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PRELIMINARY REPORT OF CHUGACH GOLD MINES, INC. (CLIFF MINE),
VALDEZ MINING DISTRICT, ALASKA
September 14, 1936.

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History & Development:

This mine which was discovered August 15, 1906 by H. E. Ellis, has been the largest producer of gold in the Valdez district. A complete history and description of the Cliff Mine is given in Bull. 622, "Mineral Resources of Alaska, 1914" by A. H. Brooks, pp. 170-172. This mine had produced over a million dollars in gold prior to the closing down July 6, 1914 due to influx of sea water that flooded the lower levels.

In the fall of 1933 this property was optioned to Gen. A. D. McRae of Vancover, B. C. Details of this option are given in newspaper clippings held on file. During the following year an unsuccessful attempt was made to pump the old workings. Some development work consisting of drifting and cross-cutting was done to pick up the Hughes vein on the main and 100' levels. This vein had been faulted and waht was believed to be this vein was found. However, it was only 3 to 4 inches in width and did not contain encouraging values. The objective in following this vein into the mountain was to prospect for another high grade lense. No encouraging results were obtained after considerable development and the option was dropped.

The mine was re-optioned to a group of individuals in 1934 and the Chugack Gold Mines, Inc. was formed under Alaskan laws in January, 1935. This company began operations in May 1935 which has consisted of development work within the mine. The work has been continuous until the present date with the exception of March and April of this year, at which time a fire destroyed the carpenter and blacksmith shops. To date 2,000' of development work has been completed. This consisted of drifting and crosscutting on both the 100' and the Hughes intermediate levels. These levels are connected by raise of manway and chute. Below the 200' level the workings are filled with salt water and there has been no attempt to work below or in this level. While drifting on the Hughes intermediate level following the Hughes vein, the Chugach

vein was discovered. This vein cut off the Hughes vein and to date the extension of the Hughes vein was not found. The drift was continued and reports later states this drift encountered the surface on the north slope of the mountain. This made a direct ventilation course through the above workings. Later reports were to the effect that this mine closed temporarily awaiting delivery of new power unit and other supplies held up by marine strike.

Machinery:

The old machinery which consisted of a jaw crusher, six Fairbanks-Morse stamps, three tables, air compressor and boilers, are still intact in the combined mill and power building. The tables and boilers are beyond repair while crusher, stamps and the air compressor are in fair condition. The air compressor, a single Ingersoll-Rand compressor, is driven with a new high speed portable has engine and a portable combined Schraum high speed gas engine and compressor develop the air for the mine. The company expected to install a new diesel power this fall and to run three of the stamps of the mill. Also a new concentrating unit for the mill is to be purchased. A well-equipped assay office is maintained in a separate building. A new office building and blacksmith shop were built this year. The cook house and bunk house are in fair condition. These were built at the time of operation prior to 1914. Steel is sharpened by hand and Ingersoll-Rand machines are used.

Geology & Ore Deposits:

The formation is a dark gray schistose graywacke. The strike of the schistosity is east-west and dip 55° to 65° N. This dense hard formation appears to have been fault fractured by two series of fault fissures in which the small quartz veins and lenses occur. The main series on which the Hughes vein is located strikes N. 40° W. and dips 45° to 65° NE. The other series and later series, strikes N. 40° E. and dips 60° to 65° N. The new discovered Chugach vein occupies one of these later series of fault fissures. Horizontal movements were noted on the walls of both series.

The Hughes vein, on which some ore was mined from short lenses on the 200, 100 and Hughes intermediate levels in the early history of the mine, is a strong fissure vein which cuts the schistosity and strikes N. 40° W. and dips 60° N. This occupies the earlier period of fissuring, the fissure splits and joins and was followed for several hundred feet into the mountain. The recent work of this company was confined to following this vein further on the 100 and Hughes intermediate levels. A few small lenses of quartz with short lengths and narrow widths and containing spotty gold values were found. Some of these lenses were reported as containing sufficient values to mine.

While drifting on the Hughes vein the Chugach vein was discovered. This vein cuts off the Hughes vein and it is a narrow quartz vein very similar to the Hughes vein. It strikes N. 40° E. and dips 60° N. It has a developed length of 270', is continous and varies in width from 3 to 22 inches. Free gold can be seen in several places along this vein and the walls are mineralized. A raise was started and a chute built ready for stoping. A notable feature of both the Hughes and Chugach veins is the fact that in places the walls are very free and in others one is frozen. They carry very little gouge material and only a slight schitose structure is developed in pla-es along them. A distance of 85' vertically was reported between the Hughes intermediate level and the surface at the junction of the Chugach vein. This vein has not been encountered in the 100 level since this level does not extend this far north.

Mineralization:

The character of the mineralization in both veins appears to be the same. It consists of two types of pyrite, one very fine bright metallic colored crystallization that is associated around the wall rock fragments and the other a coarse yellowish pyrite that is scattered through the quartz. Free gold and a few medium-sized crystals of shpalerite were seen in the ore. The gangue minerals are a highly crystalline quartz, whitish to gray color, with crystal faces showing in vugs, a little calcite, chlorite and numerous pieces of wall rock.

No samples were taken and information obtained regarding values plus occurrence of visible gold in numerous places, as seen by writer, was regarded as positive evidence of milling ore. The development work and general conditions have been very efficient. The safety conditions as described in summary report of this mine warrant other considerations.

METAL MINING AND PROSPECT REPORT

(8,7,2,3)

A. General Features

1. Mine Cliff Mining District Valdez 61°07'N
2. Investigator H.R. Joesting Date 6/28/39
3. Location 10 mi W of Valdez 46
   1/4 86 86.97
4. Owners Cliff Gold Mines, Inc. Address Valdez.
5. Supt. or Manager Charles Simonstad " "
6. Chief Ores Mined Gold
7. Associated Minerals Pyrite, galena
8. Gangue Minerals Quartz
9. Rock Formations Schistose Graywacke
10. Nature of Deposit (Fissure vein, fissured zones, disseminated, etc.) fissure veins in a linked vein system
11. Thickness of vein or deposit 3" to 18"
12. Strike of vein or deposit N 30° ± W
13. Dip of vein or deposit 60° SW to 70° NE Vertical in part
14. Ore in (shoots, chimneys, etc.) shoots (?)
15. Character and pitch of ore shoots not known
16. Depth of barren zone x Depth of enrichment NOTED
17. Genesis of ore Hydrothermal J.D. STEWART
18. Nature of associated dikes or veins
19. Entrance to mine adit El. 120'
20. Amount of Drifts Raises X-cuts
21. Size of shafts 8' x 5' No. of Levels 5
22. Mine Machinery 2 - 500 G.P.M pumps, each driven by 50 H.P. motor
    1 - 400 G.P.M. at 300' head, 1 - 250 G.P.M. at 210' head, both air driven + used as standbys,
23. Mill Machinery Power: 55 H.P. for mill, 225 H.P. for 150 KW generator, both Fairbanks-Morse Diesel. Flow sheet: Grizzly, 8x10 Blake Crusher, 6 1350# stamps with individual 3'x10' plates + corduroy lined tables, 1'x60' corduroy tail launder.
24. Men employed 27-30 Dates of operation Started Prelim. operations Mar 1, 1939, Completed dewatering Nov. 1938.
25. Available timber and water power
26. Transportation Tranship from Valdez
27. Reported assays $63/T from Chugach vein, $106/Ton from Hughes vein, $160/T from Cliff vein at 200' Level.
28. Amount of ore milled or shipped Small tonnage consisting of debris from floors of levels, etc., after dewatering. Recovery
29. Returns $52/Ton.

References:

This report accompanies Joesting's letter of 7/3/39 - BD.

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86-97

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