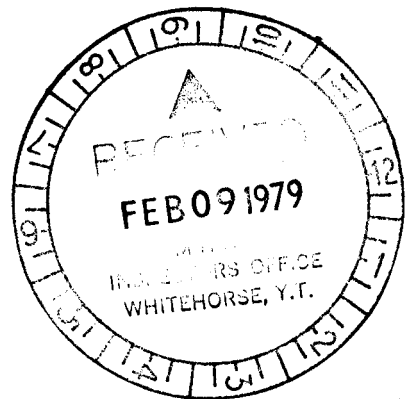


ASSESSMENT REPORT TAR 1-24 CLAIMS

MAYO MINING DISTRICT NTS 106E/2


A.R. Archer, P. Eng. January 19, 1979

090419



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

\$ 11,400.00

 2/2/79

Resident Geologist or
~~Resident Mining Engineer~~

Considered as representation work under
Section 53 (1) Yukon Quartz Mining Act.


B. R. BAXTER
Supervising Mining Recorder

 Commissioner of Yukon Territory

ARCHER, CATHRO

AND ASSOCIATES LTD.

CONSULTING GEOLOGICAL ENGINEERS

Box 4127, WHITEHORSE, Y.T. Y1A 3S9 667-4415

STANDARD BUILDING, VANCOUVER, B.C. 688-2568

1016 STANDARD BUILDING
510 WEST HASTINGS STREET
VANCOUVER, B.C.
V6B 1L8

ASSESSMENT REPORT

ON

AIRBORNE RADIOMETRIC, GEOLOGICAL
GEOCHEMICAL AND GROUND RADIOMETRIC SURVEYS
CONDUCTED JUNE 3 to 25, 1978

ON

TAR 1-24 CLAIMS
YA30297 to YA30320

Mayo Mining District
Claim Sheet 106E/2
Latitude 65°06'N, Longitude 135°00'W

January 19, 1979

Alan R. Archer, P. Eng.

Consulting Engineer

TABLE OF CONTENTS

<u>Text</u>	<u>Page</u>
Introduction -----	1
Property, Location and Access -----	1
Geology and Mineralization -----	2
Airborne Radiometric Survey -----	4
Ground Radiometric Survey -----	5
Grid Geochemical Survey -----	5
Summary and Conclusions -----	6

<u>Figures in Text</u>	<u>Following Page</u>
Figure T1-WJV 78 - Grid Location, Tar Claims, scale 1"=1/2 mile	1
Photograph 5 - Tar Property, Facing South	3

Figures in Pockets

Figure T2-WJV 78 - Geology and Ground Radiometrics, Tar Claims, Scale 1:5000	
Figure T3-WJV 78 - Geology and Uranium Geochemistry, Tar Claims, Scale 1:5000	
Figure T4-WJV 78 - Airborne Radiometric Survey, Total Count, Tar Claims, Scale 1:5000	
Figure T5-WJV 78- Airborne Radiometric Survey, Uranium, Tar Claims, Scale 1:5000	

INTRODUCTION

The Tar property was staked by Wernecke Joint Venture (WJV) during the early part of the 1978 field season to cover an area of anomalous uranium rock geochemistry located, but not staked, by WJV in 1976. It lies about 4 km southeast of the Forster property (MST claims) which were staked by Ogilvie Joint Venture (OJV) in 1974 over lead-zinc occurrences in Cambrian conglomerates and uranium occurrences in brecciated middle Cambrian dolomite. The principal participants in WJV are Chevron Canada Ltd. and Aquitaine Company of Canada Limited.

The 1978 WJV exploration program on the Tar property consisted of an airborne radiometric survey, grid mapping, soil sampling and ground radiometric surveys. This work was conducted intermittently during the period June 3 to 25, 1978 by geologists C. Main, U. Schmidt and J. Chapman assisted by field men A. Halleran, G. Matthews and S. Veerman and supervised by the writer.

PROPERTY, LOCATION AND ACCESS

The Tar property consists of 24 contiguous Tar claims recorded in the Mayo Mining District as follows:

<u>CLAIM NAME</u>	<u>GRANT NUMBERS</u>	<u>EXPIRY DATE</u>
Tar 1-24	YA30297-YA30320	26 May, 1979

The property is located at latitude 65°06'N and 135°00'W within claim sheet 106E/2, 180 km northeast of Mayo. Access in 1978 was by helicopter from the base camp at Kiwi Lake, 20 km to the northeast, which was reached by float or ski equipped fixed-wing aircraft from a charter base at Mayo (see Figure T1-WJV 78 on the following page).

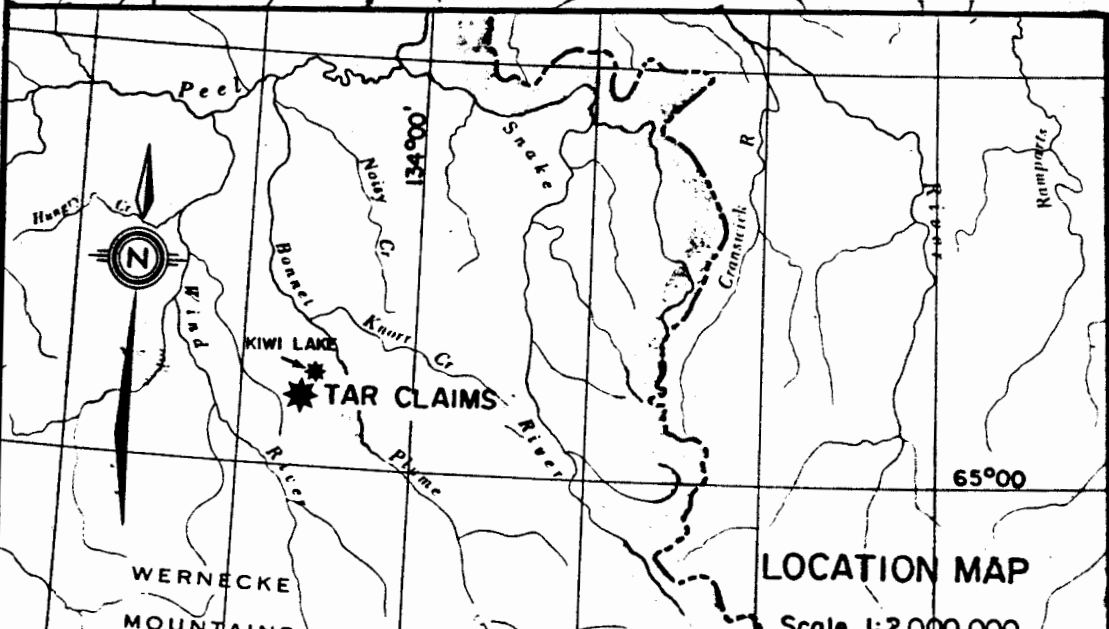
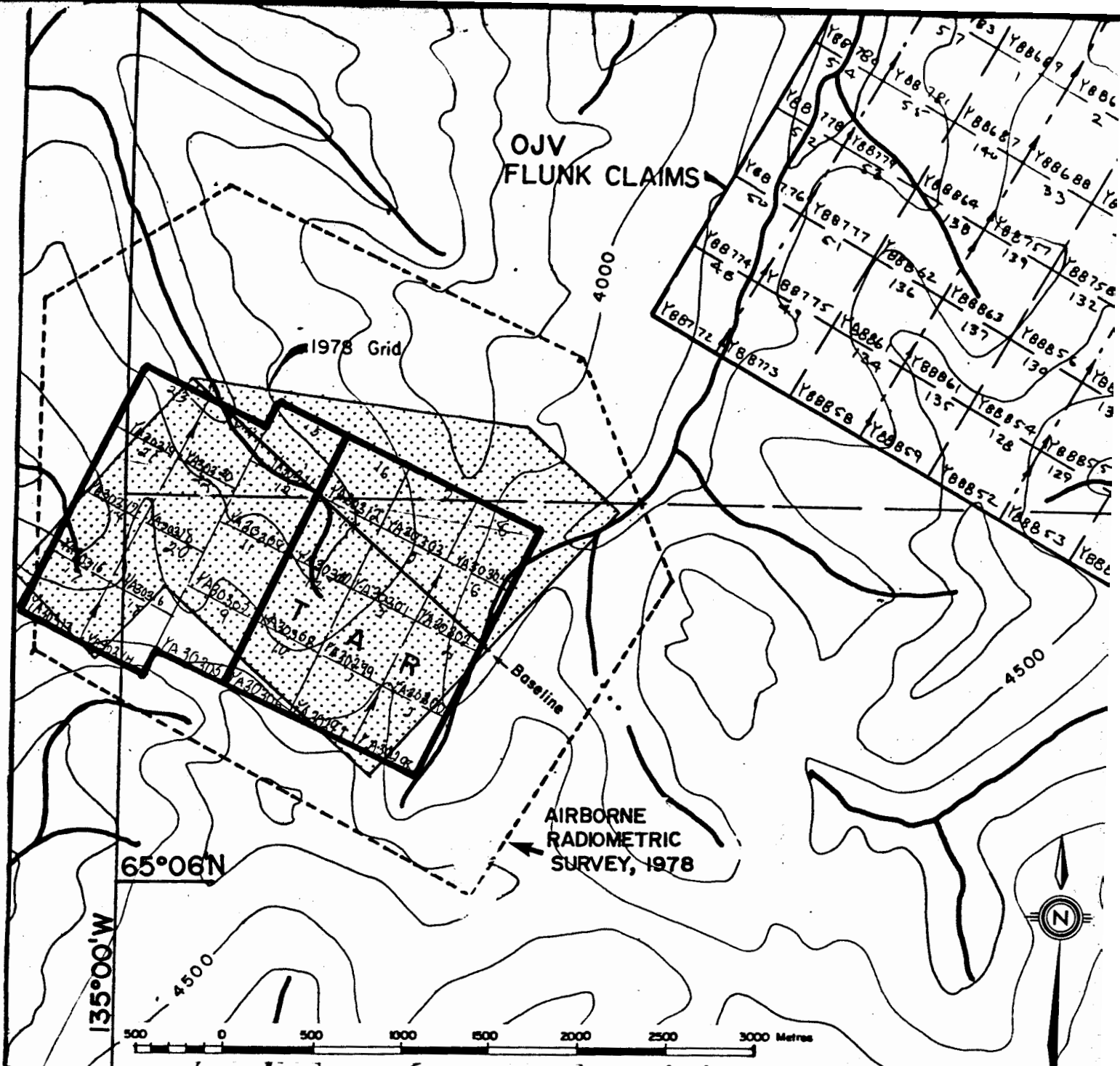


Fig. Tt WJV78
 ARCHER, CATHRO & ASSOCIATES
**GRID LOCATION
 AND
 GROUPING PLAN**
TAR CLAIMS
 WERNECKE JOINT VENTURE
 106 E/2
 1/2 mile = 1 inch

GEOLOGY AND MINERALIZATION

The topography of the property consists of steep, actively eroding hillsides bounded by the wide, flat, Wind River valley to the west. The youngest unit on the property, a Paleozoic dolomite, is thick bedded and forms prominent scarps and cliffs that erode into large blocky talus slopes. Underlying units are more recessive and form rounded ridges. Outcrop is abundant although obscured to some extent on lower slopes by scree. Most drainages are steep and choked with rock debris. Trees occupy valley bottoms and skirt lower slopes to the 1000 m elevation. Upper slopes are characterized by thin brush, moss, and lichen.

The claim block is underlain by a lower Paleozoic succession of shallow water carbonates with minor quartzite and slate interbeds. A brief description of each unit (using GSC terminology) follows:

Unit €Db ([±] 2000 m) - Ordovician to Silurian grey, massive and thick bedded cliff forming dolomite. Occasionally brecciated near its base.

Unit €ta([±] 100 m) - upper Cambrian thin bedded, muddy dolomite, often well fractured with formational breccia and occasional orange weathering. It contains minor thin beds of quartzite and/or maroon shale.

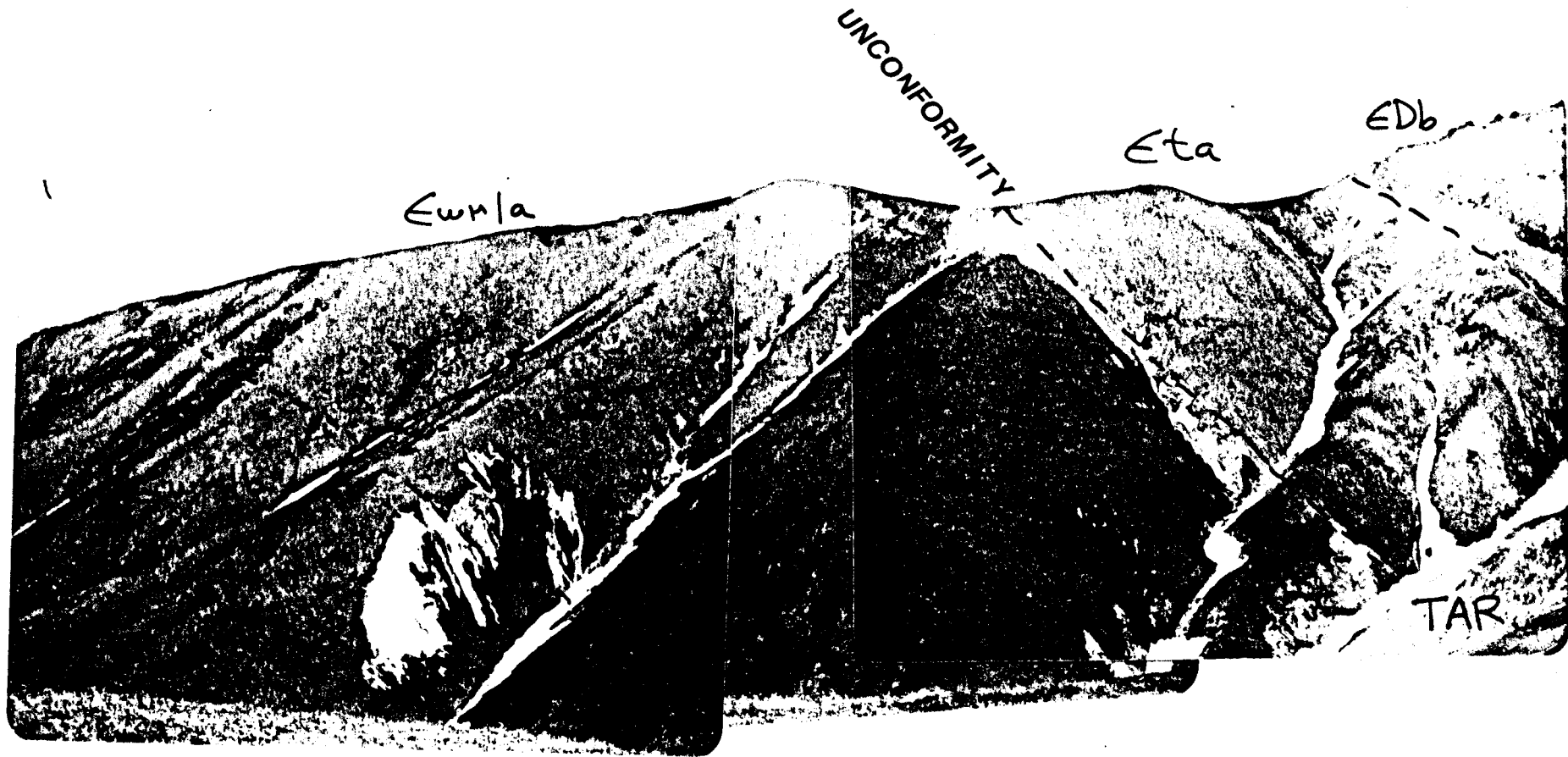
Unit €wr (800 m +) - middle Cambrian light grey, thick bedded, cherty dolomite. This unit hosts the uranium mineralization at the Forster (MST claims) and Tar occurrences and is subdivided by WJV at the Tar claims into two units as follows:

Unit €wrla ([±] 300 m) - a grey, thin bedded, sometimes brecciated (karst?) dolomite with abundant black chert in nodules, thin beds and fragments, given the field term "upper dolomite". Often forms castellated outcrops. Radioactive occurrences are found throughout the section.

Unit €wr1b (\pm 300 m) - a light grey-brown, mottled crystalline, pink weathering, dolomite and dolomite breccia, given the field term "lower dolomite". Radioactive occurrences are only found in the upper portion of the section.

The upper and lower dolomites are primarily distinguished by colour and the presence or absence of black chert. All units dip about 30° to the southwest. The uppermost Unit €Db forms a resistant cap extending from a scarp ridge along the west side the property westerly to the Wind River. It is conformably underlain by the more recessive dolomite Unit €ta which lies unconformably over Unit €wr. This unconformity is angular (about 10°) at the Forster and Tar occurrences and increases in angularity (to about 30°) to the southeast. It is thought to be the most important control for the radioactivity in as much as all of the dolomite hosted radioactive occurrences are found beneath it, usually related to breccia zones in the immediately underlying upper dolomite (see Photograph 5 on the following page and Figure T3-WJV 78, in pocket).

The best radiometric response and mineralization is found on the southern side of the property where an area of interest 300 m wide and 1500 m long has been outlined by soil sampling, radiometric prospecting and hand pitting. The dolomite in this area exhibits strong brecciation which appears to be partially caused by karsting. Breccia fragments exhibit a wide range in size, are usually angular to subrounded, and are cemented by white calcite or less commonly white quartz. Minor pyrobitumen is found in open vugs and traces of limonite (after pyrite?) are often seen in the breccia matrix. A total of 49 shallow hand pits were dug into weathered breccia in areas exhibiting anomalous radioactive response. Samples of breccia from the pits returned assays ranging from 2.5 ppm U to 92 ppm U with an arithmetic average of 30 ppm U. An above average specimen (150/75 cps



PHOTOGRAPH 5 - Tar property, (facing south).

in hand) from near Pit Bla at 11W, 8N assayed 200 ppm U. Similar to the nearby Forster occurrence (MST claims), no specific uranium mineral has been identified and no coloured uranium secondary minerals are seen under normal or ultraviolet light.

AIRBORNE RADIOMETRIC SURVEY

The airborne radiometric survey consisted of horizontal contour flights spaced at vertical elevation intervals of about 150 m (500 feet). The survey covered most of the Tar claims, as outlined on Figure T1-WJV 78.

Control was obtained from a government 1:250,000 scale topographic map. The survey instrumentation consisted of a Scintrex GSA-61 (1853 cc) crystal and a GAD-4 spectrometer with Hewlett-Packard 7155A and Gould (Brush) 222 recorders that charted total count, uranium and thorium channels. Because of recorder failure, no data for thorium radioactivity was obtained.

Figures T4-WJV 78 and T5-WJV 78 (in pocket) illustrate the response for the total count and uranium channels. The original tapes are filed in the Archer, Cathro vault in Whitehorse for safekeeping. The total count and uranium channels show good correlation with each other and both exhibit anomalous response over the upper and lower dolomite although no specific area of interest is indicated. Even though the background is low (300 cps total count; 6 cps uranium), the anomalous contrast is good ranging up to three times background. The highest uranium response obtained was 21 cps over a background of 8 cps as compared to 26 cps over a background of 7 cps at the Forster occurrence.

GROUND RADIOMETRIC SURVEY

Figure T1-WJV 78 illustrates the location of the area (2400 m by 1900 m) that was grid surveyed in 1978. Grid control consisted of a chained and slope-corrected baseline with picketed stations at 50 m intervals. Baselines were marked with 1 m lath pickets and crossline stations with 1/2 m pickets. Radiometric readings were taken at 25 m intervals on each line and high readings between stations were also recorded. All measurements were made with a Scintrex BGS-1S broadband (total count) scintillometer equipped with a 12.75 cc NaI(Tl) crystal.

Figure T2-WJV 78 (in pocket) is a plot of the ground radiometric response. Backgrounds are low (compared to Proterozoic rocks to the east) ranging from 15 to 25 cps over Units 6Db and 6ta to 25 to 40 cps over Units 6wrla and 6wrlb. Anomalies in the 50 to 100 cps range are numerous but small, not usually exceeding several square metres in size. Radiometric response from hand pits dug on these anomalies ranged up to a maximum of 700 cps from Pit Blc at 11W, 8N.

GRID GEOCHEMICAL SURVEY

Soil samples were taken from 100 m stations on each line as illustrated on Figure T3-WJV 78 (in pocket). The samples were obtained from a B + C horizon and shipped to Chemex Labs Ltd., North Vancouver, where they were dried at 50°C, screened to minus 80 mesh, split and weighed, ashed at 550°C, digested twice to dryness in 4M nitric acid, picked up in acidified water, fused with a standard sodium fluoride-based flux and assayed in ppm uranium with a G.K. Turner fluorometer. Rock samples were analyzed in a similar fashion following crushing and pulverizing.

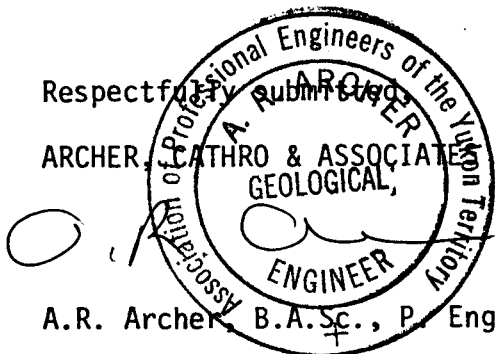
Background is less than the detection limit of 0.5 ppm U. Areas of interest outlined by the ground radiometric survey exhibit erratic anomalous geochemical response ranging up to 34 ppm U. The geochemical response from the lower dolomite exhibits more anomalous contrast than is shown by the ground radiometrics. This may be due to downhill ground water mobilization of uranium from the overlying upper dolomite.

SUMMARY AND CONCLUSIONS

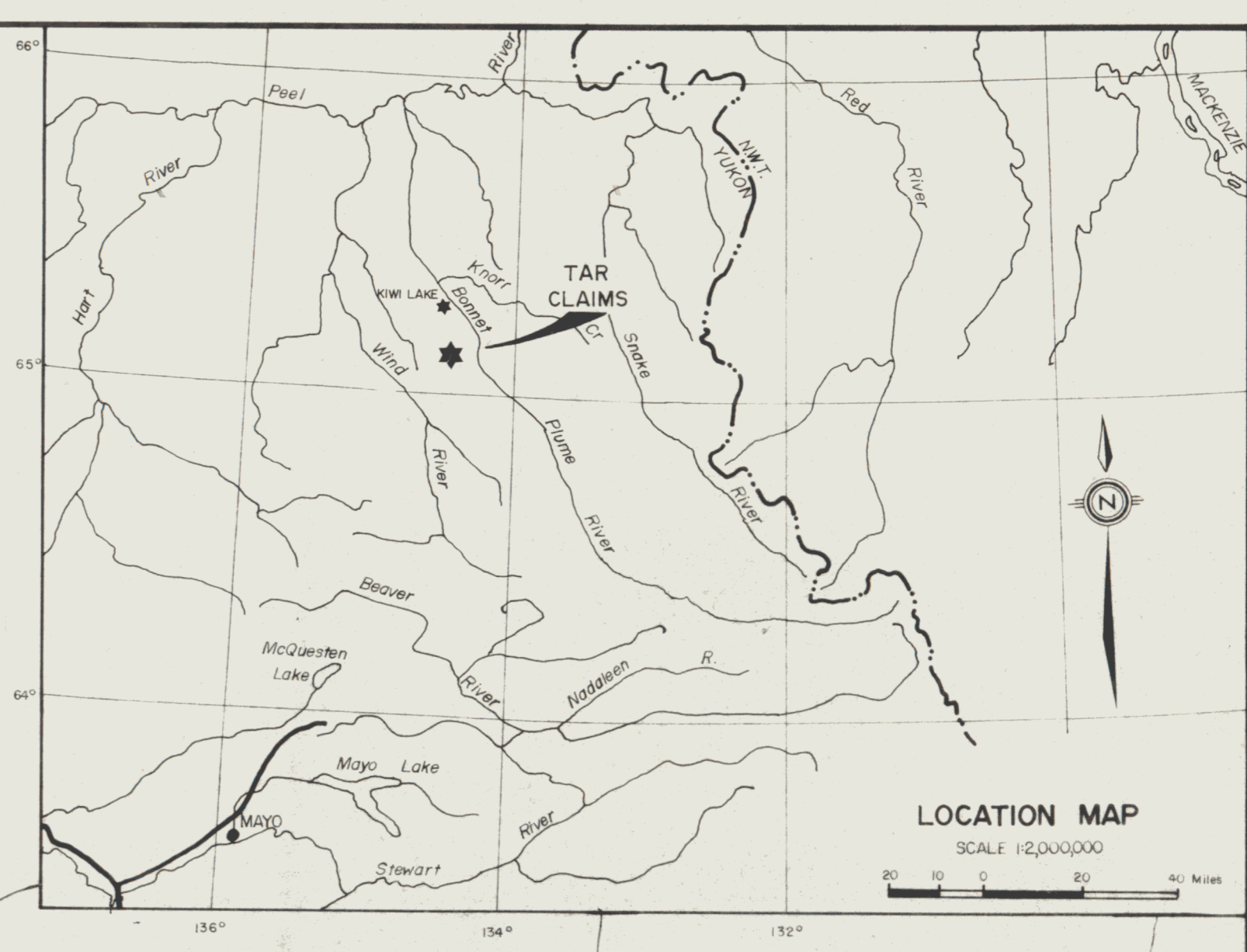
The Tar property was staked because of its proximity and similar geological setting to the Ogilvie Joint Venture Forster (MST claims) property. It was explored by an airborne radiometric survey; grid mapping, soil sampling and ground radiometric surveys; and, hand pitting. This work outlined an area 300 m wide and 1500 m long containing numerous small centers up to several meters in diameter with anomalous radiometric response. The anomalous radioactivity occurs in brecciated middle Cambrian dolomite unconformably overlain by thin bedded upper Cambrian dolomite. Rock samples from 49 hand pits dug into broken bedrock over individual anomalies assayed from 2.5 ppm U to 92 ppm U with an arithmetic average of 30 ppm U. One hand specimen assayed 200 ppm U. No specific uranium mineral has been identified.

Further work at the Tar will depend on results of continued exploration at the Forster property.

Respectfully Submitted,
ARCHER, CATHRO & ASSOCIATES LTD.,
GEOLOGICAL,



ARA:jm



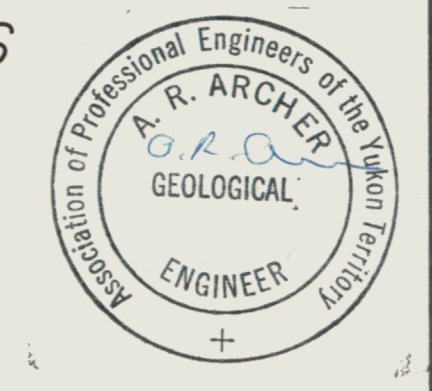
LEGEND

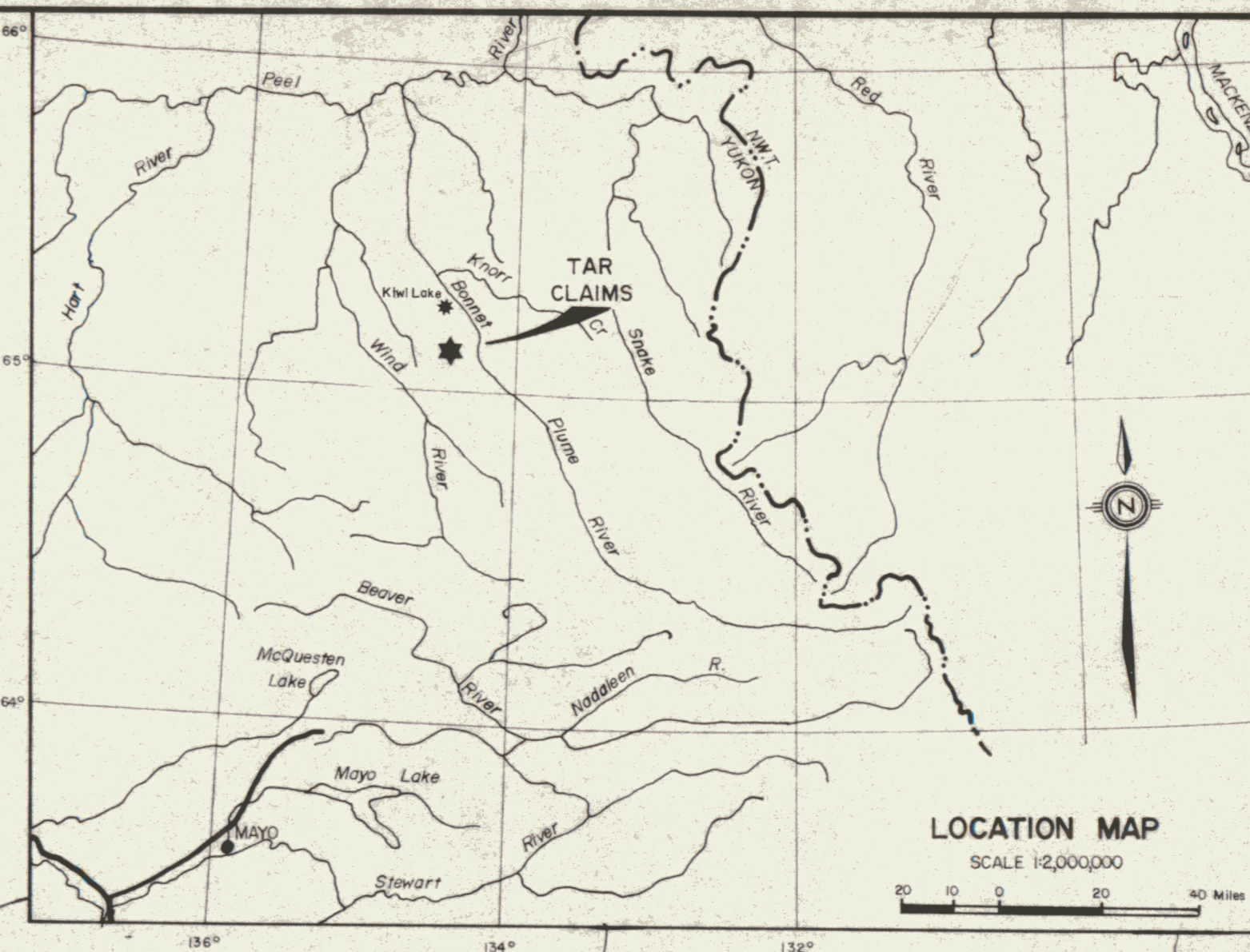
- ★ Pit site and maximum value (cps)
- Area of interest
- Water level radiometric reading (cps)
- As above, reading over 30 cps

For Unit description see Figure T2-WJV78

FIG. T2 - WJV 78
 ARCHER, CATRO & ASSOCIATES LTD
**GEOLOGY and
 GROUND RADIOMETRICS**
 1978 GRID
 TAR CLAIMS
 WERNECKE JOINT VENTURE
 SCALE 15000

200 100 0 100 200 300 METRES





LEGEND

PALEOZOIC (unnamed)

ORDOVICIAN-SILURIAN

Gdb Massive Dolomite
grey, massive and thick bedded carbonates

CAMBRIAN

Gta Resessive Carbonate
thin bedded recessive weathering carbonate

- angular unconformity -

MIDDLE CAMBRIAN

Gwr Cherty Carbonate
light grey, thick bedded, cherty carbonates and clastics

Upper Dolomite
grey, thin bedded, cherty breccia, carbonate debris
flow, abundant black chert nodules, beds and fragments
(karst breccia)

Gwr1a

Lower Dolomite
mottled, light grey brown to pinkish crystalline
thin dolomite and dolomite breccia

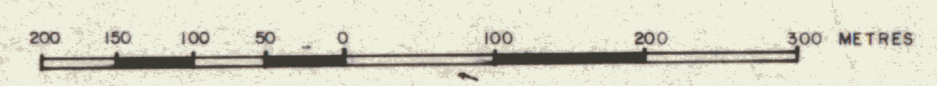
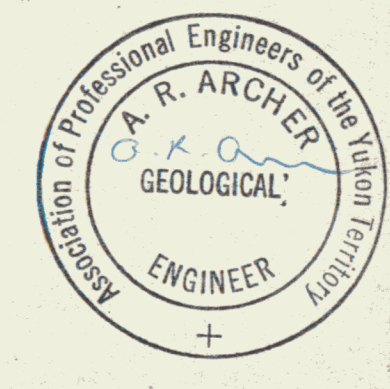
Gwr1b

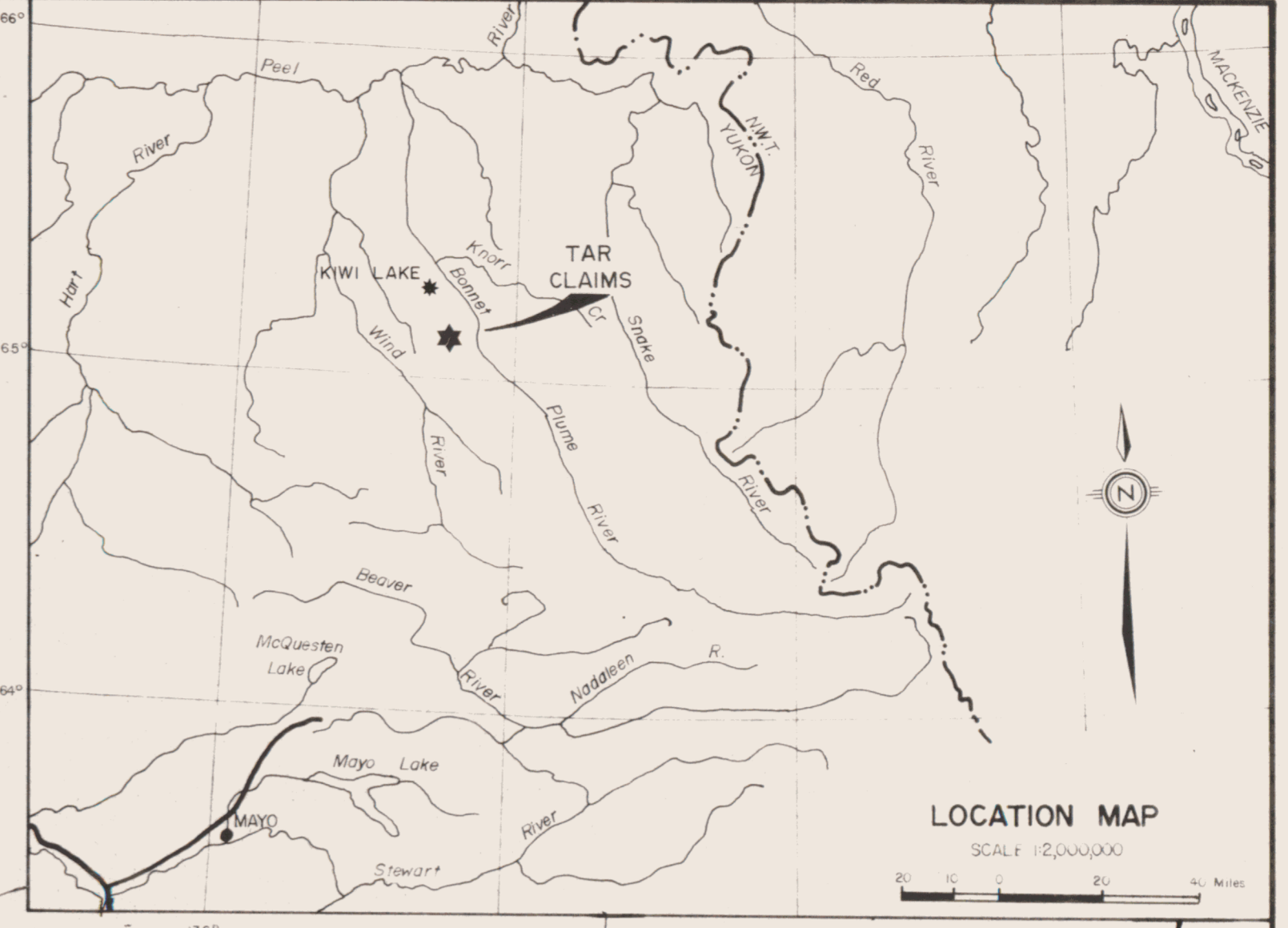
Bedding: inclined, vertical; G-gentle, M-moderate, S-steep
Foliation: inclined, vertical
Geological boundary: defined, approximate, assumed
Fault: defined, approximate

● Soil sample assay in ppm, anomalous assay over 2.0 ppm
★ Pit site and assay values in ppm

▭ Area of interest

FIG. T3-WJV 78
 ARCHER, CATRO & ASSOCIATES LTD
GEOLOGY and
URANIUM GEOCHEMISTRY
 1978 GRID
TAR CLAIMS
WERNECKE JOINT VENTURE
 SCALE 1:5000





65° 08' N



LEGEND

- Traverse
- Traverse number and direction
- Anomalous interval
- Local background (cps)
- Maximum anomalous value (cps)
- Claim posts located during surveys

FIG. T4-WJV 78
 ARCHER, CATHRO & ASSOCIATES LTD
AIRBORNE RADIOMETRIC SURVEY
TOTAL COUNT
 1978 GRID
TAR CLAIMS
WERNECKE JOINT VENTURE
 SCALE 1:5000

by A.R. Archer dated January 19, 1979
 To accompany report dated Dec 6, 1978

