



Chevron Canada Resources

P.O. Box 100, Virden, Manitoba R0M 2C0
Phone (204) 748-1334 Fax (204) 748-6762

Virden, Manitoba
January 7th, 1992

DEPT. OF ENERGY & MINES

JAN 9 1992

Petroleum Inspection Section

N.V.S#1 and Daly #4 Shut-Ins

Department of Energy and Mines
Petroleum Branch
Attention: Mr. Allan Gervin
P.O. Box 1359
Virden, Manitoba
R0M 2C0

Dear Allan:

Due to uneconomic production figures from the following producing wells, they have been temporarily shut down for the winter months as of January 2nd, 1992:

N.V.S #1	2D-26-11-26	14D-23-11-26	
	3-26-11-26	15D-23-11-26	
Daly #4	3-25-9-28	10-35-9-28	5-36-9-28
	7-25-9-28	15-35-9-28	12-36-9-28
	13-25-9-28	16-35-9-28	13-36-9-28

The above locations will remain shut-in until weather (road) conditions etc. allow normal operating conditions.

If there are any questions, please contact either Ken Kelsey or Kevin Anderson at our Virden office 748-1334.

Yours very truly,

J.E. CAUSGROVE, P. Eng.
Area Superintendent
Virden Area

JEC/kbh



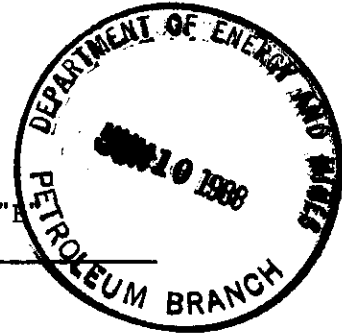
Chevron Canada Resources

500 - Fifth Avenue S.W., Calgary, Alberta T2P 0L7 • Phone (403) 234-5000
Fax 234-5947

R. A. Pashelka
General Counsel

1988-06-02

Revised Exhibit "E"
Daly Unit No. 4



Department of Energy and Mines,
Petroleum Branch,
555, 330 Graham Avenue,
Winnipeg, Manitoba.
R3C 4E3

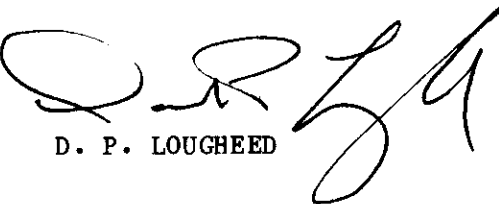
Attention: Mr. L. R. Dubreuil,
Chief Petroleum Engineer

Dear Sirs:

We enclose two (2) copies of revised Exhibit "E" to the Unit Operating Agreement for the subject Unit, issued 1988-06-01, which reflects the addition of the well "Resman Jorex et al Daly SWD 1C-35-9-28 WPM". This well was inadvertently omitted from the Exhibit during its initial preparation and accordingly the enclosed Exhibit will be effective as of the Effective Date.

Should you require anything further in this regard please contact the undersigned at (403) 234-5881.

Yours very truly,


D. P. LOUGHEED

/ps
Encls.

Deke
Paulette
Donna

April 13/88

The following well should also be
included in Daly Unit No. 4 - effective
April 1/88

7-²⁵~~28~~-9-28

Oetie
Paulette

DALY UNIT No 4 has been approved by the Board effective April 1, 1988. Wells in the unit are as follows.

2-25-9-28	6-34-9-28	12-36-9-28 +
3-25-9-28	7-34-9-28	13-36-9-28 +
6-25-9-28	8-34-9-28 *	4-1-10-28
10-25-9-28	9-34-9-28	1-2-10-28
11-25-9-28	1-35-9-28	2-2-10-28
12-25-9-28	10-35-9-28 **	3-2-10-28
13-25-9-28	2-35-9-28	4-2-10-28
9-26-9-28	3-35-9-28	
10-26-9-28	4-35-9-28	
15-26-9-28	5-35-9-28	
16-26-9-28	6-35-9-28	* Well in Abd 'P' Tract gets allocated production
7-27-9-28	7-35-9-28	** SWD well
8-27-9-28	8-35-9-28	+ Crown owned Mineral rights
9-27-9-28	9-35-9-28	
10-27-9-28	10-35-9-28	
11-27-9-28	11-35-9-28	
14-27-9-28	12-35-9-28	
15-27-9-28	13-35-9-28	
16-27-9-28	14-35-9-28	
1-34-9-28	15-35-9-28	
2-34-9-28	16-35-9-28	
3-34-9-28	5-36-9-28	
	11-36-9-28 +	

Cherron Canada Resources Limited is Unit Operator

Manitoba



The Oil and Natural Gas
Conservation Board

Room 309
Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

(204) 945-3130

March 31, 1988

Chevron Canada Resources Limited
500 - 5th Avenue S.W.
Calgary, Alberta
T2P 0L7

Attention: Mr. D.P. Lougheed

Dear Sir:

Re: Daly Unit No. 4

The Daly Unit No. 4 is hereby approved with an effective date (pursuant to Article XIV of the Unit Agreement) of April 1, 1988.

Yours respectfully,

ORIGINAL SIGNED BY
CHARLES S. KANG

Charles S. Kang
Chairman

cc: Mr. McDonald
B. Bell
Petroleum ✓



Date: March 30, 1988

To: Charles S. Kang, Deputy Minister

Energy & Mines

Room 309, Legislative Building

Action / Route Slip

From: L.R. Dubreuil, Chief Petroleum Engineer

Petroleum

Telephone: (6574)

- | | | | | |
|---|---|--|---|--|
| <input type="checkbox"/> Take Action | <input type="checkbox"/> Per Your Request | <input type="checkbox"/> Circulate, Initial and Return | <input type="checkbox"/> For Approval and Signature | <input type="checkbox"/> Make _____ Copies |
| <input type="checkbox"/> May We Discuss | <input type="checkbox"/> For Your Information | <input type="checkbox"/> Return With Comments or Revisions | <input type="checkbox"/> Draft Reply for Signature | <input type="checkbox"/> Please File |

Comments: Board approval of Daly Unit No. 4.

All working and royalty owner consents have been received and examined and appear to be in order.

Please contact this office as soon as the attached letter has been signed so that Chevron can be notified.

Daly Unit No. 4

WORKING INTEREST OWNER

CONSENT

CHEVRON

✓

C & T

✓

RESMAN OIL & GAS

✓

TRILOGY

✓

RESMAN HOLDINGS

?

ROYALTY INTEREST OWNER

A. Williams

✓

S. Lowdon

✓

Buttalo

✓

Glenmar

✓

Trilogy

✓

Can. Perm

✓

M. Wilson

✓

Kilford

✓

66529

✓

Lowdon Res.

✓

D Gerrard

✓

U of M

✓

LM Heuman

✓

CLEfflor

✓

MD Gray

✓

RT Perry

✓

O Gray

✓

Shoemaker

✓

J Clarke

✓

Crown

✓



Chevron Canada Resources

500 - Fifth Avenue S.W., Calgary, Alberta T2P 0L7

R. A. Pashelka
General Counsel

1988-03-28

Proposed Daly Unit No. 4
Our File No. 59,640-1

The Oil and Natural Gas Conservation Board
Room 309, Legislative Building
Winnipeg, Manitoba
R3C 0V8

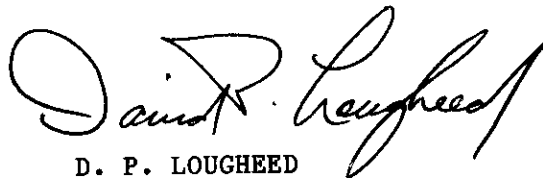
Attention: Mr. Charles S. Kang, Chairman

Dear Mr. Kang:

In accordance with section 74(2) of The Mines Act, c. M160 CCSM, Chevron Canada Resources, as Operator of the Proposed Daly Unit No. 4, hereby submits the Unit Agreement and Unit Operating Agreement, Daly Unit No. 4 for the approval of The Oil and Natural Gas Conservation Board.

The Unit documents have now been signed by all Working Interest Owners and all Royalty Owners and photo-copies of the execution pages evidencing such execution are enclosed herewith except the execution page of Richard T. Perry. We are advised by Mr. Perry that he has executed the Agreement and the document has been mailed to us from Santa Barbara, California. We expect to receive the Agreement within the next few days and will telefax a copy to you upon receipt.

Yours very truly,


D. P. LOUGHEED

DPL/nw
Encls.



HARVEY BOARD
23V-5177

ROYALTY OWNERS - Photo-copies of execution pages:

Minister of Energy and Mines, Province of Manitoba.

Marion D. Wilson

Stewart H. Lowdon

Alva M. Williams

Lowdon Resources Ltd.

John W. Clarke

Glenmar Resources Ltd.

Harold H. Shoemaker

Haskett Enterprises Ltd.

David G. Gerrand

Buffalo Rose Holdings Ltd.

Williams Family Holdings Ltd.

Orma Jean Gray

(Lynne M. Heaman

(Murray D. Gray

(Colleen L. Effler

66529 Manitoba Ltd.

Kilford Holdings Ltd.

The Canada Permanent Trust Company

University of Manitoba

Richard T. Perry

Norman E. Glinz

Willard C. Glinz

Arvel H. Glinz

WORKING INTEREST OWNERS - Photo-copies of execution pages of Unit Agreement
and Unit Operating Agreement.

Chevron Canada Resources, a partnership
by its Managing Partner
Chevron Canada Resources Limited

C & T Resources Ltd.

Resman Oil and Gas Ltd.

Trilogy Resource Corporation (Note - execution of Unit Agreement as Working
Interest Owner and Royalty Owner.)



Energy and Mines

Petroleum

555 — 330 Graham Avenue
Winnipeg, Manitoba, CANADA
R3C 4E3

(204) 945-6577

March 8, 1988

Chevron Canada Resources Limited
500 — 5th Avenue S.W.
CALGARY, Alberta T2P 0L7

Attention: Mr. J.M. Taylor

Re: Proposed Daly Unit No. 4

Dear Sir:

Enclosed please find one copy of the "Unit Agreement — Daly Unit No. 4" which has been executed by the Minister of Energy and Mines on behalf of the Crown as a royalty owner.

Please note that prior to the Unit becoming effective, it is necessary to obtain the approval of The Oil and Natural Gas Conservation Board. Prior to such approval being given, the Board will require evidence that all royalty and working interest owners have executed the Unit Agreement.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "L.R. Dubreuil". The signature is somewhat stylized and is positioned above the typed name.

L.R. Dubreuil
Chief Petroleum Engineer
Petroleum Division

LRD:dah

encl



ON MATTERS OF STATE

To The Honourable the ~~Lieutenant Governor~~ ^{ADMINISTRATOR} in Council

The undersigned, the Minister ofEnergy and Mines.....
submits for approval of Council a report setting forth that:

WHEREAS Section 75 of "The Mines Act", being Chapter M160 of the Continuing Consolidation of the Statutes of Manitoba, provides as follows:

"75(1) Where the Crown is a working interest owner or royalty owner of a tract of land, the Lieutenant Governor in Council may authorize the minister, on behalf of the Crown, to enter into a unitization agreement for the unit operation of the pool or field, or part thereof, within which the tract is situated.

75(2) Notwithstanding any other provision of this Act or of an agreement or other disposition made under this Act, the Lieutenant Governor in Council may authorize the minister, on behalf of the Crown, to enter into an agreement for the calculation of the royalty payable to the Crown on the oil and gas produced from a unit area that includes a tract that is subject to the payment of a royalty to the Crown."

AND WHEREAS Chevron Canada Resources Limited is the holder of Crown Oil and Natural Gas Lease No. L811-202 covering the Northwest quarter of Section 36, in Township 9, Range 28, WPM;

AND WHEREAS Chevron Canada Resources Limited is proposing to unitize its operations in part of the Daly Lodgepole A Pool as Daly Unit No. 4, which unit includes the tracts described as Legal Subdivisions 11, 12, and 13, of Section 36, in Township 9, Range 28, WPM;

AND WHEREAS Chevron Canada Resources Limited has requested agreement from the Crown as the royalty owner of the subject tracts, to a proposed unitization agreement entitled Unit Agreement - Daly Unit No. 4 which is similar in form to Unit Agreement - Waskada Unit No. 16 approved by The Oil and Natural Gas Conservation Board on April 29, 1987;

AND WHEREAS in order to accomplish the more efficient and economical development and production of the oil and gas resources of the Daly Lodgepole A Pool, it is deemed advisable for the Crown to enter into the proposed unitization agreement;

THEREFORE, he, the Minister, recommends:

THAT the Minister of Energy and Mines be authorized to enter into the Unit Agreement for Daly Unit No. 4 in a form substantially similar to that form utilized in the Unit Agreement for Waskada Unit No. 16.

Initiating Department/Agency	
Department/Agency	Authorized Officer
ENERGY & MINES	<i>[Signature]</i>
Approved By	
C.S.C.	Finance
Approved as to form by:	
Name <u>ROBIN P. WINTERS</u>	
Civil Litigation Branch: <input checked="" type="checkbox"/>	Initials
or Legislative Counsel:	<i>[Signature]</i>

Signature *[Signature]*

IN THE EXECUTIVE COUNCIL CHAMBER, WINNIPEG

Upon consideration of the foregoing report and recommendation Council advises that it be done as recommended.

..... 2 March 1988
Date

[Signature]
President or Presiding Member

AT GOVERNMENT HOUSE IN THE CITY OF WINNIPEG

Approved and Ordered this3rd..... day ofMarch..... A.D. 1988

[Signature]
Lieutenant Governor



Date: February 22, 1988

To: Rose

cc: Craig Halwachs

Action / Route Slip

From: H. Clare Moster

Executive Director

Petroleum

Telephone:

- | | | | | |
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| <input type="checkbox"/> May We Discuss | <input type="checkbox"/> For Your Information | <input type="checkbox"/> Return With Comments or Revisions | <input type="checkbox"/> Draft Reply for Signature | <input type="checkbox"/> Please File |

Comments: Order-in-Council - Daly Unit No. 4

Attached are 2 originals and 3 photocopies of an AMENDED order-in-council for the proposed Unit.

This amended OIC will eliminate the need to include copies of the 37 page agreement with each Cabinet Submission.

Manitoba



Memorandum

Date February 22, 1988

To H. Clare Moster
Executive Director
Energy and Mines
555 - 330 Graham Avenue

From Robin P. Winters
Crown Counsel
Civil Legal Services
6th Flr. - 405 Broadway
945-2836

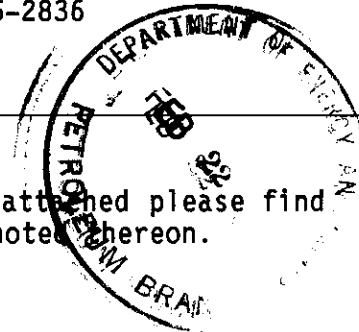
Telephone

Subject PROPOSED OIC - re: Unitization of Daly Unit No. 4

Further to your route slip of February 22, 1988, attached please find the OIC as captioned, with my approval as to form noted thereon.

Robin P. Winters
Crown Counsel

RPW:cr
enc.



First | Fold



Date: February 22, 1988

To: Robin Winters

Crown Counsel

6th Floor - 405 Broadway

Action / Route Slip

From: H. Clare Moster

Executive Director

Energy & Mines, Petroleum

Telephone:

- | | | | | |
|---|---|--|---|--|
| <input type="checkbox"/> Take Action | <input type="checkbox"/> Per Your Request | <input type="checkbox"/> Circulate, Initial and Return | <input type="checkbox"/> For Approval and Signature | <input type="checkbox"/> Make _____ Copies |
| <input type="checkbox"/> May We Discuss | <input type="checkbox"/> For Your Information | <input type="checkbox"/> Return With Comments or Revisions | <input type="checkbox"/> Draft Reply for Signature | <input type="checkbox"/> Please File |

Comments: Re: OIC - Daly Unit No. 4

The OIC has been revised as per our telephone discussion.

Please return via courier, to this office as quickly as possible.



Memorandum

Date February 16, 1988

To Charles S. Kang
Deputy Minister of Energy & Mines
309 Legislative Bldg.

From H. Clare Moster
Executive Director
Petroleum Division

Subject Daly Unit No. 4

Telephone

Chevron Canada Resources Limited is proposing to unitize an area in the Daly Field which includes 52 tracts. The proposed Daly Unit No. 4 involves three tracts (Lsd's) for which the Crown is the royalty interest owner (i.e. - mineral rights owner). Section 74 of The Mines Act states that before a Unitization Agreement may be put into effect, it must be approved by The Oil and Natural Gas Conservation Board. It further states that the Board shall not approve an agreement unless the royalty owners have agreed to the Unit operation. Therefore, Chevron has submitted two copies of the proposed Unit Agreement for the Daly Unit No. 4 for approval (execution) by the Minister as an affected royalty owner.

Section 75 of The Mines Act states that the Minister, with the authorization of the Lieutenant Governor in Council, may enter such agreements on behalf of the Crown as a royalty owner.

Recommendation:

It is recommended that the Minister:

1. Request authorization from Cabinet to permit him to enter into the proposed Daly Unit No. 4 Unitization Agreement on behalf of the Crown (Draft OIC attached) with respect to Lsd's 11, 12 and 13 of Section 36-9-28 (WPM).
2. Execute the attached two copies of the Unit Agreement for the Daly Unit No. 4 as a royalty owner.

Discussion:

The 3 tracts in the proposed Daly Unit No. 4 which contain Crown-owned mineral rights are Lsd's 11, 12 and 13 of Section 36-9-28 (WPM). All of these tracts are held under Crown Oil and Natural Gas Lease No. L811-202 covering the Northwest Quarter of Section 36. Currently all three wells on the tracts are producing from the Daly Lodgepole A Pool. The combined production from these wells is approximately 35 m³ of oil per month at a water-oil ratio of about 4.00 m³/m³.

With the proposed Unit and planned pressure maintenance operations in the area, it is likely that the productivity of these wells will be enhanced or at least maintained in the future. On this basis, inclusion of these tracts in the Unit is recommended.

By inclusion of these tracts in the Unit, the Crown will receive royalties based on allocated Unit production. The Division has reviewed all the Tract Participation Factors proposed for the tracts in the Unit and feels they are reasonable.

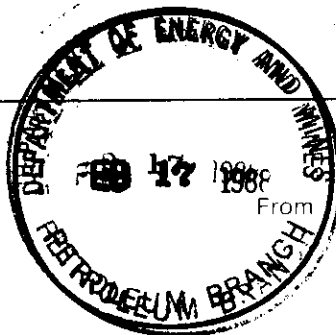
Clause 1301 of the proposed Unit agreement specifically states that the execution of the agreement by the Minister is strictly as a Royalty Interest owner. Therefore, by such execution, the Minister is not approving the Unit Agreement. Such approval may only be done by the Board pursuant to Section 74 of The Mines Act.

Handwritten signature of H. C. Moster

H. Clare Moster

Attachment

Manitoba



Memorandum

Date February 17, 1988

To H. Clare Moster
Executive Director
Energy and Mines
555 - 330 Graham Avenue

From Robin P. Winters
Crown Counsel
Civil Legal Services
6th Flr. - 405 Broadway
945-2836

Telephone

Subject PROPOSED OIC - re: Unitization of Daily Unit No. 4

This is further to your route slip of February 11, 1988 and our telephone conversation of Friday last wherein you confirmed that there was no necessity on my part to review the unitization agreement in this matter. Accordingly, please find the subject Order-in-Council, in duplicate, with my approval as to form endorsed on each copy.

Robin P. Winters
Crown Counsel

RPW:cr
enc.

First | Fold



Date: February 11, 1988

To: Robin Winters

Civil Litigation Services

6th Floor - 405 Broadway Avenue

Action / Route Slip

From: H. Clare Master

Executive Director, Petroleum

Energy & Mines, 555 - 330 Graham Avenue

Telephone:

☐ Take Action

☐ Per Your Request

☐ Circulate, Initial
and Return

☐ For Approval and
Signature

☐ Make _____ Copies

☐ May We Discuss

☐ For Your Information

☐ Return With Comments
or Revisions

☐ Draft Reply for
Signature

☐ Please File

Comments:

1. Attached for your review as to form is a standard OIC relating to the Crown's consent to unitization (Daly Unit No. 4).

Please return this OIC to my attention as soon as it has been checked.

Thanks!

DEPARTMENT OF ENERGY AND MINES

CABINET SUBMISSION

SUBJECT:

An agreement to unitize oil development operations in the Daly oil field.

BACKGROUND:

The Province of Manitoba is the owner of the mines and minerals in the northwest quarter of Section 36, Township 9, Range 28 WPM which is part of the Daly oil field. Chevron Canada Resources Limited is the holder of a Crown oil and natural gas lease to the subject land. Chevron has completed three wells under the lease in the Daly Lodgepole A Pool. Chevron is planning to develop its waterflood operations in that area of the Pool, but before proceeding, Chevron must obtain the agreement of the mineral rights owners affected. As Chevron wishes to include the Crown wells in the proposed Daly Unit No. 4, it has requested the consent of the Minister of Energy and Mines on behalf of the Crown as mineral rights owner.

DISCUSSION:

Inclusion of the Crown wells in the proposed Unit will result in a portion of the total crude oil and natural gas produced from all wells in the Unit being allocated to the Crown wells, and the Crown will receive royalties on the allocated production.

The Mines Act specifically provides for the Minister to enter into unitization agreements on behalf of the Crown with the approval of the Lieutenant Governor in Council.

FINANCIAL IMPLICATION:

The proposed unitization will not affect operating expenditures and will result in additional future oil royalty revenue to the Crown depending on the success of the waterflood project.

COMMUNICATION:

Because of the routine nature of the procedure for Crown consent as a mineral owner to unitization, no communication is required.

RECOMMENDATION:

It is recommended that the Minister of Energy and Mines be authorized to enter into the Unitization Agreement for Daly Unit No. 4 on behalf of the Crown.

Date Typed: February 9, 1988

Jerry Storie
Minister of Energy and Mines

add in future Subs! → *The unitization agreement proposed is similar in form to recent agreements approved by the Oil and Natural Gas Conservation Board.*

241



Chevron Canada Resources

500 - Fifth Avenue S.W., Calgary, Alberta T2P 0L7

1988-01-28

R A Pashelka
General Counsel

Proposed Unitization - Daly
Unit No. 4

The Oil and Natural Gas Conservation Board,
Room 309 Legislative Building,
Winnipeg, Manitoba.
R3C 0V8

Attention: Mr. Charles S. Kang, Chairman

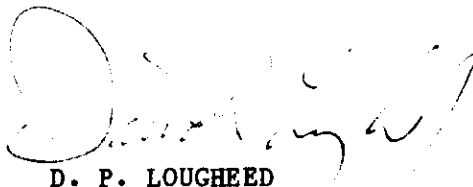
Dear Mr. Kang:

We enclose for your information one (1) copy of each of the Unit Agreement and Unit Operating Agreement for the subject Unit in execution form.

We are currently obtaining Royalty Owner executions and expect to be seeking your approval for the unitization in the near future.

If you require anything further in this regard please contact the undersigned at (403) 234-5881.

Yours very truly,



D. P. LOUGHEED

/ps
Encls.





Chevron Canada Resources

500 - Fifth Avenue S.W., Calgary, Alberta T2P 0L7

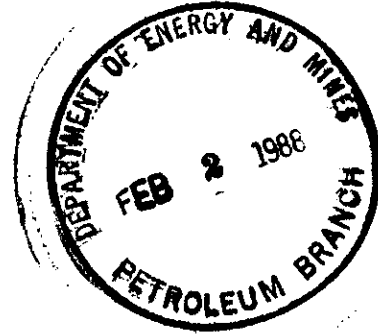
R. A. Pashelka
General Counsel

1988-01-27

Unit Agreement - Proposed
Daly Unit No. 4

Department of Energy and Mines,
Petroleum Branch,
555, 330 Graham Avenue,
Winnipeg, Manitoba.
R3C 4E3

Attention: Mr. L. R. Dubreuil,
Chief Petroleum Engineer



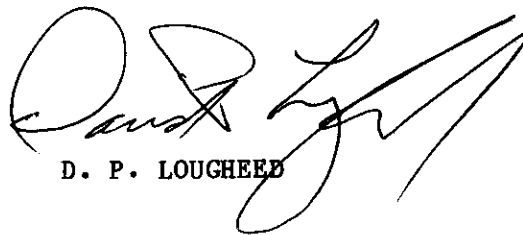
Dear Sirs:

We enclose three (3) copies of the Unit Agreement for the subject Unit in execution form. Please arrange for execution by the Manitoba Crown and return one (1) executed copy to us at your earliest convenience.

A copy of the Unit Operating Agreement is enclosed for your information.

Should you require anything further in this regard please contact the undersigned at (403) 234-5881.

Yours very truly,


D. P. LOUGHEED

/ps
Encls.





Chevron Canada Resources Limited

500 - Fifth Avenue S.W., Calgary, Alberta T2P 0L7

1986-11-06

J.M. Taylor
Coordinator
Units & Joint Ventures
Producing Department

Daly Unit No. 4
Unitization & Staged Waterflood Proposal

TO: ALL ROYALTY OWNERS
PROPOSED DALY UNIT NO. 4
(Addressee List Attached)

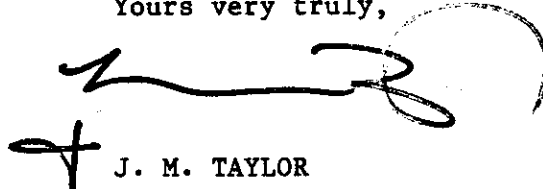
Gentlemen:

Attached for your information is a discussion of the unitization and staged waterflood proposal for Daly Unit No. 4. Chevron, as Operator of this unit, has applied to the Manitoba Oil and Natural Gas Conservation Board to implement staged waterflood in the subject area. This staged waterflood cannot be implemented until a Unit is formed.

The attached summary of the project will explain to you the basis and merits of a unit and waterflood, enabling an expeditious execution of a forthcoming Unit Agreement. The Unit Agreement must be signed by all Royalty and Working Interest Owners.

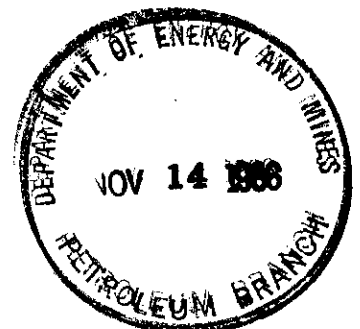
If you have any questions on this matter please call Mr. Kevin Matieshin at Chevron's Virden Office at (204) 748-1334. If felt necessary by the Royalty Owners, we are prepared to hold a meeting to further discuss this matter.

Yours very truly,


J. M. TAYLOR

RIZ/db
Attach.

cc: All Working Interest Owners
Proposed Daly Unit No. 4



PROPOSED DALY UNIT NO. 4
UNITIZATION AND STAGED WATERFLOOD PROPOSAL

INTRODUCTION

The Daly Lodgepole "A" Pool was discovered in 1951. Since that time many wells have been drilled and waterflood schemes have been implemented in portions of the pool. The proposed Daly Unit No. 4 area is in the south end of the Pool and contains wells currently operated by Resman Oil and Gas Limited.

The area proposed for unitization and staged waterflooding (see Figure No. 1) has 50 wells completed in the Lodgepole "A" formation at an average depth of 750 m. The peak production for this area was reached in 1984-09 at 83 m³/d, since which production has steadily declined. By 1986-06, 49 000 m³ of oil had been produced at a daily rate of 63 m³/d. The daily production rate will continue to decline if this area remains under the present method of operation.

STAGED WATERFLOODING

It is anticipated that the area's ultimate oil recovery and producing rate can both be improved by waterflooding. The Daly Unit Nos. 1 and 3 have had successful waterflood projects in operation since 1970 and 1953 respectively.

Waterflooding is a process by whereby water is forced into the rock containing the oil in order to flush the oil from the rock into the wellbore (see Figure No. 2). Water injection will be accomplished in Daly Unit No. 4 by drilling additional wells in between the existing producing wells and injecting the water through these wells into the reservoir rock. The waterflood performance of Daly Unit Nos. 1 and 3, in the same geologic formation, indicates that this technique can be employed successfully in the Daly Unit No. 4 area. We predict waterflooding will increase the ultimate oil recovery for the Unit area to approximately 610 000 m³; this is six times the anticipated 101 000 m³ of oil which could be recovered by natural depletion. Figure No. 3 illustrates the increase in oil production which can be expected from Daly Unit No. 4 under the present method of operation compared with that expected from waterflooding the section 27 area. Figure No. 4 shows the waterflood development which is required to realize the increase in production. The increase in production represents extra income for the Royalty Owners and the Working Interest Owners. Royalty Owners do not contribute any money for the installation of the waterflood.

Waterflood implementation into the proposed Daly Unit No. 4 will be staged (phased). Staged waterflood allows the Working Interest Owners the benefit of gradually waterflooding a reservoir during which time waterflood performance and oil production can be evaluated. Expansion of the waterflood will therefore be more technically and economically controlled. The first areas proposed for waterflooding (Stage I) is the NE-1/4 of Section 27-9-28 WPM and the SE-1/4 of Section 35-9-28 WPM. Section 27 was chosen as it possesses the wells with the best productivity and the thickest oil zone. An injection well will have to be drilled to permit water injection in this area. Section 35 was also chosen for Stage I as it currently has an existing water disposal well which the Unit will use as a water injection well.

The technique of waterflooding has been successfully employed in many fields in Western Canada. A few examples of Chevron operated waterfloods in Manitoba that have proven their value are North Virden Scallion Unit No. 1, Virden-Roselea Unit Nos. 1, 2 and 3 and Daly Unit No. 3.

UNITIZATION

In order to implement the most efficient waterflood for the proposed Daly Unit No. 4 area, it is necessary that this part of the Daly field be unitized. Unitization is a method whereby all interests in an oil field are merged and the reservoir is developed and operated as a single property. Working Interest and Royalty Owners no longer receive a portion of the production from a specific well or group of wells but share in the Unit's total production. They share in the Unit production on the basis of a participation formula agreed upon by the Working Interest Owners. It must be pointed out that each Working Interest and Royalty Owner will share to the extent of their participating interest until complete abandonment of the Unit, whether their well or wells are producing, injecting, suspended, or abandoned.

Commonly used factors to determine participation are oil production, oil cut and various oil-in-place factors. Each well's initial oil rate, current oil rate, oil cut, and porosity-footage (used to calculate oil-in-place) represent the present and future worth of that well. These factors have been combined in the following formula which the Working Interest Owners feel represents the total value for each well and the fairest means of participating within this Unit:

Tract Participation Factor = $(0.2 \times \text{current oil rate factor}) + (0.2 \times \text{current oil cut factor}) + (0.3 \times \text{initial oil rate factor}) + (0.3 \times \text{porosity-metre factor})$.

Chevron Canada Resources Limited has been selected as Operator for the Unit. Chevron has many years of experience operating waterfloods in Western Canada.

A Unit Agreement will be developed which will set down the terms and conditions of the Unit, the tract participation factors and the Working Interest and Royalty Owners. This agreement must be signed by all Royalty and Working Interest Owners so that the unit may be formed.

ROYALTY OWNER ADDRESS LIST

PROPOSED DALY UNIT NO. 4

66529 Manitoba Ltd.
c/o 4th Flr., 200 Portage Avenue
Winnipeg, Manitoba
R3C 3X2

Canada Permanent Trust Co.
c/o Canada Trust Company
Attention: Oil Royalty Dept.
505 - 3rd Street S.W.
Calgary, Alberta
T2P 3E6

John Wesley Clarke
c/o Pitblado & Hoskin
Barristers & Solicitors
1900 One Lombard Place
Winnipeg, Manitoba
R3B 2L8

David Garth Gerrard
Box 276
Virden, Manitoba
ROM 2C0

Orma J. Gray
Box 1718
Virden, Manitoba
ROM 2C0

Gerald B. Haskett
c/o Post Office
Cromer, Manitoba
ROM 0J0

Henry George Kilford
c/o Pitblado & Hoskin
Barristers & Solicitors
1900 One Lombard Place
Winnipeg, Manitoba
R3B 2L8

Lowdon Resources Ltd.
401 - 3rd Avenue S.
Virden, Manitoba
ROM 2C0

Clifford Lowdon
520 Princess Street
P.O. Box 1972
Virden, Manitoba
ROM 2C0

Georgina M. Lowdon
Box 1244
Virden, Manitoba
ROM 2C0

Stewart H. Lowdon
3208 McDonald Avenue
Brandon, Manitoba
R7B 0B9

Manitoba Energy and Mines
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Richard T. Perry
c/o Pitblado & Hoskin
Barristers & Solicitors
1900 One Lombard Place
Winnipeg, Manitoba
R3B 2L8

Harald Howard Shoemaker
P.O. Box 1076
Virden, Manitoba
ROM 2C0

University of Manitoba
Attention: Accounting Manager
Room 315, Administration Bldg.
Winnipeg, Manitoba
R3T 2N2

Marion Dolena Wilson
308 - 15th Street
Brandon, Manitoba
R7A 4V9

Cecil J. Williams
c/o Post Office
Virden, Manitoba
ROM 2C0

Alva May Williams
Box 235
Oak Lake, Manitoba
ROM 1P0

R.28WPM

R.27WPM

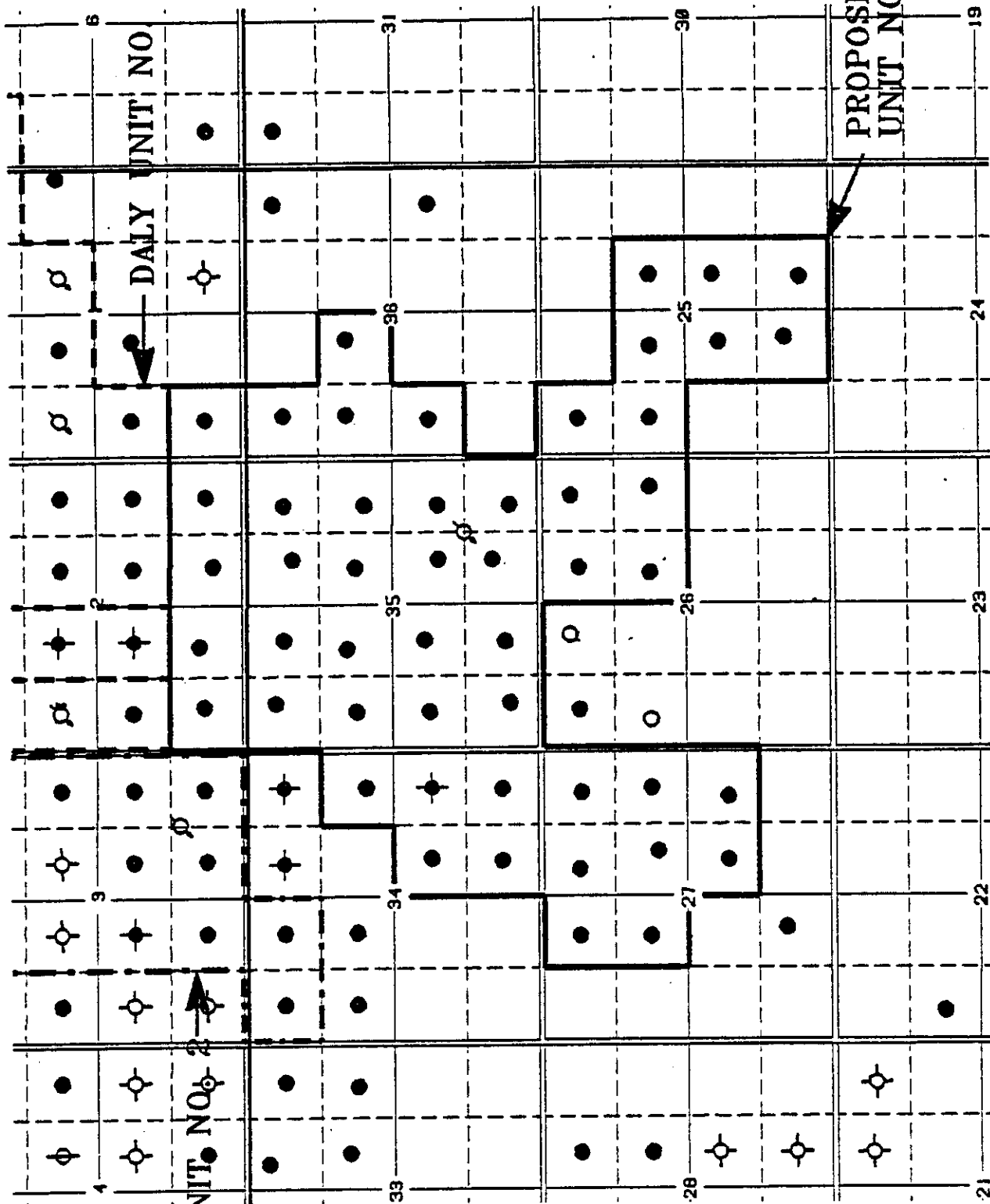


FIGURE NO. 1

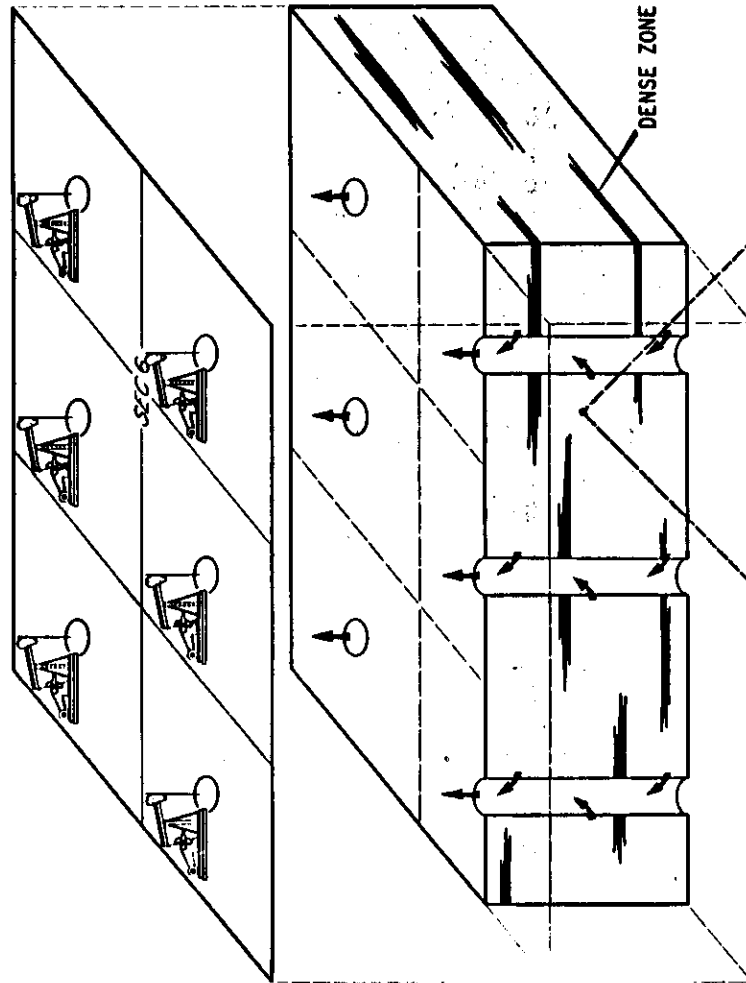
PROPOSED DALY UNIT NO. 4

- WELL LEGEND
- OIL
 - DRILLING
 - ⊗ WATER INJECTOR
 - ⊙ SUSPENDED OIL
 - ⊗ ABANDONED OIL

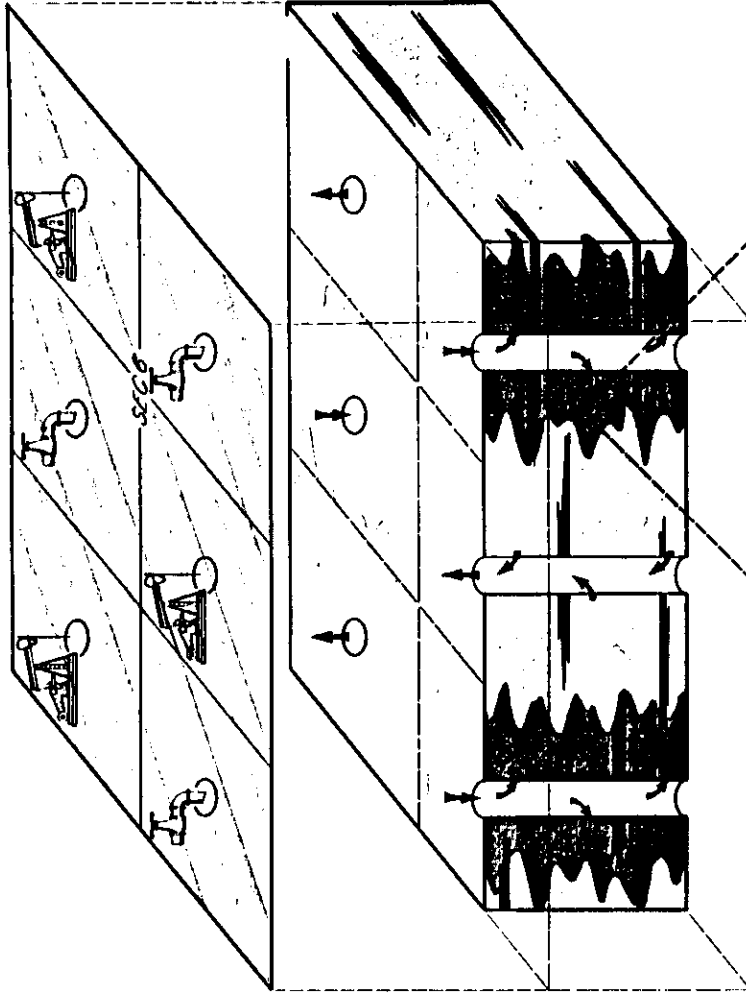
FIGURE 2

SCHEMATIC SECTION OF TYPICAL SANDSTONE RESERVOIR

BEFORE FLOODING



AFTER FLOODING



LEGEND

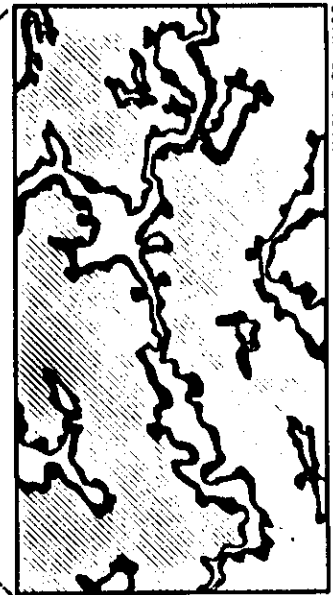
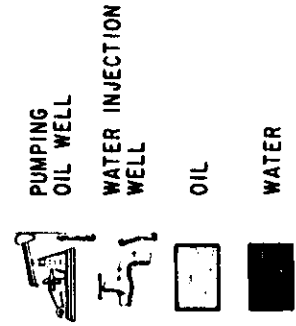
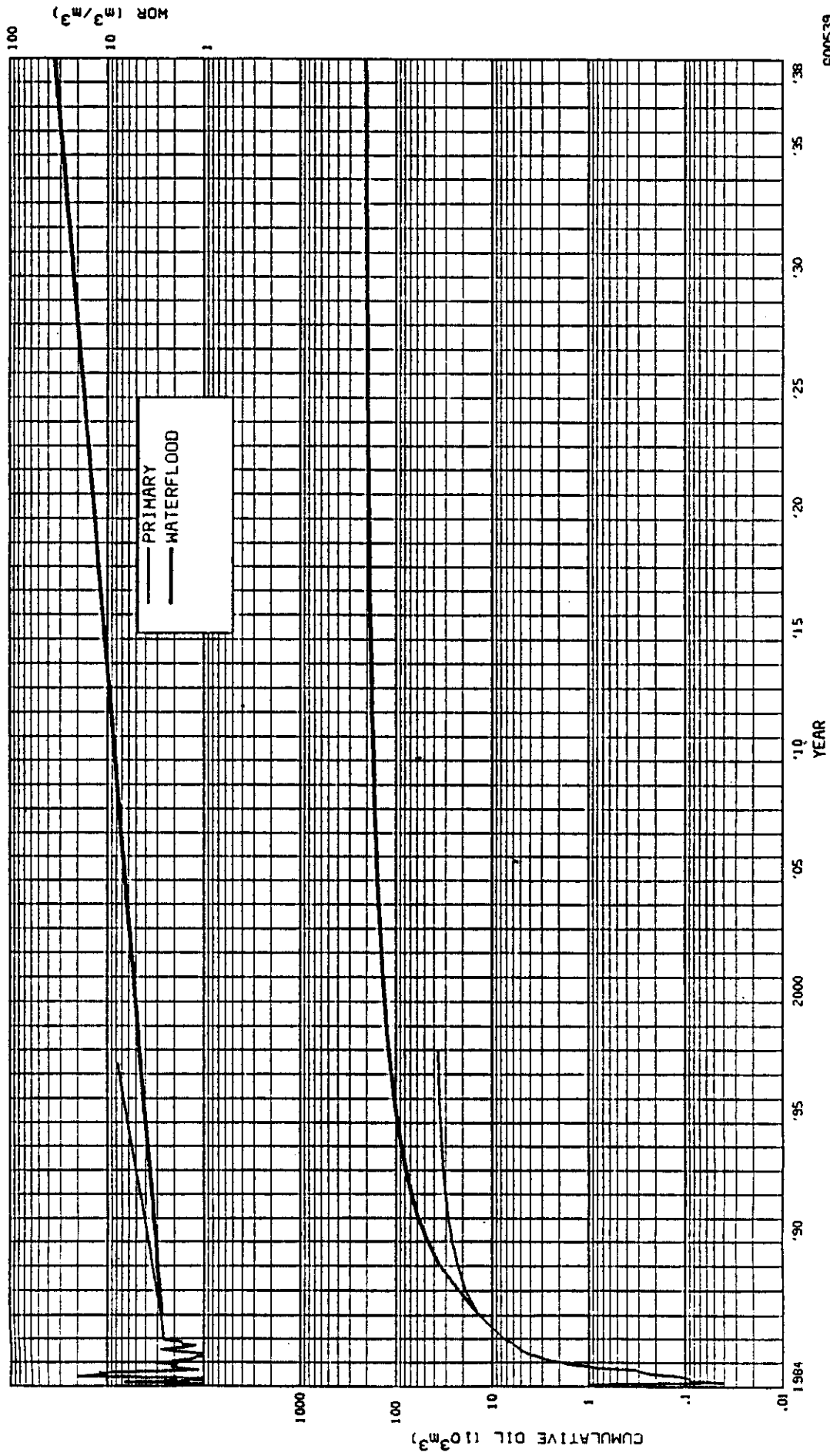


FIGURE 3

DAILY UNIT NO. 4 - SECTION 27 AREA
PRIMARY AND WATERFLOOD PRODUCTION HISTORY AND FORECAST



R.28WPM

R.27WPM

T.10

T.9

T.9

T.9

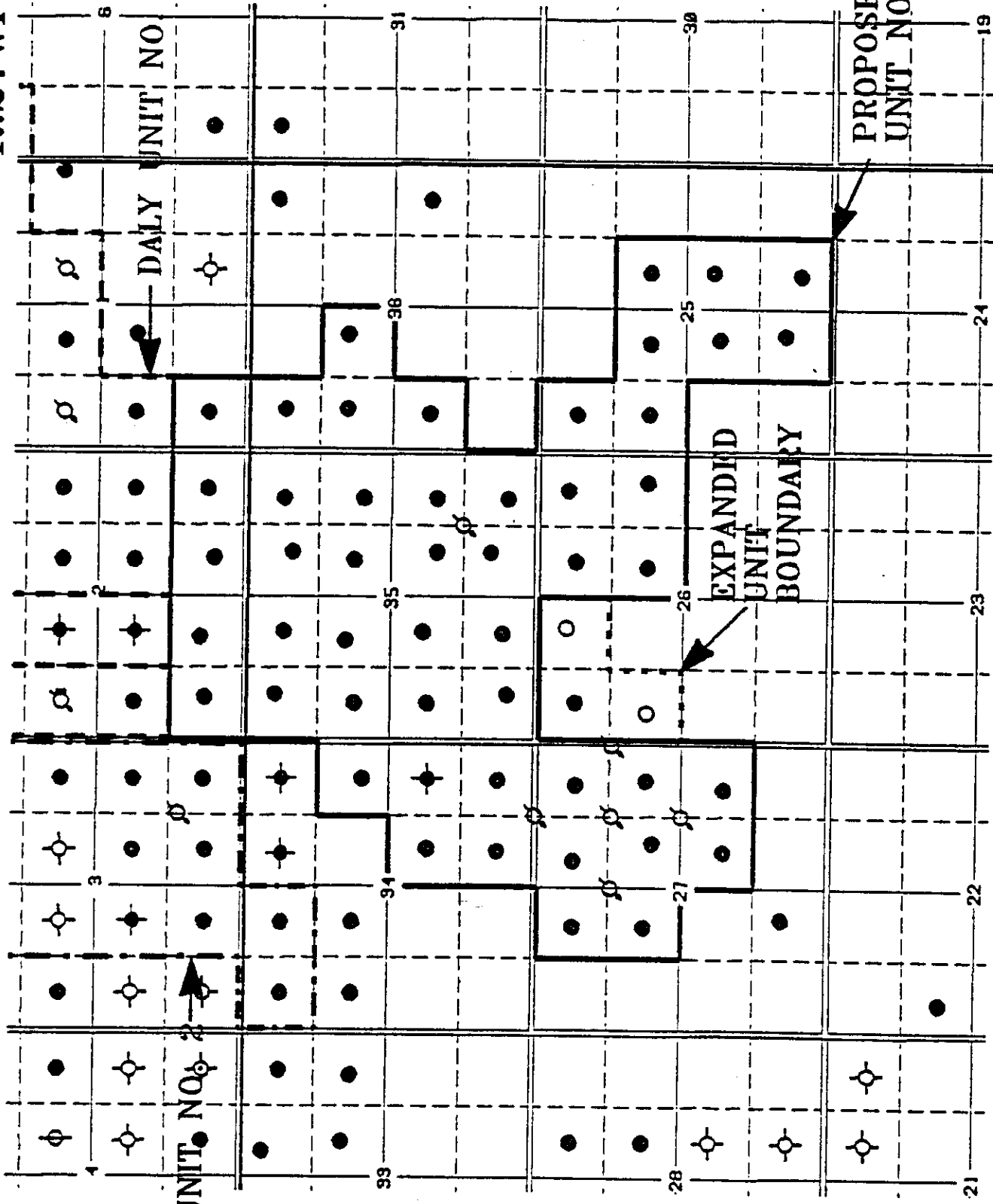


FIGURE NO. 4

PROPOSED DALY UNIT NO. 4

WELL LEGEND

- OIL
- DRILLING
- ⊗ PROPOSED WATER INJECTION
- ⊙ SUSPENDED OIL

Tract Factor Calculations - Chevron Daly Unit No. 4.

A good CNL versus core porosity correlation was obtained for the Upper and Middle Daly Members for the Unit No. 4 area. Also, a relatively good ϕ versus K relationship was obtained. Using an assumed permeability cut-off of 1 md (minimum K needed for economic production from the Mississippian), minimum porosity cut-offs were derived for both the Upper and Middle Daly Members.

Calculated ϕh values for the Daly Member match quite closely with Chevron's, especially for the 3 Prov. wells in the proposed unit - 11-36-9-28, 12-36-9-28 and 13-36-9-28. Based on these findings, we find that the proposed Tract Factors by Chevron are acceptable for Daly Unit No. 4.

Location	Øt Factor (Marc)	Øt Factor (Chevron)	Prov.	Location	Øt Factor (Marc)	Øt Factor (Chevron)	Prov.
2-25	0.0198	0.0064	-	9-34	0.0155	0.0083	-
3-25	-	0.0089	-	1-35	-	0.0156	-
6-25	0.0241	0.0268	-	2-35	0.0217	0.0218	-
7-25	0.0206	0.0297	-	3-35	0.0182	0.0274	-
10-25	0.0130	0.0033	-	4-35	0.0334	0.0280	-
11-25	0.0241	0.0143	-	5-35	-	0.0180	-
12-25	0.0095	0.0041	-	6-35	0.0279	0.0129	-
13-25	0.0105	0.0193	-	7-35	-	0.0160	-
9-26	0.0122	0.0205	-	8-35	0.0213	0.0162	-
10-26	0.0157	0.0102	-	9-35	0.0277	0.0182	-
15-26	0.0219	0.0294	-	10-35	0.0278	0.0174	-
16-26	0.0147	0.0172	-	11-35	0.0219	0.0096	-
7-27	0.0215	0.0212	-	12-35	-	0.0151	-
8-27	0.0246	0.0195	-	13-35	0.0184	0.0068	-
•9-27	0.0283	0.0431	-	14-35	0.0196	0.0097	-
10-27	0.0173	0.0241	-	15-35	0.0277	0.0313	-
11-27	0.0262	0.0321	-	16-35	0.0165	0.0149	-
14-27	0.0157	0.020	-	5-36	0.0085	0.0062	-
15-27	0.0229	0.0326	-	11-36	0.0225	0.0251	Prov.
•16-27	0.0328	0.0431	-	12-36	0.0116	0.0093	Prov.
1-34	0.0167	0.0195	-	13-36	0.0316 ^{0.0289}	0.0216	Prov.
2-34	0.0194	0.0218	-	4-1	0.0093	0.0282	-
7-34	0.0171	0.0207	-	1-2	-	0.0292	-
8-34	-	0.0166	-	2-2	0.0363	0.0365	-
				3-2	0.0208	0.0244	-
				4-2	0.0153	0.0307	-

1 of 2

$$U.Daily: \phi = \frac{CNL-5.4}{.7} \quad M.Daily: \phi = CNL-3.8$$

$$C/O = 13\% (CNL) \quad C/O = 15\% (CNL)$$

Daily Unit No. 4

Location	U. Daily ϕ t	M. Daily ϕ t	ϕ t	Location	U. Daily ϕ t	M. Daily ϕ t	ϕ t
2-25	0.38	0.58	0.96	3-35	0.75	0.13	0.88
3-25	- log problems -			4-35	1.17	0.45	1.62
6-25	0.17	1.00	1.17	5-35	—	—	—
7-25	0.66	0.34	1.00	6-35	1.06	0.29	1.35
10-25	0.22	0.41	0.63	7-35	- OLD LOGS -		
11-25	0.50	0.67	1.17	8-35	0.65	0.38	1.03
12-25	0.34	0.12	0.46	9-35	0.83	0.51	1.34
13-25	0.28	0.23	0.51	10-35	0.79	0.52	1.31
9-26	0.38	0.21	0.59	11-35	0.56	0.50	1.06
10-26	0.46	0.30	0.76	12-35	—	—	—
15-26	0.76	0.30	1.06	13-35	0.76	0.13	0.89
16-26	0.35	0.36	0.71	14-35	0.62	0.33	0.95
7-27	0.48	0.56	1.04	15-35	0.98	0.36	1.34
8-27	0.92	0.27	1.19	16-35	0.57	0.23	old logs 0.80
9-27	0.99	0.35	1.34	5-36	0.41	0	old logs 0.41
10-27	0.68	0.16	0.84	11-36	0.69	0.40	1.09
11-27	0.74	0.53	1.27	12-36	0.34	0.22	0.56
14-27	0.55	0.21	0.76	13-36	1.42 ^{1.29}	0.11	1.53 ^{1.40}
15-27	0.55	0.56	1.11	4-1	0.36	0.09	0.45
16-27	0.70	0.89	1.59	1-2	- log problems -		
1-34	0.43	0.38	0.81	2-2	1.58	0.18	1.76
2-34	0.57	0.37	0.94	3-2	0.73	0.28	1.01
7-34	0.33	0.50	0.83	4-2	0.44	0.30	0.74
8-34	—	—	—				
9-34	0.57	0.18	0.75				SUB TOTAL = 42.66
1-35	- log problems -						TOTAL = 48.45
2-35	0.69	0.36	1.05				

Marc

Please review tract factor
calculations

- Check ϕh 's
- spot check production data
- spot check Total factor
calculation

BDD



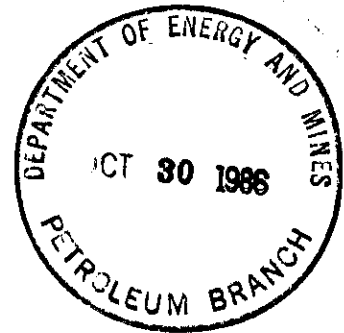
Chevron Canada Resources Limited

500 - Fifth Avenue S.W., Calgary, Alberta T2P 0L7

1986-10-29

J.M. Taylor
Coordinator
Units & Joint Ventures
Producing Department

BY COURIER



Draft Unit Agreement
Daly Unit No. 4

Manitoba Energy and Mines
Petroleum Branch
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Attention: Mr. C. Moster

Gentlemen:

Chevron Canada Resources Limited, on behalf of the Working Interest Owners of the proposed Daly Unit No. 4, submits two copies of the draft Unit Agreement entitled "Unit Agreement - Daly Unit No. 4" for the Crown's pursual and comment.

Successful unitization will permit the implementation of the waterflood scheme as outlined in Chevron's application to the Manitoba Oil and Natural Gas Conservation Board dated 1986-03-31 which is pending approval.

The initial unit size includes 50 oil wells producing from the Lodgepole "A" formation in the Daly area. Home Oil Company Limited, as Operator of tracts 12, 13 and 14-27-9-28 WLM, has been invited to join the unit prior to the effective date. As Home's acceptance has not been confirmed to date, these tracts have not been included in this draft document. Two other tracts operated by Chevron, 3-34 and 6-34-9-28 WLM, are awaiting confirmation of production prior to entering the proposed unit.

The tract participations outlined in Exhibit "A" have been calculated using the following formula approved by the Working Interest Owners:

Tract Participation Factor = $(0.2 \times \text{current oil rate factor}) + (0.2 \times \text{current oil cut factor}) + (0.3 \times \text{initial oil rate factor}) + (0.3 \times \emptyset \text{ factor})$

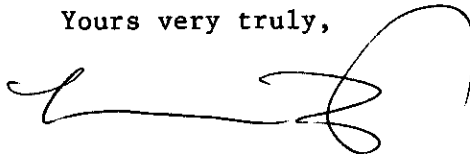
Attached for your information are the tables outlining the tract participation calculations.

The draft titles report is complete with review on-going.

Early consideration and comments on this agreement would be appreciated in order to effect the unit in a timely manner. We intend to initiate Royalty Owner execution by 1986-12-01.

If you have any questions on this matter please call Ms. Rhonda Zygocki at (403) 234-5026.

Yours very truly,

A handwritten signature in black ink, appearing to be 'R. I. Zygocki', with a large, stylized loop at the end.

R. I. ZYGOCKI, Chairman
Operating Committee
Daly Unit No. 4

RIZ/db
Attach.

cc: All Working Interest Owners
Proposed Daly Unit No. 4

DALY UNIT NO. 4 - TRACT PARTICIPATION DATA

TOTAL TRACT FACTOR

$$\text{Working Interest} = 0.2(\text{Current Oil Rate}) + 0.2(\text{Current Oil Est.}) + 0.3(\text{Initial Oil Rate}) + 0.3(\text{Oh})$$

TRACT	CURRENT OIL RATE FACTOR	CURRENT OIL EST. FACTOR	INITIAL OIL RATE FACTOR	Oh FACTOR	TOTAL FACTOR
01-08-01-28-W1	0.01155577	0.01941487	0.01294380	0.00642887	0.01373587
01-08-01-28-W1	0.00482265	0.02211181	0.01011301	0.00891746	0.01197604
01-08-01-28-W1	0.00825798	0.02072101	0.04720215	0.02875238	0.04158416
01-08-01-28-W1	0.02077123	0.02678727	0.01418319	0.02965574	0.02317338
01-08-01-28-W1	0.05468803	0.05477223	0.03055517	0.00331813	0.02439404
01-08-01-28-W1	0.04219671	0.02601763	0.00411320	0.01430942	0.01930985
01-08-01-28-W1	0.01468461	0.02461805	0.00827135	0.00414768	0.01165930
01-08-01-28-W1	0.01238345	0.01016607	0.01018807	0.01928660	0.01392670
01-08-01-28-W1	0.01079648	0.01117343	0.01111441	0.00503090	0.01032121
01-08-01-28-W1	0.00758587	0.00990815	0.00418194	0.01616176	0.00784782
01-08-01-28-W1	0.02357736	0.03106526	0.03794687	0.02944836	0.03228703
01-08-01-28-W1	0.00795458	0.01066334	0.02185378	0.01721277	0.01595847
01-08-01-28-W1	0.01225737	0.00982068	0.01011833	0.02115308	0.01733746
01-08-01-28-W1	0.02521814	0.00331344	0.00787484	0.01449397	0.01382076
01-08-01-28-W1	0.01779186	0.01288865	0.01955750	0.04110587	0.02894264
01-08-01-28-W1	0.00509587	0.00867433	0.00244198	0.02409641	0.00719486
01-08-01-28-W1	0.01686304	0.04852382	0.01691212	0.00314474	0.02419520
01-08-01-28-W1	0.01808372	0.00471188	0.00768811	0.01202820	0.01094354
01-08-01-28-W1	0.04713171	0.02177086	0.00778616	0.01533175	0.04889896
01-08-01-28-W1	0.04192828	0.01752151	0.04119140	0.04318585	0.03108397
01-08-01-28-W1	0.02554559	0.03441735	0.01458127	0.01948359	0.03014836
01-08-01-28-W1	0.05716221	0.02477701	0.01072737	0.02171521	0.03064814
01-08-01-28-W1	0.00501000	0.03204561	0.04360289	0.02070828	0.04101727
01-08-01-28-W1	0.00010000	0.00010000	0.01144758	0.00659685	0.00791146
01-08-01-28-W1	0.02589881	0.01790281	0.01587371	0.00019531	0.01577047
01-08-01-28-W1	0.00514758	0.02013351	0.01174194	0.01588371	0.01708844
01-08-01-28-W1	0.00930118	0.01815113	0.01215107	0.02177520	0.01553549
01-08-01-28-W1	0.00711160	0.01323350	0.01132330	0.02111483	0.01863948
01-08-01-28-W1	0.01571335	0.01260191	0.01492874	0.02159618	0.02054339
01-08-01-28-W1	0.01717415	0.01743012	0.01557727	0.00904231	0.01443970
01-08-01-28-W1	0.01353646	0.02794575	0.04351357	0.01331714	0.01717195
01-08-01-28-W1	0.00468675	0.00408074	0.00018146	0.01598848	0.00522107
01-08-01-28-W1	0.00991178	0.02180395	0.01289740	0.00617582	0.01444752
01-08-01-28-W1	0.01942991	0.01513564	0.01588589	0.01108989	0.01498471
01-08-01-28-W1	0.01096137	0.01113371	0.01175078	0.00741016	0.01113804
01-08-01-28-W1	0.01247701	0.01244706	0.01344904	0.00703931	0.01153302
01-08-01-28-W1	0.00245527	0.00531507	0.00111785	0.01310865	0.00663637
01-08-01-28-W1	0.01045646	0.00788843	0.01687116	0.00544825	0.01171302
01-08-01-28-W1	0.00647412	0.01325435	0.00939697	0.00914639	0.00765886
01-08-01-28-W1	0.01576580	0.01291104	0.02164999	0.00131481	0.01472431
01-08-01-28-W1	0.01837804	0.00948843	0.01265313	0.00410156	0.01284627
01-08-01-28-W1	0.00010000	0.01785814	0.01080166	0.00922146	0.00821411
01-08-01-28-W1	0.01041787	0.01170589	0.00377957	0.02309022	0.01489262
01-08-01-28-W1	0.01110451	0.01466774	0.01142777	0.00913227	0.02515335
01-08-01-28-W1	0.00351336	0.00405465	0.00711354	0.02106581	0.01788583
01-08-01-28-W1	0.01077007	0.00380577	0.00310076	0.02817436	0.02039366
01-08-01-28-W1	0.01586477	0.01271623	0.01540834	0.02924086	0.01718630
01-08-01-28-W1	0.01780111	0.00401216	0.00770180	0.01364916	0.01486781
01-08-01-28-W1	0.01746157	0.01210503	0.01487535	0.02944636	0.02115507
01-08-01-28-W1	0.01074712	0.01174626	0.01892747	0.00010106	0.01082760
TOTAL	1.0001000	1.0001000	1.0001000	1.0001000	1.0001000

3-34 added
6-34 added

5.7932 x 50 =
52
5.5704
amt ramp
5.63x4

DAILY UNIT NO.4 - TRACT PARTICIPATION DATA

1986-1987

CURRENT OIL RATE AND OIL CUT TRACT FACTOR CALCULATIONS

TRACT	CONSECUTIVE PRODUCING PERIOD 1985 & 1986	NO. OF DAYS	OIL PRODUCTION (M3)	WATER PRODUCTION (M3)	OIL RATE (bbl/d)	OIL CUT (Fraction)	OIL RATE FACTOR (Fraction)	OIL CUT FACTOR (Fraction)
01-01-09-28-W	01-01-73 01-31	31	59.0	87.1	1.9	0.40	0.01155574	0.01941487
01-11-09-28-W	11-01-73 11-31	31	13.2	17.3	0.4	0.45	0.00482265	0.02311163
02-02-09-28-W	02-01-74 02-28	28	174.8	117.8	6.6	0.36	0.068226798	0.02572100
02-15-09-28-W	12-01-73 12-31	31	57.4	51.2	1.9	0.36	0.02097112	0.02878729
03-25-09-28-W	02-15-74 02-28	14	57.6	154.7	4.6	0.34	0.034466502	0.01647227
04-05-09-28-W	03-11-74 03-31	21	112.1	51.1	5.3	0.35	0.04239671	0.01651753
05-11-09-28-W	04-01-74 04-30	30	15.4	14.8	0.5	0.35	0.01484469	0.02461680
06-01-09-28-W	05-01-74 05-31	31	11.9	28.7	0.3	0.27	0.01235540	0.01315643
07-01-09-28-W	06-01-74 06-30	30	21.5	12.0	0.7	0.25	0.00796456	0.01175443
08-06-09-28-W	07-01-74 07-31	31	10.1	16.1	0.3	0.27	0.00766387	0.00990911
09-01-09-28-W	08-01-74 08-31	31	74.5	17.4	2.3	0.36	0.02821706	0.01205526
10-01-09-28-W	09-01-74 09-30	30	11.8	24.3	0.3	0.28	0.00796456	0.01368234
11-01-09-28-W	10-01-74 10-31	31	5.0	100.3	0.1	0.35	0.00232557	0.00362266
12-01-09-28-W	11-01-74 11-30	30	43.1	506.0	2.1	0.17	0.03212614	0.00331394
01-01-10-28-W	12-01-74 12-31	31	43.7	63.6	1.6	0.45	0.01714266	0.02333645
02-01-10-28-W	01-01-75 01-31	31	10.1	126.0	0.3	0.12	0.00305667	0.00967493
03-01-10-28-W	02-01-75 02-28	28	22.5	11.0	0.8	0.35	0.01558104	0.04552811
04-01-10-28-W	03-01-75 03-31	31	47.9	462.0	1.6	0.09	0.03808112	0.00451165
05-01-10-28-W	04-01-75 04-30	30	130.4	57.5	4.1	0.36	0.04425011	0.01277036
06-01-10-28-W	05-01-75 05-31	31	120.1	24.2	3.9	0.37	0.04192525	0.02762161
07-01-10-28-W	06-01-75 06-30	30	26.0	14.0	0.8	0.31	0.02559659	0.02442736
08-01-10-28-W	07-01-75 07-31	31	140.5	123.0	3.9	0.31	0.05176211	0.03437441
09-01-10-28-W	08-01-75 08-31	31	144.7	1.6	6.6	0.35	0.05364100	0.01264361
10-01-10-28-W	09-01-75 09-30	30			0.0	0.0	0.00000000	0.00000000
11-01-10-28-W	10-01-75 10-31	31	55.6	14.3	1.8	0.37	0.02585581	0.01718261
12-01-10-28-W	11-01-75 11-30	30	13.4	16.1	0.4	0.40	0.00324766	0.02075101
01-01-11-28-W	12-01-75 12-31	31	21.2	16.0	0.7	0.36	0.00838115	0.01515134
02-01-11-28-W	01-01-76 01-31	31	19.5	41.2	0.7	0.31	0.00716185	0.01524361
03-01-11-28-W	02-01-76 02-28	28	4.1	4.1	0.1	0.41	0.00176363	0.02269151
04-01-11-28-W	03-01-76 03-31	31	27.3	58.0	0.9	0.36	0.00977412	0.01343637
05-01-11-28-W	04-01-76 04-30	30	13.1	31.4	0.4	0.38	0.01195646	0.02100376
06-01-11-28-W	05-01-76 05-31	31	17.0	25.3	0.6	0.19	0.00496527	0.00909514
07-01-11-28-W	06-01-76 06-30	30	15.4	11.1	0.5	0.40	0.00595378	0.02353040
08-01-11-28-W	07-01-76 07-31	31	41.5	24.1	1.3	0.31	0.01454291	0.01512560
09-01-11-28-W	08-01-76 08-31	31	11.0	44.5	0.3	0.40	0.01096151	0.01416071
10-01-11-28-W	09-01-76 09-30	30	25.0	1.7	0.8	0.37	0.01197031	0.03144136
11-01-11-28-W	10-01-76 10-31	31	9.1	63.1	0.3	0.11	0.00259394	0.00337823
12-01-11-28-W	11-01-76 11-30	30	36.1	10.3	1.2	0.37	0.01392646	0.01166641
01-01-12-28-W	12-01-76 12-31	31	17.0	44.5	0.6	0.38	0.00949411	0.01515134
02-01-12-28-W	01-01-77 01-31	31	43.1	45.1	1.4	0.48	0.01516590	0.02291174
03-01-12-28-W	02-01-77 02-28	28	50.0	16.0	1.6	0.27	0.01667634	0.00966641
04-01-12-28-W	03-01-77 03-31	31	37.1	100.0	1.0	0.12	0.01196037	0.01185814
05-01-12-28-W	04-01-77 04-30	30	42.2	107.1	1.4	0.10	0.01140767	0.01975569
06-01-12-28-W	05-01-77 05-31	31	13.1	102.0	0.4	0.41	0.00301002	0.01966641
07-01-12-28-W	06-01-77 06-30	30	10.1	1.7	0.3	0.29	0.00161326	0.00138409
08-01-12-28-W	07-01-77 07-31	31	16.9	121.0	0.5	0.15	0.01253057	0.00605377
09-01-12-28-W	08-01-77 08-31	31	54.7	107.1	1.6	0.33	0.01998471	0.01771321
10-01-12-28-W	09-01-77 09-30	30	103.9	23.0	3.4	0.36	0.03796811	0.04012156
11-01-12-28-W	10-01-77 10-31	31	38.6	36.3	1.0	0.34	0.01195627	0.01633411
12-01-12-28-W	11-01-77 11-30	30	27.3	22.3	0.9	0.25	0.00557411	0.01147516
					35.7	26.60	1.14024000	1.00000000
					1.6	0.11		

DAILY UNIT NO.4 - TRACT PARTICIPATION DATA

1986-87

INITIAL OIL RATE TRACT FACTOR CALCULATIONS

TRACT	PRODUCTION DATE	CONSECUTIVE PRODUCING PERIOD	NO. OF DAYS	OIL PRODUCTION (MB)	OIL RATE (MB/D)	OIL RATE FACTOR (Fraction)	
01-13-09-16-W1	1985-11	01-11 TO 01-31	31	19.0	1.9	0.01204360	*SHUT IN 12-27
01-13-09-16-W1	1985-09	09-13 TO 09-30	18	17.3	1.1	0.01311301	
06-03-09-16-W1	1984-12	02-01 TO 02-29	29	201.4	7.0	0.04720215	*SHUT IN 02-16
07-13-09-16-W1	1985-10	10-11 TO 10-31	21	47.4	2.3	0.01428319	
10-13-09-16-W1	1985-02	02-13 TO 02-28	14	27.6	4.8	0.03025317	
10-13-09-16-W1	1984-06	07-01 TO 08-31	30	17.0	0.7	0.00411320	
12-13-09-16-W1	1987-11	12-01 TO 12-31	31	18.6	1.0	0.00227155	*SHUT IN 12-16
10-13-09-16-W1	1984-06	08-12 TO 08-31	20	32.7	1.6	0.01016907	
03-16-09-16-W1	1984-03	10-31 TO 10-30	30	153.1	5.1	0.02111441	
10-16-09-16-W1	1985-11	12-01 TO 12-31	30	16.3	0.7	0.00423194	*SHUT IN 12-13
10-16-09-16-W1	1984-06	04-01 TO 05-30	30	176.9	6.0	0.02744367	
10-16-09-16-W1	1984-03	12-31 TO 03-19	78	92.8	3.4	0.01260078	*SHUT IN 02-27
03-17-09-16-W1	1985-12	12-13 TO 01-11	24	30.1	0.7	0.00131513	
03-17-09-16-W1	1984-06	11-01 TO 11-29	27	25.2	1.2	0.00737464	
03-17-09-16-W1	1984-04	11-01 TO 11-30	30	27.7	1.1	0.01553300	
01-17-09-16-W1	1985-10	07-02 TO 07-31	29	18.3	1.3	0.00194375	*SHUT IN 07-30
01-17-09-16-W1	1984-01	05-03 TO 07-31	78	18.4	1.1	0.00591711	*SHUT IN 02-19 TO 05-01
06-17-09-16-W1	1985-02	11-07 TO 10-31	24	18.2	1.3	0.00930801	*SHUT IN 10-17
03-17-09-16-W1	1984-11	02-01 TO 02-26	26	267.7	10.7	0.08110818	*SHUT IN 11-05
06-17-09-16-W1	1984-07	10-10 TO 10-30	21	276.7	6.7	0.04111343	
01-14-09-16-W1	1985-10	10-01 TO 10-30	30	18.3	2.0	0.01470117	
01-14-09-16-W1	1985-10	10-02 TO 10-31	29	141.8	5.1	0.03227277	*SHUT IN 10-7 & B
01-14-09-16-W1	1985-10	11-04 TO 02-12	41	144.7	6.9	0.04360181	
01-14-09-16-W1	1985-02	10-02 TO 10-31	29	49.4	1.6	0.01644758	*948.7/365
01-13-09-16-W1	1984-06	09-04 TO 09-30	27	19.1	1.9	0.01350061	*SHUT IN 10-12 & 13
02-13-09-16-W1	1984-08	09-01 TO 09-30	30	18.7	2.1	0.01174144	
01-13-09-16-W1	1984-06	09-01 TO 09-30	30	45.7	3.1	0.01238177	
04-13-09-16-W1	1984-06	09-31 TO 09-30	21	66.4	3.4	0.01553350	
01-13-09-16-W1	1985-03	02-01 TO 02-28	27	68.4	1.2	0.01493014	
02-13-09-16-W1	1984-01	03-01 TO 03-25	25	146.8	7.5	0.04481197	*SHUT IN 02-17
03-13-09-16-W1	1983-11	02-11 TO 02-29	19	15.3	1.1	0.00630744	
03-13-09-16-W1	1984-10	09-01 TO 09-30	30	66.9	1.4	0.01219140	
01-13-09-16-W1	1984-07	10-01 TO 10-31	30	16.4	1.6	0.01184564	
02-03-09-16-W1	1984-02	09-21 TO 09-30	25	66.3	3.1	0.01537376	*SHUT IN 09-06
01-13-09-16-W1	1984-08	09-01 TO 09-31	30	17.1	1.0	0.00634409	
01-13-09-16-W1	1983-01	05-01 TO 05-31	29	3.1	0.2	0.00111285	*SHUT IN 05-06 TO 05-07
01-13-09-16-W1	1984-06	09-01 TO 09-30	29	84.1	2.9	0.01635716	*SHUT IN 09-18
01-13-09-16-W1	1984-04	08-04 TO 08-31	28	114.3	4.8	0.03376687	
03-01-09-16-W1	1984-06	04-01 TO 04-30	29	107.3	3.8	0.02384897	
02-13-09-16-W1	1983-11	01-02 TO 01-31	30	101.1	4.4	0.02735300	
01-13-09-16-W1	1983-12	01-01 TO 02-23	27	10.3	1.7	0.00651166	
01-13-09-16-W1	1984-05	06-01 TO 06-30	30	67.5	0.8	0.01071422	
01-13-09-16-W1	1986-01	02-01 TO 02-13	13	15.0	0.4	0.01799207	
01-13-09-16-W1	1984-01	01-01 TO 01-29	29	12.6	1.1	0.00171124	
04-13-09-16-W1	1984-12	03-01 TO 03-31	31	10.3	2.3	0.01019570	
01-13-09-16-W1	1984-06	01-01 TO 01-31	29	101.1	0.1	0.00461116	
01-13-09-16-W1	1984-07	07-01 TO 09-30	60	201.0	10.7	0.02111441	
01-13-09-16-W1	1984-06	04-01 TO 05-31	30	12.6	0.7	0.02430156	*SHUT IN 06-23
04-13-09-16-W1	1984-10	10-01 TO 10-31	31	40.7	1.4	0.00850040	
					156.0	1.01000000	

DALY UNIT NO.4 - TRACT PARTICIPATION DATA

ON TRACT FACTOR CALCULATIONS

TRACT	PERCENTAGE**	ON FACTOR (Fraction)
02-25-09-28-W1	0.31	0.00642887
03-25-09-28-W1	0.43	0.00891746
06-25-09-28-W1	1.29	0.02675238
07-25-09-28-W1	1.43	0.02965574
10-25-09-28-W1	1.18	0.00331813
11-25-09-28-W1	0.69	0.01430942
12-25-09-28-W1	0.20	0.00414796
13-25-09-28-W1	0.93	0.01928660
19-26-09-28-W1	0.99	0.02053190
10-26-09-28-W1	0.49	0.01012178
13-26-09-28-W1	1.42	0.02944836
16-26-09-28-W1	0.83	0.01721777
07-27-09-28-W1	1.02	0.02115205
08-27-09-28-W1	0.84	0.01749099
19-27-09-28-W1	2.00	0.04311563
10-27-09-28-W1	1.16	0.02405841
11-27-09-28-W1	1.65	0.03114404
14-27-09-28-W1	0.58	0.01202820
15-27-09-28-W1	1.87	0.03258910
18-27-09-28-W1	2.08	0.04317566
01-24-09-28-W1	0.94	0.01949193
02-24-09-28-W1	1.05	0.02177520
07-24-09-28-W1	1.00	0.02072628
08-24-09-28-W1	0.60	0.01358012
09-24-09-28-W1	1.40	0.00629531
11-25-09-28-W1	0.75	0.01555371
02-25-09-28-W1	1.05	0.02177520
03-25-09-28-W1	1.22	0.02737453
04-25-09-28-W1	1.31	0.02799668
05-25-09-28-W1	0.87	0.01604231
08-25-09-28-W1	0.62	0.01282774
07-25-09-28-W1	0.77	0.01376848
08-25-09-28-W1	0.75	0.01617556
09-25-09-28-W1	0.26	0.01824961
10-25-09-28-W1	0.64	0.01742016
11-25-09-28-W1	0.46	0.00953951
12-25-09-28-W1	0.73	0.01513393
13-25-09-28-W1	0.13	0.00884315
14-25-09-28-W1	0.47	0.01174674
15-25-09-28-W1	1.31	0.03131431
16-25-09-28-W1	0.72	0.01493136
05-26-09-28-W1	0.30	0.00621140
11-26-09-28-W1	1.21	0.02009132
12-26-09-28-W1	0.45	0.00933327
13-26-09-28-W1	1.04	0.02136761
14-26-09-28-W1	1.36	0.02820496
01-27-10-28-W1	1.41	0.02824966
02-27-10-28-W1	1.76	0.03644932
03-27-10-28-W1	1.42	0.02944836
04-27-10-28-W1	1.48	0.03269266
	48.11	1.00000000