Further Excavation Work, Geological Mapping and Geochemical Sampling on the Queen Claims, Watson Lake Mining Division, Yukon Territory.

Latitude 60° 59' N.

Longitude 128° 49' W.

NTS 105A - 15

by

T. Liverton

Tarmachan Exploration Services Limited,

August 1981.

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 400.00 .

Ruth Debicki

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

INDIAN and NORTHERN AFFAIRS

TRANSMITTAL FORM

M.R. File No. _____

S.M.R. File No. _____

Date Fwd. NOV 4/81.

FROM: Mining Recorder at Watson Lake

Supervising Mining Recorder at Whitehorse, Y.T.

Office of the Supervising Mining Recorder
NOV 5 1981
WHITEHORSE
Yukon Territory

FOR ACTION ARE:

☐ NEW APPL'N for PLACER LEASE to PROSPECT: Name:

☐ RENEWAL APPL'N PLACER LEASE to PROSPECT: Name: Lease No .....

☐ AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name: Lease No .....

☐ ASSIGNMENT of PLACER LEASE No. .....
From: To:

☐ GROUPING APPL'N UNDER SEC. 52(2) PLACER MINING ACT.
Owner:

☐ DIAMOND DRILL LOGS:
Claims: Claim sheet no. ~~105A-15~~

☒ QUARTZ ASSESSMENT REPORT
Claims: QUEEN 1, 2
Claim sheet no. 105A-15
Type of report: 19, 20 Geological & Geochemical
Submitted by: Alex Black
Cls. work performed on: QUEEN 19, 20
$ Req. for ren. application $400-

Signature

REPLY ACTION. Date Ret.

090885

Signature

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMEI

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

RECEIVED
1981 OCT 28
MINING RECORDER
WATSON LAKE, Y.T.
I.A. & N.D.

(This form required in duplicate with sketch showing location of work.)

I (Name) TIMOTHY LIVERTON	Occupation GEOLOGIST
(Postal Address) BOX 529 WATSON LAKE, Y.T.	OFFICE DATE STAMP

MAKE OATH AND SAY, THAT:

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.
2. I have done, or caused to be done, work on the following mineral claim(s):

(Here list claims on which work was actually done by number and name)

QUEEN 19, 20

situated at QUEEN CREEK Claim Sheet No. 105-A-15

in the WATSON LAKE Mining District, to the value of at least 560 —

dollars, since the NINTH day of JULY 19 81,

to represent the following mineral claims under the authority of Grouping Certificate No. _____

(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

QUEEN 1	YA 54813	1 YEAR
2	YA 54814	"
19	YA 54831	"
20	YA 54832	"

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

9th, 12th JULY GEOLOGICAL MAPPING, EXCAVATION, GEOCHEMICAL SAMPLING

Sworn before me at _____

this _____ day of _____ 19 ___.

_____
Notary Public

_____
Timothy Liverton
Applicant

C O N T E N T S

INTRODUCTION

The Queen Claims (Numbers 1, 2, 3, 4, 17, 18, 19, 20 and 37 remaining from an original block of 40) cover copper, lead and tungsten mineralization found within the granodiorite pluton which extends Northward from Mt. Murray. The present claims were staked in June 1980 by Alex Black. During the last year he excavated a sizable pit on the mineralization. This present work concerns enlargement of the excavation, a map of the mineralization and a geochemical orientation survey of the immediate area of mineralization.

LOCATION

The claims are 102Km. north of Watson Lake and may be reached by a long walk from the Nahani Ridge Road, approaching up the valley from the South - East. Access for the present work was done by helicopter.

CLAIMS

The existing claims are:

Queen	1	YA54813		18	YA54830
	2	YA54814		19	YA54831
	3	YA54815		20	YA54832
	4	YA54816		37	YA54849
	17	YA54829			

Expire 11th of June 1984.

THE MINERALIZATION

The mineralization consists of chalcopyrite, galena and scheelite occuring in an intensely jointed zone in the granodiorite pluton. The granodiorite is equigranular and slightly coarser than that in the southern part of the pluton (here it is around 3.m.m. grainsize), showing biotite as the ferromagnesian present. The mineralized area shows three sets of joints - one extremely pervasive open set striking 085° and dipping Southerly at 69° and two Northerly striking sets intersecting it. The Northerly sets are striking and dipping 010°/52E and 010°/55 W. These sets carry epidote and galena to 5 m.m. widths.

Chalocopyrite occurs dissemenated away from the joints for 2 cm. or so. Scheelite was noted in 0.5 m.m. wide East dipping joints on the North wall of the pit.

The obvious higher grade mineralization occurs where the two North trending joint sets cross the East - West set in the deeper portion of the pit. The mineralization does however, show to the North face of the excavation; ie over 5 metres in that direction.

It was uncertain whether the mineralization followed the East - West zone and is elongated or represented a pipe-like form, controlled by the joint intersections. The rock exposure is virtually limited to the pit - above the hill is covered in boulders and below, except for some altered and jointed granitic rocks 10 metres S.S.W., grass and balsam obscure the geology. The most optimistic interpretation of the mineralization would be that all three joint sets control mineralization and that it is conical in geometry, with a slight Southward plunge.

EXCAVATION

The original excavation work (1980 assessment) is estimated at 29 cubic metres (37.9 cubic yards). The central pit was deepened during the present work, a further 1.5 cubic metres (2.0 cubic yards) having been removed by blasting using the existing fractures for placement of explosives and then hand mucking. It was found that the Eastern side of the pit shows the better grade of material (up to 10% galena, 5% chalcopyrite, estimated) and that the higher grade has a South plunging attitude.

GEOCHEMICAL SAMPLING

A baseline was established on approximately 040° true with the instrument station alongside the pit as origin. Cross lines were established (using compass and slope-chaining) at 50 S. 25 S. and 30 N. (metric). Soil samples were collected from each 10 metre interval, 50 metres either side of the baseline. In each case the "B" horizon was collected where it existed (a few of the Easternmost samples being available material from between the boulders). It was hoped that this sampling would show whether there is much downslope migration of copper and lead from the known showings and in particular might give an indication as to whether the mineralization follows the 010° joint system Northward.

RESULTS

The results of analysis for copper and lead of the soil samples are shown on the accompanying sketch. Assay sheets are appended. It is noteable that on

the 25 S. line, the 00 and 10 E sample points show high values in both elements and that a similar high value is seen at the baseline 0 50 S. There is perhaps some evidence of secondary dispersion on the 25 S. line but little at 50 S. The one high value would suggest continuation of the mineralization on the 190° strike since the slope of the hillside trends somewhat more Easterly. There is a lack of anomaleous values on strike to the North (30 N line). The one high lead value (280 ppm) at 50 W. probably represents another mineralized vein of smaller size.

CONCLUSIONS AND RECOMMENDATIONS

The little geochemical work done does tend to suggest that the mineralization follows the Northerly trending joints rather than the East -West open joint set. In the pit the East - dipping set carried the higher grade of mineralization, but some galena does show on the West - dipping set also. It is necessary at this stage to determine whether the mineralization has any strike - length and perhaps if there is any further similar mineralization nearby. This could be achieved using a small grid soil sampling programme with some close-spaced sampling around the showing as follows:

i) Run lines 0, 75, 100, 125 South and sample over 10 metre intervals from 100 West to East. Also run lines 50 and 75 North with this close sampling. Extend existing grid to these dimensions.

ii) Run 50 metre spaced lines sampled at 30 metre intervals say, from 500 N. to 500 S. and East and West for a similar distance to attempt to locate any other mineralization that might be nearby. Boulders on the East side of the ridge might hamper sampling in that direction somewhat. If a 30 by 50 metre grid does not detect anything it is certainly too small to be of any interest. Some care would be rewarded in the collection of material to attempt to obtain a consistent soil type.

Further deepening of the pit might help to evaluate the mineralization already found, but if this is attempted it would soon require better equipment than a Cobra Drill and shovel to achieve this. The highly fractured nature of the rock does not provide easy drilling conditions for a Cobra. To obtain a proper idea of grade present since we are dealing with joint - controlled mineralization would need the collection of a large sample, preferably by means of splitting a quantity of rock obtained from deepening of the pit in a systematic manner.

This should be attempted if the geochemical survey indicates some appreciable strike - length to the mineralization.

Timothy Tivarton

WORK PERFORMED (COSTS)

Dates when the work was performed are as follows:

9th of July 1981 (T. Liverton, Alex Black); mapping, geochemical sampling, som excavation.

12th of July 1981 (A. Black); further excavation

Costs are as follows:

T. Liverton:	1 day @ $100.00	$100.00
A. Black	2 days @ $80.00	$160.00
Portion of helicopter charter:		$190.71
Camp costs 3 Man days @ $20.00		$ 60.00
Report preparation:		$ 50.00
	Total	$560.71

It is proposed to apply assessment to the following claims:

Queen	1	1 year
	2	1 year
	19	1 year
	20	1 year

STATEMENT OF QUALIFICATIONS OF AUTHOR

Timothy Liverton - Graduated from the University of Sydney with a B Sc degree in Geology and Geophysics in 1964.

Experience:

(In Australia)

1965 - Employed by R. Hare & Associates (consultants) to work on tin, tungsten, and copper mines and prospects in Queensland and Western Australia. Work included surface and underground surveying and geological mapping, supervision of diamond drilling and regional mapping.

1966 - 1967 - Employed by the Electrolytic Zinc Company of A'Asia Limited. to work on base metal exploration in southern N.S.W. and uranium prospect in South Australia. Work involved detailed mapping, supervision of drilling, geochemcial surveys and geophysics and petrographic studies.

1968 - 1970 - Employed by Trans Australiam Exploration (Mc Phar, Sumitomo, St. Joseph, Bethlehem Copper) to carry out regional mapping and prospecting over 2000 square miles of Queensland to explore for copper, molybdenum and tungsten.

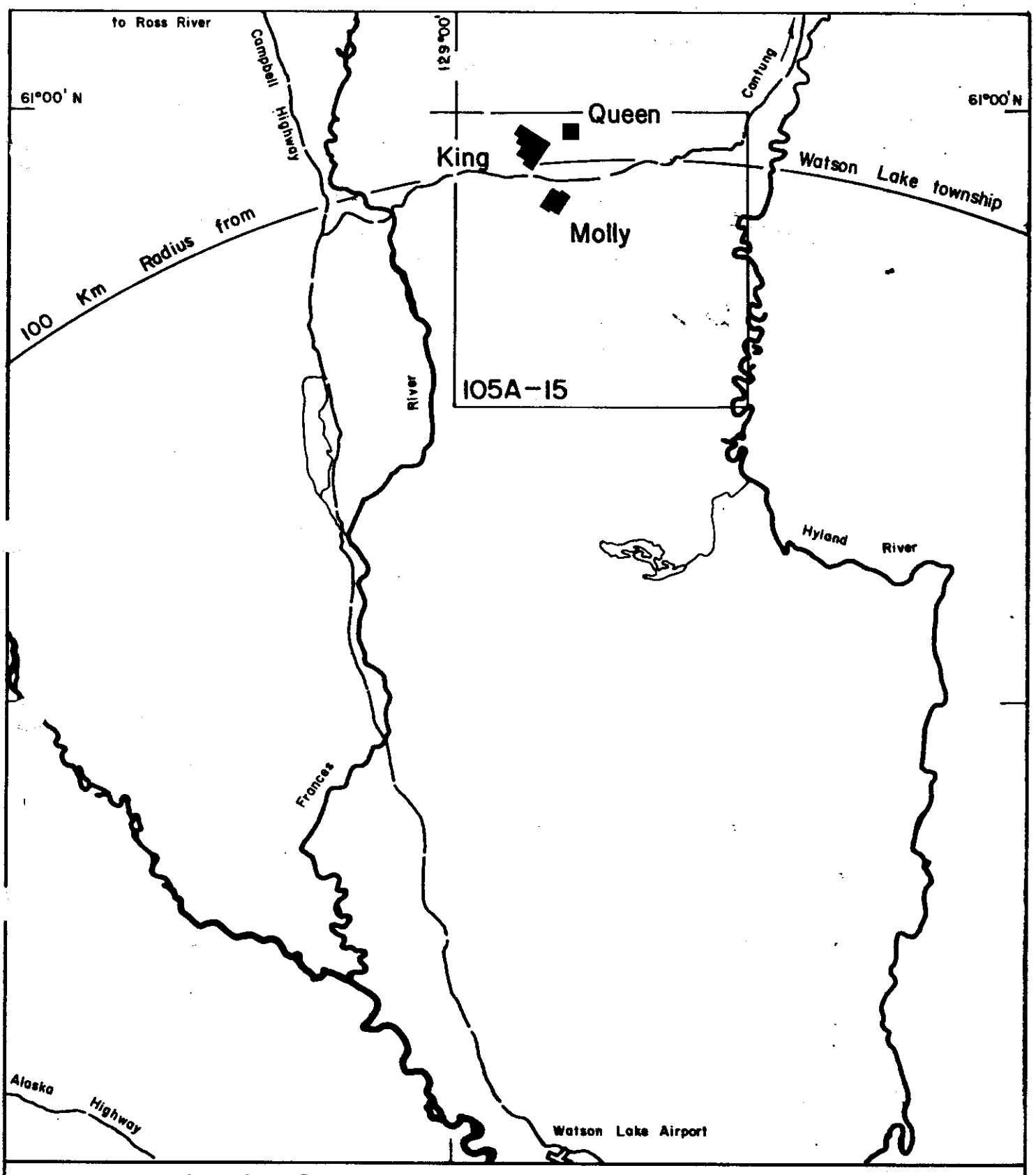
1971 & 1972 - Employed by ANZ Exploration (Union Carbide) to carry out uranium exploration in the Northern Territory in the Alligator River region.

(In Canada & Abroad)

1973 - Working as a civil engineer in England, supervising harbour construction.

1974 to 1979 - Employed by Union Carbide Canada Limited to work in Yukon and Northern British Columbia tungsten projects during the summer. During the winter months working on reconnaissance for quartz in Greenland, for Manganese in Amazonia, Brazil; as a mine geologist at the Pine Creek Mine, California, on Tungsten exploration in Norway and development work in Portugal.

1980 & 1981 - Self-employed, carrying out various projects in the Yukon, Northern B.C, and Saskatchewan (Geological mapping, surveying and property examination) for exploration companies.

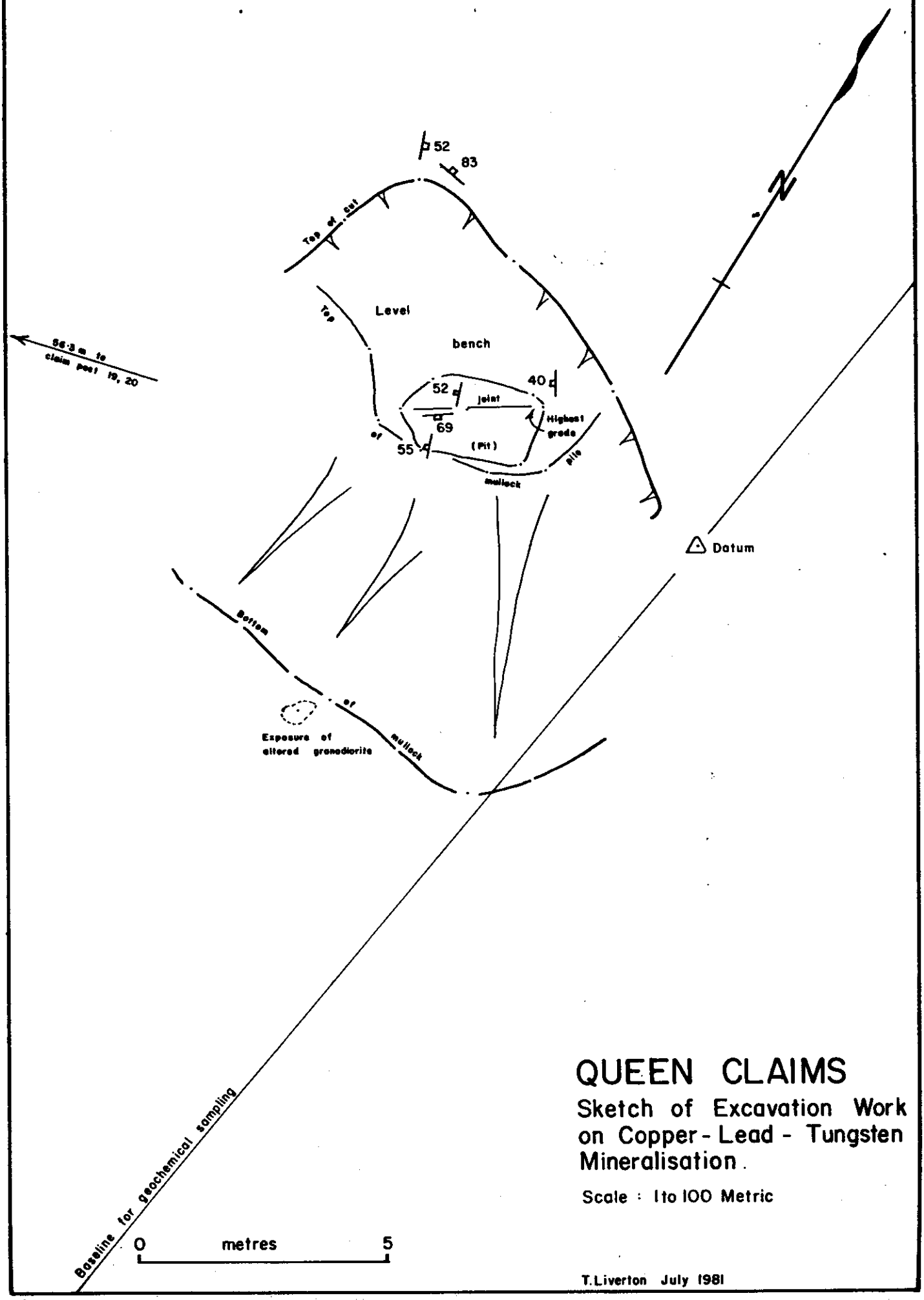


Locality Sketch for King, Queen and Molly Claims
105A -15, Watson Lake Mining District, Yukon.

0 10
Km

Scale : 1 to 500 000

T.L. Aug. 1981.

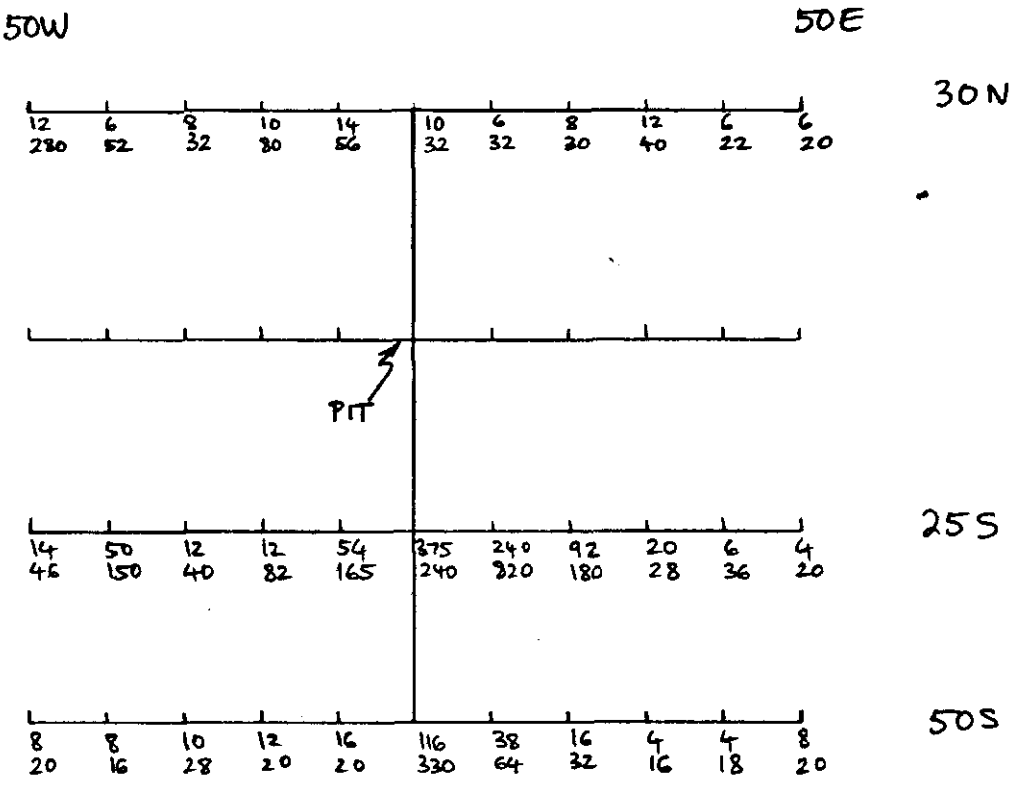


QUEEN CLAIMS

Sketch of Excavation Work on Copper - Lead - Tungsten Mineralisation.

Scale : 1 to 100 Metric

T. Liverton July 1981



Values : $\begin{cases} 36 & Cu; \text{ ppm} \\ 64 & Pb; \text{ ppm} \end{cases}$

Queen Claims
Geochemical Soil Sampling
(Orientation)

Scale: 1 to 1000

BONDAR-CLEGG & COMPANY LTD.

136B INDUSTRIAL RD. WHITEHORSE, YUKON Y1A 4X1

PHONE: (403) 667-6523
TELEX: 036-8-460

Geochemical Lab Report

FROM: Tarmachan Exploration

REPORT NUMBER: 41-440

PROJECT:

DATE: August 5, 1981

SAMPLE NUMBERS		Cu ppm	Pb ppm
30N:	0E	10	32
	10E	6	32
	20E	8	30
	30E	12	40
	40E	6	22
	50E	6	20
	10W	14	56
	20W	10	80
	30W	8	32
	40W	6	52
	50W	12	280
25S:	0E	375	740
	10E	240	820
	20E	92	180
	30E	20	28
	40E	6	36
	50E	4	20
	10W	54	165
	20W	12	82
	30W	12	40
	40W	50	150
	50W	14	46
50S:	0E	116	330
	10E	38	64
	20E	16	32
	30E	4	16
	40E	4	18
	50E	8	20
	10W	16	20
	20W	12	20
	30W	10	28
	40W	8	16
	50W	8	20

FOR METHOD, EXTRACTION AND FRACTION USED – SEE ATTACHED

BONDAR-CLEGG & COMPANY LTD.

1368 INDUSTRIAL RD, WHITEHORSE, YUKON Y1A 4X1

PHONE: (403) 667-6523
TELEX: 036-8-460

ELEMENT	EXTRACTION	METHOD OF ANALYSIS
Cu,Pb,Zn,Mo,Ag,	✓ Hot Lefort Aqua Regia	Atomic Absorption
Cd,Ni,Co,Mn,Fe,	____ Multi Acid	
Sn	____ Ammonium Iodide	
U	____ Hot Conc HNO_3	Fluorimetric
	____ Hot Multi Acid	
	____ 1% Sodium Bicarbonate; 20°C	
	____ Basic Oxidizing; 20°C	
	____ 1% Acetic; 20°C	
	____ 0.1N HNO_3; 20°C	
	____ - - - - - - - - - - -	Delayed Neutron Activatio
W	____ Basic oxidizing fusion	Colorimetric
F	____ Basic Fusion	Citrate Buffer-Specific Ion
Au,P[illegible],Pd	____ Fire Assay and Hot Aqua Regia	Atomic Absorption
As	$HClO_4$-HNO_3 Arsine	Colorimetric
Hg	Aqua Regia	Closed Cell, Flameless Atomic Absorption
Sn,Sb,Ba,Rb,Sr,Y Zr,Nb,La,Ce,Ti,	- - - - - - - - - - - - -	Energy Dispersive XRF
Th,Se,Ta,Ga,In,	- - - - - - - - - - - - -	Discrete angle/cathode XRF
Bi	____ Hot Conc HNO_3	Atomic Absorption
	____ Multi Acid	
V,Be,Li,	Multi Acid	Atomic Absorption
Cr	Sodium Peroxide Fusion	Atomic Absorption
Tl,Re,	Multi Acid +Organic Extraction	Atomic Absorption
B	____ - - - - - - - - - - -	Emission Spec
	____ Fusion + H_2SO_4	Colorimetric
[illegible]	Multi Acid	Colorimetric
[illegible]	- - - - - - - - - - - - -	Leco Induction Furnace