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BACKGROUND NOTES -- LADNER CREEK GOLD MINE

Location: 25 km. N.W. of Hope, S. British Columbia

Ownership:

Carolyn Mines Ltd.	50.00%
Aquarius Group:	
Ocelot Industries Ltd.	22.50%
Columbian Northland Exploration Ltd.	17.55%
Aquarius Resources Ltd.	5.00%
Windjammer Power & Gas Ltd.	4.95%
	<u>100.00%</u>

Operator: Carolyn Mines Ltd.

Through Ladner Creek Joint Venture Management Committee consisting of 4 Aquarius Group members and 3 Carolyn members.

Historical:

- 1978 Joint Venture formed. Feasibility undertaken by Kilborn Engineering.
- 1979 (Fall) Production Commitment - Aquarius Group to fund construction and development to \$20MM.
- 1981 (April) As a result of cost overruns, Wright Engineering undertook a re-feasibility and all joint venture partners agreed to fund overruns (\$26MM) pro-rata.
- 1981 (Nov.) Mill start-up.
- 1982 (Apr.) Mill shut-down for environmental reasons.
- 1982 (June) Mill re-start--fine tuning to increase recoveries (continuing to date).
- 1982 (July) "Commencement of Production" reached.
- 1982 (Nov.) First month of profitable operations.

Investment:

<u>Amount</u> (MM\$) (Approx.)	<u>Exploration & Feasibility</u>	<u>Construction & Development</u>		
		<u>Initial</u>	<u>Overruns</u>	<u>Total</u>
Carolin	2.62	--	13.00	13.00
Ocelot	}	9.00	5.86	14.86
Columbian		7.02	4.56	11.58
Aquarius		2.00	1.30	3.30
Windjammer		<u>1.98</u>	<u>1.28</u>	<u>3.26</u>
	3.54	20.00	26.00	46.00

Source

Carolin	--	Mercantile Bank & State Farm Debenture
Ocelot	--	The Royal Bank of Canada
Columbian	--	Private
Aquarius	--	The Royal Bank of Canada (Loan guaranteed by Ocelot, Columbian, Windjammer)
Windjammer	--	Toronto Dominion Bank

Payout: (MM\$)

	<u>Carolin</u>	<u>Ocelot</u>	<u>Columbian</u>	<u>Aquarius</u>	<u>Windjammer</u>	<u>Total (Approx.)</u>
Priority	13.00	5.86	4.56	1.30	1.28	26.00
First (a)	2.62					2.62
(b)		9.41	7.34	2.09	2.07	20.92
Second	<u>7.86</u>	<u>7.05</u>	<u>5.50</u>	<u>1.56</u>	<u>1.55</u>	<u>23.52</u>
	23.38	22.32	17.40	4.95	4.90	73.05

Third and future % of cash flow as follows:

<u>Carolin</u>	<u>Ocelot</u>	<u>Columbian</u>	<u>Aquarius</u>	<u>Windjammer</u>
50.00%	22.50%	17.55%	5.00%	4.95%

Technical:

Ore Reserves:

In place diluted:

Proven @ 0.08 cutoff	906,000 tons @ 0.135 oz./t.
Proven @ 0.05 cutoff	429,000 tons @ 0.100 oz./t.
Drill indicated @ 0.05 cutoff	<u>366,900 tons @ 0.106 oz./t.</u>
Total	1,702,500 tons @ 0.117 oz./t.

Mining Method:

Adit accessed longhole blasting. Trackless mining with tracked main haulage tramming.

Milling:

Type: Flotation, cyanide leach, Merrill-Crowe precipitation.

Capacity: 1,500 tpd (overdesign gives 1,800 tpd capability with 5% downtime).

Recovery: 83% (design). At start-up, recovery was only 20-30%. This has increased to 70% and is increasing monthly.

Tailings: Existing dam has 5 year capacity: Dam height increase and backfill sand cycloned tails will increase capacity to 10 years.

Operating Costs: Approximately \$1MM/month or ranging between \$22 - \$18 per ton according to mill throughput (1,500 tpd or 1,800 tpd).

Estimated Gold Production:

Mineable ozs.: 199,161

Mill Recoverable ozs.: 165,303

At 1,500 tpd, reserves will provide 38 months of production averaging 4350 ozs. per month or 145 ozs. per day.

At 1,800 tpd, reserves will provide 32 months of production averaging 5,220 ozs. per month or 174 ozs. per day.

POTENTIAL:

To date, little attempt has been made to increase ore reserves and since only a minimal amount of drilling has been completed peripheral to the ore body there is considerable potential for adding to the existing reserves. The present ore configuration is viewed as two, an echelon fault separated, northerly plunging bodies each having a three dimensional aspect not dissimilar to that of a pear. There are no known geological reasons why additional ore zones will not be present down plunge from the existing ore body. No consistent diamond drilling programme has been followed since production start-up. The minor amount of drilling which has been completed has added approximately 100,000 tons of reserves in satellitic pockets to the main ore zones. A programme of continuing exploration and development has been scheduled to maintain a two year reserve inventory.

AGREEMENT:

The Joint Venture is covered by an Agreement dated the 18th of July, 1978. An Operating Agreement is attached as a Schedule to the Agreement which amongst other things details the Disposal of Production and each partners' Right to Take in Kind.

An Amendment Agreement was signed dated the 1st of June, 1981 which redefined the payout schedule in respect of additional capital requirements to cover construction overruns.

Ocelot, Columbian and Windjammer signed an Agreement with Aquarius known as the Representative Agreement whereby each party undertook to guarantee a production loan to Aquarius to cover the Aquarius portion of the mine capital costs.

GENERAL COMMENTS:

The Ladner Creek Mine is the largest gold mine in Western Canada. It mines a relatively low grade ore by low cost bulk tonnage mining methods. A flotation concentrate is produced and subsequently leached with cyanide. Gold is precipitated from the leach solution by a Merrill-Crowe system and the precipitate is batch smelted in a conventional oil-fired furnace to produce Dore bars. The bars are shipped to Ottawa for further refining by the Mint.

Construction delays resulted in mine start-up beginning in the middle of winter and, due to its severity, an environmental problem developed. As a result, operations were suspended for a 10 week period. The environmental problem has been corrected by the construction of a secondary water treatment plant to process mill effluent water and by increasing the capacity of the mine tailings pond which was accomplished by raising the height of the tailings dam to 117 feet. There will be no need for further additions to the dam for five (5) years and, by incurring additional capital costs now, future cash flows will be enhanced.

Since the mine is one of Canada's newest gold mines to come on stream and is located in an accessible area of British Columbia, it has come under close environmental scrutiny. This has resulted in strict environmental controls being imposed, which, hitherto, have never been required in other gold mines. Consequently, production delays, low recoveries and cost overruns have been experienced, however, through persistent effort these problems have largely been overcome. During the month of November, recoveries have risen dramatically from 30% to over 70%. Continued gradual improvement in recoveries is anticipated and mill throughput will be increased to design levels now that losses are being minimized.

December 2, 1982

A handwritten signature in black ink, appearing to read 'J. E. Gunton', written in a cursive style.

J. E. Gunton, Manager,
Mineral Exploration and Mining.