

** TX CONFIRMATION REPORT ** AS OF MAR 26 '91 14:40 PAGE.01

ENERGY AND MINES

DATE	TIME	TO/FROM	MODE	MIN/SEC	PGS	STATUS
01	3/26 14:39	1514032327678	UF--S	01"32	05	OK

*Mr. Brown's (Home Acd)
letter was ~~for~~ "Original sent
out by Mail*

*original Board order
sent to
Home.
April 2/91*

FILE - S. PIERSON NPR

*original of Board order
to Board order files*

Manitoba



The Oil and Natural Gas
Conservation Board

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

(204) 945-3130

Certified Mail

P 40 70409

March 22, 1991

Mr. Shaum Spelliscy
Shannon Oils Limited
Box 1111
Regina, Saskatchewan
S4P 3B2

Dear Mr. Spelliscy:

Re: Application for Increase in Maximum Permissible Production Rate
Pierson Area - Home Oil Company Limited.

The Board has completed its review of the subject application and has approved a temporary increase in maximum permissible production rates (MPR) from March 1, 1991 to October 31, 1991 for wells producing from the Lower Amaranth Formation in the area of application. A copy of Board Order No. 80A is attached.

If you have any questions in respect of this approval, please contact the undersigned at (204) 945-1111.

Yours respectfully,

A handwritten signature in black ink, appearing to read "H. Clare Moster".

H. Clare Moster
Deputy Chairman

Attachment

P 4070409

Autre réf.

Référence

Re: **Order 80A / John**

Reçu par

Reçu par

Delivered by

Livré par

Date

To

A

91-04-01

Manitoba Energy & Mines
Petroleum
555 - 330 Graham Ave
Winnipeg, Manitoba
R3C 4E3



2

Proof of Delivery

Avis de livraison



The Oil and Natural Gas
Conservation Board

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

Certified Mail

140709 2

(204) 945-3130

March 22, 1991

Mr. A.B. Murray, President
South West Oil Limited
P.O. Box 855
Melita, Manitoba
ROM 1L0

Dear Mr. Murray:

Re: Application for Increase in Maximum Permissible Production Rate
Pierson Area - Home Oil Company Limited

The Board has completed its review of the subject application and has approved a temporary increase in maximum permissible production rate (MPR) from March 1, 1991 to October 31, 1991 for wells producing from the Lower Amaranth Formation in the area of application. A copy of Board Order No. 80A is attached.

The Board in conducting its review of the application considered South West's concerns regarding the possibility of drainage from the undrilled SE/4 of Section 19-2-29 (WPM) as a result of an increase in MPR. With the exception of the 6-19-2-29 well, the wells offsetting the SE/4 of Section 19 do not have the capability to produce in excess of the existing MPR of 9.5 m³/d and 240 m³/month. Therefore the Board believes approval of the application will not result in a significant increase in production from wells offsetting South West's lands and should not result in inequitable drainage. In addition any wells drilled in the SE/4 of Section 19 and completed in the Lower Amaranth Formation, before expiry of this approval, would qualify for the increased MPR.

If you have any questions in respect of this approval, please contact the undersigned at (204) 945-1111.

Yours respectfully,

A handwritten signature in black ink, appearing to read "H. Clare Moster".

H. Clare Moster
Deputy Chairman

Attachment

P4070412

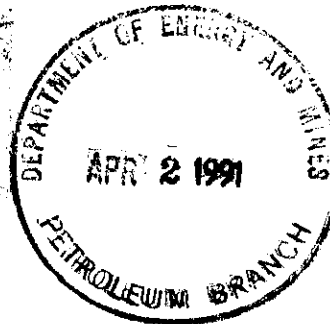
Reference

Re Order 80A/John

Received by Recu par

Delivered by Date

To
Manitoba Energy & Mines
Petroleum
555 - 330 Graham Ave
Winnipeg, Manitoba
R3C 4E3



2

Proof of Delivery

Avis de livraison



The Oil and Natural Gas
Conservation Board

March 22, 1991

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

(204) 945-3130

Mr. K. R. Brown, P. Eng.
Manager, Reservoir Engineering
Home Oil Company Limited
1700 Home Oil Tower
324 - 8th Avenue S.W.
Calgary, Alberta
T2P 2Z5

Dear Mr. Brown:

Re: Application for Increase in
Maximum Permissible Production Rate - Pierson Area

The Board has completed its review of the subject application and has approved a temporary increase in maximum permissible production rate (MPR) from March 1, 1991 to October 31, 1991 for wells producing from the Lower Amaranth Formation in the area of application. A copy of Board Order No. 80A is attached.

In order to properly determine the optimum depletion strategy for the Lower Amaranth Formation in the Pierson area, the Board has decided that the matters of spacing, MPR's and implementation of enhanced recovery should be reviewed together. Therefore, Board Order No. 80A granting an increase in MPR is only effective for an interim period ending October 31, 1991 to coincide with the expiry of Board Order No. SU 6 granting approval of 32 ha spacing.

In addition to the requirements outlined in the Board's letters dated October 5, 1989 and July 31, 1990, Home may wish to apply before August 31, 1991 under Section 51 of the Petroleum Drilling and Production Regulation, for continuation of Board Order No. 80A or to amend the regulation established MPR.

If you have any questions in respect of this approval, please contact L. R. Dubreuil, Director of Petroleum or John Fox, Chief Petroleum Engineer at (204) 945-6573 or 945-6574, respectively.

Yours respectfully,

A handwritten signature in black ink, appearing to read "H. Clare Moster". The signature is fluid and cursive, with a large, sweeping "H" and "M".

H. Clare Moster
Deputy Chairman

Attachment



Memorandum

Date March 11, 1991

To The Oil and Natural Gas
Conservation Board
- Ian Haugh, Chairman
- H. Clare Moster, Deputy Chairman
- Wm. McDonald, Member

From John N. Fox
Chief Petroleum Engineer
Petroleum Branch

Telephone

Subject

RE: Application for Increase in Maximum Permissible
Production Rate - Lower Amaranth Formation, Pierson Area

Home Oil Company Limited's application for an increase in maximum permissible production rate (MPR) was advertised in the Melita New Era (90-12-18) and the Manitoba Gazette (90-12-29). South West Oil Limited the mineral owner in the SE/4 of Section 19-2-29 (WPM) objected to the application, concerned that an increase in MPR would result in drainage of oil from the undeveloped SE/4 of Section 19. Shannon Oils Ltd. filed an intervention in the application expressing concerns with the appropriateness of 32 ha spacing and recommending an increase in MPR only be approved on an interim basis.

RECOMMENDATIONS

It is recommended that the Board approve an increase in MPR to 14 m³/d and 360 m³/month for an interim period from March 1, 1991 to October 31, 1991. This period coincides with the expiry of Board Order No. SU6 approving 32 ha spacing in the Pierson area. Proposed Board Order No. 80A is attached.

The proposed letters notifying Home, South West and Shannon of the Board's decision are attached.

DISCUSSION

Home Oil has applied for an increase in MPR for wells producing from the Lower Amaranth Formation in the Pierson area (formerly the South Pierson area) from 9.5 m³/d and 240 m³/month to 14 m³/d and 360 m³/month. The area of application (Figure 1) coincides with the lands granted interim approval for 32 ha spacing (Board Order No. SU6 - July 27, 1990) and under lease to Home Oil.

INDIVIDUAL WELL PRODUCTIVITY

Only 8 wells within the area of application have the potential to produce in excess of 240 m³/month. Table 1 lists the 1990 production data for the wells in the area of application, wells which have produced in excess of 240 m³/d are highlighted.

In all likelihood if the application were approved only 8-8, 16-9 and 14-10 would benefit from the increased MPR, producing a combined additional 170 m³/month.

Home's motive in applying for an increase in MPR on an area basis rather than for individual wells is to allow future locations to be produced at their capacity. Home's tentative drilling locations for 1991 are shown in Figure 1.

There is an excellent correlation between original oil-in-place and daily oil production for the Lower Amaranth Formation in the area of application (Figure 2). The correlation indicates that wells with original oil-in-place in excess of $125 \times 10^3 \text{ m}^3$ should be capable of producing in excess of 240 m³/month.

There are wells in the Pierson Lower Amaranth C Pool (formerly the South Pierson Lower Amaranth B Pool) that have OOIP less than $125 \times 10^3 \text{ m}^3$ but produce in excess of 240 m³/month. The wells 8-8, 16-9 and 14-10 have OOIP ranging from 92.2 - $150.1 \times 10^3 \text{ m}^3$. These wells exhibit higher productivity due to a localized increase in permeability - core permeabilities ranging from 2-16 md versus a field average matrix permeability of 1-3 md. To account for this higher productivity, a lower original oil-in-place cut-off of $96 \times 10^3 \text{ m}^3$ was used to determine undeveloped portions of the reservoir which may have high productivity potential.

Figure 3 is an original oil-in-place map for the Lower Amaranth Sandy Unit - the productive interval within the Lower Amaranth Formation. Highlighted in Figure 3 and listed in Table 2 are lands within the area of application where a well has the potential to produce in excess of 240 m³/month. These lands cover approximately 25% of the area of application and include 8 of Home's 30 proposed 1991 drilling locations.

EFFECT OF MPR INCREASE ON ULTIMATE RECOVERY

All Lower Amaranth pools in the Pierson area are solution gas drive reservoirs. Primary recovery from such reservoirs is not rate sensitive. An increase in MPR will not have a detrimental impact on ultimate recovery from a solution gas drive reservoir as long as the reservoir pressure remains above the bubble point.

The original reservoir pressure in the Lower Amaranth Formation in the Pierson area was approximately 10 500 kPa. Pressure surveys conducted in 1990 indicated the reservoir pressure remains in excess of 9 900 kPa, well above the bubble point pressure of 4 550 kPa.

The producing GOR at the 14-9-2-29 battery has remained relatively constant over the last 3 years between 52.5 m³/m³ and 85.5 m³/m³ (Table 3). This indicates there has been no serious differential depletion within the reservoir.

The high productivity 8-8 and 14-10 wells both produce at a WOR of 1.9 m³/m³. A review of the wells' production histories (Figures 4 & 5) shows an inverse relationship between producing rate and WOR - as oil rate increases the WOR decreases. This is indicative of communication with a high pressure water source, in this case, the underlying Mission Canyon Formation. Approval of a higher MPR will minimize the potential for detrimental cross-flow between the Lower Amaranth and Mission Canyon Formations in these two wells.

A concern with increasing reservoir withdrawals is that reservoir pressure will decline below the bubble point before pressure maintenance operations can be implemented, thereby reducing ultimate recovery.

Home Oil has committed to submitting a waterflood feasibility study for the Pierson Lower Amaranth C Pool (formerly the South Pierson Lower Amaranth B Pool) before the August 31, 1991 deadline imposed by the Board as part of its 32 ha spacing approval. An increase in MPR will allow wells to be produced at their capacity which should assist Home in fine-tuning its waterflood feasibility study.

Home's request for an increase in MPR and 32 ha spacing, though not necessary dependent, should be reviewed together with pressure maintenance to ensure the optimum depletion strategy for the Lower Amaranth Formation in the Pierson area is implemented. For this reason it is suggested that an increase in MPR be approved for an interim period, March 1, 1991 to October 31, 1991, to coincide with the expiry of Board Order No. SU6 granting approval for 32 ha spacing.

EFFECT OF MPR INCREASE ON CORRELATIVE RIGHTS

An additional concern with an increase in MPR is the potential for inequitable drainage. The Petroleum Branch believes that approval of this application will not cause inequitable drainage for the following reasons,

- (1) the withdrawal rate/unit reservoir volume ($\text{m}^3/\text{d}/\text{m}^3$ OOIP) under the higher MPR of 14 m^3/d and 32 ha spacing is less than would occur under 16 ha spacing and the existing MPR of 9.5 m^3/d , and
- (2) no interference effects have been observed between offsetting wells - a combined production plot from 8-8, 14-9 and 16-9 shows no interference effects from the six offset wells drilled in 1990 (Figure 6).

Approval of an MPR increase on an area basis allows an equal opportunity for current and future wells to produce at their capacity reducing potential inequitable drainage situations.

In Saskatchewan individual well allowables are determined using an allowable formula. The 7-24-2-29 well in Saskatchewan has an allowable of 8.4 m^3/d . A sample calculation (Table 4) shows future wells drilled in Saskatchewan could qualify for an allowable in excess of 9.9 m^3/d and 300 m^3/month depending on wellbore parameters. It is desirable from the Branch's perspective to ensure that there continues to be economic incentive for developing the Pierson Field in Manitoba.

OBJECTION AND INTERVENTION TO APPLICATION

South West Oil in its objection to the application indicated it was concerned that an increase in MPR would cause inequitable drainage of the SE/4 of Section 19-2-29 (WPM), in which the company has an interest. South West was requested by the Board to provide additional information in support of its objection. South West did not provide any additional information and it appears from discussions with the company that its main interest is to have Home Oil drill a well(s) on the SE/4 of Section 19.

With the exception of 6-19, the wells offsetting the SE/4 of 19 do not appear capable of producing in excess of the existing MPR of 9.5 m³/d and 240 m³/month. The 6-19 well in the second half of 1990, after stimulation, averaged 7.2 m³/d. Therefore approval of an increase in MPR should not result in inequitable drainage of South West's lands.

With respect to the intervention by Shannon Oil's, the proposed temporary approval of an increase in MPR was one of the recommendations contained in Shannon's intervention.

Both South West and Shannon should be advised of the disposition of the application.

It is recommended that the Board grant temporary approval of a MPR increase to 14 m³/d and 360 m³/month for wells producing from the Lower Ammaranth Formation in the area or application. Proposed Board Order No. 80A (attached) approves the MPR increase for an interim period, March 1, 1991 to October 31, 1991. Review of the continued applicability of a higher MPR will be conducted together with the review of an extension of 32 ha spacing approval in September, 1991.

ORIGINAL SIGNED BY
JOHN N. FOX

John N. Fox

Attachments

Original signed by
John N. Fox

Approved: _____

L.R. Dubreuil, Director



The Oil and Natural Gas
Conservation Board

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

(204) 945-3130

Order No. 80A
An Order Pertaining to Maximum Permissible
Production Rates in the Pierson Area
Lower Amaranth Formation

WHEREAS, subsection 51(3) of The Petroleum Drilling and Production Regulation, being Manitoba Regulation 430/87R ("the Regulation") states as follows:

"51(3) Notwithstanding anything in this section, the board upon application or upon its own initiative, may establish any maximum permissible production rate for a well or exempt a well from any of the provisions of this section."

AND WHEREAS, the Board received an application dated October 29, 1990 from Home Oil Company Limited, for an increase in the maximum permissible production rate restrictions for wells producing from the Lower Amaranth Formation in the Pierson area as outlined in Schedule A ("the area of application").

AND WHEREAS, upon publication of notice of the application, the Board received an objection to and an intervention in the application.

AND WHEREAS, upon due consideration of the said application, the objection and intervention thereto, the Board has found that an increase in the maximum permissible daily and monthly production rate for an interim period is reasonable and desirable;

NOW, THEREFORE, the Board orders that:

1. The maximum permissible daily and monthly production rate for wells producing from the Lower Amaranth Formation within the area outlined in Schedule A is 14 cubic metres and 360 cubic metres of clean oil, respectively.
2. This Order shall take effect on March 1, ¹⁹⁹¹~~1990~~ and shall expire on October 31, 1991 unless otherwise extended by the Board.

3. This Order may be rescinded by the Board at any time without notice.

H. Clare Moster
Deputy Chairman

Ian Haugh
Chairman

THE OIL AND NATURAL GAS CONSERVATION
BOARD ORDER NO. 80A APPROVED THIS
DAY OF A.D., 1991
AT THE CITY OF WINNIPEG

APPROVED:

Harold Neufeld
Minister of Energy and Mines

PIERSON AREA



Area of application



The Oil and Natural Gas
Conservation Board

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

(204) 945-3130

Mr. K. R. Brown, P. Eng.
Manager, Reservoir Engineering
Home Oil Company Limited
1700 Home Oil Tower
324 - 8th Avenue S.W.
Calgary, Alberta
T2P 2Z5

Dear Mr. Brown:

Re: Application for Increase in
Maximum Permissible Production Rate - Pierson Area

The Board has completed its review of the subject application and has approved a temporary increase in maximum permissible production rate (MPR) from March 1, 1991 to October 31, 1991 for wells producing from the Lower Amaranth Formation in the area of application. A copy of Board Order No. 80A is attached.

In order to properly determine the optimum depletion strategy for the Lower Amaranth Formation in the Pierson area, the Board has decided that the matters of spacing, MPR's and implementation of enhanced recovery should be reviewed together. Therefore, Board Order No. 80A granting an increase in MPR is only effective for an interim period ending October 31, 1991 to coincide with the expiry of Board Order No. SU 6 granting approval of 32 ha spacing.

In addition to the requirements outlined in the Board's letters dated October 5, 1989 and July 31, 1990, Home may wish to apply before August 31, 1991 under Section 51 of the Petroleum Drilling and Production Regulation, for continuation of Board Order No. 80A or to amend the regulation established MPR.

If you have any questions in respect of this approval, please contact L. R. Dubreuil, Director of Petroleum or John Fox, Chief Petroleum Engineer at (204) 945-6573 or 945-6574, respectively.

Yours respectfully,

H. Clare Moster
Deputy Chairman

Attachment



The Oil and Natural Gas
Conservation Board

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

Certified Mail

(204) 945-3130

Mr. A.B. Murray, President
South West Oil Limited
P.O. Box 855
Melita, Manitoba
ROM 1L0

Dear Mr. Murray:

Re: Application for Increase in Maximum Permissible Production Rate
Pierson Area - Home Oil Company Limited

The Board has completed its review of the subject application and has approved a temporary increase in maximum permissible production rate (MPR) from March 1, 1991 to October 31, 1991 for wells producing from the Lower Amaranth Formation in the area of application. A copy of Board Order No. 80A is attached.

The Board in conducting its review of the application considered South West's concerns regarding the possibility of drainage from the undrilled SE/4 of Section 19-2-29 (WPM) as a result of an increase in MPR. With the exception of the 6-19-2-29 well, the wells offsetting the SE/4 of Section 19 do not have the capability to produce in excess of the existing MPR of 9.5 m³/d and 240 m³/month. Therefore the Board believes approval of the application will not result in a significant increase in production from wells offsetting South West's lands and should not result in inequitable drainage. In addition any wells drilled in the SE/4 of Section 19 and completed in the Lower Amaranth Formation, before expiry of this approval, would qualify for the increased MPR.

If you have any questions in respect of this approval, please contact the undersigned at (204) 945-1111.

Yours respectfully,

H. Clare Moster
Deputy Chairman

Attachment



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Certified Mail

Mr. Shaun Spelliscy
Shannon Oils Limited
Box 1111
Regina, Saskatchewan
S4P 3B2

Dear Mr. Spelliscy:

Re: Application for Increase in Maximum Permissible Production Rate
Pierson Area - Home Oil Company Limited.

The Board has completed its review of the subject application and has approved a temporary increase in maximum permissible production rates (MPR) from March 1, 1991 to October 31, 1991 for wells producing from the Lower Amaranth Formation in the area of application. A copy of Board Order No. 80A is attached.

If you have any questions in respect of this approval, please contact the undersigned at (204) 945-1111.

Yours respectfully,

H. Clare Moster
Deputy Chairman

Attachment

TABLE 1 - 1990 PRODUCTION DATA

OIL WATER	Cum. Prod. Dec. 31/89 m	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	NOV. Deliv m	1990 Y.T.Q. m	Cum. Total m
HOMF OIL COMPANY LIMITED (Cont.)																
04 -01-02-29	84.8 1 363.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	94.8 1 363.4
14 -04-02-29 Prov.	2 887.7 1 218.9	121.2 24.8	116.7 25.0	130.8 23.3	68.5 13.4	131.1 31.2	118.6 24.3	112.7 21.1	96.2 27.8	95.5 25.9	109.6 24.6	108.0 24.5	3.60	1 208.7 265.9	4 096.6 1 484.8	
16 -04-02-29 (05/26) Prov.	--	--	--	--	--	17.8 9.5	240.3 129.5	179.0 95.0	131.2 65.1	96.7 50.1	113.9 53.4	92.0 39.4	3.07	870.9 442.0	870.9 442.0	
16 -05-02-29	6 749.3 6 691.9	118.1 104.8	102.2 110.7	122.5 117.0	81.8 68.6	136.3 135.0	100.8 118.2	102.0 123.2	89.6 108.3	82.5 107.8	96.3 121.9	94.4 119.5	3.15	1 126.5 1 235.0	7 875.8 7 926.9	
08 -08-02-29 Prov.	4 011.0 7 510.5	254.0 420.1	258.9 488.8	255.8 539.1	158.6 361.8	197.3 537.8	188.8 48.4	200.6 442.0	242.5 457.6	260.7 470.7	240.7 458.9	190.5 352.3	8.28	2 448.4 4 577.5	6 459.4 12 088.0	
16 -08-02-29	6 129.8 1 393.0	33.1 0.9	129.5 2.1	118.5 3.8	79.4 2.1	99.6 2.0	103.7 1.7	105.8 2.4	98.1 2.1	86.7 1.6	91.1 11.3	91.4 3.5	3.05	1 036.9 33.5	7 166.7 1 426.5	
04 -09-02-29	2 326.0 7 251.5	154.1 525.4	125.2 466.9	119.1 466.9	86.1 301.2	78.7 302.1	94.7 413.9	102.2 359.9	90.4 293.0	85.9 293.0	107.9 309.0	123.6 310.8	4.12	1 167.9 4 060.2	3 493.9 11 311.7	
12 -09-02-29	4 639.5 978.4	203.7 48.5	171.8 38.3	195.0 40.0	125.3 24.3	201.9 41.5	193.7 35.5	173.4 38.1	154.4 36.9	158.2 23.7	168.8 27.6	155.8 28.2	5.19	1 902.0 382.6	6 541.5 1 361.0	
14 -09-02-29	3 558.3 25 734.0	139.6 1208.8	160.8 1324.2	153.7 1435.9	97.2 946.5	130.4 1368.6	121.0 1441.5	113.9 1433.2	103.0 1378.8	99.4 1387.5	122.7 1497.1	122.5 1468.0	4.08	1 364.2 14 890.1	4 922.5 40 624.1	
16 -09-02-29	6 267.6 871.3	246.2 24.2	235.7 20.4	196.0 11.9	244.6 16.9	184.0 15.1	211.5 18.6	224.1 21.9	210.3 19.1	219.9 17.9	201.4 15.0	233.1 22.2	10.60	2 406.8 203.2	8 674.4 1 074.5	
06 -10-02-29	2 266.6 9 445.8	138.4 788.7	121.2 694.4	128.9 754.1	88.6 508.7	134.5 776.0	126.8 759.3	130.1 751.1	106.2 735.9	104.6 735.9	114.6 822.3	110.1 800.1	3.67	1 304.0 8 108.7	3 570.6 17 554.5	
08 -10-02-29	2 326.7 19 250.8	62.5 957.4	55.6 811.2	46.8 908.7	27.2 564.1	26.3 896.8	32.4 921.5	47.6 900.3	52.5 852.6	53.9 846.2	57.2 928.7	55.3 909.7	1.84	517.3 9 497.2	2 844.0 28 748.0	
10 -10-02-29 (06/21) Prov.	--	--	--	--	--	--	11.0 66.6	54.5 162.1	74.1 218.1	82.6 268.5	82.2 292.4	71.7 337.7	2.47	376.1 1 345.4	376.1 1 345.4	
14 -10-02-29 *	--	--	--	102.1 141.9	119.2 175.9	149.9 279.4	143.0 272.1	161.3 324.6	141.8 323.1	214.5 400.7	240.2 447.5	208.3 389.7	8.01	1 480.3 2 754.9	1 480.3 2 754.9	
16 -10-02-29 Prov.	--	251.1	--	--	--	--	--	--	--	--	--	--	--	--	--	251.1
06 -11-02-29 (07/18) Prov.	--	--	--	--	--	--	--	90.1 27.7	126.9 48.6	83.0 39.4	60.4 36.5	46.9 30.9	1.80	407.3 183.1	407.3 183.1	
04 -14-02-29 (06/16) Prov.	--	--	--	--	--	--	68.4 52.1	194.5 40.2	193.7 60.7	205.6 67.0	230.4 44.0	214.9 17.3	7.41	1 107.5 281.3	1 107.5 281.3	
04 -15-02-29	8 180.1 780.4	83.5 1.2	171.0 11.4	128.7 5.0	75.5 1.2	99.9 1.3	120.9 1.6	118.9 1.5	113.9 1.1	43.9 0.5	49.5 0.5	81.9 1.5	2.73	1 087.6 26.8	9 267.7 807.2	
02 -16-02-29 (07/29) Prov.	--	--	--	--	--	--	--	14.6 50.8	219.6 14.2	241.0 14.2	223.0 6.8	163.0 2.1	5.62	861.2 73.9	861.2 73.9	
04 -16-02-29 (04/11) Prov.	--	--	--	--	100.7 26.0	260.0 33.2	354.4 13.6	281.2 10.0	234.7 7.1	283.1 8.1	230.8 1.6	178.1 1.4	6.36	1 923.0 101.0	1 923.0 101.0	
06 -16-02-29 (04/16) Prov.	--	--	--	--	30.9 153.9	295.3 35.6	295.8 30.9	250.7 10.9	214.5 8.6	175.1 3.3	184.8 2.1	162.7 9.2	5.42	1 609.8 254.5	1 609.8 254.5	
08 -16-02-29 Prov. **	--	--	--	85.6 32.7	53.0 22.9	79.9 22.5	69.4 9.8	59.6 4.2	47.4 3.2	49.0 14.6	32.8 26.0	38.2 4.8	1.27	514.9 140.7	514.9 140.7	
12 -16-02-29 (08/22) Prov.	--	--	--	--	--	--	--	--	18.8 7.2	111.1 3.9	100.0 0.6	94.1 0.3	3.24	324.0 12.0	324.0 12.0	
02 -17-02-29 (07/05) Prov.	--	--	--	--	--	--	--	114.6 3.9	205.9 10.0	226.4 2.8	211.8 1.3	173.8 1.2	5.79	932.5 19.2	932.5 19.2	
06 -17-02-29	968.7 4 507.4	37.3 233.9	41.5 240.0	35.9 235.2	24.5 147.4	29.2 200.1	27.2 217.9	18.9 210.4	16.0 275.2	12.5 246.5	12.1 242.0	12.4 251.0	0.41	267.5 2 499.6	1 236.2 7 007.0	
08 -17-02-29 (07/20)	--	--	--	--	--	--	--	1.5 29.9	116.2 29.9	94.1 9.9	94.7 1.0	75.7 1.0	2.70	382.2 41.8	382.2 41.8	
08 -18-02-29 (08/22) Prov.	--	--	--	--	--	--	--	--	8.9 49.6	206.4 49.6	171.9 24.7	122.8 21.1	4.09	510.0 75.4	510.0 75.4	
06 -19-02-29	3 331.9 39.1	87.6 0.4	32.1 0.2	157.3 4.7	197.3 36.7	268.7 42.9	245.8 34.0	224.2 29.9	219.1 23.8	184.2 15.8	219.2 18.8	242.2 19.7	8.07	2 077.7 226.9	5 409.6 266.0	
11 -19-02-29	531.2 53.8	258.4 19.9	247.2 18.3	258.4 22.8	198.8 20.6	235.1 27.6	239.9 24.2	219.5 22.2	214.8 18.0	186.7 19.7	197.8 12.3	197.2 5.7	6.57	2 453.8 211.3	2 985.9 265.1	
12 -19-02-29 (11/28)	--	--	--	--	--	--	--	--	--	18.1	--	8.0 23.0	1.60	8.0 41.1	8.0 41.1	
02 -20-02-29 (07/25)	--	--	--	--	--	--	--	1.3 29.5	38.3 29.5	15.8 29.3	11.4 21.0	14.8 18.2	0.51	81.6 98.0	81.6 98.0	
04 -21-02-29 (05/18)	--	--	--	--	--	14.1 312.9	35.0 747.0	56.7 860.9	52.1 802.3	38.8 785.2	26.4 877.1	26.0 876.7	0.96	249.1 5 262.1	249.1 6 003.7	

(CONTINUED)

TABLE 1 - 1990 PRODUCTION DATA

(CONTINUED)

"RED TAG WELLS"

FOR THE MONTH OF NOVEMBER 1990

<u>FIELD</u>	<u>COMPANY</u>	<u>LOCATION</u>	<u>OIL PROD.</u>	<u>WATER PROD.</u>	<u>DAYS ON</u>
07	Home	2-31-2-29.....(08/22)	0.0	0.0	00
12	Home	10-1-2-29.....(06/23)	0.0	0.0	00
		6-18-2-29.....(05/26)	34.0	27.3	30
		4-20-2-29.....(07/25)	81.0	18.3	30
		6-20-2-29.....(08/22)	18.1	11.8	30
		12-20-2-29 Prov.....(04/10)	56.2	8.7	22
		2-30-2-29.....(06/25)	147.3	7.7	29

TABLE 2
AREAS OF HIGH PRODUCTIVITY POTENTIAL

<u>Producing Wells</u>	<u>Undrilled Locations</u>
8-8, 16-8	10-8
4-9, 12-9	6-9, 10-9
6-10	
2-16, 4-16, 8-16	10-16
2-17, 8-7	4-17*
6-19, 11-19, 12-19,	2-19, 8-19, 10-19, 16-19*

* standing well, recently drilled

Notes:

- Excludes Section 1-2-29 (WPM) which contains 2 shut-in producers.
- All the undrilled locations listed are included in Home's 1991 drilling plans.

TABLE 3

Home 9-14-2-29 Battery GOR

<u>1990</u>		<u>1989</u>		<u>1988</u>	
<u>Month</u>	<u>GOR</u>	<u>Month</u>	<u>GOR</u>	<u>Month</u>	<u>GOR</u>
December	N/A	December	63.3	December	60.9
November	54.6	November	66.5	November	43.3
October	64.3	October	71.1	October	52.5
September	68.7	September	72.1	September	58.6
August	74.4	August	76.3	August	64.8
July	70.9	July	83.3	July	61.1
June	68.2	June	77.2	June	66.8
May	52.8	May	71.6	May	65.1
April	69.6	April	63.2	April	73.9
March	72.7	March	70.6	March	74.2
February	68.5	February	65.8	February	85.5
January	72.1	January	66.5	January	73.2

Note: Solution GOR = $53.6 \text{ m}^3/\text{m}^3$



Saskatchewan
Mineral Resources

Petroleum and
Natural Gas

TABLE 4

Application for MPR — OIL

One copy of the completed form must be in the office of the Petroleum and Natural Gas Branch, Department of Mineral Resources, Regina, Saskatchewan, Canada, not later than five (5) days from date of first production.

Pursuant to The Oil and Gas Conservation Act and regulations and orders thereunder, application is hereby made for a MPR for the following well.

SS	LOC	X	LSD	SEC	TWP	RGE	M	Well Name:
1					0		W	6-19-2-29 (WPM)

Company Name and Address:

HOME OIL

Pool: PIERSON D POOL

Pay Interval:

Perforations:

RESERVOIR DATA	REFERENCE WELL	Applicant's Data	
		VALUES	SOURCE OF VALUES
A—Assigned Area (No. of LSD's)	1	2	
H—Av. Pay Thickness (metres)	1	8.3	
Ø—Av. Porosity (frac.)	10	11	
SW—Av. Interstitial Water (frac.)	.25	.29	
I/Bol—Av. Shrinkage (frac.)	.75	.84	

MPR FACTORS			
F_A	$(2) (1.0188)$	=	2.04
F_H	(8.3)	=	8.3
F_ϕ	(11)	=	1.1
F_{Sw}	$1 - (.29)$	=	.71
$F_{I/Bol}$	$(.84)$	=	1.12

MPR CALCULATION

$MPR = (.5) (F_A) (F_H) (F_\phi) (F_{Sw}) (F_{I/Bol}) = 9.9 \text{ m}^3/\text{d}$
(300 m³/month)

Date: Y M D

Signature of Authorized Company Representative

Name of Company Representative (Typed)

Effective Date: Y M D

AUTHORIZED MPR: _____ m³/d

Pool: _____

Remarks:

Date of Issue: Y M D

Recommended: _____

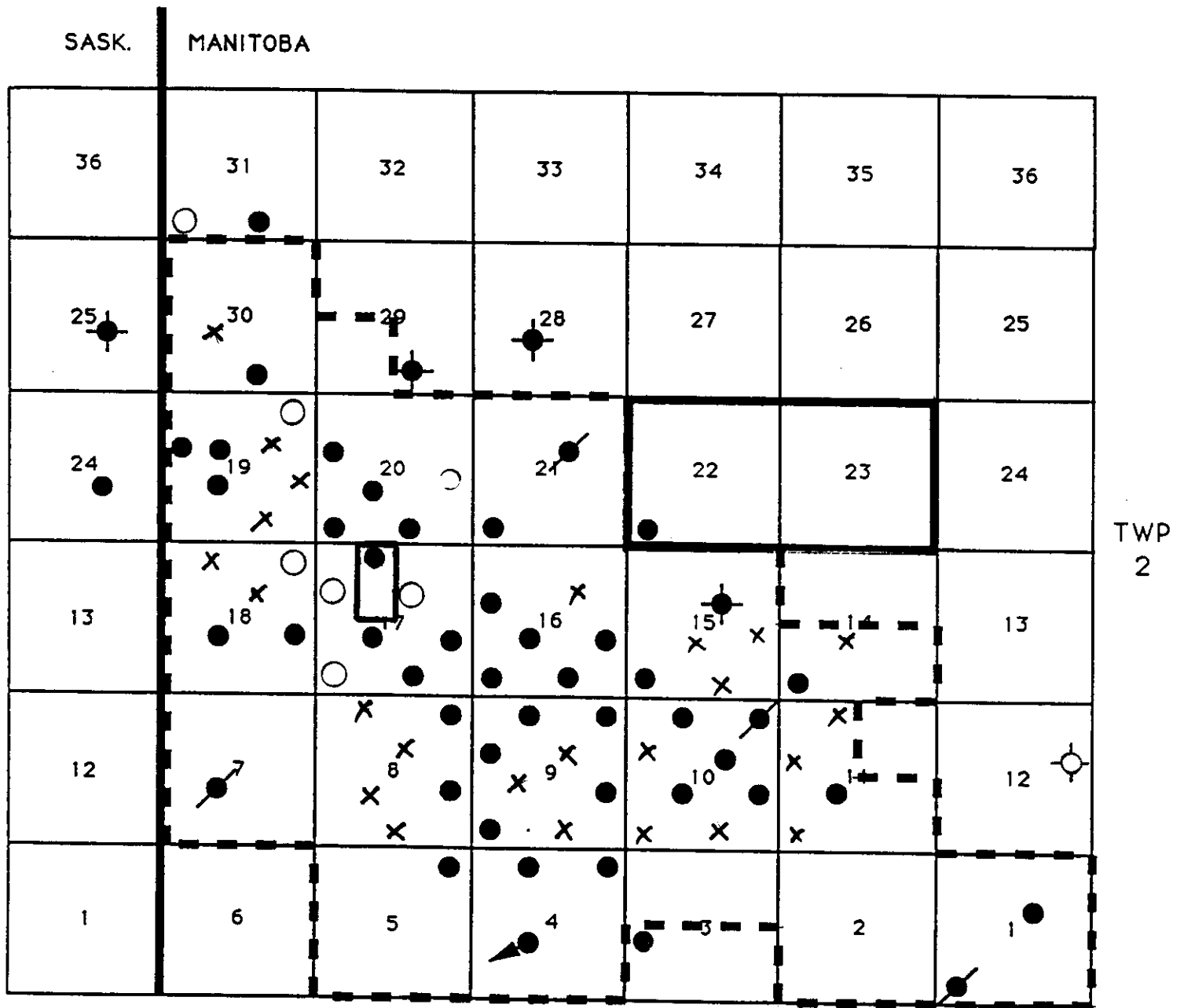
Approved: _____

Engineering Services Division

Petroleum and Natural Gas Branch

MR-66 (Revised Dec. 1979)

FIGURE 1
SOUTH PIERSON AREA



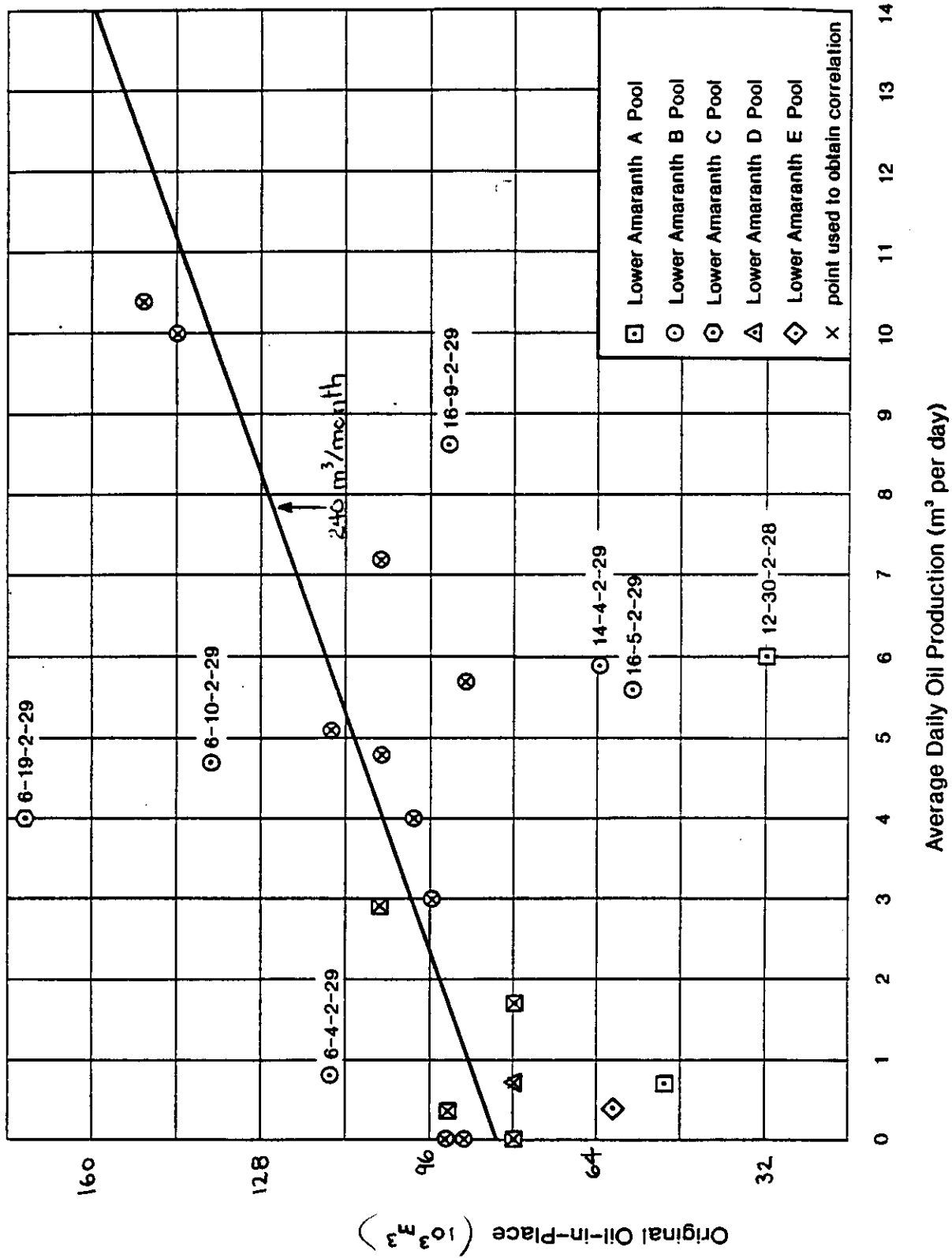
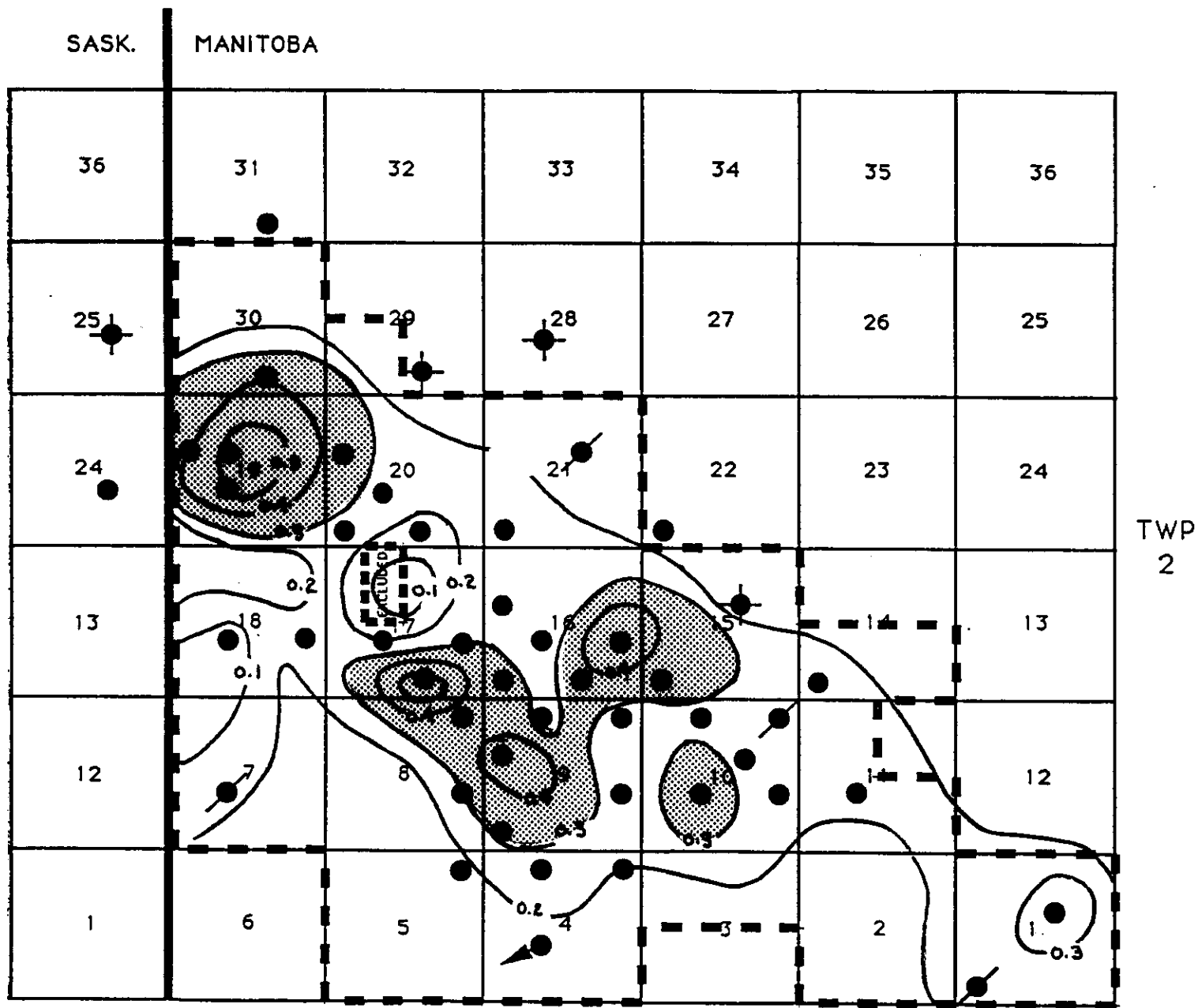


Figure 2: Original Oil-in-Place versus Oil Production

FIGURE 3

ORIGINAL OIL-IN-PLACE/UNIT AREA
LOWER AMARANTH SANDY UNIT



R.30

R. 29 W1M

CI = $0.1 \text{ m}^3/\text{m}^2$



APPLICATION AREA FOR INCREASE IN
MAXIMUM PERMISSABLE PRODUCTION RATE

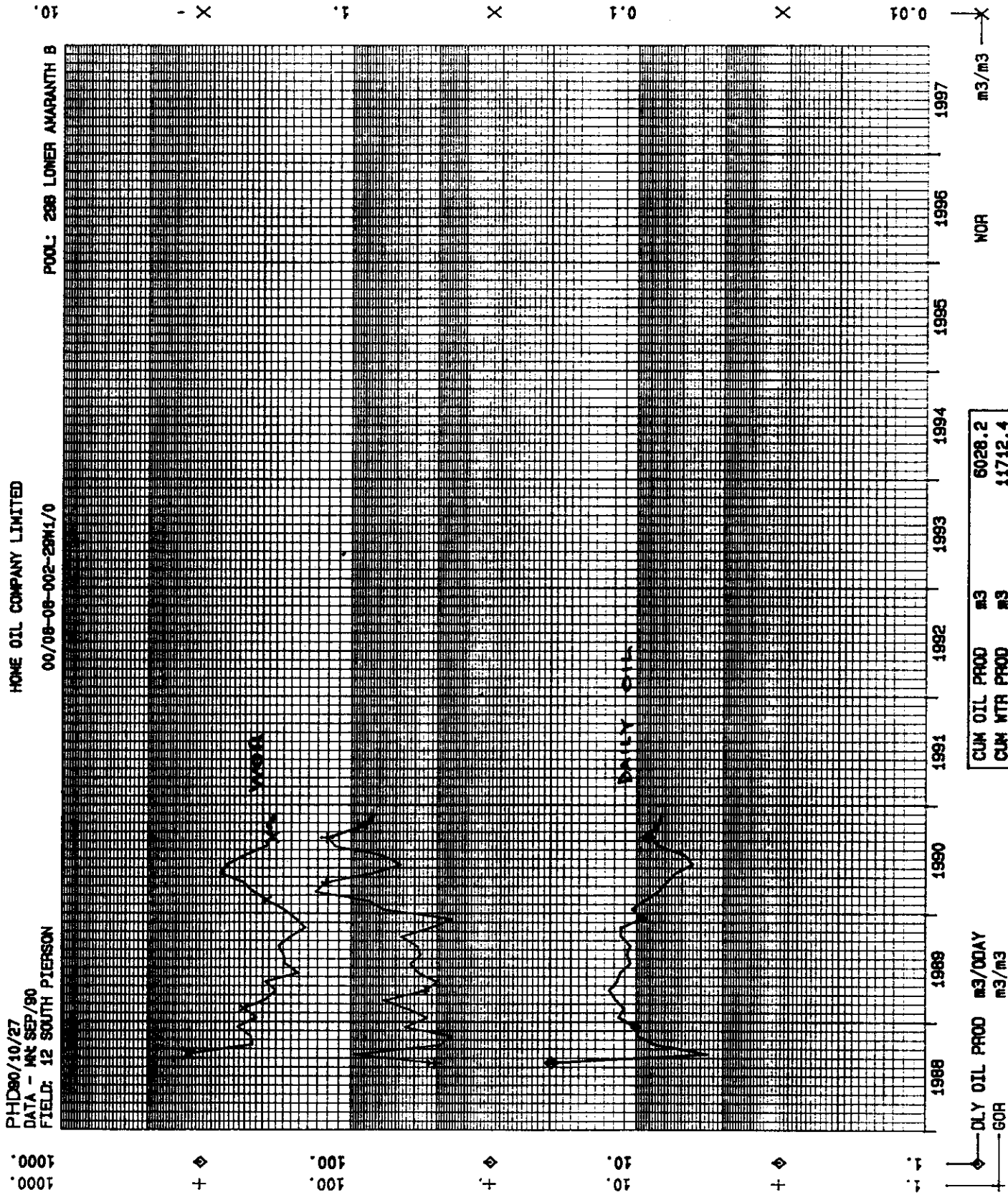


NOTE: on 32 ha spacing each
 $0.1 \text{ m}^3/\text{m}^2$ is equivalent
to 32000 m^3 OOI/P

PHD80/10/27
DATA - MW SEP/90
FIELD: 12 SOUTH PIERSON

HONE OIL COMPANY LIMITED
00/08-08-002-29M1/0

POOL: 288 LOWER AWARANTH B

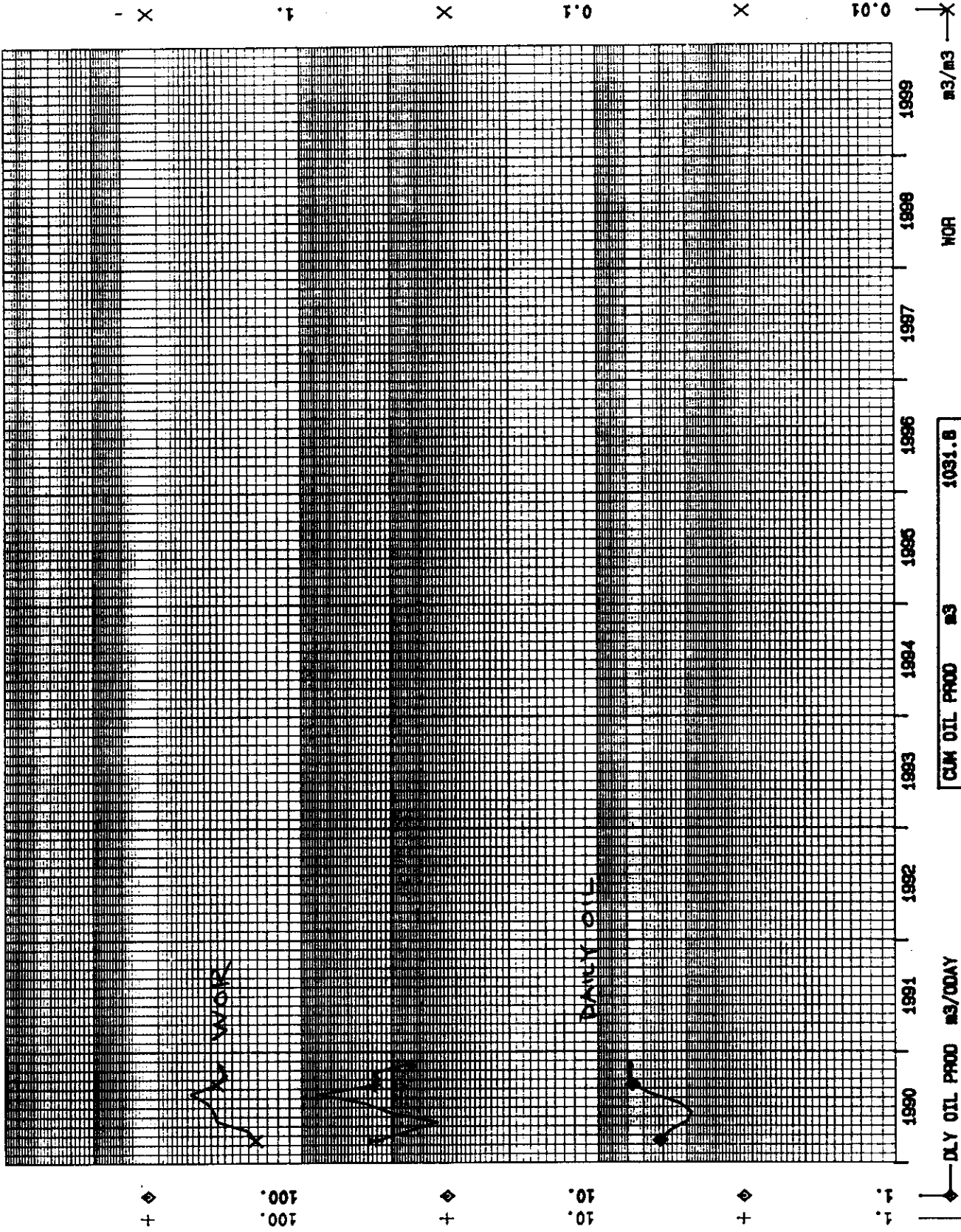


CUM OIL PROD	m3	6028.2
CUM WTR PROD	m3	11712.4
CUM GAS PROD	E3m3	422.8

Figure 4

1184 84/02

PHD80/10/27
 DATA - INC SEP/80
 FIELD: 12 SOUTH PIERSON
 HOME OIL COMPANY LIMITED
 00/14-10-002-20M1/2
 POOL: 208 LOWER AWARANTH B



CUM OIL PROD	m3	1031.8
CUM WTR PROD	m3	1917.7
CUM GAS PROD	EGMS	57.0

FIGURE 5

8-8, 14-9 & 16-9-2-29 WPM

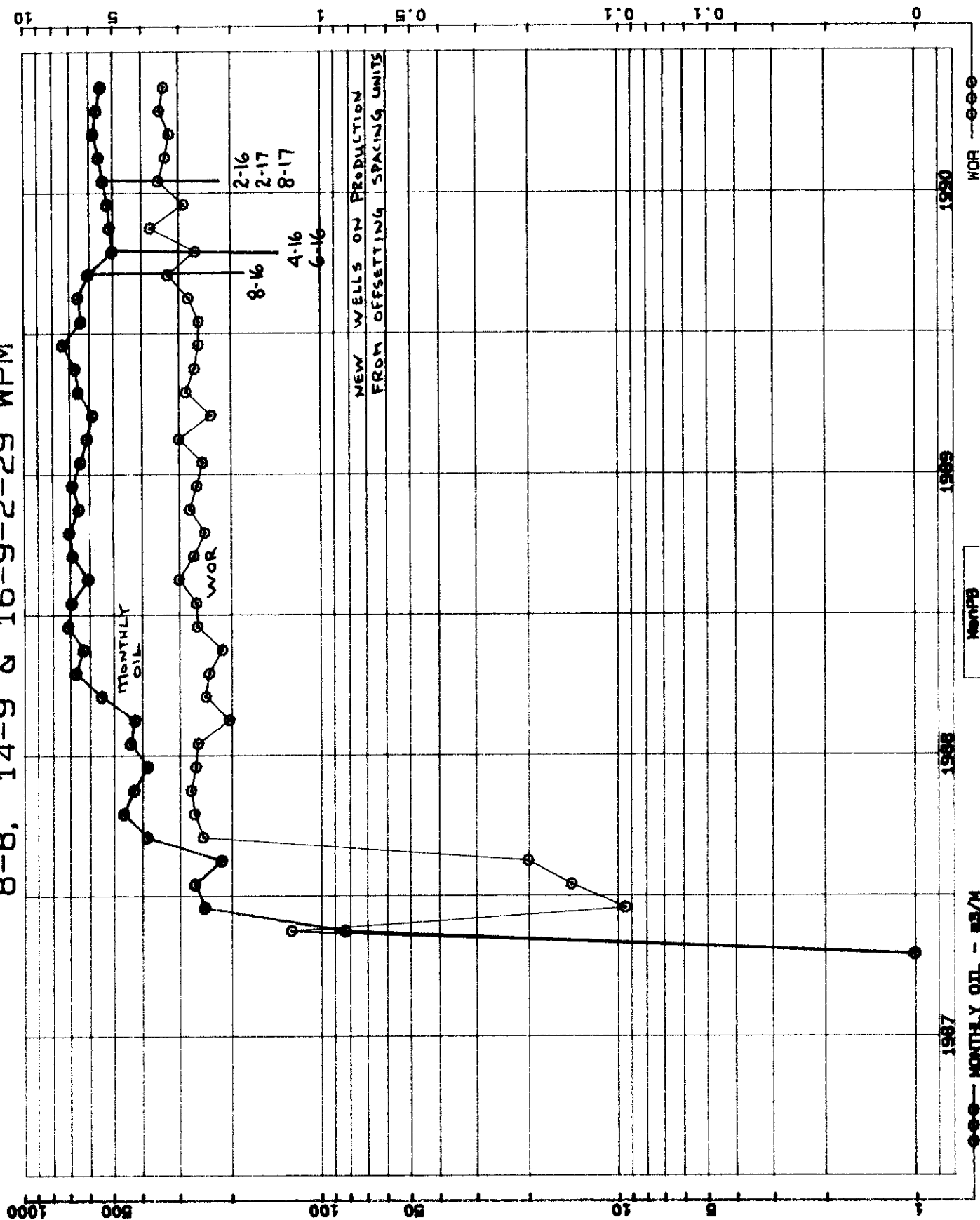


Figure 6

Monthly
91-01-14
07:22:24

--- MONTHLY OIL - MB/M

NEW FILE FIELD/
POOL
PIERSON
LOWER ANARANTH
FORMATION
MPR APPLICATION

ALLOWABLE EXEMPTION APPLICATION

~~UNIT~~ S. PIERSON Lower Anarant Fm.

APPLICATION NO. 90 MPR

APPLICATION RECEIVED

OCT 29 / 90

MEMO TO BOARD

NOV 127 / 90

DEFICIENCY LETTER

NOV 27 / 90

RESPONSE DEC 7 / 90

PUBLICATION OF NOTICE

MANITOBA GAZETTE

DEC 29 / 90

melita New Eng

LAST DATE FOR OBJECTION

JAN 12 / 91

OBJECTIONS RECEIVED

MEMO TO BOARD W/ORDER

ORDER NO. _____ SIGNED

APPROVED ORDER TO COMPANY

ORDER AND OTHER MATERIAL FILED

OTHER COMMENTS:



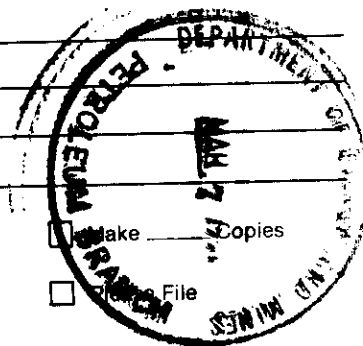
Action / Route Slip

Date: March 7, 1991

To: L.R. DUBREUIL

From: H. CLARE MOSTER

Telephone:



☒ Take Action

☐ Per Your Request

☐ Circulate, Initial and Return

☐ For Approval and Signature

☐ May We Discuss

☐ For Your Information

☐ Return With Comments or Revisions

☐ Draft Reply for Signature

Comments: RE: HOME OIL'S MPR APPLICATION (SOUTH PIERSON):

Please proceed with processing subject application based on information contained in attached memo.

Attachment



March 6, 1991

Date

FILE

To

Memorandum

H. Clare Moster
Assistant Deputy Minister
Energy Division

Subject: **HOME OIL'S MPR APPLICATION - SOUTH PIERSON**

Received phone call from Doug Minnis - Secretary/Treasurer for South West Oil Limited on February 27/91. Mr. Minnis referred to my letter of February 19/91 and the deadline of February 28/91. He indicated that South West's president had been on vacation, would not be back til February 28/91, that a meeting was called for March 1/91 and that South West would like an extension to the deadline until at least March 4/91.

I acknowledged that any further information from South West would be accepted up until March 6/91.

On March 6/91, Bernie Murray (President - South West) phoned to advise that letter had been sent to the Board on March 5/91 and included copies of documents supporting South West's interest in the SE 19-2-29 WPM.

When questioned as to the basis of South West's objection to the MPR application, Mr. Murray indicated their prime concern was to get a well or wells drilled on SE 19 and to prevent drainage from offsetting wells.

I indicated to him that:

- it was debatable as to whether the current 80 acre spacing for the area was adequate to properly drain the reservoir, therefore concern about drainage from offsetting 80 acre wells was not considered of high potential
- the current offsetting wells to SE 19 cannot meet their existing MPRs, therefore granting Home's application for increased MPRs for wells in the area of application would have no affect on the offsetting wells (i.e. nor on the SE 19)
- the board did not consider the alleged ownership interest to the SE 19 of major relevance to the subject application, and therefore would be considering the subject application and information submitted related to it as soon as possible, rendering a decision, and notifying interested parties of its decision.

South West's letter of March 5/91 was received on March 7/91.
It contains no additional information to support its objection.

NOTE: If, and when, an applications is made to drill on
SE 19, particular attention should be made to the
applicant's rights as evidenced by information
submitted in this application.



H. Clare Moster

cc: Ian Haugh
Wm. McDonald
L.R. Dubreuil (Attachments)

1937T

South West Oil Limited

(No Personal Liability)

P.O. Box 855—Melita, Manitoba
R0M 1L0

March 5, 1991

Manitoba Oil & Natural Gas
Room 309
Legislative Bldg
Wpg Manitoba
R3C0V8



ATTN Clare Master

Regarding our $\frac{1}{4}$ interest M+M SE $\frac{1}{4}$ 19-2-29

Dear Sir,

We are enclosing a copy of the Deed of Land SE 19-2-29 Deed no 58022 that we hold.

We are also enclosing a copy of a search at the Land Titles Office in Brandon.

It appears land titles on Jan 1, 1987 Instrument no 87-7670 surrendered the lease in error to Home Oil Co Limited instead of South West Oil Limited

Yours truly
Southwest Oil Limited
AB Murray.

Pres

PS We are working with Land Titles Office to have this corrected

No. of Instrument	Instrument	ITS Date	Date of Registry	Grantor	Grantee	Consideration	Land and Remarks
12391	Patent	13 Feb. 1906	23 Mar. 1906	Crown	George Gabriel Wright		All
21009	Deed	12 June 1913	9 Oct. 1913	George Gabriel Wright	Charles M. Peterson	4135	All
51461	Deed	5 Dec. 1950	21 Feb. 1951	Charles M. Peterson - Est.	Charles Everett Shatford	3900	All
52781	Deed & Opth.	20 Sept. 1951	12 Oct. 1951	Charles Everett Shatford	Prudential Trust Co. Ltd.	1	$\frac{1}{2}$ Int. in P & N.G. <i>OK</i>
52788	Lease	20 Sept. 1951	13 Oct. 1951	Charles Everett Shatford	Amigo Petroleum Ltd.	640	Pet & Nat. Gas
55873	Lease	25 Sept. 1954	15 Jan. 1955	Charles Everett Shatford et al	Dome Exploration (Western) Limited	25¢/Ac	Pet & Nat. Gas <i>OK</i>
56117	Sur. of Lease	20 Sept. 1951	21 May 1955	Amigo Petroleum Ltd.	Charles Everett Shatford	1	Pet & Nat. Gas <i>OK</i>
58022	Deed	1 May 1957	3 May 1957	Charles Everett Shatford	South West Oil Limited	400	$\frac{1}{4}$ Int. in M & M, etc.
61501	Deed	11 Apr. 1960	25 Apr. 1960	Prudential Trust Co. Ltd.	Dome Petroleum Ltd.	1 etc	$\frac{1}{2}$ Int. in M & M (Exc. Coal)
10519	R.P.A.	29 Sept. 1977	5 Oct. 1977		Charles Everett Shatford		All - Exc. M & M
72714	Lease	26 Oct. 1977	5 Dec. 1977	South West Oil Limited	Raymond T. Duncan	80	$\frac{1}{4}$ Int. in M & M, etc.
75204	Lease	7 Jan 1981	26 May 1981	Charles Everett Shatford	Murphy Oil Company Ltd.	1,000	$\frac{1}{4}$ int in P & N.G. etc.
83-1510	Surr. of Lease	16 Mar. 1983	30 Mar. 1983	Raymond T. Duncan	Southwest Oil Limited	—	$\frac{1}{4}$ int. in M & M
85-85	Sur. of Lease	15 Feb 1985	22 Feb 1985	Murphy Oil Co. Ltd.	Charles Everett Shatford	—	<i>OK</i>
86-7103	Lease	16 May 1986	2 July 1986	South West Oil Limited	Home Oil Company Limited	1,200	$\frac{1}{4}$ int in M & M
87-7620	Sur. of Lease	1 Jan 1987	3 July 1987	Charles Everett Shatford	Home Oil Company Limited	—	$\frac{1}{4}$ int. in M & M - <i>Hint. M & M.</i>
89-687	Trust Deed	28 Jan 1988	28 Jan 1989	Dome Petroleum Ltd.	MONTEITH TRUST CO. OF CANADA	—	$\frac{1}{4}$ int. in P, N.G., R.H. except coal & oil shale. $\frac{1}{4}$ int. in min except coal & oil shale.

This is correct

This should read opposite

PHOTOCOPY MADE

NOT A DUPLICATE ORIC

APR 19 1990

Canada
Province of Manitoba

I, Charles Everett Shatford
of the Municipality of Edward
in the Province of Manitoba, Farmer,

To Wit:

1. That I am ~~(one of)~~ the Grantor named in the Instrument within written.
2. That I have no husband.
3. That the person who consents as wife to the Instrument within written is the wife of me, Charles Everett Shatford, ~~(one of)~~ the Grantor.
4. That the person who consents as husband to the Instrument within written is the husband of me, ~~(one of)~~ the Grantor.
5. That my Co-Grantor is the husband of me, one of the Grantors.
6. That my Co-Grantor is the wife of me, one of the Grantors.
7. That no part of the land referred to in the Instrument within written is or ever has been the homestead of me, ~~(one of)~~ the Grantor within the meaning of "The Dower Act."

(Severally) Sworn before me at the Town
of Melita
in the Province of Manitoba,
this 1st day of May
A.D. 1957

C. E. Shatford

A BARRISTER-AT-LAW ENTITLED TO PRACTISE
WITHIN THE PROVINCE OF MANITOBA

Canada
Province of Manitoba

I,
of the
in the Province of Manitoba,

To Wit:

1. That I was personally present and did see husband of execute his consent to the within Instrument.
 2. That I know the said he is of the full age of twenty-one years.
 3. That the said consent was executed at am a subscribing witness thereto.
- make oath and say:

and that
aforesaid and that I

Sworn before me at the
of
in the Province of Manitoba,
this day of
A.D. 19

A
in and for the Province of Manitoba.

SIE 19-2-29
Dated May 1st A.D. 1957.

CHARLES EVERETT SHATFORD

TO

SOUTH WEST OIL LIMITED

SIE 19-2-29

Deed of Land

Witness Signature

I certify that the within Instrument
is duly entered and registered under
the old system in the Land Titles
Office for the District of Boissevain at
9:03 o'clock P.M. on the
3rd day of May
A.D. 1957 No. 58622

John I. Moore
Deputy of the District Registrar

A. C. HAMILTON
BARRISTER and SOLICITOR
MELITA MANITOBA

A. C. HAMILTON
BARRISTER and SOLICITOR
MELITA MANITOBA

Canada
Province of Manitoba

I, Alvin Chown Hamilton
of the Town of Melita
in the Province of Manitoba, Barrister-at-law,

To Wit:

1. That I was personally present and did see the within Instrument and Duplicate duly signed, sealed and executed by Charles Everett Shatford one of the parties thereto
 2. That the said Instrument and Duplicate were executed at Melita in Manitoba.
 3. That I know the said party, and that he is of the full age of twenty-one years.
 4. That I am a subscribing witness to the said Instrument and Duplicate.
- make oath and say:

Sworn before me at the Town
of Melita
in the Province of Manitoba,
this 1st day of May
A.D. 1957

A. C. Hamilton

A
in and for the Province of Manitoba.

A Commissioner for Oaths in and for the Province of Manitoba
My Commission Expires 1st/2/57

This Indenture

made (in duplicate) the 1st. day of May
one thousand nine hundred and fifty-seven.

In Pursuance of the Act Respecting Short Forms of Indentures

Between

CHARLES EVERETT SHATFORD of the Municipality of
Edward, in the Province of Manitoba, Farmer,

hereinafter called "the Party of the First Part,"
OF THE FIRST PART,

-and-

SOUTH WEST OIL LIMITED, (No Personal Liability.)

hereinafter called "the Party of the Second Part,"
OF THE SECOND PART.

Address of the Party of the Second Part is

Melita, Manitoba

Witnesseth that in consideration of **Four Hundred (\$400.00)** _____

of Canada, now paid by the said party of the second part to the said party of the first part (the receipt whereof is hereby acknowledged) the said party of the first part ~~Doth~~ Grant unto the said party of the second part ~~its /~~ ^{successors} heirs and assigns forever,

All and Singular the lands following, that is to say:

An undivided one-quarter interest in all mines and minerals, including Petroleum and Natural Gas, which may be found within, upon or under the South East quarter of Section Nineteen (19) in Township Two (2) and Range Twenty-nine (29) West of the Principal Meridian in the Province of Manitoba, together with the right to enter upon the said land to search for, work and remove the said mines and minerals.

The said party of the first part Covenant
with the said party of the second part
That he has the right to convey the said lands to the said party of the second part
notwithstanding any act of the said party of the first part
And That the said party of the second part shall have quiet possession of the said lands free
from all encumbrances.
And the said party of the first part Covenant with the said party of the second part
that he will execute such further assurances of the said lands as may be requisite;
And the said party of the first part Covenant with the said party of the second part that
he has done no act to encumber the said lands
And the said party of the first part Release to the said party of the second part
All his Claims upon the said lands.

In Witness Whereof, the said parties have hereunto set their hands and seals.

Signed, Sealed and Delivered
IN THE PRESENCE OF

[Signature]

C. E. Shatford

I, **Phyllis Shatford** the wife
of **Charles Everett Shatford** the Grantor named in the within
Deed hereby consent to the making of the same by him.

Dated the 1st day of **May** A.D. 1927.

Phyllis Shatford

The above consent was acknowledged before me by **Phyllis Shatford**
wife of **Charles Everett Shatford**, apart from her husband, to have been voluntarily
executed by her of her own free will and accord, and without any compulsion on the part of her
husband. She has further acknowledged that she is aware of the nature and effect of the same.

Dated at the **Town** of **Malita** in the Province of Manitoba
this 1st day of **May** A.D. 1927.

[Signature]

A BARRISTER-AT-LAW ENTITLED TO PRACTISE
WITHIN THE PROVINCE OF MANITOBA
in and for the Province of Manitoba.

To be signed
by wife when
husband grants
homestead and
by husband
when wife
grants
homestead.

Required when
wife consents
to deed of
homestead.

South West Oil Limited
P.O. Box 855
Melita, Manitoba
M 1L0



Manitoba Oil & Natural Gas

~~Room 309~~

Legislative Building
Winnipeg
Manitoba

ATTN
CLARE MOSTER

R 3C 018

Manitoba



The Oil and Natural Gas
Conservation Board

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

(204) 945-3130

CERTIFIED MAIL

February 19, 1991

Mr. D.W. Minnis
Secretary-Treasurer
South West Oil Limited
P.O. Box 855
Melita, Manitoba
ROM 1L0

Dear Sir:

RE: Application for Increase in
Maximum Permissible Production Rate
South Pierson Area - Home Oil Company Limited

The Board is in receipt of a letter from Home Oil dated February 15, 1991 (copy attached) outlining its discussions with South West. The letter also outlines Home Oil's position that an increase in maximum permissible production rate (MPR) will not cause inequitable drainage of the SE/4 of Section 19-2-29 (WPM).

In order to assist the Board in completion of its review of the application, you are requested to file, prior to February 28, 1991, information indicating the basis of your objection of January 8, 1991 and of your interest in the SE/4 of Section 19-2-29 (WPM). In the absence of such substantiating information, the Board intends to proceed with disposition of the application.

If you have any questions in respect of this matter, please contact the undersigned at (204) 945-1111.

Yours respectfully,

A handwritten signature in dark ink, appearing to read "H. Clare Moster". The signature is fluid and cursive, with a large, sweeping flourish at the end.

H. Clare Moster
Deputy Chairman

Att'd.

Home Oil Company Limited

1600 Home Oil Tower
324 Eighth Avenue S.W.
Calgary, Alberta T2P 2Z5
Telephone (403) 232-7100
Fax (403) 232-7678



15 February 1991

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

Attention: Mr. J.N. Fox
Chief Petroleum Engineer,
Petroleum Branch

Dear Sir:

Re: **South Pierson Field**
Application for Increase in
Maximum Permissible Production Rate

As requested in your letter dated January 23, 1991, Home Oil contacted Mr. Bill Campbell, a director of South West Oil Ltd., to discuss their concerns regarding an increase in the maximum permissible production rate (MPR), as it specifically relates to the SE/4 of Section 19-002-29 W1M. Mr. Campbell indicated South West Oil was concerned that the production increase would result in drainage of oil by offsetting wells. Home Oil explained existing wells offsetting this quarter section would not be affected by the MPR increase because they are not capable of maintaining the present monthly MPR of 8 m³/d.

South West also indicated they were unhappy that Home Oil had not drilled a well on the SE/4 of Section 19 to date. Home Oil assured South West the area was being reviewed for potential locations.

Home Oil requested South West to withdraw their objection. Mr. Campbell made no suggestion they would withdraw but said they would discuss the issue amongst the board of directors taking into consideration the new information received. He indicated two of the directors were currently on vacation and no decision could be rendered until they returned. No further discussions have been held with South West Oil.

Home Oil, on its own initiative, forwarded a copy of the original application and supplement to Mr. Campbell. The application had not been reviewed by the board of directors of South West Oil, prior to filing the objection.

Home Oil continues to maintain that an increase in the MPR will not cause inequitable lease-line drainage as all lands would enjoy the same opportunity to produce at the higher rate, either from current or future wells. It is important to emphasize that no one well in the application area is believed to be capable of draining offsetting lands and the offsetting wells to the SE/4 of Section 19 are no exception. Although Home believes inequitable drainage is not an issue, Home also wishes to point out that South West Oil, the sole objector, does not currently have a bonafide interest in the SE/4 of Section 19.

Home Oil Company Limited and Scurry-Rainbow Oil Limited earned an interest in the SE/4 of Section 19-002-29 W1M pursuant to an agreement dated November 4, 1986 with Dome Petroleum. Amoco Canada Petroleum Company Ltd. as successor in interest to Dome Petroleum acquired a Petroleum and Natural Gas Lease dated September 25, 1954 from Mr. Charles Everett Shatford for a term of 99 years.

Mr. Shatford sold a portion of his mineral interest to South West Oil Ltd. That mineral interest was subject to a caveat number 55873 filed by Dome Petroleum protecting their 1954 lease and South West Oil purchased the mineral interest subject to that lease. When mineral interests are purchased that are subject to caveats, the caveats remain in effect as they are a charge against the lands. Caveats are notification that a registerable interest in land exists, such as a Petroleum and Natural Gas Lease.

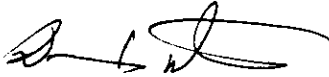
The Petroleum and Natural Gas Lease is not automatically assigned to the new mineral interest owner; but, instead an Assignment of Lease Agreement must be signed by Mr. Shatford and South West Oil. In August of 1986 and February 1988 Dome Petroleum did request such an Assignment of Lease be signed and in fact prepared one for execution by Mr. Shatford and South West Oil. No response was ever received from either party.

Until such time as Amoco and therefore Home/Scurry receive documentation that the 1954 lease was assigned to South West Oil or upon expiry of the 1954 lease in February 2053, South West Oil does not hold an interest in petroleum and natural gas in the SE/4 of Section 19-002-29 W1M.

Any questions relating to Home Oil's discussion with South West Oil can be directed to Mr. Allan Willms at (403) 232-7362. Land questions can be directed to Ms. Donna Meadows at (403) 232-7522.

Yours truly,

HOME OIL COMPANY LIMITED



per K.R. Brown, P. Eng
Manager, Reservoir Engineering

ARW/DRM/jlc

cc: D.A. Bertram
D.R. Meadows
A.R. Willms
Ron Jenkins (Amoco)
FILE: South Pierson (Man)(TIC)
South Pierson (Man)(RES)
Day File



Date: February 19, 1991

To: H. Clare Moster

Deputy Chairman

RE: Application for MPR Increase

South Pierson Area - Home Oil

Action / Route Slip

From: John N. Fox

Chief Petroleum Engineer

Telephone: _____

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

Comments: Attached is a copy of Home's response to the Board's letter (91-02-15) requesting an
update on its discussions with South West who filed an objection to the application. Home also
indicates they feel approval of the application will not cause inequitable drainage of the SE/4
of 19 (the Branch is also of this opinion). Also attached, for your signature, is the proposed
Board letter requesting South West to substantiate its objection.



Memorandum

Date: February 15, 1991

To: The Oil and Natural Gas
Conservation Board
- Ian Haugh, Chairman
- H. Clare Moster, Deputy Chairman
- Wm. McDonald, Member

From:
John N. Fox
Chief Petroleum Engineer
Petroleum Branch

Telephone:

Subject:

RE: Application for Increase in
Maximum Permissible Production Rate - South Pierson Area

On January 23, 1991, the Board notified Home Oil, the applicant, of South West Oil's objection to the application. Since that date discussions with Home and South West indicate no progress. It is recommended that Home be requested to advise the Board in writing of the status of their discussions. A copy of the proposed letter from the Board to Home is attached.

John N. Fox

Att'd.

Approved:

L.R. Dubreuil, Director



The Oil and Natural Gas
Conservation Board

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

(204) 945-3130

CERTIFIED MAIL

February 15, 1991

Mr. K.R. Brown, P. Eng.
Manager, Reservoir Engineering
Home Oil Company Limited
1600 Home Oil Tower
324 - 8th Avenue S.W.
Calgary, Alberta
T2P 2Z5

Dear Sir:

RE: Application for Increase in
Maximum Permissible Production Rate - South Pierson Area

The Board in a letter dated January 23, 1991 advised Home Oil that South West Oil Limited, the royalty owner in the SE/4 of Section 19-2-29 (WPM), had objected to the application. The Board has not received any further correspondence regarding Home's position on the objection and the outcome of its discussions with South West.

You are requested to provide the Board with a written update of Home's discussions with South West and the company's comments regarding the objection. Final disposition of the application will be held until this matter has been addressed to the satisfaction of the Board.

Yours respectfully,

A handwritten signature in black ink, appearing to read "H. Clare Moster". The signature is fluid and cursive, with a long horizontal stroke at the end.

H. Clare Moster
Deputy Chairman

Manitoba



Energy and Mines

Petroleum

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

(204) 945-6577

TELECOPIER NUMBER: (204) 945-0586

F A X M E S S A G E

DATE:

February 18, 1991

SENT TO:

H. R. Brown
Home Oil Company Limited

FROM:

Manitoba



Energy and Mines
Petroleum

555-330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

John N. Fox, P. Eng.
Chief Petroleum Engineer

(204) 945-6574

REGARDING:

TOTAL NUMBER OF PAGES SENT: 1 PLUS COVER

IF YOU HAVE NOT RECEIVED THE SPECIFIED NUMBER OF PAGES, PLEASE CONTACT THE SENDER.

** TX CONFIRMATION REPORT **

AS OF FEB 18 '91 9:23 PAGE.01

ENERGY AND MINES

	DATE	TIME	TO/FROM	MODE	MIN/SEC	PGS	STATUS
01	2/18	09:22	1514002327673	UF--S	00"33	02	OK

JOHN

February 1, 1991

The Oil and Natural Gas
Conservation Board
- Ian Haugh, Chairman
- H. Clare Moster, Deputy Chairman
- Wm. McDonald, Member

John N. Fox
Chief Petroleum Engineer
Petroleum Branch

RE: Application for Increase in Maximum
Permissible Production Rate - South Pierson Area
Intervention by Shannon Oils Ltd.

Shannon Oils Ltd. has completed its review of the application and has filed an intervention (attached). The intervention expresses the following opinions:

- (1) Wells in the Lower Amaranth Formation cannot adequately drain 32 ha, even with an increase in MPR.
- (2) The MPR increase should only be approved for one year at which time the information can be reviewed and a more informed decision made.

Attached are proposed letters from the Board to Shannon and Home responding to the intervention.

ORIGINAL SIGNED BY
JOHN N. FOX

John N. Fox

Approved: _____
L.R. Dubreuil, Director



The Oil and Natural Gas
Conservation Board

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

(204) 945-3130

February 1, 1991

Mr. Shaun Spelliscy
Shannon Oils Limited
Box 1111
Regina, Saskatchewan
S4P 3B2

Dear Sir:

RE: Application for Increase in
Maximum Permissible Production Rate
South Pierson Area - Home Oil Company Limited

The Board has received your intervention in the subject application dated January 29, 1991.

The Board in making its decision regarding the application will consider the comments provided by Shannon Oils along with the other information filed in support of the application. The Board will advise Shannon Oils of the final disposition of the application.

Yours respectfully,

H. Clare Moster
Deputy Chairman



The Oil and Natural Gas
Conservation Board

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

(204) 945-3130

February 1, 1991

Mr. K.R. Brown, P. Eng.
Manager, Reservoir Engineering
Home Oil Company Limited
1600 Home Oil Tower
324 - 8th Avenue S.W.
Calgary, Alberta
T2P 2Z5

Dear Sir:

RE: South Pierson Area
Application for Increase in
Maximum Permissible Production Rate

The Board has received an intervention in the subject application from Shannon Oils Ltd. A copy of the intervention is attached.

The Board in making its decision regarding the application will consider the comments provided by Shannon Oils along with the information filed by Home in support of the application. Home may wish to provide the Board with its comments on the intervention.

Yours respectfully,

H. Clare Moster
Deputy Chairman

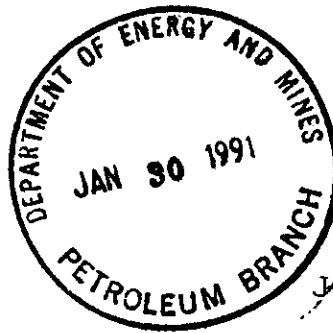
Att'd.

S. P. JORDAN GEOLOGISTS LTD.

PRESIDENT: S. P. JORDAN

CERTIFIED PROFESSIONAL GEOLOGICAL

SCIENTIST No. 3364



TELEPHONE: (306) 522-3351

1540 LONDON LIFE PLACE

1855 VICTORIA AVENUE

REGINA, SASKATCHEWAN

CANADA S4P 3T2

January 29, 1991

Mr. Shaun Spelliscy
Shannon Oils Ltd.
Box 1111
Regina, Saskatchewan
S4P 3B2

Dear Mr. Spelliscy:

At your request I have examined the Home Oil, "Application for Increase in Maximum Permissible Production Rate, South Pierson Field Lower Amaranth B Pool - Oct.29, 1990" and the Supplement dated Dec.7, 1990. Plus I have reviewed the Petroleum Open File Report POF 10-90 - "Evaluation of the Lower Amaranth Formation in the South Pierson Field, Southwest Manitoba.

A-Conclusions and recommendations are as follows:

1. Tight reservoirs, such as the Lower Amaranth (Red Beds), to my knowledge will not be drained on 80 acre spacing such as regulated in South Pierson by Board Order No. SU6. *1. Pumping at 12 M/3 OPD rates, in my opinion will have no impact whatever on one well's ability to drain 80 acres. One thing the increased rate would do of course is to shorten the pay-out period.
2. There is sometimes a substantial difference between reservoir performance theory and fact.

B-Recommendations:

Since no model tests have been run at the 12 M/3 OPD rates to observe potential impact [Home's requested M.P.R. raised to 14 M/3/day in Supplement of Dec.7, 1990] my recommendation would be to pump No. 8-8 and No. 4-9 at the maximum (M.P.R.) proposed and do the same with No. 16-9 and No. 4-15. [T2.R29.WPM]. These tests would need to be run for at least a year and would then be compared to the last producing year prior to the increased production date. By using this method of actual production in the field, a true appraisal can be made regarding a decision to allow Home's maximum production rate (M.P.R.) to be implemented.

Very Sincerely,

A handwritten signature in dark ink, appearing to read "S.P. Jordan", written over a diagonal line.

S.P. Jordan.



Memorandum

Date February 1, 1991

To The Oil and Natural Gas
Conservation Board
- Ian Haugh, Chairman
- H. Clare Moster, Deputy Chairman
- Wm. McDonald, Member

From John N. Fox
Chief Petroleum Engineer
Petroleum Branch

Telephone

Subject

RE: Application for Increase in Maximum
Permissible Production Rate - South Pierson Area
Intervention by Shannon Oils Ltd.

Shannon Oils Ltd. has completed its review of the application and has filed an intervention (attached). The intervention expresses the following opinions:

- (1) Wells in the Lower Amaranth Formation cannot adequately drain 32 ha, even with an increase in MPR.
- (2) The MPR increase should only be approved for one year at which time the information can be reviewed and a more informed decision made.

Attached are proposed letters from the Board to Shannon and Home responding to the intervention.

John N. Fox

Approved:

L.R. Dubreuil, Director

→ John Fox

Is there no correspondence from
Shannon Oils, other than S.P. Jordan's
letter to Mr. Spelling?

Clare
Feb. 3/91

February 1, 1991

Mr. Shaun Spelliscy
Shannon Oils Limited
Box 1111
Regina, Saskatchewan
S4P 3B2

Dear Sir:

RE: Application for Increase in
Maximum Permissible Production Rate
South Pierson Area - Home Oil Company Limited

The Board has received your intervention in the subject application dated January 29, 1991.

The Board in making its decision regarding the application will consider the comments provided by Shannon Oils along with the other information filed in support of the application. The Board will advise Shannon Oils of the final disposition of the application.

Yours respectfully,



H. Clare Moster
Deputy Chairman

February 1, 1991

Mr. K.R. Brown, P. Eng.
Manager, Reservoir Engineering
Home Oil Company Limited
1600 Home Oil Tower
324 - 8th Avenue S.W.
Calgary, Alberta
T2P 2Z5

Dear Sir:

RE: South Pierson Area
Application for Increase in
Maximum Permissible Production Rate

The Board has received an intervention in the subject application from Shannon Oils Ltd. A copy of the intervention is attached.

The Board in making its decision regarding the application will consider the comments provided by Shannon Oils along with the information filed by Home in support of the application. Home may wish to provide the Board with its comments on the intervention.

Yours respectfully,

A handwritten signature in dark ink, appearing to be 'H. Clare Moster', written in a cursive style.

H. Clare Moster
Deputy Chairman

Att'd.

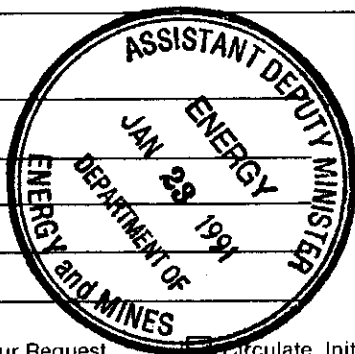


Date: January 23, 1991

To: H. Clare Moster

Action / Route Slip

From: Bob Dubreuil



Telephone:

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

Comments: RE: Home Oil's MPR Application

Attached are letters to: a) South West Oil Limited

b) Shannon Oils Limited

c) Home Oil Company Limited

relating to recent objections/inquiries into Home's application.

It would appear that South West's concerns are unfounded. Shannon's concern is that it was not notified of the application. Shannon's interest is registered in the name of Montreal Trust (who was notified of the application) and involves lands on the periphery of the pool (NE 6 and

January 23, 1991

Mr. K.R. Brown, P. Eng.
Manager, Reservoir Engineering
Home Oil Company Limited
1600 Home Oil Tower
324 - 8th Avenue S.W.
Calgary, Alberta
T2P 2Z5

Dear Sir:

RE: South Pierson Area
Application for Increase in
Maximum Permissible Production Rate

The Board received a letter from South West Oil Limited (attached) and a telephone call from Shannon Oils Limited regarding the subject application.

South West is concerned that an increase in maximum permissible production rate (MPR) will result in the drainage of oil from the SE/4 of Section 19-2-29 (WPM). The Board requests Home contact South West to discuss the company's concerns. It is also suggested that Home ask South West to inform the Board whether or not it is prepared to withdraw its objection.

Shannon advised the Board that it did not receive a copy of the notice of application. The Board has requested Shannon to notify the Board prior to January 31, 1991 as to whether it intends to file an objection.

The application will be held until these matters have been addressed to the satisfaction of the Board.

Yours respectfully,
ORIGINAL SIGNED BY
H. CLARE MOSTER

H. Clare Moster
Deputy Chairman

Att'd.



South West Oil Limited

(No Personal Liability)

P.O. Box 855—Melita, Manitoba
R0M 1L0

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

South West Oil Limited held a directors meeting on Jan. 1/91
in regards to your letter dated Dec. 12/90.

A motion by T. Gardiner and Campbell that we do not agree with
increasing the production in the lower Armanth Formation as
per Dome Petroleum request.

This motion was carried.

Trusting you will take our concern into consideration.

Yours truly,

D. W. Minnis
Sec.-Treas.
South West Oil Limited



South West Oil Limited

(No Personal Liability)

P.O. Box 855—Melita, Manitoba
R0M 1L0

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

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in regards to your letter dated Dec. 12/90.

A motion by T. Gardiner and Campbell that we do not agree with
increasing the production in the lower Armanth Formation as
per Dome Petroleum request.

[Home]
This motion was carried.

Trusting you will take our concern into consideration.

Yours truly,

D. W. Minnis
Sec.-Treas.
South West Oil Limited
522-8419

NW/4 of Sec. 1 = 2-29

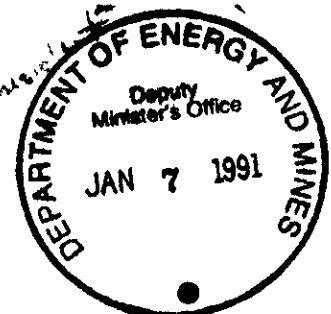
SE/4 of Sec. 19-2-29

talked with Doug Minnis
91-02-12

Melita

- lease SE/4 - 19-2-29 undrilled
but surrounded by producers
- concerned drainage from SE/4-19
- offset provisions in lease
- minerals leased to Amoco

Bill Campbell 686-2382 Director
Bill Coleman
Walt Ridell
Ted Gardiner
R. Bernie Murray
Doug Minnis



January 23, 1991

Mr. Shaun Spelliscy
Shannon Oils Limited
Box 1111
Regina, Saskatchewan
S4P 3B2

Dear Sir:

RE: Application for Increase in
Maximum Permissible Production Rate
South Pierson Area - Home Oil Company Limited

The Board has been advised that Shannon Oils Limited did not receive a copy of the notice of the subject application until after the expiry date for objections.

It is the Board's understanding that Shannon does not wish to object to the application at this time but wants an opportunity to review the application. Please advise the Board, prior to January 31, 1991 whether Shannon intends to file an objection to the application.

Yours respectfully,

ORIGINAL SIGNED BY
H. CLARE MOSTER

H. Clare Moster
Deputy Chairman

cc: Mr. Ken Brown, P. Eng.
Home Oil Company Limited

January 23, 1991

South West Oil Limited
P.O. Box 855
Melita, Manitoba
ROM 1L0

Dear Sir:

RE: Application for Increase in
Maximum Permissible Production Rate
South Pierson Area - Home Oil Company Limited

Your letter, received by the Board January 8, 1991, regarding the subject application is acknowledged.

In response to South West's concern that an increase in maximum permissible production rate (MPR) will result in drainage of oil from the SE/4 of Section 19-2-29 (WPM), the Board has reviewed the productivity of offsetting wells. It appears that none of the offsetting wells is capable of producing at the increased MPR of 14 m³ /d and 360 m³ /month requested in the application. Attached is a map showing the South Pierson area and the production capability of the wells within the area of application.

South West is also reminded that, if the application is approved, any wells drilled on the SE/4 of Section 19 and completed in the Lower Amaranth Formation would qualify for the increased MPR.

The Board has notified Home of South West's concerns and has requested that Home contact South West in respect of this matter. The Board will notify South West on any further developments in respect of this application.

Yours respectfully,
ORIGINAL SIGNED BY
H. CLARE MOSTER

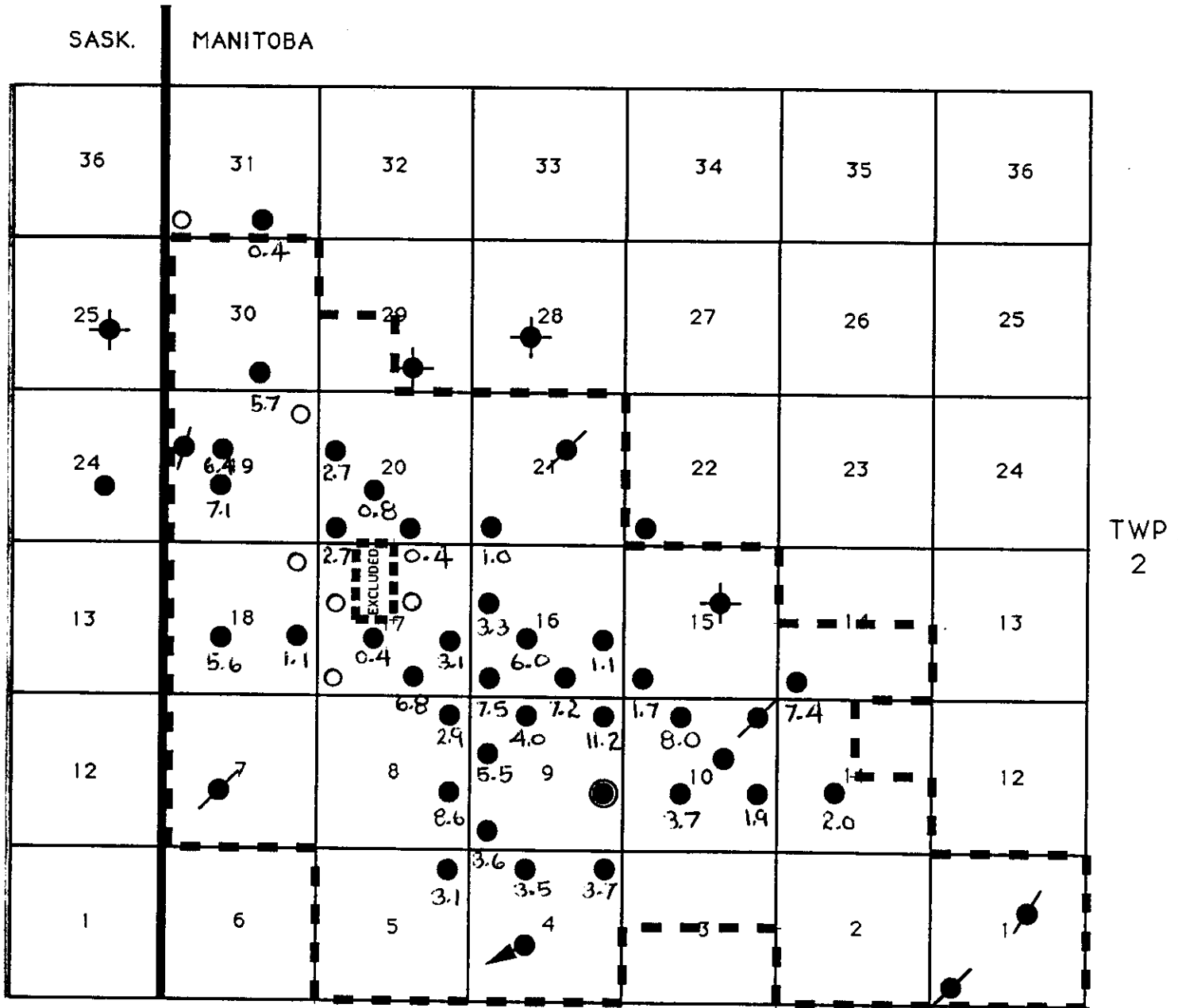
H. Clare Moster
Deputy Chairman

cc: Mr. Ken Brown, P. Eng.
Home Oil Company Limited

FIGURE 1

SOUTH PIERSON AREA

(REVISED)



R.30

R. 29 W1M

● DAILY PRODUCTION (m^3/d)
7.1 OCTOBER, 1990

⊙ SHUT-IN WELL

○ STANDING WELL OR
LICENCED LOCATION

↘ DISPOSAL WELL

● MISSION CANYON FM.
PRODUCER

--- APPLICATION AREA FOR INCREASE IN
MAXIMUM PERMISSIBLE PRODUCTION RATE

NOTE: EXISTING MAXIMUM PERMISSIBLE
PRODUCTION RATE

DAILY - 9.5 m^3 OF CLEAN OIL
MONTHLY - 240 m^3 OF CLEAN OIL

Manitoba



Message

To

Person calling

Joe Morgan

Of

→ NO CONCERN WITH NPR

☒ Telephoned

☐ Will call again

☐ Called to see you

☒ Please call

☐ Returned your call

☐ Will return

Telephone No.

613 224-8286

Time

Message

SE/4 of Sec. 2-29 (WPN)

Date

Message taken by

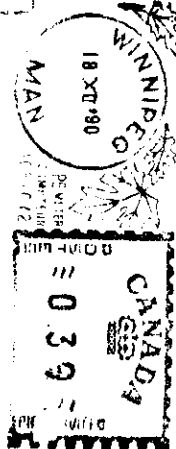
PS-1-36

MOVED

☐ Deceased
☐ Unknown

☐ Address incomplete
☐ Moved Address
☐ No such Post Office
☐ Bureau Inactive
☐ Refused by addressee

RETURN TO SENDER
MAIL A LATER DATE

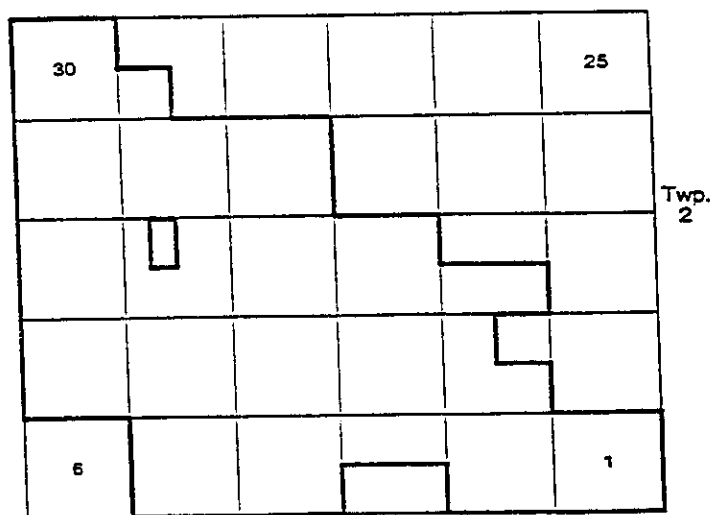


UNDER THE MINES ACT

SOUTH PIERSON AREA

Home Oil Company Limited has made application under subsection 51(3) of The Petroleum Drilling and Production Regulation for an increase in the maximum permissible production rate for wells producing from the Lower Amaranth Formation and located in the area of application outlined below.

It is proposed that the maximum permissible production rate for the wells in the area of application be increased from 9.5 m³ of clean oil per day and 240 m³ of clean oil per month to 14 m³ of clean oil per day and 360 m³ of clean oil per month.



Rge. 29(WPM)

Area of application

If no intervention in writing is received by the Board at Room 309, Legislative Building, Winnipeg, Manitoba, R3C 0V8, on or before January 12, 1991, the Board may approve the application.

Copies of the application may be obtained from:

Mr. A. Willms
Home Oil Company Limited
1600 Home Oil Tower
324 Eighth Avenue S.W.
Calgary, Alberta
T2P 2Z5
(403) 232-7362

The application may be viewed at the offices of the Petroleum Branch:

555-330 Graham Avenue Waskada, Manitoba
Winnipeg, Manitoba (204) 673-2472
(204) 945-6577

Dated at Winnipeg, this 12th day of December, 1990.

H. CLARE MOSTER,
Deputy Chairman.

17293-52

December 12, 1990

The Oil and Natural Gas
Conservation Board

- Ian Haugh, Chairman
- H. Clare Moster, Deputy Chairman
- Wm. McDonald, Member

John N. Fox
Chief Petroleum Engineer
Petroleum Branch

RE: Application for an Increase in MPR - South Pierson Area

Home Oil Company Limited has replied to the Board's deficiency letter (November 17, 1990). Home's reply addresses the technical and administrative issues raised in the Board's letter. Consequently, the Petroleum Branch considers the application to be complete.

RECOMMENDATION

It is recommended that notice of the application (attached) be

- (1) published in the Melita New Era and the Manitoba Gazette, and
- (2) sent directly to the lessors and lessees in and within 0.5 km of the area of application.

ORIGINAL SIGNED BY
JOHN N. FOX

John N. Fox

Att'd.

Approved: _____

L.R. Dubreuil, Director

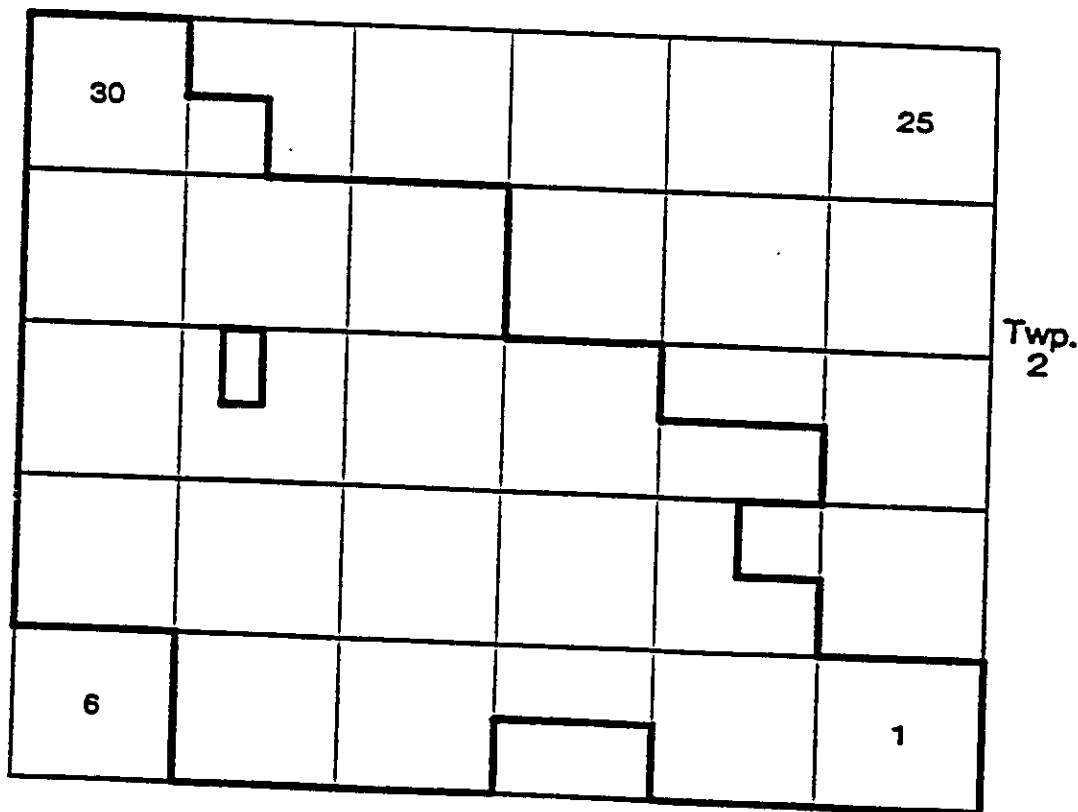


NOTICE UNDER THE MINES ACT

Home Oil Company Limited has made application under subsection 51(3) of The Petroleum Drilling and Production Regulation for an increase in the maximum permissible production rate for wells producing from the Lower Amaranth Formation and located in the area of application outlined below.

It is proposed that the maximum permissible production rate for the wells in the area of application be increased from 9.5 m³ of clean oil per day and 240 m³ of clean oil per month to 14 m³ of clean oil per day and 360 m³ of clean oil per month.

SOUTH PIERSON AREA



————— Area of application

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Copies of the application may be obtained from:

Mr. A. Willms
Home Oil Company Limited
1600 Home Oil Tower
324 Eighth Avenue S.W.
Calgary, Alberta
T2P 2Z5
(403) 232-7362

The application may be viewed at the offices of the Petroleum Branch:

555-330 Graham Avenue
Winnipeg, Manitoba
(204) 945-6577

Waskada, Manitoba
(204) 673-2472

Dated at Winnipeg, this 12th day of DECEMBER, 1990



H. Clare Moster
Deputy Chairman

SOUTH PIERSON AREA

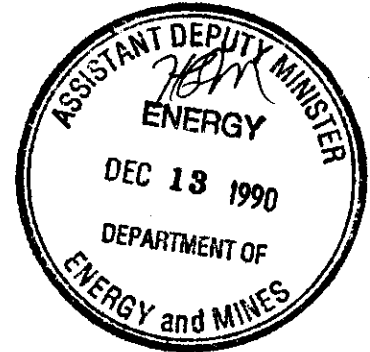


— Area of application



7 December 1990

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



Attention: Mr. H.C. Moster
Deputy Chairman

Dear Sir:

Re: Supplement to Application for Increase in Maximum
Permissible Production Rate
South Pierson Field, Lower Amaranth Formation

As requested in your letter dated November 27, 1990, Home Oil Company Limited submits the following changes and additional information in regards to the subject application:

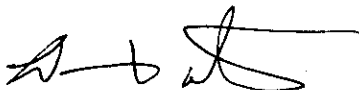
- 1) Home Oil requests that Lsd's 11 and 14 of Section 17-002-29 W1M, currently under lease to Tundra Oil and Gas, be removed from the application area. Attached is Figure 1 which has been revised to reflect this change. Should Tundra object to this application as revised, Home Oil will not object to re-inclusion of the Tundra lands, if they so request.
- 2) In Home's original application, the maximum permissible production rate (MPR) of 12 m³/day applied for, was intended to reflect a monthly MPR of 360 m³/month. Therefore, to allow for flexibility in producing the wells, a daily MPR of 14 m³/day and a monthly MPR of 360 m³/month is requested within the application area.
- 3) Home believes the six locations referred to in the application which would be affected by the MPR increase, exhibit higher productivity than other wells in the South Pierson area due to localized high permeability trends. Average matrix permeabilities in the majority of the South Pierson wells ranges from 1-3 md; whereas, these six locations have core permeabilities ranging from 2-16 md. Recent pressure build-up analysis from 16-09 showed an average permeability of 9.7 md.

- 4) The 08-08-002-29 W1M location does show an inverse relationship between oil production rate and WOR. An increase in the oil production rate reflects a decrease in the WOR; and vice-versa, indicating that the water production rate is constant and not dependent upon the oil production rate. This phenomena is also evident in the 14-10-002-29 W1M location but is too early to evaluate whether it will continue. The well at 14-10-002-29 W1M was recompleted in the Lower Amaranth formation in March 1990.
- 5) To date, Home Oil has not observed any interference effects between wells which might suggest that an increase in the MPR could result in inequitable drainage from offsetting lands. The only well in which oil production will be significantly affected by a MPR increase is 16-09-002-29 W1M. This well is capable of producing 360 m³/month, when fully drawdown. Under this scenario, the resultant withdrawal rate per unit reservoir volume will be less than that which would have been allowed under 16 ha spacing. All remaining locations referred to in the application are producing slightly above the present MPR of 240 m³/month and therefore will result in production increases of 30-60 m³/month per well. Home believes this will not create any drainage of offsetting leases.
- Home Oil wishes to emphasize the importance of approving this application on the area requested rather than for individual wells. Approval on an area basis allows equal opportunity for all current and future wells to produce at their capability, thereby eliminating any inequitable drainage situations.
- 6) The spacing unit size for Home's 07-24-002-29 W1M well located in Saskatchewan is 32 hectares. Home's application requested an allowable of 8.4 m³/day but has not been approved as yet. This well is currently producing less than 1 m³/day.

As requested, attached are two additional copies of Home Oil's original application. If you have any questions or require further information, please contact Allan Willms at (403)232-7362.

Yours truly,

HOME OIL COMPANY LIMITED

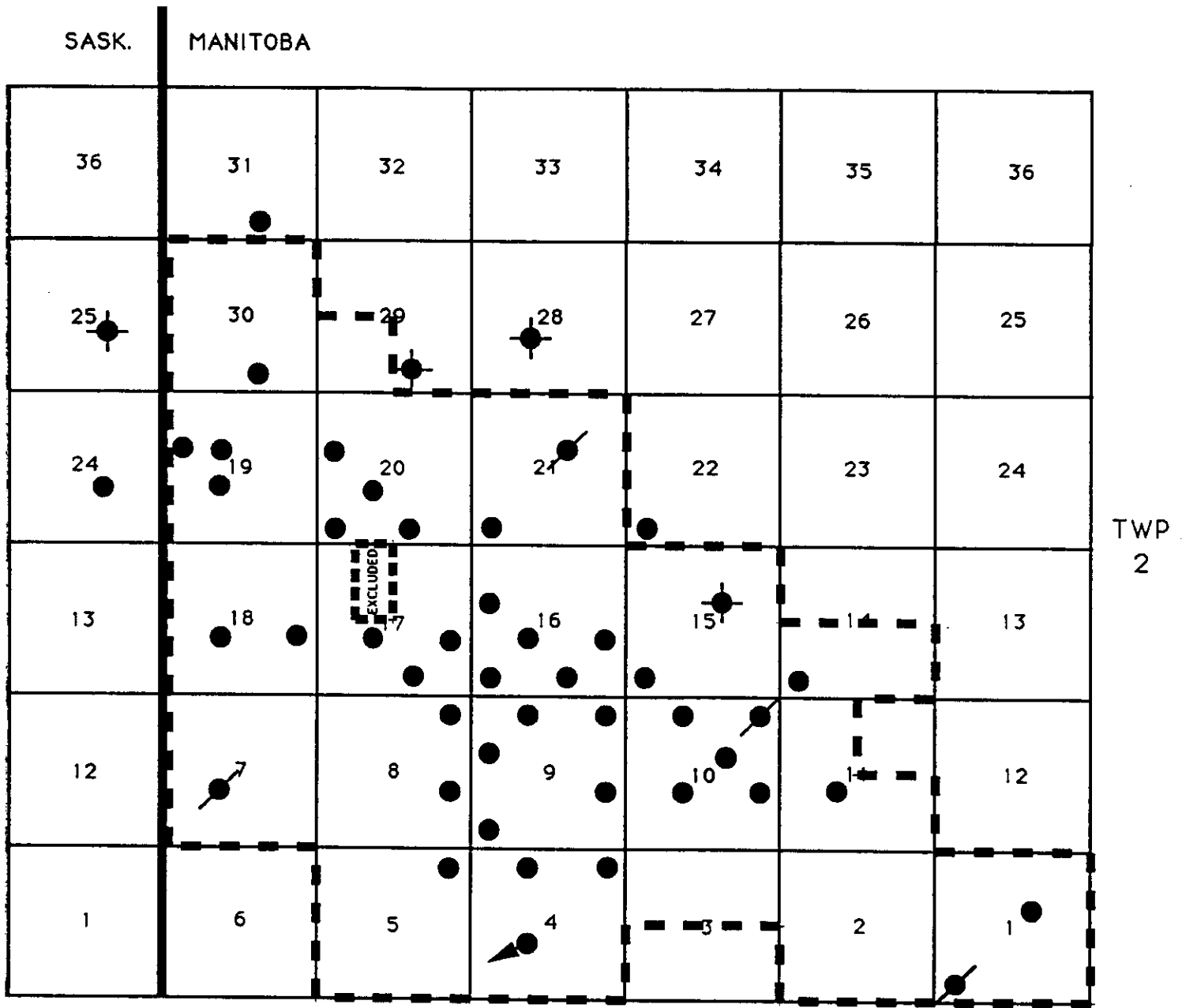


per K.R. Brown, P. Eng.
Manager, Reservoir Engineering

ALW/jlc
901203.arw

cc: D.A. Bertram
G.B. Harrison
A.R. Willms
FILE:S. PIERSON (MAN)(RES)
FILE:S. PIERSON (MAN)(TIC)
Day File

FIGURE 1
SOUTH PIERSON AREA
 (REVISED)



--- APPLICATION AREA FOR INCREASE IN
 MAXIMUM PERMISSABLE PRODUCTION RATE



The Oil and Natural Gas
Conservation Board

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

(204) 945-3130

November 27, 1990

K.R. Brown, P. Eng.
Manager, Reservoir Engineering
Home Oil Company Limited
1600, 324 - 8th Avenue S.W.
Calgary, Alberta
T2P 2Z5

Dear Sir:

RE: Application for an Increase in Maximum
Permissible Production Rate
Lower Amaranth Formation - South Pierson Area

Your application for an increase in the maximum permissible production rate (MPR) for the Lower Amaranth Formation in the South Pierson area is hereby acknowledged.

Prior to publishing notice of the application, the Board requests the following questions and concerns be addressed to complete the application.

- (1) Home Oil has included lands [Lsd's 11 and 14 of Section 17-2-29 (WPM)] which are under lease to Tundra Oil and Gas. Has Home Oil obtained Tundra's support for the application? If these lands are to remain included in the application, please submit a letter from Tundra supporting the application.
- (2) The prescribed MPR for all pools in the South Pierson Field is $9.5 \text{ m}^3/\text{d}$ and $240 \text{ m}^3/\text{month}$. The daily MPR is higher than the monthly MPR to allow the operator some flexibility in producing its wells to meet the monthly MPR. Home Oil has only applied for an increase in the daily MPR. Please revise your application to include both a daily and monthly MPR.
- (3) What is Home Oil's explanation for the high productivity of the wells, 8-8-2-29, 16-9-2-29, 14-10-2-29, 2-16-2-29, 4-16-2-29 and 2-17-2-29 when compared with other wells in the South Pierson area?
- (4) Do the high productivity, high WOR wells 8-8-2-29 and 14-10-2-29 show any WOR sensitivity to production rate?

- (5) Has Home Oil observed any interference effects between wells that might suggest that an increase in MPR could result in inequitable drainage of adjacent lands?
- (6) What is the spacing unit size and allowable for the 7-24-2-30 WLM well located in Saskatchewan?

Please file two additional copies of the application and three copies of Home Oil's response to this letter.

If you have any questions in respect of this matter, please contact L.R. Dubreuil, Director of Petroleum, or John N. Fox, Chief Petroleum Engineer, at (204) 945-6573 and 945-6574 respectively.

Yours respectfully,

A handwritten signature in dark ink, appearing to read 'H. Clare Moster', with a large, sweeping flourish extending from the end of the name.

H. Clare Moster
Deputy Chairman

November 27, 1990

The Oil and Natural Gas
Conservation Board
- Ian Haugh, Chairman
- H. Clare Moster, Deputy Chairman
- Wm. McDonald, Member

John N. Fox
Chief Petroleum Engineer
Petroleum Branch

RE: Application for an Increase in Maximum
Permissible Production Rate - South Pierson Area

Home Oil Company Limited has applied for an increase in the maximum permissible production rate (MPR) to 12 m³/d for wells producing from the Lower Amaranth Formation in a portion of the South Pierson Field and surrounding area.

RECOMMENDATION

It is recommended that the Board request Home Oil address the deficiencies in its application. A copy of the proposed Board deficiency letter is attached.

DISCUSSION

The MPR for all pools in the South Pierson Field is 9.5 m³/d and 240 m³/month. Home Oil has applied to increase the MPR to 12 m³/d for the area outlined in Figure 1. The area of application includes Lsd's 11 and 14 of Section 17-2-29 (WPM) under lease to Tundra. No indication of Tundra's support of the application was filed with the application.

It is proposed that Home Oil either enlist Tundra's support for the application or withdraw those lands.

Home Oil has only requested an increase in the daily MPR from 9.5 m³ to 12 m³. It is proposed that Home Oil revise its application to include both a daily and monthly MPR.

The proposed Board deficiency letter (attached) includes these questions and some additional technical questions.

ORIGINAL SIGNED BY
JOHN N. FOX

John N. Fox

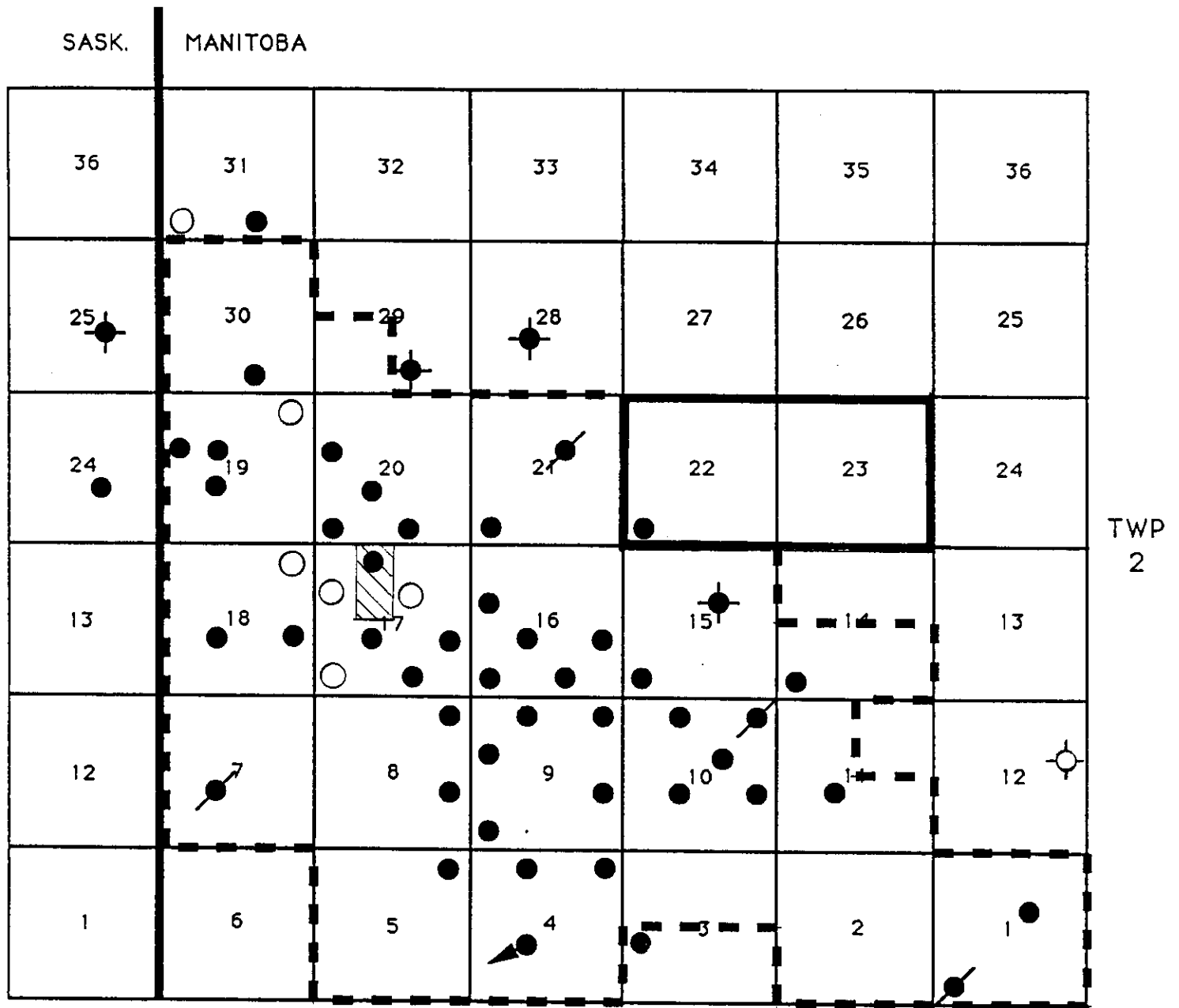
Att'd.

Original Signed By
L. R. DUBREUIL

Approved by:

L.R. Dubreuil, Director

FIGURE 1
SOUTH PIERSON AREA



R.30

R. 29 W1M

— 32 ha SPACING AREA NOT INCLUDED IN APPLICATION

- - - APPLICATION AREA FOR INCREASE IN
 MAXIMUM PERMISSABLE PRODUCTION RATE

▨ LEASED TO TUNDRA

○ LICENCED LOCATIONS

November 27, 1990

K.R. Brown, P. Eng.
Manager, Reservoir Engineering
Home Oil Company Limited
1600, 324 - 8th Avenue S.W.
Calgary, Alberta
T2P 2Z5

Dear Sir:

RE: Application for an Increase in Maximum
Permissible Production Rate
Lower Amaranth Formation - South Pierson Area

Your application for an increase in the maximum permissible production rate (MPR) for the Lower Amaranth Formation in the South Pierson area is hereby acknowledged.

Prior to publishing notice of the application, the Board requests the following questions and concerns be addressed to complete the application.

- (1) Home Oil has included lands [Lsd's 11 and 14 of Section 17-2-29 (WPM)] which are under lease to Tundra Oil and Gas. Has Home Oil obtained Tundra's support for the application? If these lands are to remain included in the application, please submit a letter from Tundra supporting the application.
- (2) The prescribed MPR for all pools in the South Pierson Field is 9.5 m³ /d and 240 m³ /month. The daily MPR is higher than the monthly MPR to allow the operator some flexibility in producing its wells to meet the monthly MPR. Home Oil has only applied for an increase in the daily MPR. Please revise your application to include both a daily and monthly MPR.
- (3) What is Home Oil's explanation for the high productivity of the wells, 8-8-2-29, 16-9-2-29, 14-10-2-29, 2-16-2-29, 4-16-2-29 and 2-17-2-29 when compared with other wells in the South Pierson area?
- (4) Do the high productivity, high WOR wells 8-8-2-29 and 14-10-2-29 show any WOR sensitivity to production rate?

(5) Has Home Oil observed any interference effects between wells that might suggest that an increase in MPR could result in inequitable drainage of adjacent lands?

(6) What is the spacing unit size and allowable for the 7-24-2-30 W1M well located in Saskatchewan?

Please file two additional copies of the application and three copies of Home Oil's response to this letter.

If you have any questions in respect of this matter, please contact L.R. Dubreuil, Director of Petroleum, or John N. Fox, Chief Petroleum Engineer, at (204) 945-6573 and 945-6574 respectively.

Yours respectfully,

**ORIGINAL SIGNED BY
H. CLARE MOSTER**

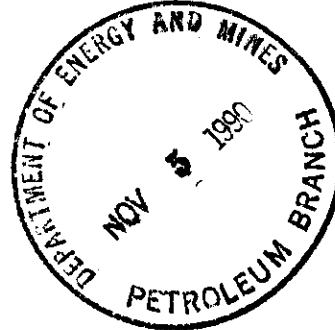
H. Clare Moster
Deputy Chairman



1990-10-29

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

Attention: Mr. L.R. Dubreuil
Director, Petroleum Branch



Dear Mr. Dubreuil:

Re: Application for Increase in Maximum Permissible Production Rate
South Pierson Field, Lower Amaranth B Pool

Home Oil Company Limited hereby applies under the Manitoba Drilling and Production Regulations Part VII Section 51 and Part XIII Section 121 for an increase in the maximum permissible production rate in the South Pierson Field. The following information is provided in accordance with the regulations:

- 1) This application requests approval for an increase in the maximum permissible production rate from the Lower Amaranth Formation in the area shown in Figure 1. A list of mineral owners within one-half kilometre of the application area is included in Table 1.
- 2) Within the area of application, a maximum permissible production rate of 12 m³OPD per well is requested. Under Part IV Section 19(1), the normal drilling spacing unit is defined as 16 hectares. Board Order No. SU 6 establishes 32 ha spacing units for the Lower Amaranth Formation in the lands indicated in Schedule A of the subject Board Order. Therefore this request is made to reflect the larger spacing unit and implement a withdrawal rate per unit reservoir volume greater than currently granted under 32 ha spacing. Under this proposal, the withdrawal rate per unit reservoir volume will still be less than that recognized for a well under 16 ha spacing. Appendix A provides technical data to justify this request.

- 3) Appendix B includes a plot of the production history for each well which would be affected by an increase in the maximum permissible production rate.
- 4) The correlative rights of the offset mineral owners will not be adversely affected by this proposal. By enlarging the drilling spacing unit, the well density has been reduced in the application area. Since few wells are capable of producing at 12 m³OPD, the withdrawal rate per unit reservoir volume will be less than the rate under 16 ha spacing.

Home Oil Company Limited submits the above arguments and appendices to justify increasing the maximum permissible production rate to 12 m³OPD per well in the application area. If you require further information or have any questions regarding this application, please contact Mr. Allan Willms at (403) 232-7362.

Yours truly,

HOME OIL COMPANY LIMITED



K.R. Brown, P.Eng.
Manager, Reservoir Engineering

cc: D.A. Bertram
W.C. Tersmette
G.B. Harrison
A.R. Willms
S. Pierson (Man) (Res)
Day File

TABLE 1

SOUTH PIERSON AREA

Location		Name of Interest	Address	City	Area		Cert. Number
Dir	Sec Twp Rge Mer				Pr	Code	
NW	31 1 28 W1M	Andrew Thomas Brown	Box 2157	Brandon	MB	R7A 6X5	58638
NE	31 1 29 W1M	Pearl MacLean	Ste. 105, 218 - 4 Street	Brandon	MB	R7A 3G8	27029
		Theodore Joseph Artz and Rebecca Susanne Artz	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
NW	33 1 29 W1M	PanCanadian Petroleum Limited	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
NE	33 1 29 W1M	PanCanadian Petroleum Limited	Box 2850	Calgary	AB	T2P 2S5	
NW	34 1 29 W1M	South West Oil Limited	Box 2850	Calgary	AB	T2P 2S5	
		Sarah Ruby Caney	P.O. Box 855	Melita	MB	ROM 1L0	24080
		Wayne Gordon Tingey	Box 1013	Virden	MB	ROM 2C0	41444
		Wayne Gordon Tingey	Box 95	Lyleton	MB	ROM 1G0	170831
		Wayne Gordon Tingey	Box 95	Lyleton	MB	ROM 1G0	170830A
		Trent Wayne Tingey	Box 95	Lyleton	MB	ROM 1G0	170830
		Adele Celeste Tingey	Box 95	Lyleton	MB	ROM 1G0	170829
NE	34 1 29 W1M	Ramona Mae Murray and Edith Diana Marie Erixon	Box 129	Melita	MB	ROM 1L0	175912
		Kenneth Kerfoot Foster	Box 39	Lyleton	MB	ROM 1G0	175912
NW	35 1 29 W1M	Cautantowit Holdings Ltd.	1820 Abbot Street	Kelowna	BC	V1Y 1B5	18443
NE	35 1 29 W1M	Cautantowit Holdings Ltd.	26 Mariner Crescent	Winnipeg	MB	R2P 0V4	58400
NW	36 1 29 W1M	Earle Fletcher	26 Mariner Crescent	Winnipeg	MB	R2P 0V4	58400
		Norman Glinitz and Willis Glinz	Post Office	Coulter	MB	ROM 0G0	35279
NE	36 1 29 W1M	Kathleen Louise Martynovsky	Box 78, Route #2	Bottineau	ND	58318	186471
		South West Oil Limited	P.O. Box 1	Gerald	SK	S0A 1B0	12578
SU	6 2 28 W1M	Theodore Joseph Artz and Rebecca Susanne Artz	Post Office	Coulter	MB	ROM 0G0	35279
		Pearl MacLean	P.O. Box 855	Melita	MB	ROM 1L0	186476
		Kathleen Louise Martynovsky	P.O. Box 1	Gerald	SK	S0A 1B0	12578
NW	6 2 28 W1M	Theodore Joseph Artz and Rebecca Susanne Artz	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
		Ramona Mae Murray and Edith Diana Marie Erixon	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
			Ste. 105, 218 - 4 Street	Brandon	MB	R7A 3G8	27029
			P.O. Box 85	Lyleton	MB	ROM 1G0	189153
			P.O. Box 85	Lyleton	MB	ROM 1G0	189153
			Box 129	Melita	MB	ROM 1L0	175624
			Box 39	Lyleton	MB	ROM 1G0	175624

TABLE 1 (cont)
SOUTH PIERSON AREA

Location		Name of Interest		Address	City	Pr Code	Area	Cert. Number
Dir	Sec Twp Rge Mer							
Don Marley Insurance Agencies Ltd.								
SU	7 2 28 W1M	Winnifred Anne Law		Village of Lyleton		MB		59210
		Muriel May Bird		Pierson		MB R0M 1S0		55630
		Ralph Raymond Law		Melita		MB		55630
NW	1 2 29 W1M	Kathleen Louise Martinovsky		P.O. Box 1	Gerald	SK S0A 1B0		12578
		South West Oil Limited		P.O. Box 855	Melita	MB R0M 1L0		25839
NE	1 2 29 W1M	Kathleen Louise Martinovsky		P.O. Box 1	Gerald	SK S0A 1B0		12578
		Norman Glinz and Willis Glinz		Box 78, Route #2	Bottineau	MD S0318		25916
SU	1 2 29 W1M	Kathleen Louise Martinovsky		P.O. Box 1	Gerald	SK S0A 1B0		12578
		Gerald Ralph Dressler		1116 Rosser Avenue, Box 954	Coulter	MB R7A 529		28674
		Kevin Marcus Kearns		6215 North 31st Dr.	Phoenix	AZ 85017		28674
SE	1 2 29 W1M	Kathleen Louise Martinovsky		P.O. Box 1	Gerald	SK S0A 1B0		12578
		Joel Keith Morgan		59 Beaver Ridge	(Nepean) Ottawa	ON K2E 6E2		58278
		Gerald Ralph Dressler		1116 Rosser Avenue, Box 954	Coulter	MB R7A 529		58278
NW	2 2 29 W1M	Crossman Petroleum Ltd.		Box 149	Pierson	MB R0M 1S0		182396
		Crossman Petroleum Ltd.		Box 149	Pierson	MB R0M 1S0		182400
NE	2 2 29 W1M	Crossman Petroleum Ltd.		Box 149	Pierson	MB R0M 1S0		182396
		Crossman Petroleum Ltd.		Box 149	Pierson	MB R0M 1S0		182400
SE	3 2 29 W1M	The Rural Municipality of Edward		Box 100	Pierson	MB R0M 1S0		8887
NE	6 2 29 W1M	Canada Trust Company c/o Montreal Trust		411 - 8 Ave. S.W.	Calgary	AB T2P 1E7		28266
		Canada Trust Company c/o Montreal Trust		411 - 8 Ave. S.W.	Calgary	AB T2P 1E7		27629
		George Douglas Hart		331 Wainwright Rd. S.E.	Calgary	AB T2J 1H9		27552
NW	7 2 29 W1M	Charles Thomas Nicoll		Box 275	Treherne	MB R0G 2V0		50647
		William John Nicoll		See Charles Thomas Nicoll	Rosendale			50647
		Mary F. McLeod		See Charles Thomas Nicoll	Chatton	AB		50647
NE	7 2 29 W1M	Charles Thomas Nicoll		Box 275	Treherne	MB R0G 2V0		50648
		William John Nicoll		See Charles Thomas Nicoll	Rosendale			50648
		Mary F. McLeod		See Charles Thomas Nicoll	Chatton	AB		50648
SU	7 2 29 W1M	Charles Thomas Nicoll		Box 275	Treherne	MB R0G 2V0		50647
		William John Nicoll		See Charles Thomas Nicoll	Rosendale			50647
		Mary F. McLeod		See Charles Thomas Nicoll	Chatton	AB		50647

TABLE 1 (cont)
SOUTH PIERSON AREA

Location			Name of Interest			Address		City	Area	Pr	Code	Cert.
Dir	Sec	Twp Rge Mer										Number
SE	7	2 29 W1M	Charles Thomas Nicoll			Box 275	Treherne	MB	ROG	2V0		50648
			William John Nicoll			See Charles Thomas Nicoll	Rosendale					50648
			Mary F. McLeod			See Charles Thomas Nicoll	Chatton	AS				50648
SW	12	2 29 W1M	Robert William Daniels			P.O. Box 26	Pierson	MB	ROM	1S0		190465
SE	12	2 29 W1M	Robert William Daniels			P.O. Box 26	Pierson	MB	ROM	1S0		190465
NW	13	2 29 W1M	Harold Herbert Mayes and Loretta Mae Mayes			Both of the Postal District of Lyleton		MB				52067
SW	13	2 29 W1M	Amoco Canada Petroleum Company Limited			Box 200, Station "M"	Calgary	AS	T2P	2N8		26291
			John Murray			Box 3	Pierson	MB	ROM	1S0		15790
NW	14	2 29 W1M	Sceptre Resources Limited			3100, 150 - 6 Ave. S.W.	Calgary	AS	T2P	3Y7		163076
NE	14	2 29 W1M	Sceptre Resources Limited			3100, 150 - 6 Ave. S.W.	Calgary	AS	T2P	3Y7		
NE	18	2 29 W1M	Marie Elkanger			Box 252	Pierson	MB	ROM	1S0		171168
SW	18	2 29 W1M	Wang Oil Properties Ltd.			c/o Fred L. Wang, Gen. Del.	Pierson	MB	ROM	1S0		172138
N	19	2 29 W1M	Patricia Ann Fluher			R.R. 2, 152J	Buffalo Lake	MM				169767
			Neil Robert Silker			2410 Red Leaf Court	Winnipeg	MM	56101			169767
			Donald Keith Silker			Route 2, P.O. Box 245	Hector	MM	55342			169767
			Donald Silker			Route 2, P.O. Box 245	Hector	MM	55342			178183
SW	19	2 29 W1M	Amoco Canada Petroleum Company Limited			Box 200, Station "M"	Calgary	AS	T2P	2N8		
SE	19	2 29 W1M	Amoco Canada Petroleum Company Limited			Box 200, Station "M"	Calgary	AS	T2P	2N8		
N	21	2 29 W1M	Paul Kielhorn and Harold Freberg, Executors of Estate of Amanda Freberg			Box 29 Langley Street	Regina	SK	S4S	3V5		27114
SW	21	2 29 W1M	Kenneth James Lee			Box 35	Pierson	MB	ROM	1S0		30056
SE	21	2 29 W1M	Paul Kielhorn and Harold Freberg, Executors of Estate of Amanda Freberg			Box 29 Langley Street	Regina	SK	S4S	3V5		27114
SE	22	2 29 W1M	Her Majesty the Queen									170213
SW	23	2 29 W1M	Gladys Sarah Patmore				Pipestone	MM				45340
SW	27	2 29 W1M	Crossman Petroleum Ltd.			Box 149	Pierson	MB	ROM	1S0		182702
SW	29	2 29 W1M	Glen Howard Crossman			Box 149	Pierson	MB	ROM	1S0		26849
SE	29	2 29 W1M	Frank George Crossman			Box 212	Pierson	MB	ROM	1S0		24448
NW	30	2 29 W1M	Governing Council of the Salvation Army, Canada West									59038
NE	30	2 29 W1M	c/o Pollock Co.									59038
SW	30	2 29 W1M	Attn. Mr. Harvey Pollock									59038
SE	30	2 29 W1M	1610 - 155 Carleton Street				Winnipeg	MM	R3C	3N8		59038
SE	31	2 29 W1M	Ronald La Verne Mayes			c/o G.D. Drier, Box 81	Pierson	MB	ROM	1S0		56446

TABLE 1(cont)
SOUTH PIERSON AREA

Location			Name of Interest	Address	City	Area		Cert. Number
Dir	Sec	Twp Rge Mer				Pr	Code	
SW	31	2 29 41N 10E	Gerald Dordon Drier	c/o G.D. Drier, Box 81	Pierson	MB	ROM 150	56446
			Ronald La Verne Mayes	c/o G.D. Drier, Box 81	Pierson	MB	ROM 150	56446
SW	32	2 29 41N 10E	Gerald Dordon Drier	c/o G.D. Drier, Box 81	Pierson	MB	ROM 150	56446
			William John Olson	Box 234	Pierson	MB	ROM 150	183207
NE	1	2 30 41N 10E	Amoco Canada Petroleum Company Limited	Box 200, Station #1	Calgary	AB	T2P 2H8	26292
NE	13	2 30 41N 10E	Thomas Dale Bonner	Box 206	Punichy	SK	S0A 3C0	
NE	24	2 30 41N 10E	Albert Edward Hoskin	357 George Street	Cobourg	ON	K9A 3V5	
			PanCanadian Petroleum Limited	Box 2850	Calgary	AB	T2P 2S5	
			Caryle Energy Ltd.	700, 1122 - 4 St. S.W.	Calgary	AB	T2R 1M1	
			Pembina Resources Limited	P.O. Box 1948	Calgary	AB		
E 1/2	25	2 30 41N 10E	Robert J. Kleiman	1409 Willow Street	Minneapolis	MN	55403	
			Alberta			AB		
			Sask			SK		
			Manitoba			MB		
			Ontario			ON		
			Quebec			QP		
			New Brunswick			NB		
			Nova Scotia			NS		
			Prince Edward Island			PE		
			Newfoundland			NF		
			Arizona			AZ		
			North Dakota			ND		
			Minnesota			MN		

APPENDIX A

It is Home Oil's belief that the ultimate recovery in the South Pierson Field will be not be affected by increasing the maximum permissible production rate. Literature indicates that ultimate oil recovery from a solution-gas drive reservoir is not rate sensitive. This preceding statement is true if the well can be produced to a very low final rate. However, at the economic limit, an increase in ultimate recovery can occur by increasing the production rate. This is due to the slopes of the decline curves; ie. decline rates, before and after the increase in the production rate. Granted this increase may be minimal, but it does illustrate there is a possible benefit to increasing the maximum permissible production rate in South Pierson. Increasing the production rate of wells which are capable of this; will obviously benefit economically, but will not deter from attaining the Board's and Home Oil's goal of maximizing oil recovery in South Pierson.

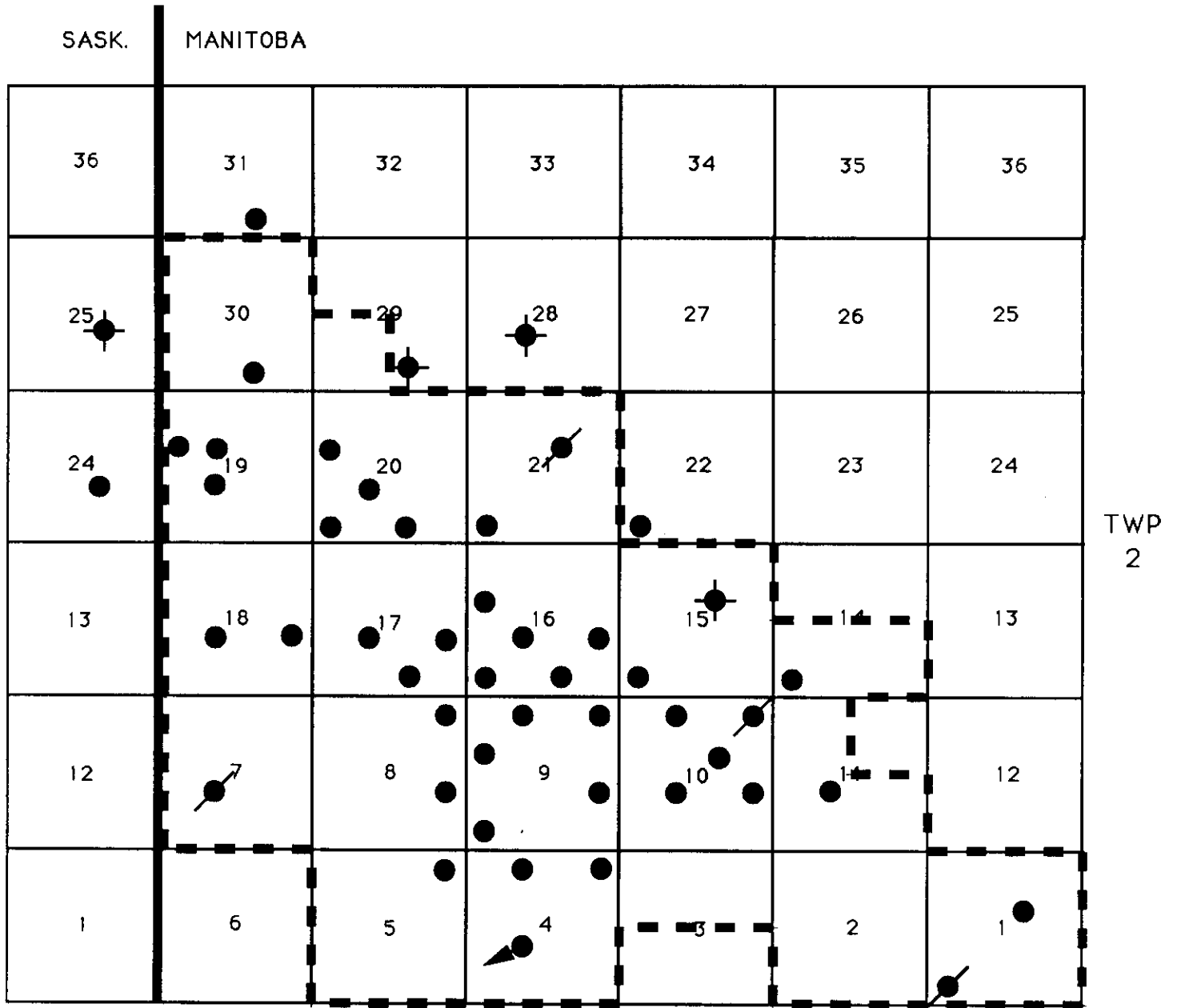
Reservoir pressure decline in the South Pierson field is minimal under the present production practice. This is illustrated by the recent build-up tests performed on 16-08 and 16-09-002-29 W1M. Initial reservoir pressure at 16-08 was recorded at 10 450 kPa while the build-up test run in January 1990 indicated a pressure of 9 930 kPa, after cumulative oil production of 6 130 m³. Similarly, the initial build-up at 16-09 indicated a reservoir pressure of 10 125 kPa with the March 1990 build-up resulting in a pressure of 9 965 kPa. During this period, cumulative oil production for 16-09 was 6 745 m³. Therefore, with the reservoir pressure in the Lower Amaranth showing virtually no decrease to date, Home Oil believes an increase in the maximum permissible production rate will not promote a significant further decline in the reservoir pressure.

With respect to the potential waterflooding of the South Pierson field, this proposal will have no detrimental affect on the potential secondary recovery. The reservoir fluid study conducted at 06-19-002-29 W1M identified a bubble point pressure of 4 550 kPa. As indicated earlier, the reservoir pressure is well above the bubble point and the proposed marginal increase in the production rate will not promote a rapid decline in the reservoir pressure to a point which will hamper secondary recovery. Production of all South Pierson wells at their capable rates for some period of time, will enhance Home Oil's understanding of the benefits of waterflooding the Lower Amaranth formation.

The production characteristics of the wells shown in Appendix B are not expected to change significantly due to this proposal. Each well except 16-09 has only recently been completed in the Lower Amaranth formation and is too early to determine whether they will maintain a production rate greater than 8 m³OPD. All wells except 16-09 and 14-10-002-29 W1M are currently producing at their maximum capable daily rate. The wells located at 16-09 and 14-10 are capable of greater production rates as exhibited by their current high fluid levels. The 16-09 location has potential for a production rate greater than the current 10 m³OPD. Estimated maximum capable production is 12 m³OPD.

APPENDIX B

FIGURE 1
SOUTH PIERSON AREA



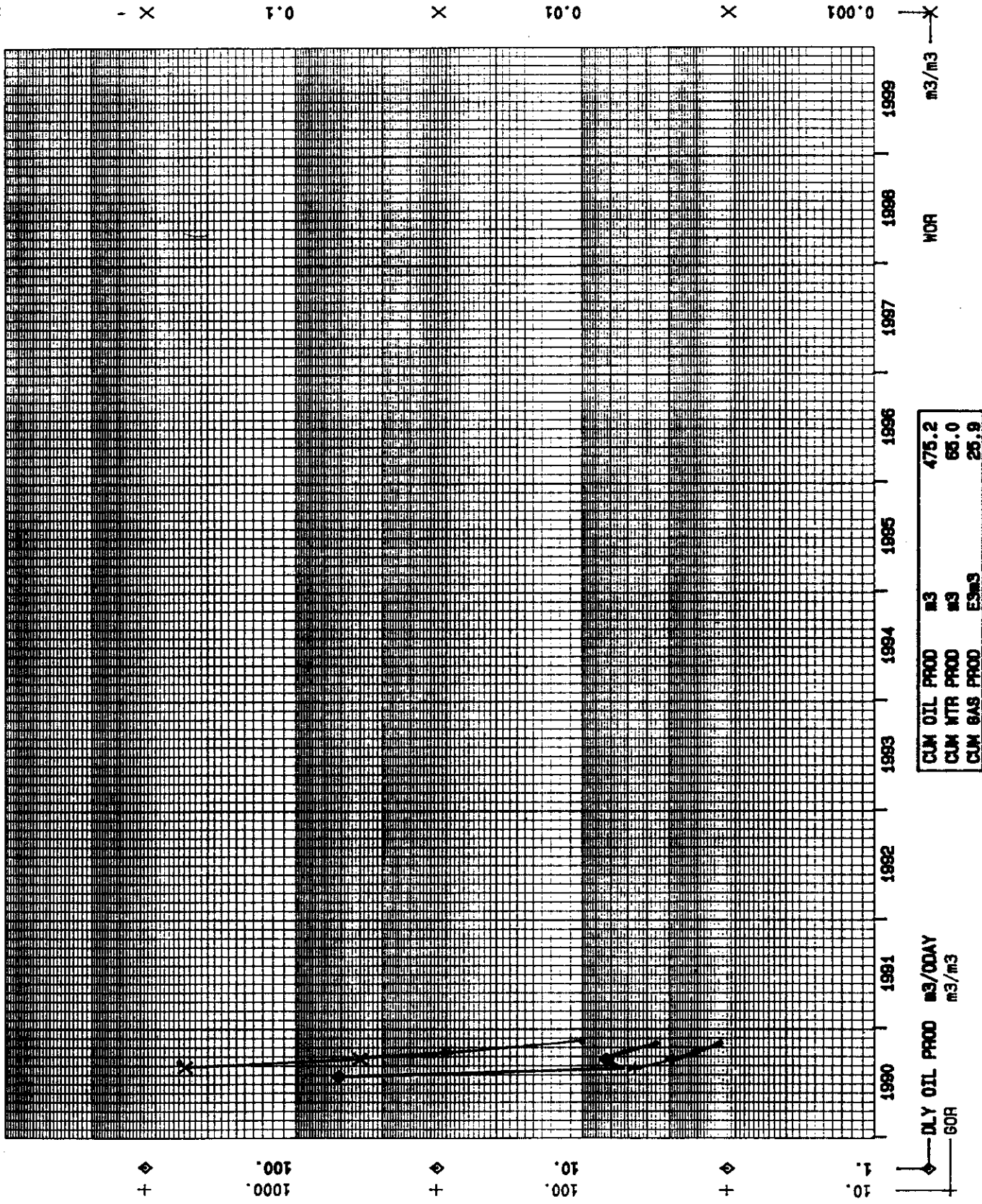
R.30

R. 29 W1M



APPLICATION AREA FOR INCREASE IN
 MAXIMUM PERMISSABLE PRODUCTION RATE

HOME SQUARY S PTERSON PROV 2-16-2-29
POOL: 288 LOWER AMARANTH B



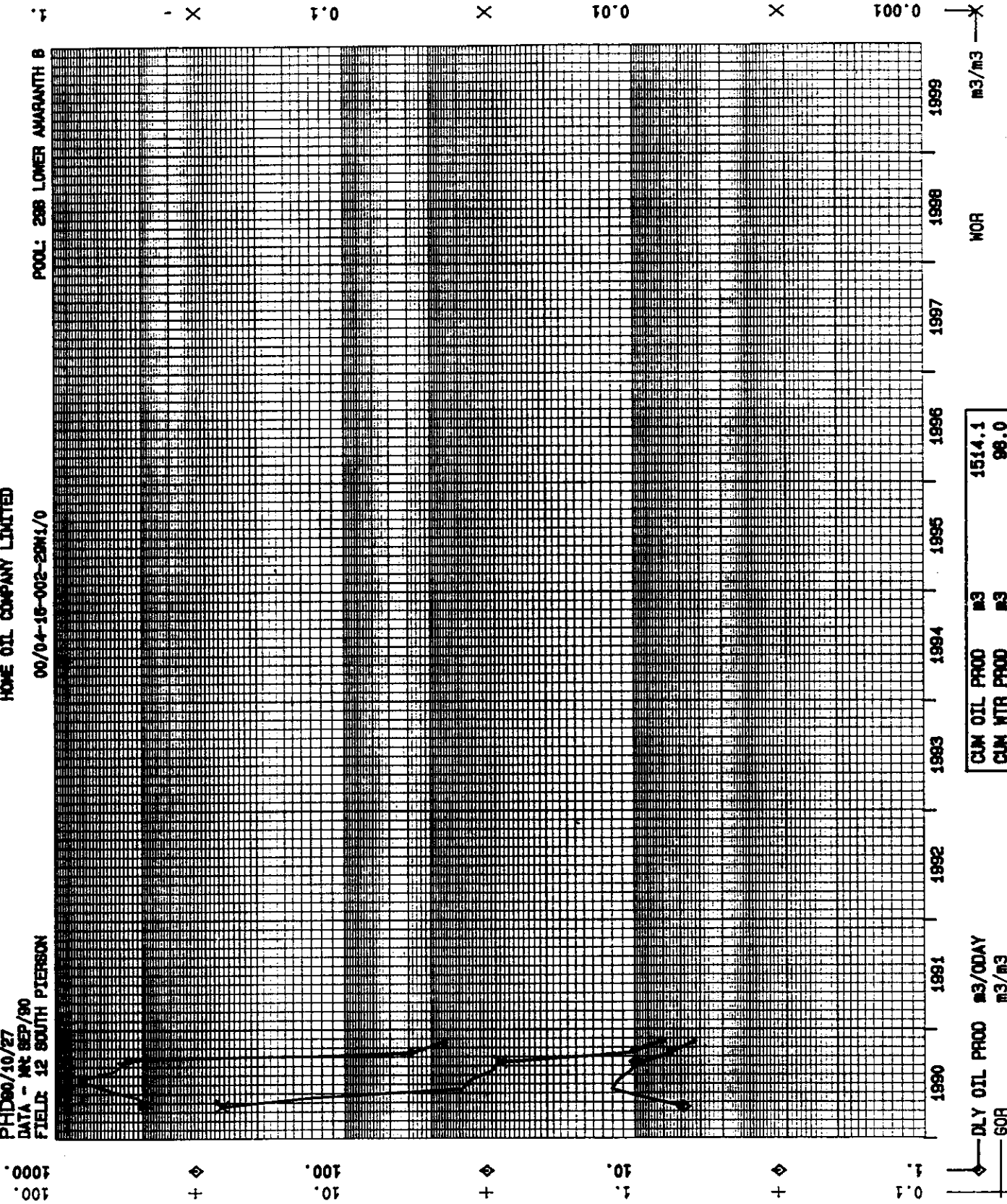
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1184 84/02

PHD00/10/27
DATA - Mkt SEP/90
FIELD: 12 SOUTH PIERSON

HOME OIL COMPANY LIMITED

00/04-15-002-20M1/0

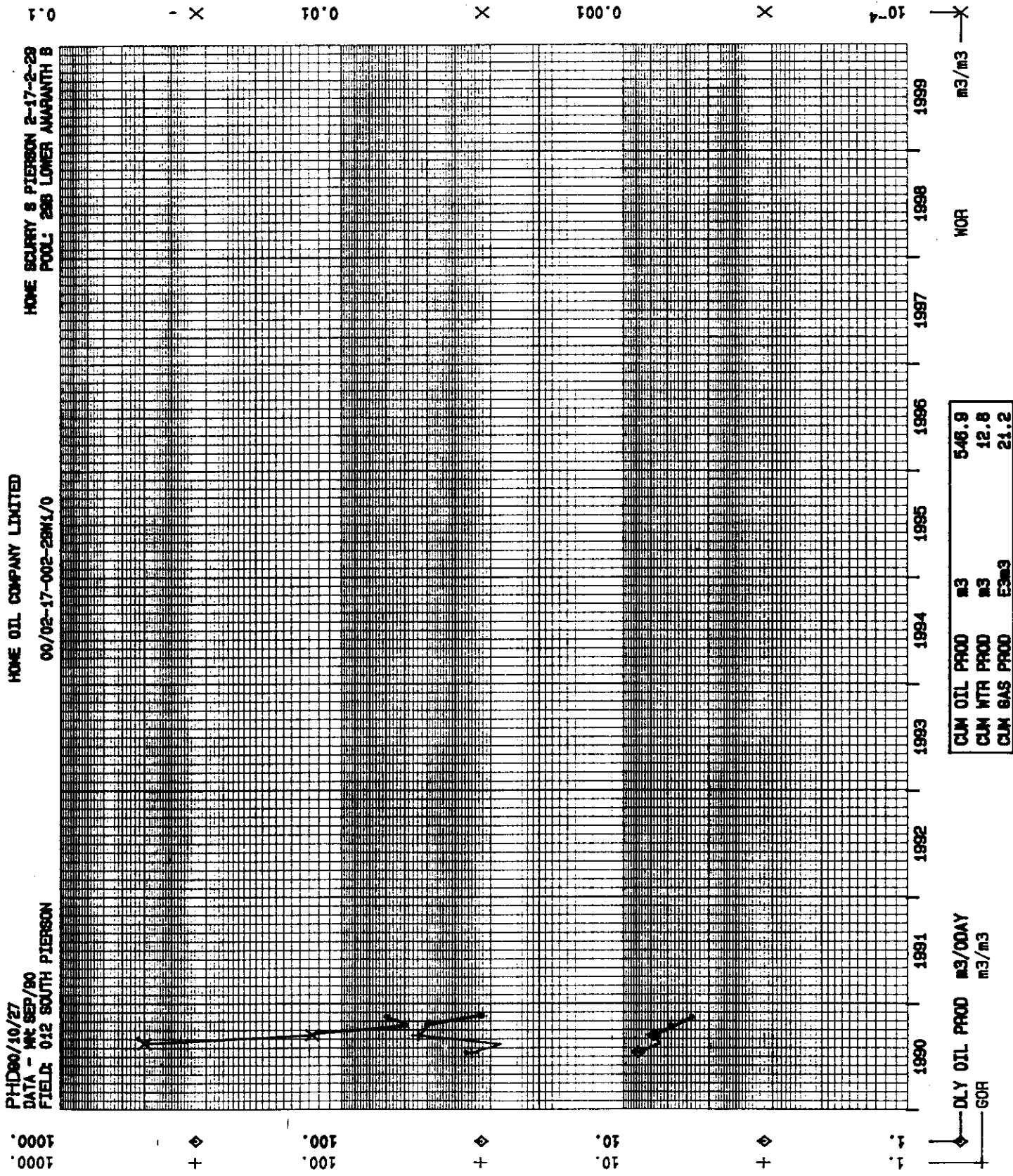
POOL: 208 LOWER AWARANTH B



PHD90/10/27
DATA - MC SEP/90
FIELD: 012 SOUTH PIERSON

HONE OIL COMPANY LIMITED
00/02-17-002-28M1/0

HONE SCURRY & PIERSON 2-17-2-28
POOL: 288 LOWER ANAWANTH B



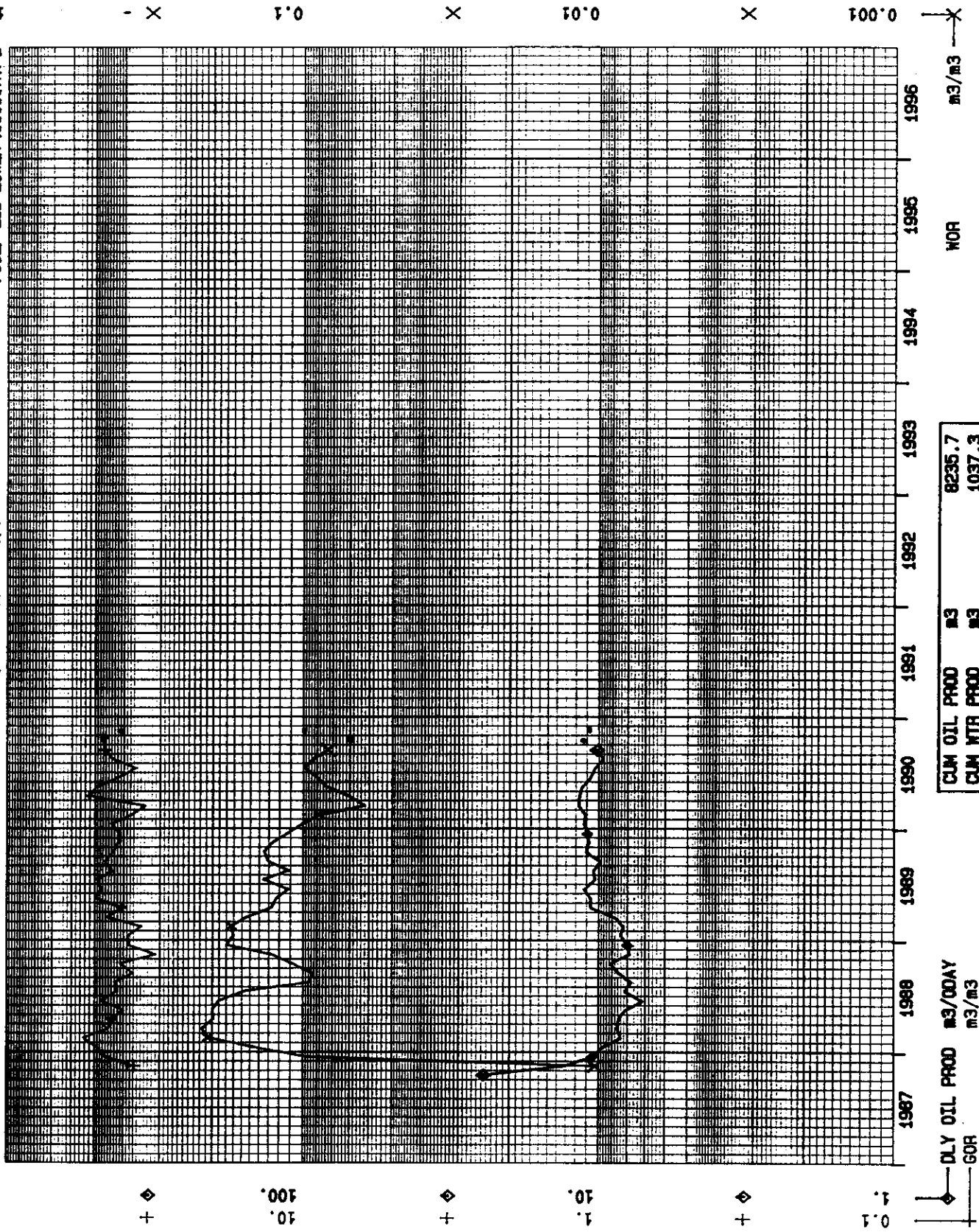
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PHD80/10/27
DATA - MC SEP/80
FIELD: 12 SOUTH PIERSON

HONE OIL COMPANY LIMITED

00/18-09-002-28M1/0

POOL: 288 LOWER ANARANTH B



CUM OIL PROD	m3	8235.7
CUM WTR PROD	m3	1037.3
CUM GAS PROD	E3m3	343.3

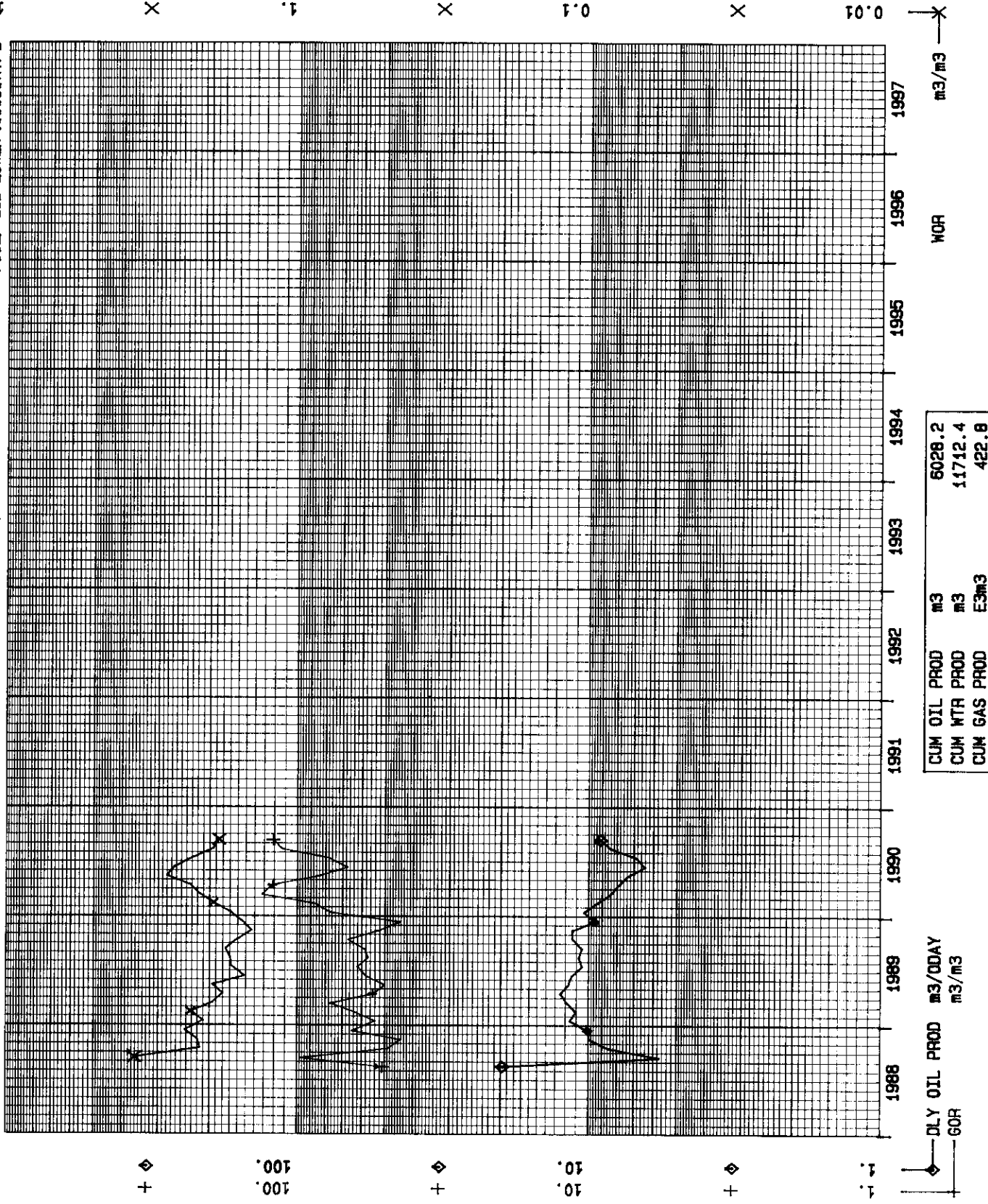
1184 84/02

PHD90/10/27
DATA - MN SEP/90
FIELD: 12 SOUTH PIERSON

HOME OIL COMPANY LIMITED

00/08-08-002-25M1/0

POOL: 288 LOWER AMARANTH B

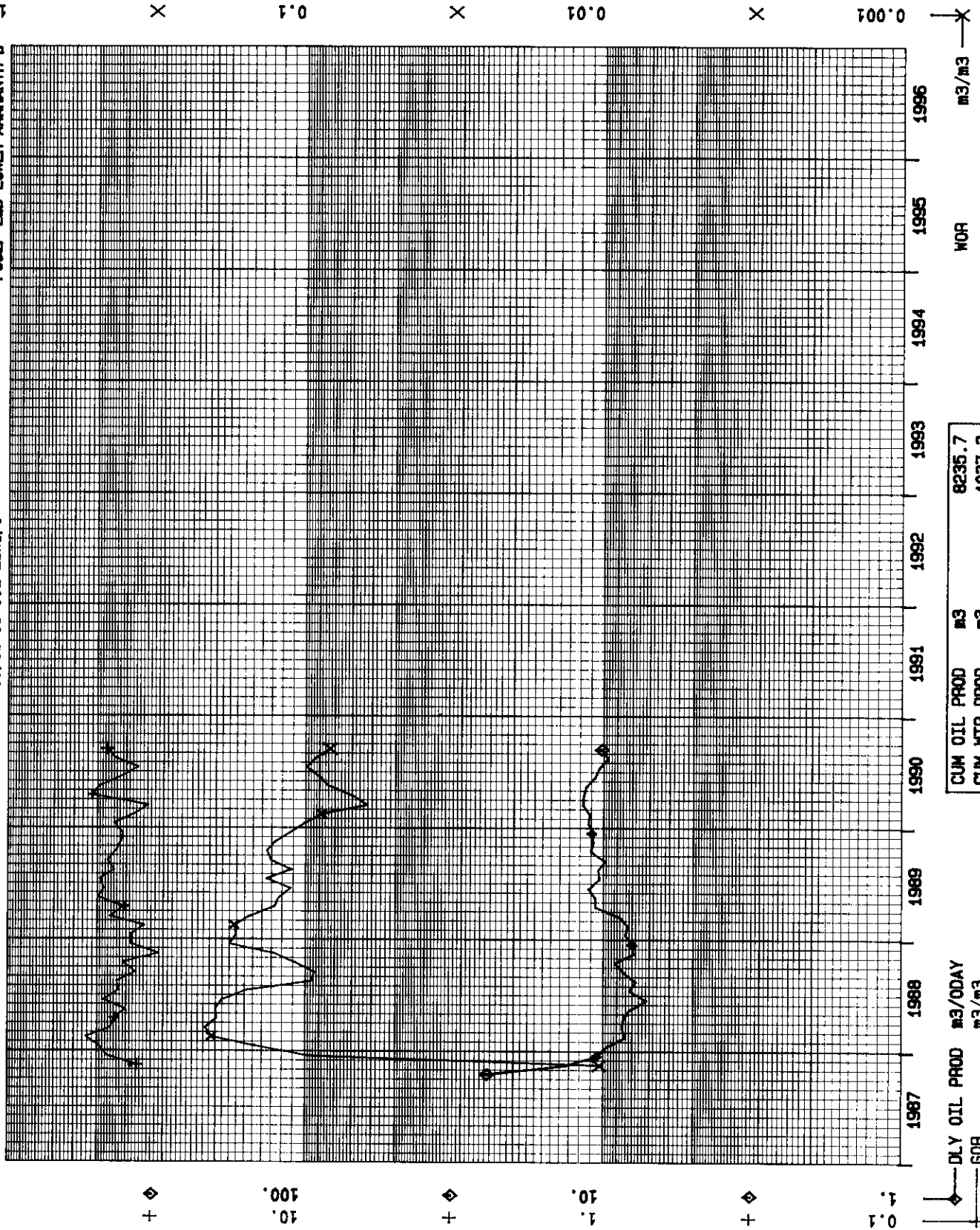


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DATA - MR SEP/80
FIELD: 12 SOUTH PIERSON

HOME OIL COMPANY LIMITED

00/16-09-002-28M1/0

POOL: 298 LOWER AMARANTH B



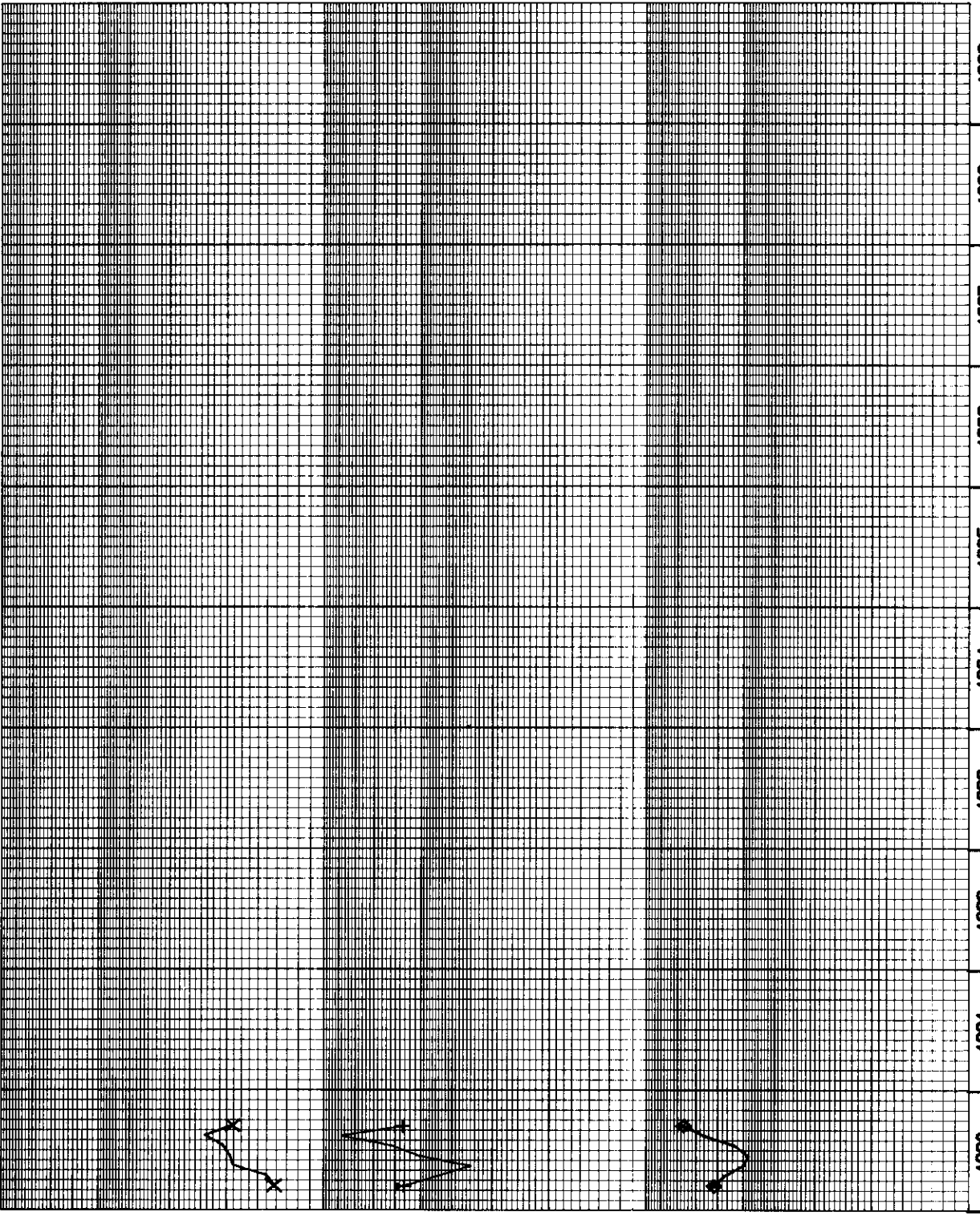
CUM OIL PROD	m3	8235.7
CUM WTR PROD	m3	1037.3
CUM GAS PROD	m3	343.3

PHD90/10/27
DATA - Mt SEP/90
FIELD: 12 SOUTH PIERSON

HOME OIL COMPANY LIMITED
00/14-10-002-2941/2

POOL: 298 LOWER AWARANTH B

1000.
1000.



CUM OIL PROD	m3	1031.8
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CUM GAS PROD	E3m3	57.0

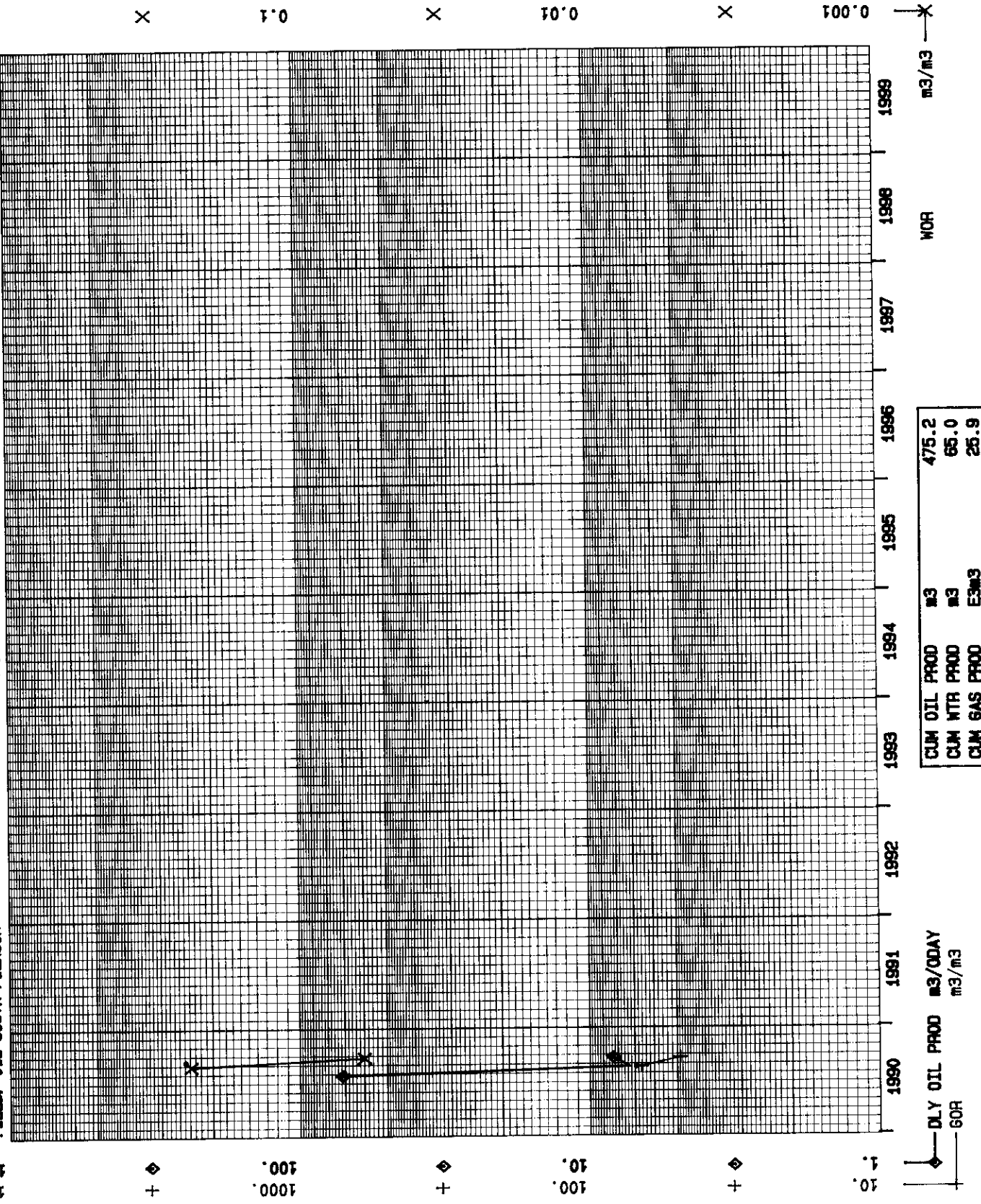
DLY OIL PROD m3/ODAY
m3/m3

WDR m3/m3

PHID60/10/27
DATA - WAT SEP/90
FIELD: 012 SOUTH PIERSON

HONE OIL COMPANY LIMITED
00/02-15-002-28M1/0

HONE SCURRY S PIERSON PROV 2-16-2-28
POOL: 288 LOWER AMARANTH B



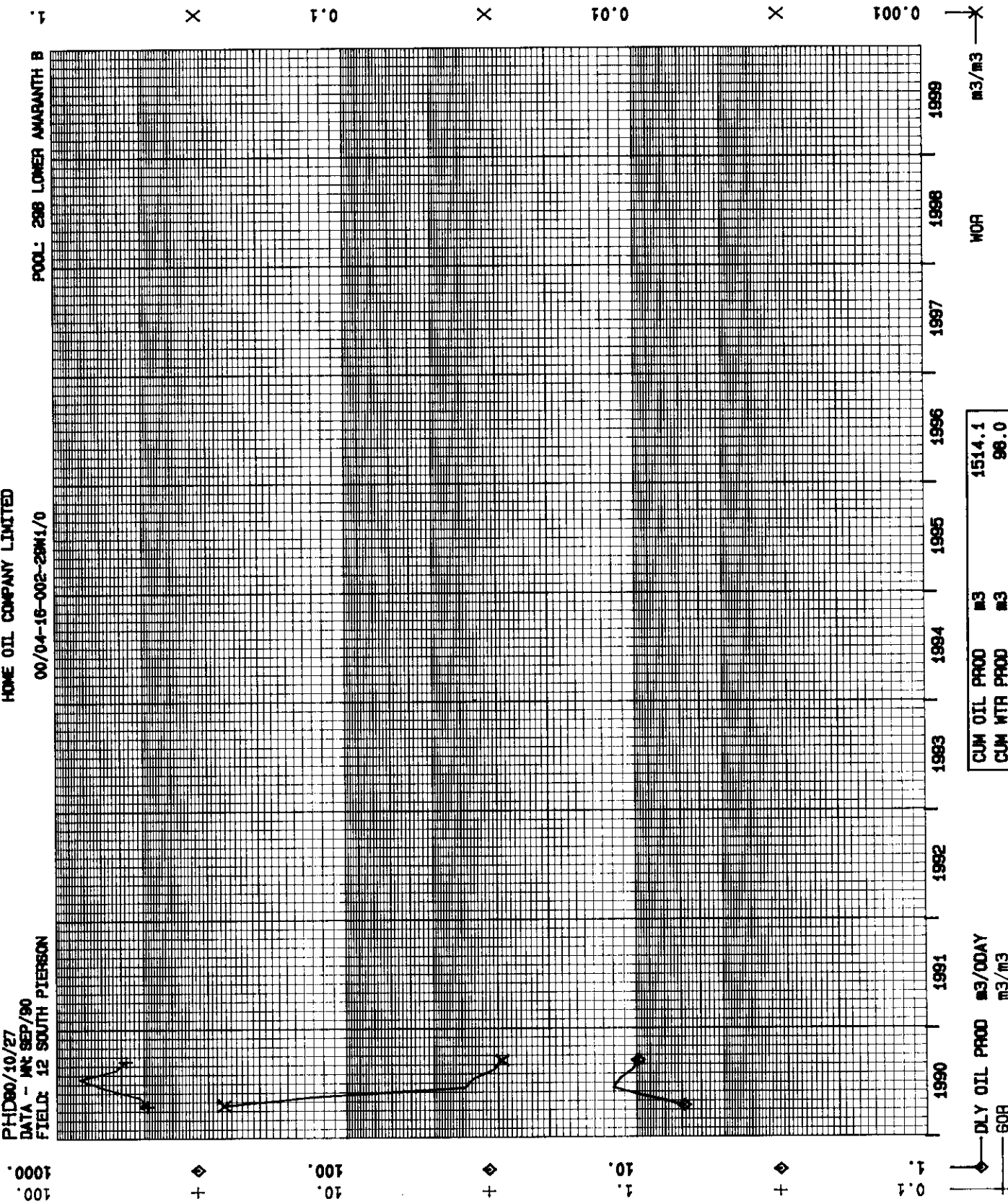
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PHD80/10/27
DATA - MC SEP/90
FIELD: 12 SOUTH PIERSON

HOME OIL COMPANY LIMITED

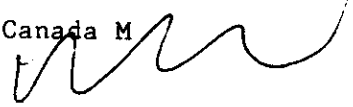
00/04-16-002-23M1/0

POOL: 238 LOWER AMARANTH B



Andrew Thomas Brown ✓
Box 2157
Brandon-- Manitoba
R7A 6X1

Edith Diana Marie Erixon ✓
Box 39
Lyleton, Manitoba
ROM 1G0

Canada M


Pearl McLean ✓
Ste. 105, 218-4 Street
Brandon, Manitoba
R7A 3G8

Cautantowit Holdings Ltd. ✓
26 Mariner Crescent
Winnipeg, Manitoba
R2P 0V4

Canada Trust Company ✓
c/o Montreal Trust
411-8 Avenue S.W.
Calgary, Alberta
T2P 1E7

Theodore Joseph and
Rebecca Susanne Arta ✓
P.O. Box 85
Lyleton, Manitoba
ROM 1G0

Earl Fletcher ✓
Post Office
Coulter, Manitoba
ROM OGO

George Douglas Hart ✓
331 Wainwright Road S.E.
Calgary, Alberta
T2P 1W9

PanCanadian Petroleum Limited ✓
Box 2850
Calgary, Alberta
T2P 2S5

Norman and Willis Glinz ✓
Box 78, Route #2
Bottineau, North Dakota
U.S.A.
58318

Charles Thomas and William
John Nicoll and Mary F. McLeo ✓
Box 275
Treherne, Manitoba
ROG 2V0

South West Oil Limited
P.O. Box 855
Melita, Manitoba ✓
ROM 1L0

Kathleen Louise Martinovsky ✓
P.O. Box 1
Gerald, Saskatchewan
SOA 1B0

Robert William Daniels ✓
P.O. Box 26
Pierson, Manitoba
ROM 1S0

Sarah Ruby Caney ✓
Box 1013
Virden, Manitoba
ROM 2C0

South West Oil Limited
P.O. Box 855
Melita, Manitoba
ROM 1L0

Harold Herbert and Loretta Mae
Mayes ✓
Post Office
Lyleton, Manitoba
ROM 1G0

Wayne Gordon, Trent Wayne
and Adele Celeste Tingey ✓
Box 95
Lyleton, Manitoba
ROM 1G0

Gerald Ralph Dressler
1116 Rosser Avenue, Box 954 ✓
Brandon, Manitoba
R7A 5Z9

Amoco Canada Petroleum Company
Limited ✓
Box 200, Station "M"
Calgary, Alberta
T2P 2H8

Ramona Mae Murray ✓
Box 129
Melita, Manitoba
ROM 1L0

Kevin Marcus Kearns
6215 North 31st Drive
Phoenix, Arizona
U.S.A. 85017

John Murray ✓
Box 3
Pierson, Manitoba
ROM 1S0

Edith Diana Marie Erixon
1820 Abbot Street
Kelowna, B.C.
V1Y 1B5

Joel Keith Morgan
59 Beaver Ridge
(Nepean) Ottawa, Ontario
K2E 6E2

Sceptre Resources Limited
3100, 150 - 6th Avenue SW
Calgary, Alberta
T2P 3Y7

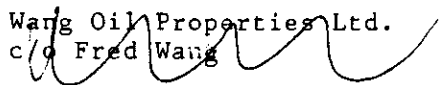
Kenneth Kerfoot Foster ✓
1820 Abbot Street
Kelowna, B.C.
V1Y 1B5

Crossman Petroleums Ltd. ✓
Box 149
Pierson, Manitoba
ROM 1S0

Marie Eikanger ✓
Box 252
Pierson, Manitoba
ROM 1S0

Edith Diana Marie Erixon


The Rural Municipality of Edward
Box 100
Pierson, Manitoba ✓
ROM 1S0

Wang Oil Properties Ltd.
c/o Fred Wang


Last Ditch Investments
Suite 3D - 215 - 1st Ave. N.E.
Calgary, Alberta
T2E 2W8

Antler River Resources Ltd.
Box 267
Melita, Manitoba
ROM 1L0
Attention: Murray Cameron

Sceptre Resources
3100 - 150 - 6th Avenue S.W.
Calgary, Alberta
T2E 3Y7

PanCanadian
150 - 9th Avenue S.W.
Calgary, Alberta
T2P 2S5

Rural Municipality of Edward

Winnifred Anne Law
General Delivery
Lyleton, Manitoba
ROM 1G0

Muriel May Bird
General Delivery
Pierson, Manitoba
ROM 1S0

Ralph Raymond Law
General Delivery
Melita, Manitoba
ROM 1L0

Wang Oil Properties Ltd.
c/o Fred Wang
General Delivery
Pierston, Manitoba
ROM 1SO

Patricia Ann Flueher
R.R. 2, 152J
Buffalo Lake, Minnesota
U.S.A.

Neil Robert Silker
2410 Red Leaf Court
Windom, Minnesota
56101

Donald Keith & Donald Silker
Route 2, P.O. Box 245
Hector, Minnesota
u.s.a. 55342

Paul Kielhorn and Harold
Freberg
Executors of Estate of
Amanda Freberg
29 Langley Street
Regina, Saskatchewan
S4S 3V5

Kenneth James Lee
Box 35
Pierston, Manitoba
ROM 1SO

Gladys Sarah Patmore
Post Office
Pipestone, Manitoba
ROM 1TO

Glen Howard Crossman
Box 149
Pierston, Manitoba
ROM 1SO

Frank George Crossman
Box 212
Pierston, Manitoba
ROM 1SO

Douglas David Southam
Box 234
Melita, Manitoba
ROM 1LO

Governing Council of the
Salvation Army, Canada West
c/o Pollock Company (H. Pollock)
1610 - 155 Carleton Street
Winnipeg, Manitoba R3C 3H8

Ronald LaVerne Mayes
c/o G.D. Drier
Box 81
Pierston, Manitoba ROM 1SO

Gerald Dordon Drier
c/o G.D. Drier
Box 81
Pierston, Manitoba
ROM 1SO

William John Olson
Box 234
Pierston, Manitoba
ROM 1SO

Ethel Veazie
5438 E. Baltimore
Mesa, Arizona
U.S.A. 85202

74800 Manitoba Ltd.
Box 102
Pierston, Manitoba
ROM 1SO

John Hammell
Box 102
Pierston, Manitoba
ROM 1SO

Doris Amanda Smith
General Delivery
Pierston
ROM 1SO

George Douglas Hart
332 Mainwright Road S.E.
Calgary, Alberta
T2J 1H9

The Canada Trust Company
311 - 6 Avenue S.W.
Calgary, Alberta
T2P 3H2

Prairie Leaseholds Ltd.
c/o Petro-Canada Inc.
Box 2844
Calgary, Alberta
T2P 2P2

Kevin Paul Kielhorn
111 Youville Street
Winnipeg, Manitoba
R2H 2R9

Robert Henry Kielhorn
171-32691 Garibaldi Drive
Abbotsford, B.C.
V2S 0R6

Isabelle Boyd
Box 248
Pierston, Manitoba
ROM 1SO

Patricia Ann Boyd
2520 Renzoni Road
Mississauga, Ontario
L5K 1W9

Carolyn Beth Allison
Box 96
Elkhorn, Manitoba
ROM ONO

John Graham Kielhorn
13619 Kalmath Falls Drive
Houston, Texas
U.S.A. 77041

Robert Henry Kielhorn
171 - 32691 Garibaldi

Amoco Canada Petroleum Company
Ltd.
Box 200
333-7th Avenue S.W.
Calgary, Alberta T2P 2H8

John Murray
Box 3
Pierston, Manitoba
ROM 1SO

Royal Trust Corporation of Can.
Estate of L.G. Stevens
Box 149
Winnipeg, Manitoba
R3C 2M2

Campbell Oil Properties Ltd.
Box 84
Pierston, Manitoba
ROM 1SO

TABLE 1 (cont)
SOUTH PIERSON AREA

Location		Dir	Sec	Twp	Rge	Mer	Name of Interest	Address	City	Area	Pr Code	Cert. Number
SW	7	2	28	W1M			Don Harley Insurance Agencies Ltd.	Village of Lyleton		MB		59210
							Winnifred Anne Law	Pierston		MB	ROM 150	55630
							Muriel May Bird	Melita		MB		55630
							Ralph Raymond Law			SK	SOA 180	12578
NW	1	2	29	W1M			Kathleen Louise Martinovsky			MB	ROM 1L0	25839
							South West Oil Limited			SK	SOA 180	12578
NE	1	2	29	W1M			Kathleen Louise Martinovsky			MB	58318	25916
							Norman Glinz and Willis Glinz			SK	SOA 180	12578
SW	1	2	29	W1M			Kathleen Louise Martinovsky			MB	R7A 529	28674
							Gerald Ralph Dressler			AZ	85017	28674
							Kevin Marcus Kearns			SK	SOA 180	12578
SE	1	2	29	W1M			Kathleen Louise Martinovsky			ON	K2E 6E2	58278
							Joel Keith Morgan			MB	R7A 529	58278
							Gerald Ralph Dressler			MB	ROM 180	182396
NW	2	2	29	W1M			Crossman Petroleum Ltd.			MB	ROM 150	182400
							Crossman Petroleum Ltd.			MB	ROM 150	182396
NE	2	2	29	W1M			Crossman Petroleum Ltd.			MB	ROM 150	182400
							Crossman Petroleum Ltd.			MB	ROM 150	8887
SE	3	2	29	W1M			The Rural Municipality of Edward			AB	T2P 1E7	28266
NE	6	2	29	W1M			Canada Trust Company c/o Montreal Trust			AB	T2J 1H9	27552
							Canada Trust Company c/o Montreal Trust			MB	ROG 2V0	50647
							George Douglas Hart					50647
NW	7	2	29	W1M			Charles Thomas Nicoll			AB		50647
							William John Nicoll			MB	ROG 2V0	50648
							Mary F. McLeod			AB		50648
NE	7	2	29	W1M			Charles Thomas Nicoll			AB		50648
							William John Nicoll			MB	ROG 2V0	50647
							Mary F. McLeod			AB		50647
SW	7	2	29	W1M			Charles Thomas Nicoll			MB	ROG 2V0	50647
							William John Nicoll			AB		50647
							Mary F. McLeod			AB		50647

TABLE 1(cont)
SOUTH PIERSON AREA

Location		Name of Interest		Address	City	Area		Cert. Number
Dir	Sec Twp Rge Mer					Pr	Code	
SW	31 2 29 11N	Gerald Dordon Drier ✓		c/o G.D. Drier, Box 81	Pierson	MB	ROM 1S0	56446
		Ronald La Verne Mayes ✓		c/o G.D. Drier, Box 81	Pierson	MB	ROM 1S0	56446
SW	32 2 29 11N	Gerald Dordon Drier ✓		c/o G.D. Drier, Box 81	Pierson	MB	ROM 1S0	56446
		William John Olson ✓		Box 234	Pierson	MB	ROM 1S0	183207
NE	1 2 30 11N	Amoco Canada Petroleum Company Limited ✓		Box 200, Station #111	Calgary	AB	T2P 2H8	26292
		Thomas Dele-Bonner		Box 206	Punnichy	SK	SDA 3C0	
NE	13 2 30 11N	Albert Edward Hoskin		357 George Street	Cobourg	ON	K9A 3V5	
NE	24 2 30 11N	PanCanadian Petroleum Limited		Box 2850	Calgary	AB	T2P 2S5	
		Caryle Energy Ltd.		700, 1122 - 4 St. S.W.	Calgary	AB	T2R 1M1	
		Pembina Resources Limited		P.O. Box 1948	Calgary	AB		
E 1/2-25	2 30 11N	Robert J. Kleinman		1409 Willow Street	Minneapolis	MN	55403	

Alberta AB
Sask SK
Manitoba MB
Ontario ON
Quebec QP
New Brunswick NB
Nova Scotia NS
Prince Edward Island PE
Newfoundland NF
Arizona AZ
North Dakota ND
Minnesota MN

TABLE 1 (cont)
SOUTH PIERSON AREA

Dir	Location	Sec	Twp	Rge	Mer	Name of Interest	Address	City	Pr Code	Area	Cert. Number
SE	7	2	29	W1N		Charles Thomas Nicoll ✓ William John Nicoll ✓ Mary F. McLeod ✓	Box 275 See Charles Thomas Nicoll See Charles Thomas Nicoll	Treherne	MB R0G 2V0		50648
SU	12	2	29	W1N		Robert William Daniels ✓	P.O. Box 26	Chatton	AB		50648
SE	12	2	29	W1N		Robert William Daniels ✓	P.O. Box 26	Pierson	MB R0M 1S0		190465
NW	13	2	29	W1N		Harold Herbert Hayes and Loretta Mae Hayes ✓	Both of the Postal District of Lyleston	Pierson	MB R0M 1S0		190465
SU	13	2	29	W1N		Anoco Canada Petroleum Company Limited ✓ John Murray ✓	Box 200, Station MM Box 3	Calgary	MB		52067
NW	14	2	29	W1N		Sceptre Resources Limited ✓	3100, 150 - 6 Ave. S.W.	Pierson	AB T2P 2H8		26291
NE	14	2	29	W1N		Sceptre Resources Limited ✓	3100, 150 - 6 Ave. S.W.	Calgary	MB R0M 1S0		15790
NE	18	2	29	W1N		Marie Elkanger ✓	Box 252	Calgary	AB T2P 3Y7		163076
SU	18	2	29	W1N		Wang Oil Properties Ltd. ✓	c/o Fred L. Wang, Gen. Del.	Pierson	AB T2P 3Y7		171168
N	19	2	29	W1N		Patricia Ann Flueher ✓ Neil Robert Silker ✓ Donald Keith Silker ✓ Donald Silker ✓	R.R. 2, 152J 2410 Red Leaf Court Route 2, P.O. Box 245 Route 2, P.O. Box 245	Pierson Buffalo Lake Window Hector	MB R0M 1S0 MN		172138 169767
SU	19	2	29	W1N		Anoco Canada Petroleum Company Limited ✓	Box 200, Station MM	Calgary	AB T2P 2H8		171183
SE	19	2	29	W1N		Anoco Canada Petroleum Company Limited ✓	Box 200, Station MM	Calgary	AB T2P 2H8		27114
N	21	2	29	W1N		Paul Kielhorn and Harold Freberg, Executors of Estate of Amanda Freberg ✓	Box 29 Langley Street	Regina	SK S4S 3V5		38056
SU	21	2	29	W1N		Kenneth James Lee ✓	Box 35	Pierson	MB R0M 1S0		27114
SE	21	2	29	W1N		Paul Kielhorn and Harold Freberg, Executors of Estate of Amanda Freberg ✓	Box 29 Langley Street	Regina	SK S4S 3V5		170213
SE	22	2	29	W1N		Her Majesty the Queen ✓					45340
SU	23	2	29	W1N		Gladys Sarah Patmore ✓	Post Office of Pipestone	Pipestone	MN		182702
SU	27	2	29	W1N		Crossman Petroleums Ltd. ✓	Box 149	Pierson	MB R0M 1S0		26849
SU	29	2	29	W1N		Glen Howard Crossman ✓	Box 149	Pierson	MB R0M 1S0		24448
SE	29	2	29	W1N		Frank George Crossman ✓	Box 212	Pierson	MB R0M 1S0		59038
NW	30	2	29	W1N		Governing Council of the Salvation Army, Canada West ✓					59038
NE	30	2	29	W1N		c/o Pollock Co. ✓					59038
SU	30	2	29	W1N		Attn. Mr. Harvey Pollock ✓					59038
SE	30	2	29	W1N		1610 - 155 Carleton Street ✓		Winnipeg	MG R3C 3H8		59038
SE	31	2	29	W1N		Ronald La Verne Hayes ✓	c/o G.D. Drier, Box 81	Pierson	MB R0M 1S0		56446

TABLE 1

SOUTH PIERSON AREA

Location		Name of Interest		Address	City	Area		Cert. Number
Dir	Sec Twp Rge Mer					Pr	Code	
NW	31	1	28 W1M Andrew Thomas Brown ✓	Box 2157	Brandon	MB	R7A 6X5	58638
NE	31	1	29 W1M Pearl MacLean	Ste. 105, 218 - 4 Street	Brandon	MB	R7A 3G8	27029
			Theodore Joseph Artz and ✓	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
			Rebecca Susanne Artz	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
NW	33	1	29 W1M PanCanadian Petroleum Limited ✓	Box 2850	Calgary	AB	T2P 2S5	
NE	33	1	29 W1M PanCanadian Petroleum Limited ✓	Box 2850	Calgary	AB	T2P 2S5	
NW	34	1	29 W1M South West Oil Limited ✓	P.O. Box 855	Melita	MB	ROM 1L0	24080
			Sarah Ruby Caney ✓	Box 1013	Virden	MB	ROM 2C0	41444
			Wayne Gordon Tingey ✓	Box 95	Lyleton	MB	ROM 1G0	170831
			Wayne Gordon Tingey ✓	Box 95	Lyleton	MB	ROM 1G0	170830A
			Wayne Gordon Tingey ✓	Box 95	Lyleton	MB	ROM 1G0	170830
			Trent Wayne Tingey ✓	Box 95	Lyleton	MB	ROM 1G0	170829
			Adele Celeste Tingey ✓	Box 95	Lyleton	MB	ROM 1G0	170829
NE	34	1	29 W1M Ramona Mae Murray and ✓	Box 129	Melita	MB	ROM 1L0	175912
			Edith Diana Marie Erixon ✓	Box 39	Lyleton	MB	ROM 1G0	175912
			Kenneth Kerfoot Foster ✓	1820 Abbot Street	Kelowna	BC	V1Y 1B5	18443
NW	35	1	29 W1M Cautantowit Holdings Ltd. ✓	26 Mariner Crescent	Winnipeg	MB	R2P 0V4	58400
NE	35	1	29 W1M Cautantowit Holdings Ltd. ✓	26 Mariner Crescent	Winnipeg	MB	R2P 0V4	58400
NW	36	1	29 W1M Earle Fletcher ✓	Post Office	Coulter	MB	ROM 0G0	35279
			Norman Glinz and Willis Glinz ✓	Box 78, Route #2	Bottineau	ND	58318	186471
			Kathleen Louise Martinovsky ✓	P.O. Box 1	Gerald	SK	S0A 1B0	12578
NE	36	1	29 W1M Earle Fletcher ✓	Post Office	Coulter	MB	ROM 0G0	35279
			South West Oil Limited ✓	P.O. Box 855	Melita	MB	ROM 1L0	186476
			Kathleen Louise Martinovsky ✓	P.O. Box 1	Gerald	SK	S0A 1B0	12578
SW	6	2	28 W1M Theodore Joseph Artz and ✓	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
			Rebecca Susanne Artz	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
			Pearl MacLean ✓	Ste. 105, 218 - 4 Street	Brandon	MB	R7A 3G8	27029
NW	6	2	28 W1M Theodore Joseph Artz and ✓	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
			Rebecca Susanne Artz	P.O. Box 85	Lyleton	MB	ROM 1G0	189153
			Ramona Mae Murray and ✓	Box 129	Melita	MB	ROM 1L0	175624
			Edith Diana Marie Erixon ✓	Box 39	Lyleton	MB	ROM 1G0	175624

<u>LANDS</u>	<u>P & NG MINERAL OWNERS</u>	<u>ADDRESS</u>
NW 1/4 8-2-29 W1M (U 1/2 I)	Patricia Ann Boyd X	2520 Renzoni Road Mississauga, Ontario L5K 1W9
NW 1/4 8-2-29 W1M (U 1/2 I)	Carolyn Beth Allison X	Box 96 Elkhorn, Manitoba ROM 0N0
S 1/2 8-2-29 W1M	Manitoba Energy and Mines X	
N 1/2 9-2-29 W1M	John Graham Kielhorn V	13619 Klamath Falls Drive Houston, Texas 77041
S 1/2 9-2-29 W1M (U 3/4 I)	Robert Henry Kielhorn X	171 - 32691 Garabaldi Drive, RR # 10 Abbotsford, B.C. V2S 6W8
S 1/2 9-2-29 W1M (U 1/4 I)	Amoco Canada Petroleum Company Ltd. (Dome Petroleum) J	Box 200 333 - 7 Avenue S.W. Calgary, Alberta T2P 2H8
NE 1/4 10-2-29 W1M	Manitoba Energy and Mines ✓	
NW 1/4 10-2-29 W1M	Crossman Petroleums Ltd. ✓	Box 149 Pierson, Manitoba ROM 1S0
SE 1/4 10-2-29 W1M (U 1/4 I)	John Murray X	Box 3 Pierson, Manitoba ROM 1S0
SE 1/4 10-2-29 W1M (U 1/2 I)	Amoco Canada Petroleum Company Limited (Dome Petroleum) X	Box 200 333 - 7 Avenue S.W. Calgary, Alberta T2P 2H8
SW 1/4 10-2-29 W1M	Crossman Petroleums Ltd. X	Box 149 Pierson, Manitoba ROM 1S0
W 1/2 11-2-29 W1M	Manitoba Energy and Mines ✓	
SE 1/4 2-29 W1M	Manitoba Energy and Mines X	
15-2-29 W1M (U 1/2 I) (Ptn)	Royal Trust Corporation of Canada Estate of L.G. Stevens X	Box 149 Winnipeg, Manitoba R3C 2M2

P & NG MINERAL OWNERS
SOUTH PIERSON AREA, MANITOBA

Following is an outline of the mineral owners of lands within Home Oil Company Limited Area of Application for Special Drilling Spacing Units.

Unless otherwise described all lands are held by Home Oil Company Limited and Scurry-Rainbow Oil Limited by lease.

<u>LANDS</u>	<u>P & NG MINERAL OWNERS</u>	<u>ADDRESS</u>
NE 1/4 3-2-29 W1M	Ethel Veazie	5438 E. Baltimore Mesa, Arizona 85205
NW 1/4 3-2-29 W1M	74800 Manitoba Ltd.	Box 102 Pierson, Manitoba R0M 1S0
N 1/2 & SE 4-2-29 W1M	Manitoba Energy and Mines ✓	
SW 1/4 4-2-29 W1M	John Hammell * not leased	Box 102 Pierson, Manitoba R0M 1S0
NE 1/4 5-2-29 W1M	Doris Amanda Smith	General Delivery Pierson, Manitoba R0M 1S0
NW 1/4 5-2-29 W1M (U 1/2 I)	George Douglas Hart	331 Wainwright Rd S.E. Calgary, Alberta T2J 1H9
NW 1/4 5-2-29 W1M (U 1/2 I)	The Canada Trust Company	311 - 6 Avenue S.W. Calgary, Alberta T2P 3H2
SE 1/4 5-2-29 W1M	Kevin Paul Kielhorn	111 Youville Street Winnipeg, Manitoba R2H 2R9
SW 1/4 5-2-29 W1M	Robert Henry Kielhorn	171 - 32691 Garibaldi Drive Abbotsford B.C. V2S 6W8
NE 1/4 8-2-29 W1M (U 1/4 I)	Canada Permanent Trust Company	311 - 6 Avenue S.W. Calgary, Alberta T2P 0R6
NE 1/4 8-2-29 W1M (U 3/4 I)	Isabelle Boyd	Box 248 Pierson, Manitoba R0M 1S0

Handwritten note: same as above 1.

<u>LANDS</u>	<u>P & NG MINERAL OWNERS</u>	<u>ADDRESS</u>
(Ptn) SW 1/4 15-2-29 W1M	Crossman Petroleums Ltd. ✓	Box 149 Pierson, Manitoba R0M 1S0
16-2-29 W1M	Manitoba Energy and Mines ✓	
NE 1/4 17-2-29 W1M (U 1/2 I)	Amoco Canada Petroleum Company Ltd. (Dome Petroleum) ✓	Box 200 333 - 7 Avenue S.W. Calgary, Alberta T2P 2H8
NE 1/4 17-2-29 W1M (U 1/2 I)	Campbell Oil Properties Ltd. ✓	Box 84 Pierson, Manitoba R0M 1S0
NW 1/4 17-2-29 W1M	Campbell Oil Properties Ltd. ✓	Box 84 Pierson, Manitoba R0M 1S0
S 1/2 17-2-29 W1M (U 1/2 I)	Douglas David Southam ✓	Box 234 Melita, Manitoba R0M 1L0
S 1/2 17-2-29 W1M	Prairie Leaseholds Ltd. c/o Petro-Canada Inc. ✓	Box 2844 Calgary, Alberta T2P 3E3

OOIP - M. ARBEZ'S STUDY

- sweet spots (lobes of increased OOIP)

MAIN SAND ONLY USE OOIP $\leq 0.15 \text{ m}^3/\text{m}^2$ (48000 m³)

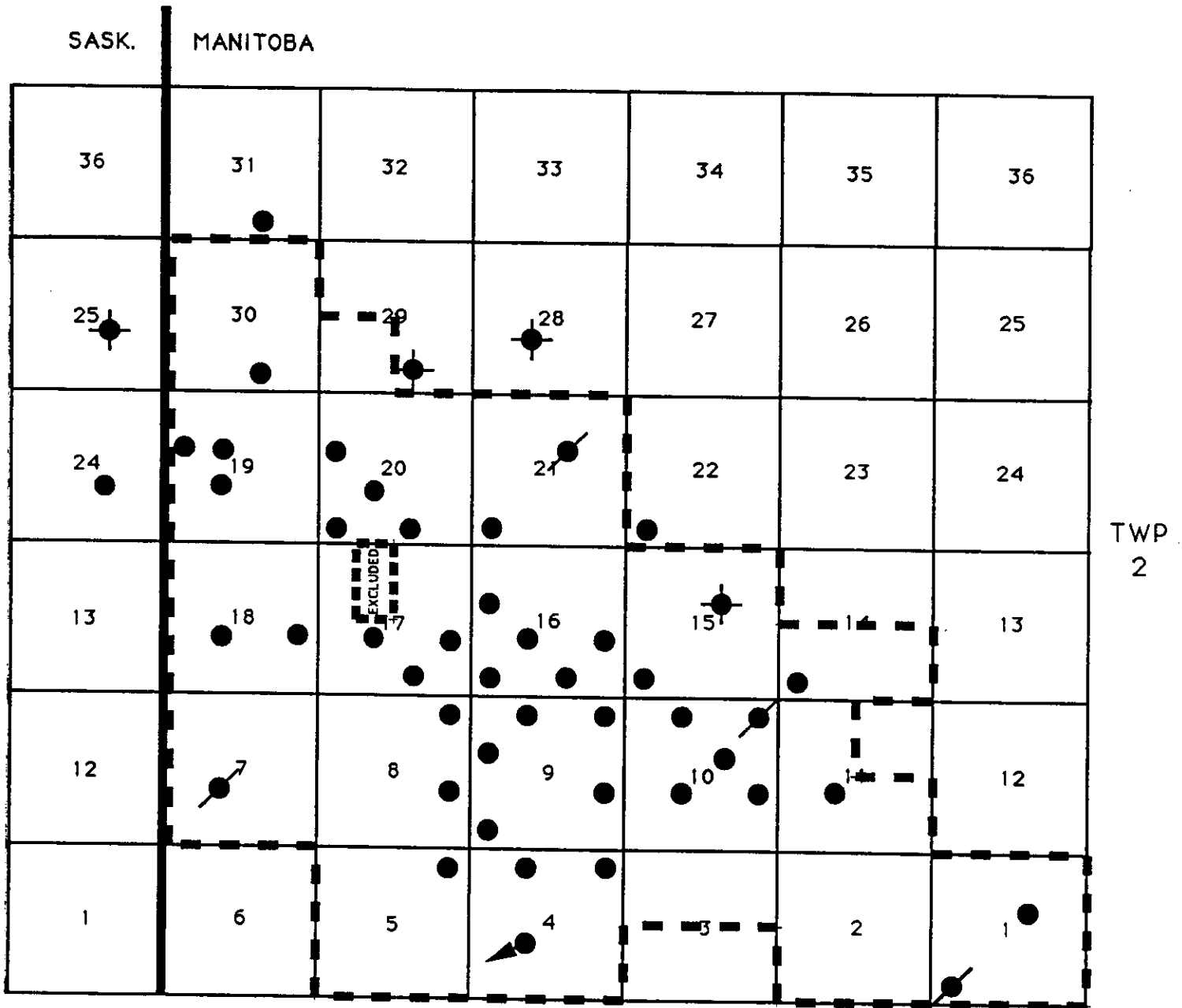
AREA	PRODUCING WELLS	UNDRILLED LOCATIONS
TWP 2-29		
E1/2-8	8-8 [*] , 16-8	2-8, 10-8
W1/2-9	4-9, 12-9	6-9
S1/2-10	6-10	2-10, 4-10
S1/2-16	2-16 [*] , 4-16 [*] , 6-16 [*]	
SE1/4-17	2-17, 8-17	
N1/2-19	6-19 [*] , 11-19 [*] , 16-19	8-19, 10-19

LOWER AMARANTH SANDY UNIT USE OOIP $\leq 0.3 \text{ m}^3/\text{m}^2$ (96000 m³)

E1/2-8	8-8 [*] , 16-8	10-8 ✓
W1/2-9	4-9, 12-9	6-9 ✓, 10-9 ✓
SE1/4-10	6-10	
S1/2-16	2-16 [*] , 4-16 [*] , 6-16 [*] , 8-16	10-16 ✓
S1/2-17	2-17 [*] , 8-17	4-17 ✓
Sec 19	6-19 [*] , 11-19 [*] , 12-19 (16-19)	2-19 ✓, 8-19 ✓, 10-19 ✓

excludes non-producing wells in Sec 1

FIGURE 1
SOUTH PIERSON AREA
 (REVISED)



R.30

R. 29 W1M

--- APPLICATION AREA FOR INCREASE IN
 MAXIMUM PERMISSIBLE PRODUCTION RATE

INCLD

ADDITIONAL ADDRESSES FOR HODT'S APPLICATION

✓ Last Ditch Investments

✓ Suite 3D, 215 - 1st Avenue NE, Calgary T2E 2W8

✓ Antler River Resources Ltd Box 267, Melita, NB Ron 1LC
ATTN: Murray Cameron

✓ Sceptre Resources

✓ 3100 - 150 - 6th Avenue SW.

Calgary T2P 3T2

✓ Pan Canadian

✓ 150 - 9th Avenue SW.

Calgary T2P 2S5

✓ The Rural Municipality of Edward

P.O. Box 100, Pierson NB Ron 1SO

Please provide a copy of the ^{complete} mailing list for our application file

Lease List

✓ Omega Hydrocarbons Ltd. - Mr. R.A. Brekke

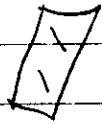
✓ Lunda Oil Co. Ltd. Mr. Dan Barchyn

✓ Amoco Canada Petroleum Co. Ltd.
Box 200 Station 17?
Calgary, Alta. T2P 2H8

4)

✓ - are the addresses we need.

- who are the ones in sec. 17 inside the
little box?



exceeded 200 L^3/min for 2 consecutive months in 1990 & exceeds the existing

8-8-2-29 ✓

16-9-2-29 ✓

14-10-2-29 ✓

~~4-11-2-29~~

2-16-2-29 -

4-16-2-29 -

6-16-2-29 -

~~2-17-2-29~~

6-19-2-29 -

11-19-2-29 -

npr
for 2
least
one
unit

DEC /90

8-8 211.1 L^3 - 7.9 L^3/d

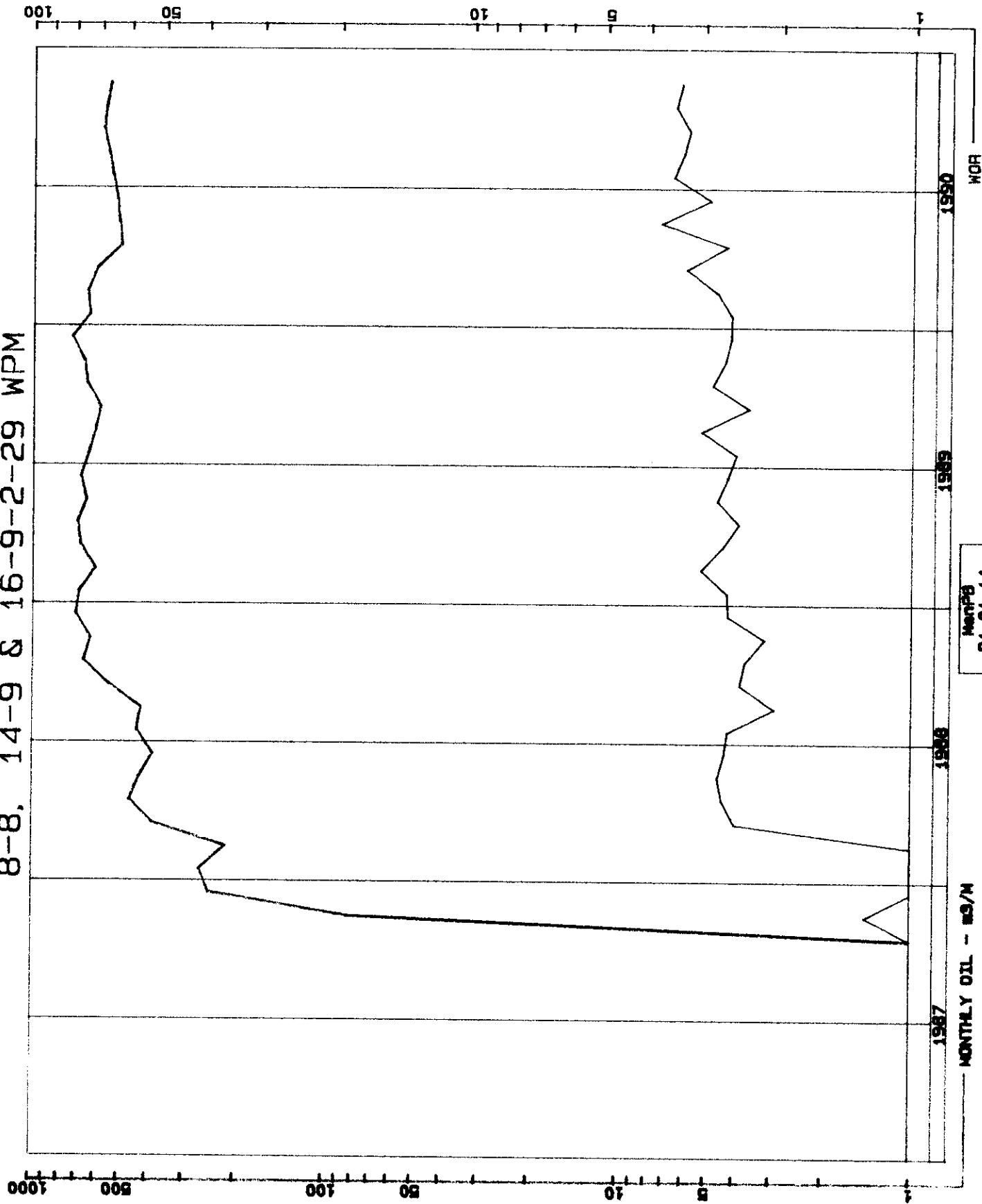
16-9 236.9 L^3 - 11.3 L^3/d

14-10 247.8 L^3 - 8.7 L^3/d

6-19 189.6 L^3 - 6.3 L^3/d

11-19 199.4 L^3 - 6.4 L^3/d

8-8, 14-9 & 16-9-2-29 WPM

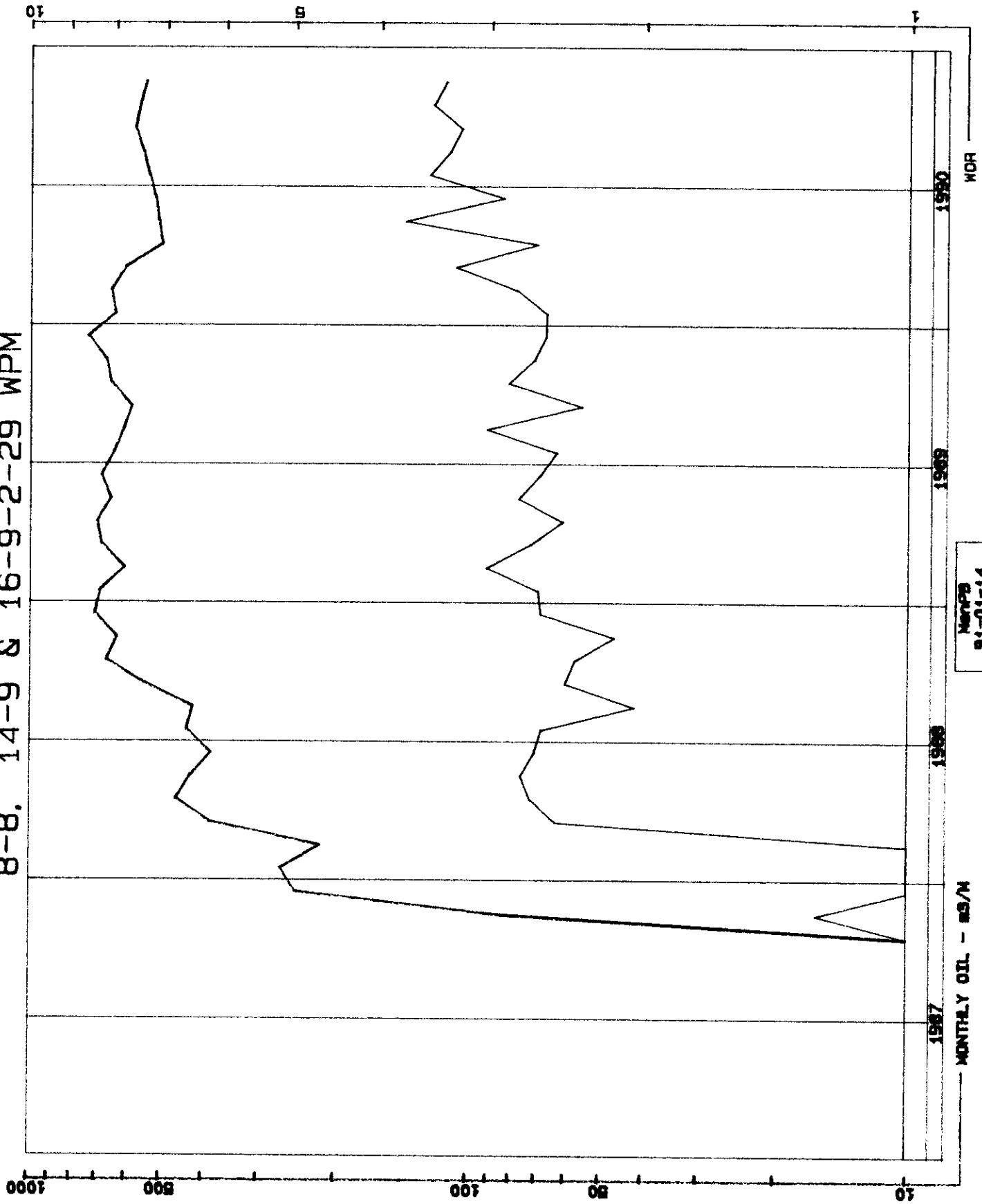


MemPB
91-01-14
07:22:24

MONTHLY OIL - ms/M

WGR

8-8. 14-9 & 16-9-2-29 WPM



B) South Pierson Lower Amaranth B Pool

A total pool production decline estimate is not possible because of active development throughout the pool's production history. Four wells in the pool show consistent declines.

Well	Decline Rate
16-5-2-29 WPM	25%
16-8-2-29 WPM	9%
14-9-2-29 WPM	15%
4-15-2-29 WPM	12%

The average exponential production decline for the four wells is 12% per year. Figure 11 shows the combined production history decline for the four wells.

Assuming no further pool development and a current total production of 1 860 m³ per month (August 1989), the remaining recoverable reserves for the developed spacing units in the pool are 160 176 m³ oil. The total oil recovered to August 31, 1989 is 43 675 m³, giving a primary recovery of 203 851 m³ or 16% of the original oil-in-place underlying the developed spacing units. Assuming no further development occurs in the pool, the primary recovery will be 3.7% of the original oil-in-place.

If the pool is fully developed on 32 hectare spacing, the estimated potential recoverable reserves are 874 628 m³ oil or 16% of the original oil-in-place and the potential remaining reserves are 830 953 m³.

OIL PRODUCTION AND OIL-IN-PLACE

Figure 12 is an oil-in-place versus production correlation for the Lower Amaranth Formation in the study area. The points marked as "x" are used to obtain an excellent straight line correlation between original oil-in-place and average production. With the exception of a few wells, oil production is correlatable to oil-in-place. There are a few wells which obviously do not fit the correlation. These are summarized below:

A) Underachievers**6-4-2-29 WPM:**

This well is structurally low and produced at high water cuts before being converted to a salt water disposal well.

6-10-2-29 WPM:

No reason can be found to explain this well's apparent underachievement.

6-19-2-29 WPM:

This C Pool well produces 4 m³ oil per day with a low WOR but does not appear to be producing to its full potential. This is the only Lower Amaranth producer in South Pierson which has not been stimulated. A stimulation treatment might result in a higher oil production rate. A stimulation treatment may also result in increased water production.

B) Overachievers**12-30-2-28 WPM:**

Production allocation for this well is suspect. This well was reported as the South Pierson Lower Amaranth A Pool discovery well. The completion history for 12-30-2-28 WPM is outlined here:

- July 17/81-perforated and acidized in the Mississippian (993.5 - 998 m)
- July 24/81-bridge plug set at 990 m; Lower Amaranth completed (979 - 986 m)
- July 28/81-Lower Amaranth fraced
- Sept. 5/81-well put on production in Lower Amaranth
- June 1/82-well recompleted to Mississippian

Figure 13 shows the production history for 12-30-2-28 WPM. From September 1981 to May 1982, official records show production from the Lower Amaranth. The well was recompleted to the Mississippian and production resumed in June 1982. Mississippian production trends from June 1982 onward appear to match those from the first nine months of Lower Amaranth production. A large fracture treatment was performed on the Lower Amaranth on completion. The underlying Mississippian cap rock is thin (less than 2 metres). In all probability, the stimulation created some communication between the two zones. The well's first nine months of production may partially or wholly be Mississippian production.

14-4-2-29 WPM:

This well appears to be located at the extreme southern edge of the B Pool. An active aquifer may be supporting production at this well location. Production statistics for this well show an annual production decline of 44%. At this rate of decline, production will quickly decrease to predictably lower levels.

16-5-2-29 WPM:

This well also appears to be located at the extreme southwestern edge of the B Pool. It's production may also be supported by an active aquifer. The annual production decline is 25%. Production is expected to quickly decline to lower levels.

16-9-2-29 WPM:

No reason can be found to explain this well's better-than-expected performance.

FUTURE LOWER AMARANTH POOL DEVELOPMENT

A) Recompletions

Table 2 lists, in order of preference, existing Mississippian producers with Lower Amaranth recompletion potential.

B) Drilling Locations**1) A Pool**

There is limited development drilling potential in this pool. If an arbitrary minimum oil-in-place per unit area cutoff of $0.25 \text{ m}^3/\text{m}^2$ is used, the following locations show some promise: 10-24-2-28 WPM, 16-24-2-28 WPM, 13-19-2-29 WPM and 3-30-2-29 WPM (see Figure 9). All four locations are offset by producing wells. Assuming a 24% recovery factor on 16 hectare spacing each of these drilling candidates would be expected to recover approximately $9\,600 \text{ m}^3$ oil.

2) B Pool

There are a number of locations in the B Pool within the $0.30 \text{ m}^3/\text{m}^2$ contour interval (see Figure 9) that are directly offset by producing wells. Assuming a 16% recovery factor and 32 hectare drainage, the minimum recoverable reserves for each well would be $15\,360 \text{ m}^3$ oil. Areas that fall within the $0.3 \text{ m}^3/\text{m}^2$ contour interval are the east half of Section 8, the west half of Section 9, Section 10, the southwest quarter of Section 15, Section 16 and the east half of Section 17 all in Twp. 2, Rge. 29 WPM. There are 19 undrilled 32 hectare spacing units within these areas.

Table 3 lists, in order of preference, the best Lower Amaranth drilling sites. It should be noted that there appears to be some potential for development in Section 16 and in the east half of Section 17 in Twp. 2, Rge. 29, WPM. Due to the lack of well control in these sections, only the 2-16-2-29

WPM and 6-16-2-29 WPM candidates are included in Table 3.

3) C Pool

The well 6-19-2-29 WPM in the C Pool has the highest original oil-in-place of any of the Lower Amaranth producers in South Pierson. As previously discussed, this well was not fractured, but manages to produce 4 m^3 oil per day.

The C Pool step out well 11-19-2-29 WPM was drilled in August 1989. The only porosity trace run on the well is the Lithodensity tool and consequently accurate porosity and water saturation estimates cannot be made for the well. A Lower Amaranth core was cut from 1 024 to 1 033 metres KB. When the core is analysed, measured porosities will be used to calculate accurate water saturations.

Based on the limited production and log data available the C Pool has some development potential.

CONCLUSIONS

1) The Waxman-Smiths equation can be used to calculate accurate water saturations for the Lower Amaranth Formation in the South Pierson Field. Shallow water saturations from the electromagnetic propagation tool match or are slightly higher than Waxman-Smiths water saturations. This is a reflection of the very low permeabilities that exist in the Lower Amaranth and indicates that little or no mud filtrate invades the sand.

2) A simple approach can be used to make quick-look calculations of Lower Amaranth porosities and water saturations. The following procedure shows how.

a) from the neutron-density log:

$$\Phi_T = \frac{(0.52 \Phi_N + \Phi_D)}{1.52}$$

Φ in percentage, sandstone scale

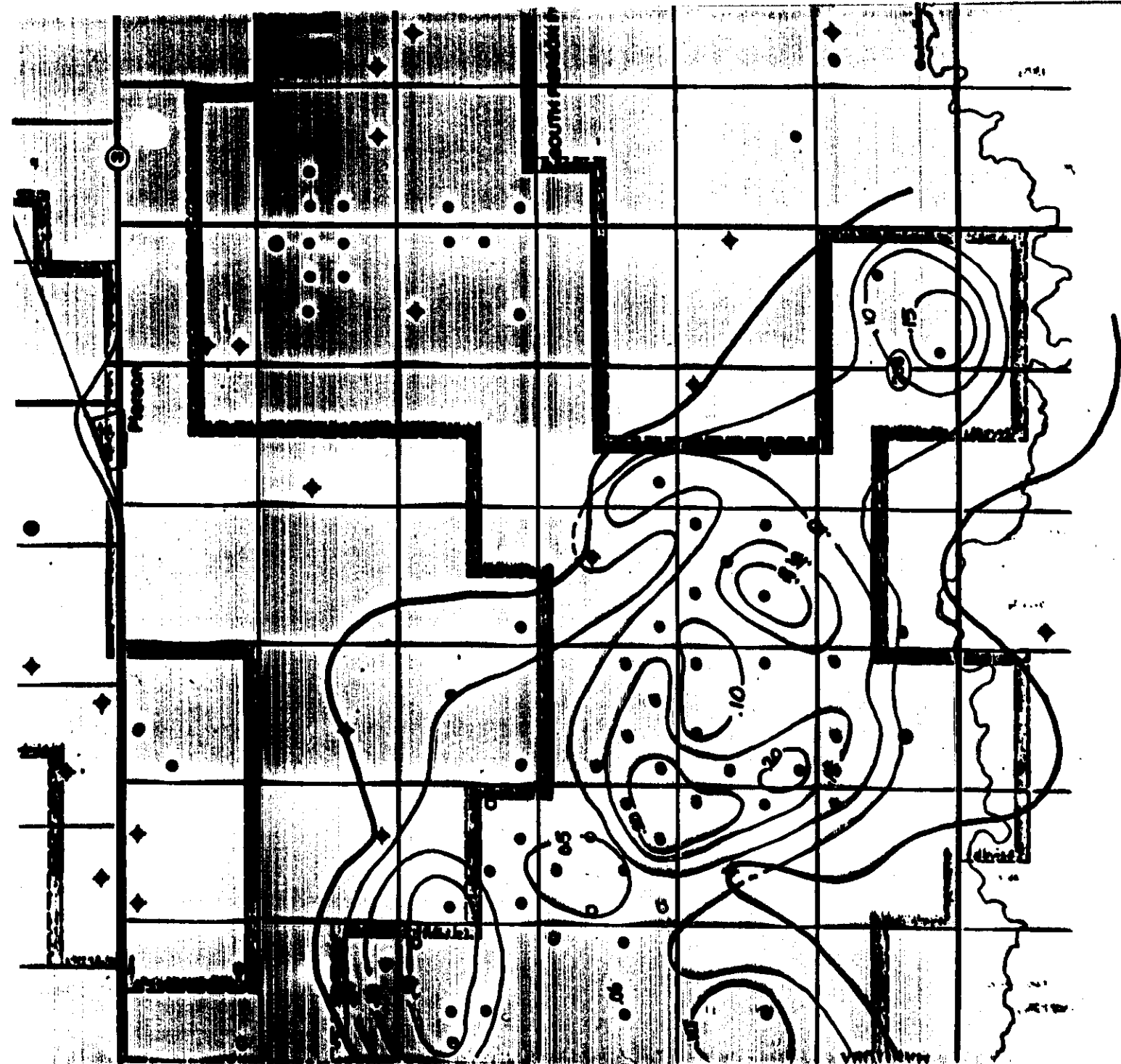
b) from the sonic log:

$$\Phi_T = 0.19\Delta t - 37.1$$

Φ in percentage

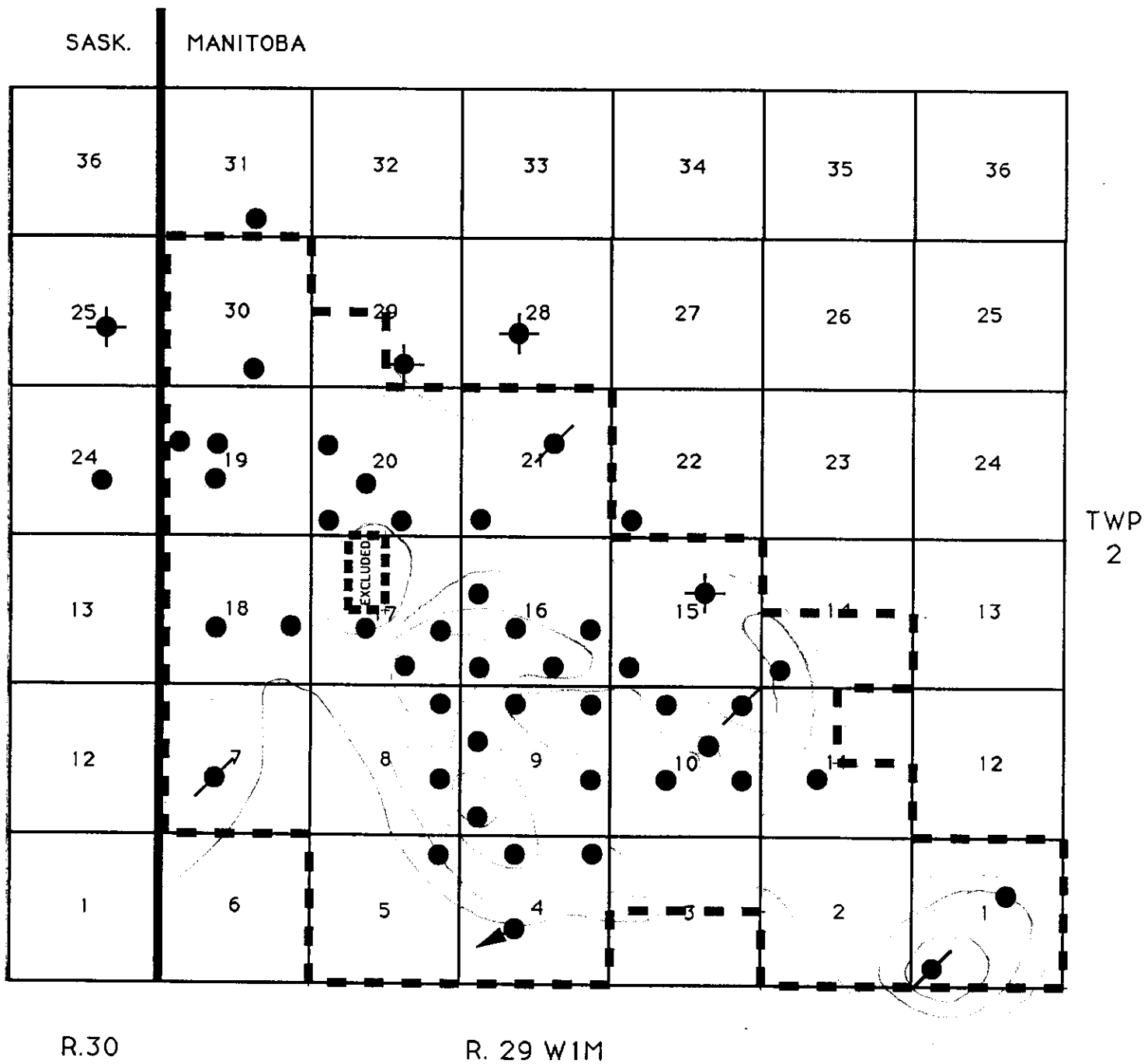
Δt is travel time in $\mu\text{sec}/\text{metre}$

c) if both the sonic and neutron-density logs are available, Φ_T is the average from steps (a) and (b).



LOWER AMBANTH MAIN SAND
ORIGINAL OIL-IN-PLACE PER UNIT AREA MBP

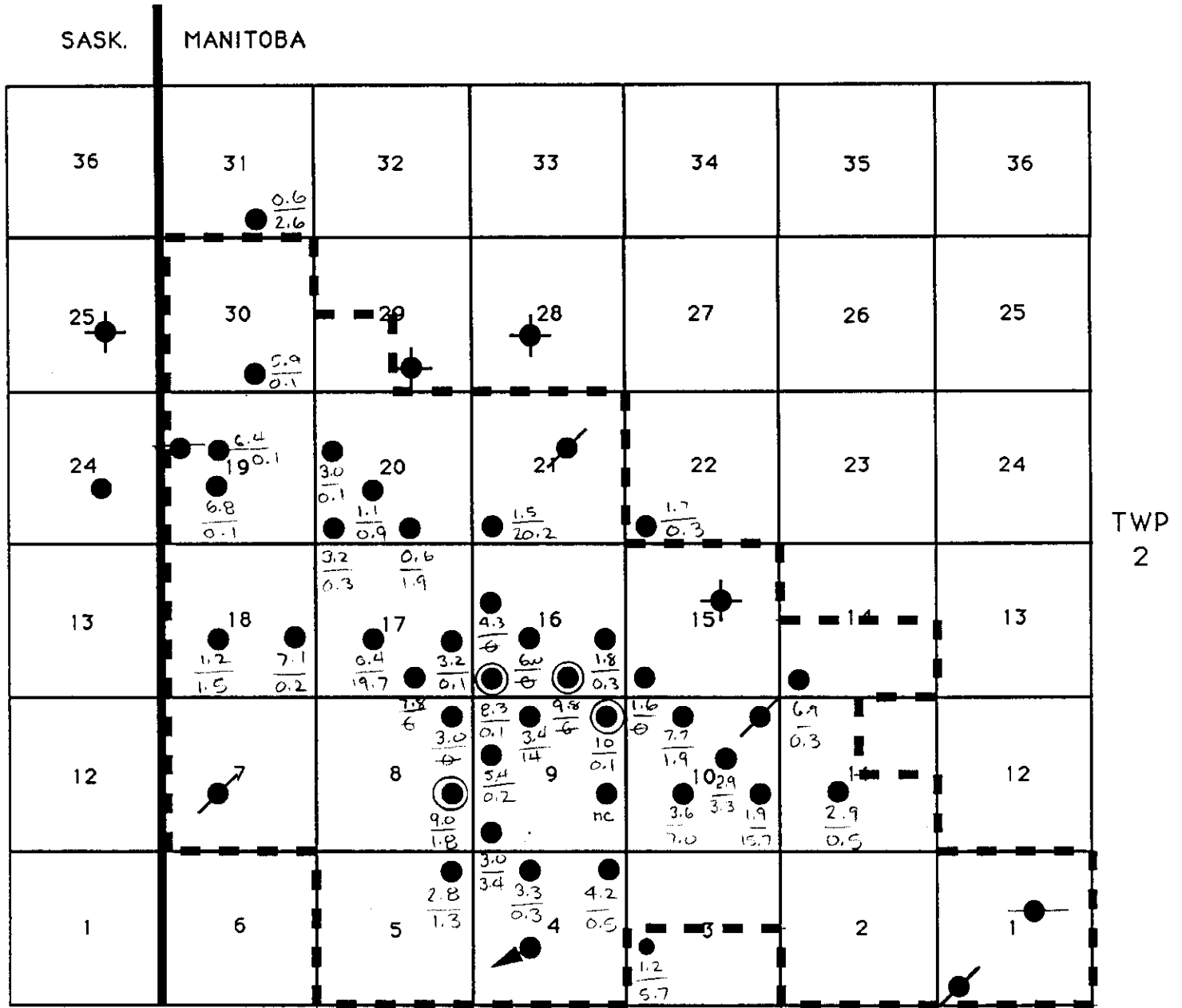
FIGURE 1
SOUTH PIERSON AREA
 (REVISED)



--- APPLICATION AREA FOR INCREASE IN
 MAXIMUM PERMISSABLE PRODUCTION RATE

FIGURE 1

SOUTH PIERSON AREA



R.30

2.8 daily oil
1.3 WOR

SEP 190
R. 29 W1M

● > 8 m³/d

--- APPLICATION AREA FOR INCREASE IN
MAXIMUM PERMISSIBLE PRODUCTION RATE

SOUTH PIERSON FIELD

LOWER AMARANTH B POOL
12 298

SOUTH PIERSON FIELD

OIL WATER	Cum. Prod. Dec. 31/89 m	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	SEP. Daily m	1990 Y.T.G. m	Cum. Total m
HOME OIL COMPANY LIMITED (Cont.)																
06 -10-02-29	2 266.6 9 445.8	138.4 788.7	121.2 694.4	128.9 754.1	88.6 508.7	134.5 776.0	126.8 759.3	130.1 751.1	106.2 718.1	104.6 735.9				3.61 6 486.3	1 079.3 6 486.3	3 345.9 15 932.1
08 -10-02-29	2 326.7 19 250.8	62.5 957.4	55.6 811.2	46.8 908.7	27.2 564.1	26.3 896.8	32.4 921.5	47.6 900.3	52.5 852.6	53.9 846.2				1.86 7 658.8	404.8 7 658.8	2 731.5 26 909.6
10 -10-02-29 (06/21) Prov.	-- --	-- --	-- --	-- --	-- --	-- --	11.0 66.6	54.5 162.1	74.1 218.1	82.6 268.5				2.85 715.3	222.2 715.3	222.2 715.3
14 -10-02-29 *	-- --	-- --	-- --	102.1 141.9	119.2 175.9	149.9 279.4	143.0 272.1	161.3 324.6	141.8 323.1	214.5 400.7				7.66 1 917.7	1 031.8 1 917.7	1 031.8 1 917.7
16 -10-02-29 Prov.	-- 251.1	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --				-- --	-- --	-- 251.1
06 -11-02-29 (07/18) Prov.	-- --	-- --	-- --	-- --	-- --	-- --	-- --	90.1 27.7	126.9 48.6	83.0 39.4				2.86 115.7	300.0 115.7	300.0 115.7
04 -14-02-29 (06/16) Prov.	-- --	-- --	-- --	-- --	-- --	-- --	68.4 52.1	194.5 40.2	193.7 60.7	205.6 67.0				6.85 220.0	662.2 220.0	662.2 220.0
04 -15-02-29	8 180.1 780.4	83.5 1.2	171.0 11.4	128.7 5.0	75.5 1.2	99.9 1.3	120.9 1.6	118.9 1.5	113.9 1.1	43.9 0.5				1.57 24.8	956.2 24.8	9 136.3 805.2
02 -16-02-29 (07/29) Prov.	-- --	-- --	-- --	-- --	-- --	-- --	-- --	14.6 --	219.6 50.8	241.0 14.2				8.31 65.0	475.2 65.0	475.2 65.0
04 -16-02-29 (04/11) Prov.	-- --	-- --	-- --	-- --	100.7 26.0	260.0 33.2	354.4 13.6	281.2 10.0	234.7 7.1	283.1 8.1				9.76 98.0	1 514.1 98.0	1 514.1 98.0
06 -16-02-29 (04/16) Prov.	-- --	-- --	-- --	-- --	30.9 153.9	295.3 35.6	295.8 30.9	250.7 10.9	214.5 8.6	175.1 3.3				6.04 243.2	1 262.3 243.2	1 262.3 243.2
08 -16-02-29 Prov. **	-- --	-- --	-- --	85.6 32.7	53.0 22.9	79.9 22.5	69.4 9.8	59.6 4.2	47.4 3.2	49.0 14.6				1.81 109.9	443.9 109.9	443.9 109.9
12 -16-02-29 (08/22) Prov.	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	18.8 7.2	111.1 3.9				4.27 11.1	129.9 11.1	129.9 11.1
02 -17-02-29 (07/05) Prov.	-- --	-- --	-- --	-- --	-- --	-- --	-- --	114.6 3.9	205.9 10.0	226.4 2.8				7.81 16.7	546.9 16.7	546.9 16.7
06 -17-02-29	968.7 4 507.4	37.3 233.9	41.5 240.0	35.9 235.2	24.5 147.4	29.2 200.1	27.2 217.9	18.9 210.4	16.0 275.2	12.5 246.5				0.43 2 006.6	243.0 2 006.6	1 211.7 6 514.0
08 -17-02-29 (07/20)	-- --	-- --	-- --	-- --	-- --	-- --	-- --	1.5 --	116.2 29.9	94.1 9.9				3.24 39.8	211.8 39.8	211.8 39.8
08 -18-02-29 (08/22) Prov.	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	8.9 --	206.4 49.6				7.12 49.6	215.3 49.6	215.3 49.6
02 -20-02-29 (07/25)	-- --	-- --	-- --	-- --	-- --	-- --	-- --	1.3 --	38.3 29.5	15.8 29.3				0.56 58.8	55.4 58.8	55.4 58.8

ON PRODUCTION DATE (MM/DD)

**RECOMPLETED FROM 12 42C - March 14, 1990

**RECOMPLETED FROM 12 42D - March 16, 1990

SOUTH PIERSON FIELD

LOWER AMARANTH B POOL
12 298

SOUTH PIERSON FIELD

OIL WATER	Cum. Prod. Dec. 31/89 m	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	SEP. Daily m	1990 Y.T.D. m	Cum. Total m
HOME OIL COMPANY LIMITED (Cont.)																
04 -21-02-29 (05/18)	-- 741.6	--	--	--	--	14.1 312.9	35.0 747.0	56.7 860.9	52.1 802.3	38.8 785.2				1.49	196.7 3 508.3	196.7 4 249.9
	50 311.3 86 626.6		1 690.1 4 221.5		1 461.1 3 334.9		2 657.4 5 324.0		3 197.2 5 864.8							71 331.1 131 175.0
TOTAL OIL		1 591.7		1 819.4		2 266.2		2 909.8		3 426.9					21 019.8	
TOTAL WATER		4 338.7		4 715.5		5 000.6		5 844.6		5 903.8					44 548.4	
NON-UNIT PREVIOUS PRODUCERS	115.0 827.8															115.0 827.8
LOWER AMARANTH B POOL :	50 426.3 87 454.4		1 690.1 4 221.5		1 461.1 3 334.9		2 657.4 5 324.0		3 197.2 5 864.8							71 446.1 132 002.8
TOTAL OIL		1 591.7		1 819.4		2 266.2		2 909.8		3 426.9					21 019.8	
TOTAL WATER		4 338.7		4 715.5		5 000.6		5 844.6		5 903.8					44 548.4	

LOWER AMARANTH C POOL
12 29C

HOME OIL COMPANY LIMITED

06 -19-02-29	3 331.9 39.1	87.6 0.4	32.1 0.2	157.3 4.7	197.3 36.7	268.7 42.9	245.8 34.0	224.2 29.9	219.1 23.8	184.2 15.8				6.82	1 616.3 188.4	4 948.2 227.5
11 -19-02-29	531.2 53.8	258.4 19.9	247.2 18.3	258.4 22.8	198.8 20.6	235.1 27.6	239.9 24.2	219.5 22.2	214.8 18.0	186.7 19.7				6.44	2 058.8 193.3	2 590.0 247.1
12 -19-02-29	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- 18.1				--	18.1	-- 18.1
	3 863.1 92.9		279.3 18.5		396.1 57.3		485.7 58.2		433.9 41.8							7 538.2 492.7
TOTAL OIL		346.0		415.7		503.8		443.7		370.9					3 675.1	
TOTAL WATER		20.3		27.5		70.5		52.1		53.6					399.8	
NON-UNIT PREVIOUS PRODUCERS	-- --															-- --
LOWER AMARANTH C POOL :	3 863.1 92.9		279.3 18.5		396.1 57.3		485.7 58.2		433.9 41.8							7 538.2 492.7
TOTAL OIL		346.0		415.7		503.8		443.7		370.9					3 675.1	
TOTAL WATER		20.3		27.5		70.5		52.1		53.6					399.8	

LOWER AMARANTH D POOL
12 29D

HOME OIL COMPANY LIMITED

04 -01-02-29	84.8 1 363.4	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --				--	--	84.8 1 363.4
NON-UNIT PREVIOUS PRODUCERS	-- --															-- --
LOWER AMARANTH D POOL :	84.8 1 363.4	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --				--	--	84.8 1 363.4
TOTAL OIL		--	--	--	--	--	--	--	--	--				--	--	
TOTAL WATER		--	--	--	--	--	--	--	--	--				--	--	

LOWER AMARANTH E POOL
12 29E

HOME OIL COMPANY LIMITED

06 -07-02-29 ON PRODUCTION DATE (MM/DD)	41.6 699.8	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --				--	--	41.6 699.8
--	---------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	--	--	--	----	----	---------------

SOUTH PIERSON FIELD

SOUTH PIERSON FIELD

LOWER AMARANTH A POOL
12 29A

OIL WATER	Cum. Prod. Dec. 31/89 m	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	SEP. Daily m	1990 Y.T.G. m	Cum. Total m
LYLETON CORPORATION																
09 -24-02-29	6 407.1 39 740.9	53.7 408.1	50.6 327.4	60.4 398.2	50.0 392.1	62.8 392.0	37.3 521.7	52.3 439.1	68.0 435.7	50.0 422.8				1.67	485.1 3 737.1	6 892.2 43 478.0
MELAAR RESOURCES LTD.																
03 -24-02-29	67.5 60.5	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --					-- --	67.5 60.5
TUNDRA OIL AND GAS LTD.																
04 -19-02-28 (03/27)	-- --	-- --	-- --	30.7 0.5	123.0 48.1	77.1 23.8	66.0 19.0	58.4 16.8	44.0 23.8	49.5 11.4				1.65	448.7 143.4	448.7 143.4
12 -19-02-28	100.5 2.5	1.2 --	1.5 --	2.9 --	0.3 --	0.3 --	0.4 --	1.0 --	0.9 --	0.7 --				0.02	9.2 --	109.7 2.5
08 -24-02-29 Prov.	995.1 141.1	17.4 1.6	53.9 11.4	70.5 9.6	58.5 11.8	59.1 10.1	56.1 9.8	54.4 9.4	54.8 7.6	53.1 6.6				1.77	477.8 77.9	1 472.9 219.0
	1 095.6 143.6		55.4 11.4		181.8 59.9		122.5 28.8		99.7 31.4							2 031.3 364.9
TOTAL OIL																
TOTAL WATER		18.6 1.6		104.1 10.1		136.5 33.9		113.8 26.2		103.3 18.0					935.7 221.3	
NON-UNIT PREVIOUS PRODUCERS	1 744.5 4 100.3															1 744.5 4 100.3
LOWER AMARANTH A POOL :	9 314.7 44 045.3		106.0 338.8		231.8 452.0		159.8 550.5		167.7 467.1							10 735.5 48 003.7
TOTAL OIL		72.3		164.5		199.3		166.1		153.3					1 420.8	
TOTAL WATER		409.7		408.3		425.9		465.3		440.8					3 958.4	

LOWER AMARANTH B POOL
12 29B

HOME OIL COMPANY LIMITED

14 -04-02-29 Prov.	2 887.7 1 218.9	121.2 24.8	116.7 25.0	130.8 23.3	68.5 13.4	131.1 31.2	118.6 24.3	112.7 21.1	96.2 27.8	95.5 25.9				3.29	991.3 216.8	3 879.0 1 435.7
16 -04-02-29 (05/26) Prov.	-- --	-- --	-- --	-- --	-- --	17.8 9.5	240.3 129.5	179.0 95.0	131.2 65.1	96.7 50.1				4.20	665.0 349.2	665.0 349.2
16 -05-02-29	6 749.3 6 691.9	118.1 104.8	102.2 110.7	122.5 117.0	81.8 68.6	136.3 135.0	100.8 118.2	102.0 123.2	89.6 108.3	82.5 107.8				2.84	935.8 993.6	7 685.1 7 685.5
08 -08-02-29 Prov.	4 011.0 7 510.5	254.0 420.1	258.9 488.8	255.8 539.1	158.6 361.8	197.3 537.8	188.8 48.4	200.6 442.0	242.5 457.6	260.7 470.7				8.99	2 017.2 3 766.3	6 028.2 11 276.8
16 -08-02-29	6 129.8 1 393.0	33.1 0.9	129.5 2.1	118.5 3.8	79.4 2.1	99.6 2.0	103.7 1.7	105.8 2.4	98.1 2.1	86.7 1.6				2.99	854.4 18.7	6 984.2 1 411.7
04 -09-02-29	2 326.0 7 251.5	154.1 525.4	125.2 455.0	119.1 466.9	86.1 301.2	78.7 302.1	94.7 413.9	102.2 359.9	90.4 323.0	85.9 293.0				2.96	936.4 3 440.4	3 262.4 10 691.9
12 -09-02-29	4 639.5 978.4	203.7 48.5	171.8 38.3	195.0 40.0	125.3 24.3	201.9 41.5	193.7 35.5	173.4 38.1	154.4 36.9	158.2 23.7				5.46	1 577.4 326.8	6 216.9 1 305.2
14 -09-02-29	3 558.3 25 734.0	139.6 1208.8	160.8 1324.2	153.7 1435.9	97.2 946.5	130.4 1368.6	121.0 1441.5	113.9 1433.2	103.0 1378.8	99.4 1387.5				3.43	1 119.0 11 925.0	4 677.3 37 659.0
16 -09-02-29	6 267.6 871.3	246.2 24.2	235.7 20.4	196.0 11.9	244.6 16.9	184.0 15.1	211.5 18.6	224.1 21.9	210.3 19.1	219.9 17.9				10.00	1 972.3 166.0	8 239.9 1 037.3

ON PRODUCTION DATE (MM/DD)

Please return to Judi
Trankes

Bob ✓
John ✓
Brad 8

"RED TAG WELLS"

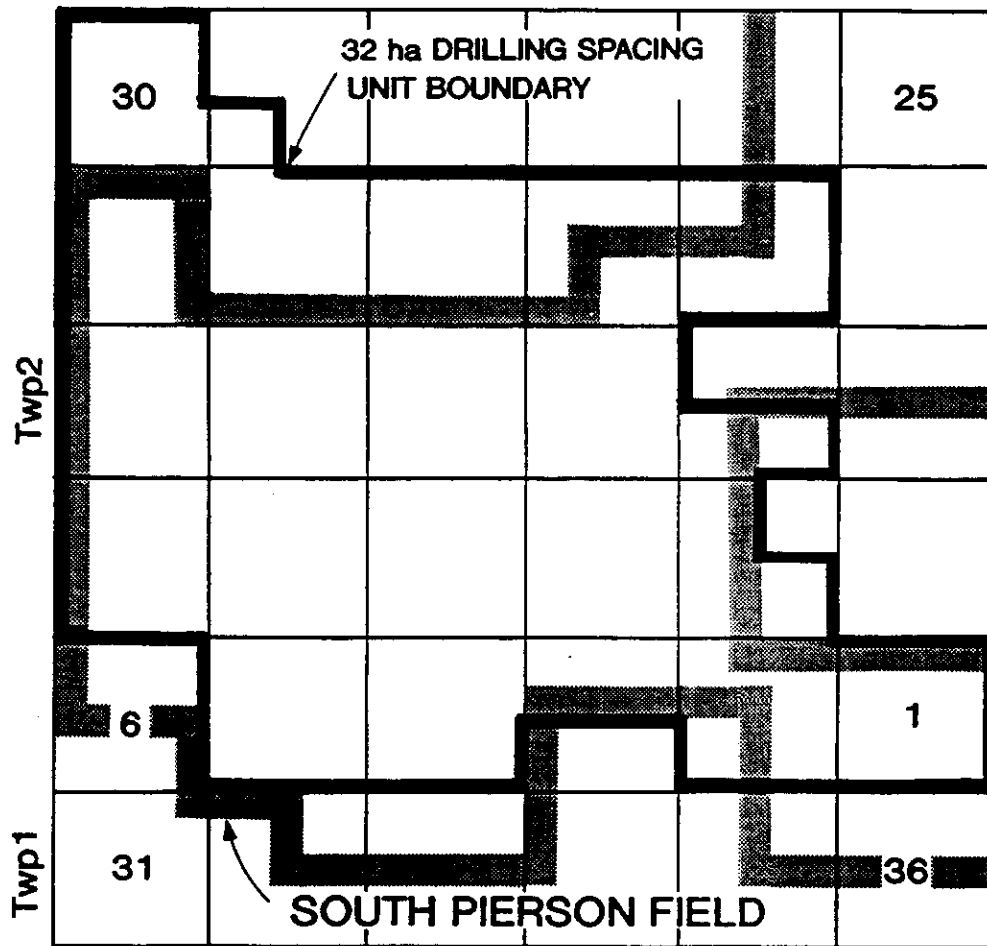
FOR THE MONTH OF SEPTEMBER 1990

<u>FIELD</u>	<u>COMPANY</u>	<u>LOCATION</u>	<u>OIL PROD.</u>	<u>WATER PROD.</u>	<u>DAYS ON</u>	<u>OFF CONF. DATE</u>
11/12	Antler River	5-3-2-29.....(09/11)	25.6	146.2	21	July 28/91
03	Enron	2-11-2-25.....(07/07)	32.1	21.5	30	June 14/91
		5-14-2-25.....(03/02)	7.4	52.6	17	Feb. 20/91
99		8-5-2-28.....(07/04)	34.1	33.2	29	June 9/91
07	Home	2-31-2-29.....(08/22)	17.3	45.6	29	Aug. 7/91
12	Home	10-1-2-29.....(06/23)	0.0	0.0	00	May 27/91
		6-18-2-29.....(05/26)	37.2	54.5	30	Mar. 20/91
		4-20-2-29.....(07/25)	95.8	29.3	30	Mar. 15/91
		6-20-2-29.....(08/22)	33.9	31.1	30	Mar. 15/91
		12-20-2-29 Prov.....(04/10)	87.9	8.6	29	Mar. 15/91
		2-30-2-29.....(06/25)	176.9	12.5	30	June 6/91
05/91	Omega	2-7-2-28.....(04/20)	17.4	21.2	30	Apr. 11/91
01	Tundra	12-2-10-29.....(09/18)	14.9	71.5	13	Sept. 1/91
12	Tundra	4-22-2-29.....(03/27)	50.3	16.5	30	Mar. 1/91
			630.8	544.3		

On Production 1990 (Month/Day)

**BOARD ORDER NO. SU 6
SCHEDULE A**

**SOUTH PIERSON AREA
32 ha DRILLING SPACING UNITS
LOWER AMARANTH FORMATION**



Rge29(WPM)

NOTES:

1/ BOARD ORDER No. 206 CONDITIONS

- expiring OCT 31/91
- application to extend order due Aug 31/91
- incremental recovery on 16 ha spawning
Oompa + LAM Wastecore is extracting 2
incremental recovery on partial refill water, i.e.
1 ha spawning
- previous survey results adequate
- 32 ha spawning extension
- ERMIS (Oct 2/99) - evaluation available
study due Aug 31/91

AGENDA ITEMS - HOME OIL MEETING NOV

1 / DRILLING PLANS

- (a) WHEN DOES HOME PLAN TO DRILL THE 6 LICENCED LOCATION ?
- (b) AUG 30 / 90 MEETING RON WATKINS / WES BAKER
24 WELLS IN 1991
- (c) IMPROVEMENTS / MODIFICATIONS IN FRAC PROGRAM
- (d) SUCCESS OF KCL DRILLING FLUID PROGRAM 2-16-2-29
CORE ANALYSIS (NO COPIES) 8-17-2-29 *
- ✓ (e) OH COMPLETION / OIL BASED CORE 12-19-2-29 SW: 24-40"
no completion report _{core} in main sand

2 / WATERFLOOD FEASIBILITY

- (a) MAY 19 / 89 CORRESPONDENCE RE: 32 ha GRACING APPLIN
PROPOSED SPECIAL CORE STUDIES
 - (i) GAS/OIL RELATIVE PERMEABILITY
 - (ii) OIL/WATER RELATIVE PERMEABILITY
 - (iii) CORE WATERFLOOD TEST (TO INCLUDE INJECTIVITY TESTS
TO EVALUATE FINES MIGRATION / CLAY SWELLING /
WATER COMPATIBILITY
 - (iv) CAPILLARY PRESSURE
 - (v) RECOMBINATION PUT - 6-19-2-29 RB DOES NOT
HAVE A CUT
- (b) WATERFLOOD DESIGN
 - (i) reservoir continuity
 - (ii) out of zone injection - exclude of h/L WOR wells
 - (iii) Hovers down on low-permeability support

(iv) injection patterns under review

Waskadee predominantly injected 9-spot

though Enrich should injected 7-spot

- apparent clearance there may have led some success

(v) 16 ha vs 32 ha spacing

(vi) pilot vs field-wide

(vii) Onsga - reduced spacing application in

Waskadee believe directional permeability
NE-SW evident in LAw (fracture orientation)

- induced fracture orientation has had an
impact of waterflood performance

- Home oil run any dipmeter log
to measure well direction to
determine any possible fracture directions

(4) ROYALTY / TAX REGIME

ENSURE HOME AWARE OF OUR MOST
RECENT REGULATORY AMENDMENTS

(a) horizontal drilling incentives

(b) 500 m³ initial over-production volume
during 1st 6 months well in
production

(5) MDR APPLICATION

6/ OTHER

(a) gas conservation @ 14.9.2.29 battery

SEP/90 oil production 4246.8 m^3
GOR = 70 m^3/m^3

SEP/90 Horiz oil GAS PRODUCTION (EST) = $2070 \times 10^3 \text{m}^3$
(350 MCF/D)

OGIP = 15-60 BCF LAKE F. S. Diem

(b) PRESSURE SURVEY REQUIREMENTS

- approval required

FIGURE 1
SOUTH PIERSON AREA
 (REVISED)

