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REPORT ON
THE RUTH VERMONT MINE BELT

For

RUTH VERMONT MINE LTD. (N.P.L.)

By

L.J. Manning & Associates Ltd.

15 September, 1982

1097

L. J. MANNING & ASSOCIATES LTD.

945 Belvedere Drive, North Vancouver, B.C. V7R 2C2

OFFICE PHONE:
(604) 688-3584

RESIDENTIAL PHONE:
L. J. MANNING - 985-5690

September 15, 1982

Mr. Robert V. Longe
MineQuest Exploration Associates Ltd
201 - 311 Water Street
Vancouver, B.C. V6B 1B8

Dear Sir:

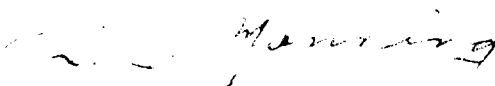
Accompanying this letter is a skeleton report on the status of the Vermont Mine Belt, and the company, Ruth Vermont Mine Ltd. The appendices will be available on completion of typing.

If your company is interested in examining additional available data on the Ruth Vermont and surrounding ground, please submit a draft proposal to this office making it subject to your examination of the data, and any additional information you may uncover.

All proposals will be considered as soon as possible. The company submitting the proposal most suitable to Ruth Vermont Mine Ltd. and the bank will be invited to study the available data and will receive every cooperation from Ruth Vermont personnel in obtaining data on adjacent properties.

This selection will be made by 30 September, 1982 or thereabouts.

Yours truly


L.J. Manning, P. Eng.

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PROPORTION OF N.S.R.
DUE TO SILVER - %

75
50
25
0

AVERAGE FOR 82 YRS - %

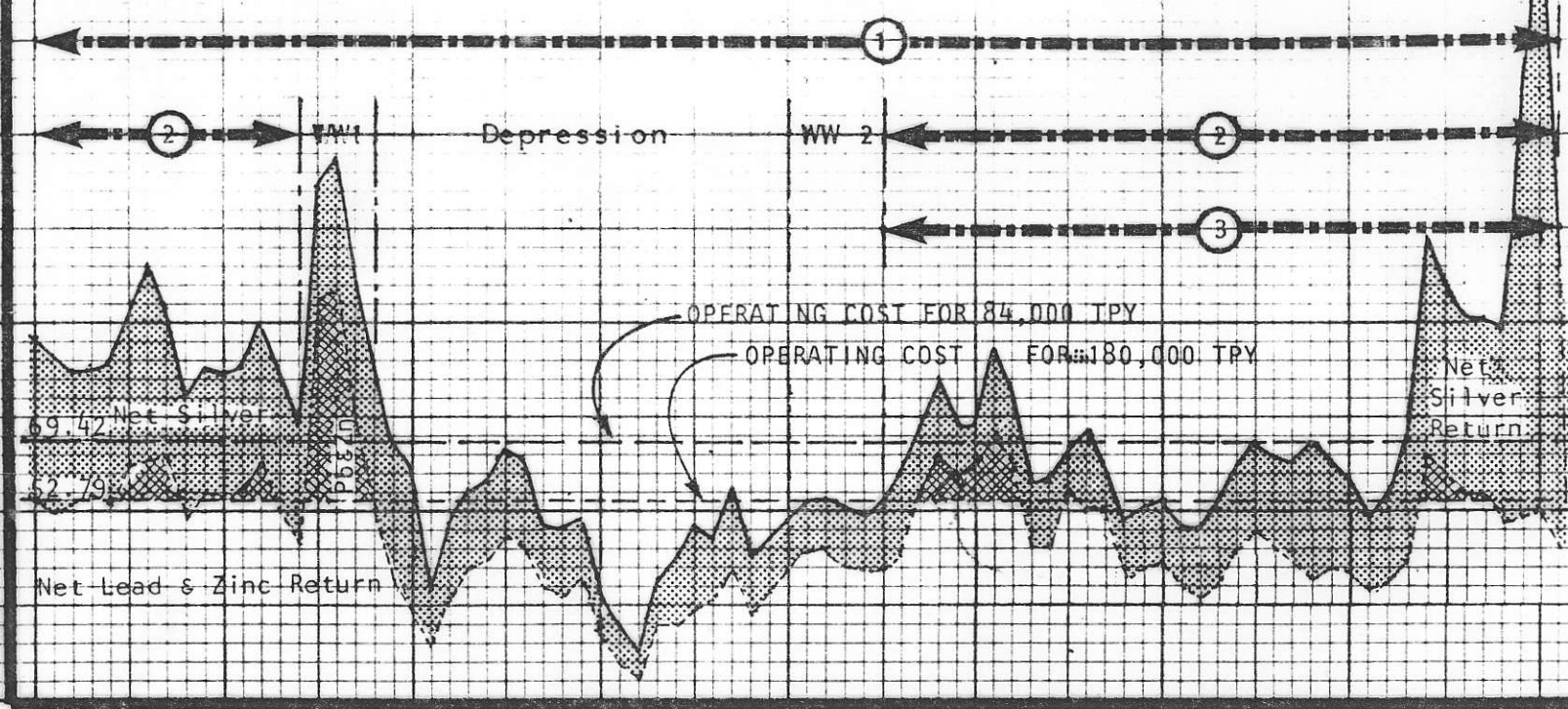
200
0

CALCULATED NET VALUE \$/T AT INFLATED PRICES

150

100

50
0



1900 1910 1920 1930 1940 1950 1960 1970 1980

YEARS FOR CALCULATIONS

CANADIAN GEOSCIENCE CORPORATION
Vancouver, Canada

The results of mining ore of the quality developed at the Ruth Vermont Mine have been studied at the operating rates of 250 tons per day at 28 days per month, and at 500 TPD at 30 days per month, i.e., at 84,000 and 180,000 tons per year, respectively. These studies show, (Table 8), that since World War II continuous operations at the low or the high rates would have provided, respectively, annual operating profits in 44% and 86% of the 36 years, and annual profits would have averaged \$703,000 and \$4,500,000. If, during this same period, the mine had been operated intermittently when it was profitable, then after allowing one year's loss of time for start up and one year's loss of profit for shut down, the low and high rates would have been maintained respectively for 39% and 81% of these 36 years; it would have been profitable for 93% and 93% of the operating years, and it would have produced annual profits of \$3,100,00 and \$5,600,000.

Thus, operating with care, the low rate of mining could have earned \$43 million and would have consumed 1,176,000 tons of ore. (Four times the present reserves).

The higher rate of mining could have earned \$162 million and would have consumed 5,220,000 tons of ore. (17 times the present reserves).

The existing camp is large enough for only the low rate of mining, but the mine and mill are large enough for the higher rate.

TABLE A

DILUTED RESERVES

TYPE OF ORE	QUANTITY tons	SILVER troy oz/T	LEAD %	ZINC %
REPLACEMENT	158 000	4.90	3.50	4.90
VEIN	144 000	9.00	6.30	6.10
	-----	-----	-----	-----
T O T A L	302 000	6.85	4.84	5.47
	=====	=====	=====	=====

-2-

As can be seen, present reserves are sufficient for only 3.6 years at 84,000 TPY or 1.7 years at 180,000 TPY. Three previous attempts at operating have all been lacking in sufficient capital to provide time to properly establish normal operations. Numerous shortcomings were evidenced in every attempt. At no time have both time and money been available to establish reserves basically beyond those established by 1969 prior to mill construction and the first mining attempt completed in June 1971. The avalanche hazard exhibited in the early years after mill construction in 1970 appears to have been alleviated by the construction in 1981 of avalanche berms. Slides generated by the "normal" heavy snowfall this last winter were deflected west of the old powerhouse site. If sufficient reserves could have been developed in the belt, it has always been felt that the mill might be better relocated in Vowel Creek Valley.

Little regional geology and prospecting have been done since the late 1800's and the 1920's when some underground development openings were driven on both the Ruth Vermont and the McMurdo Creek property located twelve miles to the north. The difficulty of access, plus the short exploration season for the high-country may be blamed for this. Recently, logging roads have opened up much of the country and a Calgary oil company subjected claims south of the Ruth Vermont Mine to modern prospecting methods with some follow up diamond drilling. Work from previous years has exposed various showings of vein and replacement ores. This year's work on these south claims has more firmly established geophysical methods suitable to the area and has extended previous showings by these methods so that a comprehensive drill program has been laid out for 1983. On the north side of Vermont Creek several vein deposits and one replacement deposit, though undeveloped, have been known and were reported on years ago.

The writer recommends that development of the belt include the following considerations in approximately the following sequence and order of priority.

1. Consummate agreements for most of the showings in the belt including control of Ruth Vermont Mine Ltd. N.P.L.
2. Complete development of the underground vein ore, and

complete the few repairs necessary to the mill and plant, so that the mine may be operated on fairly short notice during periods of favourable metal markets.

3. Map the underground.
4. Extend and extrapolate surface work and methods completed on the southern claims into the Ruth Vermont Property and consolidate with underground mapping.
5. Extend underground development to enable expansion of existing underground reserves.
6. Increase camp to accomodate 130 men for a 500 TPD crew.
7. Extend surface methods to northern properties.
8. Follow up surface methods with underground development on all properties as soon as targets are delineated.
9. Depending on reserves from the above, move the mill to Vowel Creek Valley, and supply with ore from the southern claims all year long, and with ore from all other claims with a summer road haul.

Value and Cost Estimation Associated With The Proposed
 Program For Development of the Ruth Vermont Belt
 (millions of Canadian Dollars)

Replacement Value of Ruth Vermont Plant, Mill, Camp, Equipment, and Underground Development Estimated at	\$30.000
Book Value Ruth Vermont Mine, Preproduction Costs	\$17.300

<u>YEAR</u>			
	Existing Bank Loan	\$4.200	
	Creditors	0.450	

1	Total Outstanding Against Ruth Vermont Mine Ltd	4.650	
1	Acquire Rights to Properties	(1) 1.500	
1	Underground Development	(2) 1.000	
1	Surface & U.G. Mapping & Correlating	(3)&(4) 0.750	

	Sub-total Year 1	7.900	
2	Underground Development & Diamond Drilling	(5) 3.000	
3	Increase Camp Size for 500 TPD crew	(6) 1.000	
3&4	Explore & Develop Targets on all Properties	(7)&(8) 6.000	

	T O T A L 4 Y E A R P R O G R A M	\$17.900	
		=====	

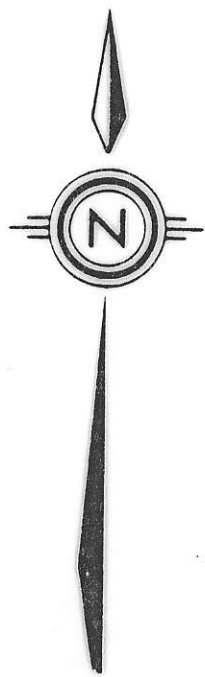
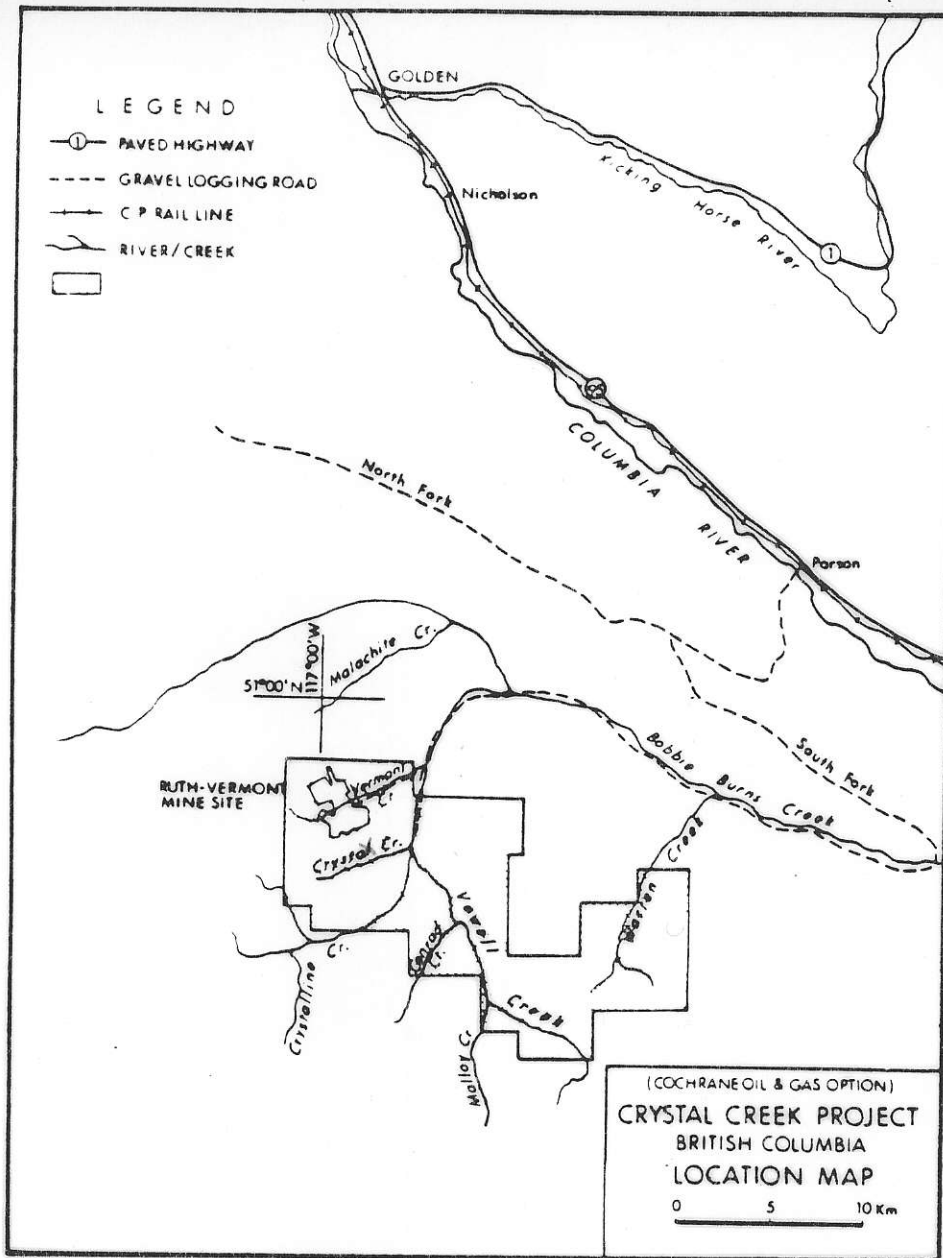
From these may be subtracted any operating revenues generated by running the mine at the low rate during the first three years and at the high rate during the fourth year.

The foregoing cost estimates have been made without detailed study.

Yours very truly,

L. J. Manning

L. J. Manning, P. Eng. (Mining)



From Report By G. Nolin, P. Geol.
 Entitled
 Yearend Report
 1981 Exploration Program
 October 1981

Part of Section VI Geology
Mineralization

The observed mineralization on the Tect portion of the property appears to be related to release fractures along a zone of weakness related to the axial planes of anticlines. The area lies on the axial trace of the Vermont anticlinorium. The mineralized veins on the Ruth Vermont property are steeply dipping and strike at approximately 115 degrees. Most ore grade mineralization appears to be in veins but several intersections of sulphide mineralizations with good base metal values have been encountered which appear to be strata bound.

Drilling and trenching have encountered ore grade Ag, Pb, Zn, and Cu mineralization in 5 locations: drill holes # 79-11, 77-3, 81-3, 75-1, and trench # 77-3; along a N.W., S.E. strike extending over 2,200 feet. Ore grade mineralization has also been encountered at 4 locations: drill holes # 79-8, 81-3, 77-3, and trench # 77-3; along an approximate bearing of 115 degrees for a distance of 300 feet.

A list of significant mineralization is as follows:

Selected Assays

<u>Hole #</u>	<u>Interval</u> (in feet)	<u>Width</u> (in feet)	<u>% Pb</u>	<u>% Zn</u>	<u>Oz/Ton Ag</u>
1-75	42 - 50	8	2.11	5.43	2.33
3-77	107.5 - 123	15.5	3.43	8.61	3.39
81-3	200.7 - 206.1	5.4	1.72	7.34	2.12
79-11	312 - 313.3	1.3	12.49	13.13	12.72
	328.3 - 328.9	0.6	1.62	8.20	1.44
	374 - 374.3	0.3	5.40	0.42	4.28
	387.3 - 387.6	0.3	7.40	14.50	20.50
	408 - 408.6	0.6	4.99	12.88	8.90
	410.9 - 412	1.1	15.44	1.45	14.92
	79-8	74.13 - 75.1	0.97	2.48	7.43
75.1 - 75.9		0.8	2.0	2.8	2.34
75.9 - 76.88		0.98	5.78	8.32	5.36
76.88 - 78.55		1.67	7.85	11.64	8.84
78.55 - 79.7		1.15	10.95	15.39	10.70
79.7 - 80.03		0.33	2.64	3.90	2.56
	80.03 - 81.01	0.98	2.22	4.20	2.50
<u>Trench</u>					
77-3		18 feet	1.9	2.84	3.43

On Warren Creek claims, chalcopyrite which assayed over 4% Cu was located by an old dump. The mineralization is reported to be related to narrow quartz veins in a shear zone.

APPENDIX I

No.	TITLE	Page
1	Summary of Reserve Estimates	Table 1
2 A	Smelter Returns 1981 Operations	
1	Lead Smelter	
2	Zinc Smelter	
B	Cominco Smelter Schedules April 1982	
1	Lead Concentrate Schedule	
2	Zinc Concentrate Schedule	
C	Summaries of 1981 Concentrate Shipments	
1	Lead Concentrate	Table 2-1
2	Zinc Concentrate	Table 2-2
3	Summary of Tailings Grades	Table 3
4	Application of 3 Product Formula to Data from Appendices I-1, I-2 & I-3	
5 A	Calculations of Probable Smelter Receipts & Charges	
1	Lead Smelter	
2	Zinc Smelter	
B	Total Probable Net Smelter Returns	Table 4
6	Annual Average Prices Escalated to 1981 Rates by the Consumer Price Index	
A	Table of Prices Inflated to 1981 Rates	Table 5
B	Graphs of Metal Prices Quoted & Inflated	
1	Gold LME Initial	Graph 1
2	Silver Handy & Harman	Graph 2
3	Lead St.Louis/U.S.Producer	Graph 3
4	Zinc East St.Louis/U.S. Prime Western	Graph 4
7	Operating Costs for 7,000 TPM & 15,000 TPM	Table 6
8	Operating Profit Per Ton Ore & Per Year	Table 7
9	Net Smelter Returns, Percent of NSR From Silver & Operating Costs, All By Years	Graph 5
10	Analysis of Table 7	Table 8

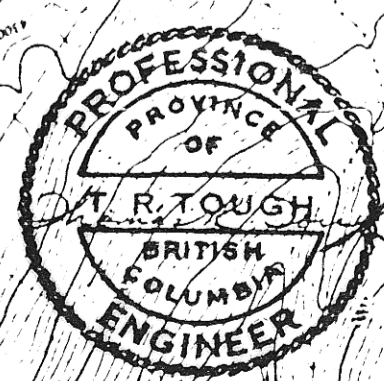
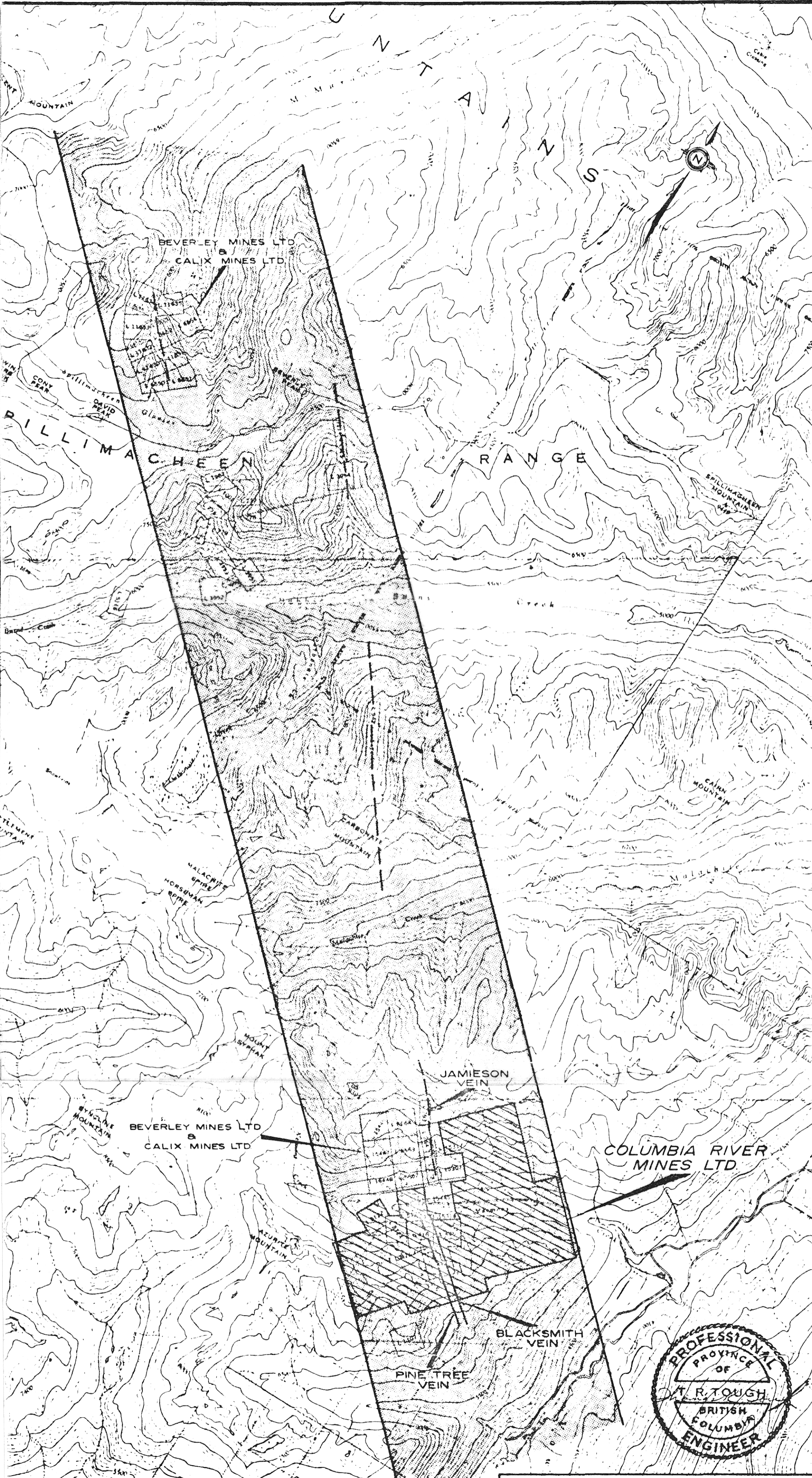
APPENDIX II

REPORTS

No.	TITLE	Page
1	Reports by H.D.Forman on the Ruth Vermont Mine	
A	Feasibility Study	30 November 1979
B	Projection of Production for	November 1981
C	Problem Summary	27 November 1981
D	General Information	21 December 1981
E	Feasibility Report	15 March 1982
2	Excerpts From Report by L. J. Manning & Associates, 28 April 1972	
A	Report by L.J.Manning	Frontispiece - P.6 inc
B	Appendix Contents	Pp.45 - 48 inc

APPENDIX III
MAPS & DRAWINGS

MAP	TITLE	DATE	SCALE
1	Location Plan		1"= 4 miles
2	General Mine Plan & Section		1"=100 ft.
3	Longitudinal Section Vein Assays	Nov. 1971	1"= 40 ft.
4	Typical Cross Sections		
5	Generalized Ore Bodies		1"= 80 ft.
6	Site Layout		
7	Potential Mineralized Zone		1.3"= 1 mile



LEGEND

- Mineralized Zones (vein and replacement)
- ▨ Area of Potential Exploration

T. R. TOUGH & ASSOCIATES LTD.
COLUMBIA RIVER MINES LTD. (N.P.L.)
RUTH-VERMONT PROPERTY
GOLDEN, B.C.

POTENTIAL MINERALIZED ZONE

SCALE

Miles 0 1 2

0 inches 1
0 centimetres 2

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.