

800230

INTERIM REPORT ON THE

BAYONNE MINE

NELSON MINING DIVISION

BRITISH COLUMBIA

Prepared for:

BAYONNE MINE LTD.,
404 - 409 Granville Street,
Vancouver, B. C.

W. G. HAINSWORTH,
Consulting Geologist.

INTERIM REPORT ON BAYONNE MINE LTD.

INTRODUCTION	1
CONCLUSIONS & RECOMMENDATIONS	1
HISTORY OF THE PROPERTY	2
LOCATION	4
ACCESS	5
TOPOGRAPHY	5
RESOURCES	6
GEOLOGY	6
ECONOMICS OF PRESENT ORE RESERVES	8
POSSIBILITIES OF FURTHER ORE BLOCKS	10
COMMENTS	13

Schedule "A"

Schedule "B"

Schedule "C"

IN POCKET:

1. Location Map of Property
2. Longitudinal Section Through Vein Systems
3. Vertical Projections of Ore Reserve Blocks
4. Recommended Drilling Sections

CERTIFICATE

W. G. HAINSWORTH

CONSULTING GEOLOGIST

December 13, 1963.

President & Directors
Bayonne Mine Ltd.
404 - 406 Granville Street
Vancouver 3, British Columbia.

Gentlemen:

It is the intent of this report to summarize the work that has proceeded at Bayonne Mine to date, and to make recommendations as to the future procedures.

The writer has been in daily contact with operations at the property which had been proceeding in accordance with a previously agreed schedule.

Certain conditions have made advisable a departure from the schedule.

CONCLUSIONS AND RECOMMENDATIONS

Work had been progressing satisfactorily at the Bayonne until recent extreme weather conditions made operations costly and working conditions uncomfortable. The mine road had been completed through to the Selma-Croston highway; the old bunk house had been completely renovated; the extra ore bins had been constructed and work was underway as regards mill erection and housing of the compressor-power machinery. To compete with the weather at this stage would be a costly operation.

It is recommended that in view of the above circumstances a departure be made from the original schedule. The underground diamond drilling phase which was to be concurrent with the production program be herewith given prior attention and production plans be set back until the weather and circumstances are more favorable.

This practice would be more consistent with mining procedure and would result in production being less of a cramped operation, while ensuring a more prolonged life.

The writer recommends a minimum program of 2,500 feet of "E" core drilling distributed as per schedule "B". To accommodate this drilling, some 200 - 300 feet of drill stations and crosscuts must be cut out. In addition air and water lines must be installed to the various stations and 700 feet of track must be laid. Expenditures for this phase are estimated at \$30,000.00, broken down as per schedule "C".

This program, which is intended to add to the present ore reserves, should not be curtailed when production is undertaken but should be continued at a more restricted rate.

HISTORY OF THE PROPERTY

The Bayonne area came into prominence in 1901 with initial interest being centred around two claim blocks —the Bayonne and Echo groups. Active development work on the Bayonne group resulted in their being brought to Crown-Grant in 1904, while the Echo group lagged behind only acquiring their patents in 1935.

Early development work on the Bayonne consisted of numerous surface trenches and the driving of three short adits on what is now known as the 1st, 6th and 8th Levels.

During 1915, to 1929, the area saw very little activity. From 1929 until 1935, at which date the Bayonne and Echo groups were consolidated, minor prospecting was carried on. However, during this period the original trail was extended through to the Bayonne and enlarged to wagon road size.

When the 17 Crown-Grants were acquired by Bayonne Consolidated Mines Limited in 1935 an immediate mining and milling program was set in motion. A 60 ton cyanide mill was constructed and an ambitious underground development program was instituted. Until 1939 production was steady but was halted at this date in favor of an extensive exploration and development program. Production resumed following the disclosure of sufficient ore reserves until August 1942. The shortage of man power and materials due to the war effort brought about the shutting down of the operation. In August, 1945 the company attempted to put the mine back into operation. The high cost of maintaining labor combined with the post-war material shortage forced a closure in July of 1946. Lessees operated the property sporadically between 1947 and 1951, removing almost 700 tons of ore. There has been no activity at the property since 1951 until the present organization took control.

In 1942 a dividend of \$25,000.00 was paid by the company.

Production figures taken from the B. C. Department of
Mines Annual Reports show:

<u>Period</u>	<u>Operators</u>	<u>Tonnage</u>	<u>Au (oz)</u>	<u>Ag (oz)</u>	<u>Pb (lb)</u>	<u>Zn (lb)</u>
1938-42	Bayonne Con.	64,695	30,395	79,715	=	=
1945-46	Bayonne Con.	2,196	263	707	-	-
1947-51	Lessors	673	454	3,198	59,334	31,627
	Production =	67,564	31,115	83,620	59,334	31,627
	Grade =		0.46 ^{oz} /t	1.24 ^{oz} /t	4.4%	2.3%

LOCATION

The Bayonne Mine is within the Nelson Mining Division, some 15 miles west of Creston.

The property consists of seventeen Crown granted mineral claims and twenty-four located claims, all situated on the south-westerly slope of John Bull Mountain, north of Bayonne Creek, a tributary of the West Fork of Summit Creek.

The Crown granted claims are identified as follows:

Bayonne - Lot #5083	Illinois - Lot #6888
Oxford 5084	Skookum 9360
Maryland 5085	Echo 13014
Delaware 5960	Echo Fraction 13015
Columbus 5961	Ontario 13016
Ohio 5962	Portland 13017
Kentucky 5966	St. Elmo Fr. 13018
New Jersey 5967	Idaho 13019
Virginia 6887	

The twenty-four located claims, which encompass the Crown-grants, are known as Bayonne #1 - 12, inclusive, and #14 - 26, inclusive (Record #7334 - 7345, inclusive, and #7368 - 7380, inclusive). These claims are held in Trust for the Company by the writer.

ACCESS

Previous operators had built a road extending from Tye Siding on the west side of Kootenay Lake, up Cultus and Canyon Creeks, to the mine site. This 27 mile route serviced the mine through trucks in summer and caterpillar tractors in winter. Tye Siding is a flagstop on the Kettle Valley Branch of the Canadian Pacific Railway.

With the 1963 completion of the Salmon-Creston highway, present operators constructed an access road from the mine along Bayonne Creek to connect with this Provincial highway. This route brings the smelter at Trail within a 75 mile trucking distance.

TOPOGRAPHY

The area forms part of the Selkirk Mountain range with the claims being located on John Bull Mountain. Elevations vary from 5,200 feet at Bayonne Creek to 7,800 feet at the #1 portal. The depth of oxidation prevalent in the mine workings leads to the assumption that the thickness of the ice field covering the area could not have been too great.

RESOURCES

Water: Bayonne Creek flows through the claims, carrying a quantity of water greater than 40 gallons per minute at its lowest period. This is sufficient water to carry a 50 ton flotation mill.

Sufficient water can be trapped in catch basins from nearby small mountain streams to supply camp needs.

Timber: The lower claims are well covered with spruce and cedar. The timber becomes stunted and sparse and disappears almost entirely around the 5,800 foot elevation.

There is sufficient timber of all sizes to sustain a mining operation.

GEOLOGY

The property covers ground near the south-western corner of a large granodiorite intrusive known as the Bayonne batholith. Of medium to moderately fine-grained appearance, the composition varies locally.

The Bayonne vein system is a zone of fracturing trending from north 60° east to north 80° east and generally dipping steeply to the south. On the 8th Level the Main vein has shown steep north dips locally. Alterations in the form of talc - carbonates are normally present in close association with the fracturing, but it does not appear to be confined to any particular wall of the zone. The normal width of the altered section is from 3 - 4 feet. The fracture zone produces a series

of splits which may rejoin the original vein or strike off into the wall. The intensity of the structure is quite variable as is its quartz and mineral content. Masses of granodiorite, sometimes well mineralized, may impart widths of up to 10 feet for the zone.

The gold values have two significant locations. The oxidized zone, which extends to a depth of 400 - 500 feet, presents a limonitic, vuggy quartz ore. Values in the zone averages, according to reports, in the 1 to 2 ounce classification. The writer picked up a sample for #3 ore dump of this type of ore which assayed 62 ounces. Rice, in Memoir 228, Geological Survey of Canada, refers to a 50 foot transitional zone lying between this oxidized zone and the primary zone. The grade drops off to 0.5 to 1 ounce of gold to the ton. Entering the sulphide zone he states that the values drop to 0.40 ounces gold per ton. This statement may be debatable due to results of fair grade ore occurring along the "A" vein on the lower levels. The association of the gold values with pyrite takes on a more significant aspect in the sulphide zone. The disposition of the base metal contents is quite variable, and of greater importance in this lower zone. Dr. H.V. Warren of the University of British Columbia has identified the auriferous values as being obtained from native gold and minor tellurides. The tellurides are present in the forms of hessite and pitrite which form suggests they are primary in character and not the results of break-down of the telluride, calaverite

Dr. Warren's suggestion of the gold values being of a primary nature offsets Rice's suggestion of enrichment from the oxidized zone. Rice's reference to the possibility of zoning in the primary ore must go unchallenged due to insufficient evidence to date.

The sulphide minerals, pyrite, galena and sphalerite, appear to have been introduced into fractures in the vein-filling. These fractures being generally ^{parallel} with the vein-walls give the ore a pronounced banded appearance.

ECONOMICS OF PRESENT ORE RESERVES

Previous operators, prior to closing their operation, had compiled ore reserve sections for later use. Eighteen ore blocks, totalling 11,000 tons, averaged 0.76 oz. gold across a width of 20 inches.

Assuming a mining width of 24", these figures as per Schedule "A" break down to a tonnage figure of 14,400, grading 0.59 ounces gold per ton. This is a 31% increase in tonnage with a grade decrease of 22%.

Calculating on the accepted formula of a stopes recovery of 80%, a grade dilution of 10% and a mill recovery of 85%, this assumes a gross return of roughly \$195,000.00. To this figure, can be added \$20,000.00 for the silver values and \$10,000.00 for the lead content, for an overall revenue of \$225,000.00. Balanced against this are the following estimated production figures:

Mining Costs = \$ 9.00 per ton
Milling Costs = \$ 2.00 " "
11.00 per ton

On this basis expenditures approximate \$125,000.00, leaving a gross profit of \$100,000.00 to be applied against pre-production costs.

The base metal content is based solely on the writer's check sampling. This sampling was confined, other than for three samples, to the 7th and 8th Levels. The average lead content is 0.73% and the zinc 0.09%.

Assuming the same figures as used earlier for stope and mill recovery and grade dilution, and calculating silver at \$1.30 a pound and lead at 5¢ a pound, the respective dollar values are roughly \$20,000.00 and \$10,000.00. These figures have been added to the total revenue.

It is realized that the base metal grades are in conflict with the Lesser's recovery. The writer can only assume at this point that his check sampling confined as it was to the drifts on the lower levels was (1) in areas of localized low-grade content; (2) well below the average mine grade. These assumptions are given some credence by a sample taken from the drift back 45 feet west of stope 8 - 3, which was lesser-mined. This sample returned 0.44 oz. gold, 2.3 oz. silver, 1.17% lead and 2.2% zinc across 8 inches.

Past assay records included no silver, lead or zinc values. As a consequence production figures expected from these minerals can only be based on the limited amount of the check sampling.

A more accurate determination of grade will be derived from sampling of the stopes in the ore reserve blocks.

It is apparent that the present ore reserves will operate a 50 ton mill for a period of almost ten months. Within this period sufficient diamond drilling must be completed to allow development work to proceed to the point of opening new stopes. Production from these new stopes will offset the increased expenditures inherent with an exploration program.

From the above it appears essential that for Bayonne to survive as a producer an active underground diamond drilling and exploration program must form an integral part of its mining operation.

The presently outlined ore reserves, as outlined by the Bayonne Consolidated staff in 1946, are included with this report.

POSSIBILITIES OF FURTHER ORE BLOCKS

The prospect of adding to the present ore tonnage picture by bringing in new stopes is considered promising. In assessing this the writer is handicapped by the absence of assays, maps and the inaccessability of some of the levels at the present time.

The ready accessibility of ore sections close to portals likely influenced the mining procedure of past operators. As a consequence the more interior sections of the mine present a worthy exploration target.

The strong persistence of the #1 ore body through the 1st, 2nd and 3rd levels, indicates possibilities for the down dip continuation of the structure. This area requires early

exploratory drilling. Past operators had put three holes under this section but the results, unfortunately, are unknown. Should drill results be encouraging it will require 550 feet of possible dead drifting from the present 4 East Drift face to enter this zone. An encouraging factor is the weighted results of 3^{1/2} samples taken from this face by the writer which ran 0.40 oz. Au; 1.58 oz. Ag and 0.76% Pb across a 16 inch width.

The south vein from which this 4 E drift would advance has received little attention. A present ore block is outlined for a depth of 25 feet below the 4th Level. Here again diamond drilling would attempt to expand the reserves within the block. On the 3rd Level the 3 S - #2 stope justifies further examination.

Below the 4th Level no attempts have been made to follow this south vein to depth other than for two short drill holes on the 6th Level, which could have stopped short of the target.

Further exploration prospects on the Main vein include the area between the 6-H-248 and 6-L-256 raises. Previous drilling explored the ground below this section with apparently disappointing results. The 6 K stope must also be re-appraised.

The "A" vein has seen the more intensive stoping operations in the past. Of exploratory interest is the area immediately west of the 7 A 1 stope.

Check samples by the writer showed values of 1.01 oz. and 0.80 oz. gold across narrow widths 45 feet and 20 feet west and east respectively of 7 A 3 stope. This stope and 7 A 5, some 80 feet west, are to be thoroughly back sampled. Drilling should

also probe the area underlying the 6 A 1 E stope and the ground contained between blocks 1 and 2.

The high grade blocks 3, 4 and 5 should be tested at depth by drilling the 9th Level elevation. - -

In addition to the above prospective ore areas there are two known drill hole intersections that make drifting feasible. On the 3rd Level, hole 3 - 10, twenty-six feet in advance of 3 south, #2 drift cut 4 inches of 4.0 oz. gold. There is no record of assays in hole 3 - 9, forty feet further advanced from 3 - 10. On the 9th Level, hole #8 - 4 intersected 19 inches of 1.24 oz. gold. Hole #8 - 6, twenty-five feet beyond, apparently cut the vein at a lower horizon for a 10 inch return of 0.48 oz. gold. These holes, being steep holes put out from the 8th Level, would not represent true width.

To increase the present ore reserves the logical approach is to expand the presently known ore blocks by drilling. As the report recommendations call for a build-up in ore reserves the writer recommends the following areas from the standpoint of accessibility and costs:

1. Blocks 3, 4 and 5, in 8 A West Drift. The downward projection of this zone to the 9th Level and the up dip projection to surface could add 2,500 tons to the present ore reserves.
2. Blocks 6 and 7 in 8 A West Drift, below the 8 A 3 stope. The extension of these blocks to the 9th Level would create an additional 2,500 tons.

3. Block 9 in 8 A East Drift, below the 8 A 5 stope. Extending this block to the 9th Level would add 2,000 tons to the ore picture.

4. Area east and west of the #1 shaft on the 8th Level. This area underlies the mined-out 8 A 3 stope. A potential of 700 - 800 tons might be developed here.

5. Blocks 1 and 2 in the 6 A W drift, underlying stopes 6 A 1 and 6 A 2. The extension of these blocks to the 7th Level would increase the reserves by 1,300 tons.

A logical follow-up to this drilling, if successful, would be the down-dip extension to the 8th Level.

The above program will entail some 2,500 feet of drilling. To properly accommodate the drilling some 200 to 300 feet of crosscutwork must be done.

Successful drill results could add substantially to the present ore reserves and provide a working cushion for the mining staff. It must be realized, however, that all ore developed in this manner should be regarded as "drill-inferred reserves" and not "proven reserves". It enters this classification when drifting, raising or other mining operations substantiates the drill results.

Schedule "B" elaborates on the layout of these drill holes.

COMMENTS

The writer advises departure from the regular schedule for two reasons:

1. Weather
2. Cost condition

Information received recently from the mine refer to heavy snow and wind conditions as curtailling regular operations. The exposed position of the mine and the road allows heavy snow drifting. The Company's D-8 tractor is in almost continuous service clearing the road and keeping the camp site open. This detracts from its assigned duties at the camp, thereby slowing up construction of the mill and power houses. It is regularly dispatched to pull vehicles from the snow.

Work on the mill and power site are proceeded each day by a snow removal assignment. This is adding materially to labor costs. In addition the absence of the 'cat puts a heavier and more expensive load on the work force.

In view of the increasing costs and poor working conditions it would appear more feasible to suspend this phase of the operation and enter an underground drilling campaign in its place.

W. G. Hainsworth
Consulting Geologists.

Vancouver, B. C.
December 13, 1963.

	<u>BLOCK #</u>	<u>Ton</u>	<u>WIDTH</u>	<u>Grade</u>		<u>Ton</u>	<u>Grade</u>
Over 24"	1	600	28	.42	-	600	.42
	7	400	30	1.10	-	400	1.10
	9	900	24	1.13	-	900	1.13
18" - 22"	2	700	21	.52	-	800	.46
	6	1000	22	.54	-	900	.49
	10	900	21	.47	-	1000	.41
	11	500	18	.59	-	700	.44
	13	1300	22	.93	-	1400	.85
	14	900	18	.52	-	1200	.39
	16	700	18	.75	-	900	.56
	17	400	18	1.11	-	500	.83
Under 18"	3	600	12	.75	-	1200	.37
	4	100	10	1.35	-	300	.56
	5	300	9	1.13	-	800	.42
	8	300	12	1.04	-	600	.52
	12	500	14	1.56	-	800	.91
	15	600	16	.48	-	900	.32
	18	300	14	.80	-	500	.47
		<u>11,000</u>				<u>14,400 @ .59</u>	

SCHEDULE "B"

<u>Block #</u>	<u>Area</u>	<u>Depth of Hole</u>	<u>Bearing</u>	<u>Dip</u>
1A	7AE Dr	125'	N 50 E	+ 45°
	7AE Dr	100'	South	+ 60°
2A	7AE Dr	140'	S 30 W	+ 45°
	7AE Dr	100'	N 50 E	+ 60°
3A	8AW Dr	150'	S 20 W	- 60°
	8AW Dr	100'	S 10 W	- 45°
3B	8AW Dr	100'	S 20 W	+ 45°
4A	8AW Dr	150'	--	- 90°
	8AW Dr	120'	N 50 W	- 75°
4B	8AW Dr	80'	--	+ 90°
5A	8AW Dr	160'	N 05 E	- 45°
	8AW Dr	140'	North	- 30°
5B	8AW Dr	130'	N 20 E	+ 50°
6A	8AW Dr	150'	--	- 90°
	8AW Dr	130'	S 45 W	- 75°
7A	8AW Dr	150'	N 20 E	- 60°
9A	8AE Dr	200'	N 15 E	- 75°
Exploration	8AW Dr	200'	S 50 W	- 30°
Exploration	8AE Dr	150'	N 40 E	- 45°

19 Holes = 2,575 feet

SCHEDULE "C"

Diamond Drilling = 2500' @ \$4/ft. = \$10,000.00

Establishing drill stations, crosscuts,
laying water and air lines, etc.

(200' - 300' @ \$40/ft.) = \$12,000.00

Purchase and installation of 700' of
track

= \$ 3,000.00

Contingencies

= \$ 5,000.00

TOTAL COST

= \$30,000.00

CERTIFICATE

I, W. G. HAINSWORTH, of West Vancouver, B. C. do hereby certify:

1. That I am a Consulting Geologist, residing at 4664 Clovelly Walk, West Vancouver, B. C.
2. That I am a graduate of the University of Western Ontario, Bachelor of Science Degree.
3. That I have practiced my profession for 13 years.
4. That the information contained in this report is based on personal knowledge of the property obtained through constant contact with present operations at the mine. The writer has personally mapped and check-sampled the 7th and 8th levels and has examined the 1st and 6th levels, all other levels being presently inaccessible.

W. G. HAINSWORTH