

3830

REPORT

on

DETAILED GEOLOGICAL & GEOCHEMICAL SURVEY

RELAY CREEK

XYZ CLAIM GROUP

Lillooet Mining Division
British Columbia

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

W. Meyer, P. Eng.

No. **3830** MAP

Claims: X # 1 - 12
Y # 1 - 12
Z # 1 - 12

Location: 25 air miles north of Bralorne, B. C.
Lillooet Mining Division

51°10', 122°55' NW

92 0 / 2 W

Dates: July 17 to August 1, 1972

August 18, 1972

Vancouver, B. C.



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INTRODUCTION

The XYZ Group of claims on Relay Creek in the Lillooet Mining Division was visited by the writer during the period July 25 to August 1, 1972 at the request of Mr. N. von Fersen of Home Oil Company Limited.

The object of the programme was to carry out detailed geological mapping (100 scale) on the key area of the claims, make a geological evaluation of the mineral potential of the group, and provide some supervision to work in progress.

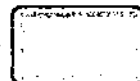
The work in progress included a transit survey to tie in previous grid lines and trenches as well as fill in soil geochemistry on areas already covered by a 100 ft. x 400 ft. geochemical survey.

PROPERTY, LOCATION AND ACCESS

The XYZ Group comprises 36 contiguous claims in the Lillooet Mining Division owned by the Sheba Syndicate. The claims were staked in 1970 as a result of a grass-roots exploration programme carried out under the supervision of Dr. J. H. Montgomery.

The property is located near the headwaters of Relay Creek, a tributary of Tyaughton Creek in the Bridge River District.

The claims are accessible by approximately 60 miles of good gravel road from Lillooet to the Tyaughton Lodge on Tyaughton Lake and thence by the "Silverquick Road" and "Relay Creek Road", a distance of 26 miles by 4-wheel drive vehicle to a point approximately one mile east of the Gang Ranch cabin on Relay Creek.



Department of
 Mines and Technical Resources
 Assessment Report
 NO. **3830** MAP # **1**



CLINTON M.D.
 LILLOOET M.D.

Z12	Z10	Z8	Z6	Z4	Z2
Z11	Z9	Z7	Z5	Z3	Z1
Y12	Y10	Y8	Y6	Y4	Y2
Y11	Y9	Y7	Y5	Y3	Y1
X12	X10	X8	X6	X4	X2
X11	X9	X7	X5	X3	X1

51°10'

Prentice Lake

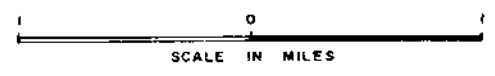
50 Air Miles
 to Lillooet, B.C.

Relay Creek

40 Miles to
 Goldbridge, B.C.

Paradise Creek

**SHEBA SYNDICATE
 RELAY CREEK CLAIMS
 LOCATION SKETCH**
 LILLOOET MINING DIVISION, BRITISH COLUMBIA



TO ACCOMPANY GEOLOGICAL REPORT BY W. MEYER, P.Eng.
 ON THE XYZ CLAIMGROUP, RELAY CREEK, LILLOOET M.D. DATED AUGUST 21, 1972

FIGURE 1

CLAIMS

The claim group surveyed consists of 36 full-sized contiguous claims. A summary of the claims is listed below:

<u>CLAIM</u>	<u>RECORD NUMBER</u>	<u>DATE RECORDED</u>
X 1-12	33622-33	Aug. 24, 1970
Y 1-12	33634-45	"
Z 1-12	33682-93	"

GEOLOGY

General

The general area of the XYZ claims is underlain by a thick succession of well-bedded soft argillaceous rocks grading to pebble conglomerate near the top. It is locally intruded by dykes and sills of felsite, feldspar porphyry and andesite (Ref. G.S.C. Map No. 29-1963 by Dr. H. W. Tipper).

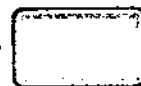
The "key" area of the claims (i.e., the area of scattered anomalous geochemical values) is underlain by grey to dark argillites intruded by feldspar and quartz feldspar porphyry dykes. The sediments are part of a thick succession of Lower Cretaceous argillites and pebble conglomerates. The dykes are early Tertiary in age.

The dykes, varying from a few feet in width to 600 or more feet, occupy late steeply dipping fractures striking approximately N 40°W. Heavy pyrite, minor chalcopyrite and traces of molybdenite occur in weathered bedrock exposures of the porphyry dykes.

Lithology

1. Argillaceous sediments

The sediments mapped consist of soft to cherty, grey to black argillites with minor interbedded chert (and argillaceous limestone?).



Bedrock exposures were generally poor, being frost heaved and well oxidized. Possible bedding planes were noted in two places. These attitudes were N 5°E/90° and N 50°W/80°SW, and are shown on the accompanying map.

2. Feldspar porphyry

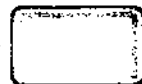
A typical fresh sample contains approximately 50% gray plagioclase phenocrysts in a dark aphanitic groundmass. The porphyry commonly has a pink cast which is due to staining of iron oxides rather than potash metasomatism. This unit locally has scattered quartz phenocrysts but quartz porphyry does not appear to be a mappable unit.

Alteration and Mineralization

In areas of high sulphide density, the most pervasive alteration is secondary biotite after amphibole. Hornblende phenocrysts and most of the aphanitic dark groundmass is replaced by biotite and pyrite. There seems little doubt that the hornblende provided at least some of the iron for the pyrite. Pyrite occurs in fine disseminations in the groundmass and coarse well formed crystals in altered hornblende phenocrysts. No disseminated chalcopyrite was noted.

Pyrite occurring in fine stringers with and without quartz on fracture planes may have formed during a later period of mineralization. Trace amounts of chalcopyrite were noted with this pyrite scattered on fracture planes in the more altered zones.

The more intensely altered rock is generally heavily oxidized and has a pink cast, probably due to iron oxides rather than potash metasomatism.



Silicification and carbonate alteration is pervasive in the area of dykes mapped when the alteration occurs in the groundmass as well as fine stringers along fractures. Carbonate stringers usually occur without sulphides but may have pyrite on their margins.

Structures

No large scale faults were mapped. The porphyry dyke swarm may occupy late fractures steeply dipping and trending N 30°W to N 40°W. (There is a possibility the porphyries may be sills but this could not be verified due to poor bedrock exposures.)

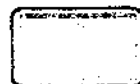
GEOCHEMICAL SURVEY

General

A geochemical survey was carried out by L. Meindl and M. Ferster. Samples of the "C" horizon were taken at 100 ft. intervals along lines 60+00N, 64+00N and 68+00N. A total of 112 samples were taken on these three lines. This provides a fill-in of a previous survey on lines spaced 400 ft. apart. The samples were collected in 3½"x6" envelopes, marked with the coordinates of the sample location and shipped to Vancouver Geochemical Laboratories in North Vancouver for analysis. All samples were run for copper and molybdenum.

The analytical procedure involves taking a ½-gram sample of minus 80 mesh material and digesting it first in a mixture of perchloric acid and nitric acid for several hours. The copper and molybdenum values are then obtained by atomic absorption. All values have been recorded in parts per million with a detection limit of ±1 ppm.

The results are plotted on Figure 2 at a scale of 1" = 400'.



Survey Results

1. Copper

Copper values in the area sampled are highly anomalous and many of the values are over 500 ppm Cu. Sampling indicates values as high as 2600 ppm Cu (L.62+00N, 49+00W).

Contours on the map are 500 ppm Cu and 1000 ppm Cu.

The plot of these anomalous areas on the detailed geology indicates a general correspondence and trend along the porphyry dyke system. Anomaly peaks coincide almost exactly with exposures of feldspar porphyry dykes while the generally anomalous areas coincide with the more intensely altered parts of the dyke system.

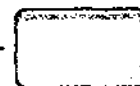
2. Molybdenum

Molybdenum has a background of less than 10 ppm and much of the area sampled is weakly anomalous. The highest molybdenum values correspond with samples containing greater than 1000 ppm Cu. The copper and molybdenum anomalies are thus coincident. The highest values are 86 ppm Mo and 87 ppm Mo (L.64+00N - 12+00W + 1300W).

CONCLUSIONS

Anomalous copper and molybdenum geochemical values appear to be related to a "swarm" of at least four porphyry dykes varying in width from 100 ft. to 600 ft. or more.

Much of the original sulphides in the bedrock exposures examined have been oxidized and leached due to surface weathering.



Of the 2% to 5% sulphides remaining in the rock, the bulk is pyrite with minor chalcopyrite and traces of molybdenite. Geochemical analysis of the "C" horizon, however, indicates values of up to .26% copper in the leached and oxidized material near the bedrock surface.

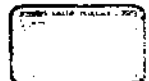
It is concluded that some (or much) of the original copper minerals were leached out of the bedrock surface as a result of surface weathering.

Respectfully submitted,



W. Meyer, P. Eng.

August 18, 1972



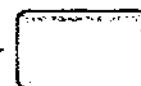
CERTIFICATE

I, William Meyer, do hereby certify that:

1. I am a geologist with residence at 911 Jarvis St., Coquitlam, B. C.
2. I am a graduate of the University of British Columbia (B.Sc., 1962).
3. I am a Professional Engineer registered in the Province of British Columbia.
4. I am a Fellow in the Geological Association of Canada.
5. I have worked as an exploration geologist for ten years for the following companies: Phelps Dodge Corporation of Canada Ltd., Gibraltar Mines Ltd., Associated Geological Services Ltd., Western Geological Services Ltd. (senior partner). I am presently a senior partner in W. Meyer & Associates Ltd.
6. During the period July 25 to August 1, 1972 I carried out the geological survey and supervised the geochemical survey covered by this report.


W. Meyer

August 18, 1972



APPENDIX IIPERSONNEL AND DATES

<u>Name & Address</u>	<u>Position</u>	<u>Dates</u>	<u>Number of Days</u>
W. Meyer 1015-470 Granville St. Vancouver 2, B. C.	Geologist	July 25-Aug. 1/72	6½
L. Meindl 202-850 W. Hastings St. Vancouver 1, B. C.	Surveyor	July 17-Aug. 1/72	8
M. Ferster 202-850 W. Hastings St. Vancouver 1, B. C.	Geochemical sampler	July 17-Aug. 1/72	8
N. von Fersen 202-850 W. Hastings St. Vancouver 1, B. C.	Geologist	July 23-24/72	2

COST OF SURVEYW. Meyer & Associates Ltd.

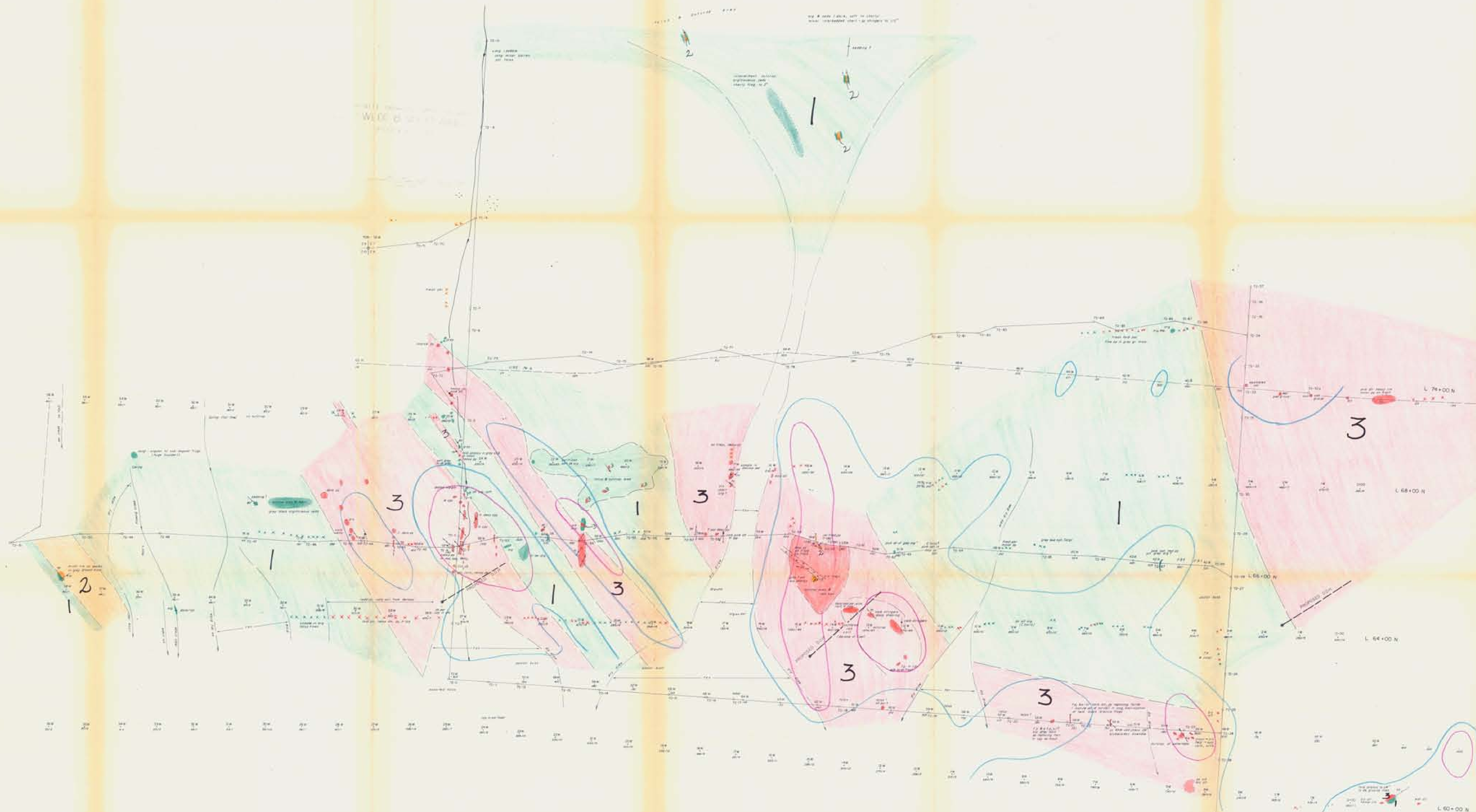
Fees (W. Meyer)	\$ 900.00	
Maps, prints and report	243.64	
Living expenses (on job)	<u>157.91</u>	\$ 1,301.55

Home Oil Company Ltd.

Wages	978.32	
Assaying	190.40	
Camp & cookery	215.54	
Equipment rental	44.78	
Truck rental	<u>311.54</u>	<u>1,740.58</u>

TOTAL \$ 3,042.13

The above costs are property related costs and do not include preliminary compilation of previous data, administration costs, transportation to and from Vancouver and other costs not normally applicable for assessment credits.



LEGEND

- 3 ALTERED FELDSPAR PORPHYRY, MAJOR FELDSPAR HORNBLENDE PORPHYRY & QUARTZ, FELDSPAR PORPHYRY
- 2 FRESH FELDSPAR PORPHYRY, MINOR FELDSPAR HORNBLENDE PORPHYRY & QUARTZ, FELDSPAR PORPHYRY
- 1 GREY TO BLACK ARGILLACEOUS SEDIMENTS, MAJOR INTERBEDDED CHERT, PEBBLE CONGLOMERATE

SYMBOLS

- PYRITE
- CHALCOPYRITE
- ALTERATION
- LIMONITE
- SECONDARY BIOTITE
- CARBONATE
- SILIFICATION
- BRECCIA
- ATTITUDE OF BEDDING OR CONTACT
- JOINTING
- SHEARING
- ARPHENITIC
- FELDSPAR PORPHYRY
- PIT
- TRENCH
- SEDIMENT SAMPLE (Cupressus Millipede)
- 5000ppm Cu
- 100 ppm Cu
- V FLOAT (close to beached)

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO 3830 MAP #2

FIGURE 2

3830 M-2 3

W. MEYER & ASSOCIATES LTD.
Prepared For:
SHEBA SYNDICATE
DETAILED GEOLOGY
XYZ CLAIMS
RELAY CREEK, BRITISH COLUMBIA
SCALE 1" = 100' AUGUST, 1972

TO ACCOMPANY GEOLOGICAL REPORT BY W. MEYER, P.Eng. ON THE XYZ CLAIM GROUP,
RELAY CREEK, LULLOET MINING DIVISION, DATED AUGUST 21, 1972