823128

PRELIMINARY REPORT

on

KENA PROPERTY

Nelson Mining Division, B.C.
N.T.S. 82 F 6

by

N.J. Dircks

Dec. 1976

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MAPS

CLAIM LOCATION MAP	Drawing #1	After page 1
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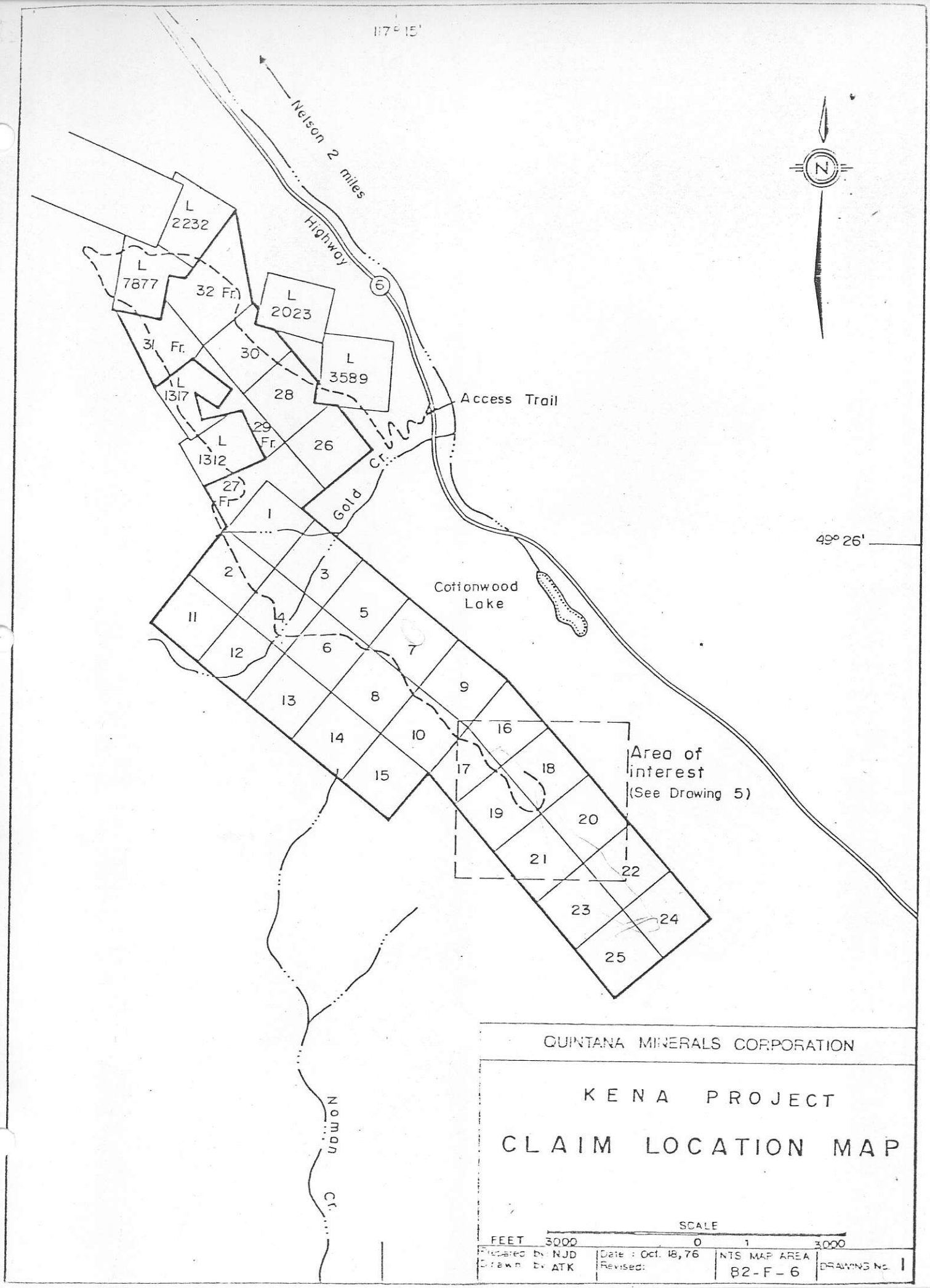
SUMMARY AND RECOMMENDATIONS

Widespread porphyry copper mineralization occurs in hydrothermally altered volcanic rocks on the Kena claim group near Nelson, B.C. Sericite schists and sericitized rhyolites typically contain 2 - 3% pyrite and 0.1% to in excess of 0.5% Cu as fracture and disseminated chalcopyrite. Plugs and dikes of the Silver King Quartz Diorite Porphyry, itself a local mineralizer and satellite of the Nelson granitic batholith, occur within the mineralized zone. Surface mapping has outlined an area of alteration and mineralization approximately 2400'X800' in dimensions.

No previous work has been done on the zone. A percussion drill test is warranted to determine if values are persistent laterally and vertically or if higher grade sections exist within the larger zone.



QUINTANA MINERALS CORPORATION

KENA PROJECT

CLAIM LOCATION MAP

SCALE

FEET 3000 0 1 3000

Prepared by: NJD Drawn by: ATK	Date: Oct. 18, 76 Revised:	NTS MAP AREA 82-F-6	DRAWING No. 1

LOCATION AND ACCESS

(See Drawing #1)

The Kena claims lie in a northwesterly trending belt along the flank of Toad Mountain approximately four miles south of Nelson, B.C. The terrain is generally rugged with elevations ranging from 3500 to 5500 ft. throughout the claim group. Portions of the property including the principal area of interest, lie along minor summits and benches while the most northeasterly portions encompass the steep walled Cottonwood Creek valley.

Access to the property from Nelson is by Highway #6 for 3½ miles to the Gold Creek trail. This 4-wheel drive network of old logging and mining access roads extends for 5 miles to the heart of the Kena claims.

CLAIMS

The Kena claims group is comprised of 32 claims including 28 full size mineral claims, and 4 fractional claims. The original 15 were staked in 1973 and the remaining 17 in the following year. All claims have a November 5 anniversary date. Assessment work has been applied and rentals paid until that date in 1977.

The group includes:

KENA # 1 - 15	Record # 15323 - 15337 incl., and
KENA #16 - 32	Record # 15643 - 15659 incl.

With one or two exceptions all mineral prospects are of simple mineralogy consisting of base metal sulphides and/or precious metals in quartz veins.

Mineral occurrences within ground now covered by KENA claims have also been tested previously. Four adits were driven and 2 shafts sunk to test disseminated copper mineralization in schistose andesite at the southeast end of the claim group. On the KENA 7 claim, gold bearing pyritic schists have received some attention; most recently Ducanex held the property under option. They mapped and soil geochemed the entire claim group and conducted a trenching and drill program on the gold showings.

Disseminated copper mineralization on KENA #16 - 19, the locale of current investigations, had been staked at least twice in the past but no serious work has ever been conducted. In late 1976 Quintana extended the road network to this area prepatory to percussion drilling, then mapped and sampled the showings.

REGIONAL GEOLOGY

The Lower Cretaceous Nelson batholith dominates the geology of the Nelson area. It is a multi phase granitic stock with border and satellite facies of variable composition but inclined toward the diorite/quartz diorite range. (One such stock is the Silver King Quartz Diorite Porphyry near the KENA Property.) North of Kootenay River the Nelson batholith occurs as an extensive, massive biotite granite with scattered large phenocrysts of potassic feldspar; south of the river the batholith and its border facies intrude Jurassic volcanics and sediments. Contacts between the intrusive and the Jurassic units are very irregular with embayments and satellites of intrusive within the Jurassic and pendants of Jurrasic in the intrusive.

Jurassic rocks affected by the intrusives include the Ymir Group, Rossland Formation, and the Hall Formation. The Ymir Group of Lower Jurassic to possibly Paleozoic age is comprised of argillite, slate, and argillaceous quartzites. The Lower Jurassic Rossland Formation, host to most mineralization in the vicinity of the property, is a volcanic sequence, mainly andesitic in composition. The Middle and Upper Jurassic Hall Formation extending southward in one belt consists of argillite, sandstone and conglomerate.

The Nelson plutonic rocks usually appear massive, fresh and unaltered. Jurassic volcanics and sediments intruded by the pluton are often hydrothermally altered and locally mineralized.

PROPERTY GEOLOGY

The Kena claims are mainly underlain by volcanic units of the Lower Jurassic Rossland Formation. They are generally andesitic in composition but very widely in texture to include dense massive flows, porphyritic varieties, clastic looking rocks, foliated tuffs and altered variations of all of the above. Rhyolite lenses, though not nearly as abundant, are prominent in mineralized areas. The volcanics have a strong, persistent N 40^{o} W strike and 50 - 70^{o} SE dip.

On the southwest edge of the claims these volcanics are intruded by the northwesterly trending Silver King Quartz Diorite Porphyry. It has plagioclase phenocrysts with feldspar, hornblende and occasional grains of quartz in the groundmass. Large masses of the porphyry have a distinctive intrusive texture but narrow tongues and dikes have a greenish grey color, and are sheared and altered resembling schists of volcanic origin.

MINERALIZATION AND ALTERATION

(See Drawings #3 and #4)

Several centres of hydrothermal alteration, all corresponding with introduced sulphide mineralization, occur on the property. These have been mentioned briefly under "HISTORY" as lying within claims KENA #7 (gold), KENA #24 and 25 (disseminated copper and KENA #16, 17, 18 and 19 (Quintana's area of interest); another area within KENA #1 and 3 contains up to 10% pyrite but only trace amounts of copper.

From preliminary mapping, it appears these areas correspond with initially schistose, porous andesitic volcanics and rhyolites as opposed to less altered portions which typically are dense andesitic flows. Flow rocks are locally altered but unless found immediately adjacent to more porous units they seldom appear strongly altered and mineralized.

A surface area approximately 2400' by 800' has been pervasively altered and mineralized. Most of the rocks within this area have been sericitized, silicified, pyritized and mineralized with chalcopyrite. A zone outlined by the first occurrence of epidote parallels the northwest trend of the volcanics and is centered on an area of sericite schists after tuff and sericitic rhyolite. Generally fresh rock occurs 200 - 300 ft beyond the epidote line. The fresh rock envelope to the southwest and northeast consists of dense andesite flows and augite porphyry andesite. Only trace amounts of pyrite and chlorite extend into these units.

A small plug of Silver King Porphyry outcrops on the northwest end of the mineralized zone. Several narrow dikes of similar porphyry are found within the zone.

Pyrite content within the epidote line averages 2 - 3%, locally increases to 5 - 8% and generally decreases to trace amounts near the margin. Chalcopyrite mineralization in both fracture and disseminated form is widespread. Surface channel and chip sampling yielded values in the 0.1 - ~~1~~5% Cu range. A 600 ft long ridge comprised of lenses of altered rhyolite and tuff cross lines 40 E and 44 E at 1 S was chip sampled in 4 sections; copper grades were .26 across 20 ft, .45 across 30 ft, .26 over 40 ft, and .10 across 30 ft. Along a rock exposure on the main access road at 7 S, 46.5 E three consecutive samples in sericitized rhyolite yielded .53% Cu over 20 ft, .52 over 25 ft, and .53 over 25 ft. 200 ft along the same road within the same rhyolite band a 15 ft channel sample gave .24% Cu, and then another 150 ft along the road still in the same rhyolite a 15 ft channel assayed .31% Cu. Other assorted samples throughout the zone yielded values in the 0.1 - ~~1~~5% Cu range. Samples checked for Mo, Au and Ag indicated only negligable amounts were present. Surface sampling done to date is not considered to be representative of the entire zone. Resistant rhyolite is extensive in outcrops and therefore was sampled disproportionately; schistose rocks are more recessive yielding fewer outcrops but even in subcrop road exposure are normally leached near surface.

RECOMMENDATIONS

The zone of alteration and mineralization described above represents an untested porphyry copper bet. A preliminary percusssion drill test is warranted because of potential size, indicated grades, and partially leached surface exposures. Total cost of an initial program will likely cost ~ - 30,000. Further testing would follow if results are encouraging.

R. J. Sinclair

#4595 R

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF MINES AND TECHNICAL SURVEYS

SHEET 82F (West Half)

LEGEND

CENOZOIC

TERTIARY
EOCENE (?) OR LATER

22–24 — **22.** *CORYELL PLUTONIC ROCKS: syenite; minor granite, monzonite and shonkinite;* **22a**, *porphyritic augite monzonite;* **22b**, *pulaskite*
23. *SHEPPARD PLUTONIC ROCKS: leucocratic granite*
24. *McGREGOR INTRUSIONS: shonkinite*

CRETACEOUS (?)
UPPER CRETACEOUS OR (?) LATER

21 — *SOPHIE MOUNTAIN FORMATION: conglomerate; minor argillite*

LOWER CRETACEOUS (?)

20 — *VALHALLA PLUTONIC ROCKS: granite; minor pegmatite;* **20a**, *granite and granodiorite*

19 — *NELSON PLUTONIC ROCKS:* **19a**, *mainly porphyritic granite;* **19b**, *non-porphyritic granite to granodiorite;* **19c**, *granodiorite;* **19d**, *quartz diorite;* **19e**, *syenite;* **19f**, *mainly fine-grained, porphyritic syenite to quartz diorite;* **19g**, *Rossland "monzonite";* **19h**, *pseudodiorite and pyroxene-hornblende-biotite rock;* **19i**, *mylonite;* **19j**, *pegmatite;* **19k**, *diorite*

MESOZOIC

18 — *Ultrabasic rocks: serpentinite*

JURASSIC
MIDDLE AND (?) UPPER JURASSIC:

17 — *HALL FORMATION: argillite, sandstone, and conglomerate;* **17a**, *may not be Hall*

LOWER JURASSIC

16 — *ROSSLAND FORMATION: andesite, latite, basalt, flow breccia, augite porphyry, agglomerate, tuff; minor shale;* **16a**, *metamorphosed greenstone (may not be Rossland)*

15 — *SINEMURIAN BEDS: argillite, argillaceous quartzite, slate; minor flows and pyroclastic rocks. May be equivalent to upper parts of 13 and 14*

TRIASSIC AND (?) LOWER JURASSIC

12,13 — **12.** *KASLO GROUP: greenstone; minor slate (Triassic)*
13. *SLOCAN GROUP: slate, argillite, quartzite, limestone, conglomerate, tuff;* **13a**, *includes some volcanic rocks;* **13b**, *paragneiss (probably Slocan group)*

PERMIAN (?), TRIASSIC (?) AND LOWER JURASSIC (?)
YMIR GROUP

14 — *Argillite, slate, argillaceous quartzite; minor limestone;* **14a**, *paragneiss*

PENNSYLVANIAN (?)

11 — *MOUNT ROBERTS FORMATION: slate, limestone, argillaceous quartzite, greenstone*

ORDOVICIAN
LOWER AND (?) MIDDLE ORDOVICIAN

9 — *ACTIVE FORMATION: slate, argillite, argillaceous quartzite; minor limestone*

PALÆOZOIC

CAMBRIAN
MIDDLE CAMBRIAN

8 — *NELWAY FORMATION: dolomite, limestone, phyllite, and slate*

LOWER CAMBRIAN

7 — *LAIB FORMATION: argillite, argillaceous quartzite, limestone, dolomite, phyllite, and schist;* **7a**, *includes some Reno formation*

5,6 — **5.** *QUARTZITE RANGE FORMATION: white, green, and pinkish quartzite; minor argillaceous quartzite and conglomerate*
6. *RENO FORMATION: argillaceous quartzite, schist, and argillite; minor limestone*

10 — *White quartzite, schist, limestone, and paragneiss; minor argillite and greenstone*

WINDERMERE (?)

4 — *THREE SISTERS FORMATION: green grit, quartzite, and conglomerate*

WINDERMERE

3 — *MONK FORMATION: green argillite, phyllite, and argillaceous schist; minor limestone; basal conglomerate*

PROTEROZOIC

1,2 — **1.** *TOBY FORMATION: conglomerate; minor interbedded argillite and limestone*
2. *IRENE VOLCANIC FORMATION: greenstone, minor interbedded argillite and limestone*

B — *Argillite, argillaceous quartzite, greywacke; locally conglomerate; minor flows and pyroclastic rocks. Probably not older than Carboniferous, but in part may be Jurassic*

A — *Augen gneiss, hornblende-biotite-feldspar gneiss; minor crystalline limestone and skarn. Probably Early Mesozoic*

Drift-covered area
Bedding (inclined, overturned)
Bedding (vertical; tops known, tops not known)
Bedding (dip known, top of bed unknown)
Schistosity (inclined)
Gneissosity, stratiform foliation (inclined, vertical)
Fault (defined, approximate, assumed)
Anticline, syncline (defined)
Anticline, syncline (overturned)
Fossil locality

Geology compiled from published maps and field work by H.W. Little 1948–1950, 1952

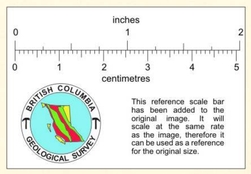
To accompany G.S.C. Memoir 308 by H.W. Little

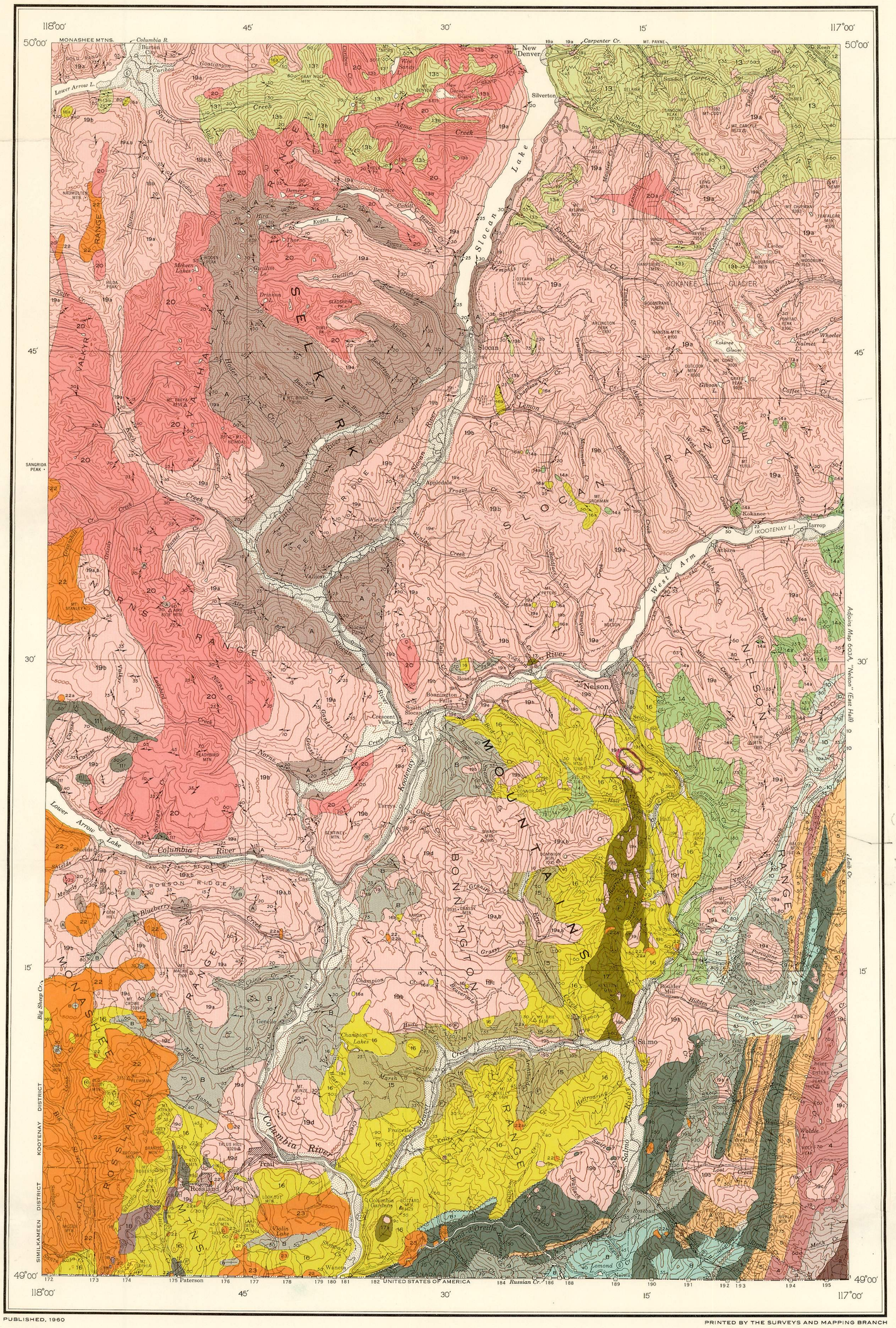
For Mining properties see Map 1091A, "Nelson" (West Half)

Base-map compiled by the Surveys and Mapping Branch

Cartography by the Geological Survey of Canada, 1960

Air photographs covering this map - area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario.




118°00′
45′
30′
15′
117°00′
50°00′
45′
30′
15′
49°00′
MONASHEE MTNS.
Columbia R.
Burton City
Caribou
Goatcanyon Cr.
Lower Arrow L.
Shelter Cr.
Wallace Cr.
Harrison Cr.
Carpenter Cr.
MT. PAYNE
New Denver
Silverton
Slocan Lake
Nemo Creek
Demers Cr.
Beatrice Cr.
Cahill Cr.
Keens L.
Evans Cr.
Thor L.
Hird Cr.
Mokeen Lakes
Guellim L.
Guellim Creek
Drinnon L.
Hoyer Cr.
Bannock Cr.
Robertson Cr.
Burn Creek
Beach Creek
Wilson Creek
Russel Creek
Orchids Creek
Vallican Creek
Wilson Creek
Norns Creek
Ladybird Creek
Gaspard Creek
Keenleyside Creek
Lemon Creek
Slocan
Springer Cr.
Hamill Cr.
Kokanee Glacier
KOKANEE GLACIER PARK
Lemon
Chapman Cr.
Gibson L.
Coffee Cr.
Kokanee Cr.
Wild Horse Cr.
Lendrum Cr.
Wheeler L.
Nalmet L.
Harrop
(KOOTENAY L.)
Balfour
West Arm
Nelson
Bonnington Falls
South Slocan
Crescent Valley
Taghum
Glade
Champion Lakes
Marsh Creek
Fruitvale
Salmo
Trail
Rossland
Columbia River
Lower Arrow Lake
Kootenay River
Big Sheep Cr.
Waneta
Castlegar
Robson
Blueberry Creek
Champion Creek
Boulder Mill
Hidden Creek
Erie Cr.
Lemon Cr.
Waldie Cr.
Monk Cr.
Rossbud
Salmo River
Granite Cr.
Hellroaring Cr.
Fruitvale Creek
Kelly Cr.
Smelter Cr.
Sheep Creek
Stony Creek
Trail Creek
Lost Creek
Glacier Cr.
Sproule Creek
Grassy Cr.
Greaves Cr.
Champion Cr.
Bayonne Cr.
Gentile Cr.
Hunter Cr.
Marsh Cr.
Fruitvale Cr.
Kelly Cr.
Smelter Cr.
Sheep Cr.
Stony Cr.
Trail Cr.
Lost Cr.
Glacier Cr.
Sproule Cr.

N

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 ratio as the original and can be used as a reference for the original size.

LEGEND

135
61 Copper in ppm.
68

QUINTANA MINERALS CORPORATION

#4595

KENA PROJECT

SOIL GEOCHEMICAL SURVEY

-conducted & compiled by
D. JOHNSON
LACANEX MINING CO. LTD.

FEET 0 400 800 1200 1600 FEET
SCALE
METRES 0 100 200 300 400 METRES
1 0 1 2

Prepared by: Drawn by:	Date: Aug. 1975 Revised: March, 1977	NTS MAP AREA	DRAWING No. 4

KENA 16

KENA 17

KENA 18

KENA 19

KENA 20

KENA 21

Baseline brg 130°

LEGEND

SILVER KING PORPHYRY (Cretaceous)

3 Feldspar porphyry with felsic ground mass.

ROSSLAND FORMATION

2 Rhyolite, locally weakly porphyritic

2A Pervasive sericitic alteration

1 Andesite, includes bands of augite porphyry andesite to southwest edge of map and thin bands of phyllite within property.

1A Chloritic, locally sericitic, locally schistose

1B Chlorite schist (locally after argillite)

1C Sericite schist

- Recommended drill site
- 1st Occurrence of fresh rock
- 1st Occurrence of epidote
- 3:1 Pyrite/chalcopyrite ratio
- 130° Bedding
- 75° Schistosity

Abbreviations: py. (pyrite), cpy. (chalcopyrite), mal. (malachite), hbl. (horblende), mag. (magnetite), sulph. (sulphides), chl. (chlorite), ep. (epidote), ser. (sericite), frac. (fracture), dis. (disseminated) tr (trace) mnr. (minor, <1%), intbd. (interbeds).

- 6S / BL 8S / 10S Grid system
- Roads
- Outcrop extent (known, inferred)
- Mineral claims
- Streams
- 5000 / 5200 Contours (interval 50 feet)

1A py. ep. w/qtz. vein

1A

3, tr cpy, 2% py.

1A tr. py, ep.

1, 2% py

1, tr. py.

2A, 2% sulph,

1A, 10% py

1A, tr. py

2A, 2% sulph, 1:1

1C, 10% py

1C 45° 1m

1A, tr. py, ep.

1A, tr. py.

1, tr. chl, ep, mnr, py.

1A, B 2-3% sulph ratio 1:1,

2A cpy, mal 60°

1A

1A, tr. dis. py

1A, tr py

1A, tr. py.

1A, tr. py. ep

75°

1-1A

3, 3% py

1, mnr chl

1, epidote tr. py

1, ep 1% py

2A, cpy, tr. gal, mal. ratio 1:1

2A, 3% sulph, 3:1 mal.

1, 5% banded py.

2, fractured, 3% py

2A, tr. cpy.

1A & phyllite tr. cpy.

2, variable py content

1B, clays, chlorite

1A, tr. cpy, mal.

60°

1A & B, clays, chlorite

1A & B, 5% py

1B & C w/phyllite

75°

2A, dis & frac. cpy 5% sulph 2:1

2A

70°

2A, qtz. stgs, cpy.

1A, chl, 2% py

1A, w/mnr intbds of 2 qtz. vein 6" wide 1C

1A, ser, chl, epidote 5% py.

1A, 2% py, cp.

1B, tr. mal.

1C, leached py

1, tr. py, ep

1, tr py

1A, w/felsite dikes 140°@50°W

2A, dis & frac. cpy. 3% py. mal. 3:1

2A, tr cpy 5% py

2A mag. calc. 3% py

70°

2A, tr. cpy. 5% py.

2A, 2% frac. py.

2A, 5% sulph, 2:1

1A, chloritic tr. cpy.

1A, qtz. vein 12" wide, w/cpy

1A, 5% py, ep.

2A, qtz veinlets 3% sulph, 3:1

1A, tr. mal. py.

1A, clays ser 5% py, ep.

55°

1A, clays, ser 10% py, ep.

1A, 2% py.

2A, frac calcite 2% sulph, tr. cpy.

1, mnr. chl.

50°

1 w/intbd. augite porphyry.

1, tr. py, tr. chl. w/ 2 intbd.

2A, qtz. veinlets 5% py.

1A, calcareous

70°

1 & 1A, w/phyllite mag. mnr. mal. py.

1B

3

3

80°

1A

1C, leached py. tr. cpy.

80°

1C, leached py.

1 & 1A, hbl. andesite tr. py.

1, mnr. chl. tr. py.

1C, 5-8% py. tr. cpy 10:1

75°

1, tr. py.

1A & B, 5% py

60°

45°

1B, 5% py, tr. ep.

1, mnr. chl. tr. py.

1, tr. py.

1, tr. py.

36 E

48 E

52 E

56 E

64 E

68 E

72 E

5000

5050

5100

5150

5200

5250

4950

0

2 S

4 S

6 S

8 S Baseline

10 S

12

N

QUINTANA MINERALS CORPORATION

KENA PROJECT #4595 K

GEOLOGY & ALTERATION

SCALE

FEET 0 100 200 300 FEET

METRES 0 30 60 90 METRES

inches 0 1 2

centimetres 0 1 2 3 4 5

This reference scale bar was measured on the original image & will scale at the same rate as the image. It can be used as a reference for the original size.

Prepared by: ~~ATK~~ NTD Drawn by: ATK	Date: Oct. 1976 Revised:	NTS MAP AREA 82 - F - 6	DRAWING No.

X 0.37 Cu
Reported by: Lacanex

KENA 16

KENA 17

KENA 18

KENA 19

KENA 20

KENA 21

40 E
44 E
48 E
52 E
56 E
60 E
64 E
68 E
72 E
36 E

5000
5050
5100
5150
5200
5250
4950

76 - D - 95
0.65 / grab

76 - D - 125
0.10 / 30' chip

76-D-122
0.26 / 40' chip

76-D-96
0.45 / 30' chip

76 - D - 124
0.26 / 30' chip

76-D-93
0.48 / grab

76-W-58
0.26 / grab

76-D-162, 20'-0.53 channel
76-D-160, 25'-0.52 channel
76-D-161, 25'-0.53' channel

76-D-123
0.08/10' chip

76-D-155
0.24 / 15' channel

76-D-157
0.51 / 6' channel

76-D-156
0.31 / 15' channel

76-D-90
0.40 grab
(loc. appr)

76-D-159
0.17/35' channel

76-D-158
0.11/35' channel

76- D -91
0.10/ 200 chip

0
2 S
4 S
6 S
8 S Baseline
10 S
12 S

EXPLANATION

- Recomended drill site
- 1st occurrence of fresh rock
- 1st occurrence of epidote
- Sample location

76-D-122, 0.26 / 40' chip
Sample No. — Cu % assay — Sample width — Sample type

#4595 R

QUINTANA MINERALS CORPORATION

KENA PROJECT

ASSAY PLAN

FEET 0 100 200 300 FEET
METRES 0 30 60 90 METRES

inches 0 1 2 3 4 5
centimetres

This reference scale bar has been added to the original drawing. It is to scale at the same ratio as the image, therefore it is correct reference for the original size.

Prepared by: N.J.D. Drawn by: ATK	Date: Oct. 26, 1976 Revised:	NTS MAP AREA 82 - F - 6	DRAWING No.