

676940

Suite 3300
Box 190
1 First Canadian Place
Toronto, Ontario M5X 1H7

(416) 863 1133
Telex 06 524111
Telecopier (416) 947 8968

ps. return to: Dave Grieve

Price Waterhouse

Key
Melaney
Dr of
Rusland
DVL ✓
BR
AM

Co.
agreed
contact rep.
dis.
rights
options

January 19, 1994

Via Fax: (604) 387-0929

The Honourable Anne Edwards
Minister of Energy, Mines and Petroleum Resources
Room 133
Parliament Buildings
Victoria, British Columbia
V8V 1X4

MINISTER OF ENERGY, MINES AND PETROLEUM RESOURCES	
MO # 94-181 (hard copy)	
JAN 20 1994	
File Date	
<input type="checkbox"/> DRAFT REPLY	<input type="checkbox"/> BRIEFING NOTE
<input type="checkbox"/> FYI	<input type="checkbox"/> FAX
<input type="checkbox"/> REPLY DIRECT	<input type="checkbox"/> FILE

Dear Ms. Edwards

Quinsam Coal Company (Quinsam)
Hillsborough Resources Limited (Hillsborough)

Quinsam, under the direction of Hillsborough, has reached capacity in its operation at Quinsam and is intent on the development of Quinsam to take the assets to a minimum optimum level of capacity of 1,200,000 tonnes of clean coal production. We have worked with Hillsborough in preparing a Case For Support for the further development of Quinsam, which is attached.

This memorandum has been discussed with senior members of the union representing Quinsam.

Hillsborough would appreciate the opportunity to have further discussions with you on the development of Quinsam to achieve the minimum optimum level of production.

Yours sincerely

Price Waterhouse

W. R. Redrupp
Partner

WRR/dsh
Encl.

c.c. Mr. K. Neuman, Director, District 3 - United Steel Workers of America
Mr. G. Vooro, Chief Executive Officer - Hillsborough Resources Limited

WRR
1/19/94

Quinsam Coal Corporation
A World-Class Coal Mining Operation

Executive Summary

Hillsborough Resources (Hillsborough) acquired Quinsam Coal (Quinsam) in February, 1992 through the merger of Hillsborough with Consolidated Brinco. At the time, Quinsam was an underdeveloped coal property, with excellent reserves, but in need of a business strategy to re-engineer operations and focus on marketing coal.

Quinsam has proven and probable reserves of 44 million tonnes of coal, characterized as high volatile bituminous "A" coal. The coal is well suited for thermal power, industrial boilers and primary fuel for cement kiln operations and has attractive environmental qualities, with sulphur and nitrogen levels below 1%.

Quinsam is regarded as having potential as a world-class coal producing facility. Hillsborough's objective is to develop Quinsam to an economically viable level of operation - a minimum optimum level of production of 1.2 million tonnes per annum.

Hillsborough and Quinsam - 1992 and 1993

Prior to the acquisition by Hillsborough, Quinsam was operating at uneconomic levels. Production in 1991 was 243,000 tonnes and employment was 80. Many aspects of operations were in need of change, including new mine development, changes in underground mining systems, carrying out exploration to ascertain proper coal quality for blending purposes and introducing assaying facilities to control quality.

The objective of Hillsborough from the outset has been to increase annual production to at least 1,200,000 tonnes, a rate of production to support an economically viable operation commensurate with the investment in the asset. In 1992 and 1993, Hillsborough has committed capital expenditures totalling over \$10.6 million in upgrading and adding to underground and surface equipment, infrastructure, exploration and development, and transportation. Production and employment expanded significantly, as illustrated below.

	1992	1993
Production	476,000 tonnes	541,000 tonnes
Employment	147	163

Hillsborough has introduced a program at Quinsam, permitting employee participation in the decision-making process and in earnings from operations

Target: 1.2 million tonnes

Any growth targets for Quinsam must be based on a balance between markets, mining capabilities, transportation capacity, environment, and, of course, accessibility to capital. The plant that Hillsborough acquired has been improved to its maximum potential of 600,000 tonnes per year where it is currently operating. While the operations at this level are marginally cash flow positive, it is not a level which is economically viable. It is a level which cannot sustain adverse fluctuations in world coal prices, and is not of a size commensurate with the favourable attributes of the project, namely its excellent reserves and proximity to tidewater

Quinsam believes its minimum optimum level of production is 1.2 million tonnes per annum, with sales directed to Asian markets. To achieve this level of production will require significant additional investment and in particular, improvement to the transportation facilities at Middle Point Port.

Forecast capital expenditures to bring Quinsam to 1.2 million tonnes capacity are summarized as follows:

Middle Point Port facility	\$ 6.0 million
Road upgrade and relocation	3.0 million
Coal preparation plant	1.7 million
Underground equipment	3.4 million
	<u>\$14.1 million</u>

Realization of the 1.2 million tonnes production is projected to mean the following.

	1994	1995	1996	1997
Capital expenditures	\$7.4 million	\$6.7 million	.	.
Clean coal production - tonnes	655,000	750,000	1,000,000	1,200,000
Operating costs	\$21.7 million	\$24.8 million	\$31.4 million	\$36.9 million
Direct employment	181	209	242	264
Direct taxes - all levels (ex. income taxes)	\$3.8 million	\$4.5 million	\$5.8 million	\$6.9 million

Investment

When Hillsborough acquired Quinsam, the recorded investment in Quinsam had been \$21.9 million and the level of production was less than 250,000 tonnes of clean coal per annum. As noted above, Hillsborough has made a capital investment of \$10.6 million into operations, infrastructure and port facilities in 1992 and 1993, and production has reached a level of 600,000 tonnes per year. Direct employment has more than doubled as has all levels of taxation paid and directly attributable to the Quinsam operation. The increases in employment and production costs in 1992 and 1993 have made an important contribution to the immediate economics of Campbell River and British Columbia, when one considers a multiplier effect of at least five. The investment of \$14.1 million to achieve a minimum optimum level of capacity of 1.2 million tonnes per annum, will require Hillsborough to source capital markets in the form of lease financing, senior debt and equity. Because government owned property and the local economy in particular, are significantly enhanced by these improvements, beyond benefits accruing to Quinsam, namely the Middle Point Port and resource road upgrading, Hillsborough will approach the government for financial commitment to the project.

Quinsam Coal Corporation

Profile and the Future

Land Position and Reserves

The Quinsam Coal Corporation owns or controls approximately 16,000 hectares of coal lands. Of this area, 13,400 hectares are owned as freehold and the remaining 2,600 hectares are held as Crown coal licenses.

Current Quinsam holdings have proven and probable reserves of 44 million tonnes of thermal coal and an additional geological reserve totalling 140 million tonnes are within its boundaries. The coal is classified according to the American Society for Testing Materials Standards as a high volatile bituminous "A" coal. The coal is well suited for thermal power generation, industrial boilers and for cement manufacturing applications. The coal is relatively hard which ensures that it consistently contains a low level of fines, thereby resulting in minimal handling problems and low dust losses.

The environmental pollution potential of the coal is regarded as low with nitrogen and sulphur content levels below 1% and other elements, such as chlorine (less than 0.02%) at very low content levels.

History of the Quinsam Mine

Exploration of the Quinsam Coal lands began in 1976. To date, approximately 600 exploration holes have been drilled on the site by several previous owners.

During 1986, development began to facilitate extraction and delivery of 11,000 tonnes of bulk coal samples to enable potential customers to conduct burning trials. Samples were burnt in 15 different industrial boilers with excellent results.

In 1987, mine and reclamation plan approvals were received which allowed the beginning of a coal mine with a capacity up to one million tonnes per year. Test shipments of 14,000 tonnes were mined and sold during the year.

In 1988, coal production increased to 126,380 tonnes and for the first time, a 36,000 tonne export cargo was loaded on a ship at anchor near Campbell River. This eliminated the necessity of costly trans-shipment to the coal terminal at Roberts Bank.

April 1, 1989 marked the beginning of commercial operations at the Quinsam Mine. Also during 1989, an underground test mining section was initiated in the south end of #2 North Pit to determine the commercial viability of underground mining. Coal sales for the year were 184,000 tonnes. A coal crushing plant was installed at the site in order to meet product size specifications and the Texada ship loading facility upgrade started.

During 1990, refurbishment of the Texada Island ship loading facility was completed. This allowed the use of 65,000 tonne Panamax vessels for shipments to Japan. Underground test mining continued and was blended with the lower ash surface coal to meet specifications; the preparation plant construction was started later that year.

In February, 1991, the 500,000 tonne per year coal preparation plant, unwinterized, was completed. A second open pit mine was prepared in the #1 South area. The underground mine continued to operate "a one section mine", however, operational control problems limited the total production to 188,000 tonnes of raw coal for 1991.

Consolidated Brinco's merger with Hillsborough Resources Limited during February, 1992 brought the mine under Hillsborough's 100% ownership and set the stage for future expansion. At that time, the total investment into Quinsam was \$21.9 million.

Quinsam Coal Mine under Hillsborough Resources Limited

Quinsam was an under-developed coal property with excellent reserves requiring experienced management, and major changes to its engineering, operations and overall transportation requirements, notwithstanding that \$21.9 million had been invested in Quinsam. Hillsborough recognized the mine's potential as a future major coal producer and immediately established a strategy to develop the mine's potential. Hillsborough believes that the minimum optimum level of production is 1.2 million tonnes production annually in order to take advantage of the opportunity to develop its world class reserves and to be commercially viable in competing for international markets, particularly those in Asia. Hillsborough's strategy has involved:

- i) a rapid change to underground mining systems to match the reserves and reserve locations, including new mine entry to provide coal flow directly to the preparation plant,
- ii) an exploration program to determine proper reserve access routes, and to ensure that blending of coal could be carried out,
- iii) an expansion of the preparation plant and establishing site assaying facilities to control future production and coal quality needs,
- iv) a full-fledged engineering study to determine, and then design, the most viable coal transportation system to fully utilize the advantage of being close to tidewater,
- v) develop coal markets for increased Canadian and off-shore shipments and the potential for local thermal power operation at the mine site.

The immediate effect of being under Hillsborough's control has increased the mine's production from 243,000 tonnes in 1991 to 486,000 tonnes and 551,000 tonnes in 1992 and 1993 respectively, and the forecasted sale of 655,000 tonnes in 1994. In 1992 and 1993, Hillsborough has spent \$10.6 million in capital related expenditures to enhance the Quinsam facilities to a level of annual production of 600,000 tonnes; details of this investment are set out in Appendix A.

However, to take production beyond 600,000 tonnes annual production to the minimum optimum level of 1,200,000 tonnes, a projected \$14.1 million capital investment is required as summarized in Appendix B.

Mining

The majority of the Quinsam coal reserves requires underground mining as the strip ratios make open pit mining uneconomical

The 2N underground mine established by the previous operator was not suitable for a high level of production. The entries were in the southwest corner of the 2N reserve bounded by the Quinsam River fault to the south, and another major fault system to the east, which effectively limited any expansion. It also required re-handling of all coal production 1km to the preparation plant. A new entry system has been established near the centre of the reserve which allows mining in three directions and the coal is delivered directly to the preparation plant via the conveyor system from underground.

The underground equipment purchased by the previous operator was undersized and in bad need of major repairs. This section of equipment has been rebuilt and upgraded. Two additional sections have been purchased with designs that match the requirements of the mine. There are currently three sections of equipment on site with two being operated, and one spare being serviced. Currently, the mine produces approximately 50,000 tonnes of clean coal per month.

The underground mine is safe with minimal gas inflows. Improved operating techniques have been established that have increased efficiencies, improved coal quality, vastly increased ventilation inflows and meet or exceed government standards for rock dusting to suppress coal dust underground.

A new CAT 980 Loader has been provided to ensure that safe and efficient transportation support can be maintained, and the loading of coal haulage trucks for barge at Middle Point is done quickly and without delay.

To achieve the targeted level of 1,200,000 tonnes, two additional underground production sections are required at a cost of \$3.4 million. Each production section consists of:

- 1 - continuous miner
- 2 - shuttle cars
- 1 - roof bolter
- 1 - feeder breaker
- 1 - conveyor
- electrical gear and cables

Exploration Program

Exploration drilling in 1992 and 1993 has given the direction needed to properly plan the mining system and blending requirements from various areas of the property. This is part of an on-going program.

Preparation Plant Expansion

The plant that was in place at the time of the merger has been improved to its maximum potential of 600,000 tonnes per year rate where it now operates. Modifications have been made to the crusher, dewatering system, winter operations and coal handling systems.

A modern laboratory was built that enables all essential analysis and quality control work to be completed in a timely manner, on site.

The design of the plant expansion to 1.2 million tonnes per year was completed with in-house expertise and the use of a major engineering firm. Construction began in the fall of 1993, completing the earth work and foundations prior to the end of the construction season. The equipment was sourced and all major components purchased. An additional investment of \$1.7 million is required to the plant to bring its capacity to 1.2 million tonnes.

Transportation System

The existing system of loading coal into 20 ton trucks, some with pup trailers, for hauling to a barge at Middle Point, then barging to Texada Island, stockpiling and rehandling onto Panamax ships is very costly and extremely inefficient. It has been streamlined as much as possible during the past two years. A Transportation Manager co-ordinates all the components of the system to ensure unnecessary delays and problems are avoided. A new CAT 980 Loader was purchased so that barge loads are maximized, reducing the number of trips to Texada Island. The 10km gravel road to paved highway is continually graded and a 1,000' test section has been upgraded to reduce tracking of mud onto the public highway. Routine wharf cleaning at Middle Point after barge loading is done to reduce environmental concerns. The present transportation system is operating to its maximum capacity.

In order to mine important coal reserves scheduled for 1995, an access road must be relocated and a new 5km road built. In addition, the surfaces of the remaining road will be upgraded to the highway intersection, and new scales, gate and other security installations will be erected. Total road upgrade and relocation is projected at \$3 million. Although Quinsam maintains the Argonaut Road, there are many other users of the road, including heavy logging trucks.

A major engineering firm has designed a ship loading facility complete with storage at Middle Point. This is a Two Phase Program. The first Phase involves a dump facility and the use of 40 ton B-train trucks at Middle Point feeding a conveyor and barge loading system along the existing wharf. This would allow up to 1,200,000 tonnes of coal to be moved yearly to Texada Island, necessary to achieve the minimum optimum level of production.

More specifically, Phase One requires capital expenditures forecast at \$6 million and comprising:

- environmental permits
- earthwork for the coal dump and access road
- enlargement of the wharf
- dolphins to permit loading of a second barge
- coal dump construction (concrete and steel work)
- main loading conveyor
- conveyor stacker, discharging on the barge.

The ultimate objective is the extended Phase Two development of Middle Point to enable a full Panamax ship loading facility complete with storage. Phase Two would be proceeded with following realization of the 1.2 million tonnes minimum optimum level of production. Such a facility would cut out the inefficient use of Texada and would permit Quinsam to maximize the utilization of its excellent coal reserves and their unique proximity to tidewater.

Coal Markets

The high quality of Quinsam's coal has made it attractive to several markets. The operating improvements made to date have kept pace with the reduced coal prices to this point, but a continued downward pressure on coal prices makes expansion plans and lowering of operating costs essential to maintain and improve the operation's viability. 1993 principal coal markets for Quinsam coal were for thermal power consumption in Asia and industrial consumption on the B.C. mainland.

Increased sales to Japan and other Asian markets can be obtained with expanded operations and more efficient transportation, thereby enabling Quinsam to better exploit the excellent quality of its coal reserves and proximity to tidewater. The North American industrial sales can also be increased. Ultimately, perhaps the largest prospect is for thermal power generation at the Quinsam site.

Environmental Review

There are four main areas of environmental management at the Quinsam Coal operation. These are as follows:

1. Water Quality
2. Refuse Disposal
3. Reclamation
4. Coal Haulage to Middle Point

Water Quality

A Governmental Technical Review Committee had been established for some time now (consisting of all relevant regulating agencies). This Committee passes judgement on the Quinsam Coal Project every year. The evaluation results are published in the Provincial and local newspaper. A copy of the latest review (October, 1993) is attached to this report as Appendix C. It confirms that the Quinsam Coal Mine is meeting its environmental obligations, is complying with all permit requirements, and is not affecting the environment. The mine's reputation, reliability and rapport with the regulating agencies remains very high.

Refuse Disposal

The Quinsam Coal Mine produces two types of refuse. One is a coarse product that is trucked to disposal areas, the other is in a slurry form that is pumped to the voids created by open pit mining.

The chemistry and quality of both of these materials have been continually evaluated by off-site independent laboratories since the wash plant was put into production. The Company has retained the services of one of the most respected and credible environmental firms in North America, Strum Environmental Services of West Virginia. This firm has been involved with the site since the permit was granted and the test results have concluded beyond any doubts that the Quinsam refuse disposal is not acid generating and in fact, is acid consuming. Their conclusions and recommendations for refuse storage will be taken to the appropriate ministries for approval and will also be monitors for the mine life.

Reclamation

The Quinsam Coal Mine instituted a policy for reclamation from the beginning of the mine's production. This has been followed religiously each year. The total disturbed area to date is 116 hectares, most of this for the plant building and the original open pit mining which is used for tailings disposal, and will ultimately be reclaimed and replanted. The Company has already reclaimed 56 hectares by landscaping with re-vegetation and tree planting. Local groups such as the Boy Scouts have been supported and they also take part in reclamation and tree planting.

The future production from the mine will be mainly from underground sources, therefore there will be very limited additional disturbance. As soon as areas are no longer required for mining, they will be reclaimed and planted to an acceptable standard.

Coal Haulage to Middle Point

The following precautions are enforced:

1. All trucks are inspected by Company officials before each haul day for cleanliness and availability of tarps.
2. Truck tailgates are manually pinned closed before the haul to the barge ramp on public roads. It is impossible for the tailgate to open accidentally enroute and spills no longer occur on the roads.
3. Tarps are used to cover the truck and pups to prevent any "fly away" of the product. These tarps are inspected by the Company for wear and tear and replaced immediately when damaged.
4. The loads are hand trimmed at the mine site before they leave the premises. Side boards, tailgates, pup reaches and small ledges are hand swept by the truck operator to avoid spillage onto the public road system.
5. The coal is not conducive to migration from wind. This fact has been observed and borne out by the Ministry of Environment, and Department of Fisheries, and the Environmental Protection Department.
6. In the fall of 1993, as a test project, the Company, at its own cost, seal-coated (paved) 600m of the Argonaut Road before it intersects the highway. This solution has been effective in minimizing the mud tracked on the highway and has been accepted by the public and the Ministry of Highways.
7. The Company maintains the Argonaut resource road from the mine site to the highway intersection, although there are many other users of the road, including heavy logging trucks. The maintenance program keeps the gravel on the crown of the old road, keeps it properly sloped to aid drainage and keeps the ditches free from debris.
8. The Company has reacted to public and government concerns whenever these have surfaced. The progressive approach to a solution and the co-operation with other has demonstrated that Quinsam Coal Corporation has been diligent and responsible in its efforts to rectify any problem, imaginary or real.

It should not be noted that one of the earlier concerns of the Campbell River citizens was the coal haulage through the town to the Comox area. This haulage was stopped, and is no longer an issue.

Employees

Quinsam Mine employs approximately 163 salaried and hourly paid employees. Most live in or near Campbell River, British Columbia. The hourly employees are all unionized and represented by the United Steelworkers of America, Local 9347. The current agreement expires in August, 1996.

Hillsborough, in 1992, upon completion of the merger offered the employees of Quinsam Coal a 10% share in its profits, to be shared by all employees based on employee earnings, on a pro-rata basis.

In addition, the Company has offered one seat on Quinsam Coal Corporation's Board of Directors to an hourly employee, to be selected by all of the hourly employees from amongst its members.

We believe this to be a novel and, so far, untried approach in Canada to foster improved communication and relations between labour and management.

As a note of interest, each Quinsam employee produces approximately 4,200 tonnes of coal per year. If we just take the actual miners involved in mining, their production exceeds 12,000 tonnes per year.

The Company, together with its employees, partakes and supports the local community and its activities.

Future requirements

The acquisition by Hillsborough of Quinsam has enabled a floundering mining facility to be turned around towards becoming a world-class operating mine. Hillsborough has spent \$10.6 million and displayed its mine engineering and marketing expertise to bring the level of production from less than 250,000 tonnes to 600,000 in two years. The uniqueness of the assets based on the quality of reserves and proximity to tidewater supports Hillsborough directing the growth of further production to 1.2 million tonnes, considered the minimum optimum level of annual production for its reserves. Critical information relating to Hillsborough's development of the assets to 1.2 million tonnes is summarized below.

	Actual			Projected			
	1991 (1)	1992	1993	1994	1995	1996	1997
Production:							
Clean coal tonnes (000)	240	476	541	655	750	1,000	1,200
Operating costs (000)	\$11,913	\$19,038	\$19,300	\$21,700	\$24,750	\$31,390	\$36,940
Employment - direct	80	147	163	181	209	242	264
Taxes paid - direct ('000) (2)	\$1,505	\$2,508	\$3,369	\$3,828	\$4,479	\$5,772	\$6,865
(1)	Pre-Hillsborough acquisition						
(2)	Exclusive of income taxes						

The above numbers are those directly related to the Quinsam mining operations and do not include corporate overhead numbers relating to Hillsborough. While the multiplier effect of the direct manpower numbers at Quinsam are not readily ascertainable as to the benefit to the BC economy, it is generally perceived that a multiple in excess of five is not unreasonable in quantifying economic benefits to a geographic region, approximating that of the Quinsam project. The application of such a multiplier for the employment and related tax implications at Quinsam on the BC economy is not insignificant.

Hillsborough has financed the capital expenditures of Quinsam since its acquisition in 1992 from its own cash reserves and operations, and has been able to keep its debt levels low and substantially limited to equipment leases. In committing to expand Quinsam operations to 1,200,000 tonnes annual production, Hillsborough will need to source capital markets in the form of lease financing, senior debt and equity. A significant amount of projected expenditures are for capital enhancements on government owned property, namely the Middle Point Port facility and resource road upgrading, and Hillsborough will be approaching government for financial support towards these capital expenditures, wherein the government would participate both directly and indirectly in the economics of the Quinsam expansion.

**Quinsam Coal
Capital Expenditures in 1992 and 1993**

1.	Underground equipment	\$2,700,000
2.	Surface equipment	1,043,000
3.	Surface infrastructure and buildings	806,000
4.	New entries	
	Rockwork and portal	569,000
	Installation	571,000
5.	Satellite mine 2-S	169,000
6.	CPP expansion	653,000
7.	Port facility - engineering and test work	602,000
8.	Surface drilling	500,000
9.	Miscellaneous capital expenditures	456,000
10.	Additional items of capital nature, paid out of operating costs: Replacement of electric distribution system underground, safety devices on underground equipment, underground pumps and fans as required to comply with the Mine Regulations. Replaced after Hillsborough assumed the management	2,500,000
		<u>\$10,569,000</u>

**Quinsam Coal Expansion
Capital Expenditures - 1994 -1996**

Expenditures required for the production of 1,200,000 tonnes per year

- | | |
|---|-------------|
| a) Middle Point Port Facility - Phase 1 | \$6,000,000 |
| <ul style="list-style-type: none"> - environmental permits - earthwork for the coal dump, access road - enlargement of the wharf - dolphins for the second barge - coal dump construction (concrete and steel work) - reclaim conveyor - main loading conveyor - conveyor stacker, discharging on the barge | |
| b) Road Upgrading and Relocation | 3,000,000 |
| <p>The access gravel road is located above the coal reserves, scheduled for mining as of 1995. Approximately 5 km new road has to be built. The surface of the remaining road will be upgraded to the highway intersection. New scales, gate and other security installations will be erected.</p> | |
| c) Completion of the coal preparation plant | 1,700,000 |
| <p>To date only foundations are partly completed. The work includes steel structure erection, equipment installation, winterization and fresh and discharge water system.</p> | |
| d) Underground Equipment | 3,400,000 |
| <p>Two underground production sections are required:
One section consists of:</p> <ul style="list-style-type: none"> - 1 continuous miner - 2 shuttle cars - 1 roof bolter - 1 feeder breaker - 1 conveyor - electrical gear and cables | |

\$14,100,000