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GEOLOGICAL REPORT

on

CERTAIN MINING CLAIMS

FERGUSON AREA - SLOCAN DIVISION

by

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P.Eng. P.Geol.

Vancouver, B.C.

August 18, 1967

INTRODUCTION

Acting under instruction from Mr. G.A. Armstrong, I have carried out a geological reconnaissance survey of certain mining claims in the Slocan Mining Division of British Columbia. Present during the examination were Messrs. Craik, Ewer and Sullivan. Weather conditions were good. Snow and ice prevented examination of some adits on the property. The visit to the property took place on August 12th and 13th, 1967.

LOCATION & ACCESSIBILITY

The mining claims are located in the Slocan Mining Division of the Province of British Columbia. The area is about 50 miles southeast of Revelstoke and 85 miles north of Nelson. The area lies within the Selkirk Mountains where elevations rise to over 10,000 feet. Trout Lake, the lowest point in the area, lies at 2,350 feet above sea level. The area can be reached by secondary gravel roads and rather rugged mining development roads.

Currently travel has been from the south end of Trout Lake to a point 2 miles from the main showings.

Travel is by jeep or other such four wheel-drive conveyance. The distance from the lake is 20 miles. A pack-horse trail leads from the claims to a point on the Duncan River, this distance is 5 miles. There are no close highway or railroad facilities. Power facilities

are also well removed. The nearest facility for float planes is Trout Lake.

CLAIMS

There are 60 claims located in the block. Twenty-four of these are staked along a northwesterly trend, while the balance are located in a square block spread downward and across the adjoining valley area. The initial block are known as the "Sparky" claims and are numbered from 1 to 36 inclusive, recorded numbers are 10298 to 10333 inclusive, the latest stakings in July, 1967 are known as the "Rich" claims and are numbered 1 to 24 inclusive, no recorded numbering has yet been assigned. The claims have been properly staked and are not in default for work commitments.

ACREAGE

The claims held would constitute 3,000 acres, more or less.

TITLE

The claims are held under individual ownership by persons resident in Kelowna, British Columbia. They are held under the Mineral Act of the Province of British Columbia and are free and clear of any encumbrance.

HISTORY

The general area is one in which considerable silver and lead were pro-

duced in the early part of the Century. There are numerous adits and old mine dumps in evidence in the area between Trout Lake and the Duncan River. The main concentration of production was in the westerly portion of the area in the vicinity of a town named Ferguson. Over a short period of time, over 2 million ounces of silver and 9 million pounds of lead were recovered from about 15 mines with 2 or 3 contributing the main volume. It has not been possible to establish factual historical information on the claim block and mine workings that are the subject of this report. However, well beaten old pack trails and mine dumps would indicate a considerable amount of surface and underground activity. Most adits on the property must be considered inaccessible for examination purposes.

TOPOGRAPHY

The country is essentially mountainous. There are numerous ridges with some areas of rolling upland which locally develops into open mountain meadowland. A very high rugged ridge, with a series of outstanding peaks, forms a divide between the Lardeau Creek and Duncan River drainage areas. Valleys are deeply incised and are occupied by swift-flowing streams. It is evident that glaciation was prominent in the area. There are a number of glaciers still quite evident on the peaks and snow fields were still quite prominent in the area of examination. Tree growth is heavy at the lower elevations and consists largely of cedar and spruce. Since the claims occupy the higher elevations, timber must be classed as sparse. Water, except from run-off or

melting conditions is not common on the Claims and would have to be raised from Hall Creek for mining purposes of any consequence.

The area is subject to heavy snowfall and winter conditions would likely persist from early October to late June.

Rock exposures are well developed over much of the north-westerly trending claim group but show to a lesser extent on the south easterly block which occupies a lower elevation along Hall Creek.

AREAL GEOLOGY

The area contains a thick sequence of highly deformed sedimentary and volcanic rocks. There is not much indication of intrusive activity. Metamorphism is quite noticeable.

Chloritic and sericitic schists are locally prominent but quartzite and argillite seem to occupy most of the area. Occasional limestone bands were noted. Facies changes are prominent and tend to occur quite rapidly.

The geological age of the formations is not well established but governmental geologists are inclined to favor the Cambrian as the most likely period of deposition.

CLAIM GEOLOGY

The "Rich" claims tend to follow a northwesterly trending ridge which ranges in composition from sericitic and chloritic schist to fairly massive quartzite. The general strike trend is N55°W and the dip is locally

60° S.W. Deformation is quite pronounced so that both dip and strike are subject to numerous changes. The general zone appears to lie along the westerly contact region of the massive range forming the divide between the Lardeau and Duncan River drainage systems, the effect can be noted over at least a three mile interval.

There does not appear to be much intrusion or quartz vein formation in the schisted areas but becomes quite pronounced in the quartzitic and limestone area to the north. The quartz ranges from narrow stringers to broad lenticular lenses. The general pattern is one of reticulation by narrow stringers on a spacing of a few feet occasionally broadening to a short (100 feet) fairly broad (25 feet) lens. There does not seem to be any continuity or extension pattern along strike of the lenticular bodies.

Mineralization consisting of galena, sparse pyrite and siderite occurs in the vein structures but not in the intervening formation. Mineral in place was not pronounced in volume. Some float was picked up above the main edit which was pretty well solid galena and as such would likely have a high silver content.

STRUCTURAL GEOLOGY

The entire area is one of highly deformed sedimentary and volcanic rocks. The strike is northwesterly and the rocks are strongly sheared and folded. Folds are complex and range from isoclinal in the phyllitic rocks and are asymmetrical or overturned in the more competent formations. Anticlines

and synclines are the rule rather than the exception.

Faults are fairly common and most of the major ones follow the north-westerly strike direction. Small adjustment faults and slips are common on the claims and many tend to be at right angles to the main vein trends. These small faults tend to be fairly high angle in nature.

Vein material and mineralization undoubtedly come in along the zones of weakness created by fault and fold action.

Plunge is quite a common feature of folds in the northerly part of the area

ECONOMIC GEOLOGY

Since the turn of the century a considerable volume of silver and lead have been taken out of the general area. The majority of this came from a mining district lying to the west of the claim locations and from within an area known as the "Central Mineral Belt". The claims under examination lie within a less prolific area known as the "Lime Dike Series Mineral Belt".

Deposits within this latter belt contain galena in siderite and commonly result from lenses of siderite which have replaced the limestone along crests of folds and in sheared zones. The result is usually massive pods or poorly defined disseminations of galena. The siderite masses are readily seen since they weather a rusty brown color, they may be more than 100 feet long and several tens of feet thick. The lenticular developments tend to be influenced by the plunge of the folds. Vertical depth is variable and commonly tends to exceed the surface length of the lens.

Quartz veins also occur in the schisted and phyllitic areas. These are less common and are usually small in extent.

Mineralized occurrences seen on the claims were of the sideritic type. One of these had been of a fairly prolific nature as can be judged from the waste dump and from former surface installations and signs of activity. The ore was apparently hand-cobbed and transported from the area by pack-train. Initially movement was to the Gerard area, at the south end of Trout Lake, and later ore was taken to the Duncan River and moved southward from there.

CONCLUSIONS

1. The claims are located in an area of known silver and lead production.
2. Waste dumps and old structures indicate that considerable work was done on the claims early in the century.
3. Veins and lenses are exposed on surface that show some galena and pyrite.
4. Old adits and other underground operations are in an unsafe condition and would be too costly to rehabilitate for examination purposes.
5. Veins and lenses appear to lack horizontal continuity and must be considered as local isolated pockets of ore.

6. Roads and other facilities would require a substantial expenditure.
7. Winter maintenance of operations would not be too practicable unless large ore tonnages were established.
8. The ore appears to be associated with limestone and limestone replacement.
9. Geophysical work would be of no particular benefit.

RECOMMENDATIONS

1. Carry out a moderate prospecting campaign at the higher elevations to the north-west in order to check a possible location for the high-grade float that occurs.
2. A low angle diamond drill hole drilled south westerly from the vicinity of the main adit would readily indicate the incidence of mineralized zones in the area of interest.
3. Claims located in the valley area of Hall Creek could only be evaluated by geochemical work since cross-sectional reconnaissance drilling would be too costly.
4. Road repairs should be limited at this time.
5. A helicopter would be the practical manner in which to put a drill on the property.

The cost to carry out a program which should reasonably evaluate the Claims would be approximately as set out below:

Prospecting, trenching, etc.	\$ 2,000
Geochemical testing	1,000
Diamond Drilling 500 feet @ \$20/foot	10,000
Road repair	1,500
Camp Maintenance	1,000
Supervision	<u>1,000</u>
Total	\$16,500

Respectfully submitted,

(Sgd.) F.L. Croteau, B.Sc.
P.Eng. P.Geol.

Vancouver, B.C.

August 18, 1967

CERTIFICATE

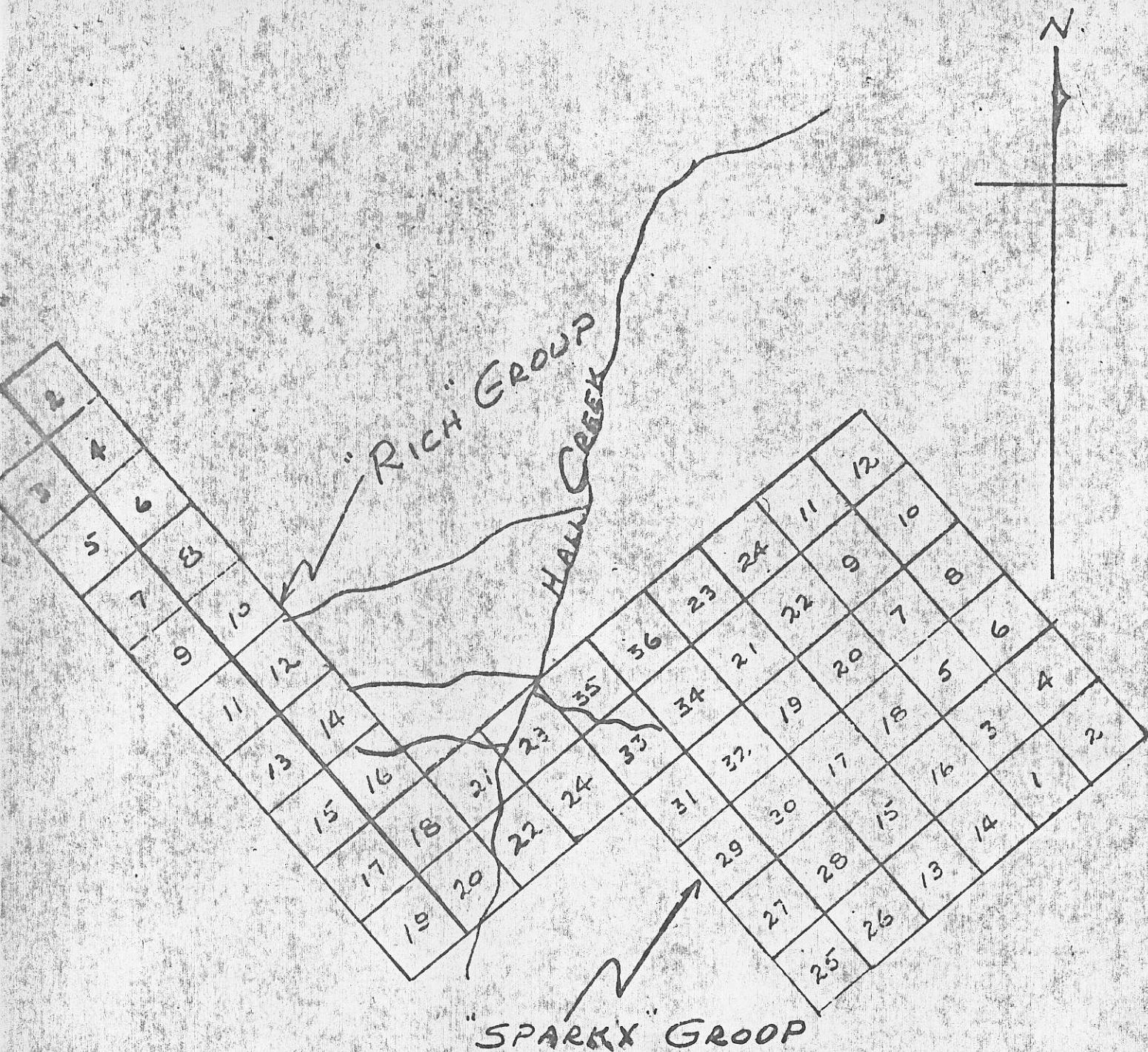
I, F.L. CROTEAU, of 540 Burrard Street, Vancouver, in the Province of British Columbia, certify that:

1. I am a graduate of the University of Saskatchewan and hold the degree of B.Sc. in Mining Geology. Year of graduation was 1936.
2. I have practised my profession in Canada, the United States and the West Indies since 1936.
3. I am a Registered Professional Engineer in the Province of British Columbia and a Registered Professional Geologist in the Province of Alberta.
4. I have no interest, direct or indirect, in the properties reported herein.
5. Claim staking inspected on the property was in accord with the Mineral Act of British Columbia.
6. The findings in this report are based on personal examination of the property, discussion with the prospectors who staked the claims and a study of available maps and reports that were prepared by government geologists.

(Sgd.) F.L. Croteau, B.Sc.
P.Eng. P.Geol.

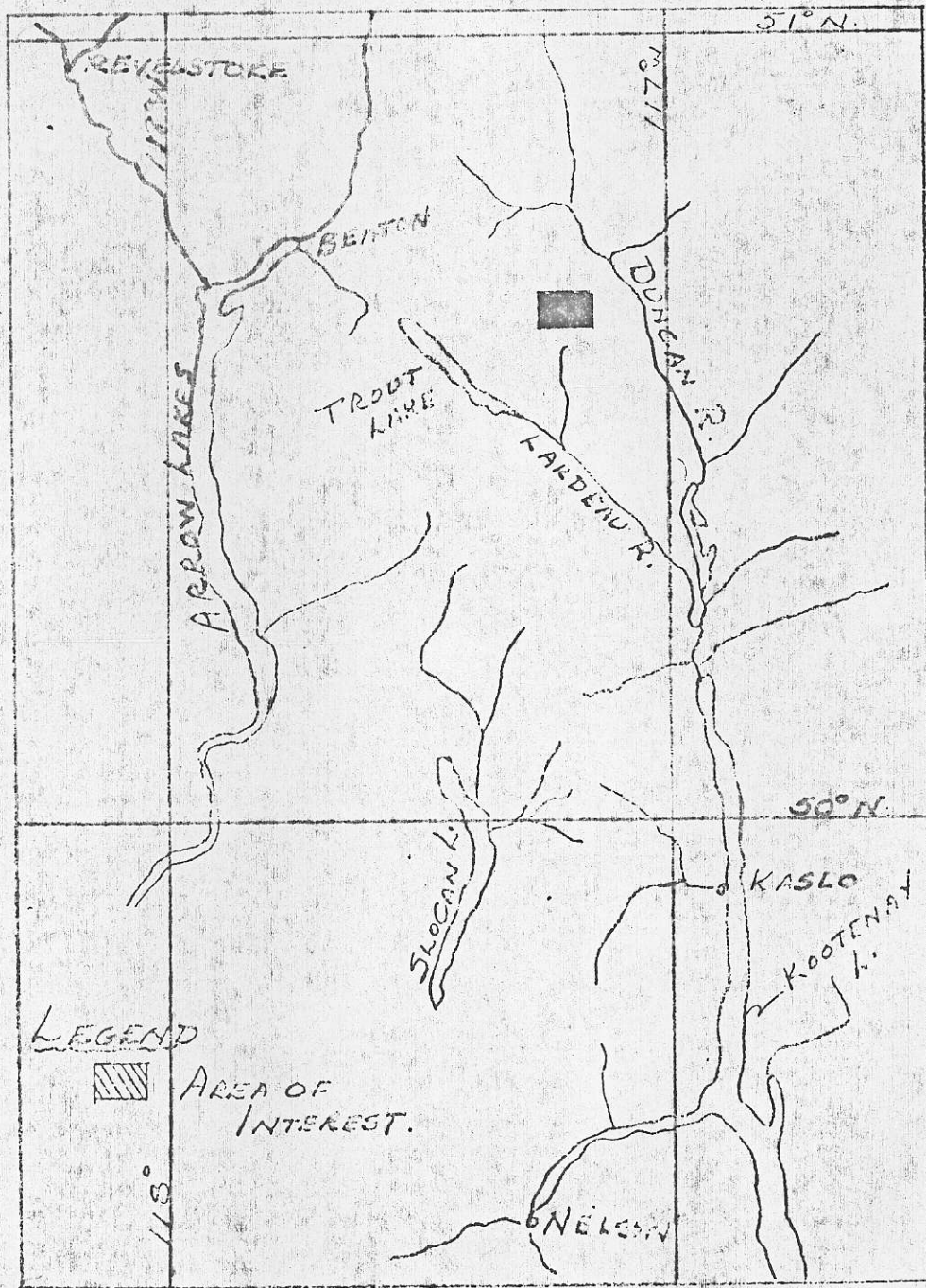
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"RICH" AND "SPARKY" CLAIM GROUPS
 FERGUSON AREA,
 SLOCAN MINING DIVISION

Scale: 1" = 3000'



Location Map
FERGUSON AREA.

Scale: 1" = 16 MILES