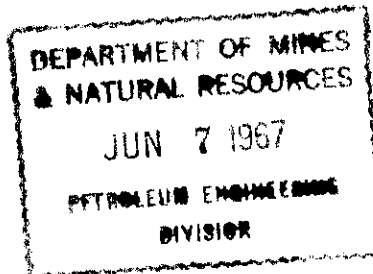


COPY

June 6, 1967.



Mr. S. A. McCrae,  
Chairman,  
Virden-Roselea Unit No. 1  
Legal Committee,  
Chevron Standard Limited,  
Medical Arts Building,  
329A - 6 Avenue, S. W.,  
Calgary,  
Alberta.

Dear Mr. McCrae:

In response to your request I am  
forwarding, herewith, four certified copies of Board  
Unitization Order No. 6.

Yours very truly,

J. S. Richards,  
Deputy Chairman.

JSR:db

Encs.

c. c. to: Mr. Stuart Anderson,  
Chairman,  
The Oil and Natural Gas Conservation Board.

Mr. M. J. Gobert,  
Assistant Deputy Minister.

Mr. F. S. Gamey,  
Reservoir Engineer.



# CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

June 2, 1967

Application to Enlarge  
Virden-Roselea Unit No. 1  
Our File No. 54,499-F

Mr. J.S. Richards, Deputy Chairman,  
The Oil and Natural Gas Conservation  
Board,  
Department of Mines and Natural Resources,  
901 Norquay Building,  
401 York Avenue,  
Winnipeg 1, Manitoba.

Dear Sir:

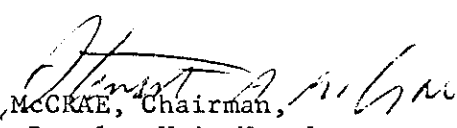
Thank you for your letter of May 30, 1967 herein.

It would appear that copies of the amendments to the "Plan for Unit Operation" reflecting the enlargement of the Unit should be filed with the Department of Mines and Natural Resources and the appropriate Land Titles Office in accordance with Part XV of the "Plan" and accordingly it would be appreciated if you would let us have four certified copies of Unitization Order No. 6 in this regard.

With regard to the publishing of revised Schedules "A" and "B" in the Manitoba Gazette in accordance with Section 25.01 of Unitization Order No. 3, please be advised that we will proceed with same immediately we receive a full titles report from the Titles Committee on the enlargement tracts and secure the approval of the Operating Committee to the Titles Committee report.

Trusting this is satisfactory, we are,

Yours very truly,

  
S. A. McCRAE, Chairman,  
Virden-Roselea Unit No. 1  
Legal Committee.

SAM/ps  
p. c. to: Mr. F. S. Gamey,  
Reservoir Engineer.

# COPY

May 30, 1967.

Mr. L. D. Brown,  
Chairman,  
Virden-Roselea Unit No. 1  
Operating Committee,  
Chevron Standard Limited,  
Box 100,  
Virden, Manitoba.

Dear Mr. Brown:

This is to advise that, by Unitization Order No. 6, the Board has amended the Plan for Unit Operation Governing the Unitized Management Operation and Further Development of the Virden-Roselea Unit No. 1. This Order has been published as Manitoba Regulation 51/67 in the May 27, 1967, issue of The Manitoba Gazette. The amendments incorporated in this Order are those in respect of which Chevron Standard Limited made application to the Board at the Public Hearing held in Virden, Manitoba, on March 10, 1967.

The Board by Order No. PM 8 has set out the rules under which Chevron Standard Limited shall conduct the pressure maintenance operation in respect of the area comprising the Virden-Roselea Unit No. 1. This Order was also published in the May 27, 1967, issue of The Manitoba Gazette.

By Order No. 43A, published in The Manitoba Gazette, dated May 27, 1967, the Board has exempted the wells contained in the enlargement of the Virden-Roselea Unit No. 1 from Board Order No. 22A.

All the above Orders are effective at 7 a.m., Central Standard Time, June 1, 1967.

2--Mr. L. D. Brown,  
Chairman,  
Virden-Roselea Unit No. 1  
Operating Committee

You are requested, in accordance with  
Section 25.01 of Unitization Order No. 3, to publish in The Manitoba  
Gazette the revised Schedules, setting out the change in the Tracts  
and Participating Interests of the Working Interest Owners, in the  
Unit (i.e., Schedules "A" and "B").

Yours very truly,

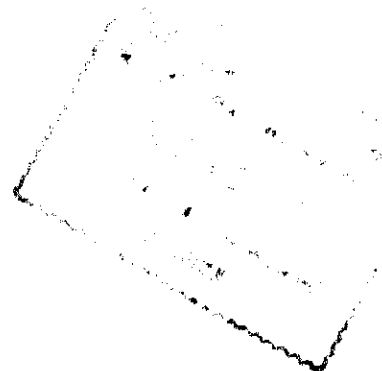
J. S. Richards,  
Deputy Chairman.

JSR:db

c. c. to: Mr. M. J. Gobert,  
Member.

Mr. F. S. Gamey,  
Reservoir Engineer.

# COPY



May 30, 1967.

Mr. S. A. McCrae,  
Chairman,  
Virden-Roselea Unit No. 1  
Legal Committee,  
Chevron Standard Limited,  
Medical Arts Building,  
329A - 6 Avenue, S. W.,  
Calgary, Alberta.

Dear Mr. McCrae:

This is to advise that, by Unitization Order No. 6, the Board has amended the Plan for Unit Operation Governing the Unitized Management Operation and Further Development of the Virden-Roselea Unit No. 1. This Order has been published as Manitoba Regulation 51/67 in the May 27, 1967, issue of The Manitoba Gazette. The amendments incorporated in this Order are those in respect of which Chevron Standard Limited made application to the Board at the Public Hearing held in Virden, Manitoba, on March 10, 1967.

The Board by Order No. PM 8 has set out the rules under which Chevron Standard Limited shall conduct the pressure maintenance operation in respect of the area comprising the Virden-Roselea Unit No. 1. This Order was also published in the May 27, 1967, issue of The Manitoba Gazette.

By Order No. 43A, published in The Manitoba Gazette, dated May 27, 1967, the Board has exempted the wells contained in the enlargement of the Virden-Roselea Unit No. 1 from Board Order No. 22A.

All the above Orders are effective at 7 a.m., Central Standard Time, June 1, 1967.

2—Mr. S. A. McCrae,  
Chairman,  
Virden-Roselea Unit No. 1  
Legal Committee

You are requested, in accordance with  
Section 25.01 of Unitization Order No. 3, to publish in The Manitoba  
Gazette the revised Schedules, setting out the changes in the Tracts  
and Participating Interests of the Working Interest Owners, in the  
Unit (i.e., Schedules "A" and "B").

Yours very truly,

Original Signed by  
**J. S. RICHARDS**

J. S. Richards,  
Deputy Chairman.

JSR:db

c. c. to: Mr. M. J. Gobert,  
Member.

Mr. F. S. Ganev,  
Reservoir Engineer.

COPY

May 30, 1967.

Mr. J. S. Richards,  
Director of Mines,  
Mines Branch,  
901 Norquay Building.

Mr. R. H. Tallin,  
Registrar of Regulations,  
237 Legislative Building.

The Regulations Act -

Erratum Notice.

Corrections to Manitoba Regulation 51/67

Manitoba Regulation 51/67, as published in No. 21 of Volume 96 of The Manitoba Gazette, dated the 27th day of May, 1967, is to be corrected as follows:

Page 354 - Part XXIV continued

TRACT PARTICIPATION - third line - first column -  
should read 2.17025

  
J. S. Richards.

FSG:db

c.c. to: Mr. M. J. Gobert,  
Assistant Deputy Minister.

Mr. F. S. Gamey,  
Reservoir Engineer.

1. 950  
The 3, regulation...

Mr. Gamey: The information needed is as follows:--

- Unitization Order No. 6 -- Manitoba Regulation 51/67;
- Order No. PM 8 -- Manitoba Regulation 52/67;
- Order No. 43A -- Manitoba Regulation 53/67.

All three Orders were filed this morning, May 18.

To be completed by MAY 27/67

REQUESTED # 438  
18 May 67.  
Queen's letter, P-28900



J. S. Richards,  
Director of Mines,  
Mines Branch,  
901 Morquay Building.

**COPY** May 17, 1967.  
Executive Council,  
216 Legislative Building.

Acts and Regulations -

The Oil and Natural Gas  
Conservation Board -  
Unitization Order No. 6.

Attached, hereto, original and two (2)  
copies of Certificate and original and one (1) copy of Manitoba  
Regulation, approved of by Order-in-Council No. 632/67, dated  
May 16, 1967, for filing with the Registrar of Regulations.

:DB

J. S. Richards.

Encs.

c. c. to: Mr. M. J. Gobert,  
Assistant Deputy Minister. (Being forwarded via Tube).  
Mr. F. S. Gamey,  
Reservoir Engineer.

J. S. Richards,  
Director of Mines,  
Mines Branch,  
901 Norquay Building.

**COPY** May 17, 1967.

Mr. R. H. Tallin,  
Registrar of Regulations,  
Office of the Legislative Counsel,  
237 Legislative Building.

The Oil and Natural Gas

Conservation Board -  
Order No. PM 8;  
Order No. 43A.

Attached, hereto, for filing, original  
and one (1) copy of Certificate, and original and one (1) copy  
of Manitoba Regulation, being The Oil and Natural Gas Conserva-  
tion Board Order Nos. PM 8 and 43A, both approved by the Minister  
of Mines and Natural Resources on April 26, 1967.

J. S. Richards.

:DB

Encls.

c. c. to: Mr. M. J. Gobert,  
Assistant Deputy Minister. (Forwarded by Tube).

Mr. F. S. Gamay,  
Reservoir Engineer.

May 2, 1967.

J. S. Richards,  
Director of Mines.

Mr. R. S. Evans,  
Office of the Queen's Printer,  
6, Legislative Bldg.

Printing

In accordance with our verbal understanding, I am  
attaching, hereto, the following Orders made by The Oil and Natural Gas  
Conservation Board:

Unitization Order No. 6

Order No. PM 8

Order No. 43A

These Orders have not, as yet, been filed as regulations.  
However, we would appreciate it if you would forward this material to the  
firm which prints regulations, and have the type set so that the orders may  
be printed immediately that the regulation number is available.

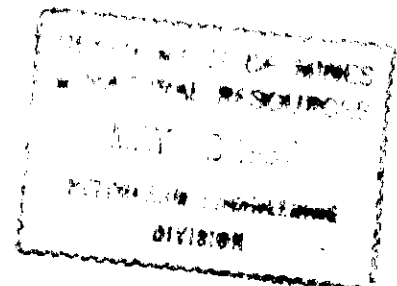
JSR/or

Encs.

P. S.

Page proofs are required.

p. c. to: Mr. F. S. Gamey,  
Reservoir Engineer.



J. S. Richards,  
Director of Mines,  
Mines Branch,  
901 Norquay Building.

COPY

April 28, 1967.

Mr. D.W. Moylan,  
Departmental Solicitor,  
Dept. of Attorney-General,  
167 Legislative Building.

The Oil and Natural Gas  
Conservation Board.

Attached, hereto, two Recommendations-to-Council which, if approved,

(1) approves an Order of The Oil and Natural Gas Conservation Board which enlarges the Virden-Roselea Unit No. 1; and

(2) authorizes the Minister of Mines and Natural Resources to consent to the Plan for this enlargement.

Kindly advise if these are satisfactory.

J. S. Richards.

JSR:db

Encs.

c. c. to: Mr. M. J. Gobert,  
Assistant Deputy Minister. -- (forwarded via Tube).  
Mr. F. S. Gamey,  
Reservoir Engineer.



# CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

April 28, 1967

Proposed Enlargement  
Virden-Roselea Unit No. 1  
Our File No. 54,499-F

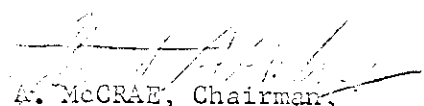
Mr. J. S. Richards, Deputy Chairman,  
The Oil and Natural Gas Conservation Board,  
Department of Mines and Natural Resources,  
901 Norquay Building,  
401 York Avenue,  
Winnipeg 1, Manitoba.

Dear Mr. Richards:

I am wondering if the Board has yet completed its review of the Application by Chevron Standard Limited et al for enlargement of the Virden-Roselea Unit No. 1 as same was presented at our March 10, 1967 Hearing and would appreciate your advice at your early convenience as to whether and when we can anticipate approval of our Application. I am also wondering whether the suggested amendments to the "Plan for Unit Operation" are satisfactory to the Board and if you have any questions on same I would be glad to review the matter with you at your convenience.

Best regards,

Yours very truly,

  
S. A. McCRAE, Chairman,  
Virden-Roselea Unit No. 1  
Legal Committee.

*Handwritten note: I have not been asked to attend the 10th. SAM/ps*  
SAM/ps

cc: Mr. M. J. Gobert, Member,  
The Oil and Natural Gas  
Conservation Board.

p. c. to: Mr. F. S. Gamey,  
Reservoir Engineer.

COPY

April 25, 1967.

J. S. Richards,  
Deputy Chairman,  
The Oil and Natural Gas  
Conservation Board

Mr. M. J. Gobert,  
Member,  
The Oil and Natural Gas  
Conservation Board

Unitization Order No. 6;

Order No. PM 8;

Order No. 43A.

Enclosed, herewith, the above Board Orders, for your signature. As you are aware, these Orders require the approval of the Minister of Mines and Natural Resources. Would you kindly forward them to him for completion.

Unitization Order No. 3 established the Plan for the Unit Operation Governing the Unitized Management Operation and Further Development of the Virden-Roselea Unit No. 1. Unitization Order No. 6 amends this Order by adding 11 Tracts; and establishes the Tract Participation for the new Tracts and adjusts the Tract Participation of the existing Tracts to these additions.

The changes in Parts XAI to XAIV, inclusive, are merely changes in wording necessary to include the new Tracts.

Paragraph 7 of this Order, which amends Section 26.07 of the existing Plan, increases the overhead charge made by Unit Operation from \$4,500 to \$5,000 per month. This change was agreed to by all working interest owners.

Order No. PM 8 replaces Board Order No. PM 4 by adding the wells in the new Tracts, and establishes the pressure maintenance practice for all wells in the enlarged Unit.

Order No. 43A exempts the wells added to the Unit from Order No. 22A, which fixes a maximum permissible rate of production for other wells in the Virden-Roselea Field.

The Recommendation-to-Council in respect to Unitization Order No. 6 has been prepared. When these Orders have been signed by the Minister, the extra copies necessary for Cabinet Council will be xeroxed.

JSK:db

Encs.

J. S. Richards.

c. c. to: Mr. F.S. Gamey,  
Reservoir Engineer.

## INTER DEPARTMENTAL MEMORANDUM



DATE.....April 11th, 1967.....  
TO.....Mr. J. S. Richards,  
Director of Mines,  
Mines Branch,  
901 Norquay Building,  
Winnipeg.

FROM.....D. W. Moylan,  
Departmental Solicitor,  
Dept. of Attorney-General.

SUBJECT.....

RE: The Oil and Natural Gas Conservation Board

Virden-Roselea No. 1 Enlargement -  
Unitization Order No. 6.

Further to your and Mr. Gamey's visit on the 6th inst., I  
now enclose the following:-

1. Photo copy of your draft PART III TRACT PARTICIPATION -- I have amended Section 3.01 as indicated thereon in red ink;
2. One copy of my draft of proposed Sections, 3.02, 3.03 and 3.04;
3. Two further copies of your draft PART III;
4. Two copies of Man. Reg. 58/65;
5. A copy of Chevron Standard Limited Application to amend Virden-Roselea No. 1;
6. Letter from Chevron Standard Limited dated March 16th, 1967, with the enclosures therein referred to;
7. Manuscript sheet in ink headed "TRACT PARTICIPATION";
8. Two Manuscript sheets one in pencil and the other partly in pencil and partly in ink containing calculations and notes.

You will recall that you left Items Nos. 3 - 8, both inclusive, above mentioned at my office at the time of your visit.

I trust that you will find my revision of PART III helpful.

DWM:b  
Encls.

D. W. Moylan,  
Departmental Solicitor.

### PART III TRACT PARTICIPATION

1.01 The Tract Participation of Each Tract is shown in Part III hereof and was determined with respect to all Tracts except Tracts 14-21, 13-19, 13-19, 13-21, 11-29, 11-23, 13-23, 14-23, 3-23, 3-23 and 4-23, by adding one-half ( $1/2$ ) of the current production factor calculated pursuant to paragraph (a) following to one-half ( $1/2$ ) of the average monthly Oil production factor penalized for water production arrived at pursuant to paragraph (b) following, and reducing the sum arrived at as aforesaid by one (1) minus the total percentage participation of the eleven excepted Tracts aforementioned, namely: 1,0000000 minus 3.1286410.

(a) Current production factor: such factor is the percentage calculated by dividing the Oil production of such Tract during the interval April 1st, 1964 to September 30th, 1964, by the Oil production for all Tracts other than the eleven excepted Tracts abovementioned during the same interval, and multiplying by 100;

(b) Average monthly Oil production factor penalized for water production: such factor is arrived at by:

(1) determining average monthly Oil production of the Tract by dividing its cumulative Oil production to September 30, 1964, by the number of calendar months since the Well on such Tract first went on production, provided that the first calendar month shall not be counted as such unless the Oil production from the Well on any such Tract for that calendar month was greater than one-half ( $1/2$ ) of the Oil production from such Well for the next succeeding month;



(ii) calculating a fractional water cut for the Tract by dividing the water production for the interval set out in paragraph (a) hereof by the sum of its water and Oil production for the same period; PROVIDED, THAT, with respect to those Tracts which did not produce during the interval referred to, the fractional water cut shall be calculated by dividing the water production for each such Tract during the consecutive six month period that ends with the last recorded production by the sum of such Tract's water and Oil production for the same period:

(iii, multiplying the average monthly Oil production for the Tract obtained in (i) by the fraction one minus the water cut appropriate to the Tract as determined in (ii);

(iv) dividing the production obtained in (iii) for the Tract by the sum of all the products obtained in (iii) for all the Tracts other than the eleven excepted Tracts abovementioned and multiplying by one hundred (100)

3.02 The Tract Participation of the eleven excepted Tracts mentioned in Section 3.01 was determined as follows:-

(a) The Tract Participation of Tract 14-21 is, the sum of one-half (½) of the figure for Tract Participation calculated pursuant to clause (A) below and one-half (½) of the figure for the average of the Tract Participation calculated pursuant to clause (B) below:-

(A) Tract Participation: such is determined for Tract 14-21 according to the method set out in Section 3.01, modified in the following respects:-

(i) the reference to "all Tracts" or "all the Tracts" therein is construed as including the eleven excepted Tracts;

(ii) the interval referred to in paragraph (a) of Section 3.01 (hereinafter called the current production interval) and the date referred to in clause (i) of paragraph (b) of that Section (hereinafter called the cumulative oil production date) are replaced in relation to each of the eleven excepted tracts by a current production interval and a cumulative oil production date as hereunder set out:-

<u>Tract No.</u>	<u>Current Production Interval</u>	<u>Cumulative Oil Production Date</u>
14-21	November 1st, 1965 to April 30th, 1966	April 30th, 1966
13-19	May 1, 1965 to October 31, 1965	October 31, 1965
16-19	May 1, 1965 to October 31, 1965	October 31, 1965
15-21	August 1, 1965 to January 31, 1966	January 31, 1966

11-29	September 1, 1965 to April 30, 1966, with provision for intra- day and March 1966 being adjusted to 2% barrels of oil per calen- dar day.	April 30, 1966 (to reflect changes during current pro- duction period)
11-23	July 1, 1965 to December 31, 1965	December 31, 1965
13-23	July 1, 1965 to December 31, 1965	December 31, 1965
14-23	July 1, 1965 to December 31, 1965	December 31, 1965
3-26	June 1, 1965 to November 30, 1965	November 30, 1965
6-26	June 1, 1965 to November 30, 1965	November 30, 1965
4-26	January 1, 1966 to June 30, 1966	June 30, 1966

(3) Average of the Tract Participation of Tracts

11-21, 12-21 and 13-21: such is determined according  
to the method set out in Section 3.01 without <sup>being</sup> ~~the~~  
~~reduced by the total participation of the eleven~~  
~~modifications set out in clause (4) above.~~  
~~excepted Tracts.~~

(b) The tract Participation of Tracts 13-19, 16-19,  
19-21, 11-29, 11-23, 13-23, 14-23, 3-26, 6-26 and 4-26  
(hereinafter called the ten excepted Tracts) is determined  
according to the method set out in Section 3.01 modified  
in the following respects:-

(i) the reference to "all Tracts" or "all the Tracts" therein is construed as including the ten excepted Tracts but not including Tract 14-21;

(ii) the current production interval and the cumulative oil production rate used for each of the ten excepted Tracts are those set out in relation to such Tracts in clause (ii) of subparagraph (1) of paragraph (a) of this Section 3.02;

(iii) the figure obtained for Tract Participation of each of the ten excepted Tracts determined as aforesaid is reduced by one (1) minus the percentage participation of Tract 14-21, namely:  $1,000,000$  minus  $0.0308341$ , instead of one (1) minus the total percentage participation of the eleven excepted Tracts aforementioned.

3.03 The total of the Tract Participations for all Tracts, including the eleven excepted Tracts mentioned in Section 3.01, shall at all times equal one hundred (100%) per cent.

3.04 This Part III is explanatory only and the Tract Participations shown in Part XXIV shall be deemed to be correctly made in accordance with this Part III.

*VIR-ROS #1 Enlargement*

March 23, 1967

Mr. S. A. McCrae, Chairman  
Virden-Roselea Unit No. 1,  
Chevron Standard Limited,  
Medical Arts Bldg.,  
Calgary, Alta.


Re: Virden-Roselea #1 enlargement

Dear Sir:

Enclosed are 3 copies of duplicate affidavits and consents re working interests and royalty interests in the above Unit enlargement.

Due to a misunderstanding, I had assumed that the affidavits had been forwarded to you by Mr. Gobert. I regret the delay in answering your request.

Yours very truly,

  
F. S. Gamey,  
Reservoir Engineer.

FSG/h

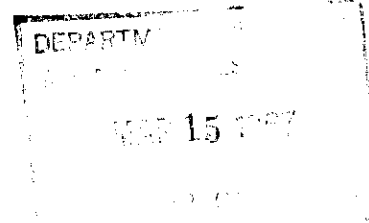
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# CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

March 14, 1967



Proposed Enlargement  
Virden-Roselea Unit No. 1  
Our File No. 54,499-F

Mr. J. S. Richards, Deputy Chairman,  
The Oil and Natural Gas Conservation Board,  
Department of Mines and Natural Resources,  
901 Norquay Building,  
401 York Avenue,  
Winnipeg 1, Manitoba.

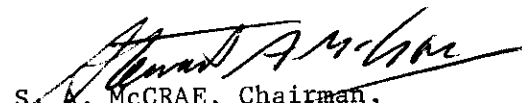
Dear Mr. Richards:

You will recall that at last Friday's Hearing I filed as Exhibits the originals of three affidavits setting out the percentages of Working Interest Owner and Royalty Owner Consents secured with the Consents being attached to the affidavits and, I believe that I also handed you the duplicate originals of these affidavits and Consents for review.

Unfortunately we only had two copies of the Consents so that I now only have a xerox of same on my files and inasmuch as we like to retain a copy of the originals, I am wondering if you would be good enough to return the originals you have to me and I will make copies for your records and return them to you.

Thanking you for your cooperation and with best regards,

Yours very truly,

  
S. A. McCRAE, Chairman,  
Virden-Roselea Unit No. 1  
Legal Committee.

SAM/ps



# CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

March 16, 1967

Virden-Roselea Unit No. 1  
Enlargement  
Tract Factor Calculation

Department of Mines and Natural Resources  
Mines Branch  
Petroleum Engineering Division  
911 Norquay Building  
401 York Avenue  
Winnipeg 1, Manitoba

Attention: Mr. F. S. Gancey  
Reservoir Geologist

Dear Sir:

Further to your conversation with our Mr. Pisio, we enclose here-  
with a copy of each of the following:

- (a) Computer run-out of data and factors for enlargement tracts.
- (b) Handwritten worksheets and data for the calculation of factors for enlargement tracts.

If we can be of further assistance, please do not hesitate to call.

Yours very truly,

J. G. TROWELL  
Division Superintendent  
Producing Department  
Calgary Division

PP/cb  
Encl.

2/16/27

7

## VIRDEEN ROSSLEY UNIT No. 1 - FRANCHISE UNIT

TOTALS FOR 70 WELL UNIT

Σ CURRENT PROD. 142373.0

Σ FUTURE PROD. 113932322

TOTALS FOR 80 WELL UNIT (EXCL. 14-21)

Σ CURRENT PROD. 158953.0

Σ FUTURE PROD. 131717037

TOTALS FOR 10 WELLS

Σ CURRENT PROD. 16580.0

Σ FUTURE PROD. 12774962

TOTALS FOR 14-21

Σ CURRENT PROD. 6966

Σ FUTURE PROD. 1022989

TOTALS FOR 11 EXCHANGERS

Σ CURRENT PROD. 22646

Σ FUTURE PROD. 222554389

TOTALS FOR 81 WELL UNIT

Σ CURRENT PROD. 165019

Σ FUTURE PROD. 1295052816



2/16/67

(2)

84

DATA FOR 14-21

PRODUCTION	OIL	WATER
Nov /65	1055	51
Dec	1076	163
Jan	1014	166
Feb	904	230
Mar	1032	182
Apr	985	162
	<hr/> 6066	<hr/> 992

Cumulative production to 4/30/66 = 16078 bbls.

Water cut = 14.054973%  $\frac{992}{6997}$ Permeability factor = 0.85945027 (1 - water cut)Months on production = 17 (18)Average monthly production = 957.52941 (1)Permeability of average monthly production = 822.94891 (2)

2/16/67

11-21-10-88

PARTICIPATION IN UNIT

A. P. CORRELATION FACTOR

$$\frac{158352}{168019} \times 100 = \frac{6066}{168019} \times 100 = 3.607340$$

B. P.A.M. PROD FACTOR

$$\frac{822.94891}{19950.52818} \times 100 = 4.124948$$

7.732288

$$\frac{1}{2} 2 = 3.900444$$

$$50\% = 1.950222$$

$$\% A = 1.950222\%$$

2.3000  
2.4000  
6.6791

B. TOTAL PART'N FOR 11-21; 12-21; 13-21 = 6.67911%

$$\text{AVG PART'N} = 2.22637$$

$$50\% = 1.113185$$

$$\% B = 1.113185$$

PARTICIPATION FOR 14-21 = A + B

$$= 1.950222 + 1.113185$$

$$= 3.063407$$

$$= 3.06341\%$$

C. FACTORS FOR OTHER LOWELS IN ENFORCEMENT No. 1

$$\text{MUST BE REDUCED BY } 100.00000 - 3.06341 = 96.93659$$

$$\text{OR } 0.9693659$$

2/17/67

(4)

ff

13-19-10-25

CURRENT PRODUCTION 225.00

CUM. PROD'N TO 10/31/65 754

MONS. ON PROD. 10

WATER CUT 17.58242 %

PER. FACTOR 0.8241758

AVG. MON. PROD. 75.40

PER. AVG. MON. PRODUCTION = 62.14226

16A-12-10-25

CURRENT PRODUCTION 2170.00

CUM. PROD TO 10/31/65 3623

MONS. ON PROD 11

WATER CUT 18.20580 %

PER. FACTOR 1.8179420

AVG. MON. PROD. 329.64

PER. AVG. MON. PROD. = 269.62640

5

2417/67

8

15-21-10-25

CURRENT PRODUCTION 290.00

CUM. PROD TO 1/31/66 290.00

MON. ON PROD.

WATER CUT 72.95853%

PEN. FACTOR 0.2001147

AUG. MON PROD. 48.33

PEN. AUG. MON. PROD. 9.68604

11-29-10-25

CURR. PROD. 3783 (FOR MAR. ADJUSTED)

822 BBL D. CORRECTED

CUM. PROD. TO 4/30/66 4969 (ADJUSTED FOR T)

MON. ON PROD. 9

WATER CUT 13.755929% (ACTUAL)

PEN. FACTOR 0.86244071

AUG. MON. PROD. 552.11

PEN. AUG. MON. PROD. 476.16214

2/17/67

⑥

4P

11-23-10-26CURR. PROD. 2913CUM. PROD TO 12/31/65 90,307MON. EN. PROD 137WATER CUT 67.17376%FEN. FACTOR 0.3282624AVG. MON. PROD 659.18PEN. AVG. MON. PROD 216.38401

2/17/67

⑦

fp

13-23-10-25

CURR PROD

1372 ✓

COM PROD TO 12/31/65

44485

MON ON PROD

137

WATER CUT

77.40075%

PER. FACTOR

0.2259925

AVE. MON PROD

324.71

PEN. AVE MON PROD

73.3520214-23-10-25

CURR PROD

1867 ✓

COM PROD TO 12/31/65

66379

MON ON PROD

135

WATER CUT

73.49140

PER. FACTOR

0.2650860

AVE. MON PROD

491.70

PEN. AVE MON PROD

130.34279

2/17/67

⑧

P

3-26-10-26

CURR PROD	834
CUM PROD TO 11/30/65	34327
MON ON PROD	127
WATER CUT	15.84256%
PEN FACTOR	0.8415742
AVE MON PROD	270.29
PEN AVE MON PROD	227.46964

4-26-10-26

CURR PROD	2534
CUM PROD TO 6/30/66	55720
MON ON PROD	147
WATER CUT	35.73471%
PEN FACTOR	0.6426573
AVE MON PROD	379.12
PEN AVE MON PROD	243.64446

2/17/67

②

A

6-26-10-26

CURR PROD

592

CURR PROD TO 11/30/65

26525

MON. DR. PROD

12.1

WATER SEC

21.48541%

PEN. FACTOR

0.7851459

ACC. ACC. PROD

208.26PEN. ACC. MON. PROD163.98551



4/7/67  
R

(1)

100  
13 00 30  
969 3659

# FROM COMPUTER RUNOUT

FACT	FACTOR FROM RUNOUT	FACTOR ADJUSTED BY 0.9693659 (FOR 14-21)
13-19	0.23322	0.22608
16-19	1.38681	1.34433
15-21	0.11654	0.11297
11-29	2.43468	2.36010
11-23	1.48194	1.43654
13-23	0.62340	0.60430
14-23	0.92800	0.89957
3-26	0.85696	0.83071
4-26	1.43398	1.39005
6-26	0.61488	0.59604
TOTAL	10.11041	9.80069

14-21 3.06341

TOTAL 12.86410

So FACTORS FOR ORIGINAL 76 WELLS IN UNIT MUST BE REDUCED

BY 0.8713590

(1.0000000 - 12.86410 = 0.8713590)

February 15, 1967.

Mr. S. A. McCrae,  
Chairman,  
Virden-Roselea Unit No. 1,  
Legal Committee,  
Chevron Standard Limited,  
Medical Arts Building,  
329A - 6 Avenue, S. W.,  
Calgary,  
Alberta.

Dear Mr. McCrae:

This is to advise that the Board has reviewed the redraft of the Parts of the Plan for Unit Operation - Virden-Roselea Unit No. 1, submitted in your letter of December 30, 1966.

These proposals appear to be in accordance with the application dated November 30, 1966, and, subject to discussion at the Hearing set for March 10, 1967, are satisfactory to the Board.

Yours very truly,

J. S. Richards,  
Deputy Chairman.

JSR:db

c. c. to: Mr. Stuart Anderson,  
Chairman.  
Mr. M. J. Gobert,  
Member.  
Mr. D. W. Moylan,  
Departmental Solicitor,  
Department of Attorney-General.

p. c. to: Mr. F. S. Gamey,  
Reservoir Engineer.

## DEPARTMENTAL MEMORANDUM

DATE January 25th, 1967.

D. W. Moylan,  
Dept. Solicitor,  
Dept. of Attorney-General.

TO Mr. J. S. Richards,  
Deputy Chairman,  
The Oil and Natural Gas  
Conservation Board.

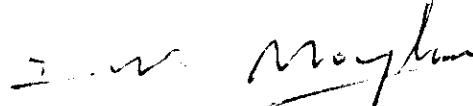
PROVINCE  
OF  
ONTARIO

SUBJECT: Enlargement - Virdee-Musclea Unit No. 1

DIRECTOR OF MINES

I refer to your memorandum of January 11th, 1967, with enclosure.

The amendments to the Plan proposed by Mr. McCrae appear to be in accordance with Chevron Standard's application dated November 30th, 1966, and I have no comments to make thereon.



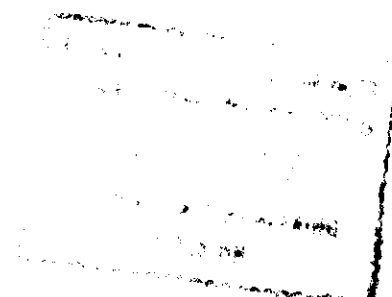
D. W. Moylan,  
Dept. Solicitor.

DWM:b

p. c. to: Mr. Stuart Anderson,  
Chairman.

Mr. M. J. Gobert,  
Member.

Mr. F. S. Gamey,  
Reservoir Engineer.





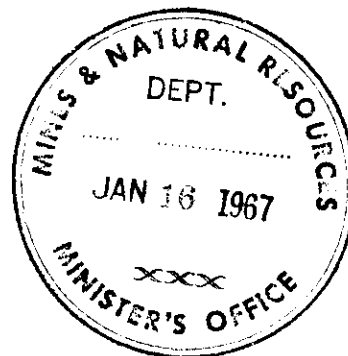
# CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA

J. L. LEBEL  
VICE-PRESIDENT

January 12, 1967

The Honourable Gurney Evans,  
Minister of Mines and Natural Resources,  
Government of Manitoba,  
Legislative Building,  
Winnipeg 1, Manitoba.



Dear Sir:

Re: Proposed Enlargement  
Virden-Roselea Unit No. 1

We are enclosing:

1. Four copies of an Application filed by Chevron Standard Limited on behalf of Working Interest Owners in Virden-Roselea Unit No. 1 and Working Interest Owners in the proposed enlargement area.
2. Four copies of a form of Royalty Owner Consent.

Chevron Standard Limited and other Working Interest Owners in the Virden-Roselea Unit No. 1 have agreed with the Working Interest Owners of the lands described as the Enlargement Tracts in the attached Application to enlarge the Virden-Roselea Unit No. 1 to include these Enlargement Tracts. Our Application has been filed with The Oil and Natural Gas Conservation Board and the Board has advertised a Hearing to be held in the Court Room, Town of Virden, Province of Manitoba, on Friday, March 10, 1967, commencing at 9:00 A.M., Central Standard Time, to consider our Application.

In preparation for the Hearing we are attempting to secure the consent of the Working Interest Owners and Royalty Owners in the enlargement area to the enlargement and inasmuch as the Crown is the Royalty Owner in respect of Tract No. 11-29 we have prepared the enclosed Consent Form. We would appreciate your consideration of this matter and if agreeable to the enlargement we would request that you sign and return two copies of the Consent Form to this office at your earliest convenience.

Thanking you for your cooperation, we are,

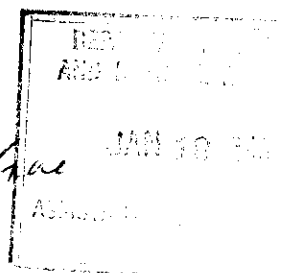
Yours very truly,

J. L. LEBEL

SAM/ps  
Encl.

cc: Mr. J. S. Richards, Director of Mines.

Orig. returned to: Mr. J. S. Gurney, Reservoir Engineer.  
P. C. to: Director of Mines.



# CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING 329A 6TH AVENUE S.W. CALGARY, ALBERTA

DEPARTMENT  
& NATURAL

JAN 1967

DIRECTOR

December 30, 1966

Enlargement,  
Virden-Roselea Unit No. 1

Mr. Stuart Anderson, Chairman,  
The Oil and Natural Gas Conservation Board,  
Department of Mines and Natural Resources,  
Province of Manitoba,  
Winnipeg 1, Manitoba.

Dear Sir:

You will recall that during discussions with Members and representatives of the Board on December 13, 1966 I undertook to redraft the Parts of the Plan for Unit Operation - Virden-Roselea Unit No. 1 which I thought should be revised in the event of your approval of the Chevron Standard et al Application to be heard March 10, 1967 and the following amendments are suggested for your consideration:

1. PART I  
INTERPRETATION

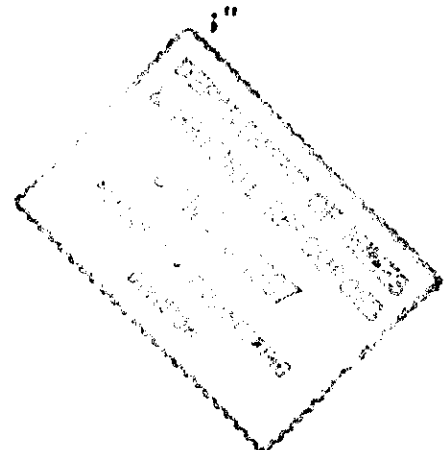
Section 1.02 (d) is deleted and the following substituted therefor:

"Effective Date" (d) "Effective Date" means the hour of 7:00 o'clock in the forenoon, Central Standard Time, on the first day of July, A.D. 1965 except that with respect to the following numbered Tracts "Effective Date" means the hour of 7:00 o'clock in the forenoon, Central Standard Time, on the first day of \_\_\_\_\_, A.D. 1967:

13-19 ✓	16-19 ✓	11-23 ✓
13-23 ✓	14-23 ✓	15-21 ✓
14-21 ✓	11-29 ✓	3-26 ✓
4-26 ✓	6-26 ✓	

2. PART III  
TRACT PARTICIPATION

is deleted and the following substituted therefor:



December 30, 1966

"Tract Participation" 3.01 The Tract Participation of each Tract is shown in Part XXIV hereof. The total of the Tract Participations for all Tracts shall at all times equal one hundred (100%) percent."

3. PART V  
ORGANIZATION OF THE OPERATING COMMITTEE

Section 5.06 is deleted and the following substituted therefor:

"Meetings" 5.06 The Operating Committee shall meet on the call of Unit Operator, or at the request of a representative of any Working Interest Owner. Unit Operator shall notify all members of the Operating Committee in writing at least ten (10) days in advance of any meeting of the time and place of the proposed meeting, and of the specific matters affecting unit operations which will be presented, discussed and voted upon at such meeting, and no other matters shall be voted upon at such meeting unless each Working Interest Owner is represented thereat and agrees that such further matters may be voted upon."

4. PART XXI  
WELLS DELIVERED TO UNIT OPERATOR PURSUANT TO PART X

is deleted and the attached new PART XXI is substituted therefor.

5. PART XXII  
THE LANDS IN THE PROVINCE OF MANITOBA WHICH COMPRISE THE VIRDEN-ROSELEA UNIT NO. 1 ARE AS FOLLOWS:

is deleted and the attached new PART XXII is substituted therefor.

6. PART XXIII  
MAP OF UNIT AREA

is deleted and the attached new PART XXIII is substituted therefor.

7. PART XXIV  
TRACT PARTICIPATION

is deleted and the attached new PART XXIV is substituted therefor.

Mr. Stuart Anderson, Chairman,  
The Oil and Natural Gas Conservation Board

December 30, 1966

8. PART XXVI  
ACCOUNTING PROCEDURE

Section 26.07 (k) (iii) (a) is deleted and the following substituted therefor:

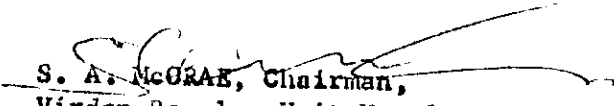
"(a) \$5,000.00 per month for all producing operations."

I have not yet redrawn Parts XXI - XXIV inclusive as each of these would simply reflect the addition of the new lands to the Unit Area.

We would be glad if you would consider the foregoing and let us have your comments at the earliest possible moment.

With best wishes for the coming year, we are,

Yours very truly,

  
S. A. McGRAE, Chairman,  
Virden-Roselea Unit No. 1  
Legal Committee.

SAM/ps

cc: Mr. J. S. Richards  
Deputy Chairman.

Mr. M. J. Gobert,  
Member.

p.c. to: Mr. F. S. Ganev,  
Reservoir Engineer.

15.01 - FILING. (RECORDED & LAND TITLES)

25.01 -

Application approved

- 3 -

Schedules A & B to be revised and published in MAN GAZETTE

PMI ORDER. additional injection wells  
Allowable ORDER.

December 20, 1966.

Mr. L. D. Brown, Chairman,  
Virden-Roselea Unit No. 1  
Operating Committee,  
Chevron Standard Limited,  
Medical Arts Building,  
329A - 6th Avenue S.W.,  
CALGARY, Alta.

Dear Mr. Brown:

Attached, hereto, copy of "Notice of Hearing" in respect to your application to amend Virden-Roselea Unit No. 1. Copies of this notice, together with a copy of the application, are to be forwarded by registered mail to all known Working Interest Owners and Royalty Owners. This service will be made 30 clear days before the hearing, and proved by affidavit at the hearing.

Yours very truly,

JSR/or

J. S. Richards,  
Deputy Chairman.

Enc.

c.c. to: Mr. S. A. McCrae

p.c. to: Mr. Stuart Anderson,  
Chairman.

Mr. M. J. Gobert,  
Member.

Mr. R. R. McDaniel,  
Consultant.

Mr. F. S. Gamey,  
Reservoir Engineer.





## THE OIL AND NATURAL GAS CONSERVATION BOARD

## NOTICE OF HEARING

A Public Hearing will be held in the Court Room, Town of Virden, Province of Manitoba, on Friday, March 10, 1967, commencing at 9.00 A.M., Central Standard Time, for the purpose of hearing representations with respect to:

- (1) An application by the Unit Operator for Unit Enlargement and Expansion of Water Injection System, Virden-Roselea Unit No. 1, to include the following well locations:

In Township 10, Range 25 WPM

Legal Subdivisions 13 and 16	....	Section 19
Legal Subdivisions 14 and 15	....	Section 21
Legal Subdivision 11	.....	Section 29

In Township 10, Range 26 WPM

Legal Subdivisions 11, 13 and 14	..	Section 23
Legal Subdivisions 3, 4 and 6	.....	Section 26

- (2) An application for a Maximum Permissible Rate of Production for the Enlargement Tracts.
- (3) Amendments to Part XXVI, Section 26.07 (k) (iii) (a) and Part V, Section 5.06 of the "Plan for Unit Operation Governing the Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1".
- (4) Such other changes or amendments to existing Board Orders as may be necessary to give effect to the foregoing.

Copies of material filed in support of the application are available at the offices of Chevron Standard Limited, Virden, Manitoba, and the Medical Arts Building, Calgary, Alberta.

Written submissions in respect to the subjects of the hearing must be submitted to the Board, at Room 9C1, Norquay Building, Winnipeg, Manitoba, on or before March 1st, 1967.

*J. S. Richards*  
J. S. Richards,  
Deputy Chairman,  
The Oil and Natural Gas  
Conservation Board.

DATED at Winnipeg, Manitoba,  
this 20th day of December, 1966.

# CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING 329A - 6TH AVENUE S.W., CALGARY, ALBERTA

December 15, 1966

DEPARTMENT OF MINES  
& NATURAL RESOURCES

DEC 16 1966

DIRECTOR OF MINES

The Oil and Natural Gas Conservation Board,  
Department of Mines and Natural Resources,  
Province of Manitoba,  
Winnipeg 1, Manitoba.

Attention: Mr. Stuart Anderson, Chairman

Gentlemen:

Enclosed herewith please find three copies of our December 15, 1966 Application to amend Virden-Roselea Unit No. 1. It would be appreciated if you would proceed with the necessary arrangements for a public Hearing of our Application and advise.

Thanking you for your cooperation we are,

Yours very truly,

*L. D. Brown*  
L. D. BROWN, Chairman,  
Virden-Roselea Unit No. 1  
Operating Committee.

S.A. McCrae/ps  
Encls.

cc: ✓ Mr. J. S. Richards,  
Deputy Chairman. (with enclosure)

Mr. M. J. Gobert,  
Member. (with enclosure)



# CHEVRON STANDARD LIMITED

MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

December 15, 1966

The Oil and Natural Gas Conservation Board,,  
Department of Mines and Natural Resources,  
Province of Manitoba,  
Winnipeg 1, Manitoba.

Attention: Mr. Stuart Anderson, Chairman

Dear Sir:

Chevron Standard Limited, as Unit Operator of Virden-Roselea Unit No. 1, under and pursuant to The Mines Act, Revised Statutes of Manitoba, 1954 and Amendments thereto, hereby, on behalf of the Working Interest Owners in Virden-Roselea Unit No. 1, and on behalf of the following:

Bralorne Petroleums Limited

Chevron Standard Limited

Frontenac Petroleum Co. Ltd.

Teck Corporation Limited

requests The Oil and Natural Gas Conservation Board to hold a hearing to consider and approve the following:

1. Proposal for Unit Enlargement and Expansion of Water Injection System - Virden-Roselea Unit No. 1, pursuant to Section 76 of The Mines Act.
2. Application for a Maximum Permissible Rate of Production for the Enlargement Tracts, pursuant to Section 59 of The Mines Act.
3. Amendment to Part XXVI, Section 26.07 (k) (iii) (a) of the "Plan For Unit Operation Governing The Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1" pursuant to Part VI, Section 6.03 (j) of the above "Plan" and also Section 75 (3) of The Mines Act.


December 15, 1966

4. Amendment to Part V, Section 5.06 of the "Plan For Unit Operation Governing The Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1", pursuant to Section 75 (3) of The Mines Act.
5. Such other changes or amendments to existing Board Orders as may be necessary to give effect to the foregoing.

In support of this Application we will endeavour to file with the Board such Working Interest Owner and Royalty Owner Consents as may be required by the Board.

An early consideration of our request would be greatly appreciated.

Respectfully submitted,

  
L. D. BROWN, Chairman,  
Virden-Roselea Unit No. 1  
Operating Committee.

A. Proposal for Unit Enlargement and Expansion of Water Injection System-  
Virden-Roselea Unit No. 1

It is proposed that the following tracts be included in Virden-Roselea Unit No. 1 by means of an enlargement: (See Figure 1)

LSD 13-19-10-25 WPM

LSD 16-19-10-25 WPM

LSD 14-21-10-25 WPM

LSD 15-21-10-25 WPM

LSD 11-29-10-25 WPM

LSD 11-23-10-26 WPM

LSD 13-23-10-26 WPM

LSD 14-23-10-26 WPM

LSD 3-26-10-26 WPM

LSD 4-26-10-26 WPM

LSD 6-26-10-26 WPM

The above tracts adjoin the present Virden-Roselea Unit No. 1 area and have wells situated thereon which are capable of production from a lateral extension of the formation that is unitized in Virden-Roselea Unit No. 1. (See Figure 2)

Five of the wells, namely those located in sections 19, 21 and 29-10-25 were drilled and placed on production since November, 1964. The six wells on Sections 23 and 26-10-26 have been on production for over ten years. All of the wells in the proposed enlargement will contribute to the enlarged unit, either in the form of additional reserves or by providing greater operational flexibility with a resultant increase in oil recovery, or both. (See Figure 3)

There are mutual benefits to the owners of the royalty interest and the working interest in the proposed enlargement tracts and in the present Virden-Roselea Unit No. 1 by reason of increased oil production rates, oil recovery and income. Upon enlargement of the Unit, unrestricted water injection, within good engineering practise, would be instituted in injection wells currently offsetting non-unit producing wells. In addition, two additional wells would be converted to water injection wells, thereby promoting a more efficient recovery from the Unit area. The inclusion of the eleven tracts by unit enlargement, with resultant sharing in Unit production will result in allocable oil to these tracts substantially exceeding the estimated ultimate oil recovery under a primary depletion operation. (See Figure 4)

#### Tract Participation

Part III of the "Plan for Unit Operation Governing the Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1" discloses the method used for determining tract participation for each tract as one-half ( $1/2$ ) of each of the following:

- (a) a current production factor
- (b) a penalized average monthly oil production factor

This tract participation formula was considered to be fair and equitable in determining participation in the original unit. The applicants hereby submit that a similar formula is a fair and equitable method for determining the tract participation for all but one of the enlargement tracts under consideration in the present application. The exception is tract 14-21, although one-half ( $1/2$ ) of the tract's participation was based on the above formula.

The applicants hereby propose that, since the tracts currently under consid-

eration for inclusion exhibit varying lengths of production history, it is not feasible to use any one current production period, therefore several different periods were used. The following summary presents the basis for participation in the enlarged unit of the additional eleven tracts:

(a) Tracts 13-19 and 16-19:

- formula used in the original Unit with a May 1, 1965 to October 31, 1965 inclusive current production period and cumulative production to October 31, 1965.

(b) Tract 14-21

- participation based on one-half ( $1/2$ ) of each of "A" and "B" below:

"A" - formula used in original Unit with a November 1, 1965 to April 30, 1966 inclusive current production period and cumulative production to April 30, 1966

"B" - average of the participation factors for Tracts 11-21;

12-21; and 13-21 in the original unit —

$$\begin{array}{r} 2.30067 \\ 1.84972 \\ 2.52872 \\ \hline 6.67911 \end{array}$$

ORIGINAL  
TRACT FACTORS

AV. = 2.22637

(c) Tract 15-21

- formula used in the original Unit with an August 1, 1965 to January 31, 1966 inclusive current production period and cumulative production to January 31, 1966

(d) Tract 11-29

- formula used in the original Unit with a November 1, 1965 to April 30, 1966 inclusive current production period with the production for February and March, 1966 being adjusted to 22 barrels of oil per calendar day, and cumulative production to April 30, 1966 adjusted to reflect the changes during the current production period. The penalty factor

was based on the actual water cut during the current production period.

(e) Tracts 11-23; 13-23; and 14-23

- formula used in the original Unit with a July 1, 1965 to December 31, 1965 inclusive current production period and cumulative production to December 31, 1965.

(f) Tracts 3-26 and 6-26

- formula used in the original Unit with a June 1, 1965 to November 30, 1965 inclusive current production period and cumulative production to November 30, 1965.

(g) Tract 4-26

- formula used in the original Unit with a January 1, 1966 to June 30, 1966 inclusive current production period and cumulative production to June 30, 1966.

Using the above participation bases, the resultant tract participation factors for the enlargement tracts are as follows:

<u>Tract Number</u>	<u>Tract Participation</u>
13-19	0.22608 ✓
16-19	1.34433
14-21	3.06341
15-21	0.11297
11-29	2.36010
11-23	1.43654
13-23	0.60430
14-23	0.89957
3-26	0.83071
4-26	1.39005
6-26	0.59604



The total participation of the eleven tracts in the enlarged Unit would be 12.86410 percent. It is proposed that upon these tracts being admitted to the Virden-Roselea Unit No. 1 area, [the Tract Participations of all Tracts within the Unit Area prior to enlargement, remain the same one to the other, and that each such Tract Participation therefore be reduced by multiplying it by the factor  $1.0000000 - 0.1286410$  or  $0.8713590$ .]

#### Production and Reserves

Figure 2 represents the production history of the eleven wells on the proposed enlargement tracts as well as the production history of the Virden-Roselea Unit No. 1 area before and after unitization. The proposed enlargement tracts have produced at a peak production rate of 197 BOPD during 1956 and are currently producing at the rate of 125 BOPD cutting 55.4 percent water.

The benefit to the present Unit from the proposed enlargement is demonstrated on Figure 3. The predicted oil production rates for the existing Unit are compared with the predicted rates for the proposed enlarged Unit. This increase in production rate and ultimate recovery from the Unit will result from extending the water injection system to include the wells on tracts 15-23 and 3-26 as injectors, and controlling injection and production rates within the Unit area to obtain a high degree of recovery efficiency. It is estimated that the inclusion in the Unit of the eleven proposed tracts would result in an increase in Unit oil recovery amounting to 1,270,000 barrels, an increase in current income, as well as insuring the recovery of 350,000 barrels from within the current Unit boundary which might otherwise not be recovered.

The benefit to the owners of the enlargement tracts is presented on Figure 4.

It is estimated that the remaining production from these tracts, on a primary depletion basis would amount to 235,000 barrels. Assuming that the effective Unit enlargement date is January 1, 1967, the total allocable oil to these tracts could amount to approximately 1,550,000 barrels.

#### Enlargement Tract Requirements

Upon the proposed enlargement tracts being admitted to the Unit, it is proposed that the working interest owners of these tracts participate in the Investment Account established by Part X of the "Plan For Unit Operation Governing The Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1", dated April 1, 1965, as of the effective date of this enlargement.

It is proposed that the working interest owners of the enlargement tracts, make cash payment to the Unit Operator for their proportionate share of all expenditures other than operating expenditures incurred subsequent to the effective date of Virden-Roselea Unit No. 1, plus their proportionate share of all pre-Unit and inventory costs incurred and approved by the Virden-Roselea Unit No. 1 Working Interest Owners.

#### Water Injection System Expansion

It is proposed that the wells on tracts 15-23 and 3-26 be converted to water injection after the Unit is enlarged. (See Figure 1). The calculated injection rates for the two wells are 230 BWPD and 260 BWPD respectively. It is anticipated that this would be adequate to suitably improve the recovery efficiency on the west flank of the enlarged Unit. The procedure that was followed in previous injection well conversions in the Unit would be used.

The injection system expansion would require only a minor amount of

construction in laying a 2" plastic-coated cement-lined steel injection line from the well on tract 13-24 to the well on tract 15-23 and on to the well on tract 3-26. No changes would be required at the injection plant or in the water supply.

R.25WPM

R.26

T.10

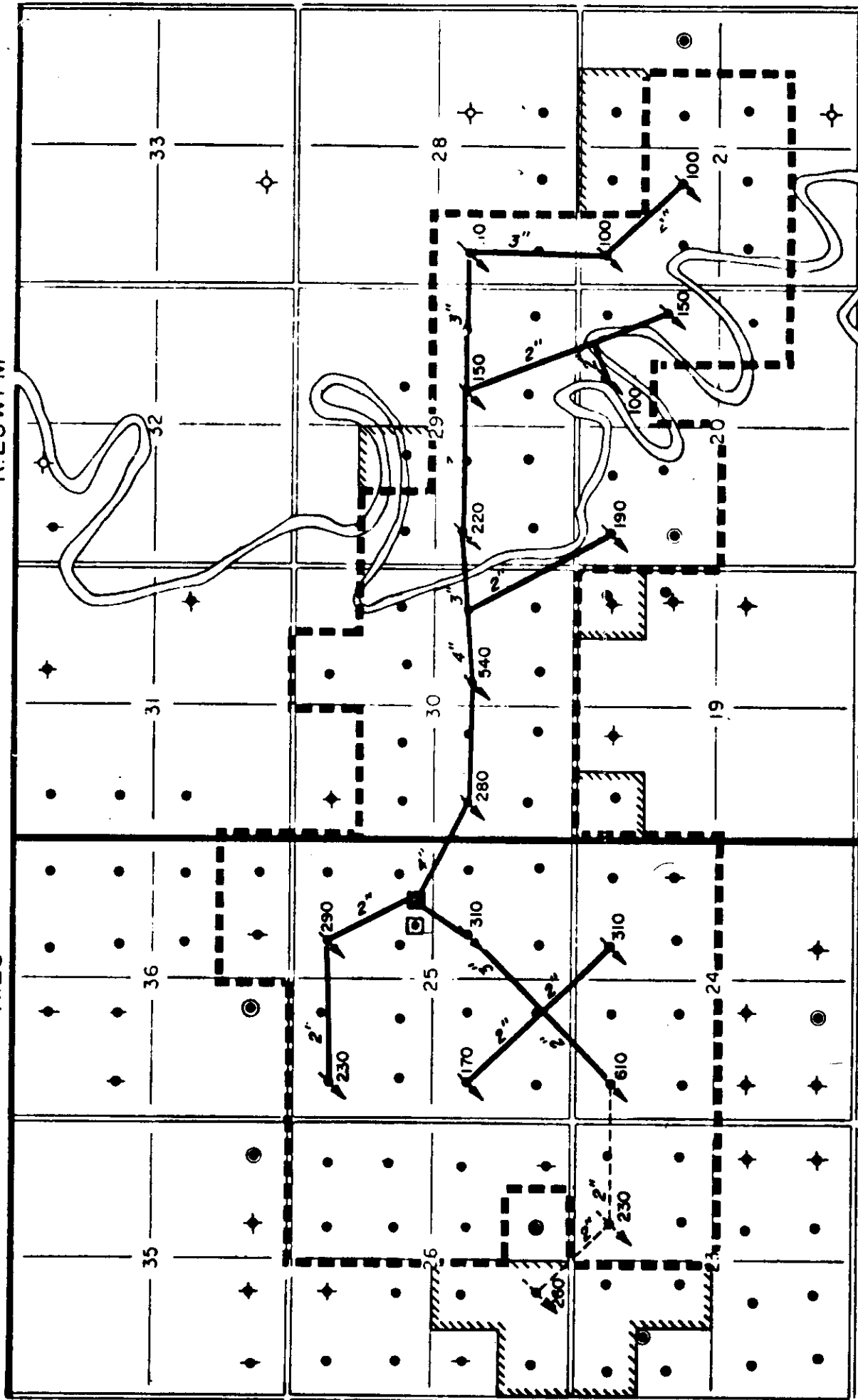


FIGURE 1

Scale 1" = 1/2 mile

# VIRDEN-ROSELEA UNIT NO. 1 AND PROPOSED ENLARGEMENT

- UNIT BOUNDARY
- INJECTION WELL
- INJECTION LINE, SIZE
- INJECTION RATE, B/D
- INJECTION PLANT
- DEVONIAN WATER SUPPLY WELL
- S.W.D. WELL

PROPOSED ENLARGEMENT OF  
UNIT BOUNDARY

PROPOSED WATER INJECTION WELL  
PROPOSED INJECTION LINE, SIZE

FIGURE 2

PRODUCTION HISTORY OF VIRDEN - ROSELEA UNIT No.1  
AND OF  
THE COMBINED ELEVEN PROPOSED ENLARGEMENT TRACTS

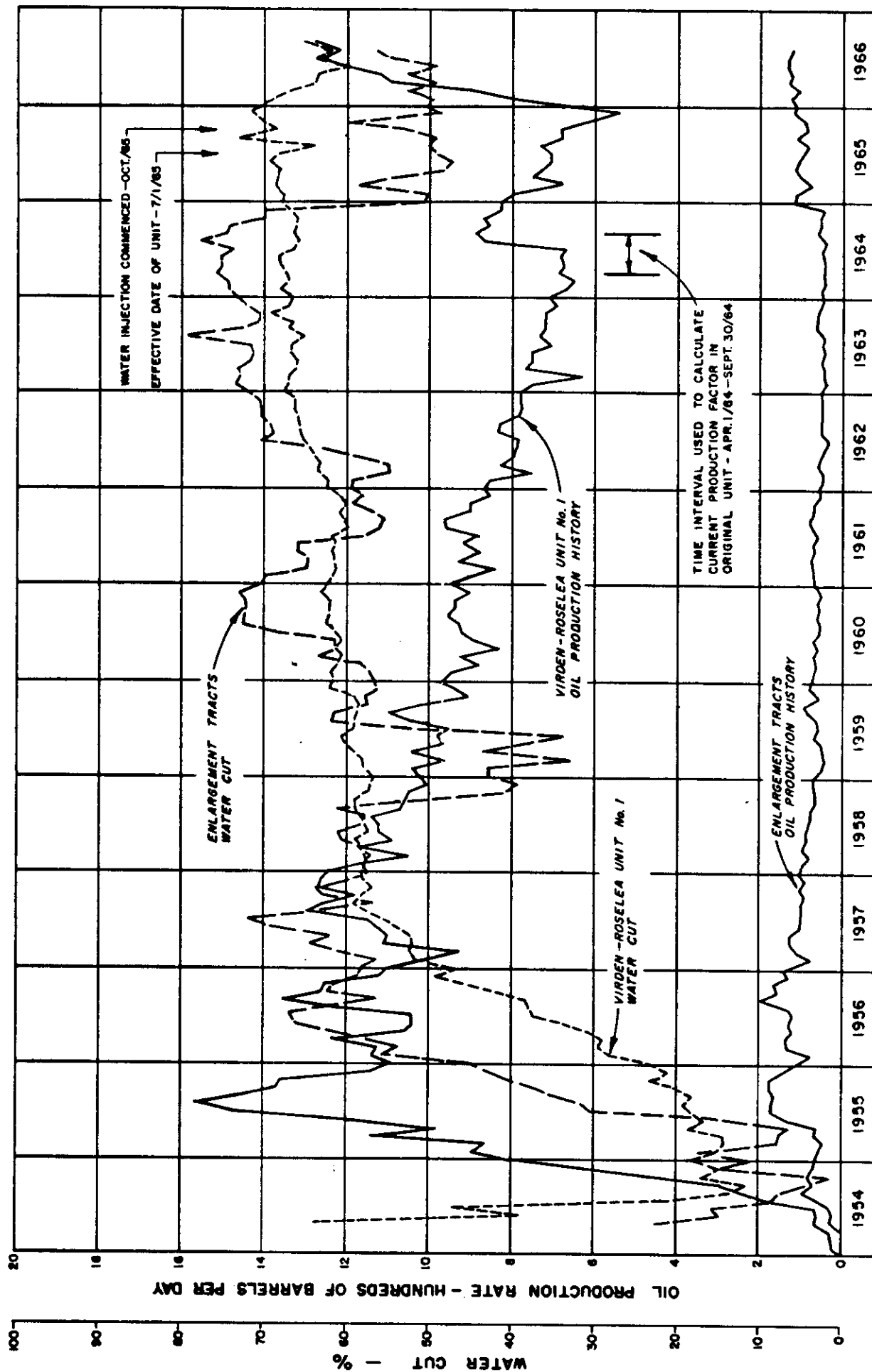


FIGURE 3

# VIRDEN - ROSELEA UNIT No.1

## PRODUCTION HISTORY

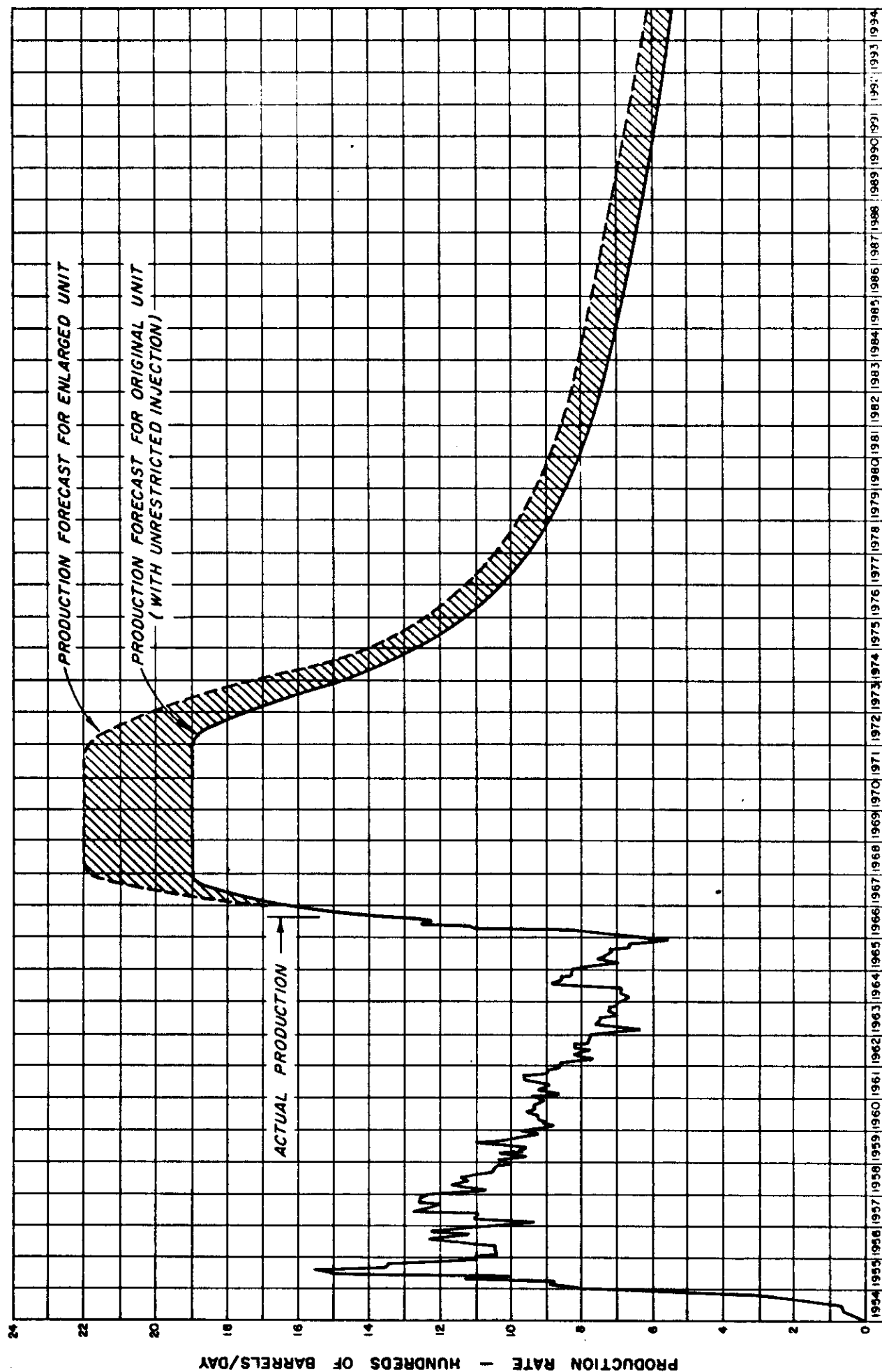
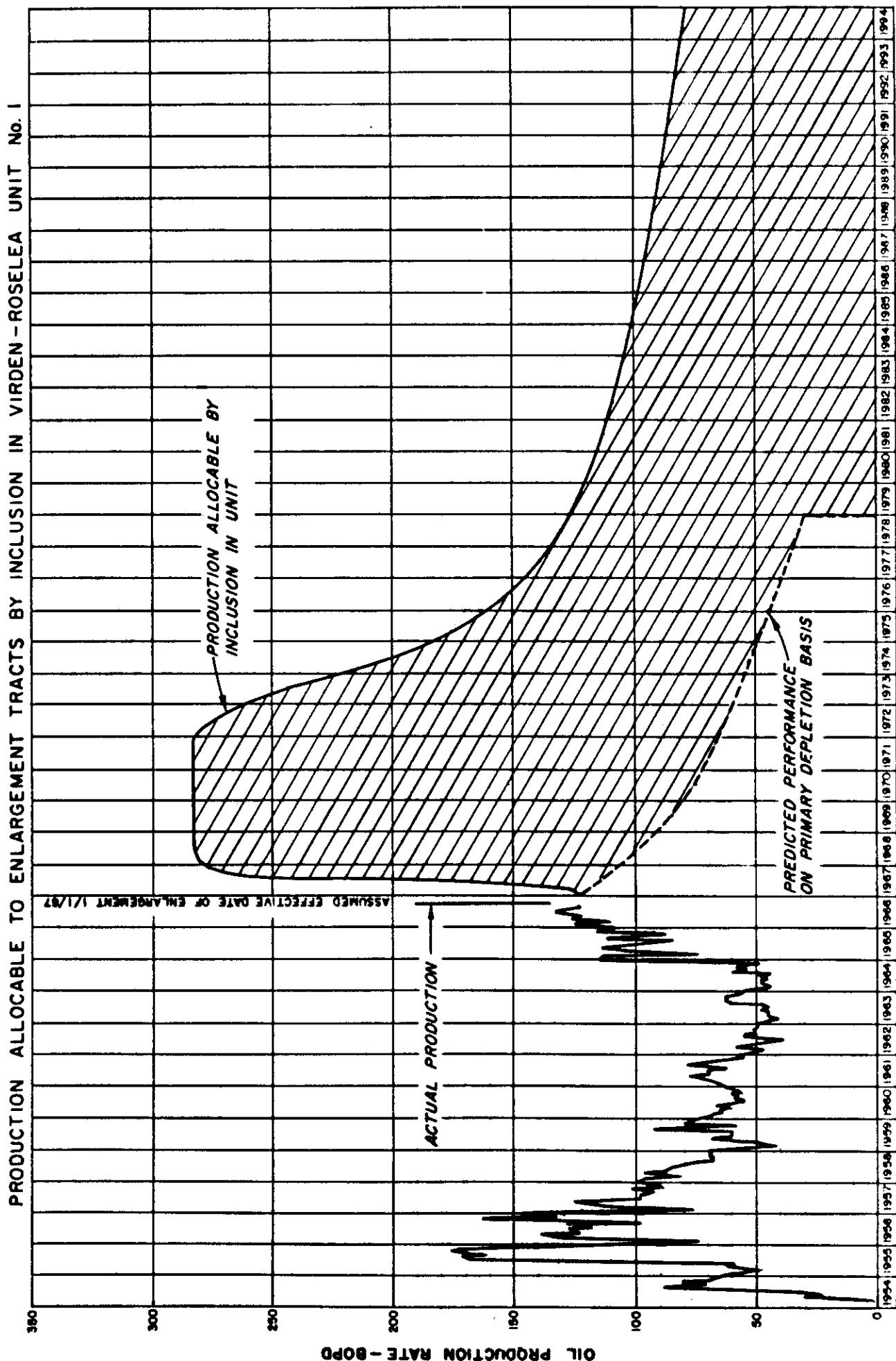


FIGURE 4  
 COMPARISON OF  
 PREDICTED OIL RECOVERY PERFORMANCE OF ELEVEN PROPOSED  
 ENLARGEMENT TRACTS ON PRIMARY DEPLETION BASIS  
 VERSUS



B. Application For A Maximum Permissible Rate of Production For Wells on the Enlargement Tracts

The applicants propose that the same production flexibility that has been permitted for the original Virden-Roselea Unit No. 1 also be provided for the enlarged Unit.

Currently, the production at all the enlargement tracts may be considered to be unrestricted since all the wells on these tracts are producing at capacity. It is the applicants' contention that no reservoir damage has resulted from producing these wells at capacity.

By being included in the waterflood project it is anticipated that the productive capacity of certain of the wells on the enlargement tracts will be significantly increased. There is no reason to believe that reservoir damage, either within the Unit area or outside the Unit area, would result from producing these increased capacity wells at unrestricted rates.

It is the applicants' contention that producing wells on the enlargement tracts, where offset by non-unit producing wells should also be allowed to produce at unrestricted rates. There is no reason to believe that non-unit oil would be produced within the Unit by such a practise since the Unit well capacities would increase only as a direct result of the unitized waterflood and therefore the increased production would be made up of oil from within the Unit area only. There is also no reason to believe that the production at offsetting non-unit wells would be affected by the production of the new Unit boundary wells at unrestricted rates.

The applicants respectfully request that, on and after the effective date of the Unit enlargement, the wells on the tracts brought in by the enlargement be excluded from any provisions governing the limitations and allocation of oil production.



C. Amendment to Part XXVI, Section 26.07 (k) (iii) (a) of the "Plan For Unit Operation Governing The Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1"

The Unit Operator has reviewed the district and administrative overhead charges to the Unit under Part XXVI, Section 26.07 (k) (iii) (a) of the "Plan". The proposed addition of eleven wells to the Unit and the general increase in salaries and wages of personnel during 1966 were considered. The resultant proposed increase in charges under the subject clause is \$500 per month.

Approval to increase the charges, under the subject clause, by \$500 per month to a new total of \$5,000 per month, was obtained from Working Interest Owners having a total participation in the Unit of 100.00000 percent. Approval of equal magnitude was obtained for amending the "Plan" by replacing the wording in Part XXVI, Section 26.07 (k) (iii) (a) with the following:

"\$5,000.00 per month for all producing operations".

Pursuant to Part VI, Section 6.03 (j) of the "Plan" and Section 75 (3) of The Mines Act, the applicants hereby respectfully request the Board to consider and approve the proposed district and administrative overhead charges and the proposed amendment to the plan, in conjunction with the proposed unit enlargement.

D. Amendment to Part V, Section 5.06 of the "Plan For Unit Operation Governing The Unitized Management Operation and Further Development of Virden-Roselea Unit No. 1"

The Working Interest Owners of Virden-Roselea Unit No. 1 have agreed that as Unit operations became more routine, the necessity for an annual meeting in accordance with Part V, Section 5.06 of the "Plan" became of less importance and often resulted in poor attendance. It was agreed that a more suitable arrangement would be to hold a meeting at the request of the Unit Operator or at the request of a representative of any Working Interest Owner.

The unanimous approval of Working Interest Owners has been obtained for amending Part V, Section 5.06 of the "Plan" by replacing the first sentence of the subject clause with the following:

"The Operating Committee shall meet on the call of Unit Operator, or at the request of a representative of any Working Interest Owner."

Pursuant to Section 75 (3) of The Mines Act, the applicants hereby respectfully request the Board to consider and approve the proposed amendment of Part V, Section 5.06 of the "Plan".

800/436

December 8th, 1966.

D. W. Moylan,  
Dept. Solicitor,  
Dept. of Attorney-General

Mr. S. J. Anderson,  
Deputy Chairman,  
The Oil and Natural Gas Conservation  
Board,

DEPARTMENT

Re: Proposed Unit Enlargement  
Virden-Roselea Unit No. 1

DEC 8 - 1966

10:00 P.M. 1966

I refer to your Memorandum of December 5th, 1966, and advise that I agree with the opinion of Mr. S. M. McCrae, that the consents of the royalty owners in the original unit area are not required by The Mines Act.

However there is always the chance that enlargement of the area may adversely affect these royalty owners and I recommend that the Board follow S. 59 (14) of the Act and require notice of the application for unit enlargement to be given to them once a date, time and place for the hearing has been set.

I suggest the Board ask the Applicant to submit a form of notice for approval.

Regarding method of service I suggest the Applicant be required to send the notice by Registered prepaid mail at least 14 clear days before the date of the hearing to each royalty owner at his last known address and that service be proved at the hearing by affidavit.

I take it that the Board will also require the consents referred to on Page 1, items 2, 3, and 4 of Mr. McCrae's letter of November 30th, 1966, to the Chairman.

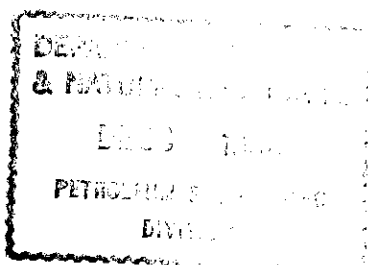
DWM:b

D. W. Moylan,  
Dept. Solicitor.

**p. c. to: Mr. Stuart Anderson,  
Chairman.**

**Mr. M. J. Gobert,  
Member.**

**Mr. F. S. Gamey,  
Reservoir Engineer.**



November 1, 1966

F. S. Gamey

M. J. Gobert  
Asst. Deputy Minister

**VIRDEN-ROSELEA #1 UNIT ENLARGEMENT**

CHEVRON

Tract	3-26-10-26
	4-26-10-26
	6-26-10-26
	14-21-10-25
	11-29-10-25

TECK

Tract	11-23-10-26
	13-23-10-26
	14-23-10-26

FRONTENAC

Tract	15-21-10-25
-------	-------------

BREALORNE

Tract	13-19-10-25
	16-19-10-25

Well curves for above tracts complete to September 30, 1966.

October 28, 1966

F. S. Gamey

M. J. Gobert  
Asst. Deputy Minister

VIRDEN-ROSELEA UNIT #1 - Proposed Enlargement

Attached herewith are photostatic copies of minutes relating to above enlargement, in chronological order as follows:

1. January 11/66 meeting

See Agenda Item No. 1 - re: enlargement

2. February 23/66

Re: 14-21-10-25      Participation Formula

3. April 6/66

See Agenda Item No. 5  
Letter of June 29/66 enclosing Tract Factor  
Data: Production Allotment and Well Curves

4. July 7/66

See Agenda Item Nos. 2, 3 and 4

5. September 22/66

See Agenda Item No. 3 to No. 6

Location sketch map of Unit #1 with proposed additional tracts is enclosed.

IR-Ros. Unit #1.

12 Tracts.

3-26, 6-25 (current Jan 1 - Nov. 30, 1965)  
7 (Cumulative to Dec 1, 1965).

4-26 (current Jan 1 - June 30, 1966)  
(Cumulative to July 1, 1966)

11-23, 13-23, 14-23 (current July 1 - Dec 31, 1965)  
7 (Cumulative to Jan 1, 1965)

12-23. (active water drive)

100% of Ave. monthly prod to Jan 1, 1966

(TECR withdrawn's applic.  
to include this tract)

penalized by 1- month water cut  
during interval July 1, 1965 to Dec 31, 1965.

14-21 (approx April 6/66)

14-21

~~14-21~~

- Attacker equivalent to the average ~~of~~ of the  
sectors ~~area~~

11-21

12-21

13-21

14-21

14-21-10-25 ON PROD DEC 1964

11-29-10-25 " " AUG 1965

15-21-10-25 " " AUG 1965

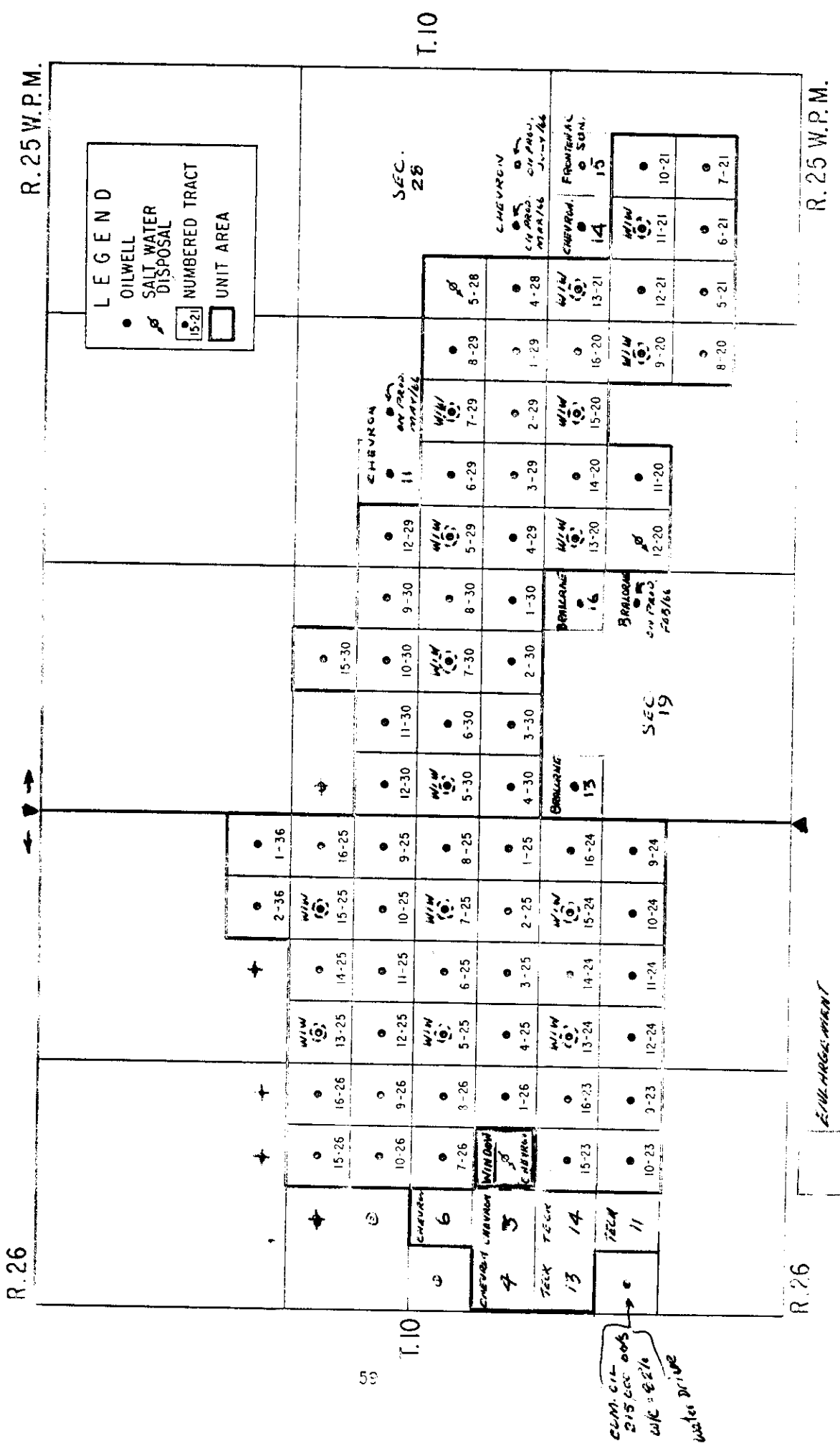
ORIGINAL UNIT = 76 wells (Operation charges \$4500/month = \$9.21 per well)  
 ENLARGED = 87 " ( " = \$5000/month = \$57.47 " "

ORDER ADDING 72 UNIT AREA  
 Admins REC CAP 166  
 76 (1/13/3)  
 Board Order: Approved 7/1/61

VIR-ROS UNIT No. 1

PART XXIII

MAP OF UNIT AREA



# EILANGFETT

TRACT NO.	WORKING INTEREST OWNER	LEGAL DESCRIPTION	ROYALTY INTEREST OWNER	
13-19	Bralorne Petroleum Ltd. Prairie Oil Royalties Company Vulcan Resources Corporation	Lsd. 13-19-10-25 W. P. H. 50% 33 1/3% 16 2/3%	John Mundell Sprout John W. Clarke*	100%
16-19	Bralorne Petroleum Ltd. Prairie Oil Royalties Company Vulcan Resources Corporation	Lsd. 16-19-10-25 W. P. H. 50% 33 1/3% 16 2/3%	Garry Mundell Sprout John Mundell Sprout Canada Permanent Trust Company John W. Clarke*	25% 50% 25%
11-23	Teck Corporation Charles Hilton Frazier Northwest Exploration Co.Ltd.	Lsd. 11-23-10-26 W. P. H. 73 1/2% 25% 1 1/2%	William John Leonard Hepburn	100%
13-23	Teck Corporation Charles Hilton Frazier Northwest Exploration Co.Ltd.	Lsd. 13-23-10-26 W. P. H. 73 1/2% 25% 1 1/2%	William John Leonard Hepburn	100%
14-23	Teck Corporation Charles Hilton Frazier Northwest Exploration Co.Ltd.	Lsd. 14-23-10-26 W. P. H. 73 1/2% 25% 1 1/2%	William John Leonard Hepburn	100%
15-21	Frontenac Petroleum Co.Ltd.	Lsd. 15-21-10-25 W. P. H.	Walter C. Pearn Canada Permanent Trust Company Sun Oil Company * Bervick Minerals Ltd. *	25% 75%
14-21	Chevron Standard Limited	Lsd. 14-21-10-25 W. P. H.	The Canada North West Land Co.	100%
11-29	Chevron Standard Limited	Lsd. 11-29-10-25 W. P. H.	Minister, Department of Mines and Natural Resources	100%
3-26	Chevron Standard Limited	Lsd. 3-26-10-26 W. P. H.	Canada Permanent Trust Company Elmer D. Shier	50% 50%



<u>TRACT NO.</u>	<u>WORKING INTEREST OWNER</u>	<u>LEGAL DESCRIPTION</u>	<u>ROYALTY PAY TO: (NOT OTHER)</u>	
4-25	Chevron Standard Limited	Lsd. 4-25-10-25 U. P. H.	Canada Permanent Trust Company Elmer D. Shier	50% 50%
6-25	Chevron Standard Limited	Lsd. 6-25-10-25 U. P. H.	Canada Permanent Trust Company Elmer D. Shier	50% 50%

\* overriding royalty

7/1/2008  
11  
4/4/06

Corrections to be made in

UNITIZATION ORDER NO. 6

- Page 1 - Indent first line of first paragraph.
- Page 3 - 5th line under (b) (ii) - capitalized word "Tracts".
- Page 4 - Substitute " . " for " , " after 1.0000000 in line four of (b) (iii).
- Page 6 - Change Range "25" to Range "26" above Lsd. 14, Section 24 on heading on lower half of page.
- Page 8 - Insert "Map of Unit Area".

\*\*\*\*\*

ORDER NO. PM8

- Page 1 - Delete (c) at bottom of page 1 as it has been inserted at the top of page 2.

## TRACT PARTICIPATION

### 1. Original Tract Factors.

76 wells.

$\frac{1}{2}$  Current Production Factor. (INTERVAL APR 1 - SEPT. 30, 1964)  
 plus  $\frac{1}{2}$  Permitted Average monthly

### 2. TRACT 14-21

BASED ON 87 wells.

A  $\frac{1}{2}$  of  $\frac{1}{2}$  of Current Production Factor 8 wells  
 (original wells - interval above)  
 } PAM (11 wells - various intervals).

B  $\frac{1}{2}$  of Average Original factors for 11-21, 12-21, 13-21.

### 3. TRACTS 13-19, 16-19, 15-21, 11-29, 11-23, 14-23, 13-23, 3-26, 6-26, 4-26 (10 wells)

$\frac{1}{2}$  Current Prod.  
 $\frac{1}{2}$  Per. Ave Monthly } based on 86 wells.  
 (TRACT 14-21 omitted).

FACTORS FOR ABOVE 16 TRACTS ARE REDUCED  
 BY PERCENTAGE 14-21 PARTICIPATION.

(Multiplied by Factor  $1 - \text{participation percentage}$ )

### 4. LINEARMENT (11 wells)

TOTAL PARTICIPATION SUM of 2 + 3

### 5. Reduce Original Tract Factors in '1' (76 wells)

by Sum 4 (Percentage Total Participation in 11 Tracts)

(Multiplied by Factor  $1 - \text{PARTICIPATION SUM (4) percentage}$ )

### 6. SUM TRACT PARTICIPATIONS 3 + 5 = 100 percent

## PROGRAM 1401-001 TRACT FACTOR CALCULATIONS

CASE 1 OF 1

VIRGEN RUSFLEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

## INPUT DATA

TRACT NUMBER	TRACT OWNERSHIP	CUMULATIVE PRODUCTION	RECIP OF NO. MTHS.	6 MTHS. CURRENT	PENALTY FACTOR	WATER CUT
00924	CALSTAN	6254.00	10.41667	.00	1.00000	.4275000
01024	CALSTAN	10852.00	10.41667	624.00	1.00000	.9472081
01124	CALSTAN	24265.00	8.92357	789.00	1.00000	.7261036
01224	CALSTAN	28298.00	8.13008	364.00	1.00000	.5968992
01324	CALSTAN	40176.00	7.93651	1818.00	1.00000	.2759857
01424	CALSTAN	43026.00	8.47458	1214.00	1.00000	.2966396
01524	CALSTAN	52342.00	9.47458	2081.00	1.00000	.5295049
01624	CALSTAN	80962.00	8.54701	3480.00	1.00000	.4963092
00125	CALSTAN	55635.00	8.54701	1964.00	1.00000	.7035472
00225	CALSTAN	63918.00	8.26446	1455.00	1.00000	.4029545
00325	CALSTAN	68896.00	8.19672	1558.00	1.00000	.2026612
00425	CALSTAN	58492.00	8.13008	1157.00	1.00000	.7882116
00525	CALSTAN	44983.00	8.77193	1207.00	1.00000	.3047235
00625	CALSTAN	93218.00	8.26446	2302.00	1.00000	.8008995
00725	CALSTAN	83812.00	8.33333	1473.00	1.00000	.3045326
00825	CALSTAN	93101.00	8.40336	6849.00	1.00000	.5444023
00925	CALSTAN	57172.00	8.40336	742.00	1.00000	.4756184
01025	CALSTAN	68371.00	8.33333	1096.00	1.00000	.2154617
01125	CALSTAN	79085.00	8.40336	959.00	1.00000	.1265938
01225	CALSTAN	107262.00	8.69565	2490.00	1.00000	.4020173
01325	CALSTAN	38770.00	8.84356	1005.00	1.00000	.6842601
01425	CALSTAN	44708.00	8.62069	811.00	1.00000	.1946375
01525	CALSTAN	44287.00	8.54701	1435.00	1.00000	.4130879
01625	CALSTAN	31624.00	8.47458	776.00	1.00000	.5568247
00126	CALSTAN	6936.00	7.93651	.00	1.00000	.8343313
03-26	CALSTAN	34327.00	7.87402	834.00	1.00000	.1584258
04-26	CALSTAN	55730.00	6.80272	2534.00	1.00000	.3573421
06-26	CALSTAN	26525.00	7.87402	592.00	1.00000	.2148541
00726	CALSTAN	72547.00	8.84356	936.00	1.00000	.9227978
00826	CALSTAN	78436.00	8.77193	761.00	1.00000	.9685498
00428	CALSTAN	26004.00	11.49425	1547.00	1.00000	.2345374
00528	CALSTAN	1611.00	11.49425	.00	1.00000	.8850656
00129	CALSTAN	44927.00	11.49425	3454.00	1.00000	.1867200
00229	CALSTAN	35541.00	11.49425	2244.00	1.00000	.4525494
00329	CALSTAN	93602.00	11.49425	3725.00	1.00000	.3041285
00429	CALSTAN	116981.00	10.98901	6307.00	1.00000	.3980722
00529	CALSTAN	70961.00	11.11111	5332.00	1.00000	.6630421
00629	CALSTAN	32545.00	11.11111	2142.00	1.00000	.6466513
00729	CALSTAN	24317.00	11.36364	951.00	1.00000	.7151842
00829	CALSTAN	50035.00	11.62791	3598.00	1.00000	.8135848
11-29	CALSTAN	4969.00	11.11111	3783.00	1.00000	.1375593
01229	CALSTAN	20384.00	11.36364	1481.00	1.00000	.7443466
TOTAL THIS OWNERSHIP		2159905.00	77929.00			
00130	CEGO	61034.00	10.20405	2346.00	1.00000	.2790412

## PROGRAM 1401-001 TRACT FACTOR CALCULATIONS

CASE 1 OF 1

VIRIDEN ROSELEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

## INPUT DATA

TRACT NUMBER	TRACT OWNERSHIP	CUMULATIVE PRODUCTION	RECIP OF NO. MTHS.	6 MTHS. CURRENT	PENALTY FACTOR	WATER COT
00230	CEGO	35917.00	9.00701	1160.00	1.00000	.3852676
00330	CEGO	28580.00	9.69455	829.00	1.00000	.4509934
00430	CEGO	45945.00	8.62069	1855.00	1.00000	.2815647
00530	CEGO	51620.00	8.47452	1809.00	1.00000	.2693861
00630	CEGO	57363.00	8.62069	3257.00	1.00000	.2743225
00730	CEGO	66330.00	8.69565	2240.00	1.00000	.3598171
00830	CEGO	39173.00	9.61533	1767.00	1.00000	.4443396
00930	CEGO	99071.00	9.61532	3616.00	1.00000	.2005306
01030	CEGO	90125.00	8.92257	5113.00	1.00000	.1757214
01130	CEGO	51259.00	8.62069	2649.00	1.00000	.3537448
01230	CEGO	47232.00	8.47458	1287.00	1.00000	.3609732
01530	CEGO	12697.00	9.70374	546.00	1.00000	.4990826
TOTAL THIS OWNERSHIP		704947.00		28434.00		
01121	CONTINENTAL	18950.00	20.93333	3596.00	1.00000	.0928355
01221	CONTINENTAL	18351.00	18.18182	2770.00	1.00000	.0929928
01321	CONTINENTAL	23788.00	19.23077	3819.00	1.00000	.1041520
TOTAL THIS OWNERSHIP		61089.00		10185.00		
00521	FRONTENAC	2676.00	35.71429	324.00	1.00000	.8905775
00621	FRONTENAC	10822.00	23.25581	1324.00	1.00000	.4115556
00721	FRONTENAC	12267.00	25.00000	1290.00	1.00000	.3598015
01021	FRONTENAC	13753.00	21.27660	1350.00	1.00000	.1847826
15-21	FRONTENAC	290.00	166.66667	290.00	1.00000	.7995853
TOTAL THIS OWNERSHIP		39808.00		4578.00		
00136	V	6791.00	12.19512	901.00	1.00000	.8574593
TOTAL THIS OWNERSHIP		6791.00		901.00		
00820	KNZ	2976.00	19.23077	137.00	1.00000	.7885802
00920	KNZ	13458.00	17.54386	508.00	1.00000	.7711712
01520	KNZ	29765.00	16.12903	2397.00	1.00000	.4891304
01620	KNZ	26490.00	16.39344	1925.00	1.00000	.5585875
TOTAL THIS OWNERSHIP		72695.00		4967.00		
00926	RUNDLE	53562.00	8.69565	1213.00	1.00000	.8890515
01026	RUNDLE	52338.00	8.69565	1434.00	1.00000	.9513777
01526	RUNDLE	32700.00	8.92357	1587.00	1.00000	.6874754

CASE 1 OF 1

VIRIDEN RUSFLEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1

WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

INPUT DATA

TRACT NUMP	TRACT OWNERSHIP	CUMULATIVE PRODUCTION	RECIP OF NO. MTHS.	6 MTHS. CURRENT	PENALTY FACTOR	WATER CUT
01626	RUTPLE	41479.00	8.69565	1557.00	1.00000	.9406547
TOTAL	5 OWNERSHIP	130079.00		5813.00		
00236	SHANNON	17507.00	9.25926	.00	1.00000	.8422951
TOTAL	5 OWNERSHIP	17507.00		.00		
01120	SUN	21893.00	11.36364	359.00	1.00000	.8575962
01220	SUN	4925.00	11.36364	.00	1.00000	.9143886
01320	SUN	51620.00	10.75269	5621.00	1.00000	.7309239
01420	SUN	52070.00	10.98901	1265.00	1.00000	.4621599
TOTAL	THIS OWNERSHIP	130508.00		7245.00		
00923	TECK	25135.00	8.40336	535.00	1.00000	.8712395
01023	TECK	102619.00	8.26446	4109.00	1.00000	.6875523
11-23	TECK	90307.00	7.29927	2913.00	1.00000	.6717377
13-23	TECK	44485.00	7.29927	1372.00	1.00000	.7740076
14-23	TECK	66379.00	7.40741	1867.00	1.00000	.7349141
01523	TECK	80368.00	8.40336	2905.00	1.00000	.7599967
01623	TECK	54255.00	7.75194	2755.00	1.00000	.8133469
TOTAL	THIS OWNERSHIP	463548.00		16456.00		
13-19	PARADISE	754.00	100.00000	225.00	1.00000	.1758242
16-19	PARADISE	3623.00	90.90909	2170.00	1.00000	.1820580
TOTAL	OWNERSHIP	4377.00		2395.00		
TOTAL A	TRACTS	3341254.00		158953.00		

TOTAL OF (CT1 X FACT2 X (1-FACT5)) =

19127579.26512843009500

TOTAL OF (CT3 X FACT4) =

158953.00000000

TOTAL PENALIZED AVERAGE MONTHLY PRODUCTION FOR 86 WELLS

TOTAL FIX MONTH PRODUCTION FOR 86 WELLS

NO. 1 VIRIDEN RUSFLEA UNIT  
ENLARGEMENT NO. 1  
PAGE 3 OF 3

PROGRAM 1401-001 TRACT FACTOR CALCULATIONS

CASE 1 OF 1

VIRGEN RUSELEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1

WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

100%  
50% Param  
50% Param

TRACT NUM	TRACT OWNERSHIP	TRACT FACTOR RESULTS		TRACT FACTOR RESULTS		TRACT FACTOR
		1ST PARAMETER	2ND PARAMETER	WEIGHTED FACTOR FROM 1ST PARAMETER	WEIGHTED FACTOR FROM 2ND PARAMETER	
0092	CALSTAN	.0019498548	.0000000000	.097493	.000000	.097493
0102	CALSTAN	.0003121663	.0039256897	.015609	.196284	.211892
0112	CALSTAN	.0021023337	.0049574402	.155117	.247872	.402989
0122	CALSTAN	.0048434644	.002299851	.242423	.114499	.356922
0132	CALSTAN	.0120693365	.0114373431	.603467	.571867	1.175334
0142	CALSTAN	.0134080944	.0076374777	.670405	.381874	1.052279
0152	CALSTAN	.0109122265	.0130919203	.545611	.654596	1.200207
0162	CALSTAN	.0182221429	.0218932640	.911107	1.094663	2.005770
00125	CALSTAN	.0073698365	.0123558536	.368492	.617793	.986285
00225	CALSTAN	.0164886492	.0091536492	.824432	.457682	1.282114
00325	CALSTAN	.0235405712	.0098016395	1.177029	.490082	1.667111
00425	CALSTAN	.0052654252	.0072789812	.263271	.363944	.627215
00525	CALSTAN	.0143449500	.0075934396	.717247	.379672	1.096919
00625	CALSTAN	.0075889909	.0144822683	.379450	.724113	1.103563
00725	CALSTAN	.0253946102	.0092668902	1.269730	.463345	1.733075
00825	CALSTAN	.0186349756	.0430882085	.931749	2.154410	3.086159
00925	CALSTAN	.0131711528	.0046680465	.658558	.233402	.891960
01025	CALSTAN	.0233692434	.0068951199	1.168462	.344756	1.513218
01125	CALSTAN	.0299624170	.0060332299	1.498121	.301661	1.799782
01225	CALSTAN	.0291592635	.0156650079	1.457963	.783250	2.241213
01325	CALSTAN	.0129675328	.0063226237	.648377	.316131	.964508
01425	CALSTAN	.0162277633	.0051021371	.811388	.255107	1.066495
01525	CALSTAN	.0116145805	.0090278258	.580729	.451391	1.032120
01625	CALSTAN	.0062094127	.0048819462	.210471	.244097	.554568
00126	CALSTAN	.004767812	.0000000000	.023839	.000000	.023839
03-26	CALSTAN	.0118922701	.0052468340	.594613	.262342	.856955
04-26	CALSTAN	.0127377136	.0159418193	.636886	.797091	1.433977
06-26	CALSTAN	.0085731863	.0037243714	.428659	.186219	.614878
00726	CALSTAN	.0025912589	.0058835331	.129563	.294427	.423990
00826	CALSTAN	.0011312901	.0047875787	.056564	.239379	.295943
00428	CALSTAN	.0116614757	.0097324366	.598074	.486622	1.084696
00528	CALSTAN	.0001112670	.0000000000	.005563	.000000	.005563
00129	CALSTAN	.0219567542	.0217296937	1.097838	1.086485	2.184323
00229	CALSTAN	.0116921723	.0141173806	.584609	.705869	1.290478
00329	CALSTAN	.0391412604	.0234346002	1.957063	1.171730	3.128793
00429	CALSTAN	.0404537037	.0396783955	2.022685	1.983920	4.006605
00529	CALSTAN	.0138896981	.0339219769	.694485	1.696099	2.390584
00629	CALSTAN	.0066801346	.0134756815	.334007	.673784	1.007791
00729	CALSTAN	.0041146370	.009829006	.205732	.299145	.504877
00829	CALSTAN	.0056701804	.0026356219	.283509	1.131781	1.415290
11-29	CALSTAN	.0249940591	.0237994879	1.244703	1.189974	2.434677
01229	CALSTAN	.0030959821	.0093172196	.154799	.465861	.620660

REMOVED  
C.F.F.  
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## PROGRAM 1401-001 TRACT FACTOR CALCULATIONS

CASE 1 OF 1

VIRIDEN RUSFLEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

## TRACT FACTOR RESULTS

TRACT NUMBER	TRACT OWNERSHIP	FACTOR FROM 1ST PARAMETER 100% PAM	FACTOR FROM 2ND PARAMETER 100% CORR	WEIGHTED FACTOR FROM 1ST PARAMETER 50% PAM	WEIGHTED FACTOR FROM 2ND PARAMETER 50% CORR	TRACT FACTOR
TOTAL 1	OWNERSHIP			27.359991	24.513219	51.873110
00130	EGG	.0234744878	.0147590797	1.173724	.737954	1.911678
00230	EGG	.0103992797	.0072977547	.519964	.364882	.884852
00330	EGG	.0071581163	.0052153791	.357906	.260769	.618675
00430	CEGO	.0148767456	.0116701163	.743837	.583506	1.327343
00530	CEGO	.0167095250	.0113807226	.835476	.569036	1.404512
00630	CEGO	.0221951830	.0205532453	1.109759	1.027662	2.137421
00730	CEGO	.0193043911	.0140922159	.965220	.704611	1.669831
00830	CEGO	.0109421515	.0111164936	.547108	.555825	1.102933
00930	CEGO	.0394138529	.0227488629	1.970693	1.137443	3.108136
01030	CEGO	.0381402472	.0321667411	1.907012	1.608337	3.515349
01130	CEGO	.0149298759	.0166653036	.746494	.833265	1.579759
01230	CEGO	.0133725300	.0080967330	.668626	.404837	1.073463
01530	CEGO	.0032282718	.0034349776	.161414	.171749	.333163
TOTAL THIS OWNERSHIP				11.707233	8.959882	20.667115
01121	CONTINENTL	.0187237979	.0226230395	.936190	1.131152	2.067342
01221	CONTINENTL	.0158215057	.0174265349	.791075	.871327	1.662402
01321	CONTINENTL	.0214253992	.0240259699	1.071270	1.201299	2.272569
TOTAL THIS OWNERSHIP				2.798535	3.203778	6.002313
00521	ENTENAC	.0005467323	.0020383384	.027337	.101917	.129254
00621	ENTENAC	.0077425572	.0083295062	.387128	.416475	.803603
00721	ENTENAC	.0102643869	.0081156065	.513219	.405780	.918999
01021	ENTENAC	.0124713395	.0094930766	.623567	.424654	1.048221
15-21	ENTENAC	.0005064264	.0018244387	.025321	.091222	.116543
TOTAL TH. OWNERSHIP				1.576572	1.440048	3.016620
00136		.0006171613	.0056683422	.030858	.283417	.314275
TOTAL THIS OWNERSHIP				.030858	.283417	.314275
00820	KRANZ	.0006325797	.0008618900	.031629	.043095	.074724
00920	KRANZ	.0028245961	.0031959133	.141230	.159796	.301026
01520	KRANZ	.0128222484	.0150799293	.641112	.753996	1.395108
01620	KRANZ	.0100233608	.0121104981	.501193	.605525	1.106718
TOTAL THIS OWNERSHIP				1.315164	1.562412	2.877576



PROGRAM 1401-001 TRACT FACTOR CALCULATIONS

PAGE 6

CASE 1 OF 1

VIRIDEN ROSELEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1

WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

TRACT FACTOR RESULTS

TRACT NUMBE	TRACT OWNERSHIP	FACTOR FROM 1ST PARAMETER	FACTOR FROM 2ND PARAMETER	WEIGHTED FACTOR FROM 1ST PARAMETER	WEIGHTED FACTOR FROM 2ND PARAMETER	TRACT FACTOR
00926	RUNDLE	.0027015951	.0076311866	.135080	.381559	.516639
01026	RUNDLE	.0011568969	.0091473590	.057845	.457368	.515213
01526	RUNDLE	.0047703897	.0099840933	.238519	.499204	.737723
01626	RUNDLE	.0011190694	.0098079306	.055953	.490397	.546350
TOTAL THIS OWNERSHIP				.497397	1.828529	2.315925
00236	SHANNON	.0013565130	.0000000000	.066826	.000000	.066826
TOTAL THIS OWNERSHIP				.066826	.000000	.066826
01120	SUN	.0018521848	.0022585293	.092609	.112926	.205535
01220	SUN	.0002504928	.0000000000	.012525	.000000	.012525
01320	SUN	.0078081876	.0353626544	.390409	1.768133	2.158542
01420	SUN	.0160893802	.0079583273	.804469	.397916	1.202385
TOTAL THIS OWNERSHIP				1.300012	2.278975	3.578987
00923	TECK	.0014218524	.0033657748	.071093	.168289	.239382
01023	TECK	.0139535023	.0258504086	.692675	1.292520	1.985195
11-23	TECK	.0113125846	.0183261719	.565629	.916309	1.481938
13-23	TECK	.0038364262	.0086314823	.191821	.431574	.623395
14-23	TECK	.0068143386	.0117456103	.340717	.587281	.927998
01523	TECK	.0024740951	.012758425	.423705	.913792	1.337497
01623	TECK	.0041041702	.0173321674	.205209	.866608	1.071817
TOTAL THIS OWNERSHIP				2.490849	5.176373	7.667222
13-19	RADISE	.0032488615	.0014155128	.162443	.070776	.233219
16-19	RADISE	.0140843933	.0136518342	.704220	.682592	1.386812
TOTAL THIS OWNERSHIP				.866663	.753368	1.620031
TOTAL ALL TRACTS				50.000000	50.000000	100.000000

CASE 1 OF 1

VIRIDEN ROSFLEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

## COMPANY SHARE IN TRACTS

TRACT NUMBER	COMPANY CODE	COMPANY SHARE
00924	01	.097493
01024	01	.211892
01124	01	.402989
01224	01	.356922
01324	01	1.175334
01424	01	1.052279
01524	01	1.200207
01624	01	2.005770
00125	01	.986285
00225	01	1.282114
00325	01	1.667111
00425	01	.627215
00525	01	1.090919
00625	01	1.103563
00725	01	1.733075
00825	01	3.026159
00925	01	.891960
01025	01	1.513218
01125	01	1.799782
01225	01	2.241213
01325	01	.964508
01425	01	1.066495

## PROGRAM 1401-001 TRACT FACTOR CALCULATIONS

CASE 1 OF 1

VIRGEN ROSELEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

## COMPANY SHARE IN TRACTS

TRACT NUMBER	COMPANY CODE	COMPANY SHARE
01525	01	1.032120
01625	01	.554568
00126	01	.023839
03-26	01	.856955
04-26	01	1.433977
06-26	01	.614878
00726	01	.423990
00826	01	.295943
00428	01	1.084696
00528	01	.005563
00129	01	2.184323
00229	01	1.290478
00329	01	3.128793
00429	01	4.006605
00529	01	2.390584
00629	01	1.007791
00729	01	.504877
00829	01	1.415290
11-29	01	2.434677
01229	01	.620660
00130	02	1.911678

PROGRAM 1401-001 TRACT FACTOR CALCULATIONS

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CASE 1 OF 1

VIRGEN ROSELEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1

WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

COMPANY SHARE IN TRACTS

TRACT NUMBER	COMPANY CODE	COMPANY SHARE
00230	02	.824852
00330	02	.618675
00430	02	1.327343
00530	02	1.404512
00630	02	2.137421
00730	02	1.669831
00830	02	1.102933
00930	02	3.108136
01030	02	3.515349
01130	02	1.579759
01230	02	1.072463
01530	02	.333163
01121	03	2.067342
01221	03	1.662402
01321	03	2.272569
00521	04	.129254
00621	04	.803603
00721	04	.918999
01021	04	1.048221
15-21	04	.116543
00136	05	.314275

CASE 1 OF 1

VIRGEN ROSELEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

COMPANY SHARE IN TRACTS

TRACT NUMBER	COMPANY CODE	COMPANY SHARE
00920	05	.074724
00920	06	.301026
01520	06	1.395108
01620	05	1.105718
00926	07	.516639
01026	07	.515213
01526	07	.737723
01626	07	.546350
00236	08	.066826
01120	09	.205535
01220	09	.012525
01320	09	2.158542
01420	09	1.202385
00923	10	.239382
01023	10	1.985195
11-23	10	1.481938
13-23	10	.623395
14-23	10	.927998
01523	10	1.337497

PROGRAM 1401-001 TRACT FACTOR CALCULATIONS

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CASE 1 OF 1

VIRIDEN ROSELEA UNIT NO.1 TRACT FACTORS  
ENLARGEMENT NO.1

WEIGHTING FACTOR ASSIGNED TO 1ST PARAMETER = 0.50  
WEIGHTING FACTOR ASSIGNED TO 2ND PARAMETER = 0.5000

COMPANY SHARE IN TRACTS

TRACT NUMBER	COMPANY CODE	COMPANY SHARE
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01623	10	1.071917
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13-19	11	.233249
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16-19	11	1.306812
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MANITOBA

DEPUTY MINISTER OF MINES AND NATURAL RESOURCES  
WINNIPEG 1

August 12, 1968


Mr. E. H. Gaudet,  
Chairman,  
Virden-Roselea Unit No. 1,  
Legal Committee,  
Chevron Standard Limited,  
400 Fifth Avenue S. W.,  
CALGARY, Alberta.

Dear Mr. Gaudet:

Re: Proposed Enlargement  
Virden-Roselea Unit No. 1

This will acknowledge receipt of six copies of the  
proposed Amendments to the above-referenced Plan.

Yours sincerely,

  
W. Winston Muir,  
Chairman,  
The Oil and Natural Gas  
Conservation Board.

b.c. Mr. M. J. Gobert  
Mr. J. S. Richards ✓



MICROFILMED

TO .....

June/79



AMENDMENTS TO  
PLAN FOR UNIT OPERATION  
GOVERNING THE UNITIZED MANAGEMENT  
OPERATION AND FURTHER DEVELOPMENT OF  
VIRDEN-ROSELEA UNIT NO. 1

October 1, 1968

AMENDMENTS TO  
PLAN FOR UNIT OPERATION  
GOVERNING THE UNITIZED MANAGEMENT  
OPERATION AND FURTHER DEVELOPMENT OF  
VIRDEN-ROSELEA UNIT NO. 1

1. Paragraph (d) of Section 1.02 is rescinded, and the following substituted therefor:

"

"Effective Date"

(d) "Effective Date" means the hour of 7:00 o'clock in the forenoon, Central Standard Time, on the first day of July, A.D., 1965, except that:

i) with respect to tracts numbered 13-19, 16-19, 11-23, 13-23, 14-23, 14-21, 15-21, 11-29, 3-26, 4-26 and 6-26 "Effective Date" means the hour of 7:00 o'clock in the forenoon, Central Standard Time, on the first day of June, A.D. 1967;

ii) with respect to tracts numbered 9-19, 10-20, 2-28, 3-28 and 10-29 "Effective Date" means the hour of 7:00 o'clock in the forenoon, Central Standard Time, on the first day of October, A.D. 1968.

2. Part III is rescinded, and the following substituted therefor:

Tract  
Participation

3.01 The Tract Participation of each Tract is shown in Part XXIV hereof and was determined with respect

to all Tracts except Tracts 14-21, 13-19, 16-19, 15-21, 11-29, 11-23, 13-23, 14-23, 3-26, 6-26, and 4-26, (hereinafter called "the First Enlargement Tracts") and Tracts 9-19, 10-20, 2-28, 3-28, 10-29 (hereinafter called "the Second Enlargement Tracts"), by adding one-half of the current production factor calculated pursuant to paragraph (a) following to one-half (1/2) of the average monthly Oil production factor penalized for water production arrived at pursuant to paragraph (b) following, and reducing the sum arrived at as aforesaid by one (1) minus the total percentage participation of the First Enlargement Tracts and the Second Enlargement Tracts, namely: 1.0000000 minus 0.1632701.

(a) Current production factor: such factor is the percentage calculated by dividing the Oil production of such Tract during the interval April 1, 1964, to September 30, 1964, by the Oil production for all Tracts other than the First Enlargement Tracts and the Second Enlargement Tracts abovementioned during the same interval, and multiplying by 100;

(b) Average monthly Oil production factor penalized for water production; such factor is arrived at by:

(i) determining average monthly Oil production

- of the Tract by dividing its cumulative Oil production to September 30, 1964, by the number of calendar months since the Well on such Tract first went on production, provided that the first calendar month shall not be counted as such unless the Oil production from the Well on any such Tract for that calendar month was greater than one-half ( $1/2$ ) of the Oil production from such Well for the next succeeding month;
- (ii) calculating a fractional water cut for the Tract by dividing the water production for the interval set out in paragraph (a) hereof by the sum of its water and Oil production for the same period; PROVIDED, THAT, with respect to those Tracts which did not produce during the interval referred to, the fractional water cut shall be calculated by dividing the water production for each such Tract during the consecutive six-month period that ends with the last recorded production by the sum of such Tract's water and Oil production for the same period;
- (iii) multiplying the average monthly Oil production for the Tract obtained in (i) by the fraction one minus the water cut appropriate

to the Tract as determined in (ii);

- (iv) dividing the product obtained in (iii) for the Tract by the sum of all the products obtained in (iii) for all the Tracts other than the First Enlargement Tracts and the Second Enlargement Tracts and multiplying by one hundred (100).

3.02 The Tract Participation of the First Enlargement Tracts mentioned in Section 3.01 was determined as follows:

- (a) The Tract Participation of Tract 14-21 is the sum of one-half ( $1/2$ ) of the figure for Tract Participation calculated pursuant to clause (A) below and one-half ( $1/2$ ) of the figure for the average of the Tract Participation calculated pursuant to Clause (B) below, reduced by one (1) minus the percentage participation of the Second Enlargement Tracts, namely: 1.0000000 minus 0.0397417.

(A) Tract Participation: such is determined for Tract 14-21 according to the method set out in Section 3.01, modified in the following respects:

- (i) the reference to "all Tracts" or all the Tracts" herein is construed as including the First Enlargement Tracts;
- (ii) the interval referred to in paragraph (a) of Section 3.01 (hereinafter called the current production interval) and the date

referred to in clause (i) of paragraph  
(b) of that Section (hereinafter called the  
cumulative Oil production date) are replaced  
in relation to each of the said First Enlarge-  
ment Tracts by a current production interval  
and a cumulative Oil production date as here-  
under set out:

<u>Tract No.</u>	<u>Current Production Interval</u>	<u>Cumulative Oil Production Date</u>
14-21	November 1, 1965 to April 30, 1966	April 30, 1966
13-19	May 1, 1965 to October 31, 1965	October 31, 1965
16-19	May 1, 1965 to October 31, 1965	October 31, 1965
15-21	August 1, 1965 to January 31, 1966	January 31, 1966
11-29	November 1, 1965 to April 30, 1966, with production for February and March, 1966, being adjusted to 22 barrels of oil per calendar day.	April 30, 1966 (to reflect changes during current production period)
11-23	July 1, 1965 to December 31, 1965	December 31, 1965
13-23	July 1, 1965 to December 31, 1965	December 31, 1965
14-23	July 1, 1965 to December 31, 1965	December 31, 1965
3-26	June 1, 1965 to November 30, 1965	November 30, 1965
6-26	June 1, 1965 to November 30, 1965	November 30, 1965
4-26	January 1, 1966 to June 30, 1966	June 30, 1966

(B) Average of the Tract Participation of Tracts 11-21, 12-21 and 13-21: such is determined according to the method set out in Section 3.01 without being reduced by the total participation of the First Enlargement Tracts.

(b) The Tract Participations of Tracts 13-19, 16-19 15-21, 11-29, 11-23, 13-23, 14-23, 3-26, 6-26 and 4-26 (hereinafter called the "ten excepted Tracts") is determined according to the method set out in Section 3.01 modified in the following respects:

- (i) the reference to "all Tracts" or all the Tracts" herein is construed as including the ten excepted Tracts;
- (ii) the current production interval and the cumulative Oil production date used for each of the ten excepted Tracts are those set out in relation to such Tracts in clause (ii) of subparagraph (A) of paragraph (a) of this Section 3.02;
- (iii) the figure obtained for Tract Participation of each of the ten excepted Tracts determined as aforesaid is reduced by one (1) minus the percentage participation of Tracts 14-21 and the Second Enlargement Tracts, namely:  
1.0000000 minus 0.0691583 instead of one

(1) minus the total percentage participation of the First Enlargement Tracts aforementioned.

3.03 The Tract Participation of each of the Second Enlargement Tracts was determined by adding one-half ( $1/2$ ) of a current production factor calculated pursuant to paragraph (a) below to one-half ( $1/2$ ) of the same current production factor penalized for water production arrived at pursuant to paragraph (b) below.

- (a) Current production factor: such factor is the percentage calculated by dividing the Oil production of such Tract during the current production interval as set out in paragraph (c) below, by the Oil production of all Tracts and multiplying by one hundred (100);
- (b) Current production factor penalized for water production; such a factor is arrived at by:
  - (i) calculating the total Oil and the total water production from all Tracts except the Second Enlargement Tracts during the current production interval and treating such production in the following calculations as being from one Tract;
  - (ii) calculating a fractional water cut for the Tract by dividing the water production for the Tract during the current production interval by the sum of its water and Oil production for the same period;



- (iii) multiplying the current production factor obtained in (a) by the fraction one (1) minus the water cut appropriate to the Tract;
- (iv) dividing the product obtained in (iii) by the sum of all the products obtained in (iii) for all the Tracts in the Unit and multiplying by one hundred (100);

(c)	<u>Tract No.</u>	<u>Current Production Interval</u>
	9-19	July 1, 1966 to December 31, 1966
	10-20	June 1, 1967 to November 30, 1967
	2-28	June 1, 1967 to November 30, 1967
	3-28	June 1, 1967 to November 30, 1967
	10-29	June 1, 1967 to November 30, 1967
	All Tracts except the Second Enlargement Tracts	June 1, 1967 to November 30, 1967.

3.04 The total of the Tract Participations for all Tracts, including the First Enlargement Tracts and the Second Enlargement Tracts mentioned in Section 3.01, shall at all times equal one hundred (100%) percent.

3.05 This Part III is explanatory only and the Tract Participations shown in Part XXIV shall be deemed to be correctly made in accordance with this Part III.

3. Part XXI is rescinded, and the new Part XXI hereunder is substituted therefor:

PART XXI

WELLS DELIVERED TO UNIT OPERATOR PURSUANT TO PART X

Sun M. Welch SWD 12-20-10-25	Chevron Virden 13-21-10-25
Chevron East Virden Prov. SWD 5-28-10-25	Chevron Virden 14-21-10-25
Frontenac Sun Virden SWD 9-21-10-25	Frontenac Sun Virden 15-21-10-25
Bralorne East Virden 9A-19-10-25	Chevron East Virden 2-28-10-25
Bralorne Virden 13-19-10-25	Chevron East Virden Prov. 3-28-10-25
Bralorne East Virden 16A-19-10-25	Chevron East Virden Prov. 4-28-10-25
Chevron Virden 8-20-10-25	Chevron East Virden Prov. 1-29-10-25
Chevron Virden 9-20-10-25	Chevron East Virden Prov. 2-29-10-25
Chevron Virden 10-20-10-25	Chevron East Virden Prov. 3-29-10-25
Sun M. Welch Virden 11-20-10-25	Chevron East Virden Prov. 4A-29-10-25
Sun M. Welch Virden 13-20-10-25	Chevron East Virden Prov. 5-29-10-25
Sun M. Welch Virden 14-20-10-25	Chevron East Virden Prov. 6-29-10-25
Chevron Virden 15-20-10-25	Chevron East Virden Prov. 7A-29-10-25
Chevron Virden 16-20-10-25	Chevron East Virden Prov. 8-29-10-25
Frontenac Sun Virden 5-21-10-25	Chevron East Virden Prov. 10-29-10-25
Frontenac Sun Virden 6-21-10-25	Chevron East Virden Prov. 11-29-10-25
Frontenac Read Virden 7-21-10-25	Chevron East Virden Prov. 12-29-10-25
Bintner Sun Virden 10-21-10-25	CEGO Virden 1-30-10-25
Chevron Virden 11-21-10-25	CEGO Virden 2-30-10-25
Chevron Virden 12-21-10-25	CEGO Virden 3-30-10-25

CEGO Virden 4-30-10-25

CEGO Virden 5-30-10-25

CEGO Virden 6-30-10-25

CEGO Virden 7-30-10-25

CEGO Virden 8-30-10-25

CEGO Virden 9-30-10-25

CEGO Virden 10-30-10-25

CEGO Virden 11-30-10-25

CEGO Virden 12-30-10-25

CEGO Virden 15-30-10-25

Teck Hepburn Virden 9-23-10-26

Teck Hepburn Virden 10-23-10-26

Teck Hepburn Virden 11-23-10-26

Teck Hepburn Virden 13-23-10-26

Teck Hepburn Virden 14-23-10-26

Teck Hepburn Virden 15-23-10-26

Teck Hepburn Virden 16-23-10-26

Chevron Virden 9-24-10-26

Chevron Virden 10-24-10-26

Chevron Virden 11-24-10-26

Chevron Virden 12-24-10-26

Chevron Virden 13-24-10-26

Chevron Virden 14-24-10-26

Chevron Virden 15-24-10-26

Chevron Virden 16-24-10-26

Chevron Virden CPR 1-25-10-26

Chevron Virden CPR 2-25-10-26

Chevron Virden 3-25-10-26

Chevron Virden 4-25-10-26

Chevron Virden 5-25-10-26

Chevron Virden 6-25-10-26

Chevron Virden CPR 7-25-10-26

Chevron Virden CPR 8-25-10-26

Chevron Virden CPR 9-25-10-26

Chevron Virden CPR 10-25-10-26

Chevron Virden 11-25-10-26

Chevron Virden 12-25-10-26

Chevron Virden 13-25-10-26

Chevron Virden 14-25-10-26

Chevron Virden CPR 15-25-10-26

Chevron Virden CPR 16-25-10-26

Chevron Virden 1-26-10-26

Chevron Virden 3-26-10-26

Chevron Virden 4-26-10-26

Chevron Virden 6-26-10-26

Chevron Virden 7-26-10-26

Chevron Virden 8-26-10-26

Rundle Grasby Virden 9-26-10-26

Rundle Grasby Virden 10-26-10-26

Rundle Grasby Virden 15-26-10-26

Rundle Grasby Virden 16-26-10-26

Shannon Virden 2-36-10-26

K & N Virden 1-36-10-26

4. Part XXII is rescinded, and the new Part XXII hereunder is substituted therefor:

PART XXII

THE LANDS IN THE PROVINCE OF MANITOBA WHICH COMPRISE THE  
VIRDEN-ROSELEA UNIT NO. 1 ARE AS FOLLOWS:

<u>TRACT NUMBER</u>	<u>LEGAL DESCRIPTION</u>	<u>TRACT NUMBER</u>	<u>LEGAL DESCRIPTION</u>
	<u>TOWNSHIP 10 RANGE 25 WPM</u>		<u>TOWNSHIP 10 RANGE 25 WPM</u>
9-19	Lsd. 9, Section 19	10-21	Lsd. 10, Section 21
13-19	Lsd. 13, Section 19	11-21	Lsd. 11, Section 21
16-19	Lsd. 16, Section 19	12-21	Lsd. 12, Section 21
8-20	Lsd. 8, Section 20	13-21	Lsd. 13, Section 21
9-20	Lsd. 9, Section 20	14-21	Lsd. 14, Section 21
10-20	Lsd. 10, Section 20	15-21	Lsd. 15, Section 21
11-20	Lsd. 11, Section 20	2-28	Lsd. 2, Section 28
12-20	Lsd. 12, Section 20	3-28	Lsd. 3, Section 28
13-20	Lsd. 13, Section 20	4-28	Lsd. 4, Section 28
14-20	Lsd. 14, Section 20	5-28	Lsd. 5, Section 28
15-20	Lsd. 15, Section 20	1-29	Lsd. 1, Section 29
16-20	Lsd. 16, Section 20	2-29	Lsd. 2, Section 29
5-21	Lsd. 5, Section 21	3-29	Lsd. 3, Section 29
6-21	Lsd. 6, Section 21	4-29	Lsd. 4, Section 29
7-21	Lsd. 7, Section 21	5-29	Lsd. 5, Section 29

<u>TRACT NUMBER</u>	<u>LEGAL DESCRIPTION</u>	<u>TRACT NUMBER</u>	<u>LEGAL DESCRIPTION</u>
	<u>TOWNSHIP 10 RANGE 25 WPM</u>		<u>TOWNSHIP 10 RANGE 26 WPM</u>
6-29	Lsd. 6, Section 29	14-23	Lsd. 14, Section 23
7-29	Lsd. 7, Section 29	15-23	Lsd. 15, Section 23
8-29	Lsd. 8, Section 29	16-23	Lsd. 16, Section 23
10-29	Lsd. 10, Section 29	9-24	Lsd. 9, Section 24
11-29	Lsd. 11, Section 29	10-24	Lsd. 10, Section 24
12-29	Lsd. 12, Section 29	11-24	Lsd. 11, Section 24
1-30	Lsd. 1, Section 30	12-24	Lsd. 12, Section 24
2-30	Lsd. 2, Section 30	13-24	Lsd. 13, Section 24
3-30	Lsd. 3, Section 30	14-24	Lsd. 14, Section 24
4-30	Lsd. 4, Section 30	15-24	Lsd. 15, Section 24
5-30	Lsd. 5, Section 30	16-24	Lsd. 16, Section 24
6-30	Lsd. 6, Section 30	1-25	Lsd. 1, Section 25
7-30	Lsd. 7, Section 30	2-25	Lsd. 2, Section 25
8-30	Lsd. 8, Section 30	3-25	Lsd. 3, Section 25
9-30	Lsd. 9, Section 30	4-25	Lsd. 4, Section 25
10-30	Lsd. 10, Section 30	5-25	Lsd. 5, Section 25
11-30	Lsd. 11, Section 30	6-25	Lsd. 6, Section 25
12-30	Lsd. 12, Section 30	7-25	Lsd. 7, Section 25
15-30	Lsd. 15, Section 30	8-25	Lsd. 8, Section 25
	<u>TOWNSHIP 10 RANGE 26 WPM</u>	9-25	Lsd. 9, Section 25
9-23	Lsd. 9, Section 23	10-25	Lsd. 10, Section 25
10-23	Lsd. 10, Section 23	11-25	Lsd. 11, Section 25
11-23	Lsd. 11, Section 23	12-25	Lsd. 12, Section 25
13-23	Lsd. 13, Section 23	13-25	Lsd. 13, Section 25

## TRACT

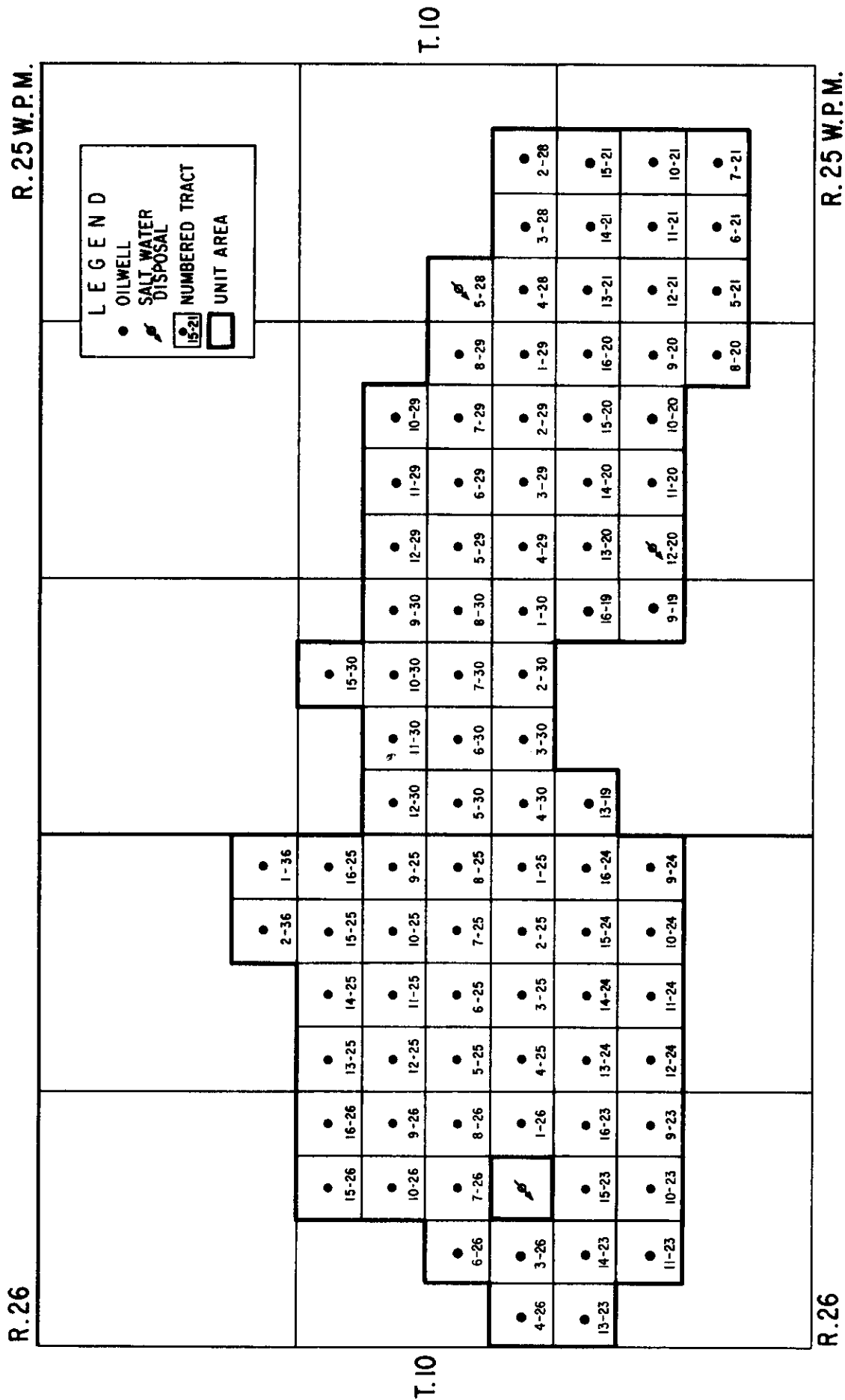
<u>TRACT NUMBER</u>	<u>LEGAL DESCRIPTION</u>	<u>TRACT NUMBER</u>	<u>LEGAL DESCRIPTION</u>
	<u>TOWNSHIP 10 RANGE 26 WPM</u>		<u>TOWNSHIP 10 RANGE 26 WPM</u>
14-25	Lsd. 14, Section 25	8-26	Lsd. 8, Section 26
15-25	Lsd. 15, Section 25	9-26	Lsd. 9, Section 26
16-25	Lsd. 16, Section 25	10-26	Lsd. 10, Section 26
1-26	Lsd. 1, Section 26	15-26	Lsd. 15, Section 26
3-26	Lsd. 3, Section 26	16-26	Lsd. 16, Section 26
4-26	Lsd. 4, Section 26	1-36	Lsd. 1, Section 36
6-26	Lsd. 6, Section 26	2-36	Lsd. 2, Section 36
7-26	Lsd. 7, Section 26		

5. Part XXIII is rescinded, and the new Part XXIII hereunder is substituted therefor:

PART XXIII

## MAP OF UNIT AREA

# PART XXIII MAP OF UNIT AREA



6. Part XXIV is rescinded, and the new Part XXIV hereunder is substituted therefor:

PART XXIV

<u>TRACT NUMBER</u>	<u>TRACT PARTICIPATION</u>	<u>TRACT NUMBER</u>	<u>TRACT PARTICIPATION</u>
9-19	0.37341	15-21	0.10848
13-19	0.21709	2-28	0.70751
16-19	1.29090	3-28	1.47929
8-20	0.06959	4-28	1.00932
9-20	0.28027	5-28	0.00517
10-20	1.05762	1-29	2.03324
11-20	0.19140	2-29	1.20165
12-20	0.01161	3-29	2.90984
13-20	2.01385	4-29	3.72943
14-20	1.11790	5-29	2.22861
15-20	1.29902	6-29	0.93923
16-20	1.03054	7-29	0.47028
5-21	0.12056	8-29	1.32024
6-21	0.74814	10-29	0.35634
7-21	0.85510	11-29	2.26630
10-21	0.97508	12-29	0.57878
11-21	1.92504	1-30	1.77805
12-21	1.54772	2-30	0.82315
13-21	2.11585	3-30	0.57557
14-21	2.94166	4-30	1.23503



<u>TRACT NUMBER</u>	<u>TRACT PARTICIPATION</u>	<u>TRACT NUMBER</u>	<u>TRACT PARTICIPATION</u>
5-30	1.30651	3-25	1.54956
6-30	1.98935	4-25	0.58418
7-30	1.55351	5-25	1.01995
8-30	1.02670	6-25	1.02840
9-30	2.89045	7-25	1.61056
10-30	3.27128	8-25	2.87682
11-30	1.47081	9-25	0.82888
12-30	0.99836	10-25	1.40585
15-30	0.31016	11-25	1.67136
9-23	0.22315	12-25	2.08400
10-23	1.84992	13-25	0.89672
11-23	1.37945	14-25	0.99091
13-23	0.58028	15-25	0.96033
14-23	0.86382	16-25	0.51600
15-23	1.24664	1-26	0.02211
16-23	0.99990	3-26	0.79770
9-24	0.09043	4-26	1.33481
10-24	0.19784	6-26	0.57235
11-24	0.37543	7-26	0.39522
12-24	0.33182	8-26	0.27608
13-24	1.09395	9-26	0.48173
14-24	0.97856	10-26	0.48091
15-24	1.11758	15-26	0.68758
16-24	1.86769	16-26	0.51001
1-25	0.91891	1-36	0.29339
2-25	1.19225	2-36	0.06198

7. Clause (a) of subparagraph (iii) of paragraph (k) of Section 26.07 is rescinded, and the following substituted therefor:

"(a) \$5,250.00 per month for all producing operations."

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