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REPORT

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ON THE

VILLALTA GOLD PROPERTY

Nanaimo Mining Division British Columbia

FOR

CANAMIN RESOURCES LTD.

ΒY

N.C. CARTER, PH.D. P.ENG. July 2,1986

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SUMMARY

The Villalta gold property of CanaMin Resources Ltd. is situated 30 road miles west of Nanaimo, British Columbia.

Limited diamond drilling data from the south end of an auriferous hematite zone indicates a mineral inventory of 30,000 - 35,000 tons grading 0.126 oz/ton gold. Average thickness is 24 feet and the zone is amenable to exploitation by surface mining methods.

Average gold grades indicated to date are considered to be marginally economic based on estimated capital and operating costs. Esults of one recently drilled hole suggest that higher gold grades may exist within the zone and a systematic program of fill-in diamond drilling is recommended to obtain a better estimate of average grade.

Bulk sampling and processing of the hematitic material would also assist in grade definition and in design of a suitable recovery system.

INTRODUCTION

CanaMin Resources Ltd. owns the Villalta gold property, comprised of 16 mineral claims and situated in the Nanaimo Mining Division of southern Vancouver Island. The property is north of Nanaimo River and 30 road miles west of the city of Nanaimo.

The writer was commissioned by CanaMin Resources Ltd. to oversee the drilling of two Winkie holes in a gold-bearing hematite zone in the southern part of the property. All cores recovered were submitted for assay.

Available data pertaining to previous exploratory work on this zone were also reviewed, with particular emphasis directed to the southern part of the zone which could be exploited by open pit mining.

Other mineralized zones are known on the extensive property holdings but comments on these are outside the scope of this report.

GEOLOGICAL SETTING

The southern part of the Villalta property is underlain by upper members of the Paleozoic Sicker Group. In the immediate area of the principal showing, isoclinally folded, northwest trending crinoidal limestones with interbedded cherts underlie a blanket-like hematite rich zone which locally exceeds 30 feet in thickness. This zone has has been variously interpreted as a

regolith or as a product of oxidation of sulfide-rich horizons within the underlying limestone sequence which are known to occur elsewhere on the property.

The generally flat-lying hematite horizon, recognized as being gold-bearing during initial work on the property, is partially capped by Cretaceous Nanaimo Group conglomerates which dip gently north (Figure 1).

DIAMOND DRILLING RESULTS

Two vertical Winkie holes (86-V-8,-9) were drilled to depths of 27 and 31 feet in the central part of the exposed hematite zone on June 16,1986. The locations of these and previously drilled holes in the immediate area are shown on Figure 1.

All cores recovered were submitted to Min-En Laboratories Ltd. for fire assay (Appendix I).

Drill Hole 86-V-8

This hole, drilled to a depth of 27 feet, was hampered by poor core recovery throughout. Eight samples, mainly 2 ft. core lengths, were collected from the 16 feet of core recovered and sample lengths are assumed to represent hole intervals of 3.3 to 3.5 feet unless otherwise noted in the following table. The last foot of core recovered was dense grey chert which marks the base of the hematite horizon.

Sample No.	Recovery	Core Length(ft.)	Hole Interval(ft.)	<u>Au (oz/ton)</u>
23455	60%	2	0 - 3.3	0.370
23456	64	2	3.3 - 6.8	0.100
23457	tt	2	6.8 - 10.1	0.318
23458	64	2	10.1 - 13.5	0.509
23459	11	2	13.5 - 16.9	0.414
23460	11	2	16.9 - 20.3	0.398
23461	11	3	20.3 - 25.4	0.061
23462	**	1	25.4 - 27.0	0.190

Weighted average grade is 0.290 oz/ton gold over a 27 ft. hole length, the best hole to date based on available data.

Drill Hole 86-V-9

This hole, 30 feet east of 86-V-8 (Figure 1), was drilled to a depth of 31 feet adjacent to previous hole 80-V-2. Core recoveries were reasonably good to a depth of 26 feet (87%) but the last 5 feet of hole yielded only 1 ft. of core. Like 86-V-8, the last section of hole intersected a cherty unit, in this case with a high pyrite content. 2.5 ft. lengths of core were collected as individual samples throughout much of the hole, each assumed to represent a hole interval or sample length of 2.8-3.0 feet as noted in the following table.

Sample No	Recovery	Core Length(ft.)	<pre>Hole Interval(ft.)</pre>	<u>Au (oz/ton</u>)
23463	87%	2.5	0 - 2.9	0.013
23464	87%	2.5	2.9 - 5.7	0.008
23465	н	2.5	5.7 - 8.6	0.008
23466	н	2.5	8.6 - 11.5	0.008
23467	н	2.5	11.5 - 14.4	0.018
23468	н	2.5	14.4 - 17.3	0.021
23469	11	2.5	17.3 - 20.1	0.037
23470	11	2.5	20.1 - 23.0	0.017
23471	11	2.5	23.0 - 26.0	0.055
23472	20%	5.0	26.0 - 31.0	0.272

Weighted average grade is 0.061 oz/ton gold over a 31 ft. hole length. This is perhaps unduly weighted by the last sample

which represents only 1 ft. of core from a 5 ft. hole interval. It is interesting to note that gold mineralization in this sample is associated with primary pyrite. Eliminating this sample, the average weighted grade over the first 26 feet is 0.021 oz/ton gold.

Previous Drilling Results

Good data is available for hole 80-V-2, an NQ-size vertical hole with good core recovery. As previously noted, this hole is adjacent to 86-V-9 (Figure 1).

<pre>Sample Interval(ft)</pre>	Au)oz/ton)
2 - 5	0.032
5 9	0.022
No Sample	- -
12 - 15.6	0.014
15.6- 18.0	0.044
18 - 20	0.158
20 - 25	0.122
25 - 29	0.026
29 - 32	0.008
32 - 34	0.532 (80% pyrite)
34 - 36	0.124
36 - 40.3	0.020

Results are similar to those obtained from 86-V-9. Weighted average grade is 0.073 oz/ton gold over a hole length of 38.3 ft, with the high grade (0.532) sample wighting the overall grade. Leaving this out, weighted grade would be 0.048 oz/ton gold. As for 86-V-9, highest grade was obtained from a pyritic horizon below the hematite zone.

The table below contains results for 1986 Winkie holes on the hematite zone. As noted, variable core lengths were sampled.

Hole Number	<u>Sample Interval(ft.</u>)	Au(oz/ton)
86-V-1	$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	0.031 0.068 0.079 0.117
2	Weighted average grade - 0.075	oz/ton/ 23 feet
86-V-2	2 - 6 6 - 19	0.330 0.141
	Weighted average grade - 0.175	oz/ton/ 18 feet
86-V-3	1 - 6	0.146
86-V-4	0 - 21	0.125
86-V-5	0 - 5 5 - 21.5	0.146 0.169
86-V-6	Weighted average grade - 0.164 0 - 19 19 - 34	oz/ton/ 21.5 feet 0.219 0.001(poor recovery)
	Weighted average grade - 0.123	oz/ton/ 34 feet
86-V-7	0 - 34	0.007(2 ft. core)

METALLURGICAL TESTING

Several tests run by Falconbridge Limited in 1985 on hematitic material included bottle roll and column leach tests which showed the material to be amenable to cyanide leaching. Gold recoveries of 78% and 65% were obtained on $-\frac{1}{2}$ " and -1" sized material respectively.

Bottle roll and column leach tests by Coastech Research Inc. showed an apparent free gold component in some of the hematitic material submitted by CanaMin. The presence of refractory sulfide mineralization resulted in a low gold recovery for some of the



FIGURE 1 - VILLALTA PROPERTY CANAMIN RESOURCES

samples submitted. Gravity concentration test work by Bacon, Donaldson and Associates Ltd. yielded poor results.

Best gold recovery rates, in the 80% range, were obtained by conventional milling/cyanidation bench tests by Lakefield Research. High cyanide consumptions were also indicated.

CONCLUSIONS AND RECOMMENDATIONS

Data available suggest that gold grades, with a few exceptions as noted previously, are relatively uniform throughout the area drilled to date. There is some suggestion that grades increase near the base of the hematite zone, but this is weighted by the presence of good grade material in pyritized chert and limestone immediately underlying the hematite zone.

Figure 1 shows weighted average gold grades over hole lengths in the southern part of the hematite zone. This part of the zone is situated on the south end of a ridge (see photographs) which should result in a low stripping ratio in any future surface mining operation.

Data as presented on Figure 1 suggests higher gold grades in the western and southern part of the zone. The weighted average of all grades shown is 0.126 oz/ton gold over an average thickness of 24 feet. 30,000 to 35,000 tons of mineralized material are indicated within the area drilled.

As noted previously, the hematite zone extends to the north and east of the area shown in Figure 1. Previous drilling indicates grades of less than 0.10 oz/ton gold over thicknesses

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of 10 - 35 feet beneath a 100 - 200 ft. capping of younger Nanaimo Group sediments.

Both the Kilborn Engineering (B.C.) Ltd. report and a recent internal CanaMin report estimate capital costs for a mining and milling facility in the \$313,000 - \$340,000 range. Operating costs are projected to be in the range of \$18 - \$33 per ton.

A reserve of 30,000 to 35,000 tons would be sufficient to maintain a 100 tpd operation for one year, but the indicated grade of 0.126 oz/ton gold is considered marginal at best. The results of drill hole 86-V-8 (0.29 oz/ton gold / 27 feet) suggest the presence of higher grades within the zone.

In the writer's opinion, there is not sufficient information available to provide a firm grade estimate and a program of additional diamond drilling is recommended. Systematic drilling of the zone at 25 ft. centres should provide a better definition of average grade and it is anticipated that a further 25 to 30 short holes totalling 1,000 feet would be required.

Bulk sampling and processing of several ton lots from the zone would also assist greatly in confirming overall grade and in the design of a suitable milling method.

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CERTIFICATE OF ASSAY

COMPANY:NICK CARTER PROJECT:VILLALTA ATTENTION: NICK CARTER

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FILE:6-376 DATE:JUNE 23/86 TYPE:ROCK ASSAY

He hereby certify the following results for sample submitted.

Sample	AU	AU	
Number	G/TONNE	OZ/TON	
23455	12.70	0.370	
23456	3.43	0.100	
23457	10.90	0.318	
23458	17.45	0.509	
23459	14.20	0.414	
23460	13.65	0,398	
23461	2.09	0.061	
23462	6.50	0.190	
23463	0.43	0.013	
23464	0.28	0,008	
23465	0.26	0,008	
23466	0.27	0.008	
23467	0.62	0.018	
23468	0.72	0.021	
23469	1.27	0.037	
23470	0.58	0.017	
23471	1.87	0.055	
23472	9.32	0.272	

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