E.B.O. 135

ONTARIO ENERGY BOARD

IN THE MATTER OF the Ontario Energy Board Act, R.S.O. 1980, c.332 and in particular, clause 24(c) thereof;

AND IN THE MATTER OF an application by The Consumers' Gas Company Ltd., Pembina Exploration Limited and 691923 Ontario Ltd. for an Order requiring and regulating the joining of various interests within a field or pool in the Township of Mersea, County of Essex known as the Hillman Pool, for the purpose of drilling or operating wells, the designation of management and the apportionment of the costs and benefits of such drilling or operation.

BEFORE: R. W. Macaulay, Q.C.
Chairman and Presiding Member

O. J. Cook,
Member

December 23, 1987

DECISION WITH REASONS

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1. INTRODUCTION

Background

1.1 Several productive oil and gas pools exist in southwestern Ontario. Since oil and gas generally coexist in underground reservoirs, the discovery and production of oil is often associated with the production of natural gas. Upon depletion, some of the most successful reservoirs, particularly those consisting of pinnacle reefs in the Guelph formation, have been developed into gas storage pools. Both Union Gas Limited (Union) and Tecumseh Gas Storage Limited (Tecumseh) operate such storage pools.

1.2 Although the production of indigenous oil and gas has been and continues to be small in comparison to the total needs of Ontario, the Province encourages the efficient and timely development and production of such resources.

1.3 Each barrel of local oil produced displaces an equivalent quantity imported from offshore, making Ontario less dependent upon external suppliers. Each Mcf of natural gas produced and marketed locally will displace an equivalent quantity of Western gas that would otherwise be imported into Ontario. While energy self sufficiency is not a realistic prospect for the Province, it is in the public interest to encourage as much local production as possible.

Unitization

1.4 Once an operator has secured the oil and natural gas leases on a property or group of properties, he/she can embark upon a drilling program as approved by the Ministry of Natural Resources. Before drilling can begin however, the operator requires a permit for each well, authorized by the Minister.

1.5 Before the production of oil and gas may occur, regulations made under the Petroleum Resources Act require that spacing units must be established. Such units are enacted by Regulation and encourage the orderly drilling and production from a pool on an interim basis.

1.6 Most pools, due to their extensive size and irregular features, are overlayed by several, if not many, surface properties. Without

unitization, royalty payments would accrue to only those property owners with land within the spacing unit on which the well is located. If good reservoir conditions of permeability and porosity exist, it is possible that one well could drain the entire reservoir. In effect, the Law of Capture would apply. Unitization ensures that all the eligible property owners receive their appropriate share of the royalty payments.

1.7 If the pool covers several spacing units and involves more than one landowner, then, in order for a pool to be successfully exploited, it is desirable for the producing parties and the landowners to sign a Unit Agreement. Most agreements are reached on a voluntary basis and are not referred to the Ontario Energy Board (the Board). A voluntary agreement is accomplished when all of the parties have signed a Unit Agreement. Upon completion of such an agreement the following occurs:

i) all the landowners are placed on an equal footing and participate in the royalties generated from the total production within the pool regardless of whether a well is situated on their property;
ii) a manager or operator of the pool is appointed and a unit operating agreement negotiated;

iii) the Unit Agreement spells out the relationship between the parties and the responsibilities of the manager or operator;

iv) the Unit Agreement indicates the percentage royalty payment to be made for the production of either oil or gas. Schedules attached to the Unit Agreement provide a list of the landowners, their acreage within the boundary of the pool, and their share of the total royalty payment. The Unit Agreement also specifies compensation for participating acreage (i.e. land within the pool boundary), for non-participating acreage (i.e. land outside the pool but within the unit boundary) and for outside acreage (i.e. land still under lease situated outside the unit boundary);

v) the manager or operator has discretion in the operation of the pool and can undertake secondary and tertiary recovery, if feasible;

vi) the Unit Agreement binds all leases within the unit so that they cannot expire as long as production continues from the pool;

vii) operating benefits materialize because the manager or operator is free to locate wells in the most advantageous locations to maximize production. Some centralization of the wellhead facilities may also be possible, thereby avoiding duplication.

The Approval Process

1.8 If the parties cannot reach a voluntary unitization agreement, any of them may apply under Section 24(c) of the Ontario Energy Board Act (the Act) for an enforced unitization. The Act states as follows:

> "24. The Board by order may,
>
> c) require and regulate the joining of the various interests within a field or pool for the purpose of drilling or operating wells, the designation of management and the apportioning of the costs and the benefits of such drilling or operation."

1.9 The Board is thereby authorized to:

i) Order the joining of the various interests within a pool for the purpose of drilling or operating wells. To achieve this the Board must be satisfied as to the extent of the pool, and therefore be able to delineate the pool boundary. The Board must also determine the appropriate buffer zone required to protect the pool and state the boundary encompassing the entire Unit;

ii) Designate who shall manage the drilling and operation of the wells. This party is known as the manager or operator of the pool; and

iii) Determine the apportionment of the costs and benefits of operating the pool. The apportionment of the benefits between the lessors and the lessees is determined by the percentage royalty. Royalty payments to the lessors have priority over any other costs associated with production. The dollar value of such royalties depends primarily upon the rate of production and the wellhead value of the oil or gas produced as determined by market conditions.

1.10 In dealing with these matters the Board also has to consider the terms and conditions which determine the responsibilities of the lessors and lessees (the Unit Agreement) and the relationship between the working interests as stated in the Unit Operating Agreement (otherwise known as the Joint Operating Agreement).

1.11 It is important to the lessees that the option of an enforced unitization exists. Without it the opportunity of exploiting an oil or gas reservoir could be frustrated by one dissident landowner. Once unitization of a pool has occurred the following advantages accrue:

i) Leases are protected and cannot expire while production continues;
ii) The number of wells required may be reduced since drilling is no longer necessary for the sole purpose of protecting leases; and

iii) The ultimate recovery from the pool may be maximized by appropriate conservation measures.

History of the Application

1.12 The Hillman Pool is located just east of the Town of Leamington, Essex County, as shown in Figure 1. Oil is produced from the dolomite portion of the Trenton formation at a depth of approximately 800 metres. This formation is part of the Ordovician age and lies at approximately twice the depth of the Guelph formation as shown in Figure 2. The pinnacle reefs in southwestern Ontario, which are successfully used as gas storage pools, occur in the Guelph formation.

1.13 In April 1982 The Consumers' Gas Company Ltd. (Consumers') entered into a joint venture agreement with Pembina Exploration Limited (Pembina) for the exploration of 12,000 acres in the counties of Essex and Kent. In March 1983 Onexco Oil and Gas Ltd. (Onexco) acquired a one-third interest in this joint venture and in October 1986, Devran Petroleum Ltd. (Devran), otherwise known as 691923 Ontario Limited, acquired all of the interests in Onexco. Consequently, at the time of the application the participating interests in the joint venture were Pembina 50%; Consumers' 33 1/3%; and Devran 16 2/3%.

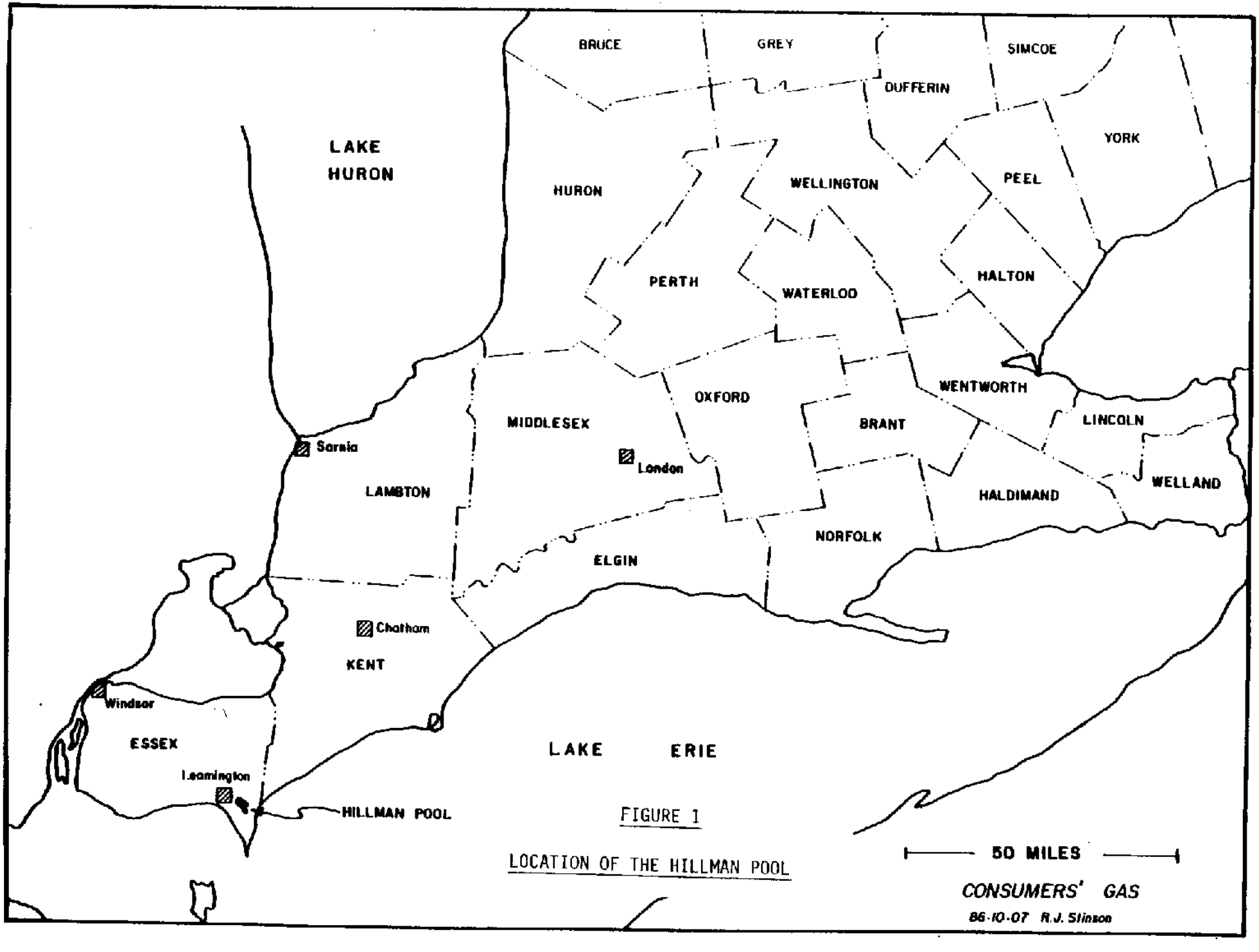


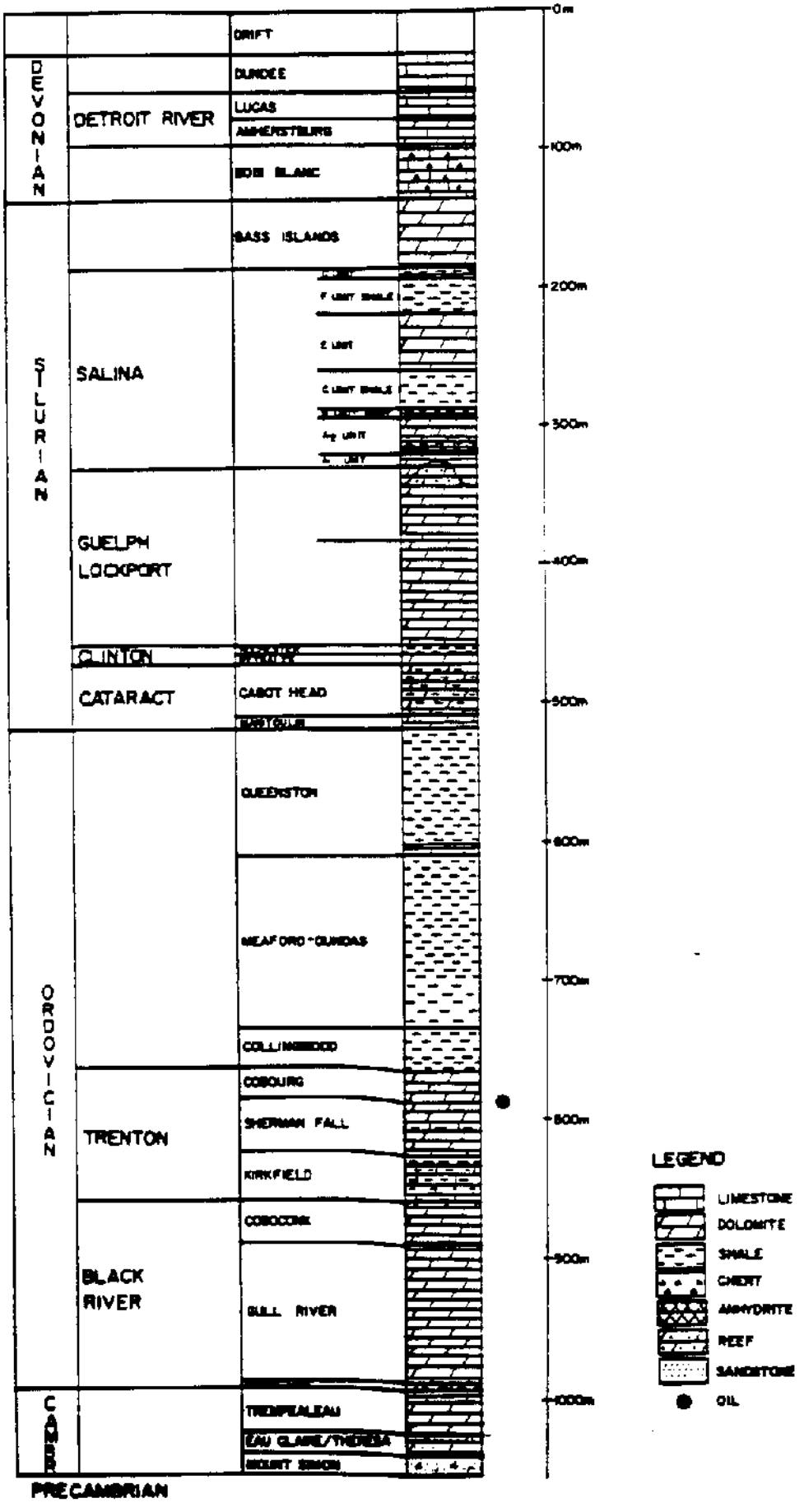
FIGURE 1

LOCATION OF THE HILLMAN POOL

FIGURE 2

COLUMNAR SECTION

FOR THE HILLMAN POOL

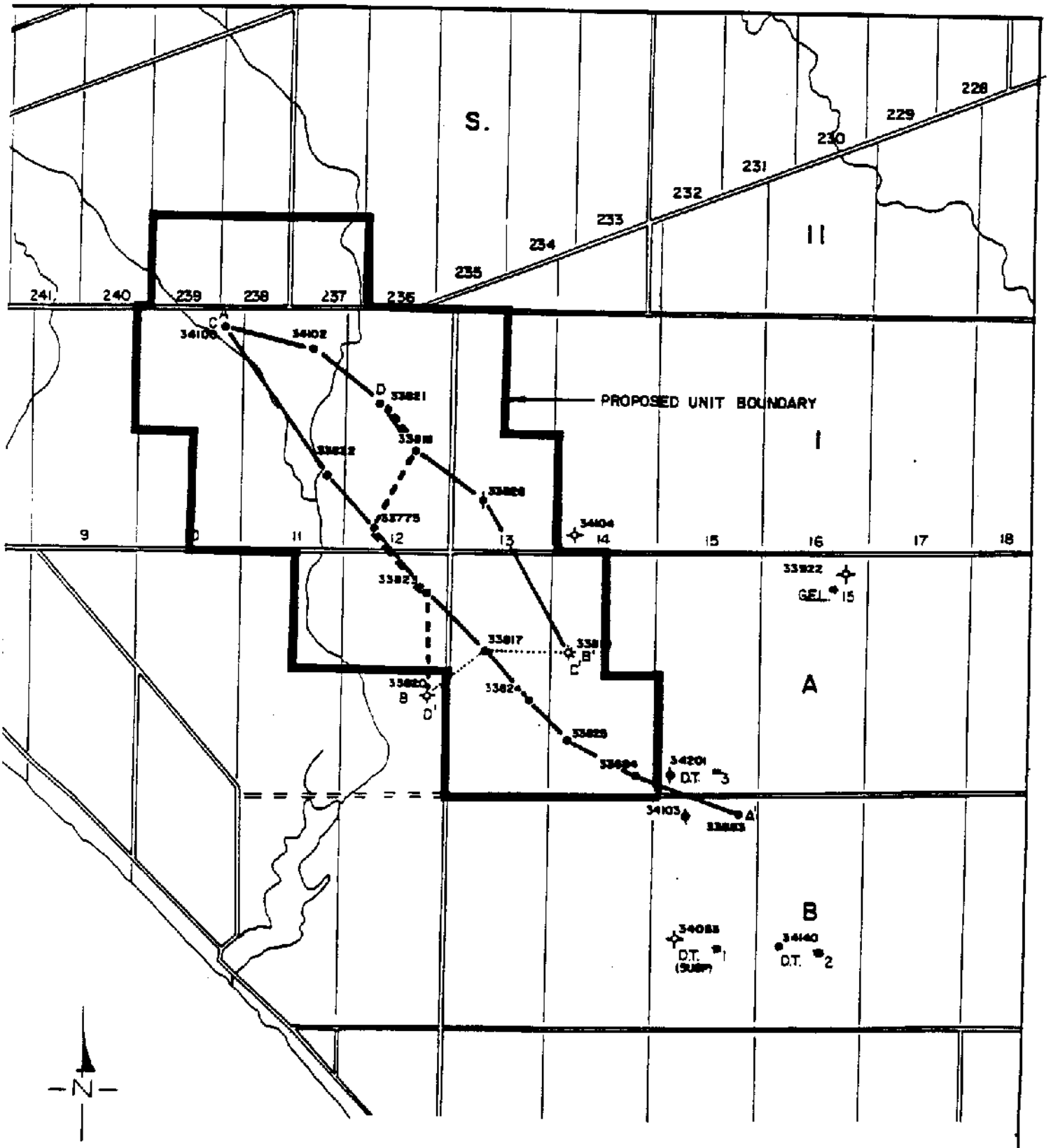


1.14 An application was filed with the Board by Consumers', Pembina and Devran, collectively referred to as the Applicants, dated March 10, 1987.

1.15 The first wells drilled in the area were Consumers' 33683 and 33684 (see Figure 3). Further drilling in a northwesterly direction resulted in a number of successful wells.

1.16 In order to commence production, Consumers' applied to the Ministry of Natural Resources for a spacing regulation to include wells 33683, 33684 and 33825. Section 12 of Regulation 752 made under the Petroleum Resources Act requires that a spacing unit be approved before production commences. Regulation 584/84 was issued which established a spacing unit and enabled production to the south-east of the pool to commence.

1.17 Further drilling, as approved by the Ministry of Natural Resources on 50 acre spacing units, resulted in 10 more successful wells being completed. The entire area covered by the 50 acre units on which these wells were situated and the land included in Spacing Regulation 584/84 were then incorporated in Spacing Regulation 1/85 as shown in Figure 4. Production pursuant to this spacing regulation continues to the present time.



LEGEND

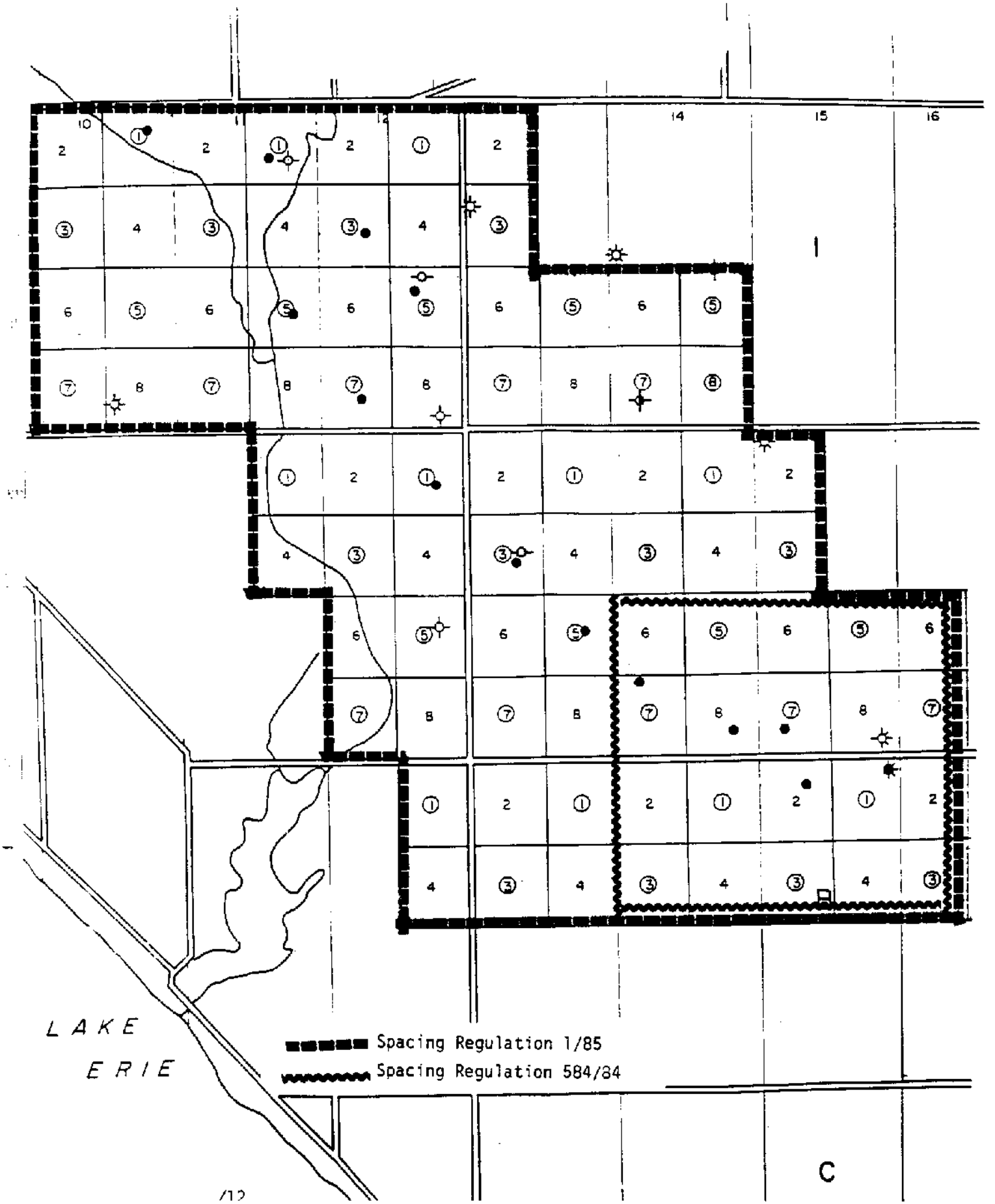
- DRY & ABANDONED
- OIL PRODUCER
- OIL PRODUCER SUSPENDED
- GAS SHOW SUSPENDED
- 33825 CONSUMERS WELL NUMBER

FIGURE 3

WELL LOCATIONS AND NUMBERS

FIGURE 4

AREA ENCLOSED BY SPACING REGULATIONS



1.18 Under such a spacing regulation royalty payments from the production of each well are restricted to the landowners who have an interest in the 50 acre area (or spacing unit). No recognition is given to the fact that oil or gas may have migrated from outside the unit before being produced at the wellhead. As of August 31, 1987, a total of $1,850,000 had been paid in royalties. Approximately $1,513,000 of this amount has been paid to four landowners with the remaining $337,000 being distributed among 37 landowners.

1.19 Commencing in January 1987, Consumers' contacted all of the landowners within the proposed Hillman Pool Unit with the purpose of negotiating a voluntary unitization. Landowners were asked to sign a lease amending agreement which essentially modified the terms of the original petroleum and natural gas leases assigned to Consumers'.

1.20 Consumers' submitted its prefiled evidence to the Board on April 9, 1987. As of April 1, 1987, 17 landowners (of a total of 83 registered owners within the proposed unit boundary) had not signed the agreement and Consumers' proceeded with the present Application dated March 10, 1987.

The Hearing

1.21 Following the issuance of appropriate notices to all interested parties as directed by the Board, the hearing commenced on September 2, 1987, at the Board's offices in Toronto to hear motions filed by Mr. Giffen on behalf of his clients. The hearing was then adjourned and subsequently reconvened at the Red Oak Inn, Windsor on October 20 and 21, 1987 and concluded in Toronto on October 22, 1987.

1.22 A verbatim transcript of the preceedings and all exhibits filed during the hearing are available for public reference at the Board's offices.

Appearances

Three counsel appeared representing the following parties:

Fred D. Cass	Counsel for the Applicants
James A. Giffen, Q.C.	Counsel for Martin A. Tiessen, Suzanne M. Tiessen, Abram Henry Epp
Roger R. Elliott, Q.C.	Counsel for Board Staff

Two landowners who had not intervened made appearances at the commencement of the hearing as follows:

Mr. Murray Setterington
Mr. Frank Dietz

Witnesses

The Applicants called the following witnesses, all of whom are employed by Consumers':

Robin Inwood	Manager, Land and Realty
Stephen J. A. Fagan	Senior Landman
Ronald J. Stinson	District Explorationist
Paul A. Druet	Production Engineer

The following witness was called by the Applicants as an independant consultant:

James Barron	Consulting Geophysicist

Board staff called the following witnesses from the Petroleum Resources Section, Ministry of Natural Resources:

Rudy M. Rybansky, P.Eng.	Reservoir Engineer
Robert A. Trevail	Chief Geologist

2. THE EVIDENCE AND ISSUES

Determination of the Pool Boundary

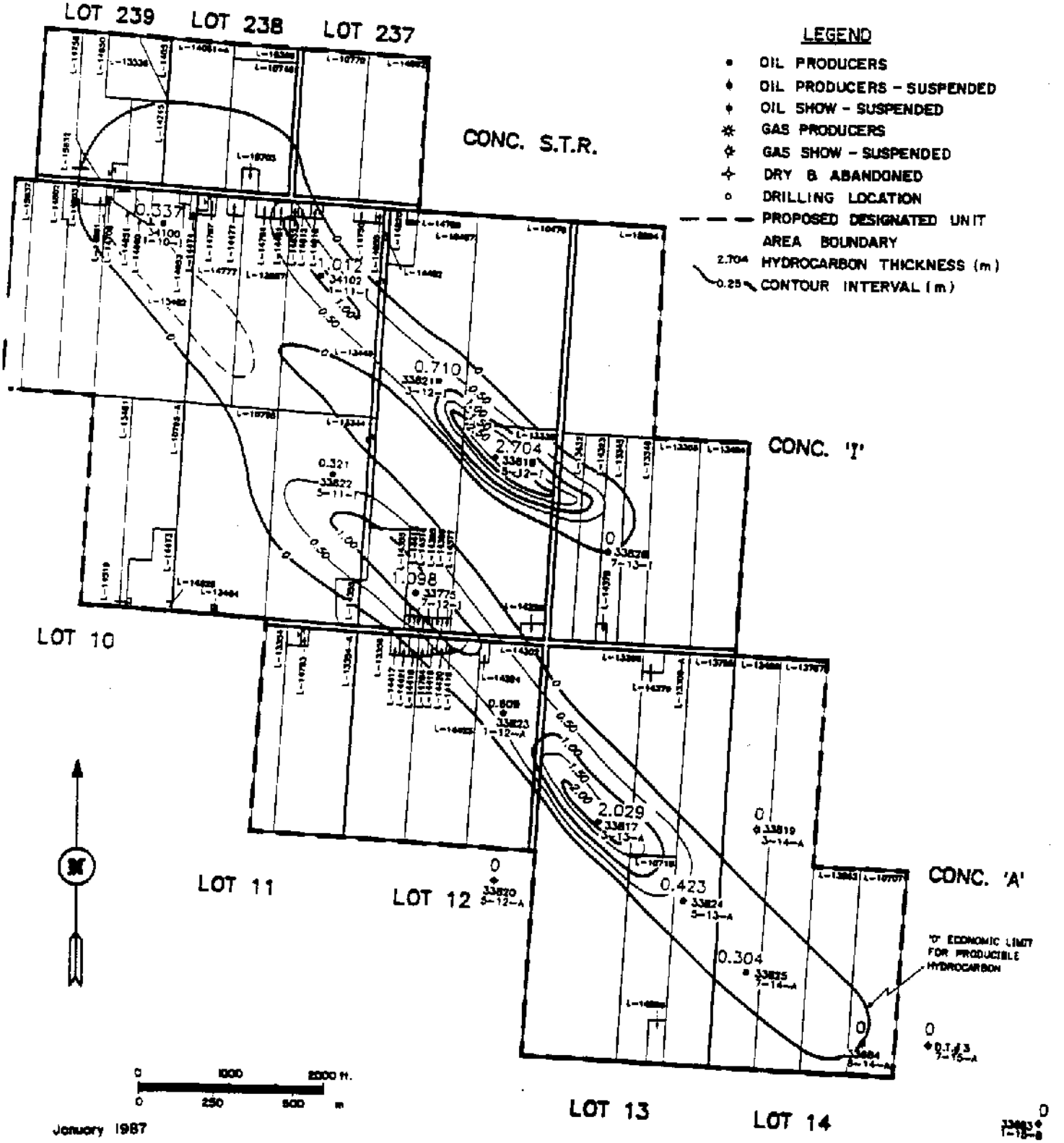
2.1 The Applicants submitted that the pool boundary should be delineated as shown in Figure 5. This outline was supported by the known geology of the Hillman Pool and the seismic data that had been gathered and interpreted by Mr. James Barron, a consulting geophysicist. His interpretation led to the delineation of the trend line of the top of the Trenton formation, from which the Applicants' staff geologists were able to determine the precise boundary of the pool having drawn isopachs of the dolomitized portions of the Trenton formation, also shown in Figure 5. This approach, however, left open the northern extremity of the pool, and also the extent of the two arms in the east and south-east.

2.2 A seismic line running east-west through lots 237 to 239 was shot during the summer (i.e.

FIGURE 5

OUTLINE OF THE HILLMAN POOL AND PROPOSED

UNIT BOUNDARY



after this Application had been filed with the Board). The interpretation of this data confirmed that the pool did not extend as far north as that line. Hence the northern extremity of the pool was closed off by interpolation just south of the seismic line.

2.3 Closure of the two arms in the east and southeast was determined by the production history of wells 33684 and 33826. Production from both has been suspended since they are considered to be uneconomic. Well 33684 was shown to produce only 2.8 barrels per day with a brine rate of 82 percent at the time it was closed. Well 33826 produced only an oil show when it was completed in August 1985 and never went into production. Prefiled material submitted by the Applicants referred to the closure of these two arms as the "zero economic limit for producible hydrocarbon".

2.4 It was argued by Mr. Giffen that the outline of the reservoir should have been determined by economic evidence and that there was insufficient economic evidence to warrant locating the boundary of the pool as delineated by the Applicants.

2.5 The Board concludes that it was not intended that the boundary of the pool should be determined upon economic grounds but rather on

geological grounds. It is the Board's view that there is sufficient evidence, very little of which was contested in any way, to establish the geological boundary of the pool.

2.6 The location of the pool boundary was substantiated by Mr. Trevail, testifying on behalf of Board staff. His determination was based purely on the geological data on file with the Ministry of Natural Resources which resulted from the drilling of the existing wells. However, he reviewed the interpretation of three of the seismic sections which he found to confirm the geological basis for the pool boundary.

2.7 Mr. Giffen argued from the use of the words "zero economic limit for producible hydrocarbon" as shown on Figure 5 at or near well 33684, that the total parameters of the pool had been established in accordance with economic evidence. The Board does not accept this interpretation. The zero line identified by Mr. Giffen is a line that was designated to close the most southerly extension of the pool and the Board finds that this extension was closed upon acceptable economic and geological grounds.

2.8 Accordingly the Board accepts the pool boundary as proposed by the Applicants as shown in Figure 5.

Determination of the Unit Boundary

2.9 When a unitization occurs both the pool and unit boundaries must be delineated. The area between them is referred to as the buffer zone. The purpose of a buffer zone is to protect the pool from penetration by wells drilled outside the pool boundary. The extent of the buffer zone is a reflection of the uncertainty with which the precise boundary of the pool can be determined.

2.10 The Applicants' proposed unit boundary is shown in Figure 5. However, in their prefiled material Board staff witnesses recommended an alternative boundary which reduces the proposed buffer zone by approximately 200 acres. The issue therefore is to determine which of the two boundaries is more appropriate for the unit boundary.

2.11 The Board recognises that it is desirable to define such a boundary either along existing property lines or along tract boundaries so that further spacing units may be created for subsequent drilling operations. As pointed out by Board staff witnesses, no more land than is really necessary should be included in the buffer zone since it is effectively frozen for further exploration and drilling operations.

2.12 The Board believes that a smaller buffer zone is required than that proposed by the Applicants because the pool boundary has clearly defined extremities and there exists a high degree of geological knowledge relating to the Hillman Pool.

2.13 Accordingly the Board accepts the unit boundary as recommended by the Board staff witnesses as shown in Figure 6. The Board directs that the shaded areas shown in Figure 6 be removed from the buffer zone and that a metes and bounds description of the revised unit boundary be provided by the Applicants for the subsequent unitization order.

Method of Allocating the Royalty Payments

2.14 Upon unitization each property owner whose land overlies the pool is entitled to a share of the royalty payments. Traditionally the Board has approved the allocation of royalties based upon the percentage acreage held by each lessor that falls within the area of the pool boundary. This method does not account for the varying thickness of the reservoir and therefore each lessor benefits regardless of the thickness of the oil or gas bearing strata under his/her land.

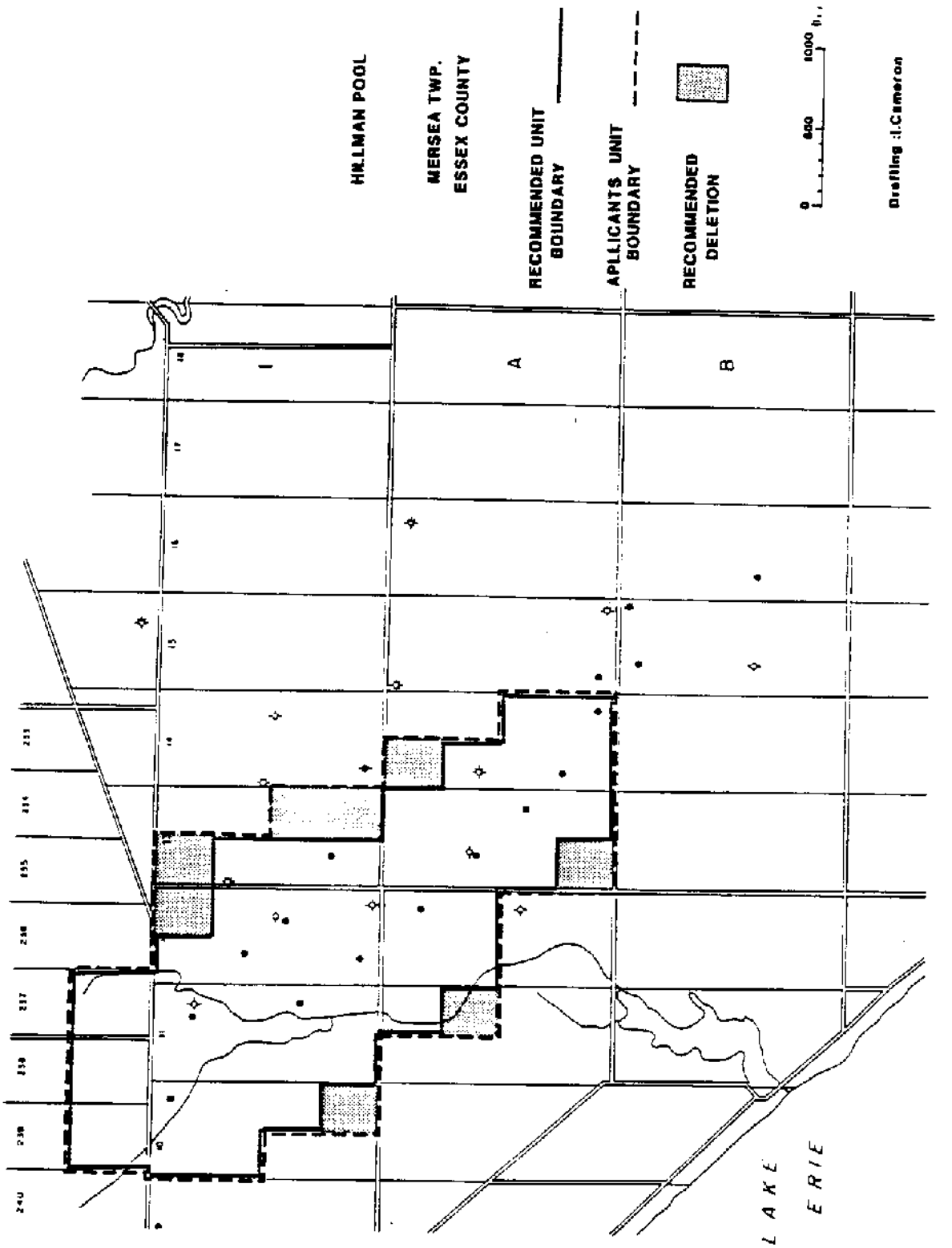


FIGURE 6

AREAS TO BE DELETED FROM THE BUFFER ZONE

2.15 Witnesses for both the Applicants and for Board Staff agreed that a volumetric approach is a more equitable method of sharing the royalty interests. Under this method the percentage share of the payments received by any lessor is proportional to the volume of oil or gas under his/her land. Such a method can only be used when the three dimensional geometry of a pool is known with a high degree of precision. Mr. Giffen agreed that if unitization was to proceed then the volumetric method would be acceptable.

2.16 In the Board's opinion the volumetric method is the more equitable method of sharing the royalty interests in the Hillman Pool because of the wide variation in reservoir thickness over the areal extent of the pool. The Board is also satisfied that the geology of the Hillman Pool has been accurately defined in three dimensions. In these circumstances it is more equitable to use the volumetric approach.

2.17 Accordingly the Board adopts the volumetric method of royalty allocation as the most equitable.

Unitization Related to Secondary Recovery

2.18 During primary recovery the oil and gas are produced by relying upon the naturally occur-

ring pressure within the formation, the pressure of the gas cap overlaying the oil and the energy of the solution gas dissolved within the oil to drive the crude oil to the surface. Once these energy sources are depleted to the point that they are insufficient to produce the oil, alternative methods of pressurizing the formation have to be considered such as the reinjection of gas or the injection of water. This mode of production is referred to as secondary recovery. Such production techniques may enable a further 20 percent of the pool's total reserves to be recovered. However, Mr. Druet cautioned that, to date, there has been no Ordovician oil pool in Ontario that has successfully undergone secondary production.

2.19 The Applicants estimate the total reserves of the Hillman Pool to be approximately 5 million barrels of oil. It is expected that at least 20 percent of these reserves will be recovered during the primary phase of production, but this may ultimately extend as high as 30 percent. Witnesses for the Applicants indicated that it is still too early in the production life of the pool to know how successful primary production will be, much less whether secondary recovery will ever be undertaken.

2.20 Mr. Giffen argued that compulsory unitization for an oil reservoir has never been ordered by

the Board without secondary recovery being contemplated. Indeed, he suggested that the only justification for compulsory unitization is the necessity of moving from primary to the more expensive secondary production techniques. The evidence in this case indicated that secondary recovery may never be justified for the Hillman Pool.

2.21 The Board finds that it is not necessary or even desirable to tie unitization to a plan of secondary recovery. Further, the Board finds that the evidence is neither conclusive or even sufficiently directional that the two should be tied together.

2.22 As of September 30, 1987, 615,385 barrels of oil have been produced. Ultimately this may prove to be approximately 60 percent of the primary recovery from the pool. During this period 41 lessors have received royalty payments, leaving another 17 lessors, whom the Board now finds to have an interest in the pool, without royalty payments.

2.23 Furthermore, it is the Board's belief that unitization is more important at this time than a decision to undertake secondary recovery sometime in the future. Having dealt with ten compulsory unitization applications in its history (see Schedule 1), the Board finds that

it is not necessary to tie unitization and secondary recovery together.

2.24 Accordingly the Board finds that unitization need not be related, and in this case ought not be related, to secondary recovery.

Land Compensation

2.25 The evidence indicated that no land compensation had been paid to the lessors for either the area fenced off for the wells and their related facilities, or for the all-weather access roads required to reach them.

2.26 According to the prefiled material the Applicants originally offered $500 per acre per annum, or part thereof, for the well sites and the same amount for any access roads required. Subsequently, this position was amended when Consumers' decided to modify its policy in order to recognise the variable profitability of the land to its respective owners. Under this new policy Consumers', on behalf of the Applicants, will negotiate with each lessor the compensation to be paid for a five year period. The compensation is intended to cover the estimated net profit forgone from loss of use of the land. Factors which will determine the level of compensation are the type of crop grown, the yield per acre, the market price of

the crop, and the cost of production. It is not clear how Consumers' will deal with variations in these factors over the five year period, but the Board approves the flexibility inherent in the approach. The Board, therefore, approves this method of compensation provided no lessor is offered less than $500 per acre per annum.

2.27 The Applicants' witness stated that there would be no compensation offered for land taken out of production where a harvester was not able to successfully manoeuvre in the area adjacent to the fencing surrounding the well. It is the Board's opinion that lessors should be compensated for all land lost to production as a result of necessary facilities constructed by the lessees. The area of such land is clearly dependent upon the type of harvesting equipment used, which will depend upon the type of crop. The Board is also of the opinion that this area should be negotiated between the lessors and lessees.

2.28 The Board directs that compensation shall be negotiated according to the estimated net income forgone as a result of lost production provided that the amount is not less than $500 per acre per annum. Such compensation shall also be paid for land, crops from which cannot

be harvested, immediately outside the fencing surrounding the wells.

Transportation Costs

2.29 Mr. Giffen challenged the determination of the royalty payments made to his clients because transportation costs are deducted from the gross wellhead value before royalty payments are calculated. He questioned which clause of the petroleum and natural gas lease authorizes Consumers' to make such a deduction. Mr. Inwood, on behalf of the Applicants, indicated that authority comes from section 2 of the lease, which states:

> "The Lessor does hereby reserve unto himself a royalty of:
> One eighth (12 1/2%) of all the leased substances produced saved and marketed from the said lands...."

2.30 The evidence indicates that the oil is collected from the wellhead storage tanks and transported to the Imperial Oil refinery at Sarnia where it is analyzed and measured. The price paid per barrel is dependent on the quality of the crude oil. From this price (often referred to as the wellhead price) the cost of transportation is deducted leaving a net price upon which the royalties are based. In effect the lessors thereby contribute one-eighth of the transporta-

tion cost with the balance being paid by the lessees.

2.31 Having reviewed previous unitization decisions the Board finds that this is consistent with the industry wide-practice and, in any event, is an appropriate deduction.

2.32 Accordingly, the Board finds that no adjustment shall be made to the present method of recovering transportation costs.

The Lease Amending Agreement

2.33 Upon the Board's order a Unit Agreement goes into effect. This document binds all parties to the agreement, defines the unit area, establishes the unitized substances, amends the leases and defines the lessee interest and royalty allocation. The Applicants chose to refer to this document as the Lease Amending Agreement (the Agreement).

2.34 Among other matters, the Agreement deals with compensation payable to the lessees. This consists of the following:

i) Royalties at 12 1/2%, with a $15 per acre per annum minimum royalty guarantee;

ii) Payment of $15 per acre per annum for leases within the unit boundary but outside the pool boundary; and

iii) Payment of $10 per acre per annum for lands outside the unit but which are part of leases that fall partially within the unit.

2.35 With the exception of transportation costs previously dealt with, these payments were not contested in the hearing. These are considered reasonable and are approved by the Board.

2.36 Clauses 5 to 8 of the Agreement deal with possible future changes to the unit boundary. Such changes shall not occur without authorization of the Board and therefore these clauses shall be deleted.

2.37 Clauses 11, 13 and 14 make reference to the possibility of modifying or amending the Agreement for several reasons, such as the lessees wishing to assign the Agreement to another party, or surrendering part of the lands within the Unit boundary. These clauses shall be changed to ensure that no such modifications or amendments may occur without the prior approval of the Board.

2.38 The Agreement does not mention the land compensation payable, since the Applicants originally took the position that they were entitled to land required for drilling operations and access roads under the existing petroleum and natural gas leases. The Agreement is to be modified to

reflect the Board's previous ruling on land compensation, as stated on page 27.

2.39 The Lease Amending Agreement is to be modified by the Applicants to reflect these changes and resubmitted to the Board for review by the Board Solicitor.

The Unit Operating Agreement

2.40 Upon unitization a Unit Operating Agreement is required to establish the relationship between the working interest owners; designate the manager of the pool; define the rights and obligations of the parties; and allocate the respective share of the costs and benefits of the venture.

2.41 No such document was filed with the Board since the Applicants preferred to rely upon their existing Joint Venture Agreement, dated April 14, 1982, plus a Novation Agreement dated October 2, 1987. These agreements in turn rely upon the 1981 Canadian Association of Petroleum Landmen Operating Procedure, a document which has been used as the unit operating agreement in previous unitization hearings before the Board. The Board accepts these documents in lieu of a Unit Operating Agreement.

2.42 Consumers' applied on behalf of the Applicants to be designated the manager and operator of the pool. Although it is unusual in the Board's experience to have a minority working interest party appointed as the designated manager, there was no opposition to this request. The Board therefore appoints Consumers' as the designated manager and operator of the Hillman Pool.

2.43 The Board accepts the Joint Venture Agreement and the Novation Agreement documents in lieu of the Unit Operating Agreement. Consumers' is appointed the designated manager and operator of the pool.

Effective Date of Unitization

2.44 The Applicants asked that the effective date of unitization be set for April 1, 1987, claiming that all of the lessors had ample notice that that was their intent. Although this position was supported by Board staff, it was opposed by Mr. Giffen. His clients' royalty payments will be reduced by approximately one-third once the unitization of the pool takes effect.

2.45 The Applicants took the position that they had very little to gain from unitization and that their application had been motivated by concern for those lessors who were not receiving their fair share of the royalty benefits. Without

such a retroactive order Mr. Cass suggested that those parties most advantaged by the present allocation of royalties would have an interest in delaying the proceedings before the Board, although he did not suggest that Mr. Giffen's clients had actually done so.

2.46 The Board does not accept the Applicants' argument that unless there is a retroactive order there is little or no incentive for a lessor to sign the Agreement and that it "...mitigates against any hope of a successful voluntary unitization". The Board is of the view that there has been no attempt to delay or prolong these proceedings.

2.47 The Board recognises that some seven months have passed between the filing of the Application and the hearing in Windsor. However, none of that delay can be attributed to any of the parties. The Board is generally opposed to making retroactive orders unless substantial harm to the applicants or other parties can be demonstrated. In this case it is apparent that any delay in the unitization harms those lessors who the Board now finds have an interest within the pool boundary but who to date have not received the benefit of royalty payments. The Board finds that the harm to these lessors outweighs the disadvantage to those lessors who have continued to receive more than their due

once unitization has been established. The Board therefore directs that the effective date of unitization shall be April 1, 1987.

2.48 The Board has considered directing the Applicants to pay interest to those lessors who have been underpaid since April 1, 1987 and collecting an offsetting amount from those who have been overpaid. However this may present administrative difficulties for the Applicants and the Board has decided that no interest shall be paid or collected in this regard.

2.49 In deciding in favour of a retroactive order in this case the Board emphasizes that this must not be regarded as a precedent for a Board decision in any future unitization application.

2.50 The Board finds that unitization of the Hillman Pool shall become effective April 1, 1987.

Landowner Concerns

2.51 Three property owners, namely Messrs. Murray Setterington, Frank Dietz and James Hubert, made submissions to the Board during the hearing. All three were opposed to the proposed unitization agreement, since for each of them the new agreement would result in either a significant, or complete loss of their existing royalty payments. The Board is particularly

concerned with the allegation made by all three that they were threatened by the landmen, acting on behalf of the Applicants, with the costs associated with these proceedings. The Applicants made no attempt to rebutt this evidence but rather argued that this tactic was necessary since it was unfair that lessors whose royalties are to be reduced under the proposal should delay the implementation of the unitization, thereby extending the benefits they receive. The Board sees this as an argument relating to the effective date of unitization rather than justifying the alleged threats.

2.52 The Board wishes to make it quite clear to the Applicants, and to the industry at large, that it disapproves of such tactics. Any of the lessors should be able to decide whether it is in their interest to sign the Lease Amending Agreement without being threatened with the costs of a hearing before the Board. Given the circumstances of the three lessors in question, it is hardly surprising that they declined to execute the new agreement and, in the Board's opinion, they were fully entitled to make that decision free of any intimidation. The Board considers that Consumers' has displayed poor judgement in allowing its land agents to threaten such lessors and will reflect this view in dealing with costs.

2.53 Accordingly the Board directs that the Applicants' costs shall not be recovered from any of the lessors, but be borne by the Applicants.

3. JURISDICTION OF THE BOARD

3.1 It was argued by Mr. Giffen that the Board does not have jurisdiction under Section 24(c) of the Act because the unitization is not proceeding in accordance with the Expropriations Act of Ontario. He further argued that this application is in law a taking of land and therefore should have proceeded according to the Expropriations Act.

3.2 The Board rejects the argument that the Expropriations Act applies or that this is in fact an expropriation. The purpose of Section 24(c) of the Act is to bring about, in the public interest, the maximum recovery of any of those resources which are discovered. The Government's policy generally is to encourage the development of those available resources and to encourage their production as economically as possible. A primary purpose of Section 24(c) of the Act is to facilitate the

recovery of oil and gas when a voluntary unitization is not attainable.

3.3 Unitization can take place voluntarily or be enforced by order of this Board. This has been the situation in this Province since 1960 when the Act was enacted. During this period ten unitization orders have been issued by the Board, as shown in Schedule 1, for either oil or gas production, in accordance with Section 24(c) of the Act.

3.4 A second purpose of unitization is to avoid what might be considered the Law of Capture, whereby one property which is situated on top of a large reservoir may drain the gas or oil underlying many neighbouring properties to the profit of the individual property owner who has captured the resource through a well on his property. A purpose of unitization is to make sure that there is an equitable distribution of the benefits to be gained from the recovery of an asset of a liquid or gaseous nature which underlies the property of more than one owner.

3.5 In this Application there are a number of wells which are producing oil, the production of which benefits a limited number of lessors even though the oil is being drawn from beneath the properties of owners who are not sharing in the benefits of the production and sale of the oil.

On the other hand, there are only 37 lessors with an interest in the spacing units from which oil is being currently produced and who receive royalty payments (there is no gas being currently recovered since it is being flared). Therefore, it is the Board's view that it is appropriate to unitize at the present time.

3.6 A third reason for unitization is to make sure that whatever indigenous oil or gas is recovered is produced as economically as possible to give the greatest advantage to the public interest of this Province. Unless unitization occurs there would be a tendency to drill many wells to protect leases which might otherwise expire. This would not only detract from the cost effectiveness of production, but might inhibit the full recovery of the oil. This would create economic inefficiency which is not in the public interest or the interest of individual lessors.

3.7 The Board holds that unitization was never intended to be covered by the Expropriations Act; unitization is not an expropriation but rather an arbitration of existing interests; and in the drafting of the Expropriations Act it is clear that the Legislature did not consider unitization to be an expropriation, otherwise it would have exempted unitization as it has exempted other expropriation proceedings before the Board.

3.8 It is clear that it would be inconsistent, administratively cumbersome and expensive to interpret unitization as being an expropriation covered by the Expropriations Act. At least two hearings would be required as to the necessity of the unitization; one under the Expropriations Act and one under the Ontario Energy Board Act. In addition the compensation to be paid would be subject to two different hearings as well. Not only would this be unnecessary, but it would put oil and gas issues before a tribunal, namely the Ontario Municipal Board, which has no experience in energy matters. It would also be wasteful and an inappropriate interpretion of the Expropriations Act.

3.9 The Board has come to the conclusion that it has jurisdiction; and that it was never intended that unitization should be treated as a taking of an interest in land.

4. COSTS

4.1 Mr. Giffen applied for costs on behalf of his clients on a solicitor/client basis. The Applicants requested in their Application that the costs of the proceeding be paid or contributed to by those property owners who had not signed the Lease Amending Agreement. Staff Counsel recommended that the Board's costs should be recovered from the Applicants.

4.2 With regards to Mr. Giffen's costs, it is clear that his clients have a substantial interest in the outcome of the hearing. It is the Board's opinion that, while his participation was of assistance to the Board, a number of his submissions were inappropriate in the circumstances. In this regard the Board notes that Mr. Giffen devoted a considerable amount of time arguing that the determination of the pool boundary was not based on economic grounds, but should have been; that there should be no

unitization without secondary recovery; and that the Board lacks jurisdiction because this Application, if granted, would result in an expropriation.

4.3 The Board further notes that, having sat on September 2, 1987 to hear argument on motions submitted by Mr. Giffen, and having subsequently written a Decision with Reasons and issued an Order directing that the information requested by him be made available on a confidential basis, Mr. Giffen did not avail himself of the opportunity to review the material sought.

4.4 Mr. Elliott argued that the Applicants should pay 50 percent of Mr. Giffen's clients' reasonably incurred costs. In support of that argument he pointed out that Mr. Giffen's clients have had the benefit of the Law of Capture for many years and that "...they should pay something ..." in their attempt to perpetuate these benefits.

4.5 The Board accepts Mr. Elliott's recommendation as reasonable and finds that Mr. Giffen's clients shall be awarded 50 percent of their reasonably incurred costs as assessed by the Assessment Officer of the Board. A statement of such costs shall be submitted to the Board

for assessment within ten days of the date of this Decision.

4.6 Mr. Cass argued that, since the Applicants would receive no benefit from the enforced unitization, their costs should be recovered from those lessors who had declined to sign the Lease Amending Agreement and therefore had caused the hearing. Counsel for Board Staff argued that it was not in the interest of these persons to execute such an agreement and that they were entitled to have the case tested before the Board. There was no indication or evidence that these persons were acting improperly.

4.7 Given the size, complexity and number of issues involved in the Application, it is not surprising that unanimity did not prevail. The Board finds that the intervenors and other lessors were fully entitled not to execute the Lease Amending Agreement and therefore rejects the Applicants' claim for costs against them. Accordingly, the Applicants shall bear their own costs.

4.8 The economics of the Hillman Pool are such that the costs of the Board can readily be absorbed by the Applicants. It is the Board's practice to direct applicants to pay the Board's costs after they have been determined and an

appropriate order issued. These would include the costs of the witnesses from the Ministry of Natural Resources who appeared as Board Staff witnesses.

4.9 However in this instance the Board recognizes that the benefits of unitization extend beyond the Applicants. Those lessors who were previously excluded but are now found to lie within the pool boundary certainly benefit as do all the lessors who receive royalties and can now reasonably expect the ultimate production of the pool to be extended by virtue of the improved operating procedures which unitization encourages. Under these circumstances the Board finds that there should be some sharing of the allocation of these costs. Accordingly the Board directs that those costs assessed in favour of Mr. Giffen and the Board's costs shall be shared 50 percent by the Applicants and 50 percent by the lessors who will be receiving royalties upon the issuance of the Board's Order. The lessors share of such costs will be deducted from the total royalty payable to all of them, thereby ensuring that each lessor contributes in direct proportion to the amount of the royalty that he/she may receive.

4.10 With regards to the participation of the three property owners who appeared and submitted evidence on how they would be affected by the

Application, the Board finds that their contribution was helpful and therefore they are entitled to be recompensed. Accordingly, the Board finds that the Applicants shall pay an award of costs to Messrs. Murray Setterington, Frank Dietz and James Hubert in the amount of three hundred dollars each.

5. FINDINGS AND CONCLUSIONS

5.1 The Board concludes that unitization is in the public interest in that:

i) The Hillman Pool is a productive reservoir that has produced substantial quantities of oil and will likely continue producing for a number of years.

ii) The Board finds that the boundary of the pool is sufficiently well defined and delineated to be the basis for unitization.

iii) The Board finds that there is a substantial unrecovered quantity of oil which will give rise to royalty income in the future. Unless there is unitization several lessors will receive royalties far in excess of what is justified and seventeen lessors will be denied the royalties to which they are entitled.

iv) The Board finds that, based upon the geological and technical evidence, and considering that the public interest is best served if the ultimate recovery from the pool is maximized, the reservoir known as the Hillman Pool should be unitized.

Technical Issues

5.2 The following is a summary of the Board's findings as reviewed in Chapter 2:

5.3 The Board accepts the pool boundary as proposed by the Applicants and shown in Figure 5.

5.4 The Board accepts the unit boundary as recommended by the Board Staff witnesses as shown in Figure 6.

5.5 The Board adopts the volumetric method of royalty allocation as the most equitable.

5.6 The Board finds that unitization need not be related, and in this case ought not be related, to secondary recovery.

5.7 The Board directs that compensation shall be negotiated according to the estimated net income forgone as a result of lost production provided that the amount is not less than $500 per acre per annum. Such compensation shall also be paid

for land, crops from which cannot be harvested, immediately outside the fencing surrounding the well sites.

5.8 The Board finds that no adjustment shall be made to the present method of recovering transportation costs.

5.9 The Lease Amending Agreement is to be modified by the Applicants and resubmitted to the Board for review by the Board Solicitor.

5.10 The Board accepts the Joint Venture Agreement and the Novation Agreement documents in lieu of the Unit Operating Agreement. Consumers' is appointed the designated manager and operator of the pool.

5.11 The Board finds that unitization of the Hillman Pool shall become effective April 1, 1987.

Costs

5.12 The Board directs that the Applicants' costs shall not be recovered from any of the lessors, but be borne by the Applicants.

5.13 The Board directs that Mr. Giffen's clients shall be awarded 50 percent of their reasonably incurred costs as assessed by the Assessment Officer of the Board, to be paid half by the Applicants and half by the royalty recipients.

5.14 The Applicants are directed to pay the Board's costs after they have been determined and an appropriate order issued, 50 percent of which are to be recovered from the royalty recipients.

5.15 The Applicants are directed to pay Messrs. Murray Setterington, Frank Dietz and James Hubert an award of three hundred dollars each.

Directions to the Applicants

5.16 Consumers', on behalf of the Applicants are directed to provide the Board with the following documents forthwith;

i) A modified version of the Lease Amending Agreement referred to above;

ii) A map showing the pool boundary and the revised unit boundary;

iii) A metes and bounds description of the revised unit boundary;

iv) An updated list of the royalty recipients showing the participating acreage and percentage royalty that each will receive;

v) A complete list of the lessors within the unit boundary showing for each the total acreage under lease, participating acreage,

non-participating acreage and outside acreage; and

vi) A complete list of all those lessors who have received, or should have received royalties since April 1, 1987 showing on a monthly basis the amount received to date, the amount that should have been paid based upon unitization of the Hillman Pool and the adjustment per lessor.

DATED at Toronto this 28th day of December, 1987

R. W. Macaulay
Chairman and
Presiding Member

O. J. Cook
Member

SCHEDULE 1

UNITIZATION ORDERS ISSUED BY THE BOARD

Order Number	Name of Pool	Date of Order	Type of Pool
E.B.O.12	Ekfrid Pool	7/1/66	oil
E.B.O.21	Clearville Pool	5/7/67	oil
E.B.O.26	Gobles Pool	29/10/68	oil
E.B.O.46	Bentpath Pool	6/3/72	gas
E.B.O.55	Rosedale Pool	31/7/72	gas
E.B.O.62	Dawn 4-28-3 Pool	31/3/76	gas
E.B.O.66	Coveney Pool	4/10/74	oil
E.B.O.93	Aldborough Pool	6/12/79	gas
E.B.O.111	Enniskillen 26 Pool	12/8/85	gas
E.B.O.114	Cromar Pool	18/6/87	oil/gas

SCHEDULE 2

GLOSSARY OF TERMS

AREAL	Pertaining to the surface area.
BUFFER ZONE	Area between the pool boundary and the outer unit boundary.
DOLOMITE	A mineral with the chemical composition $CaMg(CO_3)_2$ commonly found in the rock dolostone.
GUELPH	A layer of rocks deposited during the Silurian period of the Paleozoic Era, composed of dolostone and/or limestone.
ISOPACH	A contour line connecting points of equal thickness of a particular formation.
ISOPLETH	A general term for a line along which all points have a numerically specified constant or equal value.

LAW OF CAPTURE	The exploitation of underground resources by one party regardless of the interest of other parties whose properties overlay the deposit or pool.
LEASE, OIL OR GAS	A contract between a property owner (lessor) and another party (lessee), permitting the lessee to explore for, develop and produce oil or gas from under the property of the lessor.
ORDOVICIAN	A geological period covering the time between 500 and 440 million years ago.
LIMESTONE	A sedimentary rock consisting primarily of calcium carbonate ($CaCO_3$).
POOL, OIL OR GAS	A naturally occuring underground accumulation of oil or gas.
PINNACLE REEF	An underground mound-like structure standstanding upwards of 150 metres above the surrounding sediment consisting of the remains of calcareous organisms and corals.

PERMEABILITY	The physical capacity of a porous rock, sediment, or soil to transmit a liquid or gas.
POROSITY	The volume of the pore space expressed as a percentage of the total volume of the rock mass.
PRIMARY RECOVERY	Production of oil or gas from an underground pool relying upon the naturally occuring pressure within or adjacent to the pool which drives the oil or gas to the surface.
RESERVES	An estimate of the quantity of oil or gas originally in place.
RECOVERABLE RESERVES	That portion of the oil or gas originally in place which can be extracted.
RESERVOIR	An underground porous formation containing oil and/or gas surrounded by layers of less permeable or impervious rock.

ROYALTIES	That share of the oil or gas production which is reserved for the lessor, typically one-eighth of the total hydrocarbon produced.
SECONDARY RECOVERY	Phase of production following primary recovery which recovers oil or gas by augmenting the natural reservoir energy by methods such as reinjecting gas or water into the formation.
SEISMIC	A geophysical method of determining geological formations or structures using sound waves from a detonation at or near the surface. The reflected waves are recorded as seismic data.
SPACING UNIT	The minimum surface area prescribed for each well which must be pooled before a drilling permit is issued; for wells into Ordovician formations two tracts of 25 acres each are required.
SPACING REGULATION	A regulation, made under the Petroleum Resources Act, R.S.O. 1980, specifying spacing units in which single wells may be drilled and operated.

SILURIAN	A geological period covering the time between 440 and 400 million years ago.
TRACT	A rectangular area of land of 25 acres; each 200 acre Lot is divided into 8 such numbered tracts as specified in Schedule 3, Ontario Regulation 752, under the Petroleum Resources Act.
TRENTON FORMATION	Primarily a limestone sediment deposited during the Ordovician period.
UNIT AGREEMENT	An agreement between all the working and royalty interest owners in an oil or gas pool to form a single unit. The agreement specifies each owner's share in the unit.
UNITIZATION	The joining of adjacent interests on leases with respect to an oil or gas pool for the efficient operation of the pool in which the value of the oil or gas is allocated among the lessors in a fair and reasonable manner, regardless of where the producing wells are located.

UNIT OPERATING AGREEMENT An agreement among the working interest owners, having an interest in an oil or gas pool, which specifies the manner in which the joint working interests will operate the pool.