

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6392

CHINOOK CONSTRUCTION & ENGINEERING LTD.
ASSESSMENT REPORT ON THE GEORGE GROUP
GREENWOOD MINING DISTRICT, B.C.
JULY 13, 1977 - JULY 29, 1977

A.M. de Quadros
Project Geologist
September 11, 1977

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INTRODUCTION

The George Group is part of the Granby Property, consisting of several claims assembled into one mining property jointly by Cassiar Asbestos Corporation Ltd., Consolidated Boundary Exploration Ltd. and Chinook Construction & Engineering Ltd., for the purpose of investigating the uranium showings in the Christina Range of the Monashee Mountains, approximately 10 kms NNE of Grand Forks, B.C.

During the period of July 13, 1977 to July 29, 1977, the George Group was investigated by geochemical, geological and radiometric survey by Chinook Construction & Engineering Ltd. as part of the study of the Granby Property on behalf of the members of the joint venture. The following is a report on the work carried out on the George Group.

Property

The George Group consists of 2 claims (Fig. 1):

- a) Midnite staked on August 20-21, 1976
Tag No. 26363
Record No. 476
Renewal Date: August 23, 1977
Total 20 units and
- b) Snow staked on August 21, 1976
Tag No. 26364
Record No. 475
Renewal Date: August 23, 1977
Total 8 units

These claims were grouped on August 22, 1977.

The legal corner posts in the area were surveyed by chain-and-compass and are shown on Fig. 2 and Fig. 3.

Location and Access

The George Group is located approximately 10 kms NNE of Grand Forks between Sand Creek and Snowball Creek (Fig. 1). Access to the property is along the dirt road running approximately N-S and joining Highway 3, just west of Grand Forks.

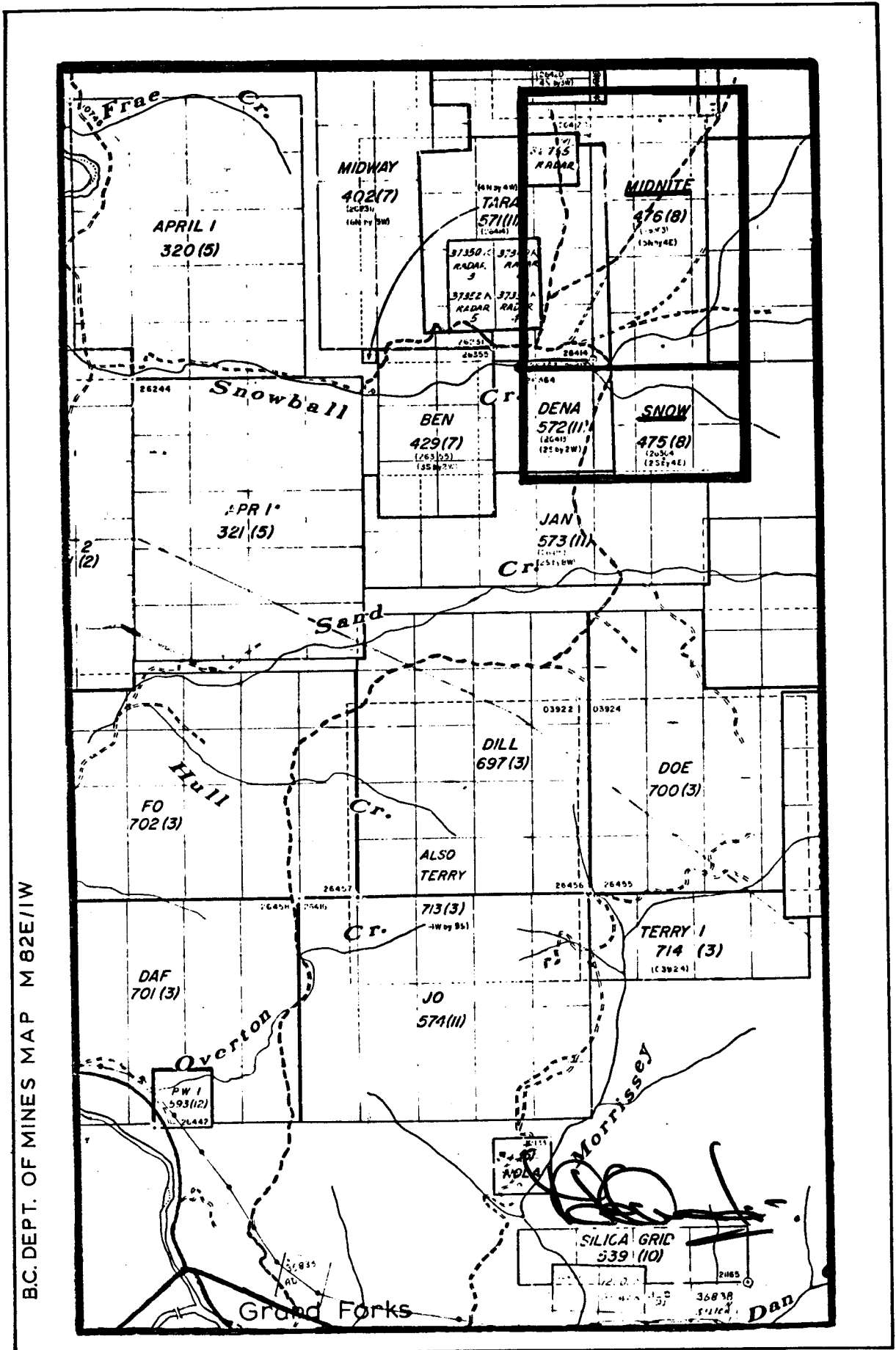


FIG. I. LOCATION OF GEORGE GROUP

General Geology

The general geology of the Grand Forks area has been presented in two publications:

- a) H.W. Little, 1957: Map 6-1957, Kettle River, East Half Geological Survey of Canada. Scale 1 inch to 4 Miles.

- b) V.A. Preto, 1970 : Structure and Petrology of the Grand Forks Group, B.C. Paper 69-22, Geological Survey of Canada.

The area is underlain by rocks of the Grand Forks Group, a raised fault block of high grade metamorphic rocks which are part of the Sushwap Metamorphic Complex. The rocks consist of biotite, amphibole and pyroxene gneisses and schists with minor quartzites and calcareous rocks. A later metamorphic foliation has been imposed on these rocks. The fold axes appear to be east-west. The whole complex has been intruded by the early basic sills and dykes (now amphibolites) and later acid intrusives ranging from quartz-diorites to quartz monzonite, monzonite and syenite. Block faults are prominent throughout these rocks. The rocks show extreme folding in a general NE - SW direction and prominent jointing and dyke emplacement in a rather N-S trend.

Maximum mineralization appears to be associated with pegmatite lenses and also in the north-south shear zones; the mineralization is predominantly uraninite and pitchblende. Secondary uranium minerals are rare, possibly due to the moderate rainfall.

WORK DONE

Survey Grid

The N-S Baseline established in 1976 for the Jan Claims was extended north; E-W crosslines were turned off every 100 metres. The George Group was found to lie between 600 N and 4100N and 400W and 1600E.

The N-S Baseline was cut, picketed and flagged, with stations every 50 metres, and the crosslines were flagged, with stations every 50 metres. Two N-S tie-lines were established at 1000E and 2000E.

Geochemical Survey

Soil samples were collected every 50 metres along the crosslines; all the samples were taken from the B soil horizon which occurs between 15 and 50 cms. from the surface. These samples were sent to Chemex Labs in North Vancouver for uranium determination. The analyses were carried out as follows:

0.5 gms of -80 mesh sample was ashed and digested twice with 4 M HNO_3 . The residue was then dissolved in 25 ml 4 M HNO_3 and shaken. After settling, 0.2 ml of the solution was placed on a platinum dish and evaporated to dryness. A pellet of uranium-fluorescent flux was added to the residue and fused at 650 . The resultant pellet was placed in a Tanner III fluorometer; its fluorescence was compared with a standard pellet to an accuracy of 0.5 ppm.

These analyses were plotted on a grid map and contoured on a statistical basis to establish anomalous areas.

Radiometric Survey

A radiometric survey was carried out in conjunction with geology. Two Scintrex GIS-3 gamma-ray spectrometers, capable of giving separate counts for the Broad Band, K-U-Th, U-Th and Th were used. They were calibrated every two hours against Scintrex TS-1 thorium standards.

The instrument was used two ways:

- a) as a prospecting tool, the spectrometer was carried at hip level with the buzzer set at twice the broadband background value for a one-second count-time.
- b) at stations, the spectrometer was placed on the ground, and counts were taken for K-U-Th, U-Th and Th, using a three-second count-time.

The survey was carried out from 6N to 16N only.

Geologic Survey

The geologic survey was carried out with the radiometric survey. The area from 6N to 16N was mapped along the cross lines. Representative rock samples were collected for future petrological and analytical work.

DISCUSSION OF RESULTS

Geology

The George Group consists predominantly of a medium-grained biotite gneiss. It is a dark grey slightly porphyritic rock characterized by a strong foliation due to a layering of biotite and due to thin quartz veins, aplites and pegmatites. Minor biotite-pyroxene-silimanite?-garnet schists occur in small lenses. Occasional grains of pyrite are also seen.

In hand specimens, quartz, potash-feldspar, oligoclase, hornblende and biotite are easily recognized, along with minor magnetite, pyroxene and almandine. The association of alternating meta-sedimentary and intrusive elements characterize the rocks as migmatites.

Apart from the strong foliation which dips WSW and W, no other petrofabric elements have been observed in the field. The dominant feature in topography is a strong N-S subvertical jointing. This jointing causes long, low N-S ridges and minor creeks, the ridges generally aplitic or pegmatitic. These joints and ridges generally have $1\frac{1}{2}$ to 2 times the background radioactivity.

Intrusives are generally very narrow and lenticular and range from pegmatitic to aplitic, and from quartz monzonite to granodiorite. Very minor alaskites have also been observed. Dark, coarse-grained amphibolite lenses commonly occur throughout the sequence. These layers are generally concordant and are probably both of igneous and sedimentary origin.

Geochemistry

A total of 2879 geochemical analyses were available from the Granby Property and these values have been used to interpret the geochemical results. These analyses show a log-normal distribution, with a possible second population. The following are the values:

mode	0.5	ppm
mean (\bar{x})	1.5	ppm
standard deviation (s)	± 4.32	ppm
threshold($\bar{x} + s$)	5.82	ppm (6 ppm)
low anomaly ($\bar{x} + 2s$)	10.14	ppm (10 ppm)
high anomaly ($\bar{x} + 3s$)	14.46	ppm (14 ppm)

These values have been rounded off to those in brackets for contouring.

The usual trends found in the Granby Property are found in the George Group. Though the anomalous areas are not large, they show the N-S, NW-SE and NE-SW trends found elsewhere on the property. The most interesting are:

- a) an anomaly in the SW corner of the group. This is part of a larger anomaly in the adjoining Ben Claim and,
- b) a long anomaly between 3100N and 3400N which may be en echelon with the main showings on the Radar Claims.

Radiometry

The background values in the George Group are:

- | | |
|-----------|-------------|
| 1) K-U-Th | 8-10 c.p.s. |
| 2) U-Th | 6-3 c.p.s. |
| d) Th | 3-1 c.p.s. |

A few localities with minor increases in count rate were examined and proved to be either highly jointed or pegmatitic. However, seldom did the count rate reach 2 times the background and, as no significant variations were found, these values have not been plotted for a radiometric map. The results of the radiometric surveys on the Granby Property have been generally disappointing.

SUMMARY

The work carried out on the George Group is part of the work being carried out to study the geology of the uranium showings in granitic rocks near Grand Forks. The present results show that the area does contain uranium mineralization, but the extent and relationship of the mineralization to the bedrock has yet to be determined. Further work is planned and will be carried out in the near future.

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke at the end, positioned in the lower right quadrant of the page.

STATEMENT OF COSTS

Period 13 July 1977 - 29 July 1977

a) Wages			
A.M. de Quadros, Project Geologist	10 days @ \$90.00	\$	900.00
K. Brodie, Geologist	6 days @ \$80.00		420.00
Helpers	4 men for 4 days @ \$50.00		<u>800.00</u>
	Total Wages		\$2,120.00
b) Room and Board (Motel)			
32 man-days @ \$32.00			1,024.00
c) Transportation			
3 4x4 trucks			450.00
d) Gamma-ray spectrometers			100.00
e) Geochemistry 550 samples @ \$3.25			1,787.50
f) Expendables (Flagging, thread, etc.)			150.00
g) Report			<u>400.00</u>
	Total Costs		\$6,031.50


A.M. de Quadros
Project Geologist

STATEMENT OF QUALIFICATIONS

I, Antonio M. de Quadros, certify that:

a) I hold the following degrees in Geology:

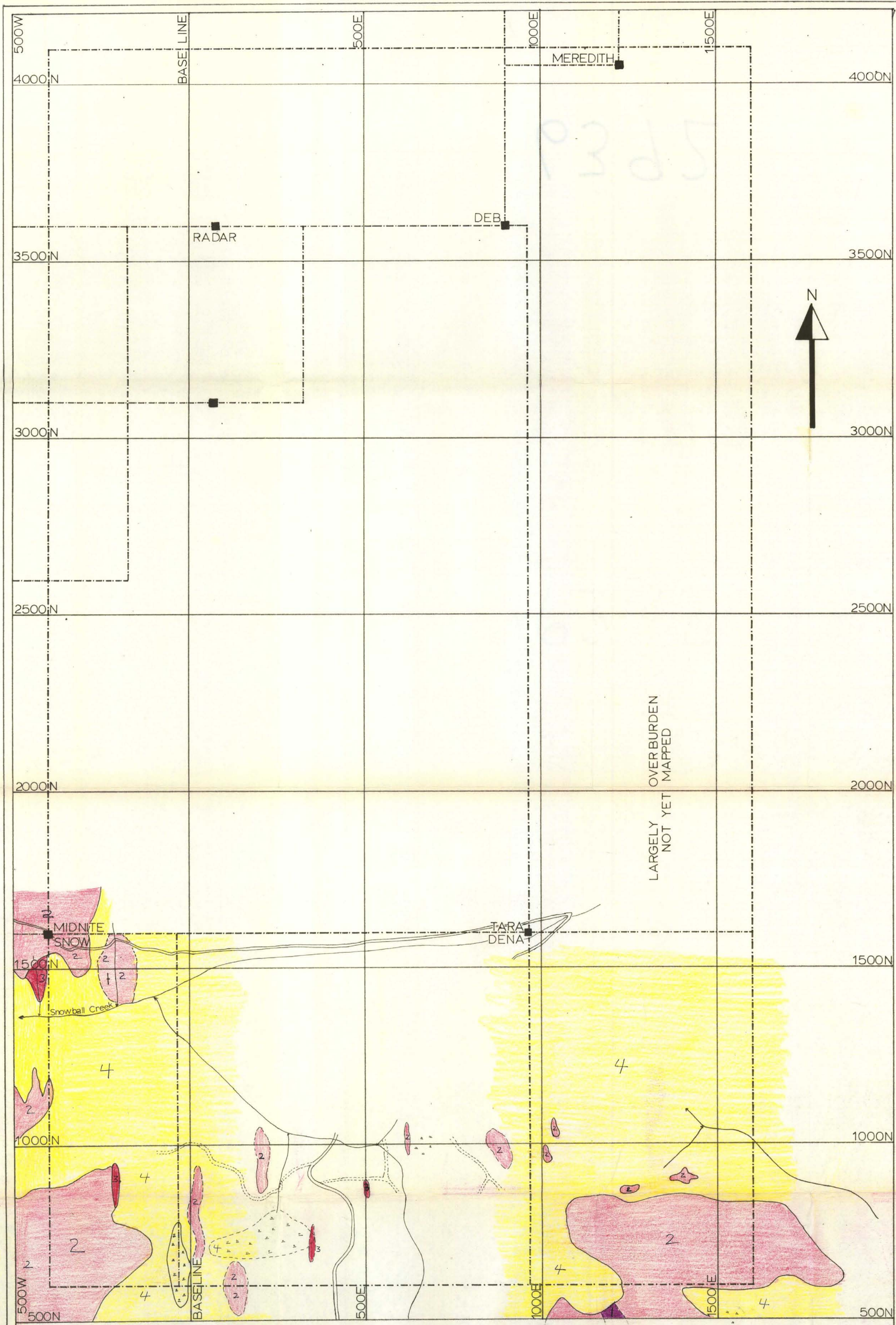
B. Sc. Hons.	University of London	1964
M. S.	U.C.L.A.	1968
Ph. D.	University of Nairobi	1972

b) I have worked on geological projects since 1959, including:

- i 1964-1965: Geologist, Geological Survey of Tanzania
- ii 1968-1972: Lecturer in Geology, University of Nairobi, Kenya
- iii 1973 : Geologist, Agilis Exploration Services, Vancouver, B.C.
- iv 1974 : Geologist, Union Carbide Exploration Vancouver, B.C.
- v 1974-1975: Geologist, Dolmage Campbell & Associates Diamond drilling of Hat Creek Coal Deposit
- vi 1975-1976: Geologist, Kerr Addison Mines Feasibility & Exploration, Grum Joint Venture
- vii 1976-1977: Geologist, Dolmage Campbell & Associates Interpretation, Hat Creek Coal Deposit.

c) I am a pupil member of the Association of Professional Engineers of British Columbia.


A.M. de Quadros
Project Geologist



LARGELY OVERBURDEN NOT YET MAPPED

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 FIG. 2: GEOLOGY OF GEORGE GROUP
 SCALE 1:5000

- LITHOLOGY**
- 4 Overburden
 - 3 Aplite
 - 2 Granitic Gneiss
 - 1 Amphibolite

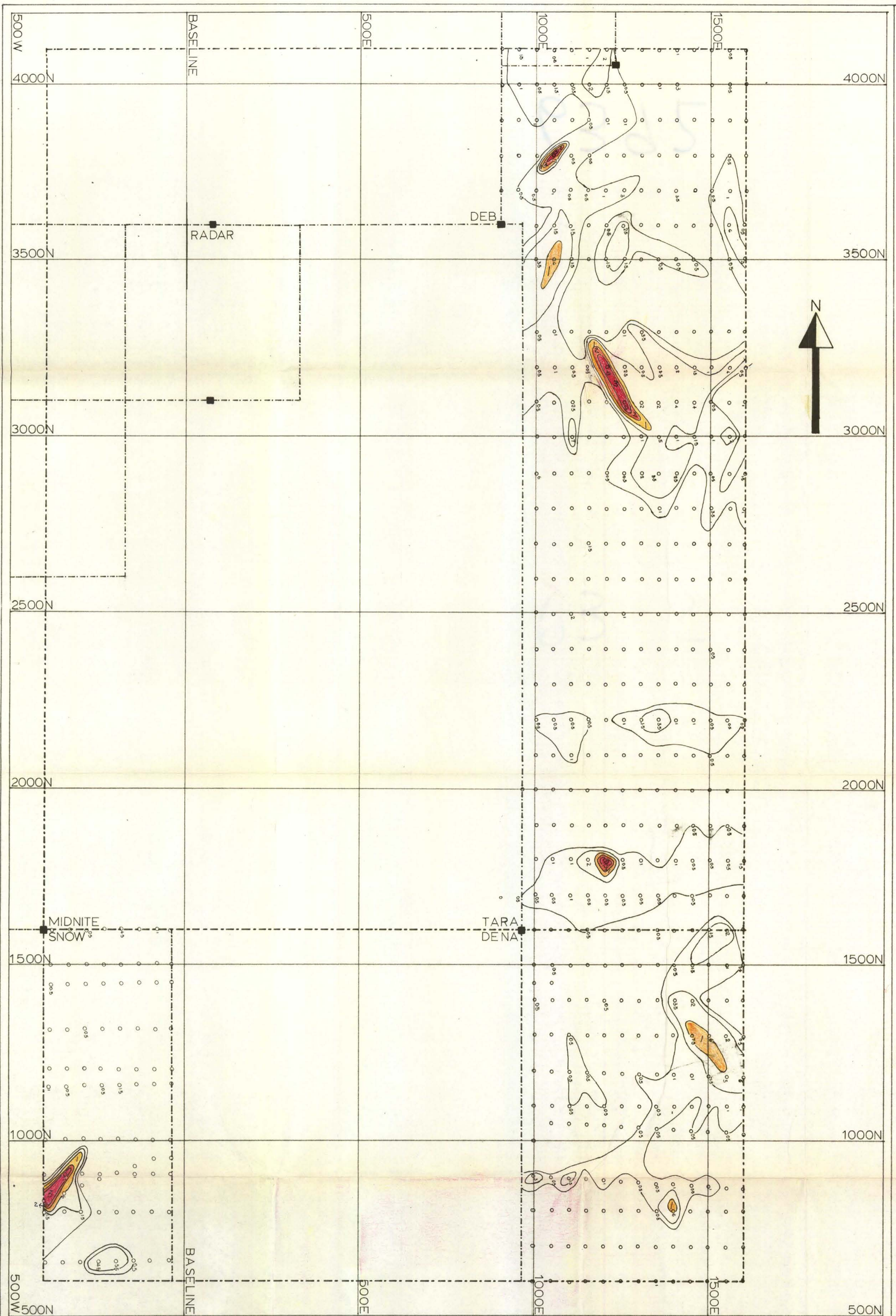
- LEGEND**
- Legal corner post
 - - - Claim boundary
 - Dirt road
 - - - Abandoned road
 - Creek
 - * Swamp
 - - - Geological boundary

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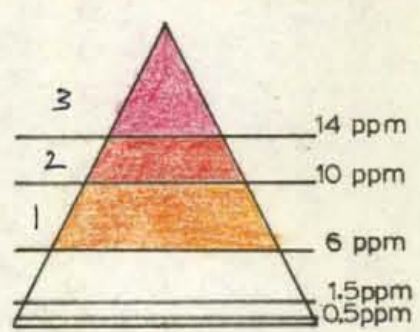
21 Sept 1977 CLAIM BOUNDARIES APPROXIMATE

9 SEPT 1977



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 FIG.3: GEOCHEMISTRY OF GEORGE GROUP
 SCALE 1:5000

URANIUM KEY



9 SEPT 1977

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[Signature]
 21 Sept 1977

LEGEND

- Sample less than 0.5ppm
- ⊕ Sample and value
- Claim legal claim corner post
- - - Claim boundary

CLAIM BOUNDARIES APPROXIMATE