REPORT ON THE POTENTIAL OF THE TULAMEEN COAL DEPOSITS FOR ECONOMIC EXPLOITATION

November, 1976

Prepared for:

Cyprus Anvil Mining Corporation
Vancouver, B.C.

By:

The Roberts Consulting Corporation
West Vancouver, B.C.

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November, 1976

SECTION I

1.0 Terms of Reference

(a) To review existing data and comment on the information contained therein.

(b) To use selected material as a basis for a conceptual mining proposal.

(c) To describe the concept in relation to mining, coal preparation, transportation and marketing.

(d) To provide as much statistical substantiation of the proposals made as is possible within the time limitation imposed for presentation of the report.

(e) To make recommendations for consideration by Company executives.

In this report, a familiarity is assumed with the following studies:

Similkameen Coalfields - Dolmage Campbell and Associates Ltd.

Technical and Economic - Wright Engineers Ltd.
Study No. 392-02,
January 1970

2.0 Recoverable Coal Reserves

2.1 Distribution - Geographically

The exploration and mining activities conducted to date have indicated that a coal zone, at least 70 feet in thickness, exists around the major proportion of the coal basin periphery. The most proven

section of this zone lies on the southwestern rim of the basin centred on the old No. 5 Mine location (see Figure 1). From this centre to the north, an outcrop has been proven to extend 7,500 feet by a series of trenches and four boreholes. To the south, the surface mining zone lies between the uppermost limit of the underground workings and the seam outcrop and extends also for approximately 7,500 feet.

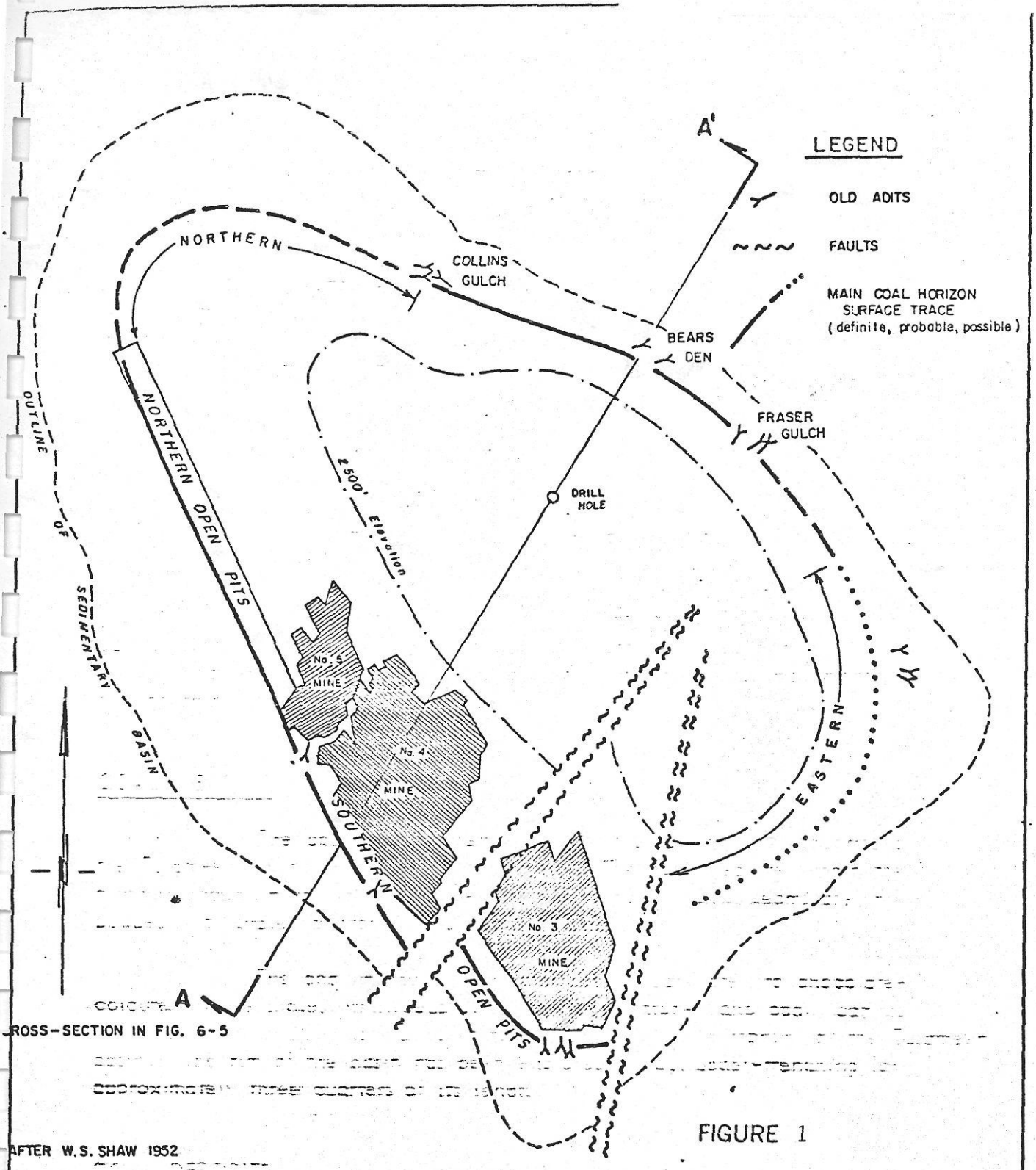
On the northeastern rim, another potential surface mining area exists between the Collins and Fraser Gulches where coal reserves have been explored by trenching over a strike length of 14,000 feet. While only the reserves in these two areas are computed in this report for exploitating by surface mining, the remainder of the basin rim should be considered as possible areas into which surface mining could be extended.

From the cross section reproduced in Figure 2, it is evident that the coal measures extend throughout the area of the leases. The unknown factor here is the quality of the coal at the lower levels but this could be determined by drilling. Underground exploration of these reserves, using hydraulic mining techniques, may be entirely possible, especially as an extension of total mining capacity at a later stage of development.

2.2 Calculation of Reserves

The computations contained in various reports have been examined and, in principle, are validated by this report.

The following assumptions are made:



ROSS-SECTION IN FIG. 6-5

AFTER W.S. SHAW 1952

FIGURE 1

SIMILKAMEEN COALFIELDS
TULAMEEN COAL DEPOSITS

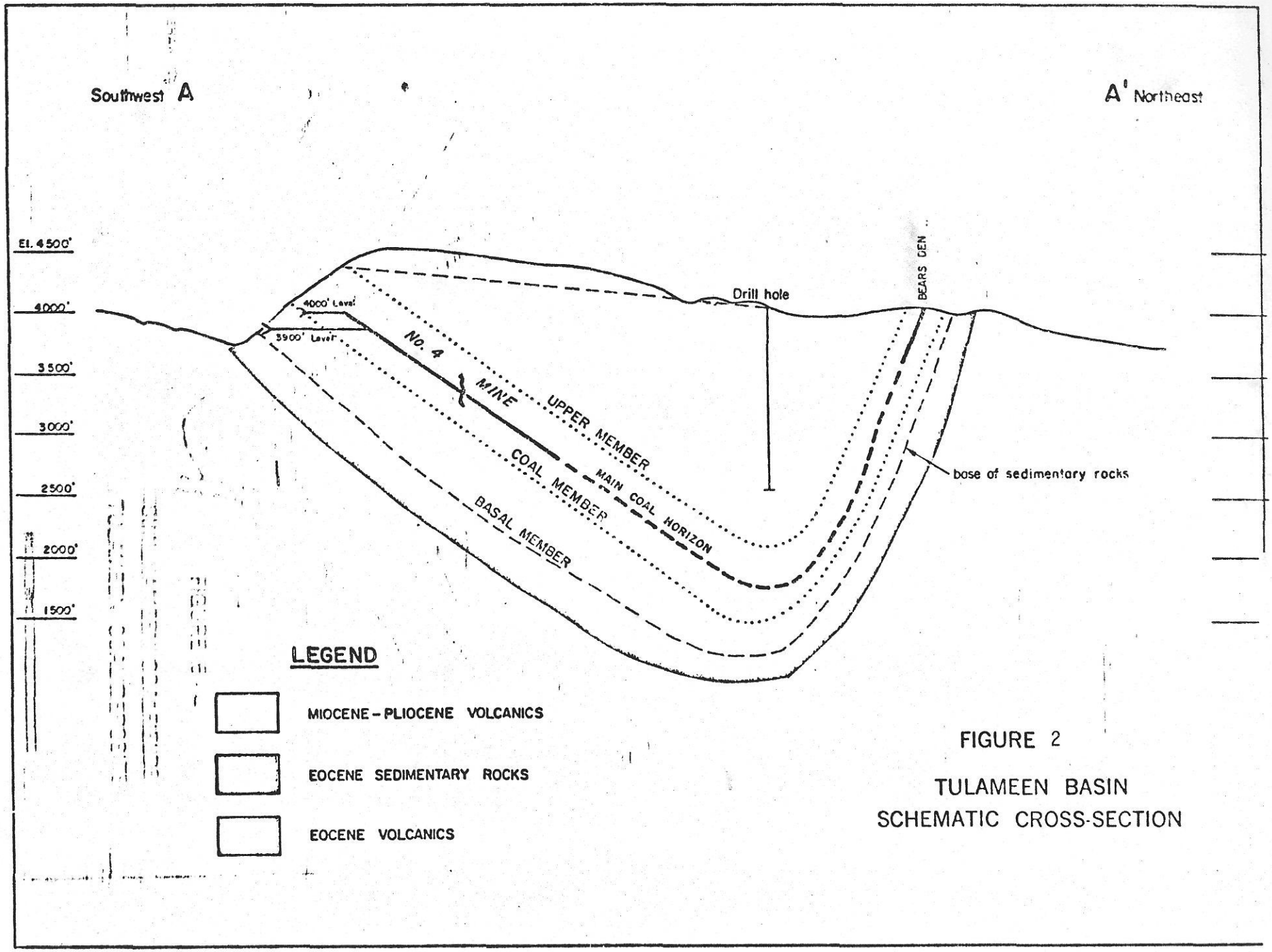


FIGURE 2

TULAMEEN BASIN
SCHEMATIC CROSS-SECTION

(a) The coal zone is at least 70 feet thick normal to the bedding planes.

(b) The coal recovered and saleable would be 65% of the mine production. Some cleaning of the major shale deposits between the coal layers would be done in the surface pit so this factor is realistic from the data available.

(c) The coal would be mined to a vertical depth of 250 feet.

(d) The average inclination is 45%, giving an inclined length of 350 feet for the coal seam in place.

(e) The specific gravity of the mine coal in place would be 1.6 giving a weight of 100 lbs. per cubic foot in the solid.

Proven Reserves - Southwestern Section

These occur over a strike length of 15,000 feet north and south of the No. 5 Mine. Reserves are therefore:

$$\frac{15{,}000 \times 350 \times 70 \times 100}{2{,}000} \text{ short tons}$$

This is 18,375,000 short tons of raw coal,

Or 11,950,000 short tons of saleable coal.

Probable Reserves - Northeastern Section

These occur over a strike length of 14,000 feet but at an inclination of 60 degress, giving an inclined length of 290 feet. Reserves are therefore:

$$\frac{14{,}000 \times 290 \times 70 \times 100}{2{,}000} \text{ short tons}$$

This is 14,210,000 short tons raw coal,

Or 9,236,000 short tons of saleable coal.

Possible Reserves - Other Sections of the Perimeter or Underground

As the assumptions for these calculations cannot be accurately defined, any figure between 50 and 250 million short tons could be used. However, the lower estimate provides a valuable reserve for possible future mining development.

2.3 Summary of Reserves

Proven and Probable Reserves:

Raw Coal as mined - 32,500,000 short tons

Saleable Coal - 21,186,000 short tons.

2.4 Future Exploration

It should be noted that the term "proven" in this context refers to the fact that the outcrop zone has been traced over the stated strike distances. However, there appears to be a paucity of information to hand as a result of the work done. It would be reasonable to expect that more precise documentation should be available, especially in mapping of the trenches opened up and borehole logs of the drilling. In the absence of such data, it will be necessary to re-confirm the findings and have proper analyses made on the recovered cores. A borehole every 1,000 feet would give reasonable indication of the seam occurrence. The results should be used to give structural interpretation of the seams for mine planning. At least two trenches should be cut and bulk samples taken to confirm the washability data. These would be in addition to a bulk sample from the Mullins Open Cut. The relationship between the Upper and Lower Zones should be determined along the strike to ensure proper correlation of the coal seams.

3.0 Coal Quality

The statistics produced in the reports are inadequate as a basis for serious detailed evaluation of the coal quality. It is certain, however, that high grade thermal coal occurs in large quantities. Some rather novel presentations are made as to what the results of washing may be but these are not reliable, as several factors appear to have been overlooked. It is essential that a bulk sample of approximately 40 tons be obtained from across the full coal zone in the lower pit of the Mullins Strip Mine, which may be considered as representative of the raw coal as it would be mined. This would be washed and analysed in a pilot plant located in Calgary. However, it is reasonable to assume from the data that, with some coal cleaning in the pit, the raw coal as mined would have a thermal rating of 9,500 Btu's per lb. with an ash content of 30%. By upgrading through a wash plant washing at 1.6 SG, the resultant coal would be saleable at 12%-15% ash and 11,000 Btu's per lb.

After washing, an anticipated analysis would be:

Ash	12% - 15%
Total Moisture	8%
Volatiles	32% - 30%
Fixed Carbon	48% - 47%
Sulphur	0.3%

It must be emphasised that further precise information is mandatory to permit a proper evaluation of the deposit.

The samples taken should be sized into graded fractions and washability data determined for each fraction. The weight percentage of each fraction must be determined as mined before any realistic assessment of preparation plant requirements can be made.

4.0 Marketing

An extremely important factor which would influence the sale of this coal is its low sulphur content. Two of the prospective purchasers would be Ontario Hydro and the new Japanese Thermal Power Generating Station on Kyushu Island. In both these cases, atmospheric pollution must be retained within acceptable standards. The Tulameen coal would be desirable as a single feed or as a coal blend with other high sulphur coals to maintain the coal feed to the boilers at .6 to .8 percent sulphur.

To beneficially influence the total feed, a high volume of this coal would be required so that a minimum production level of 1 million short tons per annum should be considered. On present information, a price of $32.00 per short ton F.O.B. Vancouver could be anticipated.

Other possible markets would be Taiwan or Korea, but more research would be necessary into the demand before any real assessment of this potential could be made.

Another prospective outlet for this coal would be the cement making industry. Although, at the present time, natural gas is used in B.C., it is anticipated that conservation of energy policies will change this situation, if not the price. The latest plant in Vancouver has a planned provision for coal burning. Conversion already has been made in the U.S.A. at several plants, for example the Columbia plant at Bellingham is burning coal hauled by rail from Utah. The Californian plants could be investigated as part of the evaluation.

Another possible outlet is for power generation to a captive market. It is believed that aluminim smelters may be interested in such a supply of energy. The expected increase in oil prices will enhance the value

of this deposit in the near future.

5.0 Mining Concept

5.1 Production Level

It is proposed that a mining operation having a production level of one million short tons per annum be considered for the following reasons:

(a) The capital cost of commissioning a coal mining plant of this type requires a high production level to give a reasonable rate of return.

(b) The nature of the deposit dictates that full mining of the coal zone is the only practical method applicable. Selective mining of the higher quality coal bands is not a viable proposition. The low yield of the preparation plant requires a high throughput to maintain good economics.

(c) The potential purchasers of this coal are large consumers who would only be interested in obtaining substantial tonnages.

(d) The proven and probable coal reserves are sufficient to sustain this rate of production over a period of 15 years.

5.2 Dimensions of Surface Mine

Reclamation requirements make it mandatory to leave the mining site in an environmentally acceptable condition. No spoil heaps would be tolerated on the down hill side of the excavation. These conditions in turn require that the pit be back-filled and contoured with subsequent sowing of suitable vegetation. As a consequence, the surface mine should be excavated to the pre-determined depth of (say) 250 feet at the initial mining location and this excavation

should be advanced along the strike at this depth so that double handling of spoil is eliminated. A typical cross section of the pit is shown in Figure 3, which was drawn at the site of Test Pit 6 of Imperial Metals and Power Ltd.

Each foot length of strike would yield:

1,225 Tons of Raw Coal

800 Tons of Clean Coal

1,950 Cubic Yards of Spoil

Ratio - 1.6 :1 Bank Cubic Yds.:Short Ton Raw Coal

2.43:1 Bank Cubic Yds.:Short Ton Saleable Coal.

For a production of 1 million tons saleable per annum, a total strike length of 1,250 feet would be mined per year. The reserves on the southwest rim of the basin would be sufficient for 12 years at a mining depth of 250 feet. The economics of operation after further investigation may permit mining to a greater depth, thereby increasing the life of this section of the mine.

5.3 Mining Parameters

Any system of surface mining should provide for:

(a) Removal of 2,500,000 cubic yards of spoil per annum.

(b) Mining of 1,531,250 short tons of raw coal per annum.

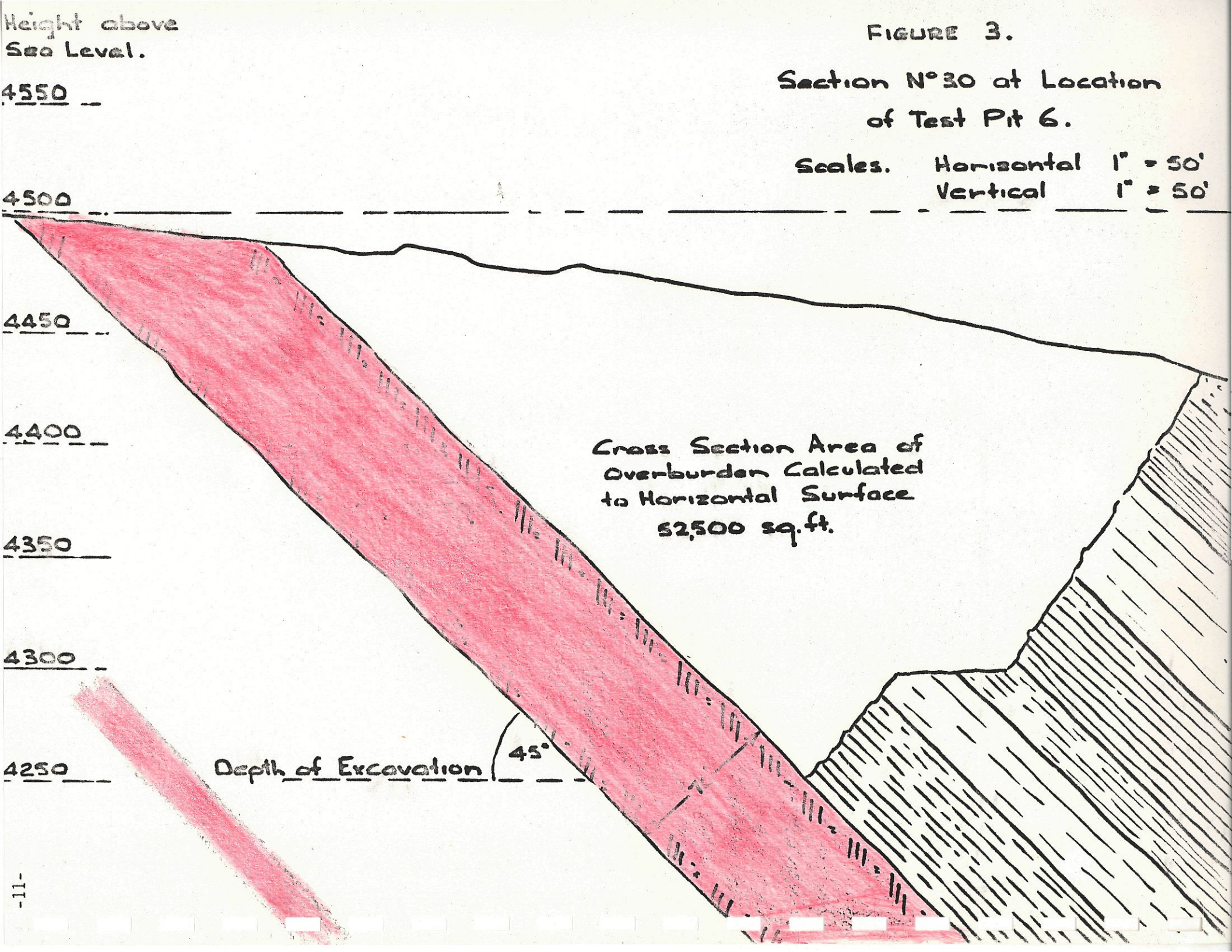
(c) Maintenance of maximum versatility with machine standardisation.

(d) Extended use of deisel power for all surface operations except for small scale local generation for lights, pumps, etc.

FIGURE 3.

Section N°30 at Location of Test Pit 6.

Scales. Horizontal 1" = 50'
Vertical 1" = 50'



(e) Centralization of maintenance facilities adjacent to the preparation plant.

5.4 Description of the Mining Concept

5.4.1 The coal would be mined initially from a surface mine commencing at a suitable location on the outcrop. Further investigations are necessary before a definitive mine plan can be formulated. The initial excavation should be used to infill old workings or other surface depressions to give adequate working space down to 250 feet in the mine.

5.4.2 The haul back system of mining should be used to leave the minesite in an environmentally acceptable condition. The overburden would be stripped by the extensive use of scrapers and/or a bucket loader and truck combination. The latter system would appear at this stage to be more positive and, as is shown in another section, has cost advantages, particularly at depth.

5.4.3 The coal would be mined by bucket wheel loaders from coal prepared by bulldozers equipped with rippers. Selective mining with the segregation of shale bands and bentonite intrusions would be practised at the coal face.

5.4.4 The raw coal production from the mine would be hauled in off highway trucks to the preparation plant which would be located adjacent to the minesite. An alternative location which has several advantages would be in Coalmont where power and water would be readily available and the washed coal could be loaded directly into rail cars. However, the

disposal of the large quantities of reject would present a problem in the valley over and above the financial objection to carrying reject material down the mountain.

The disadvantages of the erection of the plant at the minesite would be carefully evaluated in depth at the appropriate time. For the purposes of this report, an arbitrary decision has been made to locate the preparation plant at the minesite where the reject can be back-hauled to the open pit.

5.4.5 The design of a suitable plant has been discussed with Simon Carves who have quoted a maximum figure for the best washing installation to accommodate all the possible variations. The design is based on the Luscar Installation now being erected for the preparation of coal for supply to Ontario Hydro. It is rumoured that the contract price of this coal would be $22.00 per short ton F.O.R. minesite, which would make it high priced coal delivered in Ontario. The Tulameen coal, at $32.00 F.O.B. Vancouver, should be very competitive, provided reasonable sea freight can be established.

When the washing characteristics of the coal are known, it is anticipated that the capital costs as quoted could be substantially reduced. The design and installation of suitable raw coal feed stockpiles and rail load out installations could be simplified and constructed locally. Should it be possible to locate the preparation plant on a down slope, further substantial savings should be possible.

However, as so many factors require resolution and the price quoted does not include power and water supply, it is proposed in this study to use the figure of $20 million to cover the whole installation.

The design, as quoted, includes truck dump pits, Bradford breaker building for pre-sizing of material, elevating conveyor to the washery, a three-section flow sheet to wash the coal in three sizes, i.e. plus 28 mesh in dense media cyclones, 28 mesh to 100 mesh in water cyclones, and minus 100 mesh in froth flotation cells. As stated above, this ultimate refinement may not be necessary but only further investigations can determine these parameters.

After washing, the proposal includes clean coal drying facilities by centrifuging to 8% moisture, clean coal silos of 10,000 ton capacity, and a rail loadout facility for loading unit trains. Should the coal preparation plant be located at the mine, then this facility would be divided into two sections. I am of the opinion, however, that the trucks bringing the coal down the mountain could load directly into rail cars in a much simplified system, thereby accomplishing a major capital cost saving. The rail cars could be used as washed coal storage, particularly if owned by Trimac (see letter) for a small additional demurrage charge. The capital cost of a rail care of 100 tons capacity is approximately $35,000 so the interest on 50 cars standing by per day is $700 per day of 12 cents per ton on the freight rate. This would, in any case, be negotiable.

5.4.6 Transport down the hill and rail transport to Vancouver has been investigated by Trimac - refer to appended letter. The quote for the construction of additional bulk terminal capacity in the vicinity of Roberts Bank is irrelevant as there is capacity at Port Moody for the handling of this coal. Terminal charges have been put in at $1.50 per short ton.

5.4.7 Sections II and III of this report derive the mining cost of surface mining which is used in the following analysis.

6.0 Financial Evaluation

The figures presented here are not intended to be a cash flow statement but are presented only to be representative of what may be anticipated from a venture of this type. A refined evaluation with a derived rate of return would follow when further investigations have been completed. This presentation should enable a further authorization of expenditure to be made for exploration if Cyprus Anvil decide to proceed further on the prospect.

CAPITAL COST SCHEDULE
(Millions of Dollars)

	1977	1978	1979	1980
Exploration and Feasibility Study	.25			
Engineering - Mine Design, etc.	.25	.5		
Plant Construction		5.0	7.0	8.0
Plant Equipment		3.5	3.5	
Pre-Production Costs (500,000 tons)			1.0	1.5
Surface Facilities (workshops - mine dry, offices)		.5	1.0	1.0
	.50	9.5	12.5	10.5

TOTAL $33 Million.

7.0 Recommendations

(a) Negotiate a position whereby an exploration and feasibility study can be completed by July, 1977.

(b) Immediately take a bulk sample from the Mullins Lower Pit for determination of accurate washability data.

(c) Refine the design criteria for a preparation plant and determine its capital cost.

(d) Research the markets for this coal on the results of (b) and, if possible, obtain letters of intent.

(e) Complete exploration and feasibility study and firm up long term sales contracts.

(f) Proceed with engineering and development, etc.

N. E. ROBERTS, P.Eng.

SECTION II

Mining With Wheel Tractor Scrapers

1.0 Description of System - (1 million Short Tons Saleable)

Essentially this would be a haul-back operation, whereby the overburden would be continually dumped and levelled in previously excavated pits. The coal would be loaded simultaneously with the overburden removal and taken by off-highway trucks to the preparation plant.

The system is designed around the extensive use of scrapers. These machines are highly versatile and maneuverable and are capable of negotiating poor ground and grades up to 20%. Encouragement for the adoption of this system is derived from the recorded experience of the use of this equipment in the Mullins Open Pit and by the on-site observations of a Wright Ltd. engineer who considered the material suitable for scrapers. However, it is visualized some difficulties may occur scraping across the end grain of the shales which could give rise to excessive type wear. For this reason, the alternative shovel and truck operation is described in Section III. At the appropriate time, tests would be conducted to determine the suitability of the scraper operation for this application.

The scrapers would make a continual circuit around the pit, loading the spoil down a 15% grade to the lowest level and dumping the material while climbing out of the pit on another 15% grade. Scrapers are ideal for leaving the area in a reclaimed state requiring only minimal bulldozer and grader work to finally contour the area.

The coal would be loaded into 50 ton off-highway trucks by bucket wheel loaders for hauling to the preparation plant. This coal would be ripped

and prepared by two D8 Caterpillar dozers which would also do the in pit cleaning of the major shale bands.

2.0 Mining Statistics and Costs

2.1 Overburden Removal - Statistical

Length and Time of Scraper Haul Cycle:

Loading down 2,000' ramp 15% grade	- 1½ mins.
Discharge up 2,000' ramp 15% grade	- 1½ mins.
Travel time down 2,000' grade	- 1½ mins.
Travel time up 2,000' grade	- 2½ mins.
Travel time on 5,000' flat grade	- 3 mins.
Total cycle time	- 10 mins.

Assume a 50 minute working hour:

Each scraper will complete 5 cycles per hour. Rated capacity of Cat 621 Scraper - 25 cu.yds. Rated capacity in bank cubic yards with a B.C.Y. to L.C.Y. ratio of .6 is 18 B.C.Y. Production per hour is 75 B.C.Y.

Overburden to be removed per day - 10,000 B.C.Y.

Assume operations are on two working shifts of eight hours each, resulting in a net working time of 14 hours. Daily production from a scraper is 1,050 B.C.Y.

10 Cat 631 Scrapers are required in continual use. These would be supported by 4 D8 dozers in support for ripping and loading.

2.2 Operating Costs - Overburden Removal

2.2.1 Operating cost of a Caterpillar 631 Scraper is $68.50 per hour inclusive of all maintenance, labour and materials,

operating materials and depreciation, but not including operator.

Total cost per day of scraper operator -

$68.50 x 14 x 10	= $9,590
20 Operators at $120 per day (including overtime)	= $2,400
Cost per bank cu.yd.	= $1.20

2.2.2 Operating cost of a Caterpillar D8 Bulldozer equipped with rippers is $46.60 per hour (same basis).

Total cost of bulldozer support -

$46.60 x 14 x 4	= $2,610
8 operators at $120 per day	= $ 960
Cost per bank cu.yd.	= $0.36

2.2.3 Operating cost of a Caterpillar 988B Front End Loader - Support loading near high wall - is $61.00 per hour.

$61 x 14	= $ 854
2 operators at $120 per day	= $ 240
Cost per bank cu.yd.	= $0.11

Total cost of overburden removal per bank cu.yd. $1.67

2.3 Coal Production - Statistics and Costs

Raw coal production is 450 tons per hour on a 14 hour per day basis.

Equipment: 2 Cat 992 Front End Loaders.

2 Cat D8 Bulldozers.

2.3.1 Operating Cost Cat 992 (as above)

$86.50 x 14 x 2	= $2,422
4 operators at $120	= $ 480
Cost per short ton raw coal	= $0.46

2.3.2 Operating Cost of D8 Dozers (as above)

$46.60 x 14 x 2	= $1,305
4 operators at $120	= $ 480
Cost per short ton raw coal	+ $0.28
Total cost of loading coal per short ton raw coal	$0.74

2.4 Coal Hauling - Statistics and Costs

The coal will be loaded into 100 ton bottom dump trucks for hauling to the preparation plant located on the minesite - say average distance of 5 miles. Daily production 6,300 short tons to be hauled in 2 shifts of eight hours.

2.4.1 Loading time (2 loaders) - 5 mins.
Dumping time - 2 mins.
Travel time go and return - 18 mins.
Total cycle time - 25 mins.

Assume a 50 minute working hour, then one truck would carry 200 tons per hour or 2,800 short tons per day. With additional safety margin, 3 trucks would be required.

2.4.2 Operating cost of truck is $75 per hour.

$75 x 14 x 3	= $3,150
6 operators at $120	= $ 720
Total cost of hauling coal	= $0.62

2.5 Ancilliary Operations

These are reclamation, grading, pumping, maintenance, truck operation, etc. The cost of these operations is estimated at 46 cents per short ton raw coal. Back up figures can be supplied upon request for this estimate.

Total cost of coal operation is $1.82 per short ton of raw coal.

2.6 Supervision - Costs

	Basic Rate Per Man Per Year	Job Cost
1 Manager	$ 30,000	$ 37,500
1 Engineer	27,000	33,750
3 Foremen	25,000	93,750
2 Warehousemen	20,000	50,000
1 Master Mechanic	24,000	30,000
1 Electrical Foreman	24,000	30,000
1 Shop Foreman	24,000	30,000
3 Office Staff	20,000	75,000
		$380,000

Cost of staff labour per ton of clean coal is 38 cents.

2.7 Capital Costs - Mining Only

10 Scrapers plus 2 spare Caterpillar 631	$ 3,000,000
6 D8 Dozers	1,200,000
1 Cat 988 B F.E.L.	275,000
2 Cat 922 F.E.L.	700,000
3 Trucks at $350,000	1,050,000
Miscellaneous Equipment	1,000,000
TOTAL CAPITAL COST	$ 7,225,000

3.0 Summary of All Operating Costs

- Cost of overburden removal per short ton of raw coal on a stripping ratio of 1.6:1 -	$2.67
- Cost of coal loading and ancilliary operations -	1.82
Cost delivered to Preparation Plant	4.49
- Reject factor 65% yield -	2.41
- Washing cost -	3.00
Cost in trucks at Preparation Plant -	9.90
- Supervision cost -	0.38
- Trucking and loading into rail cars (see Trimac estimate)	1.30
Cost F.O.R. Coalmont -	11.58
- Royalties - Government and Local -	2.00
- Rail freight $7.00 per ton (see Trimac estimate)	7.00
- Port loading charge (Port Moody) -	1.50
- Sales and Administration -	1.00
OPERATING COST F.O.B. VANCOUVER -	$23.08

SECTION III

Mining With Loader/Truck System

1.0 Description

An alternative method of removing the overburden would be by the use of Caterpillar 988B loaders and 50 ton trucks.

2.0 Mining Statistics and Costs

2.1 Overburden Removal

Loading capacity of 988B is 24,000 lbs. of 3,000 lbs. per cubic yard material, which is 8 cubic yards loose. The equivalent in bank cubic yards with a swell factor ratio of .625 is 5 cubic yards.

Cycle time of loading is 45 seconds. Production on a 50 minute working hour is therefore 6.6 x 50 = 330 B.C.Y.

Daily production (14 hours) = 4,620

3 units are required for additional margins of capacity.

2.1.1 Operating cost of Cat 988B is $61.00 per hour.

$61.00 x 14 x 3	= $2,562
6 operators at $120	= $ 720
Cost per B.C.Y.	= $0.33

2.1.2 Cost of Drilling:

Assumptions:

25 ft. holes are required each 7 7/8" in diameter on a 15 ft. grid. Each hole will break 175 cu.yds. for a 21 ft. bench.

Drilling Rate - 4 holes per hour.

Machine Type - Ingersoll Rand DN4.

Calculations:

57 holes per day are required to prepare overburden.

Operating cost of drill is $45.00 per hour.

Cost per day - $45 x 14	= $ 630
2 operators at $120	= $ 240
Cost per B.C.Y.	= $0.09
Bits cost $350 each and will drill 100 holes. Cost per B.C.Y.	= $0.02
Total cost of drilling B.C.Y.	= $0.11

2.1.3 Cost of Blasting:

Assumptions:

ANFO price 17.5 cents per lb. in 50 lb. bags.

Powder required per hole - 150 lbs.

Primacord - 35 ft. per hole at 7 cents per foot.

$2 each - 2 per hole.

Calculations:

Cost of ANFO per B.C.Y.	= $0.15
Cost of Primacord, etc., B.C.Y.	= $0.04
2 operators at $120	= $0.03
Total cost of blasting B.C.Y.	= $0.22

2.1.4 Cost of Hauling:

Assumptions:

Spoil will be carried 3,000 ft. on loaded trucks and empty return for 3,000 ft.

Loading rate 10 B.C.Y./min. - 2 loaders.

Time for loading Caterpillar 50 ton truck (20 B.C.Y.) is 2 mins.

Discharge time	1 min.
Time of loaded trip	4 mins.
Time of empty trip	3 mins.
Total cycle time	10 mins.

Assume 50 minute hour, then 5 trips per hour will be completed giving 100 yards per hour production or 1,400 yards per day.

8 trucks required.

Operating cost of Cat 773 is $50 per hour.

$50 x 14 x 8	= $5,600
16 operators at $120	= $1,920
Cost per B.C.Y.	- $0.75

2.2 Total Cost of Overburden Removal

Loader/Truck system	$1.41 B.C.Y.
(Scraper System	$1.67 B.C.Y.)

2.3 Coal Loading (as before) $0.74 short ton raw coal.

2.4 Coal Hauling (as before) $0.62 short ton raw coal.

2.5 Ancilliary Operations $0.46 short ton raw coal.

2.6 Supervision $0.38 short ton clean coal.

2.7 Capital Costs:

10 trucks at $275,000	$2,750,000
3 988B Caterpillar F.E. Loaders	$ 825,000
2 Caterpillar 922 at $350,000	$ 700,000
3 Coal Trucks at $350,000	$1,050,000

Miscellaneous Equipment	$1,000,000
TOTAL CAPITAL COST	$6,325,000

3.0 Summary of All Operating Costs

- Overburden removal per short ton of raw coal on a stripping ratio of 1.6:1 -	$2.27
- Cost of coal loading and ancilliary operations -	1.82
Cost delivered to Preparation Plant -	4.09
- Reject factor - 65% yield -	2.20
- Washing cost -	3.00
Cost in trucks at Preparation Plant	9.29
- Supervision Cost	0.38
- Trucking and loading cost into rail cars (Trimac)	1.30
COST F.O.R. COALMONT -	10.97
- Royalties - Government and Local	2.00
- Rail Freight (Trimac)	7.00
- Port Charges (Port Moody)	1.50
- Sales and Administration	1.00
OPERATING COST F.O.B. VANCOUVER	22.47