

WRIGHT ENGINEERS LIMITED



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Project No. 1044-100

December 20, 1979.

TO BILLY HASTINGS

G.M. Resources Limited,
900-837 West Hastings Street,
Vancouver, B.C.
V6C 1B6

Attention: Mr. F. Holland, General Manager.

Gentlemen:

We are pleased to submit herewith six copies of our study entitled:

G.M. RESOURCES LIMITED
GIANT COPPER MINE
BRITISH COLUMBIA

UPDATE OF 1966 FEASIBILITY STUDY
FOR A 2,000 stpd OPERATION

As requested, this update has been carried out on a minimum budget basis. The 1966 study has been accepted "as is", and only the costs have been adjusted to reflect present-day dollars and a 2,000 tpd production rate. No attempt has been made to incorporate modern practises, methods or equipment, except where equipment becomes obsolete.

The accuracy of the estimate is expected to be in the -10% to +25% range.

We appreciate your confidence in entrusting this update to us and we believe the contents will provide the information you require for the development of future plans.

Yours very truly,

WRIGHT ENGINEERS LIMITED

W.A.R. Bolderston, P. Eng.

WARB/tm

G.M. RESOURCES LIMITED

GIANT COPPER MINE

BRITISH COLUMBIA

**UPDATE OF 1966
FEASIBILITY STUDY
FOR A 2,000 TPD
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PROJECT 1044-100

DECEMBER 1979



WRIGHT ENGINEERS LIMITED

Vancouver

Canada

TABLE OF CONTENTS

	<u>Page No.</u>
<u>SECTION 1 - TERMS OF REFERENCE</u>	1.
<u>SECTION 2 - SUMMARY AND CONCLUSIONS</u>	
GENERAL	2.
PRODUCTION RATES	2.
ANNUAL ORE PRODUCTION AND GRADES	3.
MINING	3.
PLANT	4.
CAPITAL COST SUMMARY	5.
OPERATING COST SUMMARY	6.
CASH FLOWS (Economic Analysis)	7.
CASH FLOW SUMMARY -	
100% DEPT. FINANCING - CASE 1.0	10.
CASH FLOW SUMMARY -	
100% EQUITY FINANCING - CASE 1.1	11.
CONCLUSIONS	12.
<u>SECTION 3 - CAPITAL COSTS</u>	13.
<u>SECTION 4 - OPERATING COSTS</u>	15.
<u>SECTION 5 - CASH FLOWS</u>	
100% DEPT. FINANCING - CASE 1.0	17.
100% EQUITY FINANCING - CASE 1.1	23.

SECTION 1

TERMS OF REFERENCE

SECTION 1TERMS OF REFERENCE

Wright Engineers Limited's terms of reference for this study were established at a meeting held with Mr. F. Holland, General Manager of G.M. Resources Limited, on December 5, 1979.

G.M. Resources is currently undertaking a re-evaluation of its proposed Giant Copper Mine, to which end the costs prepared by WEL in the March, 1966 study* are to be updated to December 1979 dollars and factored to reflect an increase in tonnage from 1,500 tpd (1966 design plant rate) to 2,000 tpd. In addition to a copper concentrate considered in the 1966 study, a molybdenum concentrate is to be produced. A cash flow is to be included, based on smelter contracts and metal prices determined by WEL.

While the updated costs are not suitable for a detailed financial analysis, they will, together with the preliminary cash flows, provide G.M. Resources with a basis for assessing the project and for planning future work on the property.

* Feasibility Study for 1,500 tpd Concentrating Plant at the A.M. Mine of Canadian Copper Company Limited, Hope, B.C.
CANAM

SECTION 2

SUMMARY AND CONCLUSIONS

SECTION 2SUMMARY AND CONCLUSIONSGENERAL

No attempt has been made to rework the March 1966 study prepared by WEL for a 1,500 tpd plant. Costs only have been revised; they are updated to December 1979 dollars, and factored to reflect an increase in tonnage to 2,000 tpd. The 1966 report should therefore be read in conjunction with this study.

For ease of comparison, the costs contained herein are presented in the same format as in the 1966 report; it should be noted, however, that power costs and fringe benefits are incorporated within each cost area and are not included as a separate item as in the previous report. A cost of \$0.06 per kWh has been used for diesel power generation.

The accuracy of the estimates is expected to be in the -10% to +25% range.

PRODUCTION RATES

	<u>Mine</u>	<u>Mill</u>
Annual ore production tons	700,000	700,000
Daily ore production - tons	2,700	2,000
Number of operating days per year	260	350
Days worked per week	5	7
Shifts worked per day	3	3

ANNUAL ORE PRODUCTION AND GRADES

<u>Operating Year</u>	<u>Annual Production Tons</u>	<u>Cu %</u>	<u>Au oz/ton</u>	<u>Ag oz/ton</u>	<u>MoS₂ %</u>
1	700,000	1.40	0.015	0.74	0.031
2	700,000	1.38	0.016	0.66	0.031
3	700,000	1.28	0.015	0.68	0.031
4	<u>510,000</u>	<u>0.98</u>	<u>0.011</u>	<u>0.49</u>	<u>0.031</u>
Total	<u>2,610,000</u>				
Average Grade		<u>1.28</u>	<u>0.015</u>	<u>0.65</u>	<u>0.031</u>

MINING

Preproduction development is considered to be carried out by the Owner on the basis of 2 shifts per day, 5 days per week; consequently no allowance has been made for overhead and profit.

The mine is assumed to operate 3 shifts per day, 5 days per week, producing 2,700 tpd or 900 tons per shift, whereas the 1966 study was based on 2 shifts per day, 5 days per week, and production of 1,800 tpd or 900 tons per shift. Therefore no change to the equipment requirements of the 1966 study is necessary, except where obsolescence is a factor.

PLANT

The plant will operate 3 shifts per day, 7 days per week to process 2,000 tpd of ore producing a copper and a molybdenum concentrate. The basic metallurgical data are presented below.

	<u>METALLURGY</u>								
	<u>tons/day</u>	<u>Assays</u>				<u>Distribution %</u>			
		<u>% Cu</u>	<u>% Mo</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>Mo</u>	<u>Au</u>	<u>Ag</u>
Heads	2,000.00	1.28	0.019	-	-	100	100	100	100
Conc. Cu	97.62	26.0		0.28	12.0	94.0			
Conc. Mo	0.76		52.0				60.0		
Tailing									

Note: - Arsenic in the concentrates could be a problem in marketing. The normal penalty is \$1.00 or more per ton for each 0.1% above 0.1% As.

- 0.031 MoS_2 contains 59.9% Mo = 0.0186% Mo

Assumptions:

Work Index	- 14.0
Optimum Grind	- 60-65 -200 mesh
Operating Time	- 350 days/year (700,000 tons/year)
Molybdenum Recovery	- 60% (average only for similar ores)

CAPITAL COST SUMMARY

	<u>\$ 000's</u>
Mining - Equipment	2,227
- Preproduction Development	<u>3,112</u>
Sub-Total	\$5,339
Plant Site and Roads	332
Ancillary Buildings	1,701
Electrical	1,300
Plant Process Buildings and Equipment	5,282
Water Supply and Sewage Disposal	352
Tailing Disposal	713
Concentrate Handling included in Concentrate Sales	-
Sub-Total	<u>\$15,019</u>
Contingency @ 15%	2,253
Engineering and Construction Management @ 15%	2,253
Inventory and Working Capital (Allowance)	<u>4,000</u>
TOTAL CAPITAL COST	<u>\$23,525</u>



OPERATING COST SUMMARY

		<u>\$ 000's</u>			
	<u>\$/ton</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
Mining		6,963 (\$9.95)	6,792 (\$9.70)	4,377 (\$6.25)	2,650 (\$5.20)
Beneficiation	4.20	2,940	2,940	2,940	2,142
Tailing Disposal	0.40	280	280	280	204
Administration	2.20	1,540	1,540	1,540	1,122
Exploration (Allowance)	1.00	700	700	700	-
TOTAL OPERATING COST		<u>12,423</u>	<u>12,252</u>	<u>9,837</u>	<u>6,118</u>
\$/ton		<u>\$17.75</u>	<u>\$17.50</u>	<u>\$14.05</u>	<u>\$12.00</u>

Note: Costs for power and fringe benefits are included in applicable areas.

CASH FLOWS (Economic Analysis)Reserves, Grades

Reserves are calculated to be 2.61 million short tons grading 1.28% copper, 0.015 oz/ton gold, 0.65 oz/ton silver and 0.031% MoS₂. No dilution was assumed.

Concentrate grades are 26% for copper and 52% for molybdenum.

Production was assumed to commence in 1982, after a two year preproduction period, at a rate of 700,000 short tons per year.

Metal Recoveries

Metal recoveries used were as follows:

Copper	94.0%
Silver	90.1%
Gold	91.1%
Molybdenum	60.0%

Recoveries were not varied over the mine life.

Smelter Contracts and Concentrate Shipping

Copper concentrate was assumed to be trucked to Vancouver for trans-shipment to a Japanese smelter. Shipping charges were broken down as follows:-

Truck to Vancouver	\$15 /ston (10 cents/ton-mile)
Port and Handling charges	\$ 3 /ston
<u>Freighter to Japan</u>	<u>\$40 /ston</u>
Total	\$58 /short ton of concentrates.

These costs should be considered as approximations.



A general smelter contract was assumed and should not be considered to represent that of any individual smelter.

Copper

Treatment charge	\$60 /DST
Refining charge	\$0.09 per payable pound.
Unit Deduction	1.2 units

Gold

Refining charge	\$ 7 per ounce
Payment factor	95%

Silver

Refining charge	\$0.10 per ounce
Payment factor	90%

Penalties due to arsenic or other contaminants were assumed to be negligible.

Molybdenite Sales

Molybdenite was assumed to be sold on an F.O.B. minesite basis. Therefore, no trucking charges were involved.

Metal Prices & Exchange Rates

Metal prices used are outlined in the table below. No escalation of prices was assumed.

<u>Metal</u>	<u>Price U.S. \$</u>
Copper	\$0.90 per pound
Gold	\$400 per ounce
Silver	\$ 15 per ounce
Molybdenum	\$ 10 per pound of contained metal

Exchange rates used are 1.17 for 1980 and 1.15 thereafter to convert U.S. dollars to Canadian.



Financing

For Case 1.0 bank loan financing was assumed for 100% of initial capital and working capital costs. Average interest rates of 14% for 1980, 12% for 1981 and 11% thereafter were used.

For Case 1.1 no bank financing was assumed (i.e. all equity financed).

Preproduction Period

A preproduction period of two years (1980 and 1981) was used in the analysis, with full production beginning in 1982.



CASH FLOW SUMMARY

100% DEBT. FINANCING - CASE 1.0

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>TOTAL</u>
Net Smelter Return	0	0	25.5	24.9	23.9	13.3	0	87.6
- Operating Costs	0	0	12.4	12.2	9.8	6.1	0	40.6
Operating Profit	0	0	13.1	12.6	14.1	7.2	0	47.0
- Income and Mining Taxes	0	0	0	0	0.2	7.2	0.9	8.2
- Interest Expense	0.5	1.7	2.0	1.0	0.2	0	0	5.4
Profit Before Capital	(0.5)	(1.7)	11.1	11.6	13.7	0	(0.9)	33.3
- Capital Costs	7.8	11.7	4.1	0.1	0.1	0	0	23.8
+ Bank Loans (Repayment)	8.4	13.4	(7.0)	(11.5)	(3.3)	0	0	0.0
+ Salvage and W.C. Recovery	0	0	0	0	0	5.0	0	5.0
Net Cash Flow	0	0	0	0	10.3	5.0	(0.9)	14.5

Economic Indicators (\$ million)

Net Present Value @ 0%	\$14.5	Bank Loan Payout - 3 years. (1984)
Net Present Value @ 10%	\$ 9.2	
Net Present Value @ 12%	\$ 8.5	
Net Present Value @ 15%	\$ 7.5	

- Notes: 1. 100% debt financing is assumed. Loans were repaid from available cash flow.
 2. Brackets indicate amount is negative.
 3. Bank Loans - drawdowns are positive and repayments are negative.

CASH FLOW SUMMARY

100% EQUITY FINANCING - CASE 1.1

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>TOTAL</u>
Net Smelter Return	0	0	25.5	24.9	23.9	13.3	0	87.6
- Operating Costs	0	0	12.4	12.2	9.8	6.1	0	40.6
Operating Profit	0	0	13.1	12.6	14.1	7.2	0	47.0
- Income and Mining Taxes	0	0	0	0	3.2	6.8	1.0	11.0
- Interest Expense	0	0	0	0	0	0	0	0
Profit Before Capital	0	0	13.1	12.6	10.9	0.4	(1.0)	36.0
- Capital Costs	7.8	11.7	4.1	0.1	0.1	0	0	23.8
+ Bank Loans (Repayment)	0	0	0	0	0	0	0	0
+ Salvage and W.C. Recovery	0	0	0	0	0	5.0	0	5.0
Net Cash Flow	(7.8)	(11.7)	9.0	12.5	10.8	5.4	(1.0)	17.1

Economic Indicators (\$ million)

Net Present Value @ 0%	\$17.1	Pay back Period	- 1.8 years
Net Present Value @ 10%	\$ 8.1	DCF Rate of Return	- 27.4 percent
Net Present Value @ 12%	\$ 6.8	Percent Pay back	- 188 percent
Net Present Value @ 15%	\$ 5.1		

Notes: 1. Brackets indicate amount is negative.

CONCLUSIONS

This preliminary study, in our opinion, indicates that further work is warranted on the Giant Copper Mine property leading to a full scale feasibility study which will finally establish the costs and the financial viability of the project.

Diesel power generation has been assumed as was the case for the 1966 study but because of the high cost and rapidly escalating cost of diesel oil we recommend that a study be initiated comparing diesel generation and B.C. Hydro supply.

Propane should also be investigated as a possible substitute for diesel oil.

SECTION 3

CAPITAL COSTS

CAPITAL COSTS

\$ 000's

MINING

Equipment	2,227
Preproduction Development	<u>3,112</u>
Total	\$ <u>5,339</u>

PLANT SITE AND ROADS

Excavation and Grading	150
New Roads and Rehabilitation of old roads	65
Trestlework	<u>117</u>
Total	\$ <u>332</u>

ANCILLARY BUILDINGS

Machine Shop and Warehouse	440
Administrative Office and Dry	409
Powerhouse Building	131
Machine Shop and Automotive Equipment	594
Office Equipment	87
Machine Foundation	15
Installation Costs of Compressors	<u>25</u>
Total	\$ <u>1,701</u>

ELECTRICAL

Ancillary Buildings	210
Electrical	685
Plant	357
Tailing Disposal	<u>48</u>
Total	\$ <u>1,300</u>

CAPITAL COSTS\$ 000'sMINING

Equipment	2,227
Preproduction Development	<u>3,112</u>
Total	\$ <u>5,339</u>

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Tailing Disposal	<u>48</u>
Total	\$ <u>1,300</u>

CAPITAL COSTS - Cont'd.\$ 000'sPLANT PROCESS BUILDINGS AND EQUIPMENT

Coarse Ore Bin	222
Crusher Building and Conveyor	393
Fine Ore Bin	200
Mill Building	579
Crushing Equipment	1,135
Grinding and Flotation Equipment	1,722
Filtering Equipment	191
Mill Tools and Laboratory Equipment	95
Installation Costs	<u>745</u>
Total	\$ <u>5,282</u>

WATER SUPPLY AND SEWAGE DISPOSAL

Piping, Tanks and Pumps Installed	286
Miscellaneous Excavation	4
Sewage Disposal	<u>62</u>
Total	\$ <u>352</u>

TAILING DISPOSAL

Equipment Cost	516
Installation and Construction	<u>197</u>
Total	\$ <u>713</u>

TOTAL	\$ <u>15,019</u>
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Note: Concentrate handling is included
in concentrate sales.

SECTION A
OPERATING COSTS

OPERATING COSTS

	<u>\$ 000's</u>			
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
<u>MINING</u>				
Shaft Completion to 5,520-ft. Elevation	171	-	-	-
Diamond Drilling	154	154	39	-
Development	1,465	1,465	-	-
Preparation	436	436	227	-
Stoping	1,393	1,393	1,393	-
Secondary Breaking	324	324	324	326
Tramming	910	910	650	319
Miscellaneous Mine Expenses	1,196	1,196	830	455
Supervision	356	356	356	188
Engineering and Geology	283	283	283	147
Power	275	275	275	200
Pillar Recovery	-	-	-	1,015
Total	<u>6,963</u>	<u>6,792</u>	<u>4,377</u>	<u>2,650</u>
\$/ton	<u>\$9.95</u>	<u>\$9.70</u>	<u>\$6.25</u>	<u>\$5.20</u>

OPERATING COSTS - Cont'd.

	<u>\$ 000's/Year</u> <u>@ 700,000 tpy</u>	<u>\$/ton</u>
<u>BENEFICIATION PLANT</u>		
Labour	1,190	1.70
Consumables	740	1.06
Repair Parts	120	0.17
Power	840	1.20
Other Supplies, Assay, etc.	<u>50</u>	<u>0.07</u>
Total	\$ <u>2,940</u>	<u>\$4.20</u>
<u>TAILING DISPOSAL</u>		
Dam Building	120	0.17
Pump Parts	77	0.11
Replacement Labour	15	0.02
Power	<u>68</u>	<u>0.10</u>
Total	\$ <u>280</u>	<u>\$0.40</u>
<u>ADMINISTRATION</u>		
Labour	432	0.62
Supplies and Costs	924	1.32
Head Office	120	0.17
Vehicle Operation	<u>64</u>	<u>0.09</u>
Total	\$ <u>1,540</u>	<u>\$2.20</u>

SECTION 5

CASH FLOWS

 1980 1981 1982 1983 1984 1985

PRODUCTION AND METAL PRICES (IN US CURRENCY)

10. MILL TONNAGE (MLN TONS)	0.000	0.000	.700	.700	.700	.510
11. COPPER (\$/LB)	.900	.900	.900	.900	.900	.900
12. GOLD (\$/OZ)	400.000	400.000	400.000	400.000	400.000	400.000
13. SILVER (\$/OZ)	15.000	15.000	15.000	15.000	15.000	15.000
14. MOLYBDENUM (\$/LB)	10.000	10.000	10.000	10.000	10.000	10.000
15. EXCHANGE RATE (CAN\$/US\$)	1.170	1.150	1.150	1.150	1.150	1.150

CONCENTRATOR OPERATION

16. MILL HEAD GRADE (PCNT CU)	0.000	0.000	1.400	1.380	1.280	.980
17. COPPER RECOVERY (DECIMAL)	0.000	0.000	.940	.940	.940	.940
18. COPPER PRODUCED (MILLION LB)	0.000	0.000	18.424	18.161	16.845	9.396
19. CONCENTRATE GRADE (PCNT)	0.000	0.000	26.000	26.000	26.000	26.000
20. CONCENTRATE PRDNN (MLN TONS)	0.000	0.000	.035	.035	.032	.018
21. MILL HEAD GRADE (OZ/T)	0.000	0.000	.015	.016	.015	.011
22. GOLD RECOVERY	0.000	0.000	.911	.911	.911	.911
23. GOLD PRODUCED (MILLION OZ)	0.000	0.000	.010	.010	.010	.005
24. MILL HEAD GRADE (OZ/T)	0.000	0.000	.740	.660	.680	.490
25. SILVER RECOVERY	0.000	0.000	.901	.901	.901	.901
26. SILVER PRODUCED (MILLION OZ)	0.000	0.000	.467	.416	.429	.225
27. MILL HEAD GRADE (PCNT MOS2)	0.000	0.000	.031	.031	.031	.031
28. MOLYBDENUM RECOVERY	0.000	0.000	.600	.600	.600	.600
29. MOLYBDENUM PRODUCED (MLN LBS)	0.000	0.000	.156	.156	.156	.114

TOTAL OPERATING PROFIT BEFORE TAX

30. COPPER	0.000	0.000	18.189	17.929	16.630	9.276
31. GOLD	0.000	0.000	4.180	4.459	4.180	2.234
32. SILVER	0.000	0.000	7.246	6.463	6.659	3.496
33. MOLYBDENUM	0.000	0.000	1.795	1.795	1.795	1.308
34. TOTAL REVENUE (CAN.)	0.000	0.000	31.411	30.646	29.264	16.314
35. - REVENUE DEDUCTIONS (CAN.)	0.000	0.000	5.876	5.793	5.378	2.997
36. NET SMELTER RETURN (CAN.)	0.000	0.000	25.535	24.853	23.886	13.317
37. - OPERATING EXPENSES (CAN.)	0.000	0.000	12.425	12.250	9.835	6.120
38. OPERATING PROFIT (CAN.)	0.000	0.000	13.110	12.603	14.051	7.197

NET AND DISCOUNTED CASHFLOW - PAGE 2

	1980	1981	1982	1983	1984	1985	1986	ACCUM
10. OPERATING PROFIT BEFORE TAX	0.000	0.000	13.110	12.603	14.051	7.197	0.000	46.961
11. -INTEREST EXPENSE: PRODUCTION : PRE-PRODN.	0.000 .547	0.000 1.706	2.011 0.000	.993 0.000	.180 0.000	0.000 0.000	0.000 0.000	3.183 2.254
12. +INTEREST INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13. +OTHER INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14. -FEDERAL INCOME TAX	0.000	0.000	0.000	0.000	0.000	3.133	0.000	3.133
15. -BC INCOME TAX	0.000	0.000	0.000	0.000	.146	2.494	0.000	2.640
16. -BC MINERAL RESOURCES TAX	0.000	0.000	0.000	0.000	.030	1.529	.886	2.445
17. OPERATING PROFIT AFTER TAX	-.547	-1.706	11.099	11.610	13.695	.040	-.886	33.305
18. -CAPITAL COST: PLANT + EQUIPMENT	6.570	9.843	0.000	0.000	0.000	0.000	0.000	16.413
19. :EXPL. + DEVELOPMENT	1.250	1.862	0.000	0.000	0.000	0.000	0.000	3.112
20. -CAPITAL REPLACEMENT	0.000	0.000	.100	.100	.100	0.000	0.000	.300
21. -EXPLORATION EXPENDITURES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22. +PRIMARY BANK LOAN	7.820	11.705	4.000	0.000	0.000	0.000	0.000	23.525
23. +PRE-PRODN. INT. EXPENSE LOAN	.547	1.706	0.000	0.000	0.000	0.000	0.000	2.254
24. -SCHEDULED LOAN REPAYMENT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25. -OPTIONAL LOAN REPAYMENT	0.000	0.000	10.999	11.510	3.269	0.000	0.000	25.779
26. -WORKING CAPITAL CHANGE	0.000	0.000	4.000	0.000	0.000	-4.000	0.000	0.000
27. +SALVAGE	0.000	0.000	0.000	0.000	0.000	1.000	0.000	1.000
28. NET CASH FLOW	-.000	.000	0.000	0.000	10.326	5.040	-.886	14.480
29. DISCOUNTED NCF (10 PCT)	-.000	.000	0.000	0.000	6.725	2.984	-.477	9.232
30. DISCOUNTED NCF (12 PCT)	-.000	.000	0.000	0.000	6.201	2.703	-.424	8.479
31. DISCOUNTED NCF (15 PCT)	-.000	.000	0.000	0.000	5.506	2.337	-.357	7.485

FEDERAL INCOME TAX - PAGE 3

	1980	1981	1982	1983	1984	1985	1986	ACCUM
10. OPERATING PROFIT	0.000	0.000	13.110	12.603	14.051	7.197	0.000	46.961
11. -INVENTORY CREDIT	0.000	0.000	.100	.100	.100	.100	0.000	.400
12. -CLASS 28 CCA	0.000	0.000	5.671	11.129	.359	0.000	0.000	17.159
13. -CLASS 10 CCA	0.000	0.000	.030	.051	.059	-0.851	0.000	-0.721
14. -CLASS X CCA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15. -SUCCESSOR CLASS 10 CCA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16. -RESOURCE ALLOWANCE	0.000	0.000	1.827	.331	3.383	1.990	0.000	7.531
17. -NET INTEREST EXPENSE	0.000	0.000	2.011	.993	.180	0.000	0.000	3.183
18. -FOREIGN EXPLORATION	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19. -CANADIAN DEVELOPMENT (PRE 1979)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20. -SUCCESSOR E + D EXPENSES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21. -CDN EXPLORATION + DEVELOPMENT	0.000	0.000	3.471	.000	0.000	0.000	0.000	3.471
22. -EARNED DEPLETION	0.000	0.000	0.000	.000	2.492	1.492	0.000	3.985
23. +NET INTEREST INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24. FEDERAL TAXABLE INCOME	0.000	0.000	0.000	.000	7.477	4.477	0.000	11.954
25. +LOSS CARRY FORWARD CREATED	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26. -LOSS CARRY FORWARD CLAIMED	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27. NET FEDERAL TAXABLE INCOME	0.000	0.000	0.000	.000	7.477	4.477	0.000	11.954
28. FEDERAL TAX CALCULATED (36 PCT)	0.000	0.000	0.000	.000	2.692	1.612	0.000	4.303
29. +TAX LOSS CARRY BACK	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30. -INVESTMENT TAX CREDIT	0.000	0.000	0.000	.000	1.170	0.000	0.000	1.170
31. FEDERAL TAX LIABLE	0.000	0.000	0.000	0.000	1.522	1.612	0.000	3.133
32. FEDERAL TAX PAYABLE	0.000	0.000	0.000	0.000	0.000	3.133	0.000	3.133

B.C. INCOME TAX - PAGE 4

	1980	1981	1982	1983	1984	1985	1986	ACCUM
10. OPERATING PROFIT	0.000	0.000	13.110	12.603	14.051	7.197	0.000	46.961
11. -INVENTORY CREDIT	0.000	0.000	.100	.100	.100	.100	0.000	.400
12. -CLASS 28 CCA	0.000	0.000	10.969	7.339	-1.149	0.000	0.000	17.159
13. -CLASS 10 CCA	0.000	0.000	.030	.051	.059	-.851	0.000	-.721
14. -CLASS X CCA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15. -SUCCESSOR CLASS 10 CCA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16. -NET INTEREST EXPENSE	0.000	0.000	2.011	.993	.180	0.000	0.000	3.183
17. -CANADIAN DEVELOPMENT (PRE 1979)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18. -SUCCESSOR E + D EXPENSES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19. -FOREIGN EXPLORATION	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20. -CON EXPLORATION + DEVELOPMENT	0.000	0.000	0.000	3.471	0.000	0.000	0.000	3.471
21. -EARNED DEPLETION	0.000	0.000	0.000	.163	3.715	1.990	0.000	5.867
22. +NET INTEREST INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23. +OTHER INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24. B.C. TAXABLE INCOME	0.000	0.000	0.000	.488	11.146	5.969	0.000	17.602
25. +LOSS CARRY FORWARD CREATED	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26. -LOSS CARRY FORWARD CLAIMED	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27. NET B.C. TAXABLE INCOME	0.000	0.000	0.000	.488	11.146	5.969	0.000	17.602
28. B.C. TAX CALCULATED (15 PCT)	0.000	0.000	0.000	.073	1.672	.895	0.000	2.640
29. +TAX LOSS CARRY BACK	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30. B.C. TAX LIABLE	0.000	0.000	0.000	.073	1.672	.895	0.000	2.640
31. B.C. TAX PAYABLE	0.000	0.000	0.000	0.000	.146	2.494	0.000	2.640

B.C. MINERAL RESOURCES TAX (MRT) - PAGE 5

	1980	1981	1982	1983	1984	1985	1986	ACCUM
10. OPERATING PROFIT	0.000	0.000	13.110	12.603	14.051	7.197	0.000	46.961
11. -INVENTORY CREDIT	0.000	0.000	.100	.100	.100	.100	0.000	.400
12. -CLASS 28 CCA	0.000	0.000	10.969	7.339	0.000	0.000	0.000	18.308
13. -CLASS 10 CCA	0.000	0.000	.030	.051	.066	-.847	0.000	-.700
14. -CLASS X CCA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15. -NET INTEREST EXPENSE	0.000	0.000	2.011	.993	.180	0.000	0.000	3.183
16. -SUCCESSOR CLASS 10 CCA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17. -BC DEVELOPMENT (PRE-1979)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18. -SUCCESSOR E + D EXPENSES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19. -BC EXPLORATION AND DEVELOPMENT	0.000	0.000	0.000	3.471	0.000	0.000	0.000	3.471
20. -DEPLETION CLAIMED	0.000	0.000	0.000	.163	3.426	1.996	0.000	5.575
21. -PROCESSING ALLOWANCE	0.000	0.000	0.000	.317	1.542	.894	0.000	2.752
22. INCOME SUBJECT TO MRT	0.000	0.000	0.000	.171	8.737	5.054	0.000	13.972
23. BC MRT LIABILITY (17.5 PCT)	0.000	0.000	0.000	.030	1.529	.886	0.000	2.445
24. BC MRT PAYABLE	0.000	0.000	0.000	0.000	.030	1.529	.886	2.445

CASH BALANCES AND PRIMARY BANK LOAN - PAGE 12

	1980	1981	1982	1983	1984	1985	1986	ACCUM
10. OPENING CASH BALANCE	0.000	-0.000	.000	.000	.000	10.326	15.367	25.693
11. *NET CASH FLOW	-0.000	.000	0.000	0.000	10.326	5.040	-0.886	14.480
12. CLOSING CASH BALANCE	-0.000	.000	.000	.000	10.326	15.367	14.480	40.173
13. AVERAGE CASH BALANCE FOR INTEREST EXPENSE/INCOME PURPOSES	0.000	0.000	0.000	0.000	5.163	12.846	14.924	32.933

PRIMARY BANK LOAN STATEMENT

14. OPENING BALANCE	0.000	8.367	21.779	14.779	3.269	0.000	0.000	48.195
15. *BANK LOAN DRAW	7.820	11.705	4.000	0.000	0.000	0.000	0.000	23.525
16. *PREPRODUCTION INTEREST	.547	1.706	0.000	0.000	0.000	0.000	0.000	2.254
17. SUBTOTAL	8.367	21.779	25.779	14.779	3.269	0.000	0.000	73.973
18. -SCHEDULED REPAYMENTS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19. -OPTIONAL REPAYMENTS	0.000	0.000	10.999	11.510	3.269	0.000	0.000	25.779
20. CLOSING BALANCE	8.367	21.779	14.779	3.269	0.000	0.000	0.000	48.195
21. AVERAGE LOAN O/S	4.184	15.073	18.279	9.024	1.634	0.000	0.000	48.195
22. INTEREST EXPENSE	.547	1.706	2.011	.993	.180	0.000	0.000	5.437

INTEREST EXPENSE STATEMENT

23. PRIMARY BANK LOAN	.547	1.706	2.011	.993	.180	0.000	0.000	5.437
24. NEGATIVE CASH BALANCE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25. WORKING CAPITAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26. TOTAL INTEREST EXPENSE	.547	1.706	2.011	.993	.180	0.000	0.000	5.437

NET AND DISCOUNTED CASHFLOW - PAGE 2

	1980	1981	1982	1983	1984	1985	1986	ACCUM.
10. OPERATING PROFIT BEFORE TAX	0.000	0.000	13.110	12.603	14.051	7.197	0.000	46.961
11. -INTEREST EXPENSE: PRODUCTION : PRE-PRODN.	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000
12. +INTEREST INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13. +OTHER INCOME	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14. -FEDERAL INCOME TAX	0.000	0.000	0.000	0.000	1.084	3.390	0.000	4.473
15. -BC INCOME TAX	0.000	0.000	0.000	0.000	1.454	1.905	0.000	3.360
16. -BC MINERAL RESOURCES TAX	0.000	0.000	0.000	0.000	.659	1.549	.950	3.158
17. OPERATING PROFIT AFTER TAX	0.000	0.000	13.110	12.603	10.854	.353	-.950	35.970
18. -CAPITAL COST: PLANT + EQUIPMENT	6.570	9.843	0.000	0.000	0.000	0.000	0.000	16.413
19. : EXPL. + DEVELOPMENT	1.250	1.862	0.000	0.000	0.000	0.000	0.000	3.112
20. -CAPITAL REPLACEMENT	0.000	0.000	.100	.100	.100	0.000	0.000	0.300
21. -EXPLORATION EXPENDITURES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22. +PRIMARY BANK LOAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23. +PRE-PRODN. INT. EXPENSE LOAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24. -SCHEDULED LOAN REPAYMENT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25. -OPTIONAL LOAN REPAYMENT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26. -WORKING CAPITAL CHANGE	0.000	0.000	4.000	0.000	0.000	-4.000	0.000	0.000
27. +SALVAGE	0.000	0.000	0.000	0.000	0.000	1.000	0.000	1.000
28. NET CASH FLOW	-7.820	-11.705	9.010	12.503	10.754	5.351	-.950	17.145
29. DISCOUNTED NCF (10 PCT)	-7.456	-10.145	7.100	8.957	7.003	3.169	-.511	8.116
30. DISCOUNTED NCF (12 PCT)	-7.384	-9.475	6.787	8.409	5.458	2.870	-.451	6.805
31. DISCOUNTED NCF (15 PCT)	-7.292	-9.491	6.353	7.666	5.734	2.482	-.381	5.068
32. IRR RATE OF RETURN - PCT	27.353	0.000	0.000	0.000	0.000	0.000	0.000	
33. PAYBACK - YEARS	1.841	0.000	0.000	0.000	0.000	0.000	0.000	

This study has been completed chiefly by the following staff
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