

KENA PROSPECT
NELSON MINING DIVISION
BRITISH COLUMBIA

Location and Access

The Kena claim block lies approximately four miles south of Nelson, B.C., on the eastern flank of Toad Mountain. It is on the eastern edge of N.T.S. map 82F/6. The claims were barely accessibly by four-wheel drive vehicle in October 1977 along a logging road that leaves Highway 6 about 3½ miles south of Nelson. The elevation of the group ranges from 4000 to 5500 feet above sea level.

Property Status

The Kena claim block consists of 32 (old style) claims including four fractions. The claims are owned by C. J. Robertson (Quintana Minerals Corporation) through an option agreement with the original claim owner, O. Janout, of White Rock, B.C. The claims have a common anniversary date, November 5, but claims 1 through 15 were located in 1973 and the rest in 1974. All the claims will require 200 dollars of assessment work each year.

General Geology and Exploration History

The Kena claims are underlain by altered volcanics of the Jurassic Rossland formation (Little, 1960), which have been intruded by porphyritic rocks thought to be part of the Nelson batholith. The volcanics strike northwest and dip steeply to the southwest. The rocks have been altered to chlorite and sericite schists and locally contain up to 5 to 10 volume percent of disseminated pyrite and minor chalcopyrite. The Silver King mine, two miles to the west, occurs in similar rocks and produced 15 million pounds of copper, 4.5 million ounces of silver, and 280 ounces of gold with minor lead and zinc between 1889 and 1948 (Little, 1960). Numerous old workings are present in the Kena area, and the claims have been the subject of serious exploration efforts since 1974.

The exploration program in 1974 was directed primarily towards gold, and four percussion holes, 74-1 to 74-4, were drilled on Kena claim number 7. The four holes totaled 820 feet and assay results ranged between 0.010 and 0.080 ounces per ton gold (Johnson, 1974).

Johnson (1975) expanded the program in 1975 to include geologic mapping of the entire claim block and an extensive soil geochemical survey in an attempt to evaluate the visible copper mineralization in claims 16 through 25. The soil samples were assayed for copper and gold, but no drilling was done.

Quintana Minerals Corporation optioned the Kena claims from Janout in December 1975, and personnel from the Vancouver office did detailed mapping and surface sampling. Most of the work was concentrated on claims 16 to 21 based on the hypothesis that the visible sulfide mineralization represented the upward extent of a porphyry copper sulfide system (Dircks, 1976).

Quintana closed their Vancouver office at the end of 1976, but in 1977 an IP survey was conducted along the original geochemical survey lines from 40E to 80E. It was conducted along lines 800 feet apart with a dipole spacing of 300 feet (Mullan and Hallof, 1977).

Exploration Potential

The results of the previous exploration on the Kena claims are summarized on the accompanying geologic map; the geologic data are primarily from Johnson's mapping with some additional data from Dircks.

The soil geochemical survey for copper shows a pronounced elongate anomaly extending southeast from line 48E and open at the southeastern end of the claim block--a distance of nearly 5000 feet. Elongate portions of the anomaly exceed 1000 ppm. The anomaly parallels the strike of the Rosslund volcanics.

The IP anomaly is also parallel to the strike of the volcanics and is approximately coincident with the geochemical anomaly. It is also open to the southeast, and continues beyond the northeastern end of lines 48E and 56E.

Rock sample assays range as high as 70 feet of 0.53% copper cut along an outcrop of sericite schist near the center of line 48E. A composite chip sample along an adit near line 80E averaged 270 feet of 0.16% copper. The adit is normal to the strike. Copper mineralization occurs as chalcopyrite generally disseminated along the foliation. Fracture-controlled vein mineralization is essentially absent.

The large outcrops of Silver King porphyry to the west of the mineralized zone in the volcanics are fresh and unmineralized. The minerals in the volcanic rocks have been altered to chlorite and sericite with subordinate amounts of kaolinite and epidote; minor narrow quartz and calcite veinlets are present. Some of the volcanic units were probably originally tuffs--e.g. Specimen K12BC.

The above observations suggest that mineralization in the Kena claim group represents the disseminated portion of a conformable volcanogenic deposit. This hypothesis is indicated by the correspondence of the geochemical and geophysical anomalies to the attitude of the volcanics, and by the nature of the sulfide mineralization. Although the IP survey did not indicate a zone of extremely low resistivity, this may be accounted for by the large electrode spacing (300 feet) relative to the narrow width of a potential ore body. The unaltered Silver King porphyry is probably a phase of Nelson batholith and post-dates the mineralization. The two small outcrops

(in claims 16 and 18) that are shown as Silver King porphyry are altered and mineralized, but may represent a quartz porphyry unit within the volcanic sequence.

Drilling to test for the existence of a high-grade massive sulfide deposit is clearly warranted.



Peter G. Dunn
Chief Geologist
Quintana Minerals Corporation
February 1978

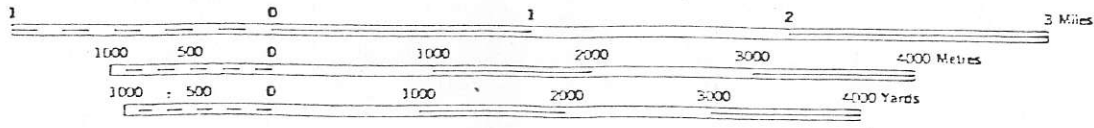
References

- Dircks, N. J., 1976, Preliminary report on Kena property; unpublished report to Quintana Minerals Corporation.
- Johnson, Darrel, 1974, Final report, 1974 Programme, Kena claims; unpublished report to Ducanex Resources Limited.
- _____, 1975, Summary report, 1975 Programme, Kena claims, unpublished report to Lacanex Mining Company Limited.
- Little, H. W., 1960, Nelson Map-Area, West Half British Columbia 82 F W₂; Geol. Surv. Canada, Memoir 308.
- Mullan, A. W., and Hallof, P. G., 1977, Report on the Induced Polarization and resistivity survey on the Kena claim group; unpublished report to Quintana Minerals Corporation.

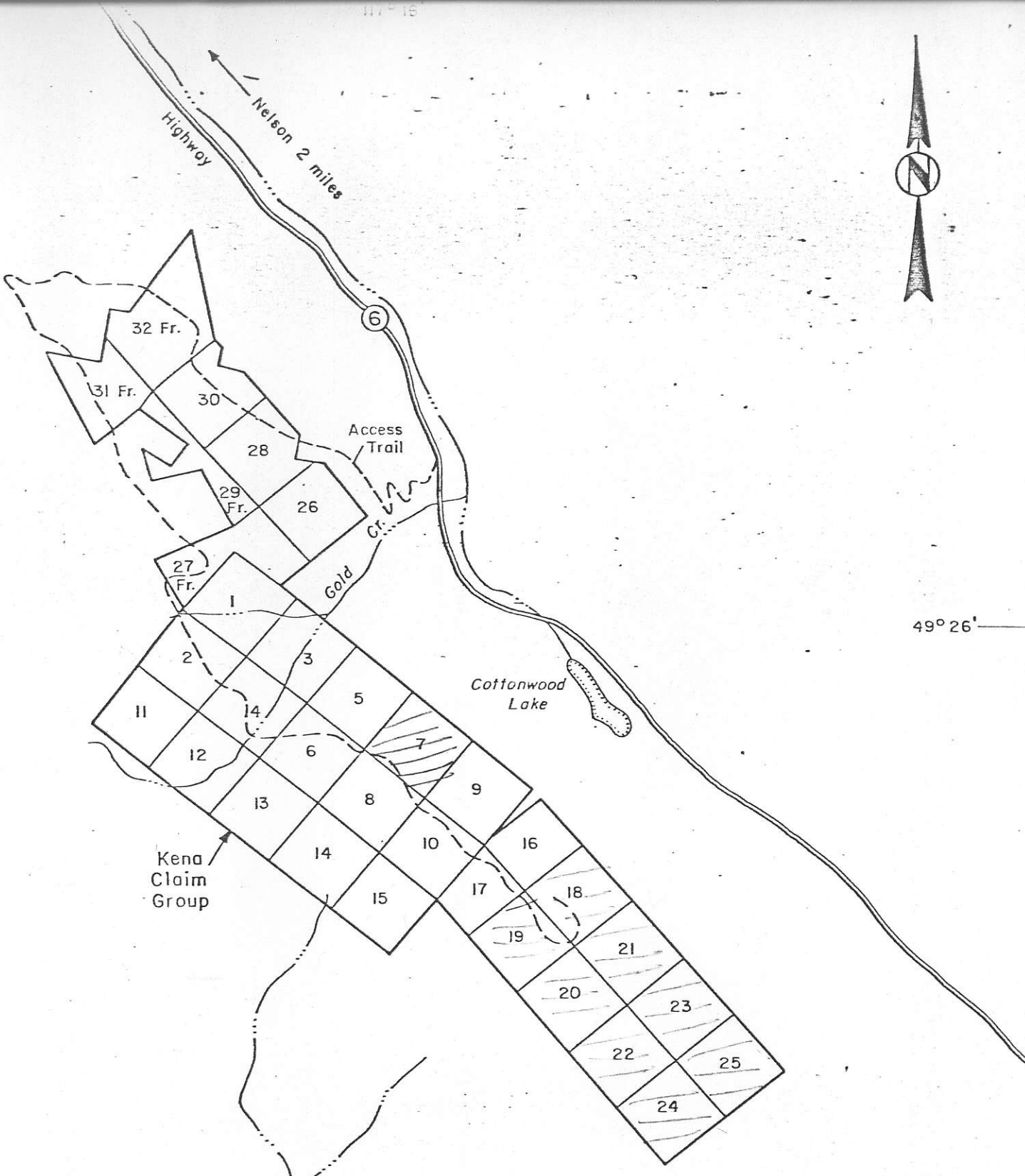


NELSON
 KOOTENAY DISTRICT
 BRITISH COLUMBIA
 WEST OF FIFTH MERIDIAN

SCALE 1:50,000
 1.25 inches to 1 mile approximately



CONTOUR INTERVAL 100 FEET



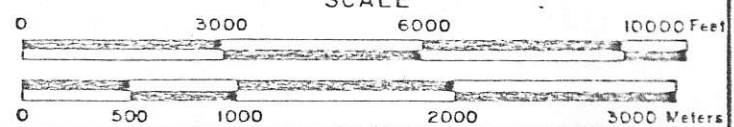
49° 26'

QUINTANA MINERALS CORPORATION

KENA PROJECT
NELSON MINING DIVISION, B.C.
NTS 82 F/6

CLAIM LOCATION MAP

SCALE



<u>Claim Name</u>	<u>Record #</u>	<u>Anniversary Date</u>
KENA 1	15323	November 5
KENA 2	15324	November 5
KENA 3	15325	November 5
KENA 4	15326	November 5
KENA 5	15327	November 5
KENA 6	15328	November 5
KENA 7	15329	November 5
KENA 8	15330	November 5
KENA 9	15331	November 5
KENA 10	15332	November 5
KENA 11	15333	November 5
KENA 12	15334	November 5
KENA 13	15335	November 5
KENA 14	15336	November 5
KENA 15	15337	November 5
KENA 16	15643	November 5
KENA 17	15644	November 5
↓ KENA 18	15645	November 5
KENA 19	15646	November 5
KENA 20	15647	November 5
KENA 21	15648	November 5
KENA 22	15649	November 5
KENA 23	15650	November 5
KENA 24	15651	November 5
↑ KENA 25	15652	November 5
KENA 26	15653	November 5
KENA 27	15654	November 5
KENA 28	15655	November 5
KENA 29	15656	November 5
KENA 30	15657	November 5
KENA 31	15658	November 5
KENA 32	15659	November 5

1899 - 99

2

the pick and shovel. Some portions of the little quartz veins traversing the rocks, present in the decomposed mass an almost scoriaceous appearance, due to the removal of the iron-pyrites, and occasionally the whole of the iron-oxide produced in this process, has subsequently been leached out, leaving porous masses of white quartz. The iron-oxide thus removed has elsewhere been deposited in fissures and hollows in the form of bog-iron ore.

Mining claims, Toad Mt. continued.

The metalliferous belt is said to be continuously traceable throughout the length of the three claims above alluded to, and in the vicinity of the present workings must have a width of at least 300 feet. The average dip of the schists at this place is about S. 12° E. < 80°, and this is probably followed by the metalliferous zone.

The assay value of the metalliferous material appears to vary considerably, and I am not in possession of such information as to be able to state what might be taken as a fair average. For the purpose of working the superficially decomposed portions of the deposit, two Huntington mills with a capacity of 12½ tons, have been erected, and the necessary houses, ore-shoots, etc., constructed. But a small quantity of the material has, however, as yet been milled. Should the results prove satisfactory, the quantity of pyritized material which may eventually be treated by concentration and chlorination appears to be practically unlimited, and in consequence of the facility with which it may be handled and worked, a comparatively small average yield in gold would be sufficient to justify work on a large scale.

Umatilla and Uncle Sam Claims. - Height above lake (at cabin) 1280 Labeau Mines. feet. These claims are situated on the east side of Cottonwood-Smith Creek, about two miles and a half from Nelson. Together with a third claim called the "Apex," these are generally known as the "Labeau Mines." They occur in an outlier of the diabase series, the extent of which to the eastward was not ascertained. The vein opened on the two first-mentioned claims, is stated to be continuously traceable for a considerable distance and to average about two feet in width. Where I saw this vein, at a point at which a small shaft has been sunk on it, it runs N. 20° W., and is nearly vertical or dipping at an angle of about 80° to the eastward. The eastern or hanging-wall is here formed by a dyke of grey granite, five or more feet in width. The foot-wall is not well defined, the ore blending irregularly with the diabase rock on that side. The vein covered by the "Apex" claim is stated to run nearly east-and-west.

The character of the ore obtained from this group of claims differs considerably from that elsewhere seen in the district. The quartz gangue is hard and vitreous, and more or less charged with green chloritic minerals. The metalliferous constituents are fine-grained,

Mining Claims
Toad Mt.
continued.

mediate initiation of some more efficient system of transport to the shore of the lake than that afforded by the present trail. While a waggon road with moderate grades might, I believe, be constructed from Nelson, the cost would be great, and the late date at which snow lies at the considerable altitude of these claims, as compared with that at which it entirely disappears from the lower levels, would be a drawback. The transport of ore down the steep grades of the upper part of the mountain might be arranged for, however, by a tramway to a point lower in the valley of Give-out Creek, or an aerial wire-tramway might without difficulty be constructed. Some such means of conveying the ores, together with the capital necessary for the systematic opening up of the deposits and the introduction of machinery for the fine concentration of the second quality of ore, are the most pressing needs of this locality. No very important further developments need be expected till some such facilities are available, except indeed, in the case of the richer portions of the "Silver King" lode, which may continue for some time to yield sufficient high-grade ore to pay for its working on the present comparatively ineffective system.

Total 4
Claims

Pyrite - Au
Chalcopyrite
Galena

* Cottonwood Mine.—Height above lake 2835 feet. This is situated at the extreme east end of Toad Mountain, on the summit of a spur which lies between the source of Cottonwood-Smith Creek and a small western feeder of that stream. A good trail has been constructed from Nelson to this property, which consists of three claims placed end to end on the length of the deposit, and a fourth claim lying alongside. The deposit consists essentially of a belt of pyritized schists holding gold. The rocks of the stratified series seen a short distance to the north of the deposit, and near their junction with the granite, are diabases and diabase-schists of the usual kind, and include diabase-porphyrite precisely like that previously described. In the immediate vicinity of the metalliferous belt, the rocks are chiefly schistose diabase, and the belt itself consists of similar rocks, which here and there include lenticular areas of massive diabase, together with some almost nacreous pale-grey and whitish schists. In what I have spoken of as the metalliferous belt, all these rocks are more or less completely, though irregularly, silicified, and charged with granular iron-pyrites, with here and there a little copper-pyrites and specks of galena. These pyritized schists are further, seamed in all directions by little veins and stringers of quartz, holding the same minerals but chiefly iron-pyrites. The entire superficial portion of this metalliferous belt of rock has been more or less completely oxidized to a depth varying from a couple of feet to ten, twenty, or more feet. The decomposition of the rock is usually so complete that it may be removed easily with

1745' K.L.
2835' Above K.L.
4580' Cottonwood Mine
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