

84-#92 - 12012  
3/85  
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

12,012

GEOLOGICAL, GEOCHEMICAL and PERCUSSION DRILLING  
REPORT

TU -1 to 3 claims

KAMLOOPS MINING DIVISION

NTS 82M/13E

Lat. 51° 48.5' N  
Long. 119° 35.5' W

OWNER: A. Horne  
OPERATOR: SULPETRO MINERALS LIMITED  
AUTHOR: D.C. Miller, P. Eng.  
DATE: December 28, 1983

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## INTRODUCTION

### LOCATION and ACCESS

The TU property is located 35 km northeastward of Clearwater, B.C., at geographic co-ordinates  $51^{\circ} 48.5' N$ , and  $119^{\circ} 35.5' W$  (NTS 82M/13E). It is located some 22.5 km along the Martin Creek logging road leading from the Yellow Head Highway at a point some 38 km eastward of Clearwater, B.C.

### PHYSIOGRAPHY

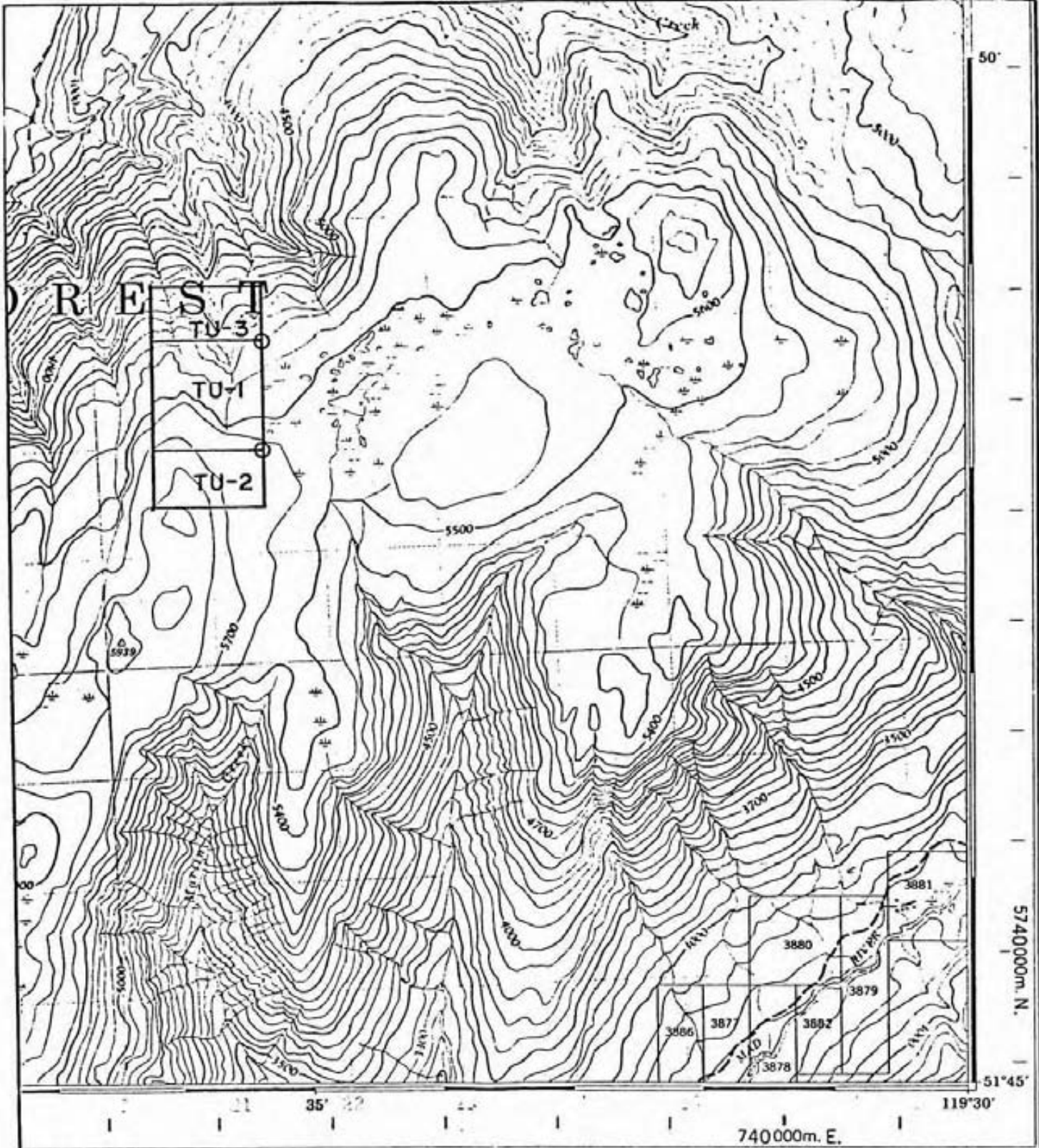
The property is situated on a plateau between the Raft and Mad Rivers at an elevation of approximately 1650 m. Slopes are mainly gentle, increasing to about  $35^{\circ}$  northward on the northern part of the property. The property is densely forested by mature spruce and balsam. Ice advance in Pleistocene time was southward.


### HISTORY

Scheelite float was discovered along a new logging road by A. Horne, prospector in July, 1983. Subsequently the TU claims were staked by Mr. Horne to cover the area of interest.

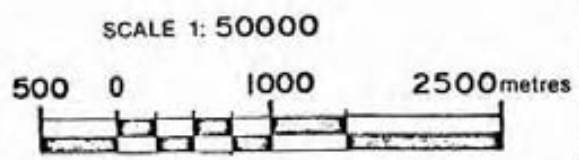
### PROPERTY DEFINITION

The property consists of 3 claims totalling 8 units as follows:



 **SULPETRO MINERALS LIMITED**  
KAMLOOPS, BRITISH COLUMBIA

**TU CLAIMS  
INDEX MAP**



Drawn by: **DCM**  
Date: **DEC. 28, 1983**

N.T.S.: **82M/13E**  
Figure No.: **1**

Claim No.	Units	Hectares	Claim Tag No.	Record No.	Anniversary Date
TU-1	4	100	42734	4586	July 21
TU-2	2	50	42944	4587	July 21
TU-3	2	50	82777	4588	July 21

### SUMMARY of CURRENT WORK

#### (1) Grid Establishment

A total of 6200 m of grid was established for control of geochemical and geological surveys and percussion drilling. A baseline running north was blazed, ribboned and chained for 1400 m and 13 cross-lines spaced 100 m apart were run from the baseline using topofil distance metres. Stations were marked at 25 m intervals along the cross-lines. Orientation of all lines was by compass.

#### (2) Geochemical Survey

A total of 207 soil samples were collected at 25 m intervals along cross-lines as shown on accompanying Sheet 1.

#### (3) Geological Survey

Geological mapping was done at a scale of 1:2500 and covered an area of 65 hectares (Sheet 2).

#### (4) Percussion Drilling

Eleven percussion drill holes totalling 580 ft. (176.78 m) were drilled and sampled. Locations are shown on Sheet 2.

TECHNICAL DATA and INTERPRETATIONGEOLOGY and MINERALIZATION

The property is underlain by rocks of the Shuswap Metamorphic Complex of uncertain age. Although outcrops are sparse, 3 units have been recognized.

Unit 1:

This unit comprises quartz-mica schist, phyllite and minor skarn. The skarn is unmineralized but is thought to be related to good grade scheelite float exposed mainly as detrital grains and small rocks along a ditch beside a logging road (Sheet 2). The largest float boulder found was about 20 cm in diameter. Mineralization in the float skarn (in handspecimen) consists of about 80% fine to medium grained brown garnet with the remainder composed mainly fine grained, dark skarn minerals, calcite, quartz and up to 15% scheelite. Scheelite grains range from less than 1 mm to over 5 mm in diameter. One piece of scheelite float was assayed and returned 6.74% W. Less than 1% fine grained pyrite is present in the skarn.

Rocks of Unit 1 strike northwest and dip northeastward at various angles. Near the contact with Unit 3, they are interfingering and altered by Unit 3, muscovite granite. The source of the float skarn is thought to be a erosional remnant of high grade scheelite skarn along the contact of Unit 1 and Unit 3.

Unit 2:

This unit consists of biotite gneiss consisting of coarsely foliated biotite and finer grained layers of light colored quartz-feldspar. This unit is exposed at the western limit of the grid and may grade into biotite granodiorite further west.

Unit 3:

Unit 3 consists of pale cream to light green, fine to medium grained muscovite granite with minor biotite. Near the contact with Unit 1, feldspars are altered to pale green (sericite ?) and some fine grained pyrite is present.

SOIL GEOCHEMISTRY

Soils were collected at 25 m intervals along grid cross-lines spaced 100 m apart. The soils were taken at an average depth of 20 cm and generally consist of brown to grey silty to rocky soil, (B-horizon). Upper layers consist of generally thin organics and local grey ash. Occasionally, samples were collected from areas of deep organics and the locations of these samples are shown on the accompanying Sheet 1 in pocket, indicated by the swamp symbol. Also shown are tungsten values in ppm for all samples.

The soil samples were placed in kraft bags, field dried and analyzed at the Kamloops Research and Assay Laboratory Ltd. Here the samples were dried, screened and a portion of the - 80 mesh material from each sample was analyzed by the

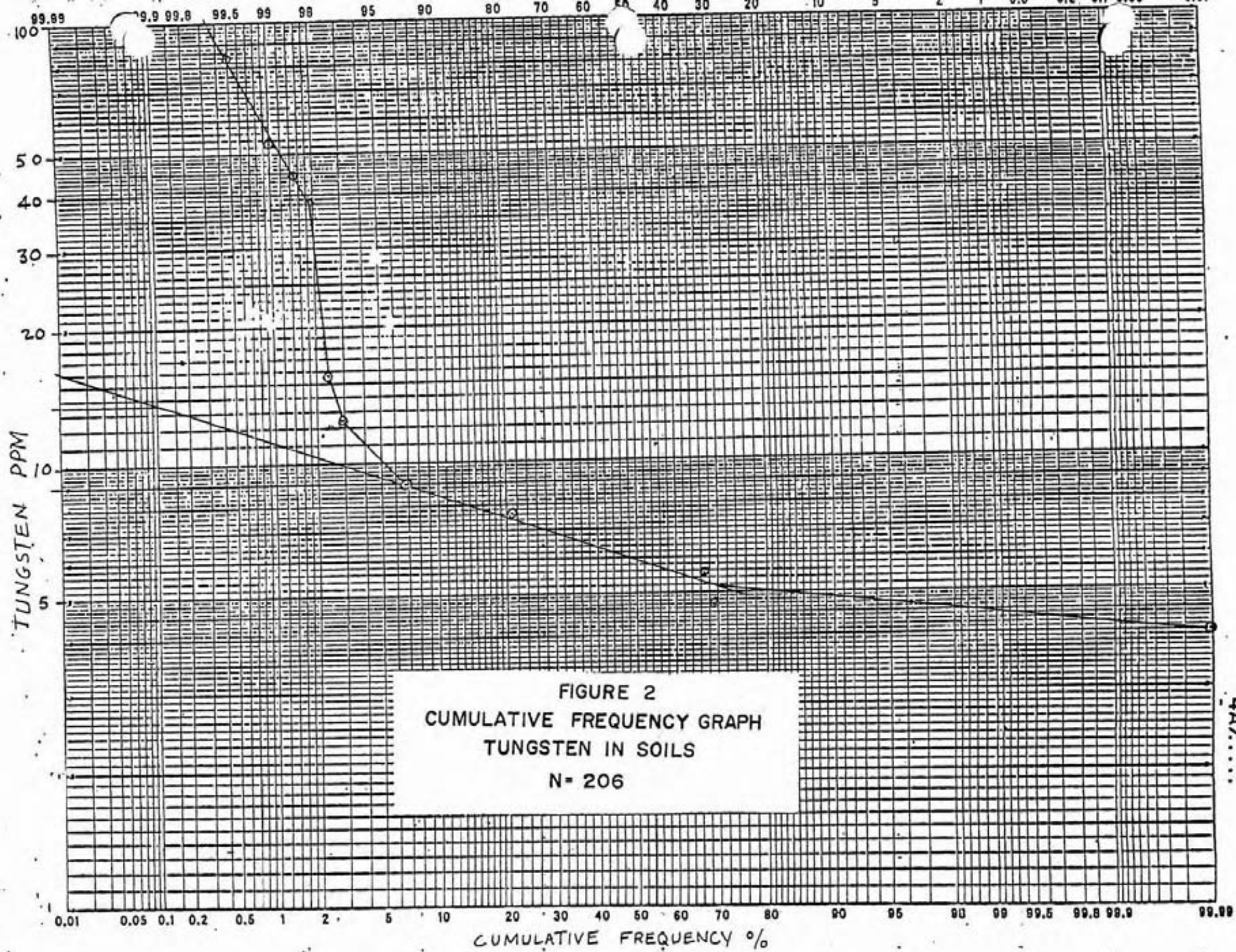


FIGURE 2  
 CUMULATIVE FREQUENCY GRAPH  
 TUNGSTEN IN SOILS  
 N= 206

4A/.....



colorimetric method. In this method the samples are fused with potassium pyrosulphate and leached with 50% hydro chloric acid in a hot water bath. A portion is withdrawn, reduced and treated with zinc dithiol to develop color. The color is then compared with a standard to estimate the tungsten content.

Anomalous values were estimated using a cumulative frequency plot of values (Figure 2). From this plot, the threshold is estimated at 9 ppm, possibly anomalous values range from 9-14 ppm and definitely anomalous values exceed 14 ppm. The locations of anomalous values are shown on Sheet 1. A line of definitely anomalous values, trending northerly, extend over a distance of 600 m. These values are thought to reflect glacial dispersion from a source just south of line 97N. Dispersion northward from this source reflects alluvial deposition.

One sample of fine scheelite rich soil taken at line 97N, 100E, contained greater than 1000 ppm W and was not included with other soil values for the cumulative frequency graph.

#### PERCUSSION DRILLING

Eleven percussion drill holes totalling 580 ft (176.78 m) were drilled to test near the main concentration of float and along the contact of granite and metamorphic rocks. All holes were vertical and ranged from 30 to 100 ft. (9.14-30.48 m) in depth. The drilling was done by Merritt - Funk Brothers Drilling Company of Merritt, B.C. and drilling and sampling were done using 10 foot rods. Therefore, results are reported in feet for simplicity.

Samples were taken in 5 ft intervals using an electric splitter. About one eighth of the cuttings were split out and collected in large plastic bags, each sample weighing about 4 lb. The samples were logged in the field as they were collected and also lamped for fluorescence. Results were negative as recorded on appended logs. Oil used for lubrication fluoresces similarly to scheelite and was noted in some cuttings. As a check on field work, all samples were submitted to the Kamloops Research and Assay Laboratory where composite samples were made from cuttings samples. These composites were analyzed geochemically by the colorimetric method previously reported. Values from composite samples were less than 3 ppm W.

#### CONCLUSIONS

The source of the scheelite float on the TU claims was not found, however, it is thought that percussion drilling and soil sampling results show that the source of the float is relatively small.

Respectfully Submitted,

*D.C. Miller*

D.C. Miller, P. Eng.

December 28, 1983



COST STATEMENTWages and Salaries

D.C. Miller:	August 30, 31; September 6-16, 27; October 7, 12-18; December 20-21, 28 25 days at \$225/day	\$5,625.00
A. Horne:	September 8-14 7 days at \$100/day	<u>700.00</u>
		<u>\$6,325.00</u>

Food and Accomodation

D.C. Miller:	September 8-14, October 12-16 12 days at \$44/day	528.00
A. Horne:	September 8-14 7 days at \$44/day	<u>308.00</u>
		<u>\$ 836.00</u>

Transportation

1981:	4 wheel drive suburban 12 days @ \$40/day	480.00
	oil and gas	<u>140.00</u>
		<u>\$ 620.00</u>

Percussion Drilling

	580 ft. @ \$7.00 foot	4,060.00
	Moving Charges	312.00
	Mobilization and Demobilization	<u>1,800.00</u>
		<u>\$6,172.00</u>

Analyses

(1)	207 soil samples @ \$4.95/sample	1,024.65
(2)	23 composite percussion drill hole samples at \$8.50/sample	195.50
(3)	1 tungsten assay @ \$10.00	<u>10.00</u>
		<u>\$1,230.15</u>

Telephone and Consumable Field Supplies \$ 112.67

Report Typing and Printing \$ 100.00

TOTAL \$15,395.82

STATEMENT of QUALIFICATIONS

I, David C. Miller, of 1278 Dalhousie Drive,  
Kamloops, B.C., do hereby certify that: -

- (1) I am a graduate of the University of British Columbia and received a B.A.Sc degree in Geological Engineering in 1959.
- (2) I have had 24 years experience in mining geology and mineral exploration.
- (3) I am a registered Professional Engineer in the province of British Columbia.
- (4) I have performed field and office work on the property discussed in this report.

*D.C. Miller*

D.C. Miller, P. Eng.

December 28, 1983









PROPERTY TU	TP OR AREA	AZIMUTH	DATE STARTED Oct, 14/83	CORRECTED DIP TESTS	LOCATION SKETCH OF HOLE
PROJECT 5264	LOT & CONC.	DIP -90°	DATE COMPLETED Oct, 14/83		
CLAIM NO. TU-1	CO-ORDINATES.	LENGTH 50 feet (15.24m)	DRILLED BY FUNK BROS.		
GRID NO.		COLLAR ELEV.	LOGGED BY D.C. MILLER		

FEET		SECTION	DESCRIPTION	SAMPLE NO.	FROM	TO	LENGTH	ASSAYS					
FROM	TO												
(METRES)			OBJECTIVES:-										
0	10		<u>OVERBURDEN</u>										
	(3.05)												
10	25		Cuttings comprise light grey quartz, muscovite and minor biotite. Rock is unit 1: quartz-mica schist; no fluorescence.										
	(3.05) (7.62)												
25	40		Cuttings as 10-25 mixed with pale white feldspar. Rock is interfingered metamorphics and muscovite granite; no fluorescence.										
	(7.62) (12.19)												
40	50		Cuttings as 25-40 but predominantly from metamorphic rocks; no fluorescence.										
	(12.19) (15.24)												
				FEET				P.P.M.					
								W					
				*L = less than									
				10	30	20		*L3					
				30	50	20		L3					
				METERS									
				3.05	9.14	6.09							
				9.14	15.24	6.10							







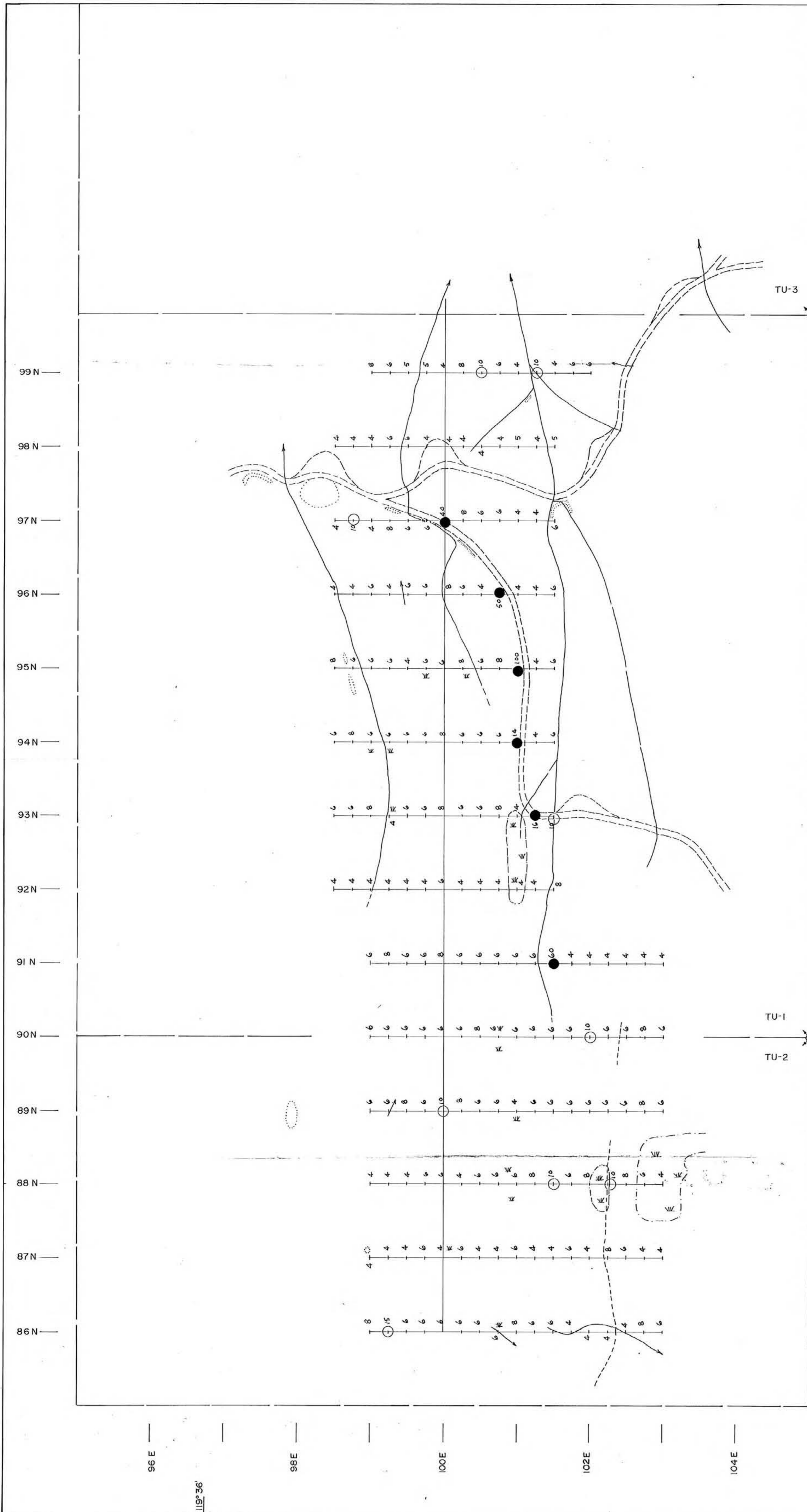












**SYMBOLS**

- GRID LINE, SOIL SAMPLE LOCATION
- CLAIM BOUNDARY
- LEGAL CORNER POST
- CREEK
- MEADOW, SWAMP
- LOGGING ROAD
- TRAIL
- OUTCROP

- 9-14 POSSIBLY ANOMALOUS
- > 14 DEFINITELY ANOMALOUS

**GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT** 51°48'

**12,012**  
METRES



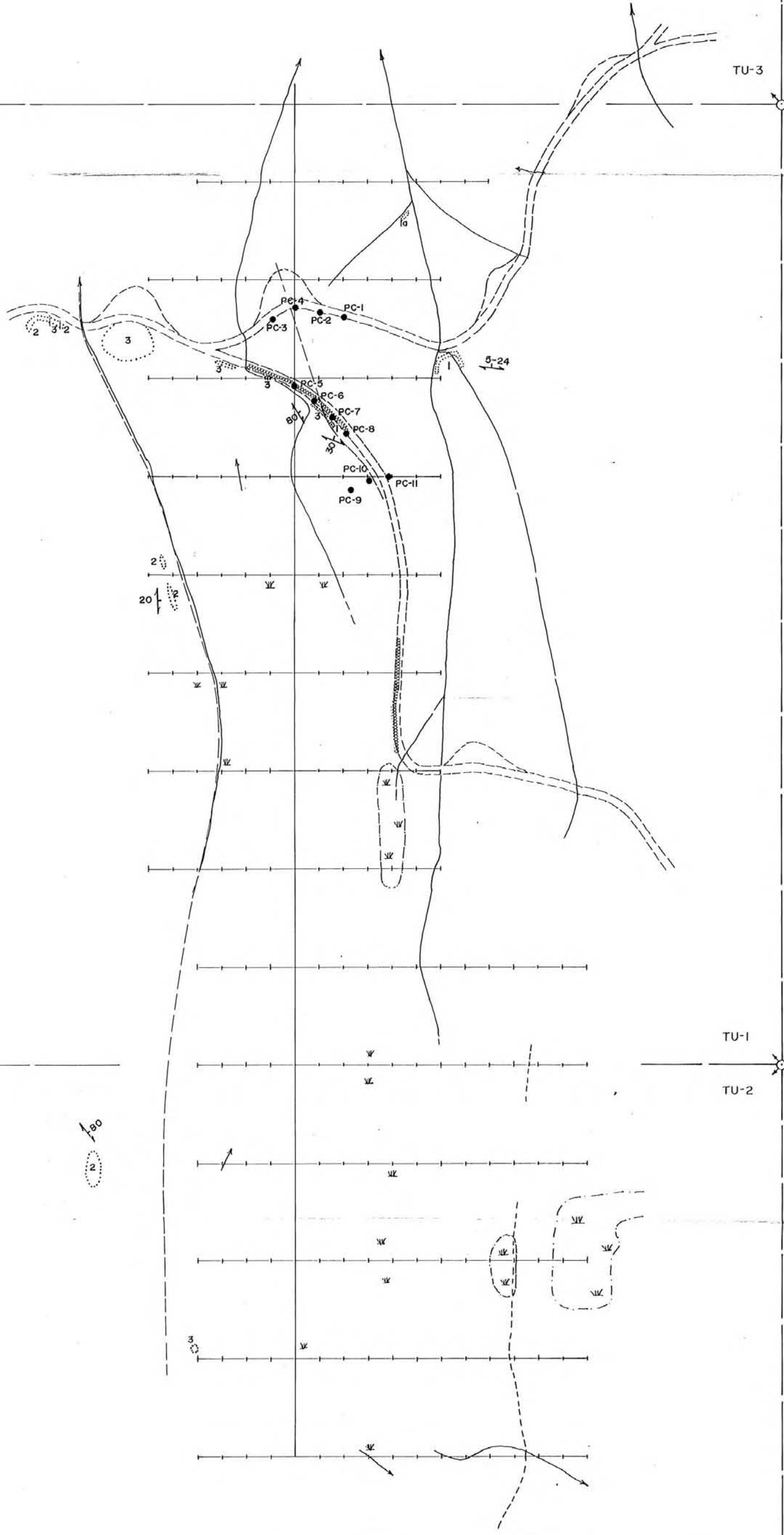
TO ACCOMPANY GEOLOGICAL, GEOCHEMICAL AND DRILLING  
REPORT BY D.C. MILLER, P. ENG. DATED DEC. 28, 1983

**SULPETRO MINERALS LIMITED**  
KAMLOOPS, B.C.

TU CLAIMS  
GEOCHEMISTRY  
PPM TUNGSTEN IN SOILS

SCALE: 1:2500		PROJECT NO. 5264	SHEET NO. 1 OF 2
APPROX. LAT. & LONG. OF LOWER RT. COR. OF DWG.	LATITUDE	REPORT NO.	N.T.S. 82M/13F
	LONGITUDE		





**SYMBOLS**

- GRID LINE, SOIL SAMPLE LOCATION
- CLAIM BOUNDARY
- LEGAL CORNER POST
- CREEK
- MEADOW, SWAMP
- LOGGING ROAD
- TRAIL
- OUTCROP
- SCHEELITE FLOAT
- PC-1 PERCUSSION DRILL HOLE
- MUSCOVITE GRANITE
- BIOTITE GNEISS
- QUARTZ-MICA SCHIST, PHYLLITE, lg-SKARN
- FOLIATION / BEDDING
- GEOLOGICAL CONTACT (APPROXIMATE)

GEOLOGICAL BRANCH ASSESSMENT REPORT 51° 48'

**12,012**



TO ACCOMPANY GEOLOGICAL, GEOCHEMICAL AND DRILLING REPORT BY D.C. MILLER, P. ENG. DATED DEC. 28, 1983

**SULPETRO MINERALS LIMITED**  
KAMLOOPS, B.C.

TU CLAIMS  
GEOLOGY & PERCUSSION DRILLING

SCALE: 1:2500	PROJECT NO. 5264	SHEET NO. 2 OF 2
APPROX. LAT. & LONG. OF LOWER R.E. COR. OF DWG.	REPORT NO.	NTS. 82M/138
— — — — — LATITUDE		
— — — — — LONGITUDE		