

GEOLOGICAL REPORT

on the

BAILEY GROUP - 1-88

Mount Bailey Area

Yukon Territory

1° Quadrilateral

60°, 128° N.W.

060124

*Copy*  
Y55473 - Y64163

by

N.D. McKechnie, P. Eng.

Accepted under section  
62 of Y.Q.M.A.

*[Signature]*  
B.R. Baxter, Supervising Mining  
Recorder

Work done by:

Douglas Parent, P. Eng.,  
Neil D. McKechnie, P. Eng.

Work done for:

Morning Star Mines Ltd. (N.P.L.)

Examination made:

October 6, 1971

October 21, 1971

Report dated: \_\_\_\_\_  
This report has been examined by the  
Geological Evaluation Unit and is recom-  
mended to the Commissioner to be consid-  
ered as representation work in the amount of  
\$ 4581.70

\$ 4581.70

*A.B. Craig*  
Resident Geologist or  
Resident Mining Engineer

Considered as representation work under  
Section 53 (4) Yukon Quartz Mining Act.

*[Signature]*  
Commissioner of Yukon Territory



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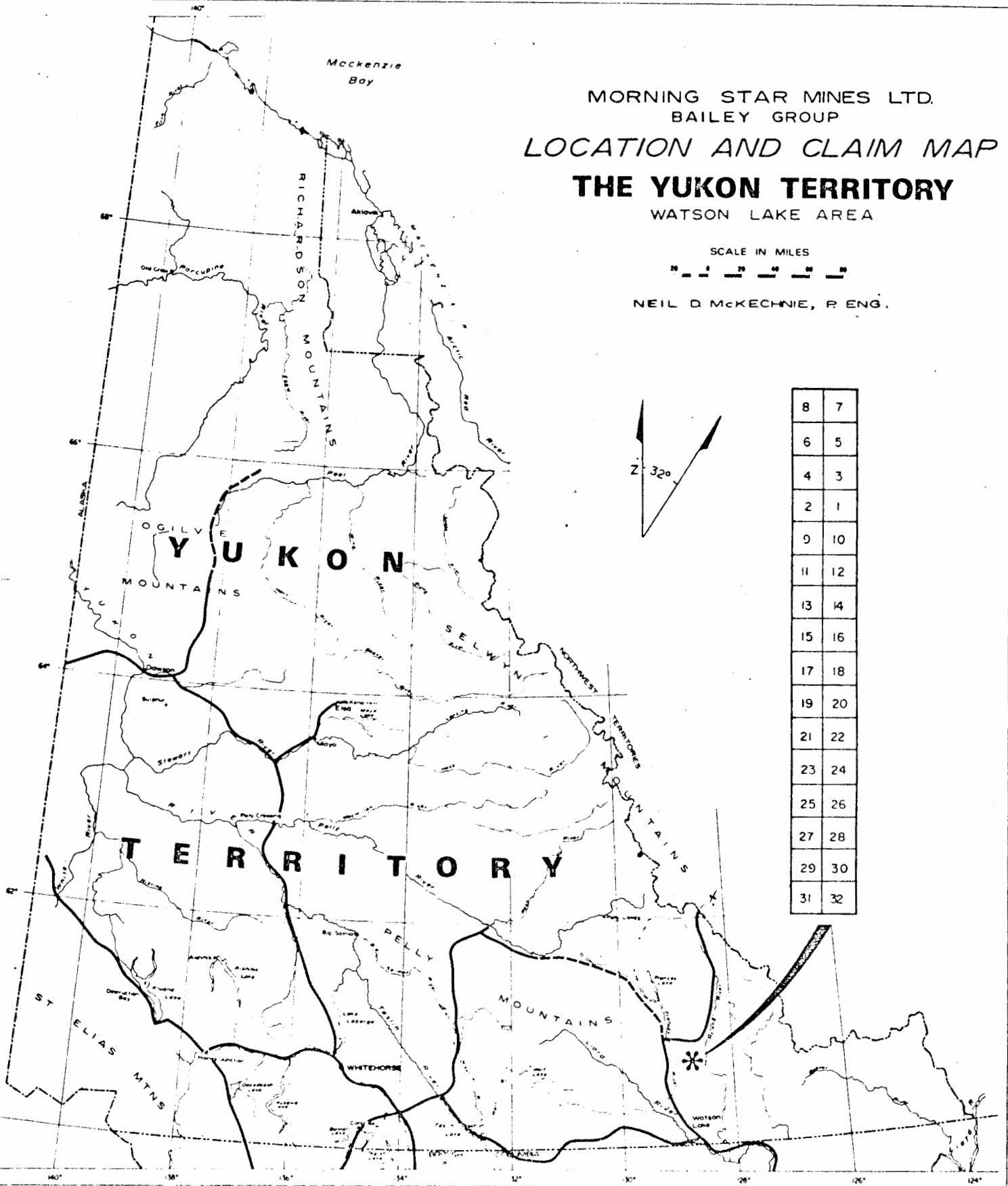
Fig.1            Key Map

MORNING STAR MINES LTD.  
 BAILEY GROUP  
**LOCATION AND CLAIM MAP**  
**THE YUKON TERRITORY**  
 WATSON LAKE AREA

SCALE IN MILES



NEIL D McKECHNIE, P. ENG.



8	7
6	5
4	3
2	1
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32

BAILEY GROUP

WATSON LAKE MINING DIVISION

YUKON TERRITORY

Conclusions and Recommendations:

The scheelite (calcium tungstate) mineralization is the potentially valuable mineralization on the Bailey Group of 32 mineral claims. It occurs with pyrrhotite and minor chalcopyrite in skarn zones lying at the contact of granitic intrusive rocks with limestone. The extensive contact areas on this property, containing the skarn zones, are highly favourable for the occurrence of economic concentrations of scheelite, as well as copper mineralization.

It is recommended that the skarn zones be investigated by geophysical, geochemical and geological mapping. The presence of pyrrhotite in the zones should make them easily traceable by magnetometer and electromagnetic methods.

The following program is proposed:

Starting at the "A" site, a base line should be established on the north-south location line for the full length of the group at 400-foot spacing and 100-foot stations. This will serve as a control for the surveys and for soil sampling.

The geology should be mapped out at a scale of not less than 400 feet to the inch to obtain structural data on the folding and faulting of the limestone, to trace the skarn zones and to provide data to aid interpretation of the geophysical data.

An electromagnetic and magnetometer survey should be made in order to trace the skarn zone and, probably, faults across areas marked by overburden.

Soil sampling should be done in overburden area; tests for one element, copper, because of its association with the mineralized areas, should suffice.

The skarn zone at the "B" site should be systematically sampled for its whole exposed length at intervals of not more than ten feet.

It is estimated that the program would require one month, at the following costs:

Cutting and staking the grid	\$3,750.00
Geological survey	\$3,750.00
E.M. survey	\$3,750.00
Magnetometer survey	\$3,000.00
Geochemical survey and analysis	\$2,400.00
Assaying	\$1,000.00
Instrument rental	\$ 900.00
Materials	\$ 100.00

*M.D.M.*

BAILEY GROUP

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Helicopter	\$ 2,100.00
Air Fares	\$ 462.00
Hotels, Taxis, etc.	\$ 75.00
Wages, prospector and helper	\$ 2,300.00
Meals and accommodation	\$ 2,250.00
Reports and interpretations	\$ 1,700.00
Overhead and administration	\$ 3,000.00
Contingencies	<u>\$ 1,000.00</u>
	<u>\$31,637.00</u>

*W.S.M.*

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Introduction:

The following report was prepared for Morning Star Mines Ltd., (N.P.L.) on instructions from Mt. T.G. Wilson, Managing Director. Data for the report was obtained by the writer on October 6, 1971, by a general examination of the property with the aid of a helicopter. During July and August, staking, rock trenchings and sampling on the "A" and "B" zones and the affixing of metal tags to the claim posts, were supervised by Mr. Douglas Parent, P. Eng., mining engineer, who, at the same time, conducted a preliminary examination and geological study of the main areas of interest. Data obtained by Mr. Parent and from Government maps supplement the writer's observations.

Location:

The Bailey 1-32 mineral claims are shown on the Claim Map 105 A15 (Claim Nos. 1-26) and on Claim Map 105 A10 (Claim Nos. 27-32). They are situated on two unnamed mountains about eight miles south-southwest of Mount Murray at the southward end of the Selwyn Range, near its junction with the Hyland Plateau. The group is centered approximately at Lat. N.  $60^{\circ} 46' 20''$  and Long. W.  $128^{\circ} 20' 19''$  and is some fifty miles from the village of Watson Lake on a bearing of north six degrees west. The Watson Lake-Ross River road lies about fourteen miles west of the property and the Canada Tungsten road lies about twelve miles to the north. Elevations on the property range between 3500 and 5500 feet above sea level. Timberline here is at about the 4000 foot level.

Claims:

The Bailey Nos. 1-32 mineral claims were staked on July 9-10, 1971 and are recorded as Nos. 755473-504. The staking was found to conform to the Yukon staking regulations.

The group forms a rectangular block of contiguous claims, two claims wide in an east-west direction and sixteen claims long in a north-south direction.

Access:

At present access is by helicopter from the base at Watson Lake.

*Parent*

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## BAILEY GROUP

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### General Geology:

The geology of the Bailey Group area is shown at 4 miles to 1 inch on Geol. Surv. of Canada Map 19-1966, Watson Lake, Yukon Territory, with descriptive notes.

The claims lie on the eastward side of a northward trending elongate mass of cretaceous biotite-hornblende granodiorite and quartz diorite. The claims lie near the southward end of the mass which extends through Mt. Bailey to some sixty-four miles beyond the limit of the Wolf Lake map area; near the claim group it is about three miles wide. The granitic rock is intrusive into Devonian and/or Mississippian sediments. Bedding attitudes shown on the map consist of northward strikes and gentle dips, up to  $44^{\circ}$ . A reading obtained by the writer on thin-bedded limestone near the intrusive contact was strike north 75 degrees east, dip 75 degrees northwest.

### Geology of the Property:

Limestone in contact with the granitic intrusive occurs within the property boundaries. The area, or zone, of interest is a varying width of skarn lying between marbelized limestone and the granitic intrusive rock. The skarn has been mineralized with pyrrhotite, scheelite and minor chalcopryite.

Two sites of mineralized skarn have been investigated which for present purposes will be designated "A" and "B". The "A" site is near the west side of Bailey No. 4 mineral claim at an elevation of 5000 feet and is the point marked "W" noted on G.S.C. Map 19-1966, "four miles northwest of the north end of Oscar Lake". The "B" site is situated near the southwest corner of Bailey No. 13 mineral claim on the north flank of a precipitous westward trending ridge about ~~2500~~<sup>2886</sup> feet southward from the "A" site and at about 4000 feet elevation.

On the same ridge and to the east of the "B" site a third exposure of limestone was seen; it was not examined.

At the "A" site three trenches were excavated eastward from a north-trending fault which here truncates the skarn on the west. The three trenches, A1, A2 and A3, crosscut the skarn zone, which here trends nearly east-west due to irregularities of the contact, at distances of respectively 75 feet, 210 feet and 526 feet eastward from the fault.

*W.D.M.*

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Trench A1:

This trench is hand excavated through about one foot of overburden. The skarn here is exposed for some 30 feet with the north end of the trench still in skarn and the south end in marbelized limestone. The writer tested with ultraviolet light a series of specimens taken by him at random along this trench; the presence of scheelite was confirmed. One chip sample taken by Mr. Parent at the time of excavating gave the following result:

<u>Width</u>	<u>% WO<sub>3</sub></u>	<u>Value/ton</u>	
10 ft.	0.35	\$19.50	= 1.94% Cu (at 500 ft)

Trench A2:

This trench was blasted in rock after removal of about a foot of overburden and exposed the skarn for a width of 45 feet. Chip samples taken under Mr. Parent's supervision returned:

<u>Width-ft.</u>	<u>% WO<sub>3</sub></u>	<u>Value/ton</u>	
0-5	0.13	\$ 7.15	} = 1.17% Cu over 30'
5-10	0.14	\$ 7.70	
10-15	0.21	\$11.50	
15-20	0.10	\$ 5.50	
20-25	0.56	\$31.00	
25-30	0.11	\$ 6.00	
30-35	0.03	-	
35-40	tr	-	
40-45	tr	-	

Trench A3:

1.18 = 1.08% Cu over 20 feet

This trench had been hand excavated in earlier work and now is partially sloughed in. It was not seen by the writer; skarn is reported to be visible and it is to be cleared and sampled as part of the proposed program.

At the "B" site a limestone pendant is exposed in the granitic rock having a thickness of 75-100 feet and an eastward dimension of about 800 feet; the southward dimension,

*Jim*



BAILEY GROUP

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into the ridge, is undetermined. Skarn is exposed on the footwall side of the limestone along its contact with the intrusive rock. The zone has a general northward strike and an undulating dip of up to about 45 degrees eastward. Four rock trenches were cut in the skarn, under Mr. Parent's direction, at, successively, 326 ft., 400 ft., 650 ft., and 828 ft., from the west end and the following sampling results were obtained:

<u>Width-ft.</u>	<u>% WO<sub>3</sub></u>	<u>Value/ton</u>
7.00	0.14	\$ 7.70
4.75	2.26	\$124.30
5.00	2.86	\$157.50
4.00	0.01	-

Respectfully submitted,

  
Neil D. McKechnie, P. Eng.  
Consulting Geologist.

Victoria, B.C.  
October 21, 1971

CERTIFICATION

I, Neil Douglas McKechnie, of 1932 St. Ann Street, in the City of Victoria, British Columbia, certify that:

1. I am a member in good standing of the Associations of Professional Engineers of British Columbia and of Yukon Territory.
2. I hold the degrees of Bachelor of Science in Geology, Queen's University, 1932 and of Master of Applied Science in Geological Engineering, University of British Columbia, 1933.
3. I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining and Metallurgy and a Member of the Society of Economic Geologists.
4. I have practiced my profession as a geological engineer for thirty-eight years.
5. I examined showings on the Bailey Group, as stated in this report, on October 6, 1971.
6. I have no interest, direct or indirect, in the Bailey Group of mineral claims nor in the shares or other assets of Morning Star Mines Ltd. (N.P.L.) nor do I expect to receive any.

Dated this 21st day of October, 1971.

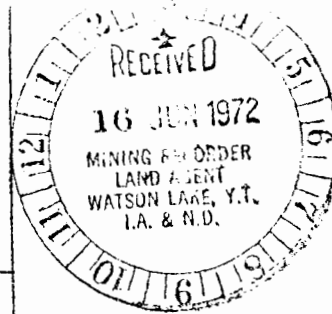
  
N. D. McKechnie, P. Eng.



YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

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



I (name)	Douglas parent	Occupation	Professional Engineer
(Postal Address)	4495 Wallace Street, Vancouver 8, B.C.		

OFFICE DATE STAMP

MAKE OATH AND SAY, THAT:-

1. I am the ~~XXXXXX~~ agent of the owner, of the mineral claim(s) to which reference is made herein. AND THAT: the owner aforesaid is ~~XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX~~ T.G. WILSON AND CO.

2. I have done, or caused to be done, work on the following mineral claim(s): situated at Oscar Lake area Claim Sheet No. 105-A-15 & 10 in the Watson Lake Mining District, to the value of at least Two thousand two hundred dollars, since the 9th and 10th day of July 19 71,

to represent the following mineral claims under the authority of Grouping Certificate No. \_\_\_\_\_: (Here list claims by number and name, if applicable.)

Bailey Mineral claims numbered: 4, 6, 8, 7, 5, 3, 1, 10, 12, 14, 16, 18, 20, 22, 24, and 26: Grant No's. Y55476, Y55478, Y55480, Y55479, Y55477, Y 55475, Y55473, Y55482, Y55484, Y55486, Y55488, Y55490, Y55492, Y55494, Y55496 and Y55498:

AND THAT all the said work, as hereinafter detailed, is reconnaissance work essential to a further program of work to successfully locate commercial ore deposits; AND FURTHERMORE THAT, as a result of the said work over the period July 9 - December 30, 1971, two significant discoveries of scheelite (tungsten) ore have been made.

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

To July 16/71: Work by Professional Engineer checking layout of mineral claims, preliminary geology, supervision, sampling & examination of claims: Fee and expenses	801.00
To August 24/71: To supervision by professional Engineer of rock trenching, sampling, plus additional preliminary geology and general examinations - fee and expenses	1156.25
To August 24/71: trenches drilled, blasted and mucked, 84 holes with plugger for further sampling by professional Engineer, labour, materials et. -	1500.00
To November 9/71: To summary examination by Professional Engineer D. Parent, P. Eng., and M.W. McKechnie, P.Eng., fees	664.95
To Dec.30/71: To Professional Engineer's official summary report on work done and recommendations for future in proper form for filing with Securities Commission - fee	200.00
July 9 - Dec.30/71: Assaying -	259.50
Total	4,581.70

One-half of this work, or \$2,200.00, applies to aforesaid adjoining claims, with work done predominantly on Bailey Claim No. 4.

(All work paid for in cash. Statements on file.)

Sworn before me at: Vancouver, B.C.  
this 21st day of April 19 72

A Commissioner for taking Affidavits in/  
the Province of British Columbia

Douglas Parent  
Douglas parent, P. Eng.  
Applicant

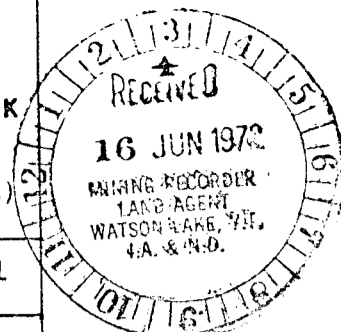
A Notary Public in and for  
the Province of British Columbia



YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

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



OFFICE DATE STAMP

I (name) Douglas Parent	Occupation Professional Engineer
(Postal Address) 4495 Wallace Street, Vancouver 8, B.C.	

MAKE OATH AND SAY, THAT:-

1. I am the ~~owner~~ agent of the owner, of the mineral claim(s) to which reference is made herein. T.G. WILSON AND CO.  
 AND THAT: the owner aforesaid is ~~MOTIONED IN THESE CLAIMS BY SECTION 53.1 OF THE QUARTZ MINING ACT~~

2. I have done, or caused to be done, work on the following mineral claim(s):  
 situated at Oscar Lake area Claim Sheet No. 105-A-15 & 10  
 in the Watson Lake Mining District, to the value of at least Two thousand two hundred  
 dollars, since the 9th and 10th day of July 19 71,

to represent the following mineral claims under the authority of Grouping Certificate No. \_\_\_\_\_:

(Here list claims by number and name, if applicable.)

Bailey Mineral Claims numbered 2, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 32, 30, 28: Grant No.s: Y55474, Y55481, Y55483, Y55485, Y55487, Y55489, Y55491, Y55493, Y55495, Y55497, Y55499, Y55501, Y55503, Y55504, Y 55502, Y55500

AND THAT all the said work, as hereinafter detailed, is reconnaissance work essential to a further program of work to successfully locate commercial ore deposits; AND FURTHERMORE THAT, as a result of the said work over the period July 9 - December 30, 1971, two significant discoveries of scheelite (tungsten) ore have been made.

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

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<u>To Aug. 24/71: trenches drilled, blasted and mucked, 84 holes with plugger for further sampling by Professional Engineer, labour, materials etc. -</u>	1500.00
<u>To Nov. 9/71: To summary examination by Professional Engineers D. Parent, P. Eng., and N.D. McKechnie, P. Eng.</u>	664.95
<u>To Dec. 30/71: To Professional Engineer's official summary report on work done and recommendations for future in proper form for filing with Securities Commission - fee</u>	200.00
<u>July 9 - Dec. 30/71: Assaying</u>	259.50
Total	4581.70

One-half of this work, or \$2,200.00, applies to aforesaid adjoining claims, with work done predominantly on Bailey Claim No. 13.

(All work paid for in cash. Statements on file.)

Sworn before me at Vancouver, B.C.  
 this 21 day of April 19 72

*Douglas Parent*  
 \_\_\_\_\_  
 Douglas Parent, P. Eng.  
 Applicant

~~XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX~~  
 A Commissioner for taking Affidavits in the Province of British Columbia     A Notary Public in and for the Province of British Columbia