Chevron

Chevron Standard Limited

Box 100
Virden, Manitoba
ROM 2C0

1977-05-03

Province of Manitoba
Department of Mines, Resources
and Environmental Management
Mineral Resources Division
Petroleum Branch
993 Century Street
Winnipeg, Manitoba
R3H 0W4

Attention: Mr. H.C. Moster, P. Eng.
Director, Petroleum Branch

Gentlemen:

Subsurface Pressure Surveys
North Virden Scallion Unit #1
Virden Roselea Unit #1
Virden Roselea Unit #2
Virden Roselea Unit #3
Routledge Unit #1

Chevron Standard Limited, as operators of the subject units, hereby request permission to conduct limited subsurface pressure surveys in these units in 1977. A schedule of candidates for inclusion is attached.

1. North Virden Scallion Unit #1 - Since adequate voidage replacement has been maintained since the 1976 bottom hole pressure survey, a significant change in pressure is not anticipated. Four suspended wells have been selected for the 1977 proposed survey. Two of these are wells in the west flank area where annual pressure monitoring is required. Wells 10-11-11-26 and 4-34-11-26 are located in areas with either remedial or response possibilities. Well 6-11-11-26 was converted to water injection in November 1974 and has a cumulative injection to 77-03-31 of 67,658 barrels.

2. Virden Roselea Unit #1 - Since adequate voidage replacement has been maintained since the last survey, it is contended that a subsurface pressure survey would not provide any useful

.../2

information. Suspended oil well 1-26-10-26 will be surveyed as this well is being considered for reactivation.

3. Virden Roselea Unit #2 - Since adequate voidage replacement has been maintained and all previously suspended wells have been re-activated, it is proposed that no wells be surveyed in 1977.

4. Virden Roselea Unit #3 - It is contended that a subsurface pressure survey is not required in 1977. Well 5-10-11-26 will be surveyed to monitor west flank peessure where voidage replacement is not a requirement.

5. Routledge Unit #1 - It is proposed that two suspended wells in the vicinity of the pilot water injector 13-22-9-25 be surveyed to determine the effects of pressure maintenance to date. The proposed wells are as per the attached Schedule A.

Summary of 1976 Subsurface Pressure Survey:

North Virden Scallion Unit #1 - Shut-in times required to achieve near static conditions during the 1976 survey varied from 814 hours to 1391 hours per well. A total of 603 days of shut-in time was required for the 14 producing wells. The 1976 pressure survey cost was $1450 exclusive of lost production, well pulling and hot oiling.

Virden Roselea Unit #1 - Shut-in times required to achieve near static conditions during the 1976 survey varied from 858 hours to 2328 hours per well. A total of 415 days of shut-in time was required for the 8 producing wells. The survey costs, exclusive of lost production, hot oiling and well pulling was $1050.

Virden Roselea Unit #2 - Build-up times required to reach static conditions varied from 911 hours to 1057 hours per well. Total shut-in time was accumulated for 4 producing wells was 168 days. The cost of the 1976 survey, exclusive of well pulling, hot oiling, and lost production was $520.

Virden Roselea Unit #3 - Build-up times required to reach static conditions varied from 864 hours to 1014 hours per well. Accumulated shut-in times for the 9 producing wells was 343 days. The cost of the 1976 survey, exclusive of well pulling, hot oiling and lost production was $900.

Attached in tabular form is a resume of pressure surveys conducted from 1972 to 1976.

It is contended that because of the stage that the above pressure maintenance schemes are at, as well as the inherent lost production resulting from lengthy shut-in periods required for producing oil wells, a comprehensive survey is not desireable in 1977.

.../3

The wells selected for inclusion in the proposed 1977 survey were primarily for evaluation purposes prior to reactivation or to monitor west flank pressure in North Virden Scallion Unit #1 and Virden Roselea Unit #3.

It is estimated that the above surveys will be conducted in June, 1977 utilizing a Subsurface Pressure Recorder.

If any additional information is required, please contact the undersigned at our Virden address.

Yours truly,

G.W. Cruickshank,P. Eng.
Area Supervisor
Virden Area

GWC/b
Att.

SCHEDULE A

PROPOSED 1977 B.H. PRESSURE SURVEY

North Virden Scallion Unit No. 1

4-34-11-26 WPM
8-16-11-26 WPM
10-16-11-26 WPM
10-11-11-26 WPM

Virden Roselea Unit No. 1

1-26-10-26 WPM

Virden Roselea Unit No. 3

5-10-10-26 WPM

Routledge Unit No. 1

3-27-9-25 WPM
8-28-9-25 WPM

VIRDEN ROSELEA UNIT #1

SUBSURFACE PRESSURE SURVEYS

Wells	Pressure 1976	Shut-In Days	Pressure 1975	Shut-In Days	Pressure 1974	Shut-In Days	Pressure 1973	Shut-In Days	Pressure 1972	Shut-Da
4-28-10-25	897	36			930	39				
10-21-10-25	895	97			914	S.I. Winter				
14-23-10-26	862	50			1060	S.I. Winter				
12-25-10-26	836	60			545	29				
2-36-10-26	1011	39			1071	S.I. Winter				
15-20-10-25	765	40			783	28				
9A-19-10-25	1009	40			1049	S.I. Winter				
12-24-10-26	1070	53			1094	29				
5-26-10-26	942	Susp.			975	S.I. Winter				
14-25-10-26			1139	39						
3-25-10-26			1051	39						
11-25-10-26							433	27		
16-25-10-26							1007	24		
5-21-10-25							873	S.I.Wi nter		
15-21-10-25							886	Susp.	868	Sus
12-20-10-25							1097	Susp.		
9-19-10-25							955	Susp.		
12-29-10-25							982	S.I.Winter		
15-30-10-25							835	S.I.Winter		
9-23-10-26							1085	S.I.Winter		
1-26-10-26							1080	Susp.		
16-26-10-26							955	Susp.	937	Sus
10-24-10-26							1015	Susp.		
5-29-10-25									1003	25
12-20-10-25									1061	Sus
2-36-10-26									1025	19

VIRDEN ROSELEA UNIT #2
SUBSURFACE PRESSURE SURVEYS

Wells	Pressure 1976	Shut-In Days	Pressure 1975	Shut-In Days	Pressure 1974	Shut-In Days	Pressure 1973	Shut-In Days	Pressure 1972	Shut-Da
8-1-11-26	1171	43					1222	S.I. Winter		
13-6-11-25	1070	44	1060	35	990	30				
13-31-10-25	1053	43								
16-5-11-25	853	38								
7-5-11-25	1266	Susp.					1282	Susp.	1216	Susp
3-8-11-25	1154	Susp.	1126	39	860	30	1141	S.I.Winter		
11-36-10-26	1031	Susp.			1070	34				
2-12-11-26	1123	Susp.			1039	Susp.			1066	Susp
5-5-11-25					1417	27				
13-31-11-25					1312	27				
10-1-11-26					1163	S.I. Winter				
9-5-11-25					1112	S.I. Winter				
16-36-10-26							1277	24		
15-6-11-25							1554	27		
5-31-10-25							1281	S.I.Winter	1207	1
5-7-11-25							1077	S.I.Winter		
15-1-11-26							1047	S.I.Winter		

VIRDEN ROSELEA UNIT #3

SUBSURFACE PRESSURE SURVEYS

Wells	Pressure 1976	Shut-In Days	Pressure 1975	Shut-In Days	Pressure 1974	Shut-In Days	Pressure 1973	Shut-In Days	Pressure 1972	Shut-In Days
11-1-10-26	1254	37			1300					
13-2-10-26	966	37			1004					
5-12-10-26	1390	36			1524		1481	S.I.Winter		
1-11-10-26	1241	38	1249	43					1289	17
11-11-10-26	1259	37	1269	42						
16-10-10-26	870	37								
7-18-10-25	1086	39			1034		887	Susp.		
15-13-10-26	1110	42								
16-14-10-26	536	40			474					
11-7-10-25	1488	Susp.								
5-10-10-26	919	Susp.							915	Susp.
12-14-10-26	933	Susp.							919	Susp.
9-10-10-26										
7-2-10-26					934					
7-11-10-26					964					
12-18-10-25					1318					
5-14-10-26					954					
6-7-10-25					1106		900	Susp.		
3-13-10-26					1482					
10-11-10-26					1203		1176	Susp.	1078	Susp.
12-13-10-26							1292	24		
5-2-10-26							478	29		
5-10-10-26							845	S.I.Winter		
16-12-10-26							920	Susp.		
5-1-10-25							1295	Susp.		
12-11-10-26							1116	Susp.	Waxy	
15=3-10-26									167	26
16-7-10-25									911	19
11-10-10-26									1081	Susp.
11-12-10-26									914	Susp.
									910	Susp.

NORTH VERDEN SCALLION UNIT #1

SUBSURFACE PRESSURE SURVEYS

Wells	Pressure 1976	Shut-In Days	Pressure 1975	Shut-In Days	Pressure 1974	Shut-In Days	Pressure 1973	Shut-In Days	Pressure 1972	Shut-In Days
16-32-11-26	873	46			847	36	809	3 mos.		
9-28-11-26	1105	53			1051	43			857	27
34-27-11-26	1026	43			937	35				
16-22-11-26	1105	46			979	35	904	28	866	23
1-22-11-26	Could not survey	37								
5-23-11-26	1038	46			923	32				
11-24-11-26	1338	46			1241	32	1360	S.I.Winter	1294	23
7-15-11-26	809	58			962	39			835	27
4-14-11-26	1201	49			1026	32	1095	S.I.Winter		
12-3-11-26	943	34								
4-34-11-26	1017	34			952	35	Too waxy		Obstruction	
11-21-11-26	1259	43							1179	Susp.
8-16-11-26	769	34								
15-9-11-26	883	34					881	Susp.		
3-10-11-26	1144	Susp.					Too waxy		Too waxy	
8-11-11-26	1097	Susp.					1013	Susp.	961	Susp.
10-2-11-26	1201	Susp.								
15-13-11-26	1754	Susp.					Too waxy			
7-4-12-26			1067	34						
3-26-11-26			1157	34						
2-16-11-26			756	39						
8-10-11-26			982	43						
6-4-12-26					984	36	870	28	858	27
9-10-11-26					612	39				
11-2-11-26					1121	38	1177	Susp.		
16-9-11-26					649	39				
6-21-11-26					1027	42				
1-22-11-26					999	35	930	S.I.Winter		
12-3-12-26					908	35	827	Susp.	806	Susp.
5-34-11-26							1056	Susp.		
8-16-11-26					764	35	775	Susp.	771	Susp.
8-11-11-26					1062	35				
2-34-11-26							Too waxy			
6-23-11-26]							1026	S.I.Winter		
11-10-11-26									951	28
7-2-11-26									1044	Susp.
11-14-11-26									Too waxy	
2-34-11-26									919	Susp.

Routledge Unit No. 1

SUBSURFACE PRESSURE SURVEY

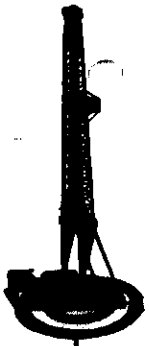
Chevron Standard Limited

July 4 to July 12, 1977 & previous years

PHONE 634-3703 P.O. BOX 485

OLSEN WELL SERVICES LTD.

ESTEVAN, SASK.



SUBSURFACE PRESSURE SURVEY

Chevron Standard Limited

Routledge Field

Date June 9 to 15, 1969

OLSEN WELL SERVICES LTD.

SUBSURFACE PRESSURE SURVEY Date: June 9 to 15, 1969 Pool: Routledge Field Datum: -630

Well Name	Location	Time Press. Meas'd	Date 1969	Shut-in Period Hours	Tubing Press: psig	Casing Press. psig	Fluid Level feet	Fluid Grad. psi-ft	Gas Grad. psi-ft	Temp. at Run Depth °F	Run Depth ft-CF	Datum Depth ft-CF	Press. at Run Depth psig	Press. at Datum psig	Gauge No.	Remarks
Chevron Routledge 14-9, L.S.D. 14-9-9-25 W1		12:25 pm	June 15	-	84	-	-	-	-	-	2043	2043	960	960	23434N	Suspended
Chevron Routledge 15-17-, L.S.D. 15-17-9-25 W1		1:15 pm	June 15	-	217	-	-	-	-	-	2053	2053	968	968	23434N	Suspended
Chevron Routledge 5-20, L.S.D. 5-20-9-25 W1		9:20 am	June 9	42.8	79	-	-	.450	-	-	2036	2056	959	968	23434N	Shut-in June 7, 1969 2:30 pm
		11:55 am	June 10	69.4	84	-	-	.450	-	-	2036	2056	955	964	23434N	
		8:10 am	June 11	89.7	93	-	-	.450	-	-	2036	2056	959	968	23434N	
Chevron Routledge 2-22, L.S.D. 2-22-9-25 W1		11:20 am	June 15	-	0	-	-	-	-	-	2060	2060	795	795	23434N	Suspended
Chevron Routledge 13-22, L.S.D. 13-22-9-25 W1		8:35 am	June 9	48.1	20	-	-	-	-	-	2059	2059	554	554	23434N	Shut-in June 7, 1969 8:30 am
		11:15 am	June 10	74.7	31	-	-	-	-	-	2059	2059	686	686	23434N	
		8:55 am	June 11	96.4	35	-	-	-	-	-	2059	2059	725	725	23434N	
		1:45 pm	June 13	148.3	41	-	-	-	-	-	2059	2059	766	766	23434N	
		10:35 am	June 15	194.1	41	-	-	-	-	-	2059	2059	780	780	23434N	
Chevron Routledge 6-28, L.S.D. 6-28-9-25 W1		7:50 pm	June 9	55.8	0	-	-	-	-	-	2057	2057	783	783	23434N	Shut-in June 7, 1969 12:00 Nn
		10:30 am	June 10	70.5	0	-	-	-	-	-	2057	2057	830	830	23434N	
		9:35 am	June 11	93.6	8	-	-	-	-	-	2057	2057	840	840	23434N	
		2:55 pm	June 13	146.9	10	-	-	-	-	-	2057	2057	862	862	23434N	
		9:55 am	June 15	189.9	2	-	-	-	-	-	2057	2057	873	873	23434N	

OLSEN WELL SERVICES LTD.

SURFACE PRESSURE SURVEY Date: June 9 to 15, 1969 Pool Routledge Field Datum -630

Well Name	Location	Time Press. Meas'd	Date 1969	Shut-in Period Hours	Tubing Press. psig	Casing Press. psig	Fluid Level feet	Fluid Grad. psi-ft	Gas Grad. psi-ft	Temp. at Run Depth °F	Run Depth ft-CF	Datum Depth ft-CF	Press. at Run Depth psig	Press. at Datum psig	Gauge No.	Remarks
Chevron Routledge 16-28, L.S.D. 16-28-9-25 W1		2:10 pm	June 15	-	79	-	-	-	-	-	2059	2059	834	834	23434N	Suspended
Chevron Routledge 2-5, L.S.D. 2-5-10-25 W1		2:55 pm	June 15	-	87	-	-	-	-	-	2044	2054	847	852	23434N	Suspended

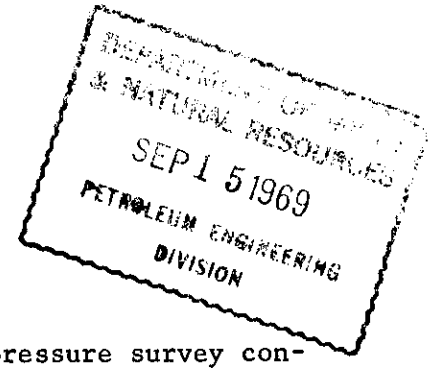
File

CHEVRON STANDARD LIMITED

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

September 11, 1969

Bottom Hole Pressure Survey
Routledge Field



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

Gentlemen:

We are enclosing the results of a static bottom hole pressure survey conducted in the Routledge Field during the period June 9 to June 15, 1969. The results are summarized as follows:

Well	Final Run Datum Depth Pressure (-630 ft.) PSIG	Extrapolated Datum Depth Pressure (-630 ft.) PSIG
14-9-9-25	960	960
15-17-9-25	968	968
5-20-9-25	968	968
2-22-9-25	795	795
13-22-9-25	780	835
6-28-9-25	873	900
16-28-9-25	834	834
2-5-10-25	852	852
Arithmetic Average		890

The pressures for 13-22-9-25 and 6-28-9-25 were calculated by extrapolation of their pressure build-up curves. All other wells had reached static conditions.

Yours very truly,

J. G. TROWELL
Division Superintendent
Producing Department
Calgary Division

SNB/cs
Encl.

LOGGING,
PERFORATING
AND ASSOCIATED
TECHNICAL SERVICES

Howard Armstrong Perforating Ltd.

TELEPHONE 748-1849 VIRDEN, MAN.

SUBSURFACE PRESSURE SURVEY

Chevron Standard Limited

Routledge Unit #1

Date: July 19 to July 29, 1974

Howard Armstrong Perforating Ltd.
VIRDEN, MAN.

SUBSURFACE PRESSURE SURVEY **Date:** July 9 to July 29, 1974 **Pool** ROUTLEDGE UNIT #1 **Datum** -630

Well Name	Location	Time Press. Meas'd	Date	Shut-in Period Hours	Tubing Press. psig	Casing Press. psig	Fluid Level feet	Fluid Grad. psi-ft	Gas Grad. psi-ft	Temp. at Run Depth oF	Run Depth ft KB	Datum Depth ft KB	Press. at Run Depth psig	Press. at Datum psig	Gauge No.	Remarks
Chevron Routledge # 7 - 28 L.S.D. 7-28-9-25 WPM.																
		10:54 am	July 19	405.0	135.4	-	Full	-	-	-	2070	2070	919.7	919.7	24373 N	Shut in July 2/74 1:55 pm
		10:13 am	July 24	524.2	136.5	-	Full	-	-	-	2070	2070	920.7	920.7		
		10:47 am	July 29	644.8	136.5	-	Full	.379	-	-	2070	2070	920.7	920.7		
Chevron Routledge # 4 - 27 L.S.D. 4-27-9-25 WPM.																
		11:31 am	July 19	407.8	123.8	-	Full	-	-	-	2073	2073	912.3	912.3	24373 N	Shut in July 2/74 11:45 am
		10:59 am	July 24	527.3	121.7	-	Full	-	-	-	2073	2073	913.3	913.3		
		11:29 am	July 29	647.8	122.7	-	Full	.383	-	-	2073	2073	916.5	916.5		

LOGGING,
PERFORATING
AND ASSOCIATED
TECHNICAL SERVICES

Howard Armstrong Perforating Ltd.

TELEPHONE 748-1649 VIRDEN, MAN.

SUBSURFACE PRESSURE SURVEY

Chevron Standard Limited

Routledge Unit # 1

Date : July 5 to July 26, 1977.

Howard Armstrong Perforating Ltd.

VIRDEN, MAN.

SUBSURFACE PRESSURE SURVEY

Date: July 5 to July 26, 1977. Pool Routledge, Unit # 1. Datum - 630

Well Name	Location	Time Press. Meas'd	Date	Shut-in Period Hours	Tubing Press. psig	Casing Press. psig	Fluid Level feet	Fluid Grad. psi-ft	Gas Grad. psi-ft	Temp. at Run Depth oF	Run Depth ft- KB	Datum Depth ft-KB	Press. at Run Depth psig	Press. at Datum psig	Gauge No.	Remarks
Chevron Routledge # 3-27 L.S.D. 3-27-9-25 WPM.																
		12.30 pm	July 5	-	-	149.3	Full	-	-	-	2079	2079	-	-	13365N.	Suspended. Could not get below 4 ft. Plug.
		2.03 pm	July 26	-	-	149.3	Full	.366	-	-	2079	2079	910.7	910.7	"	
Chevron Routledge # 8-28 L.S.D. 8-28-9-25 WPM.																
		1.33 pm	July 5	-	-	145.9	Full	.363	-	-	2059	2069	893.7	897.3	"	Suspended.

Chevron

Chevron Standard Limited

Box 100
Virden, Manitoba
ROM 2C0

1977-05-03

Province of Manitoba
Department of Mines, Resources
and Environmental Management
Mineral Resources Division
Petroleum Branch
993 Century Street
Winnipeg, Manitoba
R3H OW4

Attention: Mr. H.C. Moster, P. Eng.
Director, Petroleum Branch

Gentlemen;

Subsurface Pressure Surveys
North Virden Scallion Unit #1
Virden Roselea Unit #1
Virden Roselea Unit #2
Virden Roselea Unit #3
Routledge Unit #1 ✓

Chevron Standard Limited, as operators of the subject units, hereby request permission to conduct limited subsurface pressure surveys in these units in 1977. A schedule of candidates for inclusion is attached.

1. North Virden Scallion Unit #1 - Since adequate voidage replacement has been maintained since the 1976 bottom hole pressure survey, a significant change in pressure is not anticipated. Four suspended wells have been selected for the 1977 proposed survey. Two of these are wells in the west flank area where annual pressure monitoring is required. Wells 10-11-11-26 and 4-34-11-26 are located in areas with either remedial or response possibilities. Well 6-11-11-26 was converted to water injection in November 1974 and has a cumulative injection to 77-03-31 of 67,658 barrels.

2. Virden Roselea Unit #1 - Since adequate voidage replacement has been maintained since the last survey, it is contended that a subsurface pressure survey would not provide any useful

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information. Suspended oil well 1-26-10-26 will be surveyed as this well is being considered for reactivation.

3. Virden Roselea Unit #2 - Since adequate voidage replacement has been maintained and all previously suspended wells have been re-activated, it is proposed that no wells be surveyed in 1977.

4. Virden Roselea Unit #3 - It is contended that a subsurface pressure survey is not required in 1977. Well 5-10-11-26 will be surveyed to monitor west flank peessure where voidage replacement is not a requirement.

5. Routledge Unit #1 - It is proposed that two suspended wells in the vicinity of the pilot water injector 13-22-9-25 be surveyed to determine the effects of pressure maintenance to date. The proposed wells are as per the attached Schedule A.

Summary of 1976 Subsurface Pressure Survey:

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Virden Roselea Unit #2 - Build-up times required to reach static conditions varied from 911 hours to 1057 hours per well. Total shut-in time was accumulated for 4 producing wells was 168 days. The cost of the 1976 survey, exclusive of well pulling, hot oiling, and lost production was $520.

Virden Roselea Unit #3 - Build-up times required to reach static conditions varied from 864 hours to 1014 hours per well. Accumulated shut-in times for the 9 producing wells was 343 days. The cost of the 1976 survey, exclusive of well pulling, hot oiling and lost production was $900.

Attached in tabular form is a resume of pressure surveys conducted from 1972 to 1976.

It is contended that because of the stage that the above pressure maintenance schemes are at, as well as the inherent lost production resulting from lengthy shut-in periods required for producing oil wells, a comprehensive survey is not desireable in 1977.

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The wells selected for inclusion in the proposed 1977 survey were primarily for evaluation purposes prior to reactivation or to monitor west flank pressure in North Virden Scallion Unit #1 and Virden Roselea Unit #3.

It is estimated that the above surveys will be conducted in June, 1977 utilizing a Subsurface Pressure Recorder.

If any additional information is required, please contact the undersigned at our Virden address.

Yours truly,

G.W. Cruickshank,P. Eng.
Area Supervisor
Virden Area

GWC/b
Att.

SCHEDULE A

PROPOSED 1977 B.H. PRESSURE SURVEY

North Virden Scallion Unit No. 1

4-34-11-26 WPM
8-16-11-26 WPM
10-16-11-26 WPM
10-11-11-26 WPM

Virden Roselea Unit No. 1

1-26-10-26 WPM

Virden Roselea Unit No. 3

5-10-10-26 WPM

Routledge Unit No. 1

3-27-9-25 WPM
8-28-9-25 WPM

Co. file

April 12, 1978

Chevron Standard Limited
Box 100
Virden, Manitoba
ROM 2CO

Attention: Mr. G. W. Cruickshank, P. Eng.,
Area Supervisor

Dear Sir:

Re: 1978 Subsurface Pressure Surveys

This Branch has reviewed your proposed 1978 subsurface pressure survey programs for the following units as outlined in your letter dated April 6, 1978:

North Virden Scallion Unit No. 1
Virden-Roselea Unit No. 1
Virden-Roselea Unit No. 2
Virden-Roselea Unit No. 3
Routledge Unit No. 1
Whitewater Unit No. 1
Daly Unit No. 3

Please be advised that your programs are hereby approved.

After carrying out the surveys, Chevron is requested to submit to this Branch reports of the results and analysis of the surveys.

Yours sincerely,

Original Signed by H. C. Moster

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

SE/ch

c.c. Virden Office

→ SWM

Chevron Standard Limited

Box 100
Virden, Manitoba
ROM 2CO
1978-04-06

Province of Manitoba
Department of Mines, Resources &
Environmental Management
Petroleum Engineering Division
989 Century Street
Winnipeg, Manitoba
R3H OW4

Attention: Mr. H.C. Moster, P. Eng.
Director, Petroleum Branch

Gentlemen:

Subsurface Pressure Surveys -
North Virden Scallion Unit #1
Virden Roselea Unit #1
Virden Roselea Unit #2
Virden Roselea Unit #3
→ Routledge Unit #1
Whitewater Unit #1 & Daly Unit #3

Chevron Standard Limited, as operator of the above subject units, hereby submit the following 1978 Subsurface Pressure Survey program for your approval. Attached please find the following:

1) List of wells to be surveyed in each unit,
2) Measurement technique, and
3) Status and intended shut-in periods for each well.

The Survey is to be conducted in 1978-06.
If you require any additional information, please contact the undersigned at our Virden office.

Yours truly,

(for) G.W. Cruickshank, P. Eng.
Area Supervisor

Att: 3
CC: J.D. Scott

NORTH VIRDEN SCALLION UNIT #1
PROPOSED 1978 SUBSURFACE PRESSURE SURVEY

WELL	TYPE OF SURVEY	WELL STATUS	SHUT-IN PERIOD	
6-3-12-26	Bomb run	Producing	1 month	Ran ✓
16-32-11-26	Bomb run	Producing	1 month	✓
4-34-11-26	Bomb run	Suspended	-	✓
3A-27-11-26	Bomb run	Producing	2 weeks	✓
3-26-11-26	Bomb run	Producing	1 month	✓
6-21-11-26	Bomb run	Producing	1 month	✓
1-22-11-26	Bomb run	Producing	2 weeks	✓
11-24-11-26	Bomb run	Producing	2 weeks	✓
8-16-11-26	Bomb run	Suspended	-	✓
4-14-11-26	Bomb run	Suspended	-	NOT RUN
15-10-11-26	Bomb run	Producing	2 weeks	✓
3-10-11-26	Bomb run	Suspended	-	✓
10-11-11-26	Bomb run	Suspended	-	✓
11-2-11-26	Bomb run	Producing	1 month	✓
2-24-11-26	Bomb run	Producing	1 momth	✓

18 wells surveyed in 1974 and 1976

VIRDEN ROSELEA UNITS #1, #2, & #3

PROPOSED 1978 SUBSURFACE PRESSURE SURVEY

WELL	TYPE OF SURVEY	WELL STATUS	SHUT-IN PERIOD
V.R.U. #1 9 wells '76, 2 wells '77			
2-36-10-26	Bomb run	Producing	2 weeks
1-26-10-26	Bomb run	Suspended	-
12-24-10-26	Bomb run	Producing	2 weeks
4-30-10-25	Bomb run	Producing	2 weeks
3-29-10-25	Bomb run	Producing	2 weeks
14-20-10-25	Bomb run	Producing	2 weeks
3-25-10-26	Bomb run	Producing	2 weeks
2-28-10-25	Bomb run	Producing	1 month
V.R.U. #2 8 wells '76			
6-36-10-26	Bomb run	Producing	1 month
16-36-10-26	Bomb run	Producing	2 weeks
11-5-11-25	Bomb run	Producing	1 month
3-6-11-25	Bomb run	Producing	2 weeks
15-6-11-25	Bomb run	Producing	2 weeks
5-7-11-25	Bomb run	Producing	1 month
V.R.U. #3 12 wells '76, 1 well '77			
11-7-10-25	Bomb run	Producing	1 month
7-18-10-25	Bomb run	Producing	2 weeks
5-1-20-26	Bomb run	Producing	1 month
5-10-10-26	Bomb run	Suspended	-
11-10-10-26	Bomb run	Suspended	-
5-12-10-26	Bomb run	Producing	1 month
5-14-10-26	Bomb run	Producing	1 month
12-13-10-26	Bomb run	Producing	2 weeks
6-23-10-26	Bomb run	Producing	2 weeks

PROPOSED 1978 SUBSURFACE PRESSURE SURVEY

DALY UNIT #3

no survey 1976

WELL	TYPE OF SURVEY	WELL STATUS	SHUT-IN PERIOD
11-1-10-28	Bomb run	Suspended	-
5-11-10-28	Bomb run	Suspended	-
11-13-10-28	Bomb run	Suspended	-
3-13-10-28	Bomb run	Suspended	-
4-14-10-28	Bomb run	Suspended	-
7-11-10-28	Bomb run	Producing	2 weeks
7-12-10-28	Bomb run	Producing	2 weeks
7-2-10-28	Bomb run	Suspended	-

WHITEWATER UNIT #1

12-16-3-21	Bomb run	Producing	2 weeks
4-21-3-21	Bomb run	Producing	1 month

ROUTLEDGE UNIT #1

2 wells 74
1 well 77

16-21-9-25	Bomb run	Suspended	-
3-27-9-25	Bomb run	Producing	1 month

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

R. L. Bailey
Chief Engineer

1978-10-16

1978 Subsurface Pressure Survey
Routledge Unit No. 1

Province of Manitoba
Department of Mines, Resources and
Environmental Management
Mineral Resources Division
Petroleum Branch
993 Century Street
Winnipeg, Manitoba
R3H 0W4

Attention: Mr. H. C. Moster, P. Eng.
Director, Petroleum Branch

Gentlemen:

Enclosed are two copies of the results of the May 30 to June 7, 1978 pressure survey for Routledge Unit No. 1. Also enclosed is a map of Routledge Unit No. 1.

Pressure measurements were taken on two wells in the vicinity of the pilot injection scheme. Results were as follows:

	1978		1977	
Well	Datum Pressure	Shut-In Time	Datum Pressure	Shut-In Time
16-21-9-25	915 psig	40 days		
3-27-9-25	911 psig	suspended	911 psig	suspended

There is no indication of pressure response in the pilot waterflood area.

If there are any questions regarding the 1978 pressure survey, please contact Mr. S. N. Borowski at the above letterhead address.

Yours very truly,

L. D. MANN
Supervising Engineer
Reservoir

SNB/blm

enc.

cc: G. W. Cruickshank

LOGGING,
PERFORATING
AND ASSOCIATED
HNICAL SERVICES

Howard Armstrong Perforating Ltd.

TELEPHONE 748-1849 VIRDEN, MAN.

SUBSURFACE PRESSURE SURVEY

Chevron Standard Limited

Routledge Unit # 1

Date: May 30 to June 7, 1978

Howard Armstrong Perforating Ltd.

VIRDEN, MAN.

SUBSURFACE PRESSURE SURVEY Date: May 30 to June 7, 1978 Pool Routledge Unit # 1 Datum - 630

Well Name	Location	Time Press. Meas'd	Date	Shut-in Period Hours	Tubing Press. psig	Casing Press. psig	Fluid Level feet	Fluid Grad. psi-ft	Gas Grad. psi-ft	Temp. at Run Depth	Run Depth ft-KB	Datum Depth ft-KB	Press. at Run Depth psig	Press. at Datum psig	Gauge No. 6593 N	Remarks
Chevron Routledge #16-21 L.S.D. 16-21-9-25 WPM.																
		1.05 pm	May 30	767.1	2.7	-	Full	-	-	-	2070.3	2070.3	913.5	913.5		Shut in April 28/78 2.00 pm.
		5.06 pm	June 7	963.1	4.9	-	Full	.439	-	-	2070.3	2070.3	914.6	914.6		
Chevron Routledge #3-27 L.S.D. 3-27-9-25 WPM.																
		12.17 pm	May 30	-	-	155.1	Full	.364	-	-	2079	2079	911.3	911.3		Suspended

ROUTLEDGE UNIT #1
SUBSURFACE PRESSURE
SURVEY
CHEVRON STANDARD LTD

JULY 4 - JULY 12 1977

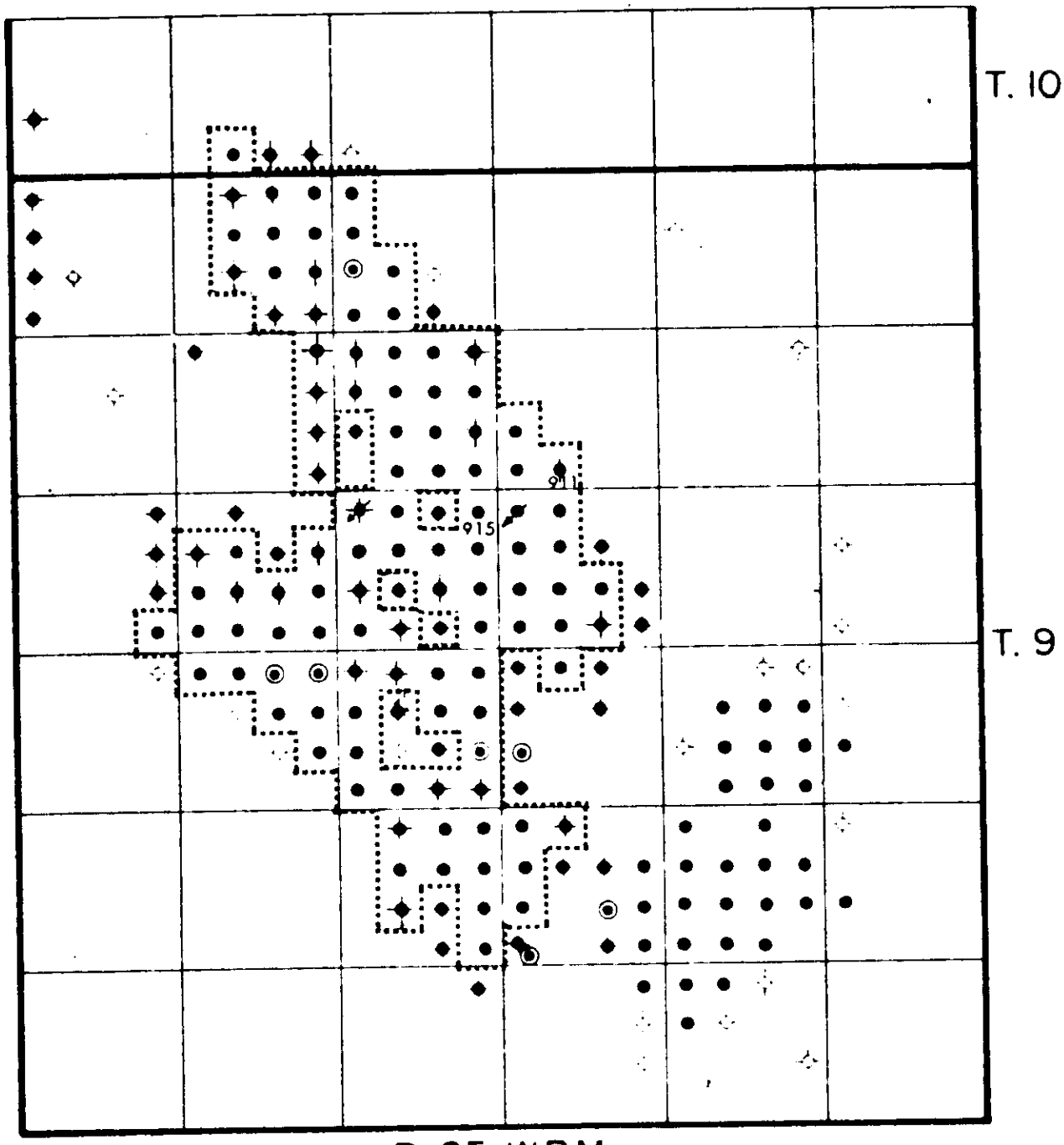

FIGURE 1

LEGEND

- UNIT BOUNDARY
- SALT WATER DISPOSAL WELL
- SUSPENDED WELL
- ABANDONED WELL
- INJECTION WELL

ROUTLEDGE UNIT No 1

PRESSURE SURVEY

MAY - JUNE 1978

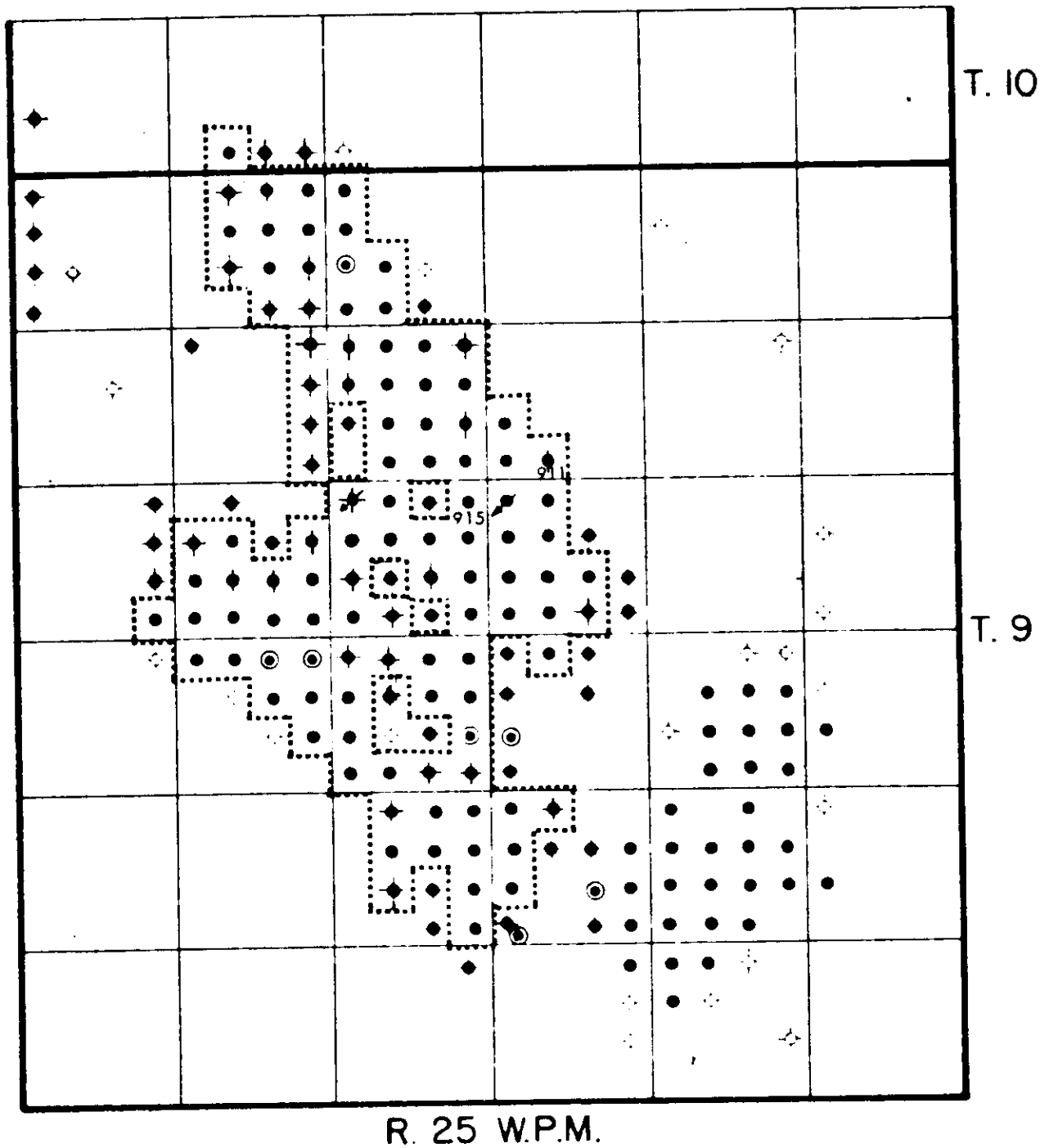

FIGURE 1

LEGEND

- UNIT BOUNDARY
- SALT WATER DISPOSAL WELL
- SUSPENDED WELL
- ABANDONED WELL
- INJECTION WELL

ROUTLEDGE UNIT No 1

PRESSURE SURVEY

MAY - JUNE 1978