

PROPERTY FILE

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REPORT
ON
THE BOULDER CREEK ~~TUNGSTEN~~ ^{area}
~~PROSPECT~~

ATLIN MINING DIVISION

104-N-11

BRITISH COLUMBIA

FOR

YUKON REVENUE MINES LTD.

WHITEHORSE, YUKON

BY

ALBERT F. REEVE, P.ENG.

SEPTEMBER 22, 1978

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INTRODUCTION

This report describes a Tungsten prospect held by Yukon Revenue Mines Ltd. on Boulder Creek near Atlin, B.C. and has been prepared at the request of Mr. R. A. Granger. It is based on a visit to Boulder Creek by the writer on September 2, 1978 as well as a review of exploration records supplied by Yukon Revenue and published government reports.

The Tungsten prospect is situated in a district with established mineral potential. Recent exploration work by Yukon Revenue on its Boulder Creek property has demonstrated a geologically promising mineralized area and further exploration work has been recommended at an estimated cost of \$130,000.

PROPERTY

Yukon Revenue Mines Ltd. reports that they are the beneficial owners of the following Mineral Claims.

<u>CLAIM NAME</u>	<u>RECORD NO.</u>	<u>NO. OF UNITS</u>	<u>ASSESSMENT ANNIVERSARY</u>	<u>REGISTERED OWNERS</u>
YKR 3	379	1		
YKR 4	380	1	June 29, 1979	Yukon Revenue Mines Ltd.
YKR 5	381	1		
YKR 6	382	1		
YKR 7	383	1		
PAT 1	309	1		
PAT 2	310	1		
PAT 3	311	1	May 1, 1979	M.J. Cloutier
PAT 4	312	1		Whitehorse, Y.T.
PAT 5	313	1		
PAT 6	314	1		
PAT 7	315	1		
PAT 8	316	1		
CB	294	18	March 14, 1979	M.J. Cloutier Richmond, B.C.
*Cin-Bar	216	9	June 13, 1979	T.R. Mattson A.V. Mattson Atlin, B.C. P. Versluce, Whitehorse, Y.T.

This information was obtained by the writer from the Mining Recorders office at Vancouver on September 20, 1978. The legal corner posts of the CB and Cin-Bar Claims were examined in the field and these claims appear to have been staked in compliance with the Mineral Act of British Columbia.

*The Cin-Bar Claim is held under option by Yukon Revenue from the registered owners.

GEOGRAPHY

The Boulder Creek Tungsten prospect of Yukon Revenue Mines Ltd. is located at about 59°40'N latitude and 133°27'W longitude on the headwaters and west side of Boulder Creek on NTS Map Sheet No. 104-N-11. Elevations on the property range from about 4500' to 6000' above sea level. The terrain is mountainous but generally not rugged except at the highest elevations. The timber line is about 4500' above sea level. The access road from Atlin, B.C. is 16 miles in length, running eastward along Discovery Creek and turning north up the west side of Boulder Creek at Surprise Lake. Atlin is 113 highway miles south of Whitehorse, Yukon.

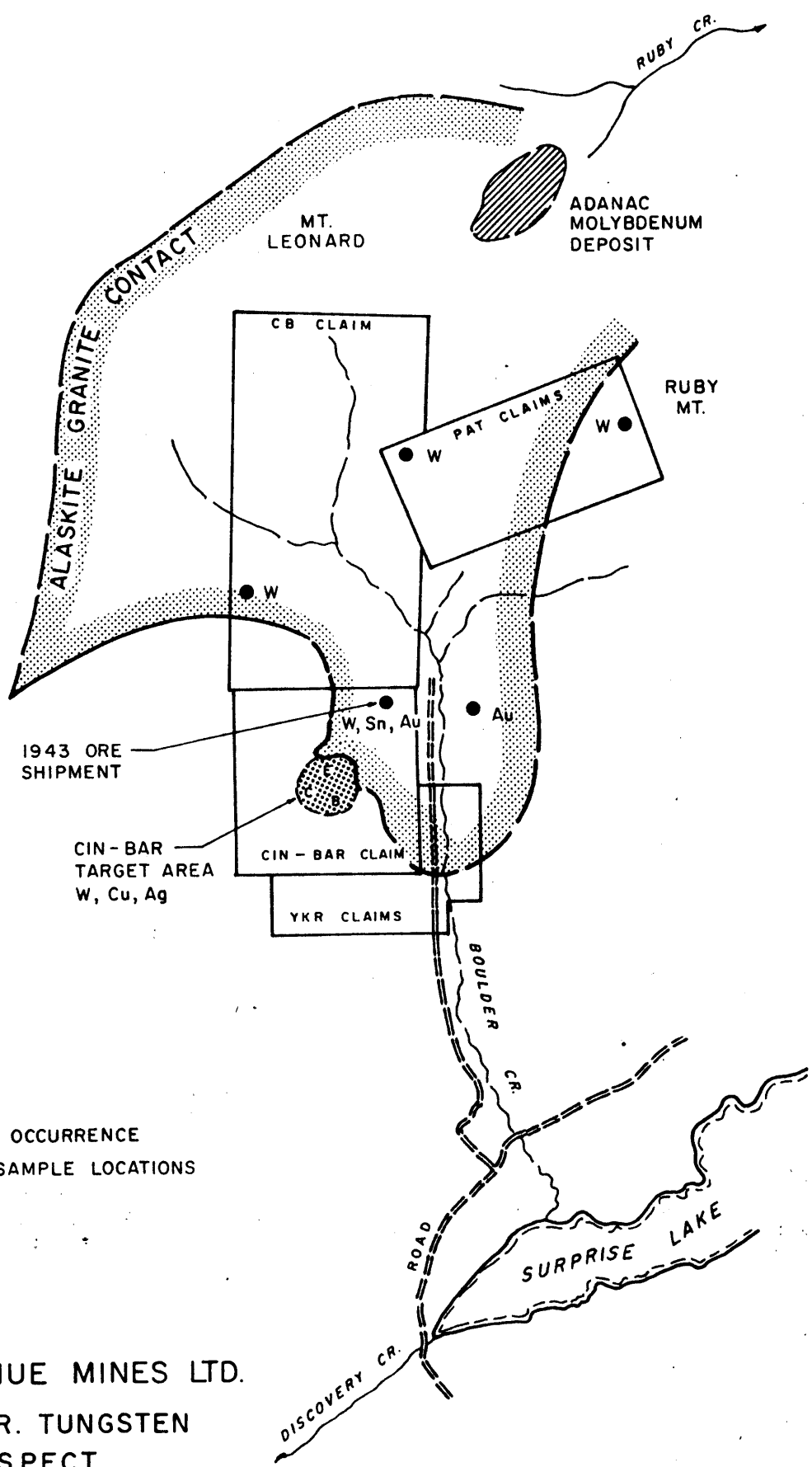
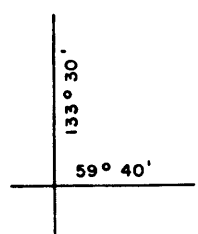
EXPLORATION HISTORY

There are numerous reports of mineral prospects containing tungsten, molybdenum, tin, copper and precious metals located on/and in the near vicinity of the Yukon Revenue Property. The B.C. Department of Mines Mineral Inventory Map for the District records ten such prospects, in addition to placer deposits, concentrated in the Boulder Creek basin, an area of about eight square miles.

Tungsten was first found west of Boulder Creek by Placer miners in the early 1900's. In 1943, 0.9 tons of cobbled ore assaying 15.2% WO_3 , .31 oz/Ton Au, .18% Sn was shipped from a prospect which appears to be located on the N.E. corner of Yukon Revenue's Cin-Bar Claim. In 1951 and 1952, a 400' adit was driven and 440' of underground drilling was completed by Black Diamond Tungsten Limited at the 5800' level, apparently on the northeast end of the present Pat Claim Group. The same company carried out 175' of diamond drilling, in the area, at a location which cannot presently be identified. Newmont Mining Corp., in 1963, carried out a magnetic and geological survey and excavated 12 trenches on the central part of the Cin-Bar Claim. In 1964, Cominco bored five short diamond drill holes totalling 114' in the same area. During 1969 and 1970, 24 claims owned by Coin Canyon Mines Ltd. of Vancouver covered the present area of the Yukon Revenue property. In 1978, Yukon Revenue Mines Ltd. optioned the Cin-Bar Claim and staked the Pat, CB, and YKR Claims. The company then cleaned out and sampled three of Newmont's trenches as well as completing a limited magnetic and geological survey.



SCALE = 1:50,000



LEGEND

- W TUNGSTEN
- Au GOLD
- Ag SILVER
- Cu COPPER
- MINERAL OCCURRENCE
- C,E,B TRENCH SAMPLE LOCATIONS

YUKON REVENUE MINES LTD.
 BOULDER CR. TUNGSTEN
 PROSPECT
 LOCATION DIAGRAM

To Accompany Report by
 A.F. REEVE, P.Eng., Sept. 1978

GEOLOGY AND MINERALIZATION

The geology and mineral occurrences referred to in this section are shown on the enclosed Location Diagram.

The headwaters of Boulder Creek are underlain by a stock of alaskite-granite of Cretaceous age about four miles in diameter. The stock cuts Upper Paleozoic "Cache Creek" sedimentary and volcanic strata which contain mafic and ultra mafic intrusions. The Yukon Revenue property covers parts of the east and southwest contacts of the stock.

The stock and its contact zone define a unique mineral district characterized by the widespread presence of tungsten, molybdenum, tin and precious metals. Included within the margins of the stock is the porphyry molybdenum deposit owned by Adanac Mining & Exploration Ltd. which contains proven reserves of approximately 100 million tons averaging .16% MoS₂.

West of Boulder Creek, on the central part of Yukon Revenue's Cin-Bar Claim, adjacent to the southwest margin of the alaskite-granite stock, altered, calcareous sediments mineralized with scheelite occur in seven of the trenches excavated by Newmont in 1963. The occurrence of scheelite

defines an area about 1000' in diameter which is roughly coincident with a negative magnetic feature. The intrusive contact appears to be sharply embayed adjacent to, and north-east of the mineralized area. To the immediate west there are quartzite beds and an ultra-basic intrusion.

The mineralized alteration zone is composed of massive and banded pyrrhotite, crystalline aggregates of fluorspar, diopside and garnet skarn, minor quartz and sericite, disseminated chalcopyrite and scheelite and erratically distributed tetrahedrite. No sphalerite was observed but zinc assays of up to 2% have been reported. Both contact metamorphism and metasomatism appear to have been operative in the alteration and mineralizing process. Remanent blocks of crystalline limestone and calcareous argillite up to 2 feet in diameter, are found within the mineralized zone. Some of these blocks have layered reaction rims of sulphides and fluorspar. The attitude of the mineralized beds is highly variable with dips of 40° to near vertical. A general northeast structural trend is suggested by the magnetic data.

Three of the pre-existing trenches in the mineralized area were deepened, ripped and resampled by Yukon Revenue. In each, a certain amount of ferrocreted rubble which had

previously been identified as breccia was removed.

The sampling results are as follows:

Trench "C"

<u>Length</u>	<u>%WO₃</u>	<u>%Cu</u>	<u>%Sn</u>	<u>oz/T Ag</u>	<u>Sampled by</u>
53'	.20	.46	-	4.83	Yukon Revenue
53'	.22	.17	.009	3.36	A.F. Reeve
Selected	-	-	-	33.80	A.F. Reeve
5'	.37	.35	-		Cominco Core
8'	.10	-	Tr		" "

(A drill hole 18' long was bored in the bottom of Trench "C" by Cominco.)

Trench "E" 600' North-Northeast of "C"

<u>Length</u>	<u>%WO₃</u>	<u>%Cu</u>	<u>%Sn</u>	<u>oz/T Ag</u>	<u>Sampled by</u>
10'	.41	.34	-	.92	Yukon Revenue
9'	.19	.52	-	1.48	" "
24.2'		.21	.16	.58	Newmont
15.0	-	.19	.01	1.52	"
11'	.10	.12	Tr	-	Cominco Core
10'	-	.17	Tr	-	" "

(Three drill holes 9', 17' and 20' in length were bored in the bottom of Trench "E" by Cominco.)

Trench "B" 1000' East of "C"

<u>Length</u>	<u>%WO₃</u>	<u>%Cu</u>	<u>%Sn</u>	<u>oz/T Ag</u>	<u>Sampled by</u>
10'	.14	.16	-	.82	Yukon Revenue

The configuration of the intrusive contact and the coincidence of a magnetic low with an intense zone of contact alteration suggest that the mineralized sediments may be a "screen" or roof lying on top of the alaskite-granite pluton.

This further suggests the possibility of pervasive porphyry type mineralization as the contact is approached.

The surface of the target area, as it is presently known, is moderately to gently sloping and covered by overburden and sub-alpine brush. The only evidence of mineralization and alteration has been found by trenching. There are prospects for expanding the surface expression of the target downslope to the south and east; however increasing elevations to the north and west probably terminate any evidence of buried porphyry mineralization.

SUMMARY AND CONCLUSIONS

In early 1978 Yukon Revenue Mines Ltd. of Whitehorse, Y.T. acquired, by staking and option, a block of 40 mineral claims and mineral claim units located approximately 12 miles N.E. of the Town of Atlin in Northwestern B.C. These claims cover several mineral prospects containing tungsten, copper, precious metals and tin. They are located along the west side and across the headwaters of Boulder Creek. The mineralization appears in a number of old surface workings and adits and occurs in calcareous sedimentary strata of the Cache Creek Group which are intensely altered by contact metamorphism and metasomatism. Mineralization also occurs in an adjacent

alaskite-granite body.

Preliminary exploration consisting of mapping, deepening some trenches and a magnetometer survey was carried out by Yukon Revenue in July and August of this year. This work was centred west of Boulder Creek on the Cin-Bar Claim where intensely altered and mineralized sediments have been found in an area about 1000' in diameter. The mineralization, which consists principally of iron sulphides, fluorite, skarn minerals, chalcopyrite and scheelite, outcrops in the bottom of four trenches and appears as rubble on the dumps of three other trenches.

The best trench section was 53' long and produced average assays of 4.83 oz/Ton Ag, .46% Cu and .20% WO_3 . Three ten foot sections from two other trenches average 1.1 oz Ag/Ton, .34% Cu and .25% WO_3 .

Further exploration work including diamond drilling is required to test the mineralized target area on the central Cin-Bar Claim for;

- (a) mineralized sedimentary beds of commercial grade and thickness.
- (b) deeper, pervasive "porphyry" mineralization with larger bulk tonnage potential, associated with an alaskite-granite contact, beneath an altered and mineralized screen of sedimentary rocks.

Detailed geological investigations are also required to evaluate several other tungsten occurrences on the property located within the alaskite-granite north and east of the main area of interest.

RECOMMENDATIONS

A staged Exploration Program consisting of geological mapping, geochemical reconnaissance, an induced polarization survey, trenching, and diamond drilling is recommended as follows:

STAGE I

A comprehensive detailing of geology, mineralization, and prospect workings on the entire property and adjacent areas is required. This information should be compiled and shown on a photogrammetric base map. In conjunction with the geological mapping a reconnaissance geochemical sampling of stream gullies, water seeps, slide fines and soil should be carried out. A minimum density of approximately five samples per mineral claim unit is recommended. All trenches on the central part of the Cin-Bar Claim should be cleaned out and sampled.

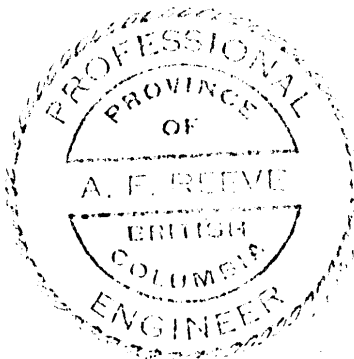
STAGE II

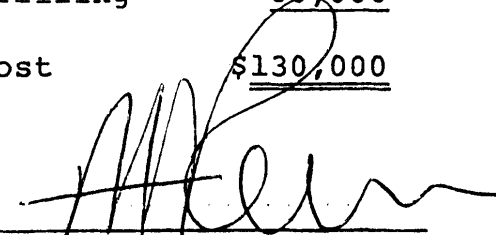
An induced polarization survey employing two or more electrode spreads is recommended. This will assist in determining the depth potential as well as the lateral extent of sulphides associated with the tungsten, silver and copper mineralization on the central Cin-Bar Claim.

A minimum Diamond Drilling Program of 2500' is recommended for the central Cin-Bar target area. This would include one deep hole of at least 1500' to test for porphyry mineralization and four or five shorter holes to evaluate mineralized sediments exposed at surface. The specific allocation of the recommended drill footage is tentative and subject to some adjustment as work progresses and new surface information is developed.

ESTIMATE OF COSTS

STAGE I - Mapping, geochemistry & trenching	\$50,000
STAGE II - I.P. survey, diamond drilling	<u>80,000</u>
Total estimated cost	<u>\$130,000</u>




 Albert F. Reeve, P.Eng.
 September 22, 1978

APPENDIX I

Selected References Boulder Creek Tungsten Prospect

- B.C. Minister of Mines Annual Reports
 - 1950 - pages 72, 73
 - 1951 - page 73
 - 1952 - page 75
 - 1969 - page 29

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 - Northern Miner Press 1975-76 - page 19

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- Tungsten Deposits of Canada
 - Geological Survey of Canada
 - Economic Geology Series No. 17
 - H.W. Little 1959 - pages 39, 40

- Geology of Canadian Tin Occurrences
 - Geological Survey of Canada
 - Economic Geology Report No. 28
 - R. Milligan 1975 - pages 75, 76

- Report on the Logjam Creek Property for the Bath Uranium Partnership by W. R. Bacon, April 1977.

- Report on The Silver Diamond Group Atlin, B.C. by J. McCue for Newmont Mining Corp., October 1963.

- Drill Core Logs, D.W. Heddle
 - Cominco, July 1964.

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- Magnetic Survey Plan and Plan of Trenches and Assays by R. A. Granger for Yukon Revenue Mines Ltd., July 1978.