

ARCHER, CATHRO

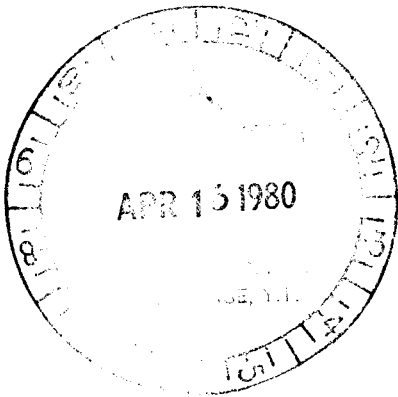
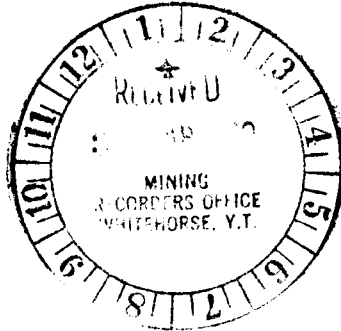
AND ASSOCIATES LTD.

CONSULTING GEOLOGICAL ENGINEERS

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V6B 1L8

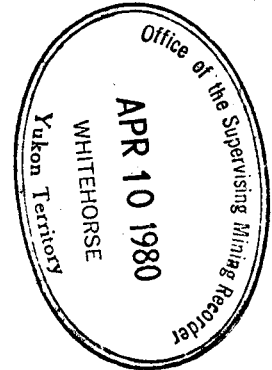


REPORT ON

GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL

AND PANNING SURVEYS

CONDUCTED JULY 1 to AUGUST 1, 1979



OBVIOUS 1-24 CLAIMS - YA23401-YA23424
25-32 CLAIMS - YA24797-YA24804

WHITEHORSE MINING DISTRICT

CLAIM SHEET 105F/6

Latitude 61°24'N

Longitude 133°15'W

J.G. ABBOTT, P.Eng.

090537

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$ _____

Representation Work
\$8,000.00

Resident Geologist or
Qualified Mining Engineer
J. A. Mann

Considered as representation work under
Section 58 of the Yukon Quartz Mining Act.
R. Geologist Office

[Signature]
E. R. BAXTER
Supervising Mining Recorder

[Signature]
Commissioner of Yukon Territory

TABLE OF CONTENTS

	<u>Page</u>
Summary and Recommendations -----	1
Introduction -----	2
Property, Location and Access -----	2
Field and Analytical Procedures -----	3
Geomorphology -----	4
Geology -----	4
Mineralization -----	6
Surveys -----	7
Conclusions -----	8

TABLES

<u>No.</u>	<u>Following Page</u>
1 Table of Formations -----	5

ILLUSTRATIONS IN POCKETS

<u>Figure No.</u>	
1	Geology, Obvious Property
2	Panning and W Geochemistry, Obvious Property
3	Cu, Mo, Pb Geochemistry, Obvious Property
4	Magnetometer Survey, Obvious Property

SUMMARY AND RECOMMENDATIONS

The Obvious claim group was staked by CUB Joint Venture (Cassiar Asbestos Corporation Limited, Highland Crow Resources Ltd. and Union Carbide Canada Ltd.) in 1978 to cover three creeks containing anomalous amounts of scheelite. One of the creeks was also found to contain high-grade scheelite-bearing float.

The property is situated along the southern margin of the Nisutlin Batholith and is underlain mainly by a southward dipping sequence of Ordovician and Silurian black shale limestone and dolomite. Tertiary porphyry dykes intrude both sediments and the older granite.

Prospecting of the property in 1979 led to the discovery of a small float train in talus of magnetite-rich mineralization containing 3 to 6% WO_3 . Mineralization was not found in place. Reconnaissance soil panning and magnetometer surveys over about half of the property outlined several weak anomalies. The showing area displays a weak magnetic anomaly but panning was ineffective because of poor soil development. The mineralization is probably related to Tertiary dykes rather than Cretaceous Nisutlin Batholith. The showing has unusual mineralogy and textures which suggest that it may be a breccia rather than a conventional skarn.

Future work should consist of detailed mapping, panning and geophysical surveys over the whole property. The talus slope containing the mineralization and any other anomalies should be trenched with a bulldozer.

INTRODUCTION

The Obvious property was staked by Cub Joint Venture in July, 1978 after high-grade, scheelite-bearing, magnetite float was discovered in the bed of a creek containing anomalous amounts of scheelite. This creek drains the southwest margins of the Nisutlin Batholith. Subsequent prospecting failed to locate the source of the float.

In 1979, field work consisted of detailed mapping, grid panning, soil geochemical sampling and a magnetometer survey. A high-grade float train was discovered in talus, above timberline, but the extent of the showing could not be delineated by hand trenching.

All work was managed and conducted by Archer, Cathro and Associates Ltd. under the supervision of geologists J.G. Abbott and C.A. Main. Field work was performed between July 1 and August 1 by Randy Rogers and Ian Talbot.

PROPERTY, LOCATION AND ACCESS

The property consists of 32 contiguous claims recorded in the name of Archer, Cathro and Associates Ltd. at the Whitehorse Mining Recorder's office as follows:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Obvious 1-24	YA23401-YA23424	10 February/82
Obvious 25-32	YA24797-YA24804	26 January/82

The Obvious property is situated at 61°24'N and 133°15'W, about 10 km west of the Canol Road. Access in 1979 was by helicopter. The property is situated 120 km by road north of Johnsons Crossing, which is 130 km along the Alaska Highway east of Whitehorse. Big Salmon Lake, located 15 km to the south of the property, is the nearest lake large enough for fixed-wing, float-equipped aircraft.

FIELD AND ANALYTICAL PROCEDURES

Scheelite is a resistate mineral that is transported both physically and chemically in the surface environment. As a result, soil panning is an effective alternative to geochemistry. Soil samples for panning surveys were slightly over a pan in size, weighed 2.5 to 3.0 kg and were collected in large plastic bags. The samples were either carried to the nearest water or cached at helicopter pads and flown to camp for panning. Concentrates were collected in filter papers, dried and then examined under an ultraviolet lamp.

If the concentrates from the grid surveys contained too much scheelite for normal counting, estimates were made by spreading the concentrates evenly over grid paper, counting the number of grains within four or five randomly selected squares to obtain the average, and multiplying by the total number of squares covered by concentrates.

As a check on panning results, soil samples for geochemical analysis were collected in kraft envelopes from each pan sample and shipped to Chemex Labs Ltd., North Vancouver, B.C. for routine geochemical analysis. Soil samples were pulverized like rock samples to ensure that coarse scheelite grains would be included in the assay, since tungsten disperses in soil mainly as clastic grains of scheelite.

All samples were analyzed for tungsten with a colorometric determination after fusing with potassium bisulfate, leaching with concentrated HCl, extracting into an amyl acetate solution containing dithiotoluene, and reducing interfering elements with stannous fluoride in a hot water bath.

All samples were also analyzed for copper, molybdenum and lead using a nitric-perchloric acid extraction and atomic absorption spectrometry.

Baselines were chained, picketed and cut where necessary and sample lines were located by using compass and topofil without slope correction. Stations were marked with 1 m lath pickets on baselines and above timberline and with flagging elsewhere.

A 1:5000 topographic map was prepared from government air photographs by Pacific Survey Corp. Ltd.

GEOMORPHOLOGY

The claim group is situated at timberline and covers three anomalous south-flowing creeks and two intervening ridges. Although local relief reached 400 metres, topography is only moderately rugged. Outcrop is restricted to ridge tops at about 1700 m elevation and most areas above timberline consist of grassy meadows interspersed with patches of talus and felsenmeer. Below timberline, at 1500 m elevation, outcrop and talus are completely obscured by thin and locally derived overburden.

GEOLOGY

Tectonically, the property is situated at the western margin of Pelly Cassiar Platform. All sedimentary rocks underlying the property are middle Paleozoic in age and, on a regional scale, belong to the Nasina (unit OSDqc) and "Black Clastic" (unit uDMS) facies of Tempelman-Kluit. The Nasina Facies is characterized by black or grey, variably calcareous or dolomitic siltstone and graphitic slate that are the westward, outboard, deeper water equivalents of the thick shallow water platformal carbonate rocks that define Pelly Cassiar Platform. Blocks of dolomite and limestone occur locally within the Nasina Facies and are important units on the nearby Hidden property but only comprise a small part of the sequence on the

Obvious property. The clastic and carbonate rocks are complexly interfingered and were probably formed near the facies boundary of Pelly Cassiar Platform.

The "Black Clastic" Facies overlies both the "Nasina Facies" and Pelly Cassiar Platform and includes black, non-calcareous slate, grit and chert pebble conglomerate. These rocks can be confused with those of the "Nasina Facies" if the coarse clastic component is missing.

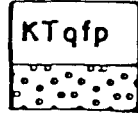
The geology of the property is shown on Figure 1 at a scale of 1:2,000 and the various map units are described in the Table of Formations on the following page. The property straddles the west-northwest-trending contact between Cretaceous quartz monzonite of the Nisutlin Batholith and moderately southwesterly-dipping, middle Paleozoic shale and carbonate rocks of unit OSDqc.

Unit OSDqc includes a variety of rock types that have been subdivided near the showing into four subunits designated as 1 through 4. Based on preliminary mapping, all units appear to be less than 20 m thick and occur at more than one place in the section in no apparent order. Unit 1 consists of recessive, locally pyritic, black graphitic shale and shaly dolomite; Unit 2 of cream to buff, coarsely crystalline limestone; Unit 3 of grey-green banded dolomite; and Unit 4 of rusty weathering calcareous schist. Elsewhere on the property, unit OSDqc comprises the same lithologies but also includes massive grey quartzite.

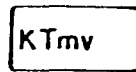
Medium grained porphyritic quartz monzonite of unit Kqm underlies the northern margin of the property. These rocks are typical of the Cretaceous Nisutlin Batholith. For the most part, the granite contact appears to be sharp and to dip steeply south-southwestward. Near the showing, however, it is irregular and dips at a shallow angle beneath a thin metasedimentary cover.

TABLE OF FORMATIONS

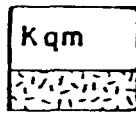
TERTIARY AND OR CRETACEOUS



Buff to lightgreen locally pyritic quartz - feldspar porphyry, weathering to blocky felsensmeer.

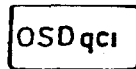


Dark green aphanitic intrusive.

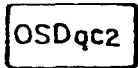


Biotite quartz monzonite.

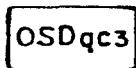
ORDIVICIAN, SILURIAN AND LOWER DEVONIAN



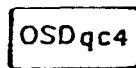
Recessive, locally pyritic, black graphitic shale to shaly dolomite.



Cream to buff coarsely crystalline limestone.



Grey - greenbanded dolomite.



Rusty calcareous schist.

Both units OSDqc and Kqm are intruded by two types of porphyry dykes of either Cretaceous or Tertiary age. The most common belong to unit KTqfp and consist of buff to light green weathering, locally pyritic, quartz-feldspar porphyry. The second type is massive, dark brown or green feldspar porphyry of KTMv. The dykes are generally thin but occasionally reach a thickness of 100 m. Locally, the dykes lack a preferred orientation but regionally they form a northwest-trending swarm over 25 km long and 6 km wide. They occur in other parts of southwestern Quiet Lake map sheet as well but are generally too small to be mapped.

MINERALIZATION

The main showing occurs as a narrow float train over 200 m long in a steep talus slope near the top of a rounded peak 1900 m high.

Two types of mineralization are present in the float train mineralization, even though the host rock is the same. The main type is a muscovite-magnetite mixture containing scheelite grains up to 1.5 cm across while the second is limonitic, heavy garnet-diopside skarn containing disseminated pyrrhotite, scheelite and chalcopyrite.

Assays of the magnetite variety typically range between 1.5 and 6.0% WO_3 and one selected specimen ran 24.8% WO_3 . Garnet-diopside skarn specimens mostly assayed between 0.2 and 0.5% WO_3 , with a few between 1.3 and 1.8% and one selected specimen reaching 4.8%.

A hand trench was attempted in the loose, steep talus at the top of the float train but it caved before bedrock could be reached. The bottom of the trench reached coarser talus that was quite close to its source. Only dark garnet-diopside skarn was present in the trench. A six foot chip sample of talus in the floor of the trench assayed 1.3% WO_3 .

A mineralogical study of the Obvious showing is currently underway at U.B.C. by Randy Rogers. Semi-quantitative spectrographic analyses have shown that the magnetite-rich variety contains geochemically anomalous quantities of Be, Co, Pb, Mo, Ni, Y, Ag, Sn, U, V, Ba and Zn. The mineralization is slightly radioactive due, in part at least, to the presence of a uranium silicate with bright green fluorescence. Preliminary results of the mineralogic study have disclosed the presence of trace amounts of the beryllium mineral helvite.

SURVEYS

Panning, soil and magnetometer surveys (Figures 2, 3 and 4 in pocket) were conducted over an area about 1500 m by 1000 m. A total of 320 samples were taken on lines spaced 50 m apart near the showing and 100 m elsewhere. Soil samples were collected at 50 m intervals and magnetometer readings were taken every 25 m using an MF-1 fluxgate instrument.

The magnetometer survey outlined several weak anomalies of 100 gammas or less, including a broad anomaly near the showing.

The panning survey showed that background values are less than 50 grains and that the area around the showing is not anomalous. The poor panning results are probably caused by the absence of a soil layer over the target which permits the coarse scheelite to easily fall to the base of the loose talus. Scattered, small anomalies of up to 1000 grains were obtained elsewhere on the property, mainly below timberline.

The tungsten geochemistry corresponds in general to the panning results, with anomalous values interpreted as greater than 20 ppm. The soil samples were also analyzed for copper, molybdenum and lead but no anomalies were obtained in those metals.

CONCLUSIONS

Several factors suggest the possibility that the Obvious mineralization is not skarn-type. The mineralogy and trace metal data differ significantly from skarn mineralization on the nearby Hidden claims. Some of the talus in the float train displays the knobby, sub-angular, fragmental textures and differential weathering that are diagnostic of diatremes or breccia-pipes. Moreover, the geometry of the float train suggests a restricted source such as a diatreme, rather than a linear source such as a skarn bed.

The Obvious mineralization is spatially related to both the Nisutlin Batholith and porphyry dyke swarm but two factors favour a genetic link with the porphyry dykes rather than the batholith. One is the geographic evidence that tungsten showings have only been found at places along the batholith contact (Hidden, Obvious) where younger dykes occur. In addition, diatremes are normally associated with volcanic and subvolcanic rocks such as the porphyry dykes and only rarely with larger plutons.

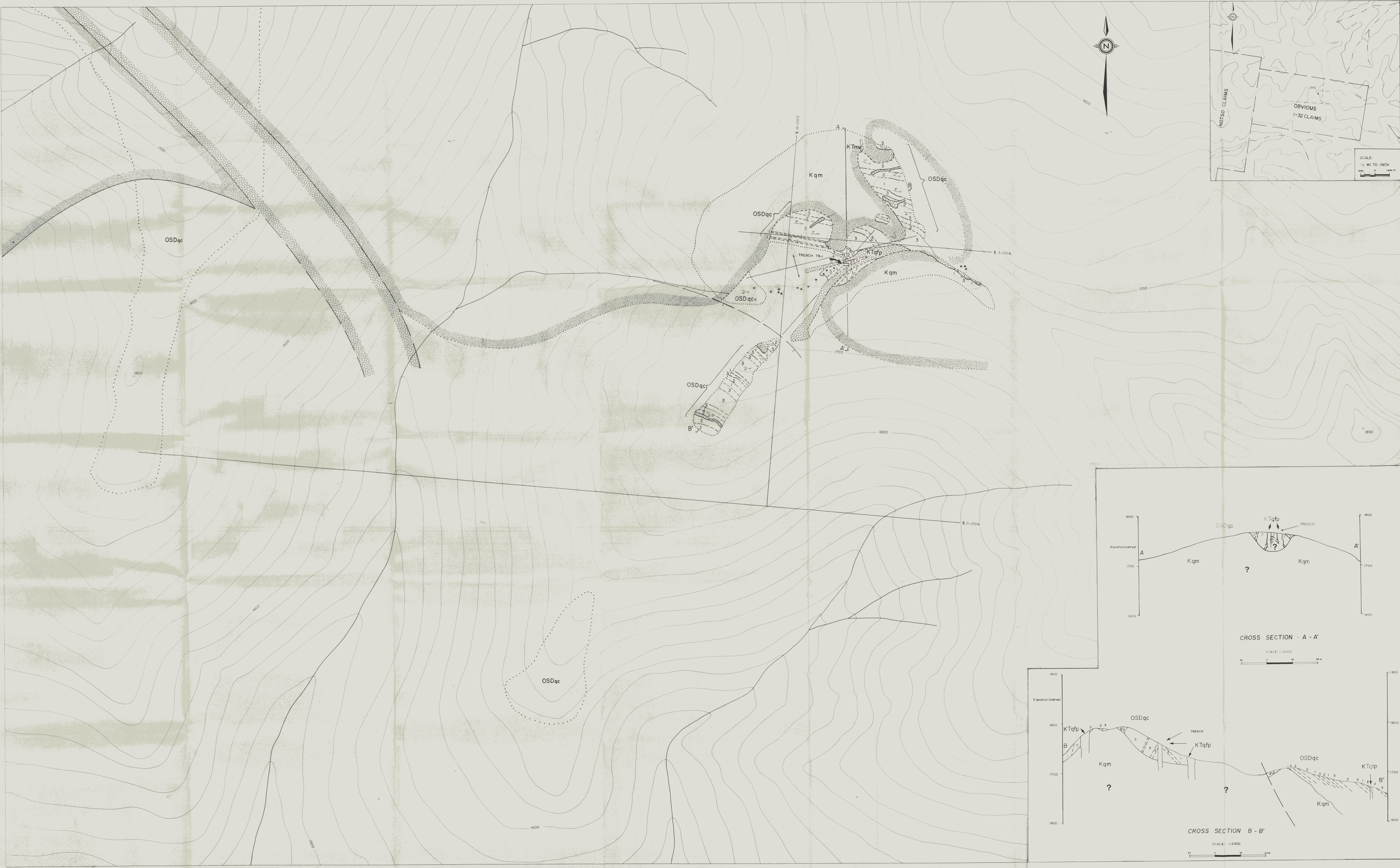
Respectfully submitted,

ARCHER, CATHRO AND ASSOCIATES LTD.



/mc

J.G. Abbott, M.Sc., P.Eng.



LEGEND

- TERTIARY AND OR CRETACEOUS**
- KTfp** Buff to light green locally pyritic quartz-feldspar granites, weathering to blocky feldspar.
 - KTmv** Dark green aphanitic intrusives.
- ORDOVICIAN, SILURIAN AND LOWER DEVONIAN**
- OSDqc** Recent, locally pyritic, block graphic shale to shaly dolomite.
 - OSDqc3** Cream to buff coarsely crystalline limestones.
 - OSDqc4** Grey-green bedded dolomite.
 - OSDqc4** Rusty colorous schist.

SYMBOLS

- * Selenite bearing steam float.
- Geological contact, definite, approximate, inferred.
- Limit of outcrop.
- ▲ Sounding altitude.
- Fault

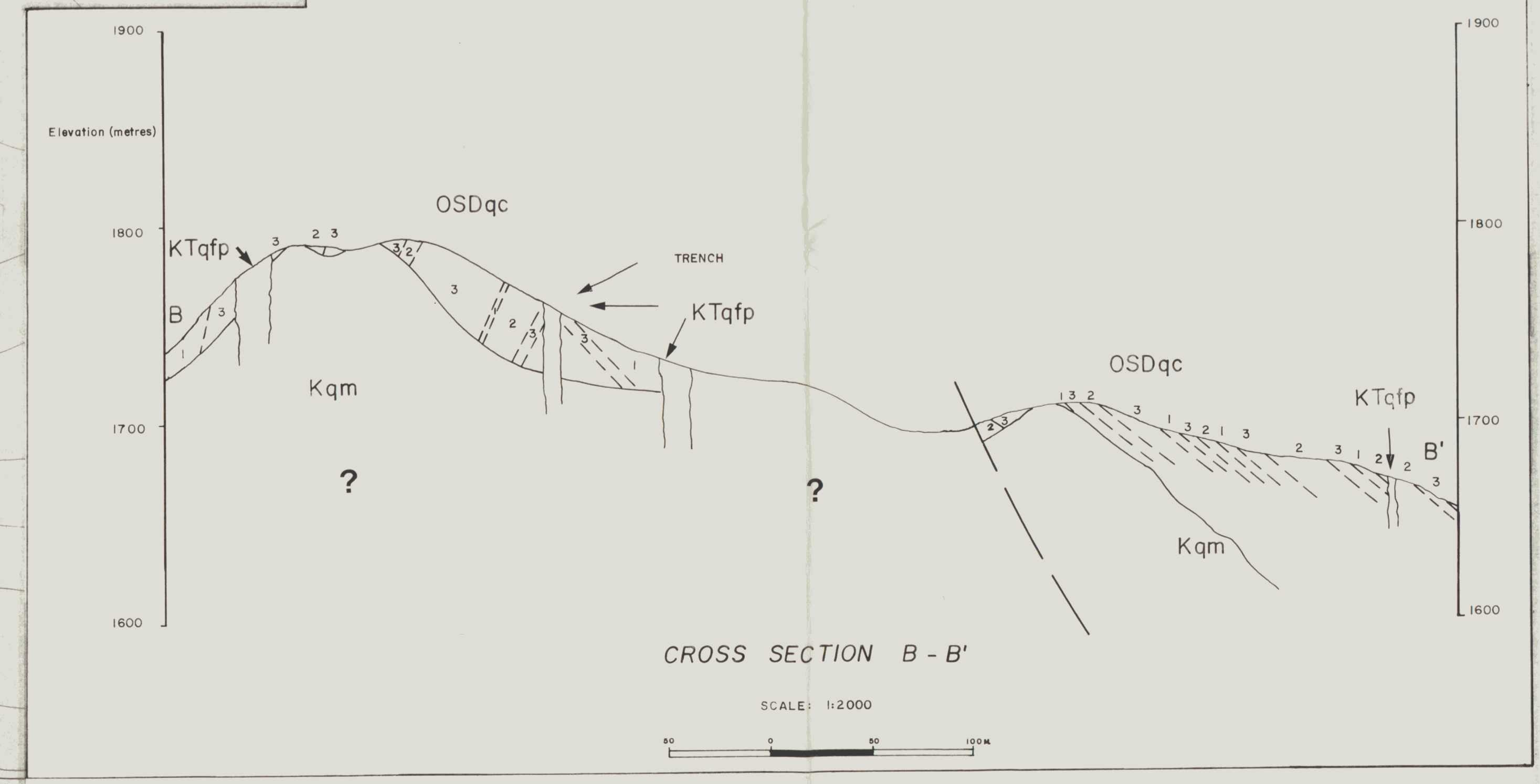
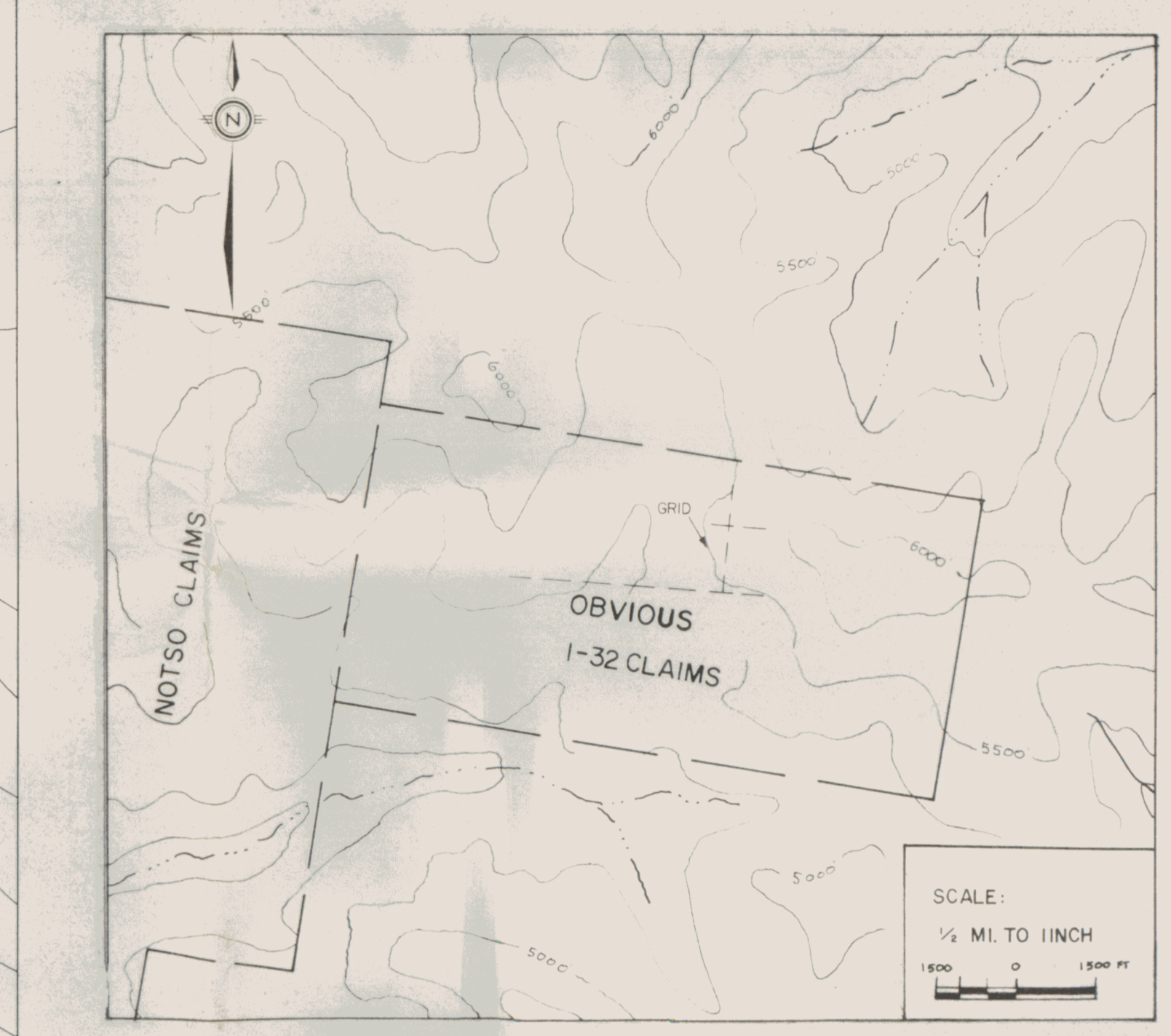
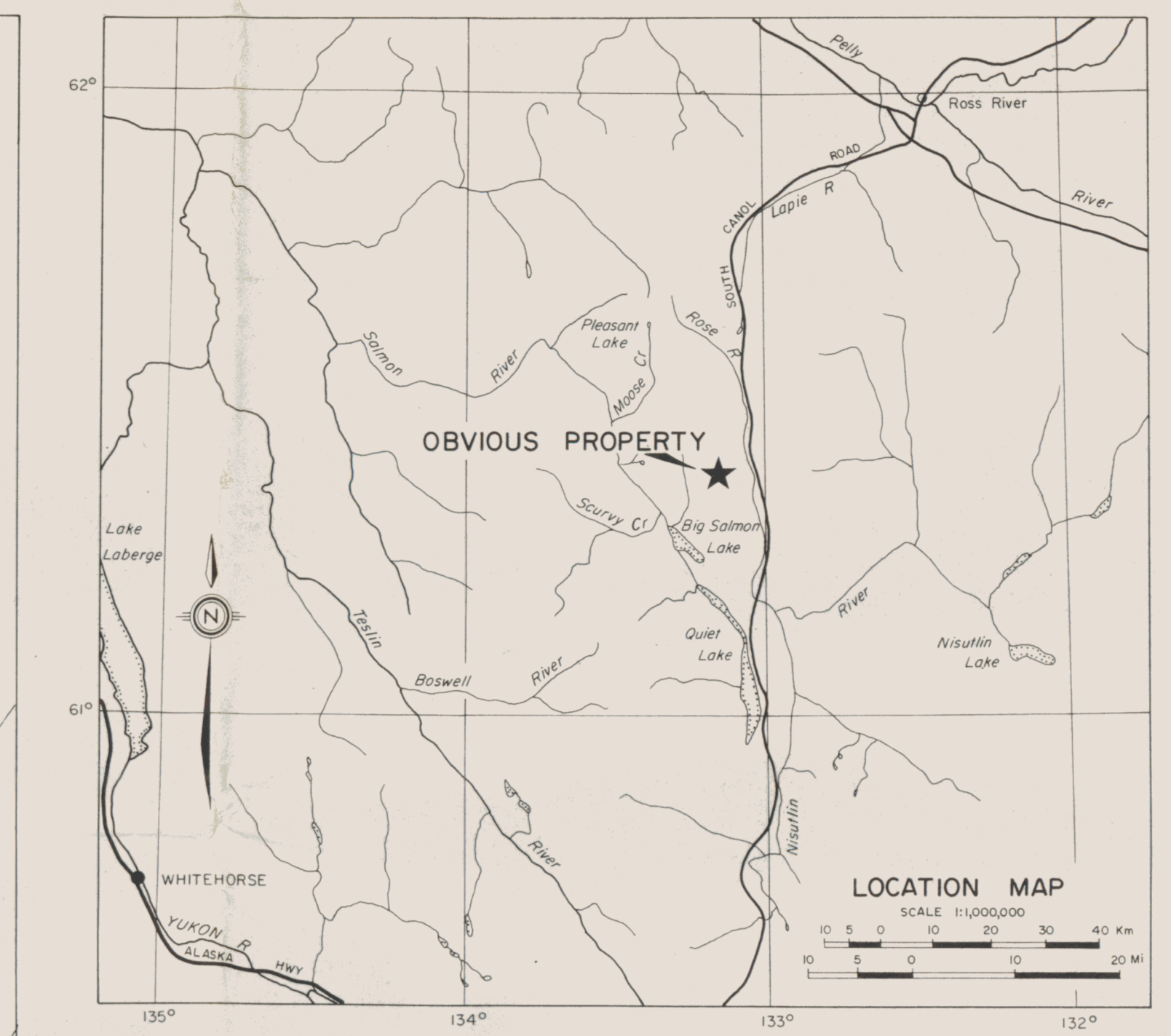
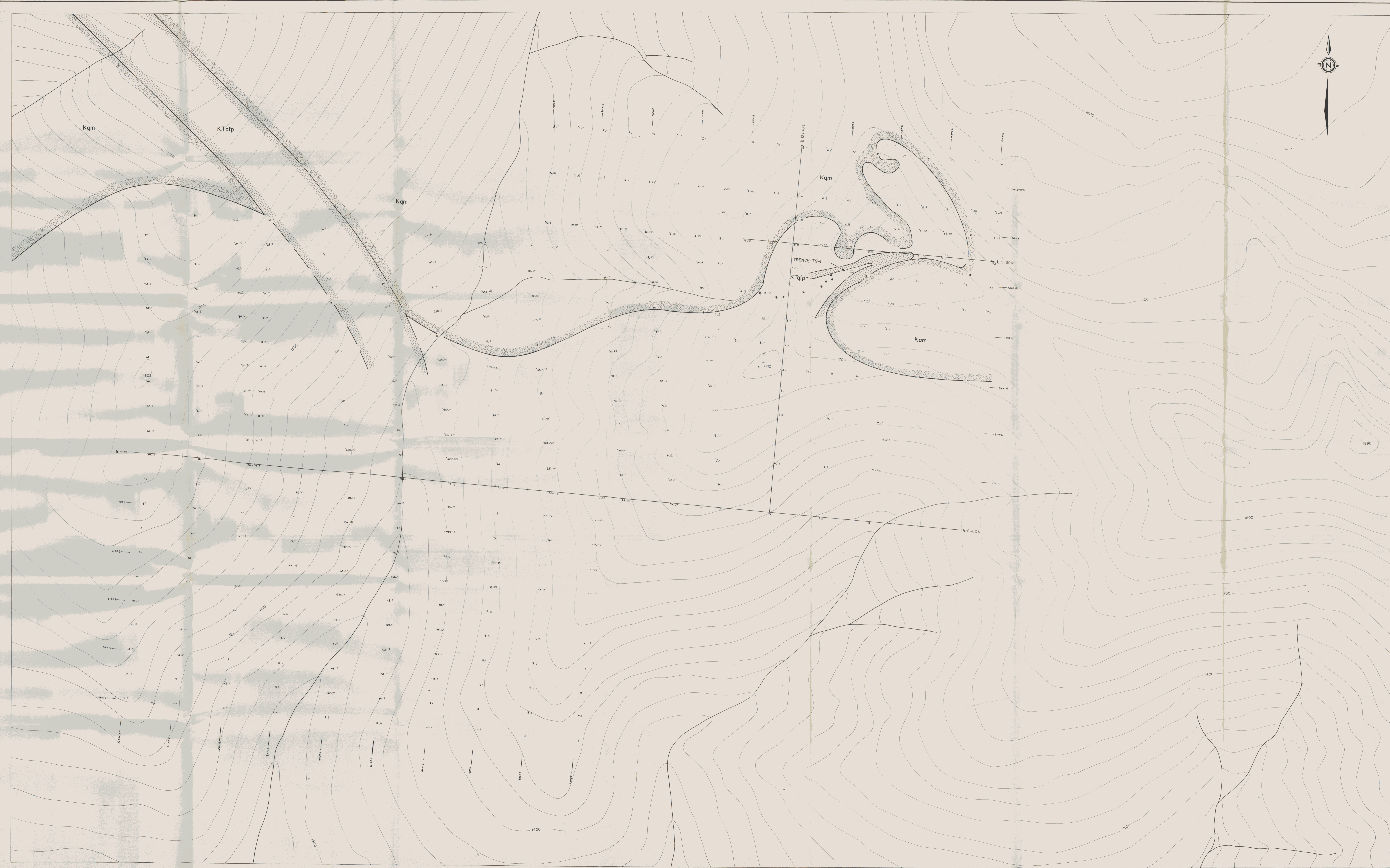


FIGURE 1
ARCHER, CATHRO & ASSOCIATES LTD.
GEOLOGY
OBVIOUS PROPERTY
CUB JOINT VENTURE
SCALE: 1:25,000



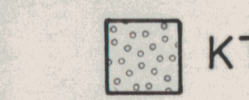



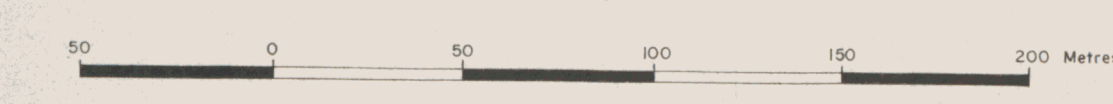
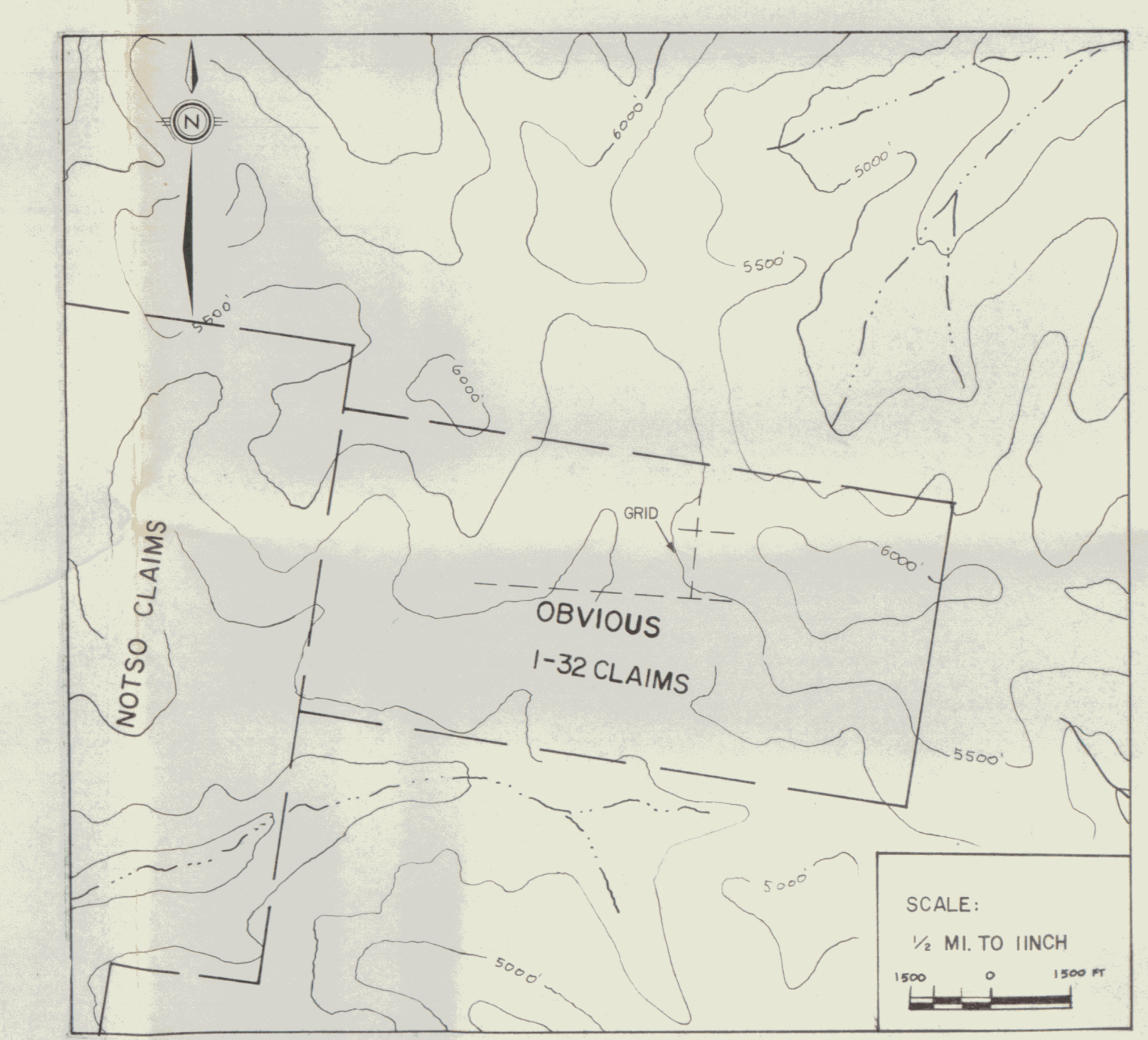
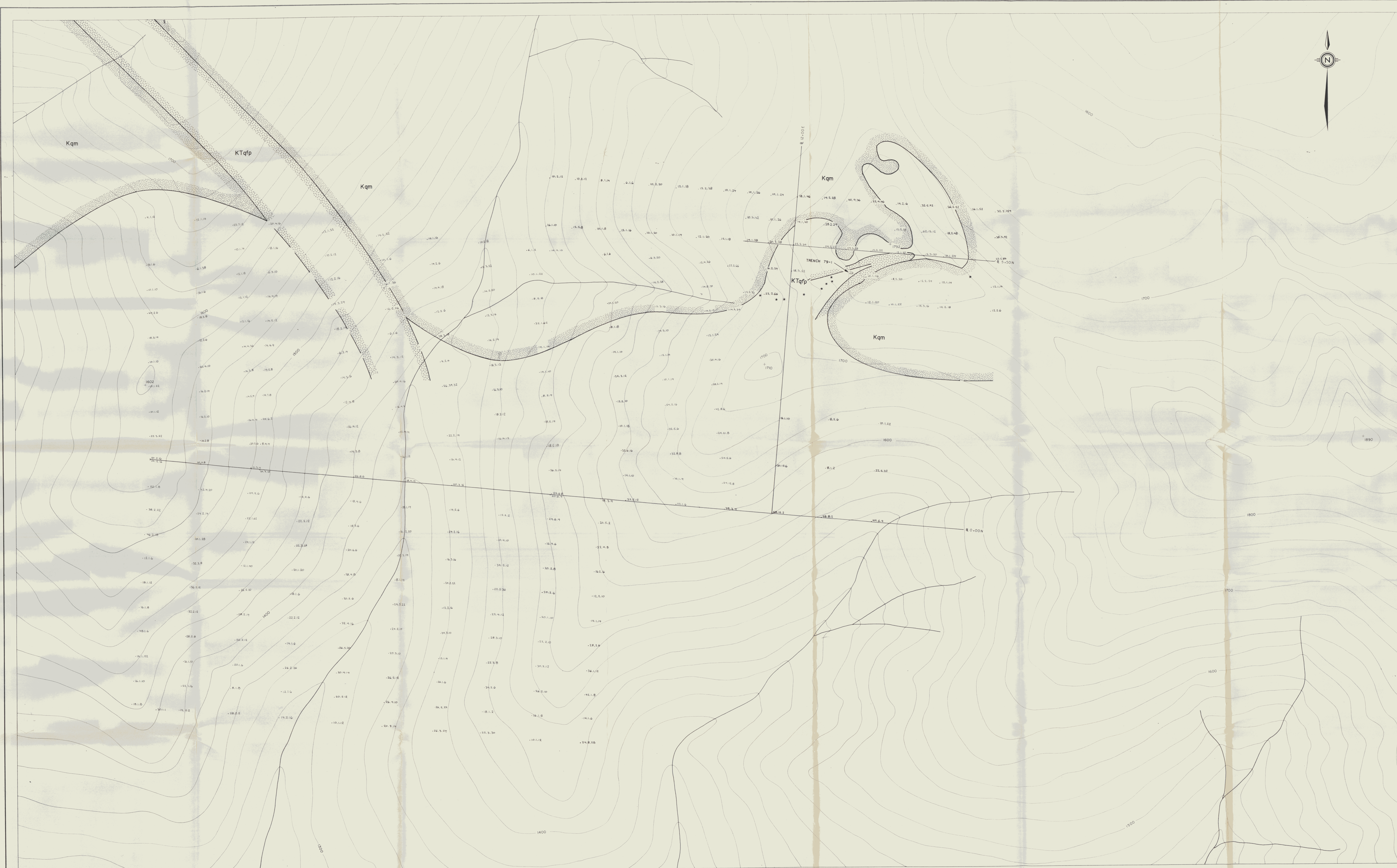
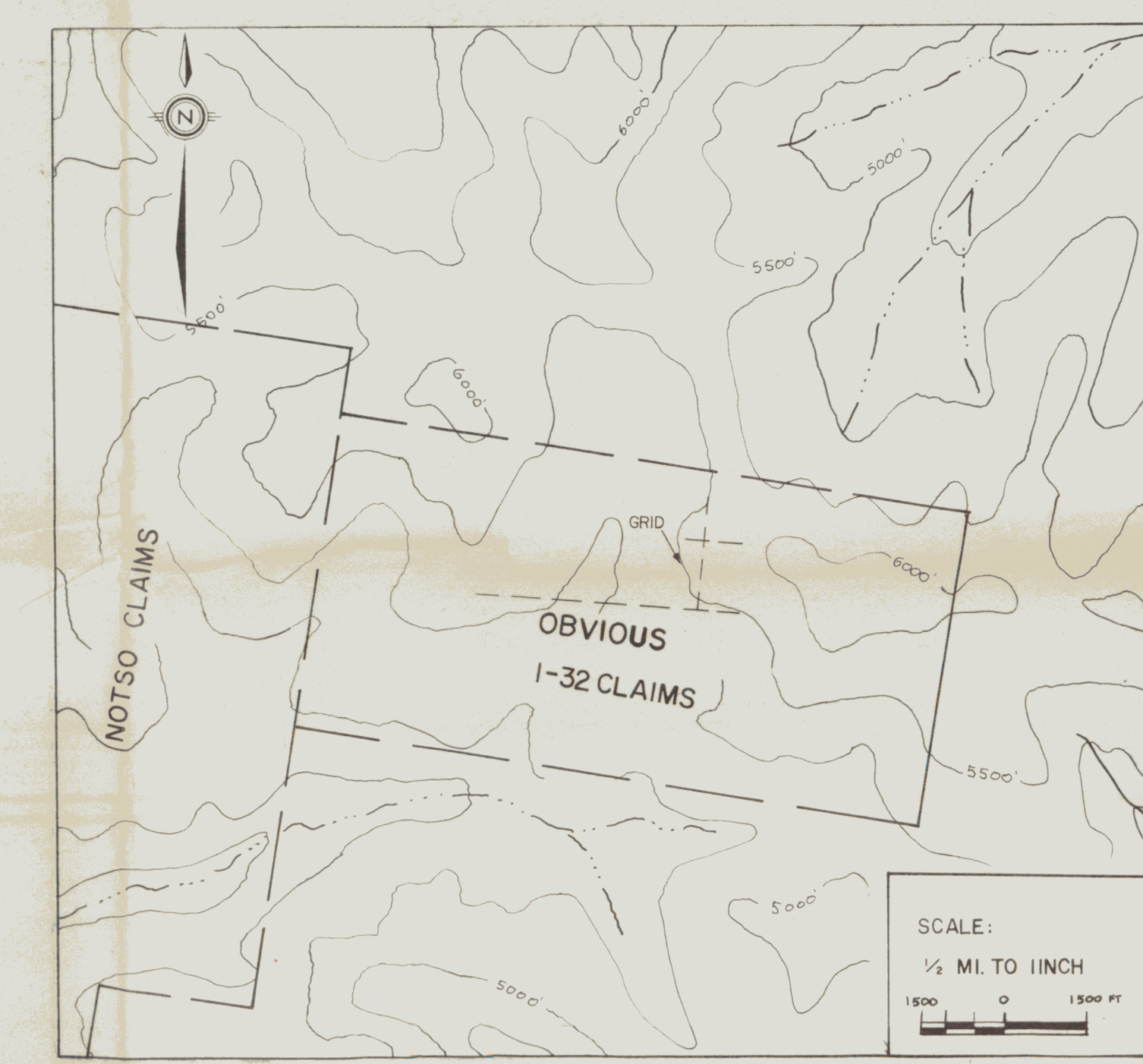
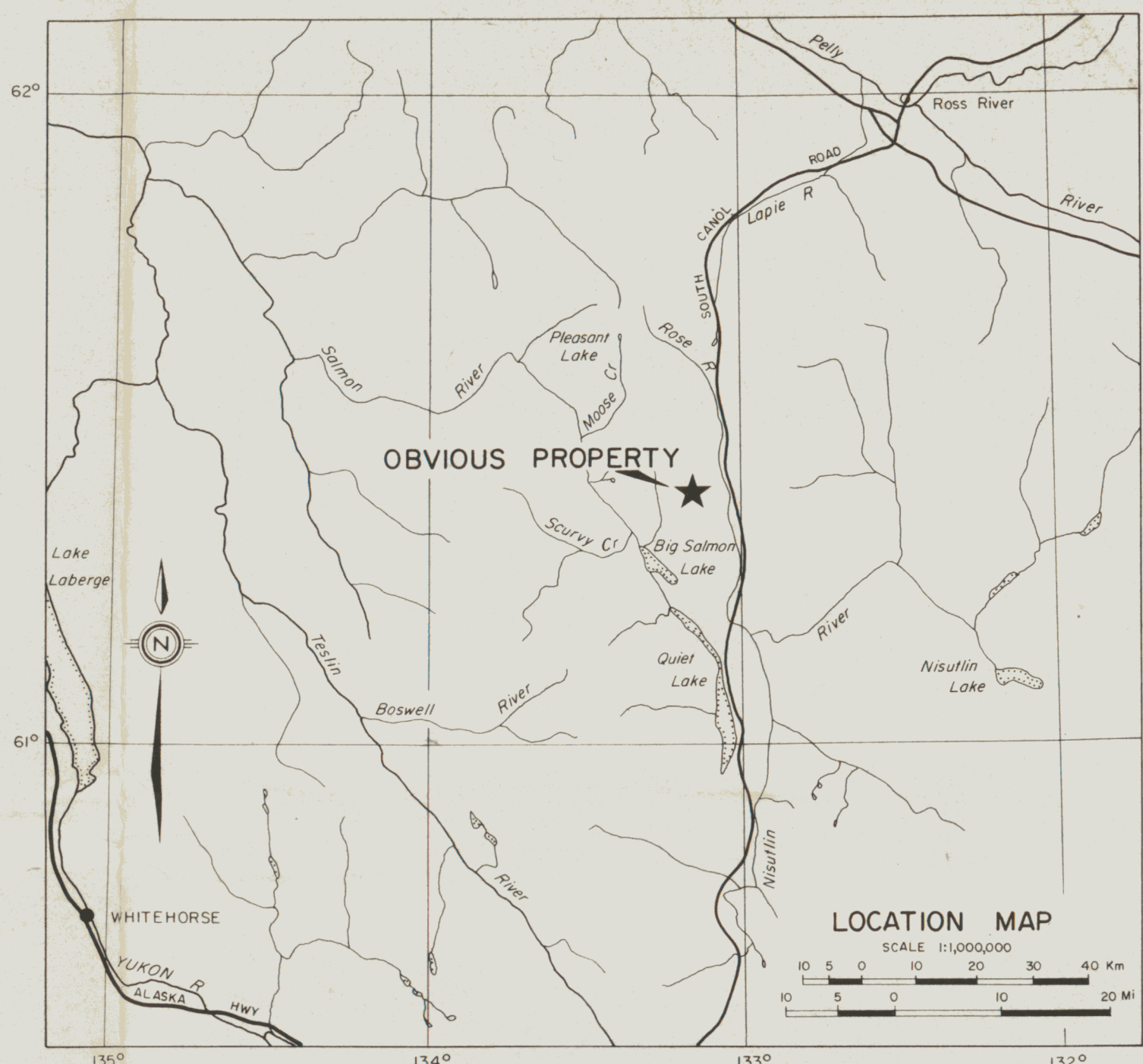
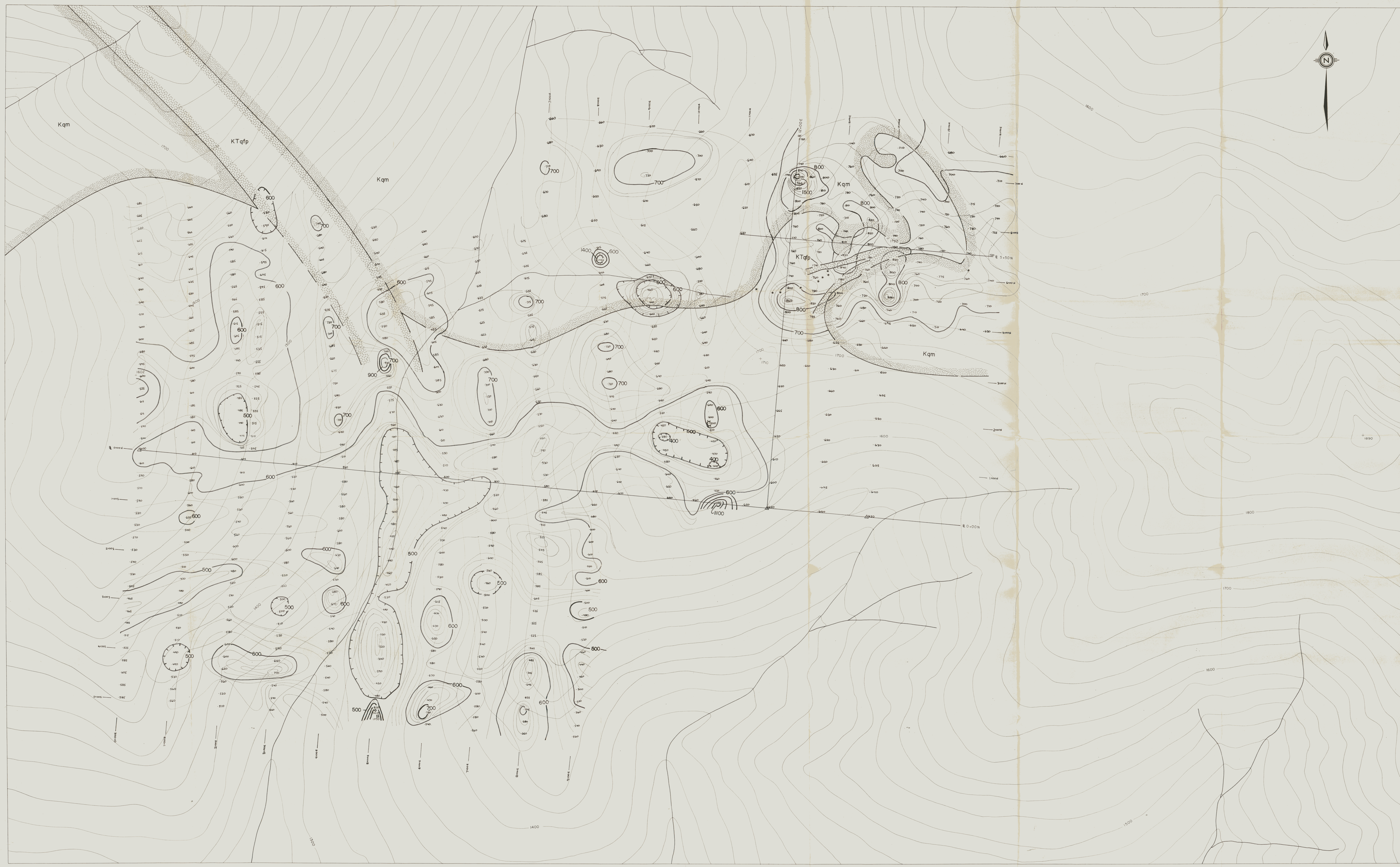
-  KTqfp
-  Kqm
-  mineralized floor.
-  1:12 schedule transportation, W in ppm.

FIGURE 2
 ARCHER, CATIRO & ASSOCIATES LTD.
PANNING AND W-GEOCHEMISTRY
 OBVIOUS PROPERTY
 CUB JOINT VENTURE
 SCALE 1:2200




- Kqfp
- Kqm
- Cu, Mo, Pb, in ppm.
- * Mineralized floor.

FIGURE 3
 ARCHER, CATRO & ASSOCIATES LTD.
Cu, Mo, Pb - GEOCHEMISTRY
 OBVIOUS PROPERTY
 CUB JOINT VENTURE
 SCALE 1:2000



- KTqf
- Kqm
- Mineralized spot
- Base station
- Base value = 64,000 gammas
- 125 - gamma

FIGURE 4
 ARCHER, CATWIND & ASSOCIATES LTD

MAGNETOMETER SURVEY
 OBVIOUS PROPERTY
 CUB JOINT VENTURE

