W.J. McMillan

Property File
082K SE 038

896266

COMINCO LTD.

EXPLORATION — WESTERN DISTRICT

PROPERTY EXAMINATION REPORT

RED LEDGE CLAIMS

METAL: Lead-Zinc NTS: 82 K-8 DATE August 14, 1968

1. INTRODUCTION

The property was examined and recommended for option by G. L. Webber and F. R. Edmunds in 1966. Both recommendations were based on the premise that numerous gossans downslope from the Red Ledge fault might be derived from "surface weathering of a body of heavily concentrated metals" (Edmunds).

2. SUMMARY

(a) Gossan-producing springs on the property probably result from meteoric water percolating through pyrite-rich slates of the Dutch Creek formation (Plate 2). Lead and zinc values in the gossan may be derived from galena- and sphalerite-bearing quartz pods and lenses in the metasedimentary rocks.

(b) Folding in both the Mount Nelson and Dutch Creek formations apparently preceded the Red Ledge fault.

(c) At elevation 5,000 feet, north of the Red Ledge property the northwest striking Red Ledge and north striking Mineral King faults meet. This junction brings together lower Mt. Nelson dolomites from west of the Red Ledge fault and west of the Mineral King fault. Since the dolomite is the ore host rock at the mine, possibilities for a mineral showing at the junction of the faults seem good.

(d) If the Red Ledge property can be optioned cheaply, the following program is recommended:-

i) Extend staking to include the Red Ledge - Mineral King fault junction (Plate 3).

ii) Systematically map the Mt. Nelson rocks west of the Red Ledge fault and the area where the two major faults meet.

iii) Carry out a soil sampling program based on the geologic mapping to outline possible stripping or drilling targets. The soils should be checked for Cu, Pb, Zn and possibly Ba.

3. LOCATION - 50°18'; 116°25' Elev. 6,000' Province: B.C; M.D. Golden

This property is situated west of Stark Creek, a tributary of Toby Creek.

Access to the property is by good gravel road from Invermere to within 3.5 miles of the Mineral King Mine, then four wheel drive road to elevation 5100 feet on the ridge west of Stark Creek, and caterpillar track to the property cache near an adit at elevation 6,000 feet overlooking Stark Creek (Plate 1).

4. GEOLOGY

Rocks of the Upper Purcell Dutch Creek and Mt. Nelson formations crop out on the property. The vertical northwest striking Red Ledge fault separates black to green pyrite-rich Dutch Creek slates on the east from a conformable succession of Dutch Creek and Mt. Nelson rocks. The succession of Dutch Creek and Mt. Nelson rocks, includes the Upper slate member of the Dutch Creek formation, which consists predominantly of green phyllitic pyrite-rich slate; the basal Mt. Nelson quartzite; and the lower dolomite member of the Mt. Nelson formation. The basal Mt. Nelson quartzite grades

Geology continued....

from white thin bedded quartzite, to quartzite with green argillite partings, to quartzite with dolomite interbeds. The contact with massive to thinly layered buff dolomites of the lower dolomite member is gradational. The succession is cut off by the Red Ledge Fault.

Diorite dikes which cut the metasedimentary rocks have been sheared and altered. Dike borders are highly irregular, possibly as a result of shearing. According to Fyles (1959) the dikes are most common near faults. Possibly they intruded along breaks formed early in the faulting history, then were caught up in later episodes of movement.

Quartz veins and pods are common in both the metasedimentary rocks and the intrusive rocks. Most are barren, milky quartz but some have stringers of siderite with or without muscovite, galena and chalcopyrite. Sphalerite and tetrahedrite were reported by Fyles but were not found during the inspection (see section on Mineralization).

Structure

Dutch Creek slates east of the Red Ledge fault apparently form an anticline with vertical axial surface and gentle southeast plunge. Faulting could be responsible for the change in dip but none were recognized.

West of the fault, Mt. Nelson rocks apparently define a syncline with steep southwest dipping axial surface and gentle northwest plunge. Near the contact with Mt. Nelson quartzite, Dutch Creek phyllites conform with them. However, to the south dips in the phyllites are near-vertical and no major folds were recognized.

The Red Ledge fault apparently cuts the limbs of both inferred major folds and thus post-dates them (Plate 2).

5. MINERALIZATION

Dutch Creek slates and phyllites are extremely rich in pyrite. It occurs both as large subhedral cubes and small disseminated crystals. Overall, the rocks contain about 15% pyrite. Further, much of it has been removed by weathering or is altered to limonite, even in fresh road cuts. In the slates, pods and stringers of quartz are common. In places they carry siderite and occasionally blebs of galena and chalcopyrite. No sulphide mineralization was found in quartz veins in Mt. Nelson quartzite but adjacent to the Red Ledge fault quartz veins in both Mt. Nelson dolomite and a sheared diorite dike contained sporadic galena and chalcopyrite mineralization. Webber reported values: Ag .02 oz; Pb .10%; Zn .31% over 20 feet in Mt. Nelson dolomite adjacent to the fault. This exposure was not visited by us but Fyles reports that galena, sphalerite and tetrahedrite occur as scattered irregular veinlets and lenses in the dolomite. The largest are an inch thick and a few feet long. Irregular quartz veinlets in the dolomite may or may not be mineralized. The mineralized area is restricted to an outcrop extending 80 feet north-south and 25 feet wide.

Gossans

Gossans occur at intervals along the Red Ledge fault. An adit 110 feet long trending S 60° W was driven on the largest of these. According to Webber, it was driven for 25' in gossan then through Dutch Creek slates. Assay results for typical gossan read: Ag 0.1 oz; Cu nil; Pb .06%; Zn .15%; Fe 47.9%.

Pyrite in the slates and galena and sphalerite in quartz veins within them provide the most likely source of the limonite and lead-zinc-silver values of the gossans. The hypothetical development of gossan-producing springs from weathering and meteoric water is illustrated in Plate 2 section B-B.

Assays

A sample of Dutch Creek pyritiferous black slate and a pyrrhotite-bearing altered diorite sample were submitted for Cu and Cu, Ni assays respectively.

REGIONAL CONSIDERATIONS

North of the Red Ledge property at elevation 5,000 feet, the Red Ledge fault is inferred to be in contact with the southward extension of the Mineral King fault (Fyles, 1959). In the light of the Red Ledge inspection this interpretation seems reasonable. Thus the junction of the faults brings together lower Mt. Nelson dolomite west of the north striking Mineral King fault from the mine area and lower Mt. Nelson dolomite west of the northwest striking Red Ledge fault from the property. Exposure at this elevation is poor but geologic mapping in Mt. Nelson rocks along the Red Ledge fault and around the junction of the Red Ledge and Mineral King faults followed up by a soil sampling program would test this favourable geologic setting at a relatively low cost. Targets, if any, from the initial work could be tested by stripping and/or diamond drilling.

REFERENCES

Edmunds, F.R. 1966 - Cominco report August, 1966.

Fyles, J.T. 1959 - Report of Minister of Mines, pp 74-89.

Webber, G.L. 1966 - Cominco Property Examination Report, June, 1966.

ATTACHMENTS

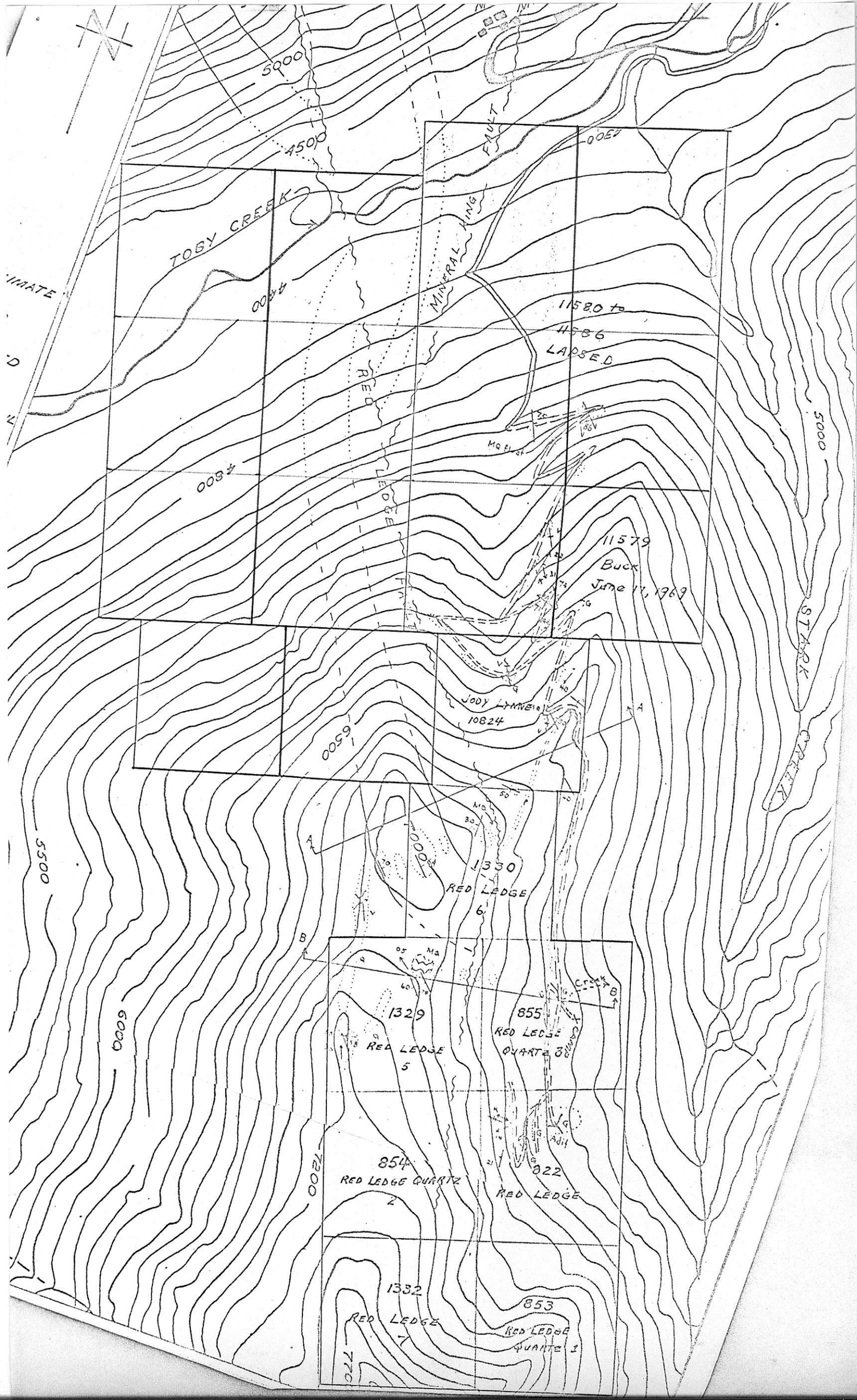
Plates 1, 2, and 3.

Report By "W. J. McMillan"

Endorsed By_____
J. Richardson

WJMcM:mk
Typed August 26, 1968
Distribution:

Montreal	1
Vancouver	1
Writer	1 ✓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LAPSED
RED LEDGE
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Buck
June 17, 1969
JODY LYNNE
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6500
5500
7000
1330
RED LEDGE
6
1329
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5
855
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QUARTZ 3
Adit
854
RED LEDGE QUARTZ
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QUARTZ 1
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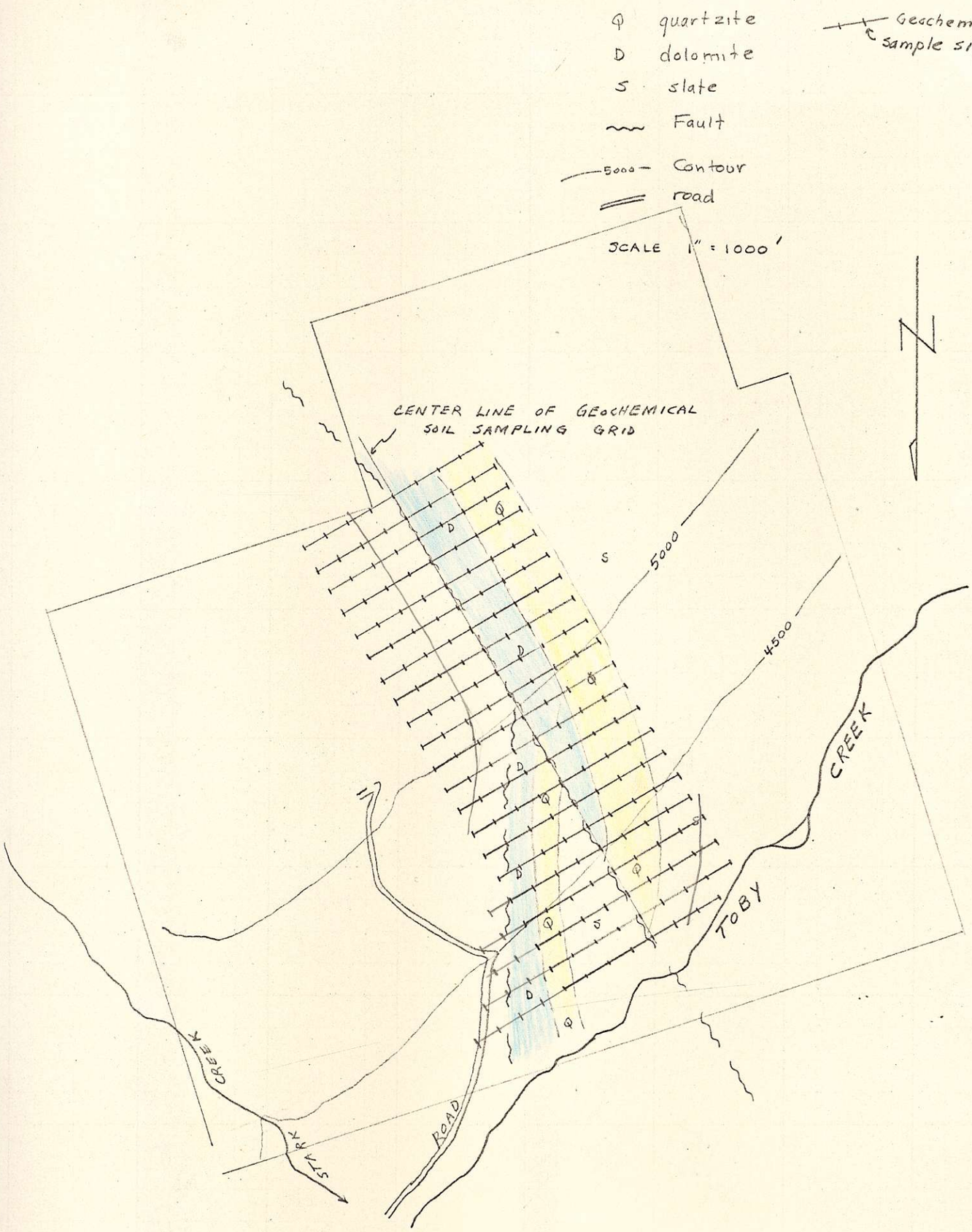
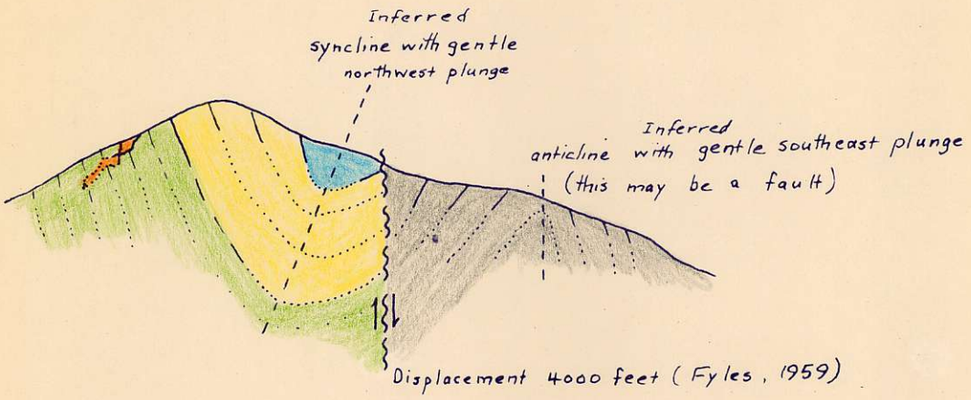
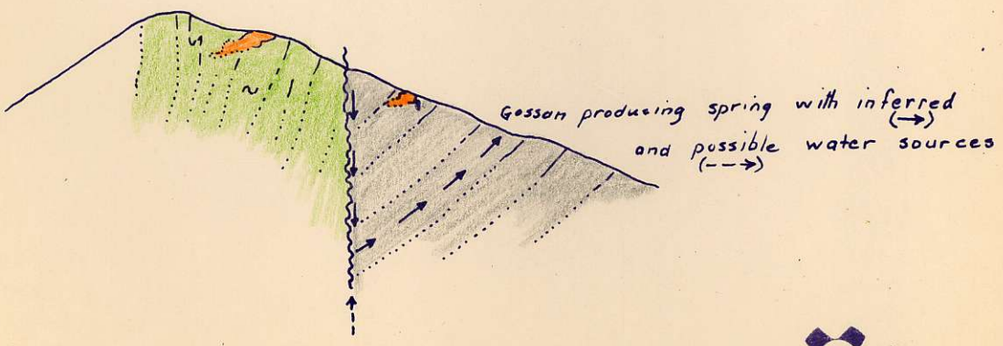
STAR CREEK


Q quartzite
D dolomite
S slate
Fault
5000 Contour
road
Geochem line
sample site
SCALE 1" = 1000'
CENTER LINE OF GEOCHEMICAL SOIL SAMPLING GRID
N
5000
4500
TOBY CREEK
CREEK
STARK
ROAD



SECTION A-A · Looking Northwest

SECTION B-B - Looking Northwest



Drawn by: W. J. M.	Traced by:			
Revised by	Date	Revised by	Date	

RED LEDGE
PROPERTY

NTS 82 K · 8W

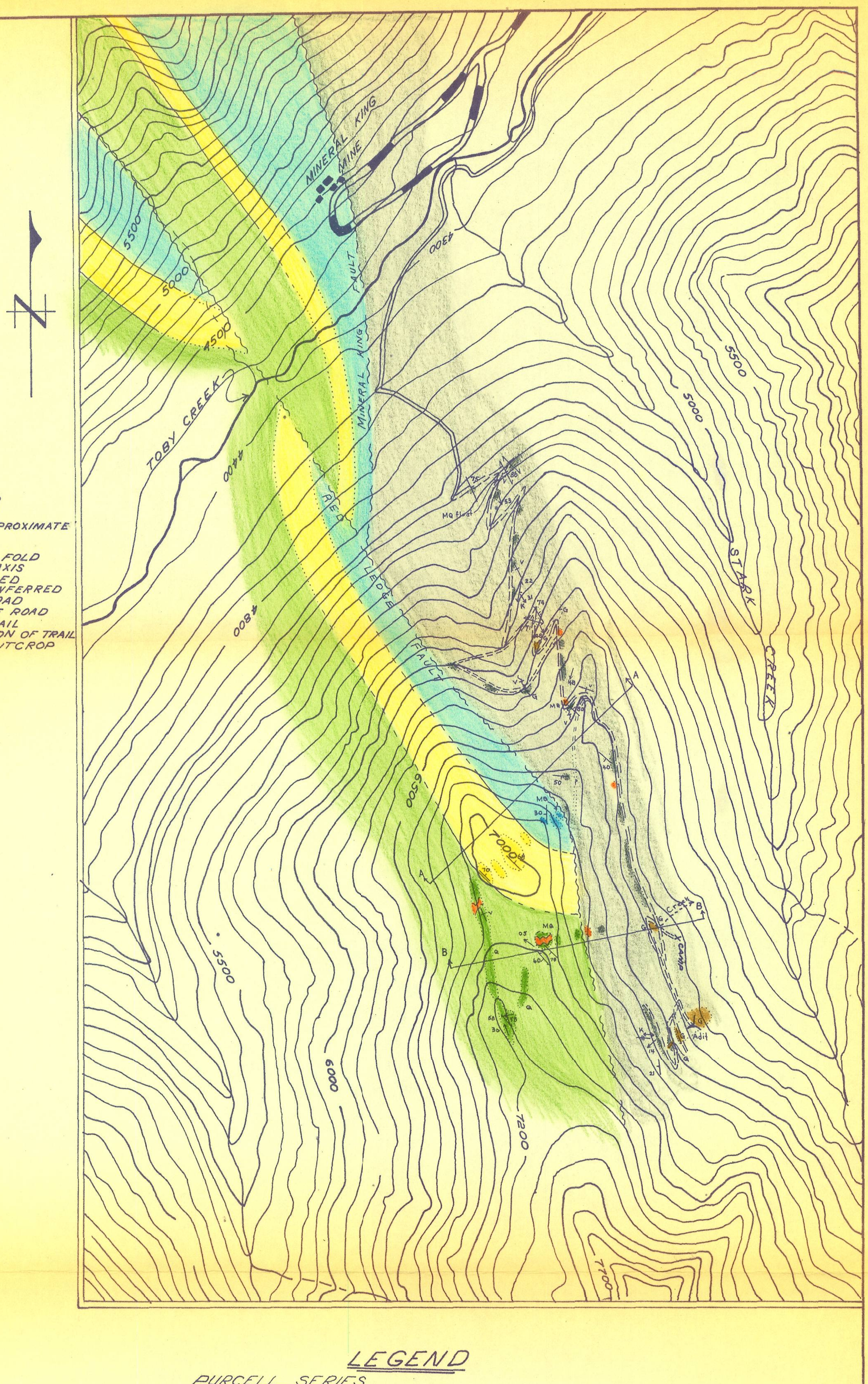
Scale: 1" = 1000'

Date: August 16, 1968

Plate: 2

BCIL 2187C

210-0610



SYMBOLS

- FAULT, MAPPED, APPROXIMATE
- BEDDING
- CLEAVAGE
- AXIAL PLANE OF MINOR FOLD
- LINEATION OR FOLD AXIS
- CONTACT, MAPPED, APPROXIMATE, INFERRED
- GOOD DIRT ROAD
- FOUR WHEEL DRIVE ROAD
- CATERPILLAR TRAIL
- APPROXIMATE LOCATION OF TRAIL
- OUTLINE OF VISITED OUTCROP

LEGEND

PURCELL SERIES

MT. NELSON FORMATION

925 LOWER DOLOMITE MEMBER - BUFF WEATHERING DOLOMITE

917 BASAL QUARTZITE - MEMBER - WHITE THIN BEDDED QUARTZITE GRADING UPWARD INTO QUARTZITE WITH GREEN ARGILLITE LAMINAE THEN INTO QUARTZITE - DOLOMITE INTERBEDS

DUTCH CREEK FORMATION

UNDIVIDED - PREDOMINANTLY BLACK SLATES WITH GRAY TO BLACK LAMINATED ARGILLITE AND GRAY-GREEN PHYLLITE LAYERS. LARGE SUBHEDRAL PYRITE CUBES AND SMALL DISSEMINATED CRYSTALS ARE PROMINENT QUARTZ VEINS AND PODS LIE IN AND ACROSS THE LAYERING

UPPER SLATE MEMBER — PREDOMINANTY GREEN TO GRAY PHYLLITE WITH PROMINANT LARGE CUBES AND DISSEMINATED CRYSTALS OF PYRITE

INTRUSIVE ROCKS

962 ALTERED SHEARED DIORITE DIKES, CONTACTS ARE VERY IRREGULAR

VEINS

Q AREAS IN WHICH SIDERITE - MUSCOVITE - BEARING QUARTZ VEINS ARE UNUSUALLY COMMON MQ - VEINS WITH GALENA AND CHALCOPYRITE BLEBS

G GOSSAN - LIMONITE OR BRECCIA WITH SLATE FRAGMENTS CEMENTED BY LIMONITE

RED LEDGE PROPERTY

Drawn by: W. J. M. | Traced by: D. L. P.

Revised by | Date | Revised by | Date

Scale: 1" = 1000'

Date: AUG. 14 1968

Plate: NO. I

COMINCO 210-D640