

1993

SN No. 109924

**IN THE SUPREME COURT OF NOVA SCOTIA**

BETWEEN:

**EASTERN CANADA COAL GAS VENTURE  
LIMITED (VENTURE)**

PLAINTIFF

**- and -**

**CAPE BRETON DEVELOPMENT  
CORPORATION (DEVCO)**

DEFENDANT

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**DECISION**

*[cite: Eastern Canada Coal Gas Venture Ltd. v. Cape Breton Development Corporation, 2001 NSSC 196]*

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**HEARD BEFORE:** The Honourable Justice Frank C. Edwards

**PLACE HEARD:** Sydney, Nova Scotia

**DATES HEARD:** September 5, 2000 - October 17, 2001

**DECISION:** December 18, 2001

**COUNSEL:** Joel E. Fichaud, Q.C., for the Plaintiff  
David Miller, Q.C. and Ms. Nancy Murray for the Defendant

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*Edwards, J.:*

**Overview:** This is an action by Eastern Canadian Coal Gas Venture Limited (Venture) against the Cape Breton Development Corporation (Devco). On the application of Venture, The Attorney General of Canada was substituted as the named Defendant.

In June 1992, Devco and Venture signed a Coal Gas Agreement (CGA) and a Memorandum of Understanding (MOU) to use coalbed methane to produce electricity. The agreements specified the use of gas from Devco's Phalen Colliery only. The project was to be financed by a \$5 million loan from CIBC and a \$1.2 million investment by Devco.

Venture had earlier contracted with Nova Scotia Power (NSP) to sell electricity to NSP as of April 1, 1993. The only gas available on April 1, 1993 was from Devco's Lingan Colliery. Venture knew that Phalen gas would not be available until early in 1994. Despite the terms of its contract with Devco for Phalen gas, Venture decided to start electrical generation on April 1, 1993 using Lingan gas. Unfortunately, Lingan Colliery flooded in November 1992. Lingan gas was suddenly and permanently not available.

Venture then took the position that Devco was obliged to provide Phalen gas as of April 1, 1993. Venture denied that it had ever been its intention to start electrical generation using Lingan gas.

Until November 1992, Devco had relied on Venture's feasibility study which *appeared* to say that Phalen gas alone would support the project. In February, 1993, the author of the Venture study, Andrew Liney, advised Devco that Phalen gas alone was *not* sufficient. At Devco's request, Mr. Liney provided a second report which confirmed his advice that the project

was a non-starter on Phalen gas alone.

On March 29, 1993, Devco cancelled the project because of the insufficiency of Phalen gas. Contrary to Venture's assertion, Devco did not cancel the project because of the flooding of Lingan Colliery or because of a dispute with Venture over the cost of an underground pipeline.

Both Venture and Devco had proceeded in the mistaken belief that Phalen gas alone could support the project. "Mutual mistake" fundamental to the parties' agreement results in rescission of the agreement. Devco was justified in terminating its involvement with the project.

***The Litigation and The Parties:*** Venture commenced action by an Originating Notice (Action) and Statement of Claim on June 24, 1993. The Statement of Claim alleged that Devco had breached the CGA and the MOU and claimed damages. The Statement of Claim also alleged negligence in respect of the flooding of Lingan colliery and in relation to certain alleged representations.

Devco's Defence was filed on October 23, 1993. The Defence contained a plea of *force majeure* in relation to the Lingan flooding. At Discovery Examination of the Venture principals in August, 1994 they denied any claim to Lingan gas for the Venture project. As I conclude below, the *force majeure* notice had been given in December, 1992 as a precaution in the event that Venture advanced a claim to Lingan gas. As the Venture principals had testified that no such claim was alleged by Venture, Devco felt the *force majeure* defence was no longer necessary. By consent of Venture, Devco filed an Amended Defence on October 18, 1994. The Amended Defence did not plead *force majeure*.

Venture filed an Amended Originating Notice (Action) and Statement of Claim on January 19, 1995. The amendment added certain allegations of negligence to paragraph 26 of the Statement of Claim.

The trial commenced on Tuesday, September 5, 2000 and continued to June 14, 2001. There were a total of 120 days of evidence. A total of 32 witnesses testified. The Joint Exhibit List ran to 23 volumes and 705 tabs. An additional 252 documents were tendered through the course of the trial in Exhibit 2, a further 7 volumes. A total of 67 exhibits were entered at the trial, including the two series of volumes of documents.

As well, prior to the trial, I spent a day travelling underground in Phalen Colliery with Counsel. The day was well spent. The experience was very helpful to me in understanding and evaluating the evidence I would later hear. My thanks to Mr. Robert MacDonald, General Manager of Phalen Colliery, Mr. John Baldwin, Operations Manager, and Mr. Steve Forgeron, Chief Geologist. All three gentlemen were highly professional and forthright with myself and Counsel for both parties.

Devco was incorporated by statute in 1967 as a Crown Corporation of Her Majesty the Queen in Right of Canada. In the early 1990's Devco's operations consisted of three coal mines: Lingan and Phalen near New Waterford, and Prince at Point Aconi. Phalen Colliery is located approximately 140 meters directly beneath Lingan Colliery.

The Government of Canada had given Devco what has become known as a self-sufficiency mandate in 1989. Self-sufficiency was to be achieved by the end of the 1995 fiscal year. E. A. (“Ernie”) Boutilier, Devco's then President described the mandate as follows: “... but I think fundamentally and basically it was simply there would be no more money from the federal government for either operations, capital or indeed any of the social costs associated with the Corporation at that time.”

An important element in Devco's plan to achieve self-sufficiency was the decision to close Lingan Colliery as of March 31, 1993. Lingan Colliery was simply too expensive to operate if Devco were to have any hope of becoming self-sufficient.

The formal closure announcement was made in September, 1991 (see Minister's Press Release faxed to Venture's Dick Collens by Devco's Ron Nicholson, October 1, 1991, Ex. 1, Vol. 12, Tab 297). Mr. Boutilier said that the process had been ongoing for about one and one-half years and that he believed it was common knowledge in the public that closing Lingan was under consideration.

Mr. Boutilier had no background in coal mining when he went to Devco. He obtained his Chartered Accountancy degree in 1963. Mr. Boutilier was employed with Sydney Steel from 1964 until 1988. He began as a financial accountant and worked his way up the ranks to eventually become President. Mr. Boutilier took the position of President and Chief Executive Officer of Devco in the Fall of 1988. He served in the position of President and CEO until he left Devco in 1995.

Venture was incorporated under the Nova Scotia Companies Act. The original shareholdings were **40%** ETI, **40%** TAI Energy and 20% John Eric Hopkinson Management Inc.

- a. **ETI** was an company from Calgary. It had some experience in landfill gas, but **no experience in electrical generation**. ETi was in significant financial difficulty at the times material to this action. Indeed, it was effectively insolvent. Creditors were forced to convert accounts receivable into equity in the hope of receiving some recovery eventually. Some employees were in the highly unusual position of receiving shares in the company in satisfaction of salary owed. ETi was in no position to contribute substantial funds to Venture (see Financial Statements, Ex. 19, Tab A);
- b. TAI Energy was another Calgary company. It was active in the oil and gas business. TAI had no experience in electrical generation. TAI had been successful in raising funds in the equity market and had cash. TAI may well have been in a position to contribute substantial funds to Venture. However, it did not. (See Financial Statements, Ex. 19, Tab B).
- c. John Eric Hopkinson Management Inc. was a small company based in Elmsdale, Nova Scotia owned by John Hopkinson. Mr. Hopkinson was a mining engineer. He had no experience in the generation of electricity. Hopkinson Management was essentially without assets and in no position to contribute substantial funds to Venture (see Financial Statements, Ex. 19, Tab C).

Venture is a true shell company. It was formed for the purpose of undertaking the electrical generation project with Devco. It does not have and never had any other business. Venture had substantial liabilities, but no assets.

In 1986, Mr. Richard Collens left the banking industry to start the company called

Environmental Technologies Inc.(ETI). He was one of three principals, who created ETI. He was President of ETI. ETI was in the business of alternative energy from the use of bio gas, otherwise known as methane. ETI served as the project manager for the 3 Venture partners.

Mr. Collens had the role of Business Manager in relation to this project. He prepared the financial projections that were used during the discussions between Venture and Devco. He had direct discussions with Mr. Boutillier during his visits to Cape Breton.

Mr. Hopkinson is a Mining Engineer. He made the initial contacts, which brought the three Venture partners together. He served as the Nova Scotia presence for the Venture.

Mr. Desmond Smith was a Geologist educated at the University of British Columbia. Mr. Smith was President and a Director of the TAI Energy Resources Corporation (TAI). He was one of two founding members of TAI. Mr. Smith's role in the Venture was to find financing. He testified he some experience in coal bed methane projects (not related to coal mining) in the United States, and also some experience in horizontal drilling for the oil industry.

He was the Venture partner who was charged with the responsibility of engaging AMCL to conduct the Lingan and Phalen gas availability study in 1991. In addition, he was integrally involved in the negotiations with Devco and also Venture's debt financing from the CIBC. He worked closely with Mr. Crocker, Devco's in-house Counsel, in the final days before the signing of the CGA and the MOU. Mr. Smith also had input into the drilling methods which were to be used for conventional cross-measure drainage on the top level of the operating longwalls at Phalen.

***The CGA and The MOU:*** At issue in this litigation is whether Devco breached the CGA and MOU. Both documents were intended to append the agreed financial analysis as



Schedule B. Schedule B sets out the parties' mutual expectation and intention of a profitable project. Schedule B reflects the intended period of profitability - 20 years. In the end, only the CGA had an attached schedule B. I am satisfied that the parties intended that the same document be attached to the MOU.

***MOU Was an Outline Document:*** The MOU was intended to outline the parties' agreements preliminary to the negotiation and execution of a full operating agreement. I refer to both the introductory paragraph and to Clause 14 of the MOU. They state, respectively;

“Following is an ***outline of the understanding*** between the Cape Breton Development Corporation (‘Devco’) and Eastern Canadian Coal Gas Venture Limited (‘Venture’) concerning their business arrangement for the utilization of methane liberated from Devco’s Phalen Colliery:

.....

(14) This Memorandum of Understanding and any commitment of either party hereto ***shall be subject to the execution by the parties of formal agreements based hereon.***”

Keith Crocker testified that he recognized the MOU would set out in point form the areas of agreement. He testified as follows, “ ....to me it should just be a point form indicating an understanding that has been reached as an agreement in principle to be followed up and subject to a formal agreement.” (direct testimony, March 21, p. 109). Unfortunately, the parties never did get around to negotiating a formal agreement. On this point I specifically reject the evidence of Desmond Smith to the effect that a further operating agreement was not contemplated by the parties. Otherwise, Clause 14 of the MOU would be meaningless. There is no evidence that the parties agreed that the MOU replaced the operating agreement contemplated by Clause 14. Keith Crocker

testified that the Venture wanted the MOU and was not prepared to wait until a full operating agreement could be negotiated. He understood from Venture that the MOU was required in order to satisfy the timing requirements of the CIBC. Mr. Crocker belatedly recognized that after signing the MOU, the project would proceed whether an operating agreement was signed or not. There would be no impetus to proceed to negotiate a full operating agreement. Mr. Crocker reluctantly accepted the reality of the situation. I accept his evidence as an accurate reflection of what did in fact transpire.

There are large gaps in the MOU. There is no description of the project, no description of the route the gas would take, no details of the parties' respective obligations nor how they would be fulfilled. It is a point form document, recording only the principal points. In these circumstances, I have to fill in the gaps by referring to the negotiations leading to the document as it was signed.

***Some of the Relevant Provisions of the CGA and The MOU***

***The Coal Gas Agreement:*** The Coal Gas Agreement appends as Schedule "A" a sketch of the area of the lands for the project; Schedule "B" which is a financial analysis dated June 16, 1992 showing income, expenses, debt and lease repayments with the net financial return to Devco and, Schedule "C" the proposed electrical rate for a four megawatt power contract between the Power Corporation and Venture dated June 10, 1992 from the contract executed between those two parties. Schedule "C" provides the basis of the numbers used to calculate the gross income to the project in Schedule "B".

Clause 2 of the CGA sets out Conditions Precedent to the coming in force of the

agreement. One of the Conditions Precedent is that Venture was required to construct and commission its coal gas collection system and electricity generating plant on or before December 31, 1993. There were also Conditions Precedent as to obtaining regulatory approvals and agreement with Nova Scotia Power Corporation.

The CGA contemplated Phalen Colliery coal gas, alone, for the project. “Colliery” is defined in section 1(c) as Devco’s Phalen Colliery.

CGA clause 3.01 obligated Devco to use its “best efforts” to deliver gas to the Delivery Point, where in accordance with Clause 3.02, title to the gas would pass from Devco to Venture. I will deal later with the “best efforts ... to deliver” issue (p. 98 *infra*).

CGA Clause 3.03 prohibits the generation of more than a maximum of four megawatts of electricity for sale to NSP. Venture was required to flare burned gas in excess to the quantity set out in CGA Clause 3.01, the commitment clause.

CGA Clause 3.05 provided for payment to Devco for the Sales Gas. After negotiation of Devco’s operating costs to drain the gas for Venture, the parties agreed to convert that amount to the approximate equivalent as 15% of Venture’s gross revenue in each year of the agreement. The parties accepted that the gas cost (15% of gross revenues) included in Schedule B would cover the expected costs of methane drainage. Clause 6 of the Coal Gas Agreement required payments in the event that the gas costs to Devco were reduced as a result of a reduction of greater than 10% in the relevant energy rate projected for a relevant fiscal year during the term payable by NSPI for electricity produced by the Venture. Venture also agreed to pay Devco amounts to cover provincial and federal sales and excise taxes (clause 3.07, CGA). Devco agreed to supply energy consumed in the methane extraction plant to operate the plant for purposes of generating a maximum

of 4 megawatts of electricity for sale to NSPI under the agreement. There was agreement under Clause 3.09 that Devco was not required to deliver gas during holidays, Devco vacation periods, or “on any other day or during any other period when for any reason coal mining shall not be conducted at the Colliery”. There are provisions for timing of payments, metering of gas, and record keeping as between the parties.

The financial performance of the project was important to Devco, evidenced by CGA Clause 5 dealing with royalties. The parties agreed that Devco should pay royalties, and fees with respect to extraction of sales gas sold under the agreement. The parties further agreed that if there was a material change in such fees which “results in a financial impact upon Devco which significantly lessens any benefit of this agreement for Devco or in the event any such change otherwise creates for Devco any obligation that may reasonably be considered to render impracticable for Devco any of its future sales of coal gas hereunder” that Devco could require negotiation of an amendment to avoid or mitigate the negative financial impact to Devco’s satisfaction or to arbitrate the same.

There is a termination provision in CGA Clause 6, with respect to the failure to perform on the part of one party or the other. A portion of that clause is relevant to the defence of mistake. Clause 6.03 reads as follows:

“In addition to the termination rights provided herein, Devco and the Venture shall have all other rights and remedies provided at law and in equity, including the right to specifically enforce any provision hereof.”

Ultimately, Devco considered the project was not viable on the basis upon which it had been proposed and financed. It therefore relies on its rights at law and in equity with respect to termination of the agreements between the parties.

The CGA contains a *force majeure* clause which says that on the occurrence of an event of *force majeure* which may continue beyond 90 days (Clause 10.01, 10.02), then prompt notification shall be given to the other party. The parties are to meet promptly to see if the agreement has future operability or to make an agreement to render it economically practicable in light of the *force majeure* event. If the parties are unable to agree within the 90 day period, then by giving further notice to terminate to the other party at any time during the 30 consecutive calendar days immediately following expiration of the 90 days, either party may terminate the agreement. The agreement is rendered null and void on termination of that further 30 day period.

In this case, the notice of *force majeure* was given December 28, 1993. I accept Devco’s contention that Devco considered it prudent to give the *force majeure* notice, despite the fact that the event happened at Lingan Colliery which was not by contract providing gas to the project nor, at the relevant time, was there any intention to route the gas through that colliery. Devco was concerned that Venture might claim reliance upon the supply of Lingan gas. The notice

of *force majeure* was therefore strictly a pre-emptive move. Devco filed and subsequently withdrew, a Defence pleading *force majeure*. As I discuss later, I am satisfied that the parties' agreements were not terminated by sending the letter of *force majeure* letter on December 28, 1992. Nor was Devco's letter of March 29, 1993 a second notice of *force majeure*. For purposes of analyzing Devco's legal defence I agree with Devco's submission that the issue of *force majeure* is irrelevant.

***The Memorandum of Understanding:*** Clause 1 required that all amounts to be paid to Devco for coal gas would be paid before payment on account of operating costs of the Venture plant (which included management fees charged by Venture) and before payments by Venture to its creditors, aside from payments provided for in clause 3.06 of the Coal Gas Agreement.

Clause 2 provided that subject to Clauses 3 and 6, and subject to the Coal Gas Agreement, Devco agreed to assume,

“all costs and expenses related to the extraction of coal gas through Devco's surface coal gas extraction plant, costs associated with transportation of coal gas to a delivery point, royalties, rentals, fees and other charges imposed by the Province of Nova Scotia in respect to the extraction of coal gas and the surface coal gas plant operating and maintenance costs”.

Clause 4 deals with both capital costs and operating costs. The parties addressed the feasibility of the plant's operation in the interest of both parties in Clause 4. Clause 4 provided for a review and possible renegotiation of their business arrangements in the event “the proportion to revenue of the Venture's plant's capital, operating and maintenance costs and administrative overhead in any year vary significantly from the relevant proportion indicated in the financial analysis dated June 16, 1992”, attached as Schedule “B”. The middle of Clause 4 states,

“For the purpose of ensuring both the continued feasibility of the plant’s operation in the interests of both parties, the Venture shall cooperate with Devco so as to ensure that in said following year such budgets, to the extent reasonably practicable, shall be struck so as to avoid further such variation. ...”

I am satisfied that the parties intended and assumed the financial feasibility of the operation of the “plant” in the context of the entire project. Once the decision had been made to return to the Phalen pipeline/borehole/surface pipeline route (rather than an underground connection between the two collieries), this provision accordingly applied to those elements of the project.

“Venture’s plant’s capital...costs” is not confined to the electrical generation portion of the project;

- i      “Venture’s plant” is a defined term in the CGA. It is not defined in the MOU. The MOU does not purport to incorporate by reference any terms of the CGA. As such, the definition in the CGA has no application to the MOU;
- ii     the language of the MOU is to the effect that the term is not so limited in the MOU. Clause 5 provides in part as follows:

“Devco shall purchase \$1.2 million worth of equipment of mutual benefit to the Venture’s Plant and to Devco’s mining operations vis-a-vis mine safety and environmental protection. Under separate lease, this equipment shall be leased to the Venture for its Plant....”

I accept Devco’s position that the \$1.2 million expenditure together with the \$5 million which Venture borrowed from the bank was to have covered all capital costs of the project, including whatever was required in the way of pipelines. Quite apart from that issue, even Venture has said that the surface

pipeline which originally was considered and finally decided as the route was a project capital cost allocated to Devco's \$1.2 million. This would have been part of the equipment "leased to the Venture for its Plant". Such equipment obviously would have become part of the Plant as that term is used in the MOU in the context of Clause 4. The term cannot be confined to the electrical generation plant;

- iii      similarly, Clause 5(ii) refers to payments to Devco after deduction of "...the Plant's capital...costs". This, too, would have to refer to any capital spending later required for the surface pipeline. Again, this takes the use of the term as appropriate beyond the generating facility itself.

The manner in which Devco was to contribute its \$1.2 million worth of equipment was specified in MOU Clause 5. Devco was to purchase equipment mutually beneficial to both Venture's plant and to Devco's mining operations as respects safety and environmental protection. The language is instructive, in light of the cross examination of Merrill Buchanan, Devco's Vice President, Finance, on whether Devco expected to purchase equipment itself. The language the parties agreed to in Clause 5 was that, "Devco shall purchase \$1.2 million worth of equipment of mutual benefit ... this equipment shall be leased to the Venture ...". Devco was to lease the equipment to Venture on terms and conditions as to consideration, in priority to other payments as set out in that clause. This clause contemplates a commercially feasible venture generating the revenue necessary to make the quarterly lease installment payments called for under clause 5 of the MOU.



The Memorandum of Understanding also required Venture's project to apply in an investment tax credit pursuant to the Income Tax Act first against any outstanding debt of the Venture to any of its creditors. The term of the agreement, according to Clause 7 of the MOU, was not to exceed the term of Venture's agreement with NSP. Further, Devco agreed to sell the lands required for Venture's Plant for a consideration of \$10 under Clause 8. That step was undertaken. This was subject to an exclusive option to buy back the lands for \$10 when the plant ceased to operate, under Clause 9 of the Memorandum of Understanding. An option to purchase was also contemplated in Clause 10. There were provisions as to non-assignability of the agreement.

In Clause 12, the parties again made it explicit that Phalen Colliery coal gas alone was available to Venture until "removal of all uncertainty remaining from prior commitments in respect of coal gas from any other colliery" but upon removal of such uncertainties, the parties would amend their agreement to provide for the supply of coal gas from Lingan Colliery.

In Clause 13, the parties reiterated their contractual agreement that the CGA entered into coincidentally with this MOU and documents necessarily incidental "witness the intent of the parties to sell and purchase such quantities of Coal Gas only as may be required by the Venture to generate not more than 4.7 megawatts of electricity ..." a maximum of 4 megawatts of which were to be sold to NSP exclusively. There was no agreement for generation of electricity from excess quantities of coal gas and until a subsequent amendment, such excess quantities would be flared by Venture.

The MOU Clause 14 expressly stated that the MOU and the commitments of the parties were subject to the execution by the parties of formal agreements based on it.

The MOU and CGA required that Devco supply coal gas in accordance with their

terms including the financial terms set out in the agreements. As I will explain later, Devco did not undertake the financial obligation of paying for a pipeline for gas from Phalen colliery.

I am satisfied that it was fundamental to the contract that this be a financially feasible and viable project. There is no other reason for attaching the financial analysis of the project as Schedule “B” to the Coal Gas Agreement, and to referring to it in the Memorandum of Understanding. The financial projections show a financial return to Devco in each and every year of the term of the project. There was no provision in either of the agreements as to funding overruns in capital expenditures. Nor was there provision in either agreement as to funding operating deficits.

**Background:** In December 1990, Venture submitted to Devco proposal to recover and utilize mine methane gas from the Lingan and Phalen Collieries. The object was to generate electricity for sale directly to Nova Scotia Power (NSP).

Devco was already extracting methane at the Lingan Colliery through an on-sight extraction plant. Phalen Colliery had no methane drainage system. Before making its submission to NSP in April 1991, Venture requested and received from Devco information on Lingan Colliery gas as it left the Lingan extraction plant.

The Venture submission to NSP contemplated the use of a Solar Turbines Inc. turbine. Although Venture did not place a purchase order for the turbine until August 1992, it contemplated the use of the same turbine in April, 1991. Venture selected the Solar turbine based on information on fuel flows and gas analysis from Lingan Colliery. There was no change and no re-visiting of the turbine Venture alone selected for the project despite the contract negotiations between Venture and Devco in 1992 which provided for gas from Phalen Colliery and not Lingan

Colliery. In its proposal to NSP, Venture said “Nova Scotia Coal Gas Venture is offering to supply the proposed capacity of 4 megawatts for a contract term of 20 years with a proposed in-service date of April 1, 1993. The fuel source (gob gas) is currently being vented and hook up to the fuel source and it’s availability are immediate. Limitations as to in-service date is strictly a permitting and turbine manufacturing function”. Obviously, the source of gas contemplated on April 1, 1993, was Lingan gas alone – it was the only gas “... currently being vented”.

After Venture made it’s submission to NSP, and before it signed agreements with Devco, NSP raised questions as to the fuel supply from Lingan Colliery. Specifically, NSP asked “If this (Lingan) mine is closed during the life of your proposed contract with NSP, what will be the impact on the ability of the project to continue to supply power to NSP?”

Venture replied, “In the event the Lingan Colliery is closed during the life of the proposed contract with NSP, gob gas will continue to be collected after closing at the present rate for a five-year period declining thereafter for another five years.”

Venture went on to advise NSP that gob gas from the Phalen Colliery “to be connected to the ‘Lingan ventilation system’ will ensure sufficient gas for the full term of the contract.” Venture assured NSP that “In any event, the amount of gas presently available at the Lingan and/or the Phalen is more than adequate for this project”.

In support of this position, Venture enclosed a copy of a letter dated July 4, 1991, from R.P. Nicholson, Devco's Vice President of Environment and Technical Services. The letter reads as follows:

“Re your inquiry on the amount of methane gas available *from the Lingan and Phalen Collieries*, we confirm that, to the best of our knowledge, there is a sufficient quantity to fuel a 4 mw gas turbine, which we understand would require, from your calculations, approximately 1.5 million cubic feet per day. Based on current mining plans and expectations, the supply should last for more than 20 years.” (Emphasis mine)

Note that Mr. Nicholson's letter provides no information nor guarantees regarding the amount of methane available *separately* from the two collieries. It is also interesting that when Mr. Nicholson faxed this letter to Venture, he also enclosed “our lawyer's draft”. The draft reads in part “... while methane is present in the Phalen Colliery, Cape Breton Development Corporation is not in a position to determine the economic viability of extracting methane in commercial quantities from Phalen.” Venture did not provide the draft to NSP along with Mr. Nicholson's letter. In short, Venture, independent of Devco and before any independent study of available gas from Phalen, assured NSP of the sufficiency of gas for the project for 20 years from Phalen Colliery.

By June 1991, Venture recognized that it required confirmation of gas sufficiency from an independent engineering firm both to satisfy itself and the requirements of any lender (specifically CIBC). By this time, Venture had already submitted to NSP its proposal to generate four megawatts of saleable electricity. On July 15, 1991, Desmond Smith wrote Associated Mining Consultants Limited (AMCL) and said “Re: Gas Reserve Study Lingan/Phalen Collieries” that “The intent of your engagement is to show sufficient gas reserves to fuel the turbine for the 20 year life

of the contract with Nova Scotia Power Corp. We have sized the project at 4 MW which is compatible with the current scenario at the Lingan gas plant with 1.6 Mmcf/d methane.” By October 1991, Venture was aware (as was CIBC) that Lingan Colliery would close in 1993. Despite this knowledge, I have no doubt but that Venture intended to start up its electrical generation project on April 1, 1993, using Lingan gas only. I do not believe the evidence of any of the Venture principals to the contrary.

I am satisfied that Venture was aware that Phalen gas would not be available until at least the end of 1993. Despite that fact, Venture decided to take the risk of starting the project on Lingan gas alone. It was only after the Lingan Colliery flooded on November 20, 1992, that the Venture principals began to insist upon Phalen gas by April 1, 1993. Phalen Colliery had no methane drainage system. Phalen gas could not be available until an underground pipeline was constructed. Such a pipeline would have to take one of two routes;

- (a) via an inter colliery borehole from Phalen to Lingan to connect with the Lingan system; or
- (b) from Phalen to the surface and then overland to the Lingan methane extraction plant.

Until the flooding of Lingan Colliery, Venture and its principals were fully aware that there was no possibility of construction of a Phalen pipeline before December 1993 at the earliest.

Devco never contractually agreed to an in-service date of April 1, 1993. The CGA Article 11(k) defined “in-service date” as “the date when the Venture commences selling electricity to NSP.” This date was April 1, 1993 – fixed by the Venture – NSP contract.

The contract between Venture and NSP (Vol. 16/440) article 3 under the title “term of contract” states: “This Contract shall be binding upon execution and, subject to the termination

provisions hereinafter set forth, shall remain in effect for a period of 20 years after the proposed In-Service date.”

Page four defines “proposed in-service date” as “the date ... indicated in clause two. Clause two refers to ‘April 1, 1993, hereinafter referred to as the proposed in-service date’.” There is no doubt but that the in-service date of April 1, 1993, was fixed between Venture and NSP by the Venture/NSP contract. Venture argues the in-service date under the Venture/Devco coal/gas agreement was also April 1, 1993.

Devco argues that it is not contractually bound by the April 1, 1993 date because it did not specifically agree to that date. While Venture had contracted with NSP for a “proposed in-service date” of April 1, 1993, there was no set date in the agreements between Venture and Devco for an in-service date. In the CGA article 1(k) defines “in-service date” as the date when the Venture commences selling electricity to NSP. Therefore, Devco argues, Venture could not force Devco to deliver gas from Phalen on April 1, 1993 as there was no fixed date in the CGA or MOU.

The evidence is clear that Devco was well aware that Venture intended to start selling power to NSP in April 1993. On January 24, 1992, for example, Venture wrote to Mr. Boutilier and stated in part, “We are still hopeful of commencing construction of the project in late March - early April, 1992, with completion and startup planned for April 1993.”

On June 5, 1992, twelve days before the signature of the CGA, Desmond Smith faxed Keith Crocker copies of the Power Purchase Contract between Venture and Nova Scotia Power. Articles two and three state: “The seller shall install and operate a 58 75 kba synchronous generator located at Lingan Colliery Nova Scotia by April 1, 1993, hereinafter referred to as the proposed in-service date.” (Mr. Crocker did not remember reading this.)

The key people in Venture and Devco (excepting Keith Crocker, Devco's in-house Counsel, see p. 99) were aware that only Lingan gas would be available on April 1, 1993. It was Venture alone which selected that date and Venture alone which took the risk that Lingan gas would be available on April 1, 1993. It is impossible to accept that Venture, having placed itself in such a vulnerable position, could insist upon Phalen gas by April 1, 1993. Put another way, Venture in its haste to proceed had been willing to ignore its perception of the letter of the "Phalen only" contract. Once it encountered a dead end (with the Lingan flood), it switched gears and insisted that the letter of the contract be honoured by Devco. As noted, this insistence was supported by the evidence of the Venture principals (which I have rejected) that they had never intended to start up using Lingan gas alone. In the context of the "Phalen only" agreements, I am satisfied that CGA, article 1(k) must be *interpreted* to read as follows: "In-service date means the date when the Venture commences selling electricity (*generated using Phalen gas*) to NSP."

Venture's fallback argument appears to be that even after the November 20<sup>th</sup> flooding of Lingan Colliery, Devco could still have constructed the underground pipeline and delivered Phalen gas had it wished to do so. While that may be so, it ignores the fact that Venture and Devco were embroiled in a commercial dispute regarding who was responsible to pay the cost of the Phalen underground pipeline. I have no sympathy for this argument even if it were Devco's responsibility to pay for the pipeline. Venture had placed itself in such a precarious position. It could not expect Devco to hastily attempt a rescue contrary to the previously mutually agreed upon schedule of delivering Phalen gas in 1994. In fact, as I will discuss later, Devco was not responsible to pay the cost of the underground pipeline.

*Venture's Intention to Startup on Lingan Gas:* This finding regarding Venture's intention is key to a proper understanding of this case. I will therefore deal with some of the relevant evidence.

Venture's reaction to the news of the flooding of Lingan Colliery is revealing. Mr. Collens said he learned of the flooding in a telephone conversation from John Hopkinson "the day after the mine flooded". He therefore learned of the flooding no later than November 22, 1992.

At that time, Mr. Collens would have been aware of the following:

- (a) That Venture had taken a risk and had decided to generate electricity on April 1, 1993, using gas from Lingan Colliery;
- (b) That the flooding meant there would likely be no gas from Lingan Colliery for Venture's intended startup on April 1, 1993;
- (c) That without gas there would be no generation and no sale of electricity;
- (d) That Devco had never agreed to provide (and Venture had never expected to receive) Phalen gas before 1994.
- (e) As a result of losing its gamble, the project and the Venture would sustain financial losses once the true facts came out – that its plans to startup on April 1, 1993, on Lingan Colliery gas had been destroyed by the flooding.



Mr. Collens recognized the financial implications right away. He had just received a draw from Devco the day before the flooding in the amount of \$116,874.04. I am satisfied that Mr. Collens caused \$50,000.00 of that money to be disbursed to his company, ETI, on November 30, 1992. This, despite the fact that there was money previously owed to trade creditors and suppliers, and despite the fact that there was no invoice outstanding from ETI to Venture justifying payment of \$50,000.00. Some time after November 30, 1992, Mr. Collens caused invoice number 7(a) to be created to justify the payment of the \$50,000.00.

In addition, on December 3, 1992, Mr. Collens asked Mr. Ellerbrok of Devco the following questions:

- (i) whether Phalen could supply “1.2 million CFD of methane from Phalen under the ‘Lingan flooded’ scenario”,
- (ii) and whether or not we could install a methane drainage system in Phalen by April.

There would be no reason for Mr. Collens to ask those questions if Venture had not been planning to use Lingan gas, and if before the Lingan flooding, Venture had expected a methane drainage system in Phalen to have been completed by April 1, 1993. Clearly, before the flooding, Venture was planning to use Lingan gas and did not expect any methane drainage system to be installed in Phalen by April 1, 1993. Further, in letters to Devco dated December 11, 1992, and December 22, 1992, Mr. Collens refers to a reliance on gas from Lingan Colliery.

In the letter dated December 11, 1992, Mr. Collens reported to Devco that “CIBC is concerned about the worst case scenario re no gas available from Lingan.” I can only infer that CIBC would not have had such a concern had it not understood from Venture that Venture intended

to use Lingan gas. And, if that understanding were not the case, I would expect that Mr. Collens would have reported to Devco's Mr. Cooper, then Vice President, Engineering, that he had assured the bank otherwise.

In his fax of December 22, 1992, to Devco President, Ernest Boutilier, Mr. Collens refers to a reliance on gas from Lingan Colliery. He refers to Venture's understanding that "financial and technical changes being considered are a result of water flooding at the Lingan Colliery". Mr. Collens was cross-examined on this point (see pages 1251 and 1255-1257 transcript) and could give no satisfactory explanation for the reference. The only possible inference is that the reference must refer to Venture's expectation of and reliance upon gas from Lingan Colliery for startup on April 1, 1993. Further, on December 23, 1992, Mr. Collens sent a fax to Mr. Boutilier which was a proposed letter to suppliers providing notification of suspension of the project. "Due to technical and financial complications arising out of the flooding of Devco's Lingan Colliery". Again, the implication is obvious that Venture was anticipating startup with Lingan gas.

One of the most compelling pieces of evidence regarding Venture's intention is the construction schedule regarding the Phalen pipeline. It is self-evident that Venture could not generate electricity from Phalen gas until the pipeline was constructed. A review of the evidence establishes that Venture did not plan on construction of the Phalen pipeline before the end of 1993. The effect of that would be no Phalen gas until at least early 1994.

Gary Ellerbrok, Devco's senior Ventilation Technician, had been seconded to assist Mr. Hopkinson in working on a construction schedule. Mr. Ellerbrok worked with and under the

direction of Mr. Hopkinson in its preparation. That schedule (exhibit 1 volume 18 tab 549) shows the following:

- i.      pipeline completion date December 9, 1993;
- ii.     completion of commissioning of the pipeline  
December 30, 1993.

In the course of his direct testimony, Mr. Hopkinson claimed that Mr. Ellerbrok had provided the dates for the work to be performed by Devco and that he had provided the dates for the work to be performed by Venture. He also claimed that Mr. Ellerbrok had inserted the dates for the underground pipeline without his knowledge or agreement. I reject Mr. Hopkinson's evidence on that point. I do not believe him. I believe Gary Ellerbrok when he says that the dates were provided by Mr. Hopkinson.

On December 28, 1992, Mr. Hopkinson forwarded a letter to Mr. Boutilier with the schedule attached (exhibit 1, volume 19, tab 605). The schedule sent by Mr. Hopkinson as the "agreed" schedule shows the Phalen underground pipeline complete and commissioned at the end of December 1993. This letter completely contradicts Mr. Hopkinson's evidence that Venture was not intending to use Lingan gas for its electrical generation project. During the course of his cross-examination on the point, he testified: (page 4-58 of the Defendant's brief).

"Q.    I see, and again please explain, assist me and explain to His Lordship why you sent this document as the agreed schedule if it wasn't agreed.

A.    Why I did?

Q.    Yes, please.

A. I don't know, as I say my emphasis was on the ... our integrated program and what I was primarily concerned about was getting replies to what was going to happen to the project."

Finally, he was asked;

"Q. ... you sent Mr. Boutilier a schedule which you described as agreed, which provided for completion of the pipeline at the end of December 1993, which you say was to have been completed by April of 1993, and I want to be sure that you told His Lordship whatever it is you can by way of explanation as to why you described this as agreed if it wasn't. Is there anything further you can add on that particular point?

A. Nothing."

Desmond Smith was coy about his expectation regarding the gas source. He was not concerned about the "home address" of the gas molecule so long as Devco delivered a sufficient quantity of gas. I have no doubt but that he, like Messers Collens and Hopkinson, was counting on Lingan gas for start-up. It is disappointing that these three witnesses would give sworn evidence in an attempt to create the opposite impression.

A brief examination of the sequence of events is helpful in understanding why Venture intended to start-up using Lingan gas. As I mentioned earlier, Venture committed itself to NSP to deliver electricity by April 1, 1993. At that time, Venture had no feasibility study, it was proceeding on its own assumption that there would be lots of gas for the project. That view was reinforced during a meeting just five months later.

On August 26, 1991, Mr. Liney, the author of the September 1991 AMCL Report, told a meeting of Devco and Venture officials (including Mr. Collens) that Lingan could fuel the project for two years. His subsequent *Report* noted however that a non-producing Lingan could at

best provide only one quarter of the required gas. Venture knew by October 1991, that Ligan Colliery would close as of March 31, 1993. Somehow this reality was lost on Venture during the subsequent negotiations with Devco.

In particular, in March 1992, Venture agreed to forego Phalen gas for the April 1, 1993 start-up. This concession is almost inexplicable given its practical implications for the project. The only explanation that fits is that Venture realized that without that concession there would be no project. Devco could not be induced to participate unless the capital cost of the project could be reduced from \$6.95 million to \$6.2 million. If Devco did not participate, there were no other investors. The only way to reduce the budget was to postpone the cost of the Phalen pipeline.

By March 1992, Venture's principals had invested significant time and energy in the project. If there was no deal they would never be compensated for that time. If there was a deal, they would have access to a \$5 million bank loan (which they were confident they could negotiate) and the \$1.2 million Devco investment. The prospect of payment for past and future services was a strong motivator. It meant start-up without Phalen gas but to Venture that was better than no start-up at all.

As it turned out, there would only be a gap of a maximum of nine months between the intended project start-up (April 1, 1993) and the delivery of Phalen gas (January 1994). The Venture was apparently willing to chance some tough sledding for that period of time rather than abandon the project.

***AMCL Gas Report to Venture, September, 1991:*** Venture commissioned the AMCL Gas Report in order to confirm the gas sufficiency for the project. That Report comprised the

Consultants' advice available to Venture and to Devco at the time the CGA and MOU were signed in June 1992. Later, when Devco decided not to proceed further because Phalen could not produce sufficient gas, Mr. Liney's February 1993 Report was also available.

Both the 1991 Report and the 1993 Report were authored by Mr. Andrew Liney. The former Report *appeared* to say that Phalen alone could support the project while the 1993 Report clearly stated that it could not. The apparent contradiction is more illusory than real. When properly read, the 1991 Report does in fact state that Phalen alone cannot support the project. Mr. Liney is therefore not guilty of reversing himself when he wrote the second Report. Mr. Liney's 1991 draft was edited by AMCL's Keith McCandlish. McCandlish had no sinister motives. He was trying to do his job. He knew his client wanted a document to take to the bank. He knew his client was in a hurry. Unfortunately, he inadvertently released a report which gives an unwary reader the wrong impression. I will deal further with Mr. McCandlish's role later when I discuss the changes which were made in Mr. Liney's draft.

It was Desmond Smith who was charged by the Venture with obtaining the AMCL gas report. Though at trial he attempted to cloud the issue, Mr. Smith testified on Discovery that Venture did not proceed with the project in reliance upon Devco for gas volumes available for capture and utilization. He was aware that Devco had never conducted a resource assessment of methane in any of their operations and that they were dealing with methane strictly as a safety hazard and not as a resource. When Discovered on August 10, 1994 (page 108, 11.12), he admitted that Devco personnel up to the summer of 1991 had not been able to provide him with any information which he considered reliable as to the methane resource over the projected 20 year life of the project. He did not rely on anything from Devco. He relied on AMCL (Discovery August

10, 1994, page 182). I am satisfied that Mr. Smith's discovery evidence accurately describes the true state of affairs. Similarly, I reject Mr. Collens' repeated references to his reliance upon Mr. Boutilier's assurance that there was "plenty of gas". I am satisfied that Mr. Boutilier in fact gave no such assurance. In short, at no time did Venture rely on Devco regarding the sufficiency of gas volume for the Project.

The AMCL Gas Report is a technical document. It is extremely difficult to read and understand, particularly for persons not trained in the techniques utilized to predict gas emissions and not experienced in utilization of mine methane for electrical generation using gas turbines. Persons not competent to deal with the technical details of the Report would concentrate on the Executive Summary, the Conclusions and Table 9 in assessing what the Report said concerning electrical generation from Phalen Colliery.

I am satisfied that a reader, even a Devco Engineer, not trained in the techniques mentioned above, could reasonably conclude that adequate gas was available from Phalen Colliery alone to support a 4MW scheme. There is no statement in the Report that Phalen alone using conventional cross-measures drainage techniques could not provide sufficient gas.

The tone of the Report is one of conservatism, leaving the impression that significantly better results could be achieved over those calculated in the Report:

- a. In all cases throughout the study minimum values have been used wherever there are options or ranges of values, or a choice of assumptions. Therefore, the final projections are absolute minimum values and no negative tolerances should be applied to them. (Report, Executive Summary, p. 8)
- b. The limitations on any of the methods and assumptions used and on the data bases are discussed,

and confidence limits allocated accordingly. Minimum flows stated assume worst case conditions and the lowest figure in any tolerance band. (Report, p. 16)

- c. Accordingly, notwithstanding the accuracy of CBDC output predictions, the methane yield calculations are regarded as minimums, with any error being to a higher figure (+20% - 0%). (Report, p. 47)
- d. Predicted combined minimum flows and anticipated recoveries are shown in Table 12. (Report, Conclusions, p. 58)

The Report suggested improvements in gas yields over the years, again giving the impression of confidence in improved results:

- a. In any case, for all future years a gradual improvement in yield and drainage is forecast for the same coal output due to depth factors. When the Phalen seam is no longer overworked by the Harbour seam, a further increase will occur. (Report, Executive Summary, p. 8)
- b. Beyond 1997, even with the above assumptions, the yield would rise slowly throughout the remainder of the 20 year period. (Report, Conclusions, p. 58)

The Report suggested technological developments and other gas sources which might provide in excess of 4MW:

- a. Alternative higher technology drainage systems and ventilation Arrangements being proposed would undoubtedly offer an improvement in capture levels allowing in excess of 4MW of saleable electrical generation from Phalen gas alone. (Report, Executive Summary, p. 8)
- b. No account has been taken of the lower purity gas which may be available from the sewer gate if this is introduced, which could significantly increase



utilisable flow if mixed with high purity directly drained gas. (Report, Executive Summary, p. 9)

- c. Alternative drainage systems exist which would enhance the yield, covering the 4MW saleable requirement more comfortably and potentially increasing generation capacity. (Report, Conclusions, p. 58)

The Report did state that Lingan *and* Phalen could support the 4MW scheme using conventional drainage techniques:

There will be sufficient drained methane at Lingan and Phalen Collieries with existing planned coal production at Phalen from the proposed commencement of methane drainage in 1993 to produce 4MW of saleable electricity, utilising conventional drainage techniques. This will require an improvement in drilling performance and capture rates at Phalen compared to existing, practice at Lingan Colliery. (Report, Executive Summary, p. 8)

The Report did not specifically state that Phalen alone could support the 4MW scheme utilizing conventional cross-measures drainage techniques. The Report did state:

Alternative higher technology drainage systems and ventilation arrangements being proposed would undoubtedly offer an improvement in capture levels allowing *in excess* of 4MW of saleable electrical generation from Phalen gas alone. (Report, Executive Summary, p. 8) (Emphasis added)

This is not a statement that Phalen alone could not support the scheme. Indeed, the following Conclusion (while difficult to understand by reason of the omission of a comma between “producing” and “limiting” as explained by Mr. Liney) suggests Phalen gas only:

With the worst case scenario, (i.e. while Lingan remains open but not producing limiting capturable methane), and assuming only direct drainage from conventional cross measure boreholes as a utilisable source, drained gas would support a 4MW saleable generator in 1993. (Report, Conclusions, p. 58)

The worst case would seem to suggest a negligible amount of methane from Lingan.

Further, the following from the Executive Summary suggests 4MW from Phalen only:

After closure, Lingan Colliery could not alone support a 4MW generator. However, if totally sealed off and correctly handled, sufficient methane to generate 1 MW of saleable electricity would be available. This could also usefully contribute to smoothing output from Phalen, and making up shortfalls due to any major production downtime at Phalen. (Report, Executive Summary, p. 9)

The references to “smoothing output from Phalen” and “making up shortfalls due to major production downtime at Phalen” are suggestive of sufficient gas from Phalen, Lingan contributing only “smoothing” and addressing unexpected production interruptions at Phalen.

Further, as to the impression from the Report that Phalen alone could support the Venture scheme, I note the following at p. 42:

“The projected methane yields available to capture and the anticipated drained flows are shown in Table 9 for the 20 year period. ***This shows Phalen Colliery alone could sustain a 4MW plant*** (12MW of gross energy requirement) ***from 1997*** assuming 80% of extracted throughput of the extraction plant were utilised. On the same assumption, ***in 1993*** (proposed commissioning of generator) ***11.75MW of energy*** at 80% utilisation would generate 3.88MW (46 week

production year).” (Emphasis added)

There is an error in this paragraph. Table 9 shows 4MW from Phalen alone at 33 1/3% efficiency from 1997 at 100% utilization, not 80%. However, the Table is difficult to read and this text certainly supports the impression of Phalen alone supporting the scheme.

I heard voluminous evidence from several witnesses regarding Table 9 and what can be derived from it. It is easy to understand why anyone, even a technical person, would choose to rely on the text of the report rather than this convoluted table. A few observations about Table 9 (which is reproduced on the next page):

- a. the Table is expressed in millions of cubic metres per “production year” rather than litres per second which is commonly observed in other documents. Without undertaking calculations to convert these numbers to another base, it is not possible to compare this Table with other references in this Report (such as the reference to the requirement of 320 l/s at page 15) let alone other reports;
- b. an asterisk defines “production year” as 46 weeks without giving any explanation of the implications of this. The effect is to compress all methane emitted over an entire year as the result of mining activity into 46 weeks;
- c. there is a heavy black box which is noted as “Solid highlighted box exceeds 12MW requirement (100% utilized)”. This shows 12MW available from 1997 at 60% capture. The required efficiency, 33 1/3% is not directly stated. There is no statement that 100% utilization of captured gas is not realistic. Note also that the numbers in the Table are not expressed in megawatts, easily resulting in confusion;

**TABLE 9**

**PREDICTED METHANE YIELDS AT PHALEN MINE 1991-2001**

YEAR	MILLION M <sup>3</sup> PER PRODUCTION YEAR * OF PURE METHANE EQUIVALENT AT S.T.P.		
	AVAILABLE FOR CAPTURE	DRAINED AT 60% CAPTURE	DRAINED AT 80% CAPTURE
1991	14.12	8.47+	11.30
1992	14.22	8.53+	11.38
1993	14.34	8.60**	11.47
1994	14.40	8.64	11.52
1995	14.46	8.68	11.57
1996	14.54	8.72	11.63
1997	14.82	8.90	11.87
1998	15.20	9.12	12.16
1999	15.78	9.47	12.62
2000	16.24	9.74	12.99
2001	16.70	10.02	13.36
2002	17.26	10.36	13.81
2003	17.70	10.62	14.16
2004	17.82	10.70	14.26
2005	18.02	10.81	14.42
2006	18.16	10.90	14.53
2007	18.34	11.00	14.67
2008	18.60	11.16	14.88
2009	18.82	11.29	15.06
2010	19.12	11.47	15.30
2011	19.22	11.53	15.35

\* 46 weeks

+ Generator not commissioned

\*\* Minimum figure equivalent to 11.75MW

Solid Highlighted box exceeds 12 MW requirement (100% utilised)

Shaded box exceeds 12MW at 80% utilisation of surface extraction plant throughput.

**Table 9 of the AMCL Gas Report, Ex. 1, Vol. 12, Tab 296, p. 43**

- d. there is a note to the projected capture of 8.6 million cubic metres for 1993 at 60% capture that this is the “Minimum figure equivalent to 11.75MW”. The assumptions of 33 1/3% efficiency and 100% utilization are not stated. This, obviously is suggested as being very close to the 4MW requirement for the scheme;
- e. there is another column for 80% capture showing in excess of 12MW from 1991 at either 80% or 100% utilization.

In summary, I am satisfied that a person not well versed in electrical generation issues (including utilization and efficiency) who was presented with this Report would be left with the impression that Phalen alone, using conventional methane drainage, was capable of producing sufficient gas to generate 4MW of electricity.

*What Devco Understood the Report to Say:* Devco engineers understood the AMCL Gas Report to say that Phalen Colliery alone could support the Venture 4MW scheme using conventional methane drainage techniques, although there might be a small shortfall during the first four years.

Roy MacLean, Devco’s Director of Mining Engineering (1984-92), for example, testified as follows in cross-examination:

- “Q. So when you were doing your...looking at what gas would be available for this project, hopefully to match the four megawatts, were you and Mr. Ellerbrok, Mr. LeBlanc underneath you looking at Phalen only or Phalen plus Lingan?

- A.      Well that letter or that report from Liney says, I think that's...that table in it, ah, shows that there's enough gas from Phalen alone. Now that's his assessment of how much gas there is. It wasn't ours, it was his statement and we accepted that." (Cross Examination, Roy MacLean, March 19, 2001, p. 255)

Similarly, Wayne LeBlanc, Devco's Chief Ventilation Engineer, testified that on his reading of the report, he concluded there was sufficient gas from Phalen for Venture's project. He noted that in several places in the report, such as the executive summary, all the tolerances were positive. He took from that that Devco could only expect more gas than predicted. To Mr. LeBlanc it looked like there was no problem.

At this point a brief layman's understanding of the difference between *retreat* and *advance* long wall mining might be helpful. Lingan, the older colliery, was an advance operation; Phalen, a retreat operation.

In an advance longwall, the roads driven on either end of the coal face do not proceed past the area where the coal is actually being cut. As the coal is mined, the worked out area remains supported and thus remains a relatively stable area for any gas collection boreholes. As the coal is cut, the coal face and the roads advance toward the end of the coal panel.

In a retreat mine, the roads are initially driven parallel on either side of the coal panel to be mined to the full extent of the proposed mining. Once the parallel roads have reached their maximum length, their extremities are connected by another tunnel. This latter becomes the coal face and its extent (e.g. 150m, 200m, 225m.) becomes the coal face length or panel width. As the coal is mined, the coal face *retreats* toward the main slopes (shafts) of the mine where the parallel roads began. As the coal face retreats, the mined out area is not supported but is allowed to collapse.

Obviously, the mined out area in a retreat mine is much more problematic (in terms of stability and accessibility) for gas collection boreholes than that in an advance mine.

In response to a question from me, Mr. LeBlanc said that on his reading of the AMCL Gas Report there was enough gas in Phalen alone to support the 4MW project. When I asked Mr. LeBlanc whether he was able to make a technical assessment of Table 9, Mr. LeBlanc answered, “The short answer is no.” He explained that Devco had never done methane drainage in a retreat mining situation before. This was all new to Mr. LeBlanc, so he could not make an independent assessment of capture efficiency which could be achieved.

- i. he felt more comfortable with assessing the 60% capture efficiency column. Devco had done that before in advance mining. There were things that Devco could do to improve the capture at Lingan. Mr. LeBlanc felt that Devco could maintain 60% capture by measures such as longer holes, longer standpipes, closer intervals between holes and a dedicated crew for drainage. In forming the judgement that Devco could achieve the 60% column, Mr. LeBlanc was assuming cross-measure boreholes as the drainage technique;
- ii. referring to the 12 MW requirement, Mr. LeBlanc understood that was 12 MW in relation production of 4MW of electricity. Mr. LeBlanc testified that he was in no position technically to judge whether that proportionality was reasonable or realistic. He pointed out that Devco had never done utilization before of gas. He testified to the effect that he “didn’t know the first thing about it”;
- iii. going beyond available for capture and volume captured, Table 9 refers to two other concepts– “utilization” at 100% and 80%.

Mr. LeBlanc said that he could not form an opinion as to what portion might be utilized in the turbine;

The only other Devco engineering personnel to whom the Report was sent by Venture was Ron Nicholson, the Vice-President for the Environment. Unfortunately, by the time of the trial, Mr. Nicholson was deceased. However, it is clear from his Discovery testimony that he did not undertake any detailed examination or evaluation of the AMCL Report. The subject matter of the Report was not within his normal function at Devco. Being neither a miner nor a geologist he passed the Report along to Mining Engineering. I am satisfied that Mr. Nicholson was not aware of the true meaning of the AMCL Gas Report.

Further, in considering the examination of the AMCL Gas Report by Mr. MacLean and Mr. LeBlanc, it must be remembered that they did not know that Venture planned to use a turbine which would not operate at the efficiency assumed by the Report, 33 1/3 %. The Report does not specifically state that 33 1/3 % efficiency is assumed. One can deduce that fact if he/she has reason to. Devco engineering personnel did not. The supply of the proper turbine was Venture's responsibility. The Devco engineers had no reason to suspect that Venture might order the wrong turbine. They were impressed by and relied upon the Venture personnel.

It is significant that Devco engineering personnel were not experienced or knowledgeable in methane emission prediction techniques. They did have experience and turned their minds to the capture efficiency assumed by the AMCL Gas Report. They had absolutely no experience with or knowledge of utilization of mines gas, particularly electrical generation schemes using gas turbines. They did their best in reviewing the AMCL Report and reached the apparent but



mistaken conclusion that Phalen gas alone could fuel the project. I cannot fault them for doing so. Their conclusions were reasonable in the circumstances.

It was not until after the flooding of Lingan Colliery that Devco became alerted to the problem with the 1991 AMCL report. Robert Cooper was Vice-President of Human Resources at the time Devco received the AMCL Gas Report in October 1991. He did not see the Report until approximately December, 1992 when he succeeded Mr. MacLean as Vice-President, Engineering and Safety. It was Mr. Cooper who alerted in-house Counsel Mr. Crocker in late December 1992 that he had some difficulty interpreting the Report and that it might say that Phalen alone was not sufficient. It was Mr. Cooper's concern which ultimately led to the commissioning of Mr. Liney and the 1993 Liney Report. I will discuss Mr. Cooper's role more fully later when I review the Liney 1993 Report. (See p. 56 *infra*.)

When considering the testimony of Devco witnesses concerning their understanding of the AMCL Gas Report, it is important to remember that this Report did not originate from a consultant with whom Devco had no previous experience. Devco had long dealt with AMCL, a well-known mining consultant. Further, and perhaps more importantly, Devco engineering personnel understood that the Report had been written by Andy Liney. Mr. Liney had just undertaken the assignment of preparing the AMCL Pipeline Report for Devco. In the course of that, he had advised on the introduction of sewer gate which eliminated the requirement for conventional drainage. As a result, Devco engineering personnel had great confidence in Mr. Liney. In the circumstances, there was no reason for Devco Engineering personnel to doubt or question the AMCL Report or to be concerned that it said anything other than what it appeared to say.

Devco personnel involved in the negotiation of the agreements with Venture,

including Mr. Boutilier, Mr. Buchanan and Mr. Crocker, were in no position to make a technical evaluation of the Report. It is also clear on their evidence, however, that they were of the understanding that Phalen gas was sufficient for the project.

Further, I am satisfied that even the Plaintiff's expert witness, Derek Steele, read the AMCL Report as forecasting the sufficiency of Phalen only for the generation of 4MW. I am satisfied that that was his understanding despite his obvious attempt to sidestep the issue by suggesting that something other than conventional cross-measure drainage would be required to achieve the desired result. I agree with the submission of Devco Counsel that Mr. Steele's evidence makes the point: The Report was reasonably capable of being read as supporting Venture's 4MW scheme from Phalen alone using conventional drainage.

The Devco engineers deferred to Venture. Desmond Smith was correct when he noted that Devco knew Venture was relying on the Report; "they would obviously conclude there was enough in this Report to fuel our project."

***What the Report in fact Says:*** I am satisfied that the AMCL Gas Report establishes that Phalen gas alone was insufficient for Venture's 4MW project. I premise that conclusion by saying the reader must take into account the efficiency losses inherent in Venture's choice of the single simple gas turbine (particularly when operating at less than full load) and Venture's agreement to provide parasitic power for the Extraction Plant pumps.

The Report does advise the following:

- a. only gas from roof seams was available for capture for the project;
- b. 60% capture efficiency could be expected for a well managed conventional drainage system;
- c. computerized control of the extraction plant was necessary to achieve a high percentage of utilization of captured gas, 80%.

The Report was predicated on the following:

- a. combined cycle generation giving efficiency of 33 1/3%;
- b. the turbine operating at full load and, accordingly, peak efficiency;
- c. parasitic power for the operation of the compressor and associated generation facility requirements. Extraction Plant pumps power was not considered as Venture had not been requested to agree to provide that when the AMCL Gas Report was written.

Based on a proper understanding of Table 9, there are 2 alternatives set out:

- a. at 60% capture column, in order to generate 4 MW net:
  - i. the black line indicating sufficient gas for 4 MW net assumes 100% utilization and 33 1/3% efficiency. See footnote reference to 12MW requirement (to produce 4MW) and “(100% utilized)”;
  - ii. Reduce to 80% utilization and the table drops down to the shaded area, still at 33 1/3% efficiency. See footnote “shaded...exceeds 12MW at 80% utilization.” There is not enough gas from Phalen on this basis until 2008;

- iii. BUT if the efficiency is reduced to 25%:
  - (1) at 100% utilization and 33 1/3% efficiency, the first year in the black box is 1997. At 25% efficiency the requirement is  $8.9 \times 33 \frac{13}{25} = 11.87$ . The projections on the table never reach this number;
  - (2) at 80% utilization and 33 1/3% efficiency the first year in the shaded area is 2008. At 25% efficiency the requirement is  $11.16 \times 33 \frac{13}{25} = 14.88$ . The projections on the table never reach this number;
- b. at 80% capture:
  - i. with 80% utilization and 33 1/3% efficiency 4 MW is forecast from 1991;
  - ii. also, 80% was suggested as possible only if the experimental longhole succeeded. This was not part of the project (as will be discussed below).

I am satisfied that 100% utilization is not a realistic figure as Mr. Liney emphasized during his testimony. The inherent assumptions in the report to get sufficient gas for 4MW are:

- a. long hole drilling to capture 80% of the roof gas;
  - i. page 9. Executive Summary, para. 2nd last. Also Conclusions 3rd last refers;
  - ii. page 44, para. 3. "...expected to capture between 70 and 80% of available methane....";
  - iii. clearly this is what is reflected in 80% column of Table 9;

- b. computer control of the extraction plant to achieve 80% utilization;
  - i. The AMCL Report does not represent that 100% utilization is possible. Suggests only that a “high proportion” could be utilized:
    - (1) page 58. Conclusions, para 3. “A high proportion would have to be available...”;
    - (2) page 9, para 2. Executive Summary. “...to ensure maximum consumption of available methane.”;
    - (3) page 54. “The objective would be to...allow the maximum possible percentage of the total flow to be utilized....To achieve the 4MW...utilization percentage would have to be 80-90% compared to the 65% which would be available from the current plant, given the overall reduced flow rate.”;
    - (4) there is no suggestion in the AMCL Gas Report of 100% utilization of gas;
  - ii. To get 80% utilization, AMCL said needed computer control of the extraction plant:
    - (1) page 58. Conclusions, para 3. “...requiring micro-processor control and smoothing of the extraction plant throughput”;
    - (2) page 9, para 2. Executive Summary. “A micro processor based control system would be required...in order to generate 4MW....”;

- (3) page 54. “To maintain acceptable methane quality...it is essential that the existing methane plant be microprocessor controlled”.
- iii. co-generation to achieve 33 1/3% efficiency;
  - (1) The AMCL Gas Report clearly requires 33 1/3% efficiency:
    - (a) page 43. Table 9. “Solid highlighted box exceeds 12MW requirement (100% utilized)” and “Shaded box exceeds 12MW at 80% utilization....”;
    - (b) page 42, 1st para. “...could sustain a 4MW plant (12MW of gross energy requirement)...”;
    - (c) page 42, reference to 12 and 4MW.

As Venture’s scheme had none of the above, the best that could be hoped for per the AMCL Report was: 60% capture; 80% utilization and 25% efficiency.

At 60% capture and 33 1/3% efficiency they needed 11.16MW chemical energy for 4 MW net electrical. This means that Venture needed  $11.16 \times 33 \frac{1}{3} \% / 25\% = 14.88$  million m<sup>3</sup>/year. This volume is gas captured at 60% capture efficiency is never predicted by Table 9.

However:

- a. AMCL’s efficiency assumption net of parasitic power did not include the additional parasitic power agreed to by Venture for the Extraction Plant pumps. That, obviously, would reduce the overall efficiency and the net calculated generation;
- b. megawatts calculated from Table 9 cannot be

compared directly with Venture's 4MW project:

- i. AMCL compressed all the gas into 46 weeks ( $46 \times 7 = 322$  days) and did its calculations. On their approach 4MW produces  $4 \times 1000 \times 7728$  ( $322 \times 24 = 7728$ ) = 30,912,000 kw/year;
- ii. Venture's contract with NSP was for 95% energy bid on 4MW capacity bid. On Venture's financial analysis that is equivalent to generating 4MW for  $.95 \times 365 = 347$  days ( $/ 52 = 49.54$  weeks). This is  $4 \times 8,328$  ( $347 \times 24$ ) = 33,312,000 kw/year. NOTE: to be more precised, the Venture Proposal (Ex. 2, Vol. 1, Tab 7, 3<sup>rd</sup> last page) states Net Sales 33,280,000 ( $365 \times .95 = 346.75 \times 24 \times 4,000 = 33,280,000$ ) The difference is rounding up to 347 full days;
- iii. the ECCGVL financial projections are based on 347 days:  $2,209 / 8,328$  ( $24 \times 347$ ) / 1,000 / 0.0663 = 4MW for 347 days. This is the full 33,312,000 kwh/year;
- iv. so to compare AMCL's 4MW with ECCGVL's 4MW, AMCL would have to generate ( $347 / 7 = 49.57$  weeks) /  $46 \times 4 = 4.31$ MW over 46 weeks to produce the number of MW forecast by ECCGVL over 347 days (NOTE: The same number results from kw analysis:  $33,280,000 / 30,912,000 = 1.0766045 \times 4 = 4.306418$ ). That is the number against which have to measure generating sufficient electricity to meet ECCGVL's 4MW bid to NSP and the financial analysis in Schedule B.

Keith McCandlish, Andy Liney and Mr. Steele performed calculations of electrical generation based on the AMCL gas predictions, not making allowance for decreased efficiency resulting from the turbine operating at less than full load and not making allowance for Extraction

Plant pumps parasitic power.

Keith McCandlish testified on September 26, 2000 as to what electrical generation could be calculated from the AMCL Gas Report:

- a. he was referred back to a previous calculation which indicated that 14.85 million cubic metres per year were required to generate 4MW at 80% utilization assuming turbine efficiency of 25% (Table 9, p. 43. 11.16 (requirement at 33 1/3% efficiency) x 33.33/25 = 14.850);
- b. in the year 1993 the predicted capture at 60% capture efficiency is 8.6 million cubic metres;
- c. 14.86 million cubic meters are required for 4 MW assuming 25% full load turbine efficiency and 80% utilization;
- d. so working with the AMCL Table, one would divide the 8.6 by 14.86 multiply by 4 (14.86 generating 4MW) to get a ballpark figure of electrical generation;
- e.  $.86/14.86 = .57 \times 4 = 2.31\text{MW}$ ;
- f. this generation is for 46 weeks. Spread out over 49.57 weeks (Venture proposal to NSP) the indicated generation is 2.14MW;
- g. this calculation does not take into account:
  - i. efficiency losses resulting from operating the turbine at less than full load; and
  - ii. parasitic power for the Methane Extraction Plant pumps.



Mr. Liney calculated electrical generation from Phalen gas only based on the Table

9 gas predictions (Ex. 2, Vol. 6, Tab 221):

- a. assuming 60% capture, 80% utilization and turbine efficiency from Graph 6 Mr. Liney calculated net generation based on the AMCL Gas Report at 1.16MW;
- b. even assuming 80% capture, 80% utilization and turbine efficiency from Graph 6 Mr. Liney calculated net generation based on the AMCL Gas Report at 2.26MW;
- c. Mr. Liney's calculations did take into account:
  - i. efficiency losses resulting from operating the turbine at less than full load; and
  - ii parasitic power for the Methane Extraction Plant pumps.

Venture's expert, Derek Steele (Mr. Steele's evidence is discussed below, p. 67)

performed calculations based on Table 9 in the course of his cross-examination:

- a. assuming 60% capture, 80% utilization and 25% turbine efficiency (that is, no allowance for the Extraction Plant pumps or operation at less than full load) he calculated the net generation was 2.3 MW on a 46 week basis (November 27, 2000, pp. 139-43 and 151-52) or 2.14MW on a 49.57 week basis (November 28, 2000, p. 194);
- b. assuming 60% capture, 80% utilization and 20% turbine efficiency (that is, no allowance for the Extraction Plant pumps but allowing for operation at less than full load) he calculated the net generation was 1.75 MW on a 46 week basis (November 30, 2000, pp. 613-15) or 1.62W on a 49.57 week basis (November 28, 2000, p. 616).

Even with longhole drilling Table 9 does not indicate sufficient gas from Phalen

alone to generate 4MW bearing in mind Venture's decision to purchase a simple turbine and its agreement to provide parasitic power for the extraction pumps:

- a. the assumption was that the capture rate could be increased to 80% if longhole drilling were successful;
- b. assuming that capture rate and on the same other assumptions of 80% utilization and 25% full load efficiency:
  - i. 4 MW (for 46 weeks only) is not indicated until 2008 (D. Steele, Cross-examination, November 27, 2000, p. 133); and
  - ii. performing the same calculation as did Mr. McCandlish the indicated generation for 1993 would be:  $11.47/14.86 \times 4 = 3.09\text{MW}$  for 46 weeks (2.87 for 49.57 weeks). Again, this calculation does not take into account:
    - (1) efficiency losses resulting from operating the turbine at less than full load; and
    - (2) parasitic power for the Methane Extraction Plant pumps;
  - iii. taking those factors into account (that is, reading efficiency off Graph 6), and again using 80% capture efficiency, 80% utilization and AMCL's 37.5 MJ/m<sup>3</sup>, the calculation is:  $11,470,000 \text{ m}^3 \text{ captured} / 29,980,800 \text{ seconds (347 days)} = .382 \text{ m}^3/\text{s (382 l/s)} \times 80\% \text{ utilization} \times 37.5 \text{ MJ/m}^3 = 11.46 \text{ MW}$ . Reading from Graph 6 the efficiency is 19%. The net electrical generation accordingly is 2.18 MW.

I accept Mr. Liney's evidence that 4MW might be achieved using both Phalen and Lingan gas assuming 60% capture, 80% utilization and 33% efficiency. The last, of course, required a combined cycle scheme (which Venture did not intend to use). Even then, Mr. Liney said his advice was to size the project for **3 MW** only to give some head room between the gas required and the projections. This would allow for the inevitable variability in gas supply.

Ironically as matters turned out, even if Venture's plan to use Lingan gas in its project had gone ahead, the gas supply would not have been sufficient for 4MW (even setting aside Mr. Liney's caution about headroom). This is a direct result of Venture's decision to purchase a simple turbine and its agreement to provide parasitic power for the extraction pumps. The effect was demonstrated by Mr. Liney's calculations (Ex. 2, Vol. 6, Tab 222) in relation to Table 12 of the AMCL Report:

- a. based on the combined gas volumes from Phalen and Lingan for 1994 (12.32 million m<sup>3</sup>/year), and assuming 60% capture, 80% utilization amounting to 9.86 million m<sup>3</sup>/46 week year (AMCL Gas Report, Ex. 1, Vol. 12, Tab 296, p. 59), the AMCL Gas Report calorific value indicated 12.33 MW of chemical energy. Applying turbine efficiency from Graph 6, Mr. Liney calculated net generation based on the AMCL Gas Report at 2.47MW;
- b. this calculation demonstrates the effect of Venture's decision to use a single simple gas turbine and its agreement to provide power for the Extraction Plant pumps;
- c. contrast this with the calculated generation based on 33 1/3% efficiency and no Extraction Plant pumps: 12.33 MW of chemical energy (per paragraph (a) above) x .3333 = 4.11 MW.

In summary, I am satisfied that the AMCL Gas Report demonstrates that there was

no basis for a Phalen alone project as conceived and financed by Venture.

Before I deal with Mr. Liney's February 1993 Report, I want to briefly examine his role in the preparation of the September 1991 AMCL Gas Report. Mr. Liney gave detailed evidence as to the investigation which he undertook in Cape Breton and the methodology which he followed in his prediction of emissions from Lingan and Phalen Collieries. He testified that he approached the assignment on the basis of both Lingan and Phalen gas being available for the project. As such, the draft report which he prepared was structured leading to the conclusion of electrical generation based on the combined gas flows. It was not until discussions in Calgary that he turned his attention to the generation potential of Phalen alone. That was why he did not note that Phalen alone was not sufficient when he met with Mr. Collens and Devco officials on August 26, 1991. In addition, at that meeting he did say that Lingan could supply enough gas for two years. It was likely this comment which motivated Venture to risk the ill-fated April, 1993 start-up on Lingan gas.

Mr. Liney testified that while still in Cape Breton during August 1991, having undertaken his prediction of emissions over the 20 year period and having arrived at an opinion of calorific value, he did a calculation of electrical generation assuming 33 1/3% efficiency and 80% utilization. He had concluded that it was not possible to get near 4 MW without a combined cycle scheme (as opposed to a simple turbine system).

While Mr. Liney had concluded that within certain parameters 4 MW was theoretically available, he was not satisfied that the 4 MW was realistic – he said it was asking a lot of the parameters, banking on 80% utilization, and 33% efficiency. He said that with Lingan and Phalen combined 4MW was there if everything happily coincided. He was concerned, however, that he would be held to task if the project proceeded on the basis of 4MW. His view was that a 3 MW

project was a more realistic scenario.

Mr. Liney left Cape Breton for Calgary on Thursday, August 29. He had a handwritten draft report and some hand drawn sketches and graphs with him. On Monday, September 2, he met with Desmond Smith, Keith McCandlish at the AMCL offices. Mr. Liney suggested that Mr. Smith consider a 3MW project as an alternative but Mr. Smith responded to the effect that it was a done deal, it had to be 4MW. In summary, Mr. Liney's advice was that what was required if Venture wanted to try for 4MW was gas from Lingan and Phalen, 60% capture, 80% utilization and 33 % conversion efficiency.

The following day, Tuesday, September 3, Mr. Liney met again with Desmond Smith and Keith McCandlish. Mr. Liney testified that Desmond Smith had redrafted the conclusions and the Executive Summary and effectively presented them as a *fait accompli* to be included in the Report. He said that these bore no resemblance to his and no resemblance to the technical content of Mr. Liney's draft. He said that Des Smith's work was not a good summary of the Report as a result of technical misunderstandings.

Mr. Liney already had agreed to add paragraphs to the existing Executive Summary and he disagreed with Mr. Smith's drafts. He said that a heated argument followed. He said he was pressured by Alan Craven, the man in charge of the AMCL office, to modify his Report in accord with Mr. Smith's wishes. Mr. Liney said he went along with the changes but insisted that his name not appear on the Report.

Mr. Liney returned to the United Kingdom on September 5, additional changes were made in the draft report without his approval. I will deal with some of those changes.

Mr. Smith requested the insertion of what eventually became paragraph 3 of the

Executive Summary (Mr. Liney had apparently approved of this paragraph):

“In all cases throughout the study minimum values have been used wherever there are options or ranges of values, or a choice of assumptions. Therefore, the final projections are absolute minimum values and no negative tolerances should be applied to them.”

If one compares *conclusions* in the draft and in the final report, the following are illustrative:

i. Paragraph 1. refers to Lingan and Phalen. The phrase “just support a 4MW generator” has been removed. The statement was that even with the two collieries the scheme would “just” support the 4MW generator.

ii. Paragraph 5 of the draft has been removed in its entirety:

“Phalen Colliery could continue to produce coal satisfactorily without methane drainage. However, environmental considerations may preclude this long-term and in any case direct and indirect cost benefits exist which would justify its installation.”

iii. Paragraph 7 of the draft was removed entirely.

“As previously recommended, it is essential both for these purposes and for CBDC long term planning that specific information on in-situ gas contents, in-situ gas pressures and permeability are obtained. The use of suitably sited methane detectors recording on the surface to improve knowledge of existing methane flows is also essential.”

iv. Paragraph 8 of the Draft was removed entirely:

“The methane prediction data is presented in

a format which will readily allow substitution of improved input data should this become available.”

- v. from paragraph 9 of the Draft was deleted the words “Despite shortcomings of input data” and “remains”.
- vi. the title was changed from “Potential” to “A Study...”

In his evidence, Mr. Liney reviewed the changes as a whole and said they did two

things:

- i. they tended to remove cautionary remarks that Mr. Liney had made particularly as to references as to the weakness or absence of data or cautions. He said that in particular Table 4 was in a condition which it could use more data to strengthen it, but such remarks were removed completely. He said that as a result the Report looks more “end of the road” than intended;
- ii. the absence of negative words, the editing of words that appear to be negative (but not necessarily negative in fact) tend to give an overall more rosy impression of the report than intended;

He stated,

“Obviously *the removal of items that strongly point in the direction of the weak database*, the removal of those tends to allow you to think that maybe there was enough data and maybe the conclusions were more reliable than I intended. And *the removal of the comment about Phalen Colliery being able to produce coal without methane drainage*, from my personal opinion, can only have been removed because it might have scared somebody off had it remained in there, that person being presumably the bank.” (Direct Examination, April 17, 2001, p. 639)

Later, in his direct, Mr. Liney testified as follows:

“Well again, as I originally conceived it, it was a Lingan/Phalen project, and a Phalen-only element gradually developed, there’s no doubt about that, and the Phalen-only descriptions took place at the meetings with Des Smith in Calgary. But I would suggest that I had written the conclusions before those discussions and therefore, ah, it hadn’t been on my mind in Sydney to make a Phalen-only conclusion. And then Phalen-only conclusions were added both jointly and separately at the meeting and subsequent to the meeting in my absence. ***But I mean we did develop a Phalen-only scenario. We did modify Table 9 at the meeting, included...there was a split then in the report to look at it as a total and to look at it separate***, and ah, presumably a paragraph at some stage found its way into the executive summary to fit that scenario. But I mean all I can say on that is it clearly wasn’t in the format of the original report, otherwise it would have been in the conclusions.”  
(Emphasis added)

In summary, it is clear from Mr. Liney’s testimony and a review of Draft 3 (Ex. 2, Vol. 3, Tab 98) and the Final Report (Ex. 1, Vol. 12, Tab 296) that there was a significant change in the thrust of the Report (from Lingan and Phalen to Phalen only) as a result of the Calgary meetings. It is also apparent that substantial alterations were made to Mr. Liney’s original work prior to the release of the Final Report, some with and some without Mr. Liney’s knowledge and agreement. The effect of those changes and deletions was to emphasize the positive and downplay the negative and to give the impression that Phalen alone could support the Venture scheme on the basis of conventional cross-measures drainage.

I am satisfied however that neither Keith McCandlish nor Desmond Smith appreciated the fact that the data in the Report meant that Phalen alone could not support the project. I do not accept Devco’s argument that the changes in the Report demonstrate an intention to deceive.



That argument ignores the fact that significant cautionary statements remain in the Report. The first three paragraphs of Section 5.7, for example, pp. 44 and 45 read as follows:

“5.7    Limitations on Study Methods (Phalen)

The basic limitation on study accuracy is the absence of borehole data for the in-situ gas contents. However, all calculations have taken the lowest figure for in-situ gas content estimation and it is believed that errors are +10% - 0%.

Seam thickness and location data are also weak. Particularly in the vicinity of present Phalen workings. However, rate of change is slight, the seams being regular and prediction variation between boreholes is small except for variation in assumed methane content.

The absence of any data on in-situ gas pressure and permeability is a major problem for general prediction work. Great confidence is placed on the assumption of low permeability and under pressured gas and, in any case, the presence of these features would enhance both total yield and drainage capture predictions.”

Similar cautions are noted on pages 18, 19 and 27 of the Report. Although the changes which were made are significant, I do not believe they were deceitful. While some cautionary passages were removed, obvious similar passages were retained. The worst I can conclude is that Mr. McCandlish (and Mr. Craven) became too involved in assisting Mr. Smith with “pitching” the project. This is a case where the facts were inadvertently skewed by an over-enthusiastic sales pitch.

***The Liney February, 1993 Report to Devco:*** At the time of the Lingan flooding Bob Cooper was the Vice-President of Engineering and Safety. He had transferred to that position at the

end of September, 1992 from Human Resources when Roy MacLean retired as Director of Mining Engineering. Implementation of Devco's work on the Venture project fell under his Department. The Engineering Department was proceeding with its work on the Venture project. The understanding of those involved in engineering was that Venture would receive Lingan gas starting on April 1, 1993. They were proceeding on that basis and that the Phalen pipeline would be constructed by the end of 1993 with Phalen gas available in 1994.

Mr. Cooper's time during the weeks following the Lingan flooding was almost completely occupied with issues arising from that event, including the resumption of operations in the Phalen colliery. Mr. Cooper was able to turn his attention to the Venture project in December 1992. He testified as follows concerning his reading of the AMCL Gas Report (January 31, 2001):

- a. the issue for him was methane drainage in retreat and how that would be performed;
- b. he had no views as to the Phalen gas supply. He said that Devco had to get on with the job of getting the pipeline installed and the system up. He had no concerns as to sufficiency of supply. He assumed that was in hand and had been evaluated by others;
- c. Mr. Cooper's experience to that time with methane drainage had been with methane drainage in advance and that drainage was for safety reasons. He had no prior experience with utilization schemes whatsoever, nor and any experience with gas turbines or with the efficiency of gas turbines;
- d. Mr. Cooper asked for the reports available on the project. He received the AMCL Pipeline Report and the AMCL Gas Report. The AMCL Pipeline Report in Mr. Cooper's opinion described fairly well how the methane drainage would be operated. He still had some concerns and questions—the system was explained in a general sense, but he thought that

Devco should get some more detail and more information;

- e. Mr. Cooper received the AMCL Gas Report late in December, 1992. That Report did not address the issue of how to operate the system to get the gas. Mr. Cooper read Table 9. He said that he was reading it a certain way which indicated to him that perhaps Phalen would not produce enough gas to produce 4 MW. But, he also felt that the text was at odds with the Table on that point;
- f. Mr. Cooper noted that Table 9 was not easy to understand and that he got some impressions from it. He had difficulty in that what he read on the previous page (Ex. 1, Vol. 12, Tab 296, p. 43) was something different, it seemed to Mr. Cooper to be at odds with the Table. He referred to the paragraph under Table 8 and the following:

The projected methane yields available to capture and the anticipated drained flows are shown in Table 9 for the 20 year period. This shows Phalen Colliery alone could sustain a 4MW plant (12MW of gross energy requirement) from 1997 assuming 80% of extracted throughput of the extraction plant were utilised. On the same assumption, in 1993 (proposed commissioning of generator) 11.75MW of energy at 80% utilisation would generate 3.88MW (46 week production year).

He said that the text seems to say that in 1993 you could expect 11.75 MW at 80% utilization and that 4 MW would be achieved 1997 onward at 80% utilization;

- g. to Mr. Cooper's reading, however, the Table said solid highlighted box exceeds the 12 MW and understood from that depiction that 1993 was outside the box unless a capture rate of 80% were achieved. Mr. Cooper had been drawn to 60% capture column as that is a capture efficiency to which he was accustomed. His opinion based on his experience was

that 80% capture was not reasonable.

- h. there was a discrepancy between the text and the Table. This was based on his examination of the 60% capture efficiency column; The text said you needed only 80% utilization to produce 11.75 MW. The Table said you needed 100% utilization to produce the same result;
- i. Mr. Cooper read the shaded box showing 80% utilization as saying that after 2007 the project could have enough gas to generate 4 MW at 80% utilization and 60% capture. This was different from the text. He read the text to say it was after 1997;
- j. Mr. Cooper did not have real familiarity with the concept of utilization. He did think that 100% was not realistic. Production of methane would vary, day to day and week to week. Sometimes would be not enough and sometimes too much. He did not know what the right number was , but did not think 100% was reasonable;
- k. in his consideration of Table 9 Mr. Cooper did not analyse the 33.3% efficiency upon which Table 9 was premised. He did not know, one way or the other, whether that was a reasonable efficiency;

1.      having read the Report, Mr. Cooper did not turn his mind to or make calculations as to what the indicated generation was.

Mr. Cooper said that he went to Keith Crocker late in December, and said it looked like something was not right in the Table. Mr. Cooper said that he had concerns. If he read the rest of the Report it said there was enough gas. But he read the Table otherwise and was confused.

Mr. Cooper said that at this point the plan for the project was to keep working and get the required volume of gas. On Mr. Cooper's instructions Gary Ellerbrok was sent to the U.K. to study drainage in retreat. Mr. Cooper said that he still had concerns as to how to do methane drainage in retreat, especially behind the face. He wanted one of the Devco people to see it being done somewhere else. Sending people to have a look at operations elsewhere was something which Devco was accustomed to doing when needed.

One thing which Mr. Cooper instructed Mr. Ellerbrok to do while in the U.K. was to meet with Mr. Liney. Mr. Cooper agreed that Mr. Ellerbrok's diary note for January 21, 1993 (Ex. 1, vol. 1, Tab 1, p. 113) that Mr. Cooper had asked him to "find out from Liney what must be done to get 4 MW from Phalen gas and when" was correct. Mr. Cooper said the issue was how we could get the Phalen to produce the gas for the project, and when we could get that in place.

Mr. Cooper was directed to the fact that Mr. Ellerbrok had recorded nothing in his notes of his instructions for his trip to England and his instructions to speak to Mr. Liney relating to Mr. Cooper's concerns from his reading of the AMCL Gas Report as to insufficient gas from Phalen. Mr. Cooper responded as follows:

- a.      "It was more the other way." The instruction was "ask Andy how do we get the 4 MW of power from Phalen that was the gist--not whether there was

enough”; and

- b.      at that point Mr. Cooper truly believed there was enough gas from Phalen.

Mr. Ellerbrok visited Mr. Liney at his home in the U.K. At that time Mr. Liney was still recovering from a mining accident in Australia in June, 1992 which had left him a paraplegic. Mr. Ellerbrok recorded the following in his diary of his discussion with Mr. Liney concerning the Phalen gas supply (Ex. 1, Vol. 1, Tab 1, p. 131): “He made a point with me that his report indicates not enough gas for a 4 MW generating station.”

Mr. Ellerbrok returned from the U.K. and a debriefing session was held at the General Mining Building on Wednesday, February 3, 1993. Mr. Ellerbrok recorded this meeting in his diary at page 139. Mr. Cooper said that the main issue discussed was Mr. Liney’s advice that without Lingan there was not sufficient gas to support the 4 MW project. As a result, Mr. Boutilier instructed that Mr. Liney be hired to find out what gas was available now and what Devco had to do to get it before spending more money on the project (per Mr. Ellerbrok’s diary, p. 140). Mr. Liney was to be brought to Cape Breton as quickly as possible. As set out in the Consultant’s Engagement Request which authorized Mr. Liney’s retention (Ex. 1, Vol. 20, Tab 648), Mr. Liney was to assess whether there was sufficient gas from Phalen alone for 4 MW and what had to be done to get the gas.

Mr. Liney did attend in Cape Breton the following week. He carried out a further investigation, obtained additional data as available and was provided with the then-current Five Year Sequence Chart, drawing 508-P.

Mr. Liney met with Devco officials including Mr. Cooper and Mr. Ellerbrok on February 11, 1993. During the meeting, Mr. Liney said that he had told TAI (Desmond Smith) that the project was marginal to say the least. The gist of his presentation to the meeting was that AMCL and Smith had deliberately crafted a misleading report – that they knew the report suggested that Phalen alone was sufficient but that they knew otherwise. Indeed, this proposition is the central theme of Devco’s post-trial submission to me. I do not accept it.

I have examined the evidence carefully and, in particular, have reviewed the full transcript of the evidence of Desmond Smith. Some of the evidence is troublesome. I had difficulty accepting that someone as bright and capable as Desmond Smith would not appreciate the true meaning of the Report. On the other hand, having observed him on the stand, and having weighed his evidence, I came away with the overall impression that Desmond Smith believed that Phalen Colliery alone could fuel the project.

It was telling when he was confronted in cross-examination with the conclusions of the two reports. Even then, it appeared that he had great difficulty grasping that Liney’s 1993 Report and the AMCL/Liney 1991 Report came to the same conclusion – that Phalen alone was not sufficient. Smith seemed particularly perplexed when advised that AMCL’s top man Alan Craven had agreed in his evidence that the two reports meant the same thing. After all, Smith had met with Craven following receipt of the 1993 Report and had gotten Craven’s assurance that AMCL stood behind its 1991 conclusions.

Desmond Smith may have been over eager to get the Project going. Somehow he missed the true import of Mr. Liney’s 1991 data. He may, as Mr. Liney suggested, been suffering from “information overload”. Smith had no background in gas collection and utilization for

electrical generation. But Desmond Smith did not *knowingly* present Devco with a misleading gas Report. He, and therefore Venture, were as mistaken about the meaning of the 1991 Report as Devco was.

Mr. Cooper's notes of the February 11, 1993 meeting with Mr. Liney recorded the factors which Mr. Liney advised would have to be met to generate 4MW from Phalen:

- i. Devco had to meet production targets from Phalen. Mr. Cooper said that they wanted to do that;
  - ii. Efficiency of 33%. Mr. Liney used the term "combined cycle". He said that he did not think Venture's turbine was that efficient;
  - iii. Successful longhole test. Mr. Cooper had not been involved in the longhole experiment. He did understand from the meeting generally what was involved and that the connection of this to generating 4 MW was that was the only way to increase the capture efficiency to 80%, otherwise the figure was 60% capture. He also said that he understood while 80% capture might be possible, there was some risk to that as well. Liney said it was very expensive and he arranged to have Boyles send an estimate of the cost of the hole;
  - iv. computerized control of the gas plant. This was not part of the project to Mr. Cooper's knowledge;
  - v. no other supply of gas available. That was correct.
- c. Mr. Cooper said that as a result of the meeting Mr. Liney was to return to the U.K. and submit his final Report. Decisions would be made from there, but things did not look good to Mr. Cooper. From his point of view he had serious concerns about several of



Mr. Liney's points and no opinion on others. Mr. Cooper had the biggest concern about capture and the longhole process.

Mr. Liney's Report arrived near the end of February (Ex. 1, Vol. 20, Tab 653). Mr. Cooper said that he read the report and that he concluded from that report that the methane project could not go ahead. He said that he looked at the tables at the back of the Report. Based on those and the discussions with Mr. Liney he concluded that they were a long way from meeting the 4 MW requirement:

- a. Page 47, Table 4. This is the Table to which Mr. Cooper referred. He said that it was similar to but not the same as Table 9. There were no boxes and no shading. There was no "100% utilization". Mr. Liney had advised his opinion that 100% was unrealistic;
- b. Table 9 there was a 46 week year expressed in millions of cubic metres. Here, the volume is expressed in l/s;
- c. Mr. Cooper explained how he read the Table:
  - i. he understood that 427 l/s was required for 4 MW. That was the number against which to compare the gas make. He referred specifically to the very bottom statement: 427 l/s is sufficient for 4 MW net at 25% efficiency (Mr. Liney's 427 l/s figure did not take into account parasitic power for the Extraction Plant pumps. Further, Mr. Liney made no calculations of electrical generation at less than full fuel load taking into account the factor of reduced efficiency);
  - ii. his understanding was then, based on Mr. Liney, that the turbine had an efficiency of 25%, not 33%;

- d. Mr. Cooper then compared the left hand column of Table 4, 80% utilization and capture of 60% and compared those numbers to the 427 l/s figure. That could be done for each of the years. He said that he chose the 60% capture because in his experience 60% would be really good capture for Devco;
- e. that analysis then took Mr. Cooper to column "C". He compared those numbers to 427 and noted that they were not even close to the amount of gas required to produce 4 MW;
- f. Mr. Cooper said that he did not know anything about the efficiency of the turbine and did not know to discount the efficiency for lower efficiency with smaller volumes of flow;
- g. Mr. Cooper concluded from this review that they were not even close to generating 4 MW, not at any point in time. He noted that in some cases the flow was almost half that amount.

There was some discussion about Mr. Liney's Report and the conclusions from it with various people. There was discussion among Ernie Boutilier, Merrill Buchanan and Keith Crocker. The conclusion reached was that the project would not go ahead.

Mr. Cooper testified that the conclusion was reached because the project would fail on an economic basis if it went ahead. It was not possible to supply the necessary gas to produce the power.

Mr. Liney's Conclusions as to what was required to generate 4 MW were set out at page 38 of the Report as follows:

**CONCLUSIONS:**

- (a) the successful introduction of long hole roof strata post drainage, and achievement of 80% capture

- (b) computer control of the surface methane exhauster plant and underground system and achievement of 80% utilisation
- (c) a combined cycle generation scheme with a net efficiency of about 33%

Mr. Liney testified as follows as to his view of the likelihood of meeting those conditions:

“A. Well condition ‘A’, the successful implementation of a long hole roof drainage, my conclusions couldn’t have changed because nothing has happened. There’d been no experiment, no further evidence as to whether it would or would not have worked. And in the absence of an experiment my conclusion was you couldn’t proceed on that basis. If an experiment had gone ahead my conclusion would have been so modified depending on the results of that experiment. As I stood in 1993, I could not really advise that that was an assumption that could be drawn. Item ‘B’, I suppose late in the day that could still have been incorporated. It depends exactly as of ‘93 when the project was supposed to go ahead. I mean with a 12-month lead time, which I’m sure it would have required to have got gas up and running from Phalen. There’s no doubt the methane plant could have been modified in that time scale, so really that is feasible except for the fact that as far as I understood it there was no intention to do that. Ah, and a combined cycle scheme, really, that’s back to the drawing board. If we’d got to 1993 and they hadn’t purchased a combined cycle scheme, then really it wasn’t very likely that it could be retrofitted, essentially. (April 18, 2001, pp. 787)

Having examined the project again in 1993, Mr. Liney testified as to his conclusion on the viability of the project:

“Q. So therefore having done your analysis and stated those conclusions, what was your view as to the prospects for success of the scheme with conventional drainage and without combined cycle with or without computer control?

- A. It was *definitely a nonstarter*. There was *no way you could have proceeded* on those assumptions. (April 18, 2001, p. 788, Emphasis Added)”

Mr. Liney testified that the best he could recommend for the project was 60% capture efficiency, 25% turbine efficiency (based on Venture’s decision to purchase a simple gas turbine) and the appropriate utilization factor depending upon control of the Extraction Plant.

In order to illustrate the electrical generation which would be expected resulting from his February, 1993 analysis and incorporating Venture’s simple gas turbine, Mr. Liney produced calculations, Ex. 2, Vol. 6, Tab 225. Using a capture efficiency of 60%, utilization at 80% (the maximum with computer control) and turbine efficiency taken from Graph 6, Mr. Liney testified as to the following results:

- a. The highest monthly flow in 1993-94 was projected at 369 l/s. This calculated to electrical generation of 2.98 MW;
- b. The lowest monthly flow in 1993-94 was projected at 194 l/s. This calculated to electrical generation of 0.65 MW;
- c. The average monthly flow for the year 1996-97 was 338 l/s. This calculated to electrical generation of 2.54 MW.

Having reviewed these parameters and the projected electrical generation, Mr. Liney testified as follows:

“Q. So then, Mr. Liney, again coming back to the scenario of conventional drainage, 25 percent efficiency turbine and with or without computer control, what was your advice to Devco as of February 1993 about this scheme?

A. With the 25 percent nominal efficiency turbine there

was no scheme regardless really (sic) of the other parameters. (April 18, 2001, p. 795)”

Selection of the simple gas turbine was entirely Venture’s decision. That decision alone doomed the project to any chance of success even assuming successful longhole drilling (which was not going to be done and which would not have worked).

The difference between the 1991 AMCL Gas Report and Mr. Liney’s February, 1993 Report is that the latter report states clearly what is obscure in the AMCL Gas Report. The Conclusions in fact are the same.

*The Venture Expert Derek Steele:* I allowed Mr. Steele to give expert opinion evidence in the field of mine engineering as it relates to underground coal mining. In particular, I permitted him to give opinion evidence regarding;

- (a) ground control and subsidence, and
- (b) ventilation: methane control and drainage.

By the end of the trial, it was obvious that Mr. Steele’s evidence had been almost entirely discredited. In many areas of his testimony, Mr. Steele was not up to date on developments and experience. He has no experience, for example, in utilization of methane and electrical

generation. Yet, he not only expressed opinions in these areas but went so far as to say that the Devco expert witnesses, who have far better qualifications and experience, were wrong.

In cross-examination, Mr. Steele was argumentative and evasive. He stubbornly refused to admit error even when his error was demonstrable. He was an advocate for his client.

Sopinka, Lederman and Bryant on *The Law of Evidence in Canada* (2nd Edition, p. 624, para. 12.44)

state as follows:

“The expert witness should provide independent assistance to the court and should not assume the role of an advocate. An expert should state the facts or assumptions upon which his or her opinion is based and should not omit to consider material facts which weaken his or her opinion.”

I will deal briefly with some of Mr. Steele’s evidence in order to demonstrate why I am giving it no weight.

Derek Steele expressed the opinion that methane emitted from Phalen Colliery by conventional cross-measures drainage was sufficient for Venture’s 4MW scheme for the 20 year term (Gas Report, Ex. 5, p. 16). This opinion was based on the following:

- a. an analysis of projected generation during 1993-94 (Report, Revised p. 15); and
- b. increased gas emissions during later years because of mining at greater depths and at a corresponding level of coal production resulting in at least as much generation as the 1993-94 year (Report, p. 16).

Mr. Steele analysed and expressed an opinion on electrical generation for the one year only. He expressed no opinion on electrical generation numbers for any subsequent year.

Further, Mr. Steele purported to predict what the generation would have been for the year 1993-94 had the project proceeded, had there been a drainage system in Phalen and had production been in accordance with the 5 Year Sequence Chart 508-P (found at Ex. 1, Vol. 20, Tab 653) and at the depth projected by 508-P (Report, p. 14 and Table 2). As such, as Mr. Steele was attempting to predict generation for a particular year based on forecast production for that year, it was incumbent upon him to use all data and assumptions relevant to that year in his analysis.

Mr. Steele's analysis comprised the following steps:

- a. Prediction of the Methane Emission Rate for 1993-94;
- b. Calculation of the Annual Rate of Methane Production Arising from Wall Operations (multiplication of the Methane Emission Rate by annual rate of coal production from walls);
- c. Calculation of Annual Methane Availability by the application of a Capture Efficiency;
- d. Calculation of the Rate of Methane Availability based on a 48 week year;
- e. Calculation of the Chemical Energy of Available Methane;
- f. Generating Capacity Calculated from Turbine Efficiency;
- g. Deduction of Parasitic Electricity;
- h. Final calculation of Net Generation available for sale.

Mr. Steele's analysis is fundamentally flawed. By Mr. Steele's own admission, application of the appropriate factors to his analysis demonstrates conclusively that methane emitted

from Phalen Colliery by conventional cross-measures drainage was insufficient for Venture's 4MW scheme.

On a preliminary note, Mr. Steele misinterpreted the manner in which Table 9 (p. 43) of the AMCL Report had been prepared. He concluded that the emission calculations set out in Table 4 applied against tonnage had been used to calculate the gas volumes set out in Table 9. That is wrong. (Cross Examination, October 26, 2000, pp. 73 - 76). As appears from the text of the Report, Table 4 represents only emission predictions based on a generalized stratigraphic column and does not purport to be specific to Phalen, let alone 4 East. Further, it also appears from the Report that the Table 4 analysis was only used to validate the method adopted by Mr. Liney and then was not used further in the analysis. Rather, the gas volumes set out in Table 9 were calculated from borehole logs most appropriate for projected mining during the various years of the study. Mr. Steele was not able to reconcile AMCL Table 4 to AMCL Table 9, and expressed considerable concern about that in the course of his evidence, but did not seek the assistance of AMCL in understanding the Report. His explanation for not so doing was not persuasive. Mr. Steele felt that it would not have been appropriate for him to have contacted AMCL for clarification on how the calculations were made, due to the fact that AMCL issued reports to both parties of this litigation. It appears that Mr. Steele was willing to allow the issue to remain unresolved, even though it was paramount to the proper performance of his expert opinion. (Cross Examination, November 27, 2000, pp. 83 - 87).

Mr. Steele did not attempt to undertake his own methane emission prediction. Indeed, he was not qualified to undertake that exercise. Rather:

- a. Mr. Steele used AMCL Table 4 (Ex. 1, Vol. 12, Tab



296, p. 32) to which he made certain adjustments to calculate the predicted rate of emissions in cubic metres per tonne;

- b. he then multiplied those emissions by the longwall projected run-of-mine tonnage for 1993-94 from 508-P to calculate the “Annual rate of methane production arising from wall operations” (Report, Revised p. 15).

The method of analysis contained within AMCL Table 4 and Mr. Steele Table 2 were reviewed in detail in the evidence. I do not intend to summarize that evidence here except to the extent necessary. In essence, the predicted rate of emission expressed in cubic metres per tonne is calculated by multiplying:

- a. the relative thickness of the seam in question to the thickness of the mined seam (this is determined by a calculation of the height of the individual seams in relation to the mined seam. The significance of this initial calculation and the use of the relative thickness is noted below) times;
- b. the degree of degassing of the seam in question resulting from the mining of the mined seam (determined from a table or by on site measurements and observations) times;
- c. the in-situ methane content of the seam in question.

The result of this calculation is the rate of emission of methane expressed in cubic metres per tonne.

Mr. Steele adopted the AMCL method, but he made two adjustments to AMCL Table 4:

- a. he increased the Degree of Degassing of the Phalen seam from 20% used by AMCL to 40%. As no gas emitted from the mined seam is amenable to capture

by the drainage system, this change should be irrelevant. However, having regard to the method used by Mr. Steele in the calculation of annual methane relating to his use of the capture rate, the effect was to increase the calculated methane captured; and

- b. he increased the in-situ methane content in accordance with his reading of AMCL Table 6 (AMCL Report, p. 39) from 4 East (the wall for which the AMCL analysis had been undertaken) to 6 East where mining would have been undertaken as forecast by 508-P. This had the effect of increasing the calculated emissions.

### **Correction for Depth**

Mr. Steele's adjustment for depth was incorrect. Mr. Steele added the "Adjustment Factor" from the second section of AMCL Table 6 (p. 39) to the "Methane Content" column of AMCL Table 4 (p. 32) to calculate the new Methane Content at the depth of 6 East (Steele Table 2). This resulted in the following Methane Content numbers:

Harbour	7.28
Bouthillier	7.62
Backpit	7.78
Phalen	7.95

Mr. Steele also developed his own number, 7.98, for the Emery seam.

In fact, the second section of AMCL Table 6 (p. 39) to the "Methane Content" column of AMCL Table 4 (p. 32) is in error. The text of the AMCL Report dealing with "Variation with Depth" is found at pages 23 and 26. The Report states as follows at page 26:

To fit the known data, the following gradients were assumed:

- Increased desorbable methane content with depth, 0.7 m<sup>3</sup> /tonne/100 m. ...

- Increased seam gas content in the same seam with depth:
- Harbour seam 0.5 m<sup>3</sup> /tonne/100 m
- Phalen seam 0.25 m<sup>3</sup> /tonne/100 m.

Other seams were interpolated from this data in the absence of other reliable information. (Ex. 1, Vol. 12, Tab 296)

On a reading of the AMCL Report it is clear that the adjustment advised is 0.7 m<sup>3</sup>/tonne per 100 metres of depth increase between seams and 0.5 m<sup>3</sup>/tonne per 100 metres of depth increase within the Harbour seam and 0.25 m<sup>3</sup>/tonne within the Phalen seam. As such, the numbers in the second section of AMCL Table 6 (p. 39) to the “Methane Content” column of AMCL Table 4 (p. 32) are overstated by 0.7 m<sup>3</sup>/tonne because the increase between seams has been taken twice, once in the first section of Table 6 and again in the second section. The numbers in Mr. Steele’s Table 2 should have been:

Harbour	6.58
Bouthillier	6.87
Backpit	7.03
Phalen	7.25

The effect on Mr. Steele’s calculation of the predicted emission rate for 1993-94 was calculated on Spreadsheet 2 (Ex. 2, Vol. 4, part of Tab 145). This demonstrated that this correction reduced the emission rate for the Backpit, Bouthillier and Phalen seams (the seams which Mr. Steele used in his analysis) from 10.53 m<sup>3</sup>/tonne on Table 2 to 9.58 m<sup>3</sup>/tonne.

Mr. Steele was cross-examined at length on this error in his analysis. Although he was clearly wrong, he stubbornly refused to admit that the calculation of “*Adjustment Factor*” in Table 6 of the AMCL Report was incorrect having regard to the text. There can be no doubt that

Mr. Steele's Table 2 calculation of methane content from AMCL Table 4 is incorrect because of the error in the "adjustment factor" section of AMCL Table 6. A plain reading of the text at page 26 in comparison to the Table shows this.

The correct Methane Content figures for use in Mr. Steele's analysis are as shown on Spreadsheet 2 and on Spreadsheet 3 when combined with the correction for seam height discussed below (Ex. 2, Vol. 4, part of Tab 145).

***Correction for Phalen Seam Height:*** The method followed by Mr. Steele to calculate predicted methane emissions over a one year period was to prepare his Table 2 which calculated emissions per tonne of coal and then to multiply that figure by the total number of tonnes expected to be produced.

However, the use of an emission figure expressed on a per tonne basis and multiplication by tonnes of production is a calculation device only for this method:

- a. Emission of methane is not related to tonnes of coal mined, it is related to the area of coal disturbed by the mining activity, the zone of disturbance (Creedy, April 23, 2001, pp. 54 - 59) and (Ex. 52, Sketch DPC-14);
- b. Therefore, what has to be determined is the rate of advance expected, not the expected tonnage. Indeed, tonnage is not one of the inputs in FPPROG; (a computer program used for such calculations.)
- c. with a given seam height the rate of advance can be calculated for a given annual tonnage. Simply put, if the same tonnage were produced, but the seam thickness were doubled, the rate of advance required for that production would be only half and consequently the emissions would be reduced by

one-half. Conversely, if the seam height were reduced by one-half the rate of advance required for that production would be double and the emissions would be doubled.

Mr. Steele's method is in fact based on rate of advance:

- a. this is accomplished by including the heights of the relevant seams and then calculating the thickness of the other seams relative to the height of the mined seam;
- b. that number is one of the factors in the calculation of the predicted rate of emission;
- c. so, again, applying Mr. Steele's method, if by example the mined seam height were reduced by half, the ratio of the other seams to the mined seam would be doubled and twice the emissions from those seams would be predicted. This then effectively takes rate of advance into consideration;
- d. however, it is important that the calculation of the seam height and the calculation of the tonnes by which the calculated emissions per tonne are multiplied be on a consistent basis. If not, the result will be overstated or understated depending on the variation in the basis of the calculations.

This concept is critical to a consideration of Mr. Steele's analysis and opinion of electrical generation:

- a. Mr. Steele proceeded on the basis of predicting electrical generation for the year 1993-94;
- b. he used 508-P to provide the annual tonnage against which he planned to multiply his calculated emissions per tonne;

- c. 508-P also provided the total advance expected to produce that tonnage, 2,929 metres. That determined the zone of disturbance from which methane would be emitted as a result of the mining activity;
- d. accordingly, applying Mr. Steele's method, it was essential that he utilize the seam height for the Phalen seam upon which 508-P was based in his Table 2 calculations:
  - i if the seam height which he used was too high, he would predict a lesser rate of advance for the year by reducing the ratio of the other seam heights to the mined seam. The effect of this would be to understate the emissions on a per tonne basis;
  - ii if the seam height which he used was too low, he would predict a greater rate of advance for the year by increasing the ratio of the other seam heights to the mined seam. The effect of this would be to overstate the emissions on a per tonne basis.

Mr. Steele's Table 2 calculation was based on Phalen seam height of 1.82 metres

taken from the generalized stratigraphic column:

- a. Using a number of assumptions as to added moisture, added floor dirt, face length and density of coal (all of which were later proved in the testimony of Steve Forgeron and his calculations, Ex. 2, Vol. 6, Tab 216) and the annual tonnage taken from 508-P, Mr. Steele calculated a required rate of advance of 3,757 metres. (Steele, November 28, 2000, pp. 287-88). This is far more than the 2,929 metres set out in 508-P. It would result in a far larger zone of disturbance and consequently considerably greater gas emissions than the rate of advance which would have resulted from 508-P for the 1993-94 year;

- b.      using the same assumptions and assuming only 2,929 metres of advance, Mr. Steele calculated run-of-mine production of only 1.7 million tonnes if the seam height were 1.82 metres; (Steele, November 28, 2000, pp. 274-81).

The problem was that the seam height for the Phalen seam used in the 508-P calculations was 2.35 metres consistent with the seam height known in that vicinity (testimony of Steve Forgeron and his calculations, Ex. 2, Vol. 6, Tab 216), not 1.82 metres which Mr. Steele used in his Table 2 analysis. The effect of using the reduced seam height as noted above was to require a greater rate of advance to produce the fixed tonnage, thereby increasing the zone of disturbance beyond that forecast by 508-P and in the result overstating the expected emissions.

Mr. Steele agreed that it was appropriate to use the Phalen seam height used in the 508-P calculations in his analysis as he was attempting to predict electrical generation for the 1993-94 year and he had used the projected tonnage for that year as the basis of his analysis. (Steele, November 28, 2000, pp. 325 - 29). Spreadsheet 1 (Ex. 2, Vol. 4, part of Tab 145) shows the effect on calculated emissions of substituting the correct seam height of 2.35 metres for the 1.82 metres used by Mr. Steele. The rate of emissions used by Mr. Steele in his calculations is reduced from 10.53 m<sup>3</sup>/tonne to 8.84 m<sup>3</sup>/tonne.

I therefore conclude that Mr. Steele's Table 2 analysis was incorrect in the seam height applied to the Phalen seam and the variation for depth taken from the AMCL Gas Report. Both adjustments must be taken as calculated in Spreadsheet 3 (Ex. 2, Vol. 4, part of Tab 145) which is produced overleaf. The rate of emissions used by Mr. Steele in his calculations is reduced from 10.53 m<sup>3</sup>/tonne to 8.05 m<sup>3</sup>/tonne.

**TABLE 2**  
**PREDICTED METHANE EMISSION, APRIL 1, 1993 - APRIL 1, 1994**  
(Dames & Moore Gas Report, November 1998)

<b>SEAM</b>	<b>DISTANCE FROM PHALEN SEAM (m)</b>	<b>SEAM THICKNESS (m)</b>	<b>THICKNESS RELATIVE TO PHALEN SEAM</b>	<b>DEGREE OF DEGASSING</b>	<b>METHANE CONTENT (m<sup>3</sup>/t)</b>	<b>METHANE EMISSION (m<sup>3</sup>/t)</b>
Harbour	131	2.40	1.02	0.40	6.58	2.68
Bouthillier	55	0.80	0.34	0.82	6.92	1.93
Backpit	32	1.18	0.50	0.91	7.08	3.22
Phalen		2.35	1.00	0.40	7.25	2.90
Emery	-40	1.20	0.51	0.87	7.98	3.54

Total Methane Emission all seams	14.28
Total Methane Emission, excluding Harbour Seam	11.59
Total Methane Emission, excluding Harbour and Emery Seam	8.05
Total Methane Emission, excluding Harbour and Emery and Phalen Seam: (Roof Seams only)	5.15

**METHANE EMISSION CALCULATION**  
**Exhibit 2 Tab 145 Spreadsheet 3**

**Variation for Seam Height and Depth Adjustment.**



The AMCL Gas Report had considered only the roof seams as available for capture and had included only the emissions from those seams in this calculation. Mr. Steele included the roof seams and the Phalen seam emissions in his calculation of Annual Rate of Methane Production Arising from Wall Operations. Mr. Steele’s approach in that respect will be addressed below in the discussion of Capture Efficiency. That said, applying the corrections to Mr. Steele’s Table 2, the rate of methane emission per tonne is calculated as follows (Spreadsheet 3, Ex. 2, Vol. 4, part of Tab145):

Backpit and Boutilier Seams	5.15 cu. m./tonne
Backpit, Boutilier and Phalen Seams	8.05 cu. m./tonne

Mr. Steele’s use of the incorrect seam height in his analysis, thereby overstating the gas emission rate and the annual rate of methane production is illustrative of the difficulty with his evidence. It could not have been an oversight. Mr. Steele’s Gas Report is dated November, 1998. In that Report, Mr. Steele used 1.82 metres as the seam height for the Phalen seam in his calculations. Mr. Steele then had only recently released his Water Report dated July, 1998 (Ex. 4). In that Report he noted that when Phalen 5 East resumed full extraction in September, 1992 extraction “...thereafter ranged between 2.5 and 2.64 m (8.2 and 8.7 ft)” (Report, p. 25). Mr. Steele was critical of Devco in relation to that extraction height: “...the most important operating parameters that impacted the overlying Harbour Seam were the wall length and extraction height.” (Report, p. 27). Mr. Steele obviously was aware of the seam height, but chose to ignore it in preparing the Gas Report.

Mr. Steele agreed that he should have used the correct seam height. I queried him on why he had not and he replied that had he done so ... “I thought all I was doing was introducing contention...”. His answer is as puzzling as it is unsatisfactory.

It is obvious that if Mr. Steele was attempting to predict emissions for the 1993-94 year based on projected tonnage, then he had to use the actual seam height. It is equally obvious that using the actual projected tonnage and a materially lower seam height in his calculations would materially overstate predicted emissions. Mr. Steele knew all of this and knew the actual seam height. The only conclusion I can draw is that Mr. Steele consciously chose to use the 1.82 metre seam height knowing that he was thereby overstating the predicted emissions.

Similarly, Mr. Steele was in error in the calculation of the annual rate of methane production arising from wall operations (gas available for capture). Having undertaken a calculation of the rate of emission per tonne, Mr. Steele then proceeded with the analysis set out at Revised page 15 of his Report. The first step in that analysis was to multiply the predicted emissions per tonne by the annual tonnage. Mr. Steele used 2,188,000 tonnes (Report, p. 14).

Mr. Steele multiplied his calculated rate of emission per tonne by the run-of-mine tonnage from 508-P. This was obviously in error as Mr. Steele was not comparing like with like – he included the added moisture and added floor dirt which was not part of the analysis of the in-situ gas content. In endeavouring to calculate methane emissions for 1993-94 based on the 508-P production projection he should have deducted the added moisture and the floor dirt from the run-of-mine tonnage and should have used the net figure of 2,039,272 tonnes.

The next step in Mr. Steele's analysis was to calculate the volume of gas which could be captured from the gas available for capture. Mr. Steele applied a capture efficiency of 60% to the emission rate from the Backpit, Boutilier and Phalen seams. Mr. Steele's method is flawed and there is no basis for the use of his 60% capture efficiency applied to his method.

Although the evidence on the point is extensive and complicated, I believe Mr. Liney put his finger on the essence of the problem when he testified as follows:

“A.     *...if I took 60 percent of all the gas, ah, I'd be taking 60 percent of the work seam, which clearly and inevitably isn't available to capture; and I'd be taking 60 percent of the floor gas, which I've already discounted. So to take 60 percent of the whole figure would to me be meaningless, certainly in terms ... I think it's not even a debate over the work seam that that gas is unavailable for capture, and I can imagine for example a circumstance where a very thick work seam with very little coal measures in the roof and perhaps a substantial coal seam in the floor, 60 percent of all the gas would exceed the piece you were drilling for, so you'd have to have 150 percent capture in order to achieve the 60 percent of the total. It would be a nonsense.*

Q.     As I understand **Mr. Steele's approach**, he took 60 percent capture efficiency against the total of the Phalen Seam and the roof seams excluding the floor seam. Why did you not take that approach?

A.     *Well, that's neither fish nor fowl. That's neither my approach nor the so-called common field approaches.* I don't understand that approach at all, so I...the reason I wouldn't take that approach is because the suggestion has never been made to me. I certainly wouldn't take that approach because you either...*if you want a globalized figure and you study the whole mine* and you say well just as an interesting figure how much of all the gas coming out of the mine is being captured, *then you take everything. If*

*you're studying the real situation in relation to the face, then you study what is available to capture and you take that, but you can't include one item which is clearly uncapturable and then exclude another item which is uncapturable. That really doesn't make sense.*" (Direct Examination, April 12, 2001, pp. 460-467, Emphasis Added)

Another expert for the Defendant, Dr. David Creedy, supported Mr. Liney's view.

In that regard, Dr. Creedy testified:

"... it is easier just to identify what gas we think is available for capture and the related performance to that amount, and that is the procedure that Mr. Liney adopted and it seems a very sensible and enlightened approach because it separates the ventilation in the (inaudible - unclear)...problem from what the utilization people are trying to achieve."

Further Dr. Creedy explained the difficulty of methane drainage in retreat. He said that the fundamental problem is the difficulty to access to drill boreholes, and then they are quickly out of reach as the face retreats. It is not possible to measure them or deal with them. If one fails or the pipeline behind face breaks, you lose everything. There will be ground movement causing loss of holes. If one hole is damaged, efficiency is lost. He said that it is the inevitable consequence of retreat mining that you will not get high capture efficiencies.

In paragraph 4.12 of his Report (p. 30) Dr. Creedy referred to Mr. Steele's Report and wrote that "they have not considered the practical difficulties". Dr. Creedy said that he there was referring to the high captures suggested by Mr. Steele to apply to Phalen. In Dr. Creedy's opinion, they were inappropriate. He also said that if Mr. Steele knew the problems with drainage associated with retreat mining, he would not have suggested such high figures. I am satisfied that the opinions and reasoning explained by Mr. Liney and by Dr. Creedy are based on their extensive

knowledge and experience in accord with common sense. Their knowledge and experience far exceed the limited knowledge and experience of Mr. Steele in this particular area. I find that Mr. Steele's method of calculating captured gas (including his capture efficiency applied to that method) has no foundation in theory or practice and is not supported by any validation suggested by Mr. Steele. I therefore reject his approach.

Further, with regard to utilization, Mr. Steele's opinion, as expressed in his calculations (Report, Revised p. 15) was that 100% of the gas captured would be burned in the turbine and converted to electricity. Accordingly he took no deduction for a utilization factor. Dr. Creedy, Mr. Liney and the Defendant's expert William Tonks testified that 80% was a more realistic figure and I accept their evidence over Mr. Steele's in this regard. Mr. Steele has no experience whatsoever in methane utilization schemes particularly in the generation of electricity utilizing gas turbines.

Dr. Creedy also testified that it is not possible to do calculations to determine the utilization percentage. Data is not available. It is a matter of judgement as to the utilization percentage. He did note that there are a number of circumstances related to retreat mining which you would expect to result in variations in purity below 40% from time to time. These include the methane collection pipe linking boreholes behind the face becoming damaged. When damaged and broken, the signal then is that air is entering the methane drainage. With air entering, purity will drop.

Dr. Creedy's Report, page 24, para. 3.8. and Figure WA6 page 25, set out the items which he identified for consideration of the utilization percentage:

- 3.8      In practice, a utilisation plant will not use all of the gas supplied by a mine for various reasons:
- methane flows are highly variable (eg Figure WA6) and it would be inappropriate to design a scheme with sufficient utilisation capacity to consume peak gas flows.
  - equipment cannot run continuously and efficiently without regular attention necessitating planned maintenance stoppages. Plant breakdowns can also occur.
  - mining induced breaks in the roof around cross measures methane drainage boreholes inevitably lead to loss of purity sometimes leading to excessive air entering the methane drainage system. Air will also enter the drainage system when new pipes and boreholes are connected. At times, therefore, the concentration of gas arriving at the surface will be too low to use.

For the above reasons, a "utilisation" of 100% of captured gas cannot be achieved.

(Ex. 3, Tab 3, p. 25)

Asked to summarize the circumstances which he took into account in arriving at his utilization percentage, Dr. Creedy said that it would be magic if you could use all the gas. It is a variable, the way you extract the coal, the way you mine inevitably leads to variability of flow and purity. This comment applied to Phalen or to any mine. Advance rates change from week to week. There are face stoppages. Mining is a risky business. There are lots of problems in getting the resource.

Dr. Creedy's opinion was that Mr. Steele's suggestion of 100% utilization was not

a realistic suggestion.

“Q.    And you’re aware that Mr. Steele in his analysis and opinion expressed was that 100 percent of the gas would be utilized?

A.    I understand that is what he suggested.

Q.    And your response to that is what?

A.    I don’t think it’s a realistic suggestion.” (Direct Examination, April 24, 2001, p. 228)

The foregoing I believe is sufficient to illustrate the overall difficulty and inaccuracy of Mr. Steele’s evidence. I am satisfied that Mr. Steele’s cross-examination establishes that Phalen gas alone was insufficient for the project and that the project was not viable from its inception. That point is reinforced by the experts called by the Defendant to which I have made only brief allusion.

*Conclusions and Opinion of Dr. David Creedy:* I was very impressed with Dr. Creedy. His CV is in Tab 4 of Exhibit 3. Dr. Creedy clearly is a world authority on the prediction, management and utilization of methane. He holds a Ph.D. He had many years experience in research and in the practical application of his areas of expertise. He worked with Martin Airey and was instrumental in the development of FPPROG, the standard methane emission prediction program. He wrote the Pocket Calculator Solution which was used by Andy Liney in his work on the AMCL Gas Report. He has published numerous papers and learned articles on the subject. He has been consulted on and has advised on wide range of methane related problems and utilization issues;

I had no hesitation in qualifying him to give expert opinion evidence in firedamp prediction, methane control and methane utilization.

Dr. Creedy summarized his conclusions and opinion as follows:

- a. having examined actual gas emission data from a number of panels in Phalen and the rate of variability in the rate of face retreat (because it is the rate of face retreat that determines gas emissions), the wide variation in rate of retreat would cause a strong variation in gas release which would have led to large variations in gas flows;
- b. this, he said, is not unexpected. There will be variability due to mining problems. This variability is something you would have to take in to account in a utilization scheme. Sometimes there will be no longwalls operating, so no production taking place. Gas flows then would have been very low. And in some periods there would have been one or two coal faces simultaneously in operation with consequent effect on gas emissions;
- c. in the 6 years, 1993 to 1997 - there were about 590 days of production lost due to technical problems on the coal face. That would have resulted in 69% utilization in the absence of other mining risks. If you were to look at other factors in the difficulty in capturing gas and maintaining purity the actual utilization would have been lower;
- d. Dr. Creedy said that the choice of parameters which he made in Table WA 3 was reasonable. He noted that having applied parameters to predicted gas availabilities calculated in 1991 and 1993, his initial calculations (Table WA 4) showed that there was insufficient gas to generate 4 MW. Taking into account the variation in efficiency resulting from lesser fuel load, the picture was even darker (Ex. 2, Vol. 6, Tab 229);
- e. In final conclusion, Dr. Creedy testified that he could



only agree with the fact that in 1993 Devco chose to terminate the agreement . It was the best decision that could have been made.

Dr. Creedy's opinion, accordingly, is in accordance with the advice which Devco received at the relevant time. His evidence demonstrates conclusively that there never was a project as conceived and financed by Venture for 4 MW of generation based on Phalen gas. Similarly, I was impressed by another highly credible expert witness for the Defendant, William Tonks. Bill Tonks is a Chartered Engineer. Mr. Tonks has an impressive practical background and extensive practical experience in ventilation and in the prediction and management of methane as well as in methane utilization. Mr. Tonks was well experienced in the use of methane prediction tools and the real life aspects of the design and operation of methane drainage systems and utilization systems. He brought a unique perspective to the trial evidence. Mr. Tonks concluded in his report: "... gas yields from a conventional methane drainage system would simply not have been sufficient or regular enough for the Venture to have operated a successful project." There is no question that the evidence of Dr. Creedy and Mr. Tonks is accurate.

***Other Possible Sources of Gas for Venture's Generation Scheme:*** As already noted, the AMCL Gas Report and subsequently Mr. Liney's February, 1993 Report comprised the consultants' advice available to Venture and to Devco at the time the CGA and the MOU were entered and later when Devco management decided not to proceed further with Venture's project because Phalen could not produce sufficient gas to support the project. This was the advice available at the time.

Both the AMCL Gas Report and the Liney February, 1993 Report concluded that

only gas emitted from the roof seams in Phalen was available for capture by a conventional cross-measures drainage system. The following possible sources of gas were considered and discounted:

- a. Floorholes
- b. Sealed Workings
- c. Harbour Seam Where Worked Out
- d. Thin Splits of Coal
- e. Gas in Sandstone
- f. Pre-Drainage of the Phalen Seam
- g. Sewergate

I am satisfied that not only did Devco make its decision not to proceed further with the project in accordance with that advice, but also that the advice was correct.

Mr. Steele's Report stated that his electrical generation analysis "*excludes the capture of any methane from the following sources*" (Steele Gas Report, Ex. 4, p. 15 Rev.) which then are listed. I am satisfied that none of these in fact were or could have been sources of gas for the project. In that regard, I accept the evidence of Mr. Liney, Mr. Tonks and Dr. Creedy and reject that of Mr. Steele.

***Longhole Drilling:*** At trial Venture endeavoured to propound through the testimony of certain of its witnesses and through cross-examination of Devco witnesses the theory that Devco was obligated to undertake longhole drilling in an attempt to capture gas for the Venture project. Many hours were spent at trial on this issue. I am satisfied that this should not have been an issue at trial:

- a. in fact longhole drilling never was an element of the Venture project, as both Venture and Devco proceeded on the basis that capture of gas would be

by conventional cross-measures drilling;

- b. the longhole concept proposed by Desmond Smith was theoretical and only at the stage of a planned experiment. Years of trial and experiment would have been necessary to prove the theory as practical and workable in the field;
- c. the evidence I accept was that the economics of the technique, even if it could be applied successfully in practice, were such that it would not have been economically viable for Venture's project;
- d. almost ten years after the AMCL Gas Report, there have been a small number of demonstrations of superincumbent longhole drilling, but it never has been proved as an operational method for methane drainage and is not in use in operating mines anywhere in the world. I therefore disregard any consideration of longhole drilling as an element of this case.

I am satisfied that, as Counsel for Devco so ably put it, even if longhole drilling had been required pursuant to the agreements between Devco and Venture (which it was not) and even if it would have succeeded (which it would not) and even if would have been economic (which it was not), longhole drilling would not have saved Venture's project:

- a. as already noted in Mr. Steele's cross-examination, the spreadsheet analysis (Spreadsheet 3, Ex. 2, Vol. 4, part of Tab 145) demonstrates that by increasing the Phalen seam thickness from 1.82 m to 2.35 m and applying Mr. Steele's 60% capture efficiency to the total of the Phalen and roof seams gas, the indicated capture efficiency of the available roof gas will rise to approximately 93.8% ( $8.05 \times .6 = 4.83$  captured / 5.15 total roof gas).

If Mr. Steele were correct in his approach, it is difficult to imagine how longhole drilling could capture any more gas than Mr. Steele projects;



*Section 5.10 Financial Implications:* There is no doubt but that both Devco and Venture participated in this project on a commercial basis. There was an expectation of economic benefit for both parties.

The commercial nature of the transaction is clear from the course of negotiation of the commercial terms of the deal. Those negotiations centred on the financial viability of the project projecting financial results sufficient to induce Devco to take the risk of participating in the Venture project to the extent of \$1.2 million. It follows that if there never was a commercial basis for Venture's project, if there never was a viable project on the basis of Phalen gas only, then Devco had no obligation to participate further.

That is exactly what Devco realized in February, 1993 on the advice of Andy Liney. There was not and never had been a project based on Phalen gas. To have proceeded with further expenditure of Devco's \$1.2 million contribution would only have been to throw good money after bad. I reject any suggestion by Venture that Devco was required to continue funding Venture's project despite Devco's discovery that in fact there was no project. Devco could not have been expected to continue spending money with the knowledge that there was no project. By so doing, it would have wasted that money when inevitably (and in short order) the project became a financial disaster. The electrical generation which might have been expected from Phalen gas could not possibly support the project as conceived and financed by Venture.

Even Venture's expert, Derek Steele, agreed that the project was not viable based on his Best Case Scenario for 1993-93 even without correction of the adjustment for depth (Spreadsheet A, Ex. 2, Vol. 4, Tab 160). That analysis produced net electrical generation of only 2.43 MW. Mr. Steele agreed that the following financial analysis resulted from that indicated generation based on

Schedule B to the CGA (Ex. 1, Vol. 14, Tab 431):

Gross Revenues per Venture/NSP contract:	\$1,342,000.00
Gas Cost from Devco (calculated at 15% per CGA), a reduction in expenses of \$130,000.00	\$ 201,000.00
Revised Operating Expenses	\$1,239,000.00
Project income before lease payment	\$ 103,000.00
Principal payment to CIBC	\$ 500,000.00
Shortfall after Operating Expenses and CIBC	\$ 397,000.00
Principal Payment	
Lease Payment to Devco	\$ 253,000.00
 Total shortfall	 \$ 650,000.00

Mr. Steele testified as follows on the basis of the foregoing analysis:

“Q. And Mr. Steele, if that’s the appropriate analysis based on your Table 2 and page 15, certainly it does not indicate a viable project, does it?

A. That is not a viable project based on the numbers which are generated from all these other issue numbers.” (Cross-examination, December 4, 2000, p. 679)

George Unsworth, the accounting expert of Devco, undertook an analysis of the financial implications for Venture’s project if less than the 4 MW of electricity assumed in the revenue calculations in fact were generated. His Report is found at Ex. 3, Tab 8.

Mr. Unsworth based his analysis on Schedule B to the CGA (Ex. 1, Vol. 14, Tab 431). This was reasonable. The figures on the analysis had been agreed to by the parties and represented their views as to how the project should proceed in a financial sense.

Mr. Unsworth adjusted the analysis on the basis of Dr. Creedy's electrical generation projections of Best Case, Average Case (styled by Dr. Creedy as Best Estimate) and Worst Case of electrical generation (Report, pp. 14-16). He then used the same projected revenue figures as had Venture taken from the Power Purchase contract (Report, p. 20) and calculated revised projected gross revenue for each of the 20 years for each of the three scenarios;

As Gas Cost to CBDC was calculated at 15% of gross revenues (Art. 3.05), Mr. Unsworth recalculated the Gas Cost for each of the 20 years for each of the three scenarios at 15% of the gross revenue figures which he had calculated.

Mr. Unsworth did not adjust either the Venture's Plant Operating & Maintenance Expenses or Venture' Administration Overhead. In his opinion the operating and maintenance expenses would be fixed and not vary in relation to electrical generation. By way of example, he referred to wage expense and said that the same personnel would be necessary to run the plant if the generation was 4 MW or some lower figure. There was no evidence to the contrary of Mr. Unsworth's views. Mr. Unsworth was not challenged on this point on cross-examination.

Repayment of the Bank debt and interest thereon was included as it appeared in Schedule B. Those payments obviously would have to be made. Payments to Devco in relation to its \$1.2 million contribution and interest thereon again were as had been projected and agreed on the Schedule

The reductions in revenue resulting from the revised electrical generation numbers provided by Dr. Creedy resulted in cash shortfalls for the project. Mr. Unsworth said that if the project were to continue operating, provision would have to be made for these shortfalls. Obviously, if funds were obtained by borrowing from a third party or if Venture or Devco provided funds,

interest would be payable on such loans or advances. Venture had borrowed all funds which it was to contribute to the project from CIBC. It was a shell company without assets and obviously was in no position to advance any monies. The provision for interest obviously was realistic if further advances were to be made or loans taken out. This calculation was undertaken for each of the 20 years on each of the three scenarios based on each year's results.

The cumulative result of Mr. Unsworth's calculations were as follows:

- |    |  |                      |
|----|--|----------------------|
| a. | Best case--Year 1 generation 2.03 MW   | Loss of \$18,528,000 |
| b. | Middle or Average case (Dr. Creedy's Best Estimate)--Year 1 generation 1.25 MW | Loss of \$46,895,000 |
| c. | Worst Case--Year 1 generation  | Loss of \$75,707,000 |

Mr. Unsworth undertook another analysis (Ex. 2, Vol. 6, Tab 238) based on the same assumptions except he used Dr. Creedy's revised electrical generation calculation (Best Case only) taking into account generation for 347 days and efficiency determined from Graph 6 (Dr. Creedy's memorandum, Ex. 2, Vol. 6, Tab 229). With Year 1 generation of 1.4 MW this analysis showed a cumulative loss after 20 years of \$31,599,00. That compares with the Best Case loss under Dr. Creedy's initial generation calculation of 2.03 MW aggregating \$18,528,000.

Dr. Creedy produced calculations (Ex. 2, Vol. 6, Tab 230) of electrical generation from Mr. Liney's February, 1993 methane projections (based on the proposed increase in tonnage set out in 508-P) and applying a 60% capture, 80% utilization, 35.3 MJ/m<sup>3</sup> calorific value and turbine efficiency from Graph 6. This produced the following results:



1993-94	1.68 MW
1994-95	1.97 MW
1995-96	2.26 MW
1996-97	2.38 MW

Mr. Unsworth undertook another analysis based on Dr. Creedy's calculations of projected generation based on the 508-P tonnage, all other assumptions remaining unchanged. Again, Dr. Creedy's calculations were for the Best Case scenario only. Mr. Unsworth's calculations (Ex. 2, Vol. 6, Tab 238) show a cumulative cash deficiency by the end of the 1996-97 fiscal year of \$3,782,000. It is to be noted that even assuming the tonnage increases forecast by 508-P the projected gas make, electrical generation and gross revenue to the project are overstated the projected run-of -mine tonnage in 508-P has not been reduced to saleable tonnage.

Finally, Mr. Unsworth also did an analysis of the electrical generation required in each of the 20 years which would result in the revenue exactly balancing the outgoings provided for by Schedule B (Ex. 2, Vol. 6, Tab 9). That result, of course, would leave nothing for distribution to Venture and nothing for Devco (other than Gas Cost) after repayment of Devco's \$1.2 million contribution.

That analysis showed that virtually any shortfall in generation over the first five years of the project would result in disaster. For example:

- a. in Year 1 the required revenue was \$2,107,000. At the rate projected by the Power Purchase Contract (\$0.0663 per kilowatt hour) that calculates to 3.82 MW generated for 347 days;
- b. in Year 2 the required revenue was \$2,120,000. At the rate projected by the Power Purchase Contract (\$0.0680) that calculates to 3.74 MW generated for 347 days;

- c.      in Year 5 the required revenue was \$2,381,000. At the rate projected by the Power Purchase Contract (\$0.0737) that calculates to 3.88 MW generated for 347 days;
- d.      by the end of Year 5 the aggregate shortfall was calculated at \$7,044,000.

*No Evidence of Financial Viability from Venture:* Despite the claims by Venture witnesses and the submissions by Venture that there was no minimum level of electrical generation required by the CGA and the MOU and the Venture claims that the project could have proceeded with generation of less than 4 MW, Venture led no evidence in support of those claims or in contradiction to Mr. Unsworth's opinion.

There is, of course a minimum, that being whatever generation was required for a commercially viable project. In light of the foregoing evidence from Mr. Collens one might have expected Venture to have led evidence showing how a project generating 2.8, 3.2, 3.4 or 3.5 or, indeed, "any amount we want up to 4 megawatts" would be viable. Venture did not do that. Venture did not challenge Mr. Unsworth's analysis in an effort to show a viable project on the basis of reduced generation.

The evidence in this case clearly demonstrates that there never was a viable project based on Phalen gas. That is self-evident from the electrical generation numbers which result from the evidence as detailed above. The conclusion that the electrical generation which Venture could expect from Phalen gas simply would not support a commercially and financially viable project is demonstrated by an analysis of the financial results of the project.

Mr. Unsworth's analysis and the cumulative shortfalls forecast clearly establishes that there never was a project based on Phalen gas. Of course, things never would have proceeded to the extent of the losses projected by Mr. Unsworth's analyses. The project would have been insolvent in the first year and the Bank would have realized on its security.

The question here is not the precise amount of generation which could have been expected. This is not a close call on whether or not there ever was a project based on Phalen gas. What is clear on the evidence is that there would have been a very substantial shortfall in electrical generation from 4MW,. It is also clear that virtually any shortfall would lead to financial disaster.

It is not a case of the financial return being less than anticipated. Nor is it a case of the project being less financially rewarding than expected. It is not a case of delayed financial expectations. It is a case of a financial disaster which only would have led to the almost immediate loss of the entire amount of the Bank loan and the full amount of the Devco \$1.2 million contribution had those full amounts been advanced and construction completed.

In the meantime:

- a. Venture had contributed nothing to the capital cost of the project. Indeed through the course of construction of the project until activity ceased the Venture partners had recovered a large amount of so-called sweat equity which they claimed they had invested in the project. The Venture partners had the opportunity to recover still more had construction been completed. Similarly, the Venture partners earned substantial fees from the project after the signing of the agreements and, again, had the opportunity to take still more out had construction been completed; and
- b. Venture and the Venture partners had nothing to lose if the project failed. They had no money invested. The Bank's recourse on its loan was limited to the

project. Venture itself was a shell company without assets. The Venture partners had not been required to give guarantees to the Bank of the Venture loan.

The financial analysis of Venture's project based on a reasonable and realistic assessment of the evidence demonstrates conclusively that there never was a project as conceived and financed based on Phalen gas. Venture's project was doomed to failure. The financial consequences to Devco of proceeding with the project once it recognized that fact would have been disastrous while Venture was at no financial risk and would have suffered no financial loss. Venture's submission that Devco was required to continue participation in the project under those circumstances and that it was in breach of contract when it refused to proceed further has no merit.

***Devco Terminated Further Participation in the Project Because of the Inadequacy of the Phalen Gas Supply for the 4 MW Project as Designed and Specified by Venture:*** I am satisfied that the sole reason Devco terminated further participation in the project was because of the inadequacy of the Phalen gas supply. Despite the impression sought to be left by Venture witnesses and submitted on behalf of Venture, I accept the following submissions by Devco:

- a. Devco did not terminate further participation in the project because Ligan flooded; or
- b. Devco did not terminate further participation in the project because of the dispute over unbudgeted capital cost relating to the pipeline routing issue; (Discussed below)
- c. Mr. Liney's February, 1993 Report was not a ruse Report as claimed by Venture. On the contrary, the report was a straightforward and accurate analysis of the insufficiency of Phalen gas alone to support the project; and

- d. Devco did not cancel the contract by the December 28, 1992 *force majeure* letter. The March 29, 1993 letter was not a mere follow-up of that of December 28. To conclude otherwise ignores the critical fact that in the meantime Devco received Mr. Liney's February 1993 Report.

***The December 28, 1992 force majeure Letter:*** I am satisfied that Devco's in-house Counsel, Keith Crocker first became aware of Venture's intention to start up using Lingan gas in December 1992. I am satisfied that he drafted and caused Mr. Boutilier to send the *force majeure* letter because;

"... I wanted to preempt any possible claim that they might come forward with that we had an obligation to supply Lingan gas on April the 1st, 1993. ... but I felt as a precaution and as a preemptive move I should at least put in this *force majeure* notice." (Direct Examination, March 22, 2001, pp. 218 - 21)

The letter also addresses the other key issue over which Devco and Venture were at the time at loggerheads; namely, the pipeline routing issue:

"It was Devco's understanding that your project, in which Devco agreed to invest \$1.2 million, would not involve, before 1995 at least, a capital expenditure of some \$750,000.00 to construct a gas pipe-line up the No. 5 Deep of Phalen Colliery."

Further on the letter states, "... Essentially we see a need for both parties to try and remedy the mutual mistake concerning the financing of the Phalen pipe-line and the timing thereof."

I am satisfied that Mr. Crocker's evidence is accurate on this issue. He was attempting to be conciliatory and to find a way to make the project work. When he referenced a "mutual mistake", I do not believe he was making an admission to which Devco should be bound. I am satisfied that there was no "mutual mistake" regarding the financing of the pipeline.

*March 29, 1993 Letter:* After receipt of Mr. Liney's February 1993 Report, there was an abortive meeting in Toronto on March 2, 1993, attended by Messers Boutilier, Buchanan, Cooper and Crocker of Devco and representatives of CIBC. Neither Mr. Collins nor any other representative of Venture attended the meeting though they had been given the opportunity to do so. I heard a lot of evidence regarding their reasons for not attending. They contend that they did not feel that "technical issues" should be discussed at the meeting and they also maintain that they had not been given a copy of Mr. Liney's report in sufficient time to adequately study it. I reject those excuses. Had the notice excuse been sincere, for example, I would expect that Mr. Collens would have telephoned Mr. Boutilier and requested a few days postponement. He did not. I find that the real reason Venture representatives did not attend the meeting with the Bank was because they could not refute what was in the 1993 Liney Report.

Nor did they have any real interest in doing so. By the time they got Mr. Liney's 1993 Report, the Venture principals preferred to consider the project dead. They had counted on Lingan gas and now it was gone. I am satisfied that they believed they had a solid legal case against Devco. The Venture principals believed that they could fall back on what they considered to be the

letter of the contract – that Devco had to deliver Phalen gas by April 1, 1993. I am satisfied that they thought they had Devco in a legal corner.

Further, I am satisfied that Venture probably belatedly realized that the project had no chance of ever turning a profit and in fact was headed for significant losses.

From their point of view, the \$750 thousand pipeline dispute was not resolvable. Venture did not have the additional money to put into the project. Although they maintained throughout that the project budget was 6.95 million, the Venture principals knew full well that they had induced Devco to get involved on the basis of a \$6.2 million budget. The \$750 thousand shortfall was a problem they thought they could deal with in the future. The Lingan flood made it today's problem. Again, the Venture principals took comfort in their interpretation of the CGA that Devco had to get the gas to the Lingan extraction plant (the "delivery point") and to use its "best efforts" to do so. I have no doubt but that by March of 1993 the Venture principals believed their best economic opportunity resided in a courtroom and not in Phalen Colliery. I agree with the submission of Devco Counsel that the emphasis of Venture had by March 1993 shifted from project continuation to lawsuit preparation.

In any event, following the Toronto meeting with CIBC, Devco management decided to terminate the project. Accordingly, the letter of March 29, 1992, drafted by Mr. Crocker, went out over Mr. Boutilier's signature. I am satisfied that despite the coincidence in time (91 days) the March 29, 1992 letter was not a follow-up to the December 28, 1992, *force majeure* letter. The point of the March 29 letter was to terminate the project because of the insufficiency of Phalen gas to support it. The key paragraph in the March 29 letter reads as follows:

"In particular, it is absolutely clear from Mr. Liney's findings

that Phalen Colliery alone cannot supply sufficient methane for several years to support the requirements of the Project using conventional drainage methods.”

The final sentence in the letter reads, “CBDC does not intend to proceed further with the project.”

Before proceeding further, I want to deal briefly with the portion of the CGA upon which Venture places so much reliance, that is, Clause 3.01, the “Best efforts” clause.

**“Best Efforts ... to Deliver to the Delivery Point”**: Clause 3.01, June 17, 1992, of the CGA reads as follows:

3.01 During the Term and upon the terms and conditions of this Agreement, *Devco shall use its best efforts*, to the extent relevant technology may allow in Devco’s circumstances, *to deliver to the Delivery Point the quantity of Coal Gas that shall enable the Venture to maintain generation of electricity at a maximum capacity of 4.7 megawatts*; provided, and it is hereby understood and agreed, that, notwithstanding anything to the contrary in this Agreement or elsewhere, no Coal Gas migrating to the Colliery’s East Bleeder prior to May 1, 1994 shall be so delivered unless agreed by the parties; but further provided that, after April 30, 1994, all such migrating Coal Gas shall be so delivered.  
(Emphasis added)

There are two aspects to the “best efforts” clause. Venture has argued that by agreeing to Clause 3.01 of the CGA, Devco both undertook to pay for the capital cost of whatever Phalen to surface pipeline was required for the project – all by April 1, 1993; and that the clause obligated Devco to employ at its sole expense whatever drilling or high technology technique might



be required, including but not limited to horizontal longhole drilling, to obtain sufficient gas from Phalen Colliery to generate 4 MW of saleable electricity by April 1, 1993.

*Best efforts and to Deliver in Relation to Paying the Capital Cost of the Phalen*

*Pipeline:* When the parties commenced negotiations for the Gas Sales agreement (which became the CGA), Venture sought agreement that Devco would provide (guarantee to provide, in effect) specified minimum gas quantities and qualities of coal gas. For example, reference is made to Article 4.01 in the draft Gas Sales Agreements of December 10, 1991 (Ex. 1, Vol. 12, Tab 326) and March 7, 1992 (Ex. 1, Vol. 13, Tab 360, final document). Devco could not provide guarantees - to which Keith Crocker testified (reference is also made to the testimony concerning and notes of the meeting among Venture, Devco and Mr. Liney on August 26, 1991 (Ex. 1, Vol. 11, Tabs 283, 284 as to Devco's inability to give a guarantee). Devco was unable to provide the assurances which Venture was seeking with respect to gas supply.

The "best efforts ... to deliver" language has been elevated in the testimony of Venture witnesses. It is said to be evidence that Devco undertook the cost of the Phalen to surface pipeline capital cost. That is inconsistent with the contract drafts, with Keith Crocker's trial testimony, and with MOU Clause 5, clearly describing Devco's \$1.2 million investment. There simply is no evidence that there was any negotiation or agreement in relation to Devco funding the capital cost of the surface Phalen pipeline and Phalen to surface borehole.

There is a simple reason to which Merrill Buchanan in particular testified. With the parties' decision to use the Lingan inter colliery borehole, there would be neither a Phalen to surface borehole, nor a Phalen overland or surface pipeline in the initial years of the project. There was no

discussion of financial responsibility for the Phalen surface pipeline in the April 15 / 16 negotiations. Dick Collens also confirmed that there was no discussion of the \$750,000 or the estimated Phalen surface pipeline capital cost in the April negotiations. It is impossible to read the “best efforts ... to deliver language” as language assuming the capital cost of a pipeline not even discussed at the April negotiating meetings. Devco could not guarantee the delivery of set volumes of coal gas. Devco was unable to make a commitment “to deliver” gas in given quantities and quality. Devco was able to commit in the clause to making “best efforts” to deliver sufficient gas for the Venture’s project. That is consistent with Keith Crocker’s testimony: the language in Clause 3.01 of the CGA was not related in any way to Devco’s investment in the project. It was a simple statement of level of effort and degree of commitment undertaken by Devco in draining the gas.

The capital cost of the pipeline delivering coal gas from the Phalen deeps to the surface and across to the Lingan methane plant was eliminated in the first years of the project for the reasons and on the basis of the evidence referred to below where I discuss the dispute over payment for the Phalen pipeline.

In short, I am satisfied that the capital cost of the surface pipeline was not discussed in the negotiating sessions between the parties in April 1992, as it did not form part of the project at that stage. The only pipeline then contemplated was the underground portion of the pipeline to transport coal gas from the Phalen deeps to the base of the Phalen inter colliery borehole.

*“Best efforts ... to deliver” in Relation to Longhole Drilling:* Keith Crocker explained the reference to “best efforts” in relation to Clause 3.01 and the assertion by Venture that the Clause obligated Devco if it were necessary for the success of the project to attempt at Devco’s sole expense horizontal longhole drilling, what ever the capital and operating cost. Mr. Crocker described the negotiation of the words, “Devco shall use its best efforts, to the extent relevant technology may allow in Devco’s circumstances, to deliver to the Delivery Point the quantity of Coal Gas ...”. I asked Mr. Crocker whether “relevant technology” encompassed the concept of horizontal longhole drilling. He answered in part as follows:

“ ... perhaps relevant technology might include long hole drilling, but it was clear that as of the time we were entering into this agreement and until such time as the long hole drilling experiment was proven to be a feasible thing to do in Devco’s circumstances, then...then it would be the conventional drainage without the cross measure bore hole drainage. The...it is my opinion, My Lord, we were not singling out just the phrase ‘relevant technology’. If I might just speculate, those were his words. My words added on were ‘may allow in Devco’s circumstances’, and that phrase, ‘in Devco’s circumstances’, was quite extensive in my mind because it would have included the overall circumstance of Devco’s requirement to be self sufficient as a Corporation, which was an overriding concern at all times in our minds at this stage. ...” (Direct Examination, March 21, 2001, p.117)

Further, it is important to note that no such drilling was required at the start of the project in any event because Venture had decided to startup on gas from Lingan Colliery alone. In short, I accept Mr. Crocker’s evidence (and reject contrary evidence from Messers Collens and Desmond Smith) that the parties did not intend the “best efforts” language to obligate Devco to institute horizontal longhole drilling at Phalen Colliery from the inception of this project. I am satisfied that on the evidence before me, including Schedule “B” attached to the CGA, the parties

intention was that the project would be a profitable one for each party. I reject Venture's contention that the clause obligated Devco at Devco's expense to get gas for the project on startup, no matter what the cost, and no matter what the capital costs for a pipeline might be, and no matter what technique was necessary. Venture's assertions are contrary to the evidence that on startup Venture would use gas from Lingan Colliery alone. Venture's assertions are also contrary to the evidence that the parties contemplated conventional cross-measure drilling with the proviso that should another technique (such as horizontal longhole drilling) become "relevant technology" in the future, another drilling technique might prove feasible and economic.

***"Best efforts" as Judicially Interpreted:*** Venture's interpretation of "best efforts" is contrary to the case law interpreting and applying that phrase.

A recent decision from the Ontario Superior Court of Justice, *Marleau v. Savage*, 2000 Carswell Ont 2226 (Ontario S.C.J.), considered the "best efforts" obligation imposed by law in relation to a purchaser under an agreement of purchase and sale of a nursing home. The transaction was styled as a share purchase. The purchaser signed an agreement of sale for a nursing home. The transaction did not proceed, and the Vendor sued for its losses as a result of accepting a subsequent and lower offer for the nursing home business. The principal issue was whether the defendant's efforts to obtain the consent of the "director" under the legislation were such as to entitle them to rely on paragraph 12 of the Agreement of Purchase and Sale as a true condition precedent, and whether the failure to satisfy that condition allowed the defendant to avoid the transaction. Another issue related to the fact that all the legal work required to complete the transaction (corporate searches, title searches, and obtaining a land survey) was not done, pending the Ministry

approval of the transfer of shares. On that ancillary issue, the Court had no difficulty in agreeing with the defendant that the fact those steps were not taken were no factors responsible for terminating the transaction.

By law, and as referred to in the Agreement of Purchase and Sale, there was a condition precedent in relation to obtaining the necessary prior written approval of the Director under the Ontario Nursing Homes Act. The Court held that signing an agreement of purchase and sale situations obligated the purchaser to use her “best efforts” to obtain the license transfer. The Court held that the parties to an agreement of purchase and sale are under a duty to act in good faith and to use “best efforts” to complete the transaction contemplated in the agreement. As the agreement of purchase and sale was subject to a condition precedent requiring approval of a third party (prior written approval by the Director approving the transfer of title), the Court held that the law requires a party to act in good faith and to use best efforts to seek satisfaction of the condition precedent. The Court reviewed the Purchaser’s evidence as to efforts to obtain consent to the transfer. As a result of an exchange of correspondence and a number of meetings between the Ministry of Health, the purchaser (Defendant) and the purchaser’s adviser, the purchaser understood that the Ministry would not consent to the transfer without a number of changes to the proposed financial package disclosed to the Ministry in relation to the transaction, without essentially a new agreement of purchase and sale with the Vendor, and without provision by the Purchaser of a deposit of \$800,000 (rather than the \$300,000 on which the purchaser planned to invest as her equity in the transaction). The purchaser had the \$800,000, so there was no issue that she was unable to provide that deposit.

The Court summarized the defence as follows in Para. 69:

“.... The main thrust of the argument is that Gisele Savage [Purchaser/Defendant] does not have to go to nth degree to meet her obligations under the Agreement. Deference has to be given to the Agreement and the Court has to decide whether Gisele Savage did use all of the efforts she though she was obligated to make on December 7, 1993, when she signed the Agreement as distinct from the initiatives Richard Marleau [Vendor/Plaintiff] would like her to take now.”

The Court reviewed some of the leading cases on “best efforts”. In Para. 71, the Court noted as follows:

“71. Mr. Justice Gauthier in *Wypych v. McDowell* [(1990), 11 R.P.R. (2d) 89 (Ont. Dist. Ct.)... had this to say concerning the standard of perfection in meeting condition precedents in agreements:

The point is not whether the mortgage could have been placed but whether the McDowells used reasonable efforts to do so. It is my understanding that where a condition is inserted in an agreement for the benefit of one party, that party cannot take advantage of the condition unless it satisfies the court that it took all reasonable steps or used its best efforts to fulfil the condition. The law implies a duty on the part of the person for whose benefit the condition was inserted to take such steps. I do not think that it makes much difference what words are used to describe the duty, i.e. ‘Best efforts’ or ‘all reasonable steps’ because what is required is that the party act in good faith in his or her efforts to have the condition fulfilled. (*Dynamic Transport v. O.K. Detailing Ltd.*, [1978] 2 S.C.R. 1072); *Victoria Queen Investments Ltd. v. The Savarin Ltd.* (1979), 10 R.P.R. 32 (O.S.C.).

In hindsight, I am sure that the defendants could have done something in addition or done some things differently in attempting to get the mortgage, but perfection is not demanded in these cases. They acted reasonably in good faith and used their best efforts. They were hurt and disappointed when rejected.

They are not to be faulted.”

The Court also referred in Para. 72 to an Ontario decision dealing with economic considerations in a “best efforts” situation. The case involved an agreement of purchase and sale, where the sale was conditional upon the purchaser selling his current home. The Court held that an obligation could not be imposed upon him to accept fair market value when the contractual condition did not require that. In that case, the Court held that the purchaser was required to take all reasonable steps, to make his best efforts, and to act in good faith in his efforts to fulfil the condition.

“72. Mr. Justice McWilliam in *Barg v. Boyd* [(1992), 26 R.P.R. (2d) 157 (Ont. Gen. Div.)] ... approves the above citation made by Justice Gauthier and adds:

In any event, the fundamental legal issue is can an obligation be imposed on the plaintiff to accept fair market value when the contractual condition did not require it? Mr. Adams says yes for the defendants. I think not. As Gauthier, J. said the obligation is one of best efforts or taking all reasonable steps. If the plaintiff had a figure, which was reasonable from the point of view of his budget, and he made his best efforts to complete the transaction, must he accept any figure that exceeds a valuation of fair market value by an appraiser? Are his budget and expenses to be ignored? In my opinion to say that was the obligation he assumed when he signed a clause allowing him to “terminate” if “unable to obtain a contract” for the sale of his home is to turn a clause of his protection into one capable of making his obligations totally objective. He was required to take all reasonable steps, to make his best efforts, to act in good faith in his efforts to fulfil the condition. Subject to that, he could use the clause of [to] protect himself. To say the clause imposes an obligation to accept fair market value established after these reasonable and good faith decisions are made, is to render such clauses nugatory. It is tantamount to creating a judicial short form of agreement of purchase and sale act by

interpretation, analogous to the *Short Form of Leases Act*. Vendors can shield themselves with the protections they negotiate: from keeping their right to sell open to fixing the price at which the purchasers' house can be listed.”

Returning to the facts of the *Marleau v. Savage* case, the defendant purchaser decided not to complete her transaction with the plaintiff after she pursued the approval from the Director under the legislation, still did not obtain approval. In order to gain approval the defendant would have had to increase her debt ratio in her proposal. That step would have been financially detrimental to the plaintiff, but was within her financial means. The plaintiff claimed that in refusing to further amend her proposal the defendant failed to use her “best efforts” to obtain the licence transfer, and was therefore in breach of the agreement of purchase and sale. Justice Lalonde decided at para. 85 in favour of the defendant, stating that the defendant did use her “best efforts” and that the defendant purchaser was “entitled to consider her own economic self-interests.”

A discussion of what “best efforts” means is found in *Bruce v. Waterloo Swim Club* (1990, 73 O.R. (2d) 709 (H.C.)). The defendant swimming organization hired an American swim coach. The Court held in the circumstances that there was an implied term in the employment contract that the defendant would use its “best efforts” to obtain the necessary employment authorization from the Federal government. The club did so in the first year, but made no effort in the second year to obtain the authorization. The Court found that the club’s failure to make any effort in the second year was instrumental in the government’s refusal of employment authorization. A civil action was commenced by the coach. Lane, J. considered the meaning of “best efforts” on p. 723:

“The cases cited earlier show that best efforts means taking,



in good faith, all reasonable steps to achieve the objective, carrying the process to its logical conclusion and leaving ‘no stone unturned’. The element of good faith speaks, of course, to the actual intentions and mind-set of the defendant at the relevant time. The standard of reasonableness, however, is objective, not subjective. A contract requiring ‘best endeavours’ imports a duty to do all that can be reasonably be done in the circumstances and the standard of reasonableness is that of a reasonable and prudent board of directors acting properly in the interest of their company and applying their minds to their contractual obligation: *Terrell v. Mabie Todd & Co...*”

And, at p.727:

“That obligation bound them to choose, from among the possible and reasonable courses of action, that one which had the greatest chance of achieving the contracted result.”

I have heard ample evidence of the negotiations leading up to the CGA including Clause 3.01. There is no evidence that the parties negotiated and Devco agreed to deliver gas sufficient to generate 4 MW at whatever the effort and cost might be in relation to capital cost for the Phalen pipeline, or in relation to drilling technique. The evidence including testimony from Devco witnesses (in particular Merrill Buchanan, Keith Crocker and Ernie Boutilier) and the documentation from both parties is to the contrary. The evidence is that the parties intended the project to be financially profitable to both of them. Venture’s interpretation of the “best efforts”

clause is inconsistent with the fundamental contractual intention in relation to the profitability of the project.

Venture had proposed a clause which required Devco virtually to guarantee the coal gas volumes, and methane content of the gas. Reference is made to Article 4.01 in the draft Gas Sales Agreements of December 10, 1991 (Ex. 1, Vol. 12, Tab 326) and March 7, 1992 (Ex. 1, Vol. 13, Tab 360, final document). Devco was unable to provide such assurances with respect to gas supply.

- a. Tab 326, Clause 4.01, December 10, 1991 (Venture draft):

4.01 During the Term and upon the terms and conditions of this Agreement, Devco shall deliver to, and the Venture shall accept at, the Delivery point such quantity of raw methane gas as Devco shall be capable of delivering each day; provided, and it is hereby understood and agreed that Devco shall endeavour, but shall not be obligated, to deliver to the Delivery Point a minimum of \_\_\_\_\_MCF/D of raw methane gas, and it is hereby understood and agreed, that the Venture shall accept the quantity actually delivered on the relevant day, whether it is less or greater than said nominated daily quantity to a maximum of \_\_\_\_\_MCF/D.

- b. Tab 360, Clause 3.01, March 7, 1992 (Venture draft)

4.01 During the Term and upon the terms and conditions of this Agreement, Devco shall deliver to, and the Venture shall accept at, the Delivery Point such quantity of Coal Gas as Devco shall be capable of delivering each day; provided, and it is hereby understood and agreed that Devco shall use its best efforts using consistent underground mining practices and procedures endeavour but shall not be obligated, to deliver to the Delivery Point a minimum of 2,800 MCF/D of Coal Gas containing a minimum of 42%

methane.

These proposals were not acceptable to Devco for the reasons to which Keith Crocker testified. The language upon which the parties were able to agree was the following:

c.      Executed CGA Clause 3.01, June 17, 1992

3.01      During the Term and upon the terms and conditions of this Agreement, Devco shall use its best efforts, to the extent relevant technology may allow in Devco's circumstances, to deliver to the Delivery Point the quantity of Coal Gas that shall enable the Venture to maintain generation of electricity at a maximum capacity of 4.7 megawatts; provided, and it is hereby understood and agreed, that, notwithstanding anything to the contrary in this Agreement or elsewhere, no Coal Gas migrating to the Colliery's East Bleeder prior to May 1, 1994 shall be so delivered unless agreed by the parties; but further provided that, after April 30, 1994, all such migrating Coal Gas shall be so delivered.

The evolution of the language makes clear the contractual intention. That intention is also evident from the testimony of Keith Crocker. Devco management was not prepared to commit to "shall deliver" language with reference to fixed volumes of gas, or gas of a fixed methane percentage. Keith Crocker explained why. What Devco was prepared to do was to make a "best efforts" commitment in draining the gas which would be "delivered", or title would pass, at the gas to the delivery point.

I reject the Venture testimony and arguments to the effect that the "best efforts" language of CGA Clause 3.01:

- a.      obligated Devco to incur the capital cost of a Phalen to surface pipeline, to be constructed no later than

April 1, 1993; and

- b. obligated Devco at its sole expense to utilize whatever drilling technology was available at whatever cost and no matter how uneconomic to obtain sufficient gas for the project from Phalen Colliery by April 1, 1993

This evidence is not credible. It is inconsistent with the contract language and the testimony of Devco witnesses (which I accept) and the parties' documentary evidence.

*Dispute over Payment for the Phalen Pipeline:* Many weeks of evidence were devoted to this particular issue. I will deal only briefly with that evidence because I am in complete agreement with Devco's position; this was a commercial issue which was overtaken by events, that is, the discovery by Devco in February 1993 that Phalen gas was not sufficient for the project. As such, this commercial issue is irrelevant to the determination I have to make. Devco did not cancel the project as a result of the dispute regarding the Phalen pipeline. The sole reason Devco cancelled the project was because of the insufficiency of Phalen gas. If anything, as I noted earlier, this issue probably reveals more about Venture's conduct than that of Devco.

In its post-trial submission, Counsel for Devco set out in point form a summary of the pipeline dispute. That summary is an accurate reflection of the evidence I have heard. I am therefore incorporating that summary (paragraphs a - v inclusive) in this decision. I will then elaborate upon a few of the key points.

- a. In April 1991 Venture proposed the project to NSP. Venture planned to obtain gas from Lingan Colliery through the Lingan extraction plant. As Lingan Colliery was draining gas for operational purposes, Venture anticipated no difficulty, delay or large expense for the gas. Its plan was simple: to obtain

gas already being drained from Lingan Colliery through the outlet valve of the extraction plant. Its estimated capital cost for that project was \$6 million. That included a capital cost of \$400,000 for “ventilation”. What that \$400,000 was to pay for as a capital cost was never explained to the Court by Venture;

- b. in April 1991 Venture engaged Merchant Bankers Gornitzski, Thompson & Little (“GTL”) to assist in obtaining financing.
- c. after submitting its proposal to NSP in April 1991, Venture learned that Lingan Colliery would close in a few years. Gas from Phalen Colliery was necessary for the project. To get coal gas from that Colliery to the extraction plant required construction of a pipeline;
- d. Venture estimated the total capital cost of the utilization project at \$6,950,000 - \$7,000,000 in the fall and winter of 1991-92;
- e. By this time, Venture had the CIBC lined up for a \$5 million loan and needed to raise the remaining \$2 million capital cost;
- f. By this time, through the fall and into the winter of 1991-92, Devco was to be a gas seller only. Discussions were underway between Devco and Venture on terms upon which Devco would sell gas to Venture. Draft gas sales contracts had been exchanged;
- g. If Devco were a gas seller, Devco would have to undertake both the capital cost and operating cost of gas extraction from the Colliery supplying gas, and would have to recover those capital and operating costs in the cost of gas;
- h. At no time through its closure in 1999 was drainage of methane gas required for operational purposes at Phalen Colliery. Accordingly, from the outset of

discussions with Venture, Devco engineering and management advised that both the operational and capital costs associated with draining gas for the Venture utilization project were to be recovered by Devco from the Project;

- i. In the spring of 1992, discussions between the parties included the possibility of Devco investing in the project. Whether Devco was an investor or not, Coal Gas would have to be available under contract for Venture's project. Therefore, discussions continued between the parties on the terms of a Gas Sales Agreement, including the cost of gas;
- j. Venture sent financial projections to Devco and Devco management did its own financial analysis in late February, 1992. At that point, the financing concept was to secure capital of \$5 million from the Bank, \$1.2 million from outside investors, and \$750,000 from Devco. The Devco investment would be used for Venture's estimate of the capital cost of installation of a pipeline at Phalen Colliery.
- k. On Devco management's analysis, the financial returns to the project were not sufficient to pay for Devco's proposed investment of \$750,000. There was insufficient project revenue to pay interest on the \$5 million bank loan, provide a return on investment of the investors (on the \$1.2 million and the \$750,000 investments), repay the capital investment and cover the anticipated project annual expenses, which included payment to Devco for gas for the project plus Venture's estimated administration and overhead charges;
- l. Venture had no committed outside investor for the \$1.2 million, regardless of Devco's involvement in the project. Venture wrote to Devco at the end of February, 1992 saying it was looking at "the numbers" endeavouring "to define a solution that works for everybody" and that "we are confident we can find mutually beneficial ground";

- m. A solution was proposed by Venture in Dick Collens' letter of March 7, 1992: if the project could use the inter-colliery borehole route through Lingan Colliery for the first couple of years of the project for the transportation of methane gas from Phalen Colliery, Venture anticipated that the revenues from the project would be such that financing for the capital cost of constructing a Phalen to surface pipeline could be obtained;
- n. This solution meant that \$750,000 in capital costs would be eliminated in the first two years of the project, and deferred to a time when it could be provided for through external financing. This reduced the project capital cost to \$6.2 million;
- o. Devco management did further financial analyses which showed that at a project capital cost of \$6.2 million there was a much more financially positive project. Devco and Venture then entered negotiations on the basis of a project with a capital cost of \$6.2 million;
- p. Venture's stated position is that the Lingan inter-colliery borehole was never agreed to, and never was part of the project. According to Venture, there was always a Phalen pipeline capital cost which was solely Devco's capital cost throughout the project. Venture's position is that the capital cost of that pipeline was never a project cost but was Devco's cost as a gas seller;
- q. The parties negotiated a deal. On the terms and conditions negotiated, Devco would invest \$1.2 million in the capital cost of the project. The project capital cost was \$6.2 million. Devco would also supply gas to the project. The terms of the agreements were recorded in the Coal Gas Agreement and Memorandum of Understanding signed June 17, 1992. A financial schedule showing the parties' financial expectations was appended as Schedule B to the CGA. The Memorandum of Understanding was intended as a document preliminary to a full operating

agreement and this was stated in Clause 13. It outlined in summary form the basis for an operating agreement. As a full operating agreement was never negotiated, the Memorandum of Understanding was treated as the operating agreement by the parties. The agreements between the parties did not provide a narrative description of the project;

- r. In the late summer of 1992, as a result of an underground travel, the parties took the first steps towards abandoning the inter-colliery borehole route to move gas from Phalen Colliery to the Lingan extraction plant. The financial implications of that decision were not addressed at that time.
- s. The financial implications were recognized by Devco management only in mid-November, 1992, when it came to Merrill Buchanan's attention for the first time that the intercolliery borehole route had been abandoned for technical reasons;
- t. (The flooding of Lingan Colliery occurred after the decision had been made to abandon the Lingan inter colliery borehole route);
- u. The decision to abandon the Lingan intercolliery borehole route led to the commercial dispute between the parties concerning the obligation to pay for the pipeline from Phalen Colliery to the Lingan extraction plant. The commercial dispute was never resolved;
- v. Contrary to the assertions of Venture, the commercial issues between the parties did not cause Devco to terminate its involvement in the project. That occurred with the discovery that there was insufficient



gas at Phalen Colliery for the project as designed by Venture and on the basis upon which it was intended to proceed technically and financially;

*Additional Comments Regarding the Pipeline Dispute:* In resolving the issue in Devco's favour, I have considered the credibility of the Devco witnesses, in particular Ernie Boutilier and Merrill Buchanan as opposed to that of Dick Collens. As I have pointed out elsewhere in this decision, Mr. Collens is not a credible witness. In all cases where there is a conflict between the testimony of Dick Collens and the testimony of Ernie Boutilier and Merrill Buchanan, I unhesitatingly accept the evidence of Messers Boutilier and Buchanan.

Venture has emphasized that Devco never replied to Mr. Collens' request in his letter of March 7, 1992, to use the intercolliery borehole route through Lingan colliery. (See above paragraph m.) While there is no formal reply, it is obvious from the evidence that Devco gave its *de facto* consent to the use of the intercolliery borehole. No other interpretation of the evidence makes sense. Devco was not interested in the project with a proposed capital cost of 6.95 million dollars. Devco only became willing to participate when the total capital cost became 6.2 million dollars, that is, after the 750,000 dollar capital cost of the pipeline had been deferred for the first few years of the project. Devco did its own financial projections based upon the 6.2 million dollar figure and decided that the project was viable on that basis. Devco then proceeded to negotiate the CGA and MOU on the basis of Mr. Collens' March 7 proposal. By its words and conduct, Devco gave its *de facto* consent to the use of the intercolliery borehole route through Lingan colliery. I specifically reject Mr. Collens contention that Devco "forgot" to factor in the 750,000 dollars. I am satisfied that Devco understood that the entire capital cost of the project would be covered by the

6.2 million dollars. I am further satisfied that Devco understood that the financing of the Phalen pipeline would be done with project revenues or additional financing after the project had been up and running.

I reject the implication in Mr. Collens' redirect evidence that the March 7 proposal somehow evaporated when Devco agreed to become a financial participant in the project. Mr. Collens' testimony not only ignores the plain wording of the March 7 letter, but also ignores the Financial Analysis schedule attached to the letter. The Analysis was reviewed by Merrill Buchanan:

- i. It is clear that the attached financial analysis (Ex. 1, Vol. 13, Tab 360), to which Dick Collens was not referred in his redirect examination, shows "capital cost \$6,200,000".
- ii There was no suggestion that the schedule attached to the letter for a \$6,200,000 project capital cost was to be increased to \$6,950,000 when Devco decided to make an investment in the project. The opposite is true: the capital cost was to be \$1.2 million. The only way that could occur was through elimination of the \$750,000. Dick Collens' statement to the effect that the Lingan inter-colliery borehole route proposal was "gone" when Devco indicated its interest in participating financially in the project simply does not make sense, and it is inconsistent with the financial analysis.
- iii That financial analysis shows Venture's intent: invest \$1.2 million in a \$6.2 million project and in year 1 Devco will receive in Year 1 \$343,000 in net cash flow, with \$399,000 in year 2, and so on.

- iv      There is no asterisk in the financial analysis that in order to obtain this benefit, Devco had to incur an additional and unbudgeted capital expenditure of \$750,000;

In short, Mr. Collens' redirect evidence on this point is without merit.

*All costs and expenses:* Venture points to the Memorandum of Understanding, Clause 2. Venture says that obligates Devco to pay the entire capital costs associated with a Phalen to surface pipeline, in addition to Devco's capital investment of \$1.2 million in the project identified in Schedule B, the financial analysis attached to the parties' agreements. Clause 2 states in part,

“... Devco shall assume all costs and expenses related to the extraction of Coal Gas through Devco's Surface Coal Gas Extraction Plant, transportation of Coal Gas to a Delivery Point; royalties, rentals, fees or other charges imposed by the Province of Nova Scotia in respect of the extraction of Coal Gas; and surface Coal Gas extraction plant operating and maintenance costs.”

Venture's position is without merit. Venture has chosen to put before the Court an interpretation of that Clause never intended by the parties, and never negotiated by the parties. Clause 2 of the Memorandum of Understanding was intended by mutual agreement to address operating costs. Venture is mis-applying Clause 2 in saying it was intended to address the capital cost of the Phalen to surface pipeline.

Dick Collens acknowledged that there was no discussion of the Phalen surface pipeline in the mid-April 1992 negotiating meetings, nor the estimated \$750,000 additional cost of the pipeline. The evidence is that there was no mention of the Phalen to surface pipeline or its cost in those negotiations. If the Clause was intended to cover a substantial capital cost as claimed by

Venture, there would be some evidence explaining to the Court how and under what circumstances Devco agreed to cover that capital cost, and showing how the Clause was drafted to cover that cost. There would be evidence of negotiations in relation to the meaning Venture now ascribes to the clause. There is neither testimony nor documentary evidence explaining how, in the absence of such discussions or negotiations or correspondence, Clause 2 was drafted to obligate Devco to construct at its expense the Phalen to surface pipeline.

Evidence in relation to the April 15, 16 1992 meetings in Glace Bay includes the notes of Wayne LeBlanc and Ron Nicholson found in Ex. 1, Vol. 14, Tabs 393 and 394. Both deal with negotiations for the sale price of coal gas to be used in the Project. Both sets of notes refer to the figure of \$330,000. Wayne LeBlanc testified to this. He testified that the figure was the total of drilling (\$260,000), contingency of 10% (\$26,000), Provincial royalty (\$24,000) and gas extraction plant maintenance (\$20,000). Those are annual operating costs for the gas.

Those are the matters addressed in Clause 2. It refers as the “costs and expenses related to the extraction of Coal gas through Devco’s surface coal gas extraction plant... royalties ....maintenance”. Clause 2 names the items the parties negotiated to arrive at a percentage to include in schedule B to the CGA as the Gas Cost from CBDC. The description is consistent with the four negotiated costs for drilling, contingency, royalty and maintenance adding to \$330,000, rounded for convenience to 15% of the gross sales revenue for purposes of Schedule B (\$331,000 in Year 1). Clause 2 refers to the “costs and expenses of extraction of gas through the surface extraction plant; transportation to the Delivery Point”. That language refers to extraction (“drilling” in the notes), plus

a contingency on drilling. The clause next refers “royalties”, and finally to “maintenance”. All of those refer to annual operating expenses. They were not intended to refer to capital expenses.

Venture’s submission on this point is an attempt to take a phrase in the MOU not only out of context of the clause in which it is found, but also completely out of context of the discussions and negotiations between the parties. Operating costs were negotiated and agreed upon. There was no element of capital involved. Capital costs were dealt with in the financial projections by way of repayment of the bank loan and the Devco contribution. The capital costs had been reduced by Venture’s proposal to defer the installation of the balance of the Phalen pipeline, the egress borehole and the surface pipeline for two years. This freed the Pipeline allocation in the capital budget for construction of the pipeline which was required underground from the level to the inter-colliery borehole. There is no basis for the argument that this phrase imposes a further liability on Devco in addition to what it had agreed to contribute and what it had agreed to do.

I reject any suggestion by Venture that Devco had agreed to pay the capital cost of whatever underground pipeline was required by agreeing to Clause 2 of the MOU. I also reject the argument that Devco had agreed to contribute an unknown and unidentified amount to the capital cost of the project in addition to the agreed figure of \$1.2 million. That assertion is contrary to the testimony of the Devco witnesses and I accept their version, not Venture’s.

The memorandum from Keith Crocker to the Board of Directors is a document from the time which is fully consistent with this explanation. The financial analysis attached to the Memorandum (Ex. 1, Vol. 13, Tab 411, after first blue divider) was referred to by both Keith Crocker and by Merrill Buchanan, who prepared it. Point 4 of the Financial Analysis explains in part that the Gas Sales Revenue is set at 15% of the Venture’s gross revenues from the sale of

electricity, which in turn was forecast to “equal CBDC’s operating costs associated with underground collection of the gas, extraction plant maintenance, and the royalty on the sale of gas which will be payable to the Province of Nova Scotia”. The “operating costs” associated with the underground collection of the gas in the memorandum are fully consistent with the “drilling” plus “contingency” figures, referred to in the notes of the April 15 and 16 meetings. The financial overview specifically refers to “operating costs” and not to “capital” or “Capital plus operating costs” in relation to the Gas Sales revenue. Maintenance and the Provincial royalty are consistent between the notes of the April 15 and 16 meetings, and the Financial Overview. They are inconsistent with any suggestion of negotiation of the clause to cover capital costs.

Merrill Buchanan testified to the Financial Overview. He indicated his understanding that the underground collection costs, included drilling for the gas, plus the contingency, plus maintenance, and the Provincial royalty were operating costs which were forecast to be covered in the Gas Sales cost.

Keith Crocker attended the April 16, 1992 negotiating meeting. He was aware that the project capital cost had been reduced from \$6,950,000 to \$6,200,000. He understood from what he heard at the meeting that the \$6.2 million capital cost was intended to cover the entire capital investment for the project from the Bank, Venture and Devco. He also understood that Devco was planning to recover its costs, and understood that Devco intended to obtain a financial return from its investment. Keith Crocker’s role after the April 16 meeting was to draft the necessary agreements, including an operating agreement (the Memorandum of Understanding, intended to be preliminary to a full operating agreement) . He drafted Clause 2 of the Memorandum of Understanding. He testified that the clause relates to the operating costs associated with getting the

coal gas from Phalen for the project. His testimony is consistent with a plain reading of the Clause and with the evidence.

Both parties got involved in this project on the basis of their mutually mistaken belief that Phalen Colliery alone could fuel the project. I will therefore examine the law related to mistake generally and then focus on the law related to mutual mistake. I am grateful to Counsel for Devco for their research and presentation of this complicated area of law.

***Mistake - General:*** Both the difficulty of analysis and basis for analysis are well summarized in Anson's Law of Contract, 22nd edition, 1964 at p. 254 as follows:

#### MISTAKE

If one, or both, of the parties to a contract enter into it under some misunderstanding or misapprehension, in what circumstances will they be permitted to allege that the contract is defective, on the ground that, if they had known the true facts, they would never have entered into the agreement?

This is the basic question that arises in the topic of Mistake; but it is advisable to state at the outset that it constitutes one of the most difficult topics for the student in the English law of contract. The principles upon which the Courts will intervene, and the circumstances in which they will do so, have never been precisely settled, and the decided cases are open to a number of the varying interpretations. The position is further complicated by the fact that there has been a distinct change in the attitude of the judges towards the question of Mistake during the last hundred years. During the 19th century, in reliance on the consensus theory of contract, it was required of the parties that their consent should be 'true, full and free'. The Courts were therefore more readily disposed (subject to the limitations imposed by practical convenience) to hold that, where there was no genuine and real consent, there was no valid contract. At the present time,

however, the Courts are very reluctant to intervene in this manner.

The reasons for this change are twofold. In the first place, at common law, if a contract is entered into under a legally operative mistake, it is void ab initio; it has no legal effect whatsoever...Secondly, there is a feeling that, once the parties are ostensibly in agreement in the same terms and upon the same subject-matter, they ought to be held to their bargain; they must rely on the stipulations of the contract for protection from the effect of facts unknown to them.

Nevertheless, cases will undoubtedly arise in which it would be unjust to hold the parties strictly to their agreement. Such cases will occur quite independently of any express warranty, or misrepresentation, or fraud, and relief must be sought, if at all, on the ground of Mistake. To meet this difficulty the Courts have side by side with their refusal to apply the doctrine of common law mistake, developed the use of certain equitable remedies which are, in some ways, more satisfactory as they are discretionary and, further, do not render the contract void ab initio. (Footnotes deleted)

Anson's Law of Contract makes it clear, on pp. 255 and 256, that mistake at common law is limited to a mistake of fact and not a mistake of law.

This section is concerned with that form of mistake which invalidates a contract, and there are certain topics, superficially connected with the subject which it will be well to eliminate at the outset.

We are not here concerned with where the parties are genuinely agreed, although the terms employed in making their agreement do not convey their true meaning. ...



Nor are we concerned with cases in which there is not even the outward semblance of agreement, because offer and acceptance never coincided in their respective terms.

Nor, lastly, are we concerned with cases in which a man finds the obligation of a contract more onerous than he intended ...  
(Footnotes Deleted)

The facts in this case are not such as to invite rectification on the basis that the written terms of agreement do not convey the intention of the parties. Nor is this case one in which the offer and acceptance never coincided in their respective terms. Nor is this a case in which one party finds the obligations of a contract more onerous than intended or the results of the contract less satisfactory or remunerative than intended. This case raises the fundamental issue of there never having been sufficient gas for the project.

Again, as succinctly set out in Anson's Law of Contract at p. 256, under the heading "Mistake as to the Existence of the Fact at the Root of the Contract", the authors summarize the situation as follows: "In this type of mistake, the parties, though genuinely *ad idem*, contract on the basis of an assumption which subsequently proves to be false."

The text describes cases of operative mistake and divides them into two categories – mutual mistake and a second, unilateral mistake. The description on p. 256 of Anson's Law of Contract is as follows:

The cases with which we have to deal fall into two main classes:

- (i) cases in which the parties, though genuinely agreed, have both contracted in the mistaken belief that some fact which lies at the root of the contract is true. This type of mistake is

generally known as a mutual mistake, as it is shared by both parties.

- (ii) cases where, although to all outward appearances the parties are agreed, there is in fact no genuine consensus between them, and the law therefore does not regard a contract as having come into existence. This type of mistake is sometimes known as a unilateral mistake, as the mistake is on one side only. (Footnotes Deleted)

The text discusses the leading case on mutual mistake, which is *Bell v. Lever*

*Brothers Ltd.* [1932] A.C. 161, and suggests at pp. 258 and 259 as follows:

It is suggested that some guidance may be obtained by an examination, in the light of decided cases, of the examples of mistake put forward in the speeches [in *Bell v. Lever Brothers Ltd.*]; these envisage four main types of operative mutual mistake:

- (a) mistake as to the existence of the subject matter of the contract;
- (b) mistake as to title;
- (c) mistake as to the substance of the thing contracted for;
- (d) a false and fundamental assumption going to the root of the contract.

Mistake as to the existence of the subject matter of the contract does not seem particularly relevant. It applies if the subject matter either ceased to exist or perhaps had never been in existence, and that fact was always unknown to the parties. An example might be with respect to a contract for the carriage of specific goods, which goods did not exist on the date of the contract,

or a contract for an annuity bought on the life of a person who, unknown to both parties, was already dead.

The second example also does not seem particularly relevant, as to mistake as to title. If, for example, the buyer is already the owner of the goods which the seller purports to sell, and if the parties intended to transfer ownership in the goods, then the transfer is impossible.

Likewise, the third example as to mistake as to the substance of the thing contracted for does not seem particularly relevant. In addition, it is very difficult to distinguish between mistake which is as to the substance of the contract, as compared to a mistake as to the quality of the goods. The cases consider facts as to a sound horse versus an unsound horse, old oats versus new oats, horse beans versus feveroles.

However, the final category as to a false and fundamental assumption is more analogous to the facts before the Court. On p. 266, the authors of *Anson's Law of Contract* state as follows:

Where the parties contract under a false and fundamental assumption, going to the root of the contract, and which both of them must be taken to have had in mind at the time they entered into it as the basis of their agreement, the contract is void.

This should not be regarded as a category separate and distinct from those categories of mistake already mentioned, but rather as a more compendious statement of the type of error required. It received the approval of both Lord Atkin and Lord Thankerton in *Bell v. Lever Bros.*, although some doubts were expressed as to its value owing to the necessary vagueness of its formation.

The authors' comment that:

The discovery of the new facts must, it was said, destroy the

identity of the contract.

It is not surprising that the strictness of this test has resulted in a dearth of cases on the subject of fundamental mistake. In *Scott v. Coulson*, however, a contract for the assignment of a policy of life insurance was made upon the basis of an erroneous belief, shared by both parties, that the assured was still alive. It was held that the vendor was entitled to the return of the policy and also the monies payable under it. ‘The fact upon which the contract was based’, said Romer, L.J., ‘was not the fact.’ Similarly the following have been held to be void: a separation deed entered into by husband and wife on the erroneous assumption that their marriage was valid; and a contract for the hire of rooms to watch a coronation procession made in ignorance that the procession had already been cancelled. (Footnotes deleted).

The text mentions an interesting decision from Kenya, decided by the Judicial Committee of Privy Council. One aspect of the case was the interpretation and application of section 20 of the Indian Contract Act, 1872, which read as follows: “Where both the parties to an agreement are under a mistake as to a matter of fact essential to the agreement, the agreement is void.”

The case was *Sheikh Brothers, Ltd. v. Ochsner*, [1957] A.C. 136. The appellants contracted with the respondent to grant him a licence for the cutting, processing and manufacturing of all sisal grown on a particular estate in Kenya. The appellants were the lessees of that estate. The respondent deposited a sum of money, and undertook to deliver to the appellants 50 tons of sisal fibre, manufactured by him each month. The fact was that the estate was not capable of producing such a quantity of sisal as would meet the contractual requirements. The Judicial Committee of the Privy Council held, following the statements in *Bell v. Lever Bros.*, that the parties had both contracted under a mistake of fact essential to the agreement, namely, “that the estate was capable

of yielding that amount of sisal,” and that the contract was void. The case is discussed in more detail below.

Treitel, *The Law of Contract* 8th edition states at p. 249 as follows:

Consent may be nullified if both parties make a fundamental mistake of fact. In such cases, the extreme injustice of holding one of the parties to the contract outweighs the general principle that apparent contracts should be enforced.  
(Footnote Deleted)

The authors then go on to classify what mistakes might be considered as “fundamental” for purposes of the analysis, and include a discussion of mistake as to the existence of the subject matter, mistake as to the identity of the subject matter, mistake as to quality, mistake as to quantity, and, the most significant in light of the fact situation in issue, “mistake as to the possibility of performing the contract.”

The authors state that consent may be nullified if both parties believe that the contract is capable of being performed when this is not the case. They give as examples physical impossibility, citing the *Sheikh Bros. Ltd. v. Ochsner* case referred to above. The authors also note that *Sheikh Bros.* cannot be dismissed as turning on the *Indian Contract Act* because the Privy Council expressly applied the principles laid down in *Bell v. Lever Bros., supra*.

The authors also talk about legal impossibility and finally, commercial impossibility. Under the latter heading they discussed the “Coronation Cases” including *Griffith v. Brymer* (1903), 19 T.L.R. 434 which was a contract made for the hire of a room for the purpose of viewing Edward VII’s Coronation procession. The contract was held void because when the contract was entered into, the procession had already been cancelled. That fact was unknown to the parties. While performance of the contract may have been both physically and legally possible, its commercial

object had been defeated.

The “Coronation Cases” are not directly relevant, as they deal with the rights and obligations of the parties with respect to the hire of premises for a particular purpose, such as viewing a Coronation ceremony, when such was cancelled. The contractual rights and obligations of the parties to the point of cancellation of the ceremony is typically under discussion in those cases.

Having reviewed some of the general case law and commentary in relation to “mistake”, I will now turn to the facts in this case in relation to “mutual mistake”.

**Mutual Mistake:** Mutual mistake is a difficult concept, the subject of numerous commentaries and controversies. Mistake at common law is that which was discussed in *Bell v. Lever Brothers Limited*. Mistake in equity is guided by the principals set out in *Solle v. Butcher*, [1950] 1 K.B. 671. Mistake at common law means that the contract is void. If mistake is established in equity, the contract is voidable. The following discussion of the controversies and variety of approaches by Steyn J. in *Associated Japanese Bank v. Credit du Nord*, [1988] 3 All E.R. 902 at page 912 and 913 is of assistance in appreciating the difficulties in dealing appropriately with mistake in a contractual situation:

No one could fairly suggest that in this difficult area of the law there is only one correct approach or solution. But a narrow doctrine of common law mistake (as enunciated in *Bell v. Lever Bros. Ltd.*), supplemented by the more flexible doctrine of mistake in equity (as developed in *Solle v. Butcher* and later cases), seems to me to be an entirely sensible and satisfactory state of the law: *Sheikh Bros. Ltd. v. Ochsner* [1957] AC 136. And there ought to be no reason to struggle to avoid its application by artificial interpretations

of *Bell v. Lever Bros. Ltd.*

It might be useful if I now summarised what appears to me to be a satisfactory way of approaching this subject. Logically, before one can turn to the rules as to mistake, whether at common law or in equity, one must first determine whether the contract itself, by express or implied condition precedent or otherwise, provides who bears the risk of the relevant mistake. It is at this hurdle that many pleas of mistake will either fail or prove to have been unnecessary. Only if the contract is silent on the point is there scope for invoking mistake. That brings me to the relationship between common law mistake and mistake in equity. Where common law mistake has been pleaded, the court must first consider this plea. If the contract is held to be void, no question of mistake in equity arises. But, if the contract is held to be valid, a plea of mistake in equity may still have to be considered: see *Grist v. Bailey* [1966] 2 All E.R. 875, [1967] Ch. 532 and the analysis in Anson's Law of Contract (26th ed. 1984) pp. 290-291. Turning now to the approach to common law mistake, it seems to me that the following propositions are valid although not necessarily all entitled to be dignified as propositions of law.

The first imperative must be that the law ought to uphold rather than destroy apparent contracts. Second, the common law rules as to a mistake regarding the quality of the subject matter, like the common law rules regarding commercial frustration, are designed to cope with the impact of unexpected and wholly exceptional circumstances on apparent contracts. Third, such a mistake in order to attract legal consequences must substantially be shared by both parties, and must relate to facts as they existed at the time the contract was made. Fourth, and this is the point established by *Bell v. Lever Bros. Ltd.* the mistake must render the subject matter of the contract essentially and radically different from the subject matter which the parties believed to exist. While the civilian distinction between the substance and attributes of the subject matter of a contract has played a role in the development of our law (and was cited in the speeches in *Bell v. Lever Bros. Ltd.*), the principle enunciated in *Bell v. Lever Bros. Ltd.* is markedly narrower in scope than the civilian doctrine. It is therefore no longer useful to

invoke the civilian distinction. The principles enunciated by Lord Atkin and Lord Thankerton represent the ratio decidendi of *Bell v. Lever Bros. Ltd.* Fifth, there is a requirement which was not specifically discussed in *Bell v. Lever Bros. Ltd.* What happens if the party who is seeking to rely on the mistake had no reasonable grounds for his belief? An extreme example is that of the man who makes a contract with minimal knowledge of the facts to which the mistake relates but is content that it is a good speculative risk. In my judgment a party cannot be allowed to rely on a common mistake where the mistake consists of a belief which is entertained by him without any reasonable grounds for such belief: cf *McRae v. Commonwealth Disposals Commission* (1951), 84 C.L.R. 377 at 408. That is not because principles such as estoppel or negligence require it, but simply because policy and good sense dictate that the positive rules regarding common mistake should be so qualified. Curiously enough this qualification is similar to the civilian concept where the doctrine of error in substantia is tempered by the principles governing culpa in contrahendo. More importantly, a recognition of this qualification is consistent with the approach in equity where fault on the part of the party adversely affected by the mistake will generally preclude the granting of equitable relief: see *Solle v. Butcher*, [1949] 2 All E.R. 1107 at 1120, [1950] 1 K.B. 671 at 693.”

In Ontario, the test for mistake at common law is set out in *R. v. Ontario Flue-Cured Tobacco* case (1965), 51 D.L.R. (2d) 7 (Ont.C.A.). The subject matter of that contract was a piece of land. 14 acres of the 33 acres had a tobacco growing quota or so the parties thought. In fact, only 7.42 acres had such a quota. At page 14 the following is found:

“It seems to be perfectly clear that a mere mistake as to quantity will not always avoid the contract and that even where the mistake is as to the substance of a contract it is not always avoided. However, at p. 251 the learned editor makes this statement, which with respect I think applies to the case at bar in view of its special term as to there being 14 acres of tobacco growing quota:

Where the parties contract under a false and fundamental



assumption, going to the root of the contract, and which both of them must be taken to have had in mind at the time they entered into it as the basis of their agreement, the contract is void.”

The Ontario Court of Appeal held that the contract be void as both parties were under the false and fundamental assumption that the subject matter had a tobacco growing quota of 14 acres which both of them had in their mind at the time of contracting. It was fundamental to their agreement.

The comments by the Court that one must look at the entirety of the contract to see whether one party assumed responsibility or liability in the event of a mistake is also of interest. The only thing one can take from the contracts entered into between the parties is that Devco management expected that there would be more than sufficient gas to generate 4 megawatts of electricity. That is the impression given by the AMCL Gas Report to Venture. Venture’s correspondence of April 8, 1992 (Ex. 1, Vol. 14, Tab 383) refers to increasing the outpoint power capacity at some point in the future to enable the system to produce “... 10 MW (net) of electrical power” ; and in Dick Collens’ correspondence of March 5, 1992 to Keith Crocker, he sent “NEW #’s FOR ADDITIONAL 4 MW COMING ON STREAM IN YEAR 2” (Ex. 1, Vol. 14, Tab 409). The question of insufficiency was not in the mind of those in Devco engineering or Devco management, was not raised by Venture, and was not dealt with in the agreements aside from MOU Clause 4, commencing, “(4) In the event the proportion to revenue of the Venture’s Plant’s capital, operating and maintenance costs and administrative overhead in any year varies significantly from the relevant proportion indicated in the financial analysis dated June 16, 1992 ...” The agreements as written evidence a mutual understanding and intention that Venture’s plant would generate 4 MW

net, using gas from Phalen Colliery. The agreements as written do not reflect concern as to the sufficiency of gas supply in relation to Venture's intended use of it.

The case briefly referred to above offers some useful comment. In *Sheikh Bros. Ltd. v. Ochsner*, [1957] A.C. 136 (Judicial Committee of the Privy Council), Sheikh Bros. granted a licence for the cutting, decortication, processing and manufacturing of all sisal growing on certain lands in Kenya. The lands were leased to Oschnar who assigned that lease to the second respondent to this appeal. Five thousand acres in Kenya were involved. Under clause 3 of the agreement, the licensee undertook to manufacture and to deliver to Sheikh Bros sisal fibre in average minimum quantities of 50 tons per month from and after April 1, 1951. Ochsner carried on the cutting and manufacturing of sisal until January 31, 1952. At that time, Sheikh Bros repossessed the land. Disputes arose between the parties as to whether the agreement was void under section 20 of the Indian Contract Act by reason of mutual mistake (that the leaf potential of the sisal area would be sufficient to permit the manufacture and delivery of the stipulated minimum quantities throughout the term of the licence) or alternatively, whether the agreement was impossible and void under section 56 of the *Indian Contract Act* (because the leaf potential of the sisal area made it impossible to produce the prescribed minimum quantities).

Section 20 and 56 of the Indian Contract Act provide as follows:

Where both the parties to an agreement are under a mistake as to a matter of fact essential to the agreement, the agreement is void.

...

An agreement to do an act impossible in itself is void. A contract to do an act which, after the contract is made, becomes impossible, or, by reason of some event which the promisor could not prevent, unlawful, becomes void when the act becomes impossible or unlawful.

Where one person has promised to do something which he knew, or, with reasonable diligence, might have known, and which the promisee did not know to be impossible or unlawful, such promisor must make compensation to such promisee for any loss which such promisee sustains through the non-performance of the promise. (Explanation and Illustrations Deleted)

The Court of Appeal for Eastern Africa affirmed the decision of the Supreme Court of Kenya, and held that the licence agreement was entered in to under a mutual mistake as to a matter of fact essential to the agreement and was accordingly void under section 20, and held further that it was also void under section 56 since the agreement contained an obligation to do an act impossible in itself. The Court held that as the agreement was void under section 20, Sheikh Bros. could not recover compensation under the third paragraph of section 56. Sheikh Bros. appealed that decision.

The Judicial Committee of the Privy Council held, on p. 141, that it was clear from the pleadings that the mutual mistake alleged was this: that both parties believed, contrary to the fact, that the leaf potential of the sisal area would be sufficient to permit the manufacture and delivery of the minimum quantities of 50 tons per month throughout the term of the licence. It was also clear, according to the Judicial Committee, that the impossibility alleged was that the leaf

potential of the sisal area made it impossible to produce the minimum quantities over the term. At first instance, the arbitrators had held that there was no mutual mistake. There was only an error of judgement as to the leaf potential. The arbitrators held at first instance that the error of judgement was not the equivalent of mistake. However, the issue of impossibility was decided in favour of Ochsner. Various appeal proceedings ensued. The Supreme Court of Kenya held that the erroneous belief as to the leaf potential of the sisal area was a mistake of fact on a matter material to the agreement. The case was remitted to the arbitrators to be dealt with on that footing. The arbitrators decided that the mistake was mutual, that the agreement was void under section 56, but that compensation was not payable. Sheikh Bros. appealed. The appeal was dismissed both by the Supreme Court of Kenya and by the Court of Appeal for Eastern Africa.

The Judicial Committee recited the facts, and on p. 146 said as follows:

“In their Lordships’ opinion the licence agreement provided for something of the nature of a joint adventure and was entered into on the basis that the sisal area was capable of producing sisal over the period of the agreement at the average rate of 50 tons per month.”

Two points were argued before the Judicial Committee. The first was that the mistake was not as to a matter of fact essential to the agreement, and second, that even if the licence was void under section 20, section 56 was applicable and therefore compensation was payable under the third paragraph of section 56.

The first point was argued on the authority of *Bell v. Lever Bros.* cited above. The Court rejected that argument. At p.147, the Judicial Committee wrote as follows:

Mr. Foote [for Sheikh Bros.] supported his argument on the first point by reference to the judgment of Lord Atkin in *Bell v. Lever Bros. Ltd.* Mr. Foote said that the mistake relied on

was a mistake as to quality and that such a mistake, to quote Lord Atkin, ‘will not affect assent unless it is the mistake of both parties, and is as to the existence of some quality which makes the thing without the quality essentially different from the thing as it was believed to be.’ He submitted that applying this citation assent was not affected in the case before Your Lordships. He also relied upon passages in Halsbury’s Laws of England, 2nd ed., vol. 23, pp. 135, 136, where the author draws the distinction between a case of mutual mistake as to the existence of the subject-matter or of some fact or facts forming an essential and integral element of the subject-matter (see paragraph 189) and one where the contract is for the sale of the subject thereof absolutely and not with reference to any collateral circumstances (paragraph 190). Mr. Foote submitted that the facts in this present case were analogous to the latter case and not the former.

Their Lordships are unable to agree. Having regard to the nature of the contract which, as their Lordships have already said, seems to them to be a kind of joint adventure, and to the provisions in particular of clauses 3(c), 4(a), 5, 6 and 11, their Lordships think that it was the very basis of the contract that the sisal area should be capable of producing an average of 50 tons a month throughout the term of the licence. It follows that the mistake was as to a matter of fact essential to the agreement.

The Court then turned to the second point, as to compensation payable under the third paragraph of section 56. That is a peculiar issue of construction not applicable to this case.

The case is interesting, with some factual analogies:

- a. Fundamental to the parties’ agreements was that the project was technically viable and that it would be profitable, in accordance with the financial projections attached as Schedule “B” to the CGA, and as referred to in the MOU. Devco became an investor, and therefore somewhat of a joint adventurer, on the basis of the viability of the project;
- b. in the Sheikh Bros. case, the basis for the agreement was that the sisal area was capable of producing sisal

over the period of the agreement at the average rate of 50 tons per month;

- c. in the case of Devco and Venture, fundamental to the written agreements expressing the parties' contractual intention was that sufficient methane gas would be captureable from Phalen colliery alone so that Venture's plant would generate 4 megawatts saleable over the period of the agreements – 20 years. Venture had undertaken the task of assuring there was sufficient gas for the project in accordance with the technical and budget requirements for the project;
- d. there appear to be some analogies in the factual basis of the two cases. The fundamental basis of the written agreements between Devco and Venture was that the project would be economically viable. The contractual intention of both parties was that the project would be profitable for both parties. On the face of the MOU and CGA, the parties anticipated Phalen colliery would be capable of producing captureable methane sufficient to generate 4 megawatts of saleable electricity. Venture had engaged AMCL for the very purpose of producing a bankable document by writing a report to satisfy investors as to the sufficiency of the gas supply. Venture as the project promoter represented there was sufficient gas. Devco understood that the AMCL Gas Report confirmed the sufficiency of coal gas for Venture's project. Venture specified the technicalities of its project.
- e. evidenced by their written agreements, the parties understood and intended the project would achieve the financial projections attached by the parties as schedules to their agreements.

In fact, there was a fundamental misconception. The project was not financially viable. Contrary to the parties' contractual intention evidenced by their Agreements in writing, there was not sufficient coal gas to make the project viable. The insufficiency related both to the volume

of gas available from Phalen Colliery, and to the choices made by Venture in selecting its generation plant (technical choices in relation to reciprocating engine(s) vs. a simple turbine vs. a turbine with the increased efficiency of combined cycle). The fundamental mistake was as to a matter of fact essential to the agreements. It was the intention of the parties on the face of their written agreements to have a profitable project, fully capitalized, not operating in a deficit position.

In my analysis the project:

- a.      could never have been profitable,
- b.      was under-capitalized, and
- c.      if built would have operated at a consistent deficit, if at all.

On the authority of Sheikh Bros., on the face of the written agreements there was a “mutual mistake” going to the foundation of the agreements entitling Devco management to terminate Devco’s involvement without any liability to Venture. Devco relied reasonably on Venture, and Venture induced Devco’s understanding that the project was viable on the available gas using Venture’s generating plant as specified by Venture. Venture knew that Devco had no independent source of information on gas volumes from Phalen Colliery for the project, and Devco certainly was not in a position to and did not examine Venture’s proposed generating plant with an eye to independently determining its saleable output. Devco’s mistaken belief was induced by Venture, and in the circumstances of Venture’s promotion of the generating project, Devco’s belief was reasonable.

An older case from Canada is also an interesting authority on the point, *Garrard et al. v. Lund et al.*, [1921] 1 W.W.R. 329 . The language in the case is peculiar to logging claims and is somewhat difficult to read. The essence of the case is that the parties entered into an agreement for the sale of timber on certain lands. It was provided and agreed that the purchasers, Lund, were

not obliged to log or cut timber that could not be economically and profitably logged by means of “donkey engines”. For one year commencing April 1, 1918 and whether or not logging operations were carried out, the purchasers were to pay \$250 per month and thereafter a sum of not less than \$500 per month during the continuance of the agreement. That sum would be debited against the amounts payable to the vendors in respect of timber cut and scaled by the purchasers. The purchasers were obliged to commence logging operations on the lands not later than April 1, 1920 until the timber berths were completely logged off subject to paragraph 1 of the agreement which contained the proviso that “the said purchasers shall not be obliged to log or cut timber from the said lands that cannot be economically and profitably logged therefrom by means of donkey engines.” The parties agreed in paragraph 5 to have a cruise or “estimate” made some time before logging operations were commenced as to the quantity of timber on the lands covered by the four timber licences to be estimated by a named timber cruiser or a mutually agreed substitute. The costs of having the estimate made were to be borne equally between the vendors and the purchasers.

After the cruise was made under the contract, the purchasers claimed – and in this were upheld by the trial judge – that there was not within the licensed area sufficient timber that could be economically and profitably logged by means of donkey engines. The purchasers had been making the minimum monthly payments under the contract. They had not commenced logging operations. From and after May 1, 1919 the purchasers refused to make further payments or to further carry out the agreement. The vendors sued for payment of certain instalments of the purchase



price. The purchasers counter claimed for a rescission of the contract and repayment of monies paid to the vendors.

The trial judge dismissed Garrard's claim as vendor, gave judgment rescinding the contract, and directed Garrard to repay to the purchasers all monies previously paid under the agreement. On appeal by the vendors, Garrard, the Court upheld that decision as to the dismissal of the vendors' action but reversed it on the counter claim for rescission.

The Court of Appeal per Martin, J.A. summarized the situation on p. 331. The contract in question, it said, was dated April 1, 1918. The contract related to the logging of timber from certain limits which were estimated and included as a recital in the contract to "contain approximately 110 million feet of merchantable timber" and to purchase from the vendors all the merchantable timber and trees standing on lands covered by eight timber licences involved. All of this was subject to the term that the purchasers would not be obliged to log or cut timber from lands which could not be economically and profitably logged by means of donkey engines.

The Court said a p. 332 as follows:

It is obvious, from a perusal of the whole contract, that it contemplates logging operations on a large and profitable scale, and the purchasers were given two years within which to begin them, but before they began the timber on certain of the lands was to be "cruised or estimated" by John McShane "or some other competent timber cruiser to be mutually agreed upon by the parties hereto"... As a result of the cruise the Learned Trial Judge found:

as a fact that there is not on these limits timber that can be economically and profitably logged at the present time by means of donkey engines within the contemplation of the contract, and likewise that there was not at the date of said contract. (p. 332)

The trial judge treated the contract as one of mutual mistake and therefore ordered rescission of the contract and directed the vendors to repay the purchasers all the money payable thereunder.

The Court of Appeal disagreed, saying that there was no mutual mistake but the happening of an event which was provided for by the contract. The contract was incapable of further performance as the result of the information acquired by the cruise. The Court of Appeal said at p. 332 as follows:

It is in one way, but, looking to the saving of fruitless expenses, not in another, unfortunate that such a result was to prove that no substantial portion of the lands could be profitably logged, but that is the very thing that was provided for and that the requirement of a "cruise or estimate" prior to beginning operations covered. It cannot, I think, properly be said that there was no consideration in view of the valuable right the Defendants acquire to hold these limits locked up subject to their wishes for two years and the exercise of that right for over a year before refusing to further carry out the contract by making any more of the stipulated payments, or otherwise, on the ground that they had reached the opinion that the enterprise was not a profitable one to further engage in, which is another way of saying that it had become impossible to perform the contract in the manner it contemplated and provided for, ie. at a profit. Moreover, there is the further very important consideration of the joint cruise made in pursuance of the contract, by means of which the Defendants were enabled to obtain information of the most valuable kind, so valuable indeed, that it enabled them to successfully resist this action and saved them from the loss of beginning and carrying on unprofitable logging operations; in this respect there has been a performance of an essential part of the contract.

The Court of Appeal analyzed the situation as one of impossibility which was anticipated in the parties' agreement. The Court cited the leading case of *Taylor v. Caldwell* as authority that:

Where from the nature of the contract, it appears that the parties must from the beginning have known that it could not be fulfilled unless when the time for the fulfilment of the contract arrived some particular specified thing continued to exist, so that, when entering into the contract, they must have contemplated such continuing existence as the foundation of what was done; there in the absence of any express or implied warranty that the thing shall exist, the contract is not to be construed as a positive contract, but as subject to an implied condition that the parties shall be excused in case, before breach, performance becomes impossible from the perishing of the thing without default of the contractor. (*Taylor v. Caldwell* (1863) 3 B& S 824, 32 L.J.Q.B. 164 at p. 833, from p. 334 of Garrard v. Lund.

The Court went on to say that further performance of the purchasers' obligations was excused not by implied but by express condition. It had become impossible to carry out the contract on the basis of profitable logging which was the foundation of it. It said it was like the Coronation cases in which one had to look at the time when the contract became impossible to fulfil. Until the point of impossibility, the contract was valid and the parties were obliged to perform their obligations under it. At the point when the contract has become impossible to fulfil and the contract can no further be performed by either party, the parties are released from further performance of the contract. Reference is made to the discussion of the Court of Appeal in *Chandler v. Webster* [1904] 1 K.B. 493, at 499. Accordingly, the vendor was entitled to keep the monies received under the contract.

There are some similarities on the face of the facts arising in this case, to the Coronation Cases in *Garrard v. Lund*. As on the face of the Venture and Devco agreements it was fundamental that there be a profitable and technically feasible project. This, in turn, relates to the quantity of gas which could be captured from which to generate methane in the power generation project. Devco signed up as an investor on the basis that the project was technically and economically viable. However, in contrast to Venture and Devco's Agreement, in *Garrard v. Lund* the parties specifically addressed in their contract how to determine after the contract was signed whether there was in fact sufficient timber on the lands under licence which could be profitably logged by way of donkey engines. They agreed on a manner of determining that. They agreed that a mutually acceptable timber cruiser would make that determination. Upon it transpiring that despite the parties' expectations there was no possibility of carrying out a profitable logging operation, then further performance was excused by express condition in the contract.

There is no such express condition in the agreements signed by Devco and Venture. There was no contemplation on the part of Devco and there is nothing in the agreements they signed to suggest that after signing the agreements, the parties would jointly obtain further advice as to the viability of the project. There was no discussion after receipt and review of the September 1991 AMCL Gas Report to Venture by Devco engineering personnel of the need for any further experts or technical advice as to the sufficiency and availability of methane gas from Phalen colliery.

To the contrary, Devco understood the AMCL Gas Report provided assurances that the project was technically and economically feasible. Venture had forwarded Venture's September, 1991 AMCL report to Devco as part of such assurance. That is where the analogy to the Coronation Cases, and to *Garrard v. Lund falls*. There was no supervening event of impossibility. This

contract, as in *Sheikh Bros.*, was impossible of performance from the outset. On the face of the written agreements, the CGA and MOU, this situation gave rise to a fundamental mutual mistake of fact. That is the analysis used by the Judicial Committee of the Privy Council in *Sheikh Bros.*

The same line of reasoning in *Sheikh Bros.* and similar cases has been applied by the Nova Scotia Supreme Court to allow rescission of a contract (a “retrospective cancellation of a contract, ab initio” per *Cheshire, Fifoot & Furmston’s Law of Contract*, 12 edition, p. 544) in *Marwood et al. v. Charter Credit Corporation* (1970), 12 DLR (3d) 765 (NSSC, Bissett, J.). In that case, the parties believed the subject matter of a contract for purchase and sale of lands was a dwelling house described as “194 Atholea Drive” in Cole Harbour, near Dartmouth. In fact, the house was on Lot 193. By mistake, the purchasers/plaintiffs were given a deed to “Lot 194” , a vacant lot next door to the house they intended to purchase. Lot 193 was sold on to a third party. The purchasers were inexperienced, had not been advised to obtain a survey and did not obtain a survey. Because of the conveyances and encumbrances on adjoining lots, the Court determined it was not possible to rectify the situation by an exchange of conveyances. The purchasers/plaintiffs brought an action for rescission, which was granted by the Court. The Court awarded the purchasers all of their payments on account plus the value of permanent improvements on the house; and the vendor was entitled to a set off for use and occupation. On appeal by the plaintiffs, there was an adjustment as to the amounts owing by the plaintiffs to the vendor.

The Nova Scotia Supreme Court, Appeal Division (1971), 20 DLR (3d) 563 agreed with the Trial judge that this was a case of “mutual mistake”, in that “neither party knew ... this property was situate on Lot 193 and not on Lot 194, which was actually described in the agreement of sale and in the conveyance.”

“Mutual mistake” fundamental to the parties’ agreements results in rescission of the agreements. In the circumstances of this case, there would be no damages payable by Devco to Venture, as the mutual mistake was entirely due to Venture’s work in relation to determining the volume and quality of coal gas from Phalen Colliery for its project in relation to the technical requirements including efficiency of the project which it designed. Devco relied reasonably on the information and assurances provided by Venture. In all of the circumstances of this case, there was no reason for Devco to have investigated the issue of gas availability and the issue of what saleable electricity generation could be expected from the gas available to the project.

Counsel for Venture has attempted to characterize this case as a Sale of Goods Case. He argues that Devco, as vendor of the gas, retained title to the gas until it delivered the gas to the Delivery Point. Until then, title and, therefore, risk remains with Devco. Venture says that neither party can rely on its own mistake and in this case the mistake is on Devco’s side of the risk line.

He argues further that there was no misrepresentation by Venture, that this was a case where Devco simply did not do the necessary arithmetic. Devco, he says, cannot rely on its own failure to analyse information which was in its possession. He points to Devco’s failure to employ its “best efforts” under the contract to deliver the gas. He also says that if long hole drilling had been employed, there would have been enough gas.

I do not accept Venture’s arguments. In the first place, I reject the notion that this is simply a Sale of Goods case. The MOU and CGA signed by the parties create a complex business arrangement. I agree with Devco’s Counsel’s submission that it is necessary to look at the entirety of the business arrangement. That approach makes it clear that it was Venture which assumed responsibility for investigating the basis (risk) for the project.

While it is true that Venture did not knowingly misrepresent the risk to Devco, it did provide the Report upon which Devco reasonably relied. It was Venture which had the face to face meeting with Mr. Liney in Calgary in September of 1991. It was Venture (Desmond Smith) which was told by Mr. Liney that it should consider a 3MW project. And it was Venture which was told (but apparently failed to appreciate) that Mr. Liney's projections were based upon an efficiency of 33 1/3 %. It was Venture which then selected an inadequate generation unit for the project.

I stop just short of finding that Venture negligently misrepresented the feasibility of the project to Devco when it passed along the flawed AMCL gas report. However, I am satisfied that Venture was in a far superior position to Devco when it came to the opportunity to assess the actual implications of the AMCL Report and therefore the feasibility of the project.

As I have noted earlier, the longhole drilling experiment was never part of the Venture/Devco project. It is therefore no argument to say that Devco was obliged to attempt longhole drilling before it had the right to conclude that there was not enough gas. Similarly, I reject Venture's attempt to marshal the "best efforts" clause in the contract. The September 1991 AMCL gas report was a pre-contractual representation. There was a fundamental failure going to the root of the contract before the "best efforts" clause was ever drafted. There is no refuge in the clauses of a void contract.

In conclusion, there was a fundamental mutual mistake of fact. Devco was therefore justified in terminating its involvement in the project. Accordingly, the Agreements are rescinded and there is no liability on the part of Devco to Venture.

***Negligent Misrepresentation:*** Venture is alleging that Devco made thirteen separate pre-contractual misrepresentations which induced Venture to enter into the electrical generation contract. During post-trial oral submissions, I advised Counsel of my finding that the flooding of Lingan Colliery and the underground pipeline dispute had nothing to do with Devco's terminating the contract. I found that the sole reason Devco had decided not to proceed further was the insufficiency of Phalen gas. Accordingly, the allegations of negligent misrepresentation premised on the belief that Devco had terminated the contract because of the Lingan flood disappeared. So too did those related to the belief that the pipeline dispute played a role in Devco's decision.

In light of the findings I have made elsewhere in this decision, particularly with regard to credibility, it may by now be self evident that I am not persuaded by Venture's claim that it was the victim of any misrepresentation by Devco. I have not been able to find a single "untrue, inaccurate, or misleading" statement made by Devco to support Venture's claim. In any event, I will deal briefly with the misrepresentation allegations which arguably survive my finding regarding Devco's decision to cancel.

The Supreme Court of Canada set out this formulation of the essential elements of negligent misrepresentation in *Cognos Inc.* (1993), 99 D.L.R. (4<sup>th</sup>) 626 (S.C.C.) at p. 643:

“... (1) there must be a duty of care based on a ‘special relationship’ between the representor and the representee; (2) the representation in question must be untrue, inaccurate or



misleading; (3) the representor must have acted negligently in making said representation; (4) the representee must have relied, in a reasonable manner, on said negligent misrepresentation; and (5) the reliance must have been detrimental to the representee in the sense that damages resulted.”

I should add that the primary basis of Venture’s claim of negligent misrepresentation appears to be Mr. Boutilier’s letter of April 22, 1992 (Ex 1, Vol 14, Tab 402). I am satisfied that the points reviewed in the letter were not misrepresentations at all. The letter reflects “agreement in principle” on the points of agreement, the points negotiated by the parties on April 15 and 16, 1992. The points are those to which the parties had orally agreed in the course of their negotiations. I am satisfied that Devco was fully committed to fulfilling its obligations pursuant to those points of agreement as it understood them at the time. I cannot accept Venture’s apparent position that a point of agreement somehow becomes a misrepresentation when Devco disagrees with Venture’s interpretation of a contract clause.

The Plaintiff alleges Devco made a pre-contractual misrepresentation that Devco would pay "all costs" of getting the gas to the delivery point.

This allegation is without merit. In the first place, it is based on the false premise that Devco was obligated to deliver Phalen gas by April 1, 1993. I have already explained why that is not the case, Devco was not obliged to provide Phalen gas until at least 1994.

Second, as I have already found, “all costs” did not include the capital costs necessary for the construction of the Phalen underground pipeline. The “all costs” referred to Devco’s responsibility to pay the “operating costs” of delivering the gas. There was never any representation (let alone misrepresentation) by Devco of a “commitment” to assume the costs of constructing the

underground pipeline.

Venture was not relying on any such representation when it entered into the contract with Devco. As I noted earlier, it was Venture which induced Devco to enter into the contract.

Venture is alleging the tort of negligent misrepresentation. There is no independent tort here – the alleged tort is dependent on the contract. This is a situation where the parties disagree on the interpretation of a clause in the contract. There is no untrue, inaccurate or misleading misrepresentation.

Venture also alleges that Devco misrepresented its commitment to the project by not disclosing that its commitment was subject to a future viability analysis.

I agree with the submission of Counsel for Devco to the following effect:

- i      Devco did not represent to Venture that Devco had already conducted a viability analysis, such that project viability would never again be questioned;
- ii     Devco did not represent that it would never examine project viability should circumstances come to its attention suggesting that course of action would be appropriate;
- iii    Devco did not represent either that viability would be examined in the future, or that viability would not be examined in the future.

This is a situation where Devco relied upon Venture's AMCL viability study. When that study turned out to be doubtful, Devco was perfectly justified in commissioning its own viability analysis. Indeed, it would have been foolhardy for Devco not to have done so.

Venture claims that Devco made a pre-contractual representation that it would not do a feasibility review until after one year. Venture points out that the MOU contains a specific provision – inserted at the request of Devco and drafted by Mr. Crocker – which deals with future “feasibility”. Article 4 of the MOU states:

“In the event the proportion to revenue of the Venture plant's capital, operating and maintenance costs and administrative overhead in any year varies significantly from the relevant proportion indicated in the financial analysis dated June 16, 1992 (a copy of which is attached hereto and forms part hereof), the Venture and Devco shall together review all capital and operating budgets proposed for the Venture's Plant in respect of the following year...”

Venture alleges that Devco’s cancellation of the Contract before the in-service date contravened the pre-contractual representations by Devco to Venture that any review under Article 4 of the MOU would be triggered by at least one year’s performance under the Contract. Venture says that if Venture had known that Devco would terminate the Contract before the in-service date, then Venture would have told Devco to perform the viability analysis before Venture wasted 4 million dollars.

I agree with Devco’s submission that Venture is reading too much into MOU Clause 4. That Clause does not refer to a viability review or feasibility analysis in relation to the volume of coal gas available for the project or in relation to net electrical output which could be expected from available coal gas volumes. The Clause evidence is no agreement on the part of the parties that either was precluded from carrying out a viability review or feasibility analysis until after one year of project operation. There is no evidence of such agreement. There is no evidence of negotiation

of such a provision. Nor is there evidence that the parties had any reason to consider a re-examination of the project would be necessary.

The Clause was drafted as a result of discussions between Mr. Crocker and Desmond Smith, and incorporated in points two and eight of the April 22, 1992 letter (Ex. 1, Vol. 14, Tab 402). There is nothing in the letter which refers to a viability or feasibility study in relation to gas volumes or the basic viability of the project at all. In any event, there is no evidence of an untrue, inaccurate or misleading statement in this or any other section of Venture's submission in relation to a future viability analysis.

Next, Venture asserts that there was a misrepresentation by Devco that there was no "minimum" amount of gas. Venture says that Devco's termination letter of March 29, 1993, stated that, without Lingan gas, there is insufficient gas for a viable project. In the pre-contractual negotiations, Venture had asked for a minimum amount of gas and Devco had refused. The result was an agreement in April 1992 that there would be no minimum amount of gas. Devco's letter of April 22, 1992 (Vol. 14, Tab 42, P. 2) states:

- “4. Gas supplied not to be guaranteed.
5. Depending on availability of gas, sales to Nova Scotia Power Corporation of not less than 4 MW of electricity to be guaranteed.”

Venture argues that these provisions were embodied in the executed CGA. Article 3.01 states that Devco must use its best efforts to deliver to the delivery point a "maximum" amount of gas all references to gas in the CGA and MOU speak of "maximum" levels of gas. Neither agreement refers to "minimum" amounts of gas. Venture says that the basis of the termination of March 29, 1993, was the 4 MW of electricity was a "minimum". This contradicted the pre-

contractual representations in the letter of April 22, 1992, items 4 and 5 as noted above. Venture says therefore Devco misrepresented the risk of termination of the Contract.

I agree with Devco that this alleged misrepresentation ignores completely that both parties intended Venture's electricity generating project would be commercially viable. Venture's submissions neither acknowledge nor deal with that fundamental element to the agreements. The CGA and MOU evidence the terms of the parties' agreements. It is the contractual intention of the parties which governs. Venture's submission does not deal with the implications for the project when it turned out that the basis for it did not in fact exist. It is irrelevant that the parties agreements did not set out a "minimum" generation of electricity. They proceeded on the basis of a viable project, and intended to generate 4 MW net. Regardless of the presence or absence of such a "minimum" term in the contract, there was no foundation for the project at all. The existence of a viable project is what was fundamental to the project and to the agreements.

I am satisfied that Venture is mixing up Devco's refusal to provide a guaranteed minimum flow rate of gas (2,800 MCF/D) for each and every operating day during each contract year, with the fact that over all, the parties intended the project to generate 4 MW of saleable electricity, and develop their financial projections on that very basis.

Venture's next alleged misrepresentation pertains to the 20 year term of the contract "unless terminated sooner as herein provided". Venture says that by terminating the contract without reference to its termination clause, Devco effectively demonstrated that it had misrepresented its commitment to the project. Again Venture's submission misses the fundamental problem that there was never a viable project. As I discussed previously, Devco was justified in terminating the contract on the basis of mutual mistake. It did not have to rely upon a specific

provision of the contract. Devco made no untrue, inaccurate or misleading statement with regard to the 20 year term of the Contract or with respect to the risk of its termination.

The next alleged misrepresentation says that Devco promised Venture \$1.2 million for the project and Venture relied on that promise. Devco signed the MOU. Clause 5 provides for that very item. Devco's investment of that sum was not outright. There were terms and conditions by contract with respect to that sum of money.

MOU Clause 5 reads in part:

“Clause 5: Devco shall purchase \$1.2 million worth of equipment of mutual benefit to the Venture's plant and to Devco's mining operations *vis-a-vis* mine safety and environmental protection. Under a separate lease, this equipment shall be leased to the Venture for its Plant and for the following consideration, payable annually in quarterly installments:...”

Venture says the “promise” is also a “misrepresentation”, because Devco did not forward Venture the full amount of the \$1.2 million. The fact is that the obligation is an obligation in contract, not tort. There was no false or misleading representation by Devco. There was no independent tort duty at all. Venture's argument establishes no independent tort duty as required for concurrency in the case law.

In this case, the parties' negotiations resulted in a contract. There was no “promise” or representation that Devco intended to give \$1.2 million in cash on demand to Venture and on which Venture relied to its detriment.

There were two invoices issued by Venture to Devco (see Exh. 1, Vol. 16, Tab 446 and Vol 18, Tab 534). Venture did not provide the required list of equipment to Devco.

Venture's submission does not acknowledge the fundamental problem between July

and November that Venture had failed to provide Devco's Merrill Buchanan backup documentation justifying further Devco payments with respect to the project. By November 1992, because of the agreement to change the pipeline routing from the Lingan Colliery borehole route to the Phalen to surface route, the project as a whole was underfunded. Venture's submission ignores Merrill Buchanan's letter of November 20, 1992 (Exh. 1, Vol. 18, Tab 536) in relation to future draws, and ignores Merrill Buchanan's testimony in relation to the situation in November. The letter said in part:

“We are very concerned, however, that your proposed drawdown schedule may not provide for Devco's directly incurred capital costs associated with that aspect of the project's gas collection system which will be comprised of gas pipeline and related equipment, labour and materials underground at our Phalen Colliery .. I raised this issue with Mr. Pippard on 1992-11-03, and have since had confirmed by Mr. Hopkinson that he, yourself and Mr. Smith are of the view that Devco's underground capital cost was not intended to be covered by Devco's \$1.2 million investment in the project. We are entirely of the opposite view, and request that a draw schedule be prepared to clearly provide for our underground costs within the agreed \$1.2 million total investment.

We will require this schedule prior to the next draw-down of funds from Devco. As well, in the same timeframe we want to fully develop a method of measuring progress on the project and validating the expenditure of our investment.”

Venture did not submit the requested revised draw schedule. Nor did it make any suggestions towards measuring progress. Venture's submission ignores the evidence of Venture's failure to provide Devco with details of its planned expenditure of Devco funds as required by Devco.

In summary, this alleged misrepresentation is not a misrepresentation at all but is an allegation of breach of an expressed term of the parties' agreement. Devco did not agree simply to fork over money on demand. The arrangement was carefully structured for reasons of Devco's corporate requirements. Venture knew that. Venture indicated its agreement by signing the MOU. Clause 5 of that document is the governing provision. There is no duty owed by Devco to Venture in relation to the \$1.2 million investment independent of the contract commitment, and subject to the terms of the MOU. The expenditure was outlined quite specifically in MOU Clause 5 but there was no schedule for payment. Venture has established no independent duty and no breach. There is no "untrue, inaccurate or misleading" representation by Devco. There was a contract term, a contract promise only.

Venture also alleges that Devco made an "affirmative misrepresentation" that the intercolliery (Phalen to Langan) borehole route for the underground pipeline "could be done" when Devco knew otherwise. This is a puzzling submission in view of Venture's insistence that they never got an answer from Devco on this issue. (See above discussion of pipeline dispute.) I cannot understand how Venture can now put forward any notion of reliance in the face of such evidence.

In any event, I am satisfied that in the spring of 1992, both parties were in agreement that the intercolliery route was the way to go. As I noted previously, that decision enabled the parties to reduce the capitalization of the project by \$750,000.00, from \$6.95 million to \$6.2 million.



As I have also explained, that reduction was the inducement which convinced Devco to invest \$1.2 million in the project.

There was no misrepresentation by Devco's Roy MacLean or by anyone else in Devco on this issue. The AMCL Report had discounted the intercolliery route for use on a long-term basis, Roy MacLean's evidence was that the route was feasible for a couple of years. That was the parties' belief in the spring of 1992, a belief which was reasonably formed and honestly held. It was not until August 1992 that the feasibility of the intercolliery route became a concern. The parties, including John Hopkinson, decided at that time that the "logic" of the Lingan route did not standup.

In short, I reject Venture's submission that Devco misrepresented the feasibility of the Lingan route.

Venture next asserts that there was a pre-contractual misrepresentation by Devco respecting the *sources* of gas which would be accessed for the project. In particular, it says that Devco represented to Venture that there would be a longhole drilling project which, if successful, would result in longhole drilling gas being added as "sweetener" to enhance purity and to replace gas from cross-measure drainage. Further, argues Venture, there was a representation that gas from sewer gate would be mixed with the higher purity longhole drilling gas to further enhance the gas supply.

I have no difficulty in summarily disposing of this argument. It is beyond question that both parties agreed to proceed with the project on the basis of gas drained by conventional cross-measures drainage. There was no representation by Devco that there would be a long-hole drilling project. Further Devco, at that stage, had no notion of the purity of the gas it might expect

from the operation of sewer gate ventilation.

There was an agreement to proceed with a longhole drilling experiment. That agreement was between TAI Energy and the Canada Centre for Mineral and Energy Technology (Canmet). Devco was to make an in-kind contribution of services, which would permit TAI and Canmet to undertake the experiment in a Devco colliery. I find it impossible to fathom how an experiment conceived, designed and promoted by TAI (Desmond Smith) becomes an alleged misrepresentation by Devco.

Venture places heavy emphasis on the notes of the meeting held on February 27, 1992 (Ex. 1, Vol. 13, Tab 349). The meeting was attended by Messers Nicholson, LeBlanc and Ellerbrok of Devco, Desmond Smith of Tai/Venture, and Dr. Forrester of Canmet. Dr. Forrester's notes of the meeting conclude with respect to the longhole experiment:

“Decision to Proceed

In conclusion, there was strong support by all to see the project proceed.”

I cannot understand how Devco's decision to cooperate in this experiment becomes a representation that it would employ this technology in the Venture/Devco electrical generation project. The longhole drilling experiment was always a separate issue. At the time, its effectiveness was unproven and its cost unknown. Even if I accepted Venture's argument that Devco did make a representation, I am satisfied that Venture placed no reliance upon longhole drilling when it contracted with Devco. The parties entered that agreement on the basis of gas which would be available from conventional cross-measure drainage. There was never any contemplation that any gas collection technique, no matter how experimental or expensive, would be used by Devco to fuel

the electrical generation project.

In conclusion, I reject Venture's argument that Devco misrepresented the sources of gas which would be accessed for the project.

Finally, Venture asserts that in his letter of April 22, 1992, (Vol. 14, Tab 402), Ernie Boutilier made a pre-contractual representation that:

“Devco will have the obligation to deliver to the Venture such quantities of coal gas as it is able to supply by its *best efforts*. Devco has the incentive to supply *as much as is physically possible* in order to maximize its benefits from your project.”

Venture asserts that this representation was false because, when Devco terminated the contract in March of 1993, Devco had used no effort to deliver gas. This alleged misrepresentation cannot stand in the face of the finding I have already made, that Devco was under no contractual obligation to deliver any Phalen gas prior to January 1994. Venture's assertion here is based on the false premise that Devco was obliged to supply Phalen gas by April 1, 1993. The assertion, as Devco pointed out in its post-trial submission, simply ignores, as if it never existed, the schedule worked on by John Hopkinson and Gary Ellerbrok, the schedule sent by John Hopkinson to Ernie Boutilier in December 1992. That schedule shows that Venture had agreed that there was to be no gas from Phalen Colliery before the end of 1993. Accordingly, there is no basis for saying that Devco misrepresented its intention nor is there any substance to the suggestion that Venture relied upon Devco using its “best efforts” to supply Phalen gas by April 1, 1993.

In summary, there is no merit in any of Venture's allegations of negligent misrepresentation by Devco.

*The Flooding of Lingan Colliery:* I have found that Devco terminated the contract with Venture because Phalen Colliery could not provide sufficient gas to support the project. The flooding of Lingan Colliery was *not* the reason for Devco's decision. As such, the flooding of Lingan Colliery is of no relevance to the issues in this action.

On December 21, 2000, I issued an interim written decision on a non-suit motion brought by Devco at the close of the Plaintiff's case. At that time, Devco had asked me to dismiss those portions of the Statement of Claim relating to allegations of negligence by Devco in the events leading to the flooding of Lingan Colliery. Obviously, at the time the motion was made, I had not had the opportunity to hear the Defendant's evidence. The reason why Devco had terminated the contract was still an open question. Specifically, at that time, I could have found that Devco had terminated the contract because of the Lingan flooding.

Having heard the evidence of both parties, I am now in a far better position to determine the exact rationale for the contract termination. I have no doubt that it was the insufficiency of Phalen gas and not the flooding of Lingan Colliery which prompted Devco's action.

As I noted earlier, Devco was aware that Venture intended "start-up" to occur on April 1, 1993, using Lingan gas. Mr. Boutilier, Devco's president, acknowledged that he told Venture's Collens that Venture could start early using Lingan gas if it wished to do so. At the same time, I am satisfied that Devco made it clear to Venture that Devco could not be contractually obligated to provide Lingan gas.

Devco was therefore aware that Venture intended to use Lingan gas for "start-up" even though Devco was not contractually bound to supply it. Ironically, Venture denies that there was any such intention. In a very transparent attempt to manufacture a breach of contract case, the

three Venture spokesmen, Messers Collens, D. Smith and Hopkinson gave evidence, which I do not believe, that they expected Phalen gas to be delivered on April 1, 1993. They denied any intention to start the project with Lingan gas. There is therefore no question of Venture's reliance upon the supply of Lingan gas and indeed Venture has never put forward such a position. In these circumstances, the flooding of Lingan Colliery and consequent unavailability of Lingan gas is of no legal relevance.

It is unfortunate that the trial could not have been structured to allow me to first determine the cause of the contract termination. Had that been possible, many weeks of highly technical evidence regarding the causes of the Lingan Flooding could have been avoided. It is tempting at this stage to say that that evidence is irrelevant and therefore I am not going to deal with it. But I feel I must deal with the Lingan flooding at least in summary fashion because of its implications for those involved. As Devco's Counsel noted in their post-trial submission, Venture's allegations put the professionalism, competence and reputations of Devco's engineering personnel in question.

The people who had responsibility for the design and operation of 5 east wall were Robert Cooper, Roy MacLean and Jay Kochhar. I was very impressed with each of these three witnesses. They are capable and careful individuals. They gave their evidence in a straightforward and honest fashion. I am satisfied that they made reasonable decisions based upon the best evidence available at the time. At no time did they carelessly create a situation of grave danger for the miners

employed in either the Lingan or Phalen Collieries. These were conscientious individuals who strove to make the best decisions in very difficult circumstances.

Both Phalen and Lingan Collieries were submarine coal mines each extending several kilometres under the ocean floor. Lingan is the oldest colliery and it worked the Harbour seam. Phalen Colliery is located in the Phalen seam which is approximately 140 metres (459 feet) below the Harbour seam.

Also located in the Harbour seam is the abandoned Number 26 Colliery. In the Harbour seam, Lingan and Number 26 Collieries are separated by a barrier which has a minimum width of approximately 325 metres (1050 feet).

On November 20, 1992, Lingan Colliery experienced an inundation of water. The only way the flooding could be controlled was by pumping the water directly into the ocean. The environmental implications of such pumping were unacceptable. Environment Canada ordered Devco to stop. Devco therefore permitted Lingan to flood. Lingan had been slated to close on March 31, 1993. Even a non-coal producing, but unflooded, Lingan would have emitted some methane gas. As such, it would have been of some use to the methane gas utilization project. Indeed, I am satisfied that the Venture principals were counting on Lingan to provide gas for nine months or so until the Phalen pipeline was complete. They must have realized that a non-coal producing Lingan would not produce sufficient gas to fuel the project. But they were in a box. On the one hand, by April 1991 Venture had contractually bound itself to Nova Scotia Power to start electrical generation the project on April 1, 1993. On the other hand, Venture had agreed upon a schedule with Devco which would mean that Phalen gas would not be available until early 1994.

In any event, the flooding and premature closing of Lingan dashed any hope Venture

had of starting the project on Lingan gas. As noted, Venture's principals then took the position that they had all along expected Devco to deliver Phalen gas on April 1, 1993.

In December 1992, Dr. Ian Farmer hypothesised that bed separations in the strata remained sufficiently open to permit the passage of water across the 1,055 foot barrier separating No. 26 and Lingan. The bed separations had been caused by the undermining of the barrier by the five east wall in Phalen Colliery. I am satisfied that the bed separation theory is correct and that that is in fact what did occur.

Venture says that Devco was negligent not only in undermining the barrier but in having allowed No. 26 Colliery to flood in the first place. I reject both those positions.

I agree with Devco's submission that the entire issue of the circumstances and events which led to the flooding of No. 26 is of no relevance or assistance to the Court in resolving the matters in issue in this proceeding:

- a. as I already noted, the flooding of Lingan Colliery is of no legal relevance and provides no basis of claim by Venture against Devco. In that situation, the question of how and under what circumstances the water came to be in No. 26 can be of no relevance;
- b. there was no reason not to mine Phalen Colliery under flooded No. 26 workings. Accordingly, even if there had been any relevance to the Lingan flooding, then the flooding of No. 26 is at best a neutral fact. The issue then would be whether reasonable and proper steps were taken by Devco engineering personnel in the design and operation of 5 East to address the circumstance of the flooded No. 26 workings. If

reasonable and proper care were taken to address the fact of flooded workings, how the water came to be there could not change the result;

- c. in any event, I am satisfied Devco engineering personnel acted reasonably and prudently in their mines water management decisions and the flooding of No. 26 did not result from any want of reasonable care on their part.

The mere fact of water in the abandoned No. 26 workings is not negligence *per se*.

The entire Phalen Colliery operated under water. Phalen Colliery could have operated safely even if the Harbour horizon 140 meters above the Phalen seam had been the sea. Section 55(b) of the Coal Mines Occupational Safety and Health Regulations (1990) reads as follows:

“55. No coal mine shall be worked below the sea bottom or below a body of water or material that may flow, except under the following conditions:

.....

- (b) subject to paragraph (c) [not relevant] where a coal seam or stratified deposit is worked, there shall be a cover of 55 m or more of solid measure;....”

Having water over head cannot itself be negligence and is nothing more than a neutral fact in this proceeding. As such, the fact of the presence of water in No. 26 does not suggest negligence. Devco could have intentionally allowed No. 26 to have flooded – the result would be the same. Phalen could have been operated safely provided that appropriate decisions were made in the design and operation of the Phalen longwalls.

In addition, I agree with Counsel for Devco that when considering the events relating to the flooding of No. 26, it is important to bear the following points in mind:

- a. it was not possible to enter the various collieries



which were or might have been contributing water to 1B/No. 26 to determine where the water was and to where it was passing. All of these collieries were closed and sealed;

- b. as such, the only data which Devco engineering personnel had were water level readings at Quarry Point and at the 1B shaft. They had conclude from that water level data and their knowledge of the old mine plans what was the significance in changes in water levels or water levels remaining steady. That was not always self-evident or clear;
- c. we now have the benefit of hindsight. We know that the water got into No. 26 and we know when it was full to the spill point to 1B. As Dr. Farmer pointed out in the context of the bed separation theory as the explanation for the travel of water from No. 26 to Lingan, once the answer is known it is easy to construct an hypothesis which fits the facts. It is not so easy to look ahead when working at the time with limited data;
- d. Devco engineering personnel were operating in the real world. As with a privately owned company, unlimited funds were not available for every imaginable project. Judgements had to be made as to when it was appropriate to expend funds on the pumping project in light of the best information and conclusions then available. Prior to learning in the spring of 1991 that No. 26 was full to the spill point from 1B the conclusion was that the water would not be at that point in No. 26 for approximately 13 years (Weekly Mine Engineering Department Minutes, April 15, 1991, Ex. 1, Vol. 10, p. 6, Item 6.3 and calculations). It was then a question of judgement as to the timing of dewatering of No. 26 in relation to Phalen mining proceeding downdip and the water rising updip in No. 26 such that Phalen would not

require restricted extraction height. The conclusion was that the water would not be encountered overhead until 8 East.

In summary, if the flooding of Lingan Colliery were relevant, the only legal relevance of the No. 26 flooding is that Devco engineering personnel recognized the No. 26 was flooded. The question would then be whether Devco engineering personnel took appropriate steps and made appropriate decisions in the design and mining of five east taking that circumstance into account.

I took great care to understand the evidence on these highly complicated and technical issues as that evidence was being presented. I therefore asked questions at various stages during the evidence of most technical witnesses in order to ensure that I fully understood that evidence. On that basis, and having now had the opportunity to study the post-trial submissions of Counsel, I am satisfied that Devco engineering personnel, having recognized that No. 26 was flooded, took appropriate steps and made appropriate decisions in the design and mining of 5 East Phalen. I am satisfied that they could not have been reasonably expected to have foreseen the catastrophic inundation of water into Lingan Colliery. Of the many witnesses who testified during the lengthy trial of this proceeding, the only one who suggested that Devco engineering personnel were negligent in not foreseeing the passage of water from No. 26 to Lingan was the Plaintiff's expert, Mr. Steele. I am satisfied beyond any doubt that the opinion of Mr. Steele is without merit and deserves no weight. The overwhelming body of evidence clearly establishes that there was no negligence and that all due and reasonable care was taken by Devco engineering personnel.

*“There’s no relation” Between Tensile Strain and the Lingan Flooding:* The Plaintiff’s expert Derek Steele wrote a Report claiming that Devco was negligent in the Lingan flooding. The Report was premised on the face length and extraction height of 5 East and the rate of advance as compared with Mr. Steele’s reading of consultant advice to Devco. Mr. Steele concluded that the “most important operating parameters” were face length and extraction height which he said were in excess of the design recommendations of consultants “...if induced tensile strains at the Harbour Seam horizon were to be less than Devco’s accepted limiting standard.” Mr. Steele testified at length on those issues at trial. Then, on Re-direct examination, Mr. Steele gave the following “startling” evidence:

- “Q. Mr. Steele, perhaps I’ll ask it this way which will make it even closer to cross examination, I recall you in your cross examination answers to Mr. Miller at one point mentioning this point, but it was sort of interstitiated in the middle of other questions that Mr. Miller put to you. What is the relevance of tensile strain calculations to horizontal movements of water?
- A. There’s no relation. The indication of tensile strain is to provide a...an estimate of the extent to which strata when subjected to high tensile strain may be *vertically* fractured. It doesn’t provide us with a measure of the extent to which bed separation planes may open up to transmit water, which was the case that happened here. (Re-direct Examination, December 4, 2000, pp. 757)”

Mr. Steele’s entire Report and testimony is founded on the premise that Devco proceeded otherwise than in accordance with the advice of consultants relating to calculated tensile

strain. If that has nothing to do with the flooding, then surely Mr. Steele's Report has nothing to do with this case and for that reason alone I would disregard it.

This is precisely the point that was made by Dr. Peng as follows:

“A. I think you need to...I think you need to understand when I say, okay, when I say that, ah, the, ah, all this limiting strain, 8.5 millimetre, 10 millimetre, or 12 millimetre per metre, all that limiting strain, and that's what everybody base on, talk about, you shouldn't increase the face length, you shouldn't increase the mining height, because if you increase the mining height you could exceed the 8.5 millimetre, all that. But that 8.5 millimetre is for vertical crack. Is never said...it's not for, ah, not for the horizontal crack. I just want to point...I just want to point out that I think everybody missing the boat, that you know, why...if you want to apply this vertical crack criteria to horizontal crack..so if you are switching your theory to bed separation, why talk about the face length and the mining height, all that? That's what I want to point out to you, if you didn't understand that. (Cross-examination, March 27, 2001, p. 265-66)”

Indeed, with Mr. Steele's theory of bed separation there is no reason to be talking about mining dimensions and previous consultant recommendations. Again, why Mr. Steele predicated his entire opinion on Devco engineering personnel allegedly proceeding contrary to consultant recommendations which were directed to tensile strain if “There's no relation” to the flooding was not explained by him. This illustrates a fundamental flaw in Mr. Steele's reasoning and the premise upon which his Report and his testimony was based.

Dr. Ian Farmer and Dr. Syd Peng were consulted by Devco when the Lingan flooding event occurred. In their opinion, which I accept, the event was not foreseeable to Devco engineering personnel. Dr. Farmer and Dr. Peng, as their *curriculum vitae* attest, were eminently qualified and

experienced to assess this situation and express opinions. Dr. Peng in particular is a world-class expert in his field.

Dr. Farmer was first on the scene. Dr. Farmer was asked to consider the question of the predictability of the flooding event. He wrote as follows in his December 1992 Report (Ex. 1, Vol. 19, Tab 608, pp. 2, par. 10): “There does not appear to be case history data of available of a similar flow occurrence, and the inflow would have been difficult to predict.” In his expert Report (Ex. 3, Tab 5, pp. 5 and 6, par. 17) Dr. Farmer wrote:

17. In considering the possible development of bed separations, a mining engineer with a reasonable knowledge of ground movement, would have assumed that within the 137m vertical interval above the face, any vertical or horizontal fissures induced by subsidence would have closed sufficiently to resist significant water flow at a short distance behind the face. It is one of the basic tenets of subsidence engineering that all ground movements develop quickly and close quickly behind a longwall face. It is only in quite unique circumstances that long term residual deformations occur.

He continued in paragraph 22 by saying:

- (d) In view of the current state of knowledge of subsidence engineering and the advice given prior to the event by consultants, *DEVCO’s engineers could not have been expected to foresee that the undermining of the barrier pillar would cause the inflow to Lingan Colliery.* (Emphasis added)

And further during his testimony on the issue of foreseeability referring to the above paragraph 22(d), Dr. Farmer stated: “There is no body of knowledge, there is no case history, there is no ...

there is no theory, there is nothing on which they could base a supposition that the fissures would not close.”

Dr. Peng was retained by Devco in December, 1992 to provide further specialist advice and opinion following the Lingan flooding incident. He wrote as follows in his Expert Report (Ex. 3, Tab 1, pp. 2-3) as follows:

“It could not and can not be predicted with the current knowledge of rock mechanics and ground control due to the fact that the inter-colliery barrier pillar was extremely large, a minimum of 323 m wide.

I disagree completely with Dame & Moore’s (Derek Steele’s) conclusion in that large panel length and mining height, and faster retreating rate caused the flooding of water in Mine 26 to Lingan 2E panel.

...

Horizontal cracks such as those claimed by Dr. I. Farmer to be responsible for water inflow from Mine 26 to Lingan 2E panel could not be predicted by any limiting strain criteria cited in the Dame & Moore’s report.

...

Dame & Moore concluded that large panel length and mining height caused flooding to Lingan 2E through horizontal bed separation cavities in, above and below the Harbour seam. However, “bed separation” was never mentioned in or predicted by all those consultants cited in their report.”

At trial Dr. Peng testified that in his opinion the flooding incident was not foreseeable. He said:

“Q.      And turning over to the second page of your letter, with respect to the question of whether the flooding of Lingan Colliery in 1992 was an event which could have been expected or predicted by Devco, again in

summary, what was your conclusion on that point, sir?

- A. My conclusion is it cannot be...it cannot be foreseen and the key thing there is that, that pillar size, ah, and as I mentioned earlier that in the U.S., the barrier pillar we have...we...by law the term is only 100 feet wide between the flooded seam and the unflooded seam, their barrier pillar is 100 feet. Now here we have at least 1,000 feet, you know, much more, either 16- or 1800 feet there. So it's really...is very, ah, from the traditional rock mechanic point of view, you know, you cannot explain, ah, and so if any consultant come in to tell Devco, I would say none of them could predict or foresee this would happen." (Direct Examination, March 26, p. 60, Emphasis Added)

In summary, I accept the opinions of Dr. Farmer and Dr. Peng on the foreseeability issue.

***Conclusion Regarding Lingan Flooding:*** There is nothing in the Report and testimony of Mr. Steele or any other evidence offered by Venture upon which I could make a finding of negligence. Similarly, there is nothing in the history of the planning, development and operation of the Phalen Colliery and the various consultant reports received by Devco personnel which gave any warning of the risk that such an event might occur as a result of the mining of 5 East.

Devco engineering personnel took all due and reasonable care in the design and operation of 5 East. All relevant circumstances were taken into account, including particularly the fact of the flooded No. 26 workings. The Harbour seam barrier was considered. The many consultants who had advised Devco on strata control issues, including eminent authorities and other highly qualified individuals who were involved in strata control investigations at the time 5 East was

mined did not give any warning of what occurred. There were no precedents for such an event. There were no works of authority warning of the risk of the flooding.

Devco engineering personnel made the right decisions. They exercised proper judgement based on the facts and engineering advice and opinion. Mining engineering theory told Devco engineering personnel that there was no risk to Lingan in undermining the 1,000 foot barrier. They considered that it was safe to proceed. They considered that there was no danger to the Lingan Colliery or to the miners working there.

There was no negligence by Devco personnel in the design and operation of 5 east. The flooding of Lingan Colliery was an unforeseeable event. If Venture's claims of negligence in the flooding of Lingan Colliery had been relevant, I would have dismissed them.

***Conclusion:*** I have found that there was a mutual mistake of fact fundamental to the agreements between Venture and Devco. Those agreements are therefore rescinded and there is no liability on the part of Devco to Venture. There was no negligent misrepresentation by Devco. Venture's action against Devco is dismissed.

Counsel for Devco may make a written submission regarding costs within 14 days of receipt of this decision. Counsel for Venture will submit his written response within seven days of receipt of the Devco submission. Devco will then have a further five days to make a brief written reply.

Order accordingly.