Columbia River Mines Ltd.
- Casino Mine
800404

MINERALIZED ZONES

There are said to be three mineralized structures that have been recognized at the Casino underground operation.

Reference has been made in the past by Columbia River Mines Ltd., when exploring on the property in 1964 and 1965 to the three vein system. The No. 1, commonly referred to as the Main vein, is developed along the contact of the monzonite and the sediments. The reticulated shear structure was followed in drifting for a distance of 140 meters (460 feet) before the 60 meters (200 feet) was continuously stoped while addition short lengths of the structure has seen limited stope action. Vertical extent of this past stoping is uncertain.

The No. 2 vein lies some 20 meters (65 feet) south of the main structure within the argillites. Limited stoping plus raising through to surface was carried out on this vein. Its productivity in the past was small in comparison to the No. 1.

The No. 3 vein has had no underground work done on it. It is said to lie to the north of the No. 1 vein completely within the monzonite body. Published reports by Columbia River Mines during their operation refer to drill intersections within the No. 3 vein however no apparent attempt was made to located and drift the structure.

The main structure (No. 1 vein) strikes north 55^{o} east while dipping steeply (60^{o} - 75^{o}) to the northwest. The shear, locally silicified, varies from 15 cm (6 inches) to 1.5 meters (5 feet) in width. Mineralization consists of pyrite, sphalerite and arsenopyrite in minor amounts. The latter mineral is normally associated with gold values.

There are five box holes spaced at irregular intervals along the No. 1 vein which have been used in the past as exploration access to the vein and, if successful, to draw the broken ore material. In areas of stope operation, the excavated widths were in the vicinity of 3½ to 4 feet. The stopes are open with no present access to the final backs. Vertical extent of the stopes generally exceeds forty feet but no definite elevations could be determined. Scaffolding and timbering was observed high in some of the stopes but due to lack of ladders could not be reached for sampling purposes. Some of the exploration raises utilized sub-level drifting to test the ore potential of the silicified shear. The last chute on the main vein exposes a fault structure striking roughly north-south and dipping to the west which has apparently cut the vein off. Drifting over the last 50 meters (165 feet) shows no tangible shear-vein structure.

The No. 2 vein in the hangingwall section has had a minor amount of stoping. A drift branching from the main structure intersects the No. 2 vein some 52 meters (170 feet) to the south west. A steep 75° raise was put up slightly back from the drift face through to surface. Stoping and sub-drifting was run from off the raise. A further attempt to intersect this vein more to the south west was made from a cross cut run off the main adit level. Limited level drifting was carried out on the intersected weak shear structure and was evidently put up in an effort to locate the vein. There is no evidence to indicate whether the vein was intersected and if so whether mining proceeded.

The writer sampled the main (No. 1) vein at seven locations representing a strike distance of 115 meters (380 feet).

Sample #460 at the furthest west end of the main vein was a 50 centimeter sample (20 inch) cut from the quartz vein at the last ore chute prior to its being ~~cut off~~ DISPLACED by the fault.

Gold: 0.195 oz./ton; Silver: 0.011 oz./ton.

Sample #461 a 28 centimeter (11 inch) chip sample cut from a silicified zone carrying chalcopyrite with moderate iron oxidation located 40 meters (130 feet) to the northeast of the previous sample.

Gold: 0.124 oz./ton; Silver: 0.014 oz./ton.

Sample #462 consisted of grab samples taken from a draw point 30 meters (98 feet) northeast of #461. Most of the sample was represented by argillite.

Gold: 0.003 oz./ton; Silver: 0.005 oz./ton.

Sample #463 represents random chips taken from a 35 centimeter (14 inch) vein width located near the drift ~~floor~~ TRACK level approximately 4½ meters (15 feet) beyond the previous sample. This well mineralized vein structure was observed running up a raise nearby.

Gold: 0.138 oz./ton; Silver: 0.005 oz./ton.

Sample # 464 is a 35 centimeter (14 inch) chip sample cut from A silicified shear zone exposed where a round had been taken from the drift back. The almost vertical structure (80°) is located approximately 10 meters (33 feet) northeast of sample #463.

AT A POINT

Gold: 0.393 oz./ton; Silver: 0.014 oz./ton.

Sample #465 represents a 35 centimeter (14 inch) chip sample cut from the drift back 9 meters (30 feet) mortheast of the previous sample. The vertical vein carries minor sulphides and lies flush ~~to~~ ALONG the north CONTACT of a strong 15 centimeter (6 inch) shear.

Gold: 0.248 oz./ton; Silver: 0.017 oz./ton.

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CONCLUSION & RECOMMENDATIONS

The Casino property has a relatively short history of production. Discovered in the early 1950's it has, through sporadic independant lessors and one serious production situation, produced over a seven year period (1958 to 1965) in excess of 2500 ounces of gold and 700 ounces of silver from close to 6000 tons of ore shipments. Since 1965 there has been no known activity at the Casino Mine.

In 1965 gold was priced at $37.73 Canadian per ounce while silver was valued at $1.39 Canadian per ounce. Today the gold price is near the ~~$500~~ $600 Canadian mark and silver is around $12.50 Canadian.

Disregarding the high and low assays an arithmetical average of the writer's sampling computes at 0.216 ounces per ton gold and 0.011 ounces per ton silver over an average width of 38 centimeters or 15 inches. The writer's gold grade is roughly one-half the shipping average which was likely hand cobbed. The silver average ~~(0.11)~~ (0.011) is considerably below the known shipping grade (0.12). The vein average width is well below normal stope widths. However, visible stoping widths underground exceed 106 centimeters (41 inches) lending credence to the possibility that widths increase with elevation, or that in the past too much reliance was placed on hand cobbing. If present grades or widths cannot be upgraded consideration will have to be given to resuing in future stope action.

The Casino property has known ore grade values from the past. It has a demonstrated shipping record. It operated during a period of weak precious metal values and was apparently set aside when its last operator (Columbia River Mines, 1964 and 1965) realized they had a more engaging looking base metal possibility in their Ruth Vermont property.

Past evaluation of the Casino deposit has been between surface and adit level. Stoping testifies to this. No known probing of depth possibilities has occurred on any of the three structures. The No. 3 vein is said to have had some drilling by Columbia River Mines at or above adit level but no drill logs are available. However published reports refer to modest values being intersected in the drilling. In addition no drifting of the No. 3 vein took place.

No records are available as to whether drilling for the southwest extension of No. 2 vein was undertaken or whether the location of the offset portion of the No. 1 vein was seriously explored.

No stope assay records are available if indeed any were kept. It is possible that ~~non~~ SUB-commercial assay walls in 1965 could be marginal or ore grade at todays prices.

The writer considers the Casino property to be a property worthy of re-examination. It should be mapped and sampled as intensively as possible. This will necessitate the installation of ladders in various raises to ENABLE reaching the backs of stopes. Scaffolding will be necessary to assist the samplers. In addition surveying of the stopes would ~~assits~~ ASSIST in locating their elevation points with respect to surface.

Diamond drilling from underground should be undertaken to:

1) Test the depth possibilities of the No. 1 vein. This can be done from several locations with the prime location being the No. 2 drift. This would mean drilling down the dip of the structure. The steepness of the structure would allow several horizons to be tested. Another location is the stub crosscut prior to the main vein drifting.

2) Locate and assess the potential of the No. 3 vein. Once located it can be checked at various horizons. Drilling of this structure can be done readily from the main vein drift.

3) Locate and assess the potential of the No. 2 vein southwest extension and check the depth possibilities of the No. 2 vein. The main vein drift serves as an excellent location for this drilling.

4) Locate the offset portion of the No. 1 vein. Prime location for this exercise is setting up on the west side of the fault and drilling north and south parallel to the strike of the fault.

IN THE MAIN DRIFT

This program can best be undertaken in two stages with the first stage concerned with the stope sampling and initial drill checking of the vein structures. Upon successful completion of stage I, the development, or stage II, would consist of more thoroughly checking the grades of the various systems by further drilling and possibly development drifting of the No. 3 vein.

COST ESTIMATES ← NEW PAGE

Initial Drilling Program

Stage I

No. 3 Vein Exploration - Two flat holes totalling 90 meters (300 feet)
@ $45/meter = $4,050

No. 2 Vein Depth Probe - One -45° holes totalling 45 meters (150 feet)
@ $45/meter = $2,025

No. 2 Vein Southwest Extension - Two flat holes totalling 90 meters (300 feet)
@ $45/meter = $4,050

No. 1 Vein Offset Portion - Two flat holes totalling 120 meters (400 feet)
@ $45/meter = $5,400

Rental of Compressor, purchase of air and water lines	= $2,000
Supervision and Consultation	= $1,500
Sampling and assaying	= $1,000
	$ 20,025
CONTINGENCY 15%	3,000
	$ 23,025

Detailed Drilling Program

Stage II

PROGRAM

Upon successful completion of the first ~~stage~~, this stage would involve more detailed drilling of all responsive structures and the drifting of the No. 3 vein structure at adit level. In addition to checking out the No. 3 vein values the drift will also serve as a later drilling site for depth probing of the No. 1 and No. 2 veins.

~~Say:~~

600 meters (2,000 feet) of detailed drilling @ $45/meter	= $27,000
Drifting of No. 3 vein 150 meters (500 feet) @ $650/meter	= $97,500
Sampling and supervision	= $ 3,500
Rentals	= $ 3,000
Consultation	= $ 2,500
Miscellaneous	= $ 3,500
	$137,000
CONTINGENCY 15%	20,500
	$157,500

Respectfully submitted,

WGH:jc

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