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ORE POTENTIALS OF THE
SURF INLET MINE
SKEENA MINING DIVISION, B.C.
FOR FLEET DEVELOPMENTS LTD.
VANCOUVER, B.C.

February 18, 1986
St. Catharines, Ontario

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INTRODUCTION

The writer was commissioned by Mr. T.F. van Wollen of Fleet Developments Ltd. to make an independent appraisal of its Surf Inlet property, in the Skeena Mining Division of British Columbia. The purpose of this appraisal was to comment on the possible ore potentials of this former gold producer.

This report was based on previous reports, made available by Fleet Developments Ltd.

LOCATION, PROPERTY TITLES, TOPOGRAPHY, HISTORY AND GEOLOGY

All of the above has been outlined by the authors of previous reports and are not discussed here.

In general, the reports and material presently available for assessing ore reserves are sketchy and incomplete. No work has been reported on the property since 1947, and the information on development and diamond drilling of the Pugsley Mine from 1942-1947 was not available.

In 1981, Cominco optioned the property and carried out a mapping, sampling and diamond drill program. These results were reviewed by the writer and will be discussed at a later date.

OBSERVATIONS

In general, the available data on the type and quantity of ore removed from the Surf or Pugsley Mine is not complete. As a result, it is difficult to determine the exact tonnage and grade of ore that remains in place.

In the past, ore reserves for both Surf and Pugsley deposits were established during the active development of the mining operation. The majority of gold mines use this procedure, and therefore in many cases operate for many years on limited delineated reserves.

Although diamond drill data and other underground data is sketchy, historically this has been the basis to guide the potential development of new ore centers. The mode of occurrence of gold in this geological environment is such that potential ore can be missed using only diamond

drilling results. Hence, weak gold values may have been assigned to a potentially favourable structure.

It would appear from the assay plans from both the Surf and Pugsley Mines that some narrow high-grade sections as well as wider lower grade sections have had little, if any, vertical development. Some of these zones should be developed to search for areas of mineable ore.

ORE RESERVES

The most recent recorded ore reserves are detailed in J.C. Honsberger's report (1973), which are based on A.J. Ingraham's results of April 1946.

The reserves for the Pugsley Mine are listed as 47,250 tons of probable and possible ore, with an estimated grade of between 0.35 and 0.45 ounces gold per ton.

For the Surf Mine, the latest available ore reserve figures, calculated by the Mine staff in January of 1943, indicate 3,800 tons grading 0.46 oz. gold per ton. It is believed that more underlying ore reserves are available on the lower levels, as well as above the 100 foot level.

CONCLUSIONS

1. The nature of the occurrence of ore in the Surf and Pugsley Mines is such that ore reserve estimates are best determined by mine development.
2. Previous authors to date have estimated ore reserves at 51,000 tons grading between 0.35 and 0.45 oz. gold per ton.
3. The potential for larger tonnages of ore is good. The higher price of gold and new mining and milling technologies, as well as utilizing lower cut off grades, could greatly increase the tonnage potentials of the property.
4. In the past, over 1,000,000 tons of gold ore have been mined from the two locations (Surf and Pugsley). Depth potentials below these zones are excellent, and there is every reason to believe that an equal amount of ore still exists within the fault zone structure of the property.

5. A review of drill results from the Cominco program in 1931 indicates a 4-inch intersection of 0.76 oz. in the Paradise Valley area. This area is accessible for diamond drilling and should be explored more extensively for potential ore zones. Should results in this area be favourable, the existing shafts on the Surf and Pugsley should be deepened. The deepening of these two shafts would develop the down dip of both mines and provide access to potential ores under Paradise Valley.

6. It should be noted that diamond drilling alone will not outline an ore zone such as the Surf or Pugsley, and as a result several gold intersections within this fault structure will warrant mine development to outline potential ore centers.

7. The waste dumps of both the Surf and Pugsley Mines should be reviewed and sampled in detail to assess their grade and tonnage potentials. Oxidization may have affected the dump rock, hence metallurgical testing of this material may be required to assess future milling techniques.

8. Based on my previous experience in gold mines, the potential of finding more ore on this property is excellent. Ore structures within a "fault-shear" such as the Surf and Pugsley can be expected to pinch and swell. A showing of "weak" or "no ore" on one or more levels does not mean that results to depth will be negative. It has been my experience that a mine developed in a similar structural setting as the Surf and Pugsley will produce many stopes on strike and to depth by continuous development. Other promising occurrences have been located along the strike of this fault-shear structure. Both the strike and the depth extension potentials should be equally encouraging.

The advent of new mining and milling technologies, and the higher prices of gold make this property very attractive and a vigorous exploration-development program should be carried out.

Respectfully submitted by,

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