ZYROX MINING COMPANY, LTD.

650 CLYDE AVENUE, SUITE 15 - WEST VANCOUVER, B.C. -- 604 : 926-2423

PRESIDENT
N. A. SKOV, M.Sc., PH.D.
VICE-PRESIDENT
D. S. THOMSON
SECRETARY
A. R. SWANN, B.A., LL.B.

Property Submission

Zyrox Mining

826149

926

Paul
Please attend to this. Noranda also have some brochure. Bell has it in hand
Joe

June 4, 1968

~~Mr. W. S. Row, President~~
Kerr Addison Mines Limited
44 King Street West
Toronto 1
Ontario

Dear Mr. Row:

The enclosed engineer's report is submitted for your scrutiny. It covers placer properties of Zyrox Mining Company, Ltd., that are located in southern British Columbia. The drilling program recommended in the report has already been completed and confirms the existence of many millions of tons of ore.

While Zyrox holds the properties described, the Nasco Mining Syndicate, composed of Zyrox associates, holds a substantial block of adjacent leases containing similar ores.

We will welcome your inspection and investigation of both Zyrox and Nasco properties with the view in mind of a possible mutually profitable working arrangement.

Yours very truly,

D. S. Thomson

Donald S. Thomson

DST:na

Encl.

REFERENCE MEMORANDUM

DATE_____ 19____

THE ATTACHED PAPERS ARE REFERRED

TO Mr. J. N. Stovel

BY PMK

PLEASE REPLY DIRECT	☐	PLEASE HANDLE	☐
PLEASE SEE ME RE THIS	☐	YOUR COMMENTS	☐
FOR YOUR INFORMATION	☐	FOR APPROVAL	☐
PLEASE RETAIN	☐	PLEASE RETURN	☐

I'm not much inclined to this. Placer situations in B.C. have never proven to be very substantial. And we're very busy now. PMK.

HONEY PRINTING SERVICE 1444

REPORT

ON THE

LILLOOET RIVER DELTA ALLUVIAL PROPERTY

IN BRITISH COLUMBIA

FOR

ZYROX MINING COMPANY, LTD.

650 CLYDE AVENUE, WEST VANCOUVER, BRITISH COLUMBIA

B. DOUGLAS WEAVER, P.Eng.

April 23, 1968

INDEX

LILLOOET RIVER DELTA PROPERTY
ZYROX MINING COMPANY LTD.

ABSTRACT

Zyrox Mining Company, Ltd. holds ten (10) contiguous placer mining leases in the valley of Lillooet River, covering the full width of the delta and extending into Harrison Lake, British Columbia.

Preliminary random sampling to depths of nine feet have shown persistently high aggregate values in precious metals — silver, gold, platinum, palladium, and iridium—although the content of any particular metal may vary widely from point to point.

A program of drilling and metallurgical research is recommended to estimate the potential tonnage and tenor of ore, and to determine the most economical method of recovering the precious metals contained therein. A preliminary estimate of overall cost is $500,000.00. This includes $220,000.00 for the work; $200,000.00 for a small dredge; and $80,000.00 for contingencies.

INTRODUCTION

The occurrence of alluvial gold in the Fraser River, and of lode-gold in the Harrison Lake - Lillooet River area has been known for at least a century, for this was a road to the famous Cariboo District. The development of the sands of the Lillooet River valley has been neglected until now.

PROPERTY LOCATION AND ACCESS

The property comprises ten (10) contiguous placer mining leases of approximately eighty acres each that contain the entire width of the Lillooet River delta into the northern end of Harrison Lake, all in the New Westminster Mining Division of British Columbia. The width of the delta is slightly less than two miles. The leases are numbered as follows:

637
638
642 to 647 incl.
653
654

Of these, numbers 653, 644, 646 and 643 project into Harrison Lake, so that an ample supply of water is assured. The remainder are above lake level. The land is sparsely covered with brush, with a few groves of poplar or cotton wood. The general level is less than ten (10) feet above mean lake level.

The property is readily accessible by air, 54 miles from Vancouver; seaplanes can land at the outwash fringe of the delta or helicopters on open solid ground. The distance from Vancouver to the property by any of the following means of transportation is approximately 115 miles:

1) Barge via Fraser River, Harrison River and Harrison Lake.

2) Truck to Harrison Hot Springs (79 miles), thence by barge (36 miles) to the upper end of Harrison Lake by regular barge service.

3) Canadian Pacific Railway to Agassiz, by road to Harrison Hot Springs (5 miles), thence by barge as mentioned above.

TOPOGRAPHY AND CLIMATE

The mountains of the Coast Range adjacent to the Lillooet are rugged with Alpine conditions. Peaks rise to 7,800 feet along the sides of Harrison Lake into which they slope abruptly, so that the reported depth of the lake exceeds 2,000 feet in some spots. The delta of the Lillooet at Harison Lake is flat with a general level only a few feet above that of the lake of which the mean elevation above sea level is about 34 feet. The tributaries to the Lillooet are steep.

The climate at the property is equable, with little snowfall. When I examined the leases in February 1968 there was no snow on the delta, although the surrounding peaks were heavily snow-covered.

With regard to climate, the only meteorological readings available are for Harrison Hot Springs. From my knowledge of the situation the precipitation would be probably 10% less at the properties than at Harrison Hot Springs, the temperature probably 10 degrees colder in the winter and perhaps 10 degrees hotter in the summer. In any event, figures submitted by the meteorological office for Harrison Hot Springs are:

Precipitation (figures are an average for the past 10 years)
Monthly High: 9.5 inches (December)
Monthly Low: 1.9 inches (July)
Yearly Average: 64. inches

Temperature (figures are an average for the past 10 years)
Monthly High: 64°F (July)
Monthly Low: 35°F (January)
Yearly Average: 50°F

HISTORY

From 1896 to 1898 there was a minor rush into this area that resulted in the staking of numerous claims, sporadic attempts to mine narrow, high-grade quartz veins and to recover coarse gold from the many tribu-

taries by panning. At that time the prospectors were interested only in the amount of coarse gold that might be recovered by manual treatment to shallow depths — panning, sluicing and, at a later date, amalgamation. As fine gold could not be recovered by crude procedures, operations were abandoned accordingly and the area fell dormant. Now a new concept — sand mining — has been developed to recover by modern techniques the gold and/or other precious metals from the delta deposits. The Lillooet River itself has been fed for perhaps ten thousand years by the effluents of the numerous auriferous tributaries to the valley from the adjacent mountains of the Coast Range.

GEOLOGY

Map 1151 A — 1965, PITT LAKE of the Geological Survey of Canada, Ottawa, covers the geology of the region in general.

Lillooet River occupies a prominent valley running southeasterly and longitudinally with high rugged peaks of the Coast Range mountain system. It drains an area above Harrison Lake of about 2,200 square miles and is flanked for most of its length by complex intrusives, sediments and volcanics, chiefly of Mesozoic Age. The intrusives range from granite to granodiorite to diorite, as mapped, although more detailed work will be required to determine the geological sequence. The occurrence of platinoid metals in the sand suggests the presence of ultrabasic rocks upstream.

The contours of the Lillooet River valley have been conspicuously modified by glaciation. The sands of the delta represent remnants of glacial and alluvial detritus, classified and redistributed in post- Pleistocene time. This Recent interval probably represents about 10,000 years.

ECONOMIC CONSIDERATIONS

Random samples taken from pits and trenches to maximum depth of nine (9) feet have, without exception, shown excellent aggregate values in precious metals, although they are erratic from sample to sample. This is illustrated by the assays reported by The Whirry Laboratory of Los Angeles, California, on seven samples taken at random by *Zyrox Mining Company, Ltd.* across the face of the delta in January 1968. All values are in troy ounces per dry ton.

Sample No.	Silver	Gold	Platinum	Palladium	Iridium
1	60.0	0.10	0.8	16.4	28.0
2	trace	0.11	trace	4.9	14.0
3	trace	0.10	trace	2.2	44.4
4	trace	trace	trace	15.5	20.0
5	trace	0.13	3.2	11.3	20.4
6	12.8	0.15	12.0	13.5	19.6
7	trace	0.05	trace	16.9	31.2
Average:	10.4	0.09	2.3	11.5	25.4

In no instance were osmium or ruthenium reported above "trace". In addition to the above, Cyclone Engineering Sales Ltd. of Edmonton, Alberta, reported that the gold content of a 200 lb. lot cut from a one-ton composite of four samples taken in September, 1967 was 0.67 oz. per ton. This lot was assayed for gold only.

During my examination of the property on February 9, 1968, I supervised the taking of three (3) random samples of roughly fifty pounds each from the face of the outwash plain, all to a depth of about three feet. In this connection I should mention that sample No. 1 was taken from a water lease and about 100 ft. offshore in Harrison Lake, whereas the others were taken inland from the shoreline. The Whirry Laboratory of Los Angeles, California, reported the following assays, all in troy oz. per dry ton:

Sample No.	Silver	Gold	Platinum	Palladium	Iridium
1	38.8	.09	trace	36.8	35.2
2	trace	.10	5.6	40.3	33.2
3	trace	trace	4.4	39.6	43.2
Average:	12.9	.06	3.3	38.9	37.2

These confirm in general the overall high value of precious metals in the sands of the delta near Harrison Lake, as well as the variation in the content of any specific metal from point to point.

The current prices of the precious metals, apart from gold, were quoted in the *Engineering and Mining Journal* of April 1968 as follows: ($U.S. per troy ounce)

Silver	2.18
Platinum	109. - 114.
Palladium	42. - 44.
Iridium	185. - 190.

The assays of these samples show the gross values of material, however localized in the delta. The economics remain to be determined, but the presence of precious minerals and/or metals in the deltaic deposit has been definitely shown.

DISCUSSION

Random sampling to shallow depth (maximum nine feet) has shown the occurrence of high aggregate value in precious metals. The content of any specific metal varies widely from point to point, as is to be expected in a sand deposit governed by the vagaries of changing river course and seasonal flow. In spite of these variations the overall metal content of the ten (10) samples considered, under ECONOMIC CONSIDERATIONS, is extremely high. This was confirmed by my samples although the proportions of the respective elements differed.

Although our present level of information is low, the following possibilities may be interesting. A nominal value of 1.5 dry tons of mineable sand per cubic yard of wet material in place suggests a potential tonnage of at least 16,000,000 tons to the nine (9) foot depth to which random sampling has shown persistently high values. In my opinion, because of the steep mountain slopes containing this section of the Lillooet Valley and Harrison Lake, the depth of the delta in these leases may well be several hundreds of feet. This remains to be determined as do the overall tenor of ore and the best method of securing optimum recovery of the precious metals contained therein.

CONCLUSIONS

After a careful study of available published and unpublished reports and maps, and after discussions with informed individuals having personal knowledge of the area, it is my considered opinion that the property definitely warrants investigation by:

A) Systematic sampling by drilling to determine potential tonnage and grade.

B) Metallurgical research to determine the most economic method of treating the raw sand, and, later, the concentrate.

RECOMMENDATIONS

In view of my opinion that the property merits further investigation I recommend that you:

1) Auger-drill a series of holes in a grid pattern, modified as needed by terrain but comprising a total of not less than 20 holes. Of these, not less than six (6) holes should penetrate to a depth of 100 feet, the remainder to a depth of 50 feet. The pattern should delineate the property by two drill lines, one along or near the lakefront, the other along the upstream boundary. Intermediate locations near lease corners should be included. This implies about one thousand three hundred (1,300) feet of drilling.

2) Have representative samples of each fifteen (15) foot section, or such length as may be found satisfactory for this survey, assayed for silver, gold, platinum, palladium and iridium. In this connection the development of a reasonably fast control procedure of assay should be investigated.

3) Conduct a mineral-beneficiation test on a multi-ton lot of auger-recovered sand to determine the best method of recovering the precious metals and minerals, to decide on the type of machinery, ancillary to the dredge, best suited to this operation.

4) Contingent on the results of the foregoing programs, acquire a small dredge with a capacity in the order of 200 cubic yards per hour, to prove, on plant scale, the feasibility of the process, thence determining the rate of full-scale operation.

A preliminary cost estimate of these initial stages is as follows:

Drilling, 1300 feet	$ 45,000
Sampling, assaying	25,000
Metallurgical, engineering and assaying	150,000
Dredge	200,000
Contingencies	80,000
TOTAL	$500,000

Respectfully submitted,

B. Douglas Weaver,

Consulting Geologist

CERTIFICATE

I, B. DOUGLAS WEAVER, of the Township of North York, in the county of York, Ontario, do certify that:

1. I am a consulting geologist residing at 103 Tanjoe Crescent, Willowdale, Ontario.
2. I am a graduate of the University of Toronto (M.A., Geology, 1935) and have been practising my profession since then.
3. I am a member of the Association of Professional Engineers of Ontario and British Columbia.
4. I have no direct or indirect interest in the properties or securities of *Zyrox Mining Company, Ltd.*
5. This report is based on studies of government reports and maps, relevant data supplied by *Zyrox Mining Company, Ltd.* and my personal examination of the property February 9, 1968.

Dated at Vancouver, British Columbia, this 23rd day of April, 1968.

B. D. Weaver,
Consulting Geologist
and Metallurgist

SWORN before me at West Vancouver, Province of British Columbia, as a true certification of contents of the within report.

Samuel S. Merrifield

A Notary Public in and for the Province of British Columbia

Dated at Vancouver, British Columbia, this 23rd day of April, 1968.

About the writer —

B. DOUGLAS WEAVER, Willowdale, Ontario. Graduate of the University of Toronto, B.A. in Geology and Mineralogy (gold medalist); M.A. in Geology, 1935. Registered Professional Engineer in Ontario and in British Columbia. Member A.I.M.E., C.I.M.M., Fellow G.A.C.