Report on

The Bayonne Mine

Nelson Mining Division

British Columbia

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Calgary, Alberta
November 28, 1979

W.G. Hainsworth P.Eng.
Consulting Geologist

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Summary and Recommendations

Past operators at the Bayonne Mine extracted some 68,000 tons of ore material which yielded 31,115 ounces of gold and 83,620 ounces of silver.

The final year of operation was 1946 due to high costs and unavailability of materials. For the following 5 years lessees extracted small tonnages of high grade material.

Since 1951, there has been little activity resulting in eventual slumping in of portals and surface stopes and internal caving. Pilfering and vandalism have reduced the surface structure to rubble.

An attempt in 1963-64 to return the mine to past operations was nullified when the company involved gave higher priority to another developing project.

The present status of the mine is that the indicated ore reserves are sufficient to run a 50 ton mill for a year. It is expected however that mining operations will extend this period an additional 3-6 months. If a vigorous exploration program employing a diamond drill is instituted the writer feels confident that the reserves can be more than doubled. The addition of new lower levels in ore grade material will also extend the life of the mine.

Mill tonnage can eventually be upped from an initial 50 tons to 70 tons with the present water supply. Beyond this volume,adjustments must be made in the water supply.

A close stope control is necessary. The average vein width is 17½ inches. A practical mining width is 24 inches. Serious dilution can occur beyond this point thus lowering the mine income.

When operations begin again at the mine the writer offers the following recommendations. To survive as an active producer, Bayonne Mines must carry a strong exploration program. It is recommended that the suggestions advanced in "ore exploration areas" be thoroughly tested by drifting, sinking or diamond drilling. In addition work be commenced immediately on driving the 9th level from surface. This will eventually link up with the drift on the 9th level driven from the shaft. This adit will (1) eliminate expensive shaft haulage and (2) be into good ore in a shorter time period.

In addition emphasis should be placed on following up the vein structure exposed by the small shaft in the vicinity of #3 adit portal. If the shaft reveals good values to its lower limits then diamond drilling and crosscutting from the third and fourth levels should be undertaken.

The Echo vein structures could possibly provide the mill with additional feed and should be investigated by surface drilling and underground explorations. The possibility of subsidiary structures in this area is not remote.

The writer feels that the grade that has been outlined in the Bayonne Mine is a true representative grade. If the Bayonne is to have any problems, it will be in stope control due to the narrow widths of the structures. Another problem area might well be in the sorting of the oxidized and primary ores in the mill system.

The lateral persistence of the veins makes it appear that they could continue to greater depths. At the lower horizons the grade will decrease slightly, as evidenced, due to the appearance of more sulphide ores, but should still be in the economical range. In addition. vein width may tighten emphasing the rigid stope

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control requirement.

Appendix "B" gives an approximate cost schedule regarding the above recommendation.

Operations at the Bayonne should be staged with the first stage being a drilling and sampling phase which would assess the full value of the mine and delineate ore extension. A rough estimate of these costs are $325,000.

Stage II would be a more complicated operation entailing full underground mining procedure. This would require a greater gearing up than the early phase. A rough estimate is $364,000.

Stage III would be a full feasibility study of the operation with definitive figures being derived for operations. At this time, these figures are not practical.

Estimated costs of the two phases are shown in Appendix "B".

Respectfully submitted,

W.G. Hainsworth, P. Eng.

November 28, 1979

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Introduction

At the request of Mr. R. Sostad the owner of the Bayonne group of crown grants, this report on the economic feasibility of the property has been prepared.

No recent visit has been made by the author to the property. However, the last active work on the claims was laid out and supervised on an almost constant basis by the writer. This was in 1963-64. There has been no active work on the property since that time.

In effect, the property has not changed since my last report of June 26, 1964. What has changed, has been the viability of the product the property can deliver - gold.

In 1964, gold was priced at $35.00 an ounce. At the time of this report, it is $387.00 American or $452.00 Canadian.

Labor costs have correspondingly increased. In 1964, it was estimated that to mine and mill one ton of ore at the Bayonne would cost $9.00. Today, that same ton of ore would cost in the area of $60.00. What now becomes of prime importance is the grade of the ore.

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Location

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

The property consists of seventeen contigious granted mineral claims situated on the south-westerly slope of John Bull Mountain, in the Selkirk Range. Bayonne Creek, a tributary of the West Fork of Summit Creek, flows through the claims along the base of the mountain.

The claims, which consist of 6 Crown-granted claims, and 11 reverted Crown-granted claims are identified as follows:

Crown-granted Claims :	Bayonne	Lot No. 5083
	Columbus	Lot No. 5961
	Ohio	Lot No. 5962
	New Jersey	Lot No. 5967
	Virginia	Lot No. 6887
	Skookum	Lot No. 9360
Reverted Crown-granted Claims :	Oxford	Record No. 725
	Delaware	Record No. 726
	Illinois	Record No. 727
	Echo	Record No. 728
	Echo Fraction	Record No. 729
	Ontario	Record No. 730
	Portland	Record No. 731
	St. Elmo Fr.	Record No. 732
	Idaho	Record No. 733
	Maryland	Record No. 773
	Kentucky	Record No. 774

In addition, Mr. Sostad has the surface rights to the Ohio Crown grant upon which the mill and camp buildings were previously erected. He also has the rights to 50,000 gallons of water per day from Bayonne Creek.

All rentals on the Crown-grants, reverted Crown-grants and the surface and water rights have been paid for 1979-80.

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Access

Previous operators of the mine had built a road extending from Tye Siding (Kettle Valley branch of the C.P.R.) on the west side of Kootenay Lake up Cultus and Canyon Creeks to the mine site. This 45 kilometer route serviced the mine through trucks in summer and caterpillar tractors in winter.

With the 1963 completion of the Salmo-Creston Highway, Torwest Resources (1967) Limited, then holding the property and working in conjunction with the Wynndel-Box Lumber Company, completed a ten kilometer road from the mine site to the highway. It connected with the new highway at a point 40 kilometers west of Creston. In total, this route brings the Cominco Smelter at Trail within 110 kilometers of the mine site.

The present day condition of this roadway is uncertain. The logging company will likely have maintained its section of raod during operations but the last 4 kilometers (out of the logging limits) is likely to be in extremely poor condition due to lack of upkeep.

Topography

The general area forms part of the Selkirk Mountain Range with the claims being located on John Bull Mountain. Elevations vary from 1,585 (5,200') meters at Bayonne Creek to 2,380 meters (7,800') at the #1 portal near the summit of the mountain. The depth of oxidation (over 135 meters in thickness) prevailing in the mine workings leads to the assumption that the thickness of the glacial ice 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. The writer made these measurements in the summer of 1963. This is sufficient water to carry a 50 ton flotation mill.

Sufficient potable water can be trapped in catch basins from nearby small streams to supply the needs of a small camp.

Timber: With logging operations having been carried on in the lower areas it is doubtful whether sufficient timber could be obtained in the immediate vicinity for mining operations. It is recommended that mining timber be obtained from any of the logging companies in the area.

Tree line on the property is around the 1,740 meter (5,700') elevation.

Manpower and Supplies: Both Creston and Salmo have experienced mining operations in their vicinities with the subsequent development of underground mines. However, the recent dearth of mining activities may well have forced these miners to move to other areas of activity.

Normal camp supplies can be obtained at either of the above towns whereas, underground supplies, if not available in Nelson, can be picked up in Vancouver.

Housing: In 1963, the 12 room bunkhouse was completely renovated. However, the writer doubts that it has withstood the ravages of time and the thievery and vandalism of the locals. No other accommodation buildings were undertaken.

The old mill site was completely cleared awaiting a new building. The mill building never did arrive before the property was abandoned.

History of the Property

The Bayonne Area came into prominence in 1901 with initial interest being centered 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 3 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 from Tye Siding 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 development program was instituted. Until 1939 production was steady but was halted at this date in favour of an extensive exploration and development program. Production resumed following the disclosure of sufficient ore reserves until August 1942. The shortage of manpower and materials due to the war forced a closing down of the operation. In August 1945, the company attempted to put the mine back into operation. The high cost of maintaining labour combined with the postwar material shortage forced a closure in July 1946. Lessees operated the property sporatically between 1947 and 1951.

In 1942, a dividend of $25,000 was paid by the Company.

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

Period	Operators	Tonnage	Au (oz.)	Ag (oz.)	Pb (lb.)	Zn (lb.)
1938-42	Bayonne Consolidated	64,695	30,398	79,715	-------	--------
1945-46	" "	2,196	263	707	-------	--------
1947-51	Lessees	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%

In 1963, Torwest Resources (1962) Ltd. optioned the property. The writer, acting in his capacity as consultant for that company, laid out the program and supervised the work.

In addition to the connecting of the mine site to the Salmo-Creston Highway, both portals of the #8 level, which were slumped in, were cleared and retimbered. In addition, the #8 level which was to serve as the main haulage way had the track size changed from the light 18" rail to the heavy 24" gauge. Certain areas of this level were retimbered due to rotting mine timber. The #8 "A" vein entry was cavdd some 213 meters (700') in from the portal. Before leaving the property some 91 meters (300') of track were laid and it was estimated that when the blockage was reached there would be less than 18 meters (60') to be mucked out.

The writer travelled through the majority of the stopes on the 6th, 7th and 8th levels. sampling as many as possible. Where not too hazardous, stopes on the

upper levels were visited and sampled. In all, more than 200 check samples were cut. The results of the sampling in many instances vindicated the previous operators stopeing actions, while in other cases it revealed further areas for investigation or operation.

A contour survey using 1½ meter (5') intervals was made in the general area northeast of the #8A Portal. The function of the survey was to locate suitable elevations at which to collar the #9 and #10 levels.

Prior to closing the operation three drill holes using AX equipment were sited to penetrate the "A" vein extension east of the 9AE drift. One of the holes cut the vein with modest results, whereas the other two holes drew blanks.

In october 1964, operations at the Bayonne property were halted. This was due to priority being given to a potential molybdenite body being developed by the company in the Rossland area. Subsequently, the option was dropped.

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Geology

The property covers ground near the southwestern corner of a large granodiorite intrusive known as the Bayonne Batholith. Of generally a medium to moderately fine grained appearance, the composition tends to vary 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. Horses of granodiorite, sometimes well mineralized, may import widths of up to 10 feet to 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 this zone average; according to reports, in the 1 to 2 ounce classification. The writer picked up a sample from #3 ore dump of this type of ore which assayed 62 ounces of gold to the ton. Rice in Memoir 228, Geological Survey of Canada, refers to a 50' transitional zone lying between this oxidized zone and the lower primary zone. The grade reputedly drops off to 0.5 to 1.0 ounce in this sector. Entering the sulphide zone he states that the values again drop to 0.4 ounces. This statement is debatable due to results of fair grade ore occuring in 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, identified the auriferous values as being obtained from native gold and minor tellurides. The tellurides are present in the forms of hessite and petzite which forms suggest they are primary in character and not the results of a breakdown of the telluride, calaverite. Dr. Warren's observation of the gold values being of a primary nature offsets Rice's thinking that the gold is an enrichment from the oxidized zone. Rice's reference to the possibility of zoning in the primary ore must go unchallenged due to insufficient evidence at this time.

The sulphide minerals, pyrite, galena and sphalerite appear to have been introduced into fractures in the veinfilling. These fractures lying generally with the vein walls give the ore a pronounced banded appearance.

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Economics of Present Ore Reserves

Previous operators prior to closing their operation had compiled ore reserve sections for a later use. Eighteen ore blocks totalling 11,000 tons with a grade of 0.78 ounces gold per ton across an average width of 20 inches were assembled. The writer through systematic sampling in 1963 added a further four ore blocks (#19-22), increasing the reserve tonnage to 12,450 for an average grade of 0.79 ounces gold per ton over a 17½ inch width.

Assuming a practical mining width of 24 inches these figures as per schedule "A" break down to a tonnage figure of 17,200 grading 0.58 ounces gold per ton. This is a 38% increase in tonnage while lowering the grade by 27%. If a mining width of 30 inches is assumed, the figures break down to 21,500 tons running 0.46 ounces gold per ton. In this case, the tonnage is increased 72% from the original figures, whereas, the gold grade drops 42%.

Calculating on the accepted formula of a stope recovery of 80%, a grade dilution of 10% and a mill recovery of 85%, this assumes a gross return of roughly $2.4 million. To this figure can be added $250,000 for the silver values and $180,000 for the lead content, giving an overall revenue of $2.83 million for the 24" stoping width. The 30" mining width will return the same revenue spaced over a slightly longer period.

If we assume a mining-milling production cost of $75 per ton then operational expenditures will approximate $1.03 million leaving a gross profit of $1.8 million on the presently known ore reserves. The larger mining width (30") will require a greater expenditure due to the increased tonnage.

The base metal content is based solely on the writer's check sampling. It is the average of roughly some 200 samples. The average lead content is 0.95% or 19 lbs. to the ton. The zinc content is extremely low averaging about 0.10% or 2 lbs. to the ton. The lead average includes sampling from areas of weak gold values which in all likelihood will not be mined. It is expected the mill feed will average better than 1.0% lead.

The sampling shows a silver to gold ratio that is roughly 2½ silver to one part gold. This is also borne out by early production figures of the bullion produced where the ratio is very similar .

Assuming the same production figures as used earlier for stope and mill recovery and calculating silver at $20 an ounce and lead at 65¢ a pound, the respective dollar values are roughly $244,000 and $179,000. These figures have been added to the total revenue. Refer to Appendix "A".

It is realized that the base metal grades are in conflict with the lessee's recovery. The writer can only assume at this point that his check sampling confined as it was to special areas was (1) in areas of localized low-grade content and/or (2) well below the average mine grade. As mentioned previously, some of the sampling grades as incorporated into the overall average were from areas that will bear no relation to final production figures.

The outlined ore reserves as drawn up by the Bayonne Consolidated Staff in 1946 and including the additions to the reserves as derived by the writer is detailed in Appendix "A".

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Ore Exploration Areas

The prospect of adding to the present ore tonnage picture by bringing in new stopes is considered promising.

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.

It should be realized that as mining advances deeper into the hillside, the zone of oxidation retreats as the zone of primary mineralization (sulphides) is approached. The gold grades will fall off slightly.

As the only major change made in the Bayonne picture since 1964 has been one of economics and metal values, the writer again advances his recommendations.

The strong persistence of the #2 ore body through the first, second and third levels indicates possibilities for the down dip continuation of the structure. This area requires early exploration. Past operators had put 3 holes (#3-1, 3-2 and 3-3) under this section but the results are unfortunately unknown. The writer suggests sinking on the vein in 1 or 2 locations for a short depth from the 3rd level. Should results be encouraging the 4 East drift can be pushed ahead. Although an apparent 550' of dead drifting is outlined, 3 samples cut across the face of the 4 East drift by the writer ran an encouraging 0.40 oz/t gold, 1.58 oz/t silver and 0.76% lead across a 16" width.

The south vein from which this 4 East drift would advance has received little attention. A present ore block (#15) is outlined for a depth of 25 feet below this level. The chances are good that the ore will extend to twice this depth, possibly to the next level. Here again sinking on the structure is recommended.

On the third level the 3S-#2 stope justifies further examinations. Expansion up the vein is quite likely. This level has not been examined by the writer due to portal caving.

Below the 4th level no attempts have been made to follow this South Vein to depth other than for two short drill holes (#6-11 and 6-12) on the 6th level. These could possibly have stopped short of their target.

Further exploration prospects on the Main Vein include the area contained between the 6-H-248 and 6-I-256 raises. Previous drilling explored the ground below this section with apparently disappointing results. The6K stope must also be reappraised.

The "A" Vein has seen the more intensive stopeing operations in the past. Of exploratory interest is the area immediately west of 7A1 stope. As the stopes on this section in the upper levels had broken through to surface, the writer sees no reason why this stope should not carry values also out to surface.

Sampling in the Sub stope (6AW) adjacent to 6A2 stope shows values that might well indicate this stope could be carried further to the west.

The high grade blocks 3,4 and 5 on the eighth level cover a strike distance of 260'. These blocks could well extend below their indicated 25' depth. A similar result is indicated for blocks 6 and 7. It is quite possible that with todays metal prices these five blocks might form two continuous blocks.

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In addition to the above prospective ore areas there are two known drill hole intersections that make immediate drifting feasible. On the 3rd level, hole 3-10, 26' in advance of 3S#2 drift cut 4" of 4.0 oz/t gold (24" of 0.67 oz/t). There is no record of assays in hole 3-9, 40' further advanced from 3-10.

On the 9th level, hole 8-4 intersected 19" of 1.24 oz/t gold (24" of 0.98 oz/t). Hole 8-6, 25' beyond, cut the vein at a lower horizon for a 10" return of 0.48 oz/t gold (24" of 0.20 oz/t). These two holes strongly suggest the downward extension to this level of ore block #9.

Two parallel vein structures on the 4th level just east of the vein crosscut returned assays of 6.63 oz/t gold across 12" on one(24" of 3.31 oz/t) and 2.30 oz/t gold across 24" on the other. These values warrant drifting on the veins.

A healthy mine keeps exploration well ahead of its development headings and production stopes. Future operations at the Bayonne should proceed in a similar manner.

Eight levels at Bayonne Mine are driven by adit methods, the ninth by an internal winze operation. It is an understood fact that shaft operations are much more costly than adit operations and to this end a surface contour survey was undertaken in 1964 to see if the 9th level could be adit-driven.

Results of the survey have shown that the 9th level can be driven from surface as can a 10th level. These levels will approach from the "A" vein side. To intersect the vein on the 9th level will require 350 feet of crosscutting. 600 feet will be necessary on the 10th level before encountering the vein structure.

Subsequent deeper levels will provide a problem only in that their portals will be located on a steep sidehill.

Work to date has naturally been concentrated on the Main and/or the "A" vein with immediate production as the goal. The broader aspect of field exploration has had little backing. The Bayonne group of claims offers excellent opportunities for further surface work. There are indications of additional vein structures either related or independent of the developed system.

A related structure is the North Vein on which very little work has been done. A shallow shaft, presently caved in, some 200 feet north of #3 level portal yielded 1.02 ounces gold per ton and 6.55 ounces silver per ton from a grab sample taken from the ore dump. The only attempt to locate this vein in the underground workings was a single short hole put out to the north from the 5th level. It is recommended that further underground holes be put out from the 4th level. In addition bulldozer cut should be made across the strike of the vein followed by shallow trenching directed toward the westward continuation down the hillside.

To the south of the "A" vein parallel structures were located by prospectors in the early history of the area. Two short tunnels were driven on separate veins on the Echo claims. One of these tunnels has also been located. An assay from a grab sample taken by the author from the dump ran 0.08 ounces gold per ton, 1.35 ounces silver per ton and 1.17% lead. Further sampling of this tunnel is warranted.

Surface exploration for the eastward extension of the vein system above the 2,100 meter (6,900') surface contour has never been undertaken. Systematic shallow drilling along the prospected strike could possibly uncover further lodes.

Opportunities to drill off possible stope extensions from underground are numerous. The positioning of the main and "A" veins allows drilling of one from drifts on the other.

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Indications are that Bayonne Consolidated drilled some 51 holes throughout the underground. Thirty-nine (39) have been spotted on the mine plans. Unfortunately, neither logs nor assay results are available save what has been plotted on the plans.

Respectfully submitted,

W.G. Hainsworth, P. Eng.

November 28, 1979

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CERTIFICATE

I, W.G. Hainsworth, P.Eng. of Calgary, Alberta do hereby certify:

(1) That I am a Consulting Geologist residing at 2310 Carleton St. S.W. Calgary, Alberta.

(2) That I am a graduate of the University of Western Ontario, London, Ontario, Bachelor of Science Degree.

(3) That I have practiced my profession for 29 years.

(4) That I have no financial interest, direct or indirect, in the Bayonne Mine and do not expect to obtain any such interest.

(5) That the information contained in this report is based on personal knowledge of the property obtained through contact with latter phases of the operation and examination of maps and data pertaining to the area in general.

W.G. Hainsworth P.Eng.

To accompany report on
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November 28, 1979.

Block #	Tonnage	Width	Grade	24" Mining Width Tonnage	24" Mining Width Grade	30" Mining Width Tonnage	30" Mining Width Grade
(Over 24")							
1	600	28"	0.42	600	0.42	650	0.39
7	400	38"	1.10	400	1.10	400	1.10
9	900	24"	1.13	900	1.13	1,100	0.90
(From 18"-22')							
2	700	21"	0.52	800	0.46	1,000	0.36
6	1,000	22"	0.54	1,100	0.49	1,350	0.39
10	900	21"	0.47	1,000	0.41	1,300	0.33
11	500	18"	0.59	700	0.44	850	0.35
13	1,300	22"	0.93	1,400	0.85	1,750	0.68
14	900	18"	0.52	1,200	0.39	1,500	0.31
16	700	18"	0.75	900	0.56	1,150	0.45
17	400	18"	1.11	550	0.83	650	0.67
(Under 18")							
3	600	12"	0.75	1,200	0.37	1,500	0.30
4	100	10"	1.35	250	0.56	300	0.45
5	300	9"	1.13	800	0.42	1,000	0.34
8	300	12"	1.04	600	0.52	750	0.42
12	500	14"	1.56	800	0.91	1,050	0.73
15	600	16"	0.48	900	0.32	1,150	0.26
18	300	14"	0.80	500	0.47	650	0.37
19	450	12"	0.67	900	0.34	1,100	0.27
20	300	15"	0.72	500	0.45	600	0.36
21	250	11"	0.45	500	0.21	700	0.17
22	450	12"	1.71 (cut)	900	0.86	1,100	0.68

12,450 @ 0.79oz/t gold

17,200 @ 0.58 oz/t gold

21,500 @ 0.46 oz/t gold

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APPENDIX "A"

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Block #	Tonnage	Width	Grade	24" Mining Width Tonnage	24" Mining Width Grade	30" Mining Width Tonnage	30" Mining Width Grade
(Over 24")							
1	600	28"	0.42	600	0.42	650	0.39
7	400	38"	1.10	400	1.10	400	1.10
9	900	24"	1.13	900	1.13	1,100	0.90
(From 18"-22')							
2	700	21"	0.52	800	0.46	1,000	0.36
6	1,000	22"	0.54	1,100	0.49	1,350	0.39
10	900	21"	0.47	1,000	0.41	1,300	0.33
11	500	18"	0.59	700	0.44	850	0.35
13	1,300	22"	0.93	1,400	0.85	1,750	0.68
14	900	18"	0.52	1,200	0.39	1,500	0.31
16	700	18"	0.75	900	0.56	1,150	0.45
17	400	18"	1.11	550	0.83	650	0.67
(Under 18")							
3	600	12"	0.75	1,200	0.37	1,500	0.30
4	100	10"	1.35	250	0.56	300	0.45
5	300	9"	1.13	800	0.42	1,000	0.34
8	300	12"	1.04	600	0.52	750	0.42
12	500	14"	1.56	800	0.91	1,050	0.73
15	600	16"	0.48	900	0.32	1,150	0.26
18	300	14"	0.80	500	0.47	650	0.37
19	450	12"	0.67	900	0.34	1,100	0.27
20	300	15"	0.72	500	0.45	600	0.36
21	250	11"	0.45	500	0.21	700	0.17
22	450	12"	1.71 (cut)	900	0.86	1,100	0.68

12,450 @ 0.79oz/t gold

17,200 @ 0.58 oz/t gold
21,500 @ 0.46 oz/t gold

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Gold = $400 per ounce
Silver = $20 per ounce
Lead = 65¢ per pound

Stope Recovery = 80%
Grade Dilution = 10%
Mill Recovery = 85%

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Gold = $400 per ounce
Silver = $20 per ounce
Lead = 65¢ per pound

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Grade Dilution = 10%
Mill Recovery = 85%

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	24" Width	30" Width
Stope Tonnage	= 17,200 x 80% = 13,760 tons	= 21,500 x 80% = 17,200 tons
Grade Dilution	= 0.58 x 90% = 0.522	= 0.46 x 90% = 0.414
Mill Recovery	= (13,760 x 0.522) x 85% = 6,105.3 oz.	= (17,200 x 0.414) x 85% = 6,052.7
Gold Gross Value	= 6,105 x $400 = $2,442,000	= 6,052.7 x$400 = $2,421,000
Silver Gross Value	= 6,105.3 x 2½ x $20 = $244,000	= 6,052.7 x 2½ x $20 = 242,000
Lead Gross Value	= 13,760 x 1% x .65 = 179,000	= 17,200 x 1% x .65 = 223,000
	Total Gross = $2,865,000	=$2,886.000
Production Costs =	13,760 x $75 = 1,032,000	17,200 x $75 = 1,290,000
	Gross Profit = $1,833,000	$1,596,000

Production Life = $\frac{13,760}{50}$ = 275 days

$\frac{17,200}{50}$ = 344 days

@ 50 tons per day

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Stope Tonnage = 17,200 x 80% = 13,760 tons		= 21,500 x 80% = 17,200 tons	
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Gross Profit =	$1,833,000		$1,596,000

Production Life = $\frac{13,760}{50}$ = 275 days @ 50 tons per day

$\frac{17,200}{50}$ = 344 days

APPENDIX "B"

Approximate Cost Expenditures

Phase I - Drilling and Sampling to Delineate Ore Extensions

Contractor: Surface Diamond Drilling
1500 meters BQ @ $57 per meter = $ 85,000

Underground Diamond Drilling
2400 meters BQ @ $57 per meter = 136,800

(Note: A truck mounted compressor should suffice for air while water can be pumped from #9 level shaft. It is expected there will be no track on the various levels consequently the drill will need to be torn down and carried to its locations.)

Company:	3 men for 5 months,	
	2 samplers @ $1300 =	13,000
	1 geologist/supervisor @ $2200 =	11,000
Equipment Rental:	Generator	3,000
	Lamps, Lamp Charger	3,000
	4-wheel drive vehicle	4,000
Equipment Purchase:	Camp outfitting	6,000
	Underground supplies	3,500
Camp Maintenance:	Food	8,000
	Fuel	3,000
	Miscellaneous	5,000
	Total	$ 281,800
	Contingency (15%)	42,270
		$ 324,070
	Say	$ 325,000

Phase II - Underground Developments
(CONTRACTOR)

Assuming: Drifting and Crosscutting @ $655.00 per meter
Sinking, taking down backs @ $175.00 per cubic meter
Raising @ $490.00 per meter

Third Level - Raising, 15 meters;
Drifting, 15 meters $ 17,175

Fourth Level - Drifting, 180 meters;
Sinking, 23 cu. meters ("A") 121,925

Sixth Level - Taking down backs, 85 cu. meters ("A") 14,875

Eighth Level - Taking down backs, 140 cu. meters ("A") 24,500

	Ninth Level - Adit Crosscutting, 90 meters ("A") Drifting, 20 meters ("A")	72,025
	Plus 2 miners to lay track, water and air lines and retimber =	16,000
Company:	1 geologist/supervisor	8,800
	1 sampler	5,200
	Boarding	2,400
	4-wheel drive Rental	3,200
	Air and water lines, track and timber	30,000
	TOTAL	$ 316,100
	Contingency (15%)	47,415
		$ 363,515
	Say	$ 364,000

Phase III - Production Decision

Feasibility Study, Camp emplacement and Road upgrading.