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GEOLOGICAL REPORT ON THE McK GROUP

Consisting Of:

McQ #5 Fr. M.C.
McQ #6 Fr. M.C.
McK #5 M.C.
McK #6 M.C.
McK #7 M.C.

August 1 till September 5, 1953

25 Miles Northwest of Stewart, B.C.
Lat. 56° Long. 130° N.W.
Skeena M.D.

Work Supervision by J.J. Crowhurst

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A GEOLOGICAL REPORT ON THE McK GROUP OF MINERAL CLAIMS

Introduction:

The following report is the result of a geological survey of the McK group of mineral claims made during the summer of 1953. The claims were examined by Mr. L.T. Postle, Vice-President and General Manager for the Granby Consolidated Mining, Smelting and Power Company, Limited, and President for the Granduc Mines Ltd., and Mr. J.J. Crowhurst, Assistant Mine Superintendent for the Granby Company and Manager for the Granduc Company, to ascertain the possibility of extensions of the Granduc ore zone through the group.

The claims were surveyed by William Shindle and Gordon Wright with a Brunton compass and a tape. This survey was then superimposed on a base map reproduced from an aerial photograph mosaic. The resulting map then served as a base and control for the geological work done by J. Sullivan and P.E. Olson.

Location and Access:

The McK group is situated along the southern edge of the north Leduc valley glacier. These claims are about 5 miles east northeast of Mount Willibert, and are traversed by Lat. $56^{\circ}14'$ Long. $130^{\circ}22'$.

The best approach to this group is by helicopter from Stewart on the Portland Canal to the Leduc glacier. Other types of aircraft cannot land in this area during the summer months. An alternative route is a three to four day hike from Boundary Lake

on the Unuk river up the Unuk to the south fork, then up the South fork to the Leduc glacier.

Status of Claims:

The McK group consisting of McQ #6 Fr., McQ #5 Fr., McK #5, McK #6, and McK #7 are held by location by Granduc Mines Ltd. Location dates range from April 13, 1953 to August 20, 1953.

Summary:

The Underlying rocks of the McK Group are chiefly volcanic and granitic types with the beginning of a sedimentary series appearing on the McQ #5 Fr. at the western end of the group.

Sulphide mineralization was observed in place on the McK #6 and as float on the McQ #5 Fr. The sulphides in place are not economically attractive, but the sulphide float arouses interest in the area immediately south of the McQ #5 Fr. and the McK #7 M.C.

The lack of water and timber in the area would be a major problem in a detailed exploration program.

Conclusions:

The sediments observed on the McQ #5 Fr. can be correlated on a structural basis and on lithological character with the tuffaceous sediments that form the host for the ore shoots on the south side of Granduc mountain.

Recommendations:

Exploration traverses are recommended in both a southerly and westerly direction from the McQ #5 Fr. The objectives of this work should be: to further establish a correlation of the observed sediments with the mineralized horizons on the southern side of the mountain, and, to trace to its source the mineralized quartz float that was found on the McQ #5 Fr.

Topography, Timber and Water:

In the areas on the group not covered by glaciers, the topography is rugged. The slopes dropping from the ice cap on Granduc mountain to the north Leduc valley glacier have, in most places, been quarried and abraded into rough precipitous faces. As a result, many parts of the valley wall are inaccessible.

One mile northwest across the glacier from the claims is the southern fringe of the timbered areas of the Unuk South Fork. This growth is stunted fir with wide butts and tapering tops that reach 15 feet above the ground at a maximum.

The best source of water is a small creek which flows northerly across the McQ #5 fraction from the ice-capping on the upper reaches of the mountain. This creek would give an ample supply of water for a small camp and a surface drill during the summer, but would probably be reduced to a trickle during the winter.

General Geology:

The rocks underlying the area have not yet been correlated with other districts by the Geological Survey of Canada. However, there is a marked similarity between these rocks and some of those described by George Hanson in his description of the Portland Canal Area, G.S.C. Memoir 175.

The rocks of the area are essentially volcanics and sediments: volcanics to the east and sediments to the west. These two types are conformable in most places where they are exposed, and any unconformities seen appear to be consequent upon shearing along the contact. The general trend of the contact which passes through McQ #5 Fr. is north and south dipping steeply to the west, but many local variations

can be observed within the two main units.

The sediments have been highly altered in many places, probably from the action of the Coast Range intrusives. In many cases it is doubtful if any of the original constituents still exist.

The area is traversed by a few narrow dykes and sills of granodiorite and felsite compositions. They are all vertical or nearly vertical, striking in a northwest-southeast direction.

The sediment-volcanic contact lies a few hundred feet to the west of the summit of the Granduc mountain. On the west end of this mountain, and west of the McK group, the rocks have undergone relatively little alteration. The bulk of the series in this area is a banded greyish-brown siltstone, with the exception of a few narrow beds of fine grained quartzite.

At a point 7,000 feet west of the volcanics an increase in the degree of alteration is noted with an increase in the amount of chlorite and biotite present. From here to the contact is a mixed assemblage of chlorite schist, biotite schist, impure sheared limestones, limy argillites and narrow cherty beds. It is very probable that these units are tuffaceous with an intermediate to basic composition after the eastern volcanic series. Although it was concluded that the rocks west of the volcanic flows were definitely waterlain, there are portions that could be classified as volcanics.

Considerable variation is to be found in the types of volcanic rocks. There are massive varieties varying from andesite to basalt with abundant epidote, porphyritic flows with large grey feldspar phenocrysts, augite porphyrys with phenocrysts up to one-half inch, plus beds of tuffs and coarse fragmentals. Within the above types of volcanics

are dyke-like masses of granitic rock, like those on McK #6 and McK #7, and regions of recrystallization suggesting an assimilation process by an underlying granitic mass.

Detail Geology:

The underlying rocks on the McK group are chiefly volcanic types with the beginning of a sedimentary series showing on the McQ #5 Fr. In addition large masses of granitic rock of monzonite and diorite compositions have quiescently intruded the volcanics and lie conformably with the attitude of the sedimentary-volcanic contact. The cross section examined is, from east to west as follows:

<u>Description</u>		<u>Thickness</u>
Andesite		> 100'
Porphyritic andesite	>300'	< 850'
Andesite	>300'	< 850'
Mixed granitic types		35'
Andesite		470'
Mixed granitic types		45'
Porphyritic andesite		170'
Mixed granitic types		900'
Fine bedded purple tuffs		260'
Porphyritic andesite		430'
Sheared limestone		100'
Sandy limestone		150'

Structural Geology:

The major structure of the area appears to be the west limb of the broad anticline which embraces the area west of Summit Lake on the Portland Canal map sheet. The regional northerly strike and steep westerly dip is sustained by the general attitude of the flows and sediments underlying the McK group.

Mineralization:

On the McK #6 M.C. in the northeast quadrant, close to the hanging glacier, is a series of narrow quartz veins. These veins

carry minor amounts of crystalline pyrite and sphalerite. Their widths are chiefly in the order of 2 inches and they are spaced several feet apart. This area has little economic attraction.

On the eastern half of the MeQ #5 Fr. the main valley wall has been carved into a broad basin extending back to the fringe of the ice-capping on the higher elevations of the mountain. Along the eastern floor of this basin there lies considerable quartz float with much coarse pyrite, some chalcopyrite and a little galena. Some of this float lies deep enough within the basin to arouse interest in the upper reaches of the basin and in the area underlying the northwest fringe of the ice-capping on Granduc mountain.


Registered Professional Engineer.

December 23, 1953.
Copper Mountain, B.C.

SPECIALLY QUALIFIED WORKERS

(who are not Registered Professional Engineers)

J. Sullivan, Geologist.

Graduate in Applied Science, Geological Engineering.
University of B.C. 1951.

Mine Engineer and Geologist for Kootenay Base Metals
Ltd., Fort Steele, B.C., from May 1951 till October 1952.

Mine Geologist for True Fissure Mines Ltd., Ferguson,
B.C. from October 1952 till February 1953.

Field Engineer for Granby Consolidated Mining, Smelting
and Power Co. Ltd., from February 1953 till date of work.

P.E. Olson, Geologist.

Graduate in Applied Science, Geological Engineering.
University of B.C. 1951.

Mine Engineer and Field Geologist for Granby Consolidated
Mining, Smelting and Power Co. Ltd., May 1950 till date of work.

W. Shindle, Surveyor.

Graduate in Applied Science, Mining Engineering.
University of B.C. 1950.

Mine Engineer at Copper Mountain Mine of the Granby
Consolidated Mining, Smelting and Power Co. Ltd., March, 1952
till January, 1953.

Chief Engineer for Granduc Mines Ltd. from January, 1953
till date of work.

SCHEDULE OF COSTS

The following statement shows labour costs chargeable against the McK Group for the geological survey. All work was performed between August 1st and September 5th, 1953.

<u>NAME</u>	<u>OCCUPATION</u>	<u>RATE</u>	<u>AMOUNT</u>
J. Sullivan	Geologist	7 days @ \$15.00	\$105.00
P.E. Olson	Geologist	7 days @ \$15.00	105.00
W. Shindle	Surveyor	6 days @ \$15.00	90.00
I. McCallum	Helper	6 days @ \$13.17	79.02
G. Wright	Helper	6 days @ \$13.17	79.02
J.J. Crowhurst	Prof. Engineer	3 days @ \$35.00	105.00
L.T. Postle	Prof. Engineer	1 day @ \$60.00	60.00
			<u>\$623.04</u>

NORTH LEDUC GLACIER



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Mines and Petroleum Resources
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NO.

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MAP

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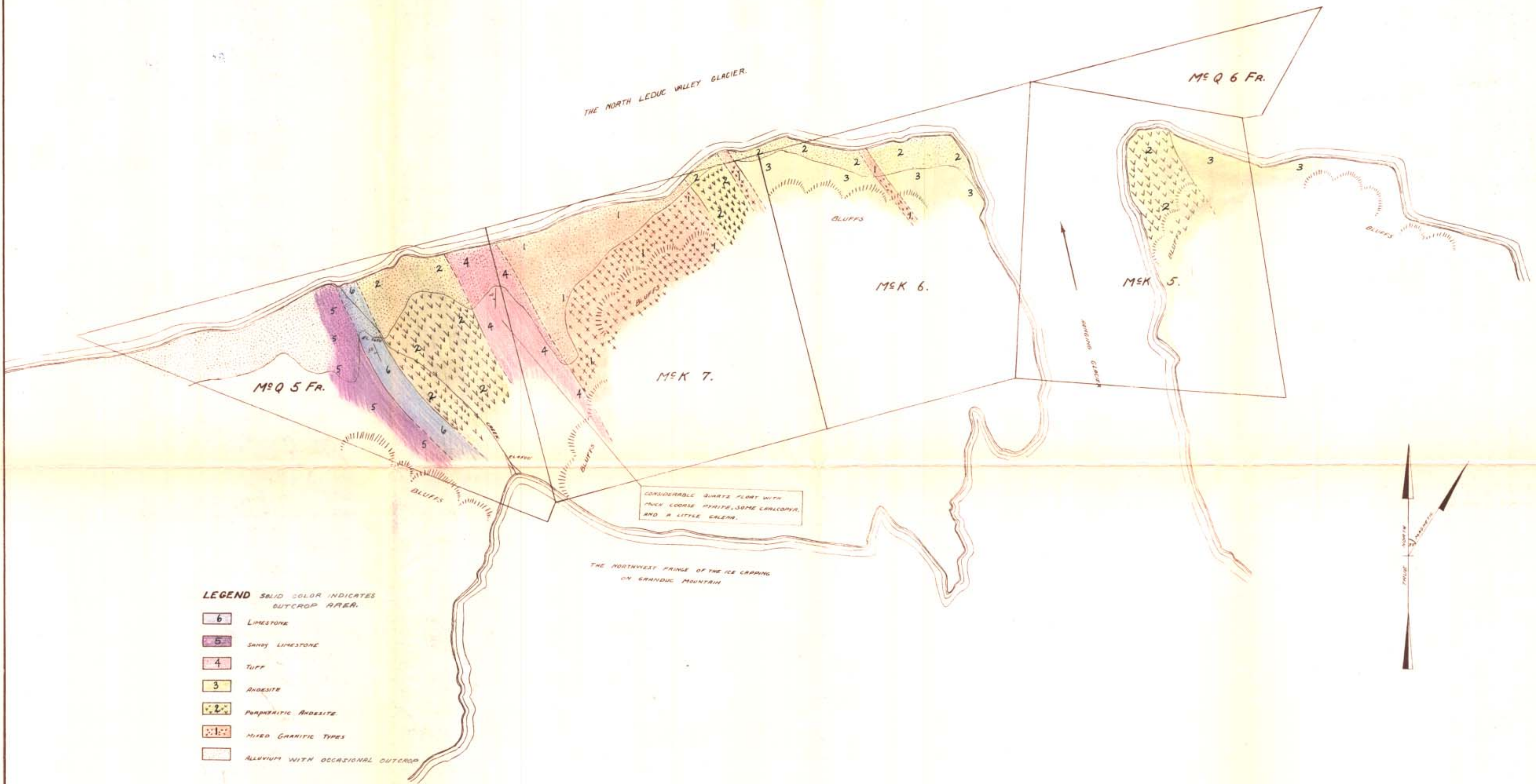
J. J. Cowhurst

GRANDUC MINES LTD.

sketch map of the MCK group & adjoining claims.

Dec. 11, 1953.

Scale 1"=2000'



LEGEND SOLID COLOR INDICATES OUTCROP AREA.

- 6 Limestone
- 5 SANDY LIMESTONE
- 4 TUFF
- 3 ANDESITE
- 2 PORPHYRIC ANDESITE
- 1 MIXED GRANITIC TYPES
- ALLUVIUM WITH OCCASIONAL OUTCROP

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NO. **96** MAP #2

J J Crookston

BASE MAP REPRODUCED FROM AN
AERIAL PHOTOGRAPH MOSAIC.

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Map #2