MINING ACT.
Owner: _____

DIAMOND DRILL LOGS:
Claims: _____ Claim sheet no. _____

QUARTZ ASSESSMENT REPORT
Claims: FACE 1-8 Claim sheet no. 106-D-16

Type of report: TRENCHING
Submitted by: ARNER CATRO & ASSOCIATES LTD
\$ Req. for ren. application

Cls. work performed on:

COPY FOR your FILES.

Signature [Signature]

REPLY ACTION

Date Ret.

090968

Signature _____

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INTRODUCTION

The Face property was staked by Wernecke Joint Venture (Chevron Canada Limited and Aquitaine Company of Canada Ltd.) in July, 1976 to cover brannerite and pitchblende float found by regional prospecting under an Eldorado Nuclear Ltd.-WJV agreement. Eldorado explored by grid soil geochemistry and ground radiometric surveys before dropping its option later that year. In 1978, WJV conducted a detailed airborne radiometric survey and dug two hand trenches in the vicinity of pitchblende float found in 1976, but no additional occurrences nor the float source was located.

Prior to the 1981 field season, all samples from the property were reanalyzed for gold, cobalt, arsenic, antimony and bismuth and selected samples for silver. As a result, a pitchblende- and chalcopyrite-bearing float specimen, which previously assayed 2.15 per cent U308 and 0.4 per cent Cu, was found to contain 6400 ppb Au and 100 ppm Ag. The 1981 field exploration program concentrated on evaluation of uranium and gold potential, particularly in the float area, and included geological mapping, prospecting and hand trenching. The work was conducted from the WJV base camp at Bear River between June 17 and July 19 and required 22 mandays and 3.3 hours of helicopter support. Appendix I lists personnel who performed the work, their addresses and dates of employment.

PROPERTY, LOCATION AND ACCESS

The Face property consists of 8 contiguous mineral claims recorded in the name of Archer, Cathro & Associates (1981) Limited in the Mayo Mining District as follows:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Face 1-8	YA5723-YA5730	8 January, 1982

The property is located at latitude 64°50'N and longitude 134°20'W within claim sheet 106D/16, 170 km northeast of Mayo. The closest lake suitable for float-equipped, fixed-wing aircraft is Gillespie Lake, 27 km to the southeast, while the closest bush airstrip is on the Bear River, 10 km to the southeast. Access in 1981 was by helicopter from the WJV base camp at Bear River.

GEOLOGY AND MINERALIZATION

The area of interest lies at an elevation of approximately 1250 m near the base of a steep, north-facing hillside drained by a west-flowing tributary of the Bear River. Outcrop is rare as the lower slopes are covered by talus and much of the valley bottom is obscured by a broad lateral moraine deposited by Pleistocene alpine glaciation. Vegetation consists of grass, moss and lichens with alder (buckbrush) and occasional spruce.

The property geology is illustrated on Figure WJV81 F1 in Pocket A and is dominated by a major north-trending fault accompanied by several smaller, northeast-trending structures. Many of the faults appear to have considerable offsets as they juxtapose Proterozoic and Paleozoic stratigraphy. The lower Proterozoic rocks consist of Unit Hs black argillites and interbedded white quartzites cut by Unit Hb heterolithic breccia bodies comprised of variously altered metasediment fragments in a predominantly carbonate matrix. The Unit Hs argillites are often strongly sheared and bleached pale green along the faults. A poorly exposed band of brown weathering dolomite occurring peripheral

to the breccia body has been mapped as Unit Hc orange weathering dolomite, but is probably an alteration zone related to the breccia. The lower Proterozoic rocks are unconformably overlain by red weathering Hadrynian dolomites which in turn are unconformably overlain by white weathering Paleozoic limestone.

Two areas of uranium mineralization have been discovered on the property. The first is a 30 m by 50 m zone containing minor disseminated brannerite in breccia and hematite stained and bleached argillite float. The second is a 3 m wide discontinuous float train of strongly foliated, carbonate-flooded, bleached argillite boulders containing yellow secondary uranium minerals, pitchblende and chalcopyrite in veinlets parallel to foliation. This float is similar to the mineralized outcrop found on the WJV Bond 2 occurrence. A sample from one of the boulders assayed 2.15 per cent U3O8, 0.4 per cent Cu, 6400 ppb Au, and 100 ppm Ag.

Sulphide mineralization is not abundant on the property, however a few carbonate-flooded, bleached argillite boulders containing up to 10 per cent chalcopyrite and 20 per cent pyrite were found in talus below a fault 75 m northeast of the pitchblende float train. Hematite normally comprises 5-10 per cent of the breccia matrix but magnetite is rare. Barren and sulphide-bearing quartz and carbonate veins are common in fault zones.

GEOCHEMISTRY

All samples collected during the program were analyzed at Chemex Labs Ltd., North Vancouver, B.C., and the analytical techniques used are discussed in Appendix II.

Figures WJV81 F1 and F2 in Pockets A and B respectively, show copper molybdenum, uranium, gold, silver and arsenic results from sampling and prospecting traverses over the breccia body and along major faults on and adjacent to the property. The sampling explored for additional gold, uranium and copper occurrences and obtained soil backgrounds for comparison with anomalies obtained from the 1976 Eldorado geochemical grid survey conducted over the main area of interest. The results from the 1981 sampling traverses are tabulated below:

<u>Element</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Mean</u>	<u>Number of Samples</u>
Au ppb	35	<1	4.5	62
U ppm	5.0	<0.5	23	28
Cu ppm	590	6	48.7	69
Mo ppm	22	<1	2.4	29
Ag ppm	0.4	0.1	0.1	40
As ppm	22	6	13	27

Backgrounds for all elements are low, and the only high values were obtained below known mineral occurrences.

Figure WJV81 F3 in Pocket C illustrates copper, molybdenum and uranium results from the 1976 Eldorado soil grid while Figures WJV81 F4 and F5, in Pockets D and E, illustrate gold, cobalt, arsenic, antimony and bismuth results obtained in 1981 by reanalysis of the sample splits. Although the values generally exceed the regional background and there are well defined dispersion trains, only a few values are strongly anomalous and the apparent source areas are small. Figure WJV81 F4 also shows gold results for grab and widely-spaced chip samples of a variety of rock types within the anomalous dispersion trains. The highest value obtained was 110 ppb gold from a sample containing 6 chips

from the quartz vein float. Other samples included a second chip sample from the quartz vein float which returned 7 ppb gold, a chip sample from brannerite-bearing boulders which returned 10 ppb gold, a grab sample of sheared argillite which returned 11 ppb gold, and two chalcopyrite-rich grab samples which returned 1.05 per cent copper with 39 ppb gold and 3.48 per cent copper with 10 ppb gold.

HAND TRENCHING

In 1978 two handpits were dug in an unsuccessful attempt to locate a source for the pitchblende-bearing float train. During 1981 an additional five handpits were dug: two (handpits 3 and 4) explored uphill from the 1978 handpits, while three (handpits 5, 6 and 7) explored an area where chalcopyrite-bearing float was discovered. The location of the handpits is shown on Figure WJV81 F3, while Figures WJV81 F6 and F7 following this page illustrate profile of the handpits plus geochemical results obtained from soil samples taken from them. Although handpit 3 was dug directly uphill from a pitchblende-bearing boulder no additional boulders or anomalous radioactivity was detected to a depth of 1.2 metres. Handpit 4, 45 m further uphill, failed to discover any mineralization and exhibited only background radioactivity. All soil samples collected from these handpits produced only background values for copper, molybdenum, uranium, arsenic and gold except for one sample taken near the top of handpit 3 which returned a weakly anomalous 38 ppb gold. Handpits 5, 6 and 7 all exposed minor chalcopyrite-bearing float and produced weak to moderate copper, molybdenum, arsenic and

10005

10255

HANDPIT 4

○

25W —

50W —

HANDPIT 3

○
★

★

0.4, 2.15, 6400

HANDPIT 2

HANDPIT 1

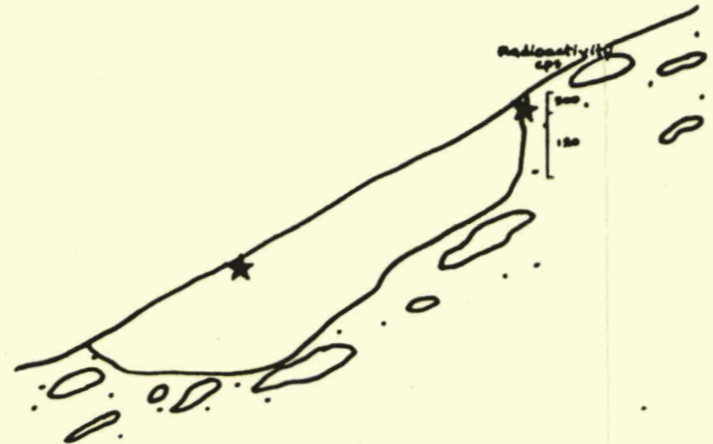
75W —

100W —



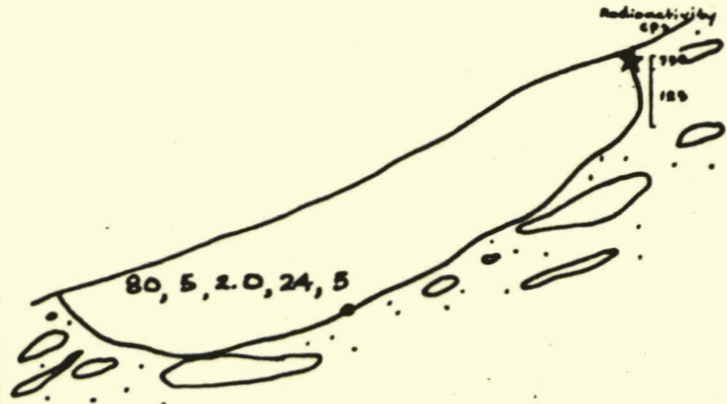
PLAN VIEW

SCALE 1:500



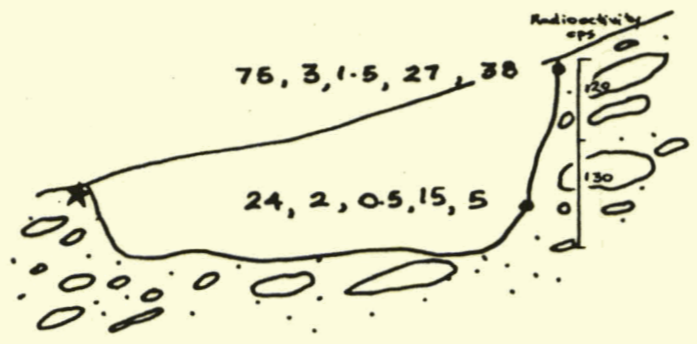
HANDPIT 1

SCALE 1:50



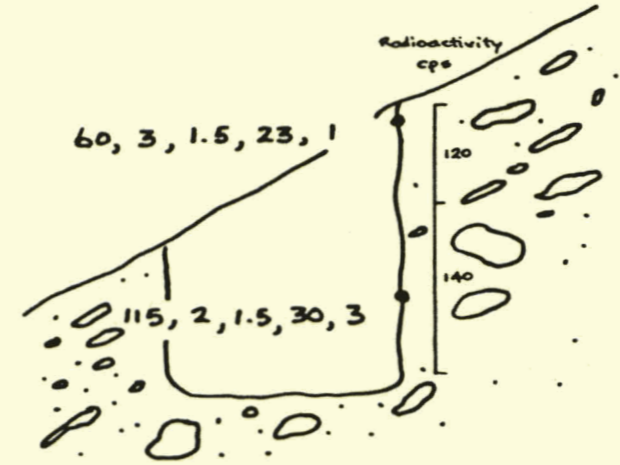
HANDPIT 2

SCALE 1:50



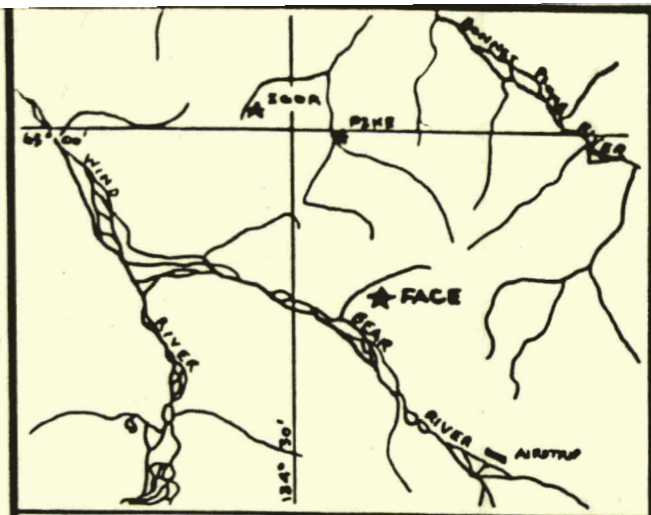
HANDPIT 3

SCALE 1:50



HANDPIT 4

SCALE 1:50



LOCATION MAP

SCALE 1:500,000

0 5 10 15 20 km.

LEGEND

★ Pitchblende-bearing boulders

0.4, 2.15, 6400
■ Rock sample location, Cu and U in percent, Au in ppb

115, 2, 1.5, 30, 3
○ Soil sample location, Cu, Mo, U, As in ppm, and Au in ppb

Radioactivity measured with Scintrex 800-18L Scintillometer.

FIGURE WJV 81 F6
ARCHER, CATHER & ASSOCIATES (1981) LTD.

PROFILES,
GEOCHEMISTRY

HANDPITS 1, 2, 3, 4

FACE 1-8 CLAIMS

WERNECKE JOINT VENTURE

8705

8805

8905

9005

9105

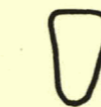
9205

9305

6 4
5 3

3.48%, 10

Mixed Hs, sheared Hs, Hc, Hb and quartz vein talus



HANDPIT 5

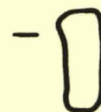


HANDPIT 6

PLAN VIEW



SCALE 1:250



HANDPIT 7



LOCATION MAP
SCALE 1:500,000

0 5 10 15 20 km.

LEGEND



Claim post location

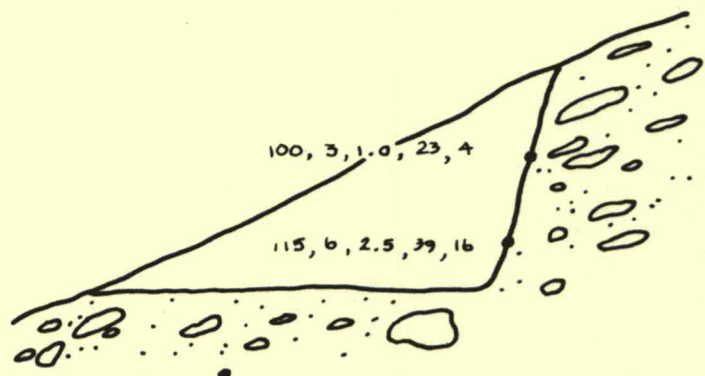
3.48%, 10

Rock sample location,
Cu in percent, Au in ppb

15, 6, 2.5, 39, 16

Soil sample location,
Cu, Mo, U, As in ppm, and
Au in ppb

Radioactivity measured with Scintrex
BG-15L Scintillometer.



Radioactivity cps

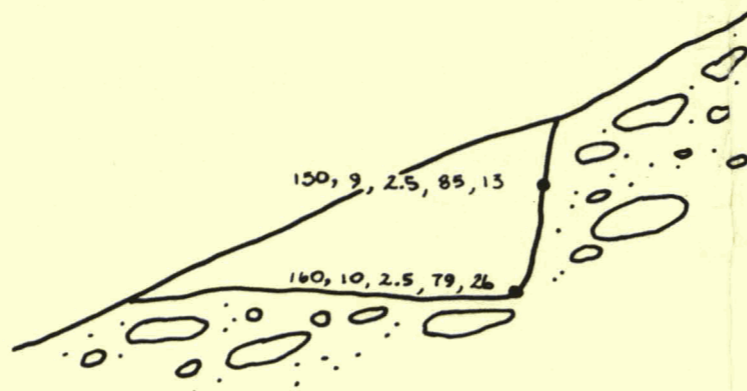
140

160

Trace of chalcopyrite in chloritic Hb and sheared and bleached Hs.

HANDPIT 7

SCALE 1:50



Radioactivity cps

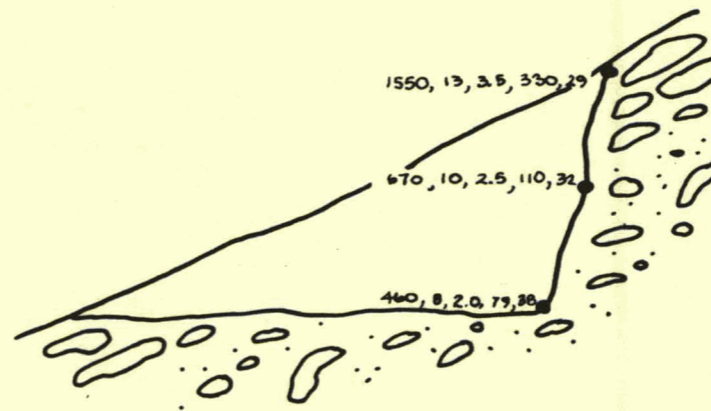
140

150

1 rock in 5 is chloritic or carbonate-rich Hb or sheared and bleached Hs containing up to 2% chalcopyrite but averaging 1/2%. 1 rock in 25 is massive hematite.

HANDPIT 6

SCALE 1:50



Radioactivity cps

130

160

180

1 rock in 10 is carbonate-rich Hb containing 1-5% disseminated and banded chalcopyrite, plus pyrite.

Traces of chalcopyrite in carbonate-rich Hb and sheared and bleached Hs.

HANDPIT 5

SCALE 1:50

FIGURE WJV 81 F7
ARCHER, CATHER & ASSOCIATES (1981) LTD.
PROFILES,
GEOCHEMISTRY
HANDPITS 5, 6, 7
FACE 1-8 CLAIMS
WERNECKE JOINT VENTURE

gold anomalies in soils. The highest results were from handpit 5 which showed progressively decreasing copper, molybdenum and arsenic but increasing gold values with depth. At a depth of 1.1 m the gold value was only a weakly anomalous 38 ppb.

DISCUSSION AND CONCLUSIONS

Geochemical exploration and hand trenching failed to discover additional mineralization on the property or to enlarge the known pitchblende, brannerite and chalcopyrite occurrences. The pitchblende and chalcopyrite float appears to be derived from narrow, discontinuous carbonate veins in a northeast-trending, extensional fault zone. The gold value of 0.19 oz/ton obtained from the pitchblende float is interesting but there is only a small quantity of float and the source has not been located. The claims should be allowed to lapse when assessment credits expire.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED,



W. Douglas Eaton

/jm

STATEMENT OF QUALIFICATIONS

I, W. Douglas Eaton, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in Burnaby, British Columbia, do hereby declare:

1. I graduated from the University of British Columbia in 1980 with a B.Sc. and am currently enrolled in a M.Sc. majoring in Geological Sciences.
2. From 1971 to the present, I have been actively engaged in mineral exploration in British Columbia and Yukon Territory and on June 1, 1981, became a partner in Archer, Cathro & Associates (1981) Limited.
3. I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.



W. Douglas Eaton, B.A., B.Sc.

APPENDIX I

PERSONNEL

PERSONNEL

<u>NAME</u>	<u>POSITION</u>	<u>ADDRESS</u>	<u>PERIOD DURING WHICH WORK WAS DONE</u>
D. Eaton	Geologist	6108 Burns Street, Burnaby, B.C.	June 17 to July 19, 1981
S. Bilawich	Student	27 Klondike Road, Whitehorse, Y.T.	June 17 to July 19, 1981
B. Brown	Student	4 Hoeschen Crescent, Saskatoon, Sask.	June 17 to July 19, 1981
K. Cockell	Student	45 Canfield Road, Nepean, Ont.	June 17 to July 19, 1981
B. Halleran	Student	Box 793, Fort St. James, B.C.	June 17 to July 19, 1981
M. Wong	Student	3147 Brookridge Drive, North Vancouver, B.C.	June 17 to July 19, 1981

APPENDIX II

ANALYTICAL TECHNIQUES

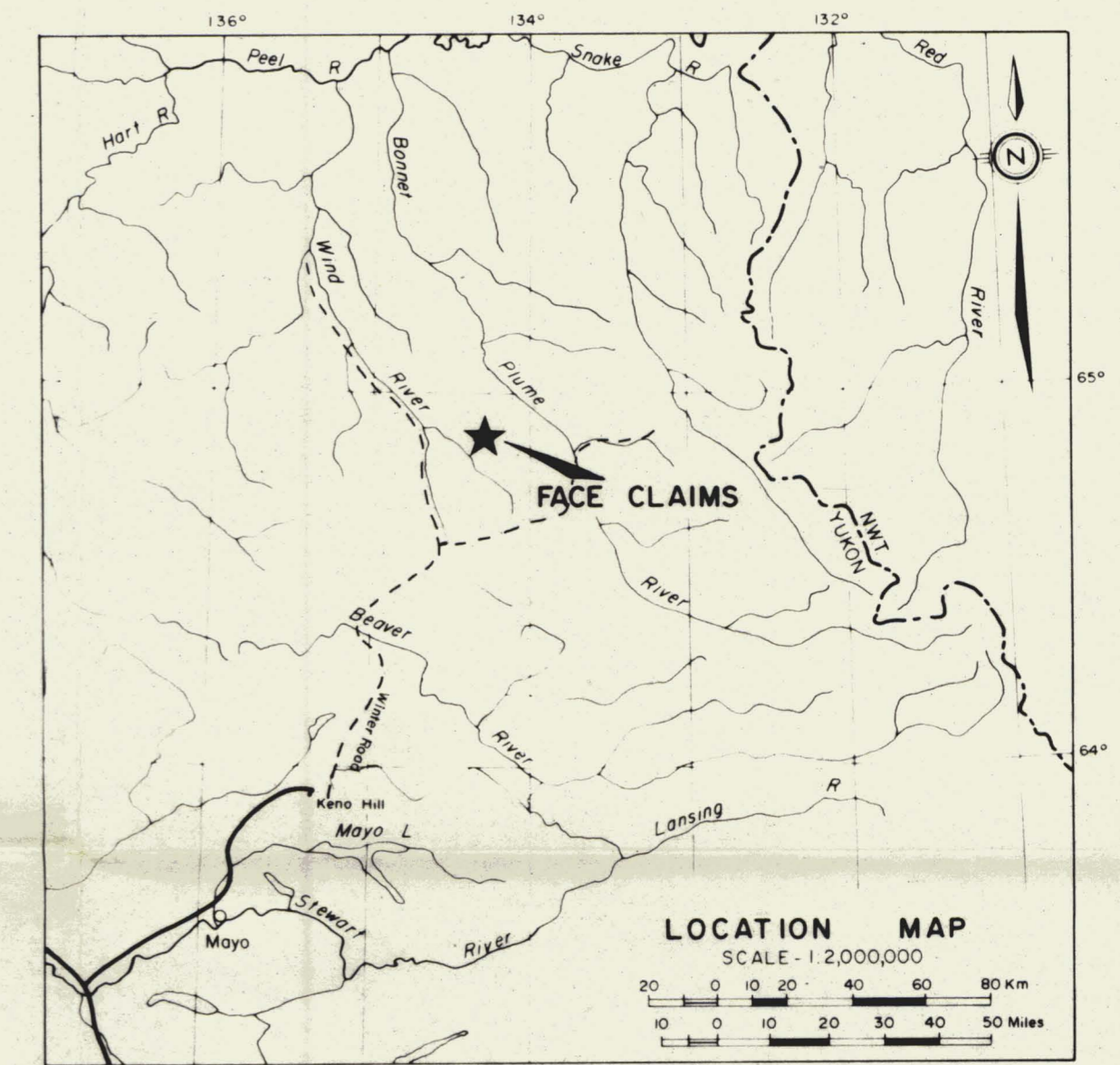
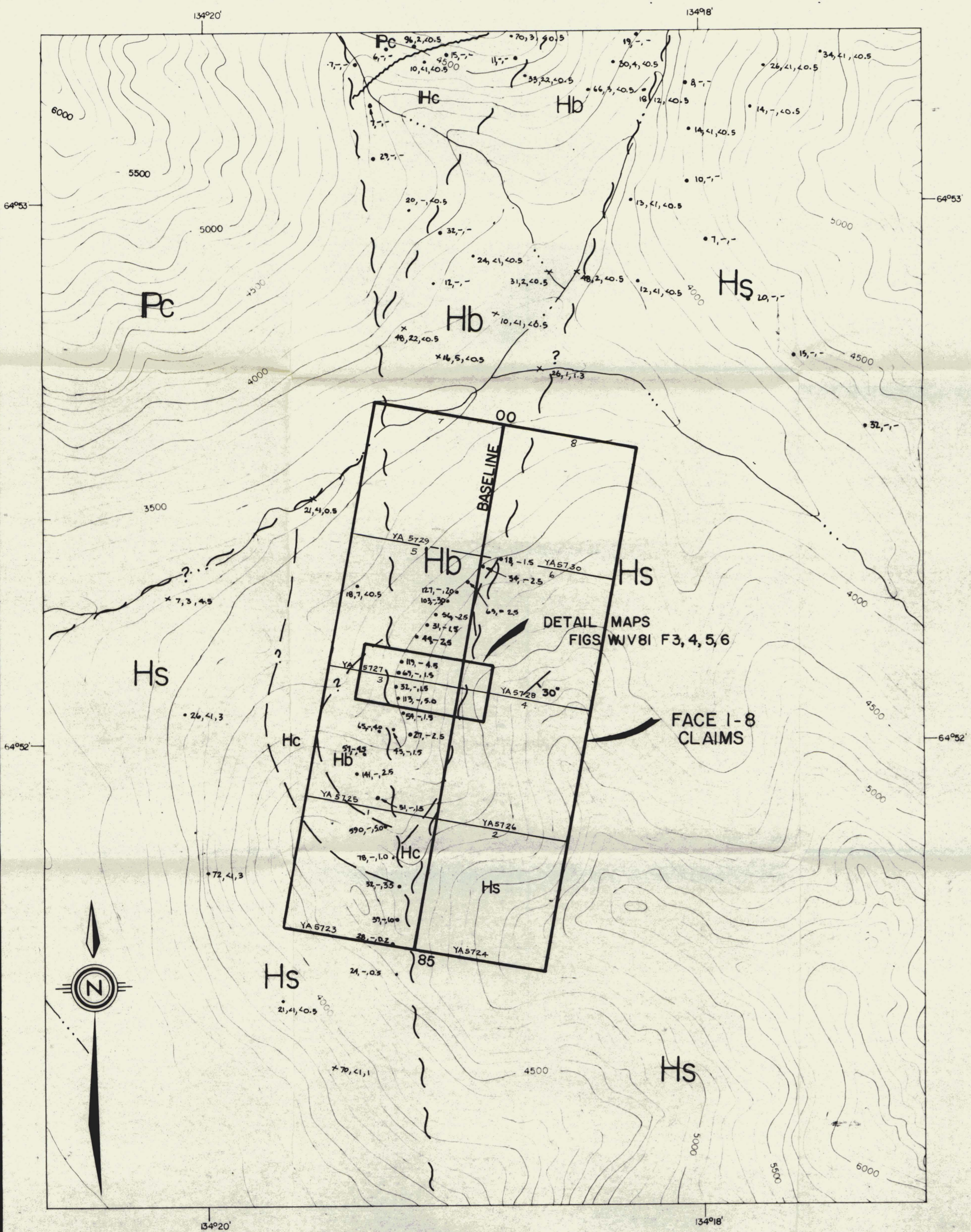
ANALYTICAL TECHNIQUES

Preparation

All soil samples were dried and sieved through an ASTM 35 mesh screen (0.50 mm). The -35 mesh fraction was then pulverized and homogenized in a ring grinder to approximately -100 mesh (0.15 mm). For grab and chip samples of rocks the entire sample was crushed and split. A subsample was then pulverized in a ring grinder to approximately -100 mesh.

Analytical Techniques

Gold was analyzed by a "combo technique" consisting of a fire assay followed by a neutron activation, while copper, cobalt, molybdenum, arsenic and silver were analyzed using a perchloric-nitric acid extraction followed by atomic absorption spectrometry.



GEOLOGY

- PALEOZOIC**
- HAYDRYNIAN**
 - HELIKIAN**
- Pc** white weathering limestones and minor dolomites
 - Hc** red weathering dolomite
 - Hb** heterolithic breccia consisting of a variety of altered fragments in a carbonate and hematite matrix
 - Hs** orange weathering dolomites, may be alteration related to breccia
 - Hs** dark grey argillites and slates interbedded with light grey, mature quartzites
- ~ fault trace
 - ~ angular unconformity
 - approximate geological contact

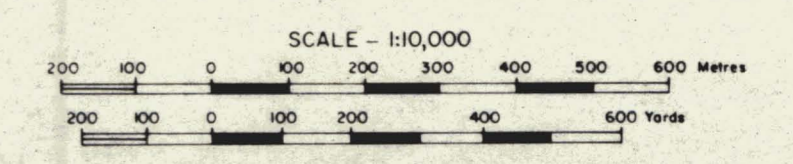
LEGEND

- soil sample location
 - rock sample location
- Cu, Mo, U in ppm

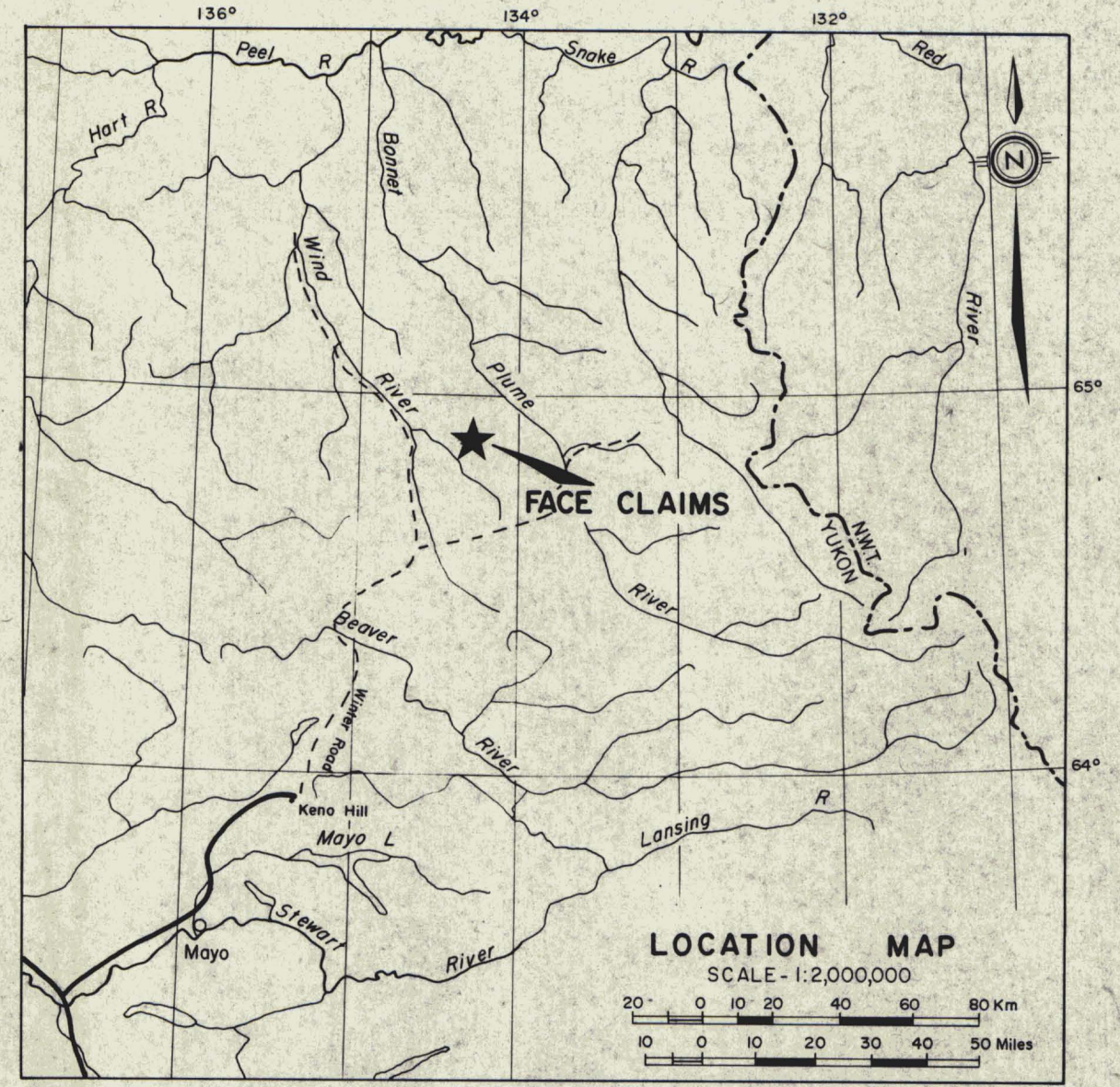
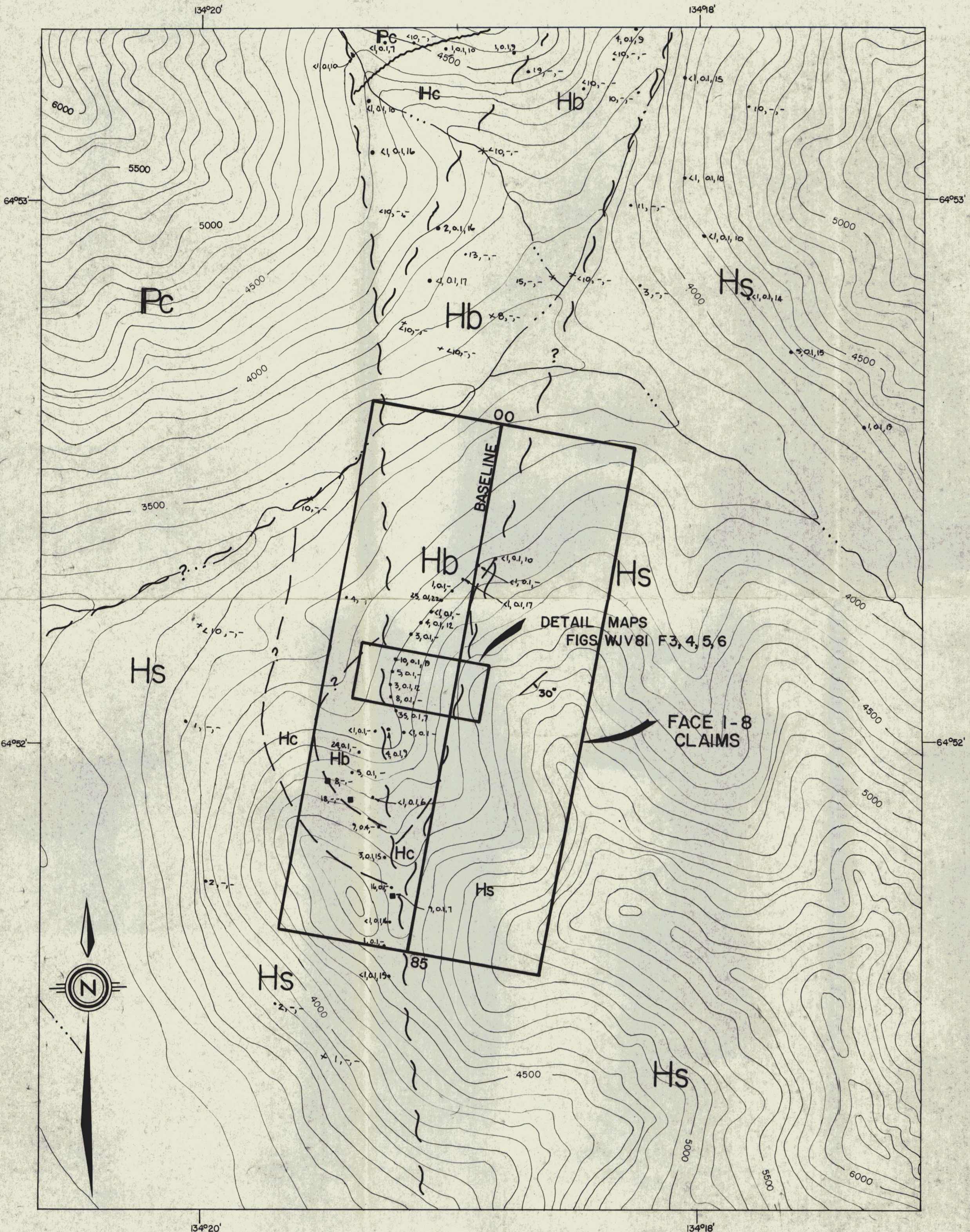
FIG. WJV81-F1
ARCHER, CATHRO & ASSOCIATES (1981) LTD.

Cu, Mo, U GEOCHEMISTRY

FACE PROPERTY
WERNECKE JOINT VENTURE



090968



GEOLOGY

- PALEOZOIC**
- Pc** white weathering limestones and minor dolomites
- HAYDRYNIAN**
- Hc** red weathering dolomite
- HELIKIAN**
- Hb** heterolithic breccia consisting of a variety of altered fragments in a carbonate and hematite matrix
 - Hc** orange weathering dolomites, may be alteration related to breccia
 - Hs** dark grey argillites and slates interbedded with light grey, mature quartzites
- ~ ~ ~ fault trace
 ~ ~ ~ angular unconformity
 — — — approximate geological contact

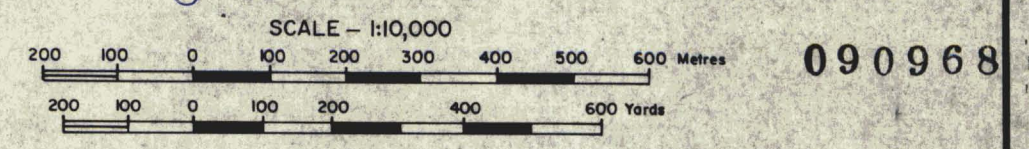
LEGEND

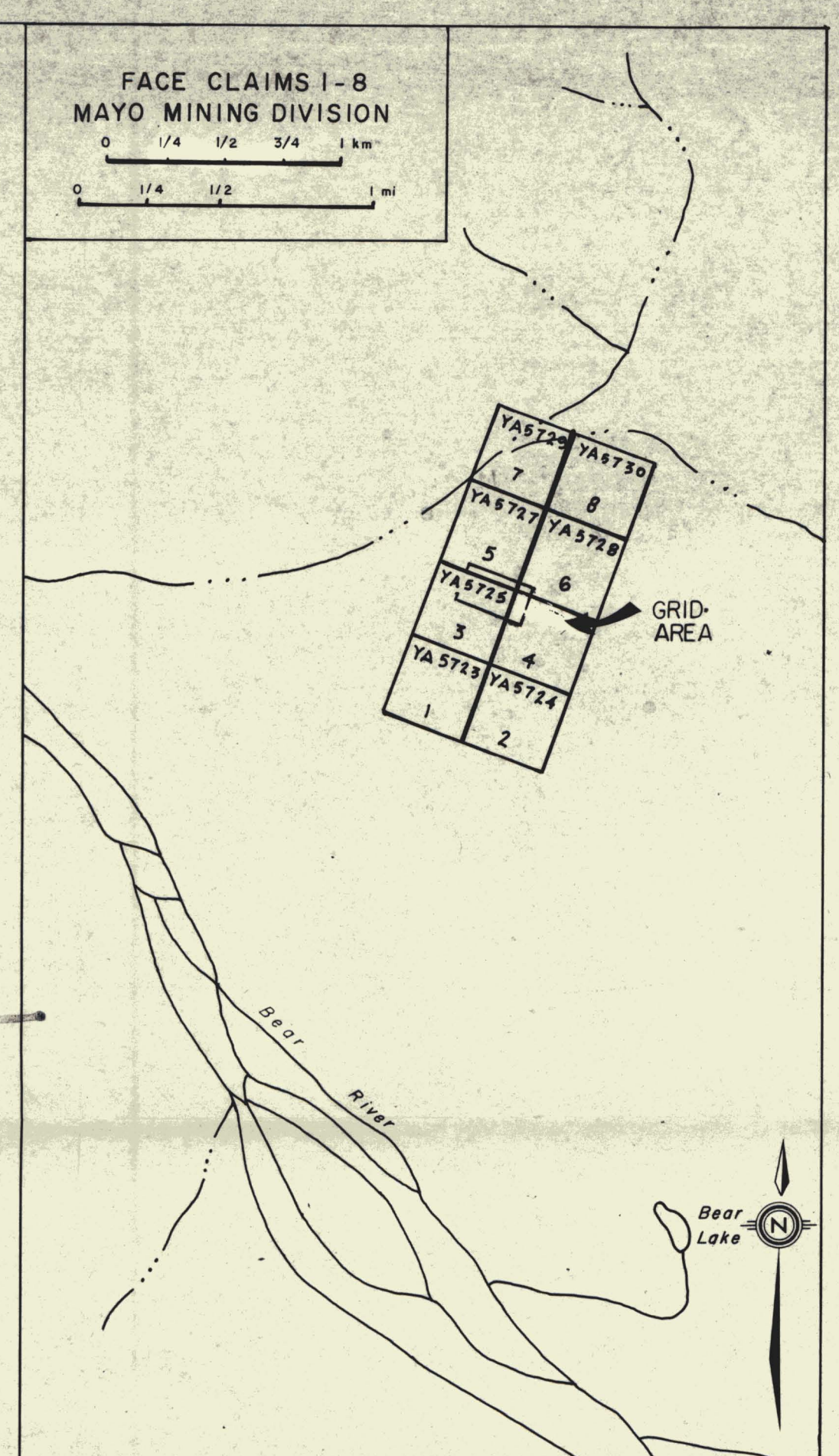
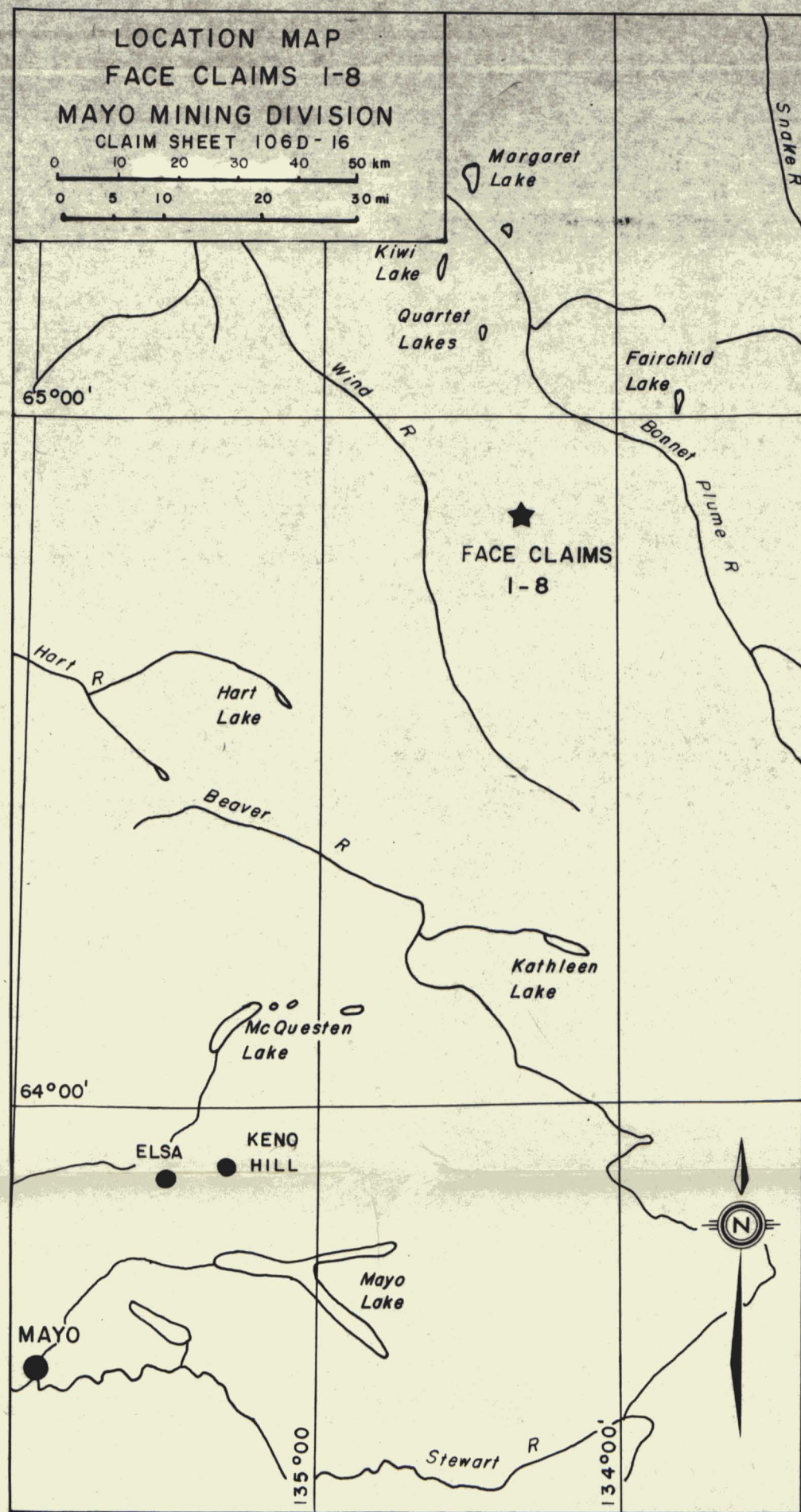
- soil sample location
 - rock sample location
- Au in ppb, Ag, As in ppm

FIG. WJV81-F2
 ARCHER, CATHRO & ASSOCIATES (1981) LTD.

Au, Ag, As, GEOCHEMISTRY

FACE PROPERTY
 WERNECKE JOINT VENTURE
W. D. Wernecke January 21, 1982





- LEGEND**
- Limit of outcrop
 - Break in slope
 - Claim post location
 - Soil sample location, Cu, Mo, U in ppm
 - Rock sample location, Cu, U in percent
 - Hand trench location, number and Cu, Mo, U in ppm top and bottom of pit
 - Cu contour
 - Pitchblende-bearing float
 - Brannerite-bearing float

- GEOLOGY**
- HELIKIAN**
- Heterolithic breccia
 - Dark grey argillites and slates with inter-bedded quartzites
 - Fault trace

FIGURE WJV81 F8
ARCHER CATHRO & ASSOCIATES (1981) LTD.

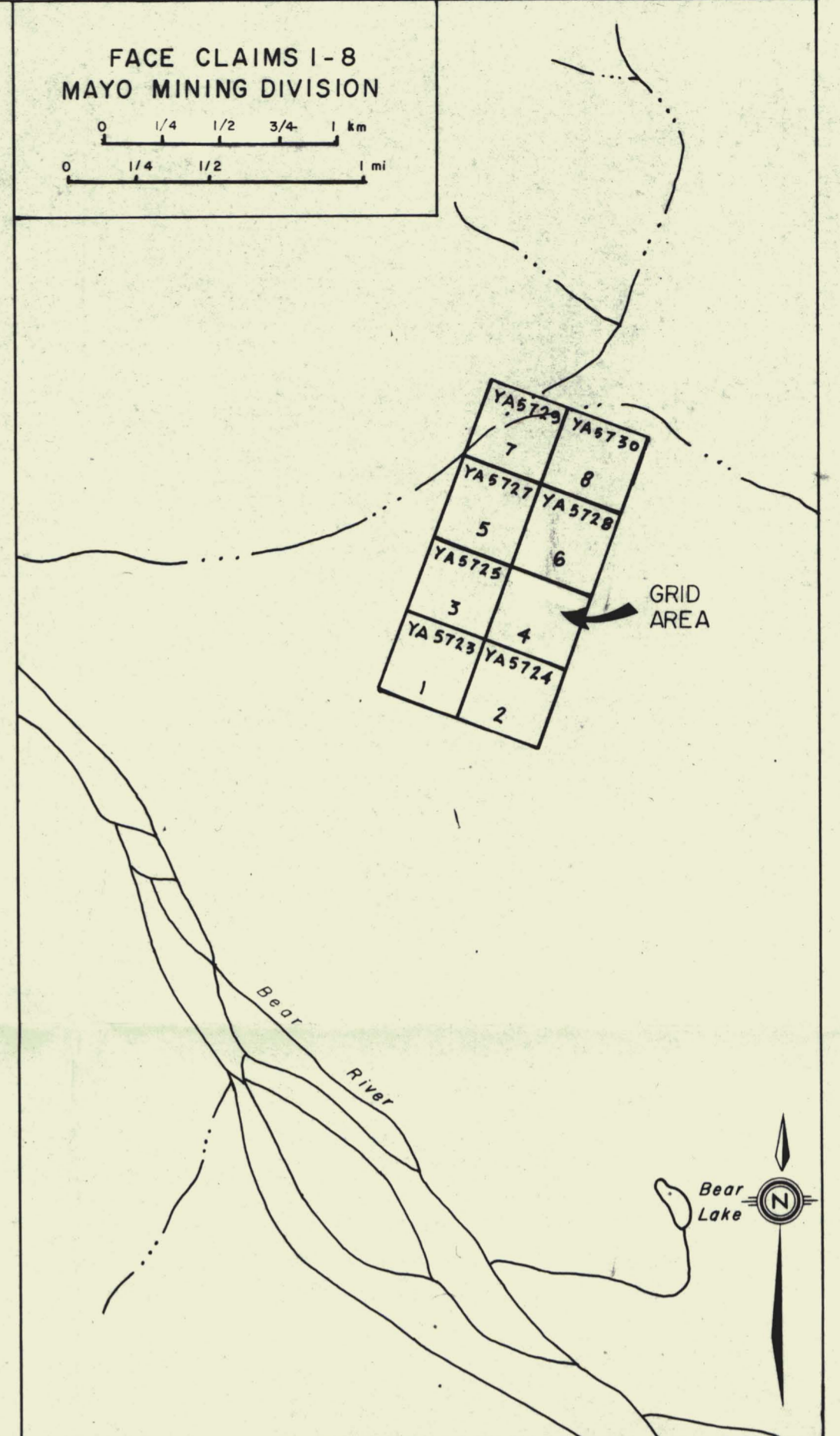
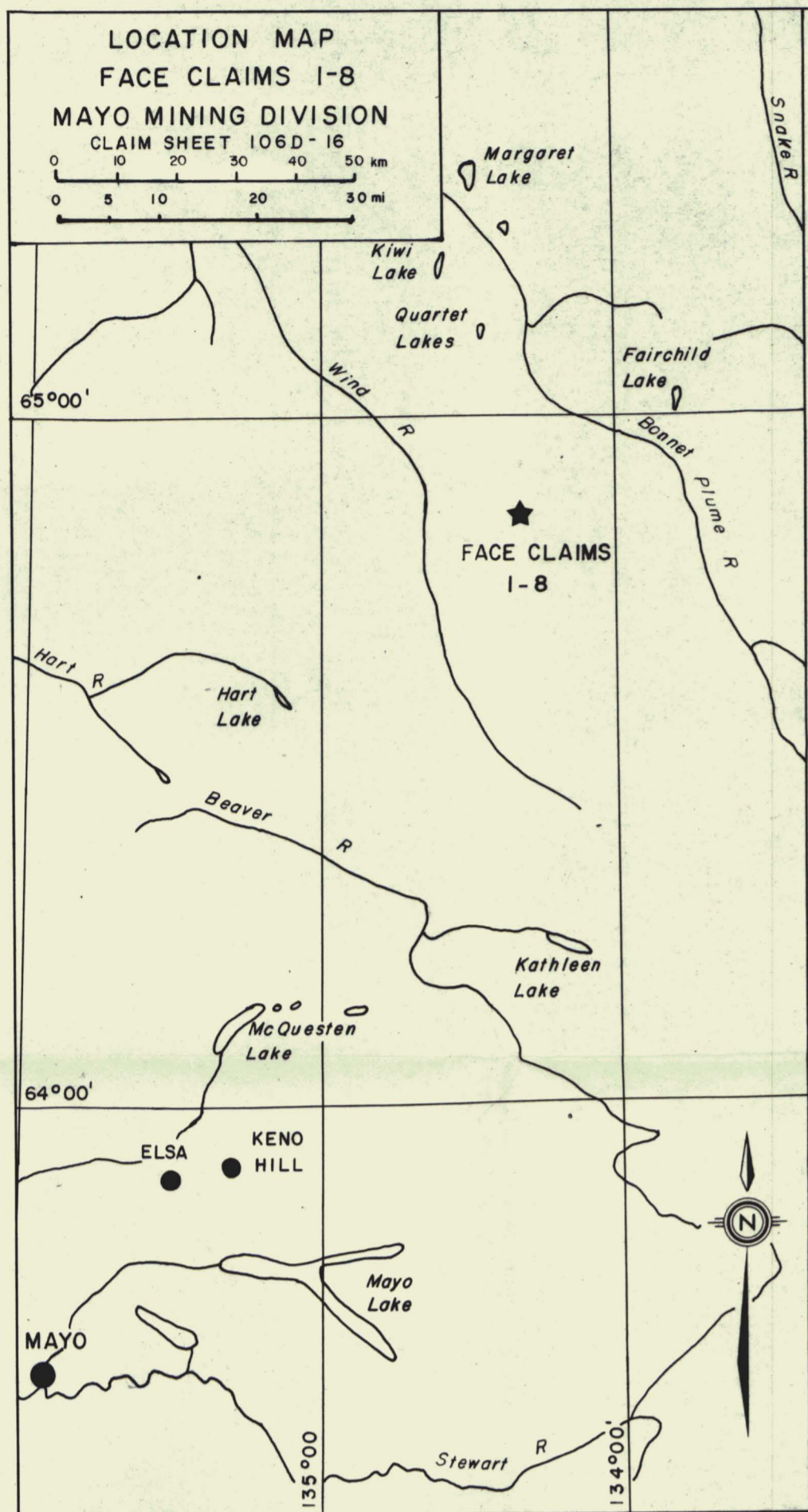
Cu, Mo & U GEOCHEMISTRY

W. J. Cathro January 21, 1982

FACE 1-8 CLAIMS 090968

WERNECKE JOINT VENTURE

Scale 1:1000

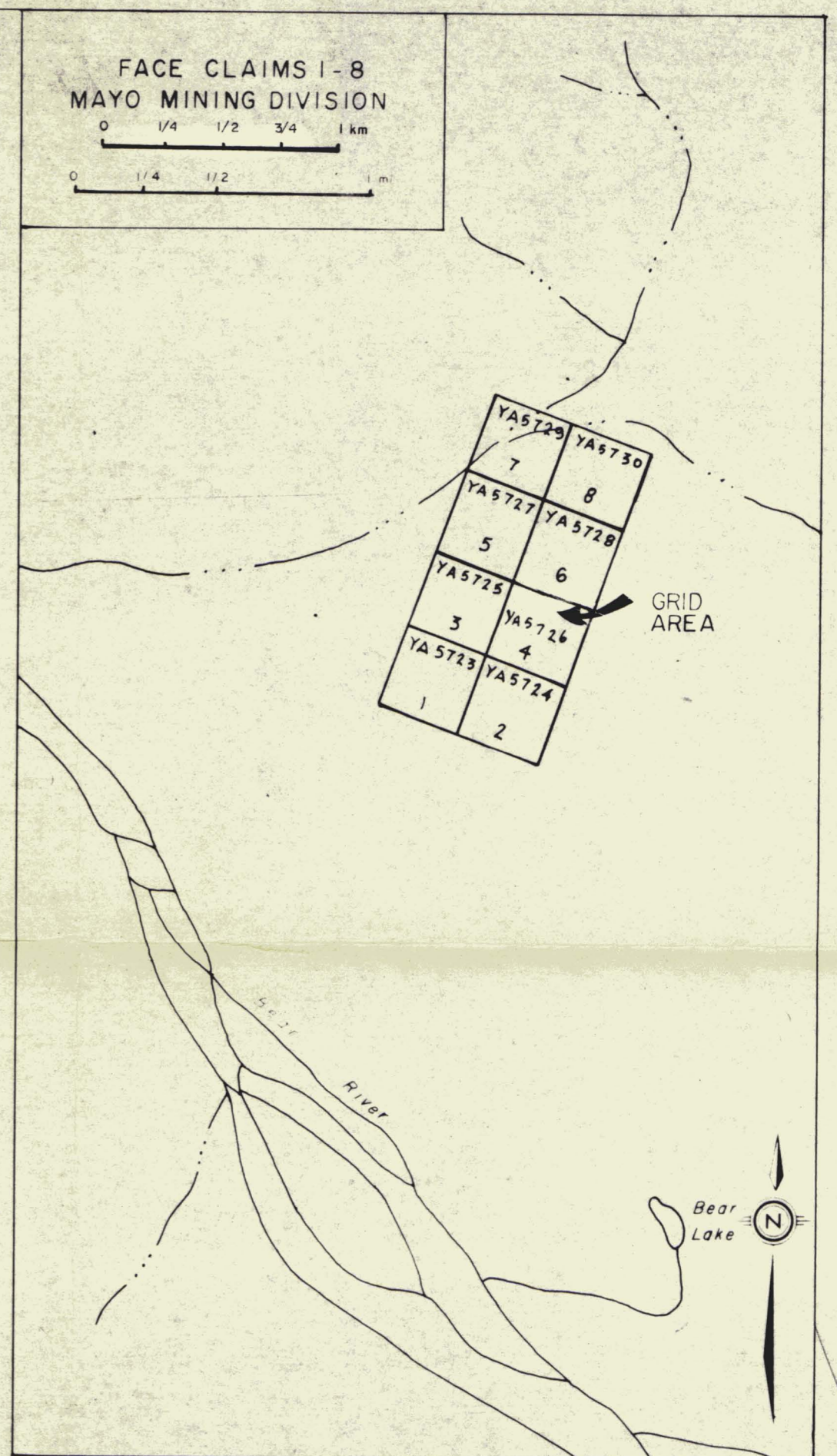
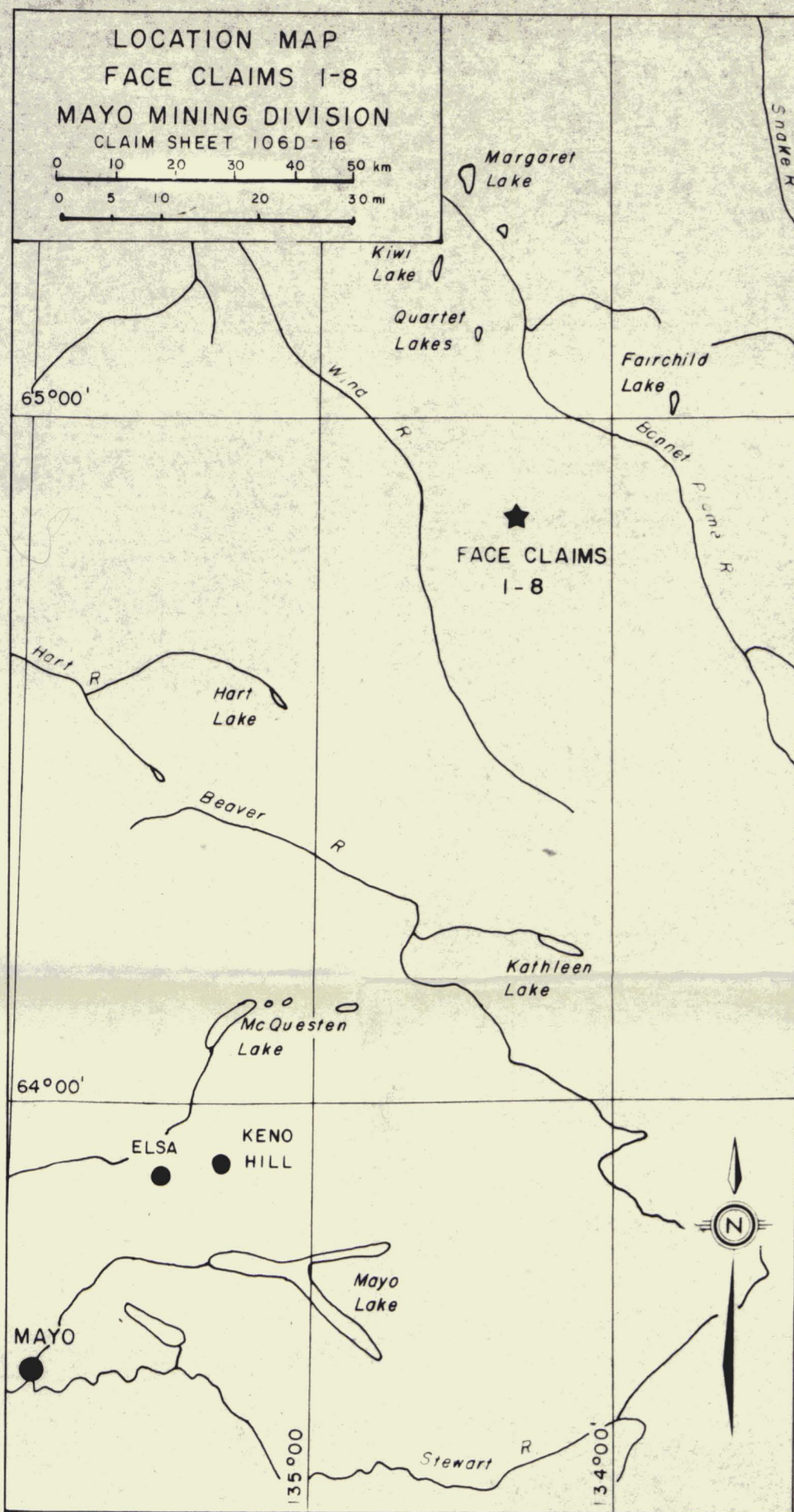


- LEGEND**
- Limit of outcrop
 - Break in slope
 - Claim post location
 - Soil sample location, Au in ppb, Co in ppm
 - Rock sample location
 - Hand trench location, number and Au in ppb and Co in ppm top and bottom of pit
 - Au contour
 - Chip sample location
- GEOLOGY**
- HELIKIAN
- Helolithic breccia
 - Dark grey argillites and slates with inter-bedded quartzites
 - Fault trace

FIGURE WJV F4
ARCHER CATHRO & ASSOCIATES (1981) LTD.

Au & Co GEOCHEMISTRY
W. J. V. Sch. January 21, 1982
FACE 1-8 CLAIMS
WERNECKE JOINT VENTURE

Scale 1:1000
10 0 10 20 30 40 metres



- LEGEND**
- Limit of outcrop
 - Break in slope
 - Claim post location
 - Soil sample location, As, Sb, Bi in ppm
 - Not sufficient sample for analysis
 - Hand trench location, number and As, Sb, Bi in ppm top and bottom
 - As contour

- GEOLOGY**
- HELIKIAN**
- Helolithic breccia
 - Dark grey argillites and slates with inter-bedded quartzites
 - Fault traces

FIGURE WJW81 F5
ARCHER CATHRO & ASSOCIATES (1981) LTD. 090968

As, Sb & Bi GEOCHEMISTRY

W. Tonge January 21, 1982

FACE 1-8 CLAIMS
WERNECKE JOINT VENTURE

