

MAP NO.

105-H-16

ASSESSMENT REPORT

CONFIDENTIAL  
OPEN FILE

X
X

TYPE OF

WORK:

Geological

REPORT FILE UNDER	Canada Tungsten Mining Corporation Ltd	DOCUMENT NO. 081385
DATE PERFORMED	July 19 - 22 1981	DATE FILED: August 24, 1981
LOCATION - LAT. LONG.	61° 59' N	AREA: Tungsten Nahanni
	128° 12' W	
CLAIM NO.	Glacier	
VALUE \$	3,792.97	
WORK DONE BY	(Bema Industries Ltd.) S.C. BARTLETT	
WORK DONE FOR	Canada Tungsten Mining Corporation Ltd.	
REMARKS	Geological mapping and prospecting on the Glacier claim failed to locate significant tungsten mineralization or structures suitable for localizing tungsten mineralization. A series of tight, overturned anticlines and synclines located north of the claim were located and may have localized tungsten mineralization. A prospecting program to assess the mineral potential of these structures is recommended.	



GEOLOGY AND MINERAL POTENTIAL

OF THE

GLACIER CLAIM, TUNGSTEN, N.W.T.

# A 98036

N.T.S. 105-H-16.

**DUPLICATE**

DOCUMENT  
NUMBER

**08 1385**

THIS REPORT HAS BEEN EXAMINED AND  
APPROVED AS TO TECHNICAL CONTENT UNDER  
SECTIONS 6 AND 7 OF THE MINING ACT OF THE  
CANADA MINING REGULATIONS AND  
VALUED IN THE AMOUNT OF \$ 3,792.97/100

DATE:

*Jan 20. 81*

*Christod*

ENGINEER OF MINES FOR  
CITY, NORTH. NON-RENEW  
RESOURCES BRANCH

GEOLOGY AND MINERAL POTENTIAL  
OF THE  
GLACIER CLAIM, TUNGSTEN, N.W.T.

Nahanni Mining District

Located approximately two miles northeast of Tungsten, N.W.T.

Centered at  $61^{\circ}59'N$  Latitude and  
 $128^{\circ}12'W$  Longitude

Owned by

CANADA TUNGSTEN MINING CORPORATION LIMITED  
Executive Office  
Box 12525, Oceanic Plaza  
Ste. 1600 - 1066 W. Hastings St.  
Vancouver, B.C. V6E 3X1

Work by

BEMA INDUSTRIES LTD.  
Ste. 203, 19945 - 56th Ave.  
Langley, B.C. V3A 3Y2

S.C. Bartlett, B.Sc.

July, 1981

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## SUMMARY

Geological mapping and prospecting on the Glacier claim failed to locate significant tungsten mineralization or structures suitable for localizing tungsten mineralization. A series of tight, overturned anticlines and synclines located north of the claim were located and may have localized tungsten mineralization. A prospecting program to assess the mineral potential of these structures is recommended.

GEOLOGY AND MINERAL POTENTIAL  
OF THE  
GLACIER CLAIM, TUNGSTEN, N.W.T.

INTRODUCTION

The Glacier claim is located in the District of Mackenzie approximately two miles northeast of Tungsten, N.W.T. The claim was staked for Canada Tungsten Mining Corporation Limited in 1979 to cover source areas for stream sediments anomalous in tungsten and molybdenum. Canada Tungsten Mining Corporation Limited engaged Bema Industries Ltd. of Langley, B.C. to supply a geologist and an assistant to conduct a geological survey of the claim and to assess the mineral potential. A total of 2.5 days were spent preparing the geological map. Further work is proposed in the recommendations of this report.

LOCATION

The property is located in the Ragged Ranges of the Selwyn Mountains northeast of the Flat River Valley. The 20 unit claim measures 2 units north to south and 10 units east to west. It is centered at  $61^{\circ}59'N$  latitude and  $128^{\circ}12'W$  longitude. The southern boundary of the claim and the northwest corner post has been surveyed by Underhill and Underhill as part of a Canadian Legal Survey. No posts east of Tungsten Mountain (locally known as the Dutchman) were located. Most of these posts are calculated to lie within an icefield.

TOPOGRAPHY

The property is situated in a west facing cirque and extends to an icefield in the east. Relief on the property is in excess of 3,000 feet, ranging in elevation from below 3,000 feet at the western boundary to more than 8,000 feet on the Dutchman. Outcrop is abundant on the upper slopes and on the

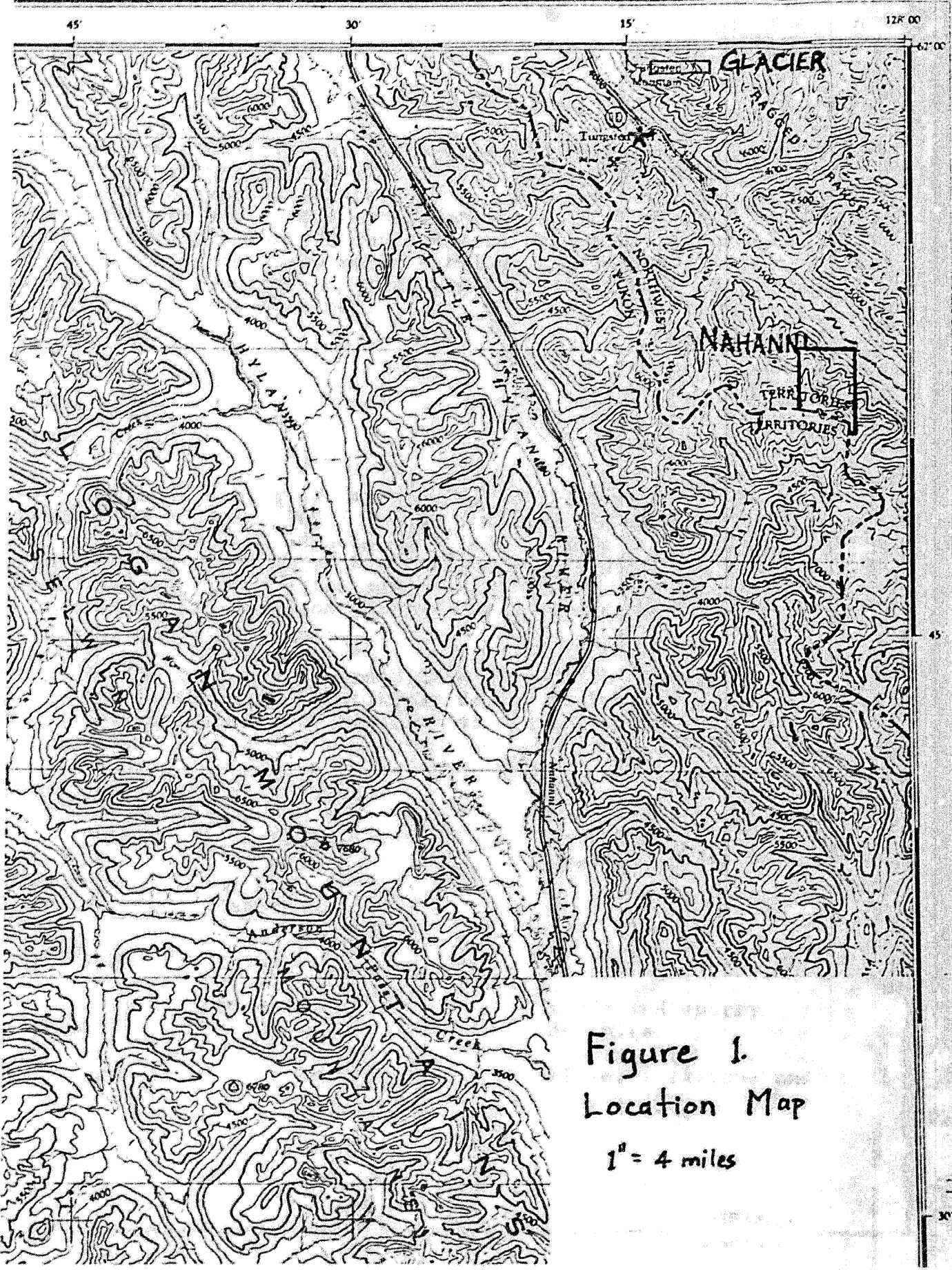


Figure 1.  
Location Map  
1" = 4 miles

slopes of creek valleys but is obscured by talus and glacial drift on the lower slopes to the west. Detailed topographical maps and orthophotographs at a scale of 1:4,800 are available for most of the property and colour aerial photographs at a scale of 1"=2,640 feet are available for the whole area. Geological mapping in the field was conducted using mylar overlays and the aerial photographs. For the purpose of plotting the orthophotos and topographical maps were used as a base map.

## GEOLOGY

### Regional Geology

Regional geological mapping of the Flat River area was conducted by Blusson (1967) during the 1962 and 1963 field seasons. Blusson described the area as underlain by a late Precambrian to Devono-Mississippian successsion of miogeosynclinal carbonate and coarse and fine clastic sedimentary rocks. This succession is moderately deformed and intruded by a series of discordant Cretaceous granitic stocks.

At the Canada Tungsten Mining Corporation Limited mine on the west side of the Flat River Valley at Tungsten, N.W.T. the stratigraphic section consists of the following units:

### Middle and (?) Upper Cambrian

Unit 9	Rabbitkettle Formation	thin bedded, silty, grey limestone
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### Lower and Middle Cambrian

Sekwi Formation

Unit 6	Dolomite	sandy and sparry dolomite
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Unit 5	"Upper Argillite"	slate, siltstone and limy rocks
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Unit 3	"Ore Limestone"	grey crystalline limestone and marble
Unit 2	"Swiss Cheese Limestone"	interbedded cherty argillite, siltstone and limestone

Lower Cambrian and (?) Earlier

Backbone Ranges Formation

Unit 1	"Lower Argillite"	slate, siltstone, fine grained quartzite
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This package has been deformed into a recumbent syncline and intruded by a Cretaceous granitic stock. Scheelite-bearing massive sulphide pods and garnet-diopside skarn have developed in favourable environments in the "Ore Limestone" adjacent to the "Swiss Cheese Limestone" and "Upper Argillite" units.

Geology of the Glacier Claim

Stratigraphy

The stratigraphy underlying the Glacier claim consists of a southwesterly dipping homoclinal succession of slate, chert and carbonate rocks. The oldest stratigraphic unit recognized is the "Lower Argillite" which crops out in the central portion of the claim. Unit 1 is composed of black, pyrrhotite-rich, silty slate which strikes northwest and dips moderately to steeply to the west. The thickest section of "Lower Argillite" is exposed on the Dutchman. A biotite-quartz monzonite stock intrudes this unit and hornfels is developed adjacent to the contacts.

The argillite unit is overlain by the "Swiss Cheese Limestone". On the claim Unit 2 occurs as light coloured limy chert and banded skarn in a narrow, westerly dipping belt which crops out on the walls of the cirque. On the north edge of the claim the unit is folded and the outcrop pattern is more widespread.

A thick sequence of crystalline and sandy dolomites is present above the "Swiss Cheese Limestone" on the Glacier claim. The dolomite section is mapped as Unit 6 by Blusson (1967) who suggests that Units 3, 4 and 5 were not deposited in this area. For a detailed account of the dolomite stratigraphy the reader is referred to Blusson (1967) Figure 3. For the purposes of mapping Unit 6 was divided into two units; a lower homogeneous, pink weathering, massive dolomite (Unit 6a) and a thick bedded to massive, grey to buff weathering, sparry to sandy and locally argillaceous dolomite (Unit 6). The pink weathering sparry dolomite of Unit 6a lies above "Swiss Cheese Limestone" on the claim and occurs in the core of northwest plunging synclines north of the claim. The unit is relatively thin and comprises about 15% of the dolomite section. Locally the dolomite is altered to a tremolite-calcsilicate rock.

The youngest stratigraphic unit in the map area is the Rabbitkettle Formation (Unit 9). Blusson (1967) reported that an angular unconformity separates the formation from the underlying dolomite unit. The rock consists of silty, grey crystalline limestone and light grey siltstone. The irregular layering of limestone and siltstone result in a "wavy banded" appearance on weathered surfaces. On the Glacier claim the Rabbitkettle Formation occurs on the lower slopes of the hill, toward the Flat River Valley. The succession of units supports the hypothesis that the axis of a syncline trends down the Flat River Valley.

A medium sized biotite-quartz monzonite stock (Unit 11) and a number of related quartz-feldspar porphyry dykes occur on the Glacier claim. The intrusions are of Cretaceous age and are of a series of similar intrusions in the district. The shape of the pluton is roughly rectangular measuring 5 miles north to south and 3 miles east to west. The quartz monzonite is coarse grained and equigranular except for a few sections of feldspar megaporphyry. The related dykes are quartz-feldspar porphyries, some with biotite, and have a reddish, fine grained groundmass. The "Lower Argillite" and western portion of the claim is underlain by the pluton. It is probable that the pluton also underlies the ice field. The northeast trending dykes cut Units 1 to 6 and crop out both on the claim and to the north and south of the claim. Very little hydrothermal alteration of the pluton is evident.

### Structure

As mentioned the stratigraphic section forms a moderate to steeply, southwest dipping homocline. The homocline forms the northeast limb of Blusson's (1967) Flat River Syncline. Other structures that occur on the claim block are related to the intrusion of the quartz monzonite stock. North of the claim a series of synclines and anticlines plunge away from the pluton. These structures are best developed in the "Swiss Cheese Limestone" and overlying dolomite unit. A small northwest plunging syncline is overturned to the northeast. Erosion of these structures has produced the irregular outcrop pattern observed in Unit 2 north of the claim.

### Mineralization

Two mineral occurrences were noted on the claim. Weakly developed skarn mineralization is present in some sections of the "Swiss Cheese Limestone". Mineralization is limited to weak skarn development adjacent to the dyke on the north side of the central cirque. Diopside and/or actinolite occur along fractures and in limy pods in Unit 2. The second showing consisted of a malachite stain in a cherty unit immediately below the Rabbit-kettle Formation. Weathering of minor chalcopyrite on fractures in a limonitic chert gave rise to the malachite. In the absence of favourable structures for tungsten concentration no samples were collected. The mineral potential of the claim is limited to delineating a favourable structure off the property and tracing it on the the claim.

### RECOMMENDATIONS

1. Favourable structures may exist on ground open to the north of the Glacier claim. Detailed prospecting and mapping is required to assess the potential of these structures.
2. Two or three days are required for a geologist to complete this program. If the structures are determined to have

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significant potential then ground acquisition by staking is recommended to cover these areas.

3. A number of posts were not located along the north boundary of the claim, therefore a survey is required to determine the true location of the claim. Approximately one day of surveying is required to locate and survey posts along the northern claim boundary.

#### REFERENCES

- Blusson, S.L.,  
1967;      Geology and Tungsten Deposits Near the Headwaters  
of Flat River, Yukon Territory and Southwestern  
District of Mackenzie, Canada. G.S.C. Paper  
67-22.

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Report by: Stanley C. Bartlett  
Stanley C. Bartlett, B.Sc.  
Project Geologist

SCB/pcd

APPENDIX I

Field Notes - S.C.B.

19 July, 1981

GLACIER

① North ridge of CLAIM, NUP DUTCHMAN  
 CHERT, sandy, WEST 1/4 grey, white bedded,  
 some more TR alt in matrix. Thin bedded diff. <sup>5</sup>,  
 some "swiss cheese" type struct.  
 at ① found 2' slice of FR-BI POLY of glassy  
 sil matrix SB-11 - some <sup>F</sup> sandy part and white  
 devel streak in every rx

② Down from ① on ridge patch of med gr  
 sparite in sand

Monday 20 July, 1981 TRINGSTEN, NGLT.  
 Glacier PI-079

③ On RIDGE S. of claim POST

Post # 2	V26	CLAIM # A56071
# 3	V25	A56072
# 4		A56053

Sept 1/73	V 11	L. D'ARVILLE	2806
# 1		A56052	① W3

WPT TR 3900E

19 July, 1981

GLACIER

① North R'dge of CLAIM N of DUTCHMAN  
CHRY, sandy, MUST 1/2 gr/ = w/ta but w.  
some more TR alt in MARB Thin bed, diff w,  
some "swiss cheese" type str.!

at ① found 2 like of EP-31 PIX of glassy  
sil matrix SB-11 - some <sup>F</sup> streak of MARB w/ky  
devel seen in CHRY RT

② Down from ① on ridge patch of med gr  
sparite in sand

MONDAY 20 July, 1981 TUNKSTEN, ALVT.

Glacier

81-076

③ On RIDGE S. of CLAIM 4 POST

Post # 2 V26

# CLAIM A56071

# 3 V25

A56072

# 4

A56053

{ Sept 1/73 V 11

L. D'Amico 2906

# 1

A56052

⑦

WP TP 3000E



#3	V27	A56070	(5)
#2		A56122	
#1		A56152	
#4		A56051	
#3	A56071	L.D. ANGLE	WP
#2	A56070		WP
#1	A56051		
#4	A56052		
#4	A56054	L. DAIGLE	WP
#1	A56053		
#2	A56072		
#3	A56073		(5)

(4) Ridge down middle of claim 1 claim post  
 #1 A56104 } same series as above  
 #4 A56105 }

(5) Ridge top N side - south boundary of claim  
 painted post - metal stake - UU 250  
 metal tag

(6) Ridge top N side SBP UU 61

(7) Down slope in Ruddy dirt  
 2 posts  
 #1 A56102 (5) 2905 Aug 30/73 Post #1  
 #4 A56103 TIM

Survey pins UU 35

(8) Ridge along S Boundary 1 post SBP

(9) Ridge along S Boundary 2 claim post  
 1 painted post 3 survey stakes  
 #3 A96036 R. Plummer

#1 A56100  
 #4 A56101

BP 318 (1) - tag UU 36

(10) W of (9) survey pin red tag 617

(11) Creek south of Dutchman GRW  
 FLT - FP MEGAPPY. Stills to 1/2"

WEDNESDAY 22 JULY, 1981

TUNWISTEN 81-076

GLACIER

NE CORNER POST. ?

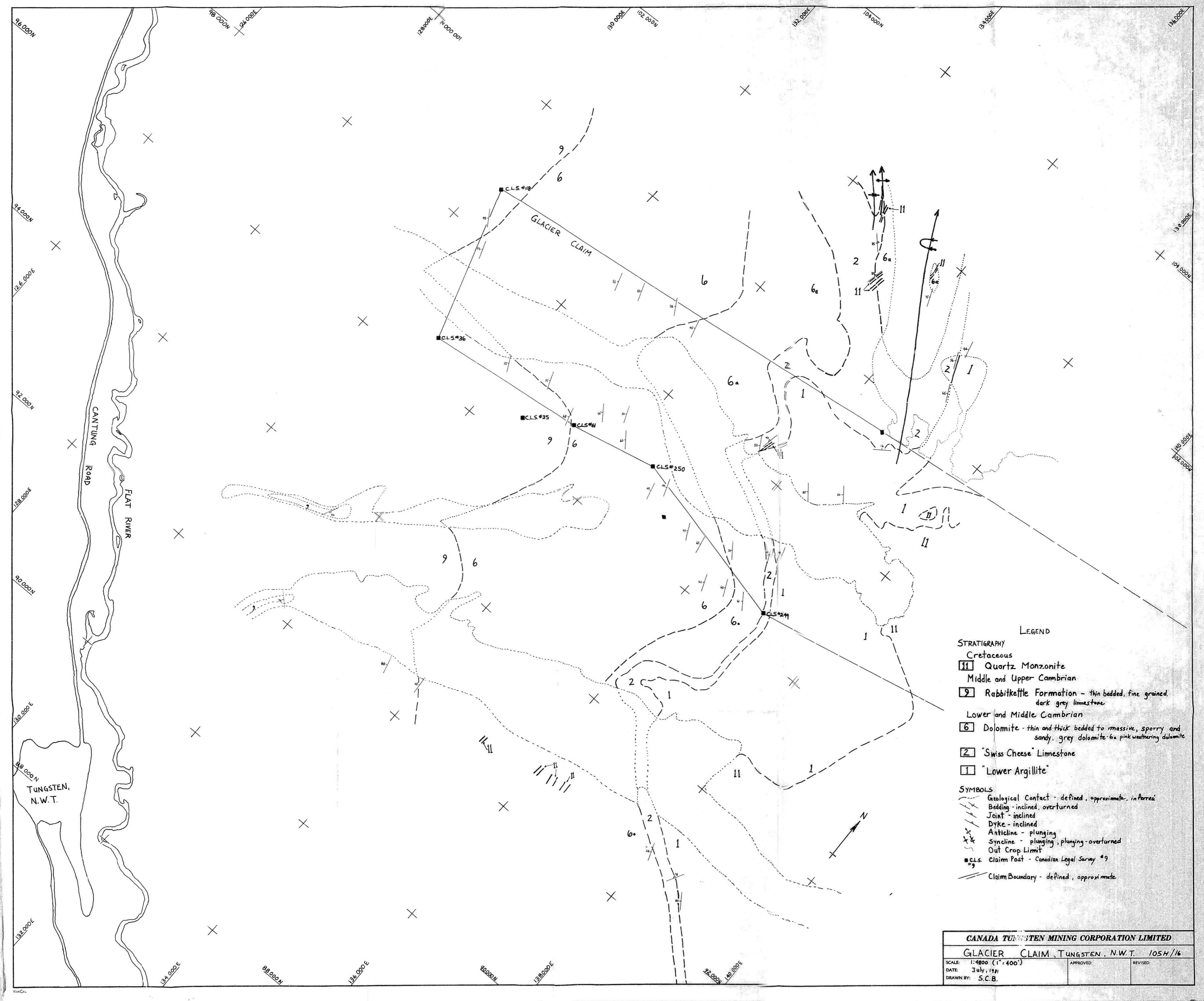
(12)

CP

UU 1R

Tag APPO32

4x4"



**LEGEND**

**STRATIGRAPHY**

Cretaceous

**11** Quartz Monzonite

Middle and Upper Cambrian

**9** Rabbitkettle Formation - thin bedded, fine grained, dark grey limestone

Lower and Middle Cambrian

**6** Dolomite - thin and thick bedded to massive, sperry and sandy, grey dolomite - 6a pink weathering dolomite

**2** "Swiss Cheese" Limestone

**1** "Lower Argillite"

**SYMBOLS**

Geological Contact - defined, approximate, inferred

Bedding - inclined, overturned

Joint - inclined

Dyke - inclined

Anticline - plunging

Syncline - plunging, plunging - overturned

Out Crop Limit

■ C.L.S. Claim Post - Canadian Legal Survey #9

--- Claim Boundary - defined, approximate

**CANADA TUNGSTEN MINING CORPORATION LIMITED**

**GLACIER CLAIM, TUNGSTEN, N.W.T. 1054/16**

SCALE: 1:4800 (1" = 400')

DATE: July, 1921

DRAWN BY: S.C.B.

APPROVED:

REVISED: