681317 93 # H Lightning Creek

CHANNEL GOLD RESOURCES LTD. (N.P.L.)

# REPORT ON PLACER LEASES NOS. 6685 & 6707 SITUATED AT WINGDAM ON LIGHTNING CREEK, CARIBOO MINING DIVISION BRITISH COLUMBIA

By: Andrew E. Nevin, Ph.D., P.Eng. Consulting Geological Engineer.

August 18, 1975.

# SPECTROAIR EXPLORATIONS LIMITED (NON-PERSONAL LIABILITY)

# NOTES TO FINANCIAL STATEMENTS AS AT JULY 31, 1975 (Unaudited)

#### 6. SUBSEQUENT EVENTS

- 1. On August 18, 1975, the Company changed its name to Channel Gold Resources Corp. (N.P.L.)
- 2. On August 18, 1975, the Company consolidated its authorized and issued share capital on a one new share for five old shares basis so that the authorized share capital consisted of 1,680,000 shares without par value, of which 805,046 3/5ths shares will be issued and outstanding.
- 3. On August 18, 1975, the Company's authorized share capital was increased from the consolidated 1,680,000 shares in 2. above to 5,000,000 shares without par value.

# NEVIN SADLIER-BROWN GOODBRAND LTD.

CONSULTING GEOLOGISTS

5TH FLOOR - 134 ABBOTT ST.

VANCOUVER , B. C. CANADA. V6B 2K4

(604) 683-8271

August 20, 1975.

Mr.J. MacNeill Channel Gold Resources Ltd. 518 - 510 West Hastings Street Vancouver, B.C.

Dear Sir,

With reference to our report on Channel Gold Resources Ltd. Placer Leases Nos.6685 & 6707 - Wingdam on Lightning Creek, Cariboo Mining Division dated August 18, 1975, this letter authorizes you to submit that report to the Vancouver Stock Exchange, the B.C. Securities Commission, and to make other use of it as you see fit.

Very truly yours,

NEVIN SADLIER-BROWN GOODBRAND LTD.

Andrew E. Nevin.

AEN/jrt.

# CONTENTS

1.0.	SYNOPS	IS.,	Page 1 & 2
2.0.	INTRODU	" 2,3 & 4	
	2.1.	Property	
	2.2.	Terms Of Reference	
	2.3.	Geography and Hydrology	
3.0.	HISTOR	Ý.,	" 4 & 5.
	3.1.	Early Mining and Past Production	
	3.2.	Recent Exploration	
4.0.	GEOLOGY	Y	. " 5
5.0.	INDICA	red values	" 5 & 6.
6.0.	SUMMARY	COMMENTS	" 6 & 7.
Appendi	ix 'A'	- CERTIFICATE.	
Drawing	g 1.	- Location and Plan (Following Page 2)	
Drawing	g 2.	- Geologic Section (A) and Proposed Mining Method (Following Page 5).	

#### 1.0. SYNOPSIS

The rich placer gold deposits in the Cariboo of B.C. discovered in 1860 have had a major influence on the development of mining in the west and it is probable that much more gold remains in the ground than was ever taken out. Most of the gold recovered (\$51-million between 1860 and 1962) was from surface and shallow deposits. Some of the deep-channel deposits, even though recognized, could not be mined for technical and economic reasons.

The long history of attempts, successes, partial successes, and failures to win the deep placer golds in the part of Lightning Creek covered by the subject leases is well documented. Judging from these records it appears that most of the difficulties and failures resulted from the technical inability to control water and muds accompanying or lying near the gold bearing strata Recent studies by engineering consultants provide projections of the potentials of the properties and suggest that by use of modern technology the reserves could be accurately measured and efficiently recovered.

Engineering studies indicate that freezing techniques as used successfully in tunnel and shaft projects in recent years can be applied to the gold bearing strata to enable recovery of the gold.

Past drilling and observations by mining engineers indicate that the deep channel of Lightning Creek at Wingdam contains high-grade, gold-bearing strata with economic widths and mining heights, Channel Gold Resources Ltd. proposes to test these strata to doubly confirm the recorded high grades and the physical characteristics for freezing and mining, the objective being to mine and recover the gold indicated.

This deep channel has been identified and partially drilled on a series of sections. Former operators obtained some production from one area. Drill results and records from a 600-foot section, which includes the former openings, indicate the probability of 15,000 oz. of available gold in this 600-foot section. Widely spaced drilling indicates that another 1,500-foot part of the leases may have more than 22,000 oz. of gold available.

We recommend that Channel Gold Resources Ltd. carry out an exploration programme in two phases as follows:-

#### Phase I

Drill five large diameter holes to 180' in order to

- reconfirm deep channel location
- establish grade and thickness of zone
- test for water flows and pressures
- test for freezing characteristics

Estimated/

Estimated cost Phase I - Drilling @ \$15/ft. - \$ 13,500

Test and lab work 15,000

Assaying 2,000

Transportation,
engineering, reporting 4,500

Total Phase I - \$ 35,000

# Phase II (contingent on Phase I results)

Drill remainder of leases especially 1,500-foot section at west end, at regular intervals.

Drilling, 4375' in 25 holes @ \$10 per foot - \$ 43,750.

Test and lab.work, supervision 4,000

Engineering and reporting 8,000

Transportation, camp costs 4,250

Total Phase II - \$ 60,000

If the exploration results warrant, <u>Phase III</u>, the detailed cost and feasibility studies for production would follow. Magnitude of the operation, location and design of production shafts and mine plant would be determined in this Phase. The estimated cost of Phase III is \$25,000.

Preliminary feasibility studies have indicated that a 600-foot length of "reasonably proven" channel could be frozen and mined at a cost of \$1,120,000, plus washing cost, to recover gold worth \$2,250,000.

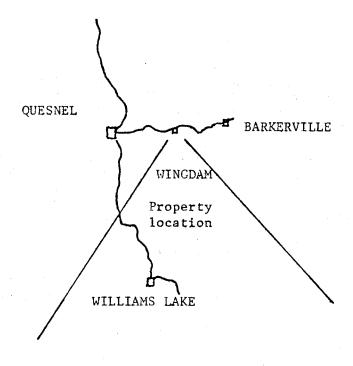
The scale, location and feasibility of production cannot be precisely determined until the results of Phases I, II, and III are compiled. If a profitable operation can be obtained on a short length of the property, the technique and operation could probably be extended to greater lengths on the property still to be tested. Phase IV would consist of shaft sinking, freezing, and production.

#### 2.O. INTRODUCTION

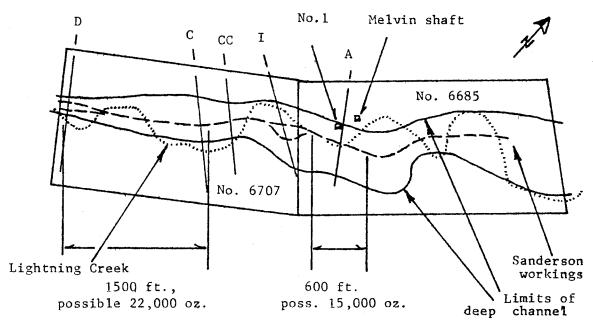
#### 2.1. Property

The placer leases subject of this report are Nos.6685 and 6707, located at Wingdam, on Lightning Creek, in the Cariboo country of British Columbia. Wingdam is situated about halfway between Quesnel and Barkerville. Access is by gravel road.

2.2./



Drill hole sections



0 1000 ft.

Data summarized from sources li

DRAWING 1.- LOCATION AND PLAN

14 August 20175

#### 2.2. Terms Of Reference

This report is prepared at the request of Channel Gold Resources Ltd. (N.P.L.) the successor Company to Spectroair Exploration Ltd. (N.P.L.). Channel Gold Resources has optioned the subject leases from Oriana Developments Ltd., giving Channel the right to earn a 72% interest in the property in return for conducting the exploration and test programs and bringing this property into production. Oriana retains the right to participate in the capital costs to a further 10% which if exercised would reduce Channels interest to 62%. Full descriptions of the history and prior technical records of the property have been summarized by Dolmage Mason and Stewart Ltd., Geological and Mining Engineers, and by Bacon and Crowhurst Ltd., Consulting A preliminary feasibility study of freezing and mining has been prepared by Weir-Jones Engineering Consultants The concept and cost estimates have been reviewed and approved by R.J. MacNeill, P.Eng., Geological Consultant.

This report is a summary of the data on the property, in particular the following records:-

- Report of January 25, 1975 by J.J. Crowhurst, P.Eng., to President of Oriana Developments Ltd. (This report lists prior acknowledgements).
- Preliminary feasibility study of April 24, 1975 by Weir-Jones Engineering Consultants Ltd. to E.E. Mason, P.Eng.
- Report of April 29, 1975 by E.E. Mason, P.Eng., of Dolmage Mason & Stewart Ltd., Geological and Mining Engineers, authorized by J.J. Crowhurst, P.Eng., of Bacon & Crowhurst Ltd.
- 4. Report of May 15, 1975 by J.J. Crowhurst, P.Eng., to President of Oriana Developments Ltd.
- 5. Personal communications with R.J. MacNeill, P.Eng., Mining and Geological Consultant.

#### 2.3. Geography and Hydrology.

In the area of the two placer leases the floor of Lightning Creek is 200 to 600 feet in width, and is surrounded by rolling, tree-covered hills. The elevation of the valley bottom ranges from 3030 feet to 3075 feet.

The climate is typical of most of the Cariboo. It is possible to work through December. Spring break-up usually occurs in April and carries on into June.

The flow of Lightning Creek has been measured at about 1700 cu.ft./sec., but this can be expected to range from 100/

100 cfs. during the fall and winter to as much as 4000 cfs. during the spring break-up.

#### 3.0. HISTORY

#### 3.1. Early Mining and Past Production

The Lightning Creek placer deposits were discovered in July of 1861. The first three days following discovery, one party recovered 1700 ozs.

In 1864 the claims on Lightning Creek were abandoned owing to difficulties created by the flowing slum beds (water-saturated mud and silt beds) above the pay streak. Production resumed in 1870 by several small companies which mined along five miles of the creek. In 1875, production by these companies was more than \$500,000, twice as much as the rest of the entire Cariboo.

In subsequent years mining was intermittent and generally unsuccessful. Deep channel mining was attempted by drifting. In general this fell out of favour as hydraulic mining became accepted for its ease of handling near surface deposits.

For the two decades following 1898 there were several serious efforts at exploration drilling, sinking shafts and drift mining by several companies. None of these were fully successful and the property went into receivership in 1921.

Lightning Creek was consolidated in 1930 by Consolidated Gold Alluvials of B.C. Ltd., which over the next decade successfully produced from the Sanderson Mine, upstream from the current area of interest and at a higher level. This group produced 26,500 ounces of gold during the period 1934 through 1939, of which slightly more than 1,000 ounces was from the Melvin shaft, in the current area of interest, the remainder being from the Sanderson. The deep Melvin gravel returned in excess of 0.3 ozs. per cubic yard, as contrasted with the Sanderson which yielded about 0.14 ozs.

#### 3.2. Recent Exploration

During the period 1904 through 1919 nine sections of drill holes were put down across the Lightning Creek channel over the 5000-foot length of the two leases. The deepest of these in the centre of the channel, were on the order of 200 feet. Some attempts were made, in the Melvin and No.1 shafts to reach the richer parts of this ground during that period.

In 1962 the Melvin shaft was reopened and cleaned out by the Wingdam and Lightning Creek Mining Company under the direction of Dolmage, Mason & Stewart Ltd. After some rehabilitation, the project was abandoned in the fall of 1964. The impetus for this programme was derived from the values reported in the earlier work and the fence of drill holes in Section A, across the 600 feet of principal interest in this report.

Since/

Since that time the property attracted the interest of Oriana Developments Ltd., which engaged Bacon & Crowhurst, and in turn Dolmage Mason & Stewart Ltd., and others to undertake preliminary studies as noted in Section 2.2. of this report. It should be noted that E.E. Mason, P.Eng., author of the Dolmage, Mason & Stewart report was Resident General Superintendent on the property during the period 1937 through 1939, and again during 1963-4 when the Melvin shaft was dewatered and rehabilitated.

#### 4.0. GEOLOGY

The bedrock geology consists of quartzites and argillites of the Precambrian Cariboo series, Mesozoic argillite and Mesozoic diorite.

The geology of the gravel and the configuration of the bedrock surface is more important however. The present Lightning Creek meanders along the top of the alluvial deposits in a channel 200-600 feet in width. The bedrock surface is "V"-shaped and filled with gravels, clays, and slum, 200 feet thick in the centre. Several of these units are gold-bearing, including the surface gravels which were mined in the 1860's, an intermediate sand, and the deep channel gravels overlying bedrock in the bottom.

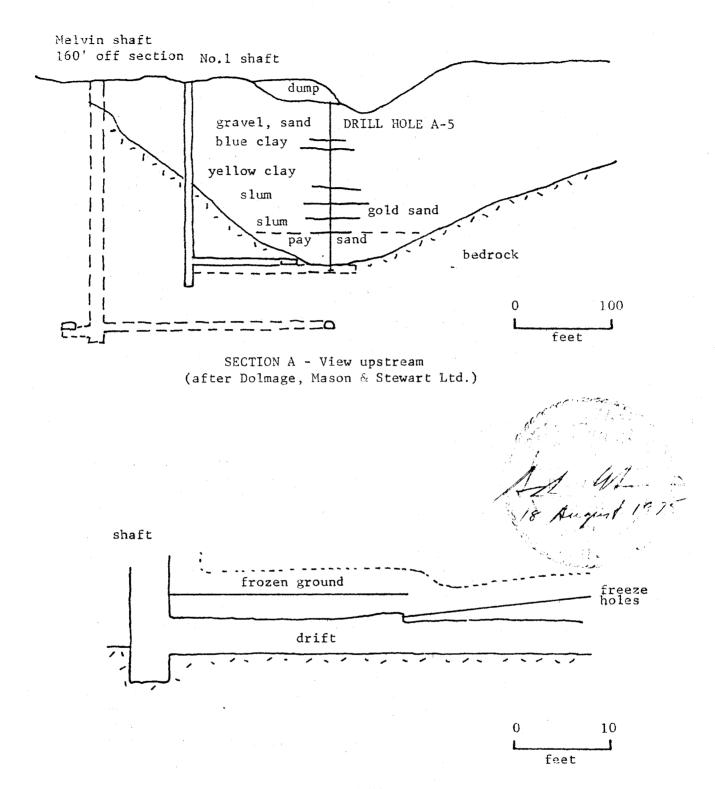
The old Sanderson workings, on the east part of the leases, lie above a constriction in the bedrock. These deposits are not continuous with the Melvin deep channel gravels, lying downstream and to the west of the constriction.

#### 5.O. INDICATED VALUES

The recoverable gold values indicated in the drill holes are as follows:-

Section	No. of holes	Channel Width (feet)	Gold in Oz./yd.
A	1	30	2.00
I (North Channel)	2	60	0.146
I (South Channel)	2	40	0.196
C C	1	40	0.443
С	4	70	0.820
D (North Channel)	2	45	1.207
D (South Channel)	2	45	0.033

Section/



PROPOSED MINING METHOD
(after Weir-Jones Engineering Consultants Ltd.)

DRAWING 2.- GEOLOGIC SECTION A and PROPOSED MINING METHOD

Section A (generalized in drawing 2 of this report) is typical of the channel and of the sections drilled in the interval 1904-1919. This part was explored by underground workings from the Melvin and No.1 shafts as well. Assigning a length of 600 feet to this richer part of the channel, a volume of about 15,000 bank yards should be the target for renewed exploration.

As to grade Mr. Mason notes that gravels running 1.5 - 2.0 og. gold/cu.yd. were safely expected over a 7.5-foot mining height, including about 2 feet of the underlying bedrock, in the 1930s. He also recalls a test section of the main drift in this interval which returned an average of 3.0 oz. gold/cu.yd.

At the suggested grade of 1-2 oz. gold/cu.yd., discounted for barren pockets and pillars, on the order of 15,000 oz. of gold might be recoverable from the 600-foot Melvin area of the leases.

We would expect, based on similar criteria, that a quantity on the order of 22,000 oz. might be recovered from the western 1500 feet of the deep channel. This, too, is subject to testing.

### 6.0. SUMMARY COMMENTS

The most recent physical underground work on the property ceased in 1964. The Vancouver firm of Dolmage Mason & Stewart were associated with this operation, for approximately 6 months during which Mr. Mason observed and sampled some of the gold bearing gravels in place in the Melvin workings. In 1975 the same firm assembled all available data and prepared plans and sections and studied the feasibility of extracting the gold bearing gravels en masse with the valley soils by open pit.

Preliminary estimates by Loram International Ltd. of the costs of open-pitting and backfilling the deposit indicated that the cost would appear in excess of revenues.

An alternative of sinking and drift mining a rich (600' long) section of the deep channel was investigated. This method would freeze and solidify the water bearing ground. A proposal and preliminary estimates were submitted by Weir-Jones Engineering Consultants. Cost of sinking and mining in pre-frozen ground is estimated at \$1,210,000.

The/

The assumptions and cost estimates by Weir-Jones have been checked and appear reasonable. Estimates of the amount of gold retrievable are based on the drilling results, records from the Melvin workings, estimates of the former operators and personal observations of engineers who saw the workings before they flooded.

Based upon these data, it appears that a programme to recheck for channel location, grade of pay zone, suitability of the ground for freezing and mining, followed by precise cost studies of freezing, mining, backfilling, and gold recovery, is warranted. If the results of this programme are positive, a profitable operation is indicated.

Respectfully Submitted:

NEVIN SADLIER-BROWN GOODBRAND LTD.



AEN/jrt.

August 18, 1975.

#### APPENDIX 'A' - CERTIFICATE

- I, Andrew E. Nevin, hereby certify that:
- 1. My residence address is 962 Montroyal Blvd., North Vancouver, B.C., my office address is 5th Floor 134 Abbott Street, Vancouver, B.C. V6B 2K4, and that I am a Geologist by occupation.
- 2. I hold a B.Sc. in Geophysics from St.Lawrence University, an M.A. in Geology from University of California, Berkeley, and a Ph.D. in Geology from University of Idaho. I have been practicing my profession since 1961, and I am a member of the Association of Professional Engineers (Geological) of the Province of British Columbia, and a Registered Professional Geologist in the State of Idaho.
- 3. I have reviewed the data on Placer Leases 6685 and 6707, Cariboo Mining Division, as set forth in the accompanying report, and I have a general familiarity with the region.
- 4. I hold no direct or indirect beneficial interest in the leases, Channel Gold Resources Ltd. (N.P.L.) or Oriana Developments Ltd., nor do I expect to obtain any such interest.

Andrew E. Nevin, Ph.D., P.Eng.

August 18, 1975

AEN/jrt.

#### ITEM 6

The Officers and Directors of the Company are as follows:

PAUL FRIGSTAD 518 - 510 West Hastings St. Vancouver, B.C. PRESIDENT and a DIRECTOR

Financial Officer

Executive

KENNETH EWALD 68 Bonnymuir Drive West Vancouver, B.C. DIRECTOR

Exploration Manager

WILLIAM THOMAS IRVINE 715 Parkside Drive West Vancouver, B.C.

DIRECTOR

JOHN McLEAN 3847 West 30th Street Vancouver, B.C. SECRETARY Corporate Secretary

#### ITEM 10

The beneficial shareholdings of Brink, Hudson & Lefever Ltd. are as follows:

	Class	Number of Shares	Percentage Held
Harold W. Lefever 4212 Cypress Street Vancouver, B.C.	Common	2,638 shares	14.73%
Francis A. Lefever 8421 West 36th Avenue Vancouver, B.C.	Common	2,606 shares	14.55%
Donald H. Byers 3214 West 36th Avenue Vancouver, B.C.	Common	2,374 shares	13.26%
Lorne C. Aggett #717-837 W. Hastings Vancouver, B.C.	Common	1,519 shares	8.48%
G. Douglas McDonald 6090 Blenheim St. Vancouver, B.C.	Common	1,082 shares	6.6%
Brian D. Graves 1901-1816 Haro St. Vancouver, B.C.	Common	2,606 shares	14.6%

Under the Assignment from Oriana, the Company is obligated to expend a minimum of \$35,000.00 on or before April 30th, 1976 and on or before June 30th, 1976, give a commitment that it will commence mining operations on or before February 1st, 1977.

The above Acquisition Agreement by the Company was approved by the Shareholders of the Company at a Shareholders Meeting held on August 15th, 1975.

The Company intends to expend the required \$35,000.00 on or before April 30th, 1976 pursuant to the First Phase recommended by the Company's Consulting Geological Engineer, Andrew E. Nevin, Ph.D., P.Eng., in his Report dated August 18th, 1975, a copy of which is attached to and forms part of this Statement of Material Facts.

667,500 escrow shares of the Company are to be issued as aforesaid at such time as the Company completes Phase I of the recommended exploration programme of Andrew E. Nevin, Ph.D., P.Eng., in his Report dated August 18th, 1975, a copy of which is attached to this Statement of Material Facts, and the Company has received a recommendation for a further exploration programme of not less than \$50,000.00 and commits to such further programme.

#### ITEM 4

It is impossible for the Company to state the full proceeds from the Offering of shares disclosed in Item 1 hereof. In the event all of the shares are sold at the minimum price of 35¢ per share, the Company will receive \$105,000.00 less \$7,875.00 for commission for selling the shares. The Company will apply the proceeds from the Offering approximately as follows:

1.	Satisfy outstanding debts;	\$ 43,000.00
2.	Costs of this issue, including legal, accounting and printing fees;	3,500.00
3.	Payment for acquisition of option to acquire an option to purchase, to Oriana Developments Ltd.;	10,000.00
4.	Completion of Phase I of the exploration programme on the Wingdam Property as recommended by Andrew E. Nevin, Ph.D., P. Eng., in his Report dated August 18th, 1975, a copy of which is attached to the Statement of Material Facts;	35,000.00
5.	General corporate purposes and such further exploration as may be recommended on the Wingdam Property by the Company's Engineers from time to time;	5,625.00
		\$ 97,125.00

In the event greater than \$105,000.00 is received by the Company, less funds will be applied to general corporate purposes or on the Wingdam Property as recommended from time to time.

None of the funds will be used on other properties of the Company without first filing appropriate engineering reports with the Vancouver Stock Exchange.