

MAP No.

ASSESSMENT REPORT
N. M. E. A. P.
CONFIDENTIAL
OPEN FILE



TYPE OF
WORK:

PROSPECTUS GEOL.

116-15

REPORT FILED UNDER

Crescent Mines Ltd.

DOCUMENT NO. 061971

DATE PERFORMED

1978 & Sept 10-15, 1979

DATE FILED: Sept 15, 1980

LOCATION - LAT.
LONG.

AREA: Clear Creek, Yukon

CLAIM NO.

VALUE \$

WORK DONE BY

E. P. Sheppard

WORK DONE FOR

Crescent Mines Ltd.

REMARKS

Reserves of 225,000 m³ of gravel with a grade of 1.095 grams (or 0.035 oz) gold per m³.

PROSPECTUS

Sept. 15, 1980.

061971

GEOLOGICAL REPORT
CLEAR CREEK PROPERTY
DAWSON MINING DISTRICT
Yukon Territory

FOR

CRESCENT MINES LTD.

May 22, 1980
Vancouver, B.C.

E. Percy Sheppard, P.Eng.
Consulting Geologist

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MAPS

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Property Map

GEOLOGICAL REPORT
CLEAR CREEK PROPERTY
Dawson Mining District

CONCLUSIONS

Crescent Mines Ltd., holds 100% of the Clear Creek property under an Option to Purchase agreement with Birch Industries Ltd.

The property consists of one 8 km prospecting lease granted under the Yukon Placer Act, and is located 88 km east-southeast of Dawson City, Y.T. Access to the property is by an old road 7.5 km in length built by earlier mining companies.

Permafrost exists in most areas where a thick vegetation mat has accumulated. When this insulation layer is removed the gravels normally thaw to bedrock in one summer season from solar radiation.

Crescent Mines Ltd. carried out considerable strip-ping and trenching for the purpose of bulk sampling during the 1978 - 79 seasons. The fieldwork outlines a volume of 225,000 m³ with a grade of 1.095 grams per m³, or 0.035 oz/m³. Using a basic price of \$200 per oz. the value is \$7.04 per m³ of Indicated Ore with a gross value of \$1,584,252.

Mining is planned at a rate of 2,000 m³ per day for a period of 60 days.

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RECOMMENDATIONS

It is recommended that sufficient funds be allocated to implement this operation.

E. P. Sheppard
E. Percy Sheppard, P.Eng.



May 22, 1980
Vancouver, B.C.

GEOLOGICAL REPORT

CLEAR CREEK PROPERTY

Dawson Mining District
Yukon Territory

INTRODUCTION

The following report was prepared at the request of the Directors of Crescent Mines Ltd. Data for this report were obtained by the writer during a visit to the property in 1978 and 1979, examining old records, observing operations along Clear Creek and adjacent properties, and studying pertinent Government reports. The publications of Yukon Consolidated Gold Corp. Ltd., Dawson, were of particular interest.

PROPERTY

The property consists of one 5-mile prospecting lease granted under the Yukon Placer Act. Before the property can be brought into production it must be converted to claims. Clear Creek will serve as the base line for the claims. Each claim lies along the creek for 150 metres and may be thrown left or right for 300 metres. When the lease is converted this spring, the property will consist of approximately 50 claims.

OWNERSHIP

The property is presently held by Crescent Mines Ltd. under an Option to Purchase agreement with Birch Industries Ltd.

LOCATION AND ACCESS

The Clear Creek property is located approximately 88 km east-southeast of Dawson City, Y.T. Clear Creek begins on the slopes south of the Klondike-Stewart River divide near the headwaters of the South Klondike River and is a tributary

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of the Stewart River. It flows from east to west in the area of the claims but turns south as it enters the Tintina Trench.

Direct access to the lower end of the property is provided by a road which branches from the Dawson Highway near Barlow Lake. The major part of the access road was constructed by a dredging company to service the mining operation on the left fork of Clear Creek. The remainder of the road was built for mineral exploration on a group of claims staked under the Quartz Mining Act. The road distance from the highway to the property is approximately 7.5 kilometres.

TOPOGRAPHY

The gradient of the creek through the claims is approximately 24.4 metres per kilometre. The flow of Clear Creek is moderately swift and water is abundant for mining purposes.

The topography north of the creek exhibits more relief than the area to the south which is a relatively flat bench approximately 100 metres above the creek bottom. The valley and channels of the creek are constricted in several places by bedrock outcrops. In some stretches gravel occupies the entire broad valley floor. The gravels and much of the bedrock are overlain by fine soils (loess) and vegetation consisting of black spruce, mosses and shrubs typical of a boreal forest assemblages. Deciduous vegetation is common near the creek and on dry hillsides not underlain by permafrost.

Permafrost exists in most areas where a thick vegetation mat has accumulated. When the insulation layer is removed the gravels will normally thaw to bedrock in one summer season from solar radiation. Quicker thawing is achieved by the use of water or intermittent stripping.

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The summers are short and warm. Rains are infrequent but often violent and thunder storms are common. The winters are long and cold. Mining is carried out from early May until late September. The first snow usually occurs in October.

HISTORY

The mining history of Clear Creek appears to be poorly documented, probably because the region is removed from the logistic center of Dawson City and events were not recorded in newspapers of the era nor in numerous historical publications. The most reliable general information can be obtained from the Yukon Consolidated Gold Corp. reports covering a period from 1940 to 1955.

The chief event was the dredging of the left fork and upper main Clear Creek during the 1950's. 16 to 19 km of creek bed were mined by dredging and the operation ceased in 1955. The dredge was left intact at the north and south forks of Clear Creek and is presently being rebuilt by Queenstake Resources Ltd. Mining concessions lapsed and smaller operations using bulldozers and loaders mined through some of the old tailings and in un-mined remnants left by the dredge.

The quality and size of the gold recovered is typical of the Klondike region. A considerable amount of coarse gold from other properties has been observed by the writer.

GEOLOGY

The bedrock types which underlie Clear Creek are metamorphic rocks of the Yukon group and granitic intrusions of Mezozoic Age. The Yukon group metamorphic rocks are usually considered to be the original source of the placer gold. Rocks of this unit are generally schist and gneisses as well as phyllites, marbles and quartzites in

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lesser abundance. All the rocks are products of the same regional metamorphic events which acted upon Pre-Cambrian or lower Paleozoic sedimentary and igneous rocks. Quartz veining is ubiquitous in the metamorphic rocks.

The igneous rocks which occur along Clear Creek in the region of the placer lease are dominantly coarse grained intrusions of granitic to granodioritic composition. Some syenites and true pegmatites may also be present. Coarse 2 cm to 10 cm feldspar phenocrysts are common in some of the granitic rocks.

The surficial geology of the bench prepared for mining by the Company may be described from the highest unit to bedrock as follows: The top 1.0 - 1.5 metres is composed of peat moss, black muck (humus) and fine, platy grained sand; the next 3 metres are gravels which rarely contain boulders in excess of 40 cm (the auriferous gravel).

PREVIOUS WORK

When Crescent Mines undertook the exploration of the lease a considerable amount of ground preparation in the form of stripping and trenching for the purpose of bulk sampling was carried out during the 1978-79 field seasons. This work outlined sufficient gold-bearing gravels to warrant initiating a profitable mining operation.

The sample trenches, or pits, were dug for an average depth of 4 metres to either permafrost or bedrock. In most cases the cut was a full 4 metres. Control over the samples was kept by using a 1 m³ bucket. The resultant 1 m³ sample was sluiced for gold and the gold content and residue were collected, bagged and shipped to the lab for total gold analysis.

cont...

ORE RESERVE CALCULATIONS

Samples C-3 to J-3, taken in 1979 from the east part of the bench and S-2, S-3, S-5 to S-10, taken in 1978 from the west and east parts of the bench, were averaged and the result used as a grade of the bench prepared for mining.

Dimensions of the mining bench: $300 \times 250 \times 3 = 225,000 \text{ m}^3$

Grade of the bench: 1.095 grams per m^3 , or 0.035 oz.

Using a basic price of \$200 per oz. the value is \$7.04 per m^3 of Indicated Ore, or \$1,584,252.

The area prepared for mining in 1980 gives $225,000 \text{ m}^3$ to be mined at the rate of $1,000 \text{ m}^3$ per day for a period of 140 days. A 60-day season is estimated to give 90% of the total time, or 54 working days; thus, $108,000 \text{ m}^3$ at \$7.04 per m^3 yields \$760,320 for the first season. At the above rate, this particular bench will last for approximately two seasons.

ESTIMATED CAPITAL & OPERATING COSTS2 Months Operation

Camp	\$ 20,000
Road	10,000
Pumps	25,000
Insurance	5,000
Cat & Loader rental	240,000
Fuel and Oil	50,000
Wages and Fringe	85,000
Board Loss	25,000
1 Engineer	10,000
Supplies, Repairs and Maintenance	10,000
Travel and Transportation	<u>15,000</u>
	<u>\$495,000</u>

E.P. Sheppard

E.P. Sheppard, P.Eng.

May 22, 1980
Vancouver, B.C.



C E R T I F I C A T E

I, E. PERCY SHEPPARD, of the City of Vancouver, in the Province of British Columbia, hereby certify THAT:

I am a Consulting Geologist, at #1606-M, 1600 Beach Avenue, Vancouver, B.C., V6G 1Y7;

I am a graduate of Dalhousie University, with a B.Sc. in Geology, and have been active in mining exploration and geophysics for over thirty years;

The accompanying report is compiled from data collected by the writer during visits to the property in 1978 and September 10-15, 1979, examining old records, pertinent Government reports, and observing operations in the area;

I have no direct or indirect interest in the property covered by this report, nor in the securities of Crescent Mines Ltd., Birch Industries Ltd., or Clear Mines Ltd., and do not expect to receive any such interest as a result of writing this report;

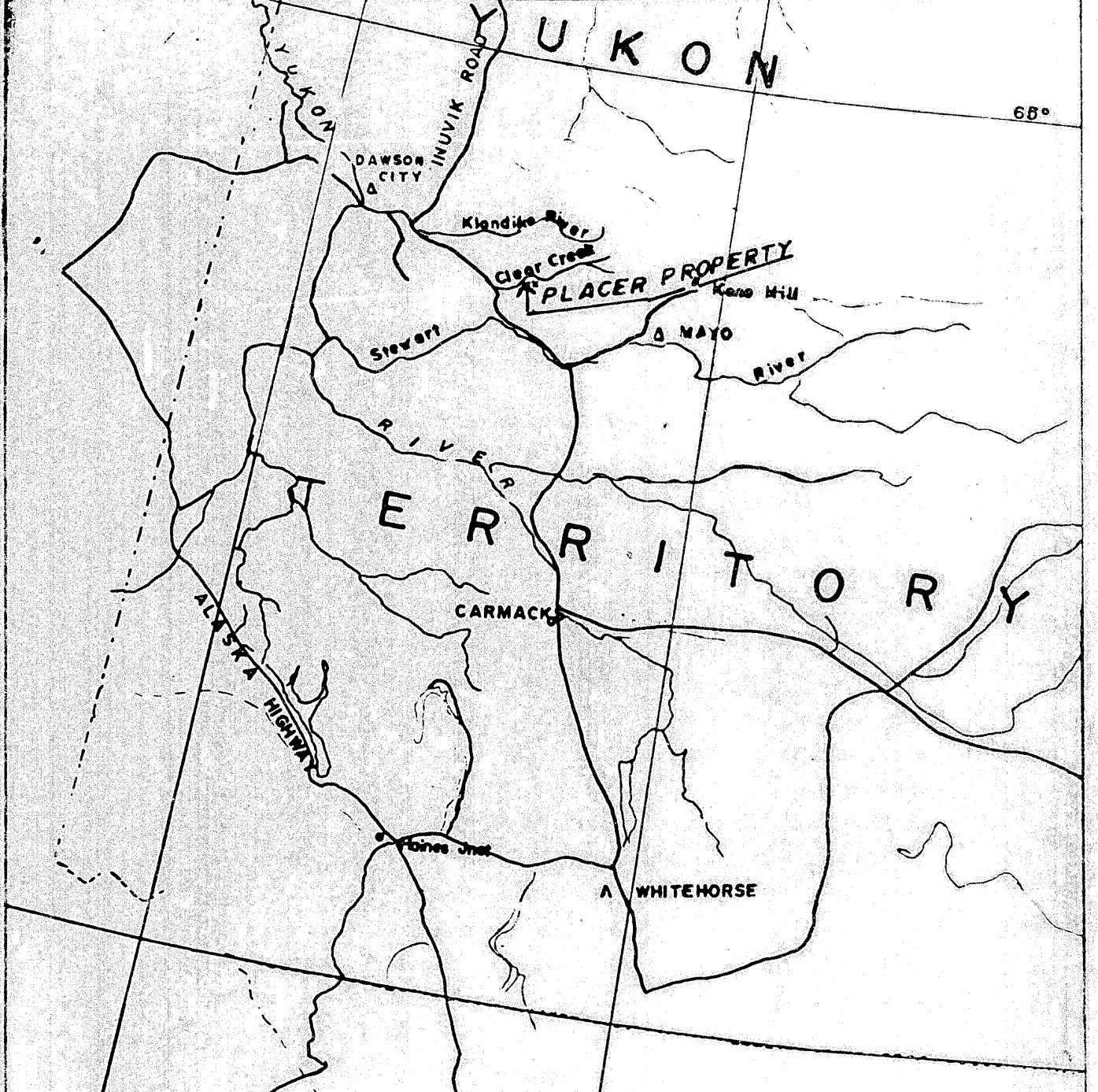
I am a member of the Professional Engineers Association of British Columbia, the American Institute of Mining Engineers, and a Fellow in the Geological Association of Canada.

DATED AT VANCOUVER, B.C., this 22nd day of May, 1980.

E.P. Sheppard

E. Percy Sheppard, P.Eng.



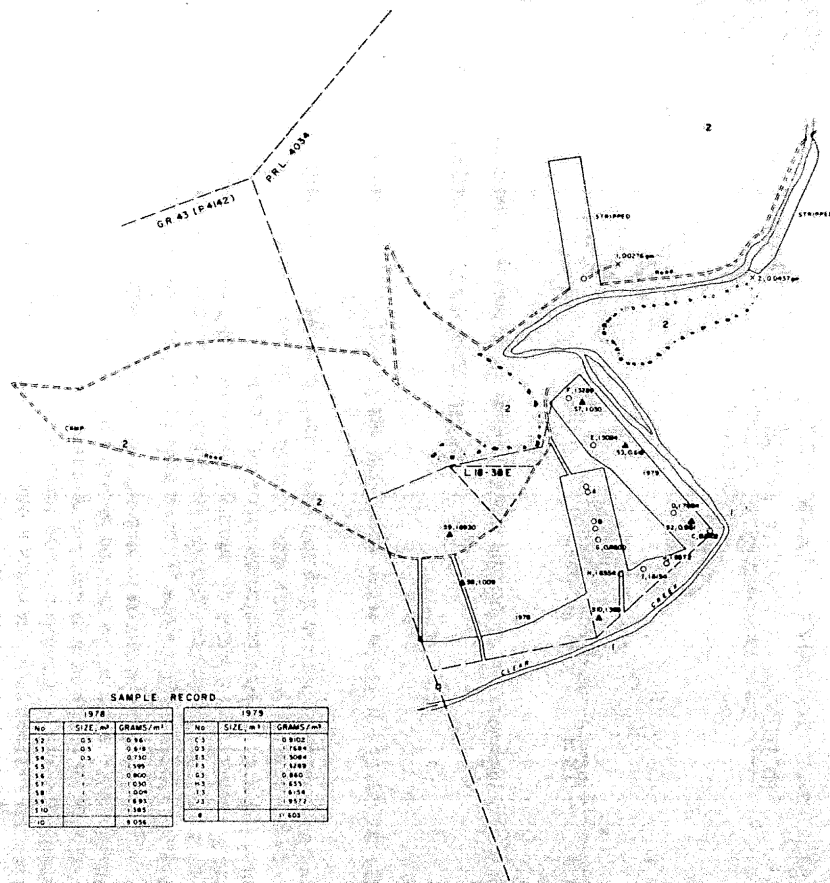


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CRESCENT MINES LTD
CLEAR CREEK CLAIMS
DAWSON AREA, YUKON TERRITORY

SCALE 1:2500

JANUARY, 1980



SAMPLE RECORD

1978			1979		
NO.	SIZE, m	GRAMS/m ³	NO.	SIZE, m	GRAMS/m ³
12	0.5	0.94	13	0.5	0.902
17	0.5	0.818	14	0.5	1.044
18	0.5	0.710	15	0.5	1.006
15	1	1.199	17	1	1.289
16	1	0.900	18	1	0.840
17	1	1.030	19	1	1.255
18	1	1.200	20	1	1.174
19	1	1.891	21	1	1.917
110	1	1.385	22	1	1.803
10	1	1.076			

- LEGEND
- 1 Quality - in situ schist - after ground treatment (1 ton earth sample)
 - 2 Geological prospecting granite mass
 - • • • • Contour
 - X Pit square
 - ▲/□/○ 1 cubic metre sample
 - 11-10 1978 sample
 - 11-10 1979 sample

CRESCENT MINES LTD.
 CLEAR CREEK PROPERTY
 DAWSON, YUKON DISTRICT
 YUKON TERRITORY