

IMPERIAL METALS CORPORATION

MOUNT POLLEY PROJECT

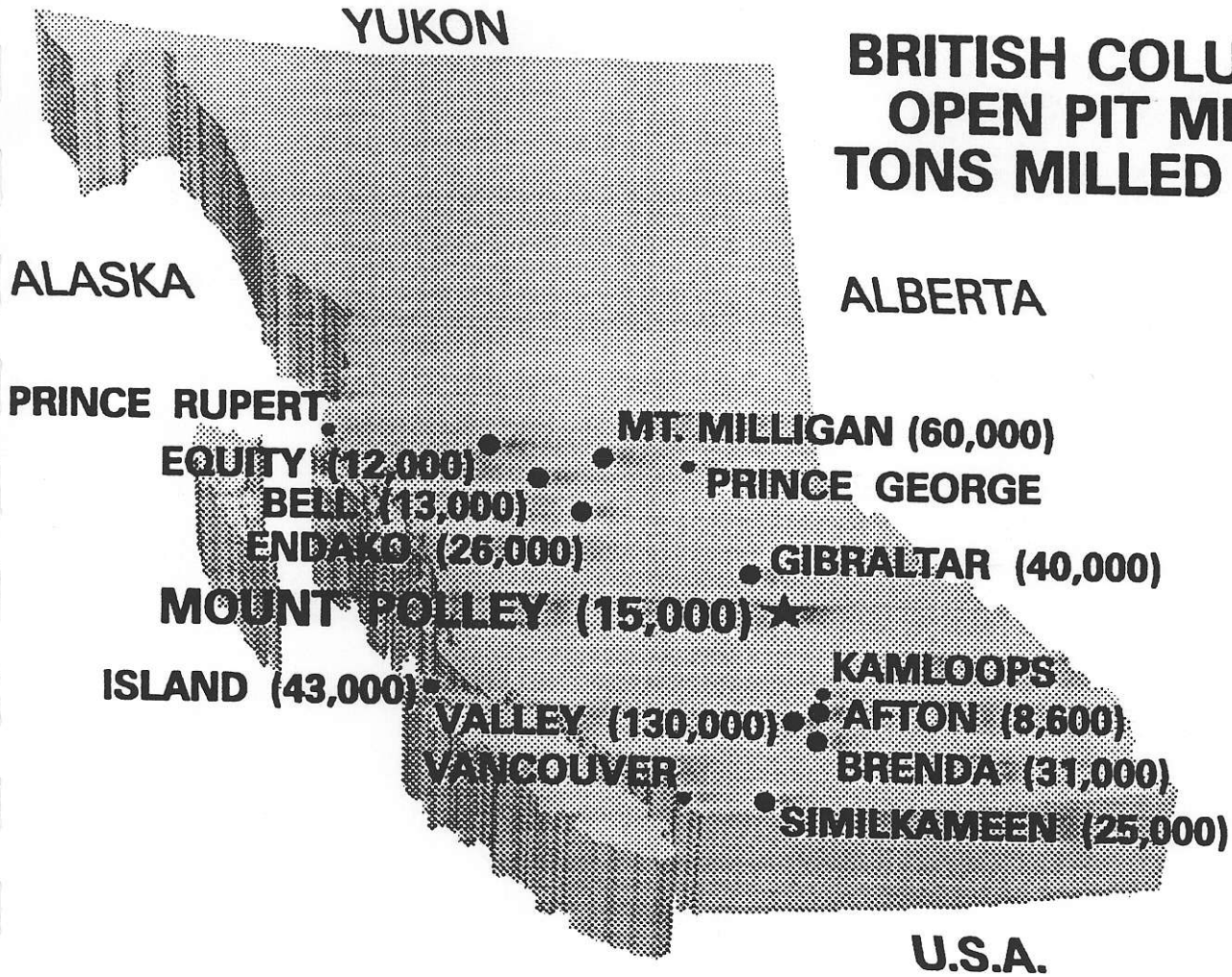
**VANCOUVER, B.C.
April 16, 1991**

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BRITISH COLUMBIA OPEN PIT MINES TONS MILLED DAILY



PREAMBLE:

The two most advanced copper projects in Canada are:

- The Mount Polley porphyry copper deposit, at **development financing stage**, and
- The Mount Milligan deposit, recently purchased by Placer Dome for \$258 million, at **feasibility study stage**.

The geological reserves of Mount Polley and Mount Milligan are as follows:

		<u>Mount Polley</u>	<u>Mount Milligan</u>
Tons	- million	254	440
Copper Equiv.*	- %	0.42	0.43
Copper %	- %	0.26	0.20
Gold oz/t	- oz/t	0.010	0.015
Contained copper	- bill. lbs	1.32	1.70
Contained gold	- mill. ozs	2.54	6.60

All other undeveloped Canadian porphyry copper deposits are either small, of lower grade, at remote locations or at an early exploration stage.

Source:

For Mount Polley: Feasibility Study.

For Mount Milligan: Placer Dome Inc. 1990 Annual Report.

- * *Copper equivalent calculated using average 1990 metal prices and reported metal contents.*

This document provides a concise summary of the Mount Polley Project for investors be they financial institutions, mining companies or individuals.

- Canada and British Columbia are among the Western World's major producers of copper and gold.
- British Columbia's expertise in developing and operating porphyry open pit copper deposits is second to none in the world.
- During the 1980s there was a worldwide hiatus in the development of new porphyry copper mines.
- Only one transaction of an advanced porphyry copper property took place in Canada during the last ten years: Placer Dome Inc. purchased the Mount Milligan deposit.
- Most of British Columbia's porphyry copper deposits were discovered and developed by exploration companies whose resources could cover only a fraction of the funds needed for mine development.
- Both the exploration companies and the investors that provided the funds were rewarded handsomely for their investments.
- Mount Polley's tonnage, grade and mining and processing technology fit very comfortably into British Columbia's family of porphyry copper deposits.
- While the copper grades at Mount Polley are approximately average for British Columbia's porphyry copper deposits, appreciably higher than average gold grades make Mount Polley the most competitive unit cost producer.
- Mount Polley's Pit S-19 was designed to provide fast bank debt retirement. Under reasonably conservative metal prices, bank debt will be retired within 3 years of production.

- The magnitude of Mount Polley's presently known reserves, its identified but untested targets on the property and past performances of British Columbia's other porphyries strongly suggest that the mine life of Mount Polley will extend well beyond the presently anticipated 14 years.



BRITISH COLUMBIA

PORPHYRY COPPER MINES

INTRODUCTION

Canada is the Western World's **third largest** copper producer and B.C. porphyry copper mines contribute slightly less than 50% of Canada's production.

Table 1 provides a review of the reserves, throughput and grades of B.C.'s past and present mines at the production start-up and actual performance during the first three full years of production.

TABLE 1
BRITISH COLUMBIA
PORPHYRY COPPER MINES
START-UP PERFORMANCE

<u>MINE</u>	<u>FEASIBILITY STUDY</u>			<u>ACTUAL</u>		<u>(%)RATIO OF</u>		<u>Year</u>
	<u>K TONS</u>	<u>Cu%</u>	<u>PR. RATE</u>	<u>PRODUCTION</u>	<u>PR. RATE</u>	<u>ACTUAL TO</u>	<u>FEASIBILITY</u>	
AFTON	34000	1.00	2450	3068	1.07	1.25	1.07	1979
				3134	1.07	1.28	1.07	1980
				2814	0.93	1.15	0.93	1981
BELL	46000	0.50	3500	4114	0.59	1.18	1.18	1973
				4500	0.52	1.29	1.04	1974
				4800	0.46	1.37	0.92	1975
BETHLEHEM	16000	0.90	1155	1204	1.04	1.04	1.16	1963
				1266	1.04	1.10	1.16	1964
				1445	0.86	1.25	0.93	1965
BRENDA	176000	0.18	8400	8987	0.21	1.07	1.18	1971
				9503	0.21	1.13	1.16	1972
				8868	0.20	1.06	1.13	1973
GIBRALTAR	315000	0.37	10500	15082	0.48	1.44	1.30	1973
				13265	0.40	1.26	1.08	1974
				11448	0.43	1.09	1.16	1975
GRANISLE	23000	0.53	1750	1944	0.78	1.11	1.47	1967
				2230	0.68	1.27	1.28	1968
				2330	0.60	1.33	1.13	1969
ISLAND COPPER	283000	0.52	11200	12071	0.50	1.08	0.96	1973
				11200	0.47	1.00	0.90	1974
				13313	0.48	1.19	0.92	1975
LORNEX	293000	0.43	12250	13987	0.42	1.14	0.98	1973
				16445	0.46	1.34	1.07	1974
				12893	0.50	1.05	1.16	1975
SIMILKAMEEN	31600	0.43	5250	5357	0.45	1.02	1.05	1973
				5086	0.48	0.97	1.12	1974
				4072	0.46	0.78	1.07	1975
VALLEY COPPER	800000	0.48	7000	7906	0.52	1.13	1.08	1983
				9300	0.51	1.33	1.06	1984
				10247	0.49	1.46	1.02	1985

Not listed: Endako (Moly); Equiry Silver (Silver); Highmont (Copper/Moly) and Kitsault (Moly).

Mount Polley will join a long list of B.C. porphyry copper mines: Afton, Bethlehem, Island Copper, Ingerbelle, Granisle, Bell, Highland Valley Copper, Lornex, Gibraltar, Brenda ...

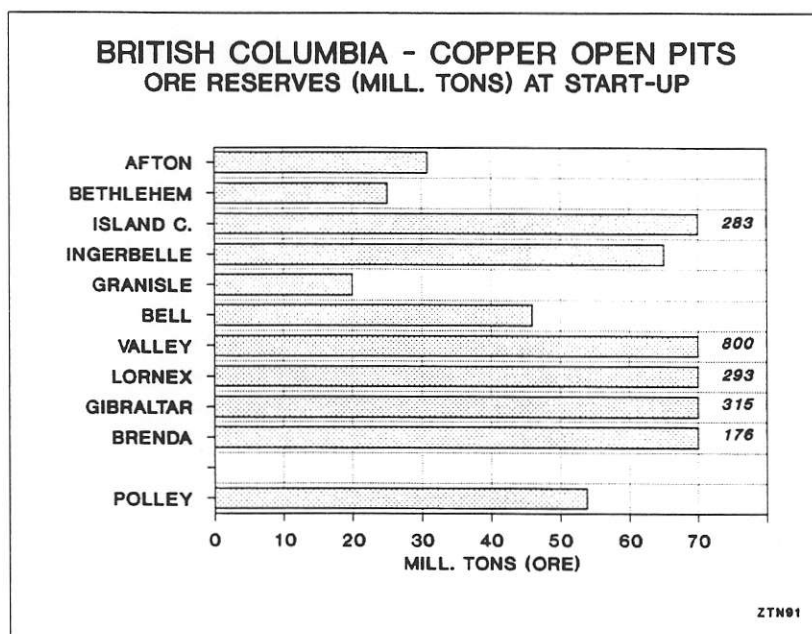
B.C. open pit copper mines process approximately 100 million tons of ore per year and recover about 700 million pounds of copper, 12 million pounds of molybdenum and 120 thousand ounces of gold. Total ore reserves at the producing mines will sustain this rate of production for less than 12 years.

The illustrations that follow offer a brief overview of selected features of B.C. porphyry copper mines. Mount Polley data is included where appropriate.

ORE RESERVES

Graph 1 provides a comparison of ore reserves at start-up. Initial reserves range from a low of 20 to a high of 800 million tons of ore. Typically, initial reserves have substantially understated the full potential of the mines' economic reserves.

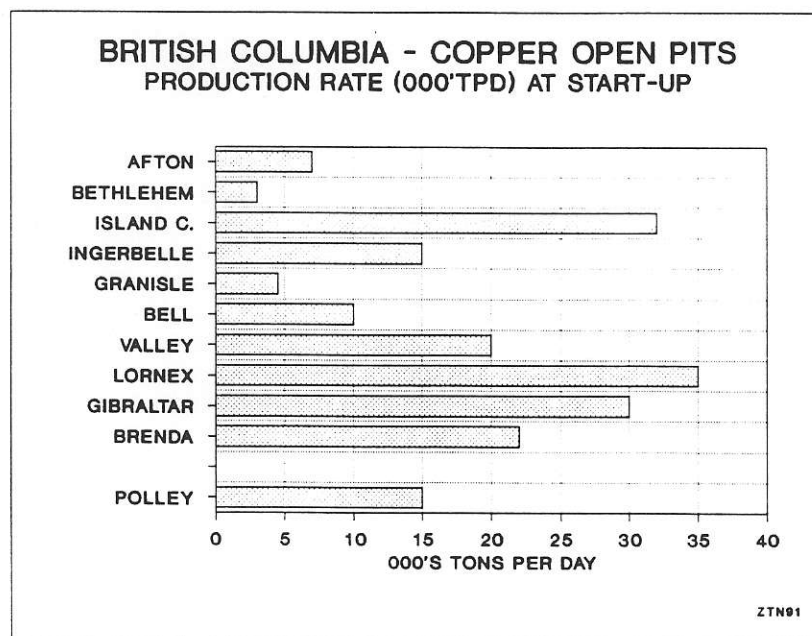
GRAPH 1



PRODUCTION RATE

Graph 2 illustrates the design start-up production rates of the B.C. porphyries. Without exception these rates were substantially exceeded, reflecting the flexibility of mine and plant design and increases of ore reserves.

GRAPH 2



The most recent (last production year) rates for the mines listed in the graph were:

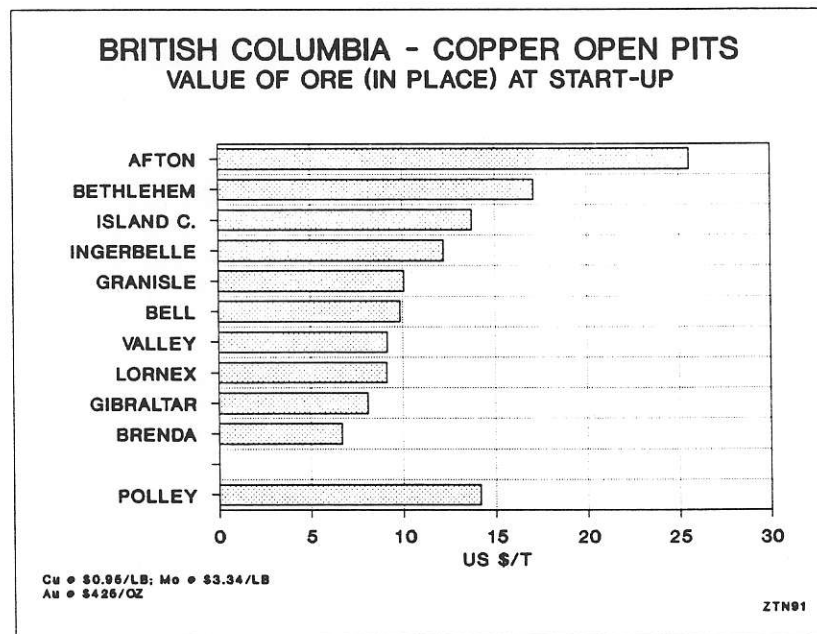
Afton (8,000 tpd), Bethlehem (20,000 tpd), Island Copper (54,000 tpd), Ingerbelle (23,000 tpd), Granisle (12,000 tpd), Bell (16,000 tpd), Highland Valley (146,000 tpd), Lornex (92,000 tons per day), Gibraltar (37,000 tpd), and Brenda (36,000 tpd).

VALUE OF ORE

Graph 3 compares the values of one ton of ore in place at start-up. This rather simple method of ranking deposits which have many common characteristics provides an initial and often quite robust valuation.

Applying 1990 metal prices to the start-up grades, the majority of B.C. porphyries would have commenced production with significantly lower per ton values than Mount Polley.

GRAPH 3



During 1990 B.C. porphyry mines recovered an average of 6.7 lbs of copper, 0.12 lbs of moly and 0.0012 oz/t of gold from every ton of ore processed, for a gross value of US\$8.91 per ton (at 1990 prices).

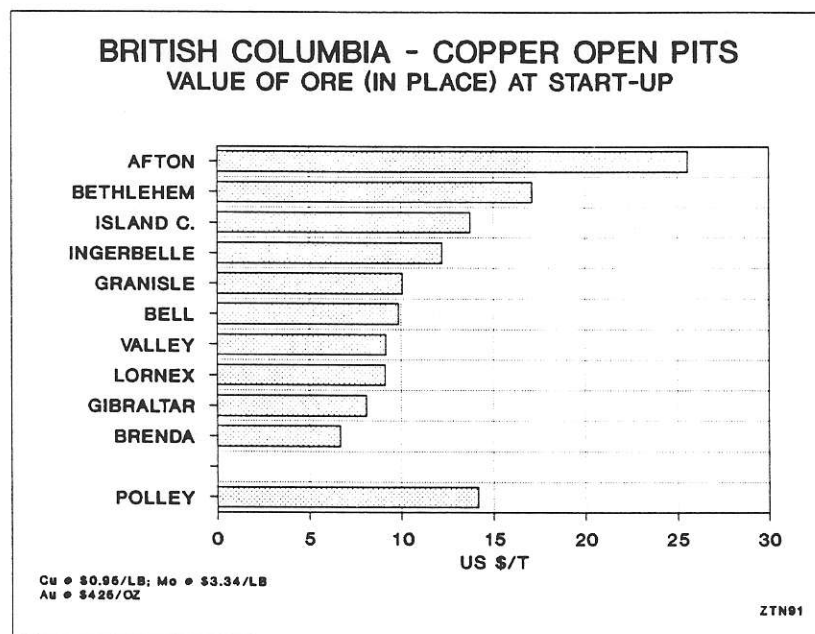
Note: Afton was mined out in 1988; Bethlehem and Granisle in 1982; and Brenda in 1990. Lornex and Valley amalgamated in 1986.

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GRAPH 3



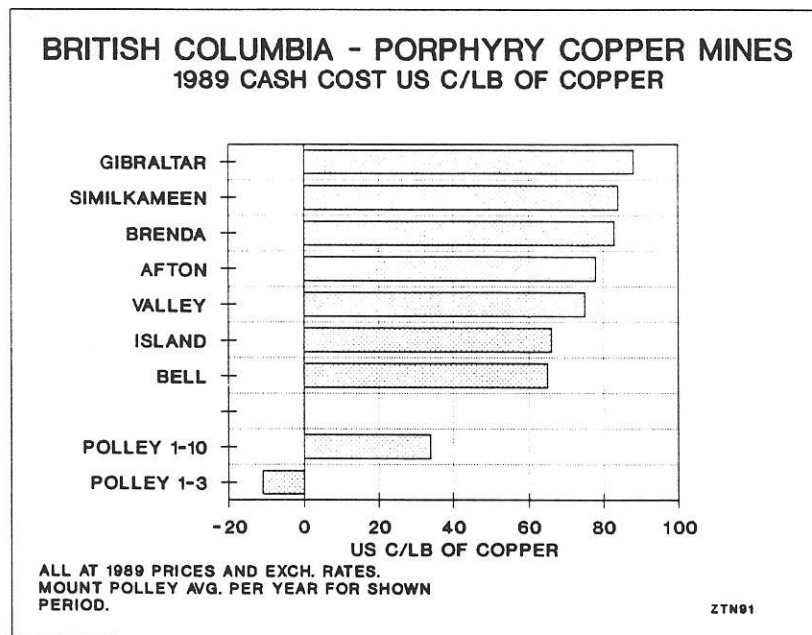
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Note: Afton was mined out in 1988; Bethlehem and Granisle in 1982; and Brenda in 1990. Lornex and Valley amalgamated in 1986.

COST OF PRODUCTION

Graph 4 compares the 1989 cash cost per pound of copper produced (after by-products credits) for B.C. porphyry copper producers.

GRAPH 4



Mount Polley's Pit S-19 ore reserves (10 years average) has the lowest "1989" cash cost per pound of copper (after gold credits). The average for the first three years is even more favourable due to the mining of higher gold grades.

Table 2 (next page) contains key operating and cost data for the current B.C. porphyry copper producers. Note the wide range of gross values of metals in concentrates (the highest \$15.21/t ore, the lowest \$6.63/t ore) and the rather uniform (\$0.36-\$0.42 per lb of copper) off-property costs (transportation, smelting, refining, etc.) The table shows that the reduction of unit costs realized by increases in throughputs diminishes rapidly at throughputs in excess of 30,000 tpd.

TABLE 2
BRITISH COLUMBIA - COPPER OPEN PITTS AND MOUNT POLLEY

OPERATING STATISTICS FOR 1989

	<u>Afton</u>	<u>Brenda</u>	<u>Bell</u>	<u>Gibral.</u>	<u>Island</u>	<u>Simil.</u>	<u>Valley</u>	<u>POLLEY</u>	
								<u>Year 1</u>	<u>10 yrs</u>
1. ORE MILLED									
TONS, MILL.	2.81	12.75	5.92	13.21	18.42	8.31	35.63	5.51	53.77
CU%	0.43	0.16	0.50	0.29	0.47	0.46	0.43	0.45	0.38
MOS2%		0.03		0.017			0.01		
AU OZ/T	0.007		0.006		0.005			0.024	0.016
AG OZ/T	0.030		0.038		0.048				
2. RECOVERY									
CU%	79.60	88.16	85.00	80.10	83.00	75.90	85.00	58.80	76.30
MOS2%		84.10		45.00					
AU%	76.70							82.30	80.40
AG%	66.50								
3. GROSS* VALUE IN METALS IN CONC. C\$									
TOTAL, MILL.	36.77	84.55	89.99	118.38	238.93	98.85	409.32	95.74	804.78
\$/T ORE	13.09	6.63	15.21	8.96	12.97	11.89	11.49	17.37	14.97
4. PROPERTY CASH COST C\$									
TOTAL, MILL.	17.55	50.85	31.07	57.45	82.87	46.46	160.34	32.00	319.67
\$/T ORE	6.25	3.99	5.25	4.35	4.50	5.59	4.50	5.78	5.95
5. OFF PROPERTY COST C\$									
TOTAL, MILL.	7.39	13.78	20.79	26.74	50.50	21.87	89.14	12.48	130.24
\$/LB CU	0.38	0.38	0.42	0.38	0.36	0.38	0.36	0.43	0.41
6. NET PROFIT C\$									
TOTAL, MILL.	11.83	19.91	38.14	34.20	105.55	30.51	159.84	51.42	354.87
US\$/LB CU	0.51	0.46	0.64	0.41	0.63	0.45	0.54	1.48	0.95
7. COST OF PROD. US\$/LB CU	0.78	0.83	0.65	0.88	0.66	0.84	0.75	-0.19	0.34

* At average 1989 metal prices

Mount Polley's "1989" cost per ton would be the second highest, copper recoveries the lowest and net value of metals produced per ton of ore the highest.

OWNERSHIP

With few exceptions, B.C. porphyry copper deposits were discovered and initially owned by exploration companies with very limited resources (examples in Table 3, next page).

TABLE 3

CASH POSITION AT DECISION TO DEVELOP MINE YEAR
Dollar values x 1,000

Company	Afton	Bethl.	Brenda	Gibral.	Granisle	Lornex
Year	1975	1959	1967	1969	1963	1969
Cash	3.0	4.4	64.9	87.1	26.8	121.7
Short T. Inv.	0	190.4	0	150.0	0	304.2
Acct's Rec.	0.1	3.4	3.6	1.2	0	0
Acct's Pbl	<u>141.6</u>	<u>5.8</u>	<u>50.8</u>	<u>6.9</u>	<u>2.5</u>	<u>302.4</u>
Balance	-138.5	192.4	17.7	231.4	24.3	123.6

Source: Annual Reports

Funds needed for mine development were raised through loans (60 to 100% of total) and equity issues. Loans and/or completion guarantees were often arranged and secured by the major mining companies. Ultimately, most of developed mines ended up being controlled or wholly owned by the major mining companies.

In 1980 TECK paid \$55.00 per Afton share (100% value \$208 million) and Cominco paid \$37.50 per Bethlehem share (100% value \$245 million), while in 1986 Rio Algom paid \$75 per Lornex share (100% value \$620 million) etc.

Noranda and Placer acquired initial interests in Brenda and Gibraltar respectively in 1967 and 1969 by providing funds for feasibility studies and consolidated their controlling interest further by arranging and guaranteeing project financing.

In 1990 Placer purchased the Mount Milligan deposit for \$258 million.

Table 4 (next page) examines the actual performance against forecast of the porphyry copper mines developed by single purpose companies. It also demonstrates the favourable construction and debt retirement schedules achieved.

TABLE 4

BRITISH COLUMBIA

PORPHYRY COPPER MINES DEVELOPED BY SINGLE PURPOSE COMPANIES

	<u>Cap. Cost, Mill.\$</u>		<u>Prod. Rate, TPD</u>		<u>Constr. Start-Up</u>	<u>Prod. Start-Up</u>	<u>Const. Months</u>	<u>Debt Retired Year</u>
	<u>Feas. St.</u>	<u>Actual</u>	<u>Feas. St.</u>	<u>Actual*</u>				
Afton	85.00	90.00	7000	8219	5/1976	1/1978	21	1980
Bethlehem	9.00	9.00	3300	3708	11/1961	11/1962	12	1964
Brenda	60.00	62.80	24000	26055	5/1968	1/1970	21	1975
Gibraltar	74.00	63.00	30000	39700	10/1970	4/1972	19	1973
Granisle	12.26	14.11	5000	5934	8/1964	11/1966	28	1968
Lornex	123.60	142.70	38000	40545	8/1970	4/1972	21	1974

* Actual production rate is 3 year average (Bethlehem 2 years)

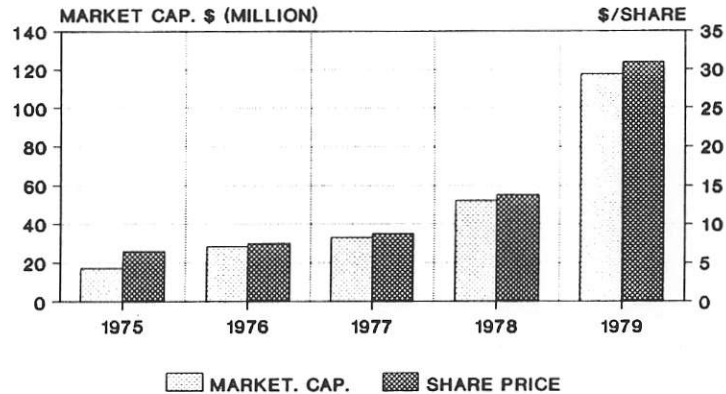
Graphs 5 and 6 (next page) show the market capitalizations and share prices (yearly highs) for Afton Mines Ltd. and Gibraltar Mines Ltd., both single purpose companies, for the period spanning production decision year and first full year of production. The same trend of steady and significant increases holds true for all companies listed in Table 4.

Graphs 7 and 8 (next page) show the market capitalizations for the majors* (Teck Corp. and Placer Corp.) that provided financial support for development. Both demonstrate the impact that development of the porphyry copper mines had on the growth of these now de facto mature major mining companies.

* "... Afton was Teck's most ambitious project yet - a 7,000 tons per day copper-gold mine ..." (From Teck's 1988 Annual Report).

GRAPH 5

**BRITISH COLUMBIA - COPPER PORPHYRIES
AFTON MINES LTD.
MARKET CAPITALIZATION-HIGH**

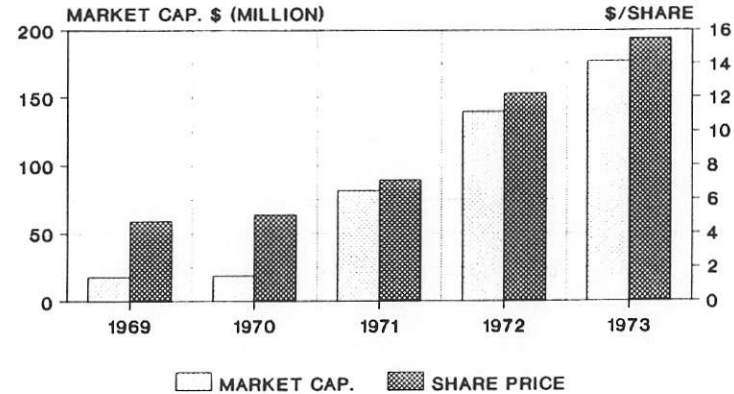


1979 FIRST FULL YEAR OF PROD.
CONSTR. 5/76; PROD. 1/78
Source: Annual Reports

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GRAPH 6

**BRITISH COLUMBIA - COPPER PORPHYRIES
GIBRALTAR MINES LTD
MARKET CAPITALIZATION-HIGH**

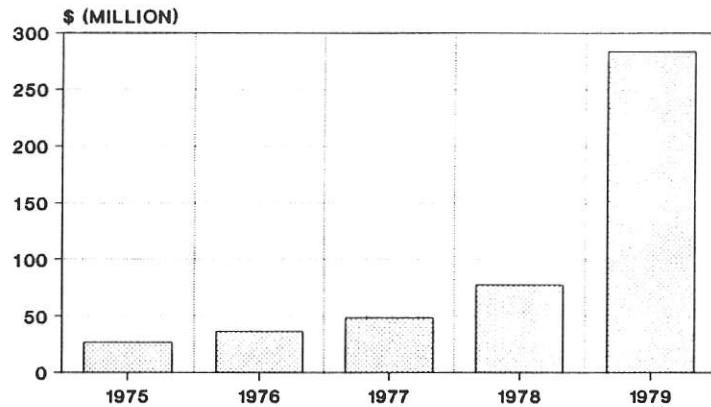


1973 FIRST FULL YEAR OF PROD.
CONSTR. 10/70; PROD. 4/72
Source: Annual Reports

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GRAPH 7

**TECK CORPORATION
MARKET CAPITALIZATION - HIGH
CLASS A & B COMMON SHARES**

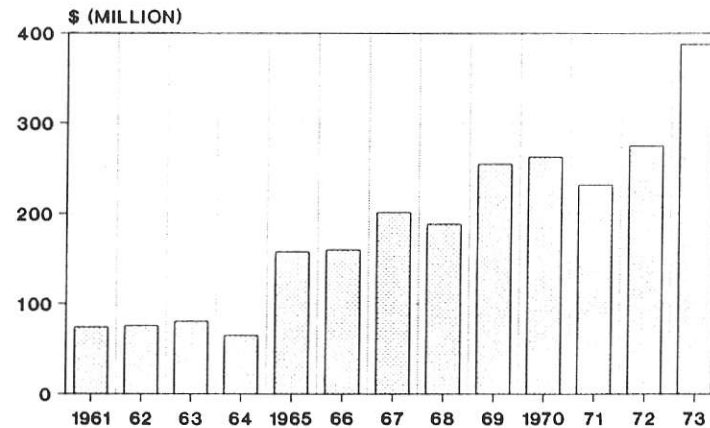


1976: NFLD ZINC IN PROD.(63% TECK)
1977: NIOBEC IN PROD.(50% TECK)
1979: AFTON IN PROD.(73% TECK)

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GRAPH 8

**PLACER
MARKET CAPITALIZATION-HIGH**



PROD. START-UP: ENDAKO 65; MARCOPPER 69;
GIBRALTAR 72
Source: Annual Reports

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MOUNT POLLEY PROJECT

INTRODUCTION

- The Mount Polley Project is a porphyry copper-gold deposit located in central British Columbia approximately 56 km northeast of Williams Lake. The Project is wholly owned by the Imperial Metals Group.
- In November 1989 Wright Engineers Limited, a division of Fluor Daniel Wright, was engaged to undertake a Bankable Feasibility Study for the development of the deposit. A positive study was received in July 1990.
- Mining, at **15,000 tons of ore per day**, will be by open pit technique, processing of ore by conventional flotation.
- Annual production will average about **30,000,000 lbs of copper and 70,000 ounces of gold** at a cash cost equivalent of about US\$0.28/lb copper or US\$130/oz gold.
- Construction and development costs, including contingencies, working capital, pre-production interest and escalation are estimated at **\$150,000,000**.
- The project is **environmentally benign** and is located in a region with a long history of Mining and Multiple Land Use. Approval-in-Principle of the Stage 1 permit is expected shortly. This approval authorizes the development, exploitation and restoration of the Project.
- A 5-year concentrate offtake frame agreement has been reached with two major Japanese smelters, Sumitomo Metal Mining Co., Ltd and Nippon Mining Co., Ltd.
- Discussions are currently underway with major North American engineering and contracting organizations for the provision of **engineering, procurement and construction management services**.

- The construction and development time is estimated at about **22 months**.

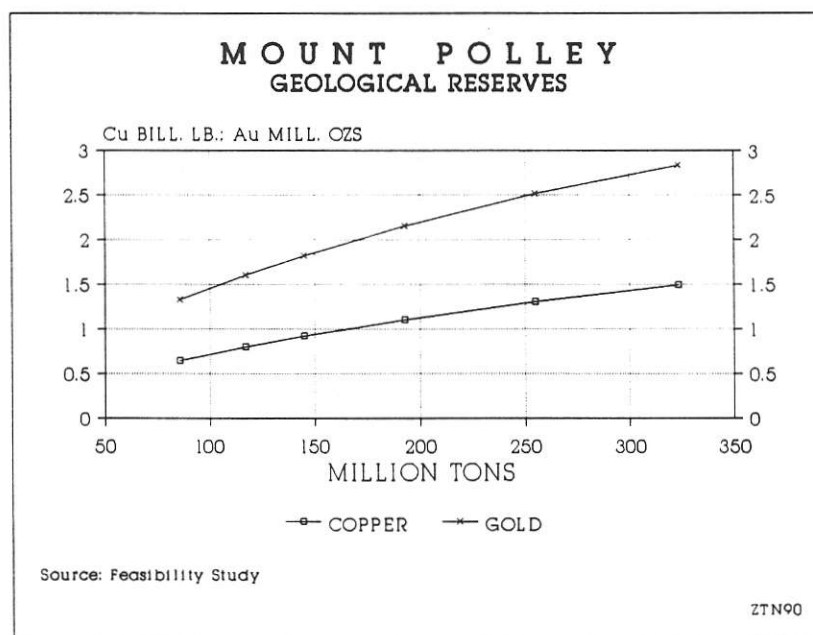
The analysis that follows is based on the feasibility study and offers a brief overview of selected features.

GEOLOGICAL RESERVES

The geological reserves of Mount Polley were calculated for a range of copper equivalent cut-off grades, and for a 0.25% CuEq cut-off are:

Tons	- million	254
Copper Equiv.*	- %	0.42
Copper %	- %	0.26
Gold oz/t	- oz/t	0.010
Contained copper	- bill. lbs	1.32
Contained gold	- mill. ozs	2.54

GRAPH 9



Additional Potential

Potential in Mining Area

Derry, Michener, Booth & Wahl Ltd. ("DMBW") reported that potential for

additional reserves beyond the current reserves exists at the northwest and southeast Pit S-19 limits and at depth. The Company will carry out further drilling during mining operations to evaluate this potential.

Exploration Potential

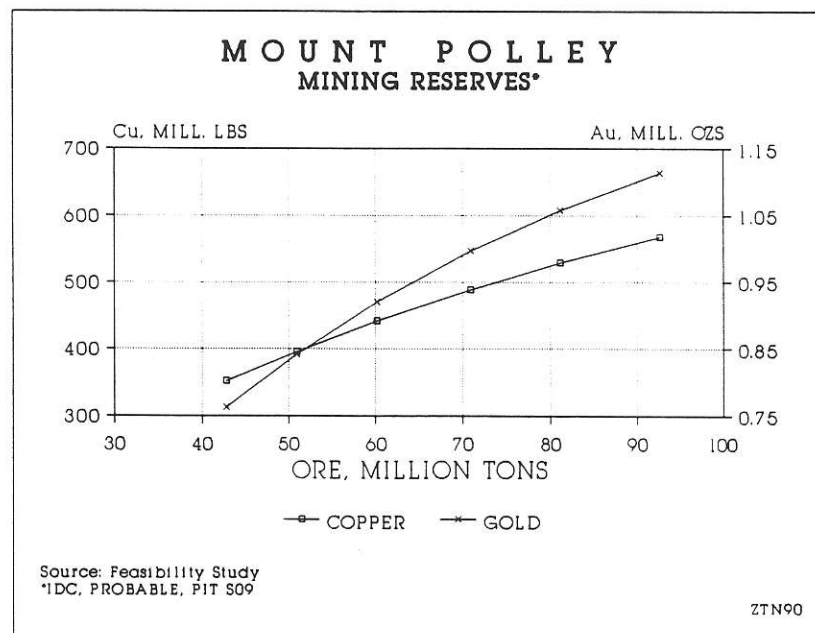
In addition to the geological reserve shown above, DMBW reported four areas inside property boundary and outside of Pit S-19 with potential for additional reserves and recommended diamond drilling.

MINING RESERVES

The Mount Polley mining reserves were calculated for a range of copper equivalent cut-off grades. The initial pit (Pit S-19) with 0.39% CuEq cut-off grade was designed to optimize the economics of the project for bank financing purposes. The Pit S-19 excavation will consist of 54 million tons of mining reserves, 29 million tons of lower grade material, and 66 million tons of waste. The diluted mining reserves at 0.39 CuEq cut-off are:

Tons	- million	54
Copper	- %	0.383
Gold	- oz/t	0.016

GRAPH 10



PRODUCTION

During the initial ten-year production Mount Polley will produce over 300 million pounds of copper and about 700,000 ounces of gold. As reflected in Table 5, annual copper production will be relatively stable whereas gold output over the first three years will average about 100,000 ounces per annum, falling to a fairly consistent rate thereafter.

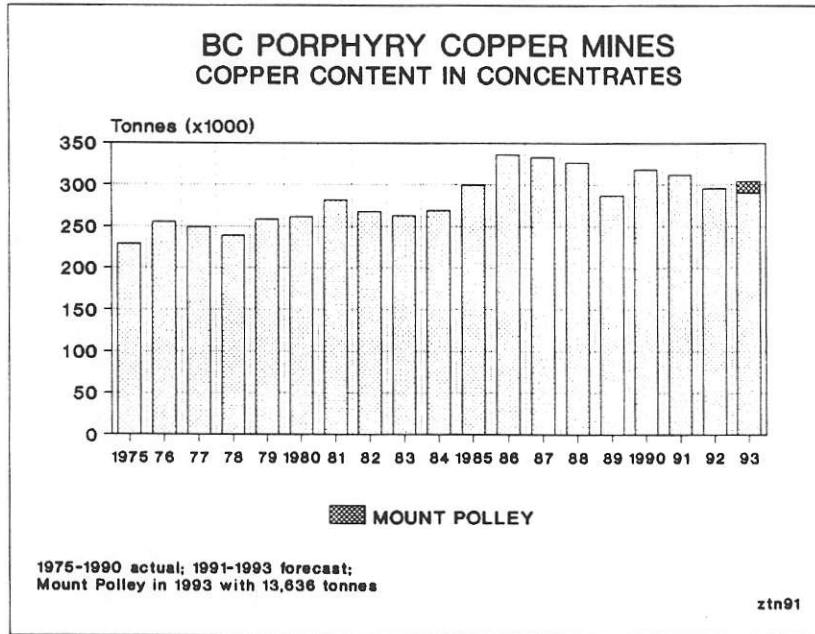
TABLE 5

MOUNT POLLEY - PIT S-19 PRODUCTION SCHEDULE

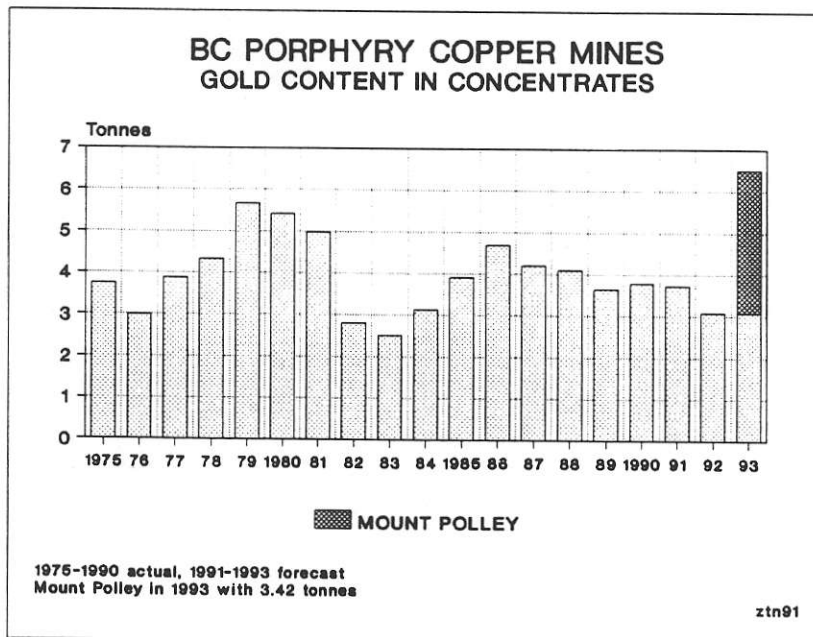
<u>YEAR</u>	<u>MILL FEED</u>			<u>METALS IN CONCENTRATE</u>		<u>OPER. COST</u>
	<u>TONNES x 1,000</u>	<u>Cu %</u>	<u>Au g/t</u>	<u>Cu, lbs x Mill.</u>	<u>Au, ozs x 1,000</u>	<u>\$ Mill.</u>
1	5000	0.45	0.84	29	111	32
2	5000	0.40	0.74	31	102	29
3	5000	0.35	0.68	29	92	29
4	5000	0.33	0.50	28	64	28
5	5000	0.33	0.52	28	67	34
6	5000	0.30	0.50	27	64	35
7	5000	0.39	0.45	38	56	36
8	5000	0.43	0.44	33	53	38
9	5000	0.45	0.47	41	59	39
10	5000	0.41	0.37	38	43	33

Mount Polley's contribution to British Columbia's porphyry copper mines production of copper and gold is shown on Graphs 11 and 12 (next page). Note that Mount Polley will produce more gold than the combined production of all other B.C. porphyries.

GRAPH 11



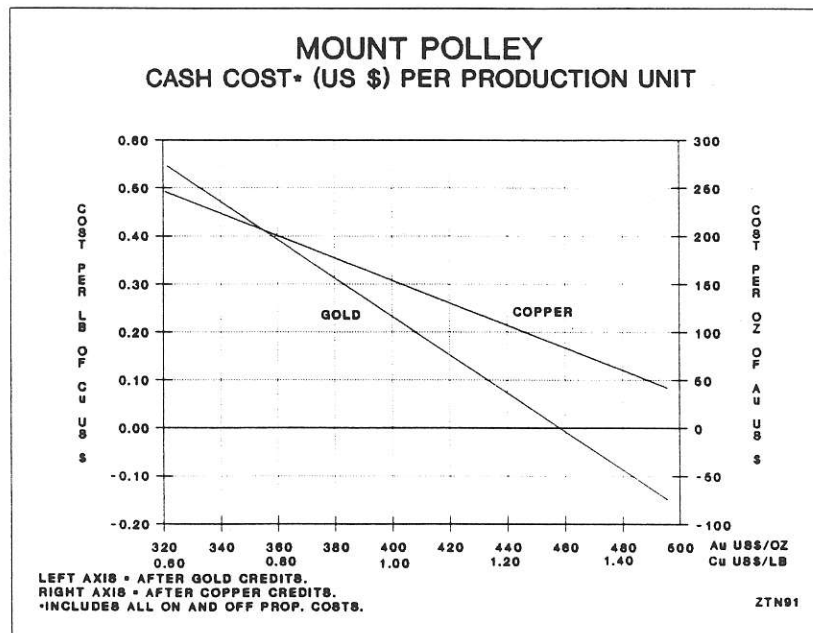
GRAPH 12



COSTS OF PRODUCTION

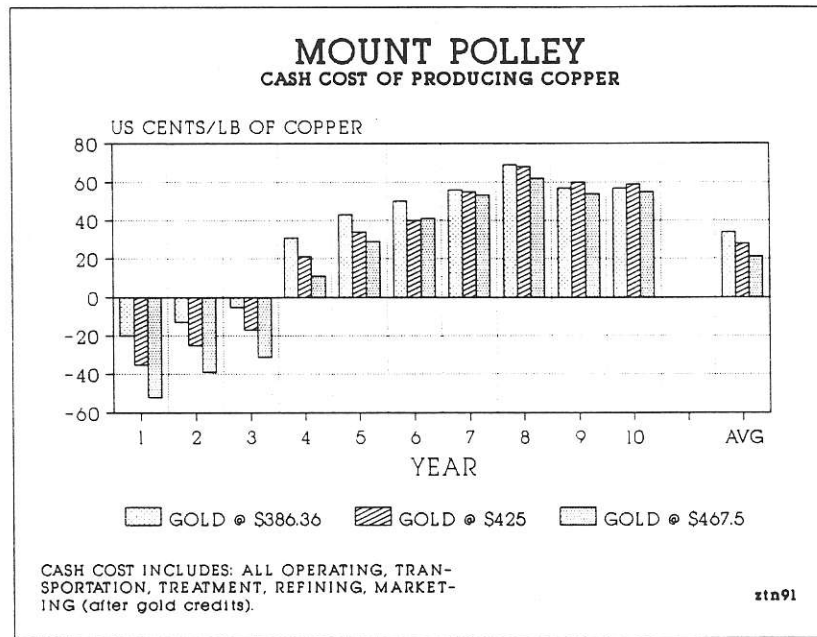
Mount Polley is well protected on the downside compared to other B.C. porphyry copper mines (Graph 5). Graph 13 provides further illustration of this point. For example, at US\$400/oz gold the cash cost per pound of copper produced (after the gold credit) is about US\$0.30. Conversely the cash cost of gold produced at US\$1.00 copper is about \$120/oz.

GRAPH 13

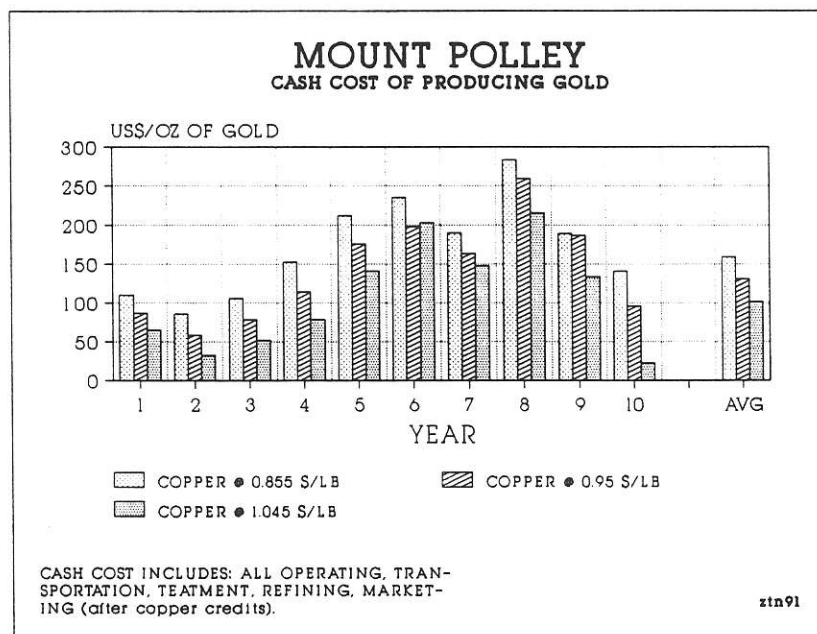


The yearly cash costs of unit production are significantly influenced by gold grades and the stripping ratio. Graphs 14 and 15 (next page) illustrate those costs using a range of metal prices. For example, in the first 3 years of production, gold revenue alone produces a profit (Graph 14). Conversely during those first 3 years the cash cost of producing gold ranges from about US\$30/oz to a little over US\$100/oz (Graph 15).

GRAPH 14



GRAPH 15

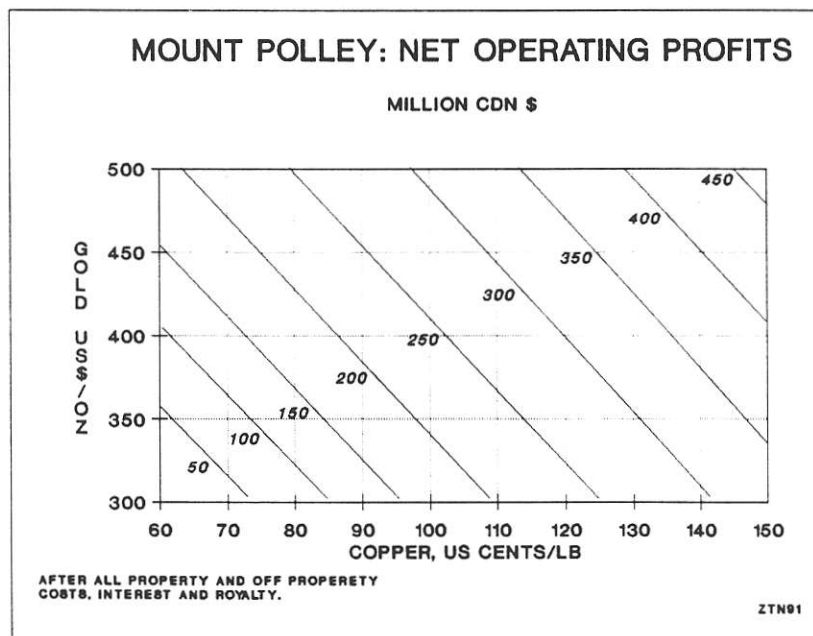


NET OPERATING PROFITS

Graph 16 illustrates the sensitivity of the net operating profits of the Project's initial 10 year mining and production life to gold and copper prices. For example, at US\$400/oz gold, an increase in the copper price from about US\$1.04 to US\$1.20 will enhance net operating profits from \$250 million to \$300 million.

Over the initial ten-year production period, a US\$0.10 increase in the copper price will generate in excess of US\$30 million. Similarly, a US\$25 increase in the gold price produces additional profits of US\$17 million.

GRAPH 16

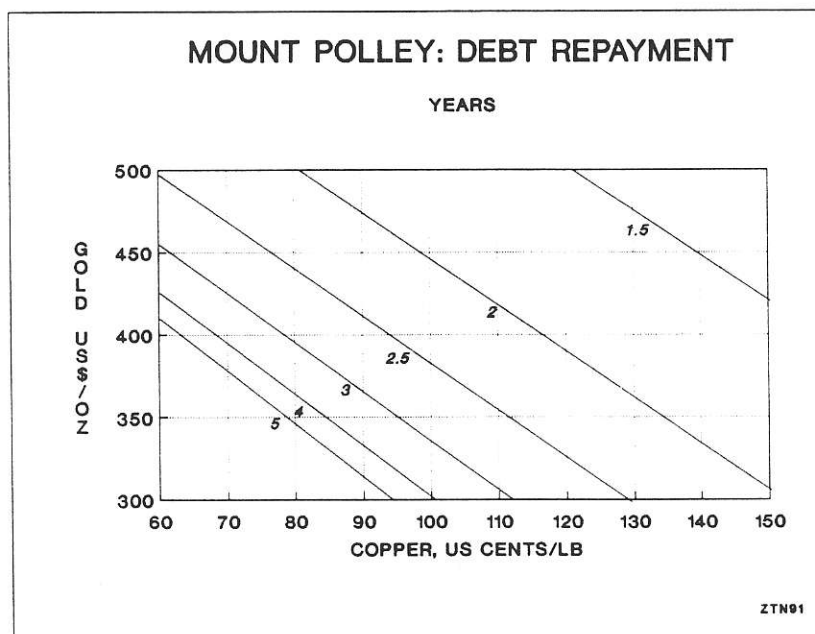


At 1990 metal prices, net operating profits will be \$295 million while at April 15, 1991 metal prices net operating profits will be \$245 million.

DEBT COVERAGE

The pattern of cash flows attributable to the high gold values and low stripping ratios in the first 3 years of the Project life provides substantial coverage of the debt component of the Project financing. Graph 17 illustrates this point. For example, assuming a CDN \$90 million debt and 100% of cash flow dedicated to debt service, at US\$400/oz gold and US\$1.00/lb copper, the debt will be fully repaid within 2.3 years.

GRAPH 17



At 1990 metal prices, the debt will be fully repaid within 2.1 years while at April 15, 1991 metal prices, the debt will be fully repaid within 2.4 years.

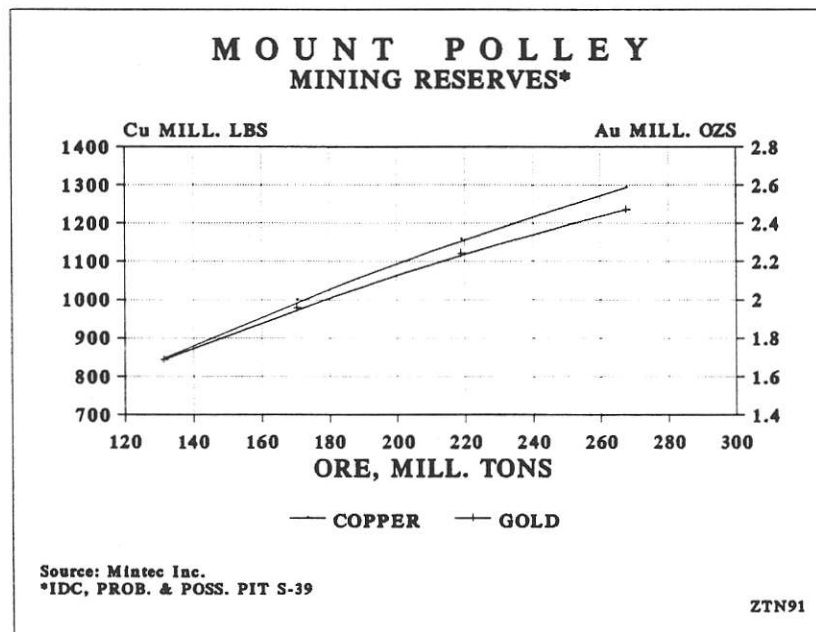
ULTIMATE PIT

While Pit S-19 was designed to optimize the economics of the project for bank financing purposes, Pit S-39 was designed to maximize ore extraction.

Pit S-39 reserves at 0.25% CuEq cut-off are:

Tons	- million	219
Copper	- %	0.265
Gold	- oz/t	0.010

GRAPH 18



To conclude: from the **presently identified** resources total of 219 million tons of ore containing 1.16 billion pounds of copper and 2.24 million ounces of gold could be mined.

APPENDIX I - SUMMARY OF FEASIBILITY STUDY

Background

The Mount Polley open pit porphyry copper-gold project is located in central British Columbia approximately 56 km northeast of Williams Lake. The project is wholly owned by the Imperial Metals Corporation Group ("Imperial"). Noramco Mining Corporation has a 22% net profits interest.

On November 27, 1989, Wright Engineers Limited ("Wright"), a division of Fluor Daniel Wright, was engaged to undertake a feasibility study for the development of the deposit. The study was received on July 16, 1990.

Reserves were reviewed for Wright by Derry, Michener, Booth & Wahl Ltd. ("DMBW"), assisted by the Coopers Lybrand Consulting Group using the services of MINTEC Inc., Anderson Genssler and Schwab Inc., reviewed the various ore reserve estimation methods. MINTEC Inc. and Wright produced the pit optimization and mine production schedule on which the study is based.

Knight & Piesold Ltd. carried out geotechnical and hydro-geological studies for the open pit mine, waste disposal and tailings impoundment.

Metallurgical testwork for the project was carried out principally by Coastech Research Inc., under Wright's supervision. Tests were also carried out at Lakefield Research and Bacon Donaldson & Associates as independent corroboration.

Crushing and grinding work index testwork was performed at various laboratories including Hazen Research Inc., Coastech, the University of British Columbia and Placer Dome Inc.

Geology

The Mount Polley porphyry copper-gold deposit lies in an alkalic intrusive complex within the Quesnel Belt. Two principal zones of copper-gold mineralization known as the Central and West Zones have been outlined.

The Central Zone is a tabular sill-like body of mineralized intrusive breccia with a northerly strike and moderate eastward dip. The zone measures 1,100m along strike and is 200m to 450m in width. The West Zone forms the core of a westerly-plunging pipe of mineralized intrusive breccia measuring 450m in diameter and extending beyond the drilled depth of 275m.

Geological Reserves

Using recovered copper equivalent cut-off grades of 0.25% and 0.39%, geological reserves are estimated as follows:

	Million <u>Tonnes</u>	<u>Cu%</u>	<u>Au G/T</u>
Cut-off 0.25% CuEq	231.0	0.26	0.338
Cut-off 0.39% CuEq	105.9	0.34	0.471

Mineable Reserves

Using a recovered copper equivalent cut-off grade of 0.39%, the ten-year initial optimum S-19 open pit is estimated to contain the following mineable reserves:

	<u>Probable</u>
Tonnes (x 1000)	48,771
Total Cu (%)	0.383
Au (g/t)	0.556
Oxide ratio (%)	26.9

Additional Reserve Potential

Potential exists for outlining additional mining reserves within the extensive geological reserves, particularly on the northwest and southeast margins at a depth immediately below the floor of the 10 year S-19 Pit.

In addition exploration work has identified four principal target areas outside the existing Mount Polley deposit which have potential to outline tonnage, and warrant further drilling.

Southeast Area. This area lies on the southeast flank of Mount Polley, midway between Bootjack and Polley Lake. Geochemical soil anomalies outlined in this area indicate gold values ranging from 30 to 445 ppb. The area has been tested by three widely spaced holes drilled in 1986 and one drilled in 1989. Drilling defined a mineralized zone approximately 330 ft by 500 ft to a depth of 200 ft and open in three directions.

Road Showing. In the northeast corner of the property, along the west side of Polley Lake, numerous grab samples yielded an average of 1.4% copper and 0.018 oz/t gold, with the best grade reported at 6.07% copper and 0.320 oz/t gold. A total of four widely spaced holes were drilled in this area. Three holes returned erratic high grade values, and the fourth intersected 5 ft grading 1.39% copper near surface, with 10 ft of core above the mineralized intersection not recovered.

Northwest Extension. About 1000 ft northwest of Pit S-19, copper-gold mineralization was intersected in the host intrusion breccia, interpreted as an extension of the West Zone. A single inclined hole at this location returned 220 ft grading 0.33% copper and 0.012 oz/t gold. Surface grab samples along the strike yielded up to 0.6% copper and 0.015 oz/t gold.

Kay Lake Basin Anomaly. Further northwest from the Pit S-19, a prominent copper soil anomaly reaches about ten times local background levels and warrants further testing by IP surveys and diamond drilling.

Mining

Mining will be by conventional open pit techniques. The total Pit S-19 excavation will consist of 48.8 million tonnes of ore and 85.9 million tonnes of low grade ore and waste. Low grade ore comprises 27.2 million tonnes ranging between 0.25% and 0.39% recovered copper equivalent. The 48.8 million tonnes of mineable reserves provide a mine life of 9.8 years. This will be followed by a minimum of 4.2 years to process the recoverable low grade material, for a production life of at least 14.0 years at a plant throughput of 5.0 million tonnes per annum.

Processing

The Mount Polley concentrator has been designed to treat 5,000,000 tonnes per year (13,700 t/d) of copper-gold ore with a variable oxide copper content. The process will consist of primary crushing followed by a single-line, two-stage SAG mill/ball mill grinding circuit with pebble crushing. This will be followed by sequential flotation at natural pH to first recover sulphide minerals and then oxide minerals.

The average oxide copper content of the mill feed will be 27% based on the mining schedule. Copper and gold recoveries are estimated to average 76.3% and 80.4% respectively, for the first 10 years of the production life.

Concentrates Handling and Marketing

The concentrator will produce between 50,000 and 60,000 dry tonnes of concentrates per annum with an average copper content of 25%, gold ranging from 30 to 75 g Au/t, and a similar silver content. The concentrate is clean with no penalty elements and is readily acceptable to smelters.

Concentrate will be truck-hauled to an existing B.C. siding at Enterprise, 96 km south of Mount Polley, railed to Vancouver Wharves and shipped to an offshore smelter. Typical smelter contract terms for Japanese smelters were incorporated in the study.

Tailings Storage and Water Reclaim

The tailing storage site covers an area of 250 hectares and is approximately 4 km from the plant. Tailings will flow by gravity to the tailings impoundment and will be spigotted along the crest of the embankments so as to develop sandy tailings beaches adjacent to the embankment face. The slimes will be deposited near a supernatant pond from which water will be reclaimed by a floating barge and pumped back to the plant as process water.

Ancillary Facilities and Services

The ancillary facilities have been incorporated into two buildings. A pre-engineered metal building will house the mine maintenance shops and warehouse, and a second complex, consisting of a series of modular trailers, will contain the mine offices, assay laboratory and dry facilities.

Freshwater requirements will be provided from the nearby Polley Lake. This supply will provide for potable and fire demands and for process water to supplement that reclaimed from the tailings impoundment.

Electric power will be provided by B.C. Hydro by tapping of the Gibraltar Mines Ltd. transmission line, which starts at the B.C. Hydro Soda Creek substation approximately 25 km north of Williams Lake.

The main access to the site will be the existing 14 km forestry road that branches from the paved Williams Lake-Likely road.

Capital Costs

Capital costs for developing Mount Polley are based on first quarter 1990 Canadian dollars.

<u>Area Description</u>	<u>Cost</u> <u>(CDN. \$ millions)</u>
Mining	21.26
Site Preparation	1.50
Process Plant	46.59
Ancillary Buildings	3.68
Tailings and Reclaim	8.04
Ancillary Services	3.25
High Voltage Power	6.27
Offside Facilities	1.25
Indirects	21.45
Working Capital	4.90
Contingency	<u>13.22</u>
TOTAL	<u>131.41</u>

Indirect include owners, engineering, procurement and construction management costs of \$14.29 million. The contingency of \$13.22 million allows an 80% probability that estimated costs will not be exceeded.

Ongoing capital of \$15.53 million required for additions and replacements to the mining fleet and for raising the tailings embankment will be funded by the project cash flow.

Operating Costs

Average operating costs for the first 10 years are as follows:

<u>Area</u>	<u>Annual Cost</u>
Mining	\$12,344,000
Milling	17,264,000
General & Administrative	<u>2,987,000</u>
Total Operating Cost	<u>\$32,595,000</u>

The estimate is accurate to within $\pm 10\%$. A contingency of \$1.48 million has been added to preproduction mining to reflect inefficiencies that may occur during that period. In addition, a 10% overrun contingency has been incorporated in the first year of production for the same reason.

Project Planning

The overall project development period extends for 22 months, including engineering design and 15 months of construction. A construction camp will be required to handle a peak workforce of 200.

Permitting and Environmental

The Mount Polley development is environmentally benign. The metallurgical process to produce a copper/gold concentrate includes recycling of all process water and no discharge from the mill or tailings pond is required or anticipated. In addition, tailings and waste rock dumps are acid consuming. The company has been advised by the Ministry of Energy, Mines and Petroleum Resources that a Stage II report will not be required and accordingly receipt of Stage 1 Approval in Principle will authorize the development, exploitation and restoration of the Project.