

MARCH 25, 1947

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REPORT

on

HEDLEY MASCOT GOLD MINES LTD.,

HEDLEY, B. C.

The conclusions set forth in the following pages arise from a detailed examination of the Hedley Mascot property during the periods February 9th to 18th, 1947 and March 10th to 13th, 1947. Snow conditions necessarily restricted surface examination of some sections of the company's holdings. In the main, however, it is not believed these areas would likely provide information of such nature as to cause any serious revision of opinion. During the two months spent by the writer in conducting this examination and preparing this report, considerable assistance and valuable contributory information was supplied by Dr. Victor Dolmage, Consulting Geologist and by P. W. McGonigle, Manager of Kelowna Exploration Company Ltd. This assistance and other courtesies are acknowledged with appreciation.

For reference purposes, three maps prepared by the writer accompany this report. Map #1 shows the general area, geology and mineral claims. Map #2 is a detailed map of Hedley Mascot and Kelowna Exploration Company workings. Map #3 is a vertical section through the Nick of Time and Morning Claims.

SUMMARY:

The examination of the property was conducted by

the writer for the purpose of determining the merits and justification for capital investment in the property of Hedley Mascot Gold Mines Ltd. The major factor governing the writer's conclusions has been determination of the possibility that investment capital would not be subjected to inadvisable risk. The secondary desiderata of dividend returns and possible capital appreciation have also been borne in mind at all times.

The officials of Hedley Mascot Gold Mines Ltd., Dr. Victor Dolmage, Consulting Geologist and C.W.S. Tremaine, Resident Manager, have recommended a development programme involving expenditure of \$425,000.00 which may be summarized as follows:

| | | |
|-----|--|---------------------|
| (1) | Extension of the 3700 level to the South | - \$125,000.00 |
| (2) | Lateral development from the 3700 level | 25,000.00 |
| (3) | Diamond drilling from the 2700 incline | 25,000.00 |
| (4) | Lateral development to 2700 incline area | 100,000.00 |
| (5) | Galena drift | 100,000.00 |
| (6) | Good Hope Group | <u>50,000.00</u> |
| | | <u>\$425,000.00</u> |

In general the above programme is recommended to test, mainly, the area adjacent to the Toronto stock.

The following is a summary of information obtained in the course of the writer's examination:

(1) The ore reserves on the Mascot Fraction are estimated by the Company engineers (and checked by the writer) at 64,000 tons, averaging 0.38 oz. gold per ton. Without allowing for any development expense this ore should return a profit of

about \$100,000.00 and could be mined out within 15 months. The policy of the directors is unknown in regard to future expenditures on development work, if outside capital is not available.

As at November 30, 1946, the Hedley Mascot Gold Mines' balance sheet shows:

| | |
|---|---------------------|
| Liquid Asséts (including \$89,000.00 in supplies) | \$236,645.26 |
| Liabilities | <u>154,542.93</u> |
| | <u>\$ 82,102.33</u> |

It is to be noted that the favourable balance of \$82,102.33 listed above is frozen in inventories of \$89,000.00.

(2) The Good Hope group was not examined, due to snow conditions, but ore reserves are estimated by Company engineers (and checked by the writer) at 6,900 tons averaging 0.66 oz. gold per ton. This ore should return a profit of about \$70,000.00 which will be required to meet the outstanding property payments of \$45,000.00 and to do necessary drilling to determine future possibilities. Thus, unless more ore is discovered the Good Hope group cannot be considered a substantial asset of the Hedley Mascot Company.

(3) Ore reserves on the Nick of Time claim are estimated at 10,687 tons averaging 0.53 oz. gold per ton. The profit realizable by the Hedley Mascot Gold Mining Co, in mining this ore is considered by the writer as insufficient to justify remodelling the tram from the 3700 level to 4300 level and

installing the necessary equipment to extract this ore. The sediments, due to the lack of garnetization, are not considered as competent on the 3700 level as those in the Mascot Fraction which produced large profitable ore bodies. On a horizon lower than the 3700 level, more favorable beds of sediments may exist, although to date this has not been conclusively proven.

(4) Ore developed to date on the 3700 level is not sufficient to justify completion of the planned incline raise from the 2700 ft. elevation to the 3700 level.

CONCLUSIONS:

There is considerable evidence to support the contention that development of additional important ore bodies on claims now held by Hedley Mascot Gold Mines Ltd., will be largely confined to the Nick of Time and Copper Chief mineral claims.

The geological possibilities of finding ore additional to that already determined, weighed against the amount of money required, \$425,000.00, as outlined above, are considered by the writer to be out of balance. Further evidence of the existence of additional ore bodies is required before this programme can be considered justified.

The 3700 level South crosscut of 1000 feet in length is proposed by the Company to prospect a bay in the granite stock close to the Hot Sill and the Marble Line.

Unfortunately the writer has not found any evidence to support the theory that an ore body occurs in this area. Due to the fact that no ore bodies have been located within 1500 feet distance from this stock, and none of the known ore zones trend in this direction, the writer considers the ore-finding possibilities in this area to be quite remote. Further, the presence of a mineralizing dyke, recognized as a requirement for ore deposition, is not yet proven, but could be tested by long drill holes from the present face of the 3700 level crosscut. It is expected that this drilling will be initiated by the Hedley Mascot Gold Mining Company in the near future. If such drilling fails to encounter favourable structure, chances of finding ore in this sector will be greatly reduced. In this connection it is of interest to note that Kelowna Exploration Company Ltd. has been unsuccessful in its work on the 4865 level directly above the proposed Hedley Mascot 3700 South drift programme.

The Kelowna Exploration Sunnyside ore bodies, which have not produced an appreciable tonnage of ore and which have been overrated, are formed at the intersection of the Flipper Sill and a dyke near the Marble Line and some 400 feet below the Hot Sill. The Kelowna Exploration Company has spent considerable money in trying to follow these ore bodies down to depth, without success. The Bulldog Tunnel was driven for a distance of 3600 feet at an elevation of 5540 feet or 100 feet below the Sunnyside ore bodies and

failed to find anything of importance. The I.X.L. tunnel was driven for 4800 feet, at a horizon 185 ft. below the Bulldog tunnel in the geologically favorable area and again failed to find encouragement. The possibilities therefore are considered remote that the Sunnyside ore bodies will be found in the Hedley Mascot Company's Copper Chief Mining Claim at the 3700 level, - the general objective of the 3700 Level South Crosscut programme.

It will be noted from this that the Kelowna Exploration Company has located in this area the Hot Sill and the Marble Line and also a dyke, but to date no ore bodies have been developed. Work in this area will probably be continued, and as the information obtained in this work would be of great value to the Hedley Mascot Company it is considered advisable that the proposed expensive development work in the direction of the Toronto Stock should be held in abeyance pending completion of the Kelowna Exploration Company's programme.

The proposed Galena development, consisting of driving a 1000 foot crosscut from the incline shaft has the object of exploring the sediments close to the Toronto Stock. A considerable amount of drilling from the surface has been done in this area and the results have been disappointing. Two holes encountered values below commercial grade indicating the presence of mineralization but due to the low and erratic occurrence of these values the Galena development

programme is not considered justified.

All the orebodies found to date on the Hedley Mascot and Kelowna Exploration ground have been near the Marble Line. The Galena development is at least 1000 feet distant.

RECOMMENDATIONS:

In the opinion of the writer further exploratory work is justified on the Hick of Time mineral claim, to follow the proven ore zone to depth. To date, drilling results obtained in this area are not considered as providing conclusive evidence that the orebodies so far encountered are too small to be commercial. In this connection, however, it is to be noted that results obtained from development work done by Kelowna Exploration Company on the 4150 level of the Morning Claim, have been disappointing. The Morning workings on the 4150 level are approximately 400 feet up the dip of the sediments from the Hedley Mascot 3700 level ore occurrences. The ore sections indicated by drilling on the Kelowna Exploration Company's 4150 level and Hedley Mascot 3700 level are rich, but do not compare in extent to those developed in the upper levels of both properties.

An expenditure of \$50,000.00 could be considered as justifiable to sink a prospect winze on the ore already developed on 3700 level, to prospect for favorable folding and structural conditions beside the Central Dyke.

In the event Hedley Mascot discontinue work on the Nick of Time and Copper Chief mineral claims, the Kelowna Exploration Company might be interested in purchasing or developing these claims when they decide to explore the Czar mineral claim lying to the West of the Nick of Time mineral claim. Kelowna Exploration do not plan any work in this area in the near future.

LIST OF MINERAL CLAIMS
COMPRISING THE HOLDING OF HEDLEY MASCOT GOLD MINES, LIMITED

| <u>Crown Grants</u> | - | 39 | <u>Mineral Claims</u> | |
|---------------------|---|--------|-----------------------|--------|
| Mascot Fraction | | L 642 | Oro Plata | L 387 |
| Lorenia | | L 694 | Florence | L 650 |
| Kitty Fraction | | L 910 | Snow Flake | L 897 |
| Vindicator #8 | | L 3345 | Presidential | |
| Mountain View | | L 901 | Triangle | L 266 |
| Motherload | | L 898 | Goldman | L 898 |
| Humming Bird | | L 900 | Vindicator #7 | L 3343 |
| Lookout | | L 899 | " #1 | L 3337 |
| Midnight Sun | | L 2825 | " #5 | L 3344 |
| Bones Fraction | | L 2669 | " #9 | L 3341 |
| Toronto #2 | | L 2668 | " #4 | L 3340 |
| Galena | | L 2667 | " #2 | L 3388 |
| Reno | | L 845 | Vindicator | L 3336 |
| Copper World | | L 695 | No. 49 | L 895 |
| Vindicator #3 | | L 3339 | Holley | L 909 |
| Lesley Fr. | | L 863 | Phyllis | L 204 |
| Lion's Paw | | L 642 | Jack Frost | L 2766 |
| Northern Light | | L 3039 | Czar | L 2767 |
| Canadian Belle | | L 3088 | Rerrust | L 654 |
| Union Fr. | | L 801 | | |
| Vindicator #6 | | L 3342 | | |

Leases Held by Hedley Mascot Gold Mines Ltd. - 2 Claims,
Crown Granted:

| | |
|--------------|-------|
| Nick of Time | L 657 |
| Copper Chief | L 199 |

Options held by Hedley Mascot Gold Mines Ltd.:

- (1) Bradshaw Option - 5 Claims
 - Florence Fr. - L 653
 - Little Pittsburg - L 649
 - Whale Fr. - L 651
 - Bullion Beek - L 652
 - Eagles Nest #2 - L 844

- (2) Good Hope Group - 16 Claims
 - Not Crown Granted.

OWNERSHIP:

Hedley Mascot Gold Mines Ltd. has an authorized capitalization of 3,000,000 shares, of which 2,264,130 shares are reported to be issued, leaving 735,870 in the Company's Treasury.

The Hedley Mascot company owns 39 Crown Granted Mineral Claims; holds an option on the Bradshaw group of 5 claims and the Good Hope group of 16 claims; and holds a lease on the Nick of Time and Copper Chief claims.

The details of the Bradshaw option were not investigated but it is reported that this option has been kept in good standing by payment of approximately \$2,000.00 a year. It is further reported that \$36,000.00 remains to be paid on this option.

Payments totalling \$45,000.00 have still to be made on the Good Hope option.

Two claims are held on lease, the Nick of Time and the Copper Chief, and the Hedley Mascot Company is obligated to pay 10% gross royalty on all ore

extracted, and also to work continuously on the claims.

LOCATION:

The Hedley Mascot Mine is situated on the western slope of Nickle Plate Mountain, two miles by road North of Hedley, a small town on the Princeton-Penticton highway. Hedley is 210 miles due East of Vancouver and 28 miles East of Princeton. The Mascot Fraction and 3700-level workings are located on the face of a steep hillside and are accessible only by serial tramway from the mill and office buildings.

The Kelowna Exploration Company holdings adjoin the Hedley Mascot Company property on the North, East and West.

Elevations vary from 1300' at the Hedley Mascot Mill to 4800 feet at the main adit on the Mascot Fraction. The terrain is very rugged. The climatic conditions are good. The Hedley Mascot Company has water rights on 20-mile creek, but no timber leases in the area.

The Hedley Mascot Mine is served by the Great Northern Railway at Hedley and indirectly by the Canadian Pacific Railway at Princeton. Concentrate ore shipped by rail on the Great Northern railway to the American Smelting & Refining Company at Tacoma.

HISTORY:

In 1933 the Mascot Syndicate was formed to acquire the Mascot Fraction from the owner, Duncan Wood. Other claims in the area were also acquired at this time. After

a detailed examination and a preliminary drilling programme Hedley Mascot Gold Mines Ltd. was incorporated to take over all the properties and rights of the Mascot Syndicate. Plans for development of the property and construction of a mill were initiated immediately. The mill was built in 1935, and production commenced in May 1946.

The flotation - cyanide mill on the Hedley Mascot property has a capacity of 192 tons per day. Ninety percent of the recovered values are shipped as flotation concentrates while the remaining ten percent are shipped from the cyanide plant as gold bullion. The recovery in the mill averages ninety-two percent. The ratio of concentration is approximately thirteen to one.

PRODUCTION:

The following tabulation shows production and grade of ore milled to date from the Hedley Mascot Mine:

| <u>Year</u> | <u>Tons</u> | <u>Grade</u> |
|-------------|---------------|--------------|
| 1936 | 29,962 | .529 |
| 1937 | 59,115 | .413 |
| 1938 | 63,868 | .393 |
| 1939 | 67,592 | .255 |
| 1940 | 64,681 | .386 |
| 1941 | 68,155 | .378 |
| 1942 | 66,088 | .347 |
| 1943 | 47,848 | .314 |
| 1944 | 42,285 | .343 |
| 1945 | 56,505 | .310 |
| 1946 | <u>32,448</u> | <u>.294</u> |
| Total | 598,525 | .356 |

Mascot Fraction has produced 572,000 tons of ore from an area of 7.8 acres. The gross value was \$7,072,938.00

and dividends paid amount to \$1,209,554.00.

Milling was started in May 1936 and was carried on continuously until November 1943, when the mill was closed down for six months due to reported lack of adequate labour. From April 1944 the mill was operated until July 3rd 1946, when operations were suspended due to a strike of the I.U.M.M.S.W. At the time of writing this report preparations are underway to reopen the mill.

GEOLOGY:

The geology of Nickle Plate Mountain and a description of the ore deposits of the Kelowna Exploration and Hedley Mascot Mines has been reported on at some length by Camsell & Bostock of the Dominion Geological Survey, by Billingsley and Hume in 1941, and by Dolmage and Brown in 1945. The following is a brief summary of the regional geology:

The area is underlain chiefly by sedimentary rocks, dipping 12° to 40° to the West. The Nickle Plate formation approximately 1200 feet thick, consisting of pure and impure limestone with intercalated quartzite, constitute the productive formation for ore deposition. A large part of the formation has been subject to thermal and contact metamorphism. Massive limestone has been silicified and garnetized.

The Toronto stock, covering the Southwesterly part of the Hedley Mascot Mine, varies in composition from quartz-gabbro to quartz diorite. On the surface, remnants of flat lying sills are visible.

The ore bodies developed to date on the Kelowna Exploration and Hedley Mascot properties are all located inside the skarn rocks, within a distance of 250 feet from the Marble Line.

The second control is considered to be the necessary existence of either the Central Dyke or the Hot Sill which is perpendicular to the plane of the Central Dyke. The Central Dyke is vertical and strikes nearly due West while the Hot Sill strikes due North and dips at 45° to 55° to the West. The writer is of the opinion that the Central Dyke is the major controlling feature in the area and that the best place to prospect is near this dyke close to the Hot Sill and the Marble Line.

Folding, as a third control, is important for the localization of ore bodies once the conditions mentioned above have been satisfied.

DEVELOPMENT:

The Hedley Mascot property has been opened up by four adits and a number of sub-levels. From the mill a jig-back aerial tram leads up to the 4800 foot level. Above this level four sub-levels have been driven, the highest being at an elevation of 5130 feet. These sub-levels were used to stope out the large ore bodies in the apex of the Mascot fraction.

Another aerial tramway leads from the 4800-level

down to the 4300-level. Between these two levels, which are connected by raises underground, are five sub-levels in the Southwest section of the Mascot Fraction, which were used to mine the ore around the Central Dyke and Hot Sill.

From the 4300-level adit a light duty aerial tramway leads down to the 3700 level. The Hedley Mascot mine has no levels or raises between the 3700-level and the 4300-level.

The 2700-level, which is the fourth adit, is a long incline which was started to form a new transportation system for the mine and was designed to obviate the expense of hoisting all ore to nearly the top of the mountain before conveying it down to the mill.

ORE RESERVES:

| | <u>Tons</u> | <u>Grade</u> | <u>Gross Value</u> |
|--------------------------------|--------------|--------------|--------------------|
| Mascot Fraction | 64,000 | .38 | 851,200 |
| 3700-Level- Nick of Time Claim | 10,687 | .53 | 198,240 |
| Good Hope | <u>6,900</u> | <u>.66</u> | <u>159,390</u> |
| | 81,587 | .42 | \$1,208,830. |

Ore sections indicated by diamond drilling and drifting on the 3700-level of the Nick of Time Claims are as follows:

| <u>Bed</u> | <u>Width</u> | <u>Depth</u> | <u>Length - Strike</u> | <u>Length</u> | <u>Tons</u> | <u>Grade</u> |
|------------|--------------|--------------|------------------------|---------------|--------------|--------------|
| A | 5.0' | 50.0' | | 25.0' | 750 | .20 |
| B | 4.5' | 50.0' | | 25.0' | 674 | .50 |
| C #1 | 9.25' | 120.0' | | 25.0' | 3,330 | .85 |
| C #2 | 9.0' | 115.0' | | 25.0' | 3,029 | .54 |
| D | 7.4' | 130.0' | | 25.0' | <u>2,904</u> | <u>.29</u> |
| | | | | | 10,687 | .53 |

The above ore sections represent the total ore indicated by drilling thoroughly a dip length totalling 320 feet from the boundary of the Kelowna Exploration Company's Morning claim down and to the West parallel to the Hot Sill and the Central Dyke.

COSTS:

Following are cost figures as provided by the Hedley Mascot Company for the year 1945, the last year available to the writer:

| | |
|-----------------------|-------------|
| Mining | 2.79 |
| Tramming | .26 |
| Killing | 2.24 |
| Development | .49 |
| Taxes, Insurance etc. | 1.20 |
| Freight, etc. | <u>1.55</u> |
| | 8.53 |
| Incline & 3700 Level | 3.07 |
| Head Office | <u>.37</u> |

\$11.97

Total cost, Minus Incline & 3700 Level = \$9.90/Ton.

| | |
|-----------------------|-------------|
| Grade of ore reserves | - \$12.60 |
| 92% recovery | 11.60 |
| Cost | <u>9.90</u> |
| Profit | 1.70 |

Profit on 64,000 tons - \$108,300.00.

Henry L. Hill
 Henry L. Hill, P.Eng.

March 25th, 1947.

