

MINING REPORT

ON

B.C. NICKEL MINES LIMITED

009209

BY

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Properties and Ownership:

Properties of the B.C. Nickel Mines Ltd. (N.P.L.) consist of seventy-four mineral claims and claim fractions; sixty-six of which are held by location, while eight claims of the total are held under option by the Company.

Situation:

The properties of the B.C. Nickel Mines Ltd. occupy an area of approximately 3,000 acres; extending from Emory Creek on the west, south-easterly across the divide at Emory pass to the waters of Texas Creek, a distance of about four miles.

Elevations:

Elevations (aneroid) at Emory Creek Pass equal 4,610 ft. Headquarters Camp 4,000 ft. Nickel Star Camp on Texas Slope 3,935 ft., while the lowest outcrops sampled by the writer lie at elevations on Emory Slope of 3,900 ft., and on Texas Slope at 3,980 ft. above sea level.

In a horizontal plane, these outcroppings of ore lie one mile apart approximately, on opposite flanks of Emory Mountain.

At the Molly Cut (Texas Slope) ore outcrops at 4,480 ft., a vertical range above the lowest outcrop (B.C. Cut) of about 580 feet. Ore outcrops not visited by the writer are said to exist at far lower horizons than the lowest given, on both flanks of the mountain.

The B.C. Cut and lower Nickel Star Cut lie about 400 ft. below the level of the Major Outcrop.

Camp Accomodations:

A substantial camp has been built 100 ft. vertically above the B.C. Cut (Emory Slope), large enough to take care of diamond drilling crews and pack animals; a smaller camp has been constructed below Lower Nickel Star Cut on Texas Slope.

Transportation:

A pack-trail, 10 miles long, connects Emory Camp with the Caribou Highway, from whence Choate Siding (C.P.R.) lies two miles west, and the town of Yale, four miles east from the trail-head. Should major-scale operations be undertaken at B.C. Nickel Mines, it would be logical to construct a road or

railroad up Texas Creek Valley to the property, a distance of about six miles.

Timber:

The country generally is densely forested with timber suitable for mining and camp purposes; cypress, a semi-hardwood being noticeably in evidence.

Water:

Water sufficient for camp purposes and for diamond drilling is procurable from Emory Creek; at Emory Camp the flow and fall is sufficient to provide power for camp lighting, if developed.

Climate:

Precipitation is abundant in the winter season, but the camp-sites are stated to be bare of snow by mid-April. Packed snow on Emory Pass averages 15 feet in mid-winter and snow lingers longest on Texas Slope.

Geology:

The ore-bodies occur in a highly crystalline pyroxene ore, in places a gabbro gangue. The pyroxenite zone is extensive, striking apparently north-east south-west for perhaps a distance on the strike of several miles and maintaining a width in the vicinity of Emory Creek of about one thousand feet. North-westerly and south-easterly of the pyroxenite zone stand, steep, granodiorite bluffs, massive in general structure; gneissic and often buckled in appearance. In the writer's considered opinion, the intrusive pyroxenite and intruded granodiorite are contemporaneous. Granodiorite boulders, seen on Last Chance Fraction are intruded by wedge shaped tongues of pyroxenite. These slide boulders lie at the foot of a granodiorite bluff. Intersecting the pyroxenite in many places, intrusive dykes of highly gneissic and buckled granodiorite appear. Apparently these minor intrusions were sponsored by the massive granite bodies that wall-in the pyroxenite zones.

In widely separated localities, lie contact areas in which large isolated crystals of pyroxenite float in a granodiorite ground-mass: Nickel Star-Progress portal enters such a formation. Here as elsewhere, this condition obtains in the close vicinity of the highly gneissic granodiorite intrusions. On Emory Camp-site and other localities on either slope, narrow dykes of garnetiferous, mica-schists outcrop, while south of Emory Pass lie exposures (roof pendants) of fine grained sedimentaries, noted by C.E.Cairnes in his preliminary report on this area.

It would appear that the narrow, dyke-like incursions of gneissic, granodiorite into the pyroxenite mass, have been of highest economic importance. At the B.C. Cut; at the Major Outcrop; at the Cu. Cut and at the lower Nickel Star Cut, ore shoots occur right up against these intrusions or closely in the vicinity of such. These intrusive contact areas, are extremely favourable to ore concentrations of high-grade tenor. The general trend of the ore-bodies or zones would seem to be north-easterly, south-westerly. The exposed ore-bodies are massive in bulk and diamond drill evidence

indicates that they are deep-seated, and extensive in axial dimensions.

Ore-Zones:

On both slopes of Emory Mountain there is evidence that parallel ore-zones exist.

A short distance below Emory Camp a well oxidized bluff on the north bank of the creek heralds the presence of an ore-zone. This ore-body was picked up in the creek-bed and a large open-cut, 30 feet in length exposes a good body of ore consisting of massive and disseminated pyrrhotite in gabbro gangue, with veinlets of pure chalcopyrite cutting the older mineral.

A general sample taken across 9 feet of ore at the face gave combined value of \$7.62 per ton in gold, silver, copper and nickel. Forty feet south-westerly from the B.C. Cut an adit has been faced up and carried in for two sets; this projected cross-cut will intersect the ore-body exposed in B.C. Cut. The ore-body in B.C. Cut dips 50 degrees southerly and strikes North-east and south-west. Ore can be traced from this cut, upstream, both by outcroppings in the creek-bed and oxidized stains, past Emory Creek Camp to collar of diamond drill No.6; from this station, low-grade ore outcrops in a westerly direction for 30 feet, meadow land slopes upward from this point at an angle of about 30 deg. to the foot of the Major Outcrop. The observed length of this ore-zone therefore, totals about 1100 feet; diamond drill holes No.5 and No.6 having proved ore at depth between No.6 hole collar and the Major outcrop.

Major Outcrop:

The Major Outcrop is, as its name implies, an imposing exposure of massive pyrrhotite, presenting a roughly triangular, bluff-like mass, approximately 45 feet, in slope height and perhaps 100 feet along the open-cut face. On either wall of the outcrop, a mass of cemented boulders of vein-matter, bonded so firmly by ferruginous cement, that it is difficult to tell just where this condition ends and the undisturbed vein-mass begins; perhaps 85 feet of this distance represents the vein proper, and may serve to indicate the general width of the ore-zone.

Diamond drill core data serves to suggest the dip of the ore-body to be 76 deg. 30 min. and the strike about N:20 deg. E.

Chalcopyrite exists in certain areas within the pyrrhotite mass, but generally has been dissipated from the surface exposures. While excavating drill-stations, very good copper ore was broken into along several feet of face. Diamond drill cores obtained from the Major Outcrop, revealed massive pyrrhotite at a vertical depth of 175 feet, below surface at the face of the Major Outcrop: this figure, coupled with the known height of the face of the ore-cropping at this point, gives a total vertical range of about 220 feet, so far proven.

A total of 1860 feet of diamond drilling has been performed on or adjacent to the Major Outcrop, and of this figure, over 500 feet of core was in good concentrating ore, or in solid sulphides.

Few known ore-exposures present like surface areas of dense, massive sulphide ore; and with similar, although smaller, ore-bodies outcropping on both flanks of the mountain-mass many hundred feet below the altitude of the Major Outcrop, and outcropping again at the Molly Cut, 180 feet above that altitude, a massive deep-seated system of ore deposition seems to be indicated.

On Emory Slope, concentrating-grade ore and pure sulphide 'float' have been located several hundred feet southerly from the strike of the main ore-zone; a parallel ore-zone is here believed to exist, following the trend of the southern granodiorite wall.

A general grab sample taken across 85 feet totalled \$21.00 per ton in nickel, copper, gold and silver (values mostly in nickel). As the copper is localized in its occurrences, this type of sample renders an important metal constituent relatively inconspicuous. The following assays are fairly representative of the values existing at the Major Outcrop ore-face:

	<u>Au.</u>	<u>Ag.</u>	<u>% Cu.</u>	<u>% Ni.</u>
Major Outcrop - cubic sulphide	.025	.6	.22	3.40
" fine grained cubic sulphide	.02	.5	1.01	2.86
" cubic sulphide(pyroxenite inclusions)	.06	.5	1.27	3.61
" sulphide bluish tint (pentlandite)	.03	.5	.25	5.57
" general grab across 85 feet	.02	.5	.20	2.80
" nickel-sulphate (exudation)	-	-	-	14.70

Texas Slope:

On Texas Slope the ore horizon finds its highest expression at the Molly Cut, where a face of ore 31 feet long and 7 feet high (at centre of cut) assayed as below:

	<u>Au</u>	<u>Ag</u>	<u>% Cu</u>	<u>% Ni.</u>
Molly Cut - general sample across 31 ft.	.01	.4	.14	.90
" paystreak across 7 ft.	.015	.3	.38	1.50

About 2000 feet easterly from the Molly Cut, at an altitude of 4120 feet a sulphide exposure outcrops at the top of an oxidized bluff; a selected copper assay at this point ran Cu. 5.25%; while a chip sample across 22 feet of the bluff, forty feet vertically below this outcrop, together with a dump sample taken over a similar distance, returned the results given below:-

	oz <u>Au</u>	oz. <u>Ag</u>	<u>% Cu.</u>	<u>% Ni.</u>
Cu. Cut - selected copper	.02	.5	5.25	.40
" - chip sample across 22 ft.	.005	.3	.68	.85
" - grab (new dump)	.005	.3	.30	.70

About 700 feet south-east from Molly Cut at 3980 feet altitude, a working named Nickel Star Lower Cut exposes pyrrhotite ore in gabbro gangue on a granodiorite contact. A grab sample gave the following assay returns:-

	oz <u>Au</u>	oz <u>Ag</u>	<u>% Cu.</u>	<u>% Ni.</u>
Nickel Star No.1 - from face lower cut	.005	.2	.13	.17
" No.2 " " " "	.005	.2	.10	.32
"				

Copper is much in evidence at the B.C.Cut and Major Outcrop (Emory Slope) and at the Cu. Cut; to a less extent at Molly Cut on the Texas Slope.

A selected copper and a general sample gave the following results on the B.C.Cut:-

	oz <u>Au</u>	oz <u>Ag</u>	<u>% Cu.</u>	<u>% Ni.</u>
B.C.Cut - general sample across 9 ft	.01	.4	0.22	0.91
" selected copper	.04	.9	4.31	0.80

Oxidation, leaching and exudation (of nickel sulphate) at the surface of ore-exposures, would perhaps tend to give lower results than if gotten from unleached sulphides below the surface.

On Texas Slope an adit has been started at a point 50 feet north of Cu. Cut and 45 feet below that working. It is intended to tunnel along the granodiorite contact and to cross-cut to the ore exposed at the Cu. Cut outcrop and thence to drift in on the ore-body.

Conclusions:

Enough data has been given in this brief report to summarize the following points:-

1. Ore exposures are massive, carry excellent or fair values in Ni. and Cu. with precious metals averaging nearly one dollar to the ton.

2. Present recognized ore-horizons exhibit a vertical range of 580 feet, while ore exposures not visited by the engineer would greatly add to this range.

3. Diamond drilling has proved ore to exist 175 feet below the level of the Major Outcrop, which exposure adds about 45 feet to the vertical dimension, thus bringing the figure to 220 feet proven up to the present.

4. Parallel ore-zones are considered to exist on both Emory and Texas Slopes.

5. Exposures of high grade chalcopryrite at both the B.C.Cut and Cu.Cut predict excellent copper values below present known horizons.

6. The 1400 assay determinations made last season at the property, indicate immense tonnages of mill-grade ore, beside the vast amount of sulphide ore exposed at the several Cuts, to exist within the boundaries of the property; (read the concluding sentences of C.E.Cairnes Preliminary Report on this property).

Finally, the deep vertical range and wide lateral extent of the pyroxenite belt formation holds promise of far greater ore-inclusions than any so far recognized on this impressive property, and exploration on a major scale will undoubtedly prove this to be the case.

Respectfully yours

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