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Jodee

Mr. W. D. Forman, P. Eng.,
Mining Consultant,
611-850 West Hastings St.,
Vancouver 1, B.C.

September 21, 1964

Dear Mr. Forman:

The following is a progress report on the current drilling program at Jodee Mines Ltd Unuk Group, Happy Valley, N. Grande Area, B.C., resulting from my recent visit to the property. Some additional descriptive material and observations based on geological mapping in the vicinity of the drilling sites are also included. A 50-scale geological map "Unuk Group" accompanies this report.

WEATHER

This was mild to cool and clear during September 11th and 12th, followed by showers and heavy rain for the next three days. Drier weather during the 16th and 17th was accompanied by broken overcasts and periodic heavy mist conditions within lower sections of valleys.

Helicopter operations were quite restricted over most of this period - largely due to differences in weather conditions between Stewart and higher inland localities.

A few inches of new snow have accumulated above the 6000-foot elevation.

TRANSPORTATION

This was via CPA and PWA to Stewart, B.C., and thence by 'alpine Helicopters' to the property. The Granduc north airstrip at the toe of the South Fork Clark glacier is serviced by the Stewart-based "otter" aircraft. Permission to use the strip may be obtained from Mr. Don Cannon which would shorten helicopter flying time on moves in or out. Mr. Cannon has been kindly cooperative on several recent occasions.

Foot access between this airstrip and the Hoppy Valley drillsite is not difficult under moderate weather conditions.

COMMUNICATION

This is by battery-powered 'transceiver' communicating mainly with Granduc's "Stewart Portable" and, in emergency, with Granduc's "portal camp". Mr. Jack Hunter, radioman at Stewart, has been most cooperative in this respect. Reception is generally quite good for such a small unit.

DIAMOND DRILLING & CAMP.

Corona Diamond Drilling Co. - jointly owned and locally supervised by Mr. "Tiny" Setter - is operating on two 10-hour shifts daily with two men per shift. A comfortable

a comfortable 2-tent camp is located on the glacier near the drilling site.

Equipment used is a long gear surface drill, powered by a Perkins diesel, normally capable

of drilling to 1500-foot depths. AX wire-line equipment is being used. With this equipment Mr. Selter notes that -30° holes are about the flattest that can be drilled, therefore lay-outs have been marked out with this in mind. (Longyear underground wire-line equipment is definitely not subject to the same limitations.)

A heavy flow of water from the 30'-35' (277'-82') interval in D.D.H. No. 1 has caused some 4 to 5 day delay due to an initial shortage of casing at the site. With the installation of a total of 38 feet of casing progress of 40'-50' per shift - or less if other than normal conditions obtain - is being made.

LIMITING FACTORS

To date, those stipulated under Item 6 of Mr. Forman's report of July 24th have been met.

Prolonged periods of wet weather may loosen boulders on steep slopes above drill sites, hence it was suggested to the drill crew that the usual precaution of picking out loose rock be taken before the drill is set up at subsequent sites.

There is a possibility of intersecting zones of high-pressure water in any drill hole as the formational trend is through the main creek and under the glacier.

Moderate depths of snow should not

impede progress, and it is anticipated that drilling may continue for another month to six weeks. The typical winter weather here will naturally restrict aircraft operation to the occasional clear day or so.

PREVIOUS REPORTS

Those provided are Mr. Forman's report of July 24, 1964 and the December 7, 1960 memorandum from Dr. Norman to Mr. D. M. Cannon. Also included was a claim map by Wendell Dawson, August 24, 1955.

PROGRESS NOTES

Sept 11 - arrive at drill camp at 1:30 P.M. Inspect first 100 ft. of drill core D.O.H. #1. make preliminary inspection of local geology and mineralization; Drilling stopped at 130' by heavy water flow during night shift and suspended until additional casing delivered.

Sept 12-14; Geological mapping with assistance of drill helper.

Sept 15. Assemble field mapping on larger sheets, and plan additional drill holes; weather-proof tents.

Sept. 16 Drilling continued with conventional rod pulls until casing arrives by helicopter and casing installed during night shift. Helicopter "booked" until next day. Do additional mapping & take "specimen" samples.

Sept 17 - Installing casing. Log core 130'-177' and take 'shorts' sample 130'-175'. Return to Stewart by noon; Drilling continues; to Vancouver next day.

Sept 18 - ~~return~~

GEOLOGICAL DETAILS

Geological mapping indicates a general N.E. trend of both "layering" and significant fracturing, with general sub-vertical dips.

The host rock is composed of slightly brecciated to mylonitized syenite and/or quartz-feldspar porphyry. More extreme brecciation and subsequent silicification has produced a rather typical fine-grained quartz-feldspar 'granulite'. A distinct bed of dark limestone was noted on the first day's reconnaissance. The +HCl reaction of much of matrix within less siliceous sections of granulite, together with the presence of distinctly tuffaceous-argillaceous material suggests that the pre-metamorphic section may have been composed of variably limy feldspathic tuffs, minor argillites and limestones with, possibly, intermittent syenite sills.

In general all rocks examined contained some medium- to fine-grained pyrite (and marcasite). Highly pyritic rocks are characterized by heavy iron stain or "iron-cappings".

Minor to appreciable amounts of thin-veining and disseminated chalcopyrite, generally associated with pyrite, were noted at several widely-spaced locations. The most favourable host rocks noted are hard siliceous rather fine-grained quartz-feldspar granulites.

mineralization appears to follow the NE trend of these sections, or with closely-acute ENE steep joint-fracture zones intersecting them.

Several pieces of well-mineralized, more chloritic-tuffaceous, float were noted. A more extensive reconnaissance is warranted to investigate the origins of this material.

The best mineralized zone, from rather preliminary observations, appears to be that one closely adjacent to Brinton sta. no. 15, although some fair patches of material were noted in the zone just north of sta. 2.

Exposures on the west wall of the valley were not examined.

Our recent mapping, together with that done ^{earlier} by Dr. Norman suggests that structural control has, in part been provided by a broad flexure trending northerly - to northeasterly - to northerly across the area.

It is not yet known ~~at~~ which part of this structure is most favourable for mineralization, although the small amount of detailed mapping done to date suggests the more easterly-trending elements of fracturing and "bedding".

DRILL HOLE LAYOUTS & SCHEDULES

D.D.H. No. 1 is being drilled on a true bearing of $570^{\circ} E$ at a -32° inclination. As the original line points were not clearly evident "Tiny" established the present bearing, which is only 10 degrees south of that originally intended. The reason for the -32° (" -30° ") inclination has been noted previously.

One, and possibly two additional holes are marked out for this set up. The second drill site is also shown on the accompanying map and two or three holes will be drilled here. A third tentative site and drill hole are also shown.

A drilling schedule, as given to "Tiny", is as follows:

(A.) Present Drill Site

- (1) D.D.H. # 1 to 360' (300' hor. @ -32°)
- (2) D.D.H. # 2 @ -35° to 365', or further if indicated.
- (3) If appreciable copper shows in # 1 or # 2, drill a third hole on the line of # 1 or # 2 at -50° .

(B.) Second Drill Site

- (1) Drill first hole layed out @ -35° to 300', or further if any amount of copper is present near the 300-foot mark.
- (2) Drill second hole layed out to 500' @ -35°
- (3) A third hole @ -55° under the 1st or 2nd

if either one intersects noticeable copper mineralization.

(C) Third Drill Site - (in 'boulder' creek near second site).

This is an optional layout, dependent on time and weather;

Drill hole marked to 400' @ -35°. The collar is at sta. "E" and the "F.S." as marked out with Jim.

- all of the above drilling is subject to further instructions from Mr. H.D. Forman.

Core Log D.O.H. # 1.

Dist. Ft.	Description of Core	angle Core-Bdg.	Mineralization
0'-38'	Casing; extended from 0'-8'	75° @ 10'	8'-17½' gen. sp.
8'-17½'	Pale grey quartz - feld. granulite; banded f. gr.; Sections + HCl. (matrix)	65° @ 14½' 40° @ 16' 40° @ 22' & swirly.	f. gr. py. with very sparsely dissem. cpy. in matrix and qz. veinlets
17½'-23'	Pale grey feld. granulite-porphyrite with broken, partly resorbed feld. phenos.		Sp. pyrite only.
23'-30'	Dark grey to black dense granulite; hazy feld. phenos; matrix variably + HCl & slightly green - chloritic.		appreciable f. gr. py. only
30'-35'	Hard, f. gr. black dike; some ep.-chlor. alteration.		No sulfides
35'-36½'	Cherty black granulite; hazy, fract. feld phenos.		Sp. dissem cpy @ 35½'.
36½'-47'	Brown-mottled feld. breccia; f. gr. greenish-grey matrix.	65° @ 44'	appreciable f. gr. py. scattered patches dissem. cpy near 37'.
47'-77'	Gen. dark grey markedly limy granulite and breccia + HCl on matrix and crystal fragments.	60° @ 55'	Sp. py. ; tr. cpy.

Cont'd Dist. Ft.	Description of Core.	Angle Core-Bdg.	Mineralization.
77'-82'	Fine-gr. black dyke, broken @ 77'-80' (water course?)		Nil.
82'-109½'	Med. grey hard finer-gr. granulite and breccia appreciably + HCl.	80° @ 82½' 65° @ 106'	patchy f. gr. py. tr. cpy in gr. seam @ 82½'
109½'-130'	med. grey hard silic. granulite; - HCl.	45° @ 111½' 70° @ 121'	patchy f. gr. py. only.
130'-147'	pale- to med.-grey gz.-feld. granulite.	40° @ 146'	appreciable f. gr. py. w. occasional grains of cpy.
147'-177'	Faintly brown-mottled (feld phenos) pale- to med.-grey granulite - breccia	40° @ 165' 55° @ 177'	appreciable patchy f. gr. py.; locally sp. dissem. cpy.
- specimen sample of core-shorts @ 130'-175'			

SUMMARY & CONCLUSIONS.

Sparse to moderate amounts of copper mineralization were noted at the surface in at least two zones. Within the first (Brunton Sta. 2-7) chalcopyrite is found mainly along small joint veinlets, with disseminations noted mainly in the vicinity of sta. 2. The second zone (vicinity sta. 15) visibly contains better patches of disseminated chalcopyrite.

Specimen material possibly ranges from 0.5 - 1.0%.

Additional "geological-prospecting" is warranted. Due to the difficulty of getting fresh exposures of the hard-smooth (glacial-polish) country rock drilling and blasting is required. A program of trenching, using a "Cobra" drill would greatly facilitate the examination and tracing-out of mineralized

zones. This would be a logical, economical step before programming further diamond drilling beyond that already scheduled.

The writer thankfully acknowledges the accomodation and cooperation provided by the drill contractor during this visit.

Respectfully Submitted

W.M. SHARP. P. ENG.