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GEOLOGICAL REPORT

TATLER GROUP

FARNAM CREEK AREA

GOLDEN MINING DIVISION

BRITISH COLUMBIA

VANCOUVER, B.C. OCTOBER 12, 1967

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PROPERTY FILE

CONTENTS

	PAGE
SUMMARY & CONCLUSIONS	
RECOMMENDATIONS	
INTRODUCTION	
LOCATION	
ACCESS	
TOPOGRAPHY	1
CLIMATE	1
HISTORY	2
PROPERTY	2
GENERAL GEOLOGY	2
GEOLOGY	3
STRUCTURE	3
MINERAL DEPOSITS	4
SOIL SAMPLING AND MAPPING	5
ESTIMATE OF COST	

APPENDIX

MAP - GENERAL GEOLOGY, SCALE 1" = 200 FT.

MAP - SOIL SAMPLING

SUMMARY AND CONCLUSIONS

ALTHOUGH MUCH WORK WAS DONE ON THIS PROPERTY DURING THE EARLY 1900'S, IN THE FORM OF TRENCHING, SHAFT SINKING AND DRIFTING, IT HAS CONTRIBUTED LITTLE TOWARDS THE ACTUAL DELINEATION OF AN ORE BODY. Due to low metal prices during those years all work was concentrated on high grade veins with scant attention paid to low grade disseminated deposits.

THE MINERAL OCCURRENCES ON THE GREAT NORTHERN C.G. HAVE BEEN SPORADICALLY TRACED BY TRENCHES FOR OVER 700 FEET OF STRIKE LENGTH AND THE MINERALIZATION HAS BEEN NOTED OVER WIDTHS OF UP TO 30 FEET. THIS ZONE OFFERS THE MOST ATTRACTIVE AREA FOR IMMEDIATE WORK. DETERMINING THE CONTINUITY OF THE ZONE SHOULD BE OF PRIMARY IMPORTANCE.

THE TRENCHING DONE ON THE COPPER KING C.G. HAS ALSO REVEALED INTERESTING DEPOSITS. OWING TO THE HIGH ALTITUDE AND INACCESSIBILITY THEIR POTENTIAL SHOULD BE INVESTIGATED AT A LATER DATE.

WITH READILY AVAILABLE WATER, CAMPSITES, ETC. AN EXPLORATION PROGRAMME COULD EASILY BE CARRIED OUT ON A YEAR-ROUND BASIS. APPROXIMATELY 5 MILES OF ROAD WILL HAVE TO BE BUILT BUT THE GRADE IS GRADUAL AND NO PROBLEMS ARE ANTICIPATED.

RECOMMENDATIONS

PHASE !

- 1) ALL TRENCHES IN THE ZONE ON THE GREAT NORTHERN C.G. SHOULD BE CLEANED OUT, ENLARGED, AND SYSTEMATICALLY SAMPLED AND MAPPED.
- 2) Soil sampling should be carried out in a more detailed manner to fully outline any anomalous areas.

PHASE 11

- 1) A 5-MILE ROAD SHOULD BE BUILT INTO THE ZONE FROM THE END OF THE HORSETHIEF CREEK ROAD.
- 2) A DIAMOND DRILLING PROGRAMME IS RECOMMENDED, CONTINGENT ON THE RESULTS FROM PHASE I. EIGHT HOLES SHOULD BE DRILLED TO A DEPTH OF 200 FEET, AT 100-FOOT INTERVALS ALONG THE ZONE. SUFFICIENT WATER IS AVAILABLE ABOUT 500 FEET EAST OF THE ZONE.

PROPERTY FILE

GEOLOGICAL REPORT

TATLER GROUP

INTRODUCTION

THE SILVER-COPPER-LEAD PROPERTY DESCRIBED HEREIN WAS EXAMINED BY THE WRITER ON SEPTEMBER 16 TO 21, 1967. THE PURPOSE OF THE EXAMINATION WAS TO ASSESS THE POTENTIAL OF THE PROPERTY AND, IF WARRANTED, TO PROPOSE AN EXPLORATION PROGRAMME TO DETERMINE THE ECONOMIC POSSIBILITIES.

LOCATION

THE TATLER GROUP OF MINERAL CLAIMS IS LOCATED AT 116° 20' WEST LONGITUDE AND 50° 30' NORTH LATITUDE IN THE PURCELL MOUNTAIN RANGE, GOLDEN MINING DIVISION, SOUTHEASTERN BRITISH COLUMBIA. IT IS APPROXIMATELY 22 MILES SOUTHWESTERLY FROM INVERMERE WHICH IS SITUATED ON HIGHWAY 95.

ACCESS

AN ALL-WEATHER GRAVELLED LOGGING ROAD WITH NO ADVERSE GRADES EXTENDS WESTWARD FROM INVERMERE FOR APPROXIMATELY 30 MILES TO THE CONFLUENCE OF FARNAM CREEK AND HORSETHIEF CREEK. THE ROAD IS MAINTAINED BY THE DEPARTMENT OF PUBLIC WORKS AND THE FOREST SERVICE. FROM THE END OF THIS ROAD A PACK TRAIL APPROXIMATELY SIX MILES LONG LEADS SOUTHWARD TO THE PROPERTY NEAR THE HEADWATERS OF FARNAM CREEK.

HELICOPTER SERVICE IS AVAILABLE FROM EITHER GOLDEN OR INVERMERE.

TOPOGRAPHY

The topography is precipitous with peaks of over 10,000 feet and aproned with showfields and receding alpine glaciers. The valley of Farham Creek has an altitude of 6,000 feet and the campsite is at 6900 feet. Much glacial debris covers the valley floors. Spruce, fir, balsam and pine grow to the 7500 foot elevation with larch predominating above 6500 feet. Above the timberline large angular rock fragments occur, caused by frost action.

CLIMATE

The annual snowfall is considerable, with relatively mild but long winters. Summer rainfall is scant and temperatures range from 60 to 80°.

Sufficient water for all phases of operation is obtainable from Farnam Creek and its tributaries. Diesel power will be required.

HISTORY.

A REFERENCE TO THE TATLER GROUP WAS MADE IN THE 1920 ANNUAL REPORT OF THE MINISTER OF MINES FOR BRITISH COLUMBIA. THE REPORT WAS WRITTEN BY A. G. LANGLEY, RESIDENT ENGINEER. Mr. R. S. GALLOP OF WILMER, B.C. INTERMITTENTLY WORKED ON THE PROPERTY FROM THE LATE 1890'S TO 1924. SEVERAL TRENCHES, DRIVING THREE DRIFTS VARYING FROM 15 TO APPROXIMATELY 500 FEET, AND SINKING A 50-FOOT SHAFT COMPRISED THE WORK DONE DURING THIS PERIOD.

Mr. L. Hemmelgorn obtained the mineral lease and staked the surrounding ground in 1966. Trenching and some sampling of the old workings was carried out by Mr. Hemmelgorn. R. E. Renshaw, Consulting Geologist, reported on the property in August 1966.

PROPERTY

THE ORIGINAL TATLER GROUP CONSISTS OF 10 CROWN GRANTED CLAIMS HELD BY MINERAL LEASE M-15, AS FOLLOWS:

NAME		LOT NUMBER
WORLDS FAIR		5356
WILDERNESS		5357
GREAT NORTHERN	* * * * * * * * * * * * * * * * * * * *	5358
WHITE BEAR		9987
COPPER KING		9988
BUTLER		9989
MASTER		9990
IRON MASK	•	9991
BROKEN HILL		9992
IMPERIAL		9993

97 CLAIMS HELD BY LOCATION HAVE BEEN ADDED TO THE ORIGINAL MINERAL LEASE, AS FOLLOWS:

K-1 TO K-35 J-1 " J-10 M-1 " M-22 P-1 " P-30

THE CLAIMS HELD BY LOCATION WERE STAKED OVER THE ORIGINAL CROWN GRANT CLAIMS TO AVOID THE POSSIBILITY OF FRACTIONS.

ALL CLAIMS HAVE BEEN PROPERLY STAKED AND ARE IN GOOD STANDING.

GENERAL GEOLOGY

THE REGIONAL GEOLOGY AS COMPILED BY J. E. REESOR IS SHOWN ON MAP No. 12, 1957, GEOLOGICAL SURVEY OF CANADA.

THE AREA TO THE NORTHWEST OF THE COLUMBIA RIVER IS ONE OF UN-

METAMORPHOSED, FOLDED AND FAULTED PALEOZOIC SEDIMENTS WHICH TRUNCATE ALONG THE EASTERN FLANK OF THE PURCELL MOUNTAINS.

THE EASTERN AND CENTRAL PORTIONS OF THE PURCELLS ARE CHARACTERIZED BY THE WEAKLY METAMORPHOSED SEDIMENTS OF THE PURCELL AND WINDERMERE SYSTEMS. THE STRATA ARE GENERALLY FOLDED INTO A BROAD NORTH-PLUNGING GEANTICLINE WITH MINOR FOLDS SUPERIMPOSED ON THE MAJOR STRUCTURE. NORMAL FAULTING IS COMMON AND SOME THRUST FAULTS ARE PRESENT ON THE EASTERN FLANK OF THE PURCELLS. THE MAJOR FAULT IS THE PURCELL FAULT WHICH STRIKES NORTHWESTERLY AND DIPS APPROXIMATELY 40° WEST. MANY SHORT FAULTS TREND EAST-WEST IN AN ENECHELON PATTERN.

ALONG THE WESTERN PORTION OF THE PURCELL RANGE LIE THE HIGHLY DEFORMED AND METAMORPHOSED ROCKS OF THE HORSETHIEF CREEK, HAMIL AND LARDEAU SERIES. TO THE SOUTH LIE THE OLDER ROCKS OF THE PURCELL SYSTEM: THE ALDRIDGE, CRESTON, KITCHENER-SIYEH, DUTCH CREEK AND MT. NELSON FORMATIONS.

THERE ARE A FEW MINOR, CONCORDANT, SYNTECTONIC QUARTZ DIORITE BODIES. THE EAST KOOTENAY BATHOLITH, THE BUGABOO AND STARBIRD RIDGE STOCKS ARE THE THREE MAJOR INTRUSIVES IN THE AREA.

GEOLOGY

THE ROCK TYPES OF THE FARNAM CREEK ARE THOSE OF THE TOBY AND MT.

NELSON FORMATIONS OF THE LOWER WINDERMERE AND UPPER PURCELL AGES, RESPECTIVELY. THE TOBY FORMATION IS COMPRISED OF POLYMICTIC PEBBLE, COBBLE
AND BOULDER CONGLOMERATE WITH A MATRIX OF QUARTZITE, ARGILLITE, AND LIME—
STONE. DEFORMATION OF THE BEDS HAS PRODUCED AN ELONGATION OF THE PEBBLES.

SERITIZATION IS A COMMON ALTERATION IN THE UNIT. THE CONGLOMERATE OVERLIES,
WITH A SLIGHT ANGULAR UNGONFORMITY, THE MT. NELSON FORMATION ON THE SOUTHERN
PORTION OF THE PROPERTY. THE MT. NELSON FORMATION CONSISTS OF BUFF WEATHER—
ING, GREY, DOLOMITIC LIMESTONE; PURPLE, GREY, AND BLACK ARGILLITE AND SLATE,
AND GREEN AND WHITE QUARTZITE. A DOLOMITIC COBBLE CONGLOMERATE OCCURS IN
THE NORTH PART OF THE PROPERTY. THE DOLOMITIC MATRIX FORMS UP TO 90% OF
THE ROCK. GREEN AND WHITE QUARTZITE OCCURS INTERBEDDED WITH THE DOLOMITIC
LIMESTONE AND VARIES IN THICKNESS FROM LESS THAN ONE INCH TO SEVERAL FEET.

To the west a 50 to 100-foot thick bed of black argillaceous lime-stone occurs within interbedded quartzite and dolomite. Few of the limestone beds contain fragments of dolomite and quartzite near contact zones. A black argillaceous slate with much syngenetic pyrite lies a couple of hundred feet further west. The unit is highly contexted within a tight anticlinal fold and is heavily stained with iron oxide.

STRUCTURE

THE MAIN STRUCTURE IS ANTICLINAL AND COVERS THE EASTERN AND CENTRAL PORTIONS OF THE PROPERTY. ON THE WESTERN FLANK THE STRATA ARE INTENSELY CONTORTED INTO A SERIES OF CHEVRON AND RECUMBENT FOLDS WHICH STRIKE NORTH-

WESTERLY. SEVERAL NEAR VERTICAL FISSURES FORMED BY THE FOLDING AND ASSOCIATED FAULTING ARE PRESENT BUT, ALTHOUGH MINERALIZED, THEY ARE RELATIVELY NARROW. SPARSELY MINERALIZED JOINTS TRENDING N 60° E ARE FILLED WITH QUARTZ-BARITE GANGUE. THE VEINS ARE SHORT, LENSIC, AND VERY IRREGULAR. FAULTING IS PROMINENT WITH TWO RELATIVELY CLOSE NORMAL FAULTS WHICH ARE TRACEABLE SOUTHWARD TO THE MINERAL KING MINE FOUR MILES DISTANT. THE FAULTS ARE THE MAIN SOURCE OF MINERALIZATION IN THE MINERAL KING DEPOSIT. REPLACEMENT BODIES TEND TO FORM WHEREVER THE MINERALIZED VEINS INTERSECT FAVOURABLE HORIZONS WITHIN THE MT. NELSON DOLOMITE.

MINERAL DEPOSITS

Two tunnels were driven on a well mineralized 15-inch vein in the northwest corner of the Copper King Crown Grant; 10 feet and 20 feet long, respectively. The vein strikes N 30° W and is nearly vertical.

THE MINISTER OF MINES REPORT IN 1920 GAVE ASSAYS OF THE VEIN ON SURFACE AS A TRACE OF GOLD AND SILVER, AND 2.3% COPPER ACROSS 15 INCHES. A SAMPLE TAKEN ACROSS THE VEIN IN THE SOUTHERN TUNNEL, BY R. E. RENSHAW IN 1966, ASSAYED 7.2 OZ. SILVER, 3.00% COPPER, 0.50% PB AND 1.26% ZINC OVER 18 INCHES. THE WORKINGS ARE AT THE 8.000 FT. ELEVATION.

AT THE 7500 FT. ELEVATION A TUNNEL 350-400 FEET LONG HAS BEEN DRIVEN WITH THE INTENTION OF CROSSCUTTING THE VEIN AT DEPTH. WORK WAS STOPPED PRIOR TO REACHING THE VEIN. THE PORTAL HAS RECENTLY CAVED AND IT WAS IMPOSSIBLE TO EXAMINE THE WORKINGS. THE ABOVE-MENTIONED MINISTER OF MINES REPORT GAVE ASSAYS OF A SAMPLE TAKEN ACROSS A ZONE IN THE TUNNEL WITH RESULTS OF A TRACE OF GOLD, 13.8 OZ. SILVER, AND 3.6% COPPER. THE ADIT IS LOCATED ON THE BUTLER-MASTER C.G. BOUNDARY.

A 3 TO 4-FOOT WIDE QUARTZ-BARITE VEIN CONTAINING SOME TETRAHEDRITE AND AZURITE OCCURS IN THE MIDDLE OF THE IMPERIAL C.G. THE VEIN STRIKES NORTHWESTERLY, DIPS ABOUT 75-80° W, AND HAS BEEN EXPOSED FOR OVER 100 FEET IN LENGTH. IN THE CENTRAL PORTION OF THE EASTERN HALF OF IMPERIAL C.G., AT ABOUT 8000 FT. ELEVATION, FOUR NEARLY VERTICAL FISSURE VEINS WERE DISCOVERED OVER A WIDTH OF APPROXIMATELY 300 FEET. THE VEINS STRIKE N 25° W. THEY WERE TRACED OVER A STRIKE LENGTH OF 50 TO 75 FEET, AND APPEAR TO BE LENSES. SULPHIDE MINERALIZATION IS SPARSE AND AZURITE PREDOMINATES.

In the vicinity of the northwest corner of the Broken Hill C.G., recent trenching has revealed several narrow, irregular, short veins. Vertical joint fillings trending N 60° E are sparsely mineralized with tetrahedrite and azurite. No mineralization was noted in the dolomitic limestone.

There are two trenches about 200 feet apart near the summit of the mountain on the Copper King C.G. The southernmost trench is 30 feet long and 3 feet wide, exposing a vein which dips 20° E. Azurite and fine tetrahedrite fill fractures in the quartzite. Samples across three feet of the zone assayed 2.2 oz. silver, 1.22% copper, 0.25% lead, 1.08% zinc, 3.65 oz. silver, 2.17% copper. The northern trench is 20 feet long and 8 feet deep.

Azurite, friebergite, malachite and some galena occur in quartzite in near vertical fractures. The quartzite beds have been exposed for approximately six feet; they dip 20° E and strike northwesterly. The actual thickness of the zone has yet to be determined. The mineralization appears to be caused by a bedding vein but actual evidence of this is elusive due to the adjacent surfaces being covered by loose rock fragments.

Three CHIP SAMPLES WERE GUT ACROSS THE BEDS AT 5-FOOT INTERVALS OVER A LENGTH OF 15 FEET. THE RESULTS WERE AS FOLLOWS:

LOCATION	WIDTH	AG OZ/TON	<u>Cu%</u>	Рв%	ZN%
EAST END	31	2.80	0.85	0.63	TR
CENTRE	5'	8.90	5.15	TR	TR
WEST END	6!	8.00	4.05	0.40	0.12

A grab sample from the ore dump, taken by A. G. Langley, Ran 10.2 oz. silver and 4.50% copper.

INSUFFICIENT WORK HAS BEEN DONE IN THIS AREA TO DETERMINE THE CONTINUITY OF THE MINERAL OCCURRENCES.

On the Great Northern C.G., to the north, several trenches and a shaft 50 feet deep comprise workings on a mineralized zone some 700 feet long. The zone lies along the same fault which passes through the Mineral King deposit to the south. Vertical fissure veins up to one foot in width strike N 30° W, and are mineralized with friebergite, galena, chalcopyrite, pyrite, azurite and malachite. The gangue minerals are quartz and barite. Low grade disseminated mineralization occurs in the silicified dolomitic limestone on both sides of the veins and has been traced over a width of 30 feet in the area of the 50-foot shaft. The 4' x 4' shaft is located at 5+ 70' W on L 26 + 00N.

A GRAB SAMPLE FROM THE ORE DUMP ASSAYED 57.60 oz. SILVER, 5.25% COPPER, 15.65% LEAD AND 2.10% ZINC. A CHIP SAMPLE ACROSS FIVE FEET ADJACENT TO THE SHAFT COLLAR RAN 1.70 oz. SILVER, 0.40% COPPER, 0.80% LEAD, AND A TRACE OF ZINC. 30 FEET NORTH OF THE SHAFT A CHIP SAMPLE ACROSS FOUR FEET ASSAYED 10.45 oz. SILVER, 1.05% COPPER AND 4.37% LEAD. A CHIP SAMPLE FROM 5 + 55' W ON L 24 + 00 N, ACROSS 3 FEET, GAVE 8.40 oz. SILVER, 1.15% COPPER AND 2.65% LEAD. A CHIP SAMPLE ACROSS 7 FEET IN A TRENCH LOCATED AT 5 + 80' W ON L 23 + 50 N RAN 3.10 oz. SILVER, 0.90% COPPER, AND 5.35% LEAD.

SOIL SAMPLING AND MAPPING

In the course of examining the property a grid system was established with a base line 5800 feet long trending N 35° W. Cross-lines were established at intervals of 400 feet. The grid covers portions of the Master, Butler, Wilderness, Great Northern and World Fair Crown Granted claims as well as some of the mineral claims to the west of M-15. The grid provided control for soil sampling and geologic mapping. (See accompanying map).

A TOTAL OF 50 SOIL SAMPLES WERE TAKEN AT INTERVALS OF 400 FEET ALONG THE GRID LINES AND, WHERE WARRANTED, AT 200 FOOT INTERVALS.

ESTIMATE OF COST:

PHASE !

TENT CAMP	\$ 300.00
SOIL SAMPLING	750.00
ROCK SAMPLING	300.00
SUPPLIES	200.00
HELICOPTER RENTAL	1,000.00
ENGINEERING & SUPERVISION	1,500.00
LEGAL & HEAD OFFICE ADMINISTRATION	1,500.00
RESERVE FOR CONTINGENCIES	600.00
TOTAL	\$6,150.00
PHASE !!	
1600 FEET OF DIAMOND DRILLING	15,000.00
SEMI-PERMANENT CAMP	2,000.00
ROAD CONSTRUCTION	3,000.00
ENGINEERING & SUPERVISION	3,000.00
ASSAYS	500.00
TRANSPORTATION	500.00
LEGAL & HEAD OFFICE ADMINISTRATION	3,000.00

Phase I should be initiated immediately and its results interpreted, followed by commencing preparations for Phase II.

TOTAL

RESERVE FOR CONTINGENCIES

RESPECTFULLY SUBMITTED,

Thomas R. Dough.

3,000.00

\$30,000.00

THOMAS R. Tough, B.Sc.

GEOLOGIST

SOIL SAMPLE RESULTS

SAMPLE #	LOCATION	RESULT CU P.P.M.
68551 1	Baseline 0 + 00	50
52 2	11 L4 + 00N	25
53 3	1 L8 + OON	15
54 . 4	" L12 + 00N	55
5 5 5	" L16 + 00N	150
54 .4 55 .5 56 .6 57 .7 58 .8	" L20 + 00N	20
57 7	" L24 + 00N	20
58 8	" L28 + 00N	30
59 9	" L32 + 00N	5 5
68560 10	" L36 + 00N	10
61 11	" L40 + 00N	10
62 12	" L44 + 00N	15
63 13	" L47 + 50N	70
64 14	L30 + 00N, 1 + 00E	75
65 15 66 16	L28 + 00N, 4 + 00N	265
66 16	L28 + 00N, 6 + 00W	70
67 17	L26 + 00N, 6 + 00W	80
68 18	L24 + 00N, 6 + 00W	15 80
69 19	L24 + 00N, 4 + 00W	80
68570 20	L20 + 00N, 4 + 00W	60
71 21	L20 + 00N, 6 + 00W	15
72 22	L20 + 00N, 8 + 00W	40
73 23 74 24	L20 + 00N, 10 + 00W	45
74 24	L16 + OON, 8 + OOW	35
75 25 76 26	O + 00M	10
70 20	" 4 + 00W " 2 + 00W	60
77 27 80 28	LO + 00 4 + 00W	35
81 29	6 + 00W	40 10
82 30	" 10 + 000	35
78 31	ro + 00 8 + 00M	50 50
79 32	12 + 00W	<i>3</i> 0
83 33	L4 + 00N 10 + 00W	15
84 34	# 8 + 00W	30
85 35	" 5 + 50W	20
85 35 86 36	" 4 + 00W	40
85 35 86 36 87 37	" 2 + 00W	35
88 38	LO + 00. 2 + 00E	45
89 39	" 4 + OOE	40
68590 40	L2 + 00N 4 + 00E	40
91 41	L4 + 00N 4 + 00E	10
92 42	" 2 + COE	40
93. 43	L8 + 00N 2 + 00E	30
94 44	" 4 + OOE	30
95 45	L12 + 00N 4 + 00E .	20
96 46	" 2 + COE	45
97 47	" 4 + 00V	35
98 48	" 8 + 00W	20
99 49	L8 + 00N 8 + 00W	10
68600 50	" 4 + 00W	45

