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Gold Commissioner's Office VANCOUVER, B.C.

CARNIVAL RESOURCES LTD.

GEOLOGICAL ASSESSMENT REPORT

on the

GLOVER 13 CLAIM

Greenwood M.D.

N.T.S. 82E/1W GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORT

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July 14, 1998 Vancouver, B.C.

Geological Assessment Report

on the

Glover 13 Claim

for

Carnival Resources Ltd.

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Assay Certificates

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Introduction

Between June 1, 1998 and June 4, 1998, the writer completed a localized mapping and sampling program on a massive sulphide zone occurring on the Glover 13 claim of the Glover Claim Group. The Glover 13 claim covers the same ground as the former HEK claim which was extensively explored without much success of establishing a mineral zone of any continuity on which mineral reserves could be delineated.

The purpose of the current mapping and sampling programs was to focus on the surface expression of the Main Zone massive sulphide which, when correlated with the former exploration results may provide valuable information as to the mineral controlling geological features of the massive sulphide zone. This information may be subsequently applied to the the two other massive sulphide zones, the Glover Creek zone and the Eastern Zone, to facilitate the answer to, what appears to be, a stuctural problem. This report will focus on the 1998 geological mapping and sampling program; the correlation of these results with former exploration results to be covered under a separate report.

Information for this report was obtained from sources as cited under the Selected Reference section of this report and from periodic work the writer completed since 1980 on the Hek and Glover Claim Group which included the data acquired from the supervision and management of exploration programs.

Summary

The Glover claim group, comprised of three claims, the Glover 1, Glover II and Glover 13, is located within the northern extension of the Republic Graben which hosts a number of producing gold mines including one of the leading gold producers of the United States, the Knob Hill mine of northern Washington.

The Glover claim group includes the former Hek claim (presently the Glover 13 mineral claim) on which ground original exploration was carried out from 1901 to the most recent, in 1995. As a result of the exploration completed on the Glover claim group ground, three mineralized zones over a strike length of 400 metres have been delineated.

Summary (cont'd)

The three zones are offset from each other by faults and consist of gold-bearing massive sulphides in addition to gold bearing skarn zones. Diamond drill testing of the zones has resulted in the intersection of massive sulfide mineral zones assaying up to 0.794 ounces gold per ton over a 1.2 metre section and a skarn zone assaying 0.09 ounces gold per ton over a 10.3 metre section. Diamond drill results have also indicated limited depth extent to the mineralization and limited tonnage potential due to the number and complexity of the dykes and faults which intersect the mineral zones.

A 1995 magnetometer survey over the northern portion of the Glover 13 mineral claim, in part adjacent to and northeast of the three known mineral zones, has indicated 18 mag anomalies of which up to six are located along a magnetic linear indicative of favourable geology for gold mineralization. In addition, a series of old pits may correlate with the magnetic highs.

The 1998 geological mapping and sampling program on the Main Zone, one of three mineral zones located on the Hek 13 claim, resulted in the delineation of a 121 metre mineral zone of an indeterminable width, but more than three metres. The zone was traced by three outcrops along its strike with the massive sulfide content and the intensity of skarning decreasing eastward. A three metre sample from the westernmost outcrop, designated as A, assayed 0.238 oz/t Au.

Property

The property is comprised of three contiguously located grid-unit claims totaling 29 units. Particulars are as follows:

Claim Name	Units	Tenure No.	Expiry Date
Glover I	· 4	300170	June 13, 1999
Glover 11	16	307457	February 6, 1999
Glover 13	9	314726	November 18, 1998

Any legal aspects pertaining to the claims of the Glover Claim Group are beyond the scope of this report.

Location and Access

The Glover Claim Group is located in the southern interior of British Columbia, 20 kilometres north of Grand Forks and adjacent and west of the Granby River.

Access is provided by a paved highway with the last two kilometres by an all-weather gravelled road directly to the claim group.

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Water and Power

Sufficient water for all phases of the exploration program would be available from the southerly flowing tributaries of Pass Creek which bisects the property. Commercial power might be available from power lines which are located along the southeast corner of the property.

Physiography and Climate

The property lies within the Christina Range of the Monashee Mountains which is characterized by moderate to steep forest sloped mountains to elevations of 1,950 meters. Elevations on the property range between 1200 and 600 metres. The general climate of the area is of arid summers with moderate winters which would provide a surface exploration season of up to 10 months of the year.

History

The history of the area stems from placer deposits discovered along Rock Creek and Boundary Creek west of Grand Forks in the early 1850's.

In 1890 gold-copper deposits were discovered at Rossland, 55 km east of Grand Forks stimulating prospecting throughout the area. The following year, large low grade copper deposits were discovered near Phoenix, 13 km northeast of Grand Forks. The Phoenix district produced about 15 million tons of ore averaging slightly over 1.5% copper with significant gold and silver values. The Phoenix mine ceased operations in 1919 but was later reopened and in production to 1978.

Some of the original exploration in the immediate area of the Glover claim group was on the Pathfinder, located one km east of the Glover claim group and bordering the east side of the Granby River. An 1895 publication on the exploration of the Pathfinder states that:

"...stripped the ledge for 500 feet in length, and in one spot for 25 feet in width, and it appears to be 100 feet wide. They have made a number of cuts and sunk shafts from ten to twenty feet. They have assays of \$51 gold and 2.5 per cent copper, and have had as high as 23 per cent copper."

In 1920, "1,250 tons of ore being shipped assaying 0.43 oz Au/ton and 3.93 Ag/ton". Exploration has continued on the Pathfinder from 1983 to and including 1987. During this period diamond drilling results included intersections of:

<u>Year</u>	Mineralization Len	<u>gth</u>	4	Assay	
	(feet)		<u>oz Au/ton</u> <u>oz Ag/</u>	ton <u>%Cu</u>	
1985	Massive sulphide	5.0	0.133	0.57	1.18
	Massive sulphide	2.0	0 566	0.40	0.61
1983	Silicified tuff	41.0	0.021		
	including	14.7	0.042		
	Meta-Dacitic tuff	12.2	0.120		
	Dacitic tuff	2.4	1.400		
		0.2	0.128		
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History (cont'd)

On the adjacent Golden Eagle claim, exploration is first mentioned in 1899 and by 1925 development consisted of "a shaft 125 deep, a crosscut tunnel 383 feet long, drifting 363 feet, as well as stoping." Shipments totaled 1,057 tons returning 238 oz Au and 2,235 oz Ag or averaging 0.225 oz Au/ton and 2.11 oz Ag/ton.

On Carnival's Glover claim group (includes the former Hek claim), exploration has been intermittently carried out since 1901. In 1939 production from the Hek (Simpson Mine) was 364 tons of ore from which 2,593 ounces of gold and 90 ounces of silver were extracted. The Simpson is one of the few zones known on the property.

Diamond drilling during the 1970's on a mineral zone southeast of the Simpson Mine returned values ranging from "75 feet of 0.07 oz Au/ton to 26 feet of 0.20 oz Au/ton". Diamond drilling by Consolidated Boundary Explorations Ltd. in 1986 intersected zones of volcanogenic stratified massive sulphide mineralization within a tuffaceous volcanic rock.

In 1986, Noranda Exploration optioned the Hek property from Consolidated Boundary and completed two phases of an exploration program. The first phase consisted of magnetometer, induced polarization, soil, geochemical and geological mapping surveys completed in 1987. Reported results indicated gold mineralization to be associated with massive sulphides within highly altered meta-volcanic and sediments close to a large syenite intrusive body. The gold bearing zones are believed to be offset from one another by northeast striking faults. An IP survey delineated a number of anomalies which appear to have traced the offset intrusive/ volcano-sedimentary contact for some 800 meters on the property.

The second phase of Noranda's exploration program, was completed in 1988 and was comprised of a seven diamond drill hole program. The results indicated that the mineralized zone may be comprised of two massive sulphide zones, as in DDH-HK-88-1 or predominantly a skarned zone as in DDH-HK-88-5. For a complete drill-hole analysis of results, the reader is referred to the detailed report by Gill (1988).

In 1995, 18 kilometres of grid were established over the northern half of the Glover 13 mineral claim whereupon a magnetometer survey, sampling and prospecting was completed by John Kemp of Grand Forks. In a 1995 report on the results of the magnetometer survey, J.M. Thornton, P.Geo. states that of the 18 anomalies, five or six small features lie along or near one magnetic linear in the eastern half of the survey. All anomalies exhibit less than a 40 metre strike length and are considered to arise from thin discontinuous veinlets/fracture fillings of pyrite/pyrrhotite mineralization. Thornton also states that as better gold mineralization is reported to lie on metasedimentary/syenite contacts, the series of anomalies striking N/S at 700E on the grid provide a target for detailed examination.

Geology

The regional geology is described by J. Paxton, P.Eng. in a report on the former Glory claim which was located within four kilometres south-southwest of the Glover claims and adjacent to the east side of Granby River and the major Granby River Fault structure.

The geology is summarized as follows:

A major structure - The Granby River Fault - trends northerly through the property and separates the pre-Pennsylvanian Grand Forks Metamorphic Complex to the east from the Pennsylvanian to Tertiary rocks to the west. The Grand Forks Group are almost completely void of metallic mineral deposits. Pennsylvanian Permean rocks host a number of massive sulphide deposits plus numerous small shear zone polymetallic sulphide lenses. Where rocks have been intruded by later igneous plutons, precious metal quartz veins have developed as well as small skarn type deposits. Numerous small mines in the area such as the Dentonia, Lexington, Providence and Winnipeg are of this type.

The Triassic sequence of conglomerates and bedded limestone are host to the major ore deposits of the area. The chalcopyrite gold hematite ore deposits of the Phoenix, B.C., Motherlode, Sunset and Oro Denora all belong to this group.

On the Glover claim group, Gill (1988), reports on the geological exploration completed by Noranda of the Hek claim group which is summarized by the writer as follows.

Unit 1 consists of rocks of the Paleozoic-Triassic volcano-sedimentary Knobhill assemblage and is comprised of four categories: fine-grained, siliceous meta-andesite and andesite conglomerates (unit 1a); hornfelsed siltstones, fine-grained to medium-grained quartzites and fine-grained quartz-feldspar-biotite gneisses (units 1b, 1c and 1d).

Unit 2 consists of various phases of the Jurassic Nelson intrusive whereas unit 3 and unit 4 comprises the comagmatic Coryell intrusive which underlies most of central portion of the Hek grid.

Units 6, 7 and 8 are a host of Tertiary dyke rocks and are the last intrusive phase represented in the grid area. These dykes intrude all rock types with the latite and trachyte dykes predominating. The orientation pattern of the dyke rocks is generally northeast-southwest and northwest-southeast.

Alteration

The predominant alteration, as indicated from the drill hole intersections, is of skarned andesites and hornfelsed sediments of the Knobhill group in association with semi-massive to massive zones of pyrite/pyrrhotite containing gold. In the andesites the skarn may be represented by variable degrees of siliceous, green, white andesite skarn associated with variable degrees of massive sulphides. The skarns may also exhibit moderate to intense biotite, varying degrees of calc-silicate and garnet alteration



Structure

A major structural break, the Granby River Fault, trends northerly, correlates in part with the Granby River and is within one kilometre east of the eastern border of the Glover claim group. The Fault, which extends northward from Washington, also forms the eastern edge of the Republic Graben, a major structural block which hosts many productive mineral zones including the Knob Hill Gold Mine of northern Washington, one of the leading gold producers of the United States.

On the Glover claim group, northeast linear trends of magnetic lows, representing probable fault zones, have offset the sulfide zones at least twice in a south-southwest direction.

Mineralization

According to Gill (1988), mineralization on the Hek property is concentrated to the irregular contact zone between the Coryell syenite intrusive and the Knobhill volcano-sedimentary package. There are two distinct mineralized zones exposed on the property as indicated on the accompanying Figure 3. The Main Zone is located between 100+30E and 101+60E at approximately 100+55N with the Eastern Zone located between 101+90E and 102+70E at 99+75N. Both the zones consist of semi-massive to massive pyrite and pyrrhotite and occur in highly epidote and biotite altered greenstones and sediments. These sulfide zones trend east-west and dip moderately to the north, not unlike the attitude of the Knobhill rocks.

A third mineralized zone, designated as the Glover Creek Zone, and as indicated from previous drill results, is located at depth on Line 98+50E, 101+35N. This Zone is also hosted within hornfelsed sediments and altered greenstones in close proximity to the Coryell syenite intrusive. Gill (1988) has calculated this Zone with an approximate attitude of 098/57N and oriented at 092/51N.

Gill (1985), reports that the three zones are separated by pronounced structural breaks and are offset from one another in an en echelon fashion. However, no evidence exists in the field to explain these breaks although the dominant northeast-southwest trend of the dyke swarm may in fact represent underlying structures. These fault zones can be traced along linear trends of magnetic lows. The Tertiary dykes are also reported to parallel these magnetic lows.

The 1988 Noranda drill hole intersections have indicated mineral values in association with both massive sulfides and skarns. In DDH-HK-88-1 a 1.2 metre section of massive sulfide contains 0.794 opt Au whereas in DDH-HK-88-5 a 10.3 metre section of andesite skarn contains 0.09 opt Au. Gill (1988) concludes that although assays taken from drill core indicate that some fairly respectable gold grades exist in these zones, it is also apparent that the mineralization has limited depth extent as seen in DDH-HK-88-2, 4 and 7.

1998 Geological Survey

The 1998 geological mapping and sampling was localized to the Main Zone located on the Glover 13 claim of the Glover claim group. This zone, as described in the Mineralization section of this report, consists of semi-massive to massive pyrite and pyrrhotite and occurs in highly epidote and biotite altered greenstones and sediments. These sulfide zones trend east-west and dip moderately to the north, not unlike the attitude of the Knobhill rocks.

The Main Zone is exposed by three main outcrops along a strike length of 121 metres. These outcrops were designated as A, B, and C with B located between A and C and 85 metres from A. The strike of the zone is approximately east-west with a deviation of about 10°. The three outcroppings appear to be one continuous zone, however, with the known en-echelon occurrences of the massive sulphide zones, the zone may possibly be of an en-echelon nature or of faulted segments.



Figure 4. Main Zone geology, sample location and results from 1998 geological survey.

All three outcrops disclose massive sulfides to varying degrees. Outcrop A is composed of up to 50% sulphides hosted by an intensely skarned volcanic. Dominant fractures are at 093°, the indicated strike of the zone. A three metre wide sample (84155) assayed 8520 ppb Au or 0.238 oz/t Au. The width of the mineralized zone is open.

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1998 Geological Survey (cont'd)

Outcrop B, 85 metres to the east, contains up to 15% massive sulfides in a moderately skarned volcanic. Localized, relatively fresh pulaskite and syenite occur within the skarned zone. Two samples, 84156 and 84157 were taken from this outcrop. Sample 84156, a chip sample across a width of 1.5 metres assayed 5500 ppb Au, or 0.156 oz/t Au. Sample 84157, which was a grab from a 90% massive sulfide pocket, assayed 1500 ppb Au, or 0.04 oz/t Au. The width of the mineralized zone is open along its width.

Outcrop C, 36 metres to the east is a lightly skarned volcanic with occasional pockets or disseminations of sulfides. Fresh syenite predominates. Sample 84158, a chip sample over a width of 1.3 metres, assayed 375 ppb Au or 0.01 oz/t Au.

Conclusions

The Main Zone is erratic in sulfide content and is diluted by post mineral(?) syenite intusions which results in erratic gold values. However, the dimensions of the zone could be significant as it has been traced for 121 metres along strike, open to the south, and with undefined width. The outcropping skarn is discoloured to an increasing degree of gossan brown in a ratio of increasing sulfide content. If the dark brown revealed in the overburden or scree adjacent to the mineralized outcrop, is an indication of bedrock mineralization, then the mineralized zone may be up to 25 metres wide.

Although the surface sampling disclosed a significant massive sulfide zone, the conclusions derived by Gill (1988), are that the mineralization has limited depth extent. The Noranda drill-hole (DDH-HK-88-3) which tested the Main Zone mineralization to depth did in fact indicate an intersected seven metre wide skarn zone with the highest value being 0.101 oz/t Au over 0.70 metres.

It is interesting to note that the gold values obtained from the Glover Zone drill holes, where surface gold values are much weaker than at the Main Zone, returned values of up to 0.794 oz/t Au over 1.25 metres at a depth of approximately 50 metres below surface. The potential thus exists for economic values of gold occurring within plunging mineral zones controlled by intersecting structures. The plunge of the mineral zones could be calculated from the strike and dip of the two structures. Upon the plunge determination, drill holes can be spotted with a higher degree of confidence to intersect the mineral zones.

Recommendations

It is recommended that all the exploration result data be analyzed to determine the potential for economic mineralized zones occurring along the trace of intersecting structures. This study should be complemented with field work which would involve surface sampling to locate the surface exposures of potentially economic zones which may be delineated by diamond drilling and developed to depth.

> Respectfully submitted Sookochoff Consultants Inc.

Laurence Sookochoff, P.Eng.

July 14, 1998 Vancouver B.C.

Glover 13 Claim Statement of Costs

The field work on the Glover 13 Claim was carried out between June 1, 1998 and June 5, 1998 to the value as follows:

L. Sookochoff, P.Eng.	
2 man days @ \$500.	\$ 1,000.00
Car rental:	
2 days @ \$40.00 plus gas & km	142.50
Room & board:	
2 man days @ \$100.00	300.00
Assays	82.65
Results & maps compilation	350.00
Report, xerox, & printing	750.00
	\$ 2,625.15

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- McNAUGHTON Greenwood Phoenix Area, British Columbia, G.S.C. Paper 45-20 Canada Dept. of Mines, Ottawa, 1945.
- GILL, G. et al 1988 Report on Field Activities on the Hek Claim Group. Noranda Exploration Company, Limited. May, 1988

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McNAUGHTON, D.A. - 1945 - Greenwood-Phoenix Area, B.C. G.S.C. Paper 45-20 Map Scale - 1 inch to 800 feet.

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SOOKOCHOFF, L. - Geological Report on the Hek and Hel claims for Aries Resources Ltd., February 25, 1980.

> - 1984 Assessment Report on the Hek Claim Group for Consolidated Boundary Explorations Ltd., January 25, 1985. Assessment Report 13,546.

- 1986 Assessment Diamond Drilling Program on the Hek Claim Group for Consolidated Boundary Explorations Ltd. and Grand Forks Mines Ltd. January 26, 1987. AR 16,066.

Certificate

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and principal of Sookochoff Consultants Inc. with offices at Suite 1027, The Standard Building, 510 West Hastings Street, Vancouver, BC V6B 1L8.

I, Laurence Sookochoff, further certify that:

 I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.

2) I have been practicing my profession for the past thirty-two years.

3) I am registered and in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.

4) The information for this report is based on information as itemized in the Selected Reference section of this report and from work the writer has completed on the Glover (Hek) property since 1980.

5) I do not have any direct or indirect interest in the property described herein nor any interest in the securities of Carnival Resources Ltd.



Laurence Sookochoff, P. Eng.

Vancouver, BC July 14, 1998

Appendix I

ASSAY CERTIFICATE

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ACME AN ACA	NALYTICAL LAN 50 9002 Accre	BORATORIES LTD. edited Co.) <u>Sookochoff C</u> 1027 -	852 E. HASTINGS ST. VANCOUVER BC V GEOCHEMICAL ANALYSIS CERTIF ONBULTANTS INC. PROJECT CARNIV 510 W. Hastings St. Vancouver BC V68 1L8 Submit	76A 1R6 PHONE(640)253-3158 FAX(604)253-17 'ICATE <u>7AL</u> File # 9802074 ted by: L. Sookochoff	16 A
SAMPLE#	Mo Cu Pb	Zn Ag Ní Co Mn Mag mag mag mag	Fe As U Au Th Sr Cd Sb Bi V % ppm ppm ppm ppm ppm ppm ppm ppm	Ca P La Cr Mg Ba Ti B Al Na K W % % ppm ppm % ppm % ppm % % % ppm	Au* ppb
A 84155 A 84156 A 84157 A 84158 RE A 84158	7 1952 47 4 388 33 3 1697 15 5 173 20 5 174 17	188 21.8 15 43 620 1 91 16.1 5 5 489 62 10.8 21 22 376 2 93 2.6 3 6 396 95 2.6 3 6 397	15.25 143 <8	.20 .075 1 39 1.44 39 .01 <3	520 500 500 358 375

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 1-1-1 HCL-HN03-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB - SAMPLE TYPE: ROCK AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM) Samples beginning 'RE' are Refuns and 'RRE' are Reject Refuns.

DATE REPORT MAILED: DATE RECEIVED: JUN 8 1998