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

December 31, 1991

1991 Summary of Injection Well Packer Installations

Department of Energy and Mines
Petroleum Branch
Attention: Mr. John Fox
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Dear Sir:

In reply to your request letter dated 1985-12-09, Chevron installed packers in thirteen (13) injection wells in 1991. These were as follows:

NVSU #1	2-10-11-26
	12-10-11-26
	10-21-11-26
	14-13-11-26
	14-23-11-26
	6-24-11-26
	14-33-11-26
VRU #1	15-23-10-26
	11-25-10-26
	3-26-10-26
VRU #3	14-2-10-25
	8-2-10-26
	14-1-10-26

Since implementation (1986-01), a total of 68 injection wells have had packers installed, which is above the proposed target of 10 per year. Twelve (12) packer installations are planned for 1992.

The following are the number of wells in each unit that do not yet have packers installed:

NVSU #1	7
Daly #3	1 (Suspended well)
VRU #1	4
VRU #3	10
Total	22

If further information is required, please contact Mr. Kevin Anderson at 748-1334 or at the letterhead address.

Yours truly,

Kevin Anderson

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

JEC/tjs

DEPT. OF ENERGY & MINES
JAN 9 1992
Petroleum Inspection Section

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

Virden, Manitoba
January 7th, 1992

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

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

Dear Allan:

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

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

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

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

Yours very truly,

Ken Kellsey

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

JEC/kbh

January 23, 1980

Chevron Standard Limited
Box 100
Virden, Manitoba
ROM 2OO

Attention: Mr. D. Zeeuwen, Chairman
North Virden Scallion Unit No. 1
Operating Committee

Dear Sir:

With reference to your application dated 1979-10-02 please find enclosed a copy of The Oil and Natural Gas Conservation Board Order No. 67A which was filed as Manitoba Regulation 2/80 on January 4, 1980.

Yours sincerely,

Original Signed by H. C. Moster

H. Clare Moster, P. Eng.,
Director, Petroleum Branch.

HCM/et
Encl.

Ev
Enmore copy of Order is placed on A Orders file and in NVS #1 file.

Manitoba Regulation 2/80

THE OIL AND NATURAL GAS CONSERVATION BOARD

ORDER NO. 67A

Pertaining to the Maximum Permissible Rate of Production in the

NORTH VIRDEN SCALLION UNIT NO. 1

Made and Passed Pursuant to "The Mines Act", Cap. M160, of the Continuing Consolidation of the Statutes of Manitoba, by The Oil and Natural Gas Conservation Board of Manitoba

(Filed January 4, 1980)

Manitoba Revised Regulation M160—R4P is amended by striking out subsection 5(4) thereof and substituting therefor the following:

"5(4) Until further order, the wells comprising North Virden Scallion Unit No. 1 are exempt from the provisions of subsections (1), (2) and (3)."

Oil and Natural Gas Order No. 67A,
made and passed this 31st day of
December A.D., 1979 at the City
of Winnipeg, in the Province of
Manitoba, by The Oil and Natural
Gas Conservation Board.

"Paul E. Jarvis"

Paul E. Jarvis,
Chairman,
The Oil and Natural Gas
Conservation Board.

"Ian Haugh"

Dr. Ian Haugh,
Deputy Chairman,
The Oil and Natural Gas
Conservation Board.

"James F. Redgwell"

J.F. Redgwell,
Member,
The Oil and Natural Gas
Conservation Board.

APPROVED:

"A. Brian Ransom"

for Donald W. Craik,
Minister of
Energy and Mines.

Printed by the Queen's Printer for the Province of Manitoba

PETROLEUM BRANCH

MANITOBA

Inter-Departmental Memo

Date December 14, 1979

To The Oil and Natural Gas Conservation Board:
Mr. Paul. E. Jarvis, Chairman,
Dr. Ian Haugh, Deputy Chairman,
Mr. J. F. Redgwell, Member.

From H. Clare Moster,
Director,
Petroleum Branch.

Telephone

XXXX

Subject:

Application to Amend Manitoba Revised Regulation M160 - R4P

First Fold

Background:

With reference to my memo to the Board dated October 24, 1979 the Notice was subsequently signed by the Deputy Chairman, advertised in the November 17, 1979 issue of The Manitoba Gazette and in the November 14, 1979 issue of the Virden-Empire Advance. A copy of the Notice was also mailed to all offsetting operators, namely Suncor Inc., Copperhead Oil Company Ltd. and Chevron Standard Limited on November 2, 1979.

Discussion:

On November 13, 1979 Victor Zubko of Suncor Inc. called to obtain additional information regarding the application and advised that Suncor would probably be objecting to the application but would require additional time to study the proposal. The requested information was sent to Suncor and they were advised that processing of the application would be postponed until December 1, 1979.

No objection was received from Suncor and Mr. Zubko stated in a telephone conversation on December 11, 1979 that they would not be objecting to this application. He did however express concern with respect to one Unit well, located in 3-21-11-26 WPM, that had been exempted from allowable restrictions by the Board (Order No. 52A) in June 1970. He stated that Suncor would be approaching Chevron Standard with regard to reducing high fluid withdrawals from the 3-21 well which Suncor feel may be having an adverse effect on their adjoining property ($W\frac{1}{2}$ of $SE\frac{1}{4}$ Sec. 21-11-26 WPM). If a mutual agreement can not be reached between the parties Suncor may make application at some future date to have the Board hear their concern.

Conclusion:

Other than the concern of Suncor, already outlined, no objection to the application was received.

. . . . 2

Currently there is one non-unit well in the North Virden Scallion Field that is exempt from maximum rate limitations, namely 14-16-11-26 WPM. The subject well is owned and operated by Chevron Standard Limited and is producing approximately 25 barrels of oil per day compared with the Field allowable of 70. Chevron has been contacted and state that they have no objection to not including the well for future exemption.

Recommendation:

The Board make an order pursuant to Section 62(9)(g) of The Mines Act to amend Section 5 of Manitoba Revised Regulation M160 - R4P to cover the application.

A suggested draft Order is attached. The approval of the Minister of Energy and Mines is also required.

Original Signed by H. C. Moster

H. Clare Moster

HCM/et
Attachs.

Manitoba Regulation /79

THE OIL AND NATURAL GAS CONSERVATION BOARD

ORDER NO. 67A

Pertaining to the Maximum Permissible Rate of Production in the

NORTH VIRDEN SCALLION UNIT NO. 1

Made and Passed Pursuant to "The Mines Act", Cap. M160, of the Continuing Consolidation of the Statutes of Manitoba, by The Oil and Natural Gas Conservation Board of Manitoba

(Filed:

Manitoba Revised Regulation M160 - R4P is amended by striking out subsection 5(4) thereof and substituting therefore the following:

"5(4) Until further order, the wells comprising North Virden Scallion Unit No. 1 are exempt from the provisions of subsections (1), (2) and (3)."

Oil and Natural Gas Order No. 67A, made and passed this day of A.D., 1979 at the City of Winnipeg; in the Province of Manitoba, by The Oil and Natural Gas Conservation Board.

Paul E. Jarvis,
Chairman,
The Oil and Natural Gas Conservation Board.

Dr. Ian Haugh,
Deputy Chairman,
The Oil and Natural Gas Conservation Board.

J. F. Redgwell,
Member,
The Oil and Natural Gas Conservation Board.

APPROVED:

Donald W. Craik,
Minister of
Energy and Mines.

THE REGULATIONS ACT

C E R T I F I C A T E

I, Paul E. Jarvis, Chairman of The Oil and Natural Gas Conservation Board, of Manitoba, hereby certify that the attached Regulation is the original Order:—

(a) entitled The Oil and Natural Gas Conservation Board Order No. 67A;

(b) made pursuant to "The Mines Act";

(c) made by The Oil and Natural Gas Conservation Board, of Manitoba;

(d) under date of the day of A.D., 1979;

(e) which Regulation comes into force on the date of filing with the Registrar of Regulations.

Paul E. Jarvis,
Chairman,
The Oil and Natural Gas
Conservation Board.

Called Zubko's office Dec. 4/79
Not in, but to call back
this noon Dec. 5/79

Not gave [illegible] about the high [illegible]
effect [illegible]
was stopped June 9/79
Suncor will be advising [illegible]

November 14, 1979

Suncor Inc.
P. O. Box 38
Calgary, Alberta
T2P 2V5

Attention: Mr. V. F. Zubko, Manager
Conservation, Contracts & Joint Operations

Dear Sir:

As per your telephone request enclosed herewith is a xerox copy of the application submitted by Chevron Standard Limited as Unit Operator of North Virden Scallion Unit No. 1.

To assist you in your study of the proposal I am also including a copy of Section 5 of Manitoba Revised Regulation M160 - R4P. Subsection 5(4) lists those wells presently exempt from the maximum permissible rate restriction (70 BOPD) for wells in the North Virden Scallion Field. Also enclosed is a copy of The Oil and Natural Gas Conservation Board Order No. 52A, effective August 1, 1970 and currently included in the consolidated Regulation M160 - R4P. The wells in Section 21-11-26 WPM not currently exempt are located in Leds. 2, 6, 11 and 14D.

Since you indicated that Suncor is considering filing an objection to the application, further processing of the application shall be postponed to after December 1, 1979.

Yours sincerely,

Original Signed by H. C. Moster

H. Clare Moster, P. Eng.,
Director, Petroleum Branch.

HCM/et

Encls.

c.c. Dr. Ian Haugh

Chevron

Chevron Standard Limited

1979-10-02

Department of Mines, Resources &
Environmental Management
Petroleum Section
993 Century Street
Winnipeg, Manitoba
R3H OW4

Attention: Mr. H. Clare Moster
Director, Petroleum Branch

Gentlemen:

Chevron Standard Limited hereby makes application to have Manitoba Revised Regulation M160-R4P amended. The purpose of this amendment would be to exempt all existing and future wells in the North Virden Scallion Unit #1 from the Maximum Permissible Rate (MPR) restriction. A substantial number of wells in the above unit have already been excluded from the MPR restriction by various goverment orders. This application is being made to clear up all errors and omissions in previous orders (as per your letter of 1979-06-01) and to simplify Regulation M160-R4P.

Amending the above regulation in this manner would not adversely affect production from nonunit wells since: (1) most unit wells which are offset by nonunit wells are already exempt from the MPR restriction; and (2) those wells not exempt are producing at rates below the MPR (1978 data).

Chevron Standard Limited will continue producing this field in accordance with good engineering practice to ensure maximum oil recovery.

Thank you for your consideration.

Yours very truly,

G. CRUICKSHANK, P. ENG.
Chairman
Operating Committee
NORTH VIRDEN SCALLION UNIT #1

DS/hb

OCT 10 1979
PETROLEUM BRANCH

4(1) Until further order, the maximum permissible rate of production of each well, located in the Maples Field, is thirty-four barrels per day.

4(2) The total monthly production for any well is the amount equal to the product of the maximum permissible rate multiplied by the number of days in the month.

4(3) The rate for any well in any given day shall not be exceeded by an amount greater than twenty per cent of the maximum permissible rate.

5(1) Until further order, but subject to subsection (4), the maximum permissible rate of production of each well, located in the North Virden Scallion Field, is seventy barrels per day.

5(2) The total monthly production for any well is the amount equal to the product of the maximum permissible rate multiplied by the number of days in the month.

5(3) The rate for any well in any given day shall not be exceeded by an amount greater than twenty per cent of the maximum permissible rate.

5(4) Until further order, the following wells, comprising a part of the North Virden Scallion Unit No. 1, are exempt from the provisions of Order No. 14A being subsections (1), (2) and (3):

Calstan Scallion	9-9-11-26	Calstan Scallion Prov.	16-16-11-26
	16-9-11-26	Calstan Scallion	1-21-11-26
Calstan Scallion	5-10-11-26		7-21-11-26
	6-10-11-26		8-21-11-26
	11-10-11-26	Shell Moir South Scallion	9-21-11-26
	12-10-11-26		10-21-11-26
	13-10-11-26		14-21-11-26
	14-10-11-26		15-21-11-26
	15-10-11-26		16-21-11-26
	16-10-11-26	Calstan Scallion	3-22-11-26
Calstan Scallion	1-15-11-26		4-22-11-26
	2-15-11-26		5-22-11-26
	3-15-11-26		6-22-11-26
	6-15-11-26	Cdn-Sup Tapp Scallion	7-22-11-26
	7-15-11-26		8-22-11-26
	8-15-11-26	Sun T.L. Tapp Scallion	9-22-11-26
	9-15-11-26		10-22-11-26
	10-15-11-26	Calstan Scallion	11-22-11-26
	11-15-11-26		12-22-11-26
	13-15-11-26		13-22-11-26
	14-15-11-26		14-22-11-26
	15-15-11-26	Sun T.L. Tapp Scallion	15-22-11-26
	16-15-11-26		16-22-11-26

Reg. M160-R4P

MINES - MAXIMUM RATE

Calstan Scallion	6-2-11-26	Cdn-Sup Tapp Scallion	1-22-11-26
Landa et al Drynan Scallion	7-2-11-26	Cdn-Sup Whiteford Scallion	2-28-11-26
Calstan Scallion	11-2-11-26		7-23-11-26
	13-2-11-26		9-28-11-26
	14-2-11-26		10-28-11-26
Landa et al Drynan Scallion	15-2-11-26		15-28-11-26
	16-2-11-26	Dome Cdn Sup Scallion	7-14-11-26
Calstan Scallion	15-9-11-26	Dome Cdn Sup Scallion	3-24-11-26
Calstan Scallion	1-10-11-26		4-24-11-26
	2-10-11-26		5-24-11-26
	3-10-11-26	Dome Cdn Sup Scallion	11-26-11-26
	7-10-11-26		12-26-11-26
	8-10-11-26	Calstan Scallion	3-27-11-26
	9-10-11-26		4-27-11-26
	10-10-11-26		5-27-11-26
Calstan Scallion Prov.	1-11-11-26		11-27-11-26
	2-11-11-26		12-27-11-26
	3-11-11-26		13-27-11-26
	4-11-11-26	Calstan North Scallion	3-4-12-26
	5-11-11-26		5-4-12-26
	6-11-11-26		6-4-12-26
	7-11-11-26		11-4-12-26
	8-11-11-26		13-4-12-26
	12-11-11-26		14-4-12-26
Calstan Scallion	4-15-11-26	CEGO Scallion	1-5-12-26
	5-15-11-26		7-5-12-26
	12-15-11-26		8-5-12-26
Dome Cox Scallion	1-16-11-26		9-5-12-26
Cdn-Sup Veldhouse Scallion	8-16-11-26	Dome Naco Scallion	1-28-11-26
Calstan Scallion Prov.	9-16-11-26	Dome Cdn Sup Scallion	1-4-12-26
B.A. Union Tapp Scallion	3-28-11-26		7-4-12-26
	5-28-11-26	Dome Scallion	8-4-12-26
	11-28-11-26	Fargo et al Scallion	9-14-11-26
	12-28-11-28		15-14-11-26
	13-28-11-26		16-14-11-26
B.A. Union Milne Scallion	2-34-11-26	Fargo et al Scallion	1-26-11-26
	3-34-11-26		2-26-11-26
	4-34-11-26		7-26-11-26
Calstan Scallion	5-13-11-26	Fargo et al Scallion	5-34-11-26
	7-13-11-26		7-34-11-26
	11-13-11-26		11-34-11-26
	13-13-11-26		12-34-11-26
	15-13-11-26	Imperial Scallion	1-33-11-26
Calstan Scallion	9-23-11-26		2-33-11-26
	10-23-11-26		7-33-11-26
	11-23-11-26		9-33-11-26
	13-23-11-26		10-33-11-26
	15-23-11-26		15-33-11-26
Calstan Scallion Prov.	11-24-11-26	Landa Scallion	16-5-12-26
	13-24-11-26	Shell Buker Scallion	16-32-11-26
Calstan Scallion	4-25-11-26		
	5-25-11-26		

Shell Moir North Scallion	3-33-11-26 ✓
	4-33-11-26 ✓
	5-33-11-26 ✓
	11-33-11-26 ✓
	12-33-11-26 ✓
	13-33-11-26 ✓
Sun W. Milne Scallion	4-14-11-26 ✓
	5-14-11-26 ✓
	6-14-11-26 ✓
Sun G. Braybrook Scallion	11-14-11-26
	13-14-11-26 ✓
Sun E. Hutchison Scallion	5-23-11-26 ✓
	6-23-11-26 ✓
Sun W.C. Tapp Scallion	3-26-11-26 ✓
	4-26-11-26 ✓
Sun P.J. Tapp Scallion	5-26-11-26 ✓
	10-26-11-26 ✓
Sun W.C. Tapp Scallion	1-27-11-26 ✓
	2-27-11-26 ✓
	7-27-11-26 ✓
	9-27-11-26 ✓
	10-27-11-26 ✓
	15-27-11-26 ✓
	16-27-11-26 ✓
Vallat Scallion	9-4-12-26 ✓
	15-4-12-26 ✓
Dome Scallion	5-3-12-26 ✓
	12-3-12-26 ✓
Fargo et al Scallion	14-34-11-26 ✓
Milestone Scallion	3-3-12-26 ✓
	6-3-12-26 ✓
Vallat et al Scallion	13-34-11-26 ✓
Chevron Scallion	14-16-11-26
Chevron Scallion Prov.	15-16-11-26 ✓
Chevron Scallion	3-21-11-26 ✓

6(1) Until further order, the maximum permissible rate of production of each well, located in the Pierson Field, is thirty-seven barrels per day.

6(2) The total monthly production for any well is the amount equal to the product of the maximum permissible rate multiplied by the number of days in the month.

6(3) The rate for any well in any given day shall not be exceeded by an amount greater than twenty per cent of the maximum permissible rate.

7(1) Until further order, all wells in the Routledge Field shall produce at an average daily rate not to exceed sixty barrels of clean oil and at a maximum daily allowable rate not to exceed seventy-two barrels of clean oil; those production rates shall be reduced through multiplication by the water-oil penalty factor.

7(2) The water-oil ratio penalty factor shall be 1.0 except for the wells located on the lands described in subsection (3) on which the water-oil ratio penalty shall be determined in accordance with Schedule B to this section.

7(3) Lands on which wells shall be subject to a water-oil ratio penalty factor, determined in accordance with Schedule B, to this section:

In Township Nine, Range Twenty-five, West of the Principal Meridian, being:

The north-west quarter of Section two.
The north-east quarter of Section three.
The east half of Section ten.
All of Section eleven.
The west half of Section twelve.
The west half of Section thirteen.
All of Section fourteen.

DIRECTOR OF MINES

THE OIL AND NATURAL GAS CONSERVATION BOARD

ORDER NO. 52A

Pertaining to the Maximum Permissible Rate of Production in the

NORTH VIRDEN SCALLION FIELD

Made and passed pursuant to "The Mines Act", R. S. M., 1954, and amendments thereto, by The Oil and Natural Gas Conservation Board, of Manitoba.

---

1. The following wells, located in the North Virden Scallion Field, shall be exempt from the provisions of Order No. 14A, being Manitoba Regulation 35/55:

Chevron Scallion 14-16-11-26
Chevron Scallion Prov. 15-16-11-26
Chevron Scallion 3-21-11-26

2. This Order shall be effective on and from the first day of August, 1970.

Oil and Natural Gas Order No. 52A, made and passed this 9 day of June A. D., 1970, at the City of Winnipeg, in the Province of Manitoba, by The Oil and Natural Gas Conservation Board.

Approved:))

November 19, 1979

Mr. Wallace Gabrielle
P. O. Box 1082
Virden, Manitoba
ROM 2CO

Dear Sir:

As requested from Dr. Ian Hough this date enclosed herewith is a xerox copy of Manitoba Revised Regulation M160 - R4P.

Yours sincerely,

Original Signed by C. Moster

M. Clare Moster, P. Eng.,
Director, Petroleum Branch.

RCM/et
Encl.

RTNERSHIP REGISTRATION

rties Corporation, Marwal Holdings

Partners (Limited): Metropolitan
rties Corporation
of Change: August 7, 1979
of Registration: October 12, 1979.
-46

W. H. JORGENSON,
of Consumer and Corporate Affairs.

NAME ACT

name have been issued as follows:

to Myran
ayne Myran, of Swan Lake, Rural
ipality of Lorne, Peace Officer, have
issued a Legal Change of Name Cer-
to Wayne Gordon Myran.
October 25, 1979.
46

(Nyirfa) to Buors
sele Nerfa (Nyirfa), of the City of
eg, Assembly Worker, have been
a Legal Change of Name Certificate
le Buors.
October 30, 1979.
46

k to Saltasuk
rtha Adele Saltasuk, of the City of
, Unemployed, have been issued a
hange of Name Certificate to Dolly
Saltasuk.
October 29, 1979.
46

o Grasby
vard Stanely Wilson, of the City of
, Labourer, have been issued a
hange of Name Certificate to
Stanley Grasby.
ctober 30, 1979.
5

UM

wski to Sims
l Joseph Schimnowski, of the City
peg, Architectural Draughtsman,
n issued a Legal Change of Name,
te to Paul Joseph Sims. Also to be
is my wife, Yvonne Marie Schim-
o Yvonne Marie Sims.
ptember 18, 1979.

L. R. SHERMAN,
Health and Community Services.

UNDER THE HIGHWAY TRAFFIC ACT

Notice is hereby given that the following applications have been received by the Manitoba Motor Transport Board:

J. Kearns Transport Ltd.,
Moose Jaw, Saskatchewan.

Application for an extension of Public Service Vehicle Certificate for the transportation extra-provincially, of flyash, under a continuing contract with the Saskatchewan Power Corporation, from the Manitoba Saskatchewan boundary to various points in Manitoba.

Mid-West Truck Lines Ltd.,
Winnipeg, Manitoba.

Application for an extension of Public Service Vehicle Certificate for the transportation of materials and equipment used in the manufacture of buses for and on behalf of Universal Coach Parts, Inc. of Northlake, Illinois, from the City of Winnipeg to the Manitoba International boundary for furtherance as authorized by the Interstate Commerce Commission.

Myron & Joan Kinsachuk,
Dauphin, Manitoba.

Application for an extenstion of Public Service Vehicle Certificate for the transportation of goods and merchandise belonging to: Sears Mail Order Service, Cooper's Yamaha Music Centre, Woolworths, Stylerite Department Store and MacLeods, from various points within a 50-mile radius of Dauphin, to Dauphin, Manitoba.

Anyone wishing to make representation or oppose the granting of the above applications, must file such notice with the Secretary of the Board, 200-301 Weston Street, Winnipeg, Manitoba, either by mail or personal filing, not later than 4:30 PM., Friday, November 30, 1979. Notices received after this date will not be accepted.

Subsequent to the above date the applications will be scheduled for Hearing and the Applicant and those opposing will be notified as to the date, time and place of the Hearing.

L. G. OLIJNEK,
Secretary,
THE MANITOBA MOTOR
TRANSPORT BOARD.

—46

UNDER THE MINES ACT

Chevron Standard Limited, as Unit Operator of the North Virden Scallion Unit No. 1, has made application for an amendment to Subsection 5(4) of Manitoba Revised Regulation M160-R4P under The Mines Act to exempt all existing and future wells in the North Virden Scallion Unit No. 1 from the maximum permissible rate of production restriction for wells in the North Virden Scallion Field.

If no valid objection to the contrary, in writing, is received by the Board at 989 Century Street, Winnipeg, Manitoba R3H 0W4 within 14 days of the publication of this Notice, the Board may make an order providing for the proposed amendment.

Dated at Winnipeg, Manitoba this 1st day of November, 1979.

DR. IAN HAUGH,
Deputy Chairman,
The Oil and Natural Gas
Conservation Board.

—46

UNDER THE ELECTION ACT

ELECTORAL DIVISION OF
FORT ROUGE

Returning Officer: Ian WILSON
Member Elected: June WESTBURY (Mrs.)

Number of names on list of electors for electoral division	13,047
Number of ballots cast	6,793
Number of rejected ballots	13
Number of valid ballots cast for each candidate:	
Hugh McDONALD, P.C.	1,830
Vic SAVINO, NDP	2,291
June WESTBURY, Lib.	2,659

ELECTORAL DIVISION OF
RIVER HEIGHTS

Returning Officer: J. D. RALEIGH
Member Elected: Gary FILMON

Number of names on list of electors for electoral division	10,154
Number of ballots cast	6,669
Number of rejected ballots	3
Number of valid ballots cast for each candidate:	
Gary FILMON, P.C.	3,473
William HAWRYLUK, WDP	19
Donald B. JEWISON, NDP	697
Jay PROBER, Lib.	2,477

You are doing your best only when you are trying to improve on what you're doing.

NOTICE OF APPLICATION UNDER THE MINES ACT

Chevron Standard Limited, as Unit Operator of the North Virden Scallion Unit No. 1, has made application for an amendment to Subsection 5(4) of Manitoba Revised Regulation M160 - R4P under The Mines Act to exempt all existing and future wells in the North Virden Scallion Unit No. 1 from the maximum permissable rate of production restriction for wells in the North Virden Scallion Field.

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Dr. Ian Haugh,
Deputy Chairman,
The Oil and Natural Gas
Conservation Board.

DATED at Winnipeg, Manitoba this 1st day of November, 1979.

Council stands by

The decision of Virden Town Council on March 6 to have Lacrosse Street intersect with Provincial Road 257 if the property owned by Matt Kawchuk was subdivided, was reaffirmed at a meeting on November 6.

The matter came up for discussion again following receipt of a letter from Mr. Kawchuk expressing "a great deal of dissatisfaction" with the building of an approach and opening up Lacrosse Street to intersect with PR 257.

In his letter, Mr. Kawchuk said that he had been told by a Council spokesman that the "significance of the motion (passed March 6) was that Council considered my request to retain Lacrosse Street as a physical dead-end street and that the street would be extended only as far as needed in the event some development of the lots occurred. He (the spokesman) also indicated that Council's main concern in approving the application to subdivide was to ensure that houses that may be erected on the lots should be built adequately high enough so that there would be no water drainage problems. (The spokesman) also indicated that Council was not wanting to spend any more money than was necessary."

Mr. Kawchuk urged Councillors to contact residents on Lacrosse Street, to obtain their views on this matter. "I feel confident that they will concur with my feelings and those of my immediate neighbors."

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Virden Medical Associates

A person is required as full time

SECRETARY/RECEPTIONIST

for doctors' office. Must have accurate shorthand and typing skills and friendly, outgoing personality.

Position becomes vacant at the end of February, 1980.

Please address applications to Box 730, Virden, Man. by November 20, 1979.

Tours Tours Tours

A few seats left for our 18-day bus tour from Winnipeg.

Departure: February 2, 1980

Tour includes all transportation, rooms, admission to tour of St. Augustine, Cape Kennedy Space Centre, a cruise, Cypress Gardens and Disney World

Price Per Person In Canadian Dollars $619.00

Also a few Hawaii seats available for January 7, 1980

Norm Olfrey Tours

Ph. 734-2334 Swan River, Man.

OBITU

SYDNEY EBY JOHNSON

The death of Sydney Eby Johnson occurred at West-Man Nursing Home, Virden, on November 7, 1979. He was 76 years of age.

Mr. Johnson was born in the Arawana district on November 26, 1903. He lived in Elkhorn from 1905 to 1934, Toronto from 1934 to 1939 and served overseas from 1940 to 1946. He returned to Elkhorn in 1946 and lived there until 1968 when he moved to Virden where he resided until his death. He was a member of Trinity United Church, Elkhorn, and of the Royal Canadian Legion, Elkhorn Branch. He was very interested in the sport of hockey.

He is survived by a sister, Mrs. Roy Borrowman (Dorothy) of Regina; sister-in-law, Mrs. Laura McLaren of Virden; nephew David Borrowman of Ottawa; nieces, Mrs. Judy Gorby of Calgary and Mrs. Jean Gatey of Virden; grandnephews Doug Gatey of Virden and [illegible] Gorby of Calgary and grandnieces Brenda Gatey of Vir-

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Arrange to have a copy of the attached Notice send by DR mail to :

Copperhead
Suncor
Chevron (Calgary)

plus

advertised without letterhead in one issue of the Mar Gazette and Virden-Empire Advance

November 27/79 - E.T.

Sent by Dudli Registered Mail this

attached Notice to the following

Copperhead Oil Company Ltd
Box 1087
Leader, Saskatchewan
ROW 1CO

4. Lancaster Corp.
P.O. Box 38
500 - 4th Avenue S.W.
Calgary, Alberta
T2P 2V5
Attn.: Mr. E. Blades

3 Chevron Standard Limited
400 - Fifth Avenue S.W.
Calgary, Alberta
T2P 0L7
Attn.: R.A. Peck

MANITOBA

Department of Mines, Natural Resources and Environment

The Oil and Natural Gas Conservation Board

989 Century Street
Winnipeg, Manitoba
R3H 0W4

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MG-6065

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Department of Mines, Natural Resources and Environment

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Canada Post / Postes Canada

Acknowledgement of Receipt / **Avis de réception**

Canada Post / Postes Canada — On Service / Postal Service / des postes

DEPT. OF MINES, RESOURCES AND ENVIRONMENTAL MANAGEMENT
NOV 1979
PETROLEUM BRANCH

Return to / **Retournez à**

(Please print: Name of Sender, P.O. Box, R.R. or Apt. No., No. and Street, City, Province, Postal Code) / (En majuscules s.v.p.: nom de l'expéditeur, Case postale, n° de R.R. ou d'app., n° et rue, Ville, Province, Code postal)

PETROLEUM BRANCH
9TH CENTURY ST
BOX 11
WINNIPEG, MANITOBA
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NOTICE

To be completed at
Office of Origin

À remplir par le
Bureau d'origine

Please Print — En majuscules s.v.p.

Post Office of Mailing — Bureau d'expédition: Winnipeg

Date: NOV 5 1979

Registration No. de recommandation: 3725

Name of Addressee — Nom du destinataire: Duncan Inc.

P.O. Box, R.R. or Apt. No., No. and Street — C.p. n° de R.R. ou d'app., n° et rue: P.O. Box 38 — 500 - 4th Avenue S.W.

City / Ville: Calgary — Province: Alberta — Country / Pays — Postal CODE postal: T2P 2V5

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Bureau destinataire

This advice should be signed by the addressee or his authorized representative or, if the regulations of the country of destination provide, by the postmaster at the office of delivery and returned by first mail to the address shown on the other side.

Cet avis doit être signé par le destinataire ou son représentant ou, si le règlement du pays de destination le comporte, par l'agent du bureau de destination et renvoyé par le premier courrier à l'adresse indiquée au recto.

Date Stamp of Office of Delivery — Timbre à date du bureau de destination: CALGARY, ALTA. NOV 5 1979

The above mentioned item was delivered on — L'envoi recommandé susmentionné a été dûment livré le: NOV 5 1979

Signature of Postmaster at Office of Delivery / Signature de l'agent du bureau de destination

Signature of Addressee or his Authorized Representative / Signature du destinataire ou de son représentant: X [signature]

33-086-230 (8-75)

To be completed at
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Bureau d'origine

Please Print — En majuscules s.v.p.

Post Office of Mailing — Bureau d'expédition: Winnipeg

Date: 79/11/02

Registration No. de recommandation: 3727

Name of Addressee — Nom du destinataire: Chevron Standard Limited Attn: R.A. Park

P.O. Box, R.R. or Apt. No., No. and Street — C.p. n° de R.R. ou d'app., n° et rue: 400 - Fifth Avenue S.W.

City / Ville: Calgary — Province: Alberta — Country / Pays — Postal CODE postal: T2P 0L7

Office of Destination

Bureau destinataire

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Date Stamp of Office of Delivery — Timbre à date du bureau de destination: CALGARY, ALTA. NOV 5 1979

The above mentioned item was delivered on — L'envoi recommandé susmentionné a été dûment livré le: Nov - 5 19 79

Signature of Postmaster at Office of Delivery / Signature de l'agent du bureau de destination

Signature of Addressee or his Authorized Representative / Signature du destinataire ou de son représentant: R. Richard

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Office of Origin

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Bureau d'origine

Please Print — En majuscules s.v.p.

Post Office of Mailing — Bureau d'expédition: Winnipeg

Date

Registration No. de recommandation: 3726

Name of Addressee — Nom du destinataire: Copperhead Oil Company Ltd. Attn: Steve Hogin

P.O. Box, R.R. or Apt. No., No. and Street — C.p. n° de R.R. ou d'app., n° et rue: Box 1027

City / Ville: Virden — Province: Manitoba — Country / Pays — Postal CODE postal: R0M 2C0

Office of Destination

Bureau destinataire

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Date Stamp of Office of Delivery — Timbre à date du bureau de destination: EDMONTON NOV 5 1979 AM

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Signature of Postmaster at Office of Delivery / Signature de l'agent du bureau de destination

Signature of Addressee or his Authorized Representative / Signature du destinataire ou de son représentant: [signature]

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NOTICE OF APPLICATION
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Ir. Ian Haugh,
Deputy Chairman,
The Oil and Natural Gas
Conservation Board.

DATED at Winnipeg, Manitoba this
1st day of November, 1979.

The Oil and Natural Gas
Conservation Board:
Paul E. Jarvis, Chairman
Ian Haugh, Deputy Chairman
J. F. Redgwell, Member

October 24, 1979

H. Clare Moster
Director
Petroleum Branch

XXXXX

Subject:

Application to Amend Manitoba Revised Regulation M160 - R4P

Background:

Section 62(9)(g) of The Mines Act provides that the Oil and Natural Gas Conservation Board, with the approval of the Minister, may make orders providing for the control and regulation of the production of oil and gas. Under this provision the Board issued Order Nos. 6A, 8A and 14A setting the maximum permissible rate of production for a well in the North Virden Scallion Field. Order 14A restricted production rates to 70 barrels of oil per day. On implementation of the waterflood scheme in North Virden Scallion Unit No. 1 certain wells in the Unit were made exempt from the maximum permissible rate provision by Order Nos. 35A, 37A, 38A, 39A, 48A, 52A and 57A. When Manitoba Revised Regulation M160 - R4P was drafted in the early 70's to consolidate all the above Orders (also individual regulations) certain errors were made.

Eg.: - 17 water injection wells were included in the wells exempted
- 11 wells listed in Order 57A were not included
- 1 well listed (7-23-11-26) which does not exist was included, probably a typing error as the well (7-28-11-26) was not included

Chevron Standard Limited, as Unit Operator, recompleted certain wells in the Unit as oil producers and have also drilled a number of infill wells in the Unit. These wells have not been exempted from the maximum permissible rate restriction for wells in the Field and some are capable of producing at rates exceeding the restriction. In an attempt to have these infill wells exempted and to correct and simplify Section 5 of Manitoba Revised Regulation M160 - R4P Chevron has submitted an application dated 1979-10-02 (copy attached) to have all present and future wells in North Virden Scallion Unit No. 1 exempted from rate restrictions.

. . . . 2

Discussion:

1. There were six (6) wells in the Unit that had not been exempted from rate restrictions, namely:

Well Location	Avg. 1978 Daily Prod. Rate (Bbl.)
2-16-11-26 (WPM)	3
10-16-11-26 (WPM)	Suspended
2-21-11-26 (WPM)	63
6-21-11-26 (WPM)	1
11-21-11-26 (WPM)	Suspended
14A-27-11-26 (WPM)	28

The corresponding average daily production rates indicates that none of the wells are capable of reaching the maximum rate with only the 2-21 well close to the 70 BOPD restriction. The 2-21 well is diagonally offset to the southwest by a non-unit well (14-16), owned and operated by Chevron that is currently the only non-unit well in the Field listed as exempt from the rate restriction. In 1978 the 14-16 well had an average production rate of 23 BOPD.

2. The following are the eight (8) infill wells recently drilled in the Unit including their average daily production rates in barrels:

Well Location	1978 Avg.	August/79
14A-21-11-26 (WPM)	18	17
14A-22-11-26 (WPM)	58	120
16A-22-11-26 (WPM)	20	60
13A-23-11-26 (WPM)	49	32
13A-24-11-26 (WPM)	(not drilled)	118
3A-27-11-26 (WPM)	27	15
4A-27-11-26 (WPM)	74	68
1A-28-11-26 (WPM)	60	42

The above production figures indicate that 2-3 wells are capable of exceeding the current rate restriction. No exemption has yet been granted these wells. The wells are all located in the corridor area of the Unit and are not offset by any non-unit producing wells (see attached map).

. . . . 3

Conclusions:

1. The current regulation should be amended to correct existing errors.

2. Of the fourteen (14) producing wells that have never been exempted only 3 or 4 are possibly capable of exceeding the present Field allowable. These wells are either located in the central region of the Unit or on locations offset by undrilled spacing units or spacing units owned and operated by participants in the Unit. Therefore no valid objection to exempting these additional fourteen (14) wells is expected.

3. Amending Section 3 of Manitoba Revised Regulation M160 - R4P to exempt all wells in the Unit will simplify the regulation and eliminate future applications for any future infill wells that may be drilled.

4. It is common practise in other jurisdictions to permit fields that have been producing for over 20 - 25 years to be operated under good engineering practise, exempt from production rate restrictions.

5. The holding of a Board hearing be precluded if possible.

Recommendation:

1. The attached Notice be signed by the Deputy Chairman, advertised in the Manitoba Gazette and Virden-Empire Advance and mailed to all offsetting operators to the North Virden Scallion Unit No. 1.

Subsection 62(18) of The Mines Act

2. If no valid objections are received, the Board issue an order (draft attached) without the holding of a hearing.

H. Clare Moster

HCM/et
Attachs.

Chevron Standard Limited

1979-10-02

Department of Mines, Resources &
Environmental Management
Petroleum Section
993 Century Street
Winnipeg, Manitoba
R3H 0W4

Attention: Mr. H. Clare Moster
Director, Petroleum Branch

Gentlemen:

Chevron Standard Limited hereby makes application to have Manitoba Revised Regulation M160-R4P amended. The purpose of this amendment would be to exempt all existing and future wells in the North Virden Scallion Unit #1 from the Maximum Permissible Rate (MPR) restriction. A substantial number of wells in the above unit have already been excluded from the MPR restriction by various goverment orders. This application is being made to clear up all errors and omissions in previous orders (as per your letter of 1979-06-01) and to simplify Regulation M160-R4P.

Amending the above regulation in this manner would not adversely affect production from nonunit wells since: (1) most unit wells which are offset by nonunit wells are already exempt from the MPR restriction; and (2) those wells not exempt are producing at rates below the MPR (1978 data).

Chevron Standard Limited will continue producing this field in accordance with good engineering practice to ensure maximum oil recovery.

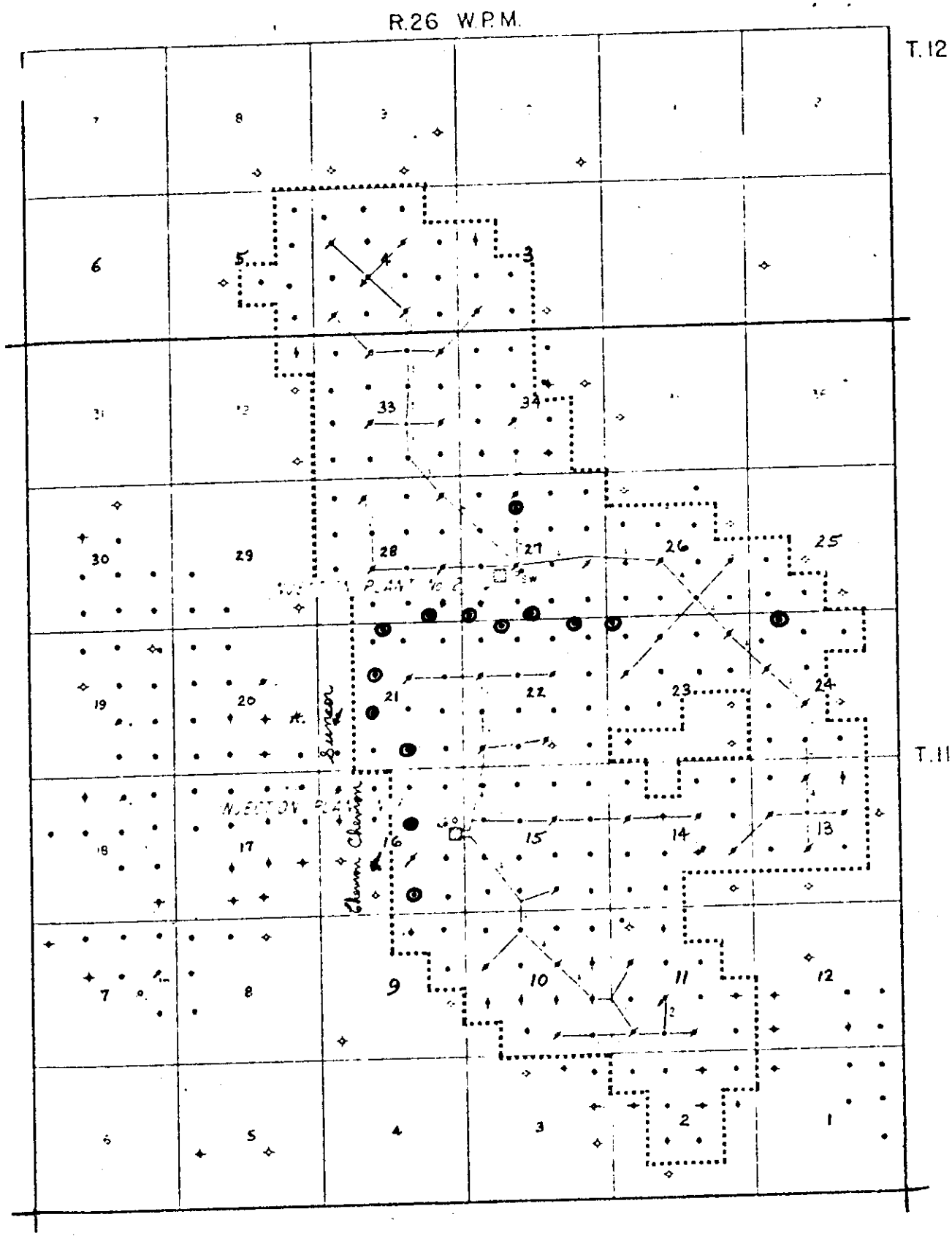
Thank you for your consideration.

Yours very truly,

G. CRUICKSHANK, P. ENG.
Chairman
Operating Committee
NORTH VIRDEN SCALLION UNIT #1

DS/hb

OCT 19 1979
PETROLEUM DIVISION



LEGEND

- UNIT BOUNDARY
- INJECTION WELL
- SUSPENDED WELL
- ABANDONED WELL
- INJECTION LINE
- DEVONIAN WATER SUPPLY WELL

FIGURE 1

NORTH VIRDEN SCALLION UNIT No 1

SCALE IN MILES

MANITOBA

Department of Mines, Natural Resources and Environment

The Oil and Natural Gas Conservation Board

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The Oil and Natural Gas
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DATED at Winnipeg, Manitoba this
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MG-6065

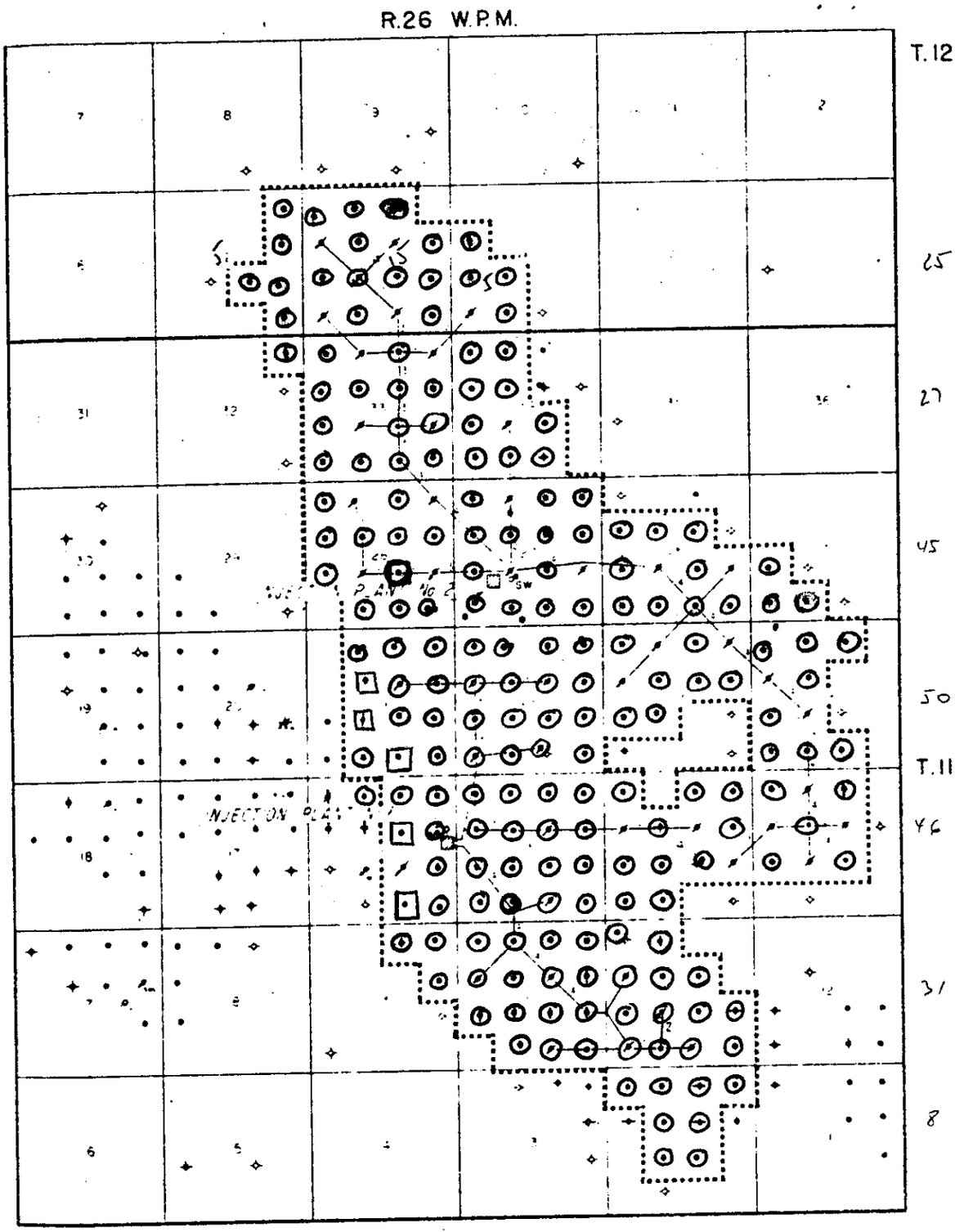


FIGURE 1

NORTH VIRDEN SCALLION UNIT No 1

Prod. Wells in NVS #1 Prod. but not Excluded either by R4P or 57A

		1978 BBl/MTH	Aug/79 m^3/MTH
~~10-2-H-26~~	in 37A		
2-16	not in 35A?	100	14
10-16		susp.	susp
close to allowable 2-21		1900	302
6-21		25	19
11-21		susp	susp
~~6A-27~~	(recent attempt conv. from WSW)		
~~7-28~~		850	86
14A-27			
Infills: 3A-27 ✓		920	71
4A-27 ✓		2300	333
13A-23 ✓		1500	157
14A-21 ✓		560	84
over 14A-22 ✓		1950	590
16A-22 ✓		1800	293
1A-28		1800	205
over 13A-24 ✓		7[illegible]00	579

70 BOPD × 30 = 2100/MTH

or

= 334 m^3/MTH

~ c 5 M160 - R4P

12 - 10 (inj ?) ✓
2 - 15 (inj ?) ✓
10 - 15 (inj ?) ✓
10 - 21 (inj ?) ✓
4 - 22 inj ✓
10 - 22 inj ✓
12 - 22 inj ✓
6 - 2 abd. ✓
7 - 2 abd. ✓
15 - 2 abd. ✓
2 - 10 inj ✓
8 - 10 2 inj
10 - 10 inj ✓
2 - 11 inj ✓
4 - 11 inj ✓
6 - 11 inj. ✓
12 - 11 inj. ✓
2 - 34 abd ✓
7 - 23 no well, probably 7-28 ✓ in A
~~16 inj~~
14 - 16 not in unit

14A - 21 not in
14A - 22 not in
16A - 22 not in

Chevron Standard Limited
400 - Fifth Ave. S.W., Calgary, Alberta T2P 0L7

R. A. Park
Manager Production

1979-10-29

Representative Change
Operating Committee
North Virden Scallion Unit No. 1

The Oil and Natural Gas Conservation Board
Province of Manitoba
310 Legislative Building
Winnipeg, Manitoba
R3C 0V8

Gentlemen:

We wish to advise you that as of October 1, 1979, the representative of Chevron Standard Limited on the Operating Committee for the subject unit will be:

D. A. Zeeuwen
Chevron Standard Limited
P.O. Box 100
Virden, Manitoba
ROM 2CO

The alternates are Messrs. P. Pisio and D. R. Henderson who are located at the letterhead address.

Yours very truly,

R. A. PARK

DRH/njs

cc: Mr. D. A. Zeeuwen

DEPT. OF MINES, RESOURCES AND ENVIRONMENTAL MANAGEMENT
NOV 1 1979
PETROLEUM BRANCH

Chevron Standard Limited
400 - Fifth Ave. S.W., Calgary, Alberta T2P 0L7

J. ZEDDE
Vice-President
Producing Department

August 31, 1976

Mr. J. T. Cawley, P. Eng.
Deputy Minister
Department of Mines, Resources
and Environmental Management
Government of Manitoba
Legislative Building
Winnipeg, Manitoba
R3C 0V8

Dear Mr. Cawley:

Further to our discussions held in your office on August 23, 1976, this letter will confirm Chevron Standard's plan to drill five infill wells in the North Virden Scallion Unit No. 1 in 1977. This program will cost approximately $400,000 and is, of course, subject to Working Interest approval. These wells are necessary to recover the corridor oil between two rows of producers as shown on the attached map as the flood front passes through these wells.

During our discussions on West Butler, Mr. Roper expressed some concern regarding our application for temporary suspension of water injection for reasons stated in the application. We did not foresee any difficulty arising since this is considered to be a normal procedure in Alberta as evidenced by the attached copies of correspondence with the Alberta Energy Resources Conservation Board. We trust the matter has been clarified and that our application will be processed in due course.

In regard to other matters discussed, we wish to advise that a joint submission will be made by the CPA regarding the definition of "old" and "new" oil. With respect to the subject of deep rights, the matter is currently under consideration and we will be advising you of our position in the near future.

Yours very truly,

J. ZEDDE

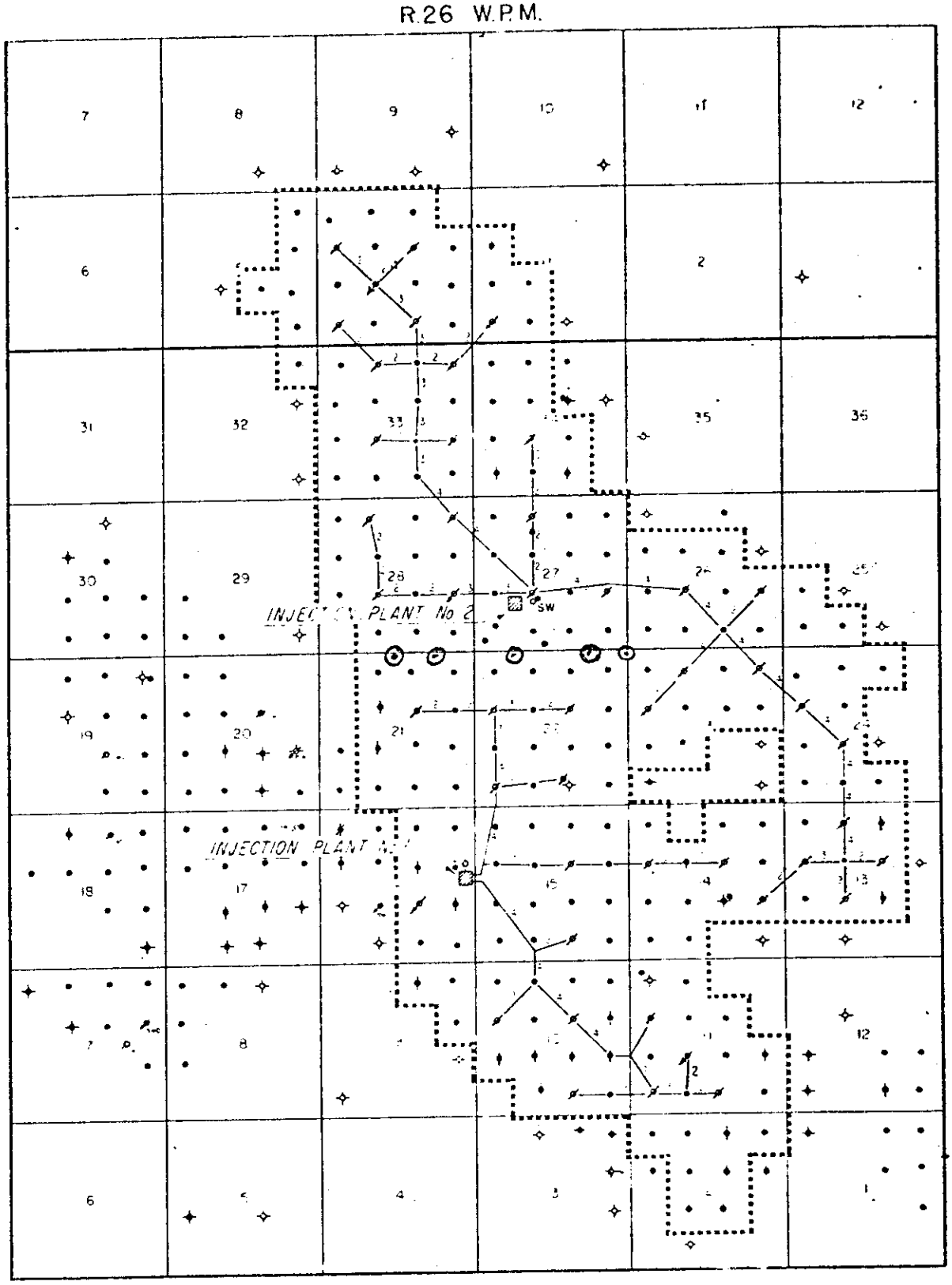
MINES, RESOURCES & ENVIRONMENTAL MANAGEMENT
DEPUTY MINISTER'S OFFICE
SEP 2 1976

JZ:DY

cc: J. S. Roper
/ie 76 09 02

Attachments

xcc — West Butler Unit File
— North Virden Scallion Unit File



⊙ PROPOSED DRILLING PROGRAM - 1977

LEGEND

- ····· UNIT BOUNDARY
- INJECTION WELL
- SUSPENDED WELL
- ABANDONED WELL
- —— INJECTION LINE
- °SW DEVONIAN WATER SUPPLY WELL

FIGURE 1

NORTH VIRDEN SCALLION UNIT No 1

AS OF DECEMBER 31, 1975

SCALE IN MILES

THE PROVINCE OF ALBERTA

THE OIL AND GAS CONSERVATION ACT

ENERGY RESOURCES CONSERVATION BOARD

IN THE MATTER of a scheme of Chevron Standard Limited for enhanced recovery of oil by water injection into the Zama Keg River C Pool

AMENDMENT OF APPROVAL NO. 1297A

(Amending Approval No. 1297)

The Energy Resources Conservation Board, pursuant to The Oil and Gas Conservation Act, being chapter 267 of the Revised Statutes of Alberta, 1970, hereby orders as follows:

1. Board Approval No. 1297 is amended.

2. The following clause is added after clause 9:

10. This approval shall have no force or effect for a two-year period commencing July 1, 1976.

MADE at the City of Calgary, in the Province of Alberta, this 25th day of June, 1976.

ENERGY RESOURCES CONSERVATION BOARD

D. R. Craig
Vice Chairman

RECEIVED
JUL 7 1976
T. I. S.

ENERGY RESOURCES CONSERVATION BOARD

603 SIXTH AVENUE S.W. CALGARY, ALBERTA, CANADA T2P 0T4
TELEPHONE (403) 261-8311 TELEX 03-821717

R. CRAIG, VICE CHAIRMAN
V. MILLARD, VICE CHAIRMAN
N. BERKOWITZ, BOARD MEMBER
G. J. DESORCY, BOARD MEMBER

June 18, 1976

Chevron Standard Limited
400 5 Avenue S.W.
Calgary, Alberta
T2P 0L7

Dear Mr. Johnson:

APPLICATION NO. 9311
ZAMA KEG RIVER G POOL
APPROVAL NO. 1297

The Board has considered your application dated April 30, 1976 requesting permission to suspend the terms of Approval No. 1297 for a period of two years. Your application has been granted and Amendment of Approval No. 1297A for this purpose is enclosed.

The Board understands that Chevron plans to recomplete the well at a higher interval in an attempt to alleviate the water oil ratio problem. If successful, cyclic water injection may then be re-initiated. Chevron is requested to submit to the Board the results and analysis of any attempts to recomplete the well and shut off water production and subsequent plans for future pressure maintenance. A reply to this matter by March 15, 1977 would be appreciated.

Yours truly

N. G. Berndtsson, P. Eng.
Assistant Manager
Projects

PMS/GD/jg

Enclosure

April 30, 1976

Zama Keg River G Pool - Project No. 1
Approval No. 1297.

Energy Resources Conservation Board
603 Sixth Avenue S.W.
Calgary, Alberta
T2P 0T4

Attention: Mr. N. G. Berndtsson

Gentlemen:

Chevron Standard Limited, as operator of the Zama Keg River G pool, requests that waterflood approval No. 1297 be suspended for a two-year period.

This single-well cyclic injection scheme has not operated as predicted due to excessive production of injected water following the two injection cycles. It was the operator's intention to recomplete the well to allow continuous injection and production. This was delayed through the unavailability of the proper downhole equipment. The water cut has risen from ten percent to fifty percent during the past year, although no water has been injected since 1972. The base of the producing perforations is approximately 55 feet above the original oil-water interface.

Chevron does not feel it prudent to continue with water injection into the aquifer until it is demonstrated that an effective water shut-off can be realized and the well successfully recompleted within the Keg River. At that time, a further attempt will be undertaken to cyclically waterflood this pool. It is estimated that two years will be required to assess the results of the recompletion and formulate plans for additional water injection.

Recovery to date amounts to 20 percent of the original oil-in-place. The gas-oil ratio has remained constant at the solution level. The bottom-hole pressure has also remained relatively static over the past two years, indicating natural water influx.

Enquiries concerning this correspondence can be directed to the undersigned.

Yours very truly,

G. A. JOHNSON, P.Eng.
Assistant Chief Engineer

GAJ/rjc
cc: Amoco Canada Petroleum Company Ltd.
Hamilton Brothers Canadian Gas Company Ltd.
bcc: Mr. L. D. Brown, Edmonton

PM ORDER #25

INTER-DEPARTMENTAL MEMORANDUM

PROVINCE OF MANITOBA

DATE May 31, 1974

FROM .. C. Moster
Assistant Chief Petroleum Engineer

TO The Oil and Natural Gas Conservation Bd.:
Jas. T. Cawley, P. Eng., Chairman
J. S. Roper, Deputy Chairman

SUBJECT RE: Conversion of Two Producing Wells to Water Injection Wells

North Virden Scallion Unit No. 1

Chevron Standard Limited, as operator of the North Virden Scallion Unit No. 1, has applied to convert two producing oil wells in the unit, to water injection wells.

Chevron Scallion Prov. 6-11-11-26 (WPM)

This well is situated in the SE area of the Unit and appears to be in a low pressure sink (see Figure 9 - Pressure Surveys). This well is producing at approximately 12 BOPD with a 56 percent water-cut. Water injection through this well should increase reservoir pressure in this region of the reservoir and improve flushing efficiency, therefore allowing for increased fluid withdrawal rates at neighboring producing wells. No detrimental effects should occur due to such injection as the well is surrounded by producing wells (except for a suspended well to the NE).

Chevron has submitted valid supporting data to substantiate it's application.

Chevron North Scallion 6-4-12-26 (WPM)

This well is situated in the North area of the unit and is producing at 6 BOPD with a water-cut of 60 percent. The productivity of this well has been dropping substantially over the past 6 - 8 years and stimulation attempts have been unsuccessful. The requested conversion of this well to a water injection well should enable additional recovery of oil swept towards the adjacent producing wells which otherwise would be lost when this well would be prematurely suspended due to economic reasons.

It should be noted Chevron's intent, in the second last paragraph of the application, to attempt to obtain a 200 BWPD injection rate in this well with the possibility of exceeding the 1,100 p.s.i. fracturing pressure.

2 . . . . . .

Recommendations

It is recommended that approval be granted to convert both wells to water injection. The applications, along with the supporting data, would indicate the proposed conversions would be of benefit to all parties with interests in the Unit, due to increased oil recovery.

The required amendment to the pressure maintenance order for the Unit, to add the two wells to the list of injection wells, is enclosed.

If the applications are approved, it is recommended the covering letter to Chevron should state that if the injection pressure at the 6-4 well is to exceed the fracture pressure, written authorization to do so must be obtained from the Director, at that time.

H. C. Moster, P. Eng.,
Assistant Chief Petroleum
Engineer.

HCM/evh
Enclosure
C.C.— J. D. Russell

Jas. T. Cawley, P. Eng.
xxxxxxxxxxxx

R3C OP8

October 22, 1973

Mr. L.D. Brown, P. Eng.
Area Supervisor
Chevron Standard Limited
Box 100
VIRDEN, Manitoba
ROM 2C0

Dear Mr. Brown:

Re: Application to change source of water being injected
North Virden Scallion Unit No. 1
Order No. PM 1

Pursuant to subsection (2) of Section 2 of the Pressure Maintenance Rules for the above Order, the Board hereby grants permission to the Unit Operator to —

(1) convert the following wells from Devonian water supply to produced Mississippian water supply:

WIW 3-27-11-26	WIW 12-24-11-26
WIW [illegible]-35-11-26	WIW 6-24-11-26
WIW 3-26-11-26	WIW 8-14-11-26
WIW 12-23-11-26	WIW 6-13-11-26
WIW 14-23-11-26	WIW 10-13-11-26
WIW 16-23-11-26	WIW 12-13-11-26
	WIW 14-13-11-26

subject to the following condition —

(1) a pad of 100 barrels of 10,000 PPM acetic acid shall be placed between the Devonian and the Mississippian water, in each of the above water injection wells, at the time of the change over of the source of water.

Yours sincerely,

J. S. Roper
Deputy Chairman

FSG/evh

INTER - DEPARTMENTAL MEMORANDUM

PROVINCE OF MANITOBA

DATE October 22, 1973

FROM F. S. Gamey
Reservoir Engineer

TO J. D. Russell
Acting Director of Mines

SUBJECT Re: North Virden Scallion Unit No. 1 - Converting injection wells from Devonian water supply to Mississippian water supply.

1. CHEVRON STANDARD LIMITED has made application to convert injection wells in North Virden Scallion Unit No. 1 to produced Mississippian water supply.

2. A similar request was made in June 1971 for injection wells operating in the Virden-Roselea Unit No. 3. This was approved by the Board by letter under the Chairman's signature.

3. Tests performed in similar waters from the North Virden Scallion Field in 1963 by Chemical and Geological Laboratories Limited (Report No. E 22532 attached) indicated that 1,000 PPM of Acetic Acid would effectively eliminate iron sulphide precipitation when the waters were mixed.

4. The change over from Devonian water to Mississippian waters, injected in the Virden-Roselea Unit No. 3 since June 1971, has created no problems to date.

5. It is recommended that the application for change of injection waters from Devonian to Mississippian source be approved for the North Virden Scallion Unit # 1.

6. A suggested letter of approval is attached for the signature of the Deputy Chairman of the Board.

23/10/73

F. S. Gamey

FSG/evh
Attachment

DEPT. of MINES, RESOURCES and ENVIRONMENTAL MANAGEMENT

ASSISTANT DEPUTY MINISTER'S OFFICE

MANITOBA REGULATION 58/62

BEING

THE OIL AND NATURAL GAS CONSERVATION BOARD ORDER NO. PM 1

An Order pertaining to Pressure Maintenance by Water Flooding — North Virden Scallion Unit No. 1.

Made and passed pursuant to "The Mines Act," by The Oil and Natural Gas Conservation Board.

(Filed July 19th, 1962.)

WHEREAS, subsection (8) (d) of Section 59 of "The Mines Act," as enacted by Chapter 45, Statutes of Manitoba, 1955, provides as follows:

"59. (8) Without restricting the generality of subsection (7) the board, with the approval of the minister, may make orders

(d) requiring the repressuring, recycling, or pressure maintenance of any pool or portion thereof where it is economical so to do, and for that purpose where necessary requiring the introduction or injection into any pool or portion thereof of gas, air, water, or other substance;".

AND WHEREAS, the Board, pursuant to Section 59 of "The Mines Act," held a public hearing on April 18, 1962, for the purpose of considering a Proposal for Pressure Maintenance by Water Flooding within the Unit Area of the North Virden Scallion Unit No. 1, by The California Standard Company, on its own behalf and other working interest owners, in the North Virden Scallion Field in Manitoba.

AND WHEREAS, upon due consideration of the submissions and testimony at the hearing, the Board has found:

(a) that the pressure maintenance by water flooding of a certain part of the North Virden Scallion Field in Manitoba, comprising the Unit Area of the North Virden Scallion Unit No. 1, is reasonably necessary to prevent waste, and to increase substantially the recovery of oil;

(b) that the value of the estimated additional recovery of oil and gas resulting from such operation will exceed the estimated additional cost incidental to the conduct of such operation; and

(c) that such operation will result in general advantage to the owners of oil and gas rights within the Unit Area.

AND WHEREAS, Unitization Order No. 1 provides for the appointment of a Unit Operator.

NOW THEREFORE, the Board orders:

1. (a) The Unit Operator shall conduct pressure maintenance operations by the injection of water to the Virden and Scallion Members of the Lodgepole Formation of the Mississippian Age underlying the Unit Area;

(b) The pressure maintenance operations shall be in accordance with, and subject to, the following rules:

PRESSURE MAINTENANCE RULES

1. (1) Water shall be injected to the Virden and Scallion Members of the Lodgepole Formation of the Mississippian Age in the wells:

Calstan Scallion	2-10-11-26
Calstan Scallion	10-10-11-26
Calstan Scallion	12-10-11-26
Calstan Scallion Prov.	2-11-11-26
Calstan Scallion Prov.	4-11-11-26
Calstan Scallion	2-15-11-26
Calstan Scallion	10-15-11-26
Shell Moir South Scallion	10-21-11-26
Calstan Scallion	4-22-11-26
Sun T. L. Tapp Scallion	10-22-11-26
Calstan Scallion	12-22-11-26

and, from time to time, in such other wells as the Board may direct, or, upon application of the Unit Operator, may approve;

(2) The injection in the wells referred to in this clause shall continue after the commencement.

(3) Before the injection of water is commenced from [illegible]

OVER—

Board, the Unit Operator shall satisfy the Board as to the source, suitability, and method of treatment of the water to be injected;

(2) Before any change is made in the source of water being injected, the Unit Operator shall satisfy the Board as to the suitability of the water to be injected.

3. The Unit Operator shall immediately report to the Board any indication of channelling or break-through of injected water to producing wells, or any indication of other detrimental effects that may be attributable to the pressure maintenance operations.

4. In the interest of equity and good engineering practice the Board may prescribe from time to time a maximum pressure, or a minimum or a maximum rate, at which water shall be injected in any well in the Unit.

5. At least annually, unless otherwise directed by the Board, the Unit Operator shall determine the reservoir pressure in the producing wells in the Unit to the satisfaction of the Board.

6. The Unit Operator shall inject water to each well referred to in clause 1 hereof in a manner such that, within five years of the effective date of this order, a suitable balance is achieved and maintained between water injected to, and fluids withdrawn from, the Unitized Strata.

7. The Unit Operator shall, not later than the twenty-fifth day of each month, file with the Mines Branch a report of the quantity and source of water injected during the preceding month to each well referred to in clause 1 hereof.

8. (1) Effective August 1, 1962, and during the initial period of operation of the pressure maintenance program, unless otherwise authorized in writing by the Board, the Unit Operator shall, within six weeks of the expiration of each half of the calendar year, file with the Mines Branch a report of the progress, performance, and efficacy of the pressure maintenance program during the half, the first of which reports shall be for the half ending on December 31, 1962, and the last of which reports shall be for the half ending on June 30, 1965;

(2) After the period referred to in subclause (1), unless otherwise authorized in writing by the Board, the Unit Operator shall, within six weeks of the expiration of each yearly period commencing on the first day of July, file with the Board a report of the progress, performance and efficacy of the pressure maintenance program during the period;

(3) Subject to any direction in writing of the Board to the contrary, a report required by this clause may, at the discretion of the Unit Operator, be in two parts, the first of which parts shall set out graphically and from the commencement of the operation of the pressure maintenance program

(a) the daily average rate during each month of oil production of each producing well,

(b) the average water-oil ratio during each month of each producing well,

(c) the monthly cumulative oil and water production from each producing well,

(d) the daily average rate during each month of water injection to each injection well,

(e) the daily average water injection pressure during each month at each injection well,

(f) the monthly cumulative volume of water injected to each injection well,

(g) the average injectivity index during each month, for each water injection well, which index, at the discretion of the Unit Operator may be determined as

(i) the daily injection rate divided by the average injection well head pressure, or

(ii) any similar index that the Board, on the application of the Unit Operator, may approve, and

(h) the date and type of any well treatment or work-over which shall be indicated on the graph, and the second of which parts shall contain

Chevron

Chevron Standard Limited

143F

Virden, Manitoba
October 4,1973

Director of Mines
Department of Mines, Resources
and Enviromental Management
Room 901 Norquay Building
Winnipeg, Manitoba
R3C OP8

ATTENTION: Mr. J.S. Roper

Dear Sir:

Re: Conversion of thirteen (13) Water Injection Wells in the North Virden Scallion Unit No. 1 from Devonian to Mississippian water injection

Mississippian water production in the North Virden Scallion Unit No. 1 currently exceeds Mississippian water injection requirements by approximately thirty-five hundred (3500) barrels per day. Injection of this excess Mississippian water is economically more attractive than disposal of same. Chevron Standard Limited, as operator of the subject unit, therefore proposes to convert the following thirteen (13) Devonian water injection wells to Mississippian water injection wells, commencing on or about the 22nd day of October, 1973:

Well	Original Drilling License No.
Sun W. C. Tapp Scallion WIW 8-27-11-26 (WPM)	1023
Sun P.J. Tapp Scallion WIW 6-26-1126 (WPM)	1233
Fargo et al Scallion WIW 8-26-11-26 (WPM)	1605
Chevron Scallion WIW 12-23-11-26 (WPM)	1069
Chevron Scallion WIW 14-23-11-26 (WPM)	1100
Chevron Scallion WIW 16-23-11-26 (WPM)	1315
Chevron Scallion WIW 12-24-11-26 (WPM)	1342
Dome Ddn. Sup. Scallion WIW 6-24-11-26 (WPM)	1497
Dome Cdn. Sup. Scallion WIW 8-14-11-26 (WPM)	1612
Chevron Scallion WIW 6-13-11-26 (WPM)	1581
Chevron Scallion WIW 10-13-11-26 (WPM)	1663
Chevron Scallion WIW 12-13-11-26 (WPM)	1585
Chevron Scallion WIW 14-13-11-26 (WPM)	1575

OCT 15 1973

A fifteen-hundred barrel buffer of Mississippian water containing 10,000 PPM Acetic acid will be injected into the system immediately prior to starting Mississippian water injection. This will prevent loss of injectivity due to precipitate formation when Mississippian water contacts Devonian water in the reservoir.

This letter is being forwarded to you in lieu of individual Mines Branch Application Forms for each well. We trust this will meet with your approval.

Yours very truly

L.D. Brown, P. Eng.
Area Supervisor

PS-f-25

Province of Manitoba

inter-departmental memo

To: Mr. J. S. Roper,
Director of Mines.

Date July 27, 1973.

From M. J. Gobert,
Senior Assistant Deputy Minister.

8718

Subject:

First Fold

On a confidential basis, I would appreciate an evaluation report on 11-36-11-27 W.P.M. based on the premise we were going to drill a well at our cost.

M. J. Gobert

MJG/as

July 31/73

Memo. Mr. J. S. Roper (Confidential).

Re: Evaluation 11-36-11-27.

Location is on the southwestern west to northwestern edge of the North Virden Scallion (Mississippian) field, approximately 1½ miles northwest of the nearest production in the Scallion field (11-30-11-26, now abandoned). The structure contour map on the Upper Virden Cruicidal Member is shown in Figure 1.

Considerable structure is present in the area and complicates evaluation. A sharp structural low occurs to the northeast (Fig 1), but the 11-36-11-27 location probably is "normal" relative to the regional structural trends; the expected elevation of the Cruicidal marker is approximately -525'. It should be noted that there may possibly be a structural low to the west of the 11-19-11-26 well, as shown by the bunching of the contours. If such a structural low is present and extends to the area of the 11-36-11-27 location, this would preclude the possibility of any Mississippian production.

Production data from the nearest wells (Table 1) shows results ranging from non-commercial shows (15-30), to abandoned and suspended producers (8-30, 10-30, 11-30), to fair or marginal producers (6-30, 7-30). All production in this immediate area is from the Scallion beds. The location in question should have a structural elevation and reservoir characteristics comparable to these wells. There is, however, an overall rise in elevation of the effective oil/water interface as you proceed eastwards in the Virden area (eg. between the North Virden Scallion Field and the Virden Rosser Field). Any local rise in position of the o/w interface would limit the possibility of accumulation in this area, since the location is close to the down dip limit of oil accumulation.

On the other hand, it is necessary to note the occurrence of some excellent producers at or near the down dip limits of oil accumulation. One excellent example is the nearby 2-13-11-27 well which has produced in excess of 163 000 barrels, despite

the fact that it is surrounded by dry holes or abandoned. This 2-13 well produces from the Upper Virden Cruicidal beds, as contrasted to the Scallion production in the adjacent field area, so any test hole on the 11-36-11-27 location should check the cruicidal beds as well as the Scallion, in order to check for local pinch and permeability of these beds.

In summary, the 11-36-11-27 should provide oil shows and has a reasonable chance of providing a ~~marginal~~ producer comparable to the 6-30 or 7-30 wells. A rather remote possibility exists of an excellent well comparable to the 2-13-11-27 well.

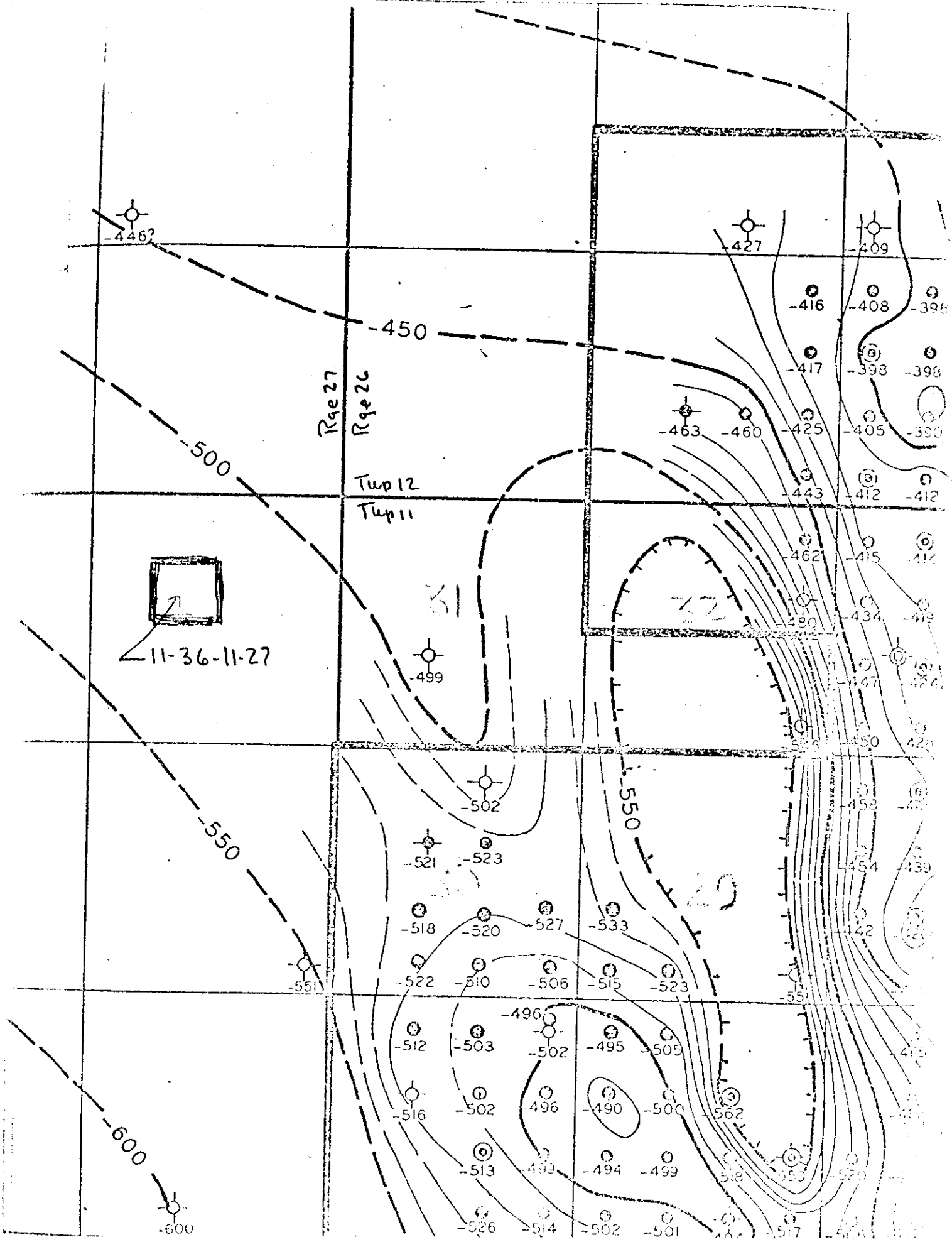
Table 1

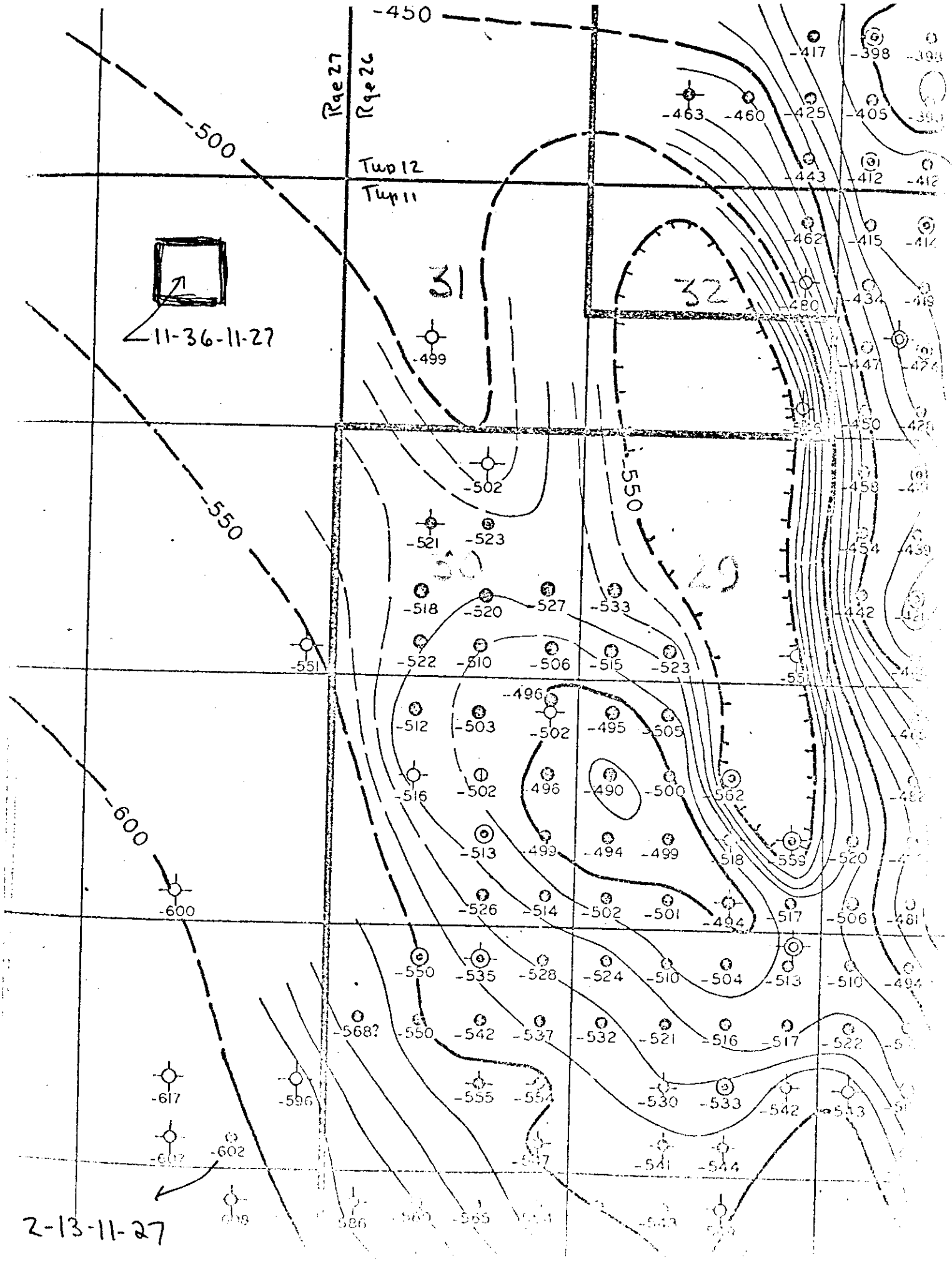
Well.	Production* or D.S.T. /Interval. & Elev.		Elev. Crin. Marker
6-30-11-26	W/O = 35,296/28642 : 878/339	- Scallion. -542-597	-518
7-30-11-26	W/O = 8642/21,751 : 147/355	Scallion. -584-598	-520
8-30-11-26	Susp. W/O = 3599/6087	Scallion -586-601	-527
10-30-11-26.	Susp. W/O = 17,061/6276	Scallion -599-603.	-523
11-30-11-26	Aband. W/O = 17	Scallion -595-598	-521
15-30-11-26	Aband. Dry., DST.		-502
	-569-651 / Scallion : 420' GMO, 330' WM.		
	-630-643 / " : 150' SW, 10' O		
	-592-619 / " : 330' GMO, 90' MSW, 60' M.		
	-592-607 / " : 30' M, 15' OFWM.		
	-504-522 / Crinoidal : 65' WM.		
6-31-11-26	Aband. dry - no DST.		-499.

W/O = Water bbls/Oil bbls.

* 1972 Cumulative; or monthly figure fm. December, or total if suspended.

Fig. 1. Structure Contour Map - Upper Virden Crinoidal Marker

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-602
-541
-544

R3C OP8

May 14, 1973

Mr. R. R. McDaniel,
McDaniel Consultants (1965) Ltd.,
800 Western Union Building,
640 - 8th Avenue S.W.,
Calgary 2, Alta.

Re: Subsurface Pressure Survey
April 9th to April 18th, 1973

Dear Rod:

Enclosed herewith is a copy of the results of a subsurface survey taken in the North Virden Scallion Unit #1 and the Virden-Roselea Units #1, #2 and #3.

Any comments you may have on the above survey or any recommendations you might suggest at this time would be appreciated.

Yours sincerely,

J. S. Roper,
Director of Mines.

FSG/h

R3C OP8

April 23, 1973

Mr. J. G. Trowell
Division Manager
Producing Department
Chevron Standard Limited
400 Fifth Avenue S.W.
CALGARY, Alberta

Dear Mr. Trowell:

Re: North Virden Scallion Unit No. 1
Phase II Devonian Flood Fronts
Water Breakthrough and Performance Review

The above report of March 26, 1973 has been reviewed and it is noted that the percentage of Devonian water breakthrough varies throughout the area.

It is felt that certain areas of the reservoir may not be swept effectively unless careful planning is undertaken to provide a better balance in the overall injection plan.

Could I suggest, that Chevron Standard Limited, undertake a model study of the reservoir in order to provide more definitive information on the present injection scheme. It is felt such information could provide for variations in the mode of operation and effect increases in recoveries.

Yours very truly,

J. S. Roper
Director of Mines

To N.C. Gabert

Apr 17/73

North Vanier Section, Unit No 1.

Kidd suggests a model study should be considered. I recommend a letter to Alberta Dept suggesting same. -

For your approval, rejection or ? please

May 9/72 letter is tagged.

- Please return file when it has served your purpose.

April 19/73
Jack:
Lets get some feed back first.
JPG

Department of Mines, Resources and Environmental Management
APR 23 1973
DIRECTOR OF MINES

DEPT. of MINES, RESOURCES and ENVIRONMENTAL MANAGEMENT
APR 19 1973
ASSISTANT DEPUTY MINISTER'S OFFICE

MANITOBA

DEPARTMENT OF MINES, RESOURCES
& ENVIRONMENTAL MANAGEMENT
THE OIL AND NATURAL GAS CONSERVATION BOARD
901 NORQUAY BUILDING
401 YORK AVENUE
WINNIPEG 1
R3C 0P8

Jas. T. Cawley, P. Eng.
CHAIRMAN 946-7438
J. S. ROPER 946-7428
DEPUTY CHAIRMAN
M. J. GOBERT 946-7859
MEMBER
R. R. McDANIEL
CONSULTANT

DRAFT

April 17, 1973

APR 23 1973

Mr. J. G. Trowell
Division Manager
Producing Department
Chevron Standard Limited
400 Fifth Avenue S.W.
CALGARY, Alberta

Dear Mr. Trowell:

Re: North Virden Scallion Unit No. 1
Phase II Devonian Flood Fronts
Water Breakthrough and Performance Review

The above report of March 26, 1973 has been reviewed ~~by the Board~~ and it is noted that the percentage of Devonian water breakthrough varies throughout the area.

It is felt that certain areas of the reservoir may not be swept effectively unless careful planning is undertaken to provide a better balance in the overall injection plan.

Could I suggest ~~The Board suggests, if reasonably possible~~, that Chevron Standard Limited, undertake a model study of the reservoir in order to provide more definitive information on the present injection scheme. It is felt such information could provide for variations in the mode of operation and effect increases in recoveries.

Yours very truly,

J. S. Roper
~~Deputy Chairman~~
Director

~~PSG/evh~~

R. F. S Grantz

APR 23 1973

April 16/73

Klein

In view of Kadi's suggestion ~~recorded~~ (see
sheet), a letter to Chevron to undertake a model study
of the reservoir to ~~assessment~~ assess the ~~of~~ sweep effectiveness
of the waterflood and of the operation of the injection plan.

cc for K. McDaniel

> We can send the above plus Kadi's letter to MMG for approval.

J

~~Would you also~~ have a ~~copy~~ of Keeyers report Nov 1972
~~made so we can put it on the file~~

McDANIEL CONSULTANTS (1965) LTD.

Oil and Gas Reservoir Evaluations

R. R. McDANIEL, P.ENG.
G. C. KNUTSON, P.ENG.
R. E. HUGHES, P.ENG.
W. C. SETH, P.ENG.
F. SCHORNING, P GEOL.

800 WESTERN UNION BLDG.
640 EIGHTH AVENUE S.W.
CALGARY, ALBERTA T2T 1G7
TELEPHONE (403) 262-5506

APR 16 19
2785

F.5.6.

April 13, 1973

Mr. J.S. Roper, Deputy Chairman,
The Oil and Natural Gas Conservation Board,
901 Norquay Building,
401 York Avenue,
Winnipeg, Manitoba,
R3C 0P8.

Dear Jack:

Further to your letter of April 2, with respect to the study of Devonian water breakthrough in the North Virden Scallion Unit No. 1, we have reviewed the report as supplied by Chevron Standard Limited.

As stated in our previous letter we would have anticipated water breakthrough to have occurred in essentially all of the wells. We note that Chevron Standard claim the performance characteristics of the Unit are close to their original predictions. Although on a cursory basis this would appear to be the case we do question that a more definitive study and in particular a model study might reveal somewhat different conclusions. It is noteworthy that the amount of breakthrough varies substantially throughout the area. As a result variations in the mode of operation might be considered. It is possible that certain areas of the reservoir will not be swept effectively unless careful planning is undertaken to provide a realistic balance in the overall injection plan. We would therefore suggest that if reasonably possible, Chevron Standard undertake a model study of the reservoir to obtain more definitive information on these factors. We believe that such a study might well provide information which could effect increases in recoveries over that of the present injection scheme.

We trust that these brief comments will be of assistance to you in assessing the performance of this reservoir, however, should there be any additional questions please do not hesitate to contact the writer.

Sincerely,

McDANIEL CONSULTANTS (1965) LTD.

R.R. McDaniel, P. Eng.

RRMcD:nfw

Jas. T. Castle, P. Eng.

April 2, [illegible]

[illegible]

Re: [illegible]

Enclosed herewith is [illegible] of the coal [illegible] reach [illegible] prepared by [illegible] above-named [illegible] of Mines [illegible] phase II of the Unit area. Also included is [illegible] showing isosaturation contours and percentages [illegible] of May 31, 1972.

The Board would appreciate your comments on this report [illegible] recommendation as to any future action which the Board should consider.

Yours sincerely,

J. [illegible]
Director of Mines

[illegible]/evh
Enclosures

Chevron Standard Limited
400 - Fifth Ave. S.W., Calgary, Alberta T2P 0L7

1762

March 26, 1973

Department of Mines, Resources
and Environmental Management
The Oil and Natural Gas Conservation Board
901 Norquay Building
401 York Avenue
Winnipeg, Manitoba
R3C 0P8

Attention: Mr. J. T. Cawley, P. Eng.
Chairman

Gentlemen:

Attached are three (3) copies of a report on Water Breakthrough and Performance of the secondary recovery scheme in North Virden Scallion Unit No. 1.

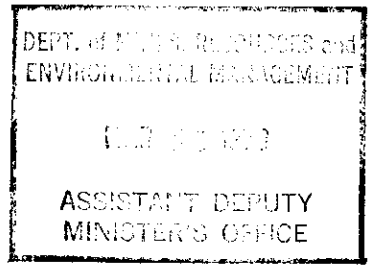
Yours very truly,

G W Cruickshank P. Eng.

for J. G. TROWELL
Division Manager
Producing Department
Calgary Division

GWCruickshank/lw
Attachments

copies to M J Gobert



MAP ON NVS UNIT FILE PETROLEUM DIVISION

Chevron Standard Limited
400 - Fifth Ave. S.W., Calgary, Alberta T2P 0L7

March 26, 1973

1762

North Virden Scallion Unit No. 1
Water Breakthrough and Performance
Review

Department of Mines, Resources
and Environmental Management
The Oil and Natural Gas Conservation Board
901 Norquay Building
401 York Avenue
Winnipeg, Manitoba
R3C 0P8

Attention: Mr. J. T. Cawley, P. Eng.
Chairman

Gentlemen:

As per our letter of April 27, 1972, water breakthrough was confirmed in the Phase II area of the North Virden Scallion Unit No. 1 waterflood. Following the successful detection of Devonian water utilizing the Atomic Absorption Spectrophotometer, Unit Operator undertook to sample and test produced water in all Phase II producing wells.

During May 1972, water samples were obtained on most producing wells in the Phase II area of the waterflood. Utilizing the AAS technique, outlined in the aforementioned letter, the Devonian water content of each produced water sample was determined. The results for the Phase II wells are reported and contoured on the attached map.

The ions selected for analysis were sodium, calcium and magnesium. From previous work these ions displayed a linear relationship in conjunction with the desired magnitude of concentrations in both base waters. From the analysis of each sample the percent Devonian water content was determined for each ion utilizing the correlation chart on the attached map. The Devonian water content of each sample was calculated by arithmetically averaging the content derived from each ion concentration.

It may be concluded that virtually all wells in the Phase II area have experienced water breakthrough. The identification of the breakthrough of Devonian water is only a qualitative measure of flood front advance in the Phase II area. This information cannot be quantified in terms of remaining recoverable reserves as the true breakthrough point in the waterflood history is unknown. Determination of breakthrough time by observing well performance is most difficult due to the presence of mobile Mississippian water.

A review of the predicted and actual performance of North Virden Scallion Unit No. 1 is as follows:

Original Oil-in-Place of Enlarged Unit	= 203,000,000 STB
Cumulative Production Pre Unit	= 11,354,536 STB
Unit to 12/31/72	= 21,968,096 STB
	33,322,632 STB
Recovery to Date (12/31/72)	= 16.6% of O.O.I.P.
Predicted Ultimate Recovery	= 28.4% of O.O.I.P.
	or 57,600,000 STB
Recovery Since Inception of Unit	= 21,968,096 STB
Oil-in Place at Commencement of Flood	= 191,150,000 STB
% Recovery Since Commencement of Flood	= 11.5%
Current Water-Oil Ratio	1.5

Utilizing Table IV in the report "Reservoir Study - North Virden Scallion Field, Manitoba" submitted by Chevron Standard Limited and dated August 1961, the predicted recovery at a stock tank water-oil ratio of 1.5 was 11.7%. This indicates that the performance to date is as predicted. If aquifer water produced from the west flank unit wells is discounted, the current stock tank water-oil ratio is calculated to be 1.1. The predicted recovery at this water-oil ratio was estimated to be 9.1% of the oil-in-place at commencement of injection.

Chevron Standard Limited, as Operator of North Virden Scallion Unit No. 1, contends that the performance of the waterflood to date indicates that the ultimate recovery from the unit area will be as predicted. Unit Operator will continue to monitor the waterflood performance and if future production data indicates a significant variation in ultimate recovery in the unit, The Oil and Natural Gas Conservation Board will be so advised.

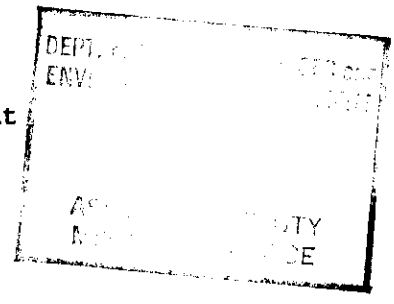
If there are any questions in regard to the foregoing, please contact Mr. G. W. Cruickshank at the above letterhead address.

Yours very truly,

GW Cruickshank P ENG

for J. G. TROWELL
Division Manager
Producing Department
Calgary Division

GWCruickshank/lw
Attachments



Jas. T. Cawley
xxxxxxxxxxx

March 19, 1973

Mr. R. McDaniel
McDaniel Consultants (1962) Ltd.
[illegible] Western Union Building
[illegible] - 8th Avenue, S.W.
[illegible]MAN 2, Alberta

Dear Sir:

Re: North Virden Scallion Unit No. 1

I am forwarding under separate cover a copy of Progress Report No. 11, 1972, for the above Unit.

Could you review this report and give us your comments on the performance of the reservoir. It is noted that water breakthrough has been established in Phase II of the waterflood area.

Best Regards,

Yours sincerely,

J. S. Roper,
Deputy Chairman.

[illegible]/evh

RJC OPS

May 12, 1972

Mr. J. G. Trowell,
Division Manager,
Producing Department,
Chevron Standard Limited,
400 Fifth Avenue S.W.,
Calgary 1, Alberta.

Dear Mr. Trowell:

Re: North Virden Scallion Unit No. 1
Water breakthrough

Regarding the breakthrough of Devonian water from the phase II area of the above Unit, we note that further samples will be obtained and that an estimate of the amount of breakthrough water present in the phase II producers will be made.

The Board would appreciate any report and appraisal, by the operator, on the performance characteristics of the Unit as a result of water breakthrough at this time, and the possible effects on ultimate recovery.

Any further reports or investigations, by the operator, of any significant variations in ultimate recoveries from any of the other Unit areas would also be appreciated.

Yours very truly,

J. S. Roper,
Deputy Chairman.

FSG'h

R3C OP8

May 12, 1972

Mr. R. R. McDaniel, P. Eng.
McDaniel Consultants (1965) Ltd.,
300 Western Union Bldg.,
640 Eighth Avenue S.W.,
Calgary 2, Alberta.

Dear Mr. McDaniel:

Re: Performance of unitized areas
Devonian water breakthrough

Thank you for your letters of May 9, 1972, concerning the Devonian water breakthrough in the North Virden Scallion Unit No. 1, and your review of the progress reports on the other units.

We will approach Chevron Standard regarding an appraisal of the water injection scheme in the North Virden Scallion Unit No. 1, and the ultimate recovery of oil as a result of the water breakthrough.

Any further information obtained regarding the performance of the various units will be forwarded for your review.

Yours very truly,

J. S. Roper,
Deputy Chairman.

FSG/h

McDANIEL CONSULTANTS (1965) LTD.

Oil and Gas Reservoir Evaluations

R. R. McDANIEL, P.ENG.
G. C. KNUTSON, P.ENG.
R. E. HUGHES, P.ENG.
W. C. SETH, P.ENG.
F. SCHORNING, P.GEOL.

800 WESTERN UNION BLDG.
640 EIGHTH AVENUE S.W.
CALGARY 2, ALBERTA
TELEPHONE (403) 262-5506

May 9, 1972

Mr. J. S. Roper,
Deputy Chairman,
Department of Mines, Resources
& Environmental Management,
The Oil and Natural Gas Conservation Board,
901 Norquay Building,
401 York Avenue,
Winnipeg, Manitoba.
R3C OP8

Dear Mr. Roper:

In regard to your letter of May 2, 1972 which referred to the Devonian water breakthrough in the North Virden Scallion Unit No. 1, we would expect that some such occurrence should be anticipated. Chevron Standard have probably performed detailed model studies on this field which would provide a much better appraisal of the performance characteristics with water breakthrough at this time. As a result, it is suggested that they be approached with a view to obtain their appraisal of the performance of this water injection scheme and the relationship of performance characteristics to date on ultimate recoveries.

Sincerely,

McDANIEL CONSULTANTS (1965) LTD.

R.R. McDaniel, P. Eng.

RRMcD:lhh

McDANIEL CONSULTANTS (1965) LTD.

Oil and Gas Reservoir Evaluations

R. R. McDANIEL, P.ENG.
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F. SCHORNING, P.GEOL.

800 WESTERN UNION BLDG.
640 EIGHTH AVENUE S.W.
CALGARY 2, ALBERTA
TELEPHONE (403) 262-5506

May 9, 1972

DIRECTOR OF MINES

Mr. J. S. Roper,
Deputy Chairman,
Department of Mines, Resources
& Environmental Management,
The Oil and Natural Gas Conservation Board,
901 Norquay Building,
401 York Avenue,
Winnipeg, Manitoba.
R3C OP8

Dear Mr. Roper:

Pursuant to your request we have reviewed the Progress Reports on the Whitewater Unit No. 1, the North Virden Scallion Unit No. 1, the Routledge Unit No. 1 and the Virden Roselea Unit No. 3.

It would appear that the performance characteristics of these unitized areas are following more or less anticipated patterns. It is to be pointed out however that significant variations in the ultimate recoveries in the various areas will probably occur because of the varying amounts of water production and the trend in the oil producing rates. It would certainly be of interest to obtain more detailed appraisals of these factors and the projected ultimate recoveries from the operator.

Should it be possible to obtain such information, the writer would be most pleased to assist in the review of same.

Sincerely,

McDANIEL CONSULTANTS (1965) LTD.

R. R. McDaniel, P. Eng.

RRMcD:lhh

R3C OP8

May 2, 1972

Mr. R. R. McDaniel,
McDaniel Consultants (1965) Ltd.,
800 Western Union Bldg.,
610 - 8th Avenue S.W.,
Calgary 2, Alberta.

Dear Mr. McDaniel:

Re: North Virden Scallion Unit No. 1
Water Breakthrough

We attach copy of -

(a) Report on above noted subject from Mr. J. G. Trowell, Chevron Standard Limited, dated April 27, 1972,

(b) Order No. PM 1 referred to in (a).

Would you have this report examined, please, and advise us of the significance, if any, of the breakthrough; also, any recommendations re actions required by the Board.

Your early reply would be appreciated.

Yours sincerely,

J. S. Roper,
Deputy Chairman.

JSR/h

cc: M. J. Gobert
Member

MANITOBA REGULATION 58/62

BEING

THE OIL AND NATURAL GAS CONSERVATION BOARD
ORDER NO. PM 1

An Order pertaining to Pressure Maintenance by Water Flooding — North Virden Scallion Unit No. 1.

Made and passed pursuant to "The Mines Act," by The Oil and Natural Gas Conservation Board.

(Filed July 19th, 1962.)

WHEREAS, subsection (8) (d) of Section 59 of "The Mines Act," as enacted by Chapter 45, Statutes of Manitoba, 1955, provides as follows:

"59. (8) Without restricting the generality of subsection (7) the board, with the approval of the minister, may make orders

(d) requiring the repressuring, recycling, or pressure maintenance, of any pool or portion thereof where it is economical so to do, and for that purpose where necessary requiring the introduction or injection into any pool or portion thereof of gas, air, water, or other substance;".

AND WHEREAS, the Board, pursuant to Section 59 of "The Mines Act," held a public hearing on April 18, 1962, for the purpose of considering a Proposal for Pressure Maintenance by Water Flooding within the Unit Area of the North Virden Scallion Unit No. 1, by The California Standard Company, on its own behalf and other working interest owners, in the North Virden Scallion Field in Manitoba.

AND WHEREAS, upon due consideration of the submissions and testimony at the hearing, the Board has found:

(a) that the pressure maintenance by water flooding of a certain part of the North Virden Scallion Field in Manitoba, comprising the Unit Area of the North Virden Scallion Unit No. 1, is reasonably necessary to prevent waste, and to increase substantially the recovery of oil;

(b) that the value of the estimated additional recovery of oil and gas resulting from such operation will exceed the estimated additional cost incidental to the conduct of such operation; and

(c) that such operation will result in general advantage to the owners of oil and gas rights within the Unit Area.

AND WHEREAS, Unitization Order No. 1 provides for the appointment of a Unit Operator.

NOW, THEREFORE, the Board orders:

1. (a) The Unit Operator shall conduct pressure maintenance operations by the injection of water to the Virden and Scallion Members of the Lodgepole Formation of the Mississippian Age underlying the Unit Area;

(b) The pressure maintenance operations shall be in accordance with, and subject to, the following rules:

PRESSURE MAINTENANCE RULES

1. (1) Water shall be injected to the Virden and Scallion Members of the Lodgepole Formation of the Mississippian Age in the wells:

Calstan Scallion	2-10-11-26
Calstan Scallion	10-10-11-26
Calstan Scallion	12-10-11-26
Calstan Scallion Prov.	2-11-11-26
Calstan Scallion Prov.	4-11-11-26
Calstan Scallion	2-15-11-26
Calstan Scallion	10-15-11-26
Shell Moir South Scallion	10-21-11-26
Calstan Scallion	4-22-11-26
Sun T. L. Tapp Scallion	10-22-11-26
Calstan Scallion	12-22-11-26

and, from time to time, in such other wells as the Board may direct, or, upon application of the Unit Operator, may approve;

(2) The injection in the wells referred to in this clause shall continue after the commencement.

2. (1) Before the injection of water is commenced, and from time to time after the commencement of injection, and upon the request of the

Board, the Unit Operator shall satisfy the Board as to the source, suitability, and method of treatment of the water to be injected;

(2) Before any change is made in the source of water being injected, the Unit Operator shall satisfy the Board as to the suitability of the water to be injected.

3. The Unit Operator shall immediately report to the Board any indication of channelling or break-through of injected water to producing wells, or any indication of other detrimental effects that may be attributable to the pressure maintenance operations.

4. In the interest of equity and good engineering practice the Board may prescribe from time to time a maximum pressure, or a minimum or a maximum rate, at which water shall be injected in any well in the Unit.

5. At least annually, unless otherwise directed by the Board, the Unit Operator shall determine the reservoir pressure in the producing wells in the Unit to the satisfaction of the Board.

6. The Unit Operator shall inject water to each well referred to in clause 1 hereof in a manner such that, within five years of the effective date of the order, a suitable balance is achieved and maintained between water injected to, and fluids withdrawn from, the Unitized Strata.

7. The Unit Operator shall, not later than the twenty-fifth day of each month, file with the Mines Branch a report of the quantity and source of water injected during the preceding month to each well referred to in clause 1 hereof.

8. (1) Effective August 1, 1962, and during the initial period of operation of the pressure maintenance program, unless otherwise authorized in writing by the Board, the Unit Operator shall, within six weeks of the expiration of each half of the calendar year, file with the Mines Branch a report of the progress, performance, and efficacy of the pressure maintenance program during the half, the first of which reports shall be for the half ending on December 31, 1962, and the last of which reports shall be for the half ending on June 30, 1965;

(2) After the period referred to in subclause (1), unless otherwise authorized in writing by the Board, the Unit Operator shall, within six weeks of the expiration of each yearly period commencing on the first day of July, file with the Board a report of the progress, performance, and efficacy of the pressure maintenance program during the period;

(3) Subject to any direction in writing of the Board to the contrary, a report required by this clause may, at the discretion of the Unit Operator, be in two parts, the first of which parts shall set out graphically and from the commencement of the operation of the pressure maintenance program,

(a) the daily average rate during each month of oil production of each producing well,

(b) the average water-oil ratio during each month of each producing well,

(c) the monthly cumulative oil and water production from each producing well,

(d) the daily average rate during each month of water injection to each injection well,

(e) the daily average water injection pressure during each month at each injection well,

(f) the monthly cumulative volume of water injected to each injection well,

(g) the average injectivity index during each month, for each water injection well, which index, at the discretion of the Unit Operator, may be determined as

(i) the daily injection rate divided by the average injection well head pressure, or

(ii) any similar index that the Board, on the application of the Unit Operator, may approve, and

(h) the date and type of any well treatment or work-over which shall be indicated on the graph, and the second of which parts shall contain

(a) calculations of the balance during each month between water injected to, and fluids withdrawn from, the Unitized Strata

Chevron Standard Limited
400 Fifth Avenue S.W., Calgary 1, Alberta

DEPARTMENT OF MINES
AND NATURAL RESOURCES
MAR 1972
ASSISTANT DEPUTY MINISTER'S
OFFICE

April 27, 1972

North Virden Scallion Unit No. 1
Water Breakthrough

DIRECTOR OF MINES

The Oil and Natural Gas Conservation Board
Box 42
Legislative Building
Winnipeg 1, Manitoba

Attention: Mr. Winston Mair, Chairman

Gentlemen:

In accordance with Pressure Maintenance Rule (3) of Order No. PM 1, Chevron Standard Limited as operator of North Virden Scallion Unit No. 1, hereby submits that water breakthrough has been confirmed in the subject Unit.

Water compositions determined by the AAS technique (Atomic Absorption Spectrophotomer) have confirmed the presence of Devonian water in produced water from the Phase II area of the Unit. Previous attempts to establish breakthrough by performance were not definitive. Water-oil ratio trends of Unit producers have not been unlike those of non-unit wells in the adjacent west flank area. A tracer chemical (ammonium thiocyanate) was injected into nineteen selected injectors in 1964. Produced water samples to date have not indicated the presence of the tracer.

The AAS technique provides concentrations of various trace ions in water samples. Compositions of Devonian source water and uncontaminated Mississippian produced water were determined utilizing the above technique. Subsequent water samples taken from Phase II producers were analysed to determine concentrations of trace ions. The test results are summarized in Table I. Figure I illustrates that the Devonian water (breakthrough water) content in the four Phase II wells sampled is in the order of 50 percent. Only trace ions with apparent linear relationships were utilized.

Water samples will be obtained on most Phase II wells i the subject Unit. From the analysis of these samples it will be possible to estimate the amount of breakthrough water present in the Phase II producers. These results will be forwarded when they become available.

Yours very truly,

for J. G. TROWELL
Division Manager
Producing Department
Calgary Division

G.W. Cruickshank/bv
Attachs.

TABLE I

WATER ANALYSIS - AAS TECHNIQUE

NORTH VIRDEN SCALLION UNIT NO. 1

Sample Location	Source	Water Composition - Concentration in PPM								
		Na	K	Li	Rb	Ca	Mg	Sr	Ba**	Total Ion*
13-17-11-26 WPM	Miss.	16,800	303	3.4	0.6	1310	517	33	46	51,000
14-16-11-26 WPM	Miss.	16,450	304	3.4	0.5	1330	520	33	46	52,000
WSW 6-27-11-26	Devonian	75,600	2020	7.3	3.5	3580	1130	73	71	190,000
WSW 6-27-11-26	Devonian	77,600	2060	7.3	3.1	3420	1140	74	76	200,000
15-4-12-26)	Phase	45,500	405	4.0	0.7	2350	800	47	45	135,000
9-23-11-26)	II	50,600	415	4.0	0.7	2400	810	44	75	145,000
15-23-11-26)	Produced	49,900	417	4.2	0.7	2400	810	45	47	145,000
11-13-11-26)	Water	53,200	410	3.8	0.7	2380	860	45	39	160,000

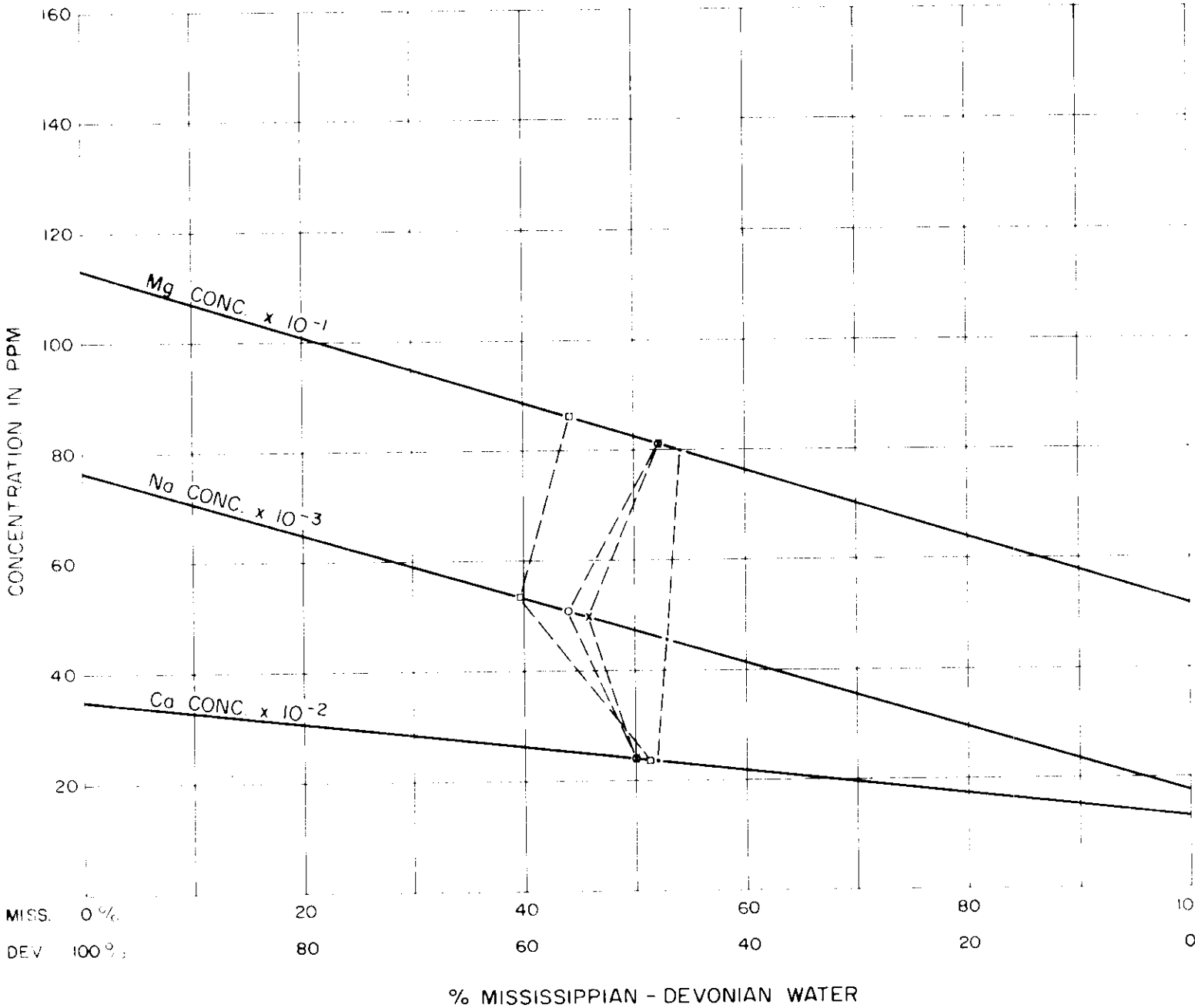
* Determined from resistivity measurements.

** Barium precision ±20 percent.

Mn and Cr concentrations were determined to be less than 0.5 ppm.

FIGURE 1

NORTH VIRDEN SCALLION UNIT No. 1
TRACE ION CONCENTRATIONS
PHASE II AREA



WELLS SAMPLED

- □ 15 - 4 - 12 - 26
- ○ 11 - 13 - 11 - 26
- x 9 - 23 - 11 - 26
- · 15 - 23 - 11 - 26

A-9214

[illegible]

April 26, 1972.

[illegible]. [illegible]. McDaniel,
[illegible] Western Union Building,
[illegible] - 8th Avenue, S.W.,
Calgary 2, Alberta.

Dear Mr. McDaniel:

Re: Progress Report No. 10 - 1971 -
North Virden Scallion Unit No. 1

We are forwarding a copy of the above noted Progress Report, prepared by the Unit Operator.

We would appreciate receiving any comments that you may have on the report.

Yours sincerely,

JSR/gb

1 Copy to FSG
1 Copy to Virden

Chevron Standard Limited
400 Fifth Avenue S.W., Calgary 1, Alberta

January 20, 1972

North Virden Scallion Unit
No. 1 - Schedules "A" and "B"

The Minister of Mines and
Natural Resources,
Legislative Building,
Winnipeg 1, Manitoba.

Dear Sir:

We enclose two (2) copies of revised Schedules "A" and "B" for the North Virden Scallion Unit No. 1 for your information. If you require further copies please let us know.

Yours very truly,

E. H. GAUDET, Chairman,
North Virden Scallion Unit No. 1
Legal Committee.

/ps
Encls.

cc: Mr. W. Winston Mair, Chairman,
The Oil and Natural Gas Conservation Board.

THE NORTH VIRDEN SCALLION UNIT NO. 1

SCHEDULE "A"

TRACT NUMBERS AND THE PRIMA FACIE WORKING INTEREST OWNERS OF THE TRACTS IN THE NORTH VIRDEN SCALLION UNIT NO. 1

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
6 - 2	Chevron Standard Limited	100
7 - 2	Triton Oil & Gas Corp. Security Freehold Petroleums Limited	33-1/3 66-2/3
10 - 2	Triton Oil & Gas Corp. Security Freehold Petroleums Limited	33-1/3 66-2/3
11 - 2	Chevron Standard Limited	100
13 - 2	Chevron Standard Limited	100
14 - 2	Chevron Standard Limited	100
15 - 2	Triton Oil & Gas Corp. Security Freehold Petroleums Limited	33-1/3 66-2/3
16 - 2	Triton Oil & Gas Corp. Security Freehold Petroleums Limited	33-1/3 66-2/3
9 - 9	Chevron Standard Limited	100
15 - 9	Chevron Standard Limited	100
16 - 9	Chevron Standard Limited	100
1 - 10	Chevron Standard Limited	100
2 - 10	Chevron Standard Limited	100
3 - 10	Chevron Standard Limited	100
5 - 10	Chevron Standard Limited	100
6 - 10	Chevron Standard Limited	100
7 - 10	Chevron Standard Limited	100
8 - 10	Chevron Standard Limited	100
9 - 10	Chevron Standard Limited	100

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
10 - 10	Chevron Standard Limited	100
11 - 10	Chevron Standard Limited	100
12 - 10	Chevron Standard Limited	100
13 - 10	Chevron Standard Limited	100
14 - 10	Chevron Standard Limited	100
15 - 10	Chevron Standard Limited	100
16 - 10	Chevron Standard Limited	100
1 - 11	Chevron Standard Limited	100
2 - 11	Chevron Standard Limited	100
3 - 11	Chevron Standard Limited	100
4 - 11	Chevron Standard Limited	100
5 - 11	Chevron Standard Limited	100
6 - 11	Chevron Standard Limited	100
7 - 11	Chevron Standard Limited	100
8 - 11	Chevron Standard Limited	100
10 - 11	Chevron Standard Limited	100
11 - 11	Chevron Standard Limited	100
12 - 11	Chevron Standard Limited	100
13 - 11	Chevron Standard Limited	100
14 - 11	Chevron Standard Limited	100
5 - 13	Chevron Standard Limited	100
6 - 13	Chevron Standard Limited	100
7 - 13	Chevron Standard Limited	100
10 - 13	Chevron Standard Limited	100

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
11 - 13	Chevron Standard Limited	100
12 - 13	Chevron Standard Limited	100
13 - 13	Chevron Standard Limited	100
14 - 13	Chevron Standard Limited	100
15 - 13	Chevron Standard Limited	100
3 - 14	Chevron Standard Limited	100
4 - 14	Sun Oil Company	100
5 - 14	Sun Oil Company	100
6 - 14	Sun Oil Company	100
7 - 14	Dome Petroleum Limited	100
8 - 14	Dome Petroleum Limited	100
9 - 14	Canadian Reserve Oil and Gas Ltd.	100
10 - 14	Canadian Reserve Oil and Gas Ltd.	100
11 - 14	Sun Oil Company	100
12 - 14	Sun Oil Company	100
13 - 14	Sun Oil Company	100
15 - 14	Canadian Reserve Oil and Gas Ltd.	100
16 - 14	Canadian Reserve Oil and Gas Ltd.	100
1 - 15	Chevron Standard Limited	100
2 - 15	Chevron Standard Limited	100
3 - 15	Chevron Standard Limited	100
4 - 15	Chevron Standard Limited	100
5 - 15	Chevron Standard Limited	100
6 - 15	Chevron Standard Limited	100

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
7 - 15	Chevron Standard Limited	100
8 - 15	Chevron Standard Limited	100
9 - 15	Chevron Standard Limited	100
10 - 15	Chevron Standard Limited	100
11 - 15	Chevron Standard Limited	100
12 - 15	Chevron Standard Limited	100
13 - 15	Chevron Standard Limited	100
14 - 15	Chevron Standard Limited	100
15 - 15	Chevron Standard Limited	100
16 - 15	Chevron Standard Limited	100
1 - 16	Dome Petroleum Limited	44-2/25
	Provo Gas Producers Limited	10-23/25
	Provo Gas (Sask.) Limited	20
	Daniel J. Pickrell & Virginia C. Pickrell	16-2/3
	Daniel J. Pickrell	8-1/3
2 - 16	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	22-1/25
	Provo Gas Producers Limited	5-23/50
	Provo Gas (Sask.) Limited	10
	Daniel J. Pickrell & Virginia C. Pickrell	8-1/3
	Daniel J. Pickrell	4-1/6
7 - 16	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	22-1/25
	Provo Gas Producers Limited	5-23/50
	Provo Gas (Sask.) Limited	10
	Daniel J. Pickrell & Virginia C. Pickrell	8-1/3
	Daniel J. Pickrell	4-1/6
8 - 16	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	22-1/25
	Provo Gas Producers Limited	5-23/50
	Provo Gas (Sask.) Limited	10
	Daniel J. Pickrell & Virginia C. Pickrell	8-1/3
	Daniel J. Pickrell	4-1/6

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
9 - 16	Chevron Standard Limited	100
10 - 16	Chevron Standard Limited	100
15 - 16	Chevron Standard Limited	100
16 - 16	Chevron Standard Limited	100
1 - 21	Chevron Standard Limited	100
2 - 21	Chevron Standard Limited	100
3 - 21	Chevron Standard Limited	100
6 - 21	Chevron Standard Limited	100
7 - 21	Chevron Standard Limited	100
8 - 21	Chevron Standard Limited	100
9 - 21	Shell Canada Limited	100
10 - 21	Shell Canada Limited	100
11 - 21	Shell Canada Limited	100
14 - 21	Shell Canada Limited	100
15 - 21	Shell Canada Limited	100
16 - 21	Shell Canada Limited	100
1 - 22	Canadian Superior Oil Ltd. Dome Petroleum Limited Provo Gas (Sask.) Limited Provo Gas Producers Limited Daniel J. Pickrell & Virginia C. Pickrell Daniel J. Pickrell	50 22-1/25 10 5-23/50 8-1/3 4-1/6
2 - 22	Chevron Standard Limited Canadian Superior Oil Ltd. Dome Petroleum Limited Provo Gas (Sask.) Ltd. Daniel J. Pickrell & Virginia C. Pickrell Daniel J. Pickrell	56-1/4 25 7-1/2 5 4-1/6 2-1/12
3 - 22	Chevron Standard Limited	100

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
4 - 22	Chevron Standard Limited	100
5 - 22	Chevron Standard Limited	100
6 - 22	Chevron Standard Limited	100
7 - 22	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	22-1/25
	Provo Gas (Sask.) Limited	10
	Provo Gas Producers Limited	5-23/50
	Daniel J. Pickrell & Virginia C. Pickrell	8-1/3
	Daniel J. Pickrell	4-1/6
8 - 22	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	22-1/25
	Provo Gas (Sask.) Limited	10
	Provo Gas Producers Limited	5-23/50
	Daniel J. Pickrell & Virginia C. Pickrell	8-1/3
	Daniel J. Pickrell	4-1/6
9 - 22	Sun Oil Company	100
10 - 22	Sun Oil Company	100
11 - 22	Chevron Standard Limited	100
12 - 22	Chevron Standard Limited	100
13 - 22	Chevron Standard Limited	100
14 - 22	Chevron Standard Limited	100
15 - 22	Sun Oil Company	100
16 - 22	Sun Oil Company	100
5 - 23	Sun Oil Company	100
6 - 23	Sun Oil Company	100
9 - 23	Chevron Standard Limited	100
10 - 23	Chevron Standard Limited	100
11 - 23	Chevron Standard Limited	100
12 - 23	Chevron Standard Limited	100

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
13 - 23	Chevron Standard Limited	100
14 - 23	Chevron Standard Limited	100
15 - 23	Chevron Standard Limited	100
16 - 23	Chevron Standard Limited	100
2 - 24	Chevron Standard Limited	100
3 - 24	Dome Petroleum Limited	40
	Canadian Superior Oil Ltd.	50
	Provo Gas (Sask.) Limited	10
4 - 24	Dome Petroleum Limited	40
	Canadian Superior Oil Ltd.	50
	Provo Gas (Sask.) Limited	10
5 - 24	Dome Petroleum Limited	40
	Canadian Superior Oil Ltd.	50
	Provo Gas (Sask.) Limited	10
6 - 24	Dome Petroleum Limited	40
	Canadian Superior Oil Ltd.	50
	Provo Gas (Sask.) Limited	10
11 - 24	Chevron Standard Limited	100
12 - 24	Chevron Standard Limited	100
13 - 24	Chevron Standard Limited	100
14 - 24	Chevron Standard Limited	100
15 - 24	Chevron Standard Limited	100
3 - 25	Chevron Standard Limited	100
4 - 25	Chevron Standard Limited	100
5 - 25	Chevron Standard Limited	100
1 - 26	Canadian Reserve Oil and Gas Ltd.	100
2 - 26	Canadian Reserve Oil and Gas Ltd.	100
3 - 26	Sun Oil Company	100
4 - 26	Sun Oil Company	100
5 - 26	Sun Oil Company	100
6 - 26	Sun Oil Company	100
7 - 26	Canadian Reserve Oil and Gas Ltd.	100
8 - 26	Canadian Reserve Oil and Gas Ltd.	100

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
10 - 26	Sun Oil Company	100
11 - 26	Dome Petroleum Limited	40
	Canadian Superior Oil Ltd.	50
	Provo Gas (Sask.) Limited	10
12 - 26	Dome Petroleum Limited	40
	Canadian Superior Oil Ltd.	50
	Provo Gas (Sask.) Limited	10
1 - 27	Sun Oil Company	100
2 - 27	Sun Oil Company	100
3 - 27	Chevron Standard Limited	100
4 - 27	Chevron Standard Limited	100
5 - 27	Chevron Standard Limited	100
6 - 27	Chevron Standard Limited	100
7 - 27	Sun Oil Company	100
8 - 27	Sun Oil Company	100
9 - 27	Sun Oil Company	100
10 - 27	Sun Oil Company	100
11 - 27	Chevron Standard Limited	100
12 - 27	Chevron Standard Limited	100
13 - 27	Chevron Standard Limited	100
14 - 27	Chevron Standard Limited	100
15 - 27	Sun Oil Company	100
16 - 27	Sun Oil Company	100
1 - 28	Dome Petroleum Limited	50
	Provo Gas (Sask.) Limited	30
	Western Naco Petroleums Limited	20

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
2 - 28	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	25
	Provo Gas (Sask.) Limited	15
	Western Naco Petroleum Limited	10
3 - 28	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50
5 - 28	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50
6 - 28	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50
7 - 28	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	25
	Provo Gas (Sask.) Limited	15
	Western Naco Petroleums Limited	10
8 - 28	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	25
	Provo Gas (Sask.) Limited	15
	Western Naco Petroleums Limited	10
9 - 28	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	25
	Provo Gas (Sask.) Limited	15
	Western Naco Petroleums Limited	10
10 - 28	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	25
	Provo Gas (Sask.) Limited	15
	Western Naco Petroleums Limited	10
11 - 28	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50
12 - 28	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50
13 - 28	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50
14 - 28	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
15 - 28	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	25
	Provo Gas (Sask.) Limited	15
	Western Naco Petroleums Limited	10
16 - 28	Canadian Superior Oil Ltd.	50
	Dome Petroleum Limited	25
	Provo Gas (Sask.) Limited	15
	Western Naco Petroleums Limited	10
16 - 32	Shell Canada Limited	100
1 - 33	Imperial Oil Limited	100
2 - 33	Imperial Oil Limited	100
3 - 33	Shell Canada Limited	100
4 - 33	Shell Canada Limited	100
5 - 33	Shell Canada Limited	100
6 - 33	Shell Canada Limited	100
7 - 33	Imperial Oil Limited	100
8 - 33	Chevron Standard Limited	100
9 - 33	Imperial Oil Limited	100
10 - 33	Imperial Oil Limited	100
11 - 33	Shell Canada Limited	100
12 - 33	Shell Canada Limited	100
13 - 33	Shell Canada Limited	100
14 - 33	Shell Canada Limited	100
15 - 33	Imperial Oil Limited	100
16 - 33	Union Oil Company of Canada Limited	100
2 - 34	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
3 - 34	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50
4 - 34	Gulf Oil Canada Limited	50
	Union Oil Company of Canada Limited	50
5 - 34	Canadian Reserve Oil and Gas Ltd.	75
	Union Oil Company of Canada	25
6 - 34	Canadian Reserve Oil and Gas Ltd.	75
	Union Oil Company of Canada Limited	25
7 - 34	Canadian Reserve Oil and Gas Ltd.	75
	Union Oil Company of Canada Limited	25
11 - 34	Canadian Reserve Oil and Gas Ltd.	75
	Union Oil Company of Canada Limited	25
12 - 34	Canadian Reserve Oil and Gas Ltd.	75
	Union Oil Company of Canada Limited	25
13 - 34	Union Oil Company of Canada Limited	100
14 - 34	Canadian Reserve Oil and Gas Ltd.	75
	Union Oil Company of Canada Limited	25
3 - 3	Milestone Petroleum Limited	100
4 - 3	Dome Petroleum Limited	89-2/25
	Provo Gas Producers Limited	10-23/25
5 - 3	Dome Petroleum Limited	89-2/25
	Provo Gas Producers Limited	10-23/25
6 - 3	Milestone Petroleum Limited	100
12 - 3	Dome Petroleum Limited	89-2/25
	Provo Gas Producers Limited	10-23/25
1 - 4	Dome Petroleum Limited	22-1/25
	Provo Gas (Sask.) Limited	10
	Provo Gas Producers Limited	5-23/50
	Canadian Superior Oil Ltd.	50
	Daniel J. Pickrell	12-1/2

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
2 - 4	Dome Petroleum Limited	22-1/25
	Canadian Superior Oil Ltd.	50
	Provo Gas (Sask.) Limited	10
	Provo Gas Producers Limited	5-23/50
	Daniel J. Pickrell & Virginia C. Pickrell	8-1/3
	Daniel J. Pickrell	4-1/6
3 - 4	Chevron Standard Limited	100
4 - 4	Chevron Standard Limited	100
5 - 4	Chevron Standard Limited	100
6 - 4	Chevron Standard Limited	100
7 - 4	Dome Petroleum Limited	22-1/25
	Canadian Superior Oil Ltd.	50
	Provo Gas (Sask.) Limited	10
	Provo Gas Producers Limited	5-23/50
	Daniel J. Pickrell & Virginia C. Pickrell	8-1/3
	Daniel J. Pickrell	4-1/6
8 - 4	Dome Petroleum Limited	22-1/25
	Canadian Superior Oil Ltd.	50
	Provo Gas Producers Limited	5-23/50
	Provo Gas (Sask.) Limited	10
	Daniel J. Pickrell & Virginia C. Pickrell	8-1/3
	Daniel J. Pickrell	4-1/6
9 - 4	Union Oil Company of Canada Limited	100
10 - 4	Union Oil Company of Canada Limited	100
11 - 4	Chevron Standard Limited	100
12 - 4	Chevron Standard Limited	100
13 - 4	Chevron Standard Limited	100
14 - 4	Chevron Standard Limited	100
15 - 4	Union Oil Company of Canada Limited	100
1 - 5	Canadian Export Gas & Oil Ltd.	100

SCHEDULE "A"
Continued

Tract Number	Working Interest Owners	Percentage Working Interest Ownership
7 - 5	Canadian Export Gas & Oil Ltd.	100
8 - 5	Canadian Export Gas & Oil Ltd.	100
9 - 5	Canadian Export Gas & Oil Ltd.	100
16 - 5	Triton Oil & Gas Corp.	100

THE NORTH VIRDEN SCALLION UNIT NO. 1

SCHEDULE "B"

PRIMA FACIE WORKING INTEREST OWNERS AND THEIR PARTICIPATING INTEREST IN THE NORTH VIRDEN SCALLION UNIT NO. 1

Working Interest Owners	Participating Interest
Chevron Standard Limited	61.34827
Shell Canada Limited	7.02213
Sun Oil Company	6.86857
Dome Petroleum Limited	4.93739
Canadian Superior Oil Ltd.	4.36564
Union Oil Company of Canada Limited	3.96180
Canadian Reserve Oil and Gas Ltd.	3.22193
Imperial Oil Limited	2.01053
Milestone Petroleum Limited	1.19351
Provo Gas (Sask.) Limited	1.18140
Gulf Oil Canada Limited	1.11762
Canadian Export Gas & Oil Limited	0.99954
Western Naco Petroleums Limited	0.41657
Provo Gas Producers Ltd.	0.40996
Daniel J. Pickrell & Virginia C. Pickrell	0.34280
Triton Oil & Gas Corp.	0.28166
Daniel J. Pickrell	0.21132
Security Freehold Petroleums Limited	0.10936
	100.00000

September 27, 1971

Mr. Hugh Gaudet, Chairman,
North Virden Scallion Unit No. 1,
Legal Committee,
Chevron Standard Limited,
400 Fifth Avenue S.W.,
Calgary 1, Alberta.

Re: Amendments to Plan
North Virden Scallion Unit No. 1

Dear Sir:

I am forwarding, under separate cover, 4 copies of certified copies of the above amendments, which were approved by Order-in-Council No. 931/71, and filed as Regulation 132/71, September 7, 1971.

Yours very truly,

F. S. Gamey,
Reservoir Engineer.

FSG/h

CHEVRON STANDARD LIMITED

Box 100
VIRDEN, Manitoba
July 7, 1971

DIRECTOR OF MINES
JUL 1971
DIRECTOR OF MINES

F561

Mr. J. S. Roper
Director of Mines
Room 201 Norquay Building
401 York Avenue
WINNIPEG 1, Manitoba

Dear Sir:

Re: North Virden Scallion Unit No. 1
Injection System Extension

Chevron Standard Limited proposes the construction of a salt water injection line on the West Half of Sec. 11-11-26 WPM. as shown on the attached plan.

This proposed line will consist of approximately fifteen hundred feet (1500') of 2 3/8" O.D. cement lined yellow jacketed steel line which will convey produced salt water from the existing line on LSD. 6-11-11-26 WPM to the proposed injection well on LSD. 12-11-11-26 WPM at a maximum pressure of 1000 psi once this well comes into the unit.

We believe that this line comes within the definition of a pipeline as defined by Section 2(b) of "The Pipeline Act" being Chapter 26 Statutes of Manitoba 1954 and would ordinarily be subject to all provisions contained therein. We hereby apply pursuant to the provisions of Section 23 of the said Act, for an order exempting this injection line from the provisions of "The Pipeline Act".

Affidavit of Right of User covering lands traversed by this line is enclosed.

We trust that this is satisfactory and your approval will be received.

Yours truly,

for Gwfmickshank

L. D. BROWN, P. Eng.
Area Supervisor

DW/jl

Attach.

cc J. Barton
J. Hawkins

CHEVRON STANDARD LIMITED

Box 100
VIRDEN, Manitoba
July 6, 1971

F.54

67A

Mr. J. S. Roper
Director of Mines
Room 801 Woodsman Building
330 York Avenue
WINNIPEG 1, Manitoba

Dear Sir:

Re: North Virden Scallion Unit No. 1
Injection System Extension

Chevron Standard Limited proposes the construction of a salt water injection line on the South East Quarter of Sec. 33-11-26 WPM as shown on the attached plan. This proposed line will consist of approximately fifteen hundred feet (1500') of 2 3/8" O.D. coated lined yellow jacketed steel line which will convey Devonian salt water from the existing line on L.S.D. 7-33-11-26 WPM to the proposed injection well on L.S.D. 8-33-11-26 WPM, at a maximum pressure of 1000 psi once this well comes into the unit.

We believe that this line comes within the definition of a pipeline as defined by Section 2(h) of "The Pipeline Act" being Chapter 26 Statutes of Manitoba 1968 and would ordinarily be subject to all provisions contained therein. We hereby apply pursuant to the provisions of Section 23 of the said Act, for an order exempting this injection line from the provisions of "The Pipeline Act".

Affidavit of Right of User covering lands traversed by this line is enclosed.

We trust that this is satisfactory and your approval will be received.

Yours truly,

for G. W. Buchanan

L. D. Brown, P. Eng.
Area Supervisor

DM/jl

cc J. Barron
J. Hawkins

CHEVRON STANDARD LIMITED

Box 200
Virden, Manitoba
July 6, 1971

DIRECTOR OF MINES
JUL 13 1971
DIRECTOR OF MINES

Mr. J. S. Roper
Director of Mines
Room 991 Woodsworth Building
401 York Avenue
Winnipeg 1, Manitoba

Dear Sir:

Re: North Virden Scallion Unit No. 1
Injection System Extension

Chevron Standard Limited proposes the construction of a salt water injection line on the South Half of Sec. 22-11-26 WPM. as shown on the attached plan.

This proposed line will consist of approximately twenty-four hundred feet (2400') of 2 3/8" C.S. cement lined yellow jacketed steel line which will convey produced salt water from the existing line on LSD. 4-22-11-26 WPM. to the proposed injection well on LSD. 2-22-11-26 WPM. at a maximum pressure of 1000 psi once this well comes into the unit.

We believe that this line comes within the definition of a pipeline as defined by Section 2(h) of "The Pipeline Act" being Chapter 26 Statutes of Manitoba 1954 and would accordingly be subject to all provisions contained therein. We hereby apply pursuant to the provisions of Section 22 of the said Act, for an order exempting this injection line from the provisions of "the Pipeline Act".

A sketch of Right of User covering lands traversed by this line is enclosed.

We trust that this is satisfactory and your approval will be received.

Yours truly,

for G.W. Shinkshank

L. D. Brown, P. Eng.
Area Supervisor

ldb/jl

cc: J. Barton
J. Hawkins

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

EDMONTON — CALGARY — FORT ST. JOHN

DEPARTMENT OF MINES & NATURAL RESOURCES
JUN 21 19[illegible]
PETROLEUM ENGINEERING DIVISION

Date Reported: November 22, 1963. Laboratory Report Number: E22532.

THE CALIFORNIA STANDARD COMPANY

E22532-1: Calstan Scallion W.S.W. 6-27-11-26. Devonian water supply well. Sampled November 18, 1963.

E22532-2: Can. Sup. Scallion 8-16-11-26. Mississippian oil well. Sample obtained November 18, 1963 by L.D. Brown.

E22532-3: Calstan Prov. 9-16-11-26. Mississippian produced water. Sample obtained November 18, 1963 by L.D. Brown.

This report is a continuation of the analysis on our Report Number: E22478, however the compatibility tests were repeated by co-mingling E22532-1 with each of E22532-2 and E22532-3. The results were similar to the findings in Report E22478 but there was a difference in that the precipitation was immediate. This may be due to the retention of all the hydrogen sulfide in the Mississippian waters. In the previous samples some of the hydrogen sulfide may have been lost due to aeration and method of sampling. The present samples were obtained with the exclusion of air and in narrow mouth gallon glass containers while the previous samples were taken in wide mouth quart sealers and were very likely exposed to air.

The incompatibility in these samples as in the previous ones was caused mainly by the formation of iron sulfide with smaller quantities of sulfates and carbonates of sodium, calcium and magnesium.

To determine the chemicals most effective in preventing or minimizing the formation of precipitates, the Devonian water with chemicals added to it was mixed 50-50 with the Prov. 9-16. The Can. Sup. water was not used because preliminary tests revealed that the Magna 35 present in the Prov. 9-16 water did not interfere with the tests.

Following is the summary of the tests with the chemicals used:

1. Citric Acid.

10, 20 and 50 ppm. - Precipitates slightly decreased from the untreated mixtures.

In excess of 1000 ppm. - No iron sulfide precipitation. Free sulfur precipitating from the reaction of the excess acid with hydrogen sulfide. Carbonates and sulfates present in small amounts.

(continued)

2. Gluconic Acid.

10, 20 and 50 ppm. - Traces of iron sulfide present as a suspension. Small amounts settling 4 hours after treatment, decreasing as the concentration of acid is increased.

In excess of 1000 ppm. Same as in citric acid.

3. Acetic Acid.

10, 20 and 50 ppm. - Similar to Gluconic acid, but the iron sulfide settling in slightly larger amounts.

In excess of 1000 ppm. Same as citric acid.

4. Nullapon BF-78.

(a chelating product of Chemical Developments Of Canada Ltd.)

In all concentrations it prevents the precipitation of the carbonates and sulfates but does not prevent the formation of iron sulfide.

5. Sodium Carboxymethylcellulose.

Ineffective in all concentrations. Formed other precipitates.

6. Sodium Hexa - Meta - Phosphate.

Ineffective in all concentrations. Formed other precipitates.

From the preceding tests, the Gluconic and Acetic acids were found to be the most effective with the Gluconic being the better of the two. Further tests have shown that when up to 25% Devonian water containing 10 ppm. Gluconic acid was mixed with the Mississippian water, there was no precipitation of iron sulfide. In similar tests, the acetic acid was not as effective.

The tests were performed on an open system basis and any variation from them may yield different results. Tests on a closed system basis are difficult to duplicate in the laboratory and should be performed at the source of the samples.

October 28, 1970

Mr. J. G. Trowell, Division Supt.,
Producing Department,
Chevron Standard Limited,
400 Fifth Avenue S.W.,
Calgary 1, Alberta.

Re: Bottom Hole Pressure Survey
North Virden Scallion Unit #1

Dear Sir:

We have reviewed the information forwarded October 16, 1970, regarding the above survey and some concern has been felt regarding the high bottom hole pressure recorded in the well located on Lsd. 11-1/-11-26.

[illegible] pressured. Some concern has [illegible] that [illegible] would be restricted [illegible] manner that wellhead pressure would decrease to the initial reservoir pressure.

Could you give us your opinion as to the possibility of breakthrough of salt water to the ground water supply in that area, and what could be done to guard against such an occurrence.

Yours very truly,

E. S. Gamey,
Reservoir Engineer.

ESG/a

CHEVRON STANDARD LIMITED

400 FIFTH AVENUE S.W., CALGARY 1, ALBERTA

July 30, 1969

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

Attention: Mr. F. S. Gamey
Reservoir Geologist

Gentlemen:

Please find enclosed three copies of the Subsurface Pressure Survey for North Virden Scallion Unit No. 1, conducted May 21st to June 14th, 1969.

Yours very truly,

L. D. BROWN, Chairman
North Virden Scallion Unit No. 1
Operating Committee

GWC cs
Encl.

DEPARTMENT OF MINES & NATURAL RESOURCES
JUL 31 1969
PETROLEUM ENGINEERING
DIVISION

CHEVRON STANDARD LIMITED
400 FIFTH AVENUE S.W., CALGARY, ALBERTA

May 16, 1968

Mr. M. J. Gobert
Oil and Natural Gas Conservation Board
Department of Mines and Natural Resources
1010 Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Dear Sir:

Enclosed herewith please find three (3) copies of the North Virden Scallion Unit No. 1 Progress Report No. 6 for the year 1967.

Yours very truly,

E. Bedingfield

J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

/cb
Encl.

MAY 21 1968
Division

DEPARTMENT OF MINES
AND NATURAL RESOURCES
MAY 21 1968
OFFICE

J. S. Roper
XXXXXXXX

May 14, 1969.

Mr.R. R. McDaniel,
President,
McDaniel Consultants (1965) Ltd.,
640 - 8 Avenue, S.W.,
Calgary,
Alberta.

Dear Mr. McDaniel:

For your information, we are attaching the following:

1. North Virden Scallion Unit No. 1 - Notice of Meeting and Minutes of March 28, 1969, meeting of the Engineering Committee.

2. Proposed Routledge-West Routledge Unit

   (a) Notice of Meeting and Minutes of the March 12, 1969, meeting of the Operating Committee;

   (b) Draft of "Plan" for unit operation;

   (c) Data for the calculation of tract participation factors.

Yours sincerely,

J. S. Roper,
Director of Mines.

:DB

Encs.

1 copy of all above material to: Mr. F. S. Gamey.

CHEVRON STANDARD LIMITED

400 FIFTH AVENUE S.W., CALGARY 1, ALBERTA

May 8, 1969

Department of Mines and Natural Resources
1010 Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Attention: Mr. M. J. Gobert

Gentlemen:

Enclosed are copies of the following:

1. North Virden Scallion Unit No. 1 - Notice of meeting and minutes of March 28, 1969 meeting of the Engineering Committee.

2. Proposed Routledge-West Routledge Unit

   (a) Notice of meeting and minutes of the March 12, 1969 meeting of the Operating Committee;

   (b) Draft of "Plan" for unit operation;

   (c) Data for the calculation of tract participation factors.

Yours very truly,

J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

PP:mg
Encl.

DEP. ... AND ...
MAY ...
ASSISTANT DEPUTY ...
C...

APR 2[illegible]
ASSISTANT DEPUTY MINISTER'S
OFFICE

April 23, 1969.

DEPARTMENT
& NATURAL
APR 24 1969
DIRECTOR OF MINES

Mr. L.D. Brown,
Chairman,
N. Virden Scallion Unit No. 1,
Operating Committee,
Chevron Standard Limited,
400 Fifth Avenue S.W.,
Calgary 1, Alberta.

Dear Mr. Brown:

In the absence of Mr. Hair, I wish to acknowledge with thanks the copies of the N. Virden Scallion Unit No. 1 1968 Annual Progress Report.

Yours sincerely,

ORIGINAL SIGNED BY
J. J. O'BRIEN

J.J. O'Brien,
Executive Assistant
to the Deputy Minister.

b.c. Mr. M.J. Gobert

Distributed
24-4-69

CHEVRON STANDARD LIMITED
400 FIFTH AVENUE S.W., CALGARY 1, ALBERTA

April 17, 1969

The Oil and Natural Gas Conservation Board
Norquay Building
Winnipeg, Manitoba

Attention: Mr. Winston Mair, Chairman

Gentlemen:

We are enclosing herewith three copies of the N. Virden Scallion Unit No. 1 Annual Progress Report for the period January 1 - December 31, 1968.

Yours very truly,

for G. W. Mitchell

L. D. BROWN, Chairman
N. Virden Scallion Unit No. 1
Operating Committee

BNMcL:mg
Encl.

DEPARTMENT OF MINES & NATURAL RESOURCES
APR 21 1969
Deputy Minister's Office

CHEVRON STANDARD LIMITED

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

August 18, 1967

The Oil and Natural Gas Conservation Board
Department of Mines and Natural Resources
1010 Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Attention: Mr. M. J. Gobert

Dear Sir:

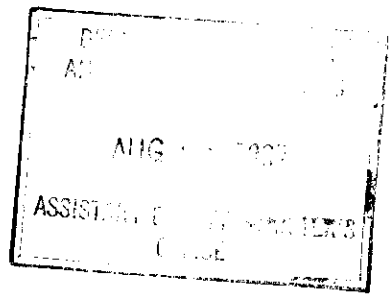
Enclosed herewith please find three (3) copies of the North Virden Scallion Unit No. 1 Semi-Annual Progress Report No. 6 for the period January 1, 1967 to June 30, 1967.

Yours very truly,

S N Borowski

for J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

/cb
Encl.



PROVINCE OF MANITOBA

F. S. GAMEY
RESERVOIR GEOLOGIST

WHitehall 6-7162

DEPARTMENT OF MINES AND NATURAL RESOURCES
MINES BRANCH
PETROLEUM ENGINEERING DIVISION
911 NORQUAY BUILDING,
401 YORK AVENUE, WINNIPEG 1

F.S.Gamey
Reservoir Geologist

August 16th, 1965

Chevron Standard Limited,
Producing Department,
Calgary Division,
Medical Arts Building,
329A - 6th Avenue, S.W.,
CALGARY, Alberta.

Attention: J.G.Trowell. Div.Superintendent.

Dear Sir:

Re: North Virden Scallion Unit No.1

This acknowledges, with thanks, receipt of the following items covering the above named well:

(4) Progress Report for first half of 1965.

Yours very truly,

F. S. Gamey,
Reservoir Geologist.

FSG/js

CHEVRON STANDARD LIMITED

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

August 13, 1965

Department of Mines and Natural Resources
1010 Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Attention: Mr. M. J. Gobert
Assistant Deputy Minister

Dear Sir:

Enclosed please find four copies of the progress report for the North Virden Scallion Unit No. 1 for the first half of 1965.

Yours very truly,

for J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

PP/cb
Encl.

Aug. 16/65
(1) M J Gobert
(2) J S Rickaby
(1) Petrol File

DEPARTMENT OF MINES AND NATURAL RESOURCES
AUG 16 1965
ASSISTANT DEPUTY MINISTER

THE CALIFORNIA STANDARD COMPANY

7TH AVENUE & RAGLAN STREET • VIRDEN, MANITOBA

MAILING ADDRESS: P.O. BOX 100

August 6, 1965.

TO: ALL WORKING INTEREST OWNERS
NORTH VIRDEN SCALLION UNIT NO. 1

Dear Sirs:

Attached please find the required number of copies of the North Virden Scallion Unit #1 Progress Report for the month of July, 1965.

Yours very truly,
The California Standard Company,

For. Fred Van Loo
L. D. BROWN,
Area Supervisor.

GN-K/ms

Attach.

DEPARTMENT OF MINES & NATURAL RESOURCES
AUG 9 1965
PETROLEUM ENGINEERING DIVISION

Shell Canada Limited

BOX 880 - CALGARY - ALBERTA

DEPARTMENT OF MINES & NATURAL RESOURCES
FEB 19 1965
PETROLEUM ENGINEERING DIVISION

EXPLORATION & PRODUCTION

February 17, 1965

C
O
P
Y

California Standard Company
329A Sixth Avenue S.W.
Calgary, Alberta

Attention: Mr. J. G. Trowell

Gentlemen:

Re: North Virden Scallion Unit No. 1

Shell Canada Limited designates Mr. K. J. Hindmarch as an alternate representative to the Operating Committee of the North Virden Scallion Unit No. 1, effective immediately.

Yours very truly,

ORIGINAL SIGNED BY
R. Y. POCONTCHEFF

R. H. Norton
Manager
Calgary Division Production

COPY

March 10, 1964.

Mr. R. R. McDaniel,
President,
McDaniel Consultants Ltd.,
305 Humford Building,
608 - 7 Street, S. W.,
Calgary, Alberta.

Dear Mr. McDaniel:

For your information, we are attaching, hereto, copies of the North Virden Scallion Unit No. 1 Progress Report — Month of January, 1964, and North Virden Scallion Unit No. 1 Progress Report - Month of February, 1964.

Yours very truly,

J. S. Richards,
Director of Mines.

:or

Enc. 2

Copy to: Mr. M. J. Gobert,
~~Assistant Deputy Minister.~~

PS-(53)

COPY

January 30, 1964.

Mr. Thomas S. Tamaki,
Department of Mineral Resources,
Government Administration Building,
Regina,
Sask.

Dear Tom:

In response to your request of January 22nd, I am pleased to supply the following answers and comments on the questions asked about the registration of oil and gas unit agreements:

1. Section 87 of The Mines Act provides for the filing of such agreements, or orders, in the appropriate land titles district, and with the Chief Mining Recorder in respect to Crown rights. Two copies of this section are attached.

The only Unitization Order in effect in Manitoba also contains a section requiring such filing.

2. In respect to Crown rights, the agreement, or order, is registered in a Document Book, and a notation of the registration made on each oil and natural gas lease.

The Board Order is also filed in the Land Titles Office, and given a caveat number. The order is also endorsed as a Memorial on every mineral title affected.

3. It is my understanding that this procedure gives the operator(s) the protection contained in the agreement, or order.

4. The Unitization Order, already referred to, has a section which provides: "In the event any Working Interest Owner does not have the right to develop and operate any Tract ..... , such Working Interest Owner shall indemnify and hold harmless Unit Operator and all other Working Interest Owners from any and all loss, ...".

If, owing to my lack of legal training, the above is ambiguous, or incomplete, don't hesitate to let me know.

Yours very truly,

J. S. Richards,
Director of Mines.

JSR:db

Encs.

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

...TURAL RESO...
JAN 29 19...
DIRECTOR OF MINES

August 28th, 1962.

The District Registrar,
Land Titles Office,
Brandon, Manitoba.

Attention: Mr. W. C. Richardson

Re: Plan For Unit Operation North of Virden - Scallion Unit No. 1 - Manitoba Gazette of 28th July, 1962, P. 230

Dear Sir:

Receipt of your letter of August 23rd, 1962 is acknowledged.

There would seem to be little doubt but that the reference to the filing of a Plan in the Land Titles Office in Part XV - 15 Section 15.01, should have been to the filing of an Order of The Board. Section 87, Cap. 38, S. M. 1959 provides for the filing. The use of the word "Plan" originates in Section 73 (2) of Cap. 38, and it would seem to me that this expression should have been dropped once the Plan had been approved by Order of The Board. Section 87 (3) makes it quite clear that we are not concerned with the Order until it is filed in the Land Titles Office. In speaking to Mr. Cowan, the Chairman of the Board at the time that the Plan was approved, he had in mind that it would be filed by way of Caveat. I think it should be filed as an Order of the Board, (using a Caveat number) but not as a Caveat, since that might not be a proper compliance with the Act. You will note it is a Certified Copy that is filed, and not an original duplicate.

With regard to the lands affected, I have discussed this with Mr. Richards, the Deputy Chairman of the Board, and he agrees with me that it should be shown against the lands set out in Part XXII of the Regulation. This appears to cover all the lands shown on the map, with the exception of those portions marked "Excluded Acreage". You might also note that the Land Description was corrected in the August 4th issue of the Gazette by the addition of Township 12, rather than describing all the lands in Township 11. I wondered if by any chance the Memorial of the Regulations should be placed on the Titles to the Surface, as well as those to the Minerals. I take it, however, that this is not necessary as it will be only the Mineral Titles which will be affected.

No doubt you will obtain a suitable stamp for the Memorial and you might give some thought to designing a stamp which would leave space for Amending Orders, giving only the number and date of filing. I discussed this also, with Mr. Richards. He had in mind that the only change would be the addition of more lands. I would imagine, however, that they will find it necessary to amend the Regulations to cover points

which were not foreseen in approving the initial Regulations. It seems to me that it would be much better to include the original Regulations, plus any Amendments in the one Memorial. You will note that Section 87 (5) requires any Amending Orders to be filed in the same manner as the original.

With regard to the Withdrawal of Caveats, I do not think we should concern ourselves as to the approval as set out in Section 16.07. Once the Regulation is filed, the ownership of the Oil and Gas becomes subject to those Regulations. It is interesting to note that the definition of a "working Interest owner" includes the In Fee Simple, or By Lease, but that Section 16.07 refers only to the Surrender of a Lease. If the intention had been that a Caveat based on a Lease should not be withdrawn, no doubt the Regulation would have said so.

Yours truly,

IEMcK:s

Registrar-General

p. c. to: Mr. M. J. Gobert,
Assistant Deputy Minister,
Minerals and Services.

Province of Saskatchewan

DEPARTMENT OF MINERAL RESOURCES

Government Administration Building,
Regina, Saskatchewan,
January 22, 1964.

Mr. J.S. Richards,
Director of Mines,
Department of Mines and Natural Resources,
WINNIPEG, Manitoba.

Dear Jim:

Re: Study of Registration of Unit Agreements

At the last meeting of the Lands Subcommittee of Petroleum and Natural Gas Committee of the Provincial Mines Ministers' Conference, you will no doubt recall, I was "designated" to set up some kind of committee to conduct a study of registration of oil and gas unit agreements in the various provinces. I thought that for the present it isn't necessary to get a committee going if I can achieve my purpose by correspondence. Therefore, I am writing to you as Manitoba's representative at the last meeting in Victoria, B.C. for the answers to the following questions:

(1) Whether or not there are any provisions in any Manitoba Act or regulations for registering oil and gas unit agreements and if "yes" could you let me know the gist of the pertinent Act or regulations?

(2) Briefly, what is the procedure for registering such documents (if registration is possible)?

(3) What kind of protection is given by such registration?

(4) Does the unit agreement itself make provisions for the operator(s) to protect the unitized lands for unit operation under the agreement against third parties as in Saskatchewan?

In the event that this letter should have been directed to someone else will you please let me know. Thanks.

Yours sincerely,

Thos. S. Tamaki.

TST/lm

p. c. to: Mr. M. J. Gobert,
Assistant Deputy Minister, Minerals and Services.

October 8, 1963

The California Standard Company,
Medical Arts Bldg.,
Calgary, Alta.

Attention: Mr. S.A. McRae

Dear Sir:

In accordance with your request by telephone, today, enclosed herewith are copies of your affidavit with Exhibit A attached, dated July 12, 1962.

In addition, one copy each of the following are enclosed:

1. Consent addressed to the Oil and Natural Gas Conservation Board, signed by H. J. Schlafly and dated June 15, 1962.

2. Letter addressed The California Standard Company, signed by H. J. Schlafly and dated June 15, 1962.

3. Letter addressed to The Oil and Natural Gas Conservation Board, signed by H. J. Schlafly and dated April 12, 1962.

Yours very truly,

M. J. Gobert,
Senior Petroleum Engineer.

MJG/h

October 3, 1963

Mr. Ralph F. Luckenbach,
2525 Liberty Street,
ALLENTOWN, Pa., U. S. A.

Dear Sir:

With reference to your letter of September 18, 1963, previous correspondence, and subsequent telephone calls to Mr. S. A. McCrae and myself, this constitutes our reply to your proposal involving the disposal of your interest in Tracts No. 9-14, 10-14, 15-14 and 16-14 in the North Virden Scallion Unit No. 1.

After due consideration, The California Standard Company has determined that it is not interested in the acquisition of your interest in the subject Tracts. We have also recently taken it upon ourselves to discuss your proposal informally with major Working Interest Owners in the Unit, and each of them indicated his concurrence with our views. Under the circumstances, we do not feel that any useful purpose would be served by calling a formal meeting of the Unit Working Interest Owners.

We wish to express our appreciation for the opportunity to consider your proposal.

Yours very truly,

A. B. BRISTOW, JR.

ABB:DY
Copies to all Working Interest Owners
bcc - Mr. M. J. Gobert ✓

DEPARTMENT OF MINES & NATURAL RESOURCES
OCT 1963
PETROLEUM ENGINEERING DIVISION

September 24, 1963.

M. J. Gobert

J. G.Cowan, Q.C.
Chairman
Oil & Natural Gas Conservation Board

North Virden Scallion Unit No. 1 Schafly - Fargo interests

Mr. Lee Gray phoned today to state that he was a newcomer to Fargo Oils Ltd., and being in charge of exploration and evaluation had been asked by his management to clear up the above problem. He further stated that it appeared doubtful that they could secure support of 75% of the Unit in an application for a re-hearing. He then asked if the Board on its own motion would call a re-hearing.

I told him that I was probably out of order in discussing the matter with him but, in my opinion, the Board was not an arbitrator and that it was a matter for civil action between the Schafly interests and the Fargo interests. Further, that I understood that several alternatives existed:

1. Purchase of one interest by the other.

2. Purchase of both interests by the Unit.

3. Purchase of both interests by another participant in the Unit.

He seemed doubtful that any progress could be made with any of these and reiterated that several staff changes had been made in his company since the effective date of the Unit.

c.c. J. S. Richards

August 13, 1963.

The California Standard Company,
Medical Arts Bldg.,
Calgary, Alta.

Attention: Mr. A.B. Bristow, Jr.
Vice-President,
Producing

Re: North Virden Scallion Unit No. 1
Order No. PM 1 - Scallion 8(3)

Dear Sir:

With reference to your request of July 22, 1963, this is to advise that individual well production history charts will not be required for the North Virden Scallion Progress Report No. 2, January - June 30, 1963, but will be required for the period ending December 31, 1963.

Yours very truly,

J. G. Cowan,
Chairman,
The Oil and Natural Gas
Conservation Board.

August 13, 1963

M. J.Gobert

J. G .Cowan, Q.C.
Chairman
The Oil and Natural Gas Conservation Board.

North Virden Scallion Unit No. 1

Order No. PM 1 - Scallion 8(3)

With reference to your memo of July 26, 1963, attached is a suggested reply to Mr. Bristow's request to delete the well charts from the mid-year reports. I have been informed that this will save approximately $3000.

INTER-DEPARTMENTAL MEMORANDUM

PROVINCE OF MANITOBA

DATE July 26, 1963.

FROM J.G. Cowan
Chairman, The Oil and
Natural Gas Conservation Board

TO Mr. J.S. Richards
Director of Mines

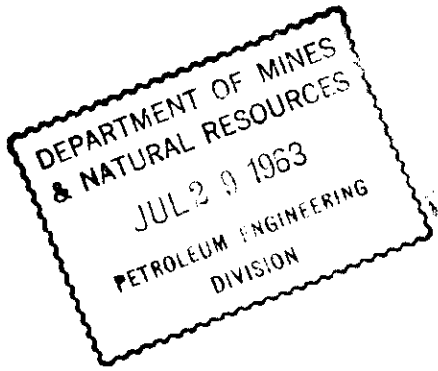
SUBJECT California Standard - Waterflood Report

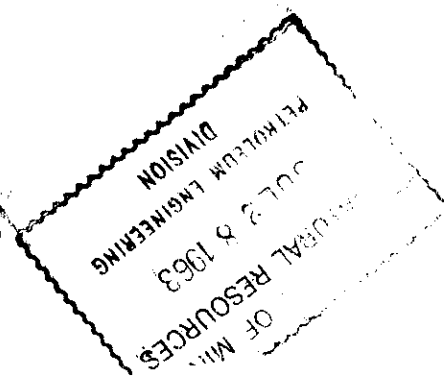
I am enclosing copy of Mr. Bristow's letter to me of July 22 requesting permission to delete from the mid-year charts individual well production, the charts to be supplied with the year-end report. The mid-year report would include overall reservoir performance charts, etc.

I take it that the suggestion stems from difficulty or impossibility of supplying the information other than in the year-end report. If you agree with the suggestion, it would be appreciated if you would let me have a draft reply for my signature.

J.G. Cowan.

JGC/ms
Enc.
cc. Mr. M.J. Gobert.





DB f-53

COPY

THE CALIFORNIA STANDARD COMPANY
Medical Arts Building, 329A-6th Avenue S.W., Calgary, Alberta.

A.B. Bristow, Jr.
Vice-President
Producing

July 22, 1963.

Mr. J.G. Cowan,
Chairman,
The Oil & Natural Gas Conservation Board,
Box 42,
Legislative Building,
WINNIPEG 1, Manitoba.

Dear Sir:

We would appreciate your consideration to allowing us to delete from the mid-year North Virden Scallion Waterflood Report individual well production history charts. It would be understood that we would supply these charts for the year end report. The mid-year report would include overall reservoir performance charts such as shown on Figure 2 of Progress Report No. 1.

Yours very truly,

"?"

A.B. BRISTOW, JR., Chairman,
North Virden Scallion
Unit No. 1

JFR/jmk

INTER-DEPARTMENTAL MEMORANDUM

PROVINCE OF MANITOBA

DATE June 25, 1963.

FROM J.G. Cowan, Chairman,
Oil & Natural Gas Conservation Board

TO Mr. M.J. Gobert

SUBJECT North Virden Scallion Unit No. 1
~~Stewart Lease~~ Controversy

I have your memo of June 12 in connection with the above matter, and after perusal of your memo, Mr. McDaniel's letter and also Mr. A.J. Williams' letter, I agree with you that the Board should not take the initiative in this matter but should wait for either California Standard or other interested parties to make the necessary application.

It is incomprehensible to me that so many parties appear to have been well aware of the situation and yet failed completely to bring the matter to the attention of the Board prior to the approval of the plan submitted.

J.G. Cowan.

JGC/ms
cc. Mr. J.S. Richards

DEPARTMENT OF MINES & NATURAL RESOURCES
JUN2 7 1963
PETROLEUM ENGINEERING DIVISION

June 12, 1963.

M. J.Gobert

J. G. Cowan, C.C.
Chairman
Oil & Natural Gas Conservation Board.

North Virden Scallion Unit No. 1

Stewart Lease Controversy

Reference is made to your memos of May 21, 1963, and June 3, 1963.

In my opinion, the Board should not institute any action in this case.

Should an application be received, as provided for in Clause 20.06 (a) of the Order, or in Section 75 of an Act to Amend The Mines Act, subsection (4) of Section 75 of this Act makes it mandatory for the Board to hold a hearing.

However, it is further my opinion that the Board, having issued the original order under subsection (3) of Section 73, would be bound by the provisions of Section 74 and would, therefore, require the consent, in writing, of 75% of the working interest owners and royalty owners before a new order reducing the tract participations could be issued.

It would appear that an inequity does exist and it is also evident that the operator of the Stewart Lease, Fargo Oils Ltd., and the applicant, The California Standard Company, were aware of this some 7 months before the Order became effective on August 1, 1962. I have some doubts as to whether the Schlafly interests were aware of the situation or not. They most certainly must have been aware of the very sharp increase in revenue from this lease which occurred immediately after the test period and continued until the first payments under the unit operation were made probably late in September or early in October, 1962. However, I assume that royalty owners, Betty Marie Stewart, Dora Anna Marie Stewart, each 1/4 interest owners, were unaware of the significance of any such fluctuation in income and the same probably applies to the other royalty owners, Montreal Trust Company, Regina, 1/4 interest, and The Canada Permanent Trust Company, Regina, the remaining 1/4 interest.

At your suggestion, procedures in other jurisdictions were reviewed. Alberta, as you are aware, have one compulsory unit authorized under the special Turner Valley Unit Act.

Unitization in Saskatchewan is compulsory. The Board is not required to ascertain that any working interest owners or royalty owners have consented to the plan and no recognition of any such consent is made in the order. In practice, of course, every effort is made to have the applicants secure 100% of the consents.

Mr. A. J. Williams, Acting Deputy Minister, in his letter of June 6, 1963, has suggested what the procedure in Saskatchewan might be should the problem arise.

A copy of Mr. R. R. McDaniel's letter of June 6, 1963, is also attached.

A review of certain statements made at the April 18, 1962, hearing might be pertinent.

Page 8 - Mr. Swanson: "The North Virden Scallion Field operators have supported the request before this Board in its entirety. We have 100% support of all Working Interest Owners . . .".

Page 9 - The Chairman: "Mr. Swanson, did I understand you to say you did have the consent of H. J. Schlafly?"
Mr. Swanson: "Yes."

Page 10- The Chairman: "Are these consents to the application by your company before this Board or to the Plan as being submitted".
Mr. Swanson: "The Plan as being submitted".

Page 12- Mr. Swanson: "The applicants submit that the Plan . . . . is fair and equitable and will protect the correlative rights of the Working Interest Owners and Royalty Owners . . . .".

Page 14- Mr. Swanson: "It becomes quite obvious here that in order to protect the relative equities of the various Owners, we propose to unitize these lands and operate the North Virden Scallion Field as a single property."

Page 135- Mr. Swanson: "So therefore I think the only summary statement I would make on this is that if it was not fair and not equitable, one hundred per cent of the Working Interest Owners would not have agreed to it".

Page 147- Mr. Swanson: "These corrections are necessary due to certain errors made in the calculation of tract participations."

(Even on the date of the hearing corrections were still being made in the tract participation factors and the Fargo-Schlafly correction could have been made then prior to the approach to the royalty owners.)

Page 152- Mr. Gobert: "Once that is established that is it for eternity". (referring to tract participation factors).
Mr. Swanson: "Yes".

Page 164- Mr. Swanson: "We will recalculate and submit a new tract participation exhibit . . ."
(Same comment as for Page 147 above.)

c.c. J. S. Richards

DEPT. OF MINES & NATURAL RESOURCES
JUN 1963
PETROLEUM ENGINEERING DIVISION

Province of Saskatchewan

DEPUTY MINISTER
OF
MINERAL RESOURCES

Government Administration Building,
Regina, Saskatchewan,
June 6th, 1963.

Mr. M. J. Gobert,
Senior Petroleum Engineer,
Petroleum Engineering Division,
Department of Mines and Natural Resources,
Box 42, Legislative Building,
Winnipeg, Manitoba.

Dear Bert:

Your letter of May 22nd poses a problem that we have discussed with people of other jurisdictions but which fortunately we have not yet encountered in Saskatchewan. The problem is in part eliminated by the manner of examining any proposed plan and the method of approving the plan.

As you are aware, under our Act a proposed plan of unit operation need not be supported by a fixed percentage of the working interest owners or royalty owners. In the evidence submitted at the hearing the number of working interest owners supporting the application is presented, generally together with some evidence that the mineral owners have been notified of the proposed unitization. The assumption is made that since the matter of unitization is considered at a public hearing that the opportunity to make an appearance and question the equity determination is available to all interested persons. To date, in thirty-odd hearings, only two mineral owners have appeared and made representations to the Board.

Until recently, productivity has not been a parameter in determining the final tract factor, although productivity has been a part of the determination of the initial or interim tract factors, but these have been limited in time, usually less than two years from the effective date.

In recent units in the southeast of the province (e.g. Weyburn and Midale) productivity has been part of the final tract factor determination, but never in excess of fifty percent; the balance of the tract factor being based on oil in place.

.....

If the application is not contested and the department (representing the Crown's royalty interest) and the Board feel that equity is preserved, then the applicant's plan is recommended for approval. In those cases where there are intervenors the Board may recommend a plan of their own without consulting either the working interest owners or royalty owners.

Many of our units have been amended to either increase or decrease the unit area. Such amendments are usually initiated by the unit and are subject to the same procedure and public hearing as for a new unit.

Assuming a situation similar to your problem were to occur in Saskatchewan, then one or more of the interested parties could apply for a rehearing but the onus would be on them to establish that an inequity had been created in the original order. This could in law overthrow the entire unit, but I suspect that since it is just about impossible to undo a unit until production ceases, no one would take the matter to court if the Board issued a revised, corrected plan as of the rehearing date. One of the alleviating considerations before the Board or a court in this regard would be the measure of the inequity as compared with the additional benefits to be derived from unitization.

In your case, it will no doubt depend to a great degree on the wording of your legislation. I would guess that you have two alternatives:

(1) Get the complainant to enter a brief requesting a re-hearing, and if he can make his case stand up to cross-examination by the others in the unit and the Board, issue a revised unit order effective after the re-hearing. Your Board ruling would then perhaps be subject to further appeal to the courts by any offended party.

(2) Advise complainant that he had his chance at the original hearing, and his only recourse now is to sue his operating partner for criminal negligence or some such action.

My apologies for the lengthy delay in this reply; we've been up to our neck in Weyburn unitization matters, Petroleum and Natural Gas Regulation changes, and a little fishing at La Ronge, so my desk got piled a bit high. Sure would like to hear how you finally dispose of this matter, when you do.

Best regards,

A. J. Williams,
Acting Deputy Minister.

AJW*AK

McDANIEL CONSULTANTS LTD.
Oil and Gas Reservoir Evaluations

C

June 6, 1963

O

Department of Mines and Natural Resources
Mines Branch
Director's Office
901 Norquay Building
401 York Avenue
Winnipeg, 1, Manitoba

P

Attention Mr. J.S. Richards

Dear Sir:

In regard to your letter of May 27, 1963 and the attached memorandum of Mr. Gobert's, the writer would have the following comments.

Y

It is difficult to understand that the various operators and working interest owners would not have conducted a more thorough investigation of the production characteristics of the various wells which were to be incorporated into a unitized area. It is believed that certain variations in production after unitization might well have been anticipated because of variations in the production techniques. It is much more difficult to understand, however, that such a significant increase in production prior to unitization, but after the designated production period, had not been brought to the attention of the Board at the time of the unitization hearing. Although problems of this nature often occur in the unitization of reservoirs such as the North Virden Scallion field, the potential inequities of such variations are usually brought to the attention of the regulatory bodies in question.

C O P Y

It is the writer's opinion that it is the prerogative of the individual operator to decide whether or not the participation granted to their interests is acceptable. It is possible, however, that an operator's overall participation in a unitized area might be deemed satisfactory because of an averaging effect over a number of varying type wells. This condition often occurs and inherently creates inequities for the non-represented owners of working interests and gross royalties on the individual tracts.

In the case of a royalty interest, it is the writer's opinion that in leasing the oil and gas rights to the operator, a covenant is made to protect the royalty interest owner on an individual tract or property basis. In such cases any disagreement is strictly a matter between the royalty interest owners and the operator in question even if it is necessary to take legal action to settle the matter.

In the case of a non-operating working interest owner an 'operating contract' is usually entered into with the property operator under which such matters are handled. In effect should a dispute arise as to whether or not the operator in question acted in a prudent manner it would be treated as a legal matter between the working interest owner and the operator in question. In view of the fact that the working interest owners in question did not in fact bring this problem before the Board, nor was any objection to this scheme as a whole suggested by that group it is the writer's opinion that the Board should not undertake any responsibility for the resulting effects of assigning participation to the interest in question, nor should that Board make any direct effort to rectify what may appear or actually be a gross inequity in the unitization of the field in question. It is believed that any such action would be tantamount to compulsory unitization and therefore would be beyond the intended jurisdiction of the Board in such matters. It is further believed that any such action would infer much closer control over the industry in the province of Manitoba.

In view of the foregoing comments, the writer would strongly recommend that neither the Board or its staff take any part in the discussions of, or the direction of, any

remedy of the apparent inequities in question. In view of the apparent seriousness of this matter, should there be any further questions with respect to the writer's opinions, please do not hesitate to contact the writer for more detailed discussions.

Sincerely yours,

McDANIEL CONSULTANTS LTD.

COPY (Original Signed) *R. R. McDaniel*

Per: R. R. McDaniel, P. Eng.

RRM/js

COPY

INTER-DEPARTMENTAL MEMORANDUM

PROVINCE OF MANITOBA

DATE June 3, 1963.

FROM J.G. Cowan
Chairman, Oil and Natural
Gas Conservation Board

TO Mr. M.J. Gobert
Senior Petroleum Engineer
Mines Branch

SUBJECT Stewart Lease Controversy - North Virden Scallion Unit No. 1

I have received a copy of Mr. Schlafly's letter of May 25 to Ralph Luckenbach, Allentown, Pennsylvania.

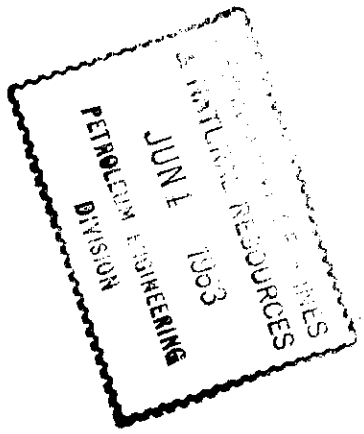
Apparently the matter has been referred to Mr. Bristow of California Standard. The letter also indicates that Mr. Bristow is awaiting word from the Board before taking action. This position may be logical, as Mr. Schlafly states, but I doubt if it is fair to the syndicate having regard to the fact that at the moment they appear to be suffering a loss of approximately $2,500 a month on top of the accumulated loss of about $20,000.

I agree with Mr. Schlafly that it is not advisable to let this situation continue indefinitely, and if the operator of the unit is not making an application, perhaps this is a case where the Board should act on its own motion.

Please let me have your comments.

J.G. Cowan.

JGC/ms
cc. Mr. J.S. Richards.



PS-4-58

May 30, 1963.

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

COPY

Mr. J. G. Cowan, Q.C.,
Chairman,
The Oil and Natural Gas
Conservation Board.
172 Legislative Building.

The Oil and Natural Gas
Conservation Board -
Order No. 37A.

Attached, hereto, for your signature, Order No. 37A.

This Order removes restrictions on production from further wells which will be affected by Injection System No. 1.

J. S. Richards.

:DB

Encs.

c. c. to: The Honourable C. H. Witney,
Minister of Mines and
Natural Resources.

Mr. Stuart Anderson,
Deputy Minister.

Mr. M. J. Gobert,
Senior Petroleum Engineer.

DEPARTMENT OF MINES
& NATURAL RESOURCES
MAY 10 1963
PETROLEUM ENGINEERING
DIVISION

H. J. SCHLAFLY
833 MAIN STREET
MOUNT VERNON, ILLINOIS
TELEPHONE 244-1434

COPY

May 25, 1963

Mr. Ralph Luckenbach
2525 Liberty Street
Allentown, Pennsylvania

Re: Stewart Lease Controversy

Dear Ralph:

Acknowledge receipt of your letter of the 20th. I phoned Owen Wilson yesterday to learn what progress was being made in adjusting our Tract Percentage.

Mr. Wilson said that on return to Calgary, he talked to Mr. Bristow of California Standard Company. It seems California Standard is awaiting some word from the Board before doing anything. This seems to be a logical position for him to take, but each month's delay is costing the Stewart Lease about $2,500.00 on top of the accumulated loss of about $20,000.00 which we have already sustained. We cannot let this go on indefinitely.

Our tract production is wonderful for every month except March and April 1961, and for the test period from May 1st to October 31st, 1961 which was the period that two of our wells were sanded up, and at which time it was learned that in these two wells our tubing was not set correctly.

With the data I got from Mr. Gobert I was able to figure the Stewart Lease production for 1958, 1959 and 1960.

Here is the average production of oil and water for 1958, 1959 and 1960, per well per month, for all 12 wells in the North Virden Scallion Unit #1.

	OIL	WATER
British American	314	178
California Standard	804	757
Canadian Export	319	191
Canadian Superior	849	512
Dome	536	291
Fargo Schlafly	874	382
Fargo Etal	655	485
Imperial	466	201
Shell	650	236
Sun	464	460
Valat	1029	109
Landa	257	35
TOTAL	7217	3804
AVERAGE per well, per month	611	317

Two of our wells were drilled in 1958, one in 1959, and one in 1960.

You will note that in oil production we stand second, about 39% way over average production. In water production we are close to average.

For 1958, 1959, and 1960 our wells averaged 3396 barrels per month, as against 2434 barrels under Unit Control through January 1963 and against the 1071 barrels alloted us under Unit Control through January 1963.

Our production during the nine months after the test period and before Unit Control averaged 2792 barrels of oil per month.

If we are held to our alloted Tract Percentage the loss to the Working and Royalty Interests in the Stewart Lease will be staggering.

I hope this situation can be settled amicably.

Yours truly,

H. J. SCHLAFLY

HJS:mm

cc: Mr. Carl Schweinfurth
Mr. Owen J. E. Wilson
Mr. Wm. E. Scanlan
Mr. Herbert Hobler
Mr. Howard Fox
Mr. Herbert Gobert

PS-4-58

COPY

May 27th, 1963.

Mr. R. R. McDaniel,
President,
McDaniel Consultants Ltd.,
305 Humford Bldg.,
608 - 7th Street, S.W.,
CALGARY, Alberta.

Dear Mr. McDaniel:

Attached hereto, copy of a memorandum from Mr. Gobert to the Chairman of The Oil & Natural Gas Conservation Board, relative to the North Virden Scallion Unit No. 1.

We would appreciate your comments in respect to this problem at your earliest convenience.

Yours very truly,

J. S. Richards,
Director of Mines.

JSR/or

Enc.

c.c. to Mr. M. J. Gobert,
Senior Petroleum Engineer.

DEPARTMENT OF MINES & NATURAL RESOURCES
MAY 27 1963
PETROLEUM AND NATURAL GAS CONSERVATION BOARD

ORDER NO. 37A

Pertaining to the maximum permissible rate of production in the
NORTH VIRDEN SCALLION FIELD

Made and passed pursuant to "The Mines Act", by The Oil and Natural Gas Conservation Board.

1. Until further order, in addition to those wells named in Order No. 35A, being Manitoba Regulation 101/62, the following wells, comprising a part of the North Virden Scallion Unit No. 1, shall be exempt from the provisions of Order No. 14A being Manitoba Regulation 35/55:

Calstan Scallion 6-2-11-26
Landa et al Drynan Scallion 7-2-11-26
Landa et al Drynan Scallion 10-2-11-26
Calstan Scallion 11-2-11-26
Calstan Scallion 13-2-11-26
Calstan Scallion 14-2-11-26
Landa et al Drynan Scallion 15-2-11-26
Landa et al Drynan Scallion 16-2-11-26
Calstan Scallion 15-9-11-26
Calstan Scallion 1-10-11-26
Calstan Scallion 2-10-11-26
Calstan Scallion 3-10-11-26
Calstan Scallion 7-10-11-26
Calstan Scallion 8-10-11-26
Calstan Scallion 9-10-11-26
Calstan Scallion 10-10-11-26
Calstan Scallion Prov. 1-11-11-26
Calstan Scallion Prov. 2-11-11-26
Calstan Scallion Prov. 3-11-11-26
Calstan Scallion Prov. 4-11-11-26
Calstan Scallion Prov. 5-11-11-26
Calstan Scallion Prov. 6-11-11-26
Calstan Scallion Prov. 7-11-11-26
Calstan Scallion Prov. 8-11-11-26
Calstan Scallion Prov. 12-11-11-26
Calstan Scallion 4-15-11-26
Calstan Scallion 5-15-11-26
Calstan Scallion 12-15-11-26
Dome Cox Scallion 1-16-11-26
Cdn-Sup Veldhouse Scallion 8-16-11-26
Calstan Scallion Prov. 9-16-11-26

2. This Order may be rescinded or amended by the Board at any time without notice.

3. This Order shall be effective at the hour of seven o'clock in the forenoon, Central Daylight Time, on the fifteenth day of June, A.D. 1963.

Oil and Natural Gas Order No. 37A,
Made and passed this 31st day of May,
A.D., 1963, at the City of Winnipeg,
in the Province of Manitoba, by The Oil
and Natural Gas Conservation Board.

Chairman,
The Oil & Natural Gas
Conservation Board.

May 22, 1963.

Mr. A. J. Williams,
Acting Deputy Minister,
Department of Mineral Resources,
Administration Bldg.,
Regina, Sask.

Dear Al:

It has been drawn to my attention that with respect to two tracts in the North Virden Scallion Unit No. 1 the participation factors are too low and inequity results.

The two wells were sanding off and rather than rectifying this, the operator (owner of a 50% working interest) progressively raised the tubing. Consequently, during the 6 months evaluation period the wells produced practically nothing. Since half the tract factor was dependent upon the production during this 6 month period, the other half being based on cumulative production, the results were far too low. The well condition was rectified immediately after the end of the test period and production rose to 40 bopd. Although this operator was a member of the engineering and operating committees, no effort was made to have this change recognized prior to the effective date of the unit 7 months later.

The other 50% working interest is owned by a group in the U.S.A., and have been dealing with the operator during last fall and winter without success and now have asked our help.

I completely fail to grasp why the operating company took no action and even yet seems quite content to absorb the loss.

In the formation of the unit we had 100% of the working interest

owners' consents and over 98% of the mineral owners. The unsigned interests consisted mainly of trusts and syndicate interests from which no reply could be secured.

Has your Board ever had to change the participation factors? If so, how do you get mineral owners to consent to a new plan with a reduced participation factor.

Be glad to hear from you when you get time.

Best regards.

Yours very truly,

M. J.Gobert,
Senior Petroleum Engineer.

MJG/h

INTER-DEPARTMENTAL MEMORANDUM

PROVINCE OF MANITOBA

DATE May 21, 1963.

FROM J.G. Cowan
Chairman, The Oil and Natural Gas Conservation Board

TO Mr. M.J. Gobert
Senior Petroleum Engineer
Mines Branch

SUBJECT North Virden Scallion Unit No. 1

I have your memo of May 15 in connection with the above matter, and the facts as you present them very definitely create a problem.

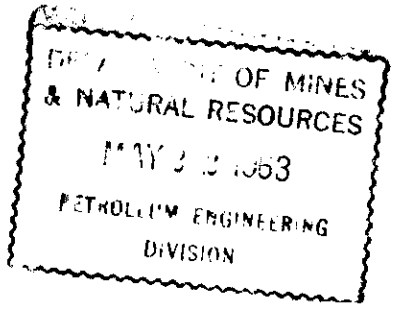
As you are aware, following a public hearing the Board made an order approving of the unitization. The order was approved by Order-in-Council and published in the Manitoba Gazette. The reason behind the Government's approval and the publication of the Order was, of course, to bind all parties. Under such circumstances, any amendment or variation in the order will be an extremely difficult matter.

It seems to me almost incomprehensible that Fargo Oils Ltd. would not check the percentage of participation allotted to them. If they had done so, surely it would have been apparent that the participation was based on figures which drastically changed after the sand was removed from the wells and the tubing lowered to the original position.

I am for the moment assuming that Fargo Oils Ltd. has a representative on the committee and, if so, that representative no doubt attended numerous meetings when the participation percentage was being worked out. If their representative was present, I can only infer that he failed completely to appreciate the binding effect of the unitization order.

On the other hand, notwithstanding the laxity of Fargo Oils Ltd., obviously a grave injustice has resulted and some method should be found to rectify the error. As you point out, this will be no easy matter as I agree with you that at this late date it would not only be extremely difficult, but perhaps absolutely impossible, to obtain the required consents. In addition, even if it were possible to obtain the consents, it would mean that the participation percentage would have to be changed for all the participants in the unit area. You will, I am sure, recall the months of time which were spent on this particular factor and any change at this late date would no doubt require further months of calculations, etc.

I have no copy of the Unitization Order in this office. I doubt very much if it contains any provision for amendment which would cover a case of this type. However, the agreement should be carefully checked to ascertain what, if any, provisions for amendments are provided for in the agreement itself.



Your memo lists three possible courses, only two of which need to be considered as the Schlafly interests have indicated that they are not interested in selling.

If we were supplied with some reasonable explanation regarding the laxity of Fargo Oils Ltd., it might conceivably be possible to obtain the required consents, although I doubt this very much.

The fact that one error has been discovered leaves me with the uneasy feeling that there may be other errors of a somewhat similar nature, and that any attempt at this late date to rectify the situation could well result in other errors or omissions coming to light.

The fact that Mr. Schlafly and his associates indicate that to date they have lost approximately $20,000 can only mean that if the situation is not rectified, over the years their loss could amount to a very substantial sum indeed.

If there is no provision in the unitization agreement for amendment, it may well be that the only remedy would be legislation giving Fargo Oils Ltd. their just share and reducing the shares of the other participants proportionately. This would be drastic legislation indeed, but may well be the only alternative. I trust, however, that some other means of granting relief to Fargo may be discovered either within the confines of the unitization agreement or by consents of the working interest owners.

Have you any information regarding a matter of this kind creeping into unitization agreements either in Saskatchewan or Alberta? If so, it would be interesting to know how they handle the matter.

J.G. Cowan.

JGC/ms

cc. Mr. J.S. Richards,

May 15, 1963.

M. J. Gobert

J. G. Cowan, Q.C.
Chairman,
The Oil & Natural Gas Conservation Board.

North Virden Scallion Unit No. 1

Tract Nos. 10-14 and 16-14
Fargo Oils Ltd. and H. J. Schlafly

Fargo Oils Ltd., hold a 50% working interest in the above tracts. H. J. Schlafly and associates own the remaining 50% with Mr. Schlafly acting for the group made up as follows:

H. J. Schlafly	1/8
Carl Schweinfurth	3/32
Herbert Holber	1/16
Howard Fox	1/16
William Scanlon	1/32
Ralph Luckenbach	1/8

During the 6 month period, terminating October 31, 1961, used in determination of 1/2 of the tract participation factors, the production rate of the 10-14 well was allowed to decline to 2 b.o.p.d. whereas the 16-14 well declined from 4 b.o.p.d. in May 1961 to 2 b.o.p.d. in June 1961 and was shut in for the remaining 4 months of the evaluation period.

Immediately following the end of the period, sand was removed from the wells and the tubing lowered to the original position.

Production for the 10-14 well, in December 1961, increased to 39 b.o.p.d.

Production for the 16-14 well, in November 1961, increased to 25 b.o.p.d. and to 29 b.o.p.d. in December 1961.

Fargo Oils Ltd., and the applicant, The California Standard Company, were aware of this situation but no mention of it was made prior to or at the Public Hearing on April 18, 1962.

A similar situation was noted with respect to the production curves of the 9-14 and 15-14 wells previous to the test period and when Fargo Oils Ltd., were asked the cause, replied in writing that they had no explanation to offer.

Implementation of the Unit Plan on August 1, 1962, reduced the income from these tracts so sharply that Mr. Schlafly and his associates estimate that they have suffered a loss, as compared with the 6 months immediately prior to August 1, 1962, of approximately $20,000 for the period August 1, 1962, to March 31, 1963.

Fargo Oils Ltd., and their royalty owners would have absorbed the same loss and the remainder of the Unit Working Interest Owners and Royalty Owners have gained the sum of Fargo Oils Ltd. and H. J. Schlafly's losses, whatever the magnitude of the sum is.

It is obvious that Fargo Oils Ltd., as operator, were in a position to request some recognition of the improved operating characteristics of these two wells. Why they did not is far from clear.

This problem was discussed with Mr. Owen J. E. Wilson of Fargo Oils Ltd., by telephone on April 23, 1963, and arrangements made for a meeting with Mr. Wilson, Mr. Schlafly, Mr. Luckenbach and myself on May 1, 1963.

Mr. J.G. Trowell called on April 24, 1963, and requested a meeting on April 25, 1963, and advised that Mr. S. A. McRae would attend.

The two meetings were held and there appear to be 3 possible courses:

(a) that Fargo Oils Ltd., purchase the H. J. Schlafly interests and make up the continuing loss to the royalty owners,

(b) that the Board on its own motion, at the instigation of some interested party, hold a re-hearing,

(c) that Working Interest Owners owning 75% of the participating interests agree in writing to an application for a re-hearing.

H. J. Schlafly indicated that his group was not interested in selling.

Any revision of tract factors would, in my opinion, involve securing again the consents of at least 75% of the working interest owners and royalty owners. This could be very difficult since, with the exception

of the two tracts under discussion, they would be agreeing to a reduction in the income they are presently entitled to under the Plan.

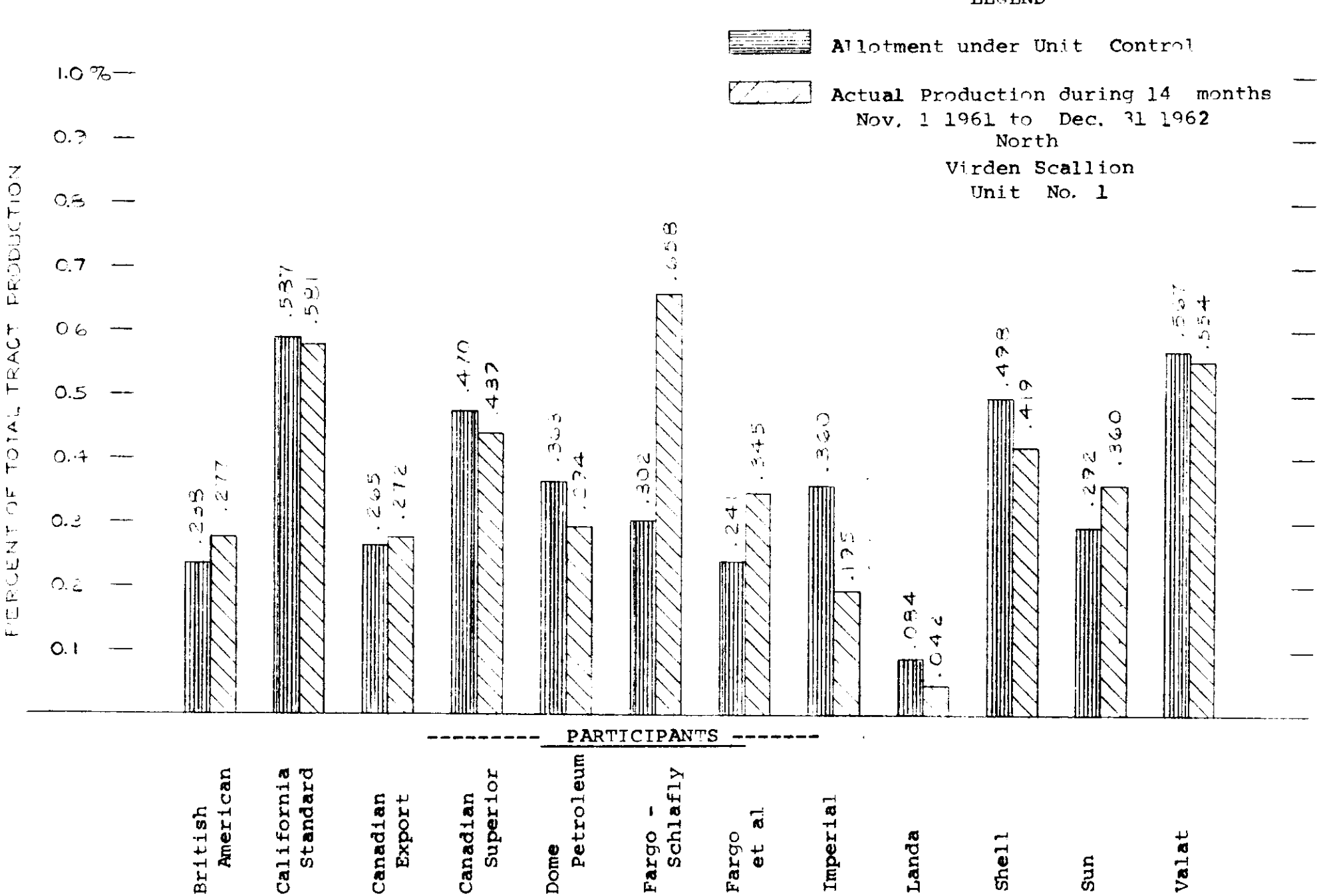
However, it would certainly appear that due to sloppy operating during the evaluation period and subsequent unexplained lethargy on the part of Fargo Oils Ltd., the H. J. Schlafly interests and all the royalty owners of the tracts involved have been adversely affected and that a definite inequity exists.

In closing, I would advise that Senator Thorvaldson has been consulted but not as yet retained by the H. J. Schlafly interests. These same interests have stated that they would enter into litigation only as a last resort.

2 c.c. J. S. Richards

PERCENTAGE OF TOTAL TRACT PRODUCTION

AVERAGE PER WELL FOR EACH PARTICIPANT



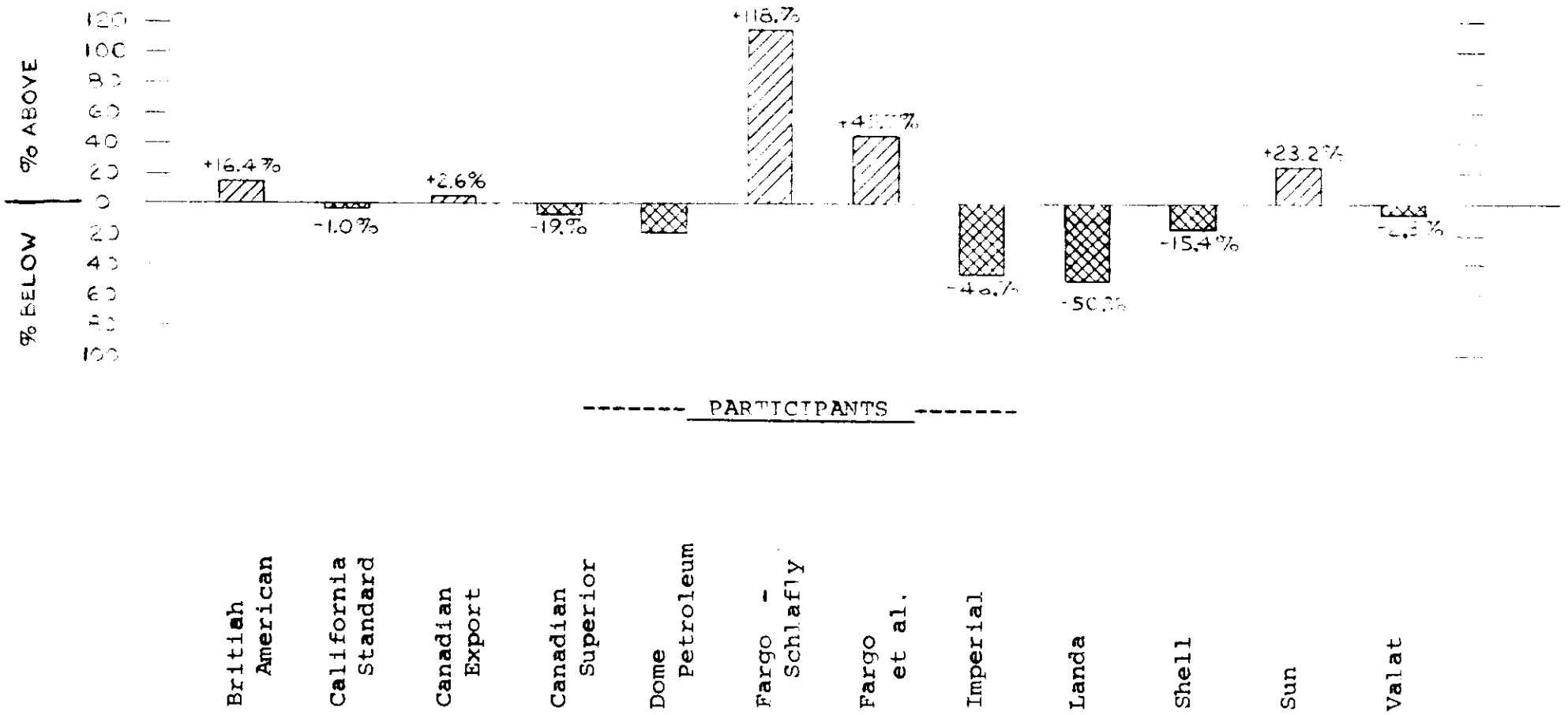
ACTUAL PRODUCTION COMPARED TO UNIT CONTROL ALLOTMENT

FOR PERIOD NOV 1 1961 thru Dec 1962

CALCULATION:

$$\frac{\text{Actual Production - Unit Control Allotment}}{\text{Unit Control Allotment}} \times 100$$

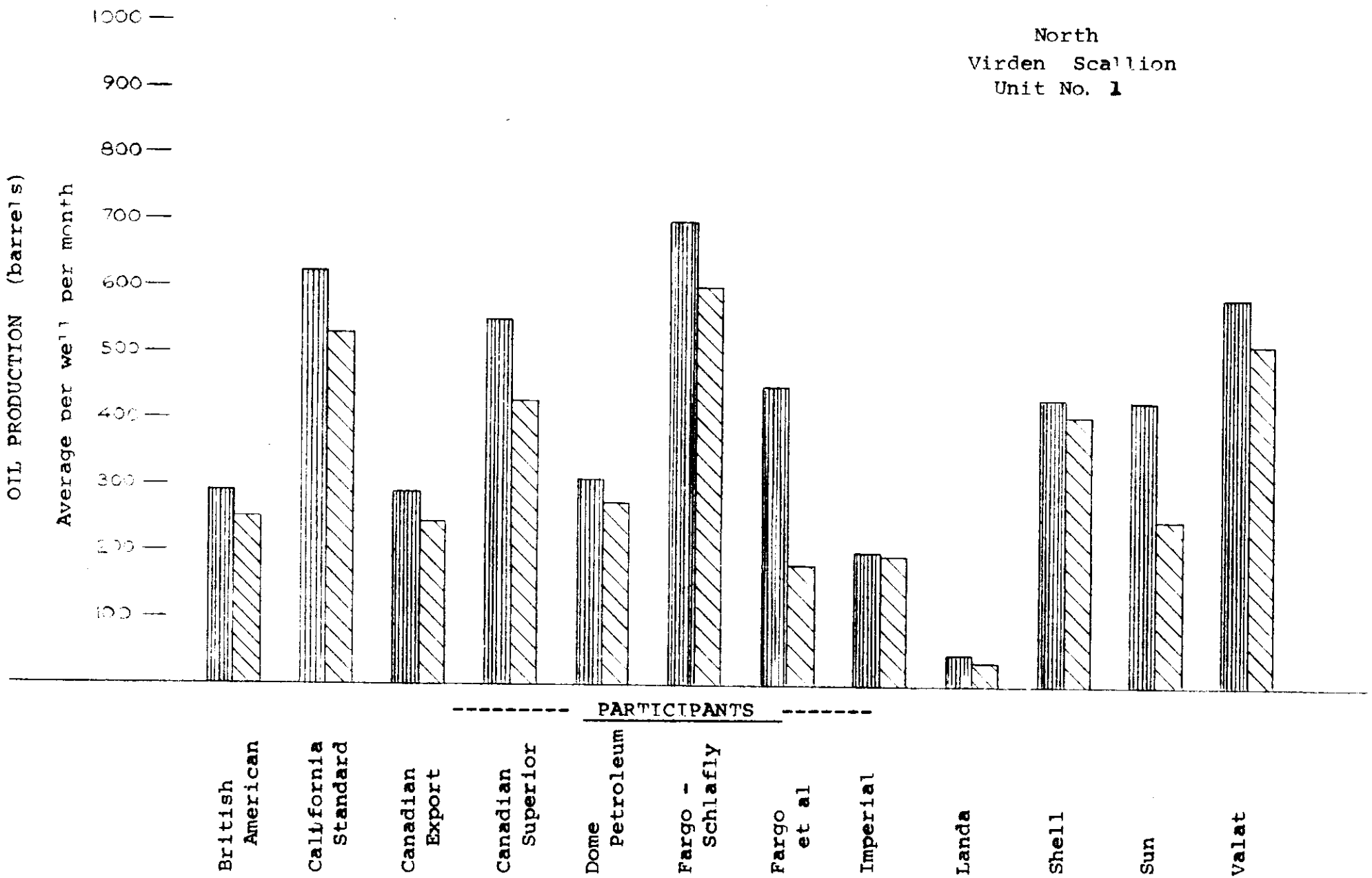
North
Virden Scallion
Unit No. 1



COMPARISON OF TRACT PRODUCTION BEFORE AND AFTER UNIT CONTROL

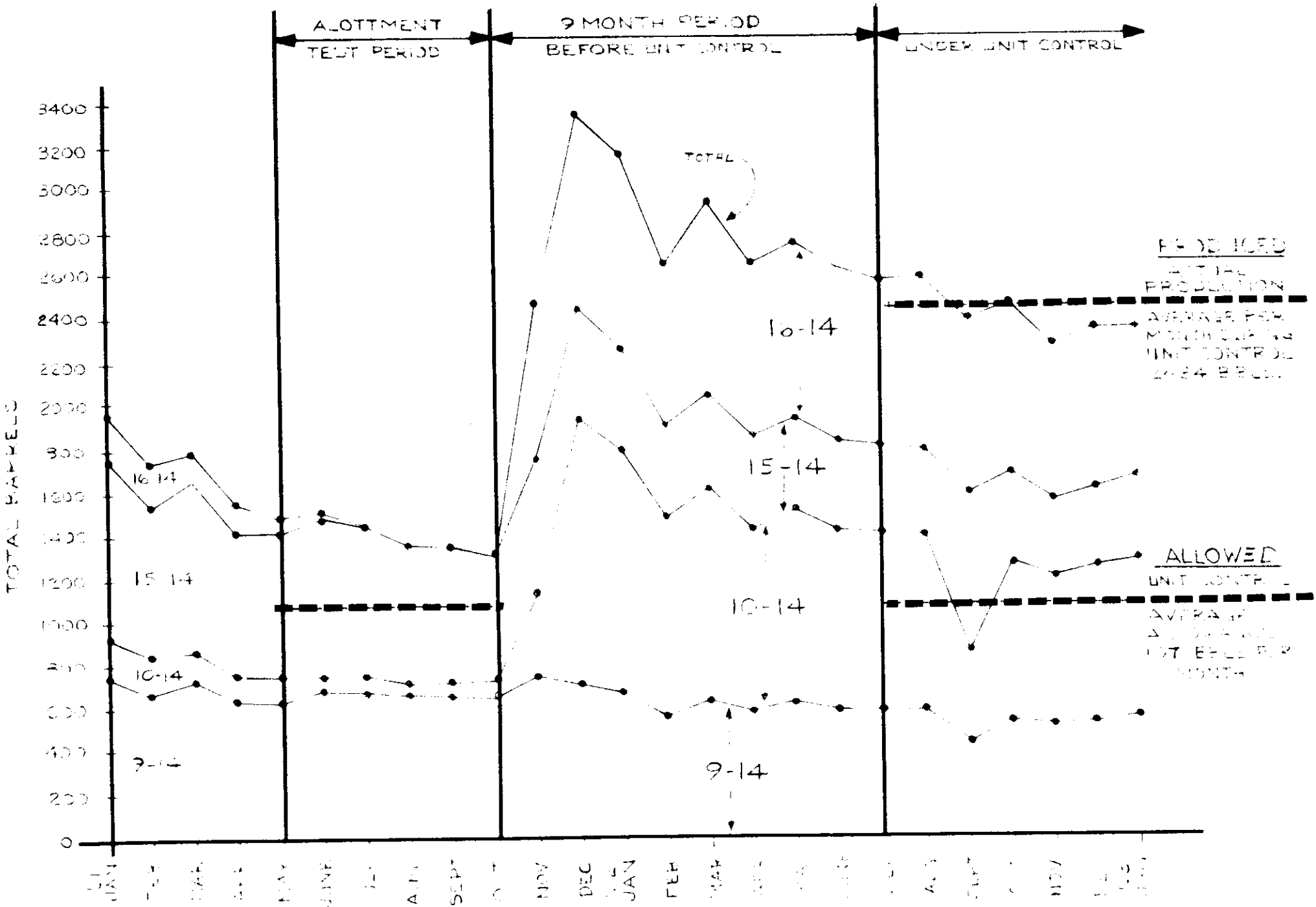
BEFORE Average oil production per well per month for period Nov 1 thru July 31 1962

AFTER Average oil production per well per month for period Aug 1 thru Dec 31 1962



CUMULATIVE LEASE PRODUCTION PER MONTH
FOR THE FARGO - SCHLAFLY STEWART WELLS
9-14 10-14 15-14 16-14

North Virden Scallion
Unit No. 1



Memorandum

for the Chief of Staff.

[illegible]

[illegible]

130.7

January 15, 1963

Kuhn
N. V. Scholfield (Coal)

Coal Lease - Savage
Coal & Welsin.

4/32 Int. of Coal Working Int.
Est. Val. $3,000
Engr. Feb 28/63

1906 - 10-11-26

Actual.

Capital for coal & shaft retraction.

Coyne Waters - 50% with Largo.
- Purchased by N.V. Scholfield acted as agent for the 50%.
N.V. 1/8 & 50%.
W.J. 1/8 & 50%.

Schweinfurth. Carl Schweinfurth 1/8 of 50% 0. 3/32
Mark Halbert 2/32
Howard Tew 3/32
William Scanlan 1/32 of 50% 0.

William Griffith
Lease surrendered

Different Engineering:
Hyperbaric pressure on Face -
Extraction of coal from -
Transportation of Personnel -
Mineral Amine Base Ore Mine Stuart

Purchase of Interest - Individual O, I
- Chart Work.

Dec 13/62 O.C. meeting.

Separate tract concept. Sale/Amalgamation.

75%-
Retraction. 50% 5. Professional
Reduction of all other tracts.
Joint Permit.
Possible Amalgamation.
- Retraction billing of capital costs and expenses

Fargo Oils Ltd.

140-6TH AVENUE WEST

CALGARY, ALBERTA

Executive Offices
MEADOWS BUILDING
DALLAS 6, TEXAS

April 23rd, 1963.

DEPARTMENT OF MINES & NATURAL RESOURCES
APR 24 1963
PETROLEUM ENGINEERING DIVISION

Mr. H.J. Schlafly,
833 Main Street,
MOUNT VERNON, Illinois.

Dear Sir:

This afternoon I had the pleasure of talking to Mr. Gobert of the Manitoba Department of Mines and Natural Resources and he advises that either May 1st or May 2nd would be a satisfactory date for us to meet with him and discuss our problems. He would like it understood, at this time, that we are meeting on an informal basis and that this meeting will not implicate the Manitoba Board in any way. Unless I hear from you to the contrary I will plan in meeting you at Mr. Gobert's office at 10:00 A.M. (Winnipeg time) May 1st, 1963. If this is not convenient, Mr. Gobert has suggested that May 2nd or May 3rd will be suitable alternates. For your information, he has prior commitments for April 29th and 30th.

For your information, I will plan to stay at the Motel closest to the airport, and, in all likelihood, will register there on the 30th of April unless I hear from you that the 1st of May is not a satisfactory date.

Yours very truly,

FARGO OILS LTD.

Copy (Sgd.) O. J. E. Wilson

Owen J.E. Wilson

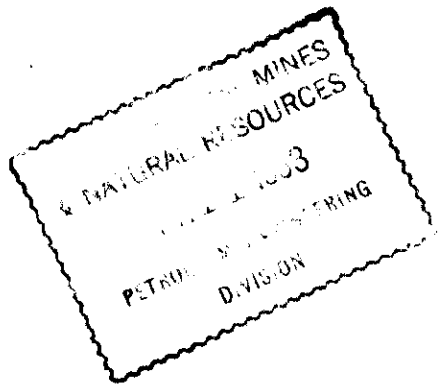
OJEW:bjr
c.c. Mr. M.J. Gobert

DEPARTMENT OF MINES & NATURAL RESOURCES
APR 24 1963
PETROLEUM ENGINEERING DIVISION

PS-f-53

COPY

April 10, 1963.



Mr. R. R. McDaniel,
President,
McDaniel Consultants Ltd.,
305 Humford Building,
608 - 7 Street, S.W.,
Calgary,
Alberta.

Dear Mr. McDaniel:

For your information, we are forwarding, under separate cover, a copy of the North Virden Scallion Unit No. 1, effective date, August 1, 1962, Progress Report No. 1, August - December, 1962.

Yours very truly,

J. S. Richards,
Director of Mines.

JSR:db

c. c. to: Mr. M. J. Gobert,
Senior Petroleum Engineer.

Hagan Chemicals & Controls Inc.
Hall Laboratories
Bradford Laboratories
Calgon Company
Merrick Scale Mfg. Co.
Pyrometer Instrument Co. Inc.

Hagan Corporation (Canada) Limited

Glenwood Building
10436 81 Avenue
Edmonton, Alberta

April 5, 1963

Mines Branch
Room 911 Norquay Building
401 York Avenue
WINNIPEG, Manitoba

Attention: Mr. M. J. Gobert, Sr. Pet. Engineer

Subject: Biocides Booklet

Dear Sir:

Please find enclosed, requested Biocides Booklet as advertised in "Oil in Canada, Equipment and Supplies Section" as of March 21 issue.

Thank you.

Yours truly,

HAGAN CORPORATION (CANADA) LTD.

R. E. Addinell

REA:fb

DEPARTMENT OF MINES & NATURAL RESOURCES
APR 8 1963
PETROLEUM ENGINEERING DIVISION

J.S. Richards

Mr. Stuart Anderson,
Deputy Minister

North Virden Scallion Unit No. 1

January 11, 1963.

Application for an Operating Licence
Section 19, The Pipe Line Act

DEPT. OF MINES & NATURAL RESOURCES
JAN 14 1963
DIRECTOR OF MINES

Attached herewith are:

1. Original Application, dated December 14, 1962.
2. Original letter and affidavit as to right-of-way agreements, dated January 10, 1963.
3. Original and 4 copies of a proposed Operating Licence No. 11.

This operating licence will replace Operating Licence No. 10 issued December 6, 1962 for a portion of the system.

It is noted that the affidavit does not refer to right-of-user agreements as being in the form in Schedule A.

Should this application meet with approval kindly return the original operating licence to this office to be forwarded to the company, together with 2 signed copies for our files, the application, letter and affidavit.

Director of Mines.

MJG/lk

Forwarded to Petroleum Div. Jan. 16/63

December 5, 1962

J. S.Richards

Stuart Anderson

Deputy Minister

North Virden Scallion Unit No. 1

Injection Plant No. 1 System
Application for an Operating Licence
Section 19 The Pipe Line Act

Attached herewith are:

1. Original application, dated November 29, 1962.
2. Original and 4 copies of a proposed Operating Licence No. 10.
3. Three copies of Plan 1096.
4. Three copies of Plan B-9250-3.

Should this application meet with approval, kindly return the original operating licence to this office to be forwarded to the company, together with two signed copies for our files, the original application and the approved copies of the plans.

Director of Mines.

MJG/h

c.c. Pet. Div.

PS-f-58

COPY

November 15, 1962

J. S. Richards

Stuart Anderson

Deputy Minister

North Virden Scallion Unit No. 1

Injection Plant No. 1 System
Application under Section 11 "The Pipe Line Act"

Attached herewith are:

1. Application, dated November 2, 1962, under Section 11 of "The Pipe Line Act" for deviation, change or alteration in the above pipe line system.

2. Six copies of a suggested draft letter of approval for signature by the Minister.

3. Two copies of the plan of survey which have been approved by the Department of Public Works as to Road Crossings.

4. Copy of a letter of approval as to Road Crossings, dated November 12, 1962, and signed by Mr. Geo. Collins on behalf of the Department of Public Works.

If the above application is approved, kindly return 2 signed copies of the letter to this office, together with an approved copy of the plan and the original application.

Director of Mines.

MJG/h

c.c. Pet. Div.

Returned to Pet. Division

INTER-DEPARTMENTAL MEMORANDUM

PROVINCE OF MANITOBA

DATE June 4, 1962.

FROM A.J.Gobert

TO J. S. Richards

DEPARTMENT OF MINES & NATURAL RESOURCES
JUN 5 - 1962
DIRECTOR OF MINES

SUBJECT North Virden Scallion Unit No. 1

The Pipe Line Act

Design of the gathering and injection systems is nearing completion and it appears that:

1. The systems will exceed 5 miles in length (Section 23).

2. An order of the Court of Queen's Bench, made under The Manitoba Expropriation Act and this Act, may be necessary (Section 15).

In view of this, The California Standard Company has been advised to apply for a construction permit (Section 6). It is expected that the application will be received this week.

However, Section 405 (1) of The Municipal Act states, in part:

"405 (1) Any municipal corporation, upon the authorization of the board, may, by by-law, enter into an agreement and grant to any person, partnership, or corporation, the right to lay pipelines across any of its highways or lands that are designated, in the agreement, for the conveying of crude petroleum . . .".

It is believed that municipal highway crossings only are involved and consent of the Minister of Public Works will be requested under Section 13 of The Pipe Line Act.

Since expropriation proceedings appear likely, I would appreciate advice as to whether or not I should advise the company to make application to the Public Utilities Board at this time.

A.J. Gobert

CHEVRON STANDARD LIMITED

Box 100
VIRDEN, Manitoba
October 7, 1966

TO: ALL WORKING INTEREST OWNERS
NORTH VIRDEN SCALLION UNIT #1

Dear Sirs:

Attached please find the required number of copies of the North Virden Scallion Unit #1 Progress Report for the month of September, 1966.

Yours truly,

L. B. BROWN, P. Eng.
Area Supervisor

BB/ms

Attach.

OCT
ASSISTANT
OFFICE

NORTH VIRDEN SCALLION UNIT NO. 1

PROGRESS REPORT -- MONTH OF SEPTEMBER 1966

I INTRODUCTION

This report represents a brief summary of operations for the month of September, 1966.

II OPERATIONS

1. Production

Oil production during the month of September totalled 179,752 STB with a field WOR of .7156 and an average producing GOR of 70 SCF/STB. The average daily production rate for the month was 5,992 BOPD as compared to 5,890 BOPD in August, 1966. During the month 164 wells were on production and 41 wells were on injection. Cumulative unit production since inception to October 1, 1966 was 6,088,969 barrels. The estimated increase in production to October 1, 1966 attributable to waterflooding is 2,507,850 barrels.

2. Injection

Total water injected during the month was 361,220 barrels for an average daily injection rate of 12,041 BWPD as compared to 10,792 BWPD for the month of August. Cumulative water injected to October, 1966 was 11,307,006 barrels.

(a) Plant No. 1

Total produced Mississippian water injected at Plant No. 1 during the month was 184,195 barrels for an average daily injection rate of 6,140 BWPD. Cumulative Mississippian water injected to Oct. 1/66 was 5,634,410 barrels.

(b) Plant No. 2

Devonian water injected at Plant No. 2 during the month totalled 177,025 barrels for an average daily injection rate of 5,901 BWPD. Cumulative Devonian water injected to October 1/66 was 5,672,596 barrels.

CHEVRON STANDARD LIMITED

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

August 31, 1966

Mr. M. J. Gobert
Department of Mines and Natural Resources
1010 Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Dear Sir:

Enclosed herewith please find three (3) copies of the North Virden Scallion Unit No. 1 Semi-Annual Progress Report No. 5 for the First Half, 1966.

Yours very truly,

for L. D. BROWN, Chairman
North Virden Scallion Unit No. 1
Operating Committee

/cb
Encl.

DEPARTMENT OF MINES AND NATURAL RESOURCES
SEP 1 - 1966
ASSISTANT DEPUTY MINISTER'S OFFICE

NORTH VIRDEN SCALLION UNIT NO. 1

SEMI-ANNUAL REPORT NO. 5

FIRST HALF, 1966

CHEVRON STANDARD LIMITED

PRODUCING DEPARTMENT

JULY, 1966

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Table I	Production History
Table II	Water Injection Data
Table III	Water Supply Data
Table IV	Waterflood Response by Well
Table V	Calculation of Voidage Rates
Figure 1	Unit Area with Injection Lines and Wells as of June 30, 1966
Figure 2	Reservoir Performance Graphs
Figure 3	Total Daily Water Injection at Plant No. 1
Figure 4	Total Daily Water Injection at Plant No. 2

NORTH VIRDEN SCALLION UNIT NO. 1

PROGRESS REPORT

FIRST HALF 1966

I INTRODUCTION

This report presents a review of operations for the period January 1, 1966 to June 30, 1966.

II OPERATIONS

1. Production

During the six month period ending June 30, 1966, North Virden Scallion Unit No. 1 produced 1,036,234 barrels of oil, 72,536 MCF gas and 633,913 barrels of water. The average daily oil production for the period was 5,725 BOPD as compared to an average of 5,482 BOPD for the last half of 1965. The average daily production for the month of June, 1966 was 5,774 BOPD as compared to 2,950 BOPD for November, 1962 (pre-flood production). Cumulative Unit production since inception to July 1, 1966 was 5,887,227 barrels. It is estimated that the increase in production to July 1, 1966, attributable to waterflooding, is 2,182,800 barrels.

2. Injection

Total water injected during the first half of 1966 was 1,922,813 barrels with an average daily injection rate for the period of 10,623 BWPD. Injection for the month of June, 1966 averaged 10,561 BWPD (see Table II). Cumulative water injected since inception to July 1, 1966 was 10,290,894 barrels.

(a) Plant No. 1

During this six month period, 886,496 barrels of produced Mississippian water were injected at Plant No. 1. The average daily injection rate for the period was 4,897 BWPD. The average injection rate for the month of June, 1966 was 5,283 BWPD. Cumulative Mississippian water injected to July 1, 1966 was 5,120,440 barrels.

(b) Plant No. 2

Devonian water injected at Plant No. 2 during the six month period totalled 1,036,317 barrels for an average daily injection rate of 5,725 BWPD. The average injection rate for the month of June, 1966 was 5,278 BWPD. Cumulative Devonian water injected to July 1, 1966 was 5,170,454 barrels.

3. Water Supply

The volume of water available at injection Plants 1 and 2 is 4,900 and 5,700 BWPD respectively (see Table III). Only produced water is being injected at Plant No. 1 and only Devonian water from the 6-27 WSW at Plant No. 2.

A study was conducted during the period to determine the amount of additional water required by the Phase II injection system, and the means by which additional water could be obtained. As a result, a water supply well will be drilled at 3-27-11-26, WPM.

4. Well Re-conditioning

Twenty-four wells were treated with Versene or Kalex during the first half, 1966. Two of the wells did not respond to treatment. The resulting increase in production was estimated to be 269 BOPD and 215 BWPD.

III RESERVOIR PERFORMANCE

A graphical presentation of the reservoir performance is shown on Figure 2. The average daily production for the first half of 1966 was 5,725 BOPD and 3,502 BWPD as compared to 5,482 BOPD and 3,264 BWPD for the second half of 1965 and 4,808 BOPD and 3,207 BWPD for the first half of 1965. The average producing GOR was 70 SCF/STB.

The wells experiencing the greatest waterflood responses are listed on Table IV. Only wells with a 10 BOPD increase or more are listed. The daily production has increased from a pre-flood average of 2,950 BOPD in November, 1962 to 5,774 BOPD during June, 1966. The estimated cumulative increase in production to July 1, 1966 attributable to waterflooding was 2,182,800 barrels. Considering a production loss of 636 BOPD due to injection well conversion and an estimated natural decline of 625 BOPD since November, 1962, the Unit area indicated production increase due to waterflooding during June, 1966 was 4,085 BOPD (see tabulation below).

Average daily production (June, 1966)	5,774 BOPD
Average daily production (November, 1962)	2,950 BOPD
Net increase in production June, 1966	2,824 BOPD
Estimated natural decline to June, 1966	625 BOPD
Estimated total increase in production	3,449 BOPD
Lost production due to well conversion	636 BOPD
Increase in production due to waterflood	4,085 BOPD

The status of reservoir voidage for the first half of 1966 is presented on Table V. Water injection exceeded reservoir withdrawals by 200,854 barrels for an average net voidage rate of -1112 reservoir barrels per day for the period. During June, 1966 water injection exceeded reservoir withdrawals by 24,909 barrels for a net voidage rate of -830 reservoir barrels per day.

TABLE I

NORTH VIRDEN SCALLION UNIT NO. 1

PRODUCTION HISTORY

FIRST HALF, 1966

	January	February	March	April	May	June	Total For Period
Oil Produced (bbls.)	177,275	159,167	175,770	172,060	178,755	173,207	1,036,234
Cum. Oil Produced (bbls.)	5,028,268	5,187,435	5,363,205	5,535,265	5,714,020	5,887,227	
Gas Produced (MSCF)	12,409	11,142	12,304	12,044	12,513	12,124	72,536
Cum. Gas Produced (MSCF)	351,979	363,121	375,425	387,469	399,982	412,106	
Water Produced (bbls.)	95,517	85,558	108,614	111,568	122,598	110,058	633,913
Cum. Water Produced (bbls.)	3,361,408	3,446,966	3,555,580	3,667,148	3,789,746	3,899,804	
Mississippian Water injected (bbls.)	120,838	121,406	159,167	160,496	166,111	158,478	886,496
Cum. Mississippian Water injected (bbls.)	4,354,782	4,476,188	4,635,355	4,795,851	4,961,962	5,120,440	
Devonian Water injected (bbls.)	180,392	164,490	176,156	179,511	177,412	158,356	1,036,317
Cum. Devonian Water injected (bbls.)	4,314,529	4,479,019	4,655,175	4,834,686	5,012,098	5,170,454	
Total Water injected (bbls.)	301,230	285,896	335,323	340,007	343,523	316,834	1,922,813
Cum. Total Water injected (bbls.)	8,669,311	8,955,207	9,290,530	9,630,537	9,974,060	10,290,894	

Note: Cumulative Pre-Unit Production as Follows:

Oil	-	11,568,062
Gas	-	809,765
Water	-	4,667,365

TABLE II

NORTH VIRDEN SCALLION UNIT NO. 1

WATER INJECTION DATA

FIRST HALF, 1966

INJECTION WELL	DATE ON INJECTION	INJECTION DURING JUNE, 1966	CUM. INJECTION TO 6/30/66	JUNE INJECTION RATE - BWPD	MAX. PRESS. PSI
Plant No. 1					
2-10	1/30/63	9,664	297,750	321	860
10-10	1/16/63	16,321	439,407	544	840
12-10	1/ 4/63	6,858	257,811	229	900
2-11	1/29/63	12,708	311,858	424	800
4-11	1/31/63	8,810	303,740	294	800
10-14	11/ 2/63	14,693	385,779	490	750
12-14	11/ 2/63	6,596	220,548	220	760
2-15	3/13/63	15,684	497,007	523	800
10-15	12/21/63	11,273	391,621	376	800
10-21	12/20/62	12,766	422,555	425	820
4-22	12/27/62	5,981	311,921	199	720
10-22	12/24/62	12,320	421,434	411	800
12-22	12/20/62	24,804	859,009	827	720
Total Plant No. 1		158,478	5,120,440	5,283	
Plant No. 2					
6-13	12/24/63	5,181	195,909	173	480
10-13	12/24/63	3,119	121,194	104	480
12-13	12/23/63	6,246	255,911	208	420
14-13	12/23/63	3,768	119,003	125	400
8-14	12/23/63	6,466	171,196	216	Broken Meter
12-23	12/23/63	2,903	105,633	97	460
14-23	12/23/63	5,223	172,019	174	480
16-23	12/23/63	6,498	224,402	217	460
6-24	12/24/63	5,173	187,008	172	480
12-24	12/24/63	3,118	191,966	104	300
6-26	12/23/63	3,555	131,690	119	520
8-26	12/23/63	3,897	135,191	130	260
6-27	11/29/63	2,771	103,304	93	820
8-27	12/23/63	9,497	322,561	317	480
14-27	11/29/63	9,287	277,757	310	820
6-28	11/29/63	2,505	176,717	83	100
8-28	11/29/63	3,750	230,383	125	50
14-28	11/29/63	18,088	458,388	603	740

INJECTION WELL	DATE ON INJECTION	INJECTION DURING JUNE, 1966	CUM. INJECTION TO 6/30/66	JUNE INJECTION RATE - BWPD	MAX. PRESS. PSI
Plant No. 2 - (Cont'd)					
16-28	11/29/63	8,834	258,735	294	820
6-33	11/29/63	10,252	269,925	342	800
14-33	11/29/63	6,836	191,956	228	800
16-33	11/29/63	8,151	232,419	272	800
6-34	11/29/63	2,222	53,218	74	820
4-3	11/ 1/65	3,189	27,170	106	800
2-4	11/29/63	2,893	102,565	96	810
4-4	12/ 1/63	3,892	143,167	130	800
10-4	12/ 2/63	4,060	113,674	135	800
12-4	12/ 1/63	6,982	197,327	233	800
Total Plant No. 2		158,356	5,170,454	5,278	
UNIT TOTAL		316,834	10,290,894	10,561	

TABLE III

NORTH VIRDEN SCALLION UNIT NO. 1

WATER SUPPLY DATA

JUNE, 1966

SOURCE	TYPE OF PUMP	PUMP SUBMERGENCE FEET	PREVIOUS VOLUME BWPD	PRESENT VOLUME BWPD
9-16 Unit Gathering System	-	-	3,300	3,500
9-16 From Non-Unit West Flank	-	-	1,900	1,400
6-27 Devonian WSW	Reda	-	6,000	5,700
Average Daily Volume of Water Available			11,200	10,600

TABLE IV

NORTH VIRDEN SCALLION UNIT NO. 1

WATERFLOOD RESPONSE TO JUNE, 1966

Well	Preflood Production Rate BOPD	June, 1966 Production Rate BOPD	Gain * BOPD
8-10	13	34	21
15-10	14	51	37
16-10	10	44	34
5-11	9	24	15
5-13	7	38	31
11-13	13	28	15
13-13	2	27	25
6-14	9	29	20
9-14	17	151	134
15-14	9	20	11
16-14	23	78	55
1-15	15	68	53
3-15	44	79	35
6-15	43	68	25
7-15	35	84	49
88-15	24	81	57
11-15	36	61	25
12-15	34	50	16
13-15	13	24	11
1-16	3	25	22
9-16	23	40	17
1-21	73	139	66
7-21	28	77	49
8-21	34	119	85
9-21	46	158	112
15-21	5	25	20
16-21	17	103	86
3-22	14	63	49
5-22	23	109	86
6-22	19	105	86
7-22	13	76	63
8-22	15	51	36
9-22	10	68	58
11-22	28	154	126
13-22	21	117	96
14-22	7	45	38
15-22	10	30	20
16-22	6	24	18
5-23	5	24	19
6-23	2	15	13
13-23	9	36	27

TABLE IV - (Cont'd)

Well	Preflood Production Rate BOPD	June, 1966 Production Rate BOPD	Gain * BOPD
3-24	18	68	50
4-25	12	70	58
1-26	4	18	14
2-26	9	21	12
4-26	10	47	37
7-26	13	87	74
11-26	7	38	31
12-26	4	23	19
1-27	8	37	29
2-27	5	17	12
3-27	7	41	34
4-27	16	59	43
5-27	13	58	45
7-27	4	15	11
9-27	17	73	56
10-27	11	52	41
11-27	9	33	24
12-27	13	59	46
13-27	8	59	51
15-27	26	74	48
1-28	11	33	22
2-28	18	56	38
3-28	13	42	29
7-28	14	48	34
9-28	18	78	60
10-28	12	78	66
11-28	12	42	30
13-28	13	33	20
15-28	7	35	28
2-33	8	34	26
3-33	15	58	43
7-33	4	34	30
10-33	17	60	43
11-33	16	73	57
12-33	9	25	16
13-33	12	56	44
15-33	6	61	55
3-34	16	46	30
13-34	20	45	25
5-3	2	17	15
1-4	8	24	16

TABLE IV - (Cont'd)

Well	Preflood Production Rate BOPD	June, 1966 Production Rate BOPD	Gain * BOPD
3-4	25	87	62
5-4	15	51	36
11-4	25	61	36
15-4	15	29	14
TOTAL	1,326	4,797	3,471

* Minimum response listed - 10 BOPD

TABLE V

CALCULATION OF VOIDAGE RATES

FIRST HALF, 1966

	January	February	March	April	May	June	Total for Period
Oil Produced (STB)	177,275	159,167	175,770	172,060	178,755	173,207	1,036,234
Water Produced (bbls.)	95,517	85,558	108,614	111,568	122,598	110,058	633,913
* Gas Produced (MSCF)	12,409	11,142	12,304	12,044	12,513	12,124	72,536
Average Solution GOR	70	70	70	70	70	70	70
Formation Volume Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Voidage Oil (Res. bbls.)	186,139	167,125	184,559	180,663	187,693	181,867	1,088,046
Voidage Water (Res. bbls.)	95,517	85,558	108,614	111,568	122,598	110,058	633,913
Total Voidage (Res. bbls.)	281,656	252,683	293,173	292,231	310,291	291,925	1,721,959
Water Injected (bbls.)	301,230	285,896	335,323	340,007	343,523	316,834	1,922,813
Net Voidage (Res. bbls.)	(19,574)	(33,213)	(42,150)	(47,776)	(33,232)	(24,909)	(200,854)
Net Voidage Rate (Res. bbls./day)	(631)	(1,186)	(1,360)	(1,593)	(1,072)	(830)	(1,112)

* Gas Produced = Solution Gas

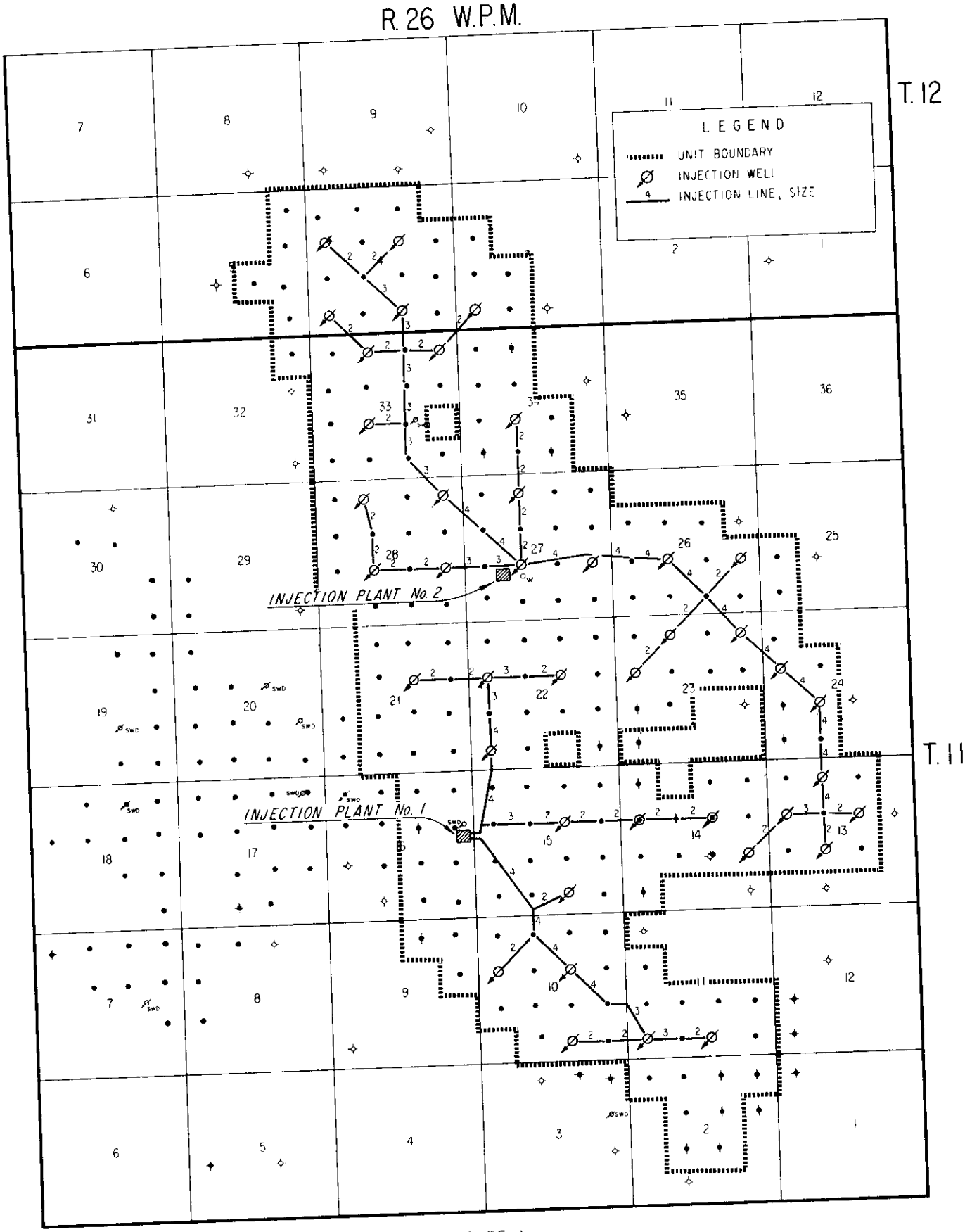


FIGURE 1

NORTH VIRDEN SCALLION UNIT No. 1

AS OF

JUNE 30, 1966

FIGURE 2

NORTH VIRDEN SCALLION UNIT No. 1

RESERVOIR PERFORMANCE

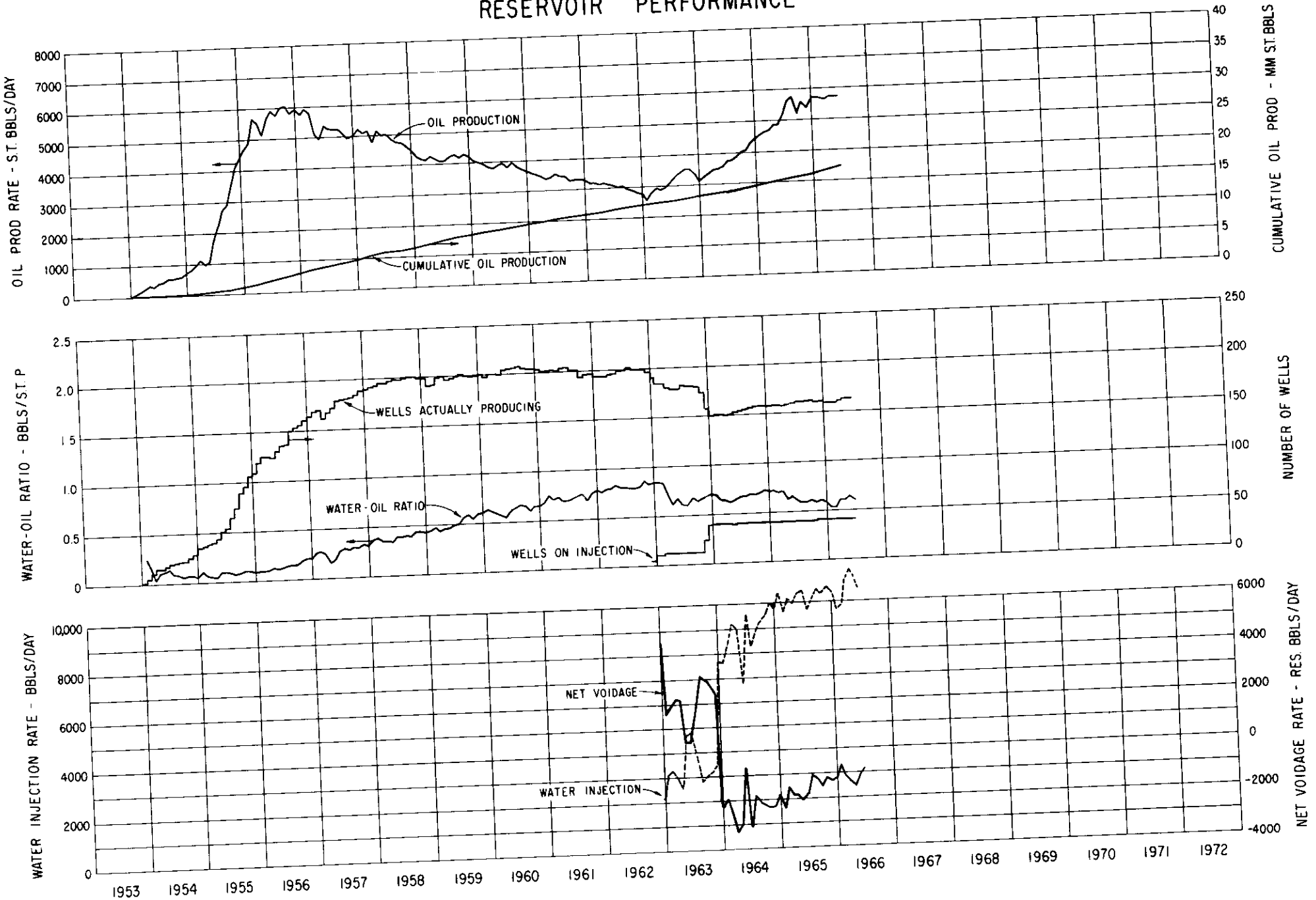


FIGURE 3

NORTH VIRDEN SCALLION UNIT No. 1

TOTAL DAILY WATER INJECTION AT PLANT No. 1

(PRODUCED MISSISSIPPIAN WATER)

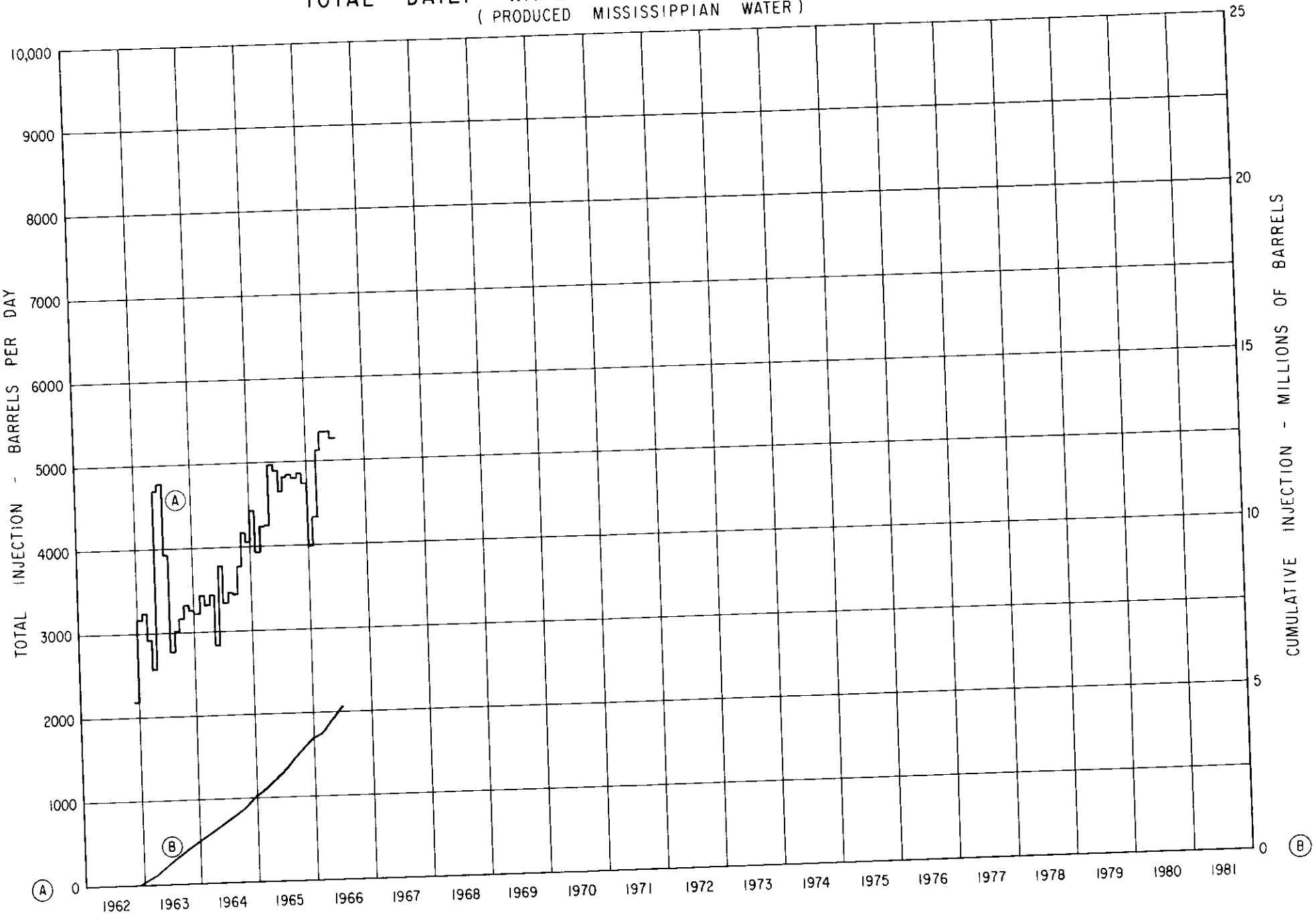
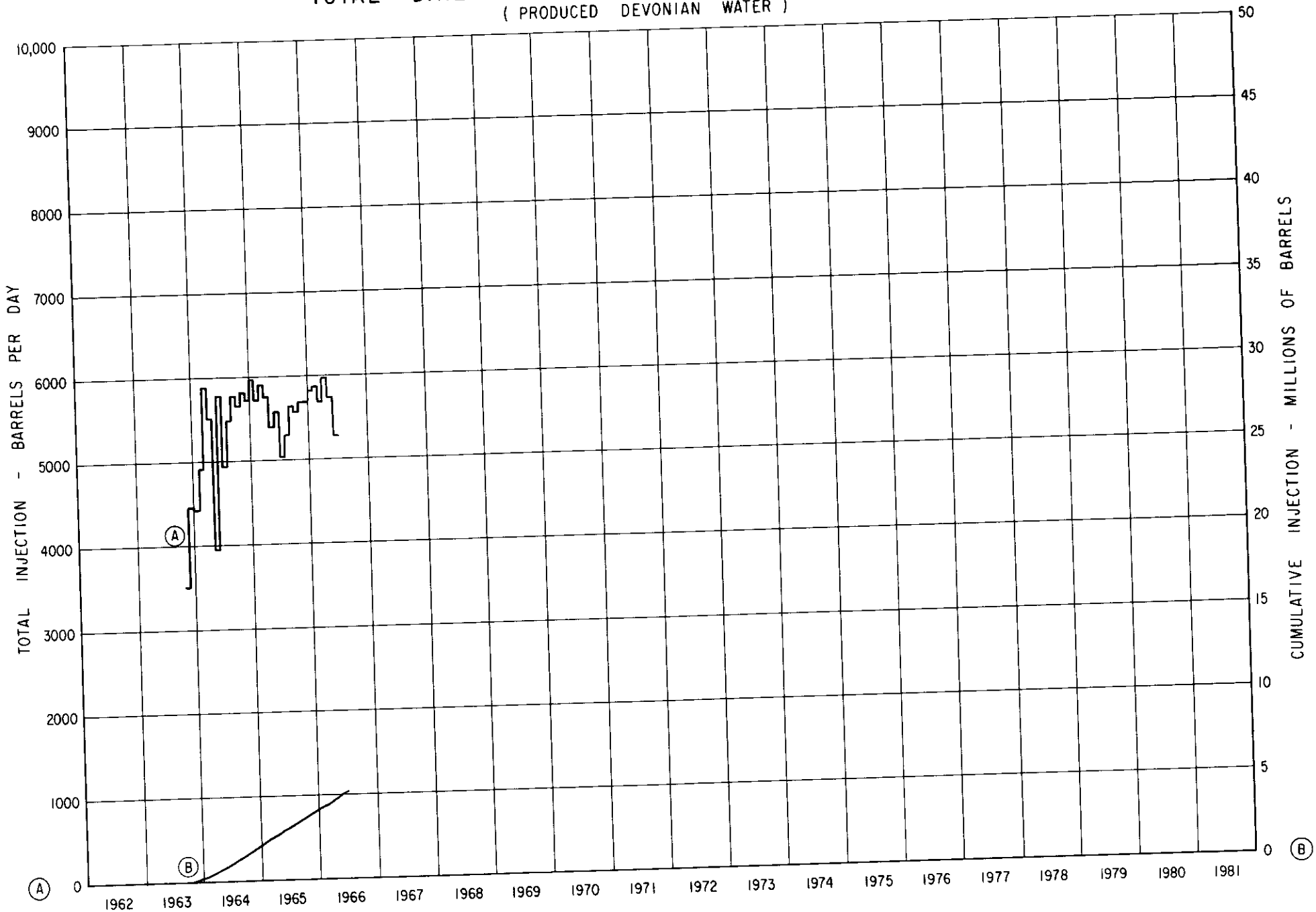


FIGURE 4

NORTH VIRDEN SCALLION UNIT No. 1

TOTAL DAILY WATER INJECTION AT PLANT No. 2

(PRODUCED DEVONIAN WATER)



CHEVRON STANDARD LIMITED

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

August 31, 1966

Mr. M. J. Gobert
Department of Mines and Natural Resources
1010 Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Dear Sir:

Enclosed herewith please find three (3) copies of the North Virden Scallion Unit No. 1 Semi-Annual Progress Report No. 5 for the First Half, 1966.

Yours very truly,

for L. D. BROWN, Chairman
North Virden Scallion Unit No. 1
Operating Committee

/cb
Encl.

DEPARTMENT OF MINES
AND NATURAL RESOURCES
SEP 1 - 1966
ASSISTANT DEPUTY MINISTER'S
OFFICE

May 11, 1966

Mr. R.J.Gobert

Assistant Deputy Minister

Mr. R.F. Evens,
Queen's Printer,
Room 6, Legislative Building.

North Virden Scallion Unit No.1
Revision of Exhibits "A" and "B".
Manitoba Gazette.

I have reviewed Manitoba Regulation 57/62 The Oil and Natural Gas Conservation Board Unitization Order No.1 and find that under Part XIV the Unit Operator is responsible for publishing revisions in these schedules in one issue of the Gazette.

Therefore I am returning Mr. R.J.Gaudet's letter of May 6, 1966, together with 2 copies of the revised Schedules "A" and "B", and suggest that you bill his company for the cost of publication.

R.J.Gobert

RJG/js

Encl.

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

May 6, 1966

R. R. MAHAFFEY
GENERAL ATTORNEY

Virden Roselea Unit No. 1 and
North Virden Scallion Unit No. 1
Revision of Exhibits "A" and "B"
[illegible]
[illegible]

Department of Mines and Natural
Resources,
Mines Branch,
9th Norquay Building,
401 Main Avenue,
WINNIPEG, Manitoba

Gentlemen:

Thank you for your letter of April 19th in connection with the above mentioned.

We enclose two copies of revised Schedules "A" and "B" for the North Virden Scallion Unit No. 1 which are dated May 1, 1966.

There have been some changes in connection with Virden Roselea Unit No. 1 but since enlargement of the unit is expected shortly we will be revising the Schedules after the enlargement takes place.

Other than the purchase of Continental Leasehold Ltd.'s interest by Chevron Standard, the only other thing is the purchase of Kronz Oil's interest by Consolidated East Crest Oils Ltd.

Yours very truly,

R. H. [illegible]
Acting Chairman Legal Committee

EHG:fc

CHEVRON STANDARD LIMITED

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

November 25, 1965

DEPARTMENT OF MINES AND NATURAL RESOURCES

NOV 29 1965

TO: ALL WORKING INTEREST OWNERS
NORTH VIRDEN SCALLION UNIT NO. 1

Notice of Meeting

In accordance with Section 5.06 of the "Plan", there will be a meeting of the North Virden Scallion Unit No. 1 Working Interest Owners in Chevron Standard Limited's Sixth Floor Board Room, Medical Arts Building, 329A - 6th Avenue Southwest, Calgary, Alberta, commencing at 9:30 A.M., Thursday, December 9, 1965.

Agenda

1. Approve the minutes of the Working Interest Owners Meeting held December 9, 1964.

2. Record the results of Mail Ballots submitted to the Working Interest Owners since the last meeting.

3. Report on Unit Operations.

4. Discuss and approve the rate for Administrative Overhead and District Expense to be charged to the Joint Account during 1966.

5. Discuss and approve the Proposed 1966 Operating and Capital Expenditure Budget which was distributed to All Working Interest Owners on November 3, 1965.

6. Discuss and approve the attached Audit Report, dated August 11, 1965, which covers the year ending December 31, 1964. The Unit Operator's reply to the aforementioned report is also attached.

7. Appoint an Audit Committee to audit the Joint Account for the year 1965; and approve the rates chargeable to the Joint Account to perform the audit.

8. Other business.

for L. D. BROWN, Chairman
North Virden Scallion Unit No. 1
Operating Committee

JDG/cb
Attach.

CHEVRON STANDARD LIMITED

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

February 28, 1966

Representative and Alternate
Designation - Operating Committee
North Virden Scallion Unit No. 1

TO: ALL WORKING INTEREST OWNERS
NORTH VIRDEN SCALLION UNIT NO. 1

Gentlemen:

Please be advised that effective immediately, Chevron Standard Limited's representative and alternates on the aforementioned Unit will be:

Representative: L. D. Brown
Chevron Standard Limited
P. O. Box 100
Virden, Manitoba

Alternates: J. D. Giegerich
P. Pisio
Chevron Standard Limited
Medical Arts Building
329A - 6th Avenue S.W.
Calgary, Alberta

The representative, Mr. L. D. Brown, will act as Chairman of the Operating Committee and all correspondence pertaining to the Plan for Unit Operation should be directed to his attention.

Yours very truly,

J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

DRH/cb

c.c. The Oil & Natural Gas Conservation Board
Manitoba

DEPARTMENT OF MINES AND NATURAL RESOURCES
MAR 3 - 1966

NORTH VIRDEN SCALLION UNIT NO. 1

SEMI-ANNUAL REPORT NO. 4

FIRST HALF, 1965

THE CALIFORNIA STANDARD COMPANY

PRODUCING DEPARTMENT

AUGUST, 1965

D PARTME
AND NATUR
AUG 16 1965

NORTH VIRDEN SCALLION UNIT NO. 1

PROGRESS REPORT

FIRST HALF, 1965

- - - - - - - - - - - - - - - - - -

This report presents a review of operations for the period January 1, 1965 to June 30, 1965.

I OPERATIONS

1. Production

During the six month period ending June 30, 1965, the North Virden Scallion Unit No. 1 produced 870,193 barrels of oil, 60,914 MSCF gas and 580,468 barrels of water. (See Table I). The average daily oil production for the period was 4808 BOPD as compared to an average of 4093 BOPD for the last half of 1964. The average daily production for the month of June, 1965 was 5225 BOPD as compared to 2950 BOPD for November, 1962 (preflood production). Cumulative Unit production since inception to July 1, 1965 was 3,842,371 barrels. It is estimated that the increase in production to July 1, 1965, attributable to waterflooding is 910,000 barrels.

2. Injection

Total water injected during the first half of 1965 was 1,841,702 barrels with an average daily injection rate for the period of 10175 BWPD. Injection during the month of June, 1965 averaged 10,474 BWPD. (See Table II). Cumulative water injected since inception to July 1, 1965 was 6,480,632 barrels.

(a) Plant No. 1

During the six month period, 807,263 barrels of produced Mississippian water were injected at Plant No. 1. The average daily injection rate for the period was 4454 BWPD. The average injection rate for the month of June, 1965 was 4,889 BWPD. Cumulative Mississippian water injected to July 1, 1965, was 3,355,127 barrels.

(b) Plant No. 2

Devonian water injected at Plant No. 2 during the six month period totalled 1,035,439 barrels for an average daily injection rate of 5721 BWPD. The average injection rate for the month of June, 1965, was 5585 BWPD. Cumulative Devonian water injected to July 1, 1965 was 3,125,505 barrels.

3. Water Supply

The volume of water available at injection Plants 1 and 2 is 5600 and 6000 BWPD respectively. (See Table III). Only produced water is being injected at Plant No. 1 and only Devonian water from the 6-27 WSW at Plant No. 2.

The water supply at Plant No. 1 has been increased by approximately 1000 BWPD during the period by running larger pumps in several Unit and non-Unit wells on the west flank of the Unit.

4. Well Re-conditioning

The following is a list of wells that were treated for scale removal during the first half of 1965:

11-13-11-26: Production increased by 39 BOPD and 23 BWPD.

3-24-11-26: Production increased by 26 BOPD and 7 BWPD.

5. General

Dome 7A-14-11-26 was drilled and completed and placed on production during February, 1965. The well averaged 33 BOPD and 6 BWPD based on a three day test.

Approval for abandonment has been obtained from the Conservation Board for the following salt water disposal wells:

15-21-11-26 WPM
2-22-11-26 WPM
13-26-11-26 WPM
8-27-11-26 WPM
6A-33-11-26 WPM
10-34-11-26 WPM

II RESERVOIR PERFORMANCE

A graphical presentation of the reservoir performance is shown in Figure 2. The average daily production for the first half of 1965 was 4808 BOPD and 3207 BWPD as compared to 4093 BOPD and 2852 BWPD for the second half of 1964 and 3487 BOPD and 2286 BWPD for the first half of 1964. The average producing GOR was 70 SCF/STB.

The wells experiencing the greatest waterflood response are listed on Table IV. Only wells with a 10 BOPD increase or more are listed. The daily production has increased from a pre-flood average of 2950 BOPD in November, 1962 to 5225 BOPD during June, 1965. The estimated cumulative increase in production to July 1, 1965, attributable to waterflooding was 910,000 barrels. Considering a production loss of 610 BOPD due to injection well conversion and an estimated natural decline of 500 BOPD since November, 1962, the Unit area indicated production increase due to waterflooding during June, 1965 was 3385 BOPD. (See Tabulation below).

Average daily production (June, 1965)	5225 BOPD
Average daily production (November, 1962)	2950 BOPD
Net increase in production June, 1965	2275 BOPD
Estimated natural decline (Unit area)	500 BOPD
Estimated total increase in production	2775 BOPD
Lost production due to well conversion	610 BOPD
Increase in production due to waterflood	3385 BOPD

The status of reservoir voidage for the first half of 1965 is presented on Table V. Water injection exceeded reservoir withdrawals by 347,539 barrels for an average net voidage rate of - 1920 reservoir barrels per day for the period. During June, 1965, water injection exceeded reservoir withdrawals by 53,842 barrels for a net voidage rate of - 1795 reservoir barrels per day.

TABLE I

NORTH VIRDEN SCALLION UNIT NO. 1

PRODUCTION HISTORY

FIRST HALF, 1965

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	TOTAL FOR PERIOD
Oil Produced (bbls)	141,181	129,980	145,394	145,929	150,939	156,770	870,193
Cum. Oil Produced (bbls)	3,113,359	3,243,339	3,388,733	3,534,662	3,685,601	3,842,371	
Gas Produced (MSCF)	9,883	9,099	10,177	10,215	10,566	10,974	60,914
Cum. Gas Produced (MSCF)	217,936	227,035	237,212	247,427	257,993	268,967	
Water Produced (bbls)	100,811	90,342	103,270	90,807	99,468	95,770	580,468
Cum. Water Produced (bbls)	2,185,596	2,275,938	2,379,208	2,470,015	2,569,483	2,665,253	
Mississippian Water injected (bbls)	137,787	109,694	130,895	126,868	154,348	146,671	806,263
Cum. Mississippian Water injected (bbls)	2,686,651	2,796,345	2,927,240	3,054,108	3,208,456	3,355,127	
Devonian Water injected (bbls)	184,914	159,985	182,934	172,939	167,118	167,549	1,035,439
Cum. Devonian Water injected (bbls)	2,274,980	2,434,965	2,617,899	2,790,838	2,957,956	3,125,505	
Total Water injected (bbls)	322,701	269,679	313,829	299,807	321,466	314,220	1,841,702
Cum. Total Water injected (bbls)	4,961,631	5,231,310	5,545,139	5,844,946	6,166,412	6,480,632	

NOTE: Cumulative Pre-Unit Production As Follows:

Oil - - - - - 11,568,062 bbls.
Gas - - - - - 809,765 MSCF
Water - - - - 4,667,365 bbls.

TABLE II

NORTH VIRDEN SCALLION UNIT NO. 1

WATER INJECTION DATA

FIRST HALF, 1965

INJECTION WELL	DATE ON INJECTION	INJECTION DURING JUNE, 1965	CUM. INJECTION TO 6/30/65	JUNE INJECTION RATE - BWPD	MAX. PRESS. PSI
Plant No. 1					
2-10	1/30/63	10,305	183,234	344	800
10-10	1/16/63	8,852	279,171	295	820
12-10	1/ 4/63	6,834	177,798	228	840
2-11	1/29/63	8,022	177,032	267	780
4-11	1/31/63	10,494	194,633	350	800
10-14	11/ 2/63	13,580	228,443	453	610
12-14	11/ 2/63	6,832	138,687	228	700
2-15	3/13/63	16,405	333,090	547	760
10-15	12/21/62	11,947	267,937	398	780
10-21	12/20/62	12,886	274,440	429	800
4-22	12/27/62	8,380	212,759	279	800
10-22	12/24/62	11,377	284,392	379	820
12-22	12/20/62	20,757	603,511	692	820
TOTAL PLANT 1		146,671	3,355,127	4,889	
Plant No. 2					
6-13	12/24/63	5,789	126,271	193	420
10-13	12/24/63	3,454	80,721	115	380
12-13	12/23/63	6,676	156,157	223	510
14-13	12/23/63	3,321	75,861	111	300
8-14	12/23/63	4,448	89,716	148	280
12-23	12/23/63	3,082	68,444	103	390
14-23	12/23/63	5,574	108,998	186	300
16-23	12/23/63	7,175	135,508	239	390
6-24	12/24/63	5,581	119,323	186	380
12-24	12/24/63	4,959	119,594	165	340
6-26	12/23/63	4,307	78,498	144	380
8-26	12/23/63	5,499	82,614	183	390
6-27	11/29/63	3,002	67,932	100	880
8-27	12/23/63	7,342	181,378	245	380
14-27	11/29/63	9,628	169,388	321	840
6-28	11/29/63	7,738	131,270	258	660
8-28	11/29/63	10,665	178,052	355	800

TABLE II (Continued)

INJECTION WELL	DATE ON INJECTION	INJECTION DURING JUNE, 1965	CUM. INJECTION TO 6/30/65	JUNE INJECTION RATE - BWPD	JUNE INJECTION MAX. PRESS. PSI
Plant No. 2 - cont'd					
14-28	11/29/63	17,733	276,509	591	860
16-28	11/29/63	8,916	149,325	297	760
6-33	11/29/63	9,072	146,361	302	700
14-33	11/29/63	6,232	108,904	208	700
16-33	11/29/63	7,823	126,207	261	720
6-34	11/29/63	1,704	27,876	57	900
4-3		-	-	-	-
2-4	11/29/63	3,118	63,550	104	740
4-4	12/ 1/63	4,549	86,570	152	800
10-4	12/ 2/63	3,703	60,175	123	740
12-4	12/ 1/63	6,459	110,303	215	760
TOTAL PLANT NO. 2		167,549	3,125,505	5,585	
UNIT TOTAL		314,220	6,480,632	10,474	

TABLE III

NORTH VIRDEN SCALLION UNIT NO. 1

WATER SUPPLY DATA

SOURCE	TYPE OF PUMP	PUMP SUBMERGENCE FEET	PREVIOUS VOLUME BWPD	PRESENT VOLUME BWPD
9-16 Unit Gathering System	-	-	2900	3900
9-16 From Non-Unit West Flank	-	-	1700	1700
6-27 Devonian WSW	Reda	1600	6000	6000
Average Daily Volume of Water Available			10,600 bbls.	11,600 bbls.

TABLE IV

WATERFLOOD RESPONSE BY WELLS*

WELL	PREFLOOD PRODUCTION RATE - BOPD	JUNE, 1965 PRODUCTION RATE - BOPD	GAIN BOPD
8-10	13	38	25
9-10	18	33	15
14-10	17	28	11
15-10	14	56	42
16-10	10	35	25
5-13	7	18	11
11-13	13	32	19
13-13	2	33	31
7-14	16	34	18
9-14	17	139	122
16-14	23	90	67
1-15	15	90	75
3-15	44	89	45
6-15	43	66	23
7-15	35	98	63
8-15	24	80	56
9-15	1	12	11
11-15	36	63	27
12-15	34	60	26
13-15	13	29	16
9-16	23	48	25
1-21	73	153	80
7-21	28	84	56
8-21	34	129	95
9-21	46	148	102
15-21	5	28	23
16-21	17	74	57
3-22	14	58	44
5-22	23	108	85
6-22	19	83	64
7-22	13	69	56
8-22	15	41	26
9-22	10	63	53
11-22	28	151	123
13-22	21	96	75
14-22	7	30	23
13-23	9	28	19
15-23	8	25	17
3-24	18	44	26
4-25	12	22	10
2-26	9	24	15
7-26	13	54	41
12-26	4	29	25
3-27	7	34	27
4-27	16	31	15
5-27	13	76	63
9-27	17	71	54
10-27	11	48	37
13-27	8	32	24

* Minimum response listed - 10 BOPD.

TABLE IV (Continued)

WELL	PREFLOOD PRODUCTION RATE - BOPD	JUNE, 1965 PRODUCTION RATE - BOPD	GAIN BOPD
15-27	26	70	44
2-28	18	31	13
3-28	13	45	32
7-28	14	65	51
9-28	18	78	60
10-28	12	48	36
11-28	12	55	43
13-28	13	30	17
15-28	7	42	35
2-33	8	37	29
3-33	15	56	41
10-33	17	42	25
11-33	16	61	45
13-33	12	45	33
15-33	6	54	48
3-4	25	56	31
5-4	15	39	24
6-4	11	23	12
11-4	25	49	24
15-4	15	26	11
TOTAL	1,214	3,956	2,742

TABLE V

CALCULATION OF VOIDAGE RATES

FIRST HALF, 1965

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	TOTAL FOR PERIOD
Oil Produced (STB)	141,181	129,980	145,394	145,929	150,939	156,770	870,193
Water Produced (bbls)	100,811	90,342	103,270	90,807	99,468	95,770	580,468
*Gas Produced (MSCF)	9,883	9,099	10,177	10,215	10,566	10,974	60,914
Avg. Solution GOR	70	70	70	70	70	70	70
Formation Volume Factor	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Voidage Oil (Res. bbls)	148,240	136,480	152,660	153,225	158,486	164,608	913,699
Voidage Water (Res. bbls)	100,810	90,340	103,270	90,807	99,468	95,770	580,465
Total Voidage (Res. bbls)	249,050	226,820	255,930	244,032	257,954	260,378	1,494,164
Water Injected (bbls)	322,700	269,680	313,830	299,807	321,466	314,220	1,841,703
Net Voidage (Res. bbls)	(73,650)	(42,860)	(57,900)	(55,775)	(63,512)	(53,842)	(347,539)
Net Voidage Rate (Res. bbls/day)	(2,376)	(1,530)	(1,867)	(1,859)	(2,049)	(1,795)	(1,920)

*Gas Produced = Solution Gas

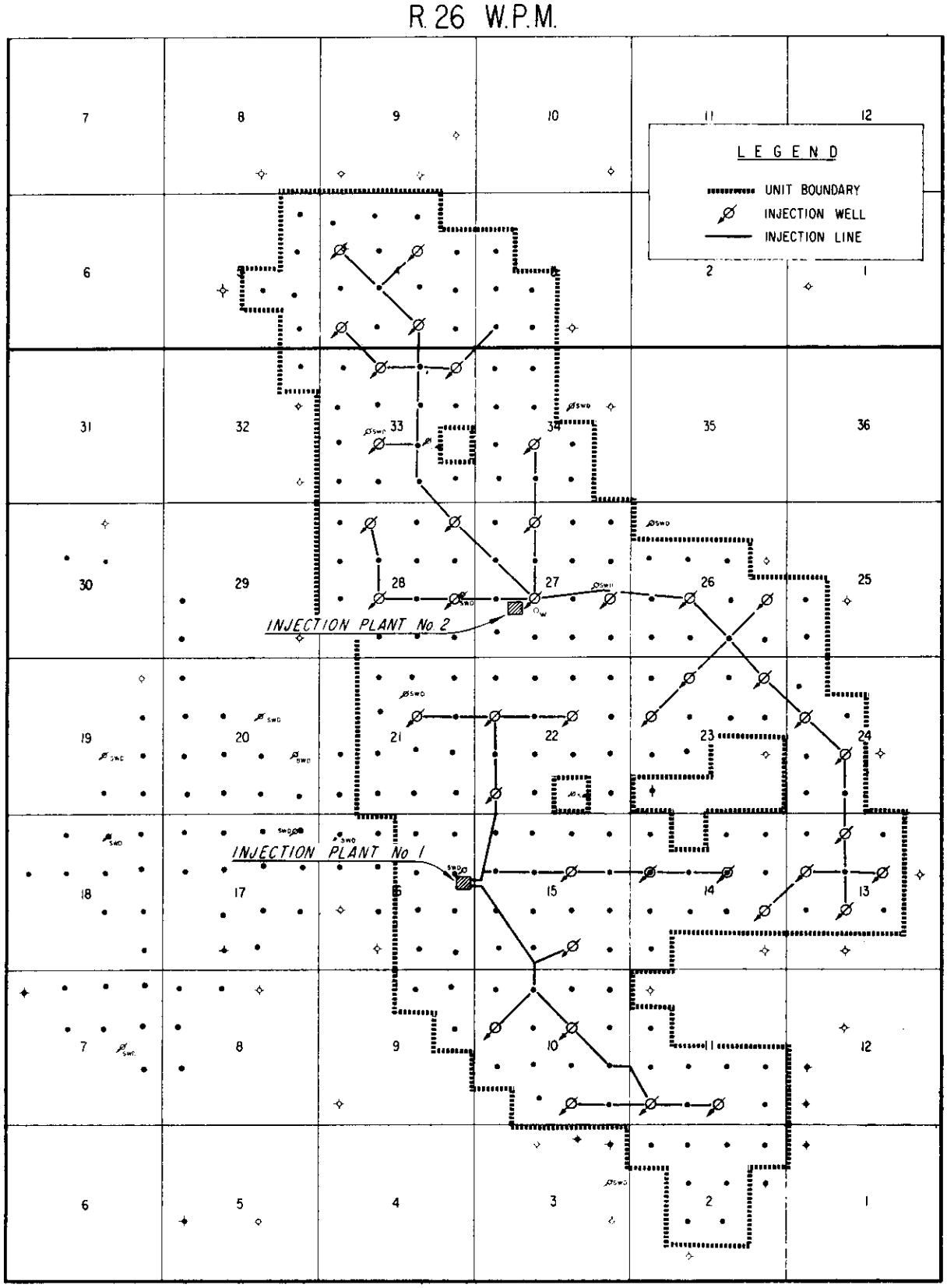


FIGURE 1

NORTH VIRDEN SCALLION UNIT No. 1

AS OF

JUNE 30, 1965

FIGURE 2

NORTH VIRDEN SCALLION UNIT No. 1

RESERVOIR PERFORMANCE

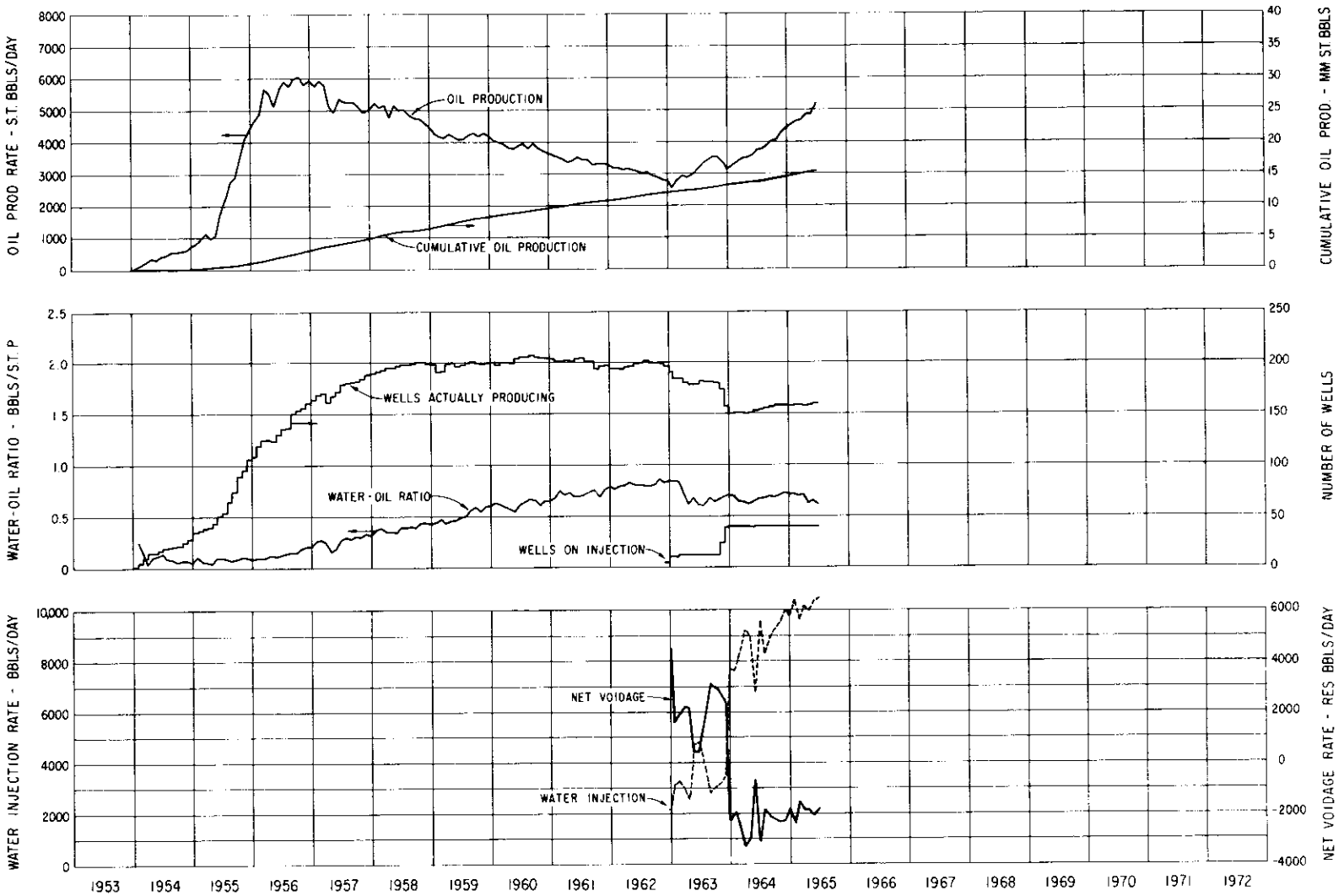


FIGURE 3

NORTH VIRDEN SCALLION UNIT No. 1

TOTAL DAILY WATER INJECTION AT PLANT No. 1

(PRODUCED MISSISSIPPIAN WATER)

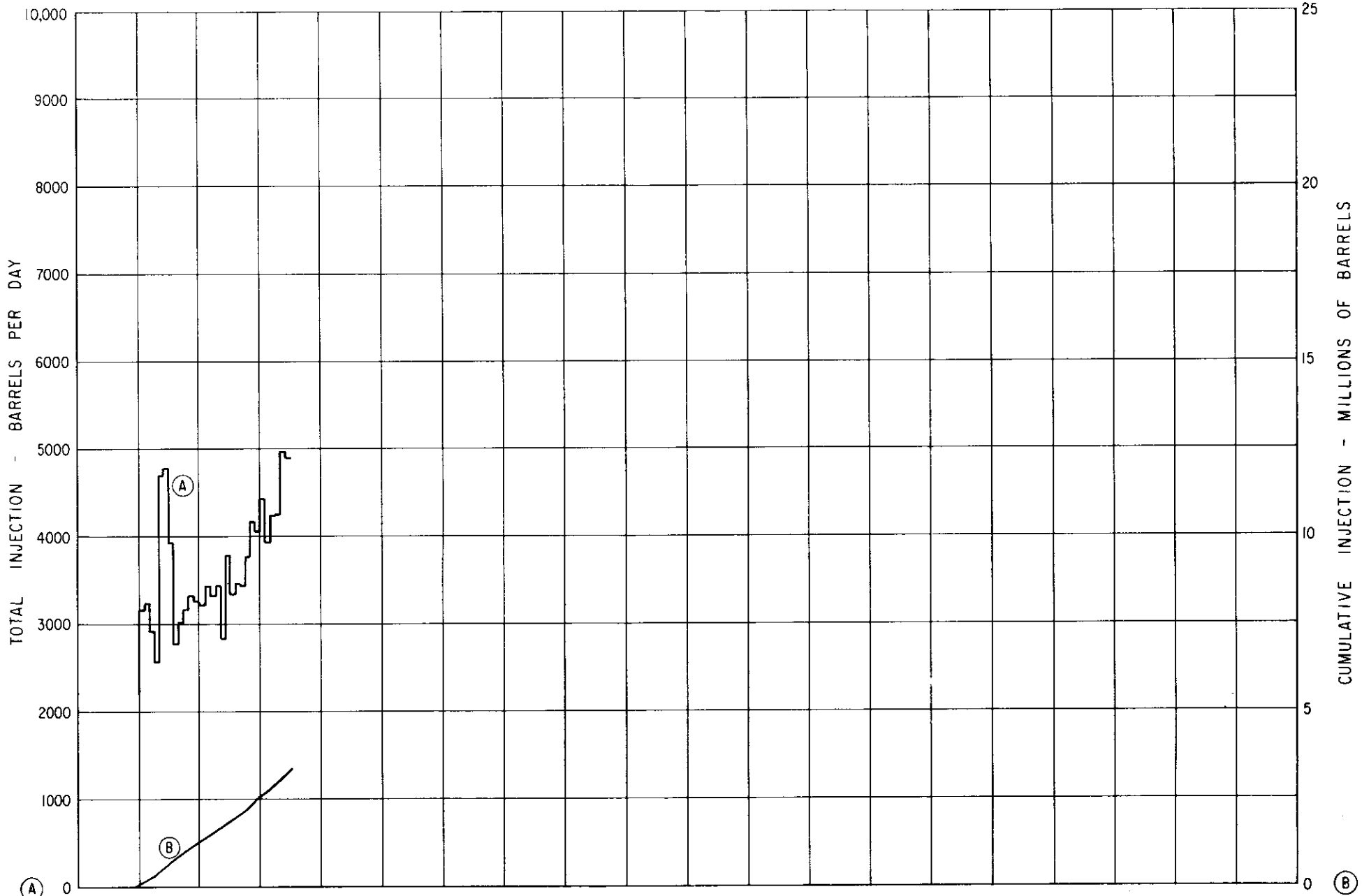
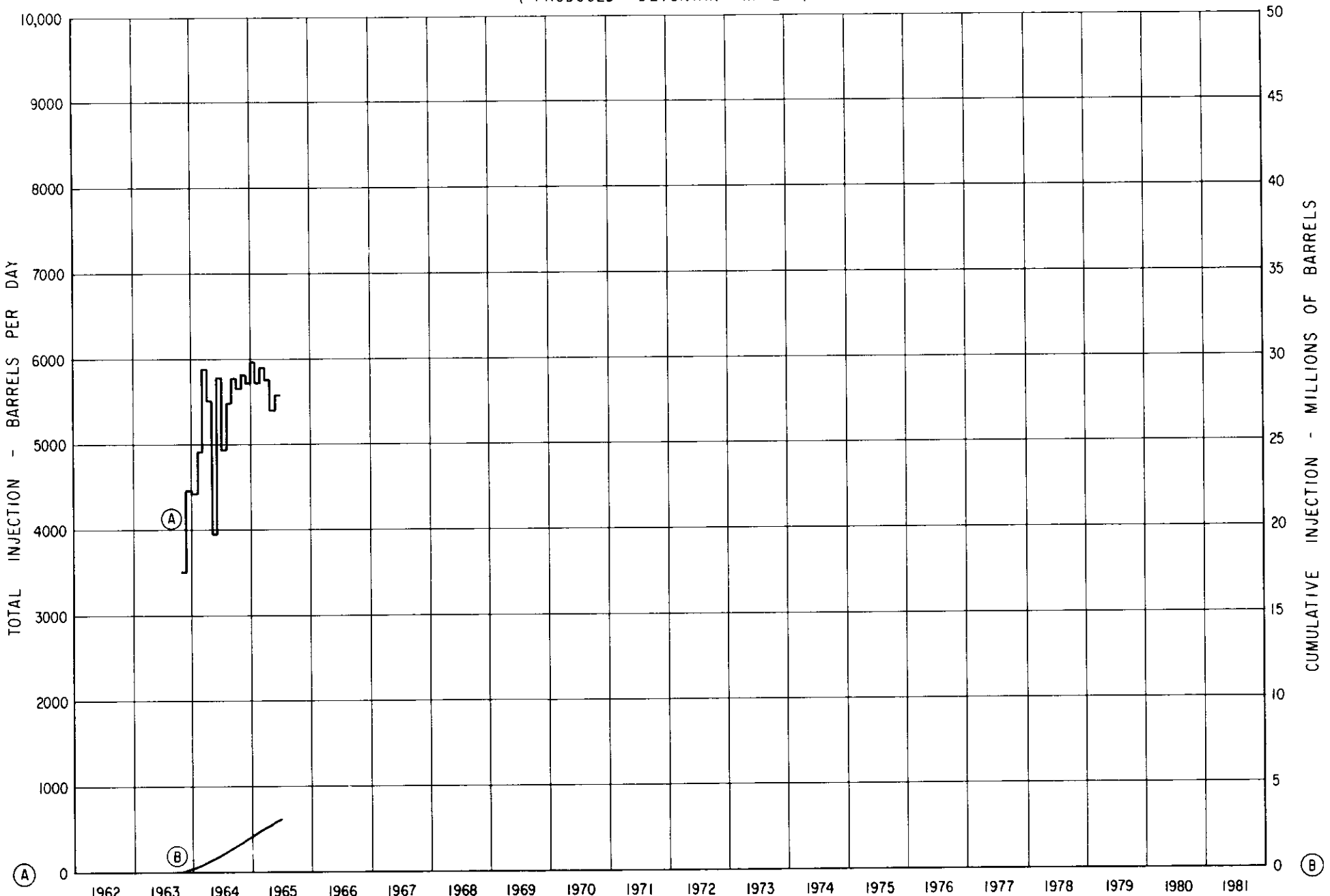


FIGURE 4

NORTH VIRDEN SCALLION UNIT No. 1

TOTAL DAILY WATER INJECTION AT PLANT No. 2

(PRODUCED DEVONIAN WATER)



July 16, 1965.

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

Attention: Mr. F. B. Gamey,
Reservoir Geologist

Dear Sir:

Enclosed are revised copies of the monthly production reports for the month of June, 1965 for North Virden Scallion Unit #1.

The revision was necessitated because of an error in recording test duration for the well North Virden B.A. Union 11-28-11-26 W1. Test duration was originally shown as 10 hours and should have been 96 hours. The test rate per hour has also been revised to 2.24 BOPH from 21.50 BOPH. We have revised the total estimated production, calculated the new proration factors and reprorated the total production.

Our apologies for any inconvenience this error may have caused your department.

Yours very truly,
The California Standard Company,

L. D. BROWN,
Area Supervisor.

DGB/as

Attach.

cc: Mr. M. J. Gobert

DEPARTMENT OF MINES
A.D.N. [illegible]
JUL 19 1965
[illegible]
[illegible]CE

THE CALIFORNIA STANDARD COMPANY

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

A. B. BRISTOW, JR.
VICE-PRESIDENT
PRODUCING

M.N.S. UNIT

DEPARTMENT OF MINES & NATURAL RESOURCES
JUL 28 1965
DIRECTOR OF MINES

July 27, 1965

Mr. J. S. Richards
Deputy Chairman
Department of Mines and Natural Resources
The Oil and Natural Gas Conservation Board
Box 42 Legislative Building
Winnipeg 1, Manitoba

Dear Mr. Richards:

We have your letter of July 21st, in which you give designations of Shell Canada Limited for Unit representatives. I believe that this applies to the North Virden Scallion Unit No. 1 rather than to the Virden Roselea Unit No. 1 as implied in your letter. Therefore, unless we hear from you contrarily, we will presume that this refers to North Virden Scallion Unit No. 1.

Yours very truly,

J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

JGT/cb

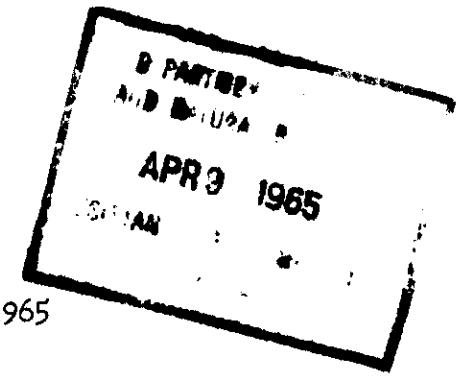
p. c. to: Mr. M. J. Gobert,
Assistant Deputy Minister.

Mr. F. S. Gamey,
Reservoir Engineer.

DEPT OF MINES & NATURAL RESOURCES
JUL 29 1965
ASSISTANT DEPUTY MINISTER'S OFFICE

THE CALIFORNIA STANDARD COMPANY

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



April 2, 1965

TO: ALL WORKING INTEREST OWNERS
NORTH VIRDEN SCALLION UNIT NO. 1

Gentlemen:

Re: Representative and Alternate Designation
to the Operators' Committee
North Virden Scallion Unit No. 1

Please be advised that, effective immediately, The California Standard Company's representative and alternate on the Operators' Committee for the aforementioned Unit will be:

Representative: L. D. Brown

Alternate: J. G. Trowell

The address for all correspondence pertaining to the Plan for Unit Operation will be as follows:

Mr. L. D. Brown,
The California Standard Company,
P. O. Box 100,
Virden, Manitoba.

All matters of an accounting nature will be handled by our Calgary office.

Yours very truly,

DRH/cb

A. B. Bristow, Jr.
The California Standard Company

c.c. Mr. J.G. Cowan, Chairman,
Oil & Gas Conservation Board,
Manitoba.

October 6, 1964

Mr. A. B. Bristow, Jr.
Chairman, North Virden Scallion Unit No. 1,
Operators Committee,
The California Standard Company,
Medical Arts Building,
329A- 6th Avenue S.W.
Calgary, Alberta.

Re: North Virden Scallion Unit No. 1
Enlargement to include Lsds. 3 & 6 of Sec. 3-12-26 WPM.
Milestone Petroleum Ltd.

Dear Sir:

This will acknowledge your letter of September 29, 1964, and the revised Parts 21, 22, 23 and 24 to the plan for unit operation governing the unitized management, operation and further development of North Virden Scallion Unit No. 1, along with revised Schedules A and B thereto.

Yours very truly,

M. J. Gobert,
Member.

PS-150

COPY

September 23, 1964.

Mr. [illegible] Bristow, Jr.,
Chairman,
North Virgen Section Unit No. 1,
Operating Committee,
The California Standard Company,
Medical Arts Building,
[illegible] - [illegible] Ave.,
Calgary,
Alberta.

Dear Mr. Bristow:

Attached, hereto, Order-in-Council No. 1215/64, dated September 4, 1964.

This Order-in-Council approves the Oil and Natural Gas Conservation Board Unitization Order No. 2, dated August 27, 1964.

Yours very truly,

J. G. [illegible],
Director of Mines.

/...

cc: J.

cc: Mr. J. G. Cowan, Q.C.,
Chairman, The Oil and Natural Gas Conservation Board -
with copy of Order-in-Council No. 1215/64, dated 4.9.64.

Mr. M. J. Gobert,
Member, The Oil and Natural Gas Conservation Board -
with copy of Order-in-Council No. 1215/64, dated 4.9.64.

[illegible]
SEP 23 1964
[illegible]

At Government House in the City of Winnipeg
day of September A.D. 1964
APPROVED AND ORDERED this 4th

Lieutenant-Governor.

In The Executive Council Chamber, Winnipeg

The 3rd day of September A.D. 19 64.

PRESENT

in the Chair.

The Honourable Mr. ROBLIN
Mr. EVANS
Mr. LYON
Mr. JOHNSON
Mr. WITNEY
Mr. WEIR
Mr. SMELLIE
Mr.
Mr.
Mr.
Mr.
Mr.
Mr.

SEP 3 1964

1215

ON MATTERS OF STATE

To His Honour the Lieutenant-Governor-in-Council

The undersigned, the Minister of Mines and Natural Resources,

submits for approval of Council a report setting forth that:

WHEREAS, subsection (3) of Section 73 of "The Mines Act", being Chapter 166 of the Revised Statutes, as enacted by Chapter 38 of the Statutes of Manitoba, 1959 (2nd Session), provides as follows:

"73. (3) If the board is of the opinion that the operation of the pool, field, or part thereof, as a unit would prevent waste therein having regard

(a) to the production and recovery of oil and gas;

(b) to the gathering and processing of gas;

(c) to the disposal of salt water produced;

(d) to the rights of each owner to a reasonable opportunity of recovering or receiving the oil and gas in which he has an interest or the equivalent thereof without being required to drill unnecessary wells or to incur other unnecessary expenses therefor; and

(e) to any other circumstance pertaining to the drilling for or production of oil and gas;

the board may, with the approval of the Lieutenant-Governor-in-Council, order that the pool, field, or part thereof, be operated as a unit.";

AND WHEREAS, Section 76 of "The Mines Act", as enacted by Chapter 38 of the Statutes of Manitoba, 1959 (2nd Session), provides as follows:

"76. (1) Notwithstanding section 75, the unit operator of a unit area, or the working interest owner of a tract adjoining a unit area, may apply to the board at any time to add to the unit area tracts that adjoin the unit area and that, in the opinion of the board, are in the same pool or field as the unit area.

(2) Upon receiving an application under subsection (1), or upon its own motion, the board may hold a hearing to consider adding further tracts to the unit area.

(3) Upon holding a hearing under subsection (2), the board may, with the approval of the Lieutenant-Governor-in-Council, order that tracts that adjoin a unit area and that, in the opinion of the board, are within the same pool or field, be added to the unit area.

(4) In an order made under subsection (3), the board may provide that the unit area previously established be deemed to be a single tract, and the portion of the oil and gas produced that is allocated to the previously established unit area be allocated to the owners of the tracts therein in accordance with the order establishing it.";

AND WHEREAS, The Oil and Natural Gas Conservation Board, by its order dated July 18, 1962, (Unitization Order No. 1), ordered that part of the North Virden Scallion Field be operated as a unit;

AND WHEREAS, the said order was approved by the Lieutenant-Governor-in-Council by Order-in-Council No. 983/62 and filed under The Regulations Act as Manitoba Regulation 57/62;

AND WHEREAS, the Unit Operator of the North Virden Scallion Unit No. 1 has applied to The Oil and Natural Gas Conservation Board to have certain tracts adjoining the unit area added to the unit area;

AND WHEREAS, The Oil and Natural Gas Conservation Board held a hearing on the application on August 18, 1964;

AND WHEREAS, The Oil and Natural Gas Conservation Board has made the order set out in the Schedule hereto amending the above mentioned order;

AND WHEREAS, it is deemed advisable to approve the order of The Oil and Natural Gas Conservation Board set out in the Schedule hereto.

THEREFORE he, the Minister, recommends:

That the order of The Oil and Natural Gas Conservation Board set out in the Schedule hereto be approved.

Schedule in Attachment Cupboard

Submitted and Recommended

Minister of **Mines and Natural Resources.**

Upon consideration of the foregoing report and recommendation Council advises that it be done as recommended by the Honourable the Minister of **Mines and Natural Resources** ; and His Honour the Lieutenant-Governor-in-Council is pleased to approve the said report and recommendation and doth order accordingly.

President of the Council
or
Presiding Member of the Executive Council.

EC-a-10

This is the Schedule " " referred to in
Order-in-Council No. 1213/64

Derek Bedson
Clerk of the Executive Council

SCHEDULE

THE OIL AND NATURAL GAS CONSERVATION BOARD

UNITIZATION ORDER NO. 2

Effective at the hour of seven o'clock in the forenoon, Central Standard Time, on the first day of October, 1964, legal subdivisions 3 and 6 of Section 3, Township 12, Range 26, West of the Principal Meridian, are added to the unit area affected by the Plan for Unit Operation Governing the Unitized Management Operation and Further Development of North Virden Scallion Unit No. 1, set out in Unitization Order No. 1, (Manitoba Regulation 57/62), and Parts XXI, XXII, XXIII, and XXIV of the said Plan are repealed and the following Parts are substituted therefor:

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PART XXI

WELLS DELIVERED TO UNIT OPERATOR PURSUANT TO PART X

Calstan Scallion Prov. SWD 9-16-11-26

Cdn-Sup Tapp Scallion SWD 2-22-11-26

Cdn-Sup Whiteford Scallion SWD 8-28-11-26

Dome Scallion SWD 13-26-11-26

Fargo et al Scallion SWD 10-34-11-26

Imperial Scallion SWD 7-33-11-26

Shell Moir South Scallion SWD 15-21-11-26

Shell Moir North Scallion SWD 6A-33-11-26

Sun W.C. Tapp Scallion SWD 8-27-11-26

B.A. Union Tapp Scallion 3-28-11-26

B.A. Union Tapp Scallion 5-28-11-26

B.A. Union Tapp Scallion 6-28-11-26

B.A. Union Tapp Scallion 11-28-11-26

B.A. Union Tapp Scallion 12-28-11-26

B.A. Union Tapp Scallion 13-28-11-26

B.A. Union Tapp Scallion 14-28-11-26

B.A. Union Milne Scallion 2-34-11-26

B.A. Union Milne Scallion 3-34-11-26

B.A. Union Milne Scallion 4-34-11-26

Calstan Scallion 6-2-11-26

Calstan Scallion 11-2-11-26

Calstan Scallion 13-2-11-26

Calstan Scallion 14-2-11-26

Calstan Scallion 9-9-11-26

Calstan Scallion 15-9-11-26

Calstan Scallion 16-9-11-26

Calstan Scallion 1-10-11-26

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PART XXI (Con't)

Calstan Scallion 2-10-11-26

Calstan Scallion 3-10-11-26

Calstan Scallion 5-10-11-26

Calstan Scallion 6-10-11-26

Calstan Scallion 7-10-11-26

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Calstan Scallion Prov. 2-11-11-26

Calstan Scallion Prov. 3-11-11-26

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Calstan Scallion Prov. 5-11-11-26

Calstan Scallion Prov. 6-11-11-26

Calstan Scallion Prov. 7-11-11-26

Calstan Scallion Prov. 8-11-11-26

Calstan Scallion Prov. 12-11-11-26

Calstan Scallion 5-13-11-26

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Calstan Scallion 7-13-11-26

Calstan Scallion 10-13-11-26

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Calstan Scallion 15-13-11-26

Calstan Scallion 1-15-11-26

Calstan Scallion 2-15-11-26

Calstan Scallion 3-15-11-26

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PART XXI (Con't)

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Calstan Scallion 3-22-11-26

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Calstan Scallion 11-22-11-26

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Calstan Scallion Prov. 11-24-11-26

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PART XXI (Con't)

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Calstan Scallion 14-27-11-26

Calstan North Scallion 3-4-12-26

Calstan North Scallion 4-4-12-26

Calstan North Scallion 5-4-12-26

Calstan North Scallion 6-4-12-26

Calstan North Scallion 11-4-12-26

Calstan North Scallion 12A-4-12-26

Calstan North Scallion 13-4-12-26

Calstan North Scallion 14-4-12-26

CEGO Scallion 1-5-12-26

CEGO Scallion 7-5-12-26

CEGO Scallion 8-5-12-26

CEGO Scallion 9-5-12-26

Cdn-Sup Veldhouse Scallion 2-16-11-26

Cdn-Sup Veldhouse Scallion 7-16-11-26

Cdn-Sup Veldhouse Scallion 8-16-11-26

Cdn-Sup Tapp Scallion 1-22-11-26

Cdn-Sup Tapp Scallion 7-22-11-26

Cdn-Sup Tapp Scallion 8-22-11-26

Cdn-Sup Whiteford Scallion 2-28-11-26

Cdn-Sup Whiteford Scallion 7-28-11-26

Cdn-Sup Whiteford Scallion 8-28-11-26

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Cdn-Sup Whiteford Scallion 15-28-11-26

Cdn-Sup Whiteford Scallion 16-28-11-26

Dome Cdn Sup Scallion 7-14-11-26

Dome Cdn Sup Scallion 8-14-11-26

Dome Cox Scallion 1-16-11-26

Dome Cdn Sup Scallion 3-24-11-26

Dome Cdn Sup Scallion 4-24-11-26

Dome Cdn Sup Scallion 5-24-11-26

Dome Cdn Sup Scallion 6-24-11-26

Dome Cdn Sup Scallion 11-26-11-26

Dome Cdn Sup Scallion 12-26-11-26

Dome Naco Scallion 1-28-11-26

Dome Scallion 4-3-12-26

Dome Scallion 5-3-12-26

Dome Scallion 12-3-12-26

Dome Cdn Sup Scallion 1-4-12-26

Dome Cdn Sup Scallion 2-4-12-26

Dome Cdn Sup Scallion 7-4-12-26

Dome Scallion 8-4-12-26

Fargo et al Scallion 9-14-11-26

Fargo et al Scallion 10-14-11-26

Fargo et al Scallion 15-14-11-26

Fargo et al Scallion 16-14-11-26

Fargo et al Scallion 1-26-11-26

Fargo et al Scallion 2-26-11-26

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Fargo et al Scallion 7-34-11-26

Fargo et al Scallion 11-34-11-26

Fargo et al Scallion 12-34-11-26

Fargo et al Scallion 14-34-11-26

Imperial Scallion 1-33-11-26

Imperial Scallion 2-33-11-26

Imperial Scallion 7-33-11-26

Imperial Scallion 9-33-11-26

Imperial Scallion 10-33-11-26

Imperial Scallion 15-33-11-26

Landa et al Drynan Scallion 7-2-11-26

Landa et al Drynan Scallion 10-2-11-26

Landa et al Drynan Scallion 15-2-11-26

Landa et al Drynan Scallion 16-2-11-26

Landa Scallion 16-5-12-26

Shell Moir South Scallion 9-21-11-26

Shell Moir South Scallion 10-21-11-26

Shell Moir South Scallion 11-21-11-26

Shell Moir South Scallion 14-21-11-26

Shell Moir South Scallion 15-21-11-26

Shell Moir South Scallion 16-21-11-26

Shell Buker Scallion 16-32-11-26

Shell Moir North Scallion 3-33-11-26

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Shell Moir North Scallion 4-33-11-26

Shell Moir North Scallion 5-33-11-26

Shell Moir North Scallion 6-33-11-26

Shell Moir North Scallion 11-33-11-26

Shell Moir North Scallion 12-33-11-26

Shell Moir North Scallion 13-33-11-26

Shell Moir North Scallion 14-33-11-26

Sun W. Milne Scallion 4-14-11-26

Sun W. Milne Scallion 5-14-11-26

Sun W. Milne Scallion 6-14-11-26

Sun G. Braybrook Scallion 11-14-11-26

Sun G. Braybrook Scallion 12-14-11-26

Sun G. Braybrook Scallion 13-14-11-26

Sun T. L. Tapp Scallion 9-22-11-26

Sun T. L. Tapp Scallion 10-22-11-26

Sun T. L. Tapp Scallion 15-22-11-26

Sun T. L. Tapp Scallion 16-22-11-26

Sun E. Hutchison Scallion 5-23-11-26

Sun E. Hutchison Scallion 6-23-11-26

Sun W. C. Tapp Scallion 3-26-11-26

Sun W. C. Tapp Scallion 4-26-11-26

Sun P. J. Tapp Scallion 5-26-11-26

Sun P. J. Tapp Scallion 6-26-11-26

Sun P. J. Tapp Scallion 10-26-11-26

Sun W. C. Tapp Scallion 1-27-11-26

Sun W. C. Tapp Scallion 2-27-11-26

Sun W. C. Tapp Scallion 7-27-11-26

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PART XXI (Con't)

Sun W. C. Tapp Scallion 8-27-11-26

Sun W. C. Tapp Scallion 9-27-11-26

Sun W. C. Tapp Scallion 10-27-11-26

Sun W. C. Tapp Scallion 15-27-11-26

Sun W. C. Tapp Scallion 16-27-11-26

Vallat et al Scallion 16-33-11-26

Vallat et al Scallion 13-34-11-26

Vallat Scallion 9-4-12-26

Vallat Scallion 10-4-12-26

Vallat Scallion 15-4-12-26

Milestone Scallion 3-3-12-26

Milestone Scallion 6-3-12-26

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PART XXII

The Lands in the Province of Manitoba which comprise the North Virden Scallion Unit No. 1 are as follows:

TRACT NUMBER	LEGAL DESCRIPTION: TOWNSHIP 11, RANGE 26 WPM	TRACT NUMBER	LEGAL DESCRIPTION: TOWNSHIP 11, RANGE 26 WPM
6 - 2	LSD. 6, SECTION 2	11 - 10	LSD. 11, SECTION 10
7 - 2	LSD. 7, SECTION 2	12 - 10	LSD. 12, SECTION 10
10 - 2	LSD. 10, SECTION 2	13 - 10	LSD. 13, SECTION 10
11 - 2	LSD. 11, SECTION 2	14 - 10	LSD. 14, SECTION 10
13 - 2	LSD. 13, SECTION 2	15 - 10	LSD. 15, SECTION 10
14 - 2	LSD. 14, SECTION 2	16 - 10	LSD. 16, SECTION 10
15 - 2	LSD. 15, SECTION 2	1 - 11	LSD. 1, SECTION 11
16 - 2	LSD. 16, SECTION 2	2 - 11	LSD. 2, SECTION 11
9 - 9	LSD. 9, SECTION 9	3 - 11	LSD. 3, SECTION 11
15 - 9	LSD. 15, SECTION 9	4 - 11	LSD. 4, SECTION 11
16 - 9	LSD. 16, SECTION 9	5 - 11	LSD. 5, SECTION 11
1 - 10	LSD. 1, SECTION 10	6 - 11	LSD. 6, SECTION 11
2 - 10	LSD. 2, SECTION 10	7 - 11	LSD. 7, SECTION 11
3 - 10	LSD. 3, SECTION 10	8 - 11	LSD. 8, SECTION 11
5 - 10	LSD. 5, SECTION 10	12 - 11	LSD. 12, SECTION 11
6 - 10	LSD. 6, SECTION 10	5 - 13	LSD. 5, SECTION 13
7 - 10	LSD. 7, SECTION 10	6 - 13	LSD. 6, SECTION 13
8 - 10	LSD. 8, SECTION 10	7 - 13	LSD. 7, SECTION 13
9 - 10	LSD. 9, SECTION 10	10 - 13	LSD. 10, SECTION 13
10 - 10	LSD. 10, SECTION 10	11 - 13	LSD. 11, SECTION 13

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PART XX11 CONTINUED

TRACT NUMBER	LEGAL DESCRIPTION: TOWNSHIP 11, RANGE 26 WPM
12 - 13	LSD. 12, SECTION 13
13 - 13	LSD. 13, SECTION 13
14 - 13	LSD. 14, SECTION 13
15 - 13	LSD. 15, SECTION 13
4 - 14	LSD. 4, SECTION 14
5 - 14	LSD. 5, SECTION 14
6 - 14	LSD, 6, SECTION 14
7 - 14	LSD. 7, SECTION 14
8 - 14	LSD. 8, SECTION 14
9 - 14	LSD. 9, SECTION 14
10 - 14	LSD. 10, SECTION 14
11 - 14	LSD. 11, SECTION 14
12 - 14	LSD. 12, SECTION 14
13 - 14	LSD. 13, SECTION 14
15 - 14	LSD. 15, SECTION 14
16 - 14	LSD. 16, SECTION 14
1 - 15	LSD. 1, SECTION 15
2 - 15	LSD. 2, SECTION 15
3 - 15	LSD. 3, SECTION 15
4 - 15	LSD. 4, SECTION 15
5 - 15	LSD. 5, SECTION 15
6 - 15	LSD. 6, SECTION 15
7 - 15	LSD. 7, SECTION 15
8 - 15	LSD. 8, SECTION 15
9 - 15	LSD. 9, SECTION 15
10 - 15	LSD. 10, SECTION 15
11 - 15	LSD. 11, SECTION 15
12 - 15	LSD. 12, SECTION 15
13 - 15	LSD. 13, SECTION 15
14 - 15	LSD. 14, SECTION 15
15 - 15	LSD. 15, SECTION 15
16 - 15	LSD. 16, SECTION 15
1 - 16	LSD. 1, SECTION 16
2 - 16	LSD. 2, SECTION 16
7 - 16	LSD. 7, SECTION 16
8 - 16	LSD. 8, SECTION 16

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PART XXII CONTINUED

TRACT NUMBER	LEGAL DESCRIPTION TOWNSHIP 11, RANGE 26 WPM	TRACT NUMBER	LEGAL DESCRIPTION TOWNSHIP 11, RANGE 26 WPM
9 - 16	LSD. 9, SECTION 16	12 - 22	LSD. 12, SECTION 22
10 - 16	LSD. 10, SECTION 16	13 - 22	LSD. 13, SECTION 22
15 - 16	LSD. 15, SECTION 16	14 - 22	LSD. 14, SECTION 22
16 - 16	LSD. 16, SECTION 16	15 - 22	LSD. 15, SECTION 22
1 - 21	LSD. 1, SECTION 21	16 - 22	LSD. 16, SECTION 22
2 - 21	LSD. 2, SECTION 21	5 - 23	LSD. 5, SECTION 23
3 - 21	LSD. 3, SECTION 21	6 - 23	LSD. 6, SECTION 23
6 - 21	LSD. 6, SECTION 21	9 - 23	LSD. 9, SECTION 23
7 - 21	LSD. 7, SECTION 21	10 - 23	LSD. 10, SECTION 23
8 - 21	LSD. 8, SECTION 21	11 - 23	LSD. 11, SECTION 23
9 - 21	LSD. 9, SECTION 21	12 - 23	LSD. 12, SECTION 23
10 - 21	LSD. 10, SECTION 21	13 - 23	LSD. 13, SECTION 23
11 - 21	LSD. 11, SECTION 21	14 - 23	LSD. 14, SECTION 23
14 - 21	LSD. 14, SECTION 21	15 - 23	LSD. 15, SECTION 23
15 - 21	LSD. 15, SECTION 21	16 - 23	LSD. 16, SECTION 23
16 - 21	LSD. 16, SECTION 21	3 - 24	LSD. 3, SECTION 24
1 - 22	LSD. 1, SECTION 22	4 - 24	LSD. 4, SECTION 24
3 - 22	LSD. 3, SECTION 22	5 - 24	LSD. 5, SECTION 24
4 - 22	LSD. 4, SECTION 22	6 - 24	LSD. 6, SECTION 24
5 - 22	LSD. 5, SECTION 22	11 - 24	LSD. 11, SECTION 24
6 - 22	LSD. 6, SECTION 22	12 - 24	LSD. 12, SECTION 24
7 - 22	LSD. 7, SECTION 22	13 - 24	LSD. 13, SECTION 24
8 - 22	LSD. 8, SECTION 22	4 - 25	LSD. 4, SECTION 25
9 - 22	LSD. 9, SECTION 22	5 - 25	LSD. 5, SECTION 25
10 - 22	LSD. 10, SECTION 22	1 - 26	LSD. 1, SECTION 26
11 - 22	LSD. 11, SECTION 22	2 - 26	LSD. 2, SECTION 26

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PART XXII CONTINUED

TRACT NUMBER	LEGAL DESCRIPTION TOWNSHIP 11, RANGE 26 WPM	TRACT NUMBER	LEGAL DESCRIPTION TOWNSHIP 11, RANGE 26 WPM
3 - 26	LSD. 3, SECTION 26	2 - 28	LSD. 2, SECTION 28
4 - 26	LSD. 4, SECTION 26	3 - 28	LSD. 3, SECTION 28
5 - 26	LSD. 5, SECTION 26	5 - 28	LSD. 5, SECTION 28
6 - 26	LSD. 6, SECTION 26	6 - 28	LSD. 6, SECTION 28
7 - 26	LSD. 7, SECTION 26	7 - 28	LSD. 7, SECTION 28
8 - 26	LSD. 8, SECTION 26	8 - 28	LSD. 8, SECTION 28
10 - 26	LSD. 10, SECTION 26	9 - 28	LSD. 9, SECTION 28
11 - 26	LSD. 11, SECTION 26	10 - 28	LSD. 10, SECTION 28
12 - 26	LSD. 12, SECTION 26	11 - 28	LSD. 11, SECTION 28
1 - 27	LSD. 1, SECTION 27	12 - 28	LSD. 12, SECTION 28
2 - 27	LSD. 2, SECTION 27	13 - 28	LSD. 13, SECTION 28
3 - 27	LSD. 3, SECTION 27	14 - 28	LSD. 14, SECTION 28
4 - 27	LSD. 4, SECTION 27	15 - 28	LSD. 15, SECTION 28
5 - 27	LSD. 5, SECTION 27	16 - 28	LSD. 16, SECTION 28
6 - 27	LSD. 6, SECTION 27	16 - 32	LSD. 16, SECTION 32
7 - 27	LSD. 7, SECTION 27	1 - 33	LSD. 1, SECTION 33
8 - 27	LSD. 8, SECTION 27	2 - 33	LSD. 2, SECTION 33
9 - 27	LSD. 9, SECTION 27	3 - 33	LSD. 3, SECTION 33
10 - 27	LSD. 10, SECTION 27	4 - 33	LSD. 4, SECTION 33
11 - 27	LSD. 11, SECTION 27	5 - 33	LSD. 5, SECTION 33
12 - 27	LSD. 12, SECTION 27	6 - 33	LSD. 6, SECTION 33
13 - 27	LSD. 13, SECTION 27	7 - 33	LSD. 7, SECTION 33
14 - 27	LSD. 14, SECTION 27	9 - 33	LSD. 9, SECTION 33
15 - 27	LSD. 15, SECTION 27	10 - 33	LSD. 10, SECTION 33
16 - 27	LSD. 16, SECTION 27	11 - 33	LSD. 11, SECTION 33
1 - 28	LSD. 1, SECTION 28	12 - 33	LSD. 12, SECTION 33

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PART XXII CONTINUED

TRACT NUMBER	LEGAL DESCRIPTION TOWNSHIP 11, RANGE 26 WPM
13 - 33	LSD. 13, SECTION 33
14 - 33	LSD. 14, SECTION 33
15 - 33	LSD. 15, SECTION 33
16 - 33	LSD. 16, SECTION 33
2 - 34	LSD. 2, SECTION 34
3 - 34	LSD. 3, SECTION 34
4 - 34	LSD. 4, SECTION 34
5 - 34	LSD. 5, SECTION 34
6 - 34	LSD. 6, SECTION 34
7 - 34	LSD. 7, SECTION 34
11 - 34	LSD. 11, SECTION 34
12 - 34	LSD. 12, SECTION 34
13 - 34	LSD. 13, SECTION 34
14 - 34	LSD. 14, SECTION 34

TRACT NUMBER	LEGAL DESCRIPTION TOWNSHIP 12, RANGE 26 WPM
3 - 3	LSD. 3, SECTION 3
4 - 3	LSD. 4, SECTION 3
5 - 3	LSD. 5, SECTION 3
6 - 3	LSD. 6, SECTION 3
12 - 3	LSD. 12, SECTION 3
1 - 4	LSD. 1, SECTION 4
2 - 4	LSD. 2, SECTION 4
3 - 4	LSD. 3, SECTION 4
4 - 4	LSD. 4, SECTION 4
5 - 4	LSD. 5, SECTION 4
6 - 4	LSD. 6, SECTION 4
7 - 4	LSD. 7, SECTION 4
8 - 4	LSD. 8, SECTION 4
9 - 4	LSD. 9, SECTION 4
10 - 4	LSD. 10, SECTION 4
11 - 4	LSD. 11, SECTION 4
12 - 4	LSD. 12, SECTION 4
13 - 4	LSD. 13, SECTION 4
14 - 4	LSD. 14, SECTION 4
15 - 4	LSD. 15, SECTION 4
1 - 5	LSD. 1, SECTION 5
7 - 5	LSD. 7, SECTION 5
8 - 5	LSD. 8, SECTION 5
9 - 5	LSD. 9, SECTION 5
16 - 5	LSD. 16, SECTION 5

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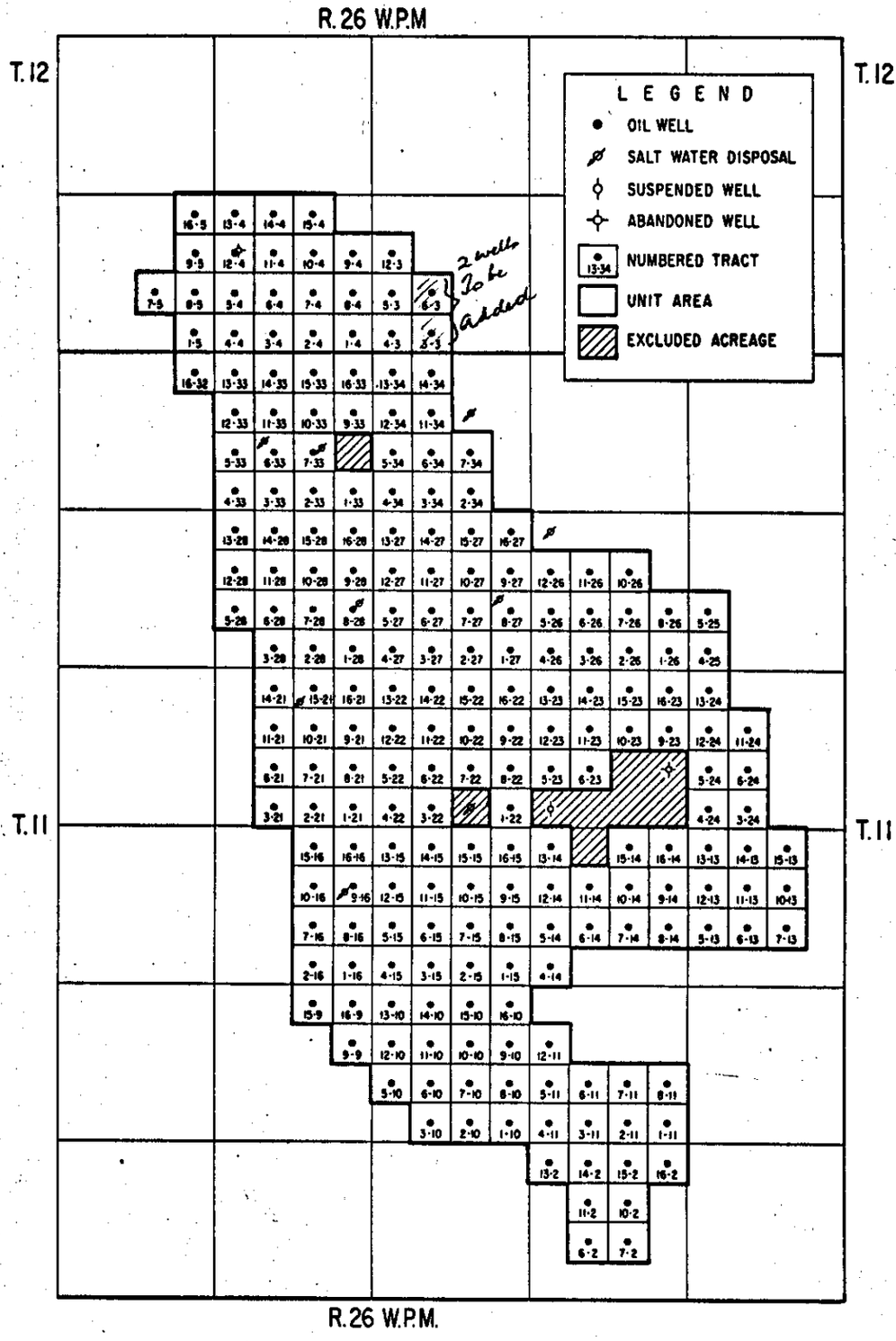

PART XXIII

MAP OF UNIT AREA

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PART XXIV

TRACT NUMBER	TRACT PARTICIPATION	TRACT NUMBER	TRACT PARTICIPATION
6 - 2	.00101	2 - 11	.15193
7 - 2	.00155	3 - 11	.26376
10 - 2	.05713	4 - 11	.25904
11 - 2	.12968	5 - 11	.14911
13 - 2	.24975	6 - 11	.15203
14 - 2	.18490	7 - 11	.19899
15 - 2	.08258	8 - 11	.07783
16 - 2	.03107	12 - 11	.18797
9 - 9	.37322	5 - 13	.31375
15 - 9	.00835	6 - 13	.14487
16 - 9	1.26982	7 - 13	.27139
1 - 10	.22710	10 - 13	.45615
2 - 10	.29711	11 - 13	.64282
3 - 10	.00743	12 - 13	.86218
5 - 10	.33672	13 - 13	.15824
6 - 10	.42430	14 - 13	.43703
7 - 10	.41121	15 - 13	.12322
8 - 10	.53982	4 - 14	.08324
9 - 10	.52301	5 - 14	.42662
10 - 10	.88829	6 - 14	.52606
11 - 10	.96614	7 - 14	.49773
12 - 10	.55492	8 - 14	.49374
13 - 10	.71724	9 - 14	.47145
14 - 10	.88045	10 - 14	.15743
15 - 10	.71594	11 - 14	.00209
16 - 10	.34432	12 - 14	.10975
1 - 11	.24484	13 - 14	.11527

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TRACT NUMBER	TRACT PARTICIPATION	TRACT NUMBER	TRACT PARTICIPATION
15 - 14	.40356	2 - 21	1.69840
16 - 14	.16173	3 - 21	1.65559
1 - 15	.38720	6 - 21	.24025
2 - 15	1.35766	7 - 21	1.02462
3 - 15	1.20920	8 - 21	1.07149
4 - 15	1.74145	9 - 21	1.22004
5 - 15	.96019	10 - 21	.42738
6 - 15	1.49079	11 - 21	.03361
7 - 15	1.24693	14 - 21	.43948
8 - 15	.98968	15 - 21	.18272
9 - 15	.14778	16 - 21	.82911
10 - 15	.60834	1 - 22	.02889
11 - 15	1.07693	3 - 22	.48394
12 - 15	1.41623	4 - 22	.68835
13 - 15	.45245	5 - 22	.78016
14 - 15	.21548	6 - 22	.72181
15 - 15	.14247	7 - 22	.53700
16 - 15	.07046	8 - 22	.46784
1 - 16	.17183	9 - 22	.54562
2 - 16	.39911	10 - 22	.55304
7 - 16	.58096	11 - 22	1.29516
8 - 16	.35561	12 - 22	1.31737
9 - 16	.77036	13 - 22	.87033
10 - 16	.11537	14 - 22	.41597
15 - 16	.49000	15 - 22	.18856
16 - 16	1.76528	16 - 22	.13485
1 - 21	1.92408	5 - 23	.33730
		6 - 23	.05960

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TRACT NUMBER	TRACT PARTICIPATION	TRACT NUMBER	TRACT PARTICIPATION
9 - 23	.16302	12 - 26	.29149
10 - 23	.02528	1 - 27	.27184
11 - 23	.09019	2 - 27	.21233
12 - 23	.53503	3 - 27	.40067
13 - 23	.21798	4 - 27	.68278
14 - 23	.21901	5 - 27	.42582
15 - 23	.13293	6 - 27	.40289
16 - 23	.16804	7 - 27	.13671
3 - 24	.50017	8 - 27	.35641
4 - 24	.00327	9 - 27	.52426
5 - 24	.00445	10 - 27	.40917
6 - 24	.15267	11 - 27	.41305
11 - 24	.13745	12 - 27	.60886
12 - 24	.45882	13 - 27	.42187
13 - 24	.23415	14 - 27	.58446
4 - 25	.68720	15 - 27	.59846
5 - 25	.23905	16 - 27	.18365
1 - 26	.15089	1 - 28	.35330
2 - 26	.31481	2 - 28	.64218
3 - 26	.04170	3 - 28	.45858
4 - 26	.34453	5 - 28	.06666
5 - 26	.11105	6 - 28	.34369
6 - 26	.51035	7 - 28	.51633
7 - 26	.72050	8 - 28	.29762
8 - 26	.44798	9 - 28	.58391
10 - 26	.47275	10 - 28	.65054
11 - 26	.23746	11 - 28	.52313

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TRACT NUMBER	TRACT PARTICIPATION	TRACT NUMBER	TRACT PARTICIPATION
12 - 28	.14897	12 - 34	.11026
13 - 28	.27205	13 - 34	.74660
14 - 28	.13528	14 - 34	.09229
15 - 28	.44339	3 - 3	1.16590
16 - 28	.53536	4 - 3	1.47363
16 - 32	.04626	5 - 3	.33872
1 - 33	.08519	6 - 3	.08784
2 - 33	.47022	12 - 3	.01632
3 - 33	.71071	1 - 4	.33541
4 - 33	.17842	2 - 4	.51630
5 - 33	.09508	3 - 4	.89482
6 - 33	.80942	4 - 4	.69332
7 - 33	.37918	5 - 4	.72605
9 - 33	.09156	6 - 4	.28958
10 - 33	.60530	7 - 4	.16629
11 - 33	.51063	8 - 4	.49923
12 - 33	.40717	9 - 4	.70418
13 - 33	.54983	10 - 4	.79654
14 - 33	.93666	11 - 4	.99361
15 - 33	.48055	12 - 4	1.28352
16 - 33	.14607	13 - 4	.51060
2 - 34	.00017	14 - 4	1.14302
3 - 34	.38999	15 - 4	.40895
4 - 34	.00953	1 - 5	.54491
5 - 34	.05543	7 - 5	.01672
6 - 34	.09069	8 - 5	.28153
7 - 34	.19639	9 - 5	.20683
11 - 34	.19651	16 - 5	.23843

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Oil and Natural Gas Unitization
Order No. 2, made and passed
this 25th day of August, A.D.,
1964, at the City of Winnipeg,
in the Province of Manitoba,
by The Oil and Natural Gas
Conservation Board.

Deputy Chairman,
The Oil and Natural Gas
Conservation Board.

Member,
The Oil and Natural Gas
Conservation Board.

8A

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(a) a majority of the Working Interest Owners, owning at least seventy-five (75%) per cent of the Participating Interests have agreed in writing to such application for a rehearing of the matters herein provided for, or for amendments to this Plan, or

(b) the Conservation Board, on its own motion, decides to hold a rehearing.

PART XXI

WELLS DELIVERED TO UNIT OPERATOR PURSUANT TO PART X

Calstan Scallion Prov. SWD 9-16-11-26
Cdn-Sup Tapp Scallion SWD 2-22-11-26
Cdn-Sup Whiteford Scallion SWD 8-28-11-26
Dome Scallion SWD 13-26-11-26
Fargo et al Scallion SWD 10-34-11-26
Imperial Scallion SWD 7-33-11-26
Shell Moir South Scallion SWD 15-21-11-26
Shell Moir North Scallion SWD 6A-33-11-26
Sun W.C. Tapp Scallion SWD 8-27-11-26
B.A. Union Tapp Scallion 3-28-11-26
B.A. Union Tapp Scallion 5-28-11-26
B.A. Union Tapp Scallion 6-28-11-26
B.A. Union Tapp Scallion 11-28-11-26
B.A. Union Tapp Scallion 12-28-11-26
B.A. Union Tapp Scallion 13-28-11-26
B.A. Union Tapp Scallion 14-28-11-26
B.A. Union Milne Scallion 2-34-11-26
B.A. Union Milne Scallion 3-34-11-26
B.A. Union Milne Scallion 4-34-11-26
Calstan Scallion 6-2-11-26
Calstan Scallion 11-2-11-26
Calstan Scallion 13-2-11-26
Calstan Scallion 14-2-11-26
Calstan Scallion 9-9-11-26
Calstan Scallion 15-9-11-26
Calstan Scallion 16-9-11-26
Calstan Scallion 1-10-11-26
Calstan Scallion 2-10-11-26
Calstan Scallion 3-10-11-26
Calstan Scallion 5-10-11-26
Calstan Scallion 6-10-11-26
Calstan Scallion 7-10-11-26
Calstan Scallion 8-10-11-26
Calstan Scallion 9-10-11-26
Calstan Scallion 10-10-11-26
Calstan Scallion 11-10-11-26
Calstan Scallion 12-10-11-26
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Calstan Scallion 14-10-11-26
Calstan Scallion 15-10-11-26
Calstan Scallion 16-10-11-26
Calstan Scallion Prov. 1-11-11-26
Calstan Scallion Prov. 2-11-11-26
Calstan Scallion Prov. 3-11-11-26
Calstan Scallion Prov. 4-11-11-26
Calstan Scallion Prov. 5-11-11-26
Calstan Scallion Prov. 6-11-11-26
Calstan Scallion Prov. 7-11-11-26
Calstan Scallion Prov. 8-11-11-26
Calstan Scallion Prov. 12-11-11-26
Calstan Scallion 5-13-11-26
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Calstan Scallion 10-13-11-26
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Calstan Scallion 12-13-11-26
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Calstan Scallion 1-15-11-26
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Calstan Scallion Prov. 10-16-11-26
Calstan Scallion Prov. 15-16-11-26
Calstan Scallion Prov. 16-16-11-26
Calstan Scallion 1-21-11-26
Calstan Scallion 2-21-11-26
Calstan Scallion 3-21-11-26
Calstan Scallion 6-21-11-26
Calstan Scallion 7-21-11-26
Calstan Scallion 8-21-11-26
Calstan Scallion 3-22-11-26
Calstan Scallion 4-22-11-26
Calstan Scallion 5-22-11-26
Calstan Scallion 6-22-11-26
Calstan Scallion 11-22-11-26
Calstan Scallion 12-22-11-26
Calstan Scallion 13-22-11-26
Calstan Scallion 14-22-11-26
Calstan Scallion 9-23-11-26
Calstan Scallion 10-23-11-26
Calstan Scallion 11-23-11-26
Calstan Scallion 12-23-11-26
Calstan Scallion 13-23-11-26
Calstan Scallion 14-23-11-26
Calstan Scallion 15-23-11-26
Calstan Scallion 16-23-11-26
Calstan Scallion Prov. 11-24-11-26
Calstan Scallion Prov. 12-24-11-26
Calstan Scallion Prov. 13-24-11-26
Calstan Scallion 4-25-11-26
Calstan Scallion 5-25-11-26
Calstan Scallion 3-27-11-26
Calstan Scallion 4-27-11-26
Calstan Scallion 5-27-11-26
Calstan Scallion 6-27-11-26
Calstan Scallion 11-27-11-26
Calstan Scallion 12-27-11-26
Calstan Scallion 13-27-11-26
Calstan Scallion 14-27-11-26
Calstan North Scallion 3-4-12-26
Calstan North Scallion 4-4-12-26
Calstan North Scallion 5-4-12-26
Calstan North Scallion 6-4-12-26
Calstan North Scallion 11-4-12-26
Calstan North Scallion 12A-4-12-26
Calstan North Scallion 13-4-12-26
Calstan North Scallion 14-4-12-26
CEGO Scallion 1-5-12-26
CEGO Scallion 7-5-12-26
CEGO Scallion 8-5-12-26
CEGO Scallion 9-5-12-26
Cdn-Sup Veldhouse Scallion 2-16-11-26
Cdn-Sup Veldhouse Scallion 7-16-11-26
Cdn-Sup Veldhouse Scallion 8-16-11-26
Cdn-Sup Tapp Scallion 1-22-11-26
Cdn-Sup Tapp Scallion 7-22-11-26
Cdn-Sup Tapp Scallion 8-22-11-26
Cdn-Sup Whiteford Scallion 2-28-11-26
Cdn-Sup Whiteford Scallion 7-28-11-26
Cdn-Sup Whiteford Scallion 8-28-11-26
Cdn-Sup Whiteford Scallion 9-28-11-26
Cdn-Sup Whiteford Scallion 10-28-11-26
Cdn-Sup Whiteford Scallion 15-28-11-26
Cdn-Sup Whiteford Scallion 16-28-11-26
Dome Cdn Sup Scallion 7-14-11-26
Dome Cdn Sup Scallion 8-14-11-26
Dome Cox Scallion 1-16-11-26
Dome Cdn Sup Scallion 3-24-11-26
Dome Cdn Sup Scallion 4-24-11-26
Dome Cdn Sup Scallion 5-24-11-26
Dome Cdn Sup Scallion 6-24-11-26
Dome Cdn Sup Scallion 11-26-11-26
Dome Cdn Sup Scallion 12-26-11-26

Part XXI continued

Dome Naco Scallion 1-28-11-26
Dome Scallion 4-3-12-26
Dome Scallion 5-3-12-26
Dome Scallion 12-3-12-26
Dome Cdn Sup Scallion 1-4-12-26
Dome Cdn Sup Scallion 2-4-12-26
Dome Cdn Sup Scallion 7-4-12-26
Dome Scallion 8-4-12-26
Fargo et al Scallion 9-14-11-26
Fargo et al Scallion 10-14-11-26
Fargo et al Scallion 15-14-11-26
Fargo et al Scallion 16-14-11-26
Fargo et al Scallion 1-26-11-26
Fargo et al Scallion 2-26-11-26
Fargo et al Scallion 7-26-11-26
Fargo et al Scallion 8-26-11-26
Fargo et al Scallion 5-34-11-26
Fargo et al Scallion 6-34-11-26
Fargo et al Scallion 7-34-11-26
Fargo et al Scallion 11-34-11-26
Fargo et al Scallion 12-34-11-26
Fargo et al Scallion 14-34-11-26
Imperial Scallion 1-33-11-26
Imperial Scallion 2-33-11-26
Imperial Scallion 7-33-11-26
Imperial Scallion 9-33-11-26
Imperial Scallion 10-33-11-26
Imperial Scallion 15-33-11-26
Landa et al Drynan Scallion 7-2-11-26
Landa et al Drynan Scallion 10-2-11-26
Landa et al Drynan Scallion 15-2-11-26
Landa et al Drynan Scallion 16-2-11-26
Landa Scallion 16-5-12-26
Shell Moir South Scallion 9-21-11-26
Shell Moir South Scallion 10-21-11-26
Shell Moir South Scallion 11-21-11-26
Shell Moir South Scallion 14-21-11-26
Shell Moir South Scallion 15-21-11-26
Shell Moir South Scallion 16-21-11-26
Shell Buker Scallion 16-32-11-26
Shell Moir North Scallion 3-33-11-26
Shell Moir North Scallion 4-33-11-26
Shell Moir North Scallion 5-33-11-26
Shell Moir North Scallion 6-33-11-26
Shell Moir North Scallion 11-33-11-26
Shell Moir North Scallion 12-33-11-26
Shell Moir North Scallion 13-33-11-26
Shell Moir North Scallion 14-33-11-26
Sun W. Milne Scallion 4-14-11-26
Sun W. Milne Scallion 5-14-11-26
Sun W. Milne Scallion 6-14-11-26
Sun G. Braybrook Scallion 11-14-11-26
Sun G. Braybrook Scallion 12-14-11-26
Sun G. Braybrook Scallion 13-14-11-26
Sun T. L. Tapp Scallion 9-22-11-26
Sun T. L. Tapp Scallion 10-22-11-26
Sun T. L. Tapp Scallion 15-22-11-26
Sun T. L. Tapp Scallion 16-22-11-26
Sun E. Hutchison Scallion 5-23-11-26
Sun E. Hutchison Scallion 6-23-11-26
Sun W. C. Tapp Scallion 3-26-11-26
Sun W. C. Tapp Scallion 4-26-11-26
Sun P. J. Tapp Scallion 5-26-11-26
Sun P. J. Tapp Scallion 6-26-11-26
Sun P. J. Tapp Scallion 10-26-11-26
Sun W. C. Tapp Scallion 1-27-11-26
Sun W. C. Tapp Scallion 2-27-11-26
Sun W. C. Tapp Scallion 7-27-11-26
Sun W. C. Tapp Scallion 8-27-11-26
Sun W. C. Tapp Scallion 9-27-11-26
Sun W. C. Tapp Scallion 10-27-11-26
Sun W. C. Tapp Scallion 15-27-11-26
Sun W. C. Tapp Scallion 16-27-11-26
Vallat et al Scallion 16-33-11-26
Vallat et al Scallion 13-34-11-26
Vallat Scallion 9-4-12-26
Vallat Scallion 10-4-12-26
Vallat Scallion 15-4-12-26

PART XXII

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

Tract Number	Legal Description: Township 11, Range 26 WPM
6 - 2	LSD. 6, SECTION 2
7 - 2	LSD. 7, SECTION 2
10 - 2	LSD. 10, SECTION 2
11 - 2	LSD. 11, SECTION 2
13 - 2	LSD. 13, SECTION 2
14 - 2	LSD. 14, SECTION 2
15 - 2	LSD. 15, SECTION 2
16 - 2	LSD. 16, SECTION 2
9 - 9	LSD. 9, SECTION 9
15 - 9	LSD. 15, SECTION 9
16 - 9	LSD. 16, SECTION 9
1 - 10	LSD. 1, SECTION 10
2 - 10	LSD. 2, SECTION 10
3 - 10	LSD. 3, SECTION 10
5 - 10	LSD. 5, SECTION 10
6 - 10	LSD. 6, SECTION 10
7 - 10	LSD. 7, SECTION 10
8 - 10	LSD. 8, SECTION 10
9 - 10	LSD. 9, SECTION 10
10 - 10	LSD. 10, SECTION 10
11 - 10	LSD. 11, SECTION 10
12 - 10	LSD. 12, SECTION 10
13 - 10	LSD. 13, SECTION 10
14 - 10	LSD. 14, SECTION 10
15 - 10	LSD. 15, SECTION 10
16 - 10	LSD. 16, SECTION 10
1 - 11	LSD. 1, SECTION 11
2 - 11	LSD. 2, SECTION 11
3 - 11	LSD. 3, SECTION 11
4 - 11	LSD. 4, SECTION 11
5 - 11	LSD. 5, SECTION 11
6 - 11	LSD. 6, SECTION 11
7 - 11	LSD. 7, SECTION 11
8 - 11	LSD. 8, SECTION 11
12 - 11	LSD. 12, SECTION 11
5 - 13	LSD. 5, SECTION 13
6 - 13	LSD. 6, SECTION 13
7 - 13	LSD. 7, SECTION 13
10 - 13	LSD. 10, SECTION 13
11 - 13	LSD. 11, SECTION 13
12 - 13	LSD. 12, SECTION 13
13 - 13	LSD. 13, SECTION 13
14 - 13	LSD. 14, SECTION 13
15 - 13	LSD. 15, SECTION 13
4 - 14	LSD. 4, SECTION 14
5 - 14	LSD. 5, SECTION 14
6 - 14	LSD. 6, SECTION 14
7 - 14	LSD. 7, SECTION 14
8 - 14	LSD. 8, SECTION 14
9 - 14	LSD. 9, SECTION 14
10 - 14	LSD. 10, SECTION 14
11 - 14	LSD. 11, SECTION 14
12 - 14	LSD. 12, SECTION 14
13 - 14	LSD. 13, SECTION 14
15 - 14	LSD. 15, SECTION 14
16 - 14	LSD. 16, SECTION 14
1 - 15	LSD. 1, SECTION 15
2 - 15	LSD. 2, SECTION 15
3 - 15	LSD. 3, SECTION 15
4 - 15	LSD. 4, SECTION 15
5 - 15	LSD. 5, SECTION 15
6 - 15	LSD. 6, SECTION 15
7 - 15	LSD. 7, SECTION 15
8 - 15	LSD. 8, SECTION 15
9 - 15	LSD. 9, SECTION 15
10 - 15	LSD. 10, SECTION 15
11 - 15	LSD. 11, SECTION 15
12 - 15	LSD. 12, SECTION 15
13 - 15	LSD. 13, SECTION 15
14 - 15	LSD. 14, SECTION 15
15 - 15	LSD. 15, SECTION 15
16 - 15	LSD. 16, SECTION 15
1 - 16	LSD. 1, SECTION 16
2 - 16	LSD. 2, SECTION 16
7 - 16	LSD. 7, SECTION 16
8 - 16	LSD. 8, SECTION 16

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Part XX(I continued

Tract Number	Legal Description Township 11, Range 26 WPM
9 - 16	LSD. 9, SECTION 16
10 - 16	LSD. 10, SECTION 16
15 - 16	LSD. 15, SECTION 16
16 - 16	LSD. 16, SECTION 16
1 - 21	LSD. 1, SECTION 21
2 - 21	LSD. 2, SECTION 21
3 - 21	LSD. 3, SECTION 21
6 - 21	LSD. 6, SECTION 21
7 - 21	LSD. 7, SECTION 21
8 - 21	LSD. 8, SECTION 21
9 - 21	LSD. 9, SECTION 21
10 - 21	LSD. 10, SECTION 21
11 - 21	LSD. 11, SECTION 21
14 - 21	LSD. 14, SECTION 21
15 - 21	LSD. 15, SECTION 21
16 - 21	LSD. 16, SECTION 21
1 - 22	LSD. 1, SECTION 22
3 - 22	LSD. 3, SECTION 22
4 - 22	LSD. 4, SECTION 22
5 - 22	LSD. 5, SECTION 22
6 - 22	LSD. 6, SECTION 22
7 - 22	LSD. 7, SECTION 22
8 - 22	LSD. 8, SECTION 22
9 - 22	LSD. 9, SECTION 22
10 - 22	LSD. 10, SECTION 22
11 - 22	LSD. 11, SECTION 22
12 - 22	LSD. 12, SECTION 22
13 - 22	LSD. 13, SECTION 22
14 - 22	LSD. 14, SECTION 22
15 - 22	LSD. 15, SECTION 22
16 - 22	LSD. 16, SECTION 22
5 - 23	LSD. 5, SECTION 23
6 - 23	LSD. 6, SECTION 23
9 - 23	LSD. 9, SECTION 23
10 - 23	LSD. 10, SECTION 23
11 - 23	LSD. 11, SECTION 23
12 - 23	LSD. 12, SECTION 23
13 - 23	LSD. 13, SECTION 23
14 - 23	LSD. 14, SECTION 23
15 - 23	LSD. 15, SECTION 23
16 - 23	LSD. 16, SECTION 23
3 - 24	LSD. 3, SECTION 24
4 - 24	LSD. 4, SECTION 24
5 - 24	LSD. 5, SECTION 24
6 - 24	LSD. 6, SECTION 24
11 - 24	LSD. 11, SECTION 24
12 - 24	LSD. 12, SECTION 24
13 - 24	LSD. 13, SECTION 24
4 - 25	LSD. 4, SECTION 25
5 - 25	LSD. 5, SECTION 25
1 - 26	LSD. 1, SECTION 26
2 - 26	LSD. 2, SECTION 26
3 - 26	LSD. 3, SECTION 26
4 - 26	LSD. 4, SECTION 26
5 - 26	LSD. 5, SECTION 26
6 - 26	LSD. 6, SECTION 26
7 - 26	LSD. 7, SECTION 26
8 - 26	LSD. 8, SECTION 26
10 - 26	LSD. 10, SECTION 26
11 - 26	LSD. 11, SECTION 26
12 - 26	LSD. 12, SECTION 26
1 - 27	LSD. 1, SECTION 27
2 - 27	LSD. 2, SECTION 27
3 - 27	LSD. 3, SECTION 27
4 - 27	LSD. 4, SECTION 27
5 - 27	LSD. 5, SECTION 27
6 - 27	LSD. 6, SECTION 27
7 - 27	LSD. 7, SECTION 27
8 - 27	LSD. 8, SECTION 27
9 - 27	LSD. 9, SECTION 27
10 - 27	LSD. 10, SECTION 27
11 - 27	LSD. 11, SECTION 27
12 - 27	LSD. 12, SECTION 27
13 - 27	LSD. 13, SECTION 27
14 - 27	LSD. 14, SECTION 27
15 - 27	LSD. 15, SECTION 27
16 - 27	LSD. 16, SECTION 27
1 - 28	LSD. 1, SECTION 28
2 - 28	LSD. 2, SECTION 28
3 - 28	LSD. 3, SECTION 28
5 - 28	LSD. 5, SECTION 28
6 - 28	LSD. 6, SECTION 28
7 - 28	LSD. 7, SECTION 28
8 - 28	LSD. 8, SECTION 28
9 - 28	LSD. 9, SECTION 28
10 - 28	LSD. 10, SECTION 28
11 - 28	LSD. 11, SECTION 28
12 - 28	LSD. 12, SECTION 28
13 - 28	LSD. 13, SECTION 28
14 - 28	LSD. 14, SECTION 28
15 - 28	LSD. 15, SECTION 28
16 - 28	LSD. 16, SECTION 28
16 - 32	LSD. 16, SECTION 32
1 - 33	LSD. 1, SECTION 33
2 - 33	LSD. 2, SECTION 33
3 - 33	LSD. 3, SECTION 33
4 - 33	LSD. 4, SECTION 33
5 - 33	LSD. 5, SECTION 33
6 - 33	LSD. 6, SECTION 33
7 - 33	LSD. 7, SECTION 33
9 - 33	LSD. 9, SECTION 33
10 - 33	LSD. 10, SECTION 33
11 - 33	LSD. 11, SECTION 33
12 - 33	LSD. 12, SECTION 33
13 - 33	LSD. 13, SECTION 33
14 - 33	LSD. 14, SECTION 33
15 - 33	LSD. 15, SECTION 33
16 - 33	LSD. 16, SECTION 33
2 - 34	LSD. 2, SECTION 34
3 - 34	LSD. 3, SECTION 34
4 - 34	LSD. 4, SECTION 34
5 - 34	LSD. 5, SECTION 34
6 - 34	LSD. 6, SECTION 34
7 - 34	LSD. 7, SECTION 34
11 - 34	LSD. 11, SECTION 34
12 - 34	LSD. 12, SECTION 34
13 - 34	LSD. 13, SECTION 34
14 - 34	LSD. 14, SECTION 34
4 - 3	LSD. 4, SECTION 3
5 - 3	LSD. 5, SECTION 3
12 - 3	LSD. 12, SECTION 3
1 - 4	LSD. 1, SECTION 4
2 - 4	LSD. 2, SECTION 4
3 - 4	LSD. 3, SECTION 4
4 - 4	LSD. 4, SECTION 4
5 - 4	LSD. 5, SECTION 4
6 - 4	LSD. 6, SECTION 4
7 - 4	LSD. 7, SECTION 4
8 - 4	LSD. 8, SECTION 4
9 - 4	LSD. 9, SECTION 4
10 - 4	LSD. 10, SECTION 4
11 - 4	LSD. 11, SECTION 4
12 - 4	LSD. 12, SECTION 4
13 - 4	LSD. 13, SECTION 4
14 - 4	LSD. 14, SECTION 4
15 - 4	LSD. 15, SECTION 4
1 - 5	LSD. 1, SECTION 5
7 - 5	LSD. 7, SECTION 5
8 - 5	LSD. 8, SECTION 5
9 - 5	LSD. 9, SECTION 5
16 - 5	LSD. 16, SECTION 5

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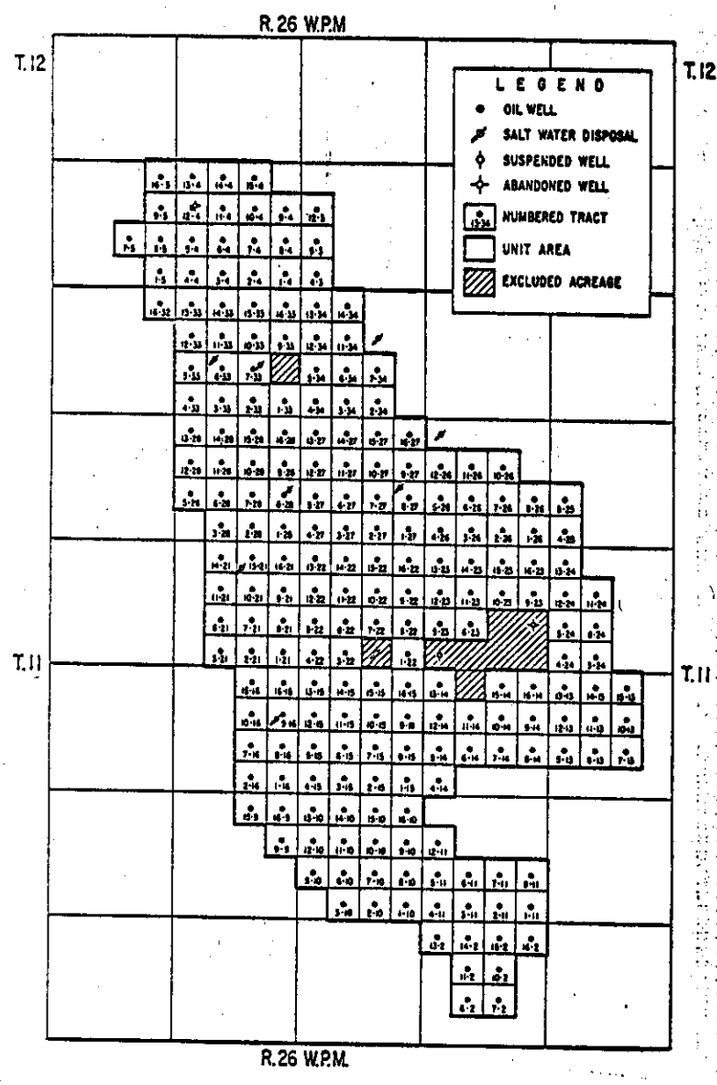

PART XXIII

MAP OF UNIT AREA

Part XXIV

Tract Number	Tract Participation	Tract Number	Tract Participation	Tract Number	Tract Participation
7 - 2	.00157	7 - 16	.58834	11 - 27	.41829
10 - 2	.05786	8 - 16	.36012	12 - 27	.61659
11 - 2	.13133	9 - 16	.78014	13 - 27	.42723
13 - 2	.25292	10 - 16	.11683	14 - 27	.59188
14 - 2	.18725	15 - 16	.49622	15 - 27	.60606
15 - 2	.03363	16 - 16	1.78769	16 - 27	.18598
16 - 2	.03166	1 - 21	1.94851	1 - 28	.35779
9 - 9	.37796	2 - 21	1.71996	2 - 28	.45033
15 - 9	.02846	3 - 21	1.67661	3 - 28	.46440
16 - 9	1.28594	6 - 21	.24330	5 - 28	.06751
1 - 10	.22998	7 - 21	1.03763	6 - 28	.34805
2 - 10	.30088	8 - 21	1.08509	7 - 28	.52289
3 - 10	.00752	9 - 21	1.23553	8 - 28	.30140
5 - 10	.34099	10 - 21	.43281	9 - 28	.59132
6 - 10	.42969	11 - 21	.03404	10 - 28	.45880
7 - 10	.41643	14 - 21	.44506	11 - 28	.52977
8 - 10	.54667	15 - 21	.18504	12 - 28	.15006
9 - 10	.52965	16 - 21	.83964	13 - 28	.27550
10 - 10	.89957	1 - 22	.02926	14 - 28	.13709
11 - 10	.97341	3 - 22	.49008	15 - 28	.44902
12 - 10	.56197	4 - 22	.69709	16 - 28	.54216
13 - 10	.72635	5 - 22	.79007	16 - 32	.04685
14 - 10	.89163	6 - 22	.73097	1 - 33	.08627
15 - 10	.72503	7 - 22	.54382	2 - 33	.47619
16 - 10	.34969	8 - 22	.47378	3 - 33	.71973
1 - 11	.24795	9 - 22	.55255	4 - 33	.18069
2 - 11	.15286	10 - 22	.56006	5 - 33	.09629
3 - 11	.26711	11 - 22	1.31160	6 - 33	.81970
4 - 11	.26233	12 - 22	1.33410	7 - 33	.38399
5 - 11	.15100	13 - 22	.88138	9 - 33	.09272
6 - 11	.15396	14 - 22	.42125	10 - 33	.61299
7 - 11	.20152	15 - 22	.19095	11 - 33	.51711
8 - 11	.07882	16 - 22	.13656	12 - 33	.41234
12 - 11	.19036	5 - 23	.34158	13 - 33	.55681
5 - 13	.31773	6 - 23	.06036	14 - 33	.94855
6 - 13	.14671	9 - 23	.16509	15 - 33	.48565
7 - 13	.27484	10 - 23	.02560	16 - 33	.14792
10 - 13	.46194	11 - 23	.09134	2 - 34	.00017
11 - 13	.65098	12 - 23	.54182	3 - 34	.39494
12 - 13	.87313	13 - 23	.22075	4 - 34	.00965
13 - 13	.16025	14 - 23	.22179	5 - 34	.05613
14 - 13	.44258	15 - 23	.13462	6 - 34	.09184
15 - 13	.12478	16 - 23	.17017	7 - 34	.19888
4 - 14	.04379	3 - 24	.50652	11 - 34	.19900
5 - 14	.42204	4 - 24	.00331	12 - 34	.11166
6 - 14	.52274	5 - 24	.00451	13 - 34	.75608
7 - 14	.50105	6 - 24	.15461	14 - 34	.09346
8 - 14	.50001	11 - 24	.13920	4 - 3	1.49234
9 - 14	.47744	12 - 24	.46465	5 - 3	.34302
10 - 14	.15943	13 - 24	.22712	12 - 3	.01653
11 - 14	.00212	4 - 25	.69593	1 - 4	.33967
12 - 14	.11114	5 - 25	.24208	2 - 4	.52285
13 - 14	.11673	1 - 26	.15281	3 - 4	.90618
15 - 14	.40858	2 - 26	.31831	4 - 4	.70212
16 - 14	.16378	3 - 26	.04223	5 - 4	.73527
1 - 15	.39212	4 - 26	.34590	6 - 4	.29326
2 - 15	1.37490	5 - 26	.11246	7 - 4	.16840
3 - 15	1.22455	6 - 26	.51683	8 - 4	.56557
4 - 15	1.76356	7 - 26	.71945	9 - 4	.71312
5 - 15	.97233	8 - 26	.45367	10 - 4	.80665
6 - 15	1.50772	10 - 26	.47875	11 - 4	1.00623
7 - 15	1.23276	11 - 26	.24047	12 - 4	1.29982
8 - 15	1.00325	12 - 26	.29519	13 - 4	.51708
9 - 15	.14966	1 - 27	.27529	14 - 4	1.15753
10 - 15	.61606	2 - 27	.21503	15 - 4	.41414
11 - 15	1.09060	3 - 27	.40576	1 - 5	.55183
12 - 15	1.43421	4 - 27	.69145	7 - 5	.01693
13 - 15	.45819	5 - 27	.43123	8 - 5	.28510
14 - 15	.21822	6 - 27	.40801	9 - 5	.20946
15 - 15	.14428	7 - 27	.13845	16 - 5	.24146
16 - 15	.07135	8 - 27	.36094		
1 - 16	.17401	9 - 27	.53092		
2 - 16	.40418	10 - 27	.41436		

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REGULATIONS UNDER THE REGULATIONS ACT

ERRATUM NOTICE

Corrections to Manitoba Regulation 57/62

Manitoba Regulation 57/62, as published in Number 30 of Volume 91 of The Manitoba Gazette, dated July 28, 1962 is corrected as follows:

1. Clause (a) of section 1.02 of the Plan for Unit Operation set out in the regulation is corrected by striking out the second line thereof and substituting therefor the following words:

"conditions set forth in Part XXVI hereof;".

2. Subsection (a) of section 4.05 of the Plan for Unit Operation set out in the regulation is corrected by adding thereto, at the end of the ninth line thereof, the word "the".

3. Section 8.07 of the Plan for Unit Operation set out in the regulation is corrected by striking out the word "Utinized" in the fourth line thereof and substituting therefor the word "Unitized."

4. Section 20.01 of the Plan for Unit Operation set out in the regulation is corrected by striking out the word "owing" in the tenth line thereof and substituting therefor the word "owning".

5. Section 20.04 of the Plan for Unit Operation set out in the regulation is corrected by striking out the word "and" in the first line thereof and substituting therefor a comma.

6. Part XXII of the Plan for Unit Operation set out in the regulation is corrected by adding to the table set out in the Part as separate lines between the one hundred and ninety-fourth line and the one hundred and ninety-fifth line thereof, the following words and figures:

"Tract Number	Legal Description Township 12, Range 26, W.P.M."

7. Part XXIV of the Plan for Unit Operation set out in the regulation is corrected

(a) by adding thereto at the top of the first column thereof headed "Tract Number," immediately beneath the heading, as a separate line in the column, the figures "6 - 2," and

(b) by adding thereto at the top of the first column thereof headed "Tract Participation," opposite the figures added under clause (b) above, the figures ".00102".

8. Clause (b) of section 26.01 of the Plan for Unit Operation set out in the regulation is corrected by striking out the figures "100" in the second line thereof and substituting therefor the figures "1000".

Dated at The City of Winnipeg, in Manitoba, the 28th day of July, 1962.

R. H. TALLIN,
Registrar of Regulations.

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PS 153

COPY

September 21, 1964.

J. D. Richards,
Director of Mines.

Office of the Queen's Printer,
6, Legislative Bldg.

Dear Sir:

Would you please make one insertion in the Manitoba Gazette of the attached Government Notice under The Mines Act.

Also would you please place this insertion in the next issue of the Manitoba Gazette.

Yours truly,

J. D. Richards.

JDR:

Enc.

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

Page 11 - 3 days

The British American Oil Company Limited - 1.11462
Union Oil Company of Canada Limited - 1.11462

SEP 22 1964

p.c.c. Mr. M.J. Hebert

THE CALIFORNIA STANDARD COMPANY

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

A. B. BRISTOW, JR.
VICE PRESIDENT
PRODUCING

DEPARTMENT OF MINES & NATURAL RESOURCES
SEP 20 ...
DIRECTOR OF MINES

September 17th, 1964.

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

Attention: Mr. J. Richards

Gentlemen:

Re: The North Virden Scallion
Unit No. 1 - Schedule "B"

This letter will confirm our telephone conversation of this morning, when I advised you as to certain errors in the revised Schedule "B" to the 'Plan For Unit Operation Governing The Unitized Management, Operation And Further Development Of The North Virden Scallion Unit No. 1,' which we forwarded you under date of August 19th, 1964.

The errors appear in the Participating Interest of The British American Oil Company Limited and Union Oil Company of Canada Limited, and these figures should be corrected as follows:

	Corrected Participating Interest
The British American Oil Company Limited	1.17403
Union Oil Company of Canada Limited	1.17402.

Trusting this will have caused you no inconvenience, we are,

Yours very truly,

Stewart A McCaw

A. B. BRISTOW, JR., Chairman,
North Virden Scallion Unit
No. 1, Operators' Committee

SAM:bc

September 4, 1964

M.J.Gobert
A/Deputy Minister

Stuart Anderson
Deputy Minister

Oil and Natural Gas Conservation Board Order No. 39A

Unitization Order No. 2

Prior to the formation of the North Virden Scallion Unit No. 1, all wells in the North Virden Scallion Field were restricted to a Maximum Permissible Rate of 70 barrels per day.

As each phase of the Unit Flood was completed, these "allowables" were removed on all wells in the Unit Area with the exception of those offsetting producing wells in the Western Flank of the Field which were outside the Unit and those in the Northeast which offset Milestone Petroleums Ltd. wells on Lsds. 3 and 6, Twp. 12 - Range 26.

The Milestone wells will be included in the Unit, effective October 1, 1964, and, therefore, the "allowables" on the Milestone wells and the wells offsetting these wells will be removed by Order 39A.

Unitization Order No. 2 was approved by Order-in-Council No. 1215/64 and the approval of the Minister is not required. However, to maintain continuity, he may wish to do so.

PS-1-53

COPY

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

September 4, 1964.

Executive Council,

235 Legislative Building.

Acts and Regulations -

The Oil and Natural Gas
Conservation Board
Unitization Order No. 2.

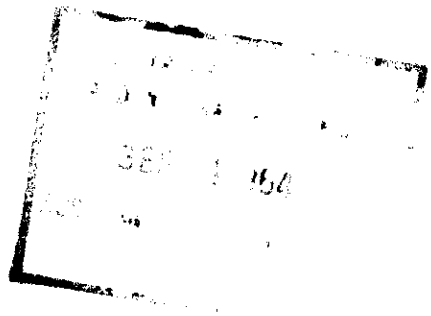
Attached, hereto, original and two (2) copies of Certificate and original and two (2) copies of Manitoba Regulation, approved of by Order-in-Council No. 1215/64, dated September 4, 1964, for filing with the Registrar of Regulations.

J. S. Richards.

:DS

Encs.

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



Mr. Gobert: This was forwarded via Tube.

D.

August 31, 1964

M. J.Gobert
A/Deputy Minister

Stuart Anderson
Deputy Minister

The Oil and Natural Gas Conservation Board

North Virden Scallion Unit No. 1

The Board wishes to extend the above Unit to include two additional wells, pursuant to an application by the Unit Operator and following a Public Hearing. 100% of the Working Interest Owners have consented to the enlargement of the Unit Area.

The Chairman, Mr. J. G. Cowan, Q.C., was unable to attend the hearing and Mr. J.S. Richards, Deputy Chairman, acted in his place.

Attached herewith are:

1. Four copies of a Recommendation-to-Council which approves the Board issuing Unitization Order No. 2.
2. Twenty-three copies of the Schedule.
3. Fourteen copies of Parts XXI, XXII, XXIII and XXIV of Unitization Order No1 which are being repealed.

It would be appreciated if this could be placed on the agenda for the next Cabinet meeting.

PS-1-53

August 28, 1964.

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

COPY

Office of the Queen's Printer,
Rm. 8 Legislative Building.

Government Notice.

Would you please make one insertion in The Manitoba Gazette of the attached Government Notice under The Mines Act.

Would you please place this insertion in the next issue of The Manitoba Gazette.

Thank you.

J. S. Richards.

:DJ

Encs.

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

GOVERNMENT NOTICES

UNDER THE MINES ACT

The North Virden Scallion Unit No. 1

Notice is hereby given that the following Schedules "A" and "B" set forth the Numbered Tracts, prima facie Working Interest Owners and their respective participating interests with respect to The North Virden Scallion Unit No. 1, as submitted by and for the convenience of the Operating Committee of the Unit:

Dated at Winnipeg, Manitoba, this 25th day of August, 1964.

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

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

August 26, 1964

M.J.Gobert
A/Deputy Minister

J. S. Richards
Director of Mines

North Virden Scallion Unit No. 1

Attached herewith are:

1. Draft Government Notice and Schedules A and B.
2. Draft Order-in-Council and Schedule (Unitization Order No. 2).
3. Draft Unitization Order No. 2.
4. Fifteen copies of parts XX1, XX11, XX111 and XX1V to be repealed.
5. Twenty-eight copies of parts XX1, XX11, XX111 and XX1V.
6. Certificate - The Regulations Act re Order No. 39A.
7. Draft Order No. 39A.

Miss Blaydon might wish Miss Hallama to type some portions of this.

August 25, 1964

Mr. A. B. Bristow, Jr.,
Chairman,
North Virden Scallion Unit No. 1, Operators Committee,
The California Standard Company,
Medical Arts Building,
329A - 6th Avenue S.W.,
Calgary, Alta.

Dear Sir:

The Board will be unable to have the Unit enlargement made effective September 1, 1964.

Provided the necessary approvals are secured, the effective date will be October 1, 1964.

Yours very truly,

M. J. Gobert,
Member.

MJG/h

cc - J. S. Richards

THE CALIFORNIA STANDARD COMPANY

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

DEPARTMENT OF MINES
& NATURAL RESOURCES
AUG 24 1964
DIRECTOR OF MINES

August 19, 1964.

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

Attention: Mr. J.Richards

Gentlemen:

Re: North Virden Scallion
Unit No.1 - Public
Hearing, Virden, Manitoba,
18th August,1964, For Admis-
sion of Legal Subdivisions
3 and 6 of Section 3-12-26
WPM to Unit Area

As advised we now enclose three (3) copies of a revision of each of Parts XXI to XXIV, both inclusive, of the Plan For Unit Operation Governing The Unitized Management,Operation And Further Development Of The North Virden Scallion Unit No.1 and revised Schedules "A" and "B" thereto. The revisions anticipate the addition of Legal Subdivisions 3 and 6 to the Unit Area.

We trust the enclosures are satisfactory and that you will be able to arrange for the passing of the necessary Order-in-Council adding these lands to the Unit Area as at 7:00 A.M., Central Standard Time, on the 1st of September, A.D. 1964.

Yours truly,

A. B. BRISTOW, JR.,Chairman,
North Virden Scallion Unit
No.1, Operators' Committee

Encls.

DEPARTMENT OF MINES AND NATURAL RESOURCES

PROVINCE OF MANITOBA

THE OIL AND NATURAL GAS CONSERVATION BOARD
BOX 42 LEGISLATIVE BUILDING
WINNIPEG 1

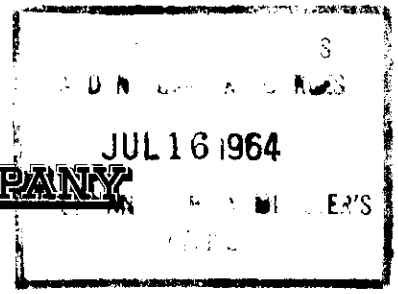
NOTICE OF HEARING

A Public Hearing will be held in the Government Resources Building, Town of Virden, Province of Manitoba, on Tuesday, August 18, 1964, commencing at 10.00 a.m., Central Daylight Time, for the purpose of hearing representations with respect to:

> An application by the Unit Operator for enlargement of the North Virden Scallion Unit No. 1 to include legal subdivisions 3 and 6 in Section 3, Township 12, Range 26, West of the Principal Meridian.

J. G. Cowan,
Chairman,
The Oil and Natural Gas
Conservation Board.

Dated at Winnipeg, Manitoba,
this 17th Day of July, 1964.



THE CALIFORNIA STANDARD COMPANY

July 14th, 1964.

CALGARY, ALBERTA

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

Attention: M. J. Gobert

Gentlemen:

Re: Enlargement of North Virden Scallion Unit No. 1,
Lsd's. 3 and 6, Section 3, Township 12, Range 26,
West of the 1st Meridian.

Pursuant to your request, we wish to advise that the lessors from whom Milestone Petroleum Limited holds its interest in the above mentioned property, are as follows:

William Jones, Virden Manitoba --
An undivided One-Quarter ($\frac{1}{4}$) interest.

Canada Permanent Toronto General Trust Company,
433 Portage Avenue, Winnipeg, Manitoba --
An undivided Three-Quarter ($\frac{3}{4}$) interest.

Yours very truly,

for A. B. BRISTOW, JR., CHAIRMAN,
NORTH VIRDEN SCALLION UNIT NO. 1,
OPERATORS' COMMITTEE.

HG:bc

[illegible]

[illegible]

[illegible]

July 14, 1964.

McDaniel Consultants Ltd.,
305 Humford Bldg.,
608 - 7th St. S.W.,
Calgary, Alta.

Attention: Mr. R. R. McDaniel

Dear Mr. McDaniel:

Attached herewith is a copy of an application to extend the North Virden Scallion Unit No. 1.

Date of the Public Hearing has been set as August 18, 1964, commencing at 10:00 Central Daylight Time, in the Government Resources Building at Virden, Manitoba.

Yours very truly,

M. J. Gobert,
Asst. Deputy Minister.

c.c. to Mr. J. S. Richards,
Director of Mines.

c.c. to Mr. F. S. Gamey,
Reservoir Geologist.

THE CALIFORNIA STANDARD COMPANY
MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

June 12, 1964

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

Attention: Mr. J. G. Cowan, Chairman:

Dear Sir:

The California Standard Company as Unit Operator of the North Virden Scallion Unit No. 1, under and pursuant to Section 76 of the Mines Act, Revised Statutes of Manitoba, 1954 and Amendments thereto, hereby on behalf of the Working Interest Owners in the North Virden Scallion Unit No. 1 and on behalf of Milestone Petroleum Limited requests the Oil & Natural Gas Conservation Board to add to the North Virden Scallion Unit Area, Lsds. 3 and 6 of Section 3, Township 12, Range 26, W.1.M., with the following Tract Numbers and Tract Participations:

Land Description	Tract Number	Tract Participation
Lsd. 3-3-12-26 W.1.M.	3-3	1.16590%
Lsd. 6-3-12-26 W.1.M.	6-3	0.08784%
TOTAL Tract Participation		1.25374%

The said Lsd. 3 and Lsd. 6 of Section 3, Township 12, Range 26, W.1.M., adjoin the present North Virden Scallion No. 1 Unit Area and have wells situate thereon, known respectively as Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26, which wells are capable of production from the Unitized Formation. There appear to be mutual advantages to the owners of the royalty interest and the working interest in these lands and to the Working Interest Owners and the Royalty Owners in the present North Virden Scallion Unit No. 1. These advantages are the incentive to increased oil production rates, additional oil recovery, lower production costs, and as a result, a substantial increase in income on the part of the owners of the working interest and royalty interest in these lands, and the greater operational flexibility with resultant increase in oil recovery on the part of the Working Interest Owners and Royalty Owners in the present Unit Area in the development and operation of these lands and the Unit Area.

The proposed Tract Participations have been calculated by applying equal weight to a current production factor, and an average monthly oil production factor penalized for water production, this being the basis for calculation of Tract Participation when the North Virden Scallion field was first unitized. The basic data and a summary calculation of these Tract Participations is shown on the attached Appendix I, which also includes evidence supporting the use of this participation formula, and a statement of the Working Interest Owners' present plans for the development and operation of the Unit Area and these lands in the event that such are added to the Unit Area.

It is hereby further requested that upon these lands being added to the North Virden Scallion No. 1 Unit Area that the Tract Participations of all Tracts in the Unit Area, prior to this enlargement, remain the same one to the other, and that each of them be reduced by multiplying it by the factor 1.0000000 - 0.0125374 (i.e. 0.9874626).

It is further requested that the owners of the working interest in these lands participate in the Investment Account established by Part 'X' of the "PLAN FOR UNIT OPERATION GOVERNING THE UNITIZED MANAGEMENT OPERATION AND FURTHER DEVELOPMENT OF THE NORTH VIRDEN SCALLION UNIT NO. 1", dated May 1, 1962, as of the effective date of this enlargement, and further that they pay the Unit Operator, in cash, their proportionate share of all expenditures other than operating expenditures incurred subsequent to the Effective Date of the North Virden Scallion Unit No. 1, plus their proportionate share of all pre-unit and inventory costs incurred and approved by the North Virden Scallion Unit No. 1 Working Interest Owners.

In support of this application and attached Appendix I, we will endeavor to file with the Board consents to this addition to the Unit Area signed by:

1. The owners of the royalty interest and working interest in Lsd's 3 and 6 of Section 3, Township 12, Range 26, W.1.M.

2. At least 75% of the Working Interest Owners in the North Virden Scallion Unit No. 1.

Respectfully submitted,

A. B. BRISTOW, JR., CHAIRMAN,
NORTH VIRDEN SCALLION UNIT NO. 1,
OPERATORS' COMMITTEE.

SAM/jmk
Attachment

APPENDIX I

Summary of Data and Calculations Pertaining to the Determination and Assignment of Tract Participations to Lsds. #3 and #6 of Section 3-12-26 W.P.M. for Inclusion in the North Virden Scallion Unit No. 1

Milestone Petroleum Limited have recently drilled two oil producing wells, namely, Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26 situated respectively in Lsds. 3 and 6 of Section 3-12-26 W.P.M. Milestone Scallion 3-3-12-26 was drilled to 2060' and completed on October 26, 1962 through perforations in 4½" casing in the interval 2002' to 2020' opposite the Cherty zone. Initial potential of the well was 79 barrels fluid per day, 1% BS & W on pump.

Milestone Scallion 6-3-12-26 was drilled to 2060' total depth and completed on March 6, 1963 through perforations in 4½" casing in the interval 2014' to 2026' opposite the Cherty zone. Initial potential of the well was 23 barrels fluid per day, 60% BS & W on pump.

The lands on which these wells were drilled adjoin the present North Virden Scallion Unit No. 1, as shown on attached Figure 1. The producing horizon in these wells is a lateral extension of the Unitized Formation in the present Unit.

There are mutual benefits to the Working Interest Owners in the present North Virden Scallion Unit No. 1 and to Milestone Petroleum Limited from this enlargement by reason of increased oil production rates, oil recovery, and income. Upon enlargement of the Unit, it is planned that the well Dome Scallion 4-3-12-26 will be converted to water injection, as a part of the overall waterflood program, thereby promoting a high recovery efficiency from this sector of the field. Addition of Milestone Petroleum Limited Tracts #3-3 and #6-3 into the Unit, with resultant sharing in Unit production will result in allocable oil to these Tracts substantially exceeding the estimated ultimate oil recovery under primary depletion.

TRACT PARTICIPATION:

The "Plan for Unit Operation Governing the Unitized Management Operation and Further Development of North Virden Scallion Unit No. 1" set out in Part III 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) An average monthly oil production factor penalized for water production.

Current production factor for a Tract was calculated as a percentage by dividing the oil production of such Tract during the interval May 1, 1961 to October 31, 1961 by the oil production for all Tracts during the same interval and multiplying by one hundred (100).

Average monthly oil production factor penalized for water production as a percentage was arrived at by:

1. determining average monthly oil production of the Tract by dividing the cumulative oil production to October 31, 1961 by the number of calendar months since the well on such Tract went on production provided that the first calendar month was not counted unless the oil production from the well on such Tract for that month was greater than one-half (1/2) of the oil production from such well for the next succeeding month;

2. calculating a fractional water cut for the Tract by dividing the water production during the interval May 1, 1961 to October 31, 1961 by the sum of the Tract's oil and water production during this time interval;

3. multiplying the average monthly oil production for the Tract obtained in (1) by one minus the water cut as determined in (2);

4. dividing the product obtained in (3) for the Tract by the sum of all the products obtained in (3) for all Tracts and multiplying by one hundred (100).

This Tract Participation formula was considered as fair and equitable in determining the method of participation in the present Unit. The applicant hereby submits that a similar participation formula is also applicable, and is fair and equitable in the determination of Tract Participation for those Tracts under consideration in the present application.

It is proposed that the Tract Participations of Milestone Petroleum Limited Tracts #3-3 and #6-3 be determined by adding one-half (1/2) of each of the following:

(a) A current production factor; such factor to be for each Tract the percentage calculated by dividing the oil production of the Tract during the interval October 1, 1963 to March 31, 1964 by the oil production of all Tracts in the present Unit during the period May 1, 1961 to October 31, 1961 plus the oil production of Tracts #3-3 and #6-3 during the interval October 1, 1963 to March 31, 1964 and multiplying this fraction by 100.

(b) An average monthly oil production factor penalized for water production, such factor to be calculated as a percentage for each Tract by:

(1) determining average monthly oil production of the Tract by dividing its cumulative oil production to March 31, 1964 by the number of months since the well on such Tract went on production;

(2) calculating a fractional water cut for the Tract by dividing the water production during the interval October 1, 1963 to March 31, 1964 by the sum of its water and oil production for the same period;

(3) multiplying the average monthly oil production for the Tract obtained in (1) by the fraction one minus the water cut appropriate to the Tract as determined in (2);

(4) dividing the product obtained in (3) for the Tract by the sum of the average monthly oil production penalized for water production for all Tracts in the present Unit calculated to October 31, 1963 plus the average monthly oil production penalized for water production of Tracts #3-3 and #6-3 calculated to March 31, 1964, and multiplying by 100.

The applicant submits that this participation formula provides a fair and equitable basis for sharing of production among the present Unit and the enlargement tracts.

On attached Figure 2 are presented the oil and water production histories of the present North Virden Scallion Unit No. 1, and of the wells Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26. The graphical scale of Figure 2 is such that it was not convenient to plot the low daily rate of oil production from Milestone Scallion 6-3-12-26 and this has been omitted.

Shown on Figure 2 are the reference intervals of production of the present Unit and of the wells Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26 as proposed for calculating the Tract Participation of Tracts #3-3 and #6-3. It is evident from inspection of these production rate trends, considering the time water flood commenced and flood response was apparent, that the reference production intervals used in calculating Tract Participation are fair and equitable.

APPENDIX "":

The benefit to the present Unit from the proposed enlargement is demonstrated on attached Figure 3. The oil production history to date and the predicted oil production rate assuming (a) that the present Unit will be enlarged and (b) that the present Unit will not be enlarged are shown for comparison. This increase in production rate and ultimate recovery from the Unit will result from extending the water injection system to include the well Dome Scallion 4-3-12-26 as an injector, and concurrently controlling injection and production rates to obtain a high degree of recovery efficiency. It is estimated the addition of Milestone Petroleum Limited Tracts #3-3 and #6-3 to the Unit would result in an increase in Unit oil recovery amounting to about 600,000 barrels.

The benefit to Milestone Petroleum Limited from adding Tracts #3-3 and #6-3 to the Unit is shown on Figure 4. During the predicted 10 year life on primary depletion (without unitization) Milestone Petroleum Limited's ultimate recovery is estimated to be 95,000 barrels. Assuming the Unit was enlarged at July 1, 1964, and Tract Participations as in this application assigned to Tracts #3-3 and #6-3, the allocable oil to these tracts to the year 1995 would amount to about 500,000 barrels.

J. M. Lee

Summary Calculation of Tract Participation
of Milestone Petroleum Limited Tracts #3-3 and #6-3

BASIC DATA:

(1) North Virden Scallion Unit No. 1 (Present Unit).

Oil Production May 1, 1961 to October 31, 1961
= 624,335 barrels.

Average monthly oil production penalized for water production to October 31, 1961
= 111,328.05987 barrels.

(2) Milestone Scallion 3-3-12-26 well (Tract #3-3).

Oil production October 1, 1963 to March 31, 1964
= 7622 barrels.

Water production October 1, 1963 to March 31, 1964
= 643 barrels.

Water cut during this period
= 9.958653%.

Cumulative oil production to March 31, 1964
= 23,173 barrels.

Months on production = 16

Average monthly oil production = 1448.31250 barrels.

Average monthly oil production penalized for water production = 1448.31250 x (1.000000000 - 0.099586353)
= 1304.08008 barrels

(3) Milestone Scallion 6-3-12-26 well (Tract #6-3)

Oil production October 1, 1963 to March 31, 1964
= 950 barrels.

Water production October 1, 1963 to March 31, 1964
= 3224 barrels.

Water cut during this period
= 77.348593

Cumulative oil production to March 31, 1964
= 2698 barrels.

Months on production = 13

Average monthly oil production
= 130.61538 barrels.

SUMMARY:

Average monthly production penalized for water production = 130.615338 x (1.000000000 - 0.773485393)
= 29.530322 barrels

TRACT PARTICIPATION CALCULATIONS:

TRACT #3-3:

Current production factor = $\frac{7622}{821,325 + 7622 + 950} \times 100\%$

= 1.204303%

Average monthly oil production factor penalized for water production

= $\frac{130.615338}{111,926.065987 + 130.615338 + 29.530322} \times 100\%$

= 1.127495%

Tract Participation = $\frac{1}{2}$ (1.204303%) + $\frac{1}{2}$ (1.127495%)

= 1.165900%

TRACT #6-3:

Current production factor = $\frac{970}{832,697} \times 100\%$

= 0.150103%

Average monthly oil production factor penalized for water production

= $\frac{29.530322}{115,881.772617} \times 100\%$

= 0.025580%

Tract Participation = $\frac{1}{2}$ (0.150103%) + $\frac{1}{2}$ (0.025580%)

= 0.087841%

TOTAL Tract Participation of Tracts #3-3 and #6-3

= 1.253741%

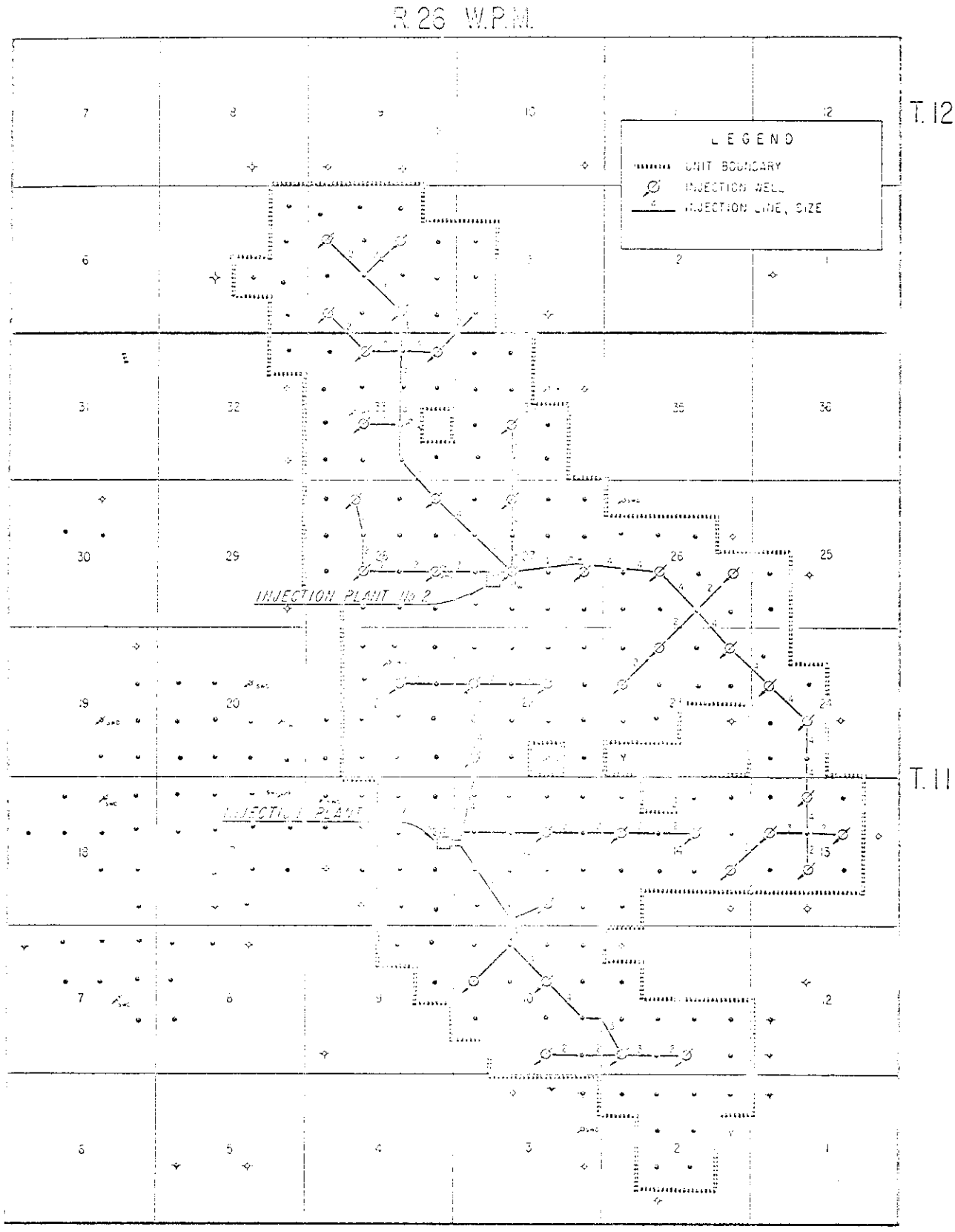


FIGURE 1

NORTH VIRDEN SCALLION UNIT

AS OF

MARCH 31, 1964

PROPOSED ADDITION TO UNIT

FIGURE 2

PRODUCTION HISTORY OF NORTH VIRDEN SCALLION UNIT No. 1

AND OF

MILESTONE SCALLION 6-3-12-26 AND 6-3-12-26

SHOWING

TIME INTERVAL CHOSEN IN CALCULATION OF MILESTONE PETROLEUM LTD. TRACT PARTICIPATION

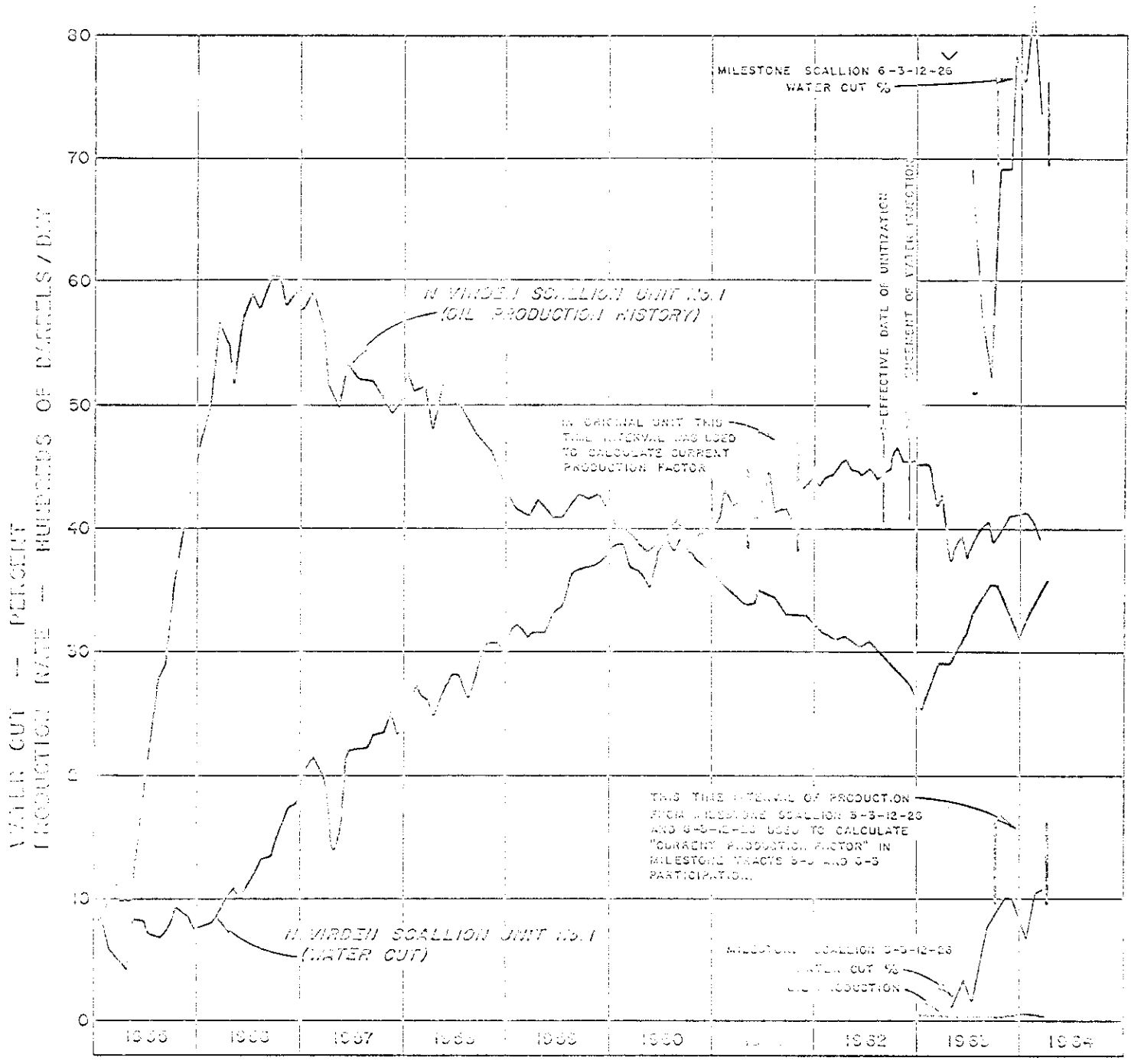


FIGURE 3

NORTH VERDEN CHALLISON UNIT No. 1

PRODUCTION HISTORY

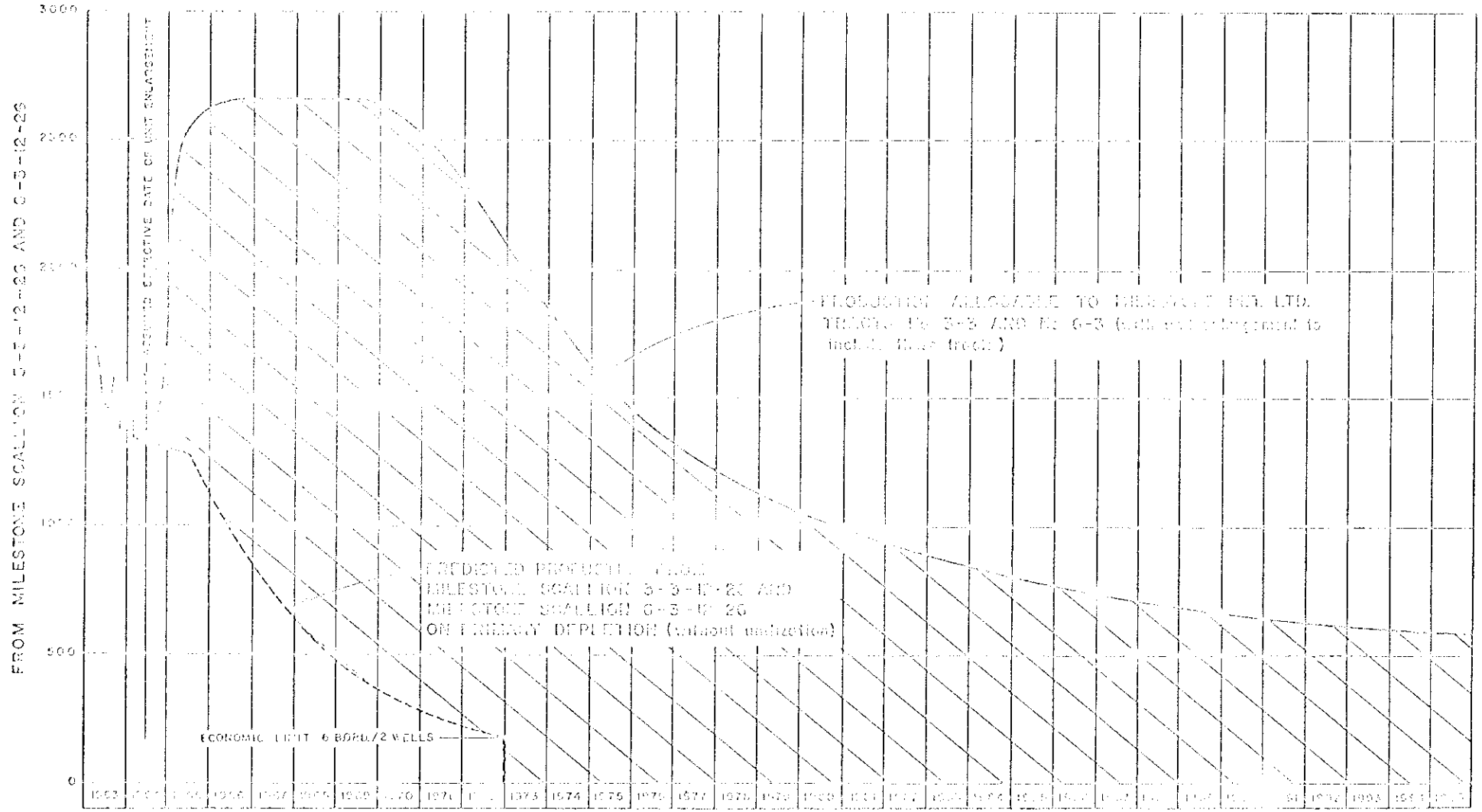
FIGURE 4

COMPARISON OF

PREDICTED OIL RECOVERY PERFORMANCE OF MILESTONE SCALLION 3-3-12-26 AND 6-3-12-26 ON PRIMARY DEPLETION (without unitization)

VERSUS

PRODUCTION ALLOCABLE TO MILESTONE PET. LTD. TRACTS 3-3 AND 6-3 WITH UNITIZATION



1857

OPERATOR MILESTONE PETROLEUM LTD. (NPL) PRODUCTION RECORD 195 1964

WELL NAME Milestone Scallion 3-3-12-26

LOCATION 3-3-12-26

FIELD NORTH VIRDEN SCALLION ALLOWABLE 70 BBLS.

BATTERY NO. 3-3-12-26

FIRST PRODUCTION Dec. 3, 1962

TEST PRODUCTION 394 bbls.

NORMAL PRODUCTION Dec. 8, 1962

MONTH	DAYS PRODUCED	* TOTAL WATER PROD. BBLS.	CUMULATIVE WATER PROD. BBLS	TOTAL OIL PROD. BBLS.	CUMULATIVE OIL PROD. BBLS.		ALLOWABLE BBLS.	OVER OR UNDER PROD. BBLS.	CUMULATIVE CARRY FWD. BBLS.	CUMULATIVE OVER OR UNDER PROD. BBLS.			AVERAGE OIL PROD. B/D	W.O.R. W/O BBLS.
CARR'D FWD.			671 ~~669~~		17279									
JAN.	31	103		1403		20682					1506		45.2	6.8
FEB.	29	141	244	1220	2623	21902					1361		42.0	10.1
MAR.	31	140	384	1271	3894	23173					1411		41.0	9.9
APRIL	30	144	528	1255	5149	24428					1299		41.8	10.2
MAY	31	162	690	1342	6491	25770					1504		43.2	10.7
JUNE	30	126	816	1239	7730	27009					1365		41.3	9.2
JULY														
AUG.														
SEPT.														
OCT.														
NOV.														
DEC.														
CUM. TO DATE														

* INCLUDES BOTTOM SEDIMENT

MNR-M-123 3500 12 56 B B

1857

PRODUCTION RECORD 1963

OPERATOR MILESTONE PETROLEUM LTD. (NPL)

WELL NAME Milestone Scallion 3-3-12-26

LOCATION 3-3-12-26

FIELD NORTH VIRDEN SCALLION

BATTERY NO 3-3-12-26

FIRST PRODUCTION Dec. 3, 1962

TEST PRODUCTION 394 bbls.

NORMAL PRODUCTION Dec. 8, 1962

ALLOWABLE 70 BBLS

MONTH	DAYS PRODUCED	* TOTAL WATER PROD BBLS	CUMULATIVE WATER PROD BBLS	TOTAL OIL PROD BBLS	CUMULATIVE OIL PROD BBLS.		ALLOWABLE BBLS	OVER OR UNDER PROD BBLS	CUMULATIVE OVER OR UNDER PROD. BBLS				AVERAGE OIL PROD B/D	WATER %
CARR'D FWD.			—		2,081									
JAN.	31	—	—	1773		3,854								
FEB.	28	—	—	1591	3364	5445								
MAR.	31			1663	11741	11108								
APRIL	30	—		1501	6463	5549								
MAY	31	23	23	1449	[illegible]	[illegible]							46.7	1.5
JUNE	30	38	61	1459	9376	11157							48.6	2.5
JULY	30	19	80	1390	10766	12547						1409	46.3	1.3
AUG.	31	34	114	1356	12122	14203						1410	43.7	2.4
SEPT.	30	98	212	1348	13470	15551						1456	44.9	6.7
OCT.	27	122	334	1202	14672	16753						1324	44.5	9.2
NOV.	30	206	540	1294	15966	18047						1500	43.1	14.
DEC.	31	131	671	1232	17195	19279						1363	39.7	9.6
CUM. TO DATE			~~669~~ 671											

* INCLUDES BOTTOM SEDIMENT

MNR-M-123 3500 12 58 [illegible]

1879

3-3

OPERATOR MILESTONE PETROLEUMS LTD. (NPL) PRODUCTION RECORD 195 1964

WELL NAME Milestone Scallion 6-3-12-26

LOCATION 6-3-12-26

FIELD NORTH VIRDEN SCALLION

BATTERY NO. Milestone Scallion

FIRST PRODUCTION

TEST PRODUCTION

NORMAL PRODUCTION

ALLOWABLE BBLS.

MONTH	DAYS PRODUCED	* TOTAL WATER PROD. BBLS.	CUMULATIVE WATER PROD. BBLS	TOTAL OIL PROD. BBLS	CUMULATIVE OIL PROD. BBLS		ALLOWABLE BBLS.	OVER OR UNDER PROD. BBLS.	CUMULATIVE CARRY FWD BBLS.	CUMULATIVE OVER OR UNDER PROD. BBLS.			AVERAGE OIL PROD. B/D	W.O.R. W/O BBLS
CARR'D FWD.			3462 ~~2,749~~		1289									
JAN.	31	471		151		1440					622		4[illegible]	7[illegible]
FEB.	28	522	993	116	267	1556					638		[illegible]	[illegible]
MAR.	31	380	1373	142 x	409	1698					522		1.5	72.7
APRIL	29	341	1714	136	545	1834					477		[illegible]	[illegible]
MAY	3	43	1757	11	556	1845					54		4	79.6
JUNE	30	274	2031	132	688	1977					406		4.4	67.4
JULY														
AUG.														
SEPT.														
OCT.														
NOV.														
DEC.														
CUM. TO DATE														

* INCLUDES BOTTOM SEDIMENT

MNR-M-123 3500 12 56 B B

1879

PRODUCTION RECORD 195

OPERATOR MILESTONE PETROLEUMS LTD. (NPL)

WELL NAME Milestone Scallion 6-3-12-26

LOCATION 6-3-12-26

FIELD NORTH VIRDEN SCALLION

BATTERY NO.

FIRST PRODUCTION

TEST PRODUCTION

ALLOWABLE BBLS.

NORMAL PRODUCTION

MONTH	DAYS PRODUCED	* TOTAL WATER PROD BBLS	CUMULATIVE WATER PROD. BBLS	TOTAL OIL PROD. BBLS.	CUMULATIVE OIL PROD. BBLS.		ALLOWABLE BBLS	OVER OR UNDER PROD. BBLS	CUMULATIVE CARRY FWD. BBLS	CUMULATIVE OVER OR UNDER PROD. BBLS.			AVERAGE OIL PROD B D	W O R W/O BBLS
CARR'D FWD.														
JAN.														
FEB.														
MAR.	11	301	301	52	52	52					253		7.4	78.5
APRIL	19	384	685	108	190	190					492		5.6	78
MAY	11	225	910	61	251	251					256		4.3	78.6
JUNE	—	—	910	—	251	251					—			
JULY	14	173	1083	77	328	328					250		5.5	69.2
AUG.	31	286	1369	216	544	544					514		6.9	55.6
SEPT.	25	222	1591	204	748	748					444		8.1	50.
OCT.	20	378	1969	167	915	915					545		8.3	69.3
NOV.	29	959	2928	221	1136	1136					1180		7.6	69.1
DEC.	31	534 ✓	3462	153	1289	1289					687 ✓		4.9	77.7
CUM. TO DATE			3462											

* INCLUDES BOTTOM SEDIMENT

MNR M 123 3500 12 56 R B

[illegible]

[illegible]

[illegible]

Chemical Tracer

The proposed program for the injection of a chemical tracer is designed such that in the majority of cases, when breakthrough occurs at a producing well, it will only be necessary to determine which of two injection wells are responsible for the breakthrough. Without a chemical tracer, it might be necessary, to determine which of four injection wells was responsible. Table 1 and Figure 2 indicate the proposed wells for chemical tracer injection.

The cost of the proposed chemical tracer program if injection is done by Calstan is:

19 wells at $60.00/well = $1200

The estimated total cost of the injection profile surveys and the chemical tracer treatment is $18,000.

R. A. PARK/P. PISIO

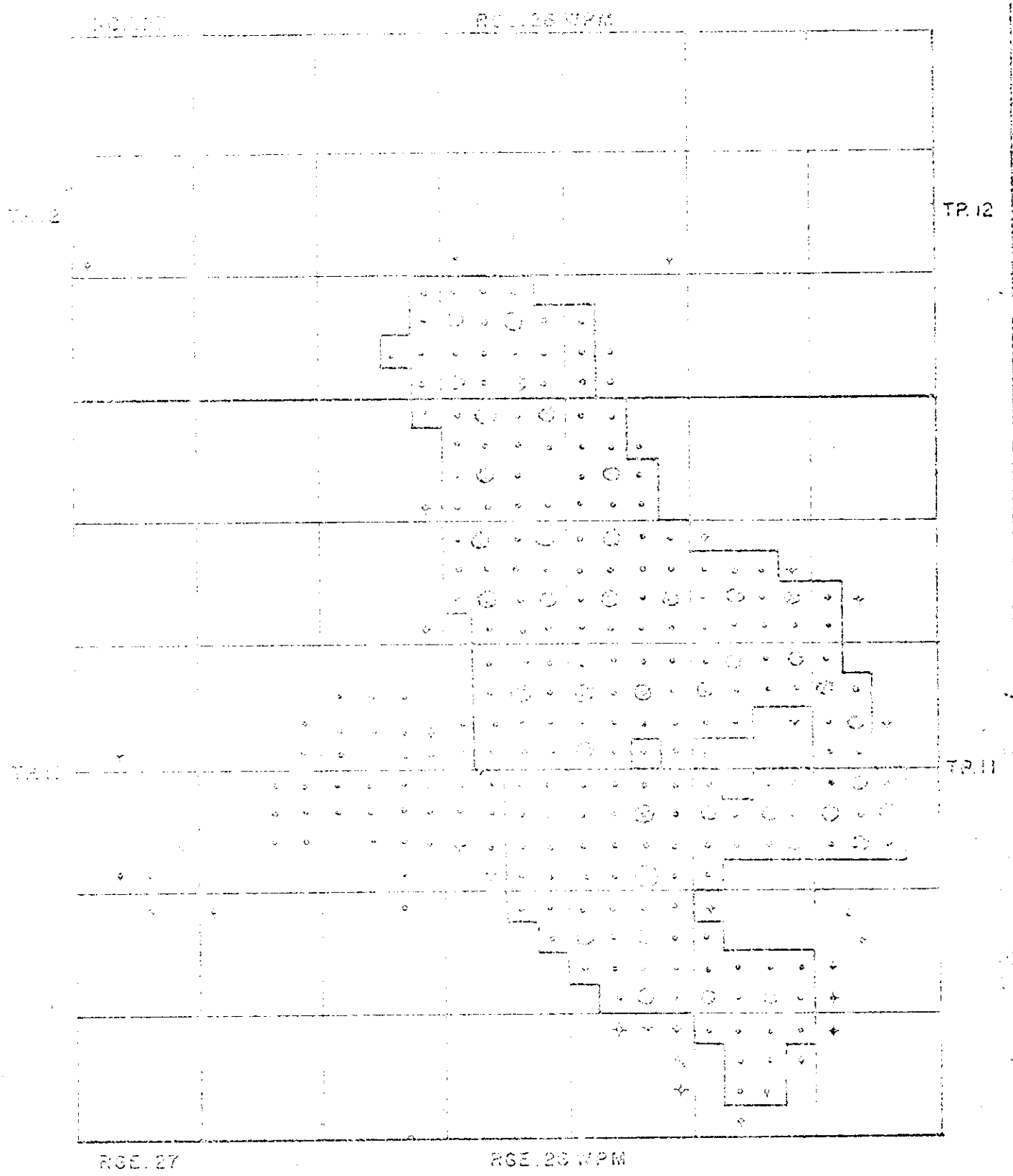
PP/ck

TABLE 1

INJECTION PROFILE AND CHEMICAL TRACER SURVEYS

PROPOSED PROGRAM

Injection Well	Perforations	Open Hole	Flowmeter	Radioactive Tracer	Chemical Tracer
[illegible]	[illegible]	[illegible]		X	
[illegible]	[illegible]	X		X	X
[illegible]	[illegible]	X		X	
[illegible]	[illegible]			X	
[illegible]	[illegible]			X	X
[illegible]	[illegible]			X	
[illegible]	[illegible]			X	X
[illegible]	[illegible]			X	X
[illegible]	[illegible]			X	
[illegible]	[illegible]			X	
[illegible]	[illegible]			X	X
[illegible]	[illegible]			X	
[illegible]	[illegible]	X	X	X	
[illegible]	[illegible]	X		X	X
[illegible]	[illegible]	X	X		X
[illegible]	[illegible]	X			X
[illegible]	[illegible]	X			X
[illegible]	[illegible]			X	
[illegible]	[illegible]			X	
[illegible]	[illegible]			X	X
[illegible]	[illegible]			X	X
[illegible]	[illegible]			X	
[illegible]	[illegible]			X	X
[illegible]	[illegible]			X	
[illegible]	[illegible]	X	X		X
[illegible]	X	X		X	
[illegible]		X	X		
[illegible]		X	X	X	
[illegible]	X				
[illegible]		X	X		X
[illegible]		X	X		X
[illegible]	X	X		X	X
[illegible]		X	X		X
[illegible]				X	
[illegible]				X	
[illegible]				X	
[illegible]				X	X
[illegible]		X	X		X
[illegible]	X			X	
TAL			9	32	19



LEGEND

PROVEN

POTENTIAL

○ – PROPOSED RADIOACTIVE TRACER SURVEY

○ – PROPOSED FLOWMETER SURVEY

NORTH VIRDEN OIL FIELD

PLATE 1

PROPOSED WELL PATTERNS

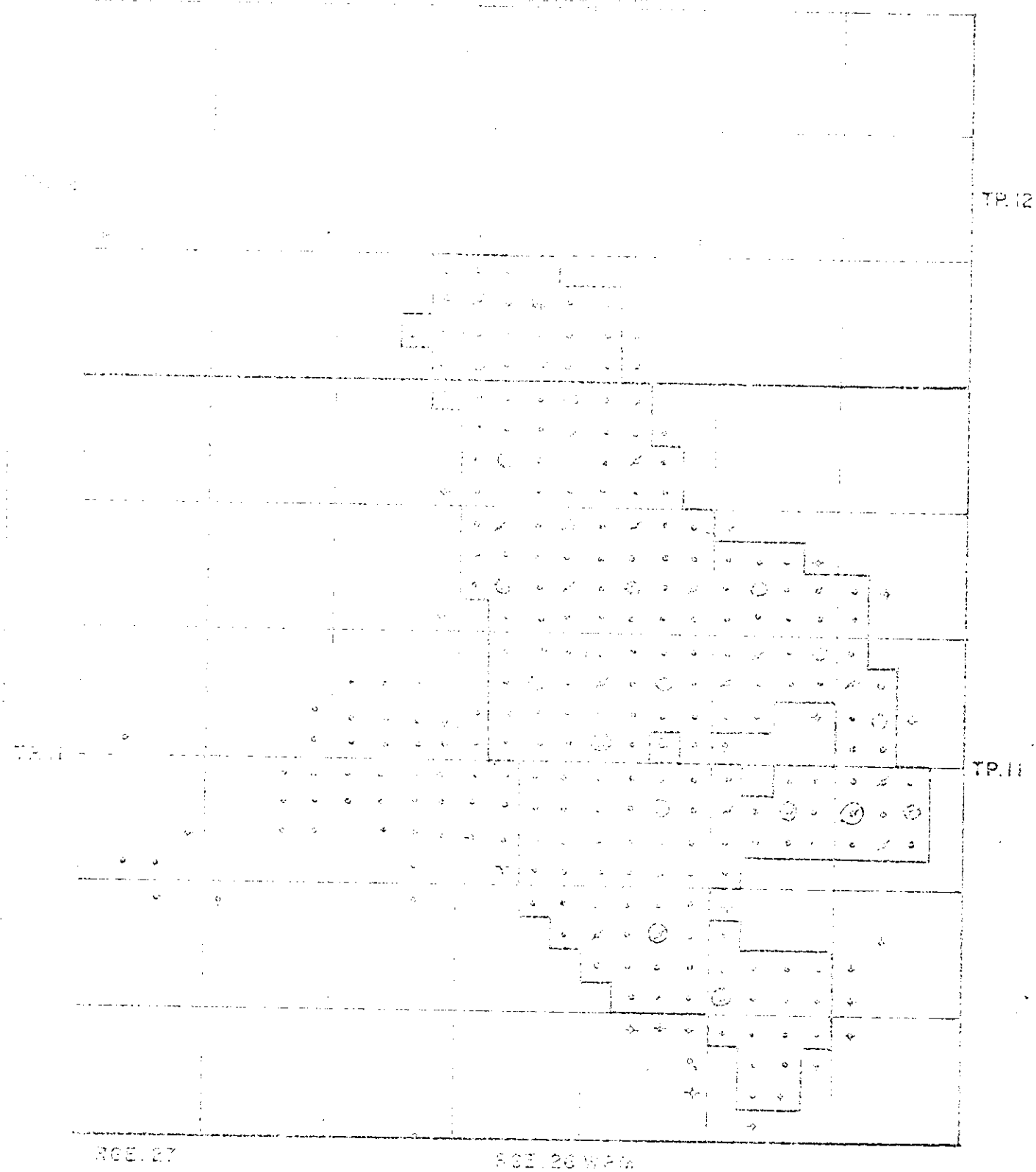
LEGEND

- OIL WELL
- SUSPENDED
- ABANDONED
- CAL. STD. HOLDINGS

APP. 44,000

SCALE: 1" = 8000'

A - 7377



LEGEND
PROVEN
POTENTIAL

NORTH VIRDEN OIL FIELD
Flood 8
Chemical Tertiary Unit

LEGEND
OIL WELL
SUSPENDED
ABANDONED
CAL. STD. HOLDINGS

A-7077

[illegible]

[illegible]

[illegible]

It should be noted that an annual bottom hole pressure survey is required by the Manitoba Conservation Board.

R. A. PARK/P. PISIO

PP/ck

TABLE 1

PROPOSED WELLS FOR THE 1964 BHP SURVEY

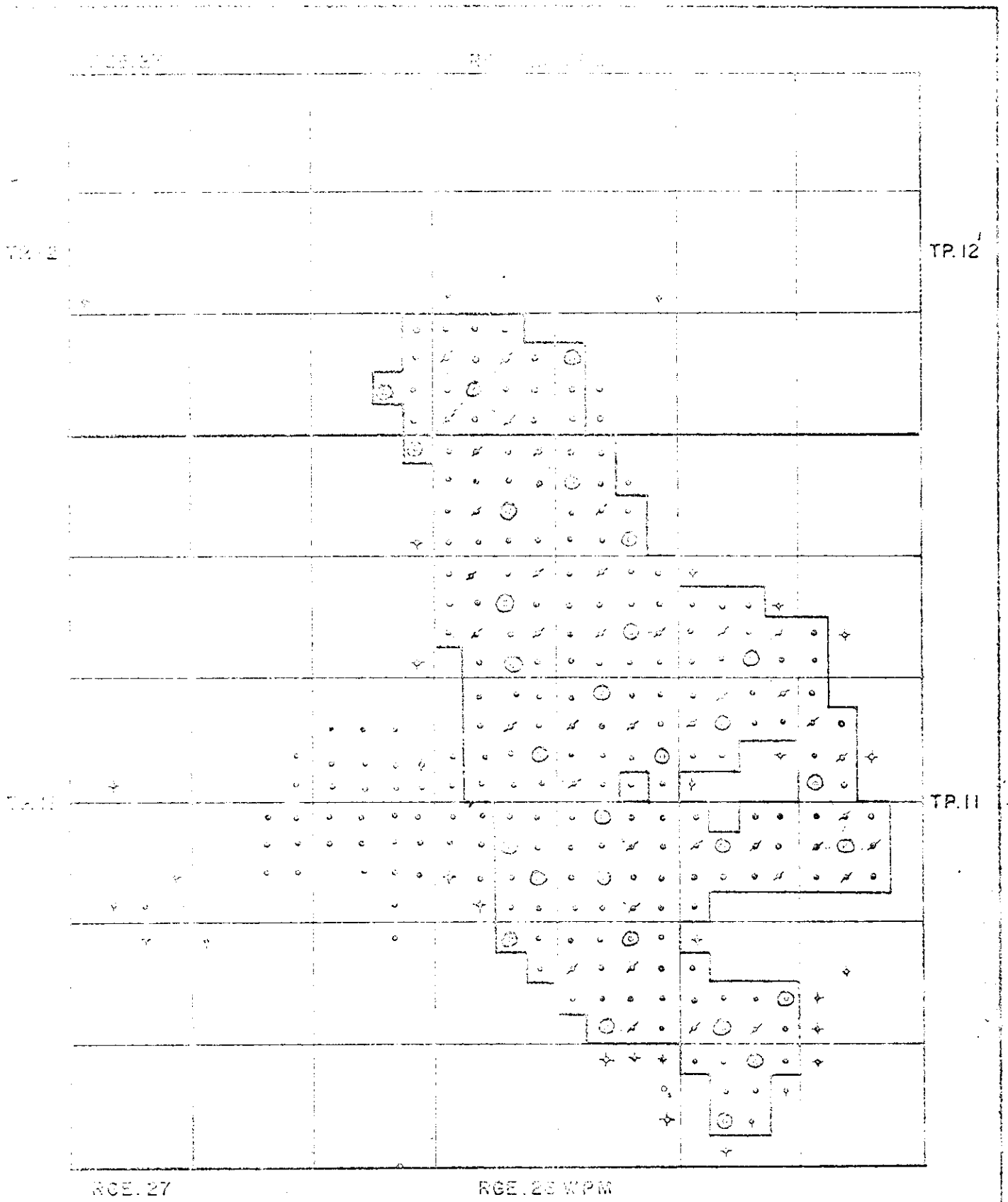
Well	Status 1/30/64	Number Of Offsetting WIW's Direct Or Diagonal ( ) 1	2	3	4	Flood Response	Included In Previous Survey
6-2	Suspended					-	X
12-2	Suspended	X				-	X
12-3	Suspended					-	X
3-10	Producing	X				-	X
12-10	Producing		X			Good	
5-11	Producing		X			Poor	
6-11	Producing	(X)					X
11-11	Producing				X	Poor	
11-12	Suspended		X			-	X
6-13	Producing		(X)			Good	
11-13	Producing		(X)			Poor	X
6-15	Suspended	-	-	-	-	-	-
10-15	Suspended					-	X
6-21	Producing			(X)		Good	
5-23	Producing		(X)			Poor	
1-24	Producing		(X)			Fair	
11-24	Suspended		X			-	X
1-25	Suspended		(X)			-	X
12-25	Producing				(X)	Poor	
1-31	Producing		X			Poor	X
6-31	Producing		(X)			Poor	
11-31	Producing				(X)	Poor	
12-32	Shut-In	(X)					
1-33	Suspended	X					X
2-34	Suspended		(X)				X
11-34	Producing		(X)			Poor	
12-35	Suspended						
6-36	Producing				(X)	Poor	
1-36	Suspended						X

TABLE 2

Estimated Lost Production Due BHP Survey.

Assumed Average Shut In Period of 5 Days.

Well	April/64 Production BOPD	Est. Lost Production 5 Day Shut In
3 - 10	1	5
15 - 10	53	265
3 - 11	12	60
3 - 11	3	15
11 - 15	17	85
6 - 15	64	320
14 - 15	11	55
3 - 21	105	525
8 - 22	24	120
14 - 22	28	140
2 - 26	6	30
7 - 27	4	20
2 - 28	16	80
10 - 28	13	65
12 - 34	4	20
6 - 4	9	45
TOTAL	370	1850



LEGEND

PROVEN

POTENTIAL

NORTH VIRDEN O.L FIELD

FIGURE 1

Revised 1964 BHP Survey

LEGEND

OIL WELL

SUSPENDED

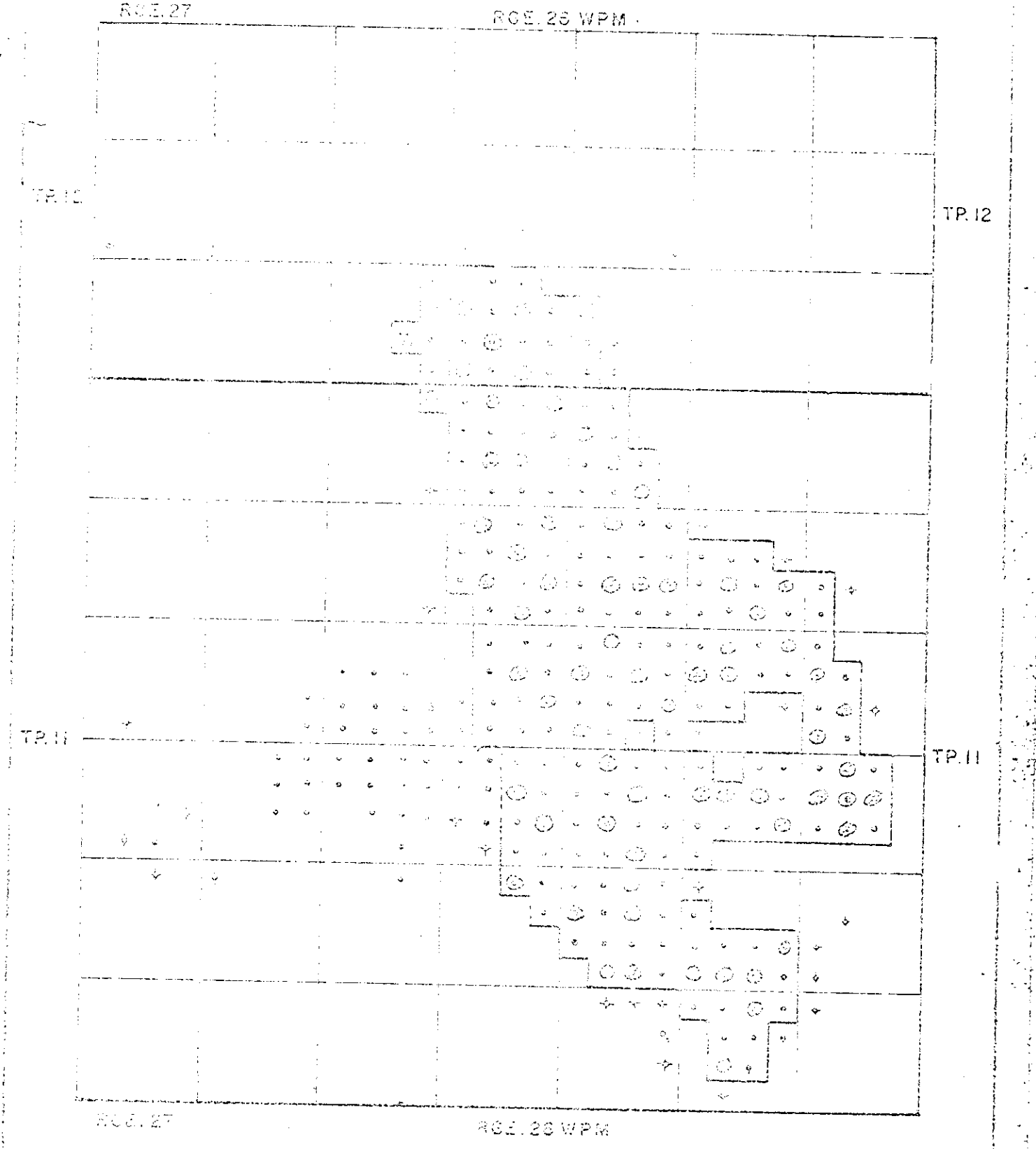
ABANDONED

CAL. STD. HOLDINGS

1958

1" = 500'

A-7377



LEGEND

PROVEN

POTENTIAL

NORTH VIRDEN OIL FIELD

FIGURE 2

LEGEND

OIL WELL

SUSPENDED

ABANDONED

CALSTD HOLDINGS

A - 7377

June 3, 1964

Mr. A. B. Bristow, Jr.
Chairman, North Virden Scallion Unit No. 1,
Operators' Committee,
The California Standard Company,
Medical Arts Building,
329A - 6th Avenue S.W.,
Calgary, Alta.

Re: North Virden Scallion Unit No. 1

Dear Sir:

I sincerely regret the delay in replying to your letter of April 28, 1964, particularly in view of the fact that our only comments are with respect to minor details.

Our records indicate the following production statistics:

Milestone Scallion 3-3-12-26

Oil production - October 1, 1963 to March 31, 1964 - 7,622 barrels

Water production - October 1, 1963 to March 31, 1964 - 843 barrels

Cumulative oil production to March 31, 1964 - 23,173 barrels

Milestone Scallion 6-3-12-26

Oil production - October 1, 1963 to March 31, 1964 - 950 barrels

Water production - October 1, 1963 to March 31, 1964 - 3,244 barrels

Cumulative oil production to March 31, 1964 - 1,698 barrels

We would suggest that an up-to-date operating report, including the individual well performance curves, be supplied for the purposes of the hearing, together with sketches showing the stratigraphic position of the two wells in relation to the Unit Area Wells.

In the 6th line of draft application, dated April 27, 1964, suggest the full name of "Milestone Petroleum Limited" should be used.

The "Consent" forms used at the original hearing, modified to the extent necessary, will be satisfactory and may be filed with the Board prior to or at the time of the hearing.

Yours very truly,

M. J. Gobert,
Member.

MJG/h

c.c. J. G. Cowan, Q.C.

J. S. Richards

F. S. Gamey

McDANIEL CONSULTANTS LTD.

Oil and Gas Reservoir Evaluations

R. R. McDANIEL, P.ENG.
R. S. BLACKETT, P.ENG.
G. C. KNUTSON, P.ENG.

305 HUMFORD BLDG.
608 SEVENTH STREET S.W.
CALGARY, ALBERTA
TELEPHONE 262-5506

May 27, 1964

Mr. M. J. Gobert
Assistant Deputy Minister
Department of Mines and Natural Resources
901 Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Dear Bert:

Following our discussion with respect to the Ebor Unit the writer read through the Unit Agreement, the Unit Operating Agreement and the Accounting Procedure. No further significant changes would be recommended in any of these agreements. We trust that this matter can now be concluded.

In regard to the expansion of the North Virden Scallion Unit we will no doubt have certain questions at the time of that hearing but at the moment would not have any particular recommendations with respect to the submission except that we would suggest the operator supply an up to date operating report including the individual well performance curves for the purposes of the hearing.

Sincerely yours,

McDANIEL CONSULTANTS LTD.

Per: R. R. McDaniel

R. R. McDaniel, P. Eng.

RRM/js

May 13, 1964

Mr. R. R. McDaniel,
President,
McDaniel Consultants Ltd.,
305 Humford Bldg.,
608 - 7th St. S.W.,
Calgary, Alta.

Dear Sir:

Attached herewith are copies of a letter of transmittal and a draft application for enlargement of the North Virden Scallion Unit No. 1, for your comments.

Your comments as to any additional material or data which might be required would be appreciated.

Yours very truly,

M. J. Gobert,
Asst. Deputy Minister.

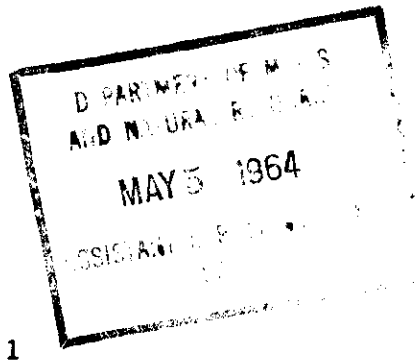
Personal & Confidential

THE CALIFORNIA STANDARD COMPANY

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

A. B. BRISTOW, JR.
VICE PRESIDENT
PRODUCING

April 28th, 1964.



Mr. J. G. Cowan,
The Oil & Natural Gas Conservation Board,
Department of Mines and Natural Resources,
Province of Manitoba,
Winnipeg 1, Manitoba.

Dear Sir:

Re: North Virden Scallion Unit No. 1

I am enclosing herewith copies of a draft of our proposed Application for Enlargement of the Unit Area to include Lsd's. 3 and 6 of Section 3, Township 12, Range 26, W.1M., for your consideration and comment. Also enclosed are copies of the Minutes of the April 1st, 1964, Meeting of the Working Interest Owners.

We have not yet forwarded copies of the Application to the other Working Interest Owners, but anticipate doing so after the Board has reviewed same.

Referring to your letter of February 12, 1964, wherein you suggested that we file the necessary consents of the Working Interest Owners and the Royalty Owners at the time of our application to the Board, we wondered if instead it would be agreeable to the Board if these consents were filed prior to the actual hearing itself, and your consideration and advice would be appreciated. We presume the type of "Consent" forms used at the original hearing would, with slight modification, be satisfactory in this case.

Yours very truly,

A. B. BRISTOW, JR., CHAIRMAN,
NORTH VIRDEN SCALLION UNIT NO. 1,
OPERATORS' COMMITTEE.

SAM:bc
Encs. Draft (3)
Minutes (3)

THE CANADIAN ATLANTIC OIL COMPANY

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

A. B. BRISTOW, JR.

April 28th, 1964.

Mr. J. G. Cowan,
The Oil & Natural Gas Conservation Board,
Department of Mines and Natural Resources,
Province of Manitoba,
Winnipeg 1, Manitoba.

Dear Sir:

Re: North Virden Scallion Unit No. 1

I am enclosing herewith copies of a draft of our proposed Application for Enlargement of the Unit Area to include Lsd's. 3 and 6 of Section 3, Township 12, Range 26, W.1M., for your consideration and comment. Also enclosed are copies of the Minutes of the April 1st, 1964, Meeting of the Working Interest Owners.

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Yours very truly,

A. B. BRISTOW, JR., CHAIRMAN,
NORTH VIRDEN SCALLION UNIT NO. 1,
OPERATORS' COMMITTEE.

SAM:bc
Encs. Draft (3)
Minutes (3)

THE CALIFORNIA STANDARD COMPANY

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

A. B. BRISTOW, JR.
VICE-PRESIDENT
Pro Dominion

April 28th, 1964.

Mr. J. G. Cowan,
The Oil & Natural Gas Conservation Board,
Department of Mines and Natural Resources,
Province of Manitoba,
Winnipeg 1, Manitoba.

Dear Sir:

Re: North Virden Scallion Unit No. 1

I am enclosing herewith copies of a draft of our proposed Application for Enlargement of the Unit Area to include Lsd's. 3 and 6 of Section 3, Township 12, Range 26, W.1M., for your consideration and comment. Also enclosed are copies of the Minutes of the April 1st, 1964, Meeting of the Working Interest Owners.

We have not yet forwarded copies of the Application to the other Working Interest Owners, but anticipate doing so after the Board has reviewed same.

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Yours very truly,

A. B. BRISTOW, JR., CHAIRMAN,
NORTH VIRDEN SCALLION UNIT NO. 1,
OPERATORS' COMMITTEE.

SAM:bc
Encs. Drafts (3)
Minutes (3)

THE CALIFORNIA STANDARD COMPANY

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

April 27, 1964

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

Attention: Mr. J. G. Cowan, Chairman:

Dear Sir:

The California Standard Company as Unit Operator of the North Virden Scallion Unit No. 1, under and pursuant to Section 76 of the Mines Act, Revised Statutes of Manitoba, 1954 and Amendments thereto, hereby on behalf of the Working Interest Owners in the North Virden Scallion Unit No. 1 and on behalf of Milestone requests the Oil & Natural Gas Conservation Board to add to the North Virden Scallion Unit Area, Lsds. 3 and 6 of Section 3, Township 12, Range 26, W.1.M., with the following Tract Numbers and Tract Participations:

Land Description	Tract Number	Tract Participation
Lsd. 3-3-12-26 W.1	3-3	1.17223
Lsd. 6-3-12-26 W.1	6-3	0.09031
TOTAL Tract Participation		1.26254

The said Lsd. 3 and Lsd. 6 of Section 3, Township 12, Range 26, W.1.M., adjoin the present North Virden Scallion No. 1 Unit Area and have wells situate thereon, known respectively as Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26, which wells are capable of production from the Unitized Formation. There appear to be mutual advantages to the owners of the royalty interest and the working interest in these lands and to the Working Interest Owners and the Royalty Owners in the present North Virden Scallion Unit No. 1. These advantages are the incentive to increased oil production rates, additional oil recovery, lower production costs, and as a result, a substantial increase in income on the part of the owners of the working interest and royalty interest in these lands, and the greater operational flexibility with resultant increase in oil recovery on the part of the Working Interest Owners and Royalty Owners in the present Unit Area in the development and operation of these lands and the Unit Area.

. . . . . /2

(b) An average monthly oil production factor penalized for water production, such factor to be calculated as a percentage for each Tract by:

(1) determining average monthly oil production of the Tract by dividing its cumulative oil production to March 31, 1964 by the number of months since the well on such Tract went on production;

(2) calculating a fractional water cut for the Tract by dividing the water production during the interval October 1, 1963 to March 31, 1964 by the sum of its water and oil production for the same period;

(3) multiplying the average monthly oil production for the Tract obtained in (1) by the fraction one minus the water cut appropriate to the Tract as determined in (2);

(4) dividing the product obtained in (3) for the Tract by the sum of the average monthly oil production penalized for water production for all Tracts in the present Unit calculated to October 31, 1961 plus the average monthly oil production penalized for water production of Tracts #3-3 and #6-3 calculated to March 31, 1964, and multiplying by 100.

The applicant submits that this participation formula provides a fair and equitable basis for sharing of production among the present Unit and the enlargement tracts.

On attached Figure 2 are presented the oil and water production histories of the present North Virden Scallion Unit No. 1, and of the wells Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26. The graphical scale of Figure 2 is such that it was not convenient to plot the low daily rate of oil production from Milestone Scallion 6-3-12-26 and this has been omitted.

Shown on Figure 2 are the reference intervals of production of the present Unit and of the wells Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26 as proposed for calculating the Tract Participation of Tracts #3-3 and #6-3. It is evident from inspection of these production rate trends, considering the time water flood commenced and flood response was apparent, that the reference production intervals used in calculating Tract Participation are fair and equitable.

The benefit to the present Unit from the proposed enlargement is demonstrated on attached Figure 3. The oil production history to date and the predicted oil production rate assuming (a) that the present Unit will be enlarged and (b)

. . . . . /4

that the present Unit will not be enlarged are shown for comparison. This increase in production rate and ultimate recovery from the Unit will result from extending the water injection system to include the well Dome Scallion 4-3-12-26 as an injector, and concurrently controlling injection and production rates to obtain a high degree of recovery efficiency. It is estimated the addition of Milestone Petroleum Limited Tracts #3-3 and #6-3 to the Unit would result in an increase in Unit oil recovery amounting to about 600,000 barrels.

The benefit to Milestone Petroleum Limited from adding Tracts #3-3 and #6-3 to the Unit is shown on Figure 4. During the predicted 10 year life on primary depletion (without unitization) Milestone Petroleum Limited's ultimate recovery is estimated to be 95,000 barrels. Assuming the Unit was enlarged at July 1, 1964, and Tract Participations as in this application assigned to Tracts #3-3 and #6-3, the allocable oil to these tracts to the year 1995 would amount to about 500,000 barrels.

Summary Calculation of Tract Participation
of Milestone Petroleum Limited Tracts #3-3 and #6-3

BASIC DATA:

(1) North Virden Scallion Unit No. 1 (Present Unit).

Oil Production May 1, 1961 to October 31, 1961
= 624,325 barrels.

Average monthly oil production penalized for water production to October 31, 1961
= 114,328.05987 barrels.

(2) Milestone Scallion 3-3-12-26 well (Tract #3-3)

Oil production October 1, 1963 to March 31, 1964 PET. DEV. RECORDS
= 7642 barrels. —— .. 7622 - oil

Water production October 1, 1963 to March 31, 1964
= 780 barrels. —— 843 water
(TF: 8465)

Water cut during this period
= 9.261458%. —— water cut = 9.956653 %

Cumulative oil production to March 31, 1964
= 23,193 barrels. cum. = 23,173

Months on production = 16

Average monthly oil production
= 1449.56250 barrels. —— = 1448.31250

Average monthly oil production penalized for water production = ~~1449.56250~~ 9.956653 x (100.000000 - 9.261458)%
= 1315.31188 barrels. —— = 1304.08008

(3) Milestone Scallion 6-3-12-26 well (Tract #6-3)

Oil production October 1, 1963 to March 31, 1964
= ~~958~~ barrels. —— 950 oil

Water production October 1, 1963 to March 31, 1964
= ~~2756~~ barrels. 3244 water
(TF = 4194)

Water cut during this period
= ~~74.205708~~%. —— water cut = 77.34859

Cumulative oil production to March 31, 1964
= 1706 barrels. cum. = 1698

Months on production = 13

Average monthly oil production
= ~~131.23077~~ barrels. —— = 130.61538

. . . . . /2

SUMMARY:

Average monthly oil production penalized for water production = ~~131.25077~~ x (100.000000 - ~~74.205708~~)%
= ~~33.85005~~ barrels. = 29.586225

TRACT PARTICIPATION CALCULATIONS:

TRACT #3-3:

Current production factor = $\frac{7642}{624,325 + 7642 + 958}$ x 100%
= ~~1.207410~~%. = 1.20430 33

Average monthly oil production factor penalized for water production

= $\frac{1315.31188}{114,328.05987 + 1315.31188 + 33.85005}$ x 100%

= ~~1.137053~~%. = 1.12 74949

Tract Participation = ½ (~~1.207410~~%) + ½ (1.137053%)
= 1.17223%. = 1.16589 90

TRACT #6-3:

Current production factor = $\frac{950}{632,925}$ x 100%.

= 0.151360%. = 0.1501034

Average monthly oil production factor penalized for water production

= $\frac{33.85005}{115,677.22180}$ x 100%

= 0.029263% = 0.0255799

Tract Participation = ½ (0.151360%) + ½ (0.029263%)

= 0.09031%. = 0.0878412

TOTAL Tract Participation of Tracts #3-3 and #6-3
= ~~1.26254~~%.
= 1.25374

Reduction factor for all other Tracts

= 1.0000000 - 0.0125374

= .9874626

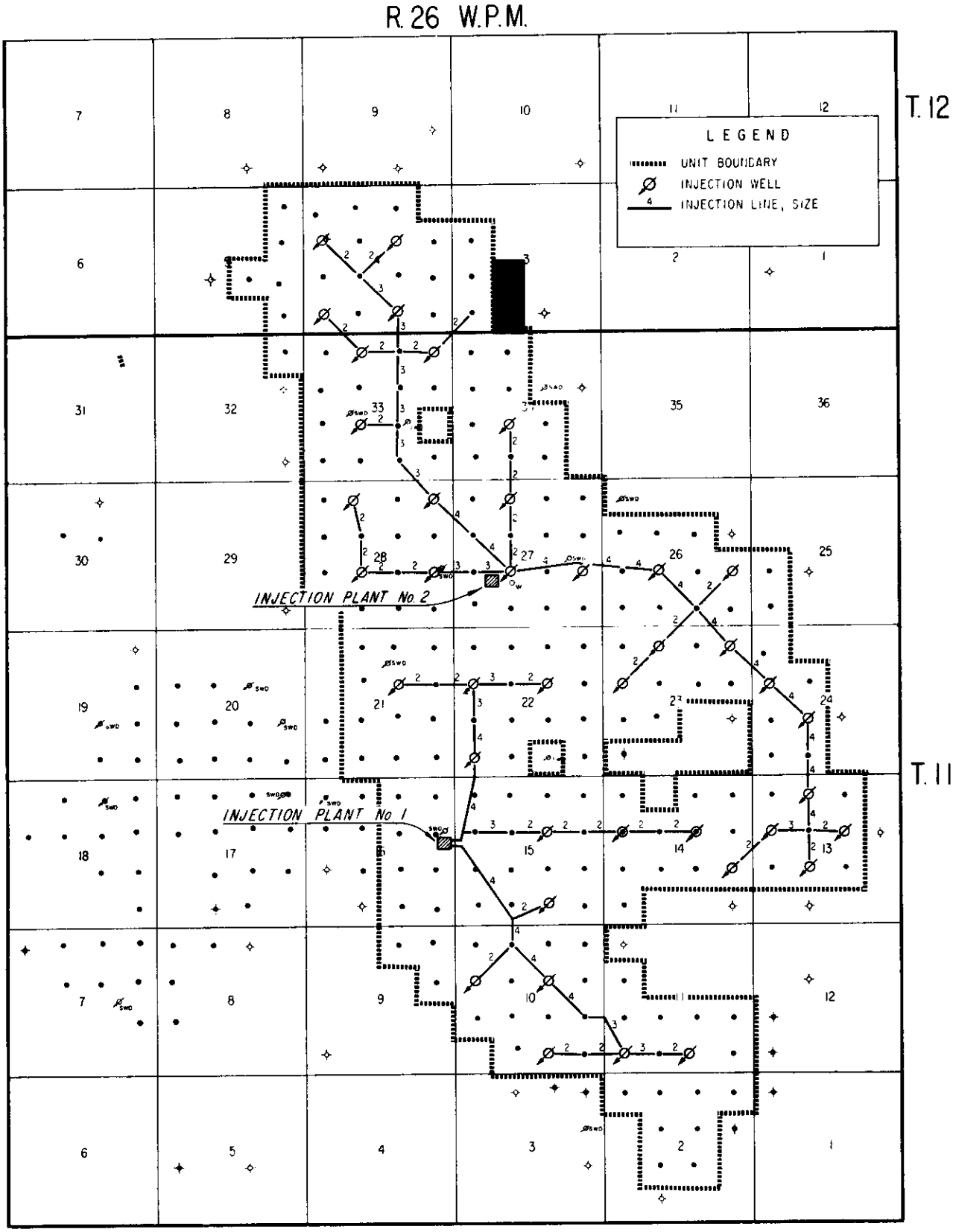


FIGURE 1

NORTH VIRDEN SCALLION UNIT No. 1

AS OF

MARCH 31, 1964

PROPOSED ADDITION TO UNIT

FIGURE 2

PRODUCTION HISTORY OF NORTH VIRDEN SCALLION UNIT No. 1

AND OF

MILESTONE SCALLION 3-3-12-26 AND 6-3-12-26

SHOWING

TIME INTERVAL CHOSEN IN CALCULATION OF MILESTONE PETROLEUM LTD. TRACT PARTICIPATION

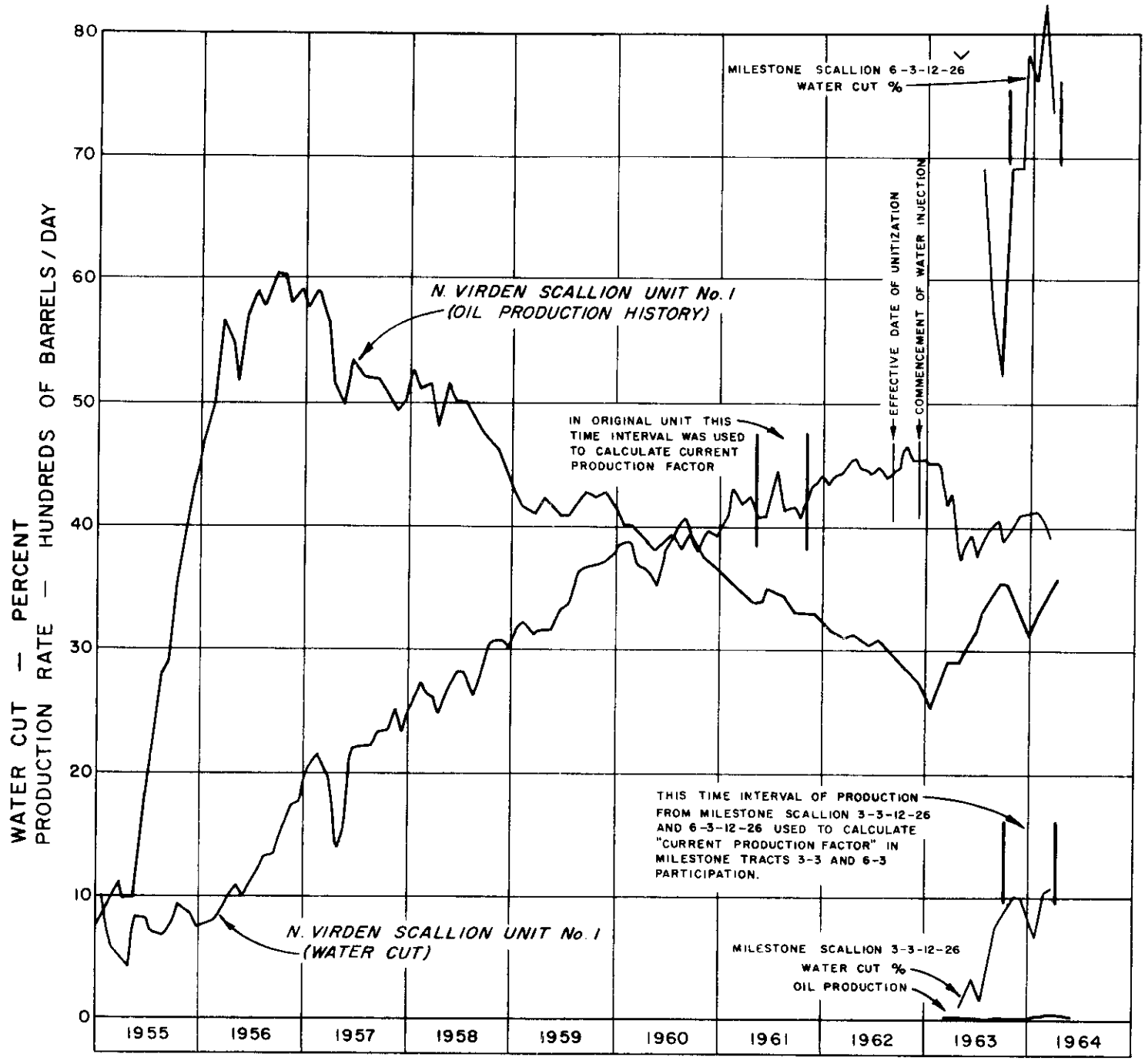


FIGURE 3

NORTH VIRDEN SCALLION UNIT No. 1

PRODUCTION HISTORY

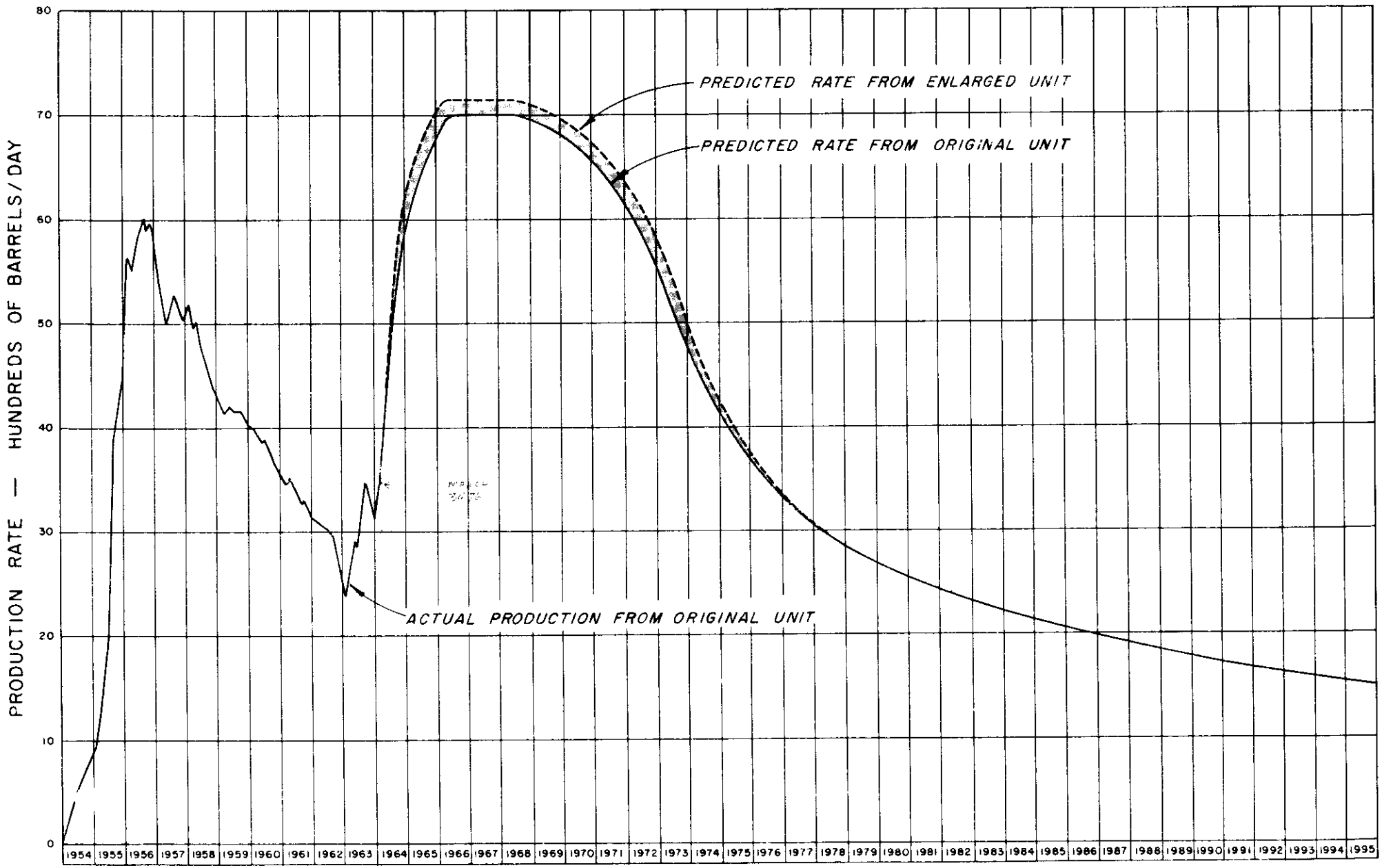
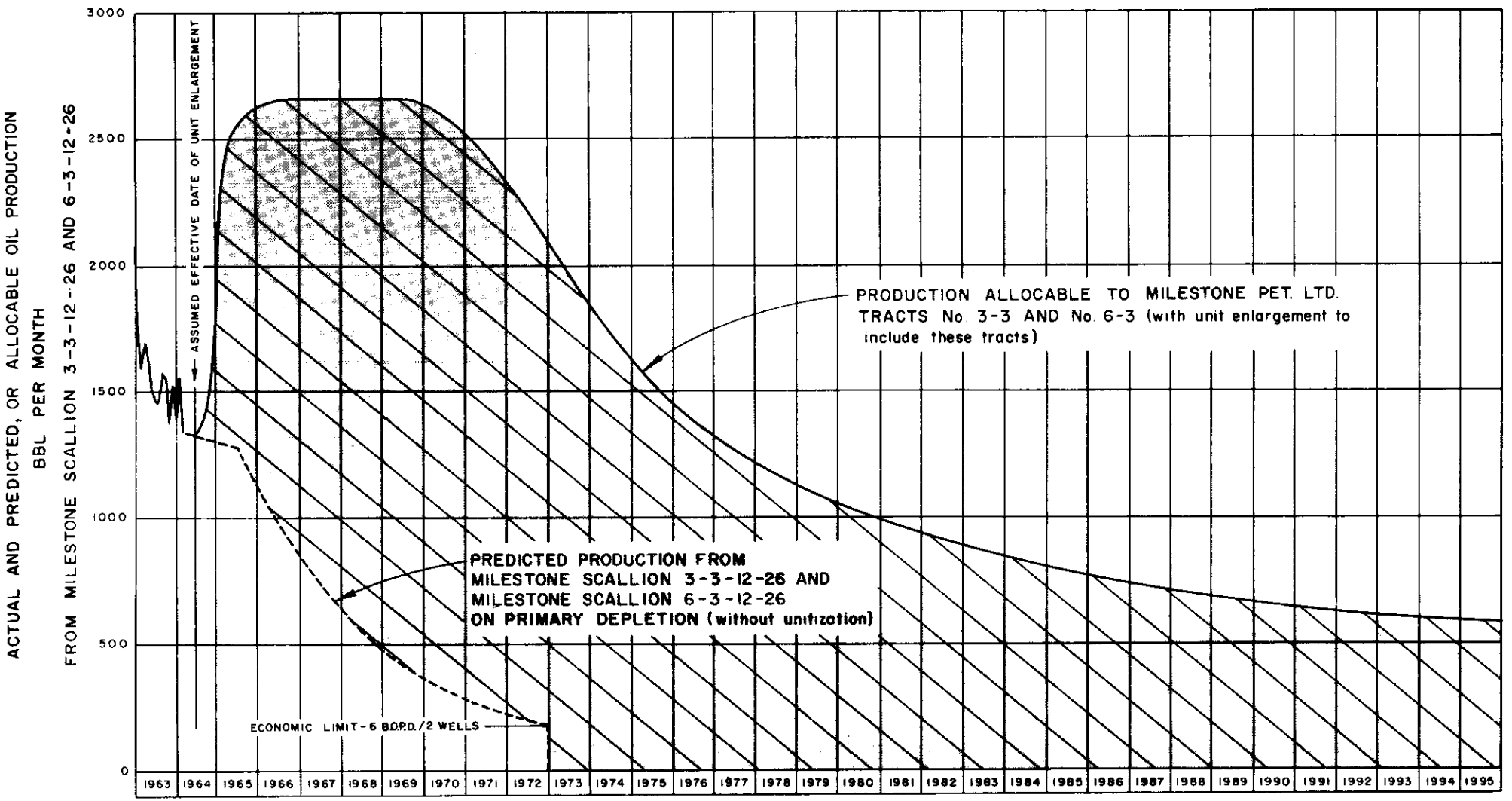


FIGURE 4

COMPARISON OF
PREDICTED OIL RECOVERY PERFORMANCE OF MILESTONE SCALLION 3-3-12-26 AND
6-3-12-26 ON PRIMARY DEPLETION (without unitization)
VERSUS
PRODUCTION ALLOCABLE TO MILESTONE PET. LTD. TRACTS 3-3 AND 6-3 WITH UNITIZATION



THE CALIFORNIA STANDARD COMPANY
MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

April 27, 1964

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

[illegible] 1964

Attention: Mr. J. G. Cowan, Chairman:

Dear Sir:

The California Standard Company as Unit Operator of the North Virden Scallion Unit No. 1, under and pursuant to Section 76 of the Mines Act, Revised Statutes of Manitoba, 1954 and Amendments thereto, hereby on behalf of the Working Interest Owners in the North Virden Scallion Unit No. 1 and on behalf of Milestone requests the Oil & Natural Gas Conservation Board to add to the North Virden Scallion Unit Area, Lsds. 3 and 6 of Section 3, Township 12, Range 26, W.1.M., with the following Tract Numbers and Tract Participations:

Land Description	Tract Number	Tract Participation
Lsd. 3-3-12-26 W.1	3-3	1.17223
Lsd. 6-3-12-26 W.1	6-3	0.09031
TOTAL Tract Participation		1.26254

The said Lsd. 3 and Lsd. 6 of Section 3, Township 12, Range 26, W.1.M., adjoin the present North Virden Scallion No. 1 Unit Area and have wells situate thereon, known respectively as Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26, which wells are capable of production from the Unitized Formation. There appear to be mutual advantages to the owners of the royalty interest and the working interest in these lands and to the Working Interest Owners and the Royalty Owners in the present North Virden Scallion Unit No. 1. These advantages are the incentive to increased oil production rates, additional oil recovery, lower production costs, and as a result, a substantial increase in income on the part of the owners of the working interest and royalty interest in these lands, and the greater operational flexibility with resultant increase in oil recovery on the part of the Working Interest Owners and Royalty Owners in the present Unit Area in the development and operation of these lands and the Unit Area.

. . . . . /2

The proposed Tract Participations have been calculated by applying equal weight to a current production factor, and an average monthly oil production factor penalized for water production, this being the basis for calculation of Tract Participation when the North Virden Scallion field was first unitized. The basic data and a summary calculation of these Tract Participations is shown on the attached Appendix I, which also includes evidence supporting the use of this participation formula, and a statement of the Working Interest Owners' present plans for the development and operation of the Unit Area and these lands in the event that such are added to the Unit Area.

It is hereby further requested that upon these lands being added to the North Virden Scallion No. 1 Unit Area that the Tract Participations of all Tracts in the Unit Area, prior to this enlargement, remain the same one to the other, and that each of them be reduced by multiplying it by the factor 1.0000000 - 0.0126254, (i.e. 0.9873746).

It is further requested that the owners of the working interest in these lands participate in the Investment Account established by Part 'X' of the 'PLAN FOR UNIT OPERATION GOVERNING THE UNITIZED MANAGEMENT OPERATION AND FURTHER DEVELOPMENT OF THE NORTH VIRDEN SCALLION UNIT NO. 1', dated May 1, 1962, as of the effective date of this enlargement, and further that they pay the Unit Operator, in cash, their proportionate share of all expenditures other than operating expenditures incurred subsequent to the Effective Date of the North Virden Scallion Unit No. 1, plus their proportionate share of all pre-unit and inventory costs incurred and approved by the North Virden Scallion Unit No. 1 Working Interest Owners.

In support of this application and attached Appendix I, we will endeavor to file with the Board consents to this addition to the Unit Area signed by:

1. The owners of the royalty interest and working interest in Lsd's. 3 and 6 of Section 3, Township 12, Range 26, W.1M.

2. At least 75% of the Working Interest Owners in the North Virden Scallion Unit No. 1.

Respectfully submitted,

A. B. BRISTOW, JR., CHAIRMAN,
NORTH VIRDEN SCALLION UNIT NO. 1,
OPERATORS' COMMITTEE.

SAM:bc
Attachment

APPENDIX I

Summary of Data and Calculations Pertaining to the Determination and Assignment of Tract Participations to Lsds. #3 and #6 of Section 3-12-26 W.P.M. for Inclusion in the North Virden Scallion Unit No. 1

Milestone Petroleum Limited have drilled two oil producing wells, namely, Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26 situated respectively in Lsds. 3 and 6 of Section 3-12-26 W.P.M.

Milestone Petroleum Limited have recently drilled two oil producing wells, namely, Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26 situated respectively in Lsds. 3 and 6 of Section 3-12-26 W.P.M. Milestone Scallion 3-3-12-26 was drilled to 2060' and completed on October 26, 1962 through perforations in $4\frac{1}{2}$" casing in the interval 2002' to 2020' opposite the Cherty zone. Initial potential of the well was 79 barrels fluid per day, 1% BS & W on pump.

Milestone Scallion 6-3-12-26 was drilled to 2060' total depth and completed on March 6, 1963 through perforations in $4\frac{1}{2}$" casing in the interval 2014' to 2026' opposite the Cherty zone. Initial potential of the well was 23 barrels fluid per day, 60% BS & W on pump. The lands on which these wells were drilled adjoin the present North Virden Scallion Unit No. 1, as shown on attached Figure 1.

There are mutual benefits to the Working Interest Owners in the present North Virden Scallion Unit No. 1 and to Milestone Petroleum Limited from this enlargement by reason of increased oil production rates, oil recovery, and income. Upon enlargement of the Unit, it is planned that the well Dome Scallion 4-3-12-26 will be converted to water injection, as a part of the overall waterflood program, thereby promoting a high recovery efficiency from this sector of the field. Addition of Milestone Petroleum Limited Tracts #3-3 and #6-3 into the Unit, with resultant sharing in Unit production will result in allocable oil to these Tracts substantially exceeding the estimated ultimate oil recovery under primary depletion.

TRACT PARTICIPATION:

The "Plan for Unit Operation Governing the Unitized Management Operation and Further Development of North Virden Scallion Unit No. 1" set out in Part III the method used for determining Tract Participation for each Tract as one half ($\frac{1}{2}$) of each of the following:

(a) A current production factor.
(b) An average monthly oil production factor penalized for water production.

. . . . . /2

Current production factor for a Tract was calculated as a percentage by dividing the oil production of such Tract during the interval May 1, 1961 to October 31, 1961 by the oil production for all Tracts during the same interval and multiplying by one hundred (100).

Average monthly oil production factor penalized for water production as a percentage was arrived at by:

1. determining average monthly oil production of the Tract by dividing its cumulative oil production to October 31, 1961 by the number of calendar months since the well on such Tract went on production provided that the first calendar month was not counted unless the oil production from the well on such Tract for that month was greater than one-half ($\frac{1}{2}$) of the oil production from such well for the next succeeding month;

2. calculating a fractional water cut for the Tract by dividing the water production during the interval May 1, 1961 to October 31, 1961 by the sum of the Tract's oil and water production during this time interval;

3. multiplying the average monthly oil production for the Tract obtained in (1) by one minus the water cut as determined in (2);

4. dividing the product obtained in (3) for the Tract by the sum of all the products obtained in (3) for all Tracts and multiplying by one hundred (100).

This Tract Participation formula was considered as fair and equitable in determining the method of participation in the present Unit. The applicant hereby submits that a similar participation formula is also applicable, and is fair and equitable in the determination of Tract Participation for those Tracts under consideration in the present application.

It is proposed that the Tract Participations of Milestone Petroleum Limited Tracts #3-3 and #6-3 be determined by adding one-half ($\frac{1}{2}$) of each of the following:

(a) A current production factor; such factor to be for each Tract the percentage calculated by dividing the oil production of the Tract during the interval October 1, 1963 to March 31, 1964 by the oil production of all Tracts in the present Unit during the period May 1, 1961 to October 31, 1961 plus the oil production of Tracts #3-3 and #6-3 during the interval October 1, 1963 to March 31, 1964 and multiplying this fraction by 100.

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(b) An average monthly oil production factor penalized for water production, such factor to be calculated as a percentage for each Tract by:

(1) determining average monthly oil production of the Tract by dividing its cumulative oil production to March 31, 1964 by the number of months since the well on such Tract went on production;

(2) calculating a fractional water cut for the Tract by dividing the water production during the interval October 1, 1963 to March 31, 1964 by the sum of its water and oil production for the same period;

(3) multiplying the average monthly oil production for the Tract obtained in (1) by the fraction one minus the water cut appropriate to the Tract as determined in (2);

(4) dividing the product obtained in (3) for the Tract by the sum of the average monthly oil production penalized for water production for all Tracts in the present Unit calculated to October 31, 1961 plus the average monthly oil production penalized for water production of Tracts #3-3 and #6-3 calculated to March 31, 1964, and multiplying by 100.

The applicant submits that this participation formula provides a fair and equitable basis for sharing of production among the present Unit and the enlargement tracts.

On attached Figure 2 are presented the oil and water production histories of the present North Virden Scallion Unit No. 1, and of the wells Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26. The graphical scale of Figure 2 is such that it was not convenient to plot the low daily rate of oil production from Milestone Scallion 6-3-12-26 and this has been omitted.

Shown on Figure 2 are the reference intervals of production of the present Unit and of the wells Milestone Scallion 3-3-12-26 and Milestone Scallion 6-3-12-26 as proposed for calculating the Tract Participation of Tracts #3-3 and #6-3. It is evident from inspection of these production rate trends, considering the time water flood commenced and flood response was apparent, that the reference production intervals used in calculating Tract Participation are fair and equitable.

The benefit to the present Unit from the proposed enlargement is demonstrated on attached Figure 3. The oil production history to date and the predicted oil production rate assuming (a) that the present Unit will be enlarged and (b)

. . . . . /4

that the present Unit will not be enlarged are shown for comparison. This increase in production rate and ultimate recovery from the Unit will result from extending the water injection system to include the well Dome Scallion 4-3-12-26 as an injector, and concurrently controlling injection and production rates to obtain a high degree of recovery efficiency. It is estimated the addition of Milestone Petroleum Limited Tracts #3-3 and #6-3 to the Unit would result in an increase in Unit oil recovery amounting to about 600,000 barrels.

The benefit to Milestone Petroleum Limited from adding Tracts #3-3 and #6-3 to the Unit is shown on Figure 4. During the predicted 10 year life on primary depletion (without unitization) Milestone Petroleum Limited's ultimate recovery is estimated to be 95,000 barrels. Assuming the Unit was enlarged at July 1, 1964, and Tract Participations as in this application assigned to Tracts #3-3 and #6-3, the allocable oil to these tracts to the year 1995 would amount to about 500,000 barrels.

Summary Calculation of Tract Participation
of Milestone Petroleum Limited Tracts #3-3 and #6-3

BASIC DATA:

(1) North Virden Scallion Unit No. 1 (Present Unit).

Oil Production May 1, 1961 to October 31, 1961
= 624,325 barrels.

Average monthly oil production penalized for water production to October 31, 1961
= 114,328.05987 barrels.

(2) Milestone Scallion 3-3-12-26 well (Tract #3-3)

Oil production October 1, 1963 to March 31, 1964
= 7642 barrels.

Water production October 1, 1963 to March 31, 1964
= 780 barrels.

Water cut during this period
= 9.261458%.

Cumulative oil production to March 31, 1964
= 23,193 barrels.

Months on production = 16

Average monthly oil production
= 1449.56250 barrels.

Average monthly oil production penalized for water production = 1449.56250 x (100.000000 - 9.261458)%
= 1315.31188 barrels.

(3) Milestone Scallion 6-3-12-26 well (Tract #6-3)

Oil production October 1, 1963 to March 31, 1964
= 958 barrels.

Water production October 1, 1963 to March 31, 1964
= 2756 barrels.

Water cut during this period
= 74.205708%.

Cumulative oil production to March 31, 1964
= 1706 barrels.

Months on production = 13

Average monthly oil production
= 131.23077 barrels.

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SUMMARY:

Average monthly oil production penalized for water production = 131.23077 x (100.000000 - 74.205708)%
= 33.85005 barrels.

TRACT PARTICIPATION CALCULATIONS:

TRACT #3-3:

$$\text{Current production factor} = \frac{7642}{624,325 + 7642 + 958} \times 100\%$$
$$= 1.207410\%.$$

Average monthly oil production factor penalized for water production

$$= \frac{1315.31188}{114,328.05987 + 1315.31188 + 33.85005} \times 100\%$$
$$= 1.137053\%.$$

$$\text{Tract Participation} = \tfrac{1}{2}(1.207410\%) + \tfrac{1}{2}(1.137053\%)$$
$$= 1.17223\%.$$

TRACT #6-3:

$$\text{Current production factor} = \frac{958}{632,925} \times 100\%.$$
$$= 0.151360\%.$$

Average monthly oil production factor penalized for water production

$$= \frac{33.85005}{115,677.22180} \times 100\%$$
$$= 0.029263\%$$

$$\text{Tract Participation} = \tfrac{1}{2}(0.151360\%) + \tfrac{1}{2}(0.029263\%)$$
$$= 0.09031\%.$$

TOTAL Tract Participation of Tracts #3-3 and #6-3
= 1.26254%.

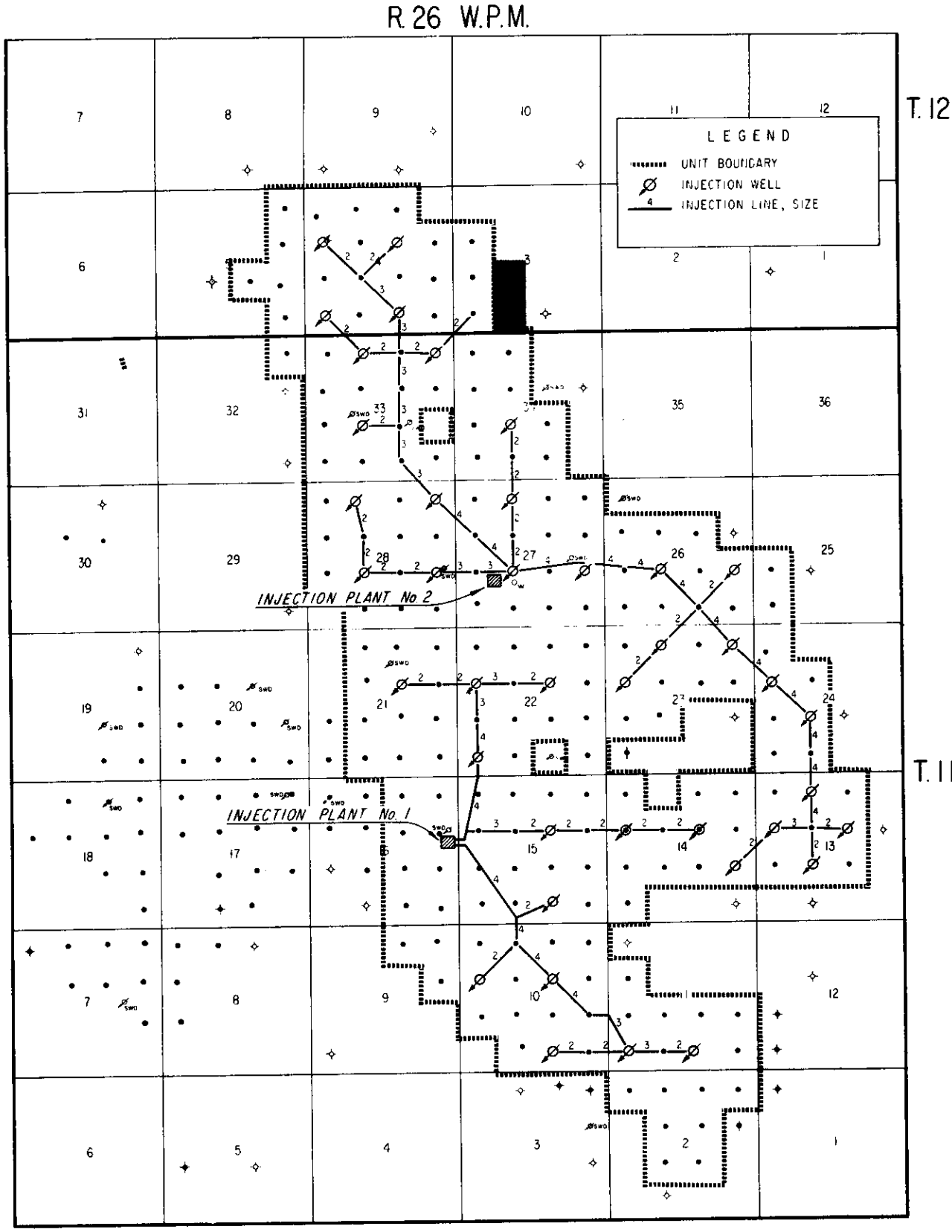


FIGURE 1

NORTH VIRDEN SCALLION UNIT No. 1

AS OF

MARCH 31, 1964

PROPOSED ADDITION TO UNIT

FIGURE 2

PRODUCTION HISTORY OF NORTH VIRDEN SCALLION UNIT No. I

AND OF

MILESTONE SCALLION 3-3-12-26 AND 6-3-12-26

SHOWING

TIME INTERVAL CHOSEN IN CALCULATION OF MILESTONE PETROLEUM LTD. TRACT PARTICIPATION

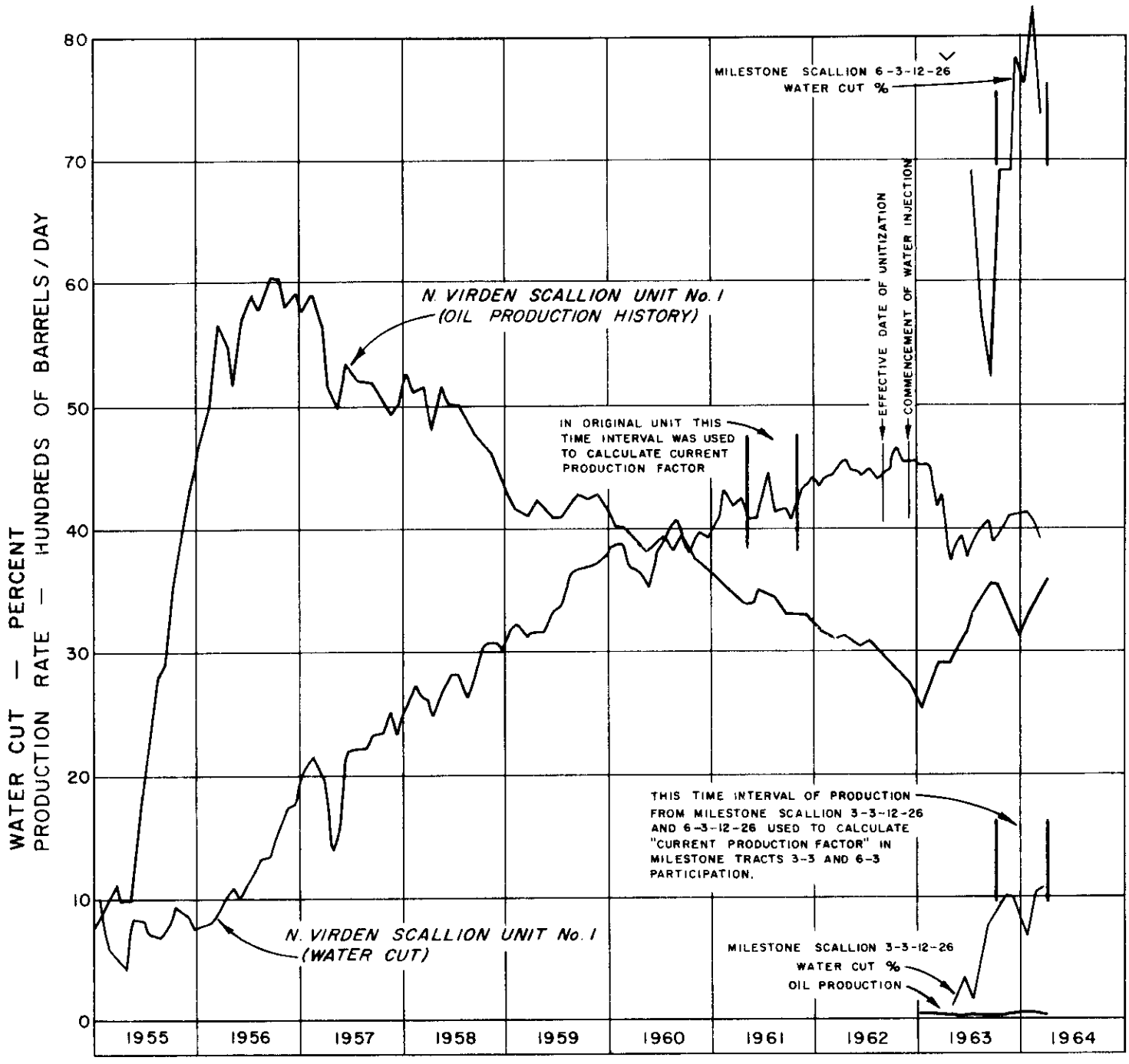


FIGURE 3

NORTH VIRDEN SCALLION UNIT No. 1

PRODUCTION HISTORY

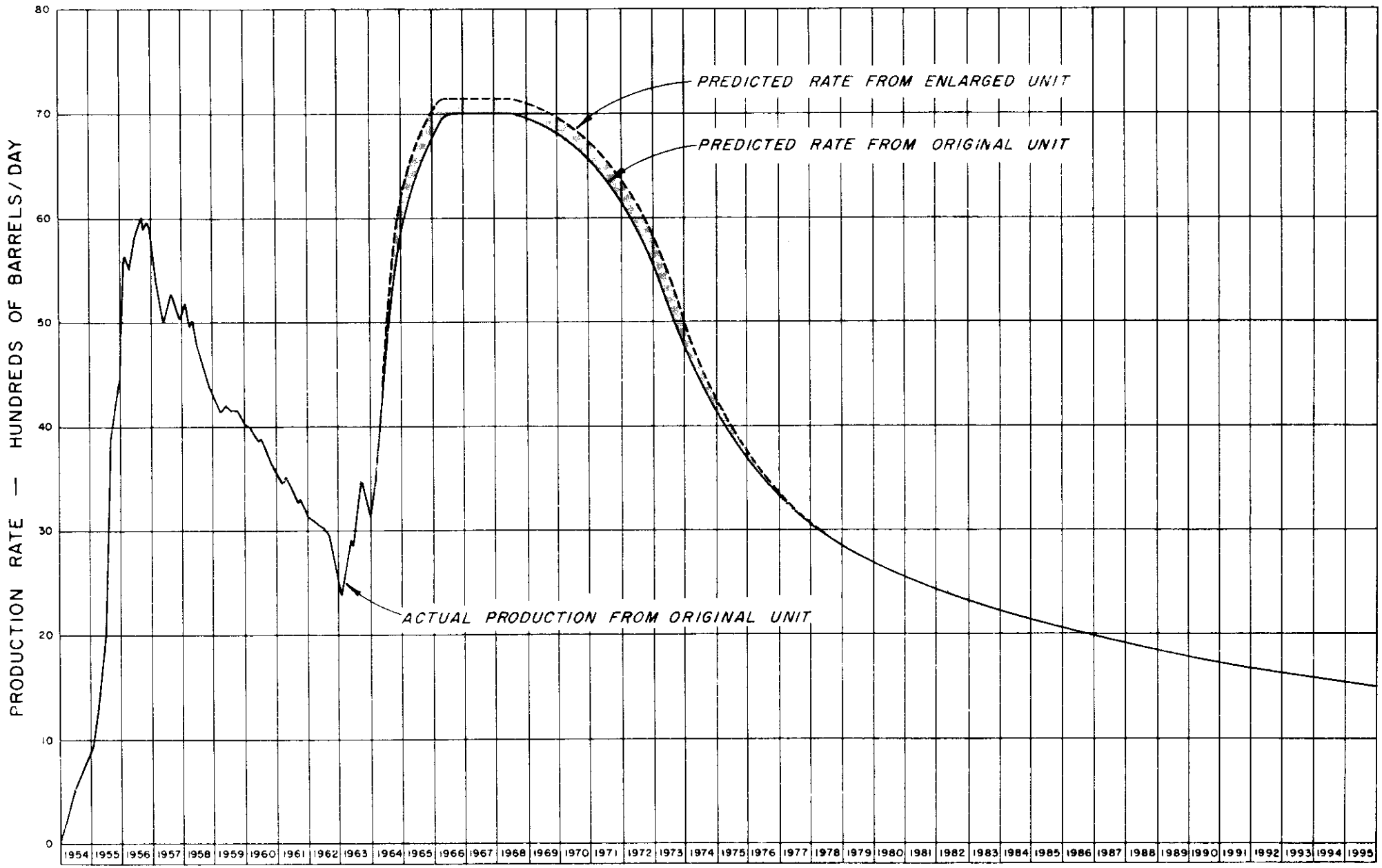


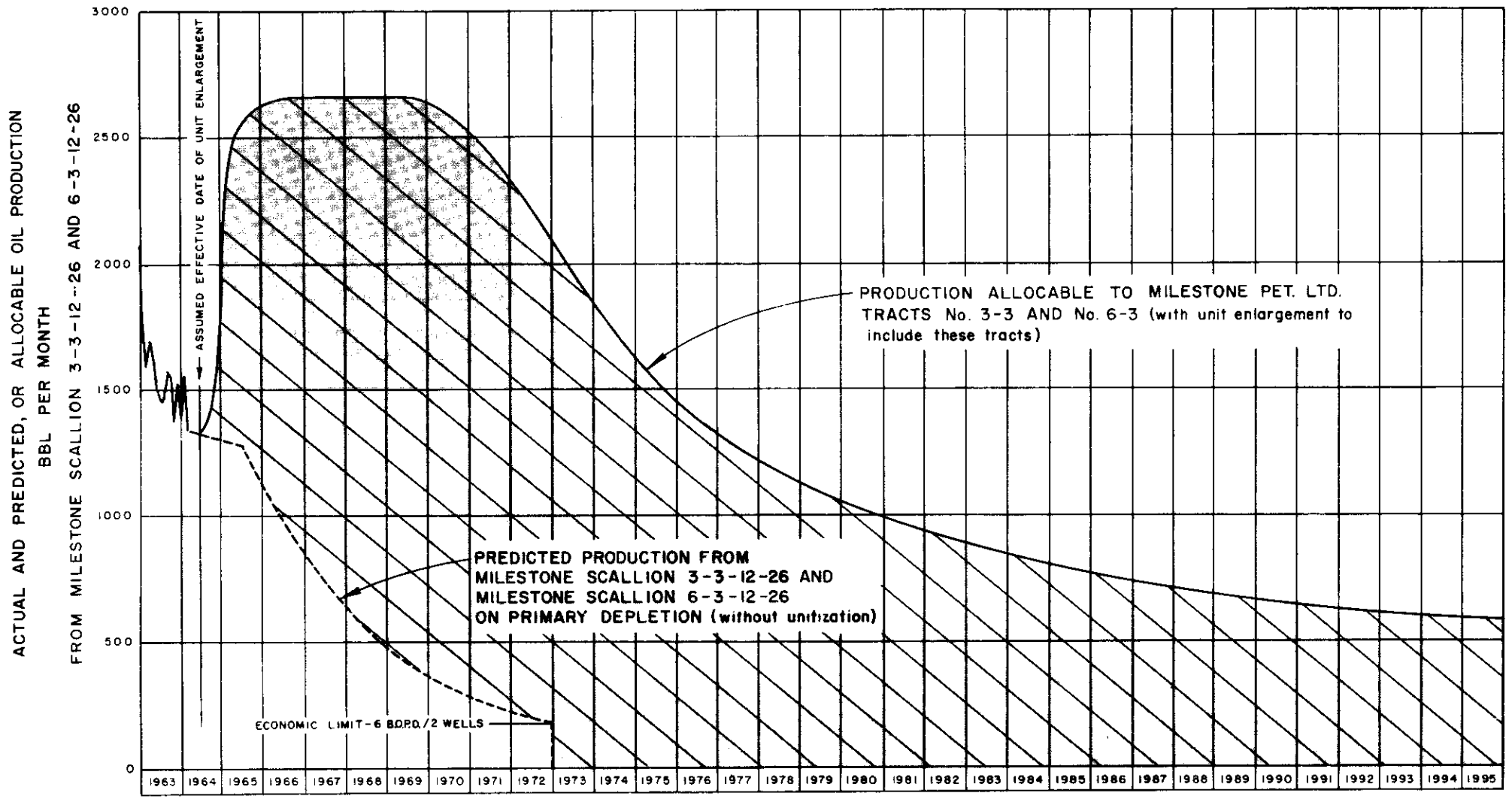
FIGURE 4

COMPARISON OF

PREDICTED OIL RECOVERY PERFORMANCE OF MILESTONE SCALLION 3-3-12-26 AND 6-3-12-26 ON PRIMARY DEPLETION (without unitization)

VERSUS

PRODUCTION ALLOCABLE TO MILESTONE PET. LTD. TRACTS 3-3 AND 6-3 WITH UNITIZATION



THE CALIFORNIA STANDARD COMPANY
MEDICAL ARTS BUILDING, 329A - 6TH AVENUE S.W., CALGARY, ALBERTA.

April 9, 1964

MINUTES OF APRIL 1, 1964 MEETING OF THE
NORTH VIRDEN SCALLION UNIT WORKING INTEREST OWNERS

A meeting of the North Virden Scallion Unit Operators' Committee was held in The California Standard Company's Sixth Floor Board Room, Medical Arts Building, Calgary, Alberta, at 2:00 P.M., Wednesday, April 1, 1964.

The following were in attendance:

Company	Representative	Participation-%
The California Standard Company	A. B. Bristow, Jr. C. F. Kirkvold S. A. McCrae D. R. Henderson	60.52961
Canadian Export Gas & Oil Ltd.	P. C. Evans	1.06332
Canadian Superior Oil Ltd.	J. J. Gallagher	4.25843
Dome Petroleum Ltd.	M. E. McElroy	5.01238
Imperial Oil Ltd.	E. C. Gent	2.13881
Provo Gas (Sask.) Ltd.	M. E. McElroy	1.21359
Security Freehold Petroleums Ltd.	A. B. Bristow, Jr.	0.11635
Shell Canada Ltd.	A. B. Bristow, Jr.	7.47019
Sun Oil Company	T. E. Huta	7.30682
Western Naco Petroleums Ltd.	M. E. McElroy	0.44315
TOTAL Attendance		89.55265

The following letters were read into the minutes:

Hudson's Bay Oil and Gas Company Limited, by letter of February 11, 1964, effective March 1, 1964, authorized the representative of The California Standard Company to represent Security Freehold Petroleums Limited.

Shell Canada Limited, by letter of March 17, 1964, authorized the representative of The California Standard Company to vote on all Agenda Items on their behalf at this meeting.

. . . . . /2

AGENDA ITEM #1: - Approve the Minutes of December 11, 1963 Meeting.

The Operators' Committee agreed, that the Minutes of December 11, 1963, Agenda Item #5, are amended to read; Mr. R. M. Swesnik and Mr. R. E. Dertell left the meeting following the Chairman's announcement of the results of the motion.

Mr. M. E. McElroy moved and Mr. P. C. Evans seconded a motion that the December 11, 1963 Minutes, subject to the above amendment be approved as written. Carried unanimously.

AGENDA ITEM #2: - Milestone's Application to Include Lsds. 3 and 6 of 3-12-26 W.P.M. in the Unit Area.

Mr. E. C. Gent made the following motion:

"Resolved by and between the Working Interest Owners, that the Unit Area be enlarged to include Lsd. 3 and Lsd. 6 of Section 3-12-26 W.P.M. with the following participations:

Lsd. 3 - Tract 3-3	Tract Participation	1.17223%
Lsd. 6 - Tract 6-3	Tract Participation	0.09031%
	TOTAL Milestone Petroleum Ltd. Participation	1.26254%

such Tract Participations being calculated on the basis as recommended by the Engineering Committee Meeting of January 15, 1964 and incorporating the production period of October 1, 1963 to March 31, 1964, and that the cumulative production period shall be to March 31, 1964, and subject to the following:

1. that Milestone Petroleum Limited's participation in the Unit Investment Account be on the basis outlined in Part X of the Plan for Unit Operation Governing the Unitized Management, Operation and Further Development of North Virden Scallion Unit No. 1, and,

2. that Milestone Petroleum Limited advance in cash their proportionate share of all capital expenditures incurred subsequent to the Effective Date, plus their proportionate share of all pre-unit and inventory costs incurred and approved by the Working Interest Owners, and,

3. that approval of the Oil and Natural Gas Conservation Board of Manitoba is obtained".

The motion was seconded by Mr. T. E. Huta and carried unanimously.

With the regards to future applications to the Unit for enlargement, the following is quoted from the Engineering Committee Meeting of January 15, 1964:

. . . . . /3

"It was unanimously agreed that production parameters, similar to those initially used to form the North Virden Scallion Unit No. 1, were the only equitable means of admitting Milestone Petroleum Limited's Tracts of Lsd. 3, Sec. 3, Twp. 12, Rge. 26, W.P.M., and Lsd. 6, Sec. 3, Twp. 12, Rge. 26, W.P.M. into the Unit Area. However, this may not be an equitable basis for future enlargements. Since voidage is now being exceeded by injection the producing characteristics of any future wells may be affected by the waterflood. If any offsetting wells to the Unit Boundary are drilled, the Operator should be requested to core their wells and run logs that are suitable for determining pay, porosity, water saturation, etc. - such as the I.E.S. and G.R. Sonic Logs. In this way, sufficient data would be provided to arrive at a fair and equitable participation for the newly drilled wells".

Mr. A. B. Bristow, Jr. made the following motion:

"Resolved by and between the Working Interest Owners that the Unit Operator contact and encourage any operator drilling off-setting wells to the Unit Boundary in the future to follow the above recommendations as outlined in the Engineering Committee meeting of January 15, 1964".

The motion was seconded by Mr. P. C. Evans and carried unanimously.

AGENDA ITEM #3: - Unit Operator to Prepare Submission and Perform Titles Examination - re Milestone.

The representatives unanimously agreed that The California Standard Company should perform the following in respect to Milestone Petroleum Limited's application for enlargement:

(a) Prepare a submission (subject to Working Interest Owners' approval) to the Manitoba Oil and Natural Gas Conservation Board for enlargement of the North Virden Scallion Unit to include the described lands as Tracts 3-3 and 6-3, and,

(b) carry out a titles examination of Milestone Petroleum Limited's leases and make a recommendation to the Operators' Committee.

Further, the representatives unanimously agreed, that the costs of this Hearing will be charged to the Joint Account on the basis of each Working Interest Owners' Unit Participation after enlargement.

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AGENDA ITEM #4: - Other Business.

The Chairman referred to the Operators' Minutes of December 11, 1963, where Cathodic Protection had been included in the Capital Expenditure Budget to protect the original bare flowlines. The Unit Operator is of the opinion that this protection is now required to prevent further deterioration of flowlines and an A.F.E. covering Cathodic equipment and installation will be forwarded to all Working Interest Owners for approval.

A. B. BRISTOW, JR., CHAIRMAN,
NORTH VIRDEN SCALLION UNIT NO. 1
OPERATORS' COMMITTEE

DRH/jmk

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. . . . . /4

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A. B. BRISTOW, JR., CHAIRMAN,
NORTH VIRDEN SCALLION UNIT NO. 1
OPERATORS' COMMITTEE

DRH/jmk

MILESTONE PETROLEUM LTD.
Production for Tracts #3-3 and #6-3
Period Oct. 1,1963 - Mar. 31, 1964

MILESTONE SCALLION 3-3-12-26 M.P.R. - 70

	Oil	Water
October 1963	1,202	122
* November 1963	1,294	206
* December 1963	1,232	131
January 1964	1,403	103
February 1964	1,220	141
March 1964	1,271	140
TOTAL	7,622	843
Cumulative Oil to March 31, 1964	23,173 bbls.	

MILESTONE SCALLION 6-3-12-26

	Oil	Water
October 1963	167	378
* November 1963	221	959
* December 1963	153	534
January 1964	151	471
February 1964	116	522
March 1964	142	380
TOTAL	950	3,244
Cumulative Oil to March 31, 1964	1,698 bbls.	

* Amendments received January 30, 1964 for water only.

Summary Calculation of Tract Participation of Milestone Petroleum Limited Tracts #3-3 and #6-3

BASIC DATA:

(1) North Virden Scallion Unit No. 1 (Present Unit).

Oil Production May 1, 1961 to October 31, 1961
= 624,325 barrels.

Average monthly oil production penalized for water production to October 31, 1961
= 114,328.05987 barrels.

(2) Milestone Scallion 3-3-12-26 well (Tract #3-3)

Oil production October 1, 1963 to March 31, 1964
= 7622 barrels.

Water production October 1, 1963 to March 31, 1964
= 843 barrels. (T.F. - 8465)

Water cut during this period
= 9.958653%

Cumulative oil production to March 31, 1964
= 23,173

Months on production = 16

Average monthly oil production
= 1448.31250

Average monthly oil production penalized for water production = 1448.31250 x (100.000000 - 9.958653)%
= 1304.08008

(3) Milestone Scallion 6-3-12-26 well (Tract #6-3)

Oil production October 1, 1963 to March 31, 1964
= 950 barrels.

Water production October 1, 1963 to March 31, 1964
= 3244 barrels. (T.F. - 4194)

Water cut during this period
= 77.34859%.

Cumulative oil production to March 31, 1964
= 1698 barrels.

Months on production = 13

Average monthly oil production
= 130.61538 barrels.

...../2

SUMMARY:

Average monthly oil production penalized for water production = 130.61538 x (100.000000 - 77.34859)%
= 29.586225 barrels.

TRACT PARTICIPATION CALCULATIONS:

TRACT #3-3:

$$\text{Current production factor} = \frac{7622}{624,325 + 7622 + 950} \times 100\%$$
$$= 1.2043033\%.$$

Average monthly oil production factor penalized for water production

$$= \frac{1304.08008}{114,328.05987 + 1304.08008 + 29.586225} \times 100\%$$
$$= 1.1274949\%.$$

$$\text{Tract Participation} = \tfrac{1}{2}\ (1.204303\%) + \tfrac{1}{2}(1.127494\%)$$
$$= 1.1658990\%.$$

TRACT #6-3:

$$\text{Current production factor} = \frac{950}{632,897} \times 100\%$$
$$= 0.1501034\%.$$

Average monthly oil production factor penalized for water production

$$= \frac{29.58622}{115661.72617} \times 100\%$$
$$= 0.0255799\%.$$

$$\text{Tract Participation} = \tfrac{1}{2}\ (0.150103\%) + \tfrac{1}{2}\ (0.025579\%)$$
$$= 0.0878412\%.$$

TOTAL Tract Participation of Tracts #3-3 and #6-3
= 1.25374%.

Reduction factor for all other Tracts
= 1.0000000 - 0.0125374
= .9874626

MILESTONE PETROLEUM LTD.
Production for Tracts #3-3 and #6-3
Period Oct. 1,1963 - Mar. 31, 1964

MILESTONE SCARLION 3-3-12-26 M.P.M. - 70

	Oil	Water
October 1963	1,202	122
M November 1963	1,294	206
M December 1963	1,252	131
January 1964	1,403	103
February 1964	1,220	141
March 1964	1,271	140
TOTAL	7,622	843

Cumulative Oil to March 31, 1964 23,173 bbls.

MILESTONE SCARLION 6-3-12-26

	Oil	Water
October 1963	167	578
M November 1963	221	959
M December 1963	153	534
January 1964	151	471
February 1964	116	522
March 1964	142	580
TOTAL	950	3,244

Cumulative Oil to March 31, 1964 1,698 bbls.

M Amendments received January 30, 1964 for water only.

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Cumulative oil production to March 31, 1964
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Average monthly oil production
= 130.61538 barrels.

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SUMMARY:

Average monthly oil production penalized for water production = 130.61538 x (100.000000 - 77.34859)%
= 29.586225 barrels.

TRACT PARTICIPATION CALCULATIONS:

TRACT #3-3:

Current production factor = $\frac{7622}{624,325 + 7622 + 950} \times 100\%$
= 1.204303%.

Average monthly oil production factor penalized for water production

$$= \frac{1304.08008}{114,328.05987 + 1304.08008 + 29.586225} \times 100\%$$

= 1.1274949%.

Tract Participation = $\frac{1}{2}$ (1.204303%) + $\frac{1}{2}$(1.127494%)
= 1.1658990%.

TRACT #6-3:

Current production factor = $\frac{950}{632,897} \times 100\%$

= 0.150103%.

Average monthly oil production factor penalized for water production

$$= \frac{29.58622}{115661.72617} \times 100\%$$

= 0.0255799%.

Tract Participation = $\frac{1}{2}$ (0.150103%) + $\frac{1}{2}$ (0.025579%)

= 0.087841%.

TOTAL Tract Participation of Tracts #3-3 and #6-3
= 1.25374%.

Reduction factor for all other Tracts
= 1.0000000 - 0.0125374
= .9874626