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PRELIMINARY REPORT

on

BTU PROJECT

Similkameen M.D., B. C.

92 H 8/W

by

M.R. Wolfhard Feb. 1977.

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MAPS

February 9, 1977

BTU PROJECT

SUMMARY

A porphyry copper sulphide zone at least 1200 m wide and 3600 m long, with ample evidence of copper mineralization, exists on the BTU and adjoining claims. An area sufficient to conceal a surface mineable deposit in the range of 50 to 200 million tons exists under glacial cover surrounded by mineralized outcrops. Contingent upon property aquisition, this zone should be tested by percussion drilling at an estimated first stage cost, exclusive of property payments, if necessary, of $25,000.

INTRODUCTION

PROPERTY AND OWNERSHIP: BTU - 1 through 7 including a total of 44 units, owned by Corbin J. Robertson (Quintana) See list following page 6. These partially overlap 11 pre-existing claims held by G.Burr and E. Mullin of Princeton B. C. Burr and Mullin would be interested in a deal. No terms have been discussed. The owner of Lot 42 probably also owns base metal rights to this lot.

LOCATION: North west corner of NTS 92H/8W and 92H/9W centered about 3.5 km northeast of Princeton, B. C. The claims cover grassy slopes east of the Princeton Basin, with a maximum relief of about 300 metres on the claims. Climate is cool and dry, and vegetation is sparce, 8 months of the year are suitable for field work, and 12 months are suitable for drilling. Similkameen's (Newmont's) Ingerbelle and Copper Mountain properties lie about 12 km south of Princeton.

ACCESS:

1) Exploration. By road from Princeton, on B. C. Highway 3, about 3½ - 4 hour's drive from Vancouver.

2) Production. As above, or by a circuitous rail route to the C P main line at Spences Bridge.

HISTORY: Oxide copper showings on the lower west slope of Mount Miner have been known for many years. Granby as owner and later as option holder, did various surveys followed by trenching and diamond and percussion drilling between 1951 and 1962 and again in 1965. Granby's main effort was in the vicinity of the Granby and Climax trenches shown on Figure 1. In 1963 Climax Copper (Silver Standard and others)

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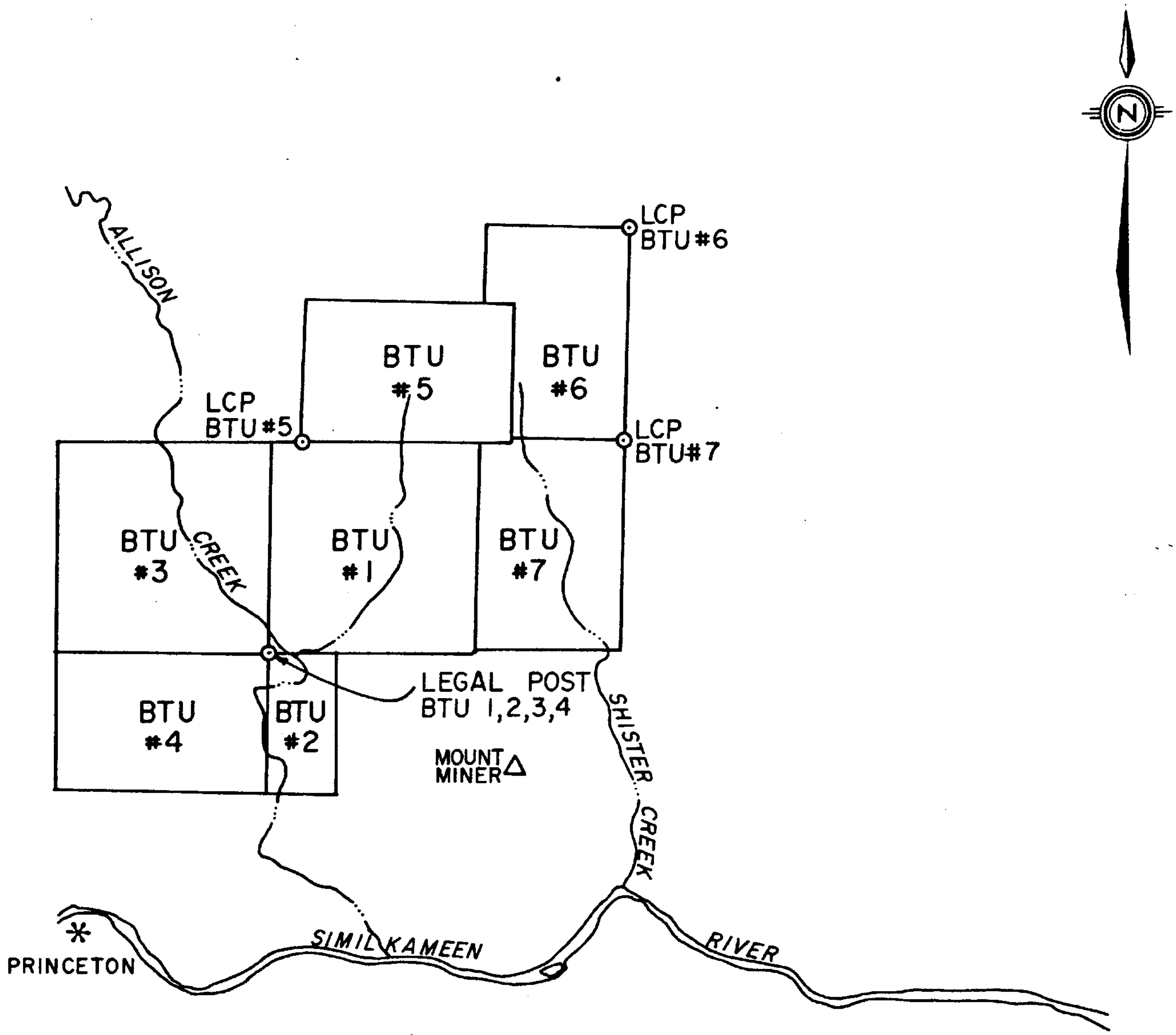

QUINTANA MINERALS CORPORATION

BTU PROJECT

LOCATION MAP

SCALE

MILES 1 1/2 0 1 MILES

FEB. 1977

BTU 3

drilled 10 holes. Joy Mining drilled at least 5 holes in 1969 - 70, and Bethlehem Copper drilled 2 holes nearby as well as 3 holes in 1973. All this drilling, with the exception of Bethlehem's 3 stepouts, was concentrated in a small area including and adjoining the east and south sides of the oxide copper showings.

In 1976, Quintana geologists staked the available ground, mapped this and the adjoining Burr-Mullin ground, compiled available information, and developed a target adjoining the north side of the area of previous activity.

REGIONAL GEOLOGY:

The BTU property lies within a narrow north trending belt of Upper Triassic to Lower Jurassic, basic to intermediate, volcanics. These Nicola group volcanics are intruded by co-eval plutons associated with porphyry copper mines at Copper Mountain - Ingerbelle, Highland Valley, and Afton-Iron Mask.

A host of other porphyry copper prospects, most of which fall into one of two general classes, are known within this 60 km by 300 km belt stretching from the U.S. border north to Kamloops and beyond. Locally these Nicola rocks are overlain by Upper Mesozoic and Lower Cenozoic rocks, often in fault bounded basins.

One of the two types of porphyry copper deposits, usually associated with a calc-alkaline intrusive suite, exhibits well developed, megascopically obvious concentric alteration zoning. The Highland Valley deposits are of this type.

(cont'd)

The second type of deposit, often of good grade, is commonly associated with alkaline intrusive and extrusive rocks. This type shows poorly defined concentric alteration zoning. In particular, an annular zone of strongly sericitized or argillized rock peripheral to and useful as a guide to ore is absent. Exploration for this type of deposit under cover must be guided by the presence of mineralization at the edge of cover. Subjective assessments of the direction to and intensity of the center of mineralization are dangerous. Within the Nicola belt any covered area large enough to contain a mine size deposit, surrounded on one or more sides by weak fracture controlled copper iron sulphide mineralization, is a compelling target for exploration by grid drilling.

PROPERTY GEOLOGY: The BTU and adjoining claims are underlain on the west by Lower Cenozoic continental sediments and volcanics of the Princeton Group and on the east by intermediate to basic Nicola volcanic rocks and associated intrusions. The contact is thought to be a steep fault trending just east of north, shown as the Deer Creek fault on Figure 3. A land slide deposit, consisting of a chaotic melange of mineralized Nicola rocks, overlies mineralized Nicola and post mineral Princeton rocks. Although this landslide deposit appears to be offset by a structure shown as the Mount Miner Fault on Figure 3, the Mount Miner Fault is defined by apparent offset of the outer limit of pyrite. Other faults parallel to this Mount Miner Fault probably exist.

Preto (1974) mapped Nicola volcanics and pyroxene microdiorite in the vicinity of the Climax and Granby trenches. No doubt some intrusive is present, but because of the difficulties in

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distinguishing, on a property scale, between altered volcanics and minor fine grain intrusives of similar composition, Quintana geologists mapped all these rocks as Nicola. Sediments, some calcareous, exist within the Nicola volcanics. They may extend through the alteration zone, suggesting some scarn potential.

Fracture controlled and disseminated pyrite and chalcopyrite mineralization occurs in a zone 1200 m by greater than 3600 m trending 025°. Controls of this mineralization are unclear. Mount Miner type faults may be important; intrusives almost certainly play a major role.

The best reported mineralization is in Bethlehem drill hole #73-4, which contains, according to Preto (1974) about 100 m of saussuritized microdiorite mineralized with pyrite and chalcopyrite grading about 0.3% Cu. This is underlain by a further 100 m of barren rock. It is not clear whether this abrupt change reflects original distribution of copper or later faulting. Local concentrations of copper, possibly structurally controlled, exist in bedrock near 73-4. Although these are accompanied by rare potassium feldspar alteration, the dominant alteration consists of phylosilicate alteration of feldspar together with introduced and replacement chlorite and epidote. The zone as a whole is marked by chlorite after amphibole, but silicate alteration zoning is otherwise obscure. Toward the southern periphery of the zone the restriction of copper to narrow structures becomes more marked.

Calcareous horizons seem to control some local concentrations of copper but no extensive scarn development has been observed. The landslide deposit, is "reported to contain several hundred

(cont'd)

I recommend that, contingent upon property acquisition, the zone be drilled with an Atlas Copco O.D. drill to depths of about 30 m in bedrock, on a grid such that an outcrop or drill hole lies near each node on a 200 m triangular grid. This will require about 30 to 35 holes, or about 1500 metres of drilling, at an estimated all inclusive cost of $15/ metre, for a budget of $22,500 plus a 10% contingency or a total of $25,000.

Ref: Preto, V.A.G., Geology, Exploration and Mining, (1974) B. C. Dept. of Mines, P 118

B T U CLAIMS

NAME	REC #	# OF UNITS	ANNIVERSARY DATE
BTU 1	67	9	June 23
BTU 2	79	2	July 6
BTU 3	80	9	"
BTU 4	81	6	"
BTU 5	82	6	"
BTU 6	183	6	Dec 10
BTU 7	184	6	Dec 10

All owned by C. J. Robertson (Quintana)

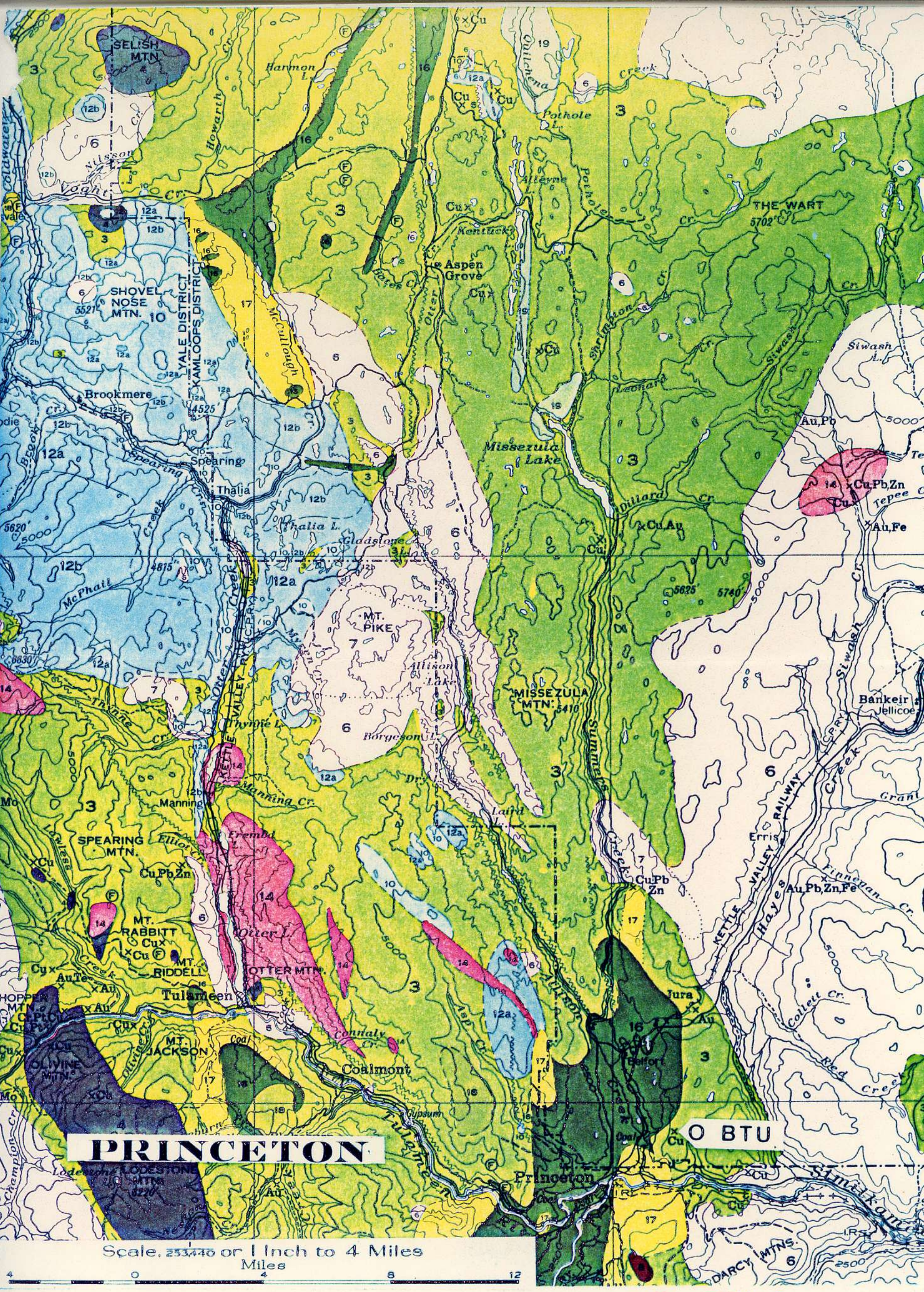
PRINCETON
Scale, 253,440 or 1 Inch to 4 Miles
Miles
4 0 4 8 12
O BTU
SELISH MTN.
Harmon L.
Quilchena
Pothole L.
Creek
Alleyne
Pothole
THE WART
5702'
Kentuck
Aspen Grove
SHOVEL NOSE MTN.
5527'
YALE DISTRICT
KAMLOOPS DISTRICT
4525'
Brookmere
Spearing
Thalia
Thalia L.
Gladstone
McPhail
4815'
Missezula Lake
Shrimpton Cr.
Leonard
Siwash
Siwash L.
Dillard Cr.
5625'
5740'
MT. PIKE
Allison Lake
Borgeson L.
MISSEZULA MTN. 5410'
Summers
Bankeir
Jellicoe
KETTLE VALLEY RAILWAY
Hayes Cr.
Creek
Grant
Erris
Finnegan Cr.
Colliett Cr.
Red Creek
Thynne L.
Manning
Manning Cr.
SPEARING MTN.
Elliott
Frembd L.
Otter L.
MT. RABBITT
MT. RIDDELL
OTTER MTN.
Tulameen
Connaly
Coalmont
MT. JACKSON
OLIVINE MTN.
LODESTONE MTN. 6220'
Laird
Allison
Jura
Belfort
Princeton
Tulameen
Similkameen
DARCY MTNS.
2500
Tepee
Au, Pb
Cu, Pb, Zn
Au, Fe
Cu, Au
Cu, Pb, Zn
Cu, Pb Zn
Au, Pb, Zn, Fe
Au, Te
Au

FIG BTU-2

LEGEND

CENOZOIC

TERTIARY

MIOCENE OR LATER

19 — *Valley basalt: vesicular, varicoloured basalt*

18 — *Plateau basalt: amygdaloidal, brown basalt*

MIOCENE OR EARLIER

PRINCETON GROUP

16 | 17 — 16, *Mainly shale, sandstone, and conglomerate; coal*
17, *Varicoloured andesite and basalt*

CRETACEOUS OR TERTIARY

UPPER CRETACEOUS OR LATER

14,15 — 14, *OTTER INTRUSIONS: pink and grey granite and granodiorite*
15, *LIGHTNING CREEK INTRUSIONS: grey quartz diorite*

MESOZOIC

CRETACEOUS

LOWER CRETACEOUS

KINGSVALE GROUP

12a-b,13 — 12a, *mainly volcanic breccia;* 12b, *mainly andesite and basalt porphyry*
13, *Andesite and basalt porphyry and volcanic breccia*

PASAYTEN GROUP

11 — *Mainly grit and shale;* 11a, *mainly purple lava, tuff, and breccia*

SPENCE BRIDGE GROUP

10 — *Hard, reddisn andesite and basalt*

JURASSIC (?) AND CRETACEOUS

UPPER JURASSIC (?) AND LOWER CRETACEOUS

DEWDNEY CREEK GROUP

9 — *Tuff, volcanic breccia, grit, argillite;* 9a, *mainly conglomerate*

JURASSIC OR LATER

8 — *COPPER MOUNTAIN INTRUSIONS: syenogabbro, augite diorite, pegmatite*

5,6,7 — *COAST INTRUSIONS:* 5, *grey, slightly gneissic granodiorite;* 6, *mainly reddish, coarse-grained, siliceous granite and granodiorite;* 7, *light coloured granodiorite, quartz diorite, and gabbro*

4 — *Peridotite, pyroxenite, gabbro*

TRIASSIC

UPPER TRIASSIC

NICOLA GROUP

3 — *Varicoloured lava; argillite, tuff, limestone; chlorite and sericite schist*


BETHLEHEM DRILL HOLE 73-2 2000'N, 403' in Tertiary Sedimentary rocks.
SELLERS
QUINTANA
L 42 YALE L 1040
L 1041 L 967
L 1256
73-3 900'
3000
3500
L 2135
L 2136
L 2551
L 3778 L 3350
DEER VALLEY FAULT
L.C.P. B.T.U. #7
BURR AND MULLIN
CREEK
L 933
73-1 246'
2500
L 1193
coal adit
coal dump
coal adit
DEER VALLEY
73-5 392'
73-4 508'
CLIMAX TRENCHES
SLIDE FAULT
63-3
REGAL ZONE
AREA OF TRENCHING FOR LEACH PLANT
63-1 310'
63-2 470'
GRANBY TRENCHES
69-5 373'
69-6 354'
L 1042 L 2134
L 968 L 917
QUINTANA
ALLISON
L.C.P. B.T.U. #1
L 2552
L 1525
RAINBOW LAKE
cliff exposure
MOUNT MINER FAULT
SHISTER CR.
GAS PIPELINE
CREEK
63-8 378'
63-4 614'
L 2137
L 932
63-5 632'
MOUNT MINER
63-9 213'
QUINTANA
L 1158
3000
C.P.R.
L 1824 os
L 1836 os
2500
L 3815 s
L 18
L 2048 os
SIMILKAMEEN RIVER
LEGEND
TERTIARY
JURASSIC and OLDER
Melange
Princeton sandstone, siltstone and coal
Feldspar hornblende porphyry
Quartz — feldspar porphyry
Nicola andesite local hornblende porphyritic
Nicola marble
Limit of fracture controlled pyrite, approx. 1% by volume.
63-1 to 10 Climax Copper drill hole
69 – 5 Joy Mining drill holes
73-1 to 5 Bethlehem Copper drill hole
inches
0 1 2
0 1 2 3 4 5
centimetres
BRITISH COLUMBIA GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
#4597
QUINTANA MINERALS CORPORATION
B.T.U. PROJECT
GEOLOGY AND CLAIMS
SCALE
FEET 400 0 400 800
Prepared by: K.W.L.
Drawn by: ATK
Date: Dec., 1976
Revised: Feb., 1977
NTS MAP AREA 92 – H – 8
DRAWING No. BTU 1.


BETHLEHEM DRILL HOLE
73-2
2000'N, 403' in Tertiary Sedimentary rocks.
SELLERS
QUINTANA
DEER VALLEY FAULT
BURR AND MULLEN
DEER VALLEY CREEK
SLIDE FAULT
MOUNT MINER FAULT
CLIMAX TRENCHES
GRANDBY TRENCHES
REGAL ZONE
AREA OF TRENCHING FOR LEACH PLANT
ALLISON CREEK
RAINBOW LAKE
L.C.P. B.T.U.
coal adit
coal dump
cliff exposure
GAS PIPELINE
SHISTER CR.
MOUNT MINER
SIMILKAMEEN RIVER
C.P.R.
LEGEND
Melange
TERTIARY
Princeton sandstone, siltstone and coal
JURASSIC and OLDER
Feldspar hornblende porphyry
Quartz — feldspar porphyry
Nicola andesite local hornblende porphyritic
Nicola marble
63-1 to 10 Climax Copper drill holes
69 – 5 Joy Mining drill holes
73-1 to 5 Bethlehem Copper drill holes
O 149 Soil Geochem. sample — Cu. in p.p.m.
• 181 Rock Geochem. sample — Cu. in p.p.m.
N
#4597
QUINTANA MINERALS CORPORATION
B.T.U. PROJECT
COPPER GEOCHEM
SCALE
FEET 400 0 400 800
Prepared by: K.W.L.
Drawn by: ATK
Date: Dec., 1976
Revised: Feb., 1977
NTS MAP AREA
92 – H – 8
DRAWING No. BTU 2